

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Moorebank Precinct East Stage 1, Package 2

16 JANUARY 2020

SYDNEY INTERMODAL TERMINAL ALLIANCE

Moorebank Precinct East, Stage 1, Package 2

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REVISIONS

Revision	Date	Description	Prepared by	Approved by
001	31/01/2017	Prepared for consultation	[REDACTED]	[REDACTED]
002	22/02/2017	Revised based on stakeholder consultation	[REDACTED]	[REDACTED]
003	09/03/2017	Revised based on DPI Water review comments and DP&E comments	[REDACTED]	[REDACTED]
004	22/03/2017	Revised based on DPE comments	[REDACTED]	[REDACTED]
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Revision	Date	Description	Prepared by	Approved by
006	11/05/17	Revised based on DoEE comments and final DP&E minor amendments	████	████
007	09/08/17	Minor updates to Appendix N and Section 4.7 included.	██	████
008	26/10/17	Revisions in accordance with IMEX RfMA 003	██	██
009	10/05/2018	Revisions in accordance with IMEX RfMA 004 & 005 and Change Compliance process	██	██
010	13/06/2018	Amended conditions as per the Land and Environment Court Ruling (March 2018)	██	██
011	06/09/2018	Revisions associated with the internal environmental and sustainability audit, EPL information and RfMAs 007 & 008	██	██
012	11/01/2019	Minor updates associated with 'non-conformance,' 'non-compliance' and 'corrective and preventative actions'	██	██
013	8/07/2019	Revisions associated with RfMA 011	████	██
014	22/10/2019	Minor updates associated with: <ul style="list-style-type: none"> ▪ RfMA 016 – Moorebank Precinct EPL updates ▪ RfMA 018 – Additional construction compound to enable installation of gantry cranes for the IMEX terminal 	██	██
015	31/10/2019	Revisions associated with DotEE review of IMEX CEMP and subplans	████	██
016	07/11/2019	Revisions associated with additional DotEE comments on the IMEX CEMP and subplans	████	██
017	16/01/2020	Revisions associated with ER review	██████████████	

ACRONYMS AND DEFINITIONS

Term	Explanation
AHD	Australian Height Datum
ARI	Average Rainfall Intensity
AS	Australian Standard
Council	Liverpool City Council
CAQMP	Construction Air Quality Management Plan
CAR	Corrective Action Request
CCS	Community Consultation Strategy
CEMP	Construction Environmental Management Plan
CFCs	Chlorofluorocarbons
CFFMP	Construction Flora and Fauna Management Plan
CHMP	Construction Heritage Management Plan
CMP	Contamination Management Plan
CNVMP	Construction Noise and Vibration Management Plan
CoC	Conditions of Consent
CRAW	Construction Risk Assessment Workshop
CSWMP	Construction Soil and Water Management Plan
CTAMP	Construction Traffic and Access Management Plan
Cwth	Commonwealth
dB	Decibels
DECC	Department of Energy and Climate Change
DI	Department of Industry
DPE	Department of Planning and Environment
ECP	Environmental Control Plan
EDO	Environmental Defenders Office
EIFR	Environmental Incident Frequency Rate
EMS	Environmental Management Systems

Term	Explanation
EPA	Environment Protection Authority
EP&A Act	<i>Environment Planning and Assessment Act 1979</i>
ERAP	Environmental Risk Action Plan
FSR	Fatal and Severe Risks
GHS	Globally Harmonised System of Classification and Labelling Of Chemicals
Ha	Hectares
HAZID	Hazardous Substances Identification
HSE	Health Safety and Environment
HSEQ	Health Safety Environment and Quality
IMEX	Import Export Terminal. Includes the following key components: <ul style="list-style-type: none"> • Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue • Rail loading and container storage areas – installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively • Administration facility and associated car parking- light vehicle access from Moorebank Avenue.
IMT facility	MPE Stage 1 Package 2 including the construction of the following key components together comprising the intermodal terminal (IMT): <ul style="list-style-type: none"> • Truck processing and loading areas. • Rail loading and container storage areas. • Administration facility and associated car parking • Rail Link.
ISO	International Organisation for Standardisation
ITP	Inspection and Test Plan
JSEA	Job Safety and Environmental Analysis
L&EC	Land and Environment Court
LEP	Local Environmental Plan
LGA	Local Government Area
LPG	Liquefied Petroleum Gas
MPE	Moorebank Precinct East as approved by the Concept Plan (MP_10_0913)
MPE Site	The site at Moorebank as approved by the Concept Plan (MP_10_0913)

Term	Explanation
MPE Stage 1, Package 1	The construction of the Rail Link connecting the Southern Sydney Freight Line to the IMEX, traversing across the Boot land, RailCorp Land, Moorebank Avenue, the MPW Golf Course, Georges River, and Glenfield Waste Facility
MPE Stage 1, Package 2	Construction of the IMEX Terminal (Figure 1) including the following key components: <ol style="list-style-type: none"> 1. Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue 2. Rail loading and container storage areas – installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively 3. Administration facility and associated car parking- light vehicle access from Moorebank Avenue
MPE Stage 1 Project	The whole of the land to which the MPE Stage 1 Project approval SSD 6766 relates including both MPE Stage 1 Package 1, and MPE Stage 1 Package 2.
MPE Stage 2 Project Site	The whole of the land to which the MPE Stage 2 Project approval SSD 7628 relates
NATA	National Association of Testing Authorities
Non-compliance	An occurrence, set of circumstances, or development that results in a non-compliance or is non-compliant with Development Consent SSD 6766 Conditions of Consent or EPBC Act Approval (EPBC 2011/6229) Conditions of Approval but is not an incident
Non-conformance	Non-conformances are observations or actions that are not in strict accordance with the CEMP and the aspect specific sub-plan.
OEH	Office of Environment and Heritage
OOHW	Out-of-Hour Works
PER	Project Environmental Representative
PMP	Project Management Plan
POEO Act	<i>Protection of Environment Operations Act 1997</i>
PPE	Personal Protective equipment
Project	MPE Project Stage 1, Package 2
RAP	Remediation Action Plan
RMS	Road and Maritime Services
SAI Global	Risk Management, Standards, Compliance and Information Company
SDS	Safety Data Sheet
SSD	State Significant Development

Term	Explanation
SCRIM	SIMTA Incident Management Reporting System
SHEMS	Safety Health and Environmental Management System (also known as the Moorebank Intermodal Precinct Incident Management Process)
SIMTA	Sydney Intermodal Terminal Alliance
SWMS	Safe Works Method Statement
TBA	To be announced
TSMP	Threatened Species Management Plan
WIRES	Wildlife Information, Rescue and Education Service

COMPLIANCE MATRICES

Table 1 Ministers Conditions of Consent (CoC) as amended (amended CoC are in red)

CoC	Requirement	CEMP Section
C10	Prior to the commencement of construction the Applicant shall consider the staging of in-water works for the bridge construction across the Georges River to avoid the impact on the migration season of Australian Bass.	CEMP: not applicable, outside IMEX Construction footprint RALP only condition
C11	Prior to the commencement of the bridge construction works across the Georges River, the Applicant must consider if possible, restricting the use of the temporary platform to only one, and be designed to maintain fish passage. The Applicant must consult with DPI Fisheries with regard to the platform and its design prior to constructing the platform in the Georges River.	CEMP: not applicable, outside IMEX Construction footprint RALP only condition
C12	The Applicant is to ensure that a daily visual inspection for dead or distressed fish in the Georges River is undertaken. Fish distress is indicated by fish gasping at the water surface, or crowding at the creek's banks. Should dead or distressed fish be observed all works are to cease and DPI Fisheries is to be contacted immediately. Works can proceed following approval by DPI Fisheries.	CEMP: not applicable, outside IMEX Construction footprint RALP only condition
C13	Prior to the commencement of construction activities affecting the WWII store buildings, the Applicant shall complete all archival recordings. This work shall be undertaken by an experienced heritage consultant, in accordance with the guidelines issued by the Heritage Council of NSW. Within 6 months of completing this work, the Applicant shall submit a report containing archival recordings to the Secretary, Certifying Authority, the Heritage Council of NSW, Liverpool Council and the local Historical Society.	Appendix B
C14	Prior to the commencement of construction activities affecting the WWII store buildings, the Applicant shall prepare a Heritage Interpretation Strategy, in consultation with the Heritage Division. The Strategy shall be submitted for the approval of the Secretary with a copy provided to the Certifying Authority.	Appendix B Appendix K
C15	<p>Prior to the commencement of pre-Construction and Construction activities affecting Aboriginal site MA14, the Applicant shall:</p> <ul style="list-style-type: none"> a) develop a detailed salvage strategy, prepared in consultation with OEH (Aboriginal heritage) and the Aboriginal stakeholders. The investigation program shall be prepared to the satisfaction of the Secretary; and b) undertake any further archaeological excavation works recommended by the results of the Aboriginal archaeological investigation program. <p>Within twelve months of completing the above work, unless otherwise agreed by the Secretary, the Applicant shall submit a report containing the findings of the excavations, including artefact analysis and Aboriginal Site Impacts Recording Forms (ASIR), and the identification of final storage location for all Aboriginal objects recovered (testing and salvage), prepared in consultation with the Aboriginal stakeholders, the OEH (Aboriginal heritage) and to the satisfaction of the Secretary.</p> <p><i>Note: where archaeological testing has occurred as part of the Environmental Assessment and the results are included in the documents listed in condition A1 the sites tested must still form part of the final report prepared under C15(b).</i></p>	Appendix B Appendix K
C16	Utilities, services and other infrastructure potentially affected by construction and operation shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are	Appendix W

CoC	Requirement	CEMP Section
	likely to be affected by the construction shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Applicant, or as otherwise agreed between the parties.	
C17	<p>The Applicant shall engage a suitably qualified person to prepare a pre-construction dilapidation report prior to the commencement of construction. This report to ascertain the structural condition of:</p> <ul style="list-style-type: none"> a) local public roads likely to be used by the project's construction traffic identified in the Construction Traffic and Access Management Sub-plan required under condition E35(a). b) local public roads, cycleways, footpaths and other utilities identified in the Construction Traffic and Access Management Sub-Plan required under condition E35(a). c) The report shall be submitted to the satisfaction of the Certifying Authority and a copy is to be forwarded to Campbelltown City Council, Liverpool City Council, RMS and the Secretary. 	Appendix I
C18	The Applicant shall undertake road pavement deflection testing of the construction truck routes at 20 metre intervals along all wheel paths where feasible and reasonable to the extent required by Condition E35E34(a), prior to commencement of construction.	Appendix I
C19	<p>The Applicant shall ensure that the construction and operation of the proposed development will not prevent the existing use of Moorebank Avenue as a public road to a standard commensurate to its current use prior to the development.</p> <p><i>Note: temporary closures or part closures and changes to the operation of Moorebank Avenue may occur for limited periods during construction as detailed in the Construction Traffic Management Plan.</i></p>	Appendix I
C20	The Applicant shall ensure the width of the rail link corridor is no greater than 20 metres in the Riparian corridor of the Georges River and Anzac Creek.	CEMP: not applicable, outside IMEX Construction footprint RALP only condition
C21	The Georges River Bridge shall be designed to ensure fauna movement within the riparian corridor is maintained. The bridge shall be designed in consultation with DPI Water and DPI Fisheries and approved by the Certifying Authority. A copy of the final design shall be submitted to the Secretary for information and made available on the Project Website.	CEMP: not applicable, outside IMEX Construction footprint RALP only condition
C22	The Applicant shall prepare and implement a 'Threatened Dragonfly Species Survey Plan' to determine the presence or absence of threatened dragonfly species listed under the Fisheries Management Act 1994 on the Georges River, adjacent to the development site. The plan, including survey methodology, shall be prepared in consultation with DPI Fisheries prior to the commencement of construction.	Appendix G
C23	Prior to the commencement of clearing within the railway corridor between the southern boundary of the terminal site and the eastern side of the approved Moorebank Avenue Bridge, the Applicant must prepare and implement a Hibbertia Species Survey Plan to determine the number of individual plants of each Hibbertia species present within the corridor and confirm that the required quantum of biodiversity offset credits needed to provide an offset for the surveyed number of individual plants of each Hibbertia species can be achieved. The survey plan, including the survey method, must be prepared in consultation with OEH to the satisfaction of the Secretary. Results of the survey must be included in the Biodiversity Offset Package required by C23A.	CEMP: not applicable, outside IMEX Construction footprint RALP only condition

CoC	Requirement	CEMP Section
C23A	Prior to the commencement of clearing within the railway corridor between the southern boundary of the terminal site and the eastern side of the approved Moorebank Avenue Bridge, the Applicant shall develop and implement a Biodiversity Offset Package to the satisfaction of the Secretary. The Package shall detail how the ecological values lost as a result of the SSD will be offset. The Package shall be consistent with the NSW Biodiversity Offsets Policy for Major Projects (OEH 2014), unless otherwise agreed by the Secretary. The Package shall include, but not necessarily be limited to:...	CEMP: not applicable, outside IMEX Construction footprint RALP only condition
C23B	<p>The Applicant shall:</p> <ul style="list-style-type: none"> a) remove the disused rail spur traversing the Southern Boot Land and remediate and rehabilitate the land containing the disused rail spur traversing the Southern Boot Land, which is identified in blue dotted outline on Attachment A to these conditions titled "Figure 1 – Wattle Grove Offset Area"; and b) once remediation of the disused rail spur is complete, apply within 2 months of completion of the remediation to amend the biobanking agreement to incorporate the land shaded yellow on Attachment A to these conditions titled "Figure 1 – Wattle Grove Offset Area"; and c) apply within 2 months of the issue of the biobanking agreement to amend the biobanking agreement to incorporate the land shaded red on Attachment A to these conditions titled "Figure 1 – Wattle Grove Offset Area". <p>Nothing in this condition requires the Applicant to amend the biobanking agreement application lodged with OEH in February 2017.</p>	This Condition will be addressed in the next revision of the CEMP once additional specialist investigations have been undertaken
C24	Prior to the commencement of construction, the Applicant shall undertake a Road Safety Audit in consultation with TfNSW and the relevant Council for the proposed construction vehicle access points on public roads. The audit shall be undertaken by an independent TfNSW accredited road safety auditor in accordance with the relevant Austroads guidelines to identify any safety issues for the proposed construction vehicle access. The audit shall recommend corrective actions for any identified safety issues and propose appropriate traffic management measures (i.e. temporary traffic signals).	Appendix I
C25	The design of new traffic signals (including modification of existing traffic signals) along Moorebank Avenue shall be designed to meet RMS requirements, Austroads Guide to Road Design and relevant RMS supplements (available on www.rms.nsw.gov.au). Plans shall be and prepared in consultation with RMS, be submitted to the satisfaction of the Certifying Authority and provided to the Secretary for information	Appendix I
C26	Duplicate of C25	Note applicable
C27	The Applicant shall design the rail link to accommodate the installation of trackside noise barriers for the full length of the rail link in the event they may be required at some future time to comply	CEMP: not applicable, outside IMEX Construction footprint RALP only condition
D1	Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall prepare and implement a Community Communication Strategy to the satisfaction of the Secretary. The Strategy shall provide mechanisms to facilitate communication between the Applicant (and its contractor(s)), the Environmental Representative (see condition E4), the relevant Council and community stakeholders (particularly adjoining landowners) on the design and environmental management of construction. The Strategy shall include, but not be limited to:	Appendix W (refer CCS Compliance Matrices for detail)

CoC	Requirement	CEMP Section
	<ul style="list-style-type: none"> a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners, key community and business groups, and community and social service organisations; b) procedures and mechanisms for the regular distribution of accessible information to community stakeholders on construction progress and matters associated with environmental management, including provision of information in appropriate community languages; c) procedures and mechanisms through which the community stakeholders can discuss or provide feedback to the Applicant and/or Environmental Representative in relation to the environmental management and delivery of the SSD; d) procedures and mechanisms through which the Applicant can respond to enquiries or feedback from the community stakeholders in relation to the environmental management and delivery of the SSD; and e) procedures and mechanisms that would be implemented to resolve issues/ disputes that may arise between parties on the matters relating to environmental management and the delivery of the SSD, including but not limited to disputes regarding rectification or compensation for impacts to third party property and infrastructure. These procedures and mechanisms may include the use of a suitably qualified and experienced independent mediator. 	
D2	<p>Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall ensure that the following are available for community enquiries and complaints for the duration of construction:</p> <ul style="list-style-type: none"> a) a 24 hour telephone number(s) on which complaints and enquiries about the SSD may be registered; b) a postal address to which written complaints and enquires may be sent; c) an email address to which electronic complaints and enquiries may be transmitted; and d) a mediation system for complaints unable to be resolved. <p>The telephone number, the postal address and the email address shall be published in newspaper(s) circulating in the local area prior to the commencement of construction and prior to the commencement of operation. This information shall also be provided on the website (or dedicated pages) required by this approval.</p>	Appendix W
D3	<p>Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall prepare and implement a Construction Complaints Management System consistent with AS ISO 10002-2006 Customer satisfaction – Guidelines for complaints handling in organisations (ISO 10002:2004, MOD) and maintain the System for the duration of construction and up to 12 months following completion of construction.</p> <p>Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by this approval. The information contained within the System shall be made available to the Secretary on request.</p>	Appendix W
D4	<p>Prior to commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSD, for the duration of construction. The Applicant shall, subject to confidentiality, publish and maintain up-to-date</p>	Appendix W and Section 3.3

CoC	Requirement	CEMP Section
	<p>information on the website or dedicated pages including, but not necessarily limited to:</p> <ul style="list-style-type: none"> a) information on the current implementation status of the SSD; b) a copy of the documents listed in condition A1, and any documentation supporting modifications to this approval that may be granted from time to time; c) a copy of this approval and any future modification to this approval; d) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSD; e) the outcomes of compliance tracking in accordance with condition C4 of this approval; and f) details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address real time noise, dust and water data, where such data is collected under this consent. 	
E1	A copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification shall be kept on the site at all times and shall be readily available for perusal by any officer of the Department, relevant Council or the Certifying Authority.	Section 4
E2	<p>A site notice(s) shall be prominently displayed at the boundaries of the site for the purposes of informing the public of project details including, but not limited to the details of the Contractor, Certifying Authority and Structural Engineer. The notice(s) is to satisfy all but not be limited to, the following requirements:</p> <ul style="list-style-type: none"> a) Minimum dimensions of the notice are to measure 841mm x 594mm (A1) with any text on the notice to be a minimum of 30 point type size; b) The notice is to be durable and weatherproof and is to be displayed throughout the works period; c) The approved hours of work, the name of the site/project manager, the responsible managing company (if any), its address and 24 hour contact phone number for any inquiries, including construction/noise complaint are to be displayed on the site notice; and d) The notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted. 	Section 4.5.1 Site Notice
E3	The Applicant shall ensure that the 24 hour contact telephone number is continually attended by a person with authority over the works for the duration of the development.	Section 4.5
E4	<p>Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall appoint a suitably qualified and experienced Environmental Representative(s) that is independent of the design and construction personnel, and that has been approved by the Secretary. The Applicant shall employ the Environmental Representative(s) for the duration of construction of this stage, or as otherwise agreed by the Secretary. The Environment Representative(s) shall:</p> <ul style="list-style-type: none"> a) be the principal point of advice in relation to the environmental performance of construction; b) monitor the implementation of environmental management plans and monitoring programs required under this approval and advise the Applicant upon the achievement of these plans/programs; c) have responsibility for considering, and advising the Applicant on, matters specified in the conditions of this approval, and other licences 	Section 9.1 Roles, Responsibilities and Authorities

CoC	Requirement	CEMP Section
	<p>and approvals related to the environmental performance and impacts of construction;</p> <p>d) ensure that environmental auditing is undertaken in accordance with the Applicant's Environmental Management System(s);</p> <p>e) be given the authority to approve/reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor" amendment shall be clearly explained in the Construction Environment Management Plan;</p> <p>f) be given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts; and</p> <p>g) be consulted in responding to the community concerning the environmental performance of construction where the resolution of points of conflict between the Applicant and the community is required.</p>	
E5	The Environmental Representative shall prepare and submit to the Secretary a quarterly report on the Environmental Representative's actions and decisions on matters specified in condition E4. The reports shall be submitted within seven (7) days for the end of each quarter for the duration of construction, or as otherwise agreed by the Secretary. Notwithstanding, the Environmental Representative shall be given the independence to report to the Secretary at any time and/or at the request of the Secretary.	Section 9.5.2 Reporting
E6	Soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition (Landcom, 2004) shall be employed during construction to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.	Appendix H
E7	Construction shall be undertaken to comply with section 120 of the Protection of the Environment Operations Act 1997, which prohibits the pollution of waters.	Appendix H
E8	The Applicant shall store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's Storing and Handling Liquids: Environmental Protection – Participants Handbook.	Section 5.2.5 ERAP: Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods (DG) requirements
E9	All activities taking place in, on or under waterfront land, as defined in the Water Management Act 2000 should be conducted generally in accordance with the NSW Office of Water's Guidelines for Controlled Activities.	CEMP: not applicable, due outside IMEX Construction footprint RALP only condition
E10	The Applicant shall notify the Secretary and relevant public authorities of any incident with actual or potential significant on-site or off-site impacts on human health or the biophysical environment within 24 hours of becoming aware of the incident. The Applicant shall provide full written details of the incident to the Secretary within seven days of the date on which the incident occurred	Section 9
E11	The Applicant shall meet the requirements of the Secretary or relevant public authority (as determined by the Secretary) to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition E10, within such period as the Secretary may require.	Section 9
E12	The Applicant shall not harm, modify or otherwise impact any heritage items outside the subject site.	Appendix B Appendix K
E13	<p>Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with:</p> <p>a) all relevant Australian Standards;</p>	Section 5.2.5 ERAP: Delivery and Storage of Chemicals, Fuels and Oils including

CoC	Requirement	CEMP Section
	<p>b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and</p> <p>c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (Environment Protection Authority, 1997).</p> <p>In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.</p>	<p>Dangerous Goods (DG) requirements.</p> <p>A hazardous materials management plan will be developed by the contractor separately to this CEMP.</p>
E14	The Applicant shall carry out all feasible and reasonable measures to minimise dust generated by the Development	Appendix F
E15	During construction, the Applicant shall ensure that all loaded vehicles entering or leaving the site have their loads covered; and all loaded vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking these materials on public roads.	Appendix F
E16	The reuse and/or recycling of waste materials generated on site shall be maximised as far as practicable, to minimise the need for treatment or disposal of those materials off site.	Appendix L
E17	All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water 2009).	Appendix L
E18	All waste materials removed from the subject site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.	Appendix L
E19	<p>Construction shall be undertaken during the following standard construction hours:</p> <p>a) 7:00am to 6:00pm Mondays to Fridays, inclusive; and</p> <p>b) 8:00am to 1:00pm Saturdays;</p> <p>c) at no time on Sundays or public holidays.</p>	Section 2.2 Construction Hours
E20	<p>Activities resulting in a high noise impact shall only be undertaken:</p> <p>a) between the hours of 8:00 am to 5:00 pm Monday to Friday;</p> <p>b) between the hours of 8:00 am to 1:00 pm Saturday; and</p> <p>c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.</p>	Section 2.2 Construction Hours
E21	<p>Notwithstanding conditions E20 and E21, works may be undertaken outside the hours specified under those conditions in the following circumstances:</p> <p>a) construction works that cause LAeq (15 minute) noise levels that are:</p> <p>(i) No more than 5 dB above rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009); and</p> <p>and</p> <p>(ii) No more than the noise management levels specified in Table 3 of the</p> <p>(ii) Interim Construction Noise Guideline (DECC, 2009) at other sensitive landuses; or</p> <p>b) for the delivery of materials required by the police or other authorities for safety reasons; or</p> <p>reasons; or</p>	<p>Section 2.2 Construction Hours</p> <p>Appendix D</p>

CoC	Requirement	CEMP Section
	<ul style="list-style-type: none"> c) where it is required in an emergency to avoid the loss of lives, property and/or to c) prevent environmental harm; or d) construction works approved through an Out-Of-Hours Work Protocol prepared as part of the Construction Noise and Vibration Management Plan required by condition E35E34(b), provided the relevant Council, local residents and other affected stakeholders and sensitive receivers are informed of the timing and duration at least 48 hours prior to the commencement of the works; or e) identified works approved by the Secretary. 	
E22	<p>The Applicant shall implement all feasible and reasonable noise mitigation measures with the aim of achieving the following construction noise management levels and vibration criteria:</p> <ul style="list-style-type: none"> a) construction noise management levels established using the Interim Construction a) Noise Guideline (DECC 2009); b) vibration criteria established using the Assessing Vibration: a Technical Guide (DECC 2006) (for human exposure); and c) the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage). <p>Any construction activities identified as exceeding the construction noise management levels and/or vibration criteria shall be managed in accordance with the Construction Noise and Vibration Management Plan required by condition E34(b).</p>	<p>Section 2.2 Construction Hours</p> <p>Appendix D</p>
E23	<p>The Applicant is to ensure that construction vehicles operate so as to minimise any construction noise impacts from the construction site. Measures that could be used include toolbox talks, contracts that include provisions to deal with unsatisfactory noise performance for the vehicle and/or the operator, and specifying non-tonal movement alarms in place of reversing beepers or alternatives such as reversing cameras and proximity alarms, or a combination of these, where tonal alarms are not mandated by legislation.</p>	Appendix D
E24	<p>No use of compression brakes shall be permitted for construction vehicles associated with construction in the vicinity of the subject site.</p>	Appendix D
E25	<p>The Applicant shall prepare a review of sleep disturbance impacts based on detailed design, including:</p> <ul style="list-style-type: none"> a) An assessment of how often noise events occur, the time of day they occur and whether there are any times of day when there is a clear change in the noise environment; b) Confirm the operational sleep disturbance predictions identified in the documents listed under Condition A1; and c) Consider appropriate noise mitigation measures where required. <p>The report shall be prepared in consultation with the EPA and be submitted to the satisfaction of the Secretary within 6 months of commencement of construction, unless otherwise agreed by the Secretary.</p>	<p>Following Construction commencement</p> <p>Appendix D</p>
E26	<p>A Road Occupancy Licence (ROL) must be obtained from the Transport Management Centre (TMC) for any activity likely to impact on the operational efficiency of the road network, allowing the use of specified public road space at approved times. The Applicant must allow a minimum of 10 working days for processing from date of receipt and include a Traffic Control Plan with any application.</p>	Appendix I

CoC	Requirement	CEMP Section
E27	Construction shall be carried out, where feasible and reasonable, to avoid the use of local roads (through residential streets) by heavy vehicles to gain access to the site and/or ancillary facilities.	Appendix I
E28	Construction vehicles (including staff vehicles) shall be managed to: <ul style="list-style-type: none"> a) minimise parking or queuing on public roads; b) minimise idling and queuing in local residential streets where practicable; c) adhere to the nominated haulage routes identified in the Construction Traffic and Access Management Plan required under condition E35(a); and d) ensure access and egress from construction compounds is undertaken in a safe and lawful manner. 	Appendix I
E29	Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a satisfactory alternate route shall be provided and signposted, including provision of temporary footpaths where pedestrian access is reliant on grassed verges.	Appendix I
E30	Access to all properties affected by the carrying out of construction shall be maintained, where feasible and reasonable, unless otherwise agreed by the relevant property owner or occupier. Any access physically affected by construction shall be reinstated to at least an equivalent standard, unless agreed with by the property owner.	Appendix I
E31	No threatened species or communities can be cleared other than that required for construction.	Appendix G
E31A	Where any threatened flora species are to be cleared, individual plants of species suitable for translocation shall be considered for translocation into areas that have been identified as requiring rehabilitation within the Biodiversity Offset Package.	Appendix G
E32	The existing mature trees located on the eastern side of Moorebank Avenue shown on Drawing LA01 (Landscape Masterplan) dated 30.3.2015 shall be retained, unless where required to be removed for construction of a permanent access point to the terminal site. Trees to be retained shall be protected and maintained during pre- construction and construction activities in accordance with AS4970-2009 Protection of trees on development sites. Details of tree protection must be provided to the Certifying Authority prior to the commencement of construction.	Appendix G
E33	The CEMP is to be prepared in accordance with the Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004).	Section 3.2
E33 (a)	a description of activities to be undertaken during construction;	Section 2
E33 (b)	statutory and other obligations that the Applicant is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies	Section 4
E33 (c)	a description of the roles and responsibilities for relevant employees involved in construction, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors, are aware of their environmental and compliance obligations under these conditions of approval	Section 9.1

CoC	Requirement	CEMP Section
E33 (d)	an environmental risk analysis to identify the key environmental performance issues associated with construction	Section 5
E33 (e)	details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts	Section 5.2
E33 (e) (i)	measures to monitor and manage dust emissions including dust from stockpiles, traffic on unsealed internal roads and materials tracking from construction sites onto public roads;	Section 9.4 Appendix F
E33 (e) (ii)	measures for the handling, treatment and management of hazardous and contaminated materials (including asbestos);	Section 5.2.5
E33 (e) (iii)	measures to monitor and manage waste generated during construction including but not necessarily limited to: general procedures for waste classification, handling, reuse, and disposal; use of secondary waste material in construction wherever feasible and reasonable; procedures or dealing with green waste including timber and mulch from clearing activities; and measures for reducing demand on water resources (including potential for reuse of treated water from sediment control basins)	Appendix L
E33 (e) (iv)	measures to monitor and manage hazard and risk	Section 9.4
E33 (e) (v)	measures to monitor and rectify any impacts to third party property and infrastructure, including details of the process for rectification or compensation of affected landowners, and timeframes for rectification works or compensation processes	Section 9.4
E33 (e) (vi)	the issues identified in condition E34 (pertaining CEMP Sub Plans)	APPENDICES
E33	The CEMP shall include procedures for its periodic review and update (including the sub-plans required under condition E34, as necessary (including where minor changes can be approved by the Environmental Representative).	Section 9.7
E34 (a)	Construction Environmental Management Plan — Sub Plans. As part of the CEMP for the SSD, the Applicant shall prepare and implement: Construction Traffic and Access Management Plan	Appendix I
E34 (b)	Construction Noise and Vibration Management Plan	Appendix D
E34 (b) (iv)	Out-of-Hours Work Protocol	Section 2.2
E34 (c)	Construction Heritage Management Plan	Appendix B
E34 (d)	Construction Flora and Fauna Management Plan to detail how impacts on ecology (as detailed in the most recent mapping endorsed by OEH) will be minimised and managed.	Appendix G
E34 (d) (iv)	Weed Management Strategy	Appendix G
E34 (e)	Construction Air Quality Management Plan	Appendix F
E34 (f)	Construction Soil and Water Management Plan	Appendix H

CoC	Requirement	CEMP Section
E34 (f) (iv)	Erosion and Sediment Control Plan,	Appendix H
E34 (f) (v)	Acid Sulfate Soils Management Plan <i>(to be included within Construction Soil and Water Management Plan if required)</i>	Appendix H

Table 2 Final Compilation of Mitigation Measures (FCMM)

FCMM	Requirement	Document Reference
0A	<ul style="list-style-type: none"> CEMP and associated plans to be prepared for the Proposal, prior to construction. In addition to the preliminary construction management plans, listed above, the following plans, or equivalent, will be prepared as part of the CEMP: Soil and Water Management Plan (SWMP), prepared in accordance with Managing Urban Stormwater, 4th Edition, Volume 1, (2004). Construction Noise and Vibration Management Plan (CNVMP), prepared in accordance with the Interim Construction Noise Guideline 2009 (ICNG) Contamination Management Plan (CMP) Flora and Fauna Management Plan (FFMP) Health and Safety Plan (HSP), including an Emergency Response Plan and a Risk Register. 	<p>This Plan (CEMP)</p> <p>Appendix H</p> <p>Appendix D</p> <p>Appendix Y</p> <p>Appendix G</p> <p>Appendix R</p>
1A	A Road Safety Audit will be undertaken of Moorebank Avenue and Cambridge Avenue to identify the traffic safety risks associated with construction vehicles using these roads and to determine the appropriate traffic controls to be implemented to mitigate any risks identified as part of the preparation of the Construction Traffic Management Plan (CTMP). The effectiveness of any measures implemented will be monitored during the construction phase.	Appendix I
1B	A CTMP will be developed by the construction contractor construction contractor responsible for construction of the Proposal.	Appendix I
1D	<p>Site entry and exit points to the Stage 1 site will be designed, to incorporate the following measures:</p> <ul style="list-style-type: none"> Design measures to minimise queuing on Moorebank Avenue during operation of the Proposal The signalised T-intersection that will be provided for employee/visitor access and will be designed to include integrated pedestrian crossing facilities, to provide safe pedestrian access to/from the Proposal. The truck entry and exit point will be a signalised intersection that will only allow for left in and right out movements. A "right turn ban" will apply on the Moorebank Avenue at this signalised intersection from south. A 'No Left Turn' sign will be installed on the approach to the exit. The truck entry and exit point will be designed to accommodate Super B-Doubles entering/exiting into the Stage 1 site to provide for the future scenario that Super B-doubles are permitted within the existing Sydney road network 	Appendix I
2A	The Air Quality Management Plan (AQMP) (or equivalent) will be further progressed and incorporated into the CEMP for the Proposal. In accordance with the AQMP,	Appendix F
2C	<p>The Proponent will undertake an air quality monitoring programme during the initial phases of both construction and operation of the Proposal including:</p> <ul style="list-style-type: none"> Nuisance dust 	Appendix F

FCMM	Requirement	Document Reference
	<ul style="list-style-type: none"> Air Emissions – PM10 and Nitrogen dioxide 	
3A	A Construction Noise and Vibration Management Plan (CNVMP) (or equivalent) will be developed for the Proposal in accordance with the EPA's Interim Construction Noise Guidelines (ICNG).	Appendix D
5A	Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP), or equivalent, will be implemented, in accordance with the Preliminary Erosion and Sediment Control (PESCPs), included within the Stormwater and Flooding Environmental Assessment Report (Appendix P of the EIS).	Appendix H
5D	The following principles will be adopted through the development of detailed design for the Proposal, to ensure the operation of the Proposal will not have an adverse impact on stormwater.	Appendix H
5G	<p>A Flood Emergency Response Plan (FERP) will be developed for the Stage 1 site. The FERP will take into consideration, site flooding and broader flood emergency response plans for the Georges River and Anzac Creek floodplains and Moorebank area.</p> <p>The FERP will also include the identification of an area of safe refuge within the SIMTA site that will allow people to wait until hazardous flows have receded and safe evacuation is possible.</p>	Appendix AA
6B	Excavated material will be reused on site where possible. Any excavated material that requires disposal will be subject to waste classification under the Waste Classification Guidelines 2014 (NSW EPA, 2014) and will be disposed of at an appropriate licensed facility.	Appendix L
6C	The construction contractor will progress the Bulk Earthworks strategy which will outline the volumes of imported and exported material, any buffer areas, temporary soil stockpiling areas and fencing of excavations, as required.	Appendix H
7A	All remediation works will be undertaken in accordance with the requirements of the Remediation Action Plan (RAP) (JBS&G, 2015a) and recommendations for additional sampling and remediation.	Appendix C
7C	A Contamination Management Plan (CMP) will be developed for the Proposal, and included in the CEMP.	Appendix Y including Site Audit Statement and Contamination Environmental Management Plan
8A	A Flora and Fauna Management Plan will be prepared as part of the CEMP. Native vegetation clearing will not occur until the Flora and Fauna Management Plan is approved.	Appendix G
8D	An ecologist will undertake pre-clearance surveys to confirm the absence of Grey-headed Flying-fox roosting camps within the Rail link, no more than 48 hours prior to the clearance of vegetation. The DotE will be notified in writing of the results of preclearance surveys. If the species is detected roosting on site, no native vegetation clearance will commence until any directions of the Minister have been complied with.	Appendix G
8F	Water quality and macroinvertebrate monitoring would be undertaken up and downstream of works within the Georges River and Anzac Creek, pre, during and post construction, to determine impacts on aquatic communities as a result of the Proposal. The monitoring plan would be developed and implemented by an appropriately qualified aquatic ecologist.	Appendix H
9A	Consultation will be maintained with the Aboriginal stakeholders during the finalisation of the Proposal in order to identify long-term curation and management of the Aboriginal objects recovered through the archaeological program (including open salvage excavation).	Appendix K

FCMM	Requirement	Document Reference
9B	All relevant personnel and contractors involved in the design of the Proposal will be advised of the relevant heritage considerations, legislative requirements and recommendations in the draft Aboriginal Heritage Impact Assessment (AHMS, 2015)	Section 6
9C	Management of Aboriginal heritage will be managed through the CEMP for the Proposal.	Appendix B
10A	A full photographic record of the SIMTA site should be made prior to Stage 1 construction commencing. This will record the setting and context of the site as a whole prior to any impact on collective significance.	Appendix B
10B	A heritage interpretation strategy will be prepared, which could include interpretative mediums such as plaques and displays (subject to a suitable area being located) and online resources.	Appendix K
10C	A Heritage Management Plan in adherence to NSW Heritage Council guidelines will be prepared as part of the CEMP for the Stage 1 Proposal.	Appendix B
11A	Visual Amenity, Urban Design and Landscape mitigation measures will be included within the CEMP	CEMP update required at final design completion. 0 – Urban Design and Landscape Plan
12A	<p>A Health and Safety Plan (HSP) will be prepared for construction of the Proposal that will identify all responsibilities and requirements under the Work Health and Safety Act 2011. The HSP will include an Emergency Response Plan, for construction of the Proposal. These will be developed collaboratively with the construction contractor, in consultation with the NSW Police Force, NSW Fire Brigade, NSW Rural Fire Service and the Ambulance Service of NSW. The Emergency Response Plan will include the following:</p> <ul style="list-style-type: none"> Emergency response protocols and procedures for implementation in the event of a contaminant spill or leak Provision of spill kits Bushfire awareness included in staff induction and in toolbox talks pre-commencement. 	The HSP will be developed by the Construction Contractor prior to the commencement of construction. The document will reference the processes outlined within the CEMP Section 8 and Appendix S.
12B	<p>With respect to asbestos management, the obligations, roles and responsibilities for personnel involved in the Stage 1 Proposal will be identified, documented and communicated. These responsibilities are identified in the Work Health and Safety Act 2011.</p> <p>Prior to commencement of construction an Asbestos Management Plan is to be developed in accordance with Code of Practice How to Manage and Control of Asbestos in the Workplace (WorkCover NSW, 2011a) for the Proposal. The Asbestos Management Plan will reference the asbestos register and risk assessment, which will also be prepared prior to construction being undertaken. The Asbestos Management Plan will address the following aspects, at a minimum:</p> <ul style="list-style-type: none"> Demolition of the three structures (Buildings 1, 2 and 20), will be undertaken in accordance with Code of Practice How to Safely Remove Asbestos (WorkCover NSW, 2011b) Asbestos removal work will be carried out by an asbestos removalist who is appropriately licensed to carry out the work. 	<p>Appendix Y contains an initial asbestos management plan.</p> <p>This is to be further developed by the Construction Contractor prior to the commencement of construction.</p>
12H	The Stage 1 site will be protected from the impact of fires originating from off-site by a 35 m defendable space to the west across Moorebank Avenue, a 100 m defendable space to the south of the container handling area. The design and installation of on-site fire hydrants within the Stage 1 site will be in	Appendix BB Bushfire Management Strategy

FCMM	Requirement	Document Reference
	compliance with AS 2419.1-2005 Fire hydrant installations - System design, installation and commissioning.	
13A	Measures to mitigate the effect of the construction waste streams will be incorporated into the Proposal's Construction Environmental Management Plan (CEMP).	Appendix L
14A	A bushfire management strategy, or equivalent, will be prepared as part of the CEMP for the construction phase.	Appendix R
16A	A Greenhouse Gas Management Plan will be developed for the construction phase of the Proposal and included in the CEMP.	Appendix J
17A	A community information and awareness strategy will be included in the CEMP and will outline measures to maintain communication with the community and all relevant stakeholders throughout the construction of the Proposal.	Appendix W
17B	The CEMP will prescribe measures to be implemented to minimise impacts on surrounding communities.	Appendix W Section 2.2

Table 3 Commonwealth Approval (EPBC 2011/6229)

Condition	Requirement	Document Reference
7	For the better protection of Commonwealth land, the person taking the action must engage a suitably qualified expert(s) to prepare a Construction Environment Management Plan (CEMP), for the approval of the Minister. The CEMP must include in relation to construction of the proposed facility:	This Plan Section 1.6
7 a)	Details on the timing of the construction works (accompanied by current and detailed maps)	Section 2.3
7 b)	Identification and quantification of all potential impacts associated with noise, vibration, air quality, traffic, light spill, hydrological changes, contamination, and indigenous heritage (including cumulative impacts associated with the separately approved but related and adjacent intermodal terminal facility project, EPBC approval (2011/6086)) upon Commonwealth land. Consideration must be given to people and communities at SME, DNSDC, Defence housing, and the environment more generally in neighbouring bushland areas. Of note, the air quality assessment must quantify all emissions of PM2.5 and PM10 arising from project-related sources identified in the EIS.	This CEMP and relevant aspect specific sub-plans, and Appendix CC – Light Spill Management Note: The School of Military Engineering (SME) and Defence housing have been relocated off the MPW Site to the Holsworthy Barracks and are no longer sensitive receivers to the MPE site. The DNSDC has been relocated to the DJLU, to the north of the MPE site, and is listed as a sensitive receiver in aspect specific sub-plans.
7 c)	Results of further investigations with regard to land contamination and indigenous heritage impacts (specifically PADS 2 and 3)	Appendix B - CHMP Appendix Y - CMP
7 d)	Refined details (including implementation timeframes) for the mitigation measures outlined in the EIS (Sections 7.4.2, 7.4.3, 7.4.6, 7.4.7, 7.4.8, 7.4.9) and summarised at Annexure A	Within the relevant subplan Appendix EE- MPE Stage 1 Urban Design and Landscape Plan – Lighting sub-plan addresses light spill

Condition	Requirement	Document Reference
7 e)	A commitment to ensure no lights are installed above the height of 40 metres or, the maximum approved height of the intermodal warehouse buildings (whichever is less);	Appendix CC – Light Spill Management 0 – MPE Stage 1 Urban Design and Landscape Plan
7 f)	Identification of the trigger values and criteria for all matters mentioned in condition 7(b) (excluding light spill, land contamination and indigenous heritage) that will be adopted for monitoring and managing potential impacts to Commonwealth land;	Relevant sub-plan
7 g)	Details of a comprehensive monitoring program (including locations, frequency and duration) for: validating the anticipated impacts associated with condition 7(b); and determining the effectiveness of proposed mitigation/management measures;	Relevant sub-plan Appendix CC – Light Spill Management
7 h)	Provisions to revise the approved CEMP in response to monitoring associated with condition 7(g) including, details of response I contingency mechanisms to address any exceedances of the relevant trigger values;	Section 1.6
7 i)	Evidence of consultation with Defence regarding the adequacy of proposed mitigation measures in particular, those measures to mitigate potential light spill impacts upon residential dwellings within SME outside of standard construction hours; and	Section 1.3 Appendix CC – Light Spill Management Note: The School of Military Engineering (SME) and Defence housing have been relocated off the MPW Site to the Holsworthy Barracks and are no longer sensitive receivers to the MPE site.
7 j)	Details of a complaints handling procedure;	Community Communication Strategy
7	Commencement of the action may not occur until the CEMP has been approved. The CEMP must be implemented once approved.	Section 1.6

Table 4 EMP Guideline for Publication Oct 2004

Section	Requirement	CEMP Section
4.3.1	Introduction	Section 1
	Project Description	Section 2
	EMP Context	Section 1.1 Purpose and Application
	EMP Objectives	Section 1.2 Objectives and Targets
	Environmental Policy	Section 3.1
4.3.2	Environmental Management Structure and Responsibility	Section 3 Section 9.1
	Approval and Licencing Requirements	Section 4.3
	Reporting	Section 7
	Environmental Training	Section 6
	Emergency Contacts and Response	Section 8
4.3.3	Risk Assessment	Section 5
	Environmental Management Activities and Controls	Section 3

Section	Requirement	CEMP Section
	Environmental Control Plans or Maps	Appendix Q
	Environmental Schedules	Section 9.2
4.3.4	Environmental Monitoring	Section 9.4
	Environmental Auditing	Section 10.5
	Corrective Action	Section 9.2.1.3
	EMP Review	Section 9.7 and Section 1.6

Table 5 Environment Protection Licence (EPL) 21054 requirements

EPL Reference	Requirement	Document Reference
A1 What the licence authorises and regulates	> 100,000 – 500,000 tonnes Crushing, grinding or separating processing capacity per annum	Section 2.1
	> 500,000- 2,000,000 tonnes extraction, processing or storage capacity per annum	Section 2.1
A2 Premises or plant to which this licence applies	The licence applies to the Moorebank Precinct (excluding RALP which has a separate EPL No. 20966)	Section 1 and Figure 1
A3 Other activities	A3.1 This licence applies to all other activities carried on at the premises, including bulk earthworks 'cut and fill', importing fill and road construction	Section 2.1
A4 Information supplied to the EPA	A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.	Table 1 Table 2 Table 3
A5 Other administrative conditions	A5.1 Scheduled activities authorised by this licence are limited to where the following approvals under the Environmental Planning and Assessment Act 1979 have been granted, and activities are carried out in accordance with the relevant consent conditions. 1. MP10_0193 Moorebank Intermodal Precinct East - Concept Plan Modification (MOD 2) – approved 31/01/2018; 2. SSD 6766 Moorebank Intermodal Precinct East - Stage 1 - approved by court 12/09/2017; 3. SSD 7628 Moorebank Intermodal Precinct East - Stage 2 - approved 31/01/2018; 4. SSD 5066 Moorebank Intermodal Precinct West - Concept Proposal & Stage 1 Early Works – approved 03/06/2016.	This Plan
P1 Location of monitoring/discharge points and areas	P1.1 Utilisation areas are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.	Not applicable to the IMEX project
	P1.2 Water and land discharge points identified for the purposes of monitoring and/or setting of limits for discharges of pollutants to water from the point.	Not applicable to the IMEX project
L1 Pollution of water	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the POEO Act 1997.	Section 9 Appendix H

EPL Reference	Requirement	Document Reference
L2 Concentration limits	L2.1 For each monitoring/discharge point or utilisation area specified in the EPL (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Table 11 of CSWMP (Appendix H)
	L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Table 11 of CSWMP (Appendix H)
	L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table/s.	Table 11 of CSWMP (Appendix H)
	L2.4 Water and/or Land Concentration Limits table (see EPL)	Table 11 of CSWMP (Appendix H)
	L2.5 The total suspended solids and turbidity limits specified under Condition L2.4 for the discharge points identified as EPA licence discharge points 1, 2, 3, 4, 5 and 6 do not apply when the discharge occurs solely as a result of rainfall measured at the premises which exceeds; - a total of 24.4 millimetre of rainfall over any consecutive 5 day period. Note: A 24.4mm rainfall depth is defined by the publication Managing Urban Stormwater: Soils and Construction (Landcom 2004) as the rainfall depth in millimetres for a 80th percentile 5 day rainfall events for the Liverpool area.	Table 11 of CSWMP (Appendix H)
	L2.6 The concentration limit for Total Suspended Solids (TSS) and turbidity under condition L2.4 for licence discharge points 1, 2, 3, 4, 5 and 6 is deemed not to have been breached where: (a) the sample complies with the turbidity limit at the time of the discharge; and (b) the EPA is advised within three (3) working days of completion of the TSS testing, of any TSS results above the licence limit. Note: The purpose of this condition is to expediate the assessment and subsequent discharge of the clarified water from the sediment basins.	CSWMP (Appendix H)
L3 Waste	L3.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table. Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table. Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below. This condition does not limit any other conditions in this licence.	(CWRMP) Appendix L

EPL Reference	Requirement					Document Reference
	Code	Waste	Description	Activity	Other limits	
	N/A	General or Specific exempted waste	Waste that meets all the conditions of the resource recovery exemption under Clause 91 and Clause 92 Protection of the Environment Operations (Waste) Regulation 2014	As specified in each particular resource recovery exemption		
O1 Activities must be carried out in a competent manner	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.					Appendix L
O2 Maintenance of plant and equipment	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.					Section 5.2.7
O3 Effluent application to land	O3.1 Wastewater application must not occur in a manner that causes surface runoff.					Table 11 of CSWMP (Appendix H)
	O3.2 Spray from wastewater application must not drift beyond the boundary of the premises or into a watercourse.					Table 11 of CSWMP (Appendix H)
	O3.3 The quantity of wastewater applied to the utilisation area(s) must not exceed the capacity of the utilisation area(s) to effectively utilise the wastewater.					Table 11 of CSWMP (Appendix H)
O4 Processes and Management	O4.1 All chemicals, fuels and explosives must be handled and stored in a bunded area which complies with the specifications of the relevant Australian Standard and legislative requirements.					Section 5.4 of CSWMP (Appendix H)
	O4.2 Contingency and emergency management plans must be developed and implemented for the spill of any chemical and fuel.					Emergency Spill Response CSWMP (Appendix H)
M1 Monitoring records	M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.					Section 9.4
	M1.2 All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form;					Section 9.4

EPL Reference	Requirement	Document Reference
	<ul style="list-style-type: none"> b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them. 	
	<p>M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:</p> <ul style="list-style-type: none"> a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and the name of the person who collected the sample. 	Section 9.4
M2 Requirement to monitor concentration of pollutants	<p>M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns of M2.2 table (see EPL)</p>	CSWMP (Appendix H)
	M2.2 Water and/or Land monitoring requirements table (see EPL)	CSWMP (Appendix H)
M3 Testing methods – concentration limits	M3.1 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted	CSWMP (Appendix H)
M4 Recording of pollution complaints	<p>M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.</p>	Section 7.4 Community Communication Strategy
	<p>M4.2 The record must include details of the following:</p> <ul style="list-style-type: none"> a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken. 	Section 7.4 Community Communication Strategy
	M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.	Section 7.4 Community Communication Strategy
	M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.	Section 7.4 Community Communication Strategy

EPL Reference	Requirement	Document Reference
M5 Telephone complaints line	M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Section 4.5 Project Website http://simta.com.au/
	M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Section 4.5 Project Website http://simta.com.au/
	M5.3 The preceding two conditions do not apply until August 2018, 3 months after the date of the issue of this licence.	Section 4.5 Project Website http://simta.com.au/
R1 Annual return documents	R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: <ul style="list-style-type: none"> 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliance - Environmental Management Systems and Practices. 8. At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA. 	Section 4.2
	R1.2 An Annual Return must be prepared in respect of each reporting period	Section 4.2
	R1.3 Where this licence is transferred from the licensee to a new licensee: <ul style="list-style-type: none"> a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.	Section 4.2

EPL Reference	Requirement	Document Reference
	<p>R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:</p> <p>a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or</p> <p>in relation to the revocation of the licence - the date from which notice revoking the licence operates.</p>	Section 4.2
	<p>R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').</p>	Section 4.2
	<p>R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.</p>	Section 4.2
	<p>R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:</p> <p>a) the licence holder; or</p> <p>b) by a person approved in writing by the EPA to sign on behalf of the licence holder.</p>	Section 4.2
R2 Notification of environmental harm	<p>R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.</p> <p>Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.</p>	Section 8.3
	<p>R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.</p>	Section 8.3
R3 Written report	<p>R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:</p> <p>a) where this licence applies to premises, an event has occurred at the premises; or</p> <p>b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.</p>	Section 8.3

EPL Reference	Requirement	Document Reference
	R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	Section 8.3
	R3.3 The request may require a report which includes any or all of the following information: <ul style="list-style-type: none"> a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any f) complainants; g) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and h) any other relevant matters. 	Section 8.3
	R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	Section 8.3
G1 Copy of licence kept at the premises or plant	G1.1 A copy of this licence must be kept at the premises to which the licence applies.	Section 1.2.2
	G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.	Section 4.2
	G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Section 4.2
G2 Signage	G2.1 The location of EPA point number(s) 1, 2, 3, 4, 5 and 6 must be clearly marked by signage that indicates the point identification number used in this licence and be located as close as practically possible to the point.	Not applicable to the IMEX site
E1 Crushing, grinding or separating activities	E1.1 Prior to the commencement of the crushing, grinding or separating activities, the licensee must prepare an assessment report that identifies any risks related to the processing and on-site reuse of the materials being processed (the materials); The risk assessment must consider: <ul style="list-style-type: none"> a) the potential for contamination of the material from the storage, handling or use of industrial or hazardous chemicals, waste or asbestos containing materials over the history of the use of the site; and b) the potential for ongoing exposure and adverse impacts on human health or the environment during processing or on-site reuse. 	Appendix Y including Site Audit Statement and Contamination Environmental Management Plan

EPL Reference	Requirement	Document Reference
	<p>a. identifies any contaminants of potential concern within the material proposed to be crushed, ground, screened and stockpiled</p> <p>b. takes into consideration the exposure pathways associated with the sources of contamination identified in Condition E1.1.a</p> <p>c. assesses the likelihood of an adverse impact influencing human health or ecological exposure on potential sensitive receptors identified in Condition E1.1.b.</p> <p>E1.2 The assessment report detailed in Condition E1.1 must be reviewed by a Certified Environmental Practitioner (CEnvP) – Site Contamination. The assessment report must be submitted to the Director Sydney Industry at metro.regulation@epa.nsw.gov.au prior to the commencement of the Scheduled Activity.</p>	
	<p>E1.2 The assessment report detailed in Condition E1.1 must be reviewed by a Certified Environmental Practitioner (CEnvP) – Site Contamination. The assessment report must be submitted to the Director Sydney Industry at metro.regulation@epa.nsw.gov.au prior to the commencement of the Scheduled Activity.</p>	Appendix Y including Site Audit Statement and Contamination Environmental Management Plan
	<p>E1.3 Crushing, grinding or separating activities authorised by this licence may not commence until the licensee has been provided with confirmation from the Site Auditor, that the material to be processed is suitable for processing and reuse on the site.</p>	Appendix Y including Site Audit Statement and Contamination Environmental Management Plan
E2 Extractive Activities	<p>E2.1 Extractive activities authorised by this licence may not commence until the licensee has been provided with confirmation from the Site Auditor, that the area to be excavated is suitable for reuse on the site.</p>	Appendix Y including Site Audit Statement and Contamination Environmental Management Plan
E3 Schedule of Works	<p>E3.1 The Licensee must provide a written estimate of the date of commencement, duration, location and volume of scheduled activities authorised under this licence in the following 24 months. The written estimate must be provided with the annual return required by Condition R1 and must include plans of the location the activities are to be carried on.</p>	Appendix Y including Site Audit Statement and Contamination Environmental Management Plan

Table 6 Infrastructure Sustainability Council of Australia (ISCA) requirements

ISCA Credit Reference	Requirement	Document Reference
Man-2	Environmental, social and economic risks assessed for whole of project scope.	Appendix O
	The risk assessment is updated at least annually and also at key project phases (e.g. at least in design, construction and operation phases).	Section 5
	Environmental, social and economic opportunities are also assessed.	Appendix O

ISCA Credit Reference	Requirement	Document Reference
Man-4	Internal environmental inspections of site management are undertaken at least weekly during construction.	Section 9.2
	Environmental audits of the management system are conducted. At least one external review or audit is conducted during design.	Section 9.6
	During construction at least four audits are conducted per year where at least one is external.	Section 9.6
	Internal sustainability inspections of site management are undertaken at least weekly during construction.	Section 9.2
	Sustainability audits of the management system are conducted. At least one external review or audit is conducted during design.	Section 9.6
	Summary of scheduled and completed inspections and audits. Establishment period must not extend beyond 6mths.	Section 9.2 and Section 9.6
Dis-5	Measures to prevent light spill during construction have been identified and implemented.	Appendix CC – Light Spill Management
	The lighting design for operation prevents horizontal light spill through compliance with the numerical limits for obtrusive light in Tables 2.1 and 2.2 of AS4282.	N/A
	The lighting design for operation prevents upward light spill by ensuring that, relative to its particular mounting orientation, 95% (by number) of external public lighting luminaires within the project boundary have an Upward Light Ratio less than 5% (for roads and public spaces this must be less than 3% in accordance with AS1158).	N/A

The commitments related to the Revised Statement of Commitments and Concept Plan Approval are outlined in Appendix E.

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MPE Stage 1 Urban Design and Landscape Plan

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1 INTRODUCTION

The Sydney Intermodal Terminal Alliance (SIMTA) received approval for the construction and operation of Stage 1 of the Moorebank Precinct East (MPE) Project, comprising an Intermodal (IMT) Facility including a rail link (Package 1) and Import Export (IMEX) Terminal (Package 2) on 12 December 2016 (SSD 6766). The construction and operation of the MPE Stage 1 Project was subject to an appeal in September 2017 (Appeal Number 2017/00081889). The approval was upheld and the revised Conditions of Consent (CoC) were released on 13 March 2018.

The MPE Project involves the development of an intermodal facility including warehouse and distribution facilities, freight village (ancillary site and operational services), stormwater, landscaping, servicing and associated works on the eastern side of Moorebank Avenue, Moorebank. It is to be developed in three key stages:

- Stage 1 - Construction of the IMEX facility and rail link
- Stage 2 - Construction of warehouse and distribution facilities
- Stage 3 - Extension of the IMEX and completion of warehouse and distribution facilities.

Stage 1 of the MPE Project comprises, and will be constructed across, two packages:

- Package 1 - The Rail Link (not included within this CEMP) includes a connection to the IMEX facility, and traverses across Moorebank Avenue, Anzac Creek and Georges River prior to connecting to the Southern Sydney Freight Line (SSFL)
- Package 2 - The IMEX Facility includes the following key components:
 - Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue
 - Rail loading and container storage areas – installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively
 - Administration facility and associated car parking - light vehicle access from Moorebank Avenue

Works and associated impacts relating to the construction of MPE Stage 1, Package 1 (Rail Link) are not included within this CEMP. This CEMP only relates to activities associated with the development of the IMEX facility i.e. MPE Stage 1, Package 2 (hereafter referred to as the “Project”).

1.1 Purpose and Application

This Construction Environmental Management Plan (CEMP) describes how the Moorebank IMEX MPE Stage 1 Package 2 Development (hereafter referred to as the “Project”) team will manage environmental aspects and impacts for the effective delivery of the works in accordance with the Project’s legislative and contractual requirements

This CEMP has been developed to:

- ensure that the project meets contractual, legal and other environmental management requirements;
- meet the requirements of AS/NZS ISO 14001:2015 Environmental Management System;
- provide all contractors working on the construction phase of Stage 1, Package 2 of the Moorebank Intermodal Terminal Development project (the Project) with systems, procedures and documentation necessary to undertake the construction of this project in accordance with the environmental requirements.
- identify reasonable and feasible opportunities to minimise the environmental impact of the project

Implementing the CEMP effectively will ensure that the Project team meets regulatory policy, legislative requirements and SIMTA’s Environmental Policy in a systematic manner and continually improves its performance.

1.2 Objectives and Targets

High level objectives and targets for this project are as follows in Table 7.

Table 7 Objective and Targets

Objective	Target	Reporting/Monitoring
Effective site environmental controls	<ul style="list-style-type: none"> Controls to be in place prior to the commencement of ground disturbing activities in 100% of cases where this is applicable Hold points to be released prior to the commencement of works 	Hold point and contractor inspection checklists or similar
Best Practise Environmental performance	<ul style="list-style-type: none"> No breaches or environmental infringement notices Class 1 or Class 2 Environmental Incident Frequency Rate (EIFR) of 1 by 2018 	Monthly reports
Best Practise Environmental Inspection	<ul style="list-style-type: none"> Environmental hazards and near misses identified against hours worked – 1:2500 person hours. 50% of project environmental inspections accompanied by supervisory or engineering personnel Environmental Toolbox Talks – 3 per month 100% of weekly sustainability inspections signed off by the Project Manager 	Monthly reports, weekly inspections
Effective implementation of the environmental system	<ul style="list-style-type: none"> No level 1 Corrective Action Requests <3 level 2 risks each report <10 level 3 risks each report 	Audit report
Best Practise Stakeholder System	<ul style="list-style-type: none"> Less than three substantiated environmental complaints per month Complainant contacted within four hours of receiving complaint Complainant concerns adequately resolved such that prevention of perceived or potential human health and/or environmental impacts are achieved. 	Complaints form and Impact
Biodiversity	<ul style="list-style-type: none"> No harm to any threatened species 	Weekly inspections
Waste	<ul style="list-style-type: none"> 90% of construction, demolition and excavation waste to be recycled 	Waste Tracking Spreadsheet
Recycled content	<ul style="list-style-type: none"> Use of minimum 35% Portland cement replacement (such as PFA and GGBS) in concrete 	Concrete specifications and volumes reports
Water usage	<ul style="list-style-type: none"> Minimise the use of potable water by investigating the use of water from sediment basins for use in dust suppression 	Water volume records

1.3 Consultation

This CEMP was produced in consultation with the Environmental Protection Authority (EPA), Office of Environment and Heritage (OEH), Department of Primary Industries (DPI) Water, DPI Fisheries, and Liverpool City Council. Table 8 below details a high level summary of the consultation undertaken.

Appendix Z contains a full breakdown of all the consultation undertaken, including feedback provided to Liverpool City Council and the Department of Primary Industries (Water).

Table 8 Consultation Summary

Agency	Date Contacted	Comment	Status
Dept. of Defence	19 th Jan 2017	Nil input for CEMP	Completed
Liverpool City Council	1 st Feb 2017	Various comments	Completed
Campbelltown City Council	1 st Feb 2017	Nil input for CEMP	Completed
Environmental Protection Authority	1 st Feb 2017	Nil input for CEMP	Completed
Office of Environment and Heritage	1 st Feb 2017	Nil input for CEMP	Completed
Department of Primary Industries (Water)	1 st Feb 2017	Various Comments	Completed
Department of Primary Industries (Fisheries)	1 st Feb 2017	Nil input for CEMP	Completed

1.3.1 Stakeholder Agreements

At present, there are no voluntary or stakeholder agreements in place. Where these are developed during the course of construction, the agreements will be recorded in this section.

1.4 Certification and Approval

The CEMP will require approval of the Minister of the Department of the Environment and Energy (DotEE) prior to commencement of construction, in accordance with the MPE EPBC Approval.

The CEMP for construction of the Proposal will require approval by the Department of Planning and Environment (DP&E) prior to commencement of construction. To allow adequate time for review, submission to DP&E would be required no later than one month prior to commencement of construction, or as otherwise agreed.

The sub-plans prepared for the Proposal would also would require approval by the DP&E and DotEE prior to commencement of construction.

1.5 Distribution

The master 'controlled' CEMP document will be held within the Project's document management system where it can be accessed by personnel as necessary.

A hard copy (paper copy) will be available on site as per CoC E1.

Where required, controlled copies of this CEMP will be published as a hard copy, allocated a copy number and distributed as per Table 9.

Table 9 Distribution recipients

Copy No.	Issued to
01	Contractor's Project Manager
02	Contractor's Environmental Manager
03	SIMTA

The personnel to whom these copies have been issued will be sent amendments as they occur, and it is their responsibility to discard superseded pages and insert new pages.

1.6 Issue and Revision

The initial issue of this plan has been reviewed by the Contractor's Environmental Manager to ensure it meets the requirements of the Environmental Management System and SIMTA's Environmental policy, contract documentation, specifications and standards. The plan is approved for use on the project by SIMTA. Evidence of initial review and approval is by signatures on the cover sheet.

Continuous improvement of this plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for identifying opportunities for improvement.

Revisions of this CEMP may be required throughout the duration of the project to reflect changing circumstances or identified deficiencies.

Revisions may result from:

- Management Review
- Audit (either internal or by external parties)
- Client complaints or non-conformance reports
- Changes to the Company's standard system
- Changes to procedures, scope of works and/or systems after a potential Class 1 incident

Revisions shall be reviewed and approved by SIMTA prior to issue. Updates to this plan are numbered consecutively and issued to holders of controlled copies.

The Independent Environmental Representative would be given the authority to approve/reject "minor" amendments to the CEMP. Minor amendments to the CEMP and associated environmental management system are those that:

- are not considered to contradict the project planning approval and associated conditions
- do not significantly alter the outcomes of the project such that a planning modification would be required by the Department
- are not considered to carry significant environmental risk, more than those outlined in the project EIS
- will not impact surrounding communities.

Where the amendments are not considered to be major, i.e. not "minor" in nature, the CEMP will be submitted to the Department of Planning and Environment for review and approval. This plan will be reviewed annually as a minimum but may be updated more regularly depending on process changes and refinements.

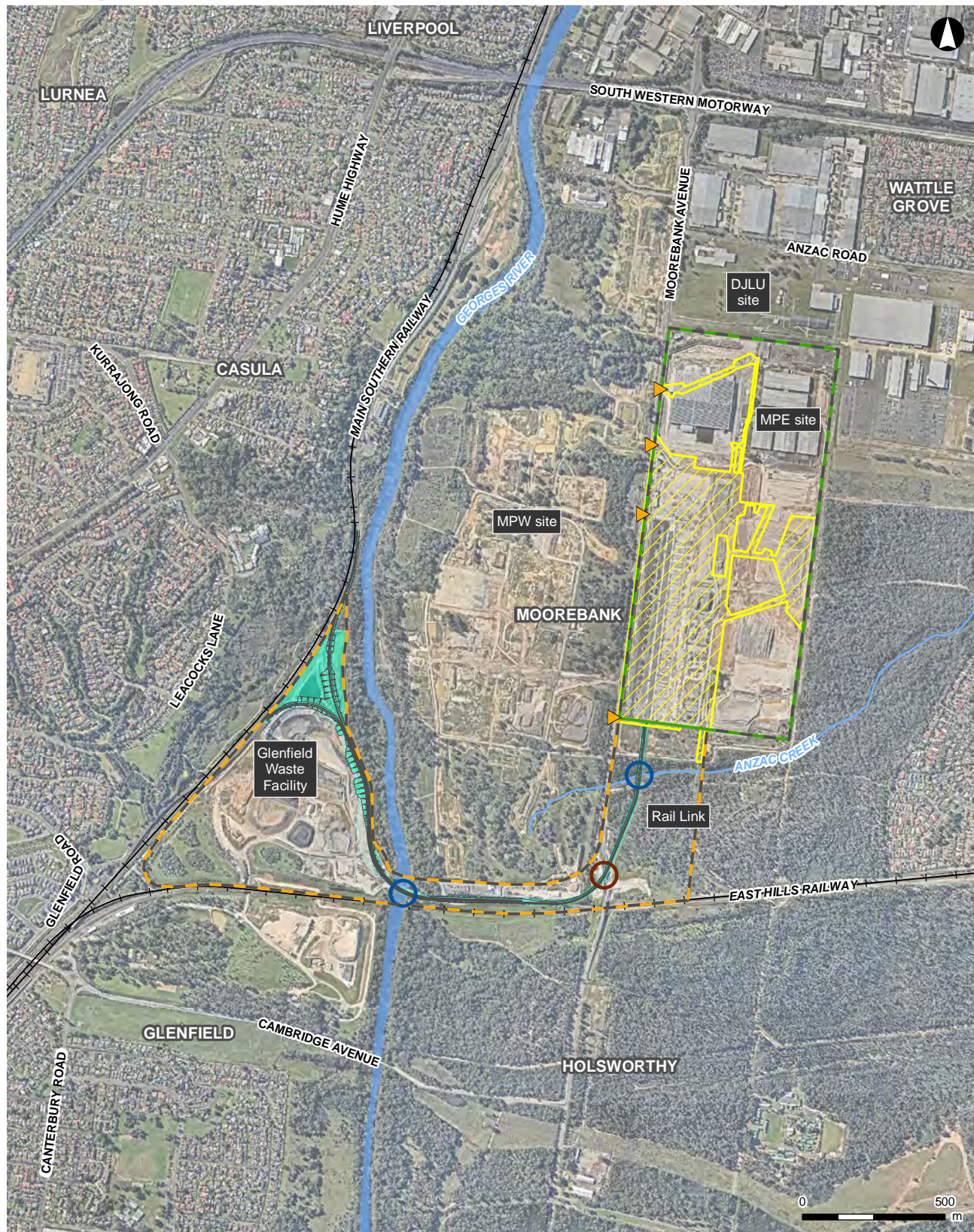
Compliance with EPBC Approval (2011/6229) is presented in Appendix DD. Subsequent revisions to the CEMP and Sub-plans that have an impact on the requirements of the EPBC Approval (2011/6229) will result in an update to Appendix DD. This appendix will be submitted to the Federal Minister for review and if necessary, approval.

2 PROJECT DESCRIPTION

The MPE Project site is located approximately 27 kilometres (km) south-west of the Sydney Central Business District (CBD) and approximately 26 km west of Port Botany and includes the former Defence National Storage and Distribution Centre (DNSDC) site, (Figure 1).

The layout of the IMEX facility generally comprises operational areas, an administration area, rail sidings, utilities and drainage infrastructure, landscaping and signage. The operational areas of the IMEX facility consist of the primary and secondary container loading / unloading areas and container storage areas, and the truck holding area. Within these areas containers would be stacked up to five high.

MPE Stage 1 CEMP



LEGEND

- | | | | |
|--|-----------------------------------|--|----------------------|
| | Project site | | Creek/river crossing |
| | Construction footprint | | Road crossing |
| | MPE site | | Rail link |
| | Rail corridor | | Existing railway |
| | MPE Stage 1 Package 1 (Rail Link) | | Watercourse |
| | Construction access | | |

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 Aerial imagery supplied by nearmap (March, 2019)

1:20,000 at A4

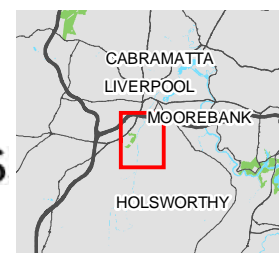


Figure 1: MPE Site Overview

2.1 Construction Works Periods

The Project works are generally divided into five work periods as detailed in sections 2.1.1 to 2.1.5.

2.1.1 Works Period 1: Site Preparation

Works period 1 will include but not be limited to:

- Establishment a site compound with portable offices and amenities and connection to utilities;
- Establishment of internal construction haulage roads
- Vegetation clearing;
- Demolition;
- Separating and stockpiling material for disposal or reuse;
- Treatment of materials for reuse (concrete crushing); and
- Removal of decommissioned underground services;
- Installation of environmental controls;
- Archival recording and monitoring;
- Remediation.

Existing buildings within the construction area (excluding building 13) require demolition (see Figure 2 for construction area). Demolition works will be undertaken in accordance with the heritage requirements outlined in the Construction Heritage Management Plan and safety requirements as outlined within the Hazardous Materials Management Plan (prepared separately to this CEMP).

Several areas of the Project site have also been identified as requiring remediation to mitigate potential risks to human health and the environment posed by existing site conditions. Remediation will be undertaken in accordance with the Appointed Contaminated Site Auditor's endorsed Remediation Action Plan and Contaminated Management Plan (prepared separately to this CEMP) and managed in accordance with the requirements of this CEMP.

2.1.2 Works Period 2: Earthworks, Drainage and Utilities

In disturbance areas containing a clearly discernible A profile (topsoil), the topsoil will be stripped and stored on site for later re-use within site landscaping, or riparian restoration where appropriate, Topsoil stockpiles will not exceed a 2m windrow height, be clearly sign-posted, and separated from sub-soil stockpiles. Where possible and subject to its suitability, excavated subsoil would be reused on-site for foundation preparation, levelling works or maintenance access roads. Excavated soil which is not considered suitable for re-use on site will be temporarily stockpiled within the nominated stockpile site and then transferred off site. All soil to be transferred off site will be tested and deposited at collection licensed waste facility based on its waste classification.

The source of general fill material is the undeveloped cleared high point located along the eastern boundary of the MPE site known as the Borrow Pit. The material anticipated to be available from the undeveloped cleared high point is approximately 50,000 m³ subject to Geo-Technical Site Investigation results.

The primary activities in this works period include:

- Excavation and filling of land on-site to create bulk earthworks platforms;
- Excavation of trenches and consequent filling (if needed) e.g. for construction of open stormwater channels, pipes and structures;
- Laying of stormwater pipes;
- Construction of stormwater drainage structures;
- Backfilling of trenches and behind structures;
- Excavation of trenches for the construction of utility services pipes, conduits and structures;
- Laying of pipes and conduits and construction of utility services structures; and
- Backfilling of trenches and behind structures.

2.1.3 Works Period 3: Engineering Fill

The primary activities in this works period include:

- Establish detailed construction platform and place under-slab base course;
- Drainage construction;
- Place capping layer;
- Ethane gas line and 750 rising main protection slabs;
- Ballast construction;
- Driving piles;
- In ground and waterways concrete placement and substructure formwork; and
- In situ concrete deck and pre cast beam installation.

2.1.4 Works Period 4: Concrete Works and Rail Alignment

The primary activities in this works period include:

- Construct sub-base slab, kerbs, gutters and base slab;
- Laying sleepers; and
- Laying track.

2.1.5 Works Period 5: Finishing Works

The primary activities in this works period include:

- Misc. structural construction, utilities and finishing works;
- Removal of the disused rail spur;
- Landscaping.

2.2 Construction Hours

In accordance with CoC E19, construction shall be undertaken during the following standard construction hours:

- 7:00am to 6:00pm Mondays to Fridays, inclusive; and
- 8:00am to 1:00pm Saturdays;
- at no time on Sundays or public holidays.

In accordance with CoC E20, activities resulting in a high noise impact shall only be undertaken:

- between the hours of 8:00 am to 5:00 pm Monday to Friday;
- between the hours of 8:00 am to 1:00 pm Saturday; and
- in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block where continuous includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.

NOTE: High-noise impact activities and work includes jack hammering, rock breaking or hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel or other work occurring on the surface that generates noise with impulsive, intermittent or low tonal frequency characteristics.

Notwithstanding conditions E19 and E20, works may be undertaken outside the hours specified under those conditions in the following circumstances:

- construction works that cause LA_{eq} (15 minutes) noise levels that are:
 - No more than 5 dB above rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and
 - No more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land uses; or
- for the delivery of materials required by the police or other authorities for safety reasons; or

- where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or
- construction works approved through an Out-Of-Hours Work Protocol prepared as part of the Construction Noise and Vibration Management Plan [Appendix D] required by condition E34(b), provided the relevant Council, local residents and other affected stakeholders and sensitive receivers are informed of the timing and duration at least 48 hours prior to the commencement of the works; or
- identified works approved by the Secretary.

2.3 Construction Program

Construction of the Proposal is planned to commence in the first quarter of 2017. The total period of construction works for the Proposal is expected to be approximately 18 months. Construction works have been divided into five 'works periods' which are interrelated and may potentially overlap. Subject to confirmation of construction, the order of these construction works periods may shift slightly. The indicative construction program is shown in Table 8.

Table 10 Indicative Construction Program

Construction Phase	Qtr. 2 -17	Qtr. 3 -17	Qtr. 4 -17	Qtr. 1 -18	Qtr. 2 -18	Qtr. 3 -18	Qtr. 4 -18	Qtr. 1 -19	Qtr. 2 -19
Works period 1 – site preparation/de molition and remediation									
Works period 2 – Earthworks, drainage, utilities									
Works period 3 – Engineering fill									
Works period 4 – Pavement construction and rail alignment									
Works period 5 – Miscellaneous, structures, finishing works									

2.4 Plant, Equipment and Personnel

A range of plant and equipment will be required for the construction of the Project. A summary of the indicative plant and equipment likely to be utilised is provided as follows:

- Scrapers
- Graders
- Dozers
- Wheeled Loaders
- Static and vibratory rollers
- Excavators (tracked) with hammer attachment
- Wheeled Backhoes
- Up to 40T articulated dump trucks
- Aggregate crushing plant
- Concrete Batch plant
- Concrete agitators (or similar)
- Concrete pumps
- Concrete saws
- Air compressors
- Jackhammers
- Mulchers
- 20-40 tonne articulated tipper body trucks
- Water carts (for dust control and bushfire management)
- Mobile cranes
- Piling rigs
- Forklift/telehandlers

The maximum number of personnel for each work stage is estimated below (Table 11).

Table 11 Estimated Personnel Numbers

Work Period	No. of Personnel
1	15
2	30

Work Period	No. of Personnel
3	30
4	25
5	10

2.5 Access

Access to the Project would be to and from Moorebank Avenue. However, no heavy vehicles will be permitted to turn right from Moorebank Avenue into site, or left out of site except if they are travelling to and from Glenfield Waste Facility.

Formal pedestrian facilities are currently provided on the western side of Moorebank Avenue only (the opposite side to the Project). As such, there is not anticipated to be any change to pedestrian facilities.

2.6 Ancillary Construction Facilities

Temporary construction compounds and stockpiles would be required to support construction works for the Project and are illustrated in the construction design plans. The main compound is located to the east of the Project site (Figure 2).

The compound will house:

- Site office
- Staff amenities
- Car parking
- Storage and laydown areas
- Materials testing
- Stockpiles and a batching plant if required.

The compound will have an area of approximately 94,000 m² and would be the primary compound to support construction of the Project. This compound would provide offices, administration, worker amenities and car parking with approximately 300 spaces in the northern part of the site, a general storage and laydown area in the centre of the site and a possible batching plant to the south of the Construction area. The batching plant area would include storage of raw materials.

The compound will be accessed and egressed directly to and from Moorebank Avenue via internal haul roads through the Project site. The compound will also utilise the existing main central entrance (from Moorebank Avenue) and transition to use of the proposed main entrance (from Moorebank Avenue for the IMT) once this has been constructed.

2.7 Site Restoration

Temporary internal haul roads and stockpile sites will be removed / decommissioned at the completion of construction. Where not within the footprint of the Operational area, these areas will be rehabilitated upon completion of the works to the pre-construction standard or as otherwise agreed with the relevant landowner.

MPE Stage 1 CEMP



LEGEND

- Project site
- Construction footprint
- MPE site
- Compound and stockpile area
- Construction access
- Watercourse

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 Aerial imagery supplied by nearmap (Sep, 2019)

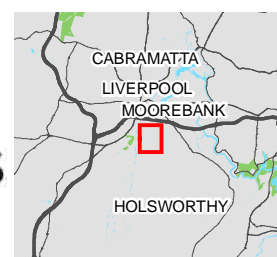


Figure 2: Project Access, Stockpile and Compound Locations

3 ENVIRONMENTAL MANAGEMENT SYSTEM

SIMTA's Safety Health and Environmental Management System (SHEMS) is part of an integrated management system which is known as the Moorebank Intermodal Precinct Incident Management Process. This Plan references relevant parts of SIMTA's environmental management system and incorporates the additional contractor elements necessary to satisfy the Project's environmental requirements.

All works carried out on the site will be in accordance with:

- Client requirements as detailed in the Contract
- The SIMTA Environmental Management System
- The contractors own Environmental Management System
- ISO 14001 Environmental Management Systems
- SIMTA Safety Health and Environment Policy
- All legal requirements

The CEMP is the head Environmental Management Systems (EMS) document for the delivery of the Project. The CEMP is supported by a suite of environmental aspect-specific sub-plans and environmental procedures to ensure risks are identified, managed and monitored.

In summary, the Project EMS is comprised of the following key documents linked to the CEMP:

- Conditions of Consent Compliance Tracking Program
- Construction Air Quality Management Plan (CAQMP) [Appendix F]
- Construction Flora and Fauna Management Plan (CFFMP) [Appendix G]
- Construction Heritage Management Plan (CHMP) [Appendix B]
- Construction Noise and Vibration Management Plan including Out-of-Hours Works Protocol (CNVMP) [Appendix D]
- Construction Soil and Water Management Plan (CSWMP) [Appendix H]
- Construction Traffic and Access Management Plan (CTAMP) [Appendix I]
- Contamination Management Plan (CMP)
- Greenhouse Gas Management Plan (GHGMP) [Appendix J]
- Remediation Action Plan (RAP) [Appendix C]
- Waste Management Strategy [Appendix L]
- Bushfire Management Strategy [Appendix BB]
- Emergency Response and Preparedness including flood response [Appendix A].

Specific requirements related to workplace health and safety are not covered in this CEMP and associated subplans.

3.1 SIMTA's Environment Policy

The Project and its nominated contractors will operate in accordance with the SIMTA Safety Health and Environment Policy [Figure 3] which will be:

- Displayed at prominent locations on the project site
- Communicated to site personnel during induction and training
- Made accessible to clients and concerned / interested members of the public

The Project's commitment to the environmental policy will be demonstrated by:

- Communication of the policy intent to all staff through inductions, notice board displays and project meetings.
- Provision of adequate resources and assigning responsibilities to implement and maintain the CEMP.
- Achievement of the Project targets/objectives and regular reviews to manage their suitability and effectiveness.
- Provision of the environmental policy on public request.

All personnel associated with the project including subcontractors must comply with the spirit and intent of the policy.

Safety Health & Environment Policy

Qube is committed to providing a safe and healthy workplace, and ensures the protection of the environment.

Effective safety is a shared responsibility. Our commitment and encouragement of personal accountability is summarised by our program:

ZERO HARM

Zero Harm reflects our belief that we operate in an environment where risks are managed, and that work does not impact upon our people's health and wellbeing.

The Company demonstrates a commitment to ensuring the health and safety of all our workers and protection of the environment, by:

- Striving for continuous improvement by establishing safety and environment performance targets and then measure and monitor performance through effective audit programs.
- Providing resources which enable communication, the sharing of safety and environment knowledge and ideas, and effective consultation with Workers and other Stakeholders.
- Ensuring relevant legislative and regulatory compliance is achieved.
- Preventing injuries and environmental incidents through the implementation of the Qube Safety and Environment Management System based on hazard management principles (hazard identification, risk assessment, hazard control and review).
- Ensuring all incidents are reported and investigated to prevent recurrence and serious incidents are reported to relevant state authorities.
- Implementing effective injury management to reduce the personal and financial cost of work related injuries.

Environmental Management

Through the adoption and promotion of sound and sustainable environmental practice in business, it is Qube's objective to be the company of choice in creating value for workers, shareholders, business partners, customers and suppliers, by:

- Managing day to day operations in a manner that seeks to prevent any harmful impact on the environment
- Complying with and aim to exceed all applicable environmental legislation nationally
- Implementing and maintaining an Environmental Management System that

ZERO HARM



conforms with or exceeds AS/NZS ISO 14001:2004

- Promote leadership in environmental protection through employee training and support for third party educational and training initiatives
- Develop business, community and political relationships with like-minded partners to foster a culture of environmentally sustainable growth and development
- Communicate proactively, promptly and transparently with all stakeholders, the community, media and government on environmental issues
- Engage proactively in thought leadership, development, implementation and promotion of new environmentally sustainable business practices

Maurice James

Issue Date: 28.04.2016
Review Date: 28.04.2018

QH-SHE-PO-012 (Version 1.0)

Figure 3 SIMTA Environmental Policy

3.2 Interface with Other Plans & Requirements

This CEMP forms part of the overarching Integrated Management System (IMS), and provides the roadmap for the implementation of the Project's Environment Management System which will be certified to ISO14001:2015, and has been developed in accordance with the requirements of

- DotEE Approval SIMTA Intermodal Terminal Facility (EPBC 2011/6229)
- Development Consent SSD 6766 as modified by Appeal Number 2017/81889 Stage 1 Approval (SS 6766) outcome dated 13 March 2018.
- SIMTA Principal's Project Requirements IMEX Terminal No.1 (IMEX No.1)
- the Project Environmental Management Framework (EMF)
- Guideline for the Preparation of Environmental Management Plans (Dept. of Infrastructure Planning and Natural Resources, 2004)

The CEMP is to be read in conjunction with the Project Management Plan (Figure 4).

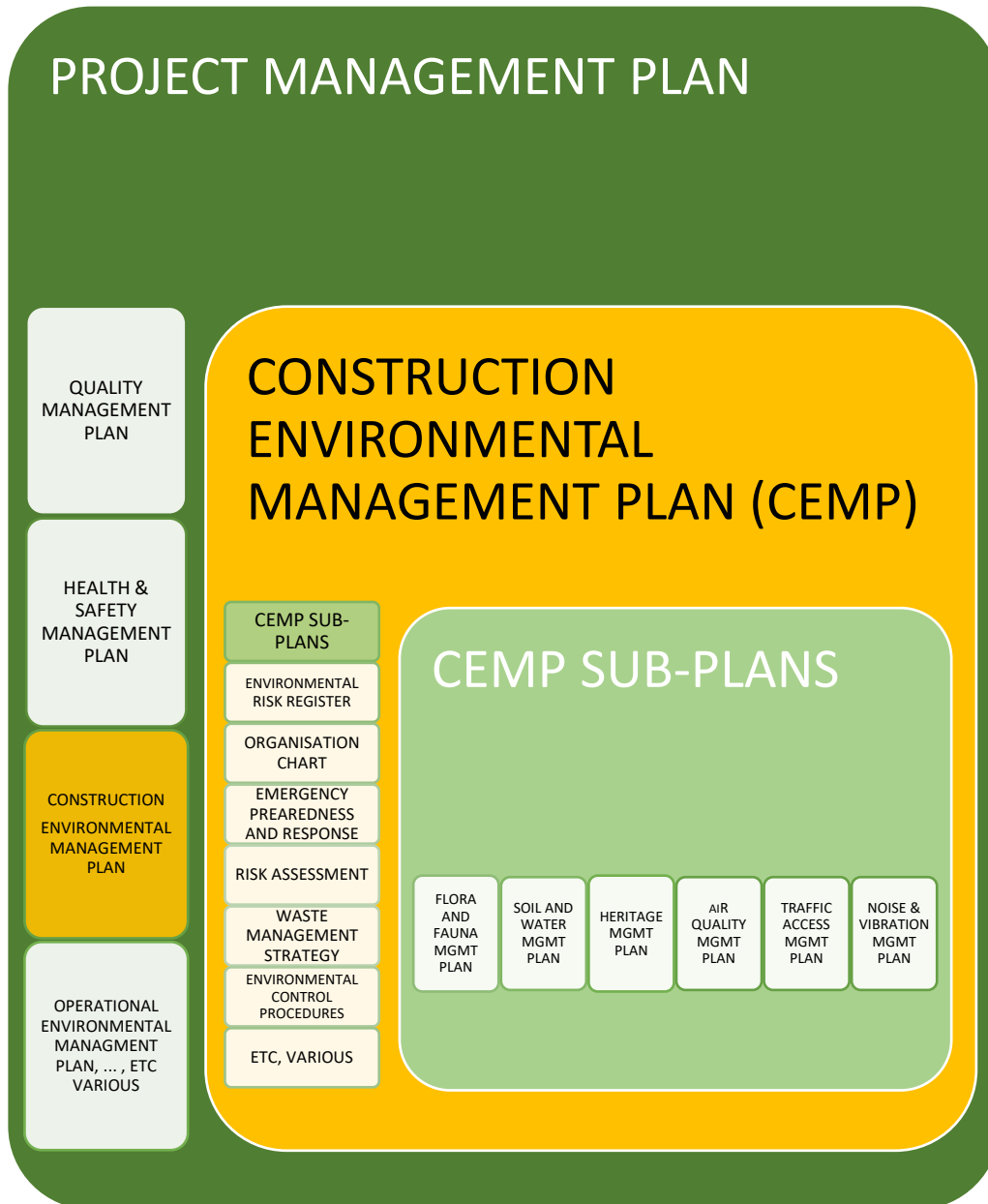


Figure 4 Project Management Plan Structure and CEMP Structure

3.3 Document Control and Records

All project documentation, including environmental records, will be controlled in accordance with the SHEMS document control system. Documents will be forwarded by the Contractor to SIMTA using Aconex – the Project’s main Document Control System. Aconex will be used to store records, documents, and plans as a minimum.

Environmental records will be kept as objective evidence of compliance with environmental requirements filed in Aconex and made available to all Project personnel. Where necessary, hard copies will be kept on site for information and managed by the Contractors Environmental Manager. Obsolete documents will be removed from all points of issue and points of use. Any obsolete documents retained for legal and/or knowledge preservation purposes will be suitably identified.

Relevant sub-plans, SWMS, EWMS etc will be issued as part of the CEMP management to those personnel who are responsible for their implementation. The Environment Manager will ensure that the current issue of documentation is available. This will be additionally monitored through audits and inspections. Changes in legislation, documents and procedures will be reviewed by the Environmental Manager and discussed with the construction team to ensure that the objectives and targets reflect changes in statutory legislation and policy, SIMTA's Environmental policy and any other requirements.

Documentation will be maintained in a legible manner, dated (with dates of revision) and readily identifiable, and retained for the life of the Project, unless otherwise required.

In accordance with Condition of Approval D4, relevant documentation will be uploaded to the Project website. This is further outlined in the Community Consultation Strategy (Appendix W).

3.3.1 Environmental Forms

Each Construction Contractor is required to prepare their own environmental monitoring or management forms and checklists. Where forms or checklists have been included within the CEMP or sub-plans, these are indicative and can be replaced with contractor-specific forms at review by SIMTA. The minimal forms and checklist required to undertake environmental management on the Project include, but is not limited to, the below:

- Weekly environmental checklist
- Water discharge permit
- Noise and vibration monitoring form
- Air quality monitoring form
- Water quality monitoring form
- Contractor's project corrective actions register
- Waste monitoring register
- Incident register
- Pre-clearing checklist
- Clearing permit.

4 ENVIRONMENTAL OBLIGATIONS

The project will comply with all relevant guidelines, standards, codes and legislation as outlined within this section and Appendix M.

A copy of this certified CEMP and all relevant Permits, Licences and any development approvals (Conditions of Consent – CoCs) relevant to the Project activities will be kept on site, and shall be readily available for perusal by any officer of the Department, relevant Council or the Certifying Authority.

4.1 Legislative Requirements

An assessment of the relevant legislative instruments has been conducted and recorded in Appendix M which details the key legislative requirements for this Project.

4.2 Licenses and Permits

Licences, permits and approvals are outlined in Appendix N The register will be revised and updated in conjunction with the management review outlined in Section 9.7 or when there has been a change to relevant legislation.

Compliance conditions relating to items listed on the Permits and Licenses Register are incorporated into this CEMP. Specific details and controls are included in the associated sub-plans and Environmental Risk Action Plans (ERAPs).

An EPL (No. 21054) was issued by the EPA for the Moorebank Precinct on 4 June 2018. A variation to the license was issued on 18 April 2019 to capture cut and fill earthworks occurring on the MPE Stage 2 Project Site and additional considerations observed during a site inspection on the 23 November 2018.

The licence applies to the Moorebank Precinct (excluding the MPE Stage 1 Rail Access Land Package (RALP) which has a separate EPL licence (No. 20966) and authorises > 100,000 – 500,000 tonnes crushing, grinding or separating processing capacity per annum and > 500,000 – 2,000,000 tonnes extraction, processing or storage capacity per annum. The licence applies to all other activities carried on at the premises, including road construction, bulk earthworks ‘cut and fill’ and importing fill.

The EPL includes specific minimum requirements which are addressed within this CEMP (See Table 5) through the Operational Controls and specifically included in Sub-Plans and ERAPs. These will be addressed and implemented by the Contractor as the project progresses. Administrative conditions associated with the EPL that will be implemented include:

- All activities on the site must be undertaken in a competent manner
- Plant and equipment must be operated and maintained in a proper and efficient manner
- Recording of pollution complaints
- A copy of the licence will be kept on the premises at all times and will be produced to an officer of the EPA if requested
- Capture and collation of information for the completion of the Licence annual return.
- A draft of each annual return (Annual Return) referred to in Condition 6 of the POEO Act licence, must be provided 10 Business Days prior to the date on which it must be submitted. The Annual Return is to be reviewed by Project Leader and Regional Environmental Manager;
- In accordance with Condition R1.5 of the EPL, the annual return is required to be completed and submitted within 60 days of the anniversary date (4 June 2018)
- In accordance with Condition 1.6 of the EPL, the annual return is required to be to the EPA for a period of at least 4 years after the due date.

4.3 Project Approvals

The works are to be delivered through Part 4, Division 4.1 (now Division 4.7 as of 1 March 2018) of the Environmental Planning and Assessment Act 1979. The approval process includes specific planning conditions and commitments that must be addressed in this CEMP and delivered during the project.

A compliance tracking program has been established to ensure the approval conditions are captured, addressed and closed out. Appendix E outlines the division of responsibilities to ensure all conditions are met. The matrix includes all conditions relevant to the Project scope of works and will be updated as the works progress and reviewed monthly by the Contractor to verify compliance with each condition. The contractor will submit this information to SIMTA.

Specific conditions of consent relevant to construction activities are included in the project's Operational Controls in the aspect specific Environmental Risk Action Plans (ERAPs) [Appendix A].

Non-compliances with the conditions will be documented and addressed through the Moorebank Intermodal Precinct Management Process. Contractors will submit documentation to SIMTA through Aconex.

4.4 Guidelines and Standards

Guidelines and Standards used during the compilation of this CEMP and sub-plans include (but are not limited to):

- Guideline for the Preparation of Environmental Management Plans 2004
- Principal's Project Requirements IMEX Terminal No. 1 (IMEX No. 1)
- AS/NZS ISO 14001:2015 – Environmental Management Systems
- AS/NZS ISO 19011:2014 - Guidelines for Auditing Management Systems;
- AS/NZS ISO 31000:2009 - Risk Management
- AS 2890.1:2004 Parking facilities off-street Parking
- AS 2890.6:2009 Off-street parking for people with disabilities
- AS 2890.2:2002 Parking facilities - Off-street commercial vehicle facilities
- AS/ISO 10002:2006 Customer Satisfaction – Guidelines for Complaints handling in Organisations
- DIN 4150-3: Structural Vibration – Effects of Vibration on Structures (for structural damage)
- AS4970:2009 Protection of Trees on Development Sites
- AS1158.3:1999 Pedestrian Area (Category P) Lighting
- AS4282:1997 Control of the Obtrusive Effects of Outdoor Lighting
- AS1158 Street Lighting Applications
- AS2601:2001 The Demolition of Structures
- Environmental Guidelines: Solid Waste Landfills, NSW EPA 1996
- State Environmental Planning Policy No. 55 – Remediation of Land
- NSW DPI Policy and Guidelines for Fish Habitat Conservation and Habitat Management (2013)
- NSW Biodiversity Offsets Policy for Major Projects (OEH 2014)
- Guide to Road Design (Austroads)
- Managing Urban Stormwater – Soils and Construction Vols 1 and 2, 4th Edition (Landcom 2004).
- Storing and Handling Liquids: Environmental Protection – Participants Handbook (EPA)
- Guidelines for Controlled Activities (NSW Office of Water)
- Australian Dangerous Goods Code
- Environmental Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (EPA 1997)
- Waste Classification Guidelines (EPA 2014)
- Interim Construction Noise Guideline (DECC 2009)
- Assessing Vibration: A Technical Guide (DECC 2006).

4.5 Pre-Construction Requirements

All pre-construction requirements will be addressed to the satisfaction of the Certifying Authority prior to construction commencing. This will include:

- Pre-Construction Dilapidation Report (PCDR) will be prepared by a suitably qualified person in accordance with CoC C17
- Road pavement deflection testing in accordance with CoC C18
- To ensure compliance with CoC C19, it will be ensured that the construction and operation of the proposed development does not prevent the existing use of Moorebank Avenue as a public road to a standard commensurate to its current use prior to the development
- Undertake Road Safety Audit in accordance with CoC C24.
- Installation of exclusion fencing prior to commencement of construction in accordance with CoC E34.

4.5.1 Site Notice

A site notice(s) shall be prominently displayed at the boundaries of the site for the purposes of informing the public of project details including, but not limited to the details of the Contractor, Certifying Authority and Structural Engineer. The notice(s) is to satisfy all but not be limited to, the following requirements:

- a) Minimum dimensions of the notice are to measure 841mm x 594mm (A1) with any text on the notice to be a minimum of 30 point type size;
- b) The notice is to be durable and weatherproof and is to be displayed throughout the works period;
- c) The approved hours of work, the name of the site/project manager, the responsible managing company (if any), its address and 24 hour contact phone number for any inquiries, including construction/noise complaint are to be displayed on the site notice; and
- d) The notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the site is not permitted

4.6 Post-Construction Requirements

All post-construction requirements will be addressed to the satisfaction of the Certifying Authority post-construction phase. This will include:

- Engage suitably qualified person to undertake Post-Construction Dilapidation Surveys of adjoining third party properties and infrastructure surrounding the Project site in accordance with CoC F1
- Compare conditions of buildings/infrastructure pre-and post-construction to determine any damage from construction activities
- Submit Post-Construction Dilapidation Report to the satisfaction of the Certifying Authority and provide a copy to Liverpool City Council, RMS and the Secretary

4.7 Change Compliance

Proposed changes to the Approved Project (i.e. to the design, construction methodology or location) will be assessed to determine the appropriate approval pathway. Classification of a proposed change will be determined through an “Accordance Assessment” process undertaken by the Principal’s Representative for due diligence purposes. Change requests may be classified as negligible, minor, major or a modification.

The accordance assessment is an examination of the proposed change need, scope, scale and method in the context of planning approval documentation (i.e. the EIS/RtS, Conditions of Consent and this CEMP) is to determine whether the proposed change is of “*minor environmental impact*” and “*generally in accordance*” with Condition No. A1 of the Development Consent (SSD 6766), or if the proposed change constitutes a Modification to the Minister’s approval under section 4.55 (previously Section 96) of the EP&A Act.

Project Modifications are classified as follows:

- Section 4.55 (1) applies to changes to correct a minor error, mis-description or miscalculation;
- Section 4.55 (1A) applies to modifications involving minimal environmental impact; and
- Section 4.55 (2) applies to other modifications.

A modification may be necessary where:

- Changes in the project are in direct conflict with a condition of approval
- Change of the construction footprint beyond the EIS/RtS Proposal site (or study area)
- Changes in the design that are not generally in accordance with the EIS or conditions of consent
- Changes result in impacts that are inconsistent with, or substantially greater than those identified in the approvals documentation.

CoC No. A1 of the Development Consent states the following:

“the applicant shall carry out the development generally in accordance with the:

- a) *State Significant Development Application SSD 6766;*
- b) *SIMTA Intermodal Terminal Facility – Stage 1 – Environmental Impact Statement (Hyder Consulting Pty Ltd, May 2014);*
- c) *SIMTA Intermodal Terminal Facility – Stage 1 – Response to Submissions (Hyder Consulting Pty Ltd, September 2015); and*
- d) *The conditions of this consent.”*

Where it can be demonstrated that the proposed change is “*generally in accordance*” with CoC A1, and that the proposed amendment results in only “*minor environmental impact*,” a Request for Minor Amendment (RfMA) Approval process will be adopted. This process involves the preparation of an RfMA document, developed in consultation and subject to the approval of the Environmental Representative (ER) under the responsibilities as defined within the CoC E4 (e).

The intention of the RfMA and supporting Accordance Assessment documentation is to identify the degree of change to the Project resulting from the proposed change and how this affects the Project as approved, including the requirements in the EIS, RtS and project approvals. For a given project amendment to be generally in accordance with the Project Approval, a review of the Project environmental assessment and supporting documentation will be undertaken. The following range of considerations were described and approved within the CEMP:

- *Whether the project as changed is consistent with the objectives and functions of elements of the Project.*
- *Whether there are any new environmental impacts as a result of the proposed change.*
- *Whether the project as changed is consistent with the project as approved, and conditions of consent.*
- *Whether the impacts of the proposed change are known and understood.*
- *Whether the impacts of the proposed change are able to be managed so as not to have an adverse impact.*

As such, where it can be proven that an amendment to the Project is of minor environmental impact, this can be approved by the ER under their authority granted under CoC E4 (e).

However, where the ER does not consider the amendment to be of a minor environmental impact, the following approval pathway options are presented:

- a. A major CEMP Amendment may be required, which would require resubmitting an amended Draft CEMP for DP&E for approval (under CoC E33); or
- b. A modification would be required under section 4.55 of the EP&A Act.

5 ASPECTS, IMPACTS AND RISK MANAGEMENT

Project wide environmental aspects, impacts and opportunities have been identified and assessed in accordance with the requirements of AS/NZS/ISO 31000:2009 and ISO/IEC31010. These are detailed in Appendix O. Measures to mitigate the identified environmental impacts are also provided. The key environmental aspects for this project include:

- Potential for water discharge and/or spills from worksites resulting in pollution of adjacent waterways
- Potential noise and vibration impacts on surrounding residents and businesses
- Potential construction traffic impacts on local roads surrounding construction worksites
- Potential for discovery of previously unidentified contaminated soils
- Visual impacts of temporary construction worksites on surrounding residences and businesses
- Potential impacts on vegetation retained within construction worksites and indirect impacts on surrounding vegetation
- Potential for diminishing air quality through site works and dust generation
- Potential for fauna to be injured during vegetation clearing works
- Potential for discovery of previously unidentified Aboriginal or non-Aboriginal heritage

5.1 Risk Assessment Method

The SIMTA environmental risk assessment process is based on the requirements of Risk Management Standard AS/NZS ISO 31000:2009, shown in Figure 5.

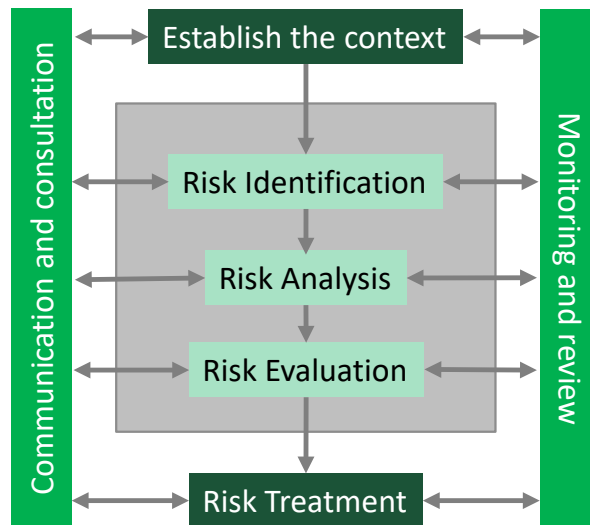


Figure 5 Risk Assessment Process

The development of site-specific Environmental Risk Action Plans (ERAPs) and activity-specific Environmental Control Plans (ECP) will drive an activity and location-specific risk assessment process and subsequent development of additional control measures. These documents will be developed as fieldwork progresses, and specific site conditions are encountered and documented.

Significant environmental issues, with a risk ranking of High (10 – 16) or Medium (5 – 9), will be controlled to a degree which is commensurate with the level of risk and the level of influence which SIMTA has over these issues. The control measures to address these issues are documented in Environmental Risk Action Plans.

Activities, aspect or impacts that represent an extreme risk (>17) after control measures have been applied must be reviewed / redesigned.

Opportunities to further minimise environmental harm will be identified through ongoing evaluation of environmental management performance and effectiveness of this plan.

The Aspects and Impacts Register (Appendix O) will be updated on an annual basis with the review of the CEMP or where additional aspects, impacts or opportunities are identified during construction of the Project and specific site conditions are encountered and documented.

If additional risks are encountered on site, these will be addressed either by updating this CEMP as outlined in Section 1.6 or by using separate Environmental Risk Action Plans.

5.2 Operational Control

5.2.1 Hold Points

The activities outlined in Table 12 below are not to proceed without objective review and approval by the nominated authority. These activities below are considered provisional hold points.

Table 12 Construction Hold Points

Item	Process held	Acceptance criteria	Approval authority
Construction Environmental Management Plan and sub-plans	Site activities	Site specific Construction Environmental Management Plan and sub-plans have been developed, reviewed and approved.	Secretary of the Department of Planning and Environment.
Dewatering	Dewatering / pumping water off the site.	Verification that the water quality criteria set-out in the CSWMP have been met.	Construction Manager
Sediment and erosion control measures	Construction activities involving ground disturbance.	Sediment and Erosion Control Plan has been developed, reviewed, approved and implemented.	SIMTA
Site clearing / vegetation removal	Commencement of site clearing or vegetation removal.	Clearing limits have been verified against the project approval environmental assessment, limits have been set-out and vegetation to be retained has been delineated and or protected. Exclusion fencing has been installed as per Condition E34 d) ii) f)	SIMTA
Encounter of Threatened Species	Commencement of works in the affected area	Stop works protocol is developed as part of CFFMP and needs to be applied in the event of encountering unexpected threatened species.	SIMTA
Encounter of Unexpected Heritage Item	Commencement of works in the affected area	Stop works protocol is developed as part of CHMP and needs to be applied in the event of encountering unexpected heritage items.	SIMTA
Construction Methodologies – direct delivery and subcontract works.	Construction process representing potential medium or high impact to the environment.	Construction methodology / SWMS / JSEA have been reviewed by the Site Environmental Management	Contractors Environmental Representative

Item	Process held	Acceptance criteria	Approval authority
		Representative and address the requirements of the CEMP ERAPs and Sub-Plans.	
Dangerous Goods	Transport of dangerous goods	Verification that transport vehicles meet the requirements.	Construction Manager
Dangerous Goods	Storage of dangerous goods	Verification that bunded storage is provided and that offset distances are maintained for the storage area.	Construction Manager and Supervisors
Controlled/Hazardous Waste	Transport of Controlled / Hazardous waste from the site	Verification that the waste has been classified in accordance with the guidelines, transport licensing in place and landfill can lawfully receive the waste	Contractors Environmental Representative
Spoil Transport	Removal of spoil from site	Verification that the spoil has been classified and the disposal location can lawfully receive the waste.	Contractors Environmental Representative
Heritage	No site works to be undertaken without the photographic record of the site being completed.	Evidence of recording being undertaken	SIMTA
Heritage	No works to be undertaken which may affect the WWII store buildings without a Heritage Interpretation Strategy being approved by Department of Planning and Environment	Records of archival recording submitted to SIMTA	DP&E
Heritage	No works to be undertaken impacting on PADs F and G. Archaeological monitoring to be undertaken in accordance with an Archaeological Monitoring Program.	Archaeological Monitoring Program	SIMTA
Out of Hours (OOH) Works	No OOH works to be undertaken until OOH Request Form has been completed and endorsed by the relevant authority as identified in Appendix B (OOHW Protocol) in the CNVMP	OOH request form	SIMTA

5.2.2 Environmental Control Plans

The project Environmental Control Plan(s) (ECP) (Appendix Q) will be prepared to assist in the planning and delivery of the project, and will be specific to the site or work area and outlines the location of protection measures, monitoring requirements, conditions of consent and environmentally sensitive areas. Each ECP provides a roadmap for practical application of the proposed control measures and will be updated and amended by the contractor as required,

Each Environmental Control Plan is to be used in project inductions, work site set-up, reviewing ongoing environmental performance, included as information in tender documents to subcontractors where applicable and in support of ancillary environmental approvals.

The project Environmental Control Plans may vary depending on scope of works but would typically include:

- The worksite layout and boundary, including entry/exit points and internal roads and clearing limits
- Sensitive areas and exclusion zones
- Location of adjoining land-use and nearest noise sensitive receivers
- Location and type of sediment and erosion control measures, including size / capacity of detention basins and wheel wash facilities
- Location of site offices
- Location of spill containment and clean-up equipment
- Location of worksite waste management facilities
- Hours of work applicable to the worksite (including deliveries and any restrictions on high noise generating activities)
- Measures to ensure that construction vehicles operate to minimise any construction noise impacts from the construction site. Measures that could be used include toolbox talks, specifying non-tonal movement alarms in place of reversing beepers or alternatives such as reversing cameras and proximity alarms, or a combination of these, where tonal alarms are not mandated by legislation
- No use of compression brakes shall be permitted for construction vehicles associated with construction near the subject site
- Document control and approval details
- Location of environmentally sensitive areas (e.g. threatened species, critical habitat, contaminated areas, heritage zones, etc.)
- Vegetation and trees to be protected
- Location of known heritage (indigenous and non-indigenous) items
- Location of stormwater drainage and watercourses leading to / from the worksite
- Specific environmental management requirements from licenses, approvals or permit conditions
- Key environmental risk issues and the specific mitigation measures

The plan is in addition to any erosion and sediment control plans or other documentation that specify the location of environmental controls on site.

5.2.3 Environmental Risk Action Plans

Falling directly under the CEMP and Sub-Plans, are the Environmental Risk Action Plans (ERAPs). These documents provide a synthesised version of the CEMP and Sub-Plans that are specific to a particular precinct (or other locations as needed). They will be developed as a small number of A3 pages providing both visual and textual information for the precinct. ERAPs will be prepared for the works at each of the precinct locations, and other locations as deemed necessary. Preparation and review of each ERAP will be undertaken by the Environment Manager and will be subject to an audit by the independent auditor, after which it will be provided to SIMTA. Supporting each precinct-specific ERAP will be a series of activity-based Site Environment Plan (SEPs) which will be documents used and updated on a daily / weekly / as needs basis. Within these two documents the following information will be provided:

- Details of the requirements of all relevant laws and authorisations;
- The Reference Documents to which the ERAP applies and from which it was developed;
- The Site's environmental features;

- The nature of the works to be undertaken;
- Any potential environmental impacts identified in the EPLs;
- The assessment of potential impacts and associated risks of the relevant works to on-site and off-site environmental receptors identified in the Environmental Risk Assessment;
- The results of any environmental investigations undertaken by the Project;
- The details of control measures to address the risks to the environment identified by the Project or in the EPLs including, but not limited to:
 - The control measures to manage potential adverse effects of the works including, but not limited to, dust generation, noise, impacts on community and environmental assets, drainage to waterways, flood risk, groundwater effects, contaminated land and traffic on local roads;
 - Scaled aerial drawings that clearly show the location and extent of environmental controls, modifications to existing control devices, effects on permanent works and monitoring locations;
 - The environmental emergency response and incident management which must include:
 - The immediate measure to be implemented in the event of an environmental incident or failure of environmental control measures; and
 - The details of proposed control measures including, but not limited to:
 - i. The duration of the activity or risk, and the timeframes for implementation and removal of control measures;
 - ii. The frequency and responsibilities for inspection and maintenance of controls, including proactive reviews;
 - iii. The process for reviewing the effectiveness of the control measures, including arrangements for implementing changes; and the details of how control measures are to be removed.

Control measures identified in the ERAPs must be installed and fully operational prior to commencement of any works to which the relevant ERAP relates. The Environment Manager is responsible for ensuring that the control measures are maintained in working order for the duration of the relevant works.

5.2.4 Procurement

The contractor will control the supply of goods and/or services by suppliers and subcontractors in accordance with their own and SIMTA procurement requirements as follows:

- Plant and equipment must be fit for purpose and meet relevant AS/NZS.
- Contractors are required to comply with QUBE safety, health and environment procedures
- Environmental issues must be considered when selecting subcontractors and suppliers
- Suppliers of chemicals and hazardous substances will be required to submit SDS's with delivery or prior to chemicals arriving at site. Prior approval to bring hazardous substances to site may need to be obtained from the client
- Subcontractors will be required to work under this CEMP
- The environmental performance of subcontractors will be monitored during site inspections.

5.2.5 Handling, Storage, Packaging and Transport

Dangerous Goods/Hazardous materials will be labelled IAW GHS, and stored and handled in accordance with Safety Data Sheets (SDS) and the requirements of the Australian Dangerous Goods Code.

The *Dangerous Goods (Road and Rail Transport) Act* includes specific requirements in relation to the transport of dangerous goods. Where dangerous goods are to be transported because of the project, the requirements of the Act must be complied with by the contractor and third parties.

Appropriate transport documentation must be included with each load unless a specific exemption exists.

Transport documentation must include the following:

- Project/workplace name, contact number
- Transporter name, contact number
- Transport date, origin and destination
- Product name, classification, container type, quantity

These materials will be stored in a safe area (e.g. bunded and/or store) which will prevent or contain accidental spillage and harm to the environment. Further details are provided in Appendix A ERAP: Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods (DG) requirements. A Hazardous Materials Management Plan will be developed by the contractor.

The SDS must be stored along with or at the point of storage.

5.2.6 Manufacture, Construction and Fabrication Processes

Environmental requirements, relating to manufacture, construction and fabrication processes, are defined in:

- Construction methodologies, SWMS and JSEAs
- Inspection and Test Plans, Task Complete Checklists and associated documents
- Contract documents
- Environmental control procedures

5.2.7 Maintenance of Plant and Equipment

The contractor will ensure that plant and equipment are well maintained in a safe and serviceable manner.

The following requirements apply:

- Plant will be inspected prior to operation on site. Fuel lines, hydraulic hoses or other items with the potential to impact the environment are to be inspected. Items found to be worn, damaged or otherwise degraded are to be replaced prior to operation.
- Plant will be serviced, re-fuelled and washed-down only in approved areas where hydrocarbons can be captured and then properly disposed.
- Fuelling will be carried out in bunded areas when fuelling from bulk tanks
- Plant and equipment will be maintained to prevent / fix oil leaks
- Plant will be driven and operated only in approved areas
- Plant will have effective pollution control and sound attenuation devices fitted

Further information on environmental controls is contained in the ERAP (Appendix A).

6 TRAINING, AWARENESS AND COMPETENCE

The contractor will provide all employees with suitable environmental induction / training to ensure that they are aware of their responsibilities and are competent to carry out the work.

Environmental requirements will be explained to employees during site induction and on-going training via tool box meetings, briefings, notifications and the like.

All employees (including subcontractors) will receive induction/ training in the following:

- Relevant Environmental Policies and Management Systems including SHEMS
- General requirements of the CEMP and sub-plans
- Understanding individual authorities and responsibilities
- Site environmental rules e.g. hours of operation, limits on high noise generating activities, designated loading/unloading areas
- Heritage considerations
- Potential consequences of departure from rules
- Emergency procedure and response (e.g. Spill clean-up)
- Basic understanding of their legal obligations
- Location of environmentally sensitive areas and exclusion zones
- Details of complaints handling procedure.

Personnel performing tasks which can cause significant environmental impacts will be competent on the basis of appropriate education, training and / or experience.

The contractor will provide all personnel with training in the requirements and implementation of this CEMP. The contractor will provide CEMP training for new staff members shall be completed within 1 month of their commencement on the project.

The Contractors Environmental Manager will establish a schedule of environmental training which will include training in the operation and implementation of SIMTAs Environmental Management System.

Training in high risk aspects shall be undertaken as the project progresses. An outline of the proposed training is provided below in Table 13 Training Awareness and Competence. The training shall be scheduled to reflect the requirements of the construction program.

Additional training will be provided if required in response to a review of the CEMP or sub-plans requiring a change in environmental management, following an environmental incident, or due to the results of environmental monitoring.

Table 13 Training Awareness and Competence

Aspect	Training Inclusion	Personnel Required	Timing / Frequency/Means
Emergency Spill Response	<ul style="list-style-type: none"> • Use and location of spill kits • Spill control • Emergency response procedures • Presentation and assessment • Spill response drill • Identification of hydraulic hose fatigue 	Construction personnel	Project Induction Project Toolbox Talks Contractor to provide relevant training
Erosion and Sediment Control	<ul style="list-style-type: none"> • Standard erosion and sediment controls from the Landcom 'Blue Book' • Implementation of controls on site • Erosion and Sediment Control Plans 	Operational personnel	Project Induction Project Toolbox Talks Contractor to provide relevant training
Heritage Awareness	<ul style="list-style-type: none"> • Stop works and reporting protocols for discovery of previously unknown heritage and archaeological items 	All relevant & Construction personnel	Project Induction Project Toolbox Talks Protocol posted on message boards

Aspect	Training Inclusion	Personnel Required	Timing / Frequency/Mean
	<ul style="list-style-type: none"> As per requirements Aboriginal Heritage Impact Assessment (AHMS, 2015) 		
Contamination Awareness	<ul style="list-style-type: none"> Contamination status of site Stop works protocols for unidentified potential contamination (hydrocarbons, asbestos, etc.) 	Construction personnel	Project Induction Project Toolbox Talks Protocol distributed to workers and posted on message boards
Environmental Legal Obligations	<ul style="list-style-type: none"> POEO Act and other project requirements Applicable fines and prosecutions 	Construction personnel	Project Induction Project Toolbox Talks
Energy and Resource Usage	<ul style="list-style-type: none"> Awareness training of energy and resource efficiency in the workplace including office/compound and site initiatives such as harvesting rainwater for dust suppression instead of potable mains water and use of bio-fuels 	Construction personnel	Project Induction Project Toolbox Talks
Community / Stakeholder Awareness	<ul style="list-style-type: none"> Adjacent community and Project involvement Relevant Project stakeholders Accepted behaviours Approved hours of work 	Construction personnel	Project Induction Project Toolbox Talks
Biodiversity	<ul style="list-style-type: none"> Wildlife status of project and surrounds Stop work and reporting protocols for injured wildlife Measures to stop feral animals coming to site 	Construction personnel	Project Induction Project Toolbox Talks
Noise and Vibration	<ul style="list-style-type: none"> Work hours CNVMP and OOHV Protocol EPL requirements POEO Act and other project requirements 	Construction personnel	Project Induction Project Toolbox Talks

7 COMMUNICATION AND REPORTING

Clear lines of communication throughout all levels and functions (e.g. management, staff and subcontracted service providers), as well as to key external stakeholders is key to minimising environmental impacts and achieving continual improvements in environmental performance.

SIMTA employees, contractors and other interested parties will be kept informed of the Projects progress and any issues as necessary.

7.1 Internal

The project team will meet regularly (at least fortnightly basis) to discuss any issues with environmental management on-site, any amendments to plans that might be required or any new / changes to construction activities.

Internal Stakeholders include Project personnel. Internal communication methods include:

- Management reports
- Site inspection reports
- Audit reports
- Incident reports
- Noticeboards
- Site meetings
- Employee induction, training and toolbox sessions
- Briefings, notifications and alerts
- Project reports.

7.2 External

External Stakeholders include the Principal Certifying Authority, Planning Assessment Commission, DP&E, EPA, OEH, Department of Industry (formerly Department of Primary Industries – Water and Department of Primary Industries - Fisheries), Liverpool and Campbelltown City Councils, Members of the Public (Community), interest groups such as RAPs, Heritage Groups and other relevant third party agencies, government authorities and organisations, subcontractors, and consultants.

External communication methods include:

- Site meetings
- Client, Subcontractors, Visitors induction and training
- Meetings and correspondence with interested parties (e.g. Local council, EPA, OEH etc.) as necessary
- Discussions with adjoining landowners / neighbours and the community who may be affected by the project
- Notifications and Project Updates
- Project Website.

7.3 Community Liaison

A Community Communication Strategy has been developed outlining requirements for community liaison and is coordinated by the Community Liaison Manager. Communication tools defined in the strategy include:

- The identification of, and map depicting, potentially affected properties;
- Measures to minimise impacts on the community and businesses;
- Procedure for community and business notifications;
- Procedure for managing complaints;
- Contact name and number for enquiries;
- Procedures for early notification to SIMTA of construction activities that may impact on the identified community stakeholders;
- Procedures for publicising the details of construction activities; and

- Procedures for training employees and subcontractors on the requirements of the strategy.

7.4 Complaints

Public Complaints shall be logged with Elton Consulting and are to be responded to in accordance with Community Consultation Strategy (CCS) [Appendix W]. Environmental Management related complaints will be forwarded onto Project Environmental Representative by Project Community and Stakeholder Advisor.

Management system non-conformances, non-compliances and recurring environmental incidents will be handled in accordance with the Environmental Management System – Corrective and Preventative Action.

Non-conformance and non-compliance to Operational Control procedures or to the Environmental Management System shall be recorded and addressed by logging it on the Contractor's Project Corrective Actions Register [Appendix V].

In addition, any actions required beyond normal practise, routine maintenance or operational activities need to be recorded on the CAR Register. These may include the following:

- Incidents and associated corrective actions
- Internal audit observations/non-compliance
- Client audits or other notice of non-compliance or non-conformance
- Notices or action from regulatory authorities.

Where possible, the CAR Register should also include “beyond best practise actions”, which are identified opportunities to improve beyond compliance.

The CAR Register differentiates issues or items by risk ranking. The nominated timeframes to resolve items on the CAR Register are as follows:

Corrective and preventive actions may include:

- Site remediation and rehabilitation
- Increased site inspections and monitoring
- Increase environmental awareness (re-training, tool-box meetings)
- Review and improve existing environmental controls and job safety analyses/ work method statements.

7.4.1 Damage to Third Party Property or Infrastructure

Reports (including through complaints) of damage to Third Party Property or Infrastructure as a result of construction work will be treated as an incident that follows the process outlined in section 8. Potential damage will be notified, classified, reported and investigated as per the incident management process.

The initial response timeframes will follow the complaints process, as outlined within the CCS, however investigations and potential rectifications will be undertaken as per the incident management process. Dispute resolution is outlined within the CCS.

8 EMERGENCY PREPAREDNESS AND RESPONSE

An environmental incident is an incident or set of circumstances resulting in harm, or potential harm, to the environment. Environmental incidents include pollution incidents and environmental emergencies. Environmental incidents may arise from natural (e.g. storm, wind or bushfire) or human factors.

A pollution incident is an incident or set of circumstances during, or as a consequence of, which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises. It does not include an incident or set of circumstances involving only the emission of any noise (POEO Act).

An environmental emergency is any event that causes or has the potential to cause material harm to the environment. An environmental emergency is a Class 3 incident.

The Construction Contractor must develop an Emergency Preparedness and Response Management Plan (EPRMP) and be in accordance with the Pollution Incident Response Management Plan (PIRMP), required under the EPL for the Project.

Each Construction Contractor must nominate a Site Emergency Contact and an alternate contact that will be available 24-hours a day, seven days a week. The Site Emergency Contact has the authority to stop and direct works. Emergency contact details are included in Table 14.

Table 14 Emergency Contact Details

Contact Name	Telephone Number	Address
Ambulance	000	N/A
Fire Brigade	000	N/A
Police	000	N/A
OEH Pollution Hotline	131 555 or (02) 9995 5555 (if calling from outside NSW).	N/A
Ministry of Health	(02) 9391 9000	N/A
SafeWork NSW	13 10 50	N/A
Liverpool City Council	Customer Contact Centre for NSW residents: 1300 36 2170 Calling from interstate: (02) 9821 9222 National Relay Service (NRS) for hearing and speech impaired customers: 133 677	Ground Floor, 33 Moore St, Liverpool NSW 2170
Rural Fire Service	9603 7077	Cnr Alderney St and Townson Ave, Minto 2566
Liverpool Hospital	8738 3000	Corner of Elizabeth and Goulburn Streets, Liverpool, NSW 2170
Principal's Representative	Tactical Group [REDACTED] [REDACTED]	Level 15, 124 Walker Street, North Sydney, NSW, 2060

Contact Name	Telephone Number	Address
Contractor's PM	Fulton Hogan [REDACTED] [REDACTED]	Nominated 24-hour contact
Contractor's CM		Nominated 24-hour contact
Contractor's EM	[REDACTED] [REDACTED]	Back-up 24-hour contact
Contractor's CLM	Contact details to be confirmed	Back-up 24-hour contact
Contractor Health & Safety Manager	Fulton Hogan [REDACTED] [REDACTED]	Contact details to be confirmed
SIMTA Hotline number	1800 986 465	N/A

8.1 Incident Response

All environmental incidents will be managed in accordance with the flowchart shown in Figure 6.

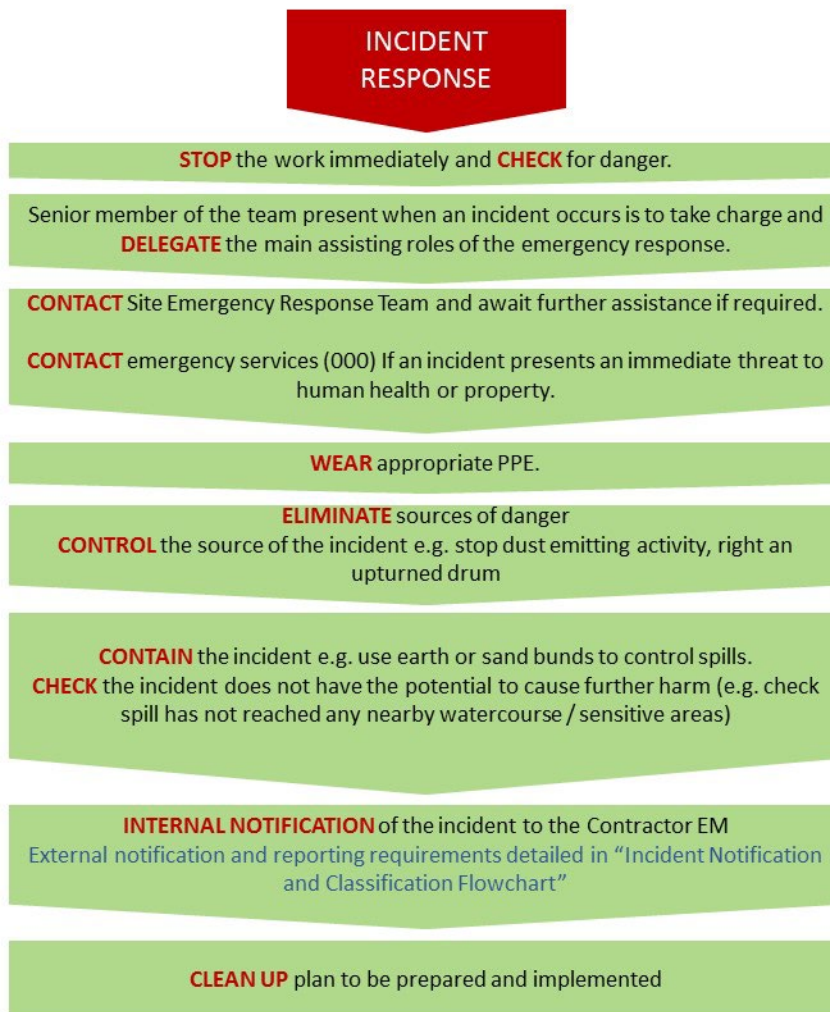


Figure 6 Environmental Incident Response Flowchart

8.2 Incident Classification and Notification

All environmental incidents are to be reported and managed in accordance with Qube's Incident Reporting and Management procedure (SHEMS-QM-13-PR-0126) and in accordance with the PIRMP, once implemented. Environmental incidents will be classified and notified in accordance with Figure 7.

Incident notification requirements must:

- Identify the development and application number
- Provide details of the incident (time, date, nature, duration and location of the incident)
- State the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known
- Outline the circumstances in which the incident occurred (including the cause of the incident, if known)
- Identify how the incident was detected
- Identify when the Applicant became aware of the incident
- Identify any actual or potential non-compliance with conditions of consent
- Describe what immediate steps were taken in relation to the incident

- Identify further action(s) to be taken in relation to the incident
- Identify a contact for further communication regarding the incident and set out their contact details.

The incident report requirements must include:

- A summary of the incident
- The outcomes of an incident investigation, including identification of the cause/s of the incident
- Details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence
- Details of any communication with other stakeholders regarding the incident.

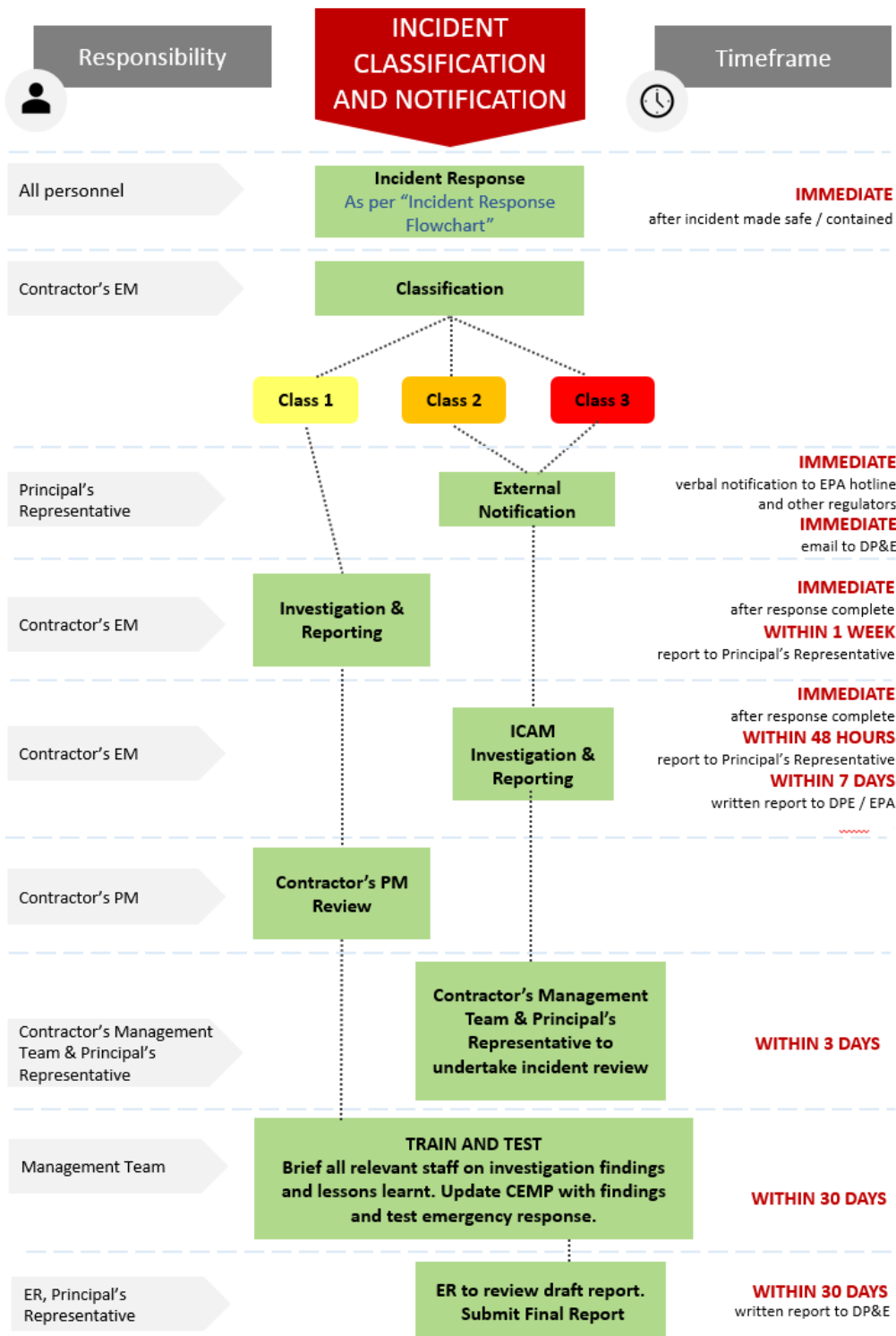


Figure 7 Environmental Incident Classification and Notification

Additional clarifications on the environmental incident classification and notification process for the Construction Contractor are as follows:

- Incidents will be classified into one of three classes as per Table 15. The Contractor's EM is responsible for the classification of incidents in consultation with the Principal's Representative
 - ER to be consulted when classification of incidents is uncertain

- For actual or potential Class 2 and 3 environmental incidents the Contractor's EM will immediately inform the Principal's Representative
- An ICAM certified person must complete a detailed ICAM investigation for actual or potential Class 2 and 3 environmental incidents
- Designated personnel to implement corrective and preventative actions.

Table 15 Incident Classification

	Class One	Class Two (including potential)	Class Three
Direct costs including clean up	Up to \$10,000	\$10,000 to \$100,000	More than \$100,000
Impact	<ul style="list-style-type: none"> • Pollution or degradation which has low severity impacts on the community and/or environment in the short-term (<1 month duration) and is fully reversible with no residual impacts • Harming a protected animal that is not vulnerable or threatened. 	<ul style="list-style-type: none"> • Pollution or degradation which has moderate severity impacts on the community and/or environment (1-3 months duration) but is fully reversible with no residual impacts • Harming an animal that is (or is part of) a vulnerable species or vulnerable ecological community • Picking a plant that is (or is part of) a vulnerable species or vulnerable ecological community. 	<ul style="list-style-type: none"> • Pollution or degradation which has high severity impacts on the community and/or environment and may have irreversible residual impacts • Harming an animal that is (or is part of) a threatened species or threatened ecological community (other than a vulnerable species or community) (S2.1) • Picking a plant that is (or is part of) a threatened species or threatened ecological community (other than a vulnerable species or community) • Damaging a declared area of outstanding biodiversity value • Knowingly damages any habitat of a threatened species or threatened ecological community • Contravention of a stop work order.

8.3 External Notification

All external notification of environmental incidents will be undertaken by the Principal's Representative.

The CCS provides mechanisms to facilitate communication between SIMTA, the Council and the community (including adjoining affected landowners and businesses, and others directly impacted by the development), during construction.

8.3.1.1 State Matters

In accordance with POEO Act, the Principal's Representative will immediately notify the EPA of all actual or potential Class 2 and Class 3 incidents via the EPA Environment Line (131 555).

The notification to the EPA will need to include information on:

- The time, date, nature, duration and location of the incident
- The location of the place where pollution is occurring or is likely to occur
- The nature, the estimated quantity or volume and the concentration of any pollutants involved
- The circumstances in which the incident occurred (including the cause of the incident, if known)
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution
- Other information prescribed by the regulations.

In addition to notifying the EPA of pollution incidents, the Principal's Representative will also immediately notify other regulatory authorities as outlined below:

- The Ministry of Health (via the local Public Health Unit - 02 9391 9000)
- The WorkCover Authority - 13 10 50
- Liverpool City Council – 1300 36 2170
- Campbelltown City Council – 02 4645 4000
- Fire and Rescue NSW – 000.

These authorities must be notified for all notifiable pollution incidents under the amended legislation. Further information in relation to the incident must be provided immediately if it becomes available after the initial notification.

If statutory notification is provided to EPA as required under the POEO Act, such notification must also be provided to the Secretary within 24 hours after the notification was provided to EPA. Full written details of the incident shall be provided to the Secretary within 7 days of the date on which the incident occurred. The ER will also be immediately notified. In accordance with Condition R3.3 and R3.4 of the Moorebank Precinct EPL, a further incident report and consultation may be required by the EPA if the EPA is unsatisfied with the information provided.

DP&E will be notified in writing (compliance@planning.nsw.gov.au) immediately upon becoming aware of an incident that causes or threatens to cause material harm. Additional written notification of the incident shall be provided to the Secretary within 7 days of the date on which the incident occurred. A detailed report of the incident will be provided to the Secretary within 30 days, or as otherwise agreed with the Secretary.

Records of contact with and details of the information provided to external authorities must be maintained in the project records. Any contact with the regulatory authorities will be logged using Aconex.

8.3.1.2 Commonwealth Matters

Environmental incidents relating to the EPBC Act must be notified to the Secretary of the DotEE within 7 days of the event.

These types of incidents include the death or injury to the following:

- Migratory bird species
- Listed marine species
- Threatened species or listed ecological community (includes taking)

8.4 Incident Review

Actual and potential Class 1 incidents will be reviewed by the Contractor's EM.

Actual or potential Class 2 or 3 incidents will be reviewed by the Contractor's Management Team and the Principal's Representative.

Within three days of a potential or actual Class 2 or 3 incident, the Contractor's EM will convene a briefing with the Contractor's Management Team and Principal's Representative to provide an update on the incident investigation.

The following information relating to the incident investigation shall be documented:

- The condition of the environment and the status of any rectification or remediation works
- The completed ICAM report, including appropriate causal analysis and corrective actions
- Program for the implementation of the corrective actions and any maintenance activities
- Incorporation of any requirements of regulatory agencies as a result of external notification
- Any other relevant information.

Any written requirements of the Secretary (or relevant public authority) that may be given to address the cause or impact of an incident will be complied with.

The Contractor's EM will provide the Principal's Representative evidence to show the recommendations from the ICAM have been undertaken. The ER will also be provided with the ICAM report.

9 COMPLIANCE MANAGEMENT

9.1 Roles, Responsibilities and Authorities

Authorities and responsibilities for all positions are defined and communicated in job descriptions and project documentation. All personnel have the ability to stop works if there is potential for a safety or environmental incident to occur.

Key roles are indicated in the chart in Appendix U and roles and responsibilities of Project personnel are outlined below in Table 16.

Table 16 Principal Contractor Roles and Responsibilities

Role	Responsibility
Contractor's Project Manager (Contractor's PM)	<ul style="list-style-type: none"> • Include environmental consideration into all aspects of Project planning • Ensure that project responsibilities and authorities are defined and communicated • Provide adequate resources to meet environmental objectives • Ensure that the CEMP is effectively implemented and maintained • Endorse the CEMP • Appoint/nominate and provide support for the Contractor's EM • Report to senior management on the performance of the system and environmental breaches • Take action to resolve environmental non-conformances, non-compliances and incidents • Ensure suppliers and subcontractors comply with requirements • Report environmental incidents to the client / local authorities as required • Authorise expenditure on environmental issues within limits of authority as defined in the Principal's Representatives Project Requirements • Undertake ICAM investigations • Review audit corrective actions and take action as necessary to ensure timely close out of issues • Authorise resourcing on environmental issues • Act as a 24-hour contact • Direct works to be performed in a more environmentally responsible manner that reduces impacts or stop works if there is a risk of environmental harm. • Attend audit meetings and action results of any audit findings
Contractor's Construction Manager (Contractor's CM)	<ul style="list-style-type: none"> • Supervise all site construction activities and personnel by ensuring that they meet environmental and other requirements • Organise and manage site plant, labour and temporary materials • Ensure that site environmental controls are properly maintained and provide support for the PER • Co-ordinating the implementation and maintenance of site environmental controls and provide support for the Contractor's EM • Report all environmental incidents in accordance with incident reporting protocol • Undertake ICAM investigations • Take action to resolve non-conformances, non-compliances and incidents • Act as a 24-hour contact • Direct works to be performed in a more environmentally responsible manner that reduces impacts or stop works if there is a risk of environmental harm.
Procurement Manager or Similar	<ul style="list-style-type: none"> • Carefully select suppliers and subcontractors based upon their ability to meet stated requirements • Ensure that purchase orders and agreements include environmental requirements as necessary

Role	Responsibility
	<ul style="list-style-type: none"> Where practical, select materials which are “environmentally friendly”
Contractor’s Environmental Manager (Contractor’s EM)	<ul style="list-style-type: none"> Ensure that the CEMP is effectively established, implemented and maintained at the project level Ensure compliance with all relevant statutes, regulations, rules, procedures, standards and policies Liaise with the Principal’s Representative and/or Superintendent on environmental issues, including the written notification of non-conformances (incidents, emergencies or deviations from the CEMP) and non-compliances Ensure that all personnel on site receive appropriate environmental induction and training and are aware of their environmental responsibilities under relevant legislation and the contract Report to the Contractor Project Manager on the performance of the system and improvement opportunities Provide support to the project team to enable them to meet their environmental commitments Ensure that environmental records and files are collected and maintained Regular compliance checking as required by this CEMP Ensure that non-conformances, non-compliances and environmental incidents are recorded and written reports provided to the Principal’s Representative within 24-hours. Liaise with the required stakeholders to confirm the nature of the corrective action required and comply with the timeframe within which corrective actions must occur. Ensure that environmental controls, materials and equipment are maintained Can stop works if required
Superintendents/ Supervisors/ Foremen	<ul style="list-style-type: none"> Comply with relevant Act, Regulations and Standards Comply with SIMTA’s environmental policy and procedures Comply with management directions Implement environmental controls on-site Participate in tool-box talks, meetings as directed Meet environmental reporting requirements of the Project Can stop and direct works if required
Contractor’s Community Liaison Manager (Contractor’s CLM)	<ul style="list-style-type: none"> Prepare and Implement Community Consultation Strategy in accordance with the requirements of CoC D1 and FCMM 17A Assist the Contractor’s EM in consulting regulatory agencies and community Communicate potential environmental impacts to the community and all stakeholders Manage the resolution of environmental complaints Act as 24-hour contact (if other staff as outlined above are not available).
Contractor Health & Safety Manager	<ul style="list-style-type: none"> Ensure that the CEMP is effectively established, implemented and maintained at the project level Responsible for day to day implementation of safety requirements Advocate incident prevention Encourage safe work practices Ensures compliance with health and safety systems and procedures Responsible for monitoring and assessing hazardous and unsafe situations

9.1.1 All Personnel

Key roles and responsibilities of all personnel including sub-contractors and other personnel include as described in Table 17.

Table 17 Roles and Responsibilities: All Personnel

Role	Responsibility
All Personnel	<ul style="list-style-type: none"> Minimise the potential of pollution of land, air and water Preserve the natural and cultural heritage environment Minimise the occurrence of offensive noise Take all feasible and reasonable steps to comply with the requirements of this CEMP Comply with the relevant Acts, Regulations and Standards Comply with the Project policies and procedures Comply with the CEMP and sub-plans Comply with lawful management directions Promptly report to management on any non-compliances, environmental incidents and/or breaches of the system Undergo induction and training in environmental awareness as directed by management Report all incidents in accordance with reporting requirements outlined in this CEMP Fulfil the General Environmental Obligations Undertake works in a manner that will enable the Project to obtain the required ISCA As-built rating.

9.1.2 SIMTA

General responsibilities of the SIMTA Principal Representative outlined within Table 18.

Table 18 Roles and Responsibilities: SIMTA

Role	Responsibility
Principal's Representative	<ul style="list-style-type: none"> Reviewing the CEMP and sub-plans to ensure that it meets all relevant regulatory and Project requirements. Reviewing the Contractor's environmental monitoring reports and compliance documentation to confirm that the CEMP and sub-plans are being implemented. Stop work immediately if an activity is witnessed by Principal's Representative where an unacceptable environmental impact may occur. Ensure that independent and internal audits of the system are conducted Review audit outcomes and act as necessary Review regional environmental performance through the monthly reporting cycle
SIMTA Project Manager	<ul style="list-style-type: none"> To manage all aspects of the contact between SIMTA and the construction contractor Issuing direction to the contractor based on advice from the Principal Representative, Stop works if required.

9.1.3 Project Independent Environmental Representative

Key responsibilities of the Independent Environmental Representative outlined within Table 19.

Table 19 Roles and Responsibilities: Independent Environmental Representative

Role	Responsibility
Independent Environmental Representative	<ul style="list-style-type: none"> Monitor the implementation of environmental management plans and monitoring programs required under the approval and advise the Applicant upon the achievement of these plans/programs; Have responsibility for considering, and advising the Applicant on, matters specified in the conditions the SSI approval, and other licences and approvals related to the environmental performance and impacts of construction; Ensure that environmental auditing is undertaken in accordance with the Applicant's Environmental Management System(s); Be given the authority to approve/reject minor amendments to the Construction Environment Management Plan. Minor amendments to the CEMP include any amendments made to site inductions, legislative changes, and changes in environmental risks Be given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts; and Be consulted in responding to the community concerning the environmental performance of construction where the resolution of points of conflict between the Applicant and the community is required. Be the principal point of advice in relation to the environmental performance of construction

9.1.4 Consultants

The following consultants and their services will be used by the contractor. Relevant responsibilities related to all personnel and consultants would also apply to the below consultants/technical experts.

Table 20 Roles and Responsibilities: Consultants

Role	Responsibility
Contaminated Land Specialist	To prepare Remediation Action Plan and Contamination Management Plan.
Ecologist	To undertake flora and fauna inspections prior to clearing, during clearing, record threatened species and provide a report to Environmental Manager and project team.
Heritage Consultant	To undertake archival recording of the Project site, liaise with OEH on behalf of SIMTA where required, prepare reports in consultation with relevant authorities.
Noise and Vibration Consultant	To undertake noise and vibration monitoring in accordance with CNVMP.
Air Quality Technical Specialist	To undertake air quality monitoring in accordance with CAQMP.
Hygienist	To undertake contamination monitoring, issue clearance certificate, soil sampling and analysis, waste classification in accordance with this CEMP, CSWMP.
Asbestos Removalist (licenced)	To undertake asbestos removal.

Role	Responsibility
Waste Removal (GSW, Recyclable, Contaminated Waste etc.)	To remove construction/demolition waste off-site in accordance with Waste Management Strategy within this CEMP.
Design Consultant	Develop and provide design documentation in accordance with project requirements

9.2 Inspections

Key characteristics of the project operations and activities which have a significant impact (or identified as potential risk of significant impact, e.g. failure of erosion and sediment control measures) on the environment will be regularly monitored and measured and registers maintained.

This will include:

- recording of information to track performance
- monitoring operational controls
- level of conformance with objectives and targets.

The contractor will develop and use an environmental and sustainability inspection report (or similar) to monitor environmental and sustainability issues on site and issue to the Contractor's PM on a weekly basis.

Inspections across Moorebank Logistics Park (MLP) will be undertaken weekly by the Principal's Representative to check compliance with CoC and Commonwealth Approvals. Inspections reports will be provided to the Project Manager and the relevant contractors for rectification. The environmental and sustainability inspection template is provided in Appendix X.

Minimum inspection types that are outlined below (Table 21) however, additional inspections may be undertaken in line with the contractor's inspection requirements.

Table 21 Inspection Summary

Activity	Frequency	Location	Responsibility	Record
Sustainability site inspection	Weekly	Site wide	Contractors Environmental Manager or delegate	Inspection log
Rainfall inspection	Prior to event, during event, and 24 hours after the event (or the following working day)	Site wide	Contractors Environmental Manager or delegate	Inspection log
ER inspection	Fortnightly (TBC)	Site wide	Contractors Environmental Manager or delegate and ER	Inspection log and ER report

Issues identified during environmental inspections requiring further action beyond normal practice or maintenance are to be logged in the weekly environmental inspection and forwarded to SIMTA through Aconex system.

9.3 Non-conformance, Non-Compliance and Actions

9.3.1.1 Non-conformances

Non-conformances are observations or actions that are not in accordance with the CEMP and the aspect specific sub-plan. They are not recorded as non-compliances as there may be activity-specific justification for a change in implementation of the requirements of the management plan.

Where a non-conformance is also considered to represent a possible non-compliance, it is to be recorded as a potential non-compliance. Depending upon the nature of the non-conformance, the non-conformance may require reporting to the DP&E and ER as an incident (CoC E10).

It is the responsibility of all personnel to report non-conformances to their Site Supervisor and / or the Contractor's EM. The Contractor's EM will investigate non-conformances, log corrective actions, and delegate responsibility for corrective actions within assigned timeframes.

Non-conformances with the implementation of the CEMP and sub-plans shall be recorded and addressed by logging the issue within the Project Corrective Actions Register to be developed by the Construction Contractor and handled in accordance with the Environmental Management System – Corrective and Preventative Action [SHEMS-QM-04-PR-0022]. Non-conformances shall be recorded and addressed through Aconex.

9.3.1.2 Non-compliances

A non-compliance is considered an occurrence, set of circumstances, or development that results in a non-compliance or is non-compliant with Development Consent SSD 6766 or EPBC Act Approval (EPBC 2011/6229) CoA. Incident response, classification and notification requirements are outlined in Section 8.2.

Potential non-compliances with the CoC can be identified by anyone and are to be reported to the Contractor's EM as a potential non-compliance. Whether the occurrence, set of circumstances, or development requires to be notified to the DP&E as a non-compliance is the responsibility of the project management team. A determination of whether the occurrence, set of circumstances or development represents a non-compliance shall be made by the DP&E following notification.

Non-compliance with the CoC shall be recorded and addressed by logging the issue within the Project Corrective Actions Register to be developed by the Construction Contractor and handled in accordance with the Environmental Management System – Corrective and Preventative Action [SHEMS-QM-04-PR-0022]. Additionally, non-compliance to Operational Control procedures or to the Environmental Management System that cannot be rectified immediately shall be recorded and addressed through Aconex.

In line with the Compliance Reporting Post Approval Requirements (DP&E, June 2018), DP&E will be notified in writing to compliance@planning.nsw.gov.au within seven days after the Project becomes aware of any non-compliance. The notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply, the reasons for the non-compliance (if known), and what actions have been, or will be, undertaken to address the non-compliance.

Documentary evidence providing proof of the date of publication and non-compliance with any of the CoA must be provided to DoTE at the same time as the compliance report is published.

9.3.1.3 Corrective and Preventative Actions

A corrective action (CAR) will be issued where there is a non-conformance or non-compliance with any of the requirements of this CEMP during site inspections, audits or incident investigations. CARs

are differentiated by risk ranking. The nominated timeframes to resolve items on the CAR Register are detailed in Table 22.

Table 22 Corrective Actions Timeframe for Resolution

Risk Ranking	Issued to
1	Action needs to be commenced immediately to resolve the issue
2	Action needs to be resolved within 1 week
3	Action needs to be resolved within 1 month

Trends relating to environmental incidents and non-compliance or non-conformance findings will be reviewed at the Construction Contractor's Management Team meetings to identify any recurring or systemic issues that are indicative of the need to take preventative action.

Preventive actions are dependent on the issue, but examples include:

- Progressive landscaping
- Early identification of the requirement for out of hours works
- Stopping of works based on forecast inclement weather
- Preparation of site to manage inclement weather.

Corrective actions may be required as a result of the following:

- Internal inspection outcomes that cannot be rectified immediately
- Incidents and associated corrective actions
- Internal audit observations/non-compliance
- Client audits or other notice of non-compliance
- Notices or action from regulatory authorities
- Breach of legislative requirements or permit/license conditions and project approvals
- Repetitive observations which have not been resolved in a timely manner.

Corrective actions are dependent on the issue but may include:

- Site remediation and rehabilitation
- Increased environmental awareness (re-training, toolbox meetings)
- Review and improve existing environmental controls and update of environmental controls maps, or erosion sediment control plans.

Where deemed necessary by the Project Environmental Manager and as a result of revisions to project scope or changes to project risks, additional Environmental Risk Action Plans to control potential impacts will be developed.

9.4 Monitoring

Monitoring will be undertaken to validate the impacts predicted for the Project, to measure the effectiveness of environmental controls and implementation of this CEMP, and to address approval requirements including the Moorebank Precinct EPL (EPL 21054). The monitoring requirements for required aspects such as air quality, noise, soil and water, traffic, heritage and flora and fauna are included in the relevant sub-plans.

Monitoring and measuring equipment will be calibrated, maintained and controlled in accordance with the product requirements. Records of calibration will be kept in Aconex.

9.5 Reporting

9.5.1 Monthly Environmental Reporting

In addition, the contractor shall complete a monthly environmental report for submission to SIMTA as well as an ongoing tracking report against conditions of consent.

The report is to include specific details as outlined below:

- Status of control measures
- Update to plans
- Erosion and Sediment Control Plans (ESCPs)
- Progress against performance indicators
- Environmental hazards and incidents
- Number of environmental inspections and key outcomes
- Number and subject of toolbox talks
- Volume of water consumed
- Tonnes of waste produced and recycled
- Ongoing monthly recycle percentage
- Energy consumption.

9.5.2 Quarterly Environmental Reporting

In addition, the Independent Environmental Representative shall prepare and submit to the Secretary (DP&E) a quarterly report on the Environmental Representative's actions and decisions on matters specified in condition E4. The reports shall be submitted within seven (7) days for the end of each quarter for the duration of construction, or as otherwise agreed by the Secretary. Notwithstanding, the Environmental Representative shall be given the independence to report to the Secretary at any time and/or at the request of the Secretary.

9.5.3 Compliance Reporting

The contractor will compile the relevant information in the Compliance Tracking Matrices for submission to SIMTA for approval.

A Compliance Tracking Program has been developed for the Project. The requirements of the Compliance Tracking Program include:

- a) Provision for the notification to the Secretary prior to the commencement of construction;
- b) Provision for periodic review of the compliance status of the SSD against the requirements of this approval;
- c) Provision for periodic reporting of compliance status to the Secretary, including but not limited to:
 - (i) A Pre-Construction Compliance Report prior to the commencement of early works,
 - (ii) Six-monthly, or other timing as agreed by the Secretary, Early Works Compliance Reports, for the duration of early works, and
 - (iii) Completion Compliance Report within one month of completion of the early works stage;
- d) A program for independent environmental auditing in accordance with *AS/NZS ISO 19011:2014 - Guidelines for Auditing Management Systems*;
- e) Mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;
- f) Provision for reporting environmental incidents to the Secretary during construction, in accordance with conditions A3 and A4;
- g) Procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; and

- h) Provision for ensuring all employees, contractors and sub-contractors are aware of and comply with, the conditions of this approval relevant to their respective activities.

The compliance reports will be compiled by the contractor for review by SIMTA. SIMTA will submit the reports in accordance with the timeframes stipulated above,

9.6 Auditing

9.6.1 Internal Audits

Auditing of the project Environmental Management System will be carried out in accordance with ISO14001:2015 requirements and CoC.

The audit will evaluate compliance with this CEMP and associated documentation including legal, contractual and other requirements.

The contractor will be audited on site by SIMTA every six months (i.e. three months after the external audit and in accordance with their internal auditing requirements.

An audit report will be issued to management for action. A follow up/close out audit will be coordinated within 1 month of the issue of the audit report.

Corrective actions can be issued as part of the audit process as outlined in section 10.2.1. Further auditing details are included in Section 3.3 and 5.2.3.

9.6.2 External Audits

External auditing will be undertaken by an independent environmental auditor in accordance with ISO 19011:2014 – *Guidelines for Quality and/or Environmental Management Systems Auditing*, on a 6-monthly basis.

In addition to this requirement an annual audit will be undertaken for waste. Section 6.4 of the CWRMP details specific waste management audit requirements to satisfy ISCA waste management requirements.

9.7 Management Review

The Project Management team, including as a minimum the Contractor's PM, Contractor's CM, Contractor's EM and Site Supervisor will check the status and adequacy of the Project Environmental Management Plan to ensure that it meets current client and Company requirements as well as relevant environmental standards.

The Plan will be reviewed as and when required during the course of the contract when the following situations arise:

- Client recommendations for changes (particularly following initial review)
- Changes to the Company's standard system
- Opportunities for improvement or deficiencies in the project system are identified.
- Following an audit of the system or the occurrence of significant incidents, non-compliances and non-conformances.

Where a "minor" amendment of the plan is required, this will be provided to the Environmental Representative for review. Where the change is major, i.e. not minor as defined in Section 1.6, the plan will be submitted to the Department of Planning and Environment for review.

APPENDIX A

Environmental Risk Action Plans - (ERAPs)

Significant environmental issues will be managed according to the Environmental Risk Action Plans below.

Noise and Vibration

Objective	– To comply with contractual requirements and ensure that noise and vibration from construction activities does not cause environmental nuisance.
Targets	<ul style="list-style-type: none"> – No valid noise / vibration complaints resulting from construction works. – No unreasonable noise or vibration. – No noise and vibration impacts on external receptors.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766: E19, E20, E21, E22, E23, E24, E34b – EIS Table 22-1 – NVIA – Section 4.1 – Final Compilation of Mitigation Measures (FCMM): 0A, 3A – PPR Section 4.4 – Annexure 3.3 – Revised Statement of Commitments (RSoC): Noise and Vibration – Protection of the Environment Operations Act 1997 – Protection of the Environment Operations (Noise Control) Regulation 2008 – Local Government Act 1993 – AS 2436-2010 (R2016) Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites
Site specific planning / approval conditions / licence conditions	– Refer to CNVMP
Controls (means and resources)	– Refer to CNVMP
Responsibilities	– The Construction Manager will ensure construction activities comply with these requirements and implement the control measures.

Noise and Vibration

	– The Construction Manager/Project Leader will obtain approval to work outside approved hours
Timeframe	– Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> – Weekly inspections to be recorded in Aconex or using form mentioned – Complaints to be recorded in Aconex – Daily inspection (pre-start) checks and regular servicing of equipment. – Daily / weekly check sheets to be kept for engine-driven or other 'noisy' equipment.

Tree Protection

Objective	– To comply with contractual and Development Consent requirements and ensure that on-site trees are protected, where required from construction activities.
Targets	<ul style="list-style-type: none"> – Compliance with Development Consent requirements in relation to protected trees. – No damage/ death to trees marked as protected on the project. – All staff and subcontractors are informed of the requirements of protected trees on the project.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Approval for SSD 6766: E31, E32, E34 – FCMM 8A to 8H – PPR Section 4.4 – Annexure 3
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> – Refer to CFFMP – E32 - The existing mature trees located on the eastern side of Moorebank Avenue shown on Drawing LA01 (Landscape Master plan) dated 30.3.2015 shall be retained, unless where required to be removed for construction of a permanent access point to the terminal site. Trees to be retained shall be protected and maintained during preconstruction and construction activities in accordance with AS4970-2009 Protection of trees on development sites. Details of tree protection must be provided to the Certifying Authority prior to the commencement of construction.
Controls (means and resources)	<ul style="list-style-type: none"> – Ensure approval is provided to remove trees – Appropriately trained and qualified tree removal contractors to be used. – Awareness training in the need to preserve vegetation to be retained. – Provide barricading or other suitable protection measures for trees to be retained.

Tree Protection

Responsibilities	– Construction Manager, Project Leader and Staff to ensure all targets are met.
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Timeframe	– Duration of works.
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Monitoring and Reporting	– E-T-8-1227 (Appendix A12)
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Dust and Air Quality	
Objective	<ul style="list-style-type: none"> – To comply with contractual requirements and ensure that dust and other air emissions from construction activities do not cause impacts on sensitive receivers and equipment.
Targets	<ul style="list-style-type: none"> – No valid dust complaints from construction works. – No dust impacting on offsite activities or surrounding residences. – No release of contaminants, (odour, smoke etc.) into the air. – Comply with construction contract conditions.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766 E14, E15, final compilation of mitigation measures 2A, 2B and 2C – <i>Protection of the Environment Operations Act 1997</i> – <i>Protection of the Environment Operations (Clean Air) Regulation 2010</i>
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> – Refer to CAQMP
Controls (means and resources)	<ul style="list-style-type: none"> – Refer to CAQMP
Responsibilities	<ul style="list-style-type: none"> – The Construction Manager/Project Leader to implement the requirements of this plan. – Construction Manager to inspect the works at regular intervals to identify areas of dust generation.
Timeframe	<ul style="list-style-type: none"> – Shaker grids to be installed prior to commencement of works – Water tankers and other measures available at the commencement of earthworks – Spilt mud and sediment to be removed from public roads prior to the end of each shift. – Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> – Refer to CAQMP for specific air quality monitoring requirements – Weekly inspections to be recorded – Complaints to be recorded

Waste	
Objective	<ul style="list-style-type: none"> – To comply with contractual and legislative requirements and ensure that waste from construction activities does not have the potential to escape from the site and cause an environmental nuisance / harm.
Targets	<ul style="list-style-type: none"> – No incidences where waste is stored in a position where it has the potential to move off-site. – All off site movements of waste will be tracked. – The principles of the waste management hierarchy will be adopted, where practicable. – Target to reuse or recycle 60% by weight of construction waste. – Waste will be minimised where ever possible.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766: E16, E17, E18, E33iii, FCMM 13A, 13D, 13E – <i>Protection of the Environment Operations Act 1997</i> – <i>Protection of the Environment Operations (Waste) Regulation 2014</i> – <i>Waste Avoidance and Resource Recovery Act 2001</i> – <i>NSW EPA Waste Classification Guidelines</i>
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> – E16 the reuse and/or recycling of waste materials generated on site shall be maximised as far as practicable, to minimise the need for treatment or disposal of those materials off site. – E17 All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water 2009). – E18 all waste materials removed from the subject site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials. – E33 e iii CEMP to include.... measures to monitor and manage waste generated during construction including but not necessarily limited to: general procedures for waste classification, handling, reuse, and disposal; use of secondary waste material in construction wherever feasible and reasonable; procedures or dealing with green waste including timber and mulch from clearing activities; and measures for reducing demand on water resources (including potential for reuse of treated water from sediment control basins);

Waste

Controls (means and resources)	<ul style="list-style-type: none"> – Implementation of Waste Management Strategy – Licensed waste contractors will be utilised to remove waste. – All waste is to be disposed of at a lawful facility. Note: A lawful facility includes one that has the appropriate Development Consent, Environment Protection Licence or is complying with EPA approved conditions and requirements. – Use a licensed contractor to remove waste from site. – Waste must be classified prior to disposal – refer to NSW EPA Waste Classification Guidelines – All spoil material removed from the site will be classified as per the NSW EPA Waste Classification Guidelines. Only a suitable Licensed or approved facility or approved site may receive the waste. – Records of the quantity and final location of the spoil material will be retained. – Use skip bins and ensure there are an adequate number of bins on site to hold all waste generated. – Provide bins to enable waste segregation – Provide recycling services. E.g. Paper, Concrete, Steel, Cardboard, Timber. – Ensure housekeeping is maintained and waste is disposed of to the appropriate bin. – Retain waste disposal permits and figures on the amount of waste that has been removed from site.
Responsibilities	<ul style="list-style-type: none"> – Construction Manager will ensure waste is correctly stored, classified, recorded, tracked and minimised at all times – The Project Leader is accountable for ensuring lawful waste disposal – All personnel are responsible for ensuring waste is placed in the bins provided.
Timeframe	<ul style="list-style-type: none"> – Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> – Skips monitored visually by the Site Supervision on a daily basis. – Environmental Checklist E-T-8-1227 Appendix A12 to be used to verify site waste practices – Waste disposal records to be recorded in a waste register

Water Quality, Site Drainage and Erosion and Sediment Control

Objective	– To comply with contractual and legislative requirements and ensure that water discharged off-site from construction and erosion and sediment control (ESC) activities does not cause environmental nuisance / harm
Targets	<ul style="list-style-type: none"> – No sediment impacts to the surrounding environment and waterways as a result of the works – Prevent water quality impacts off site as a result of erosion and sedimentation.
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766 C9, E6, E7 FCMM5A, 5D, 5G, 5H – Protection of the Environment Operations Act 1997 – Australian and New Zealand Environment Conservation Council (ANZECC) guidelines for fresh and marine water quality – Managing Urban Stormwater: Soils and Construction - Volume 1, 4th Edition (LandCom Blue Book).
Site specific planning / approval conditions / licence conditions	– Refer to CSWQMP
Controls (means and resources)	– Refer to CSWQMP
Responsibilities	<ul style="list-style-type: none"> – All staff to ensure adequate ESC devices are installed and maintained. – The PER will undertake “at least weekly” inspections of on-site ESC devices, plus prior to expected rainfall and after rainfall. – The Construction Manager is responsible for the repair/ management of any damage or additional ESC devices, as required.
Timeframe	– Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> – Visually monitored daily by site supervision. – Weekly inspections to be documented – Maintenance activities for ESCPs shall be documented – items that cannot be immediately repaired are to be documented on the project CAR Register. – All water quality data including quantity, quality and dates of water release will be maintained the project records.

Traffic and Access Management

Objective	– To comply with contractual requirements and ensure that noise and additional traffic from construction activities does not cause an environmental nuisance
Targets	<ul style="list-style-type: none"> – No valid complaints resulting from congestion from construction traffic outside the approved Traffic Management Plan – Comply with traffic management standards – No visible cueing in streets surrounding the site
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766 C24, C25, E23, E24, E26, E27, E28, E29, E30 FCMM 1A, 1B, 1D, 1F. – Protection of the Environment Operations Act 1997 – Roads Act 1993 – RTA Traffic Control at Worksites – Roads (General) Regulation 2000 – Local Government Act 1993
Site specific planning / approval conditions / licence conditions	– Refer to CTAMP
Controls (means and resources)	– Refer to CTAMP
Responsibilities	– The Construction Manager is responsible for ensuring traffic management plans and TCPs are developed, approved and implemented
Timeframe	– Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> – Document complaints in Consultation Manager. – Daily inspection, checks and regular maintenance to be completed for traffic control measures.

Hazardous / Contaminated Material

Objective	<ul style="list-style-type: none"> To comply with contractual and legislative requirements and ensure that hazardous / contaminated material from construction activities does not cause an environmental nuisance / harm and is disposed of in accordance with legislative requirements.
Targets	<ul style="list-style-type: none"> No environmental incidences involving contaminated/ hazardous materials No pollution events of the surrounding environmental and water ways by contaminated material All off-site movement of any found contaminated material will be tracked
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> Conditions of Consent for SSD 6766.C5, C7 FCMM 7A to 7D PPR Section 4.4 – Annexure 3 AS/ NZS 1940: 2004 - The Storage and Handling of Flammable and Combustible Liquids Australian Dangerous Goods Code Edition 7.4; Protection of the Environment Operations Act 1997; Contaminated Land Management Act 1997; SEPP 55.
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> C5, C7. The approved works (including any excavation required for remediation) must not occur below 5 metres AHD and lower the water table below 1m AHD on adjacent class 1, 2, 3, 4 land in accordance with the Liverpool Local Environmental Plan 2008. C8. The subject site is to be remediated in accordance with: <ul style="list-style-type: none"> The approved Remedial Action Plan; b) <i>State Environmental Planning Policy No. 55 – Remediation of Land</i>; and c) The guidelines in force under the <i>Contaminated Land Management Act</i>. Amendments to the approved Remedial Action Plan required as a result of further site investigations must be approved by the site auditor, in consultation with the EPA. Within 3 months after the completion of the remediation works, a notice of completion, including a validation and/or monitoring report is to be provided to the Secretary. This notice must be consistent with <i>State Environmental Planning Policy No. 55 – Remediation of Land</i>. The validation and/or monitoring report is to be independently audited and a Site Audit Statement Issued. The audit is to be carried out by an independent auditor accredited by the EPA. Any conditions recorded on the Site Audit Statement are to be complied with.
Controls (means and resources)	<ul style="list-style-type: none"> Refer to Remediation Action Plan (RAP) and Contamination Management Plan (CMP)
Responsibilities	<ul style="list-style-type: none"> Site Supervisors, Project Leader and Staff to ensure all targets are met.

Hazardous / Contaminated Material

Timeframe	<ul style="list-style-type: none"> – Contaminated Material: Duration of any contaminated material removal. – Hazardous Material: Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> – Receipts for the disposal of any found hazardous material will be filed on site – The finding of any contaminated material on site will be reported immediately

Concrete Washout

Objective	– To comply with contractual and legislative requirements in relation to the washing out of concrete on the project
Targets	<ul style="list-style-type: none"> – Zero spills or uncontrolled release of concrete. – No instances of uncontrolled concrete washout
Legal, Contractual and Other Requirements	– NA
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> – Contract Specification – <i>Protection of the Environment Operations Act (1997)</i>
Controls (means and resources)	<ul style="list-style-type: none"> – Concrete washout to be constructed with geo-fabric lining and bunded. – Location of washout to be at least 20m away from any drainage line or stormwater system. – Washout to be constructed to the dimensions of 6m x 3m x .5m deep prior to commencement of concrete works. – Washout to be barricaded off on all sides when not in use to prevent unauthorised entry – Washout area is to be inspected daily by the Construction Manager to ensure residual water levels don't exceed 75% of capacity. – Record of daily inspection to be kept in Construction Manager's/Supervisor's diary when concrete washout is being undertaken. – Washout area to be cleaned when the capacity has been reduced below 50%. – Cleaning of washout to involve, removal of spoiled geo-fabric material and disposed of in licensed landfill. Records to be retained – Where possible waste concrete shall be returned to the batch plant or concrete recycler. – Concrete truck drivers are to be advised of the location of the washout area prior to arrival on site. – The requirements relating to concrete washout on site are to be provided to the supplier prior to the works.
Responsibilities	<ul style="list-style-type: none"> – The Construction Manager will ensure that an approved and prepared area for concrete washout is available. – All personnel are required to ensure that the requirements of this ERAP are implemented for their operations. – Construction Manager /Project Leader are required to advise of any concrete spills. – The Construction Manager is responsible for confirming these requirements with the concrete supplier prior to the works.
Timeframe	– Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> – Weekly inspections to be recorded – Incidents or spills of concrete to be recorded

Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods (DG) requirements

Objective	<ul style="list-style-type: none"> – To comply with contractual and legislative requirements in relations to the transport of dangerous goods – To comply with contractual and legislative requirements in relation to the storage of chemicals, fuels and oils on the site. – To ensure contractual and legislative requirements in relation to hazardous substances and dangerous goods are adequately addressed for all operations – there are specific additional requirements relating to the storage and transport of dangerous goods
Targets	<ul style="list-style-type: none"> – Zero spills or uncontrolled release of fuel, oils or chemicals associated with Operations. – Compliance with relevant transport and storage requirements – All vehicles transporting dangerous goods have appropriate placards, licenses and emergency equipment and procedures
Legal, Contractual & Other Requirements	<ul style="list-style-type: none"> – AS/ NZS 1940: 2004 – The Storage and Handling of Flammable and Combustible Liquids – Dangerous goods (Road and Rail Transport) Act 2014 – Dangerous Goods Regulation (Road and Rail Transport) Regulation 2014 – Australian Dangerous Goods Code Edition 7.4 – Contract specification
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> – E13 Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with: <ul style="list-style-type: none"> a) all relevant Australian Standards; b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (Environment Protection Authority, 1997). – In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods (DG) requirements

Controls (means and resources)

The following are the minimum general control measures to be implemented on the project; however additional control measures may be required following the completion of the construction process procedure/work method statement for the proposed activity.

- Minimise storage of fuel, oil, chemicals or other dangerous goods on site, though efficient and timely ordering.
- The SDS and material risk assessment and including any specific control measures are to be submitted where required to the Client's Representative for each and every substance to be brought on to site.
- A risk assessment relating to the use of these materials is to be completed in accordance with the Construction Health and Safety Plan prior to the arrival of these goods to site.
- SDS and associated documentation for each material to be reviewed prior to the completion of the risk assessment for the relevant construction process. A copy to be included with the SWMS.
- Ensure SDSs are available on site for all fuels, oils, chemicals and dangerous goods. Suppliers are to provide SDS prior to dispatch of the material.
- Chemicals, fuels and oils to be stored in a securely bunded area with appropriate signage, at all times when not specifically in use.
- Chemicals fuels, oils and chemicals to be stored inside impervious bunds of sufficient capacity to contain 110% of the stored volume. Bunded areas must have sufficient cover to prevent ingress of rain.
- Materials removed from the bunded storage area for use are to be returned to the bund at the end of each shift
- Storage sites are to be > 20m away from operational facilities, drainage lines, and areas prone to flooding or on slopes > 1V:10H.
- Driver or Supervisor to be in attendance at all times when unloading of fuel, oil or chemicals takes place on site.
- No water to be discharged from bunded areas into site drainage system. Contaminated water to be removed by appropriately licensed contractor & discharged to a suitably licensed waste facility.
- Delivery drivers are to be provided with specific drop off and storage instructions.
- Spill kits & absorbent material to be located adjacent to storage bunds.
- Training is to be provided to the workforce in the application of this ERAP and the use of spill kits.
- Absorbent material used to clean up spills to be disposed of in accordance with the EPA Waste Classification Guidelines.
- A register of Chemicals, Fuels/Oils and Hazardous materials is to be kept onsite and maintained for the duration of the project.
- Each construction method statement shall identify the use of chemicals, fuels & oils and hazardous materials.
- SWMSs to address the specific requirements relevant to the work to be undertaken and document relevant site control measures.

Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods (DG) requirements

Dangerous Goods

- Ensure transporters of these materials are appropriately licensed. This includes relevant licenses for vehicles and drivers.
- Dangerous goods that are to be transported in receptacles greater than 500lt/kg may require specific licenses and shall not be transported without the Project Leader/Workplace Manager's approval.
- Where dangerous goods are transported, a SWMS must be developed and include dangerous goods requirements.
- Transport information/manifest is required to be included with any quantity of Dangerous Goods transported– Form 1232 Dangerous Goods Transport Note is to be used unless it can be demonstrated that the activity is exempt.
- The SWMS statement must address the requirement for Licensing, Placards or other specific regulatory requirements
- Transport activities in quantities that trigger the requirements of a "Placard Load" under the regulations require the following:
 - Transport vehicle to have appropriate Dangerous Goods Placard
 - Transport documents including manifests
 - Emergency procedures and information in an appropriate holder
 - 30B fire extinguisher
 - Double-sided reflectors
 - Driver safety equipment and PPE
 - Goods must be secured and where required segregated from incompatible goods.
 - Dangerous goods must be appropriately marked in accordance with the Australian Dangerous Goods Code

Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods (DG) requirements

Typical dangerous goods associated with our operations include the following:

Type of Goods	DG Class	Type of Goods	DG Class	Type of Goods	
LPG	2.1	Epoxy paint including hardener	8	Plumbing adhesive	3
Open Gear Lubricant	2.1	Chemical Anchor - parts A & B	8	Diesel	3
Marker Paint	2.1	Chemical Anchor	8	Joint/gap sealant	3
Silicone Lubricant	2.1	Chemical Anchor	8	Dry Film Lubricating Paint	3
Fuel Gas for welding/cutting	2.1	Adhesive Mortar	8	Joint/gap sealant	5.2
Fuel Gas for welding/cutting	2.2	Acid	8	Sealant	6.1
Air Operated Tool Lubrication	3	Degreaser (Pile Rigs)	9	Flocculent	8
Zinc Primer Paint	3	Engine Coolant	9	Rail Welding Consumables	1.4 S
Air tool lubricant – workshop	3	Antifreeze	9	Adhesive	3
Petrol-Unleaded	3	Grout	9		
Sealant	3	Form Oil	9		

Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods (DG) requirements

Dangerous Goods Storage

- Dangerous goods storage on site must comply with the requirements of AS 1940:2004 including maintaining separation distances for incompatible materials.
- The proposed materials need to be assessed for compatibility and required separation distances or control measures implemented.
- Flammable materials storage is to be >15m from site facilities, officers, amenities or protected places.
- Quantities to be stored must be assessed to determine if they are considered manifest quantities - manifest quantities will require notification to WorkCover.
- A storage location plan is required and needs to include internal layout, location of registers/manifests for the storage location.
- Bunding to be impervious and of sufficient capacity to contain 110% of the stored volume
- Appropriate spill containment material and fire extinguishers are also required.

Responsibilities

- Engineering personnel are responsible for identification of requirement to transport Dangerous Goods
- Relevant Project Leader or Construction Manager is responsible for ensuring all vehicles carry appropriate placards, licenses, emergency equipment and procedures
- The Construction Manager is required to ensure that sufficient bunds are available and that material is stored appropriately.
- Engineering personnel are responsible for ensure SDS and other relevant documentation are obtained and where required submitted to the Client's Representative prior to the material arriving on site. Relevant documentation also includes appropriate risk assessment.
- The Project Safety Advisor is responsible for ensuring the Chemicals; Fuels/Oils & Hazardous Substances register is maintained.

Timeframe

- Duration of operations. The requirements apply to goods transported, and third parties.

Monitoring and Reporting

- Plant / project risk assessments
- Weekly inspections to be recorded
- Form E-T-8-1232 Dangerous Goods Transport Note
- Register of Chemicals, Fuels/Oils and Hazardous Materials
- Incidents or spills to be recorded
- Storage areas are to be inspected by the Supervisory personnel on a weekly basis.

Flora and Fauna

Objective	– To comply with contractual and legislative requirements and ensure that native fauna and flora are protected from construction activities.
Targets	<ul style="list-style-type: none"> – No death or injury to fauna – No unapproved destruction of flora
Legal, Contractual & Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766 C23, C23B, E31, E32, FCMM 8A, 8D – Environmental Protection and Biodiversity Conservation Act – Threatened Species Conservation Act 1995
Site specific planning / approval conditions / licence conditions	– Refer to CFFMP and TSMP
Controls (means & resources)	– Refer to CFFMP and TSMP
Responsibilities	<ul style="list-style-type: none"> – All personnel are responsible for ensuring that the clearing limits are addressed and native flora and fauna species are protected. – All site personnel to undertake toolbox talks in relation to the reporting process for injury/ death to fauna or clearing of flora occurring beyond the required limits for construction.
Timeframe	– Duration of the works.
Monitoring & Reporting	<ul style="list-style-type: none"> – Visually monitored daily – Weekly environmental inspection report E-T-8-1227 detailing any flora and fauna.

Archaeology and Heritage

Objective	– To comply with contractual and legislative requirements and ensure that existing and undiscovered heritage and archaeological items are protected from construction activities.
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Legal, Contractual & Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766 C13, C14, E12, FCMM 9A, 9B, 9C – Heritage Act 1977 – National Parks and Wildlife Act 1974
Targets	<ul style="list-style-type: none"> – No disturbance or damage to existing known heritage sites or items. – Unknown or undocumented heritage sites are not knowingly destroyed, defaced or damaged. – Identify and protect any new artefacts or heritage sites before any harm can take place. – Any relics found on site will be kept safe for consideration of incorporation into site fixtures
Site specific planning / approval conditions / licence conditions	<ul style="list-style-type: none"> – Refer to CHMP
Controls (means & resources)	<ul style="list-style-type: none"> – Refer to CHMP
Responsibilities	<ul style="list-style-type: none"> – All personnel on site are to ensure that archaeological and heritage items are protected from damage or disturbance unless approved. – The Environmental Manager will ensure all site personnel undertake toolbox talks in relation to protection of nominated items that were previously unknown.
Timeframe	<ul style="list-style-type: none"> – Throughout construction activities
Monitoring & Reporting	<ul style="list-style-type: none"> – Visual monitoring weekly of any existing items – Completion of weekly environmental inspection report E-T-8-1227 (Appendix A12).

Flood Emergency Response

Objective	<ul style="list-style-type: none"> – To comply with CoC, FCMM 5G and mitigate potential flooding impacts to Stage 1 Site.
Targets	<ul style="list-style-type: none"> – During detailed design, include areas of safe refuge on Stage 1 Site in order for people to move to that area and wait until hazardous flows have receded and safe evacuation is possible – No damage to project or plant as a result of floods

Flood Emergency Response

Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766. – Final Compilation of Mitigation Measures (FCMM) 5G – <i>Protection of the Environment Operations Act 1997</i> – Protection of the Environment Operations (General) Regulation 2009 – Stormwater and Flooding Environmental Assessment, Hyder 2015
Site specific planning / approval conditions / licence conditions	– No specific conditions. Compliance to Final Mitigation Measures (5G) and Stormwater and Flooding Environmental Impact Assessment – Hyder, 2015 will be ensured at all times.
Controls (means and resources)	– Refer to CEMP Appendix A11 - Flooding
Responsibilities	– The Construction Manager/Project Leader to implement the requirements of this plan.
Timeframe	– Duration of site works.
Monitoring and Reporting	– Weekly inspections to be recorded

Visual, Amenity, Urban Design and Landscape

Objective	– To comply with CoC and FCMM 11A.
Targets	– Retain existing vegetation around the perimeter of Proposal where feasible and reasonable
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766: C3 – FCMM 11A – <i>Protection of the Environment Operations Act 1997</i> – AS 4282-1997 Control of the Obtrusive Effect of Outdoor Lighting, fencing and Signs

Visual, Amenity, Urban Design and Landscape

Site specific planning / approval conditions / licence conditions	– C3. Compliance to Final Mitigation Measures (11A) and Appendix E – Landscape Design Statement and Plans – Hyder, 2015 and Visual Impact Assessment – Hyder, 2015 will be ensured at all times.
Controls (means and resources)	<ul style="list-style-type: none"> – Prepare and implement Urban Design and Landscape Plan in accordance with CoC C3 – Retain existing vegetation around the perimeter of Proposal where feasible and reasonable – Implement Landscape design early in the proposal to provide visual screening along Moorebank Ave – Design elements in the Stage 1 proposal site in order to minimise visual impacts as far as reasonable and feasible – Consider the use of artwork or project information for site hoardings – Undertake regular maintenance of site hoardings and perimeter areas including prompt removal of graffiti – Undertake progressive revegetation of the area with selection of species local to the Stage 1 area
Responsibilities	– The Construction Manager/Project Leader to implement the requirements of this plan.
Timeframe	– Duration of site works.
Monitoring and Reporting	– Weekly inspections to be recorded

Structural Damage

Objective	– Provide measures to monitor and rectify any impacts to third party property and infrastructure, including details of the process for rectification or compensation of affected landowners, and timeframes for rectification works or compensation processes; and.
Targets	<ul style="list-style-type: none"> – Ensure the conditions of existing third party buildings, infrastructure are recorded correctly, to the satisfaction of the Certifying Authority prior to construction and maintained during construction – No adverse structural damage to adjoining third party buildings and infrastructure as a result of construction – Ensure existing third party buildings and infrastructure conditions are captured post-construction
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766: E33v – <i>Protection of the Environment Operations Act 1997</i>

Structural Damage

Site specific planning / approval conditions / licence conditions	– CoC C17, C18, C19, E33v, F1
Controls (means and resources)	<ul style="list-style-type: none"> – Engage suitably qualified person to undertake Pre-Construction Dilapidation Surveys of adjoining third party properties and infrastructure surrounding proposal site in accordance with CoC C17, C18, C19, E33v – Engage suitably qualified person to undertake Post-Construction Dilapidation Surveys of adjoining third party properties and infrastructure surrounding proposal site in accordance with CoC F1 – Compare conditions of buildings/infrastructure pre and post-construction to determine any damage from construction activities
Responsibilities	– The Construction Manager/Project Leader to implement the requirements of this plan.
Timeframe	– Duration of site works.
Monitoring and Reporting	– Weekly inspections to be recorded

Bushfire Management Strategy

Objective	– To comply with CoC and minimise the threat to the project from bushfire and potential to cause a bushfire.
Targets	<ul style="list-style-type: none"> – No hot works without valid approval – No bushfires originating from the site – No damage to project or plant as a result of bushfire
Legal, Contractual and Other Requirements	<ul style="list-style-type: none"> – Conditions of Consent for SSD 6766 FCMM 12H and 14A. – <i>Protection of the Environment Operations Act 1997</i> – Protection of the Environment Operations (Clean Air) Regulation 2010 – Bushfire Protection Assessment, Hyder 2015
Site specific planning / approval conditions / licence conditions	– No specific conditions. Compliance to Final Mitigation Measures (12H, 14A and 14D and Bushfire Protection Assessment – Hyder, 2015 will be ensured at all times.

Bushfire Management Strategy

Controls (means and resources)	<ul style="list-style-type: none"> – The Stage 1 site will be protected from the impact of fires originating from off-site by a 35 m defendable space to the west across Moorebank Avenue, a 100 m defendable space to the south of the container handling area. – The design and installation of on-site fire hydrants within the Stage 1 site will be in compliance with <i>AS 2419.1-2005 Fire hydrant installations - System design, installation and commissioning</i>. – Emergency response plans and procedures are included in the Project Health and Safety/Risk Management Plan. – Restrictions on activities (namely hot works) that cannot be undertaken on total fire ban days within areas of high Bushfire Hazard Rating, unless otherwise advised by the NSW Rural Fire Service. – All construction site offices and temporary buildings will be located outside buffer areas to ensure minimum setbacks of 10 m. – All construction site offices will be accessible via access roads suitable for firefighting appliances similar to NSW Rural Fire Service category 1 tankers. – Water tankers and other measures available at the commencement of earthworks
Responsibilities	<ul style="list-style-type: none"> – The Construction Manager/Project Leader to implement the requirements of this plan.
Timeframe	<ul style="list-style-type: none"> – Duration of site works.
Monitoring and Reporting	<ul style="list-style-type: none"> – Weekly inspections to be recorded

APPENDIX B

Construction Heritage Management Plan

APPENDIX C

Remediation Action Plan

APPENDIX D

Construction Noise and Vibration Management Plan

APPENDIX E

Conditions of Consent Division of Responsibilities

The Conditions of Consent – CoC Compliance Tracking Program has been prepared as a standalone document in-line with CEMP requirements.

This document outlines the division of responsibilities for MPE Stage 1 Package 1, MPE Stage 1 Package 2 and SIMTA. Red text in the table indicates the revised CoC resulting from Appeal Number 2017/00081889 and released on 13 March 2018.

APPENDIX F

Construction Air Quality Management Plan

APPENDIX G

Construction Flora and Fauna Management Plan

APPENDIX H

Construction Soil and Water Management Plan

APPENDIX I

Construction Traffic and Access Management Plan

APPENDIX J

Greenhouse Gas Management Plan

APPENDIX K

Heritage Interpretation Strategy

APPENDIX L

Construction Waste and Resource Management Plan

APPENDIX M

Legislation Register

Legislation	Objectives & Application	Relevance
<i>Protection of the Environmental Operations Act 1997</i>	<p>Objectives of the Act are:</p> <ul style="list-style-type: none"> To protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development, To provide increased opportunities for public involvement and participation in environment protection, To ensure that the community has access to relevant and meaningful information about pollution, To reduce risks to human health and prevent the degradation of the environment by the use of mechanisms that promote the following: <ul style="list-style-type: none"> Pollution prevention and cleaner production, The reduction to harmless levels of the discharge of substances likely to cause harm to the environment, The elimination of harmful wastes, The reduction in the use of materials and the re-use, recovery or recycling of materials, The making of progressive environmental improvements, including the reduction of pollution at source, The monitoring and reporting of environmental quality on a regular basis, To rationalise, simplify and strengthen the regulatory framework for environment protection, To improve the efficiency of administration of the environment protection legislation, To assist in the achievement of the objectives of the Waste Avoidance and Resource Recovery Act 2001. 	<p>Relevant sections of the POEO Act are as follows:</p> <ul style="list-style-type: none"> There is a duty to report pollution incidents under section 148 of the Protection of the Environment Operations Act 1997 (POEO Act). Schedule 1 of the POEO defines activities that require an Environmental Protection Licence. Section 115 (Disposal of waste-harm to environment) Section 116 (Leaks, spillages and other escapes) Section 120 (Prohibition of pollution of waters) Air pollution-related sections 124 to 126 (Chapter 5, Part 5.4., Division 1) of the Act require activities to be conducted in a proper and efficient manner, while section 128 (Chapter 5, Part 5.4., Division 1) of the POEO Act requires that all necessary practicable means are used to prevent or minimise air pollution <p>The POEO Act Classifies Environmental Offences and Penalties.</p>
Protection of the Environmental Operations (Clean Air) Regulation 2010	<p>This regulation:</p> <ul style="list-style-type: none"> Provides for the certification of domestic solid fuel heaters; Controls burning generally by imposing an obligation to prevent or minimise emissions, by prohibiting the burning of certain articles and requiring approval for certain fires/incinerators; Requires the fitting of anti-pollution devices to certain motor vehicles and prescribes an offence of emitting excessive air impurities; Imposes certain requirements and standards on the supply of petrol; Prescribes standards for certain groups of plant and premises to regulate industry's air impurity emissions; and Imposes requirements on the control, storage and transport of volatile organic liquids. 	Regulates atmospheric pollutants including dust and odour onsite
Protection of the Environmental Operations (Waste)	<p>This regulation:</p> <ul style="list-style-type: none"> Provides for the contributions to be paid by the occupiers of scheduled waste facilities for each tonne of waste received at the facility or generated in a particular area; 	Regulates Management and Disposal of Wastes onsite

Legislation	Objectives & Application	Relevance
Regulation 2014	<ul style="list-style-type: none"> Exempts certain occupiers or types of waste from these contributions; Allows rebates to be claimed in relation to certain types of waste; Provides for certain reporting and record-keeping requirements in relation to scheduled waste facilities and scheduled landfill sites; Exempts certain waste streams from the full waste tracking and recordkeeping requirements; Makes requirements relating to the transport of waste to interstate destinations; Makes special requirements including reporting requirements relating to asbestos waste as well as prohibiting the re-use and recycling of asbestos waste; Imposes requirements on brand owners and retailers to recover, re-use and recycle packaging; Allows the EPA to issue exemptions from certain provisions of the Act and Regulations; Allows the EPA to approve the immobilisation of contaminants in waste; and Makes it an offence to apply, or to cause or permit the application of, residue waste to land that is used for the purpose of growing vegetation, subject to any exemptions. 	
Protection of the Environmental Operations (Noise Control) Regulation 2008 (NSW)	<p>This regulation:</p> <ul style="list-style-type: none"> Provides for the sale and use of various motor vehicle and motor vehicle accessories devices such as horns and alarms; Regulates noise emitted as a result of the use of marine vessels; Prohibits the selling of certain articles that emit noise above prescribed levels, such as lawn mowers, edge-cutters, string trimmers and brush cutters; Requires labelling of certain other noise emitting articles such as chainsaws, air conditioners, air compressors, pavement breakers, garbage compactors; and Provides for the inspection and testing of certain articles. 	Relates to Noise generating activities during the works.
Local Government Act 1993	<p>The purposes of this Act are as follows:</p> <ul style="list-style-type: none"> To provide the legal framework for an effective, efficient, environmentally responsible and open system of local government in New South Wales To regulate the relationships between the people and bodies comprising the system of local government in New South Wales To encourage and assist the effective participation of local communities in the affairs of local government 	<p>Referenced and assessed during Approval Process. Division 2 of the Act outlines the Use and Management of Community Land with requirements to provide:</p> <ul style="list-style-type: none"> 100m minimum buffer width from the edge of the gorge or the top of the banks of the Georges River and its tributaries on currently forested Crown lands and natural bushland classified as community land 40m minimum buffer widths from wetlands

Legislation	Objectives & Application	Relevance
<i>Environmental Protection and Biodiversity Act 1999 (EPBC)</i>	<p>The objects of this Act are:</p> <ul style="list-style-type: none"> To provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance; and To promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and To promote the conservation of biodiversity; and To provide for the protection and conservation of heritage; To promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples; and To assist in the co-operative implementation of Australia's international environmental responsibilities; and To recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and To promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge. 	<p>Approval (No. 2011/6086), under the <i>Environmental Protection Biodiversity Conservation Act 1999</i> (EPBC Act), is required for the project.</p> <p>The key sections of this Act relevant to the Project include, but is not limited to:</p> <ul style="list-style-type: none"> Section 18 and 18A concerning impacts and offences to threatened species Section 25: requirement for approval of prescribed actions Division 2 Subdivision A Section 26 and 27 – actions involving Commonwealth Land
<i>Contaminated Land Management Act 1997</i>	<p>Objects of this Act:</p> <ul style="list-style-type: none"> The general object of this Act is to establish a process for investigating and (where appropriate) remediating land that the EPA considers to be contaminated significantly enough to require regulation under Division 2 of Part 3. <p>Other objectives of this Act are:</p> <ul style="list-style-type: none"> To set out accountabilities for managing contamination if the EPA considers the contamination is significant enough to require regulation under Division 2 of Part 3, and To set out the role of the EPA in the assessment of contamination and the supervision of the investigation and management of contaminated sites, and To provide for the accreditation of site auditors of contaminated land to ensure appropriate standards of auditing in the management of contaminated land, and To ensure that contaminated land is managed with regard to the principles of ecologically sustainable development 	<p>Contamination on site must be assessed and managed in accordance with this act.</p> <p>Division 2, Part 3, Section 11-17 details requirements for the Management of Contaminated Land.</p>
<i>Environmental Planning and Assessment Act 1979</i>	<p>The objects of this Act are to encourage:</p> <ul style="list-style-type: none"> The proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment, 	<p>Planning approval for the project is regulated by the DP&E under this Act.</p> <p>The key sections of this Act relevant to the Project include, but is not limited to:</p> <ul style="list-style-type: none"> Part 3A, Section 75O, Section 75U, Section 79C: Now repealed but relates to the approval pathway for the Project

Legislation	Objectives & Application	Relevance
	<ul style="list-style-type: none"> The promotion and co-ordination of the orderly and economic use and development of land, the protection, provision and co-ordination of communication and utility services, the provision of land for public purposes, the provision and co-ordination of community services and facilities, and the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and ecologically sustainable development, and the provision and maintenance of affordable housing, and to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and To provide increased opportunity for public involvement and participation in environmental planning and assessment. 	<ul style="list-style-type: none"> Part 4, Division 4.1 (now Division 4.7 as of 1 March 2018) – relates to the approval pathway for State Significant Developments. In particular, Section 4.38 provides consent for the SSD. Division 7.1 (as of 1 March 2018), Section 7.13(2) – payment of monetary levy to Liverpool City Council
<i>Biodiversity Conservation Act 2016</i>	<p>This Act broadly incorporates similar objectives to those identified under <i>Threatened Species Conservation Act 1995</i>, and additionally seeks to establish a framework for assessment and offsetting of development impacts as well as investment in biodiversity conservation.</p> <p>This Act repeals:</p> <ul style="list-style-type: none"> <i>Threatened Species Conservation Act 1995</i> <i>Nature Conservation Trust Act 2001</i> <i>Parts of the National Parks and Wildlife Act 1974</i> 	Measures to avoid and minimise impacts on Threatened species and communities listed under the BC Act and that are known or considered likely to occur in the project site, will be implemented and managed in accordance with the Construction Flora and Fauna Management Plan and the Biodiversity Offset Strategy
<i>Noxious Weeds Act 1993</i>	This Act was repealed by Schedule 6 to the <i>Biosecurity Act 2015</i> No 24 with effect from 1 July 2017	See <i>Biosecurity Act 2015</i> below
<i>Biosecurity Act 2015</i>	<p>The objects of this Act are as follows:</p> <ul style="list-style-type: none"> The primary object of this Act is to provide a framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matter, dealing with biosecurity matter, carriers and potential carriers, and other activities that involve biosecurity matter, carriers or potential carriers. <p>Other objectives of this Act are:</p> <ul style="list-style-type: none"> to promote biosecurity as a shared responsibility between government, industry and communities, to provide a framework for the timely and effective management of the following: <ul style="list-style-type: none"> i. pests, diseases, contaminants and other biosecurity matter that are economically significant for primary production industries, ii. threats to terrestrial and aquatic environments arising from pests, diseases, contaminants and other biosecurity matter, iii. public health and safety risks arising from contaminants, non-indigenous animals, bees, weeds and other biosecurity matter known to contribute to human health problems, 	<p>Division 2 of the Act defines local control authorities for weeds and Schedule 1 outlines special provisions relating to weeds, including the duty of land occupiers to control and manage weeds.</p> <p>Weeds and pests that may be identified in the project site, although none have been identified to date, will be managed in accordance with the Construction Flora and Fauna Management Plan.</p>

Legislation	Objectives & Application	Relevance
	<ul style="list-style-type: none"> iv. pests, diseases, contaminants and other biosecurity matter that may have an adverse effect on community activities and infrastructure, to provide a framework for risk-based decision-making in relation to biosecurity, to give effect to intergovernmental biosecurity agreements to which the State is a party, to provide the means by which biosecurity requirements in other jurisdictions can be met, so as to maintain market access for industry. 	
<i>Threatened Species Conservation Act 1995</i>	This Act was repealed by Schedule 10 to the <i>Biodiversity Conservation Act 2016</i> with effect from 25 August 2017	See <i>Biodiversity Conservation Act 2016</i>
<i>Waste Avoidance and Resource Recovery Act 2001</i>	<p>The objects of this Act are as follows:</p> <ul style="list-style-type: none"> To encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development, To ensure that resource management options are considered against a hierarchy of the following order: <ul style="list-style-type: none"> i. Avoidance of unnecessary resource consumption, ii. Resource recovery (including reuse, reprocessing, recycling and energy recovery), iii. Disposal, To provide for the continual reduction in waste generation, To minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste, To ensure that industry shares with the community the responsibility for reducing and dealing with waste, To ensure the efficient funding of waste and resource management planning, programs and service delivery, To achieve integrated waste and resource management planning, programs and service delivery on a State-wide basis, To assist in the achievement of the objectives of the <i>Protection of the Environment Operations Act 1997</i>. 	<p>Waste Avoidance and Resource Recovery Act 2001 Establishes the waste hierarchy. Promotes waste avoidance and resource recovery by developing waste avoidance and resource recovery strategies.</p> <p>Provides requirements for waste avoidance and resource recovery</p> <p>The key sections of this Act relevant to the Project include, but are not limited to:</p> <ul style="list-style-type: none"> Part 3 Section 12 relating to the development of waste strategies
<i>Heritage Act 1977</i>	<p>The objects of this Act are as follows:</p> <ul style="list-style-type: none"> To promote an understanding of the State's heritage, To encourage the conservation of the State's heritage, To provide for the identification and registration of items of State heritage significance, To provide for the interim protection of items of State heritage significance, 	<p><i>Heritage Act 1977</i> Approval must be gained from the Heritage Council when making changes to a heritage place listed on the State Heritage Register, or when excavating any land in NSW where an archaeological relic might be disturbed.</p> <p>The Construction Heritage Management Plan identifies controls and mitigation measures.</p>

Legislation	Objectives & Application	Relevance
	<ul style="list-style-type: none"> To encourage the adaptive reuse of items of State heritage significance, To constitute the Heritage Council of New South Wales and confer on it functions relating to the State's heritage, To assist owners with the conservation of items of State heritage significance. 	<p>The key sections of this Act relevant to the Project include, but are not limited to:</p> <ul style="list-style-type: none"> Section 146 relating to the notification of impacts and heritage finds to the Heritage Council of NSW Section 139 for the provision of excavation permits
<i>National Parks and Wildlife Act 1974</i>	<p>The objects of this Act are as follows:</p> <ul style="list-style-type: none"> The conservation of nature, including, but not limited to, the conservation of: <ul style="list-style-type: none"> i. Habitat, ecosystems and ecosystem processes, and ii. Biological diversity at the community, species and genetic levels, and iii. Landforms of significance, including geological features and processes, and Landscapes and natural features of significance including wilderness and wild rivers, iv. Landscapes and natural features of significance including wilderness and wild rivers The conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to: <ul style="list-style-type: none"> i. Places, objects and features of significance to Aboriginal people, and ii. Places of social value to the people of New South Wales, and iii. Places of historic, architectural or scientific significance, Fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation, Providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation. The objects of this Act are to be achieved by applying the principles of ecologically sustainable development. In carrying out functions under this Act, the Minister, the Chief Executive and the Service are to give effect to the following: <ul style="list-style-type: none"> The objects of the act The public interest in the protection of the values for which land is reserved under this Act and the appropriate management of those lands 	<p><i>National Parks and Wildlife Act 1974</i> Aboriginal Heritage sites are managed under this Act by the Office of Environment and Heritage (OEH). Unexpected finds of heritage require stop work proceedings and approval sought from OEH to disturb site. The Construction Heritage Management Plan identifies controls and mitigation measures.</p> <p>The key sections of this Act relevant to the Project include, but are not limited to:</p> <ul style="list-style-type: none"> Part 6 – Aboriginal objects and places <p>Previously Section 98 (relating to the harm of protected fauna and threatened species) and Part 8A (relating to threatened species, populations and ecological communities) were applicable. Parts 7-9 of the Act have been repealed. See <i>Biodiversity Conservation Act 2016</i>.</p>

Legislation	Objectives & Application	Relevance
<i>Water Act 1912</i>	The objects of this Act govern the issue of water licences within all areas not specified by an approved 'water sharing plan'.	<ul style="list-style-type: none"> • If during construction earthworks, the temporary dewatering of groundwater (from an excavation) is deemed necessary, then a licence to carry out such activity will be required under Part 5 of the Water Act. • SIMTA must provide DPI Water with details on the volume of groundwater that is encountered and the duration of pumping, • It is a legal requirement for any take of groundwater to be authorised by a Water Act 1912 licence (in the case of dewatering activity) or a Water Access Licence (for onsite reuse) unless an exemption applies.
<i>Water Management Act 2000</i>	<p>The objects of this Act are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations and, in particular:</p> <ul style="list-style-type: none"> • To apply the principles of ecologically sustainable development, and • To protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and their water quality, and • To recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water, including: <ol style="list-style-type: none"> i. Benefits to the environment, and ii. Benefits to urban communities, agriculture, fisheries, industry and recreation, and iii. Benefits to culture and heritage, and iv. Benefits to the Aboriginal people in relation to their spiritual, social, customary and economic use of land and water, • To recognise the role of the community, as a partner with government, in resolving issues relating to the management of water sources, • To provide for the orderly, efficient and equitable sharing of water from water sources, • To integrate the management of water sources with the management of other aspects of the environment, including the land, its soil, its native vegetation and its native fauna, • To encourage the sharing of responsibility for the sustainable and efficient use of water between the Government and water users, • To encourage best practice in the management and use of water. 	<p>While it is not envisaged that any activities will take place on Waterfront Land as defined in the Water Management Act 2000, should activities on waterfront land occur these will be conducted generally in accordance with the NSW Office of Water's Guidelines for Controlled Activities. Section 345 outlines offences related to Waterfront Land.</p> <p>Any licenses required will be determined by Section 57 of the Act which defines the categories of licence required.</p>
State Environmental Planning Policy No 55—Remediation of Land	<p>Object of this Policy:</p> <ul style="list-style-type: none"> • The object of this Policy is to provide for a Statewide planning approach to the remediation of contaminated land. • In particular, this Policy aims to promote the remediation of contaminated land for the purpose 	The site is to be remediated in accordance with State Environmental Planning Policy No 55 - Remediation of Land

Legislation	Objectives & Application	Relevance
	<p>of reducing the risk of harm to human health or any other aspect of the environment:</p> <ul style="list-style-type: none"> By specifying when consent is required, and when it is not required, for a remediation work, and By specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular, and By requiring that a remediation work meet certain standards and notification requirements. 	
Dangerous Goods Regulation (Road and Rail Transport) Regulation 2014	<p>The main objects of this Regulation are:</p> <ul style="list-style-type: none"> to set out the obligations of persons involved in the transport of dangerous goods by land transport, and to reduce as far as practicable the risks of personal injury, death, property damage and environmental harm arising from the transport of dangerous goods by land transport, and to give effect to the standards, requirements and procedures of the ADG Code so far as they apply to the transport of dangerous goods by land transport, and to promote consistency between the standards, requirements and procedures applying to the transport of dangerous goods by land transport and other modes of transport. 	The Construction Heritage Management Plan identifies controls and mitigation measures
<i>Disability Discrimination Act 1992</i>	<ul style="list-style-type: none"> Provides protection for everyone in Australia against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and the economy that flow from participation by the widest range of people 	Condition B1 requires that the offices and amenities provided for the Project comply with the Act. This has been addressed during detailed design.
<i>Fisheries Management Act 1994</i>	<p>The objects of this Act are:</p> <ul style="list-style-type: none"> To conserve, develop and share the fishery resources of the State for the benefit of present and future generations. <ol style="list-style-type: none"> to conserve fish stocks and key fish habitats, and to conserve threatened species, populations and ecological communities of fish and marine vegetation, and to promote ecologically sustainable development, including the conservation of biological diversity, and, consistently with those objects: to promote viable commercial fishing and aquaculture industries, and to promote quality recreational fishing opportunities, and to appropriately share fisheries resources between the users of those resources, and 	<p>Part 7A outlines conditions for threatened species conservation.</p> <p>No impacts are envisaged on fisheries.</p>

Legislation	Objectives & Application	Relevance
	<ul style="list-style-type: none"> (g) to provide social and economic benefits for the wider community of New South Wales, and (h) to recognise the spiritual, social and customary significance to Aboriginal persons of fisheries resources and to protect, and promote the continuation of, Aboriginal cultural fishing. 	

APPENDIX N

Project Permits and Licenses Register

Legislation	Part 4 applicability	Requirement	Commencement date	Expiry date	Project responsibility
General					
<i>Environmental Planning and Assessment Act 1979</i>	Yes	Planning Determination under Part 4, Division 4.1 (now Division 4.7 as of 1 March 2018) of the EP&A Act - Comply with the Minister for Planning's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	12 December 2016	This approval will lapse ten years from the date of this approval unless works subject of this approval are physically commenced, on or before that lapse date.	Project Environmental manager - The approval requirements will be briefed to all project personnel prior to and during construction as per the requirements stated in Section 7 of this CEMP
<i>Protection of Environment Operations Act 1997</i>	Yes	EPL is required under the POEO Act - EPL 21054 was issued by the EPA for a processing capacity of > 100,000 – 500,000 tonnes crushing, grinding or separating per annum and > 500,000 – 2,000,000 tonnes extraction, processing or storage capacity per annum	4 June 2018	N/A	Project Environmental Manager - The EPL requirements will be briefed to all project personnel prior to and during construction as per the requirements stated in Section 7 of this CEMP
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	NA	Construction Compliance Report to determine regular periodic status of compliance against the conditions of this approval and the approval to be closed out after completion of construction and operation phases of Stage 1 - to which the approval applies.	6 March 2014	28 February 2040	Project Environmental Manager - Construction compliance report to be compiled. Relevant approval requirements will be briefed to all project personnel prior to and during construction as per the requirements stated in Section 7 of this CEMP
Water					
<i>Water Act 1912</i> (Section 10 Surface Water Licence)	No	N/A	N/A	N/A	N/A
<i>Water Act 1912</i> (Part 5 Section 112 Groundwater Licence)	No	N/A	N/A	N/A	N/A

Legislation	Part 4 applicability	Requirement	Commencement date	Expiry date	Project responsibility
<i>Water Act 1912</i> (Part 8 Division 3 Approval of controlled work)	No	N/A	N/A	N/A	N/A
<i>Water Management Act 2000</i> (Section 56 Access Licences)	No	N/A	N/A	N/A	N/A
<i>Water Management Act 2000</i> (Section 89 Water use approvals)	No	N/A	N/A	N/A	N/A
<i>Water Management Act 2000</i> (Section 90 Water management work approvals)	No	N/A	N/A	N/A	N/A
<i>Water Management Act 2000</i> (Section 91 Activity Approvals)	No	N/A	N/A	N/A	N/A
<i>Sydney Water Act 1994</i> (Section 49 Offence to discharge into works - Trade Waste Permit)	No	N/A	N/A	N/A	N/A

Legislation	Part 4 applicability	Requirement	Commencement date	Expiry date	Project responsibility
<i>Sydney Water Act 1994</i> (Permit to Use Approved Metered Standpipes on Sydney Water Hydrants)	Yes	Subcontractors will work under this permit – copies of permits to be obtained upon engagement of subcontractors and this register will be updated accordingly.	Details to be confirmed once the permit is in place on the Project	To be confirmed	Project Environmental Manager – Permit requirements will be obtained and briefed to all relevant project personnel prior to and during construction as per the requirements stated in the Section 7 of this CEMP
<i>Hunter Water Act 1991</i> (Section 31 Offence to discharge into works - Trade Waste Permit)	No	N/A	N/A	N/A	N/A
Biodiversity					
<i>Fisheries Management Act 1994</i> (Division 3, Section 201 - Dredging and reclamation works)	No	N/A	N/A	N/A	N/A
<i>Fisheries Management Act 1994</i> (Division 3, Section 219 Marine vegetation – Blocking fish passage)	No	N/A	N/A	N/A	N/A
<i>Fisheries Management Act 1994</i> (Section 220ZW Licence to harm threatened species, population or ecological community or damage habitat)	No	N/A	N/A	N/A	N/A

Legislation	Part 4 applicability	Requirement	Commencement date	Expiry date	Project responsibility
<i>Noxious Weeds Act 1993 – Repealed</i> Schedule 6 to the <i>Biosecurity Act 2015</i> No 24 with effect from 1 July 2017	Yes	As a public authority occupier of land, control noxious weeds on the land as required under the control category or categories specified in relation to the weeds concerned.		N/A	Project Environmental Manger – Noxious weeds to be controlled as specified under the control category.
<i>Noxious Weeds Act 1993 – Repealed</i> Schedule 6 to the <i>Biosecurity Act 2015</i> No 24 with effect from 1 July 2017	Yes	Notify relevant control authority within 3 days of becoming aware that a notifiable weed (W1 weed) is on land (or ought reasonably to have known)		N/A	Project Environmental Manger – Notification of control authority if notifiable weed is encountered
Contamination					
<i>Contaminated Land Management Act 1997</i> (Section 60)	Yes	Notify the EPA if: <ul style="list-style-type: none"> Contaminants exceed thresholds contained in guidelines or the regulations, where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water. Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. Contamination meets other criteria that may be prescribed by the regulations. 	If required	N/A	Project Environmental Manger – Notification of the EPA will be undertaken, if required.
<i>Protection of the Environment Operations Act 1997</i> (Section 148)		Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	If required	N/A	Project Environmental Manger – Notification of the EPA will be undertaken, if required.

Legislation	Part 4 applicability	Requirement	Commencement date	Expiry date	Project responsibility
Hazardous substances					
<i>Dangerous Goods (Road and Rail) Transport Act 2008</i> (Section 6 Licensing of vehicles transporting dangerous goods)	Yes	Subcontractors will work under this license – copies of permits to be obtained upon engagement of subcontractors and this register will be updated accordingly.	To be confirmed	To be confirmed	Project Environmental Manager – License requirements will be obtained and briefed to all relevant project personnel prior to and during construction as per the requirements stated in the Section 7 of this CEMP
<i>Dangerous Goods (Road and Rail) Transport Act 2008</i> (Section 7 Licensing of drivers transporting dangerous goods)	Yes	Subcontractors will work under this license – copies of permits to be obtained upon engagement of subcontractors and this register will be updated accordingly.	To be confirmed	To be confirmed	Project Environmental Manager – License requirements will be obtained and briefed to all relevant project personnel prior to and during construction as per the requirements stated in the Section 7 of this CEMP
<i>Occupational Health and Safety Regulation 2001</i> (Section 174ZS Notification to WorkCover)	Yes	Asbestos Removal Work Notification will be undertaken by appropriately qualified subcontractors where required during the construction phase - copies of relevant documentation to be obtained upon engagement of subcontractors and provided to WorkCover	To be confirmed	An asbestos removal licence or asbestos assessor licence lasts for five years unless cancelled earlier. (Clause 503 of the WHS Regulation)	Asbestos removal work notification will be undertaken by subcontractors where required during construction phase. Clearance certificates will be documented and kept as stated in Section 7 of this CEMP.
Traffic and transport					
<i>Roads Act 1993</i> (Section 138 Works and structures - permit to undertake works to roads)	Yes	Section 138 approvals may be required from time to time during construction for the occupancy of roads (other than Moorebank Avenue) in the vicinity of the Proposal. Road occupancy licences under Section 138 of the local Councils and Roads and Maritime are required for any works that disturb the surface of a public road, require works to be carried out in, on	To be confirmed	To be confirmed	Project Environmental Manager – Ensure all relevant licenses and approvals are sought prior to undertaking works within a public road.

Legislation	Part 4 applicability	Requirement	Commencement date	Expiry date	Project responsibility
		or over a public road, or interfere with a structure, work or tree on a public road. See further detail in CTAMP.			
Heritage					
<i>National Parks and Wildlife Act 1974</i> (Section 90 Aboriginal heritage impact permit)	No	N/A	N/A	N/A	N/A
<i>Heritage Act 1977</i> (Section 139 Excavation permit)	No	N/A	N/A	N/A	N/A
<i>Heritage Act 1977</i> (Section 146)	Yes	Notify OEH (Heritage Division) on discovery of a relic	If required	N/A	Project Environmental Manager – Notify OEH (Heritage Division) on discovery of a relic.
Bushfire					
<i>Rural Fires Act 1997</i> (Section 89 Issue of permits (includes "hot works" which would constitute lighting a fire))	Yes	Contractor will obtain "hot works" permits during construction phase, where required, under <i>Section 89 Issue of permits</i>	To be confirmed	To be confirmed	Project Environmental Manager - Permit requirements will be obtained and briefed to all relevant project personnel prior to and during construction as per the requirements stated in the Section 7 of this CEMP
Waste					
<i>The Protection of the Environment Operations (Waste) Regulation 2014</i>	Yes	Comply with record keeping requirements in relation to the transport of certain types of waste	August 2017	December 2018	Project Environmental Manager – Waste transport records will be recorded and kept as per the requirements stated in the Section 7 of this CEMP

Legislation	Part 4 applicability	Requirement	Commencement date	Expiry date	Project responsibility
<i>Section 143</i>	Yes	Requires waste to be transported to a place that can lawfully accept it.	August 2017	December 2018	A section 143 agreement and proof of waste classification must be provided prior to the acceptance of material on site.

APPENDIX O

Aspects and Impacts Register

Risk Ranking Matrix

All environmental issues have been assessed in accordance with the table below:

Risk Assessment Rankings: >17 = Extreme 10 - 16 = High 5 - 9 = Medium 1 - 4 = Low

Probability ►	CERTAIN	LIKELY	POSSIBLE	UNLIKELY	RARE
▼ Consequence	5	4	3	2	1
5 – Severe	25	20	15	10	5
4 – Major	20	16	12	8	4
3 – Moderate	15	12	9	6	3
2 – Minor	10	8	6	4	2
1 – Incidental	5	4	3	2	1

Consequence / Likelihood Definitions

Probability:			Consequence:		
5 = Certain 4 = Likely 3 = Possible 2 = Unlikely 1 = Rare			5 = Severe 4 = Major 3 = Moderate 2 = Minor 1 = Incidental		
<u>1 - 4 Acceptable</u>			<u>5 - 9 Acceptable with control measures</u>		
<u>17 and Above = UNACCEPTABLE</u>			<u>10 - 16 Requires the implementation of best practice</u>		
Likelihood (Probability and Frequency of Occurrence)			Consequence (Outcome or Severity of Occurrence)		
5	Certain	<ul style="list-style-type: none"> Common or repeating occurrence Consequence can reasonably be expected to occur in life of Project. 	5	Severe	<ul style="list-style-type: none"> Major pollution incident causing significant and widespread damage or potential to health or the environment Persistent reduction in ecosystem function and value. Ongoing disruption and loss of protected species. Major prosecution likely, outcome in excess of \$500,000

Likelihood (Probability and Frequency of Occurrence)			Consequence (Outcome or Severity of Occurrence)		
4	Likely	<ul style="list-style-type: none"> Known to have occurred / "has happened" Conditions may allow the consequence to occur on the Project during its lifetime The event has occurred within the Business Unit within the previous 5 years. 	4	Major	<ul style="list-style-type: none"> Significant widespread and persistent changes to habitat, species or environmental media Significant pollution incident causing damage or potential damage to health or the environment external to the site. Potential for prosecution. Potential outcome between \$50,000 - \$500,000 Numerous substantial complaints Actual material environmental harm
3	Possible	<ul style="list-style-type: none"> Could occur / "heard of it happening" Exceptional conditions may allow consequences to occur on the Project, or has occurred nationally within the Australian Business. 	3	Moderate	<ul style="list-style-type: none"> Localised irreversible habitat loss or effects on habitat, species or environmental media Reportable incident to the relevant environmental regulator or other authority. Demonstrated breach of legislative, licence or guideline requirements. Likely infringement notice or fine, potential for prosecution up to \$50,000. Will cause complaints.
2	Unlikely	<ul style="list-style-type: none"> Not likely to occur Reasonable to expect that the consequence will not occur on the Project. Has occurred in industry but not in Business Unit. 	2	Minor	<ul style="list-style-type: none"> Localised degradation of habitat or short term impacts to habitat, species or environmental media. Pollution incident that marginally exceeds licence conditions or guidelines for acceptable pollution. Fine unlikely. Potential for complaints.
1	Rare	<ul style="list-style-type: none"> Practically impossible Not known to have occurred in industry or unheard of. 	1	Incidental	<ul style="list-style-type: none"> Localised or short term effects on habitat, species or environmental media. Fully contained on site and can be fully remediated. Little potential for fine or complaints. Insignificant or trivial incident

* Environmental issues which have an initial risk ranking of Medium or High will require the development and implementation of Environmental Risk Action Plans.

Environmental Risk Assessment Rankings

This table may be used as a guide in determining the level of risk for each environmental issue.

For each identified issue, consider the 'maximum credible' (not absolute worst case) risk that could result with minimal or no controls other than existing and using normal construction practices.

Note: Any one of the listed consequences must result in the use of the applicable consequence grading.

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)	
		P	C	Risk		P x	C =	Risk		
		x	=							
Approvals and Licensing										
Not identifying appropriate approvals / licenses required or proceeding without them.	Works delayed, infringements, poor client relations, and reputational loss.	4	4	16	Check Environmental Assessment / Conditions of Consent / EIS and statutory documentation. (Final Compilation of Mitigation Measures (FCMM), Revised Statement of Commitments (RSoC), Commonwealth Mitigation Measures (CMM), Conditions of Consent (CoC) SSD 6766, EPL Conditions) Document requirements in CEMP and associated sub-plans. Establish and maintain a register of approvals, licenses, permits. Establish and maintain a Compliance Tracking Program to track compliance against aforementioned requirements.	3	3	9	Project Environmental Manager	
Noise										
Noise from general construction activities resulting in impact to residents.	Disturbance to residents or neighbouring businesses. Potential for complaints.	4	4	16	Develop and implement a Construction Noise and Vibration Management Plan (in accordance with CoC 19 to 24, E34b and FCMM 3A, PPR Section 4.4 – Annexure 3. Periodic notification will occur (monthly letterbox drop or equivalent) detailing all upcoming construction activities at least 14 days prior to commencement of relevant works. The project website, information and response lines, email distribution list and any applicable community based forums will also be utilised for this purpose. Consultation in response to complaints (if received) will be undertaken A site specific induction will be provided to all site personnel, contractors and sub-contractors with an emphasis on understanding and managing noise	3	2	6	Project Environmental Manager Construction Manager Stakeholder and Communications Manager Noise Assessment Consultant	

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=		<p>impacts from the work activities being undertaken. This will include the location of receptors, specific mitigation measures, site hours of operation, noise complaints procedure, etc. as well as the consequences of not complying with these mitigation measures</p> <p>Monitor noise for compliance as the works progress at receiver locations.</p> <p>In accordance with CoC – E22, the ICNG penalties identified for ‘particularly annoying’ activities (that require the addition of 5dB(A) to the predicted level before comparing to the construction NML) will be applied.</p> <p>Provide periods of respite for high noise generating activities.</p> <p>Noise efficient equipment to be used on site.</p>				
					<p>Quieter and less vibration emitting construction methods will be used where feasible and reasonable. The following will occur:</p> <ul style="list-style-type: none"> • Selection plant and equipment based on least noise emission levels where reasonable • Using noise source controls, such as the use of residential class mufflers, to reduce noise from all plant and equipment including excavators and trucks • Plant and equipment will be regularly maintained and repaired or replaced if it becomes noisy • The least noisy available construction equipment will be used • Silenced generators and compressors will be used where possible • The following will occur: • Where feasible, simultaneous operation of noisy plant would be avoided. • The offset distance between noisy plant and adjacent sensitive receptors will be maximised. • Plant used intermittently to be throttled down or shut down. • Noise-emitting plant to be directed away from sensitive Receptors. • “Clustering” of noisy plant or processes will be limited. 				

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=		<p>Non-tonal reversing beepers (or an equivalent mechanism) will be fitted and used on all construction vehicles and mobile plant regularly used on site (and for any out of hours work) where appropriate.</p> <hr/> <p>In accordance with CoC – E23 construction vehicles will be operated so as to minimise any construction noise impacts from the construction site. To achieve this the following will occur:</p> <ul style="list-style-type: none"> • Loading and unloading of materials/deliveries will occur as far as possible from receptors. • Site access points and roads will be selected as far as possible away from receptors. • Dedicated loading/unloading areas to be shielded if close to receptors. • Delivery vehicles will be fitted with straps rather than chains for unloading, wherever reasonable and feasible. • Delivery personnel and truck drivers to be made aware of approved haulage routes and access in and out of the construction site. • Prevention of vehicles and plant queuing and idling outside the site prior to the morning start time. • Pre-determined delivery times will be issued to suppliers and radio communication will be used to confirm status of the delivery. • Any unsatisfactory noise performance for specific vehicles and/or the operators will be dealt with on a case by case basis. <p>In accordance with CoC – E24 no use of compression brakes will be permitted for construction vehicles associated with construction in the vicinity of the subject site.</p>				
Noise during works required to be undertaken out of standard construction hours.	Disturbance to residents or neighbouring businesses with potential for complaints.	4	3	12	<p>Restrict high noise impact activities to the following;</p> <ul style="list-style-type: none"> • Between hours of 7am to 6pm Monday to Friday • Between hours of 8am to 1pm Saturdays • In continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block 	3	3	9	<p>Construction Manager</p> <p>Project Environmental Manager</p>

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=						
					Gain approvals required to work outside standard approved hours from regulatory authority, environmental representative and client Implement noise mitigation strategies for out of standard hours work. Monitor noise for compliance to project goals.				
Vibration									
Vibration intensive activities undertaken on the site such as impact piling, vibratory rolling, etc.	Disruption, annoyance and nuisance to residents. Potential damage to adjacent residential and commercial residences and structures. Disruption to businesses as a result of vibration nuisance	2	3	6	Develop and implement a Noise and Vibration Management Plan in accordance with CoC E34b, FCMM 3A, PPR Section 4.4 – Annexure 3. Determine vibration limits and structure/receiver offset distances. Consult with potentially affected parties prior to commencement of works on their upcoming activities that may be impacted by construction vibration. Ongoing vibration monitoring during vibration intensive works.	1	3	3	Project Environmental Manager Construction Manager Vibration Assessment Consultant
Vibration intensive activities undertaken near heritage structures	Damage to heritage structures	2	3	6	Ongoing vibration monitoring during vibration intensive works.	1	3	3	Project Environmental Manager Construction Manager Vibration Assessment Consultant
Water Quality, Erosion & Sedimentation									
Sediment laden runoff from construction works leaving site.	Degradation of local watercourses. Increased turbidity in local water ways resulting in impact on aquatic life. Fines for sediment escaping site.	4	4	16	Develop Soil and Water Quality Management Plan in accordance with CoC E34f, FCMM 5A, PPR Section 4.4 – Annexure 3. Develop and implement sediment and erosion control measures including sediment basins, water collection and dispersal systems, etc. Ensure measures are inspected and maintained as the works progress and also prior to and post rainfall events.	2	3	6	Supervisors Project Environmental Manager

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=		<p>Ensure open site areas are stabilised effectively where required</p> <p>Provide training and awareness on the need to prevent pollution.</p> <p>Relevant people to undertake Erosion and Sediment Control training.</p> <p><i>Reuse excavated material on site where possible</i></p>				
Stockpiling of vegetation and topsoil.	<p>Wind and water erosion causing weed/seed dispersion offsite.</p> <p>Location of stockpiling next to waterways causing weeds/seeds to disperse from construction site.</p>	4	4	16	<p>Develop Environmental Control Maps to show stockpile areas.</p> <p>Appropriate locations for stockpiling (away from waterways, watercourses, drains).</p> <p>Designated vegetation stockpiling areas.</p> <p>Minimise stockpiling / Use temporary stockpiling</p> <p>Cover stockpiles if left for extended periods.</p> <p><i>Segregate top 100mm of topsoil and stockpile for use in rehabilitation</i></p>	2	3	6	<p>Project Environmental Manager</p> <p>Supervisors</p> <p>Sub-contractors</p>
Non-compliant water from construction works discharged from site	Non-compliant water entering stormwater system waterways (i.e. polluting - not compliant with discharge criteria).	3	3	9	<p>Induction and toolbox talks</p> <p>Toolbox training on site procedures for water discharge</p> <p>Educate site staff on licence conditions and consequences of prosecution</p> <p>Test and treat water (where required) prior to discharge off-site</p> <p>Environmental Manager/representative to approve all water discharges from site</p>	2	3	6	<p>Supervisors</p> <p>Project Environmental Manager</p>
Waste									
Waste disposal during construction.	Incorrect disposal of waste, further costs incurred for classifications and disposal, fines may be issued.	3	2	6	<p>Develop a Waste Management Strategy in accordance with FCMM 13A.</p> <p>Identify opportunities to incorporate recovered materials into the permanent works.</p> <p>Provide facilities on site for source separation and recycling.</p> <p>Ensure accurate waste records are retained.</p> <p>Removal of wastes from the site would only be undertaken by a licensed contractor as required by the POEO Act and with appropriate approvals, if required, for contaminated materials, etc.</p>	2	2	4	<p>Project Environmental Manager</p> <p>Supervisors</p> <p>Waste Removal sub-contractors</p>

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=						
					<p>All material to be recovered off-site to be appropriately classified in accordance with the Resource Recovery Exemptions.</p> <p>All material that requires off-site disposal to be appropriately tested and classified against the EPA Waste Classification Guidelines (EPA, 20148).</p> <p><i>Use local waste facilities</i></p> <p><i>Avoidance and reuse of material will have priority over recycling</i></p> <p><i>Waste generation will be minimised by ordering the correct quantity of materials</i></p>				
Earthworks spoil disposal.	Incorrect classification of waste (spoil) resulting in incorrect / illegal disposal/re-use.	3	4	12	<p>Inductions, toolbox talks and training on recycling facilities and waste segregation practices.</p> <p>Separation of waste on site.</p> <p>Tracking of disposal processes.</p> <p>All contamination hotspots would be clearly marked in the field.</p>	2	2	4	<p>Project Environmental Manager</p> <p>Supervisors</p> <p>Waste removal sub-contractors</p>
Washout of concrete in undesignated areas.	Sediment laden/alkaline water polluting surrounding stormwater system / watercourses.	3	4	12	<p>Concrete washout areas of sufficient size suitable for construction activity undertaken are provided</p> <p>Concrete washout areas are clearly marked on Environmental Control Maps and delineated.</p> <p>Inductions on designated concrete washout areas.</p> <p>Subcontractors' agreements to include project compliant waste management principles.</p>	2	2	4	<p>Project Environmental Manager</p> <p>Supervisors</p>
Contamination									
Management of contaminated or untreated materials	<p>Non-compliant material and contaminated water entering surrounding waterways.</p> <p>Decrease in health of nearby ecosystems.</p>	3	4	12	<p>Develop contamination management procedures and protocols in accordance with CoC C5, FCMM 7A to 7D.</p> <p>Identify any contamination hotspots and incorporate procedures for these locations into construction documentation.</p> <p>Develop unexpected finds procedures.</p>	2	2	4	<p>Supervisors</p> <p>Project Environmental Manager</p>

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=						
					Spill response training sessions for relevant staff				
Potential for discovery of unexpected contaminated spoil during construction.	Health effects resulting from airborne contamination, e.g. asbestos. Complaints received from odours released during excavations. Classification of spoil is changed and disposal options altered, costs incurred associated with disposal of higher classification of waste.				If contaminated soil is encountered, all works are to stop in the vicinity of the find and investigations commence. Induct personnel on location, type, nature, concentration of contaminants on site if found.				Construction Manager Project Environmental Manager Hygienist Asbestos Removalist
Encountering asbestos / contaminated material on site.	Transfer of material into previously uncontaminated area (outside work site) causing new contamination.	3	4	12	Inspections of excavated and filled surfaces would be made during construction to determine the presence of visible asbestos. Contaminated soils would not be stockpiled on the structural fill layer or formation layers to avoid cross contamination.	2	3	6	Project Environmental Manager Supervisors Hygienist Asbestos Removalist
Hazardous Materials									
Storage of hazardous substances, leaking plant and equipment and spillage from refuelling.	Localised ground contamination / pollution of stormwater and requiring clean-up and/or receiving fines. Risk of igniting volatile substances. Unauthorised access to site / potential vandalism/damage leading to pollution.	4	3	12	Induction, toolbox talks and training on appropriate handling and storage of liquids. All storm water drains should be identified prior to works. Storage areas to be away from sensitive areas and appropriately bunded. SDS approved prior to bringing hazardous substances on site including risk assessment. Plans showing storage locations and associated controls e.g. spill kits, etc. (Environmental Control Maps).	2	2	4	Project Environmental Manager Construction Manager Supervisors

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=		<p>Training in use of spill kits</p> <p>Contingency plans would be developed to deal with any spills which might occur during construction.</p> <p>Clearly label containers.</p> <p>Regular auditing and inspection of storage areas and materials.</p> <p>Make storage areas restricted access areas.</p> <p>Reduce/eliminate need for hazardous substances.</p> <p>Ensure all work sites are secure before leaving the site.</p> <p>All liquids i.e. fuels, paint etc. are to be securely locked away at the end of each day.</p>				
Fuel contaminated runoff from construction works leaving site	Fuel contaminated runoff entering stormwater or waterways (i.e. polluting - not compliant with discharge criteria).	3	4	12	<p>All storm water drains should be identified prior to works and controls implemented.</p> <p>Refuelling of vehicles away from culverts, water courses.</p> <p>Appropriate bunding/storage of substances.</p> <p>Toolbox on site procedures for sediment controls and chemical storage.</p> <p>Educate site staff on project conditions and consequences of prosecution.</p>	2	2	4	Supervisors
Biodiversity									
Vegetation trimming / clearing required outside approved work area.	Unauthorised works / removal of vegetation outside defined work area, possibility of removing threatened species, fines incurred.	3	2	6	<p>Induction and tool box training on clearance zones and required protection measures</p> <p>Inspections during clearing activities/ designated enviro /</p> <p>Fencing in place/ clear marking of trees to be retained and cleared / demarcation areas / plans showing clearing areas.</p> <p>Pre clearing checklist to be completed before any clearing of vegetation.</p>	2	1	2	Supervisors Project Environmental Manager
Clearing and grubbing of vegetation within work site.	Erosion of soils, uncontrolled runoff, sediment deposited into surrounding	3	4	12	<p>Inductions and toolbox training on erosion and sediment controls.</p> <p>Where possible works to be staged so environmental controls can be implemented after clearance works.</p>	2	3	6	Supervisors Construction Manager

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
	vegetated areas and water courses, and invasion of weeds. Wrong vegetation removed. Potential for injury to native fauna.				Approved Erosion and Sediment Control Plans in place prior to starting works. Where applicable, mature trees and other native vegetation to be retained would be clearly delineated, with all construction activities excluded from these areas. Pre clearing checklist to be completed before any clearing of vegetation. <i>Removing existing weed species to prevent of migration of species</i>				Project Environmental Manager Tree clearing sub-contractor
Pest / rodent disturbance from site establishment	Potential to relocate into residential areas / cause of community complaint. Health associated risks with increased rodents.	3	3	9	Ensure site establishment has pest controls such as wire mesh around building bases to ensure pests do not use them for shelter. If issue is problematic during construction activities, pest control services to be implemented as soon as possible	2	2	4	Supervisors
Air Quality									
General construction works; site establishment, earthworks, piling, drilling, etc.	High dust activity in close proximity to residential and commercial premises, dust deposition at sensitive receivers, repairs and clean up needed, complaints received.	4	4	16	Develop Air Quality Management Plan. Inductions and toolbox training on Dust and Air Quality Management. Include provision for air quality monitoring during the works. Provide dust mitigation a measure through water sprays/misting. Use of water carts during dry weather on haulage roads and excavations/batters. Install dust controls immediately and continually through the project. Erosion and Sediment Control Plans approved before works commence. Controls are then reviewed for maintenance. <i>Use of recycled water for dust suppression</i>	3	3	9	Project Environmental Management Plan Construction Manager Supervisors
Exhaust from plant and equipment.	Emissions resulting in air pollution.	3	2	6	Inductions and toolbox training on Dust and Air Quality Management. Well maintained plant/ equipment and pre-start checks and servicing. Non-complaint vehicles removed from site / repaired.	2	2	4	Supervisors

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=						
Heritage									
Unexpected heritage items encountered.	Work delays, additional studies, approvals required, damage to heritage item.	3	4	12	General inductions toolbox training on heritage management protocols. Label any known heritage items on Environmental Control Maps. Fence off/barricade any known heritage items/trees If suspected heritage item encountered. Works to stop immediately and Environment Manager contacted.	2	4	8	Construction Manager Project Environmental Manager Heritage Consultant
Acid Sulphate Soils									
Disturbance of Potential Acid Sulphate soils and Actual Acid Sulphate Soils during excavations.	Mobilisation of metals within runoff to levels toxic to natural systems. Release of acidic runoff.	2	4	8	Develop and implement Acid Sulphate Soils Management Plan. Awareness training in the identification and management of ASS. Provide containment and treatment facility on site. Ensure ASS material is left underwater, disposed of site or appropriately treated in a bunded area with sump.	2	2	4	Construction Manager Project Environmental Manager
Traffic									
Loss of on-street car parking in adjacent residential streets and commercial areas during construction.	Loss of parking availability to adjacent residential and commercial properties could result in community complaints.	2	2	4	Community notifications. Develop Traffic Management Plan / Traffic control procedures.	2	2	4	Stakeholder and Communications Manager Project Environmental Manager
General construction traffic disturbing public access between local roads.	Disturbance to local residents resulting in complaints being made, limited	3	3	9	Approved Traffic Management Plans in consultation with relevant authorities. Detour routes to be advertised/ notified. Approved access routes, detailed Traffic Control Plans.	2	2	4	Construction Manager

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
	access, potential for delays at local road access points resulting in complaints.				Clear notifications / signage.				
Management of heavy vehicles / haulage routes.	Complaints from sensitive receivers due to increased level and frequency of noise.	3	3	6	Designated haulage routes. Approved Traffic Management Plans. Community Notifications. Pedestrian management with traffic controller in place where required.	2	2	4	Construction Manager Stakeholder and Communications Manager
Truck deliveries out of normal working hours (un-approved).	Non-conformance with project requirements. Noise impact to community / potential complaints.	3	3	9	Personnel training of noise awareness to community included in induction and toolboxes. Induction on Construction Hours for deliveries. Communication of delivery times to suppliers. Community Notifications on project activities occurring locally. Code of conduct / selection criteria in place for subcontractors. Out of hours works approval where required (Environmental Protection Licence/ Planning Approval/ Council) Approved traffic/haulage routes. Planning and staging of works in approved hours as much as practical.	2	3	6	
Resources and Energy Use									
Energy consumption by construction plant & operation of site compound facilities.	Inappropriate energy use, waste of energy resources, energy wastage costs, increased greenhouse gas emissions.	3	3	9	Inductions and toolbox training on waste management and energy saving practices in construction plant and equipment and during office work. No idling of plant equipment where possible onsite. Equipment / plant equipment inspections must be undertaken prior to use on site. <i>Consideration will be given to material substitution where reasonable and feasible to reduce embodied energy of construction materials</i>	3	2	6	

Aspect	Consequence	Initial Risk Rating			Control Measures (Opportunities are shown in green)	Residual Risk Rating			Responsible Person(s)
		P	C	Risk		P x	C =	Risk	
		x	=		<i>Procurement of materials and consumables considering environmental impacts in their manufacture and disposal (e.g. silica fume for use within concrete, recycled paper, etc.)</i> <i>Where possible locally sourced materials will be used to reduce GHG emissions associated with transport during construction</i> <i>Reduce carbon emissions and costs through under clearing</i> <i>Engage local workforce / suppliers</i>				
Water usage during construction activities.	Excess usage of potable water for construction activities leading to a decline in the amount of potable water for residents.	3	2	6	Include water conservation measures and verifiable targets. Capture and reuse rainfall and runoff for site activities.	2	2	4	
Resource usage (e.g. building materials, water, fuels, packaging), waste generation and disposal.	Depletion of resources due to wastage (e.g. wastage of water / no recycling, poor management of procurement, ineffective removal of off-cuts, waste, i.e. no recycling).	2	4	8	Inductions and toolbox talks on recycling facilities and waste segregation, training/education on how to recycle. Procurement of materials (selection of materials) to be considered. Subcontractor's agreements to include project compliant waste management principles. Waste management undertaken in accordance with the Waste Avoidance and Resource Recovery Act 2001.	2	2	4	
Visual									
Generation of light and light spill	Light spill impacts to surrounding sensitive receivers and flora and fauna	3	3	9	Where required for construction works, cut-off and directed lighting would be used and lighting location considered to ensure glare and light spill are minimised	2	2	4	Contractor's PM

APPENDIX P

CEMP Flow Chart

APPENDIX Q

Environmental Control Plans

The Environmental Control Plans will be developed progressively. Indicative locations of construction areas, traffic control, and environmental controls are shown in the map below. All locations shown in the map below are indicative only and will be updated upon confirmation from SIMTA's Principal Representative.

APPENDIX R

Emergency Preparedness and Response Plan

APPENDIX S

Class 1 Incident Management Flow Chart

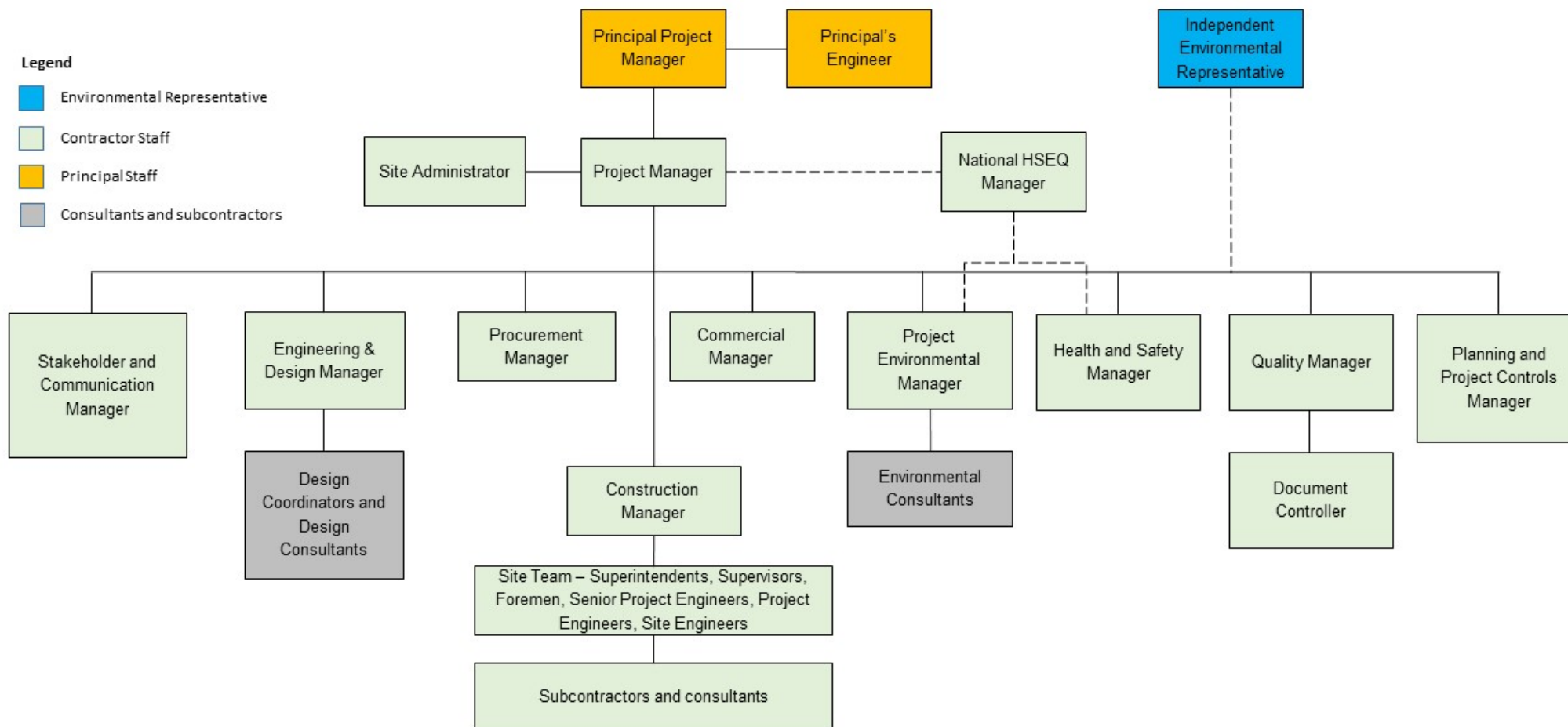
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Environmental Incident Investigation Guidelines

APPENDIX U

Organisational Chart

Indicative Project Organisation Chart



APPENDIX V

Contractor's Project Corrective Actions Register

APPENDIX W

Community Consultation Strategy

COMMUNITY COMMUNICATION STRATEGY

Moorebank Precinct East Stage 1, Package 2

11 JANUARY 2019

SYDNEY INTORMODAL TERMINAL ALLIANCE

Moorebank Precinct East Stage 1, Package 2

Current Revision
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Date 11/01/2019

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REVISIONS

Revision	Date	Description	Prepared by	Approved by
1	17/01/2017	DRAFT CCS	[REDACTED]	[REDACTED]

Revision	Date	Description	Prepared by	Approved by
2	22/02/2017	Addressed comments from SIMTA	█	█
3	30/3/17	Addressed comments from DP&E	█	█
4	26/10/2017	Revised construction boundary associated with IMEX RfMA 003	█	█
5	29/08/2018	Revisions associated with the internal environmental and sustainability audit, RfMA 005, 007 & 008	█	█
6	11/01/2019	Minor updates associated with 'non-conformance,' 'non-compliance' and 'corrective and preventative actions'	█	█

ACRONYMS AND DEFINITIONS

Term	Explanation
ARTC	Australian Rail Track Corporation
CBD	Central Business District
CCS	Community Communication Strategy
CEC	Community Engagement Consultant (Elton Consulting)
CES	Community and Engagement Strategy
CEMP	Construction Environmental Management Plan
CoC	Conditions of Consent
DNSDC	Defence National Storage and Distribution Centre
DoEE	Department of Environment and Energy
DP&E	Department of Planning and Environment
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPBC ACT	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
ER	Environmental Representative
ha	Hectare
IMEX	<p>Import Export Terminal. Includes the following key components:</p> <ul style="list-style-type: none"> Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue Rail loading and container storage areas – installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively Administration facility and associated car parking- light vehicle access from Moorebank Avenue.
IMT facility	<p>MPE Stage 1 Package 2 including the construction of the following key components together comprising the intermodal terminal (IMT):</p> <ul style="list-style-type: none"> Truck processing and loading areas. Rail loading and container storage areas. Administration facility and associated car parking

Term	Explanation
	<ul style="list-style-type: none"> Rail Link.
km	kilometres
MPE	Moorebank Precinct East as approved by the Concept Plan (MP_10_0913)
MPE Site	The site at Moorebank as approved by the Concept Plan (MP_10_0913)
MPE Stage 1, Package 1	The construction of the Rail Link connecting the Southern Sydney Freight Line to the IMEX, traversing across the Boot land, RailCorp Land, Moorebank Avenue, the MPW Golf Course, Georges River, and Glenfield Waste Facility
MPE Stage 1, Package 2	<p>Construction of the IMEX Terminal (Figure 1) including the following key components:</p> <ol style="list-style-type: none"> Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue Rail loading and container storage areas – installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively Administration facility and associated car parking- light vehicle access from Moorebank Avenue
Non-compliance	An occurrence, set of circumstances, or development that results in a non-compliance or is non-compliant with Development Consent SSD 6766 Conditions of Consent or EPBC Act Approval (EPBC 2011/6229) Conditions of Approval but is not an incident
Non-conformance	Non-conformances are observations or actions that are not in strict accordance with the CEMP and the aspect specific sub-plan.
PAC	Planning Assessment Commission
PD	Precinct Developer
SIMTA	Sydney Intermodal Terminal Alliance
SSD	State Significant Development
SSFL	Southern Sydney Freight Line
The Project	The Project is the MPE Stage 1 Package 2 Project i.e. the IMEX Terminal construction site as depicted in Figure 1.

COMPLIANCE MATRICES

Table 1 Ministers Conditions of Consent (CoC)

CoC	Requirement	Document Reference
D1	Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall prepare and implement a Community Communication Strategy to the satisfaction of the Secretary. The Strategy shall provide mechanisms to facilitate communication between the Applicant (and its contractor(s)), the Environmental Representative (see condition E4), the relevant Council and community stakeholders (particularly adjoining landowners) on the design and environmental management of construction. The Strategy shall include, but not be limited to:	This Plan
a	identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners, key community and business groups, and community and social service organisations;	Section 4
b	procedures and mechanisms for the regular distribution of accessible information to community stakeholders on construction progress and matters associated with environmental management, including provision of information in appropriate community languages	Section 6, Section 7, Appendix C, Appendix D
c	procedures and mechanisms through which the community stakeholders can discuss or provide feedback to the Applicant and/or Environmental Representative in relation to the environmental management and delivery of the SSD;	Table 9, Section 7.3.2, Appendix C, Appendix D
d	procedures and mechanisms through which the Applicant can respond to enquiries or feedback from the community stakeholders in relation to the environmental management and delivery of the SSD; and	Appendix C, Appendix D
e	procedures and mechanisms that would be implemented to resolve issues/disputes that may arise between parties on the matters relating to environmental management and the delivery of the SSD, including but not limited to disputes regarding rectification or compensation for impacts to third party property and infrastructure. These procedures and mechanisms may include the use of a suitably qualified and experienced independent mediator.	Section 7.3.2
D2	Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall ensure that the following are available for community enquiries and complaints for the duration of construction:	
a	a 24 hour telephone number(s) on which complaints and enquiries about the SSD may be registered;	Table 9 Project Contacts

CoC	Requirement	Document Reference
b	a postal address to which written complaints and enquires may be sent;	Table 9 Project Contacts
c	an email address to which electronic complaints and enquiries may be transmitted; and	Table 9 Project Contacts
d	a mediation system for complaints unable to be resolved.	Section 7.3.2
	The telephone number, the postal address and the email address shall be published in newspaper(s) circulating in the local area prior to the commencement of construction and prior to the commencement of operation. This information shall also be provided on the website (or dedicated pages) required by this approval.	Table 9 – Project Website
D3	<p>Prior to the commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall prepare and implement a Construction Complaints Management System consistent with AS ISO 10002-2006 Customer satisfaction – Guidelines for complaints handling in organisations (ISO 10002:2004, MOD) and maintain the System for the duration of construction and up to 12 months following completion of construction.</p> <p>Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by this approval. The information contained within the System shall be made available to the Secretary on request.</p>	Table 9 Advertisements
D4	Prior to commencement of construction, or as otherwise agreed by the Secretary, the Applicant shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSD, for the duration of construction. The Applicant shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to:	
a	information on the current implementation status of the SSD;	Table 9 Project Website
b	a copy of the documents listed in condition A1, and any documentation supporting modifications to this approval that may be granted from time to time;	Table 9 Project Website
c	a copy of this approval and any future modification to this approval;	Table 9 Project Website

CoC	Requirement	Document Reference
d	a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSD;	Table 9 Project Website
e	a copy of each current report, plan, or other document required under this approval;	Table 9 Project Website
f	the outcomes of compliance tracking in accordance with condition C4 of this approval; and	Table 9 Project Website
g	details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address.	Table 9 Project Website
E3	The Applicant shall ensure that the 24-hour contact telephone number is continually attended by a person with authority over the works for the duration of the development.	Section 7.3.1
E34 (b)(iv) (c)	Proposed notification arrangements.	Table 10

Table 2 Final Compilation of Mitigation Measures (FCMM)

FCMM	Requirement	Document Reference
17A	A community information and awareness strategy will be included in the CEMP and will outline measures to maintain communication with the community and all relevant stakeholders throughout the construction of the Proposal.	This Plan
17B	<p>The CEMP will prescribe measures to be implemented to minimise impacts on surrounding communities. These measures will include:</p> <ul style="list-style-type: none"> Work hours during construction will generally be limited to standard construction hours, unless otherwise authorised within the CEMP Ensuring land owners, within proximity of the Proposal site, are kept well informed about the Proposal, the construction hours and duration of the works. Land owners impacted by the construction works will be provided relevant contact details to address queries relating to the works. 	Table 10 Construction Noise and Vibration Management Plan Section 4.1

Table 3 Revised Statement of Conditions (RSoC)

RSoC	Requirement	Document Reference
Consultation	<p>The Proponent will continue to engage and consult with the community during the future detailed planning applications. Depending on the scale of the proposed, development, SIMTA may undertake the following activities either prior to lodgement or during the public exhibition of the application:</p> <ul style="list-style-type: none"> • Open a Community information Centre (as appropriate) to provide stakeholders with information and to receive feedback on the proposal • Update the existing project website and maintain access • Continued operation of the email feedback system and free-call information line 	NA to construction as this details future planning applications

There are no specific Concept Plan Conditions of Approval or Commonwealth Conditions of Approval related to the Community Communication Strategy.

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1 INTRODUCTION

The Sydney Intermodal Terminal Alliance (SIMTA) received approval for the construction and operation of Stage 1 of the Moorebank Precinct East (MPE) Project, comprising an Intermodal (IMT) Facility including a rail link (Package 1) and Import Export (IMEX) Terminal (Package 2) on 12 December 2016 (SSD 6766). The construction and operation of the MPE Stage 1 project was subject to an appeal in September 2017 (Appeal Number 2017/00081889). The approval was upheld and the revised Conditions of Consent (CoC) were released on 13 March 2018.

This Community Communication Strategy (CCS) has been developed to provide the mechanism by which to facilitate communication with Liverpool City Council and community stakeholders during the construction of Package 2 of the MPE Stage 1 Project (the Project).

This strategy establishes the contractor's approach to the management of community engagement and compliments the overarching SIMTA Moorebank Intermodal Communication and Engagement Strategy (SIMTA CES). The SIMTA CES details the process of how SIMTA will coordinate the communications and community relations work of various subcontractors completing different components of planning, design and delivery work.

1.1 Background and Scope

The MPE Project site is located approximately 27 kilometres (km) south-west of the Sydney Central Business District (CBD) and approximately 26 km west of Port Botany and includes the former Defence National Storage and Distribution Centre (DNSDC) site, (see Figure 1).

The MPE Project involves the development of an IMT, including warehouse and distribution facilities, rail link, freight village (ancillary site and operational services), stormwater, landscaping, servicing and associated works on the eastern side of Moorebank Avenue, Moorebank. It is to be developed in three key stages:

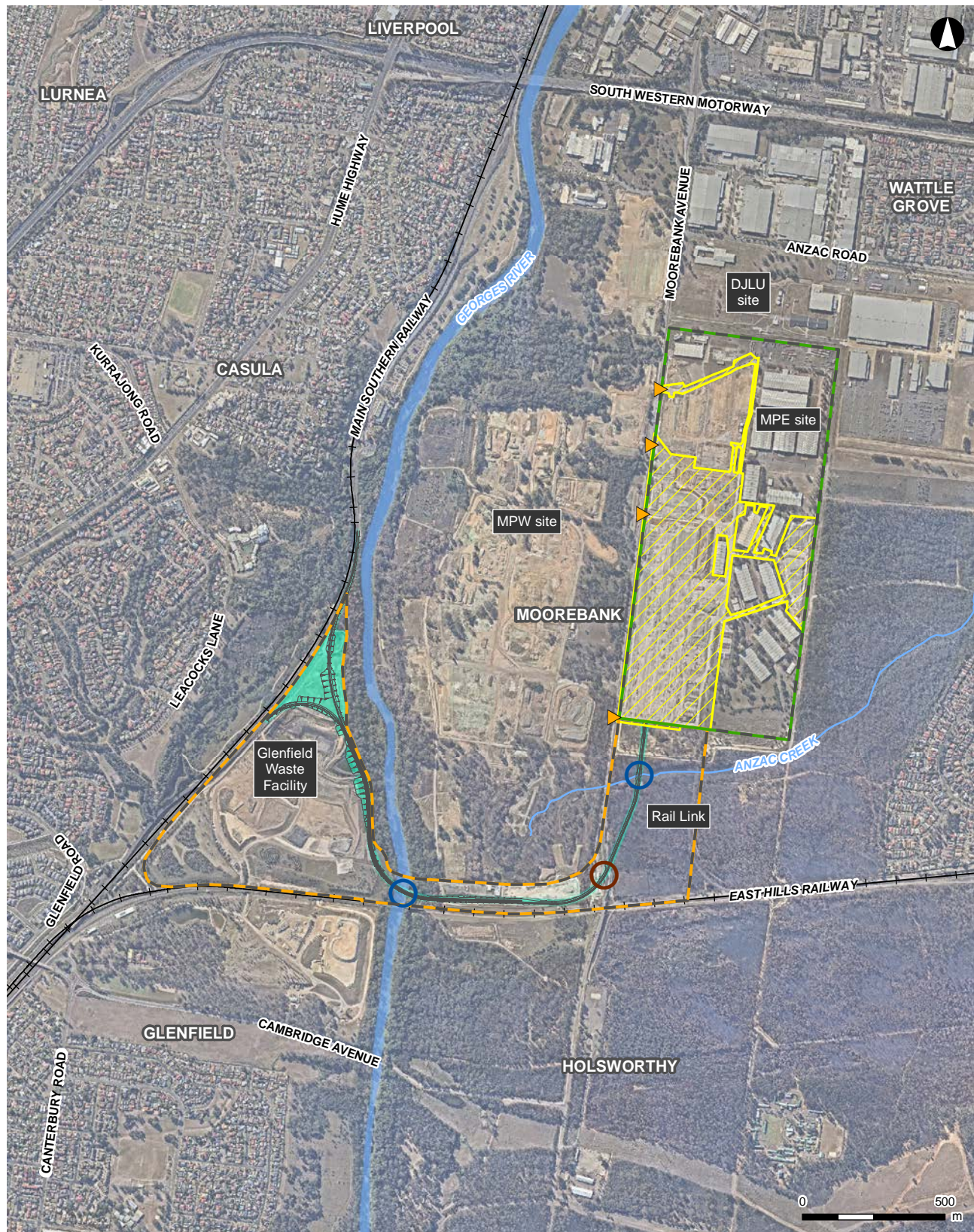
- Stage 1 - Construction of the Intermodal Terminal Facility (IMT) and rail link
- Stage 2 - Construction of warehouse and distribution facilities
- Stage 3 - Extension of the IMEX and completion of warehouse and distribution facilities.

Stage 1 of the MPE Project comprises, and would be constructed across, two packages:

- Package 1 - The Rail Link (not included within this CCS) includes a connection to the IMEX facility, and traverses across Moorebank Avenue, Anzac Creek and Georges River prior to connecting to the Southern Sydney Freight Line (SSFL)
- Package 2 - The IMEX Facility (subject of this CCS) includes the following key components:
 - Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue
 - Rail loading and container storage areas – installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively
 - Administration facility and associated car parking- light vehicle access from Moorebank Avenue
 - Clearing of approximately 1.25 hectares (ha) of native vegetation.

The layout of the IMEX facility generally comprises operational areas, an administration area, rail sidings, utilities and drainage infrastructure, landscaping and signage. The operational areas of the IMEX facility consist of the primary and secondary container loading / unloading areas and container storage areas, and the truck holding area. Within these areas containers would be stacked up to five high.

MPE Stage 1 CCS



LEGEND

- | | | | |
|--|-----------------------------------|--|----------------------|
| | Project site | | Rail link |
| | Rail Corridor | | Creek/river crossing |
| | MPE site | | Road crossing |
| | MPE Stage 1 Package 1 (Rail Link) | | Existing railway |
| | Construction footprint | | Watercourse |
| | Construction access | | |

ARCADIS AUSTRALIA PACIFIC PTY LTD
 ABN 76 104 485 289
 Level 16, 580 George St | Sydney NSW 2000
 P: +61 (0) 2 8907 9000 | F: +61 (0) 2 8907 9001
 Coordinate System: GDA 1994 MGA Zone 56
 Aerial imagery supplied by nearmap (May, 2018)

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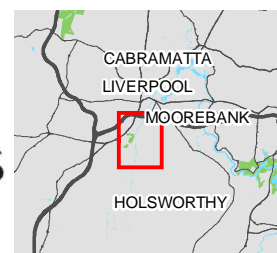


Figure 1: MPE Site Overview

1.1.1 Environmental Planning Approval

The MPE Stage 1 Project has been assessed by the Department of Planning and Environment (DP&E) under Division 4.7 (Division 4.1 prior to March 2018) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as State Significant Development (SSD). The Planning Assessment Commission (PAC) granted Approval for the MPE Stage 1 Project on 12 December 2016 and is subject to the Minister's Conditions of Consent (CoC, 18 December 2016 (SSD-6766)). The MPE Stage 1 Project, its impacts, consultation and mitigation were documented in the following suite of documents:

- State Significant Development Application SSD 6766 (as amended in the Land and Environment Court 13 March 2018)
- SIMTA Intermodal Terminal Facility – Stage 1 – Environmental Impact Statement (Hyder Consulting Pty Ltd, May 2014)
- SIMTA Intermodal Terminal Facility – Stage 1 – Response to Submissions (Hyder Consulting Pty Ltd, September 2015)
- Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) Approval (No. 2011/6229) granted on March 2014.

1.2 Purpose

The purpose of this CCS is to:

- Detail how the contractor will manage communications with stakeholders in accordance with the Project approval documents (as outlined in Section 1.1.1)
- Ensure that through the use of best practice, community impacts are minimised
- Support achievement of the Project objectives
- Provide and support certainty and confidence in project community engagement.

1.3 Project Timeline

An overview of the Project timeline is provided in Table 4. The Project timeline will be refined and developed as the construction methodology is finalised.

Table 4 Project Timeline

Key Milestone	Estimated Timing
SSD Approval	13/12/16
Demolition Commencement	May 2017
Construction Commencement	July 2017
Construction Completion	Q3 2018

1.4 Interactions with Other Management Plans

This CCS supports the overarching SIMTA Communications and Engagement Strategy (CES) and supports the following management plans:

- Construction Environmental Management Plan (CEMP) and associated sub-plans including:

- Construction Noise and Vibration Management Plan (CNVMP)
- Out of Hours Protocol
- Construction Air Quality Management Plan (CAQMP)
- Construction Traffic and Access Management Plan (CTAMP)
- Incident Management Plan
- Project Management Plan
- Construction Management Plan
- Risk Management Plan

2 LEGAL AND OTHER OBLIGATIONS

Table 1 outlines project compliance requirements relevant to the state and commonwealth planning approvals.

Applicable guidelines for the management of this CCS include:

- ISO10002-2006 – Customer Satisfaction – Guidelines for Complaints Handling in Organisations
- International Association of Public Participation Core Values and Principals

3 ROLES AND RESPONSIBILITIES

3.1 Community Awareness Training

Table 5 Roles and Responsibilities

Role	Responsibility
Community Engagement Consultant (CEC) (Elton Consulting)	<p>Elton Consulting is the Community Engagement Consultant (CEC) for SIMTA and will act as the 'control tower' for all public communications. Their responsibilities are as follows:</p> <ul style="list-style-type: none"> • Preparing and coordinating content for the Project website, newsletters, factsheets etc. • Working with subcontractors in the organisation and delivery of community information sessions • Reviewing subcontractor community relations materials, including notifications, letters, advertising, signs and factsheets • Monitoring, responding to and triaging project calls and emails • Preparing overarching project key messages • Managing the calendar of all project communication and engagements activities • Coordinating regular subcontractor communications meetings, to be held initially on a weekly basis • Liaising with SIMTA on all of the above.
SIMTA Precinct Developer (PD)	Responsible for management of all media enquires
Contractor Community Liaison Manager	<p>The contractors Community Liaison Manager will liaise with the CEC Project Manager, Construction Manager, Site Supervisors, Environmental Manager and other relevant project staff as required to ensure the following Project-specific community stakeholder management and engagement responsibilities are delivered in a professional and timely manner. The Community Liaison Manager will:</p> <ul style="list-style-type: none"> • Ensure a coordinated approach with the Principal and SIMTA CEC and inform the Principal of all material issues raised by stakeholders and the community • Develop strategies, policies, principles and standards for stakeholder consultation and community engagement and act in accordance with them • Ensure that relevant stakeholders (including the Principal) and the community are provided with adequate notification of the Works and milestones that may impact them • Provide appropriate and timely project information to SIMTA CEC for the Project website, newsletters, factsheets etc. following the General Content Approval Process (Appendix E) • Work with SIMTA CEC in the organisation and delivery of community information sessions • Respond to community and stakeholder project calls and emails in compliance with the SIMTA CEC approvals flowcharts and

Role	Responsibility
	<p>timeframes following Project Complaints Handling and Enquiry Handling Processes as outlined in Appendices C and D.</p> <ul style="list-style-type: none"> • Contribute to SIMTA CEC's preparation of the overarching project key messages • Collaborate with SIMTA CEC for the management of all project communication and engagements activities • Participate in Project communication meetings, to initially be held initially on a weekly basis, and providing: <ul style="list-style-type: none"> – a summary of the current and upcoming delivery activities for the Works; – an update on any current and emerging issues in relation to stakeholder and community liaison; and – a register of any complaints received directly, including any updates and actions taken to resolve them • Designing and delivering Community Awareness Training for our project team and all subcontractors. • Contact the Principal immediately in relation to planned or unplanned community protests that may arise during the performance of the Works • Liaising with SIMTA CEC on all of the above.
Contractor Environmental Manager	<ul style="list-style-type: none"> • Ensure Conditions of Approval and other project requirements are met attend stakeholder meetings as required
Construction Manager	<ul style="list-style-type: none"> • Ensure effective and efficient lines of communication are established and maintained between the wider Project team and the Communication Manager • Provide updates and information to ensure notifications and other requirements are met • Support in the response to complaints and enquires and ensure actions/resolutions are implemented • Provide information for reporting as required • Attend stakeholder meetings as required
All staff	<ul style="list-style-type: none"> • Report any community interaction to the Community Liaison Manager • Ensure they and staff reporting to them are familiar with the requirements of this Plan and receive appropriate induction • Ensure that consultants and sub-contractors have been inducted and comply with this Plan • Identify potential construction impacts on the community • Ensure relevant impact mitigation, consultation, complaint and communication requirements of the plans they manage are satisfied • Respond to community feedback and take action to quickly resolve complaints

Role	Responsibility
Site Supervisor	<ul style="list-style-type: none"> • Support in the response to complaints and enquires where required • Interact with members of public in a positive and respectful manner if required • Consider impacts on stakeholders and the community during planning and implementation of work • Report any community interaction to the Community Liaison Manager

4 STAKEHOLDER IDENTIFICATION

Various stakeholder groups will be consulted with at different times throughout construction. Table 6 outlines the stakeholders to be proactively communicated with.

Table 6 Stakeholder Identification

Stakeholder Group	Specific Stakeholder	Level of Engagement
Client Delivery Team	<ul style="list-style-type: none"> SIMTA QUBE Arcadis Tactical Group Contractors Sub-contractors Consultants 	Collaborate
Government Agencies	<ul style="list-style-type: none"> Department of Planning and Environment Department of Environment and Energy Liverpool City Council Infrastructure NSW Office of Environment and Heritage Environment Protection Authority Department of Industry State Emergency Services Heritage Council of NSW Department of Defence Roads and Maritime Services Transport for NSW ARTC Utilities companies NSW Trains Sydney trains NSW TrainLink 	Consult/ Involve
Federal Government Ministers	<ul style="list-style-type: none"> Minister for Infrastructure and Regional Development (Federal) Minister for Finance (Federal) 	Inform
Federal Members	<ul style="list-style-type: none"> Federal Member for Hughes (Craig Kelly) Federal Member for Werriwa (Laurie Ferguson) 	Inform
State Government Ministers	<ul style="list-style-type: none"> NSW Minister for Transport and Infrastructure (Andrew Constance) NSW Minister for Roads, Maritime and Freight (Jane Pavey) 	Inform

Stakeholder Group	Specific Stakeholder	Level of Engagement
State Members	<ul style="list-style-type: none"> State Member of Holsworthy Melanie Gibbons State Member for Liverpool Paul Lynch 	Inform
Interested Parties	<ul style="list-style-type: none"> Registered Aboriginal Parties: <ul style="list-style-type: none"> Tharawal Local Aboriginal Land Council Cubbitch Barta Native Title Claimants Aboriginal Corporation Darug Tribal Aboriginal Corporation Darug Aboriginal Cultural Heritage Assessments Tocomwall Darug Land Observations Darug Custodian Aboriginal Corporation Darug Aboriginal Landcare Inc Moorebank Heritage Group Pedestrian and bicycle user groups East Liverpool Progress Association Residents Against Intermodal Development No Intermodal Committee 	Consult/ Involve
Impacted Community and Business	<ul style="list-style-type: none"> Travelling public Residents of: <ul style="list-style-type: none"> Casula Wattle Grove Moorebank Glenfield All Saints College Casula Powerhouse Glenfield Farm Neighbouring businesses Glenfield Waste Facility Liverpool Chamber of Commerce Users of Leacocks Trail/ Weaving Garden Path 	Inform
Other	<ul style="list-style-type: none"> Local and national media such as the Liverpool Leader, Liverpool Champion Utility providers 	Inform

5 ISSUES, RISK IDENTIFICATION AND MITIGATION

It is recognised that due to the political and local community controversy associated with the overall Precinct development, there will be heightened sensitivity to the issues facing the local community during the construction of the terminal including but not limited to those outlined in Table 7.

Table 7 Issue and Risk Identification

Aspect	Issue/Risk	Mitigation
Construction noise and vibration	<p>Noise due to operation of machinery and equipment impacting residents, businesses and visitors to community venues</p> <p>Complaints from nearby residents and businesses</p> <p>Negative media</p> <p>Reputational damage</p> <p>Out of hours works</p>	<p>Abatement measures such as acoustic hoarding</p> <p>Implementation of mitigation measures as outlined in the Construction Noise and Vibration Management Plan</p> <p>Toolbox talks and pre-start meetings to train site staff in mitigation measures</p> <p>Construction noise monitoring</p> <p>1800 number</p> <p>Community notifications as appropriate</p>
Human health	<p>Contaminated materials such as asbestos in buildings</p>	<p>Asbestos and dust monitoring will be undertaken as required</p> <p>Implementation of Contractor Health and Safety Management Plan to ensure the safety of all staff and visitors and members of public in the vicinity of the Project</p> <p>Training of staff through site induction, toolbox talks and pre-start meetings</p> <p>Community notifications as appropriate</p>
Traffic	<p>Heavy vehicles and oversized deliveries causing delays/ access impacts to local businesses, residents and community venues</p> <p>Noise associated with increased traffic</p> <p>Increased traffic on local roads and the associated safety risks</p> <p>Queuing of delivery trucks</p> <p>Out of hours deliveries</p> <p>Road and lane closures impacting community</p> <p>Trucks using non-approved haul routes</p> <p>Damage to roads</p>	<p>Site induction to ensure understanding of access routes and contractor parking areas on site</p> <p>Truck access parameters as per the Project Traffic Access and Management Plan and monitoring by the Site Supervisors</p> <p>VMS signage on Moorebank Avenue advising motorists of construction traffic access routes during peak times of construction traffic</p> <p>Community notifications as appropriate</p>
Air Quality	<p>Reduction in air quality and increase in dust</p>	<p>Implementation of mitigation measures as outlined in the Construction Air Quality Management Plan</p>

Aspect	Issue/Risk	Mitigation
	Complaints from nearby residents and businesses Negative media Reputational damage	Air quality monitoring as outlined in the Construction Air Quality Management Plan
Environmental, Visual and Social Amenity	Community concern regarding visual impacts during works Failing to involve stakeholder or community in remediation or landscaping plans Visual impact on Casula Powerhouse and Georges River parkland area Out of hour work including noise and light spill Risk of impacts to Georges River through inadequate erosion and sediment control Changes in visual amenity to the local area Impact on potential indigenous or other heritage site	Delivery of the Project strictly in accordance with the Principal's Requirements and Conditions of Approval and tightly aligned to all approved Project Plans and strategies Community notifications as appropriate

6 COMMUNICATION AND ENGAGEMENT APPROACH

6.1 Objectives

The SIMTA CES provides a high level overarching framework for communication and engagement activities associated with the MPE and MPW precincts. The SIMTA contractors and their sub-contractors will communicate and engage with key stakeholders and the community.

The objectives of this CCS directly support and underpin the CES and include:

- Supporting the CEC control-tower process and deliver on our obligations to consult and collaborate closely with CEC about all communications including providing drafting of all planned communications ahead of proposed delivery
- Delivering the CEC approved consistent and coordinated messages to the community and to key stakeholders
- Providing accurate, timely and reliable information about the Project construction activities and impacts
- Identifying potential issues associated with delivery of the Project early and seek, in collaboration with CEC, input from impacted stakeholders to identify ways to minimise construction impacts
- Responding in a timely and professional manner to complaints raised by community stakeholders under the guidance of CEC

6.2 Key Messages

The key messages for the Project are based on the *General, Intermodal Location, Combined Precinct Benefits and Perceived Negative Impacts and General Traffic and Air Quality* messages as outlined in the CES, (Table 8).

The Project will be representative of the broader political and community objections ongoing since inception of the idea. As a consequence, the contractor will play an important role in overall positive messaging the benefits of the Project to assist in breaking down the community negativity to the project.

Community wins will need to be identified and strongly messaged. For example, the local community will be looking for the benefits of local job opportunities and the contractor will implement best practice measures to mitigate construction impacts on local traffic flow, environment, green space and the general amenity of the area.

Table 8 Key Messages and Contractor Deliverables

Key Messages	Deliverables
The contractor is delivering a significant piece of infrastructure which will contribute to benefits for the local community, Greater Sydney and future generations	Successful integration of the combined precinct benefits into community notifications, newsletters and other project communications to the local community
We are part of a 'one team' approach to constructing the new Sydney Intermodal Terminal	Collaboration with the CEC and Project and Site Induction Programs for subcontractors
We are considerate constructors and will endeavour to mitigate construction impacts on our neighbours and the local community	Timely and accurate information so there are 'no surprises' for our neighbours the local community particularly around high risk areas such as traffic flow along Moorebank Avenue

Key Messages	Deliverables
Our approach and work methods honour the importance of local heritage and amenity	Implementation of approved Construction Environment Management Plan (CEMP) and sub-plans and Community Communication Strategy
We will always proactively inform our neighbours, surrounding community and Moorebank Avenue motorists of potential construction impacts ahead of time in an appropriate manner	Implementation of the CES and CCS

6.3 Tools and Strategies

Section 5 of the CES outlines the overarching project engagement tools, purpose and responsibility.

Where relevant all communication tools will reference access to the information via a community language Information Line in the five most commonly spoken languages in the Liverpool region – Fijian, Arabic, Vietnamese, Hindi and Filipino.

The table below (Table 9) summarises the interaction between the contractor and SIMTA to contribute to and/or develop the communication tools for the Project.

Table 9 Communication Tools

Tool	Purpose	Responsibility
Project Contacts		
Project Email	simta@elton.com.au This email is the primary contact point for use on the project and managed by the CEC. Incoming emails relating to the Project will be redirected to the Community Liaison Manager for actioning, as necessary.	Community Liaison Manager and CEC
24 Hour Project information line	1800 986 465 The CEC will be responsible for managing the information line. All calls coming through to the line will be triaged to the appropriate package of work.	CEC to direct calls to Community Liaison Manager who will manage these appropriately
Postal address	PO Box 1488 Bondi Junction NSW 2022 The CEC will be responsible for managing incoming letters. Where required, letters will be triaged to the appropriate package of work.	Community Liaison Manager and CEC
Community Information		
Project Website	www.simta.com.au The Project website will be managed by the CEC. Content will be provided	Community Liaison Manager to provide information to CEC

Tool	Purpose	Responsibility
	<p>by the Contractor as required including electronic versions of notifications, advertisements, report and plans as well as other distributed information. This will include the contact details listed above.</p> <p>The website will be kept up to date with documents identified in condition D4 of the CoC</p>	
Bi-monthly community update	Project update newsletters will be distributed on a two-monthly basis. This will involve construction updates.	Community Liaison Manager to provide detail to CEC
Community Notification	<p>Specific notifications regarding works being undertaken for potentially affected neighbouring property owners and businesses before undertaking major activity or milestones. These may include:</p> <ul style="list-style-type: none"> • Commencement and completion of works • Noisy works • Audible (at receptor) Out of Hours works • Changes to traffic, parking or access <p>Community notifications include all Community Updates, Out-of-Hours notices, project information flyers and other communications material. The notifications will proactively notify the community and key stakeholders of current and forthcoming activities including those that have the potential to impact on the community. All notifications will include the project contact numbers, details of the Project website and an email address to refer any enquiries.</p>	Community Liaison Manager to develop notification in liaison with CEC, CEC to approve and distribute
Advertisements	<p>Used to inform the wider community about construction and upcoming engagement opportunities. In particular, advertisements may be used to inform about the community about changes to traffic conditions.</p> <p>The project contact details will be published in the newspaper(s) circulating in the local area prior to the commencement of construction and prior to the commencement of operation.</p>	Community Liaison Manager to develop content and book advertising space. CEC to approve and submit.
Face to face, phone calls, letters	This may include door knocking, face to face contact or phone calls with affected residents or businesses.	Community Liaison Manager with CEC in attendance if required

Tool	Purpose	Responsibility
	<p>Particularly if works impacts on individuals.</p> <p>A record of conversation will be logged on Consultation Manager</p>	
Signage	Signage will be placed a minimum of seven days prior to changes which may impact on pedestrian routes, cycle ways, traffic conditions and access to public transport.	Community Liaison Manager with CEC liaison
Community Information and Feedback Sessions	Drop-in sessions will be used to update the community on construction works and to seek feedback. The sessions will be scheduled as required and held in locations accessible to the local community.	Organised by CEC and attended by relevant Contractor personnel
Meetings		
Stakeholder meetings	<p>Where required, key stakeholders will be invited to meetings to resolve issues or be provided with additional information etc. as required. These meeting will be attended by Communication Liaison Manager and Construction Manager (or delegate). CEC will be notified and attend if required.</p> <p>Details of the meeting will be recorded in Consultation Manager.</p>	Communication Liaison Manager to organise meetings
Communication coordination meetings	Fortnightly meetings between the Contractor and SIMTA will be undertaken. This may include subcontractors as required.	Communication Liaison Manager to attend
Reporting		
Monthly	A monthly report summarising key stakeholder engagement activities will be provided to SIMTA.	Communication Liaison Manager
Compliance	Details of stakeholder engagement will be provided to SIMTA in order to undertake compliance reporting in accordance with the project Conditions of Approval.	Communication Liaison Manager
Consultation Manager	Consultation manger is a database which will be used by all contractors to record any stakeholder engagement	Communication Liaison Manager and CEC
Training		

Tool	Purpose	Responsibility
Site induction, pre-start meetings and toolbox talks	<p>All site staff will attend the site induction which will outline the project community requirements.</p> <p>Pre-start meetings and toolbox talks will be used to reiterate this message and detail specific concerns as required.</p>	Communication Liaison Manager and Environment Manager

7 COMMUNITY COMMUNICATION PROCESS

7.1 Notification Timeframes

The CES outlines communication and engagement timeframes to be adhered to by the Contractor. These are reiterated in Table 10 below.

Table 10 Engagement Timeframes

Communication	Timing
Complaints	<ul style="list-style-type: none"> • Acknowledge complainant within 4 hours (where contact details provided), even when an answer has not yet been found • Provide a written and/or verbal response to complainant within 24 hours • Record the complaint received in the database within 48 hours • Forward information on any complaints received and details of any actions undertaken or proposed or investigations occurring, to SIMTA in writing within one business day
Enquires	<ul style="list-style-type: none"> • Acknowledge the enquirer within 8 hours (where contact details provided), even when an answer has not yet been found • Provide a verbal response (where an immediate response cannot be given) within 24 hours from the time of the enquiry being received unless the enquirer agrees otherwise • Provide a written response to letters and emails within 48 hours • Record all enquiries received in the database within 48 hours • Report monthly on any enquiries received and responses given.
Community Notification	<p>Community notifications are required in the following circumstances where works may impact on the community:</p> <ul style="list-style-type: none"> • Construction commencement • Night works • Changes to traffic conditions • Modifications to pedestrian routes, cycleways and bus stops • Out of hours works • Disruption to residential or business access, and • Changing or disruption of utility services <p>Notifications will be issued across the agreed distribution area at least 7 days prior to works which may have an impact on the community or stakeholders. Notifications must be approved by SIMTA.</p> <p>The Contractor must provide written notification to relevant utility service authorities and the Principal at least 7 days before commencing any utility service works.</p>
Project Signage	<p>Installed at least seven days before any changes that impact on pedestrian routes, cycle ways, traffic conditions or access to public transport.</p>

7.2 Approvals Process

The contractor must provide a minimum of 15 business days' notice to SIMTA prior to the commencement of any activity where a community notification is required. The following information must be provided:

- Work to be undertaken

- Location of work
- Hours of work
- Duration of activity
- Likely impacts (including noise, vibration, traffic, access and dust).

All mass-public communication materials will be submitted to SIMTA for review and approval at least five business days before it is planned to be released. This includes newsletters, website updates, community notifications, letters, advertisements, signs and proactive project emails. A minimum of 20 Business Days' notice will be provided (to SIMTA) of significant development milestones to enable the Principal to develop its media response.

Draft materials will be reviewed and approved by the CEC before being submitted to SIMTA Precinct Developer for final approval. It is expected SIMTA will provide approval to non-urgent material within 2 business days. No materials will be released until it has been approved.

For urgent communications where it is not feasible to submit the material for approval five business days in advance, written advice will be provided to SIMTA explaining why the approval needs to be expedited and the requested deadline for approval. This situation could apply in the case of emergency works.

Any out of hours works must be undertaken in line with the Noise and Vibration Management Plan Out of Hours Protocol.

7.3 Complaints and Enquiries

Complaints and enquiries may be received directly from stakeholders to members of the Project team, or indirectly via the 24-Hour Project information line, email address or postal address.

7.3.1 24-hour Contact

The CEC will be the first responder to all calls on the 24-hour Project Information Line and will respond directly to all calls relating to the overarching project.

The contractor will nominate two 24-hour contacts such as the Community Liaison Manager and Construction Manager are the two 24 hour contacts available to answer and respond to calls relating to the Project.

Community members are also able to use the project email address for project questions, and access the project website for additional project information.

7.3.2 Dispute Resolution

Should a complaint not be able to be resolved between the complainant and the Project team including SIMTA, a third party independent mediator may be used to help resolve the dispute.

This mediator will be the Environmental Representative (ER) as they are *"independent of the design and construction personnel, and has been approved by the Secretary," (Condition E4 Conditions of Consent (CoC))*.

In accordance with CoC E4(g), the ER will *"be consulted in responding to the community concerning the environmental performance of construction where the resolution of points of conflict between the Applicant and the community is required."*

This will include disputes regarding rectification or compensation to third party property and infrastructure.

7.4 Media and Government Relations

The SIMTA Precinct Developer (PD) is responsible for managing all media inquiries. All Project personnel will be informed of the media obligations through the Project induction which will include the following detail:

- Community Liaison Manager to be advised immediately of any media inquiries, who will then advise SIMTA as soon as possible, and within 2 hours of any media approach
- All personnel will be required to issue the Project Information number if approached by anyone, including media
- Media will not be permitted to visit the Project without the written approval of the SIMTA PD.

Direct requests from the media to any personnel for information about the Project will be referred directly to the SIMTA PD and the CEC.

7.5 Incident Management

SIMTA will be notified of any incident that may have an impact on the community, environment, personnel or sub-contractors, which may attract, or can reasonably be expected to attract, the attention of the media, the Minister for Finance, Minister for Infrastructure and Regional Development, a local Member of Parliament, local council or the broader community within 15 minutes of being aware of the incident occurring and for any other incidents, within 1 hour of being aware of the incident occurring.

In the event of an incident, no information will be provided to any person, other than that which is required to directly manage the incident or to comply with law, without the approval of the Principal.

Senior and experienced personnel will be made available to support SIMTA in responding to stakeholders, the media or the public as required and assist in the development of communications materials that may need to be disseminated as a result of an incident.

7.6 Record Management

Consultation Manager will be used to record all Project Community and Stakeholder interactions. This database will be populated by the CEC for complaints and enquiries received through 24 Hour Project information line, email address or postal address with the Contractor responsible for providing information to the CEC in how the complaint or enquiry was addressed. The contractor will populate Consultation Manager with direct enquiries and complaints.

7.7 Reporting

A monthly report will be submitted to the CEC outlining the following:

- Number of communications issued
- Number of complaints and enquires including response times
- Summary of any stakeholder interactions

Furthermore, a quarterly report outlining Stakeholder Engagement will be submitted to SIMTA a minimum of 20 business days prior to the end of each reporting quarter.

7.8 Monitoring

Monitoring under this strategy will be undertaken by the Contractor's Environmental Manager during weekly inspections of construction activities to monitor compliance

with the requirements of the CoC and this strategy. To minimise the impact on the community and to rectify any issues to avoid potential complaints, weekly inspections will focus on the following key construction issues:

- Noise and vibration
- Traffic management
- Air quality.

An Environmental and Sustainability Inspection Report (Appendix V of CEMP) will be used to maintain compliance and effectiveness of controls. Items that require action will be documented during environmental inspection and notified to the site supervisor. The site supervisor will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Daily inspections and maintenance of controls will be made by the Site Supervisors and maintenance will be recorded in site diaries during active site works.

7.9 Non-compliances, Non-conformances and Actions

It is the responsibility of all site personnel to report non-compliances and non-conformances to the Site Supervisor and/or the Contractor's EM.

Non-compliances, non-conformances and corrective and preventative actions will be managed in accordance with Section 9.2.1 of the CEMP.

7.10 Review and Improvement

Review and improvements of this strategy will be undertaken in accordance with Section 1.6 of the CEMP. Continuous improvement will be achieved by the ongoing evaluation of environmental management performance and effectiveness of this strategy against environmental policies, objectives and targets.

A copy of the updated strategy and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure.

APPENDIX A

Community Action Plan

This template will be utilised and developed as a communications planning tool as required during the Project delivery.

Scope of Work	Timing and Duration	Work Activities	Communication Strategy

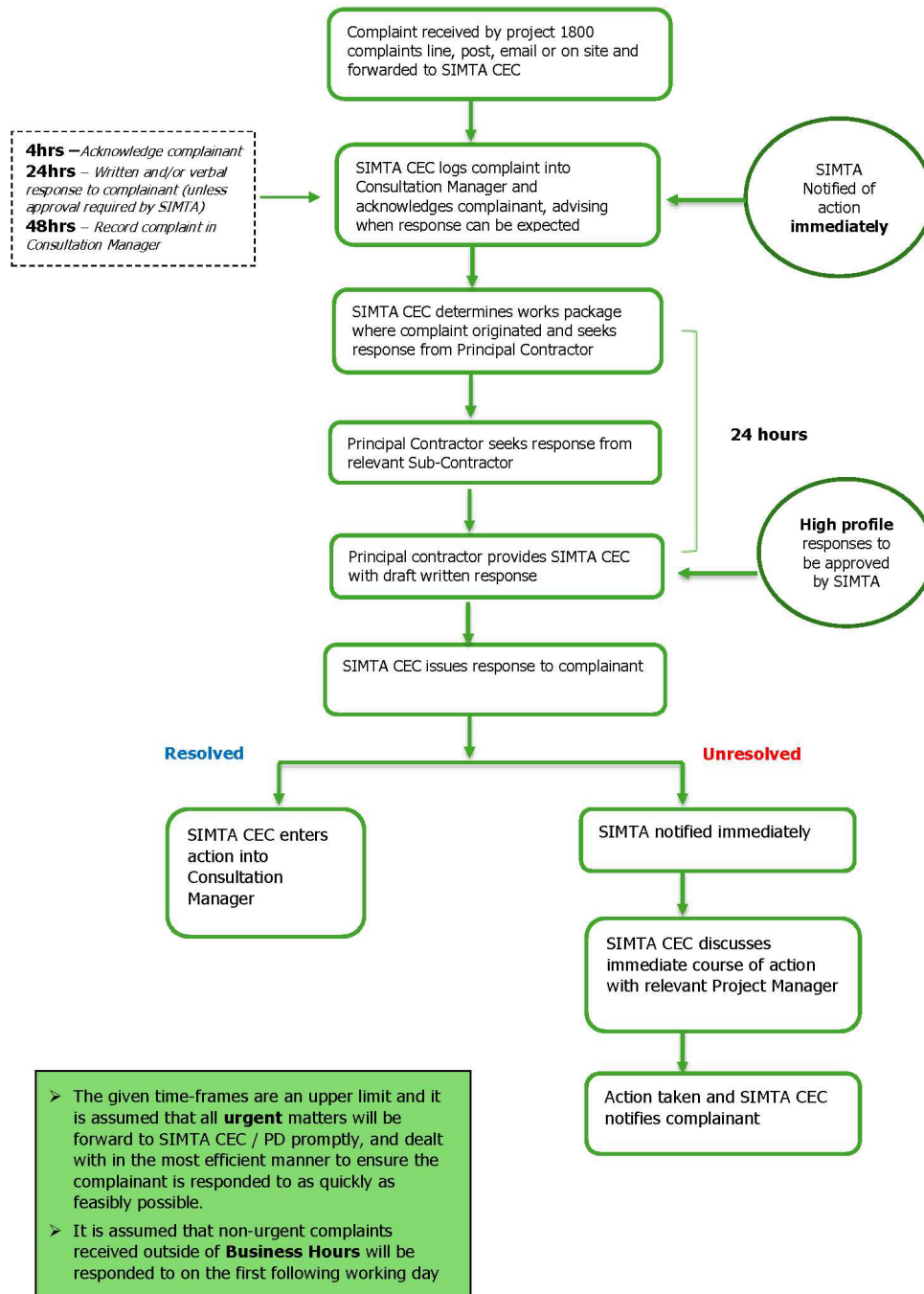
APPENDIX B

Notification Distribution Area

APPENDIX C

Complaints Handling

The below is an extract from the CES.

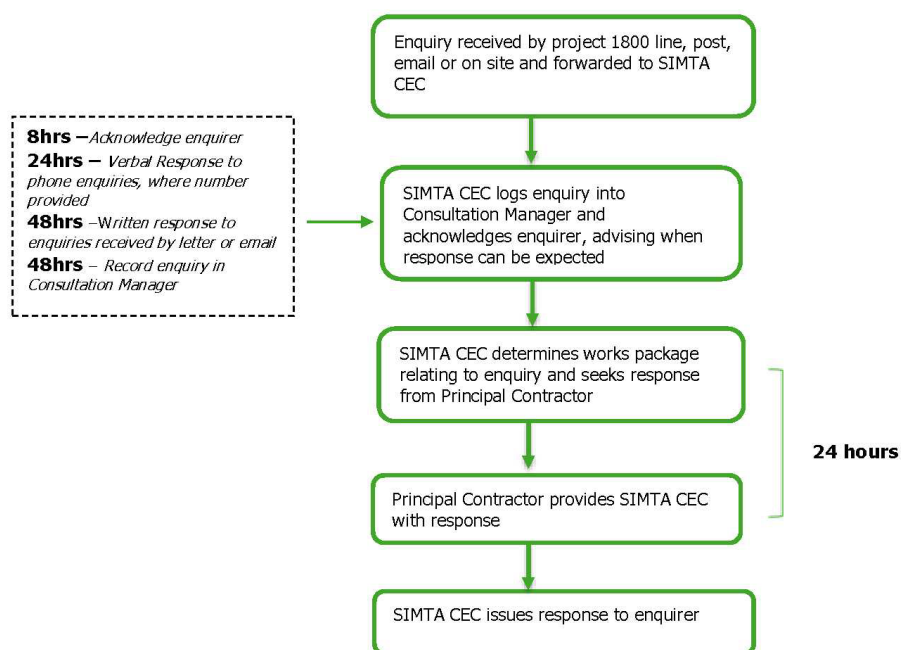


APPENDIX D

Enquiries Handling

The below is an extract from the CES.

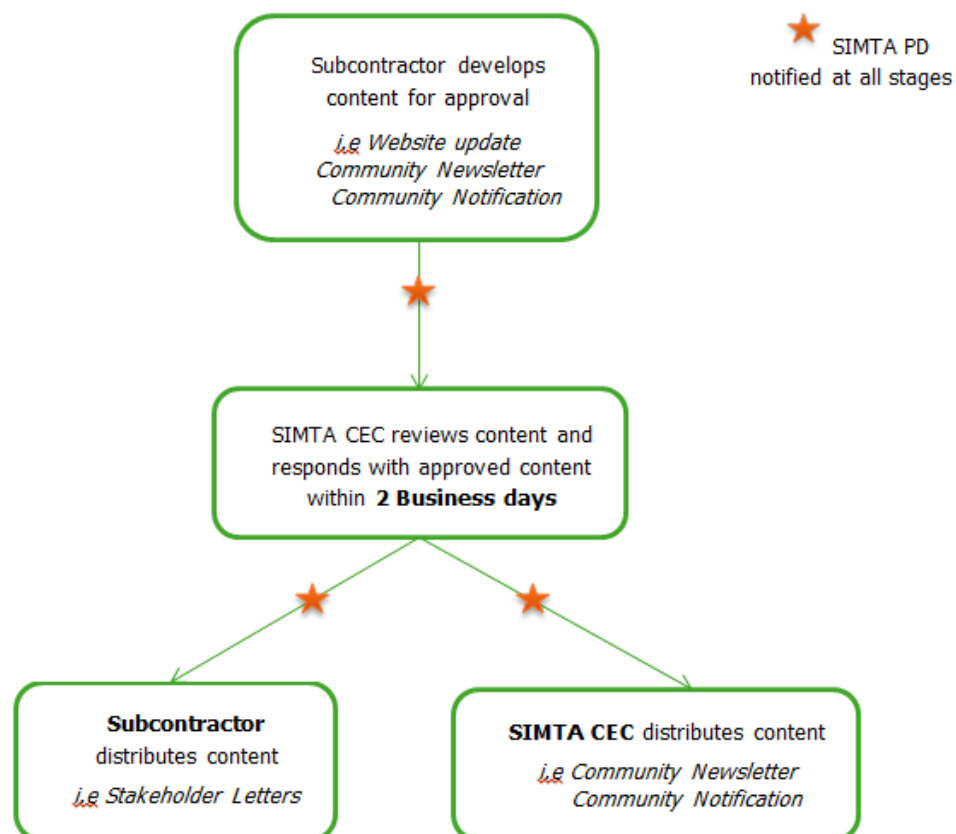
Enquiry handling flowchart



- The given time-frames are an **upper limit** and it is assumed that all **urgent** matters will be forward to SIMTA CEC / PD promptly, and dealt with in the most efficient manner to ensure the complainant is responded to as quickly as feasibly possible.
- It is assumed that **non-urgent** complaints received outside of **Business Hours** will be responded to on the first following working day

APPENDIX E

General Content Approval Process



- The given time-frames are an upper limit and it is assumed that all **urgent** matters will be forward to SIMTA CEC / PD promptly, and dealt with in the most efficient manner to ensure the material is approved and distributed as quickly as possible to meet timeline requirements.
- It is assumed that non-urgent content received outside of **Business Hours** will be responded to on the first following working day.

APPENDIX X

Environmental and Sustainability Inspection Report

APPENDIX Y

Contamination Management Plan/Site Audit Statement

APPENDIX Z

Evidence of Stakeholder Consultation

APPENDIX Z

Evidence of Stakeholder Consultation

From: [REDACTED]
Sent: Monday, 20 February 2017 11:41 AM
To: [REDACTED]
Subject: FW: Moorebank Precinct East Stage 1 (IMEX): Construction documentation for your review

From: [REDACTED]
Sent: Friday, 27 January 2017 8:33 AM
To: [REDACTED]
Subject: RE: Moorebank Precinct East Stage 1 (IMEX): Construction documentation for your review

Dear [REDACTED],

Thanks for your consultation dated 25 January 2017 as per the email below to the NSW Environment Protection Authority (EPA) to review and provide comments on the project's management plans developed for the Moorebank Precinct East Stage 1 Approved Project as follows:

- Construction Environmental Management Plan;
- Construction Noise and Vibration Management Plan;
- Construction Air Quality Management Plan; and
- Construction Soil and Water Management Plan.

I understand that a condition of planning approval requires you to consult with the EPA concerning the above management plans.

While the EPA encourages the use of environmental management plans and the like as an effective project management tool, it does not review or endorse them for reasons of maintaining regulatory 'arms length', and therefor EPA will not review or provide comments on any of the above management plans.

Please do not hesitate to contact me should you have any further questions.

Regards

[REDACTED]
Operations Officer – Metropolitan Infrastructure
Metropolitan Branch, NSW Environment Protection Authority

[REDACTED] www.epa.nsw.gov.au [@EPA_NSW](https://twitter.com/EPA_NSW)

Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555



From: [REDACTED]
Sent: Wednesday, 25 January 2017 4:56 PM
To: [REDACTED]
Subject: FW: Moorebank Precinct East Stage 1 (IMEX): Construction documentation for your review

Dear [REDACTED],

I tried calling your office phone this afternoon but unfortunately could not get hold of you. I am writing to provide you with information regarding your opportunity to provide input for upcoming Construction Environmental Management Plans (and associated sub-plans) for the Moorebank Precinct East Stage 1 Approved Project (IMEX terminal construction), being prepared by SIMTA.

As a condition of approval, we are required to consult with the EPA to consider comments you may have for the preparation of the following construction documentation:

- CEMP
- Construction Noise and Vibration Management Plan
- Construction Air Quality Management Plan
- Construction Soil and Water Management Plan

This email is to initiate this consultation process, and to inform you that we will be providing you with draft copies of the above documents for your comment during next week. You will have two (2) weeks from the date sent to make comment on the documents provided.

Further information on this Project, including the project location and description, can be found in the Environmental Impact Statement (EIS) through the Department of Planning's Major Projects website http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6766.

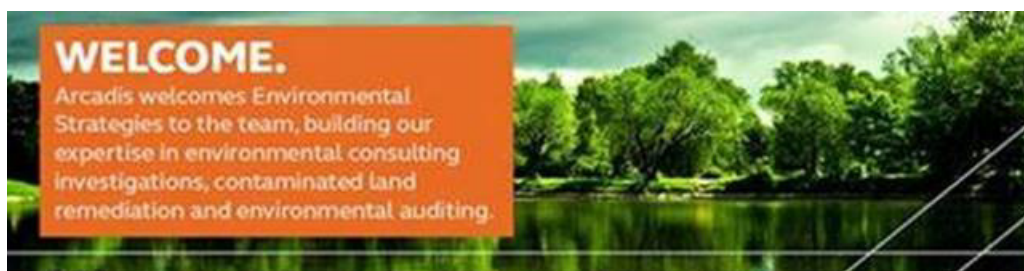
Please do not hesitate to contact me (either in the office or on my mobile) should you have any questions regarding the above.

Kind regards,

[REDACTED]

[REDACTED] | Environmental Consultant | MSc. EMP | [REDACTED]
Arcadis | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia

[REDACTED]
www.arcadis.com



Be green, leave it on the screen.



Registered office: Level 5, 141 Walker Street, Sydney NSW 2060, Australia ABN 76 104 485 289

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL



Contact: [REDACTED]
Phone: [REDACTED]
Email: [REDACTED]

Our ref: V15/3875-2#21, OUT17/10213
File No:
Your Ref:

Mr [REDACTED]
Arcadis
Level 5/141 Walker Street
NORTH SYDNEY NSW 2060

7 March 2017

[REDACTED]

Dear [REDACTED]

**Re: Moorebank Precinct East, Stage 1 Works (Construction of IMEX Terminal) –
Package 2– draft Construction and Environmental Management Plan and
Construction Soil and Water Management Plan**

Thank you for your email of 1 February 2017 seeking comments on the draft
Construction and Environmental Management Plan (CEMP) and the draft Construction
Soil and Water Management Plan (SWMP).

DPI Water has reviewed the draft management plans and provides detailed comments in
Attachment A.

For further information please contact [REDACTED], Water Regulation Officer at DPI
Water (Parramatta office) on t: [REDACTED]

Yours sincerely

[REDACTED]

[REDACTED]

A/Regional Manager – Metro
Water Regulation

ATTACHMENT A

Moorebank Precinct East, Stage 1 Works (Construction of IMEX Terminal) – Package 2– draft Construction and Environmental Management Plan and Construction Soil and Water Management Plan

Department of Primary Industries, Water (DPI Water) provides the following comments on the draft Construction and Environmental Management Plan (CEMP) and the draft Construction Soil and Water Management Plan (SWMP).

Construction Environmental Management Plan

2.1.1 Works Period 1: Site Preparation

The CEMP indicates that Package 2 for the IMEX facility includes clearing of approximately 1.25 ha of native vegetation (page 34). It is recommended the clearing of native vegetation includes a procedure that native plants are to be translocated from the remnant areas that are to be cleared and planted in the riparian areas that are to be rehabilitated on the MPW site and along Anzac Creek and the Georges River associated with MPE Stage 1 Package 1 (Rail link) to assist in the rehabilitation of riparian land.

It is recommended:

- Section 2.1.1 of the CEMP is amended to include this detail (i.e. native plants are to be translocated)
- the Environmental Control Plans in Appendix Q are amended to show the location of native vegetation areas where it is possible to remove native plants prior to clearing for translocation to the riparian areas.

2.1.2 Works Period 2: Earthworks, Drainage and Utilities

Section 2.1.2 of the CEMP notes that where possible “*excavated soil would be reused on site for foundation preparation, levelling works or maintenance access roads*” (page 41). It is recommended this section includes that topsoil (and seedbank) collected from native vegetation areas to be cleared should be stockpiled and used in the rehabilitation of riparian land.

4.1 Legislative Requirements

Section 4.1 of the CEMP indicates Appendix M details the key legislative requirements for the project (page 52). If groundwater is to be encountered as part of the works and temporary dewatering is required, Appendix M must outline:

- the temporary dewatering of the groundwater during construction requires a licence under the *Water Act 1912*,
- the proponent must provide DPI Water with details on the volume of groundwater that is encountered and the duration of pumping,
- note that it is a legal requirement for any take of groundwater to be authorised by a *Water Act 1912* licence (in the case of dewatering activity) or a Water Access Licence (for onsite reuse) unless an exemption applies.

Construction Soil and Water Management Plan

Table 7 Objectives and Targets

Table 7 in the CEMP includes an objective to minimise the demand for, and use of, potable water for construction and maximise opportunities for water reuse from captured stormwater and groundwater (page 4). The SWMP needs to provide further details on the proposed reuse of groundwater and clarify whether the water to be reused only comprises groundwater that needs to be dewatered during construction, or if it is proposed to abstract groundwater as a

water supply. In relation to dewatering activities, a licence will be required under Part 5 of the *Water Act 1912* and any reuse of this water will require a Water Access Licence.

The SWMP should clarify whether the surface water that it is proposed to be reused consists of any clean surface water runoff, or only runoff from disturbed areas. The collection of dirty water in sediment basins for a water supply is exempt from requiring a licence under the Water Management (General Regulation) 2011 but any collection of clean surface water runoff for a water supply is not exempt and must be in accordance with an appropriate Water Access Licence and a nominated work.

4.5 Groundwater

Section 4.5 notes disturbance of groundwater during the project works is not predicated except during remediation of hydrocarbon impacts associated with the refuelling facility. It indicates in the event that these works intersect the groundwater table a report detailing the results of further investigations into groundwater issues will be prepared (page 11). It is recommended Table 11 is amended to include this as a mitigation/management measure that this report must be prepared in the event that groundwater is intersected. If contaminated groundwater is extracted during any activity on site, it should not be reused on site.

The SWMP must outline that, if groundwater is intersected by the proposed works and dewatering is required, the requirements set in section 4.1 above prevail.

Table 11 Mitigation /Management/ Control Action and Responsibilities

Section 1.1 outlines that Package 2 for the IMT facility which is the subject of this SWMP includes clearing of approximately 1.25 ha of native vegetation (page 1). As noted above for the CEMP, it is recommended that native plants are translocated, as described above in section 2.1.1. It is recommended Table 11 is amended to include the following Mitigation /Management/ Control Measures:

- Native vegetation that is to be cleared as part of Package 2 should be translocated into the riparian corridors along Anzac Creek and/or the Georges River where rehabilitation is required as part of the with MPE Stage 1 Rail link project and the MPW project. Riparian areas to be rehabilitated should be identified on a scaled plan.
- topsoil (and seedbank) collected from native vegetation areas to be cleared should be stockpiled and used in the rehabilitation of riparian land.

6.3 Monitoring, Auditing and Reporting

Table 12 indicates that all water quality control and sediment control structures should be inspected during dry conditions, following 10 mm of rainfall and following any rainfall events greater than 50 mm (page 27). The draft SWMP for Stage 1 RALP – Package 1 includes that all drainage and erosion and sediment control measures must be inspected and monitored:

- within 24 hours of expected rainfall
- within 18 hours of a rainfall event of sufficient intensity and duration to cause runoff on-site.

It is suggested the SWMP for Package 2 also inspects the sediment and erosion control measures in accordance with the above frequencies to be consistent with the SWMP for Stage 1 RALP – Package 1.

End of Attachment A

DPI Water

Construction Environmental Management Plan

DPI Water Comment	SIMTA Response
<p>2.1.1 Works Period 1: Site Preparation</p> <p>The CEMP indicates that Package 2 for the IMEX facility includes clearing of approximately 1.25 ha of native vegetation (page 34). It is recommended the clearing of native vegetation includes a procedure that native plants are to be translocated from the remnant areas that are to be cleared and planted in the riparian areas that are to be rehabilitated on the MPW site and along Anzac Creek and the Georges River associated with MPE Stage 1 Package 1 (Rail link) to assist in the rehabilitation of riparian land.</p>	<p>Reference to clearing of 1.25 Ha related to the RALP works, and not to MPE. It was erroneously included within the CEMP, and has now been removed. Additionally, for information, and as per the MPE Construction Flora and Fauna Management Plan, the ecological survey found: <i>Based on the results of the field assessment reported in the Biodiversity Assessment Report (Hyder 2015), the vegetation within the Project site consists almost entirely of planted trees with a mown or managed understorey, and does not meet the criteria for any threatened ecological communities.</i></p>
<p>Section 2.1.2 of the CEMP notes that where possible “excavated soil would be reused on site for foundation preparation, levelling works or maintenance access roads” (page 41). It is recommended this section includes that topsoil (and seedbank) collected from native vegetation areas to be cleared should be stockpiled and used in the rehabilitation of riparian land.</p>	<p>The following has been included with Section 2.1.2:</p> <p><i>In disturbance areas containing a clearly discernible ‘A’ profile (topsoil), the topsoil will be stripped and stored on site for later re-use within site landscaping, or riparian restoration where appropriate, Topsoil stockpiles will not exceed a 2m windrow height, be clearly sign-posted, and separated from sub-soil stockpiles.</i></p>
<p>Section 4.1 of the CEMP indicates Appendix M details the key legislative requirements for the project (page 52). If groundwater is to be encountered as part of the works and temporary dewatering is required, Appendix M must outline:</p> <ul style="list-style-type: none">the temporary dewatering of the groundwater during construction requires a licence under the Water Act 1912,the proponent must provide DPI Water with details on the volume of groundwater that is encountered and the duration of pumping,note that it is a legal requirement for any take of groundwater to be authorised by a Water Act 1912 licence (in the case of dewatering activity) or a Water Access Licence (for onsite reuse) unless an exemption applies.	<p>Appendix M updated to include reference to Water Act 2012, and specifically:</p> <p><i>“• If during construction earthworks, the temporary dewatering of groundwater (from an excavation) is deemed necessary, then a licence to carry out such activity will be required under the Water Act.”</i></p> <ul style="list-style-type: none"><i>• SIMTA must provide DPI Water with details on the volume of groundwater that is encountered and the duration of pumping,</i><i>• It is a legal requirement for any take of groundwater to be authorised by a Water Act 1912 licence (in the case of dewatering activity) or a Water Access Licence (for onsite reuse) unless an exemption applies.”</i>

SWMP

Table 7 Objectives and Targets

Table 7 in the CEMP includes an objective to minimise the demand for, and use of, potable water for construction and maximise opportunities for water reuse from captured stormwater and groundwater (page 4). The SWMP needs to provide further details on the proposed reuse of groundwater and clarify whether the water to be reused only comprises groundwater that needs to be dewatered during construction, or if it is proposed to abstract groundwater as a water supply. In relation to dewatering activities, a licence will be required under Part 5 of the Water Act 1912 and any reuse of this water will require a Water Access Licence. The SWMP should clarify whether the surface water that it is proposed to be reused consists of any clean surface water runoff, or only runoff from disturbed areas. The collection of dirty water in sediment basins for a water supply is exempt from requiring a licence under the Water Management (General Regulation) 2011 but any collection of clean surface water runoff for a water supply is not exempt and must be in accordance with an appropriate Water Access Licence and a nominated work.

Table 7 revised to clarify that only disturbed area (dirty) runoff is collected for re-use, and reference to 'groundwater' removed, thus:

“ • *Minimise demand for, and use of, potable water for construction and maximise opportunities for water re-use from captured 'dirty' water runoff (within ESC measures e.g. sediment basins) and site wastewater. “*

4.5 Groundwater

Section 4.5 notes disturbance of groundwater during the project works is not predicated except during remediation of hydrocarbon impacts associated with the refuelling facility. It indicates in the event that these works intersect the groundwater table a report detailing the results of further investigations into groundwater issues will be prepared (page 11). It is recommended Table 11 is amended to include this as a mitigation /management measure that this report must be prepared in the event that groundwater is intersected. If contaminated groundwater is extracted during any activity on site, it should not be reused on site. The SWMP must outline that, if groundwater is intersected by the proposed works and dewatering is required, the requirements set in section 4.1 above prevail.

Table 11 Item SW22 amended to now include:

“In the event that remediation works of groundwater impacts associated with the refuelling facility (SW corner of Stage 1 site) intersect the groundwater table a report detailing the results of further investigations into surface water, groundwater and geotechnical issues will be prepared in consultation with the EPA and NOW and submitted to the Secretary prior to these potentially impacting works commencing. If contaminated groundwater is extracted during any activity on site, it should not be reused on site.”

and Section 4.5 amended to include:

“If contaminated groundwater is intersected by the construction works and dewatering is required, the requirements set in section 4.2 above prevail.”

Table 11 Mitigation /Management/ Control Action and Responsibilities

Section 1.1 outlines that Package 2 for the IMT facility which is the subject of this SWMP includes clearing of approximately 1.25 ha of native vegetation (page 1). As noted above for the CEMP, it is recommended that native plants are translocated, as described above in section 2.1.1. It is recommended Table 11 is amended to include the following Mitigation /Management/ Control Measures:

- Native vegetation that is to be cleared as part of Package 2 should be translocated into the riparian corridors along Anzac Creek and/or the Georges River where rehabilitation is required as part of the with MPE Stage 1 Rail link project and the MPW project. Riparian areas to be rehabilitated should be identified on a scaled plan.
- topsoil (and seedbank) collected from native vegetation areas to be cleared should be stockpiled and used in the rehabilitation of riparian land.

Reference to clearing of 1.25 Ha related to the RALP works, and not to MPE. It was erroneously included within the CEMP, and has now been removed.

6.3 Monitoring, Auditing and Reporting

Table 12 indicates that all water quality control and sediment control structures should be inspected during dry conditions, following 10 mm of rainfall and following any rainfall events greater than 50 mm (page 27). The draft SWMP for Stage 1 RALP – Package 1 includes that all drainage and erosion and sediment control measures must be inspected and monitored:

- within 24 hours of expected rainfall
- within 18 hours of a rainfall event of sufficient intensity and duration to cause runoff onsite.

It is suggested the SWMP for Package 2 also inspects the sediment and erosion control measures in accordance with the above frequencies to be consistent with the SWMP for Stage 1 RALP – Package 1.

Table 12 adjusted to include:

Rainfall Inspections

“Inspection of the site drainage and ESC measures should be undertaken:

- ***during dry conditions within 24 hours of expected rainfall.***
- ***within 18 hours following a rainfall event of sufficient intensity and duration to cause runoff onsite.”***

And also

Discharge and Receiving Water Quality:

“Prior to, during and after any heavy rainfall event of sufficient intensity and duration to cause runoff onsite.”

Liverpool City Council

Construction Environmental Management Plan and Soil and Water Management Plan

Liverpool City Council Comment	SIMTA Response
Soil and Water Management Plan	
The Construction Soil and Water Management Plan, Moorebank Precinct East Stage 1, Package 2, Revision V2 prepared by Tim Haydon dated 31 January 2017 was presented to the Environment and Health Section for review. Section 2.1 of the Construction Soil and Water Management Plan refers to the Dangerous Goods Act 1975 which has been repealed.	Reference to this repealed act has been removed. References to the Dangerous Goods (Road and Rail Transport) Act 2008, Dangerous Goods (Road and Rail Transport) Regulation 2014, Australian Dangerous Goods Code Edition 7.4 and State Environment Planning Policy 55 have been included and referenced.
Section 2.3 of the Construction Soil and Water Management Plan specifies the Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (DECC 2009). This reference may also need to be updated as these Guidelines were revised in September 2015 by the NSW Environment Protection Authority.	Update reference to the 2015 guideline.
AS 1940-1993 The Storage and Handling of Flammable and Combustible Liquids was also specified within the Plan. This standard was revised and republished in 2004 and is now known as AS 1940-2004 The storage and handling of flammable and combustible liquids. Consequently, these references must be updated accordingly.	Updated reference to the AS1940-2004 standard.
Construction Environmental Management Plan	
Errors in Tables 1, 2, 3 and 4 The majority of references included in Table 1 of the CEMP (Compliance Matrices) were not specified due to an error within the report. Consequently, it was difficult to undertake a comparative assessment against the Minister's Conditions of Approval. Similar errors were present in Tables 2, 3 and 4 of the CEMP. Furthermore, Point 2 Section 1.1 'Purpose and Application' is incomplete and requires correction.	Referencing errors corrected
Table 5- Objectives and Targets High level objectives and targets for the Project were included in Table 5 of the Plan. It is reported that complainants will be contacted within a period of four hours and the matter 'closed out' within one week. The target should realign effort on adequately resolving the complainants' concerns to prevent impacts to human health and the	This added to Table 5 : <i>"Complainant concerns of perceived, actual or potential human health and/or environmental impacts are adequately resolved."</i>

Liverpool City Council Comment	SIMTA Response
<p>environment rather than setting a target to close the complaint.</p>	
<p>Section 5.2.2 'Environmental Control Plans' states that 'The will be updated and amended by the contractor as required, Appendix Q'. This sentence is incomplete and requires correction. The entire paragraph should be revised to convey accurate and comprehensible information to the reader. In addition, Section 5.2.5 'Handling, Storage, Packaging and Transport contains a reference source error.</p> <p>The Protection of the Environment Operations Act 1997 imposes a duty to notify each relevant Authority of pollution incidents posing material harm to the environment. Relevant Authority means the: Appropriate Regulatory Authority; the NSW Environment Protection Authority; the Ministry of Health; SafeWork NSW, the local Authority; Fire and Rescue NSW. Although outlined in Section 9 of the Plan, it is believed that the duty to notify requirements should also be included in Section 8 (Emergency, Preparedness and Response) of the CEMP.</p>	<p>The project Environmental Control Plan(s) (ECP) will be prepared to assist in the planning and delivery of the project, and will specific to the site or work area and outlines the location of protection measures, monitoring requirements, conditions of approval and environmentally sensitive areas. Each ECP provides a roadmap for practical application of the proposed control measures. The will be updated and amended by the contractor as required.</p> <p>And Reference included with Section 8.1</p>
<p>Section 10.5.1 Internal Audits states that 'the contractor will be audited within 3 months of commencing on site by SIMTA and an in accordance with their internal auditing requirements but no less than 6-monthly. SIMTA will audit the project on a 6 monthly basis'. This paragraph needs to be revised as it is difficult to comprehend.</p>	<p>The contractor will be audited on site by SIMTA (within 3 months of Construction commencement) and an in accordance with their internal auditing requirements. SIMTA will subsequently audit the project on a 3 monthly basis, as a minimum.</p>
<p>CEMP Appendix A ERAP's</p>	
<p>Environmental Risk Action Plans Noise and Vibration ERAP references the 'Protection of the Environment Operations (Noise Control) Regulation 2000'. This legislation was repealed and superseded by the 'Protection of the Environment Operations (Noise Control) Regulation 2008'. Furthermore, the ERAP refers to AS 2436 Guide to Noise Control on Construction, Maintenance and Demolition Sites'. This Standard was superseded by AS 2436-2010 (R2016) Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites. The references in the Noise and Vibration ERAP must be updated accordingly.</p>	<p>Updated reference to 'Protection of the Environment Operations (Noise Control) Regulation 2008' and AS 2436-2010 (R2016) Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites</p>

Liverpool City Council Comment	SIMTA Response
<p>Additionally, the Dust and Air Quality ERAP refers to the 'Protection of the Environment Operations (Clean Air) Regulation 2002'. This legislation was superseded by the Protection of the Environment Operations (Clean Air) Regulation 2010.</p>	<p>Updated reference to Protection of the Environment Operations (Clean Air) Regulation 2010 and current Waste Classification Guideline.</p>
<p>The Waste ERAP references the Protection of the Environment Operations (Waste) Regulation 2005. This legislation was repealed and superseded by the Protection of the Environment Operations (Waste) Regulation 2014. More recent Waste Classification Guidelines were also published by the NSW EPA. The references in the Dust and Air Quality ERAP and Waste ERAP must be updated accordingly.</p>	<p>Updated reference to Protection of the Environment Operations (Waste) Regulation 2014 and current Waste Classification Guidelines</p>
<p>Legal, contractual and other requirements noted in the Water Quality, Site Drainage and Erosion Control ERAP include Condition of Approval SSD 6766 and Protection of the Environment Operations Act 1997. In addition to these requirements, it is believed that the document should reference the Australian and New Zealand Environment Conservation Council (ANZECC) guidelines for fresh and marine water quality and the Managing Urban Stormwater: Soils and Construction - Volume 1, 4th Edition (LandCom Blue Book).</p>	<p>Updated references to include:</p> <ul style="list-style-type: none"> • Australian and New Zealand Environment Conservation Council (ANZECC) guidelines for fresh and marine water quality • Managing Urban Stormwater: Soils and Construction - Volume 1, 4th Edition (LandCom Blue Book).
<p>The Hazardous/Contaminated Material ERAP refers to the Dangerous Goods Safety Management Act 2001 and Dangerous Goods Safety Management Regulation 2001. It should be noted that this Act and Regulation do not apply in New South Wales and were repealed in Queensland under the Work Health and Safety Act 2011. Australian Dangerous Goods Code, 5th Edition is also detailed within the ERAP.</p>	<p>Erroneous references removed, addition of: NSW Occupational Health and Safety Act 2000 NSW Dangerous Goods Code of Practice 2005</p>
<p>According to the Department of Infrastructure and Regional Development, the Australian Dangerous Goods Code Edition 7.4 has been implemented in all jurisdictions in Australia. Additionally, legal, contractual and other requirements should include the POEO Act 1997, Contaminated Land Management Act 1997 and SEPP 55. The Hazardous/Contaminated Material ERAP shall be updated with the correct legislation and standards that apply in New South Wales.</p>	<p>Erroneous references removed, addition of: Australian Dangerous Goods Code Edition 7.4; Protection of the Environment Operations Act 1997; Contaminated Land Management Act 1997; SEPP 55.</p>

Liverpool City Council Comment	SIMTA Response
<p>The Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods Requirements ERAP refers to the Dangerous Goods (Road and Rail Transport) Regulation 2008. It should be noted that the applicable Regulation is the Dangerous Goods (Road and Rail Transport) Regulation 2014. As outlined above, the Australian Dangerous Goods Code Edition 7.4 was implemented in all jurisdictions in Australia. The Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods requirements ERAP shall be updated with the correct legislation and standards that apply in New South Wales.</p>	<p>Erroneous references removed, addition of:</p> <p>Dangerous Goods Regulation (Road and Rail Transport) Regulation 2014</p>
<p>The Remediation Action Plan in Appendix C and Construction Noise and Vibration Management Plan in Appendix D were not included in the submitted CEMP. As a result, these sub-plans were not assessed as part of this review.</p>	<p>Under development. It is noted that the Conditions of Approval do not require the Council to be consulted with on the CNVMP or the RAP. It is also noted that the Traffic and Access Management Plan and Heritage Management Plan were provided to LCC, however no comment has been received.</p>

Stakeholder	Relevant Docs	Name	Number	Email	Details of consultation
EPA	<ul style="list-style-type: none"> CEMP Construction Noise and Vibration Management Plan Construction Air Quality Management Plan Construction Soil and Water Management Plan 	██████████ (Main contact)	██████████	██████████ ██████████	Phone call made to ██████ 22/12/16 to inform that the CEMP would be submitted in mid-January. He stated he was happy to receive it.
					Email sent 22/12/17 to confirm
					Phone call made 25/1/17 to inform ██████ the CEMP and relevant sub-plans would be provided on February 1. No answer, voice message left.
					Email received 27/1/17 indicating that the EPA, although encouraging the use of management plans as an effective project management tool, would not review or endorse them to maintain regulatory 'arms length' from the Project.
					Consultation with EPA closed. CEMP, CNVMP, CAQMP and CSWMP consultation with EPA complete.
OEH	<ul style="list-style-type: none"> CEMP Construction Heritage Management Plan: Construction Flora and Fauna Management Plan 	██████████ (Main contact)	██████████	██████████ ██████████	Phone call made to ██████ 22/12/16 to inform that the CEMP would be submitted in mid-January. He stated he was happy to receive it.
					Phone call made to ██████ 23/1/17 to inform Richard the CEMP and relevant sub-plans would be provided on February 1. No answer, voice message left.
					Call received from ██████ 25/1/17. He indicated that he is the suitable contact and would provide reviews within the given timeframe.
					Email sent to ██████ 1/2/17 containing briefing note, CEMP, CHMP and CFFMP requesting review of documents by 15 February 2017.
					Phone call made to ██████ 8/2/17 to track review progress. No answer, voice mail left.
					Email sent to ██████ 8/2/17 to confirm documentation was received and timeframes would be met.
					Phone call received from ██████ 8/2/17. Richard indicated he could not download dropbox documents. Documents were sent via alternate file sharing medium 8/2/17
					Email received from ██████ 9/2/17. Richard indicated files were downloaded. Stated that meeting the deadline would be difficult, but would provide further indication of when comments could be provided.
					Phone call made to ██████ 16/2/17 to confirm OEH do not wish to make comment as no comments received to date. No answer, voice message left.

Stakeholder	Relevant Docs	Name	Number	Email	Details of consultation
					<p>Email sent to █████ 16/2/17 indicating deadline has passed, and for Richard to respond ASAP if OEH still intends to comment.</p> <p>Comments received 16 February 2016, consultation with OEH closed.</p> <p>Email sent to █████ 20/2/17 to indicate how comments received were addressed.</p> <p>CEMP. CHMP and CFFMP consultation with OEH complete.</p>
DPI Water	<ul style="list-style-type: none"> CEMP Construction Soil and Water Management Plan 	█████	█████	████████████████████ █████	Phone call made to Adam Oehlman 22/12/16 to inform that the CEMP would be submitted in mid-January. He stated that the documents should be submitted to the land use enquiries email address. Email sent to 22/12/16 to confirm.
		█████	█████ █████	████████████████████ █████	Phone call made to █████ 23/1/17. █████ mentioned that management plans concerned with SSD would need to go through Water.referrals@dpi.nsw.gov.au for allocation to appropriate person, and that she would ultimately be the person undertaking the reviews. Email sent to water referrals on 23/1/17 to inform them of incoming documentation on 1/2/17.
					Email sent to water referrals on 1/2/17 containing briefing note, CEMP and CSWMP and requesting review of documents by 15 February 2017.
					Phone call made to █████ on 8/2/17 to confirm documentation has been received and to track review progress. No answer, voicemail left.
					Email sent to █████ 8/2/17 in follow up to phone call and voice message
					Phone call made to █████ 16/2/17 to confirm that OEH do not wish to make comment as no comments were received. No answer, voice message left.
					Email sent to █████ and water referrals 16/2/17 to confirm no comment has been received, and for █████ to respond ASAP should DPI Water wish to make comment.
					Email received from █████ 16/2/17 indicating that she had only been allocated the matter from water referrals last week, and that DPI Water requires 4 weeks to undertake reviews of management plans. █████ indicated that she was currently providing comment on the RALP1 management plans, and that comments would not be provided before 1/3/17.
					Phone call made to █████ 17/2/17 to explain that there were no significant water issues involving creek crossings or water bodies on the Project site, in an attempt to speed up review process. █████ stated that although this would be likely to result in less time taken to review the documents, she is unable to prioritise documents over others due to water referrals protocol.
					As such, it was agreed in a separate meeting with DPE held on 21/2/17 that the review of the CEMP and CSWMP from DPI Water would be undertaken in conjunction with the DP&E review.

Stakeholder	Relevant Docs	Name	Number	Email	Details of consultation
					<p>Comments received from [REDACTED] 8/3/17</p> <p>Email sent to [REDACTED] 9/3/17 indicating how comments received were addressed</p> <p>CSWMP consultation with DPI Water complete</p>
DPI Fisheries	<ul style="list-style-type: none"> CEMP Construction Soil and Water Management Plan 	[REDACTED]	[REDACTED]	[REDACTED]	<p>Phone Call made to [REDACTED] 22/12/16 to inform the CEMP would be submitted in mid-January. [REDACTED] is happy to receive the document but will not be back from leave until 17/1/17.</p> <p>Email sent to [REDACTED] 22/12/16 to confirm above discussion.</p> <p>Phone Call made to [REDACTED] 23/1/17. It was confirmed she would provide comment to the documentation within the given timeframe.</p> <p>Email sent to [REDACTED] 1/2/17 containing briefing note, CEMP and CSWMP requesting review of documents by 15/2/17.</p> <p>Email received from [REDACTED] 2/2/17 indicating that all relevant plans were reviewed, with no objections, suggested changes or comments.</p> <p>CEMP and CSWMP Consultation with DPI Fisheries complete.</p>
Liverpool City Council	<ul style="list-style-type: none"> CEMP Construction Heritage Management Plan Construction Soil and Water Management Plan Construction Traffic and Access Management Plan 	<div>[REDACTED]</div> <div>[REDACTED] Strategic planner (main contact)</div>	<div>[REDACTED]</div> <div>[REDACTED]</div>	<div>[REDACTED]</div> <div>[REDACTED]</div>	<p>Phone call made to [REDACTED] 22/12/16. A message could not be left as the message bank was full.</p> <p>Phone call made to [REDACTED] 25/1/17. Ash indicated he was happy to be forwarded the relevant plans on 1/2/17 via email.</p> <p>Email sent to [REDACTED] 1/2/17 containing briefing note, CEMP, CSWMP, CTAMP, CHMP requesting review of documents by 15/2/17.</p> <p>Phone call made to [REDACTED] 8/2/17 to confirm documentation received and to track review progress. [REDACTED] stated that Council is in the process of lodging an objection letter to DP&E regarding the work involved in reviewing separate sets of documents for the multiple stages of works.</p> <p>Email sent to [REDACTED] 8/2/17 to confirm the content of the above conversation, no response was received.</p> <p>Comments received from LCC on 15/2/17.</p> <p>CEMP, CHMP, CSWMP and CTAMP Consultation with Liverpool City Council complete.</p>
Campbelltown City Council	<ul style="list-style-type: none"> CEMP 	[REDACTED]		[REDACTED]	<p>Phone call made 24 January. No answer, voicemail left to confirm point of contact for documentation for review.</p>

Stakeholder	Relevant Docs	Name	Number	Email	Details of consultation
	<ul style="list-style-type: none">Construction Heritage Management PlanConstruction Soil and Water Management PlanConstruction Traffic and Access Management Plan	[REDACTED] (Main Contact)	[REDACTED]	[REDACTED]	Email received 27/1/17 advising all future consultation through the council should be directed at [REDACTED] (Acting Manager Development Services) or [REDACTED] (Director City Development).
					Email sent 1/2/17 containing briefing note, CEMP, CSWMP, CTAMP and CHMP requesting review of documents by 15 February 2017.
					Phone call made with [REDACTED] 8/2/17, no answer, voicemail left.
					Email sent to [REDACTED] 8/2/17 to confirm documentation was received and to track review progress.
					Phone call made to [REDACTED] 15/2/17. [REDACTED] indicated he received the plans and would get back to me by the morning of the 17/2/17 with targeted comments regarding aspects of interest to CCC, in particular, traffic impacts to Cambridge Avenue.
					Comments from CCC received 17/2/17.
					Email sent 20/2/17 to indicate how comments received were addressed.
CEMP, CHMP, CSWMP and CTAMP consultation with Campbelltown City Council complete.					
Emergency services	<ul style="list-style-type: none">Construction Traffic and Access Management Plan	[REDACTED] (ambulance)	[REDACTED]		Email sent to [REDACTED] on 25 January outlining the Project and details around their opportunity to provide CEMP input, including consultation deadline 1/2/17.
					Email sent to [REDACTED] 1/2/17 containing Construction Traffic and Access Management Plan and Briefing Note.
					Email sent to [REDACTED] 9/2/17 to track progress of document review
					Email sent to [REDACTED] 16/2/17 indicating that consultation period had closed and to get in contact ASAP for late comment submission.
					No submission received.
	CTAMP Consultation with NSW Ambulance complete				
		[REDACTED] (Police)		[REDACTED]	Email sent to [REDACTED] 25/1/17 outlining the Project and details around their opportunity to provide CEMP input, including consultation deadline 1/2/17.
					Email sent to [REDACTED] 1/2/17 containing Construction Traffic and Access Management Plan and Briefing Note.
					[REDACTED] replied 1/2/17 stating that he had reviewed the plan and had no comments.
CTAMP Consultation with NSW Police complete.					

Stakeholder	Relevant Docs	Name	Number	Email	Details of consultation
		<div>██████████</div> <div>(NSW RFS)</div>	██████████	<div>████████████████████</div> <div>██</div>	<p>Email sent to ██████████ 25/1/17 outlining consultation process and consultation period.</p> <p>Emailed received from ██████ 25/1/17, stating NSW RFS does not comment on matters requiring approval under conditions of a development consent. Email address for the Macarthur Fire Control Centre was provided for consultation relating the fire Emergency Planning. An email was sent to this address on the 29/1/17 outlining the project, consultation process and deadline for comment.</p> <p>Email sent to ██████ and Macarthur Fire Control Centre 1/2/17 containing Construction Traffic and Access Management Plan and Briefing Note.</p> <p>Email sent to ██████ and Macarthur Fire Control Centre 15/2/17 confirming that no comment had been received, and indicating to get in touch ASAP should they still want to make comment.</p> <p>No submission received.</p> <p>CTAMP Consultation with NSW FRS complete.</p>
		<div>██████████</div> <div>██████████</div> <div>(NSW Fire and rescue Service)</div>		<div>████████████████████</div> <div>██████████</div>	<p>Email sent to ██████████ 29/1/17 outlining consultation requirements and consultation period, ending 15/2/17.</p> <p>Phone call made to ██████████ 9/2/17 to track review progress. She explained that she had been away on leave, and that no one had yet looked at the CTMP. She requested we fill out a request form for comment as this is a standard practice.</p> <p>Request for information/comment form completed and sent 9/2/17 in separate email.</p> <p>Phone call received from ██████████ 9/2/17 requesting further information about the project and what is required. It was explained to her that the works was a package separate to the RALP1 works, and that we would not be providing a fee for comment, as is suggested in the form. She accepted the form.</p> <p>Email sent to ██████████ 16/2/17 indicating that the deadline has passed and to make contact ASAP if they intend to submit late comments.</p> <p>No submission received.</p> <p>CTAMP Consultation with NSW FRS complete</p>
Road User groups	<ul style="list-style-type: none"> Construction Traffic and Access 				<p>Emails were sent to both Liverpool City Council and Campbelltown City Council 31/1/17, requesting if they knew of any road user groups in the area who may be interested in the Project. No response from either LCC or CCC was received back.</p>

Stakeholder	Relevant Docs	Name	Number	Email	Details of consultation
	Management Plan				CTAMP Consultation with Road User Groups complete.
Pedestrian and Cycle groups	<ul style="list-style-type: none"> Construction Traffic and Access Management Plan 	<div>██████████</div> <div>██████████</div> <div>██████████</div> <div>██████████</div> <div>██████████</div> <div>██████████</div>	N/A	<div>██████████</div> <div>██████████</div> <div>██████████</div>	<p>Emails sent to email addresses provided to outline project, consultation process and deadline for comment. Two out of the three email addresses provided were undeliverable.</p> <p>Email sent 1/2/17 containing Construction Traffic and Access Management Plan and Briefing Note.</p> <p>Email sent 16/2/17 indicating that deadline has passed and to make contact ASAP if they intend to submit late comments. No submission received.</p> <p>CTAMP consultation with Pedestrian and Cycle groups complete</p>
NSW Heritage Council	<ul style="list-style-type: none"> Construction Heritage Management Plan 	<div>██████████</div> <div>██████████</div> <div>██████████</div> <div>██████████</div>	<div>██████████</div> <div>██████████</div>	<div>██████████</div> <div>██████████</div> <div>██████████</div> <div>██████████</div>	<p>Email sent to █████ 25/1/17 outlining the Project and details around their opportunity to provide CEMP input.</p> <p>Phone call made to █████ 31/1/17 to confirm point of contact for documentation █████ indicated all consultation with NSW Heritage should be undertaken via DP&E.</p> <p>Phone call made to █████ 15/2/17. █████ indicated that comments would be provided through DP&E, and asked for an extension until Friday the 17th. Extension was granted.</p> <p>Email received (CC in email sent to DP&E) 20/2/17 containing comments relating to the CHMP.</p> <p>Email received (CC in email sent to DP&E) detailing comments for the recently submitted draft Heritage Interpretation Strategy and response to how previous CHMP comments were addressed.</p> <p>CHMP consultation with NSW Heritage Council complete.</p>
Relevant Local Aboriginal Land Councils	<ul style="list-style-type: none"> Construction Heritage Management Plan 	Tharawal Local Aboriginal Land Council (LALC)	██████████	<div>██████████</div> <div>██████████</div>	<p>Phone call made to reception 23/1/17 to outline the project and details around their opportunity to provide CEMP input. It was stated that all correspondence should be directed to acting CEO █████, through the email address informationofficer@tharawal.com.au.</p> <p>Email sent to Denise 23/1/17 to confirm point of contact for documentation delivery.</p> <p>Email received from Denise 23/1/17 acknowledging and confirming point of contact.</p> <p>Email sent to Denise 1/2/17 containing CHMP and Briefing Note.</p> <p>Confirmation email received from █████ 1/2/17 stating that she received the documentation and had started her review.</p> <p>Email sent to █████ 9/2/17 to track review progress.</p>

Stakeholder	Relevant Docs	Name	Number	Email	Details of consultation
					Email received from █████ 9/2/17 indicating she was reading through the plan and would meet the consultation deadline.
					Phone call received 15/2/17 from █████ indicating she could not open the dropbox link. She was given an additional day to submit (new deadline 16/2/17) and provided with the plan attached to a separate email.
					<p>Email received 16 February indicating no comments.</p> <p>CHMP consultation with Tharawal Local Aboriginal Land Council complete</p>

From: [REDACTED]
To: [REDACTED]
Subject: RE: CEMP Doc Review: MPE Stage 1 (IMEX)
Date: 16 February 2017 3:29:37 PM
Attachments: [image015.jpg](#)
[image017.jpg](#)
[image019.png](#)
[image021.jpg](#)
[image023.jpg](#)
[image025.jpg](#)
[image028.jpg](#)
[image030.jpg](#)
[image032.jpg](#)
[image034.jpg](#)
[image036.jpg](#)
[image038.jpg](#)
[image040.jpg](#)

Hi [REDACTED],

Please find below OEH's comments on revision V2 of the *Construction Flora and Fauna Management Plan - Moorebank Precinct East Stage 1, Package 2*. Sincere apologies for the delay in providing these.

In relation to the Environmental and Heritage Construction Management Plans, I advise that OEH is unable to provide comments due to other priorities.

Regards

[REDACTED]
Conservation Planning Officer

Greater Sydney Region
Regional Operations Group
Office of Environment and Heritage
[REDACTED]

Page number, section	Comments
p.vi, table 1, CoA E34; p.42, table 11	<ul style="list-style-type: none">The reference to FF 4 in table 11 does not exist.
p.ix, table 2, FCMM 8A; p.42, table 11	<ul style="list-style-type: none">It is not clear where the 'biodiversity study area' is and under what circumstances clearing of native vegetation of mature trees would be necessary.The reference to FF 7.4 in table 11 does not exist.
p.x, table 2, FCMM 8A; p.42, table 11	<ul style="list-style-type: none">The reference to FF 3 in table 11 does not exist.
p.18, figure 1; p.27, figure 2; p.30 figure 3	<ul style="list-style-type: none">Figure 1 shows an area covered by the management plan (the yellow hatched area) which does not align with the 'Stage 1 Site (Extent of Clearing)' area shown in figures 2 and 3. Is this because some of the yellow hatched area in figure 1 will not be cleared at any stage? If not, amendments to some (or all) of

	these figures is required.
p.30, figure 3; p.33, table 9	<ul style="list-style-type: none"> Figure 3 does not show the locations of Nodding Geebung (<i>Persoonia nutans</i>) mentioned on page 33 (identified in areas north of Anzac Creek by Hyder Consulting).
p.39, table 10	<ul style="list-style-type: none"> The location of the 1.25 ha of native vegetation and threatened fauna habitat to be cleared is not shown on figures 2 or 3.
p.44, table 11, item FF2.3	<ul style="list-style-type: none"> The following amendments in shown in red to the 1st sentence are recommended: The project Ecologist to undertake a pre-clearing survey within at least two weeks of prior to vegetation clearing to identify any potential threatened species, endangered vegetation, weed infestation and habitat trees.
p.55, s.6.2	<ul style="list-style-type: none"> It is recommended the induction program for construction staff also include emergency and incident response/spill management procedures (eg fire and chemical/fuel spills).

From: [REDACTED]
Sent: Thursday, 16 February 2017 12:07 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: CEMP Doc Review: MPE Stage 1 (IMEX)

Hi [REDACTED],

In follow up to my voice message left yesterday, please note that the deadline for providing comment for the documents in question was yesterday.

Please let me know if you still wish to make comment for consideration for the CEMP. Our deadline for submitting with DP&E is next Monday, and I can see what I can do to make an allowance for late comments.

Many thanks,

[REDACTED]

[REDACTED] | Environmental Consultant | MSc. EMP | [REDACTED]
Arcadis | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia

[REDACTED]
 [REDACTED]1
www.arcadis.com

Enviro_NewCapabilitiesSignature4



From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: , OUT17/10213 - DPIWater response to Moorebank Precinct East, Stage 1 Works
Date: Wednesday, 15 March 2017 3:48:00 PM
Attachments: [DPI Water Comments addressed 20170309_Final.pdf](#)

Hi [REDACTED]

Thank you for provide comments on the documents as requested. Please find attached a summary indicated how your comments have been addressed within both the CEMP and CSWMP for the package of works.

Kind regards,

[REDACTED]

From: [REDACTED]
Sent: Tuesday, 7 March 2017 9:30 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: , OUT17/10213 - DPIWater response to Moorebank Precinct East, Stage 1 Works

Hi [REDACTED]

Please finde enclosed DPI Water's comments on Moorebank Precinct East, Stage 1 Works (Construction of IMEX Terminal) – Package 2– draft Construction and Environmental Management Plan and Construction Soil and Water Management Plan.

For further information please contact [REDACTED], Water Regulation Officer at DPI Water (Parramatta office) on [REDACTED]
[REDACTED]

Best regards

[REDACTED]

[REDACTED] A/Regional Manager - Metro
Water Regulation Operations
NSW Department of Primary Industries - Water
Level 11, 10 Valentine Avenue | Parramatta NSW 2150
PO Box 3720 | Parramatta NSW 2124

[REDACTED]

[REDACTED]

W: www.dpi.nsw.gov.au, www.industry.nsw.gov.au



This message is intended for the addressee named and may contain confidential information. If you are not the intended recipient, please delete it and notify the sender. Views expressed in this message are those of the individual sender, and are not necessarily the views of their organisation.

From: [REDACTED]
To: [REDACTED]
Subject: Re: FW: Moorebank Precinct East, Stage 1 Construction Management: Consultation
Date: 2 February 2017 10:36:00 AM
Attachments: [image012.jpg](#)
[image009.jpg](#)
[image011.png](#)
[image010.jpg](#)

Dear [REDACTED],

Please be advised that DPI Fisheries has reviewed the following plans sent with your email below and has no objections to what is being proposed and has no suggested changes or other comments to make on these plans:

- *Construction Environmental Management Plan - Moorebank Precinct East Stage 1, Package 2* (SIMTA, 30 January 2017, Revision Text 001)
- *Construction Soil and Water Management Plan - Moorebank Precinct East Stage 1, Package 2* (SIMTA, 31 January 2017, V2)

If you wish to discuss this further, please call.

Regards,

[REDACTED] | Fisheries Manager | Aquatic Ecosystems Unit
NSW Department of Primary Industries | Fisheries NSW
Block E, Level 3, 84 Crown Street, Wollongong NSW 2500
SEND MAIL TO: Locked Bag 1 | Nelson Bay NSW 2315

W: www.dpi.nsw.gov.au

Conserve, Share, Provide

PERMIT APPLICATION FORMS & FISH HABITAT PROTECTION POLICIES AT:

www.dpi.nsw.gov.au/fisheries/habitat/protecting-habitats/toolkit

EMAIL COMPLETED APPLICATIONS TO: ahp.central@dpi.nsw.gov.au

APPLICATION PROCESSING TIMES (from date received): 28 days for Permits & Consultations; 40 days for IDA Referrals

On 1 February 2017 at 12:41, [REDACTED] wrote:

Dear [REDACTED],

As highlighted previously (I refer back to our telephone discussion on 23 January 2017), we are currently preparing to undertake construction works for the Moorebank Precinct East, Stage 1 Works (Construction of IMEX Terminal). A key component of this work is the preparation of the Construction Environmental Management Plan (CEMP) and sub-plans, which we have now drafted and are now seeking your input as part of the consultation process.

Accordingly, please find dropbox links enclosed for the following documentation:

- Construction Environmental Management Plan (CEMP):
<https://www.dropbox.com/s/l6ezq7phq5nk1j8/IMEX-QPMS-EN-PLN-00000%20CEMP%20FINAL.pdf?dl=0>
- Construction Soil and Water Management Plan (CSWMP):

https://www.dropbox.com/s/nin82v7vm59rg5u/IMEX-QPMS-EN-PLN-00008-V2%20SWMP_FINAL%20-%20Signed.pdf?dl=0

Please provide any comments on the plans by the 15th February 2017 (two weeks from today).

Please also find attached a briefing note, intended to provide you with background information regarding the spatial layout, context of the works with regard to the overall precinct, and the role of the CEMP as an effective environmental management tool.

Should you have any questions regarding the above please do not hesitate to call either myself, or [REDACTED].

Regards,

[REDACTED]

[REDACTED] | Environmental Consultant | MSc. EMP | [REDACTED]

Arcadis | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia

[REDACTED]

[REDACTED]

www.arcadis.com

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Be green, leave it on the screen.

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Moorebank Precinct East, Stage 1 Construction Management: Consultation
Date: Thursday, 16 February 2017 9:08:52 AM
Attachments: [image009.jpg](#)
[image010.jpg](#)
[image011.jpg](#)
[image012.png](#)
[image013.jpg](#)

Dear [REDACTED],

RE: referenced construction management plan below (Appendix J of overall CEMP), it seems to be clear that contractors intend using Cambridge Avenue to access the site for construction purposes. This is not considered appropriate by Campbelltown City Council and is not consistent with the Commonwealth Mitigation Measures (detailed in table 6 of CTAMP) or Council's discussions with the Planning Assessment Commission during deliberations about the project in general.

Further:

- Truck routes as referenced in CoA E28 and E34 have not readily been identified in the CTAMP and its accompanying tables or within the overall CEMP document as best I can tell, which is inconsistent with the schedule on page vii of the document and the requirements of the 'Revised Statement of Commitments' (dated May 2015 on Department of Planning's website) that are referenced on page xiv of the CTAMP, and
- Subject to above, further clarification of the distance from the site for which dilapidation testing is proposed (as per CoA C18 and Table 11, TR3 of the subject CTAMP) should roads under the care and control of Campbelltown City Council be intended for use shall be identified for review, and
- Details of when the required road safety audit is likely to be completed (as per CoA C23 (or referenced as C24 in CEMP)).

These are relatively significant issues and should be addressed as part of your reporting to Department of Planning.

If you have any questions about the above or wish to clarify the issues further, please let me know.

Regards,

[REDACTED]

[REDACTED]
Acting Manager Development Services

From: [REDACTED]
To: [REDACTED]
Subject: RE: Moorebank Precinct East Stage 1 (IMEX): Construction documentation for your review
Date: 27 January 2017 8:33:07 AM
Attachments: [image005.jpg](#)
[image006.jpg](#)
[image007.png](#)
[image008.jpg](#)

Dear [REDACTED],

Thanks for your consultation dated 25 January 2017 as per the email below to the NSW Environment Protection Authority (EPA) to review and provide comments on the project's management plans developed for the Moorebank Precinct East Stage 1 Approved Project as follows:

- Construction Environmental Management Plan;
- Construction Noise and Vibration Management Plan;
- Construction Air Quality Management Plan; and
- Construction Soil and Water Management Plan.

I understand that a condition of planning approval requires you to consult with the EPA concerning the above management plans.

While the EPA encourages the use of environmental management plans and the like as an effective project management tool, it does not review or endorse them for reasons of maintaining regulatory 'arms length', and therefore EPA will not review or provide comments on any of the above management plans.

Please do not hesitate to contact me should you have any further questions.

Regards

[REDACTED]

Operations Officer – Metropolitan Infrastructure

Metropolitan Branch, NSW Environment Protection Authority

[REDACTED]

[REDACTED] www.epa.nsw.gov.au [@EPA_NSW](#)

Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555



From: [REDACTED]
Sent: Wednesday, 25 January 2017 4:56 PM
To: [REDACTED]
Subject: FW: Moorebank Precinct East Stage 1 (IMEX): Construction documentation for your review

From: [REDACTED]
To: [REDACTED]
Subject: RE: CEMP Doc Review: MPE Stage 1 (IMEX)
Date: 16 February 2017 3:29:37 PM
Attachments: [image015.jpg](#)
[image017.jpg](#)
[image019.png](#)
[image021.jpg](#)
[image023.jpg](#)
[image025.jpg](#)
[image028.jpg](#)
[image030.jpg](#)
[image032.jpg](#)
[image034.jpg](#)
[image036.jpg](#)
[image038.jpg](#)
[image040.jpg](#)

Hi [REDACTED],

Please find below OEH's comments on revision V2 of the *Construction Flora and Fauna Management Plan - Moorebank Precinct East Stage 1, Package 2*. Sincere apologies for the delay in providing these.

In relation to the Environmental and Heritage Construction Management Plans, I advise that OEH is unable to provide comments due to other priorities.

Regards

[REDACTED]
Conservation Planning Officer

Greater Sydney Region
Regional Operations Group
Office of Environment and Heritage
[REDACTED]

Page number, section	Comments
p.vi, table 1, CoA E34; p.42, table 11	<ul style="list-style-type: none">The reference to FF 4 in table 11 does not exist.
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p.x, table 2, FCMM 8A; p.42, table 11	<ul style="list-style-type: none">The reference to FF 3 in table 11 does not exist.
p.18, figure 1; p.27, figure 2; p.30 figure 3	<ul style="list-style-type: none">Figure 1 shows an area covered by the management plan (the yellow hatched area) which does not align with the 'Stage 1 Site (Extent of Clearing)' area shown in figures 2 and 3. Is this because some of the yellow hatched area in figure 1 will not be cleared at any stage? If not, amendments to some (or all) of

	these figures is required.
p.30, figure 3; p.33, table 9	<ul style="list-style-type: none"> Figure 3 does not show the locations of Nodding Geebung (<i>Persoonia nutans</i>) mentioned on page 33 (identified in areas north of Anzac Creek by Hyder Consulting).
p.39, table 10	<ul style="list-style-type: none"> The location of the 1.25 ha of native vegetation and threatened fauna habitat to be cleared is not shown on figures 2 or 3.
p.44, table 11, item FF2.3	<ul style="list-style-type: none"> The following amendments in shown in red to the 1st sentence are recommended: The project Ecologist to undertake a pre-clearing survey within at least two weeks of prior to vegetation clearing to identify any potential threatened species, endangered vegetation, weed infestation and habitat trees.
p.55, s.6.2	<ul style="list-style-type: none"> It is recommended the induction program for construction staff also include emergency and incident response/spill management procedures (eg fire and chemical/fuel spills).

From: [REDACTED]
Sent: Thursday, 16 February 2017 12:07 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: CEMP Doc Review: MPE Stage 1 (IMEX)

Hi [REDACTED],

In follow up to my voice message left yesterday, please note that the deadline for providing comment for the documents in question was yesterday.

Please let me know if you still wish to make comment for consideration for the CEMP. Our deadline for submitting with DP&E is next Monday, and I can see what I can do to make an allowance for late comments.

Many thanks,

[REDACTED]

[REDACTED] | Environmental Consultant | MSc. EMP | [REDACTED]
Arcadis | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia

[REDACTED]
 [REDACTED]1
www.arcadis.com

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From: [REDACTED]
To: [REDACTED]
Subject: Re: Moorebank Precinct East, Stage 1 Construction Management: Consultation [DLM=For-Official-Use-Only]
Date: 1 February 2017 1:27:47 PM
Attachments: [Image.image001.jpg@01D27C77.E91F9800.jpg](#)
[Image.image002.jpg@01D27C77.E91F9800.jpg](#)
[Image.image003.png@01D27C77.E91F9800.png](#)
[Image.image004.jpg@01D27C77.E91F9800.jpg](#)
[Image.image006.jpg@01D27C78.5BE17E30.jpg](#)
[Image.image008.jpg@01D27C78.5BE17E30.jpg](#)
[Image.image010.png@01D27C78.5BE17E30.png](#)
[Image.image012.jpg@01D27C78.5BE17E30.jpg](#)

[REDACTED]
I have reviewed your TMP and have no issues.

[REDACTED]
Traffic Sergeant
Liverpool LAC
59430

----- [REDACTED] wrote: -----
To: "30580@police.nsw.gov.au" <30580@police.nsw.gov.au>
From: [REDACTED]
Date: 01/02/2017 10:48AM
Cc: [REDACTED]
[REDACTED]

Subject: Moorebank Precinct East, Stage 1 Construction Management: Consultation

Dear [REDACTED],

As previously discussed (I refer back to my email call on 25 January 2017), we are currently preparing to undertake construction works for the Moorebank Precinct East, Stage 1 Works (Construction of IMEX Terminal). A key component of this work is the preparation of the Construction Environmental Management Plan (CEMP) and sub-plans, which we have now drafted and are now seeking your input as part of the consultation process.

Accordingly, please find enclosed the Draft Construction Traffic and Access Management Plan for your review. Please provide any comments on the plans by the 15th February 2017 (two weeks from today).

Please also find attached a briefing note, intended to provide you with background information regarding the spatial layout, context of the works with regard to the overall precinct, and the role of the CEMP as an effective environmental management tool.

Should you have any questions regarding the above please do not hesitate to call either myself, or Ketan Patel on 8907 2687.

Regards,

[REDACTED]

[REDACTED] | Environmental Consultant | MSc. EMP | [REDACTED]
Arcadis | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia

[REDACTED]

[REDACTED]

www.arcadis.com

From: [Information Officer](#)
To: [REDACTED]
Cc: [Tharawal CEO](#)
Subject: RE: Moorebank Precinct East, Stage 1 Construction Management: Consultation
Date: 16 February 2017 2:57:14 PM
Attachments: [image003.jpg](#)
[image004.jpg](#)
[image005.png](#)
[image006.jpg](#)
[image007.png](#)
[image008.jpg](#)
[image009.jpg](#)
[image010.png](#)
[image011.jpg](#)
[image012.png](#)

Hi [REDACTED]

I have read the Construction Heritage Management Plan for Moorebank Precinct East Stage 1, Package 2.

On behalf of the CEO, Rebecca Ede, I would like to accept and agree to all conditions and plans pertaining to this area only.

Cheers

Yours in Unity

[REDACTED]
Personal Assistant to the CEO
Tharawal Local Aboriginal Land Council
220 West Parade
Couridjah NSW 2571

[REDACTED]
Informationofficer@tharawal.com.au

untitled



From: [REDACTED]
Sent: Wednesday, 15 February 2017 2:49 PM
To: Information Officer <informationofficer@tharawal.com.au>
Cc: [REDACTED]
Subject: FW: Moorebank Precinct East, Stage 1 Construction Management: Consultation

Hi [REDACTED],

As discussed, please find attached the Construction Heritage Management Plan for the Approved Project. General information on the project can be found via the briefing note I sent you in the original email (2 weeks ago).

MPE Stage 1 – Construction Management Plan

Liverpool City Council Comments

ENVIRONMENTAL HEALTH COMMENTS

I refer to your request for the Environment and Health Section to provide comments in relation to the Construction Environmental Management Plan (CEMP), Moorebank Precinct East Stage 1, Package 2 Revision 001 prepared by Ketan Patel dated 31 January 2017. The purpose of this memorandum is to review this documentation to determine the adequacy of proposed environmental mitigation measures that will be implemented during construction.

Errors in Tables 1, 2, 3 and 4

The majority of references included in Table 1 of the CEMP (Compliance Matrices) were not specified due to an error within the report. Consequently, it was difficult to undertake a comparative assessment against the Minister's Conditions of Approval. Similar errors were present in Tables 2, 3 and 4 of the CEMP. Furthermore, Point 2 Section 1.1 'Purpose and Application' is incomplete and requires correction.

Table 5- Objectives and Targets

High level objectives and targets for the Project were included in Table 5 of the Plan. It is reported that complainants will be contacted within a period of four hours and the matter 'closed out' within one week. The target should realign effort on adequately resolving the complainants' concerns to prevent impacts to human health and the environment rather than setting a target to close the complaint.

Section 5.2.2 Environmental Control Plans

Section 5.2.2 'Environmental Control Plans' states that 'The will be updated and amended by the contractor as required, Appendix Q'. This sentence is incomplete and requires correction. The entire paragraph should be revised to convey accurate and comprehensible information to the reader. In addition, Section 5.2.5 'Handling, Storage, Packaging and Transport contains a reference source error.

The *Protection of the Environment Operations Act 1997* imposes a duty to notify each relevant Authority of pollution incidents posing material harm to the environment. Relevant Authority means the: Appropriate Regulatory Authority; the NSW Environment Protection Authority; the Ministry of Health; SafeWork NSW, the local Authority; Fire and Rescue NSW. Although outlined in Section 9 of the Plan, it is believed that the duty to notify requirements should also be included in Section 8 (Emergency, Preparedness and Response) of the CEMP.

Section 10.5.1 Internal Audits

Section 10.5.1 Internal Audits states that 'the contractor will be audited within 3 months of commencing on site by SIMTA and an in accordance with their internal auditing requirements but no less than 6-monthly. every 3 months thereafter, then every six months. SIMTA will audit the project on a 6 monthly basis'. This paragraph needs to be revised as it is difficult to comprehend.

Appendix- Environmental Risk Action Plans

Noise and Vibration ERAP

Appendix A Environmental Risk Action Plans Noise and Vibration ERAP references the '*Protection of the Environment Operations (Noise Control) Regulation 2000*'. This legislation was repealed and superseded by the '*Protection of the Environment Operations (Noise Control) Regulation 2008*'. Furthermore, the ERAP refers to AS 2436 Guide to Noise Control on Construction, Maintenance and Demolition Sites'. This Standard was superseded by AS 2436-2010 (R2016) Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites. The references in the Noise and Vibration ERAP must be updated accordingly.

Dust and Air Quality ERAP

Additionally, the Dust and Air Quality ERAP refers to the '*Protection of the Environment Operations (Clean Air) Regulation 2002*'. This legislation was superseded by the *Protection of the Environment Operations (Clean Air) Regulation 2010*.

Waste ERAP

The Waste ERAP references the *Protection of the Environment Operations (Waste) Regulation 2005*. This legislation was repealed and superseded by the *Protection of the Environment Operations (Waste) Regulation 2014*. More recent Waste Classification Guidelines were also published by the NSW EPA. The references in the Dust and Air Quality ERAP and Waste ERAP must be updated accordingly.

Water Quality, Site Drainage and Erosion Control ERAP

Legal, contractual and other requirements noted in the Water Quality, Site Drainage and Erosion Control ERAP include Condition of Approval SSD 6766 and *Protection of the Environment Operations Act 1997*. In addition to these requirements, it is believed that the document should reference the Australian and New Zealand Environment Conservation Council (ANZECC) guidelines for fresh and marine water quality and the Managing Urban Stormwater: Soils and Construction - Volume 1, 4th Edition (LandCom Blue Book).

The Hazardous/Contaminated Material ERAP

The Hazardous/Contaminated Material ERAP refers to the Dangerous Goods Safety Management Act 2001 and Dangerous Goods Safety Management Regulation 2001. It should be noted that this Act and Regulation do not apply in New South Wales and were repealed in Queensland under the Work Health and Safety Act 2011. Australian Dangerous Goods Code, 5th Edition is also detailed within the ERAP.

According to the Department of Infrastructure and Regional Development, the Australian Dangerous Goods Code Edition 7.4 has been implemented in all jurisdictions in Australia. Additionally, legal, contractual and other requirements should include the *POEO Act 1997*, *Contaminated Land Management Act 1997* and *SEPP 55*. The Hazardous/Contaminated Material ERAP shall be updated with the correct legislation and standards that apply in New South Wales.

Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods Requirements ERAP

The Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods Requirements ERAP refers to the Dangerous Goods (Road and Rail Transport) Regulation 2008. It should be noted that the applicable Regulation is the Dangerous Goods (Road and Rail Transport) Regulation 2014. As outlined above, the Australian Dangerous Goods Code Edition 7.4 was implemented in all jurisdictions in Australia. The Delivery and Storage of Chemicals, Fuels and Oils including Dangerous Goods requirements ERAP shall be updated with the correct legislation and standards that apply in New South Wales.

Appendices

The Remediation Action Plan in Appendix C and Construction Noise and Vibration Management Plan in Appendix D were not included in the submitted CEMP. As a result, these sub-plans were not assessed as part of this review.

Construction Soil and Water Management Plan, Moorebank Precinct East Stage 1, Package 2

The Construction Soil and Water Management Plan, Moorebank Precinct East Stage 1, Package 2, Revision V2 prepared by Tim Haydon dated 31 January 2017 was presented to the Environment and Health Section for review. Section 2.1 of the Construction Soil and Water Management Plan refers to the Dangerous Goods Act 1975 which has been repealed.

Section 2.3 of the Construction Soil and Water Management Plan specifies the Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (DECC 2009). This reference may also need to be updated as these Guidelines were revised in September 2015 by the NSW Environment Protection Authority.

AS 1940-1993 The Storage and Handling of Flammable and Combustible Liquids was also specified within the Plan. This standard was revised and republished in 2004 and is now known as AS 1940-2004 The storage and handling of flammable and combustible liquids. Consequently, these references must be updated accordingly.

The Environment and Health Section wishes to underline the importance of implementing comprehensive compliance monitoring initiatives that incorporate both qualitative and quantitative measures. Environmental monitoring data collected for the duration of construction activities would assist in determining compliance with the Approval, Environment Protection Licences and environmental best practice.

[REDACTED]

From: [REDACTED]
Sent: Monday, 20 February 2017 3:00 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Moorebank Precinct East, Stage 1 Construction Management: Consultation
Attachments: CCC Traffic Response_20022017.pdf

Dear [REDACTED],

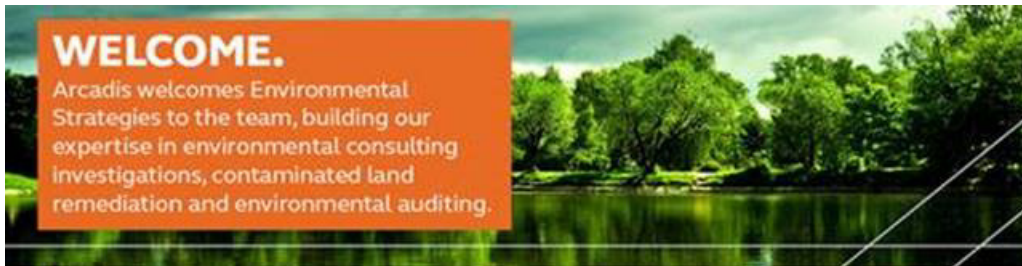
Thank you for your comments last week. Please find attached a summary table indicating how your comments have been addressed within the relevant plans.

Kind regards,

[REDACTED]

[REDACTED] | Environmental Consultant | MSc. EMP | [REDACTED]
Arcadis | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia

[REDACTED]
www.arcadis.com



Be green, leave it on the screen.



Registered office: Level 5, 141 Walker Street, Sydney NSW 2060, Australia ABN 76 104 485 289

From: [REDACTED]
Sent: Thursday, 16 February 2017 9:09 AM
To: [REDACTED]
Cc: J [REDACTED]
[REDACTED]
Subject: RE: Moorebank Precinct East, Stage 1 Construction Management: Consultation

Dear [REDACTED]

RE: referenced construction management plan below (Appendix J of overall CEMP), it seems to be clear that contractors intend using Cambridge Avenue to access the site for construction purposes. This is not considered appropriate by Campbelltown City Council and is not consistent with the Commonwealth Mitigation Measures (detailed in table 6 of CTAMP) or Council's discussions with the Planning Assessment Commission during deliberations about the project in general.

Further:

- Truck routes as referenced in CoA E28 and E34 have not readily been identified in the CTAMP and its accompanying tables or within the overall CEMP document as best I can tell, which is inconsistent with the schedule on page vii of the document and the requirements of the 'Revised Statement of Commitments' (dated May 2015 on Department of Planning's website) that are referenced on page xiv of the CTAMP, and
- Subject to above, further clarification of the distance from the site for which dilapidation testing is proposed (as per CoA C18 and Table 11, TR3 of the subject CTAMP) should roads under the care and control of Campbelltown City Council be intended for use shall be identified for review, and
- Details of when the required road safety audit is likely to be completed (as per CoA C23 (or referenced as C24 in CEMP)).

These are relatively significant issues and should be addressed as part of your reporting to Department of Planning.

If you have any questions about the above or wish to clarify the issues further, please let me know.

Regards,

[Redacted signature]

[Redacted]
Acting Manager Development Services
Campbelltown City Council

[Redacted]
[Redacted]

Please visit www.campbelltown.nsw.gov.au



From: [Redacted]
Sent: Wednesday, 1 February 2017 12:46 PM
To: [Redacted]
Cc: [Redacted]
Subject: FW: Moorebank Precinct East, Stage 1 Construction Management: Consultation

Dear [REDACTED]

As highlighted previously (I refer back to email correspondence on 25 and 27 January 2017), we are currently preparing to undertake construction works for the Moorebank Precinct East, Stage 1 Works (Construction of IMEX Terminal). A key component of this work is the preparation of the Construction Environmental Management Plan (CEMP) and sub-plans, which we have now drafted and are now seeking your input as part of the consultation process.

Accordingly, please find dropbox links enclosed for the following documentation:

- Construction Environmental Management Plan (CEMP):
<https://www.dropbox.com/s/l6ezq7phq5nk1j8/IMEX-QPMS-EN-PLN-00000%20CEMP%20FINAL.pdf?dl=0>
- Construction Soil and Water Management Plan (CSWMP):
https://www.dropbox.com/s/nin82v7vm59rg5u/IMEX-QPMS-EN-PLN-00008-V2%20SWMP_FINAL%20-%20Signed.pdf?dl=0
- Construction Heritage Management Plan (CHMP): https://www.dropbox.com/s/uwml6kqobewnfeu/IMEX-QPMS-EN-PLN-00004-V3%20HMP_FINAL%20-%20Signed.pdf?dl=0
- Construction Traffic and Access Management Plan (CTAMP):
https://www.dropbox.com/s/gyasnf1vyt3jo4x/IMEX-QPMS-EN-PLN-00006-V2%20TAMP_FINAL.pdf?dl=0

Please provide any comments on the plans by the 15th February 2017 (two weeks from today).

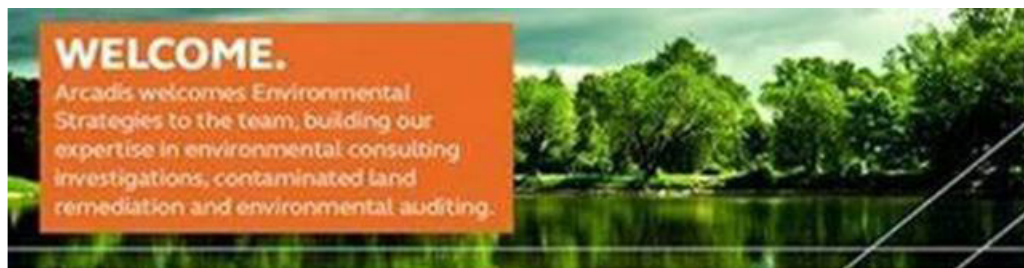
Please also find attached a briefing note, intended to provide you with background information regarding the spatial layout, context of the works with regard to the overall precinct, and the role of the CEMP as an effective environmental management tool.

Should you have any questions regarding the above please do not hesitate to call either myself, or [REDACTED]

Regards,

[REDACTED] | Environmental Consultant | MSc. EMP | [REDACTED]
Arcadis | Level 5/141 Walker Street, North Sydney | NSW 2060 | Australia

www.arcadis.com



Be green, leave it on the screen.



Registered office: Level 5, 141 Walker Street, Sydney NSW 2060, Australia ABN 76 104 485 289

MOOREBANK PRECINT EAST, STAGE 1 CONSTRUCTION MANAGEMENT: CONSULTATION WITH CAMPBELLTOWN CITY COUNCIL

Comment ID	Campbelltown Comment	SIMTA Response	Document Reference
1	Truck routes as referenced in CoA E28 and E34 have not readily been identified in the CTAMP and its accompanying tables or within the overall CEMP document as best I can tell, which is inconsistent with the schedule on page vii of the document and the requirements of the 'Revised Statement of Commitments' (dated May 2015 on Department of Planning's website) that are referenced on page xiv of the CTAMP	Agreed, an additional section identifying the construction traffic distribution and haulage route for the IMEX compound has been added to the CTAMP.	Section 4.3 of the CTAMP
2	Subject to above, further clarification of the distance from the site for which dilapidation testing is proposed (as per CoA C18 and Table 11, TR3 of the subject CTAMP) should roads under the care and control of Campbelltown City Council be intended for use shall be identified for review	Dilapidation testing will be undertaken of Cambridge Avenue prior to the commencement of construction. However, it is noted that no heavy vehicles for the construction of the IMEX terminal will access Cambridge Avenue. An additional section identifying the construction traffic distribution and haulage route for the IMEX compound has been added to the CTAMP. Section 4.3 states: "All heavy vehicles are expected to access and egress the construction site and travel along Moorebank Avenue to the north of the construction site to the M5 Motorway and surrounding road network. It is anticipated that heavy vehicles would use the gazetted heavy vehicle routes to access the construction site. No heavy vehicles would use Anzac Road or other residential streets including Cambridge Avenue."	Section 4.3 of the CTAMP
3	Details of when the required road safety audit is likely to be completed (as per CoA C23 (or referenced as C24 in CEMP)).	Table 11, TR3 (on page 13 of the CTAMP) identifies the requirement to undertake a Road Safety Audit prior to construction commencing and in accordance with CoA C24. This will be undertaken in consultation with TfNSW and Liverpool City Council as construction vehicle access points for this package of works are situated on Moorebank Avenue under the jurisdiction of Liverpool City Council. . The Road Safety Audit will be undertaken by an independent TfNSW accredited road safety auditor.	Table 11, TR3 (on page 13 of the CTAMP) Table 1, CoA C23 (on page v of the CTAMP)
4	It seems to be clear that contractors intend using Cambridge Avenue to access the site for construction purposes. This is not considered appropriate by Campbelltown City Council and is not consistent with the Commonwealth Mitigation	No construction traffic for the construction of the IMEX Terminal will be accessing roads controlled by Campbelltown City Council. The only heavy vehicles expected to utilise Cambridge Avenue would be for the disposal of unsuitable material to the Glenfield Waste Facility, if required. Additional sections identifying the construction traffic distribution and haulage route for	Section 4.3 of the CTAMP Table 9 Section 6.1: Training

Comment ID	Campbelltown Comment	SIMTA Response	Document Reference
	Measures (detailed in table 6 of CTAMP) or Council's discussions with the Planning Assessment Commission during deliberations about the project in general.	<p>the IMEX compound have s been added to the CTAMP in section 4.3 with supplementary information as outlined below:</p> <ul style="list-style-type: none"> • Table 11 – TR9: <i>A left turn ban into site and a right turn ban will apply for all heavy vehicles leaving the site and a right turn ban into site will also apply to minimise the use of Cambridge Avenue causeway.</i> • Section 6.1: <i>In particular, details concerning the left turn ban out of site/right turn ban into site applicable for all heavy vehicles will be briefed during the induction, tool box and noted in the contractor developed traffic control plans.</i> • Table 9: <i>Cambridge Avenue will not be utilised for heavy vehicle movements.</i> • <i>Driver code of conduct: No use of Cambridge Avenue</i> 	<p>Table 11 – TR9</p> <p>Driver code of conduct</p>

From: [REDACTED]
Sent: Wednesday, 25 January 2017 3:03 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: MPE Stage 1 - CEMP Consultation [SEC=UNCLASSIFIED]

[REDACTED],

Based on the below correspondence I will advise CPB that consultation with the Department of Defence is not required.

Please confirm.

Regards,

[REDACTED]

ASSISTANT PROJECT MANAGER
TACTICAL
GROUP

LEVEL 15 | 124 WALKER STREET | NORTH SYDNEY | NSW | 2060

T [REDACTED]

[REDACTED]

E [REDACTED]

W www.tacticalgroup.com.au



Before printing this document, please consider the environment.

From: [REDACTED]
Sent: Wednesday, 25 January 2017 2:46 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Subject: RE: MPE Stage 1 - CEMP Consultation [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hi [REDACTED],

As discussed, if we are kept up to date regularly on the works on I think that will cover off the need. The only area the maybe impacted is JLU(E) but we can provide any relevant information through to them in the regular updates as required.

I don't see us(Defence) providing any value in reviewing or assessing CEMPS due to points you raise below.

Regards

[REDACTED]
A/Director Estate and Facilities Services
Defence Support and Reform Group
[REDACTED]
[REDACTED]

IMPORTANT: This email remains the property of the Department of Defence and is subject to the jurisdiction of section 70 of the Crimes Act 1914. If you have received this email in error, you are requested to contact the sender and delete the email.

From: [REDACTED]
Sent: Thursday, 19 January 2017 12:20 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: MPE Stage 1 - CEMP Consultation

[REDACTED],

Thanks for your time on the phone today to discuss the potential for consultation between SIMTA (and our contractors) and Defence for the CEMPs for delivery of the MPE Stage 1 Rail Access Link and the IMEX Terminal.

As discussed, we are required under Condition 7 of the conditions of approval for SSD14-6766 to consult with Defence (SME, DNSDC, Defence Housing) on the content of our CEMPs. However as we discussed, we feel that this requirement may not have been updated to take into account that Defence are no longer the official land holder of this land and therefore not an impacted or interested party.

Please can you review and consider the above and confirm if Defence and confirm Defence's requirements to satisfy this condition with respect to consultation.

Regards,

[REDACTED]
PROJECT MANAGER
TACTICAL
GROUP

LEVEL 15 | 124 WALKER STREET | NORTH SYDNEY | NSW | 2060
[REDACTED]

From: [REDACTED]
Sent: Wednesday, 25 January 2017 3:03 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: MPE Stage 1 - CEMP Consultation [SEC=UNCLASSIFIED]

[REDACTED],

Based on the below correspondence I will advise CPB that consultation with the Department of Defence is not required.

Please confirm.

Regards,

[REDACTED]

ASSISTANT PROJECT MANAGER
TACTICAL
GROUP

LEVEL 15 | 124 WALKER STREET | NORTH SYDNEY | NSW | 2060

[REDACTED]

[REDACTED]

[REDACTED]

W www.tacticalgroup.com.au



Before printing this document, please consider the environment.

From: [REDACTED]
Sent: Wednesday, 25 January 2017 2:46 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Subject: RE: MPE Stage 1 - CEMP Consultation [SEC=UNCLASSIFIED]

UNCLASSIFIED

Hi [REDACTED]

As discussed, if we are kept up to date regularly on the works on I think that will cover off the need. The only area the maybe impacted is JLU(E) but we can provide any relevant information through to them in the regular updates as required.

I don't see us(Defence) providing any value in reviewing or assessing CEMPS due to points you raise below.

Regards

[REDACTED]
A/Director Estate and Facilities Services
Defence Support and Reform Group
[REDACTED]

[REDACTED]

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To: [REDACTED]
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Subject: MPE Stage 1 - CEMP Consultation

[REDACTED]

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Please can you review and consider the above and confirm if Defence and confirm Defence's requirements to satisfy this condition with respect to consultation.

Regards,

[REDACTED]
PROJECT MANAGER
TACTICAL
GROUP

LEVEL 15 | 124 WALKER STREET | NORTH SYDNEY | NSW | 2060
[REDACTED]



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APPENDIX AA

Flood Emergency Response Plan

APPENDIX BB

Bushfire Management Strategy

APPENDIX CC

Light Spill Management

LIGHT SPILL MANAGEMENT

Purpose

This Appendix has been developed for the construction period of the Project, to address the Department of the Environment and Energy (DotEE) Approval (EPBC 2011/6229) and forms part of the Construction Environmental Management Plan.

Local Context

A number of residential suburbs are located in proximity to the Project site. The approximate distances of these suburbs to the MPE Stage 1 site are provided in the table below.

Suburb	Distance to MPE Stage 1 site
Wattle Grove, north of Anzac Road	900m to the north-east
Wattle Grove, south of Anzac Road	600m to the east
Casula	1100m* to the west
Glenfield	1700m to the south-west

*Distances have been revised from those presented in the MPE Stage 1 Noise and Vibration Impact Assessment (NVIA) to reflect accurate distances from receptor to the nearest boundary of the MPE Stage 1 (Package 2) IMEX construction footprint. Distances presented are for descriptive purposes only.

The land surrounding the site includes:

- The Moorebank Precinct West (MPW) site, formerly the School of Military Engineering (SME) on the western side of Moorebank Avenue, which is owned by the Commonwealth
- The area immediately south of the MPE site, known as the 'Southern Boot Land', includes an existing rail spur within a vegetated remnant bushland. The East Hills Rail Corridor is south of the Southern Boot Land, which is owned and operated by Sydney Trains. Further to the south is the Holsworthy Military Reserve, which is owned by the Commonwealth
- The Boot Land, to the immediate east of the MPE site between the eastern site boundary and the Wattle Grove residential area, which is owned by the Commonwealth
- The Defence Joint Logistics Unit (DJLU) is located immediately north and north-east of the MPE site.

EPBC 2011/6229 Condition of Approval (CoA) 7b) states that:

"Consideration must be given to people and communities at SME, Defence National Storage and Distribution Centre (DNSDC), Department of Defence housing and the environment more generally in neighbouring bushland areas."

The SME and Defence housing have been relocated off the MPW site to the Holsworthy Barracks and are no longer sensitive receivers to the MPE site. Therefore, consultation with Defence regarding proposed mitigation measures for light spill impacts, as required in CoA 7i) is no longer considered relevant.

The DNSDC has been relocated to the Defence Joint Logistics Unit (DJLU), to the north of the MPE site, and is listed as a sensitive receiver in the MPE Stage 1 EIS.

Construction Impacts

Lighting would be required during construction of the Project to illuminate within ancillary facilities, and on plant and equipment.

The MPE Stage 1 EIS states that the impacts of light spill during construction of the Project are expected to be minor as it would be localised and temporary in nature. There is a considerable separation of residential dwellings from the Project site, which would further reduce the impact of this lighting during construction.

During construction, some out-of-hours construction works may be required. Lighting required to enable these works would have the potential for light spill impacts due to the presence of fixed lighting within the facility and movement of vehicles during night works. However, lighting would be contained to the area of actual works and designed to avoid light spill to surrounding areas as much as possible. No significant effects on fauna are expected during construction of the Project.

Management Measures

The following management measures will be implemented during the construction of the Project:

- Temporary lighting (fixed and portable) will be designed and located to minimise the effects of light spill on surrounding sensitive receivers
- No lights will be installed above the height of 40 m or, the maximum approved height of the intermodal warehouse buildings (whichever is less) (EPBC Act Approval (2011/6229) 7(e))
- Where required for construction works, cut-off and directed lighting would be used and lighting location considered to ensure glare and light spill are minimised (Section 17.4 of the MPE Stage 1 EIS)
- Potentially affected residents and relevant authorities will be notified in advance of any out of hours works.

Refer also to the Construction Flora and Fauna Management Plan (Appendix G of this CEMP) regarding management of potential light spill impacts on fauna. The Urban Design and Landscape Plan (Appendix EE of this CEMP) also outlines measures to be employed to minimise the visual impact of the MLP East Precinct on the surrounding sensitive receivers during operations.

Monitoring

Monitoring of light spill impacts will be undertaken by the Contractor's Environment Manager (or delegate) during weekly inspections of construction activities to monitor compliance with the requirements of the approval and this CEMP. Daily (nightly) monitoring will be undertaken during any out-of-hours works.

Inspections will focus on the following key issue:

- Location and direction of temporary (fixed and portable) lighting.

An Environmental Inspection Checklist will be used to maintain compliance and effectiveness of controls. Items that require action will be documented during environmental inspections and notified to the relevant Site Supervisor. The Site Supervisor will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

APPENDIX DD

EPBC Approval (2011/6229) Compliance

EPBC (2011/6229) Conditions of Approval

Red Text: Variation of Conditions of Approval dated 19 August 2019 under s143 of the EPBC Act 1999

Note:

CEMP - approved by DotEE 24/05/17

CFFMP - approved by DotEE 24/05/17

No.	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
		IMEX - Construction	Evidence / Comments
1	For the better protection of the GHFF , the person taking the action must: a) not clear more than 11 hectares of GHFF foraging habitat;	Y	The EIS has been developed to ensure that no more than 11 ha of GHFF habitat will be cleared. No clearing has been undertaken on IMEX prior to 16/5/17. Approximately 3.48ha of GHFF habitat has been cleared on the IMEX site to 18/06/18. Approximately 9.88ha (total) of GHFF habitat has been cleared on MPE site to date.
1	b) engage a suitably qualified expert to undertake a pre-clearance survey(s) to confirm the absence of GHFF roosting camps within the rail easement, no more than 48 hours prior to the clearance of potential GHFF roosting habitat; and	Y	Pre-clearance surveys are undertaken by the project ecologist within two weeks of vegetation clearing as per <u>Section 5.1 - Vegetation Clearance Protocol</u> of the CFFMP (Rev 15) which states the following: <u>Preclearance inspections</u> <i>The project Ecologist is to undertake a pre-clearing survey within two weeks of vegetation clearing to identify any potential threatened species, endangered vegetation, weed infestation and habitat trees. The ecologist will identify at a minimum:</i> <ul style="list-style-type: none">• The species, relative density and location of any weeds;• Locations of threatened flora and fauna species and habitat or hollow bearing trees;• Echolocation call recording and dawn/dusk surveys to confirm if the buildings are being used as roosting sites for any microchiropteran bats;• Trees which require limbs to be removed;• Native wildlife (e.g. reptiles, frogs) that can be captured and relocated; and• Identification of pest fauna species. <i>Should any threatened species be identified within the area to be cleared, refer to the Unexpected Finds Protocol in Table 11 (FF7.3). Based on the results of these preclearance surveys, mark up trees as follows (with spray paint on their trunks in a visible location):</i> <ul style="list-style-type: none">• 'H' = Habitat Tree. If hollow-bearing or habitat trees are identified as requiring removal the two-staged clearing process outlined below is to be implemented and the clearing supervised by an ecologist;• ○ = Ecologist has assessed the tree and it is ready for removal;• ◯ = Ecologist has assessed the tree and it requires pre-inspection immediately prior to, and during removal. Two-staged clearing process outlined below. <i>Where hollow bearing trees are identified during preclearing surveys, the NBMS will be implemented prior to clearing.</i> <u>Stage 1:</u> <ul style="list-style-type: none">• Non-habitat vegetation removal must be undertaken a minimum of 48 hours prior to habitat tree removal. Habitat trees are to remain standing for 48 hours before clearing to allow fauna to vacate the habitat on their own accord. <u>Stage 2:</u> <ul style="list-style-type: none">• Immediately prior to felling, the habitat tree is to be knocked with an excavator bucket (or other machinery) to encourage fauna to evacuate the tree under the supervision of an ecologist. The tree may then be felled.• Felled trees must be left on the ground for a short period to allow any trapped fauna the opportunity to escape.• Felled hollow-bearing trees must be inspected by an ecologist immediately to check for injured or immature fauna.• Animals found prior to or during clearing activities will be released outside of any exclusion fencing to surrounding suitable habitat.• If any animal is injured, contact the relevant local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery as soon as practical. Until the animal can be cared for by a suitably qualified animal handler, if possible minimise stress to the animal and reduce the risk of further injury by:<ul style="list-style-type: none">o Handling fauna with care and as little as possible.o Covering larger animals with a towel or blanket and placing in a large cardboard box.o Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark location.• In the case of arboreal or flying mammals, attempts will be made to relocate the den or roost. After capture, the animal(s) will be held by a trained wildlife carer for a period of no longer than two weeks until the roost or den can be relocated, either as an entire tree or part thereof.• Work may recommence once the animal(s) have been captured and removed from the area.• Felled trees will be placed between cleared and remnant bushland where possible to provide runways of ground cover for dispersal of animals.• Excess material may be mulched and used on site. Remove unused mulch to designated stockpile locations and do not use mulch within 50m of waterways or drainage lines.
1	c) notify the Department in writing of the results of pre-clearance surveys. If the GHFF is detected roosting on site, all native vegetation clearance activities must halt until the person taking the action has complied with any directions the Minister may wish to issue regarding <u>timing of construction or methods for dispersal of the GHFF</u> .	Y	All pre clearance surveys undertaken on the project to date has been supplied to the principal. No GHFF have been detected roosting on site prior to or during clearing activities on the project.
2	For the better protection of the Macquarie Perch , the person taking the action must: a) engage a suitably qualified expert to design (or provide input on the design of) all crossings which are proposed to be implemented across Macquarie Perch habitat. Any such crossings must be of a suitable design that provides for the passage requirements of Macquarie Perch; and	N	Not applicable to this phase of works. Macquarie Perch has not been found within the site boundary. No aquatic or riparian habitats are crossed by the IMEX site.
2	b) implement all feasible and practicable measures that ensure sedimentation and / or erosion (as a result of the proposed action) do not lead to any further reductions in the water quality, or degradation of, Macquarie Perch habitat.	Y	Erosion and sediment control during construction is managed by all the mitigation measures outlined in <u>Table 11 - Stage 1 Mitigation/Management/Control Action and Responsibilities</u> of the approved CSWMP (Rev 12). In particular, management measure SW1 plays a crucial role in managing erosion and sediment impacts on Macquarie Perch habitat. SW1 states the following: Erosion and Sediment Control Plan <i>An Erosion and Sediment Control Plan (ESCP) for the Project construction is presented as Appendix C. The plan includes ERSED controls in accordance with Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2006) (the Blue Book™) as outlined further below. Standard Drawings of ERSED controls are provided in Appendix D. These drawings outline construction measures and methods of installation of controls. The ESCP must be developed and approved by the Principal. The Principal's Environmental Representative will inspect the installation of the controls prior to breaking ground.</i>
3	For the better protection of Hibbertia sp. Bankstown , the person taking the action must engage a suitably qualified expert to undertake a targeted search for individuals of Hibbertia sp. Bankstown within all areas of potential habitat during the species' flowering period.	Y	The MPE Stage 1 Biodiversity Assessment Report (BAR) prepared by (Hyder, 2015) included results of targeted surveys for <i>Hibbertia</i> sp. Bankstown in areas of potential habitat within the Project study area. The species was not recorded. Further surveys undertaken by Arcadis in October and November 2016 within the Boot Land south of the Project site also did not record this species. Targeted surveys for threatened Hibbertia species were conducted during the spring/summer 2017 flowering period in the Bootland and the Butchers Knife. <i>Hibbertia sp. Bankstown</i> was not detected The BAR and all targetted surveys were prepared and undertaken by suitably qualified Arcadis Ecologists.
4	For the better protection of Bynoe's Wattle , the person taking the action must engage a suitably qualified expert to undertake a field habitat assessment that targets the ecological requirements of Bynoe's Wattle , in all areas of Castlereagh Scribbly Gum Woodland likely to be cleared as a result of the proposed action. If the assessment determines there is potential for the species to occur on site, then a suitably qualified expert must undertake a targeted search for individuals of Bynoe's Wattle within all areas of potential habitat identified by the habitat assessment during the species' flowering period.	Y	The MPE Stage 1 Biodiversity Assessment Report (BAR) (Hyder, 2015) included results of targeted surveys for <i>Acacia bynoeana</i> in areas of potential habitat within the Project study area. The species was not recorded. Further surveys undertaken by Arcadis in October and November 2016 within the Boot Land south of the Project site did record the species, but not in proximity to the Project site; the closest record was located 140 metres east of the Project site. The BAR and all targeted surveys were prepared and undertaken by suitably qualified Arcadis Ecologists.
5	For the better protection of EPBC listed flora & the environment on Commonwealth land, the person taking the action must engage a suitably qualified expert to prepare a Flora and Fauna Management Plan (FFMP) for the approval of the Minister . The FFMP must include (but need not be limited to): a) details on the timing of native vegetation clearance works;	Y	DotEE approved the IMEX CFFMP (Rev 5) on 24/05/2017. The IMEX CFFMP has been progressively updated to reflect approved minor amendments. <u>Section 4.2.1 - Timing of Vegetation Clearance Works</u> of the CFFMP (Rev 15) states the following: <i>Vegetation clearance is scheduled to occur and be completed within the first six months of construction with an expected commencement date of late June to early July 2017. The start date is subject to receiving all project approvals.</i> The IMEX CFFMP was prepared by Joanne Woodhouse who, at the time of writing the CFFMP, had twelve years of professional experience specialising in terrestrial ecology, environmental impact assessment, bushfire hazard assessment and environmental) management.
5	b) detailed maps of the rail link easement and construction zone showing: i. permanent infrastructure and temporary works; ii. no-go areas; and iii. physical barriers used for the protection of native vegetation on Commonwealth land, and of EPBC Act listed Nodding Geebung and Small-flower Grevillea.	N	Not applicable to this phase of works. Construction of the rail link is not within the scope of works for IMEX.

No.	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
		IMEX - Construction	Evidence / Comments
5	c) measures to minimise the extent of native vegetation clearing upon Commonwealth land and the clearing of Nodding Geebung and Small-flower Grevillea ;	Y	<p>Management measure FF2.1 in Table 11 - Stage 1 Construction, Management Action and Responsibilities of the CFFMP (Rev 15) provides a measure that would minimise the clearing of native vegetation of Commonwealth land. FF2.1 states the following:</p> <p><i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing. The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas ('no-go areas') which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p> <p>Section 5.1 - Vegetation Clearance Protocol also outlines how clearance activities should be undertaken to minimise impact to native vegetation (included above in response to EPBC CoA 1b).</p>
5	d) provisions to ensure no more than 17 individuals of Nodding Geebung and 634 stems of Small-flower Grevillea are cleared;	N	Not applicable to this phase of works. No threatened species have been identified on the project site to date.
5	e) the results of targeted surveys for Hibbertia sp. , Bankstown and Bynoe's Wattle (including the number of individuals recorded) and what measures will be implemented to avoid, mitigate and manage impacts to these species, if individuals are found on site;	Y	<p>Results of targetted threatened flora species surveys are outlined in Section 3.5 -Threatened Species of the CFFMP (Rev 15) provides details ont he results of targetted surveys and states the following:</p> <p><i>The amended Biodiversity Assessment Report prepared by Arcadis (2017) identified the below threatened species within the Project study area as outlined in the Environmental Impact Statement Figure 14-1: Ecological Study Area listed under the NSW Threatened Species Act 1995 (TSC Act), two of which are also listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act):</i></p> <ul style="list-style-type: none">• East Coast Freetail Bat (<i>Mormopterus norfolkensis</i>), TSC Listed: Vulnerable;• Southern Myotis (<i>Myotis macropus</i>), TSC Listed: Vulnerable;• Eastern Bentwing-bat (<i>Miniopterus schreibersii oceanensis</i>) TSC Listed: Vulnerable;• Grey-headed Flying Fox (<i>Pteropus poliocephalus</i>), TSC Listed: Vulnerable, EPBC Listed: Vulnerable;• Nodding Geebung (<i>Persoonia nutans</i>), TSC Listed: Endangered, EPBC Listed: Endangered; and• Small-flower Grevillea (<i>Grevillea parviflora</i> subsp. <i>parviflora</i>), TSC Listed: Vulnerable, EPBC Listed: Vulnerable• <i>Hibbertia puberula</i> subsp. <i>puberula</i> (endangered, TSC Act)• <i>Hibbertia fumana</i> (critically endangered TSC act). <p><i>Of these, Eastern Bentwing-bat, Grey-headed Flying Fox, and Nodding Geebung were recorded close to the Project site (refer to Figure 3 and 4, Table 9 and Table 11 FF7.1 and FF7.2). The area of impact is restricted to the Project site as depicted in Figure 1 i.e. the MPE Stage 1, Package 2 site. No clearing outside this area will be undertaken, and as such, no flora or fauna outside of this area will be impacted upon. It is noted that the Project site has been previously cleared and it is unlikely that any endangered flora species will be encountered. Pre-clearing surveys undertaken prior to clearing will include the identification of threatened species, where threatened species are identified the Unexpected Threatened Species Procedure will be enacted as outlined in Table 11 FF7.3.</i></p> <p><i>Further surveys undertaken by Arcadis in October and November 2016 within the Boot Land south of the Project site identified three additional threatened plant species. These identified species were:</i></p> <ul style="list-style-type: none">• Bynoe's Wattle (<i>Acacia bynoeana</i>), TSC Act listed: Endangered, EPBC Act listed: Vulnerable;• Downy Wattle (<i>Acacia pubescens</i>), TSC listed: vulnerable, EPBC listed: Vulnerable; <i>Hibbertia puberula</i> subsp. <i>puberula</i>, TSC Listed: Endangered;• <i>Hibbertia fumana</i>, TSC Listed: Critically endangered <p><i>Additional targeted flora surveys for the MPE Stage 1: Package 1, undertaken by Cumberland Ecology in summer 2017, identified 184 Hibbertia fumana and 186 Hibbertia puberula subsp. puberula within the construction boundary for that package. Neither of these species have been recorded within the Package 2 construction boundary.</i></p> <p><i>No threatened species have been identified within the Project site to date. The nearest threatened species are located north of Anzac Creek within the Boot Land over 100m to the south of the Project, with the exception of one strand of persoonia nutans which was identified in the EIS to be within 50m of the southern boundary of the Project, (figure 4). Table 9 outlines the likelihood of encountering threatened species. The flora species identified have been assessed as being unlikely to occur within the project boundary (table 9). Despite this, a precautionary approach has been adopted for clearing: pre-clearing surveys will be undertaken by an ecologist prior to any clearing on site, (table 11) and staff will be educated in the identification of threatened species.</i></p> <p><i>Should any unexpected threatened species be identified within the Project site, the Unexpected Threatened Species procedure will be implemented (Table 11 FF7.3) however no threatened species have been recorded within the Project site. If identified, translocation of threatened species will be considered.</i></p> <p><i>CoC C22 also requires that a 'Threatened Dragonfly Species Survey Plan' is undertaken to determine the presence or absence of threatened dragonfly species listed under the Fisheries Management Act 1994. As outlined in Table 9, a habitat assessment was undertaken by Arcadis (2016). No habitats for either Archaeophya adamsi or Austrocordulia leonardi were detected in the survey area (Georges River between the crossings of Cambridge Avenue and the M5 Southwestern Motorway at Moorebank) and it was concluded highly unlikely that the threatened dragonflies occur.</i></p> <p>Notwithstanding the above, a precautionary approach has been adopted for clearing; pre-clearing surveys will be undertaken by an ecologist prior to any clearing on site and staff will be educated in the identification of threatened species.</p>
5	f) measures which allow terrestrial fauna to disperse naturally ahead of clearing activities, and minimise the risk of injury to individuals	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities management measure FF3.2 details a two-stage clearing protocol that enables fauna to naturally disperse ahead of clearing activities. FF3.2 states the following:</p> <p><i>No clearing of any vegetation outside of the project footprint is permitted and clearing of native vegetation will be minimised where possible. Additional project approvals will be required. Clearing of vegetation outside of the defined clearing permit boundary is not permitted Ecologist to be present on site during the clearing process for red flagged trees (' H ' and O). The two stage clearing process is outlined below and in Section 5.1.</i></p> <p>Stage 1:</p> <ul style="list-style-type: none">• Non-habitat vegetation removal must be undertaken a minimum of 48 hours prior to habitat tree removal. Habitat trees are to remain standing for 48 hours before clearing to allow fauna to vacate the habitat on their own accord. <p>Stage 2:</p> <ul style="list-style-type: none">• Immediately prior to felling, the habitat tree is to be knocked with an excavator bucket (or other machinery) to encourage fauna to evacuate the tree under the supervision of an ecologist. The tree may then be felled.• Felled trees must be left on the ground for a short period to allow any trapped fauna the opportunity to escape.• Felled hollow-bearing trees must be inspected by an ecologist immediately to check for injured or immature fauna.• Animals found prior to or during clearing activities will be released outside of any exclusion fencing to surrounding suitable habitat.• If any animal is injured, contact the relevant local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery as soon as practical. Until the animal can be cared for by a suitably qualified animal handler, if possible minimise stress to the animal and reduce the risk of further injury by:<ul style="list-style-type: none">– Handling fauna with care and as little as possible.– Covering larger animals with a towel or blanket and placing in a large cardboard box.– Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark location.• In the case of arboreal or flying mammals attempts will be made to relocate the den or roost. After capture, the animal(s) will be held by a trained wildlife carer for a period of no longer than two weeks until the roost or den can be relocated, either as an entire tree or part thereof.• Work may recommence once the animal(s) have been captured and removed from the area.• Felled trees will be placed between cleared and remnant bushland where possible to provide runways of ground cover for dispersal of animals.• Excess material may be mulched and used on site.• Remove unused mulch to designated stockpile locations and do not use mulch within 50m of waterways or drainage lines.
5	g) actions to maintain or enhance the long-term viability of native vegetation adjoining the rail easement in particular, adjoining populations of Nodding Geebung and Small-flower Grevillea ;	N	Not applicable to this phase of works. Construction of the rail link is not within the scope of works for IMEX.

No.	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
		IMEX - Construction	Evidence / Comments
5	h) measures to safeguard flora and fauna from the threat of weeds, fire, pathogens and unauthorised access, including (but not limited to) the commitments outlined in section 7.4.1 of the EIS (and summarised at Annexure A);	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> of the CFMMP (Rev 14) includes several mitigation measures which safeguard flora from the threat of weeds, fire, pathogens and unauthorised access including:</p> <p>FF1.2 which states</p> <p><i>Induction training must also include bushfire hazards and risks. The bushfire threat during Stage 1 construction is considered to be low. However, there is a risk of ignition of adjoining bush to the south of the Project. Grassfires tend to be less intense than a forest fire however they can still generate enormous amounts of radiant heat and it is important that:</i></p> <ul style="list-style-type: none"> <i>all site offices would be accessible via all-weather access roads suitable for firefighting vehicles;</i> <i>water supply must be readily identifiable and appropriate signage must be provided; and</i> <i>application of restrictions during days of elevated fire danger including all activities likely to cause sparks or fire.</i> <p><i>On days declared 'Total Fire Ban', not hot works to be undertaken and there is to be no high-risk activities or plant and equipment to be used for:</i></p> <ul style="list-style-type: none"> <i>Grass or vegetation reduction works (including mowing/slashing);</i> <i>Arborist works (chainsaw);</i> <i>Vehicle operations in long grass;</i> <i>Other than – (Emergency works).</i> <p>FF3.4 which states</p> <p><i>Management of noxious weeds is to be undertaken in accordance with the Noxious Weeds Act 1993 and include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols including:</i></p> <ul style="list-style-type: none"> <i>Weed areas to be flagged;</i> <i>Weeds to be sprayed two weeks prior to clearing or stripped and disposed of off-site at a licenced waste facility. Weedy material must not be mulched or retained on site;</i> <i>Equipment used for treating weed infestation(s) will be cleaned prior to moving to a new area within the Proposal site to minimise the likelihood of transferring any plant material and soil;</i> <i>Soil stripped and stockpiled from areas containing known weed infestations are to be stored on cleared land at least 40 m from native vegetation. Stockpiles to be bunded and covered to minimise potential of seed washing away;</i> <i>Weed contaminated spoil to be removed to licenced landfill and</i> <i>Plant and equipment brought on to site must be cleaned and free of deleterious material, mud and other material that may harbour weed seeds</i> <p><i>Weekly inspections will also be undertaken. The identification of weeds will be included as part of this inspection.</i></p> <p>FF3.5 which states</p> <p><i>All vehicles and other equipment to be used on site will be checked upon arrival to site to ensure it is free from excessive soil and vegetative matter to minimise the likelihood of introducing weeds and plant pathogens. Where necessary vehicles will be cleaned.</i></p> <p>and FF6.8 which states:</p> <p><i>Unauthorised access to site during construction will be managed in accordance with the approved Construction Traffic and Access Management Plan. Where required, additional traffic control and warning signs would be installed during vegetation clearing activities.</i></p>
5	i) ongoing monitoring to inform the adaptive management of native vegetation adjoining the rail easement.	N	Not applicable to this phase of works. Construction of the rail link is not within the scope of works for IMEX.
5	Native vegetation clearance must not occur until the FFMP has been approved. The FFMP must be implemented once approved.	Y	<p>DoTEE approved the IMEX CFFMP (Rev 5) on 24/05/2017. All construction activities have occurred in accordance with this plan. In addition <u>Section 4.2.1 - Timing of Vegetation Clearance Works</u> indicates that native vegetation clearance was undertaken after approval of the CFFMP by DoTEE. Section 4.2.1 states the following:</p> <p><i>Vegetation clearance is scheduled to occur and be completed within the first six months of construction with an expected commencement date of late June to early July 2017. The start date is subject to receiving all project approvals.</i></p>
6	For the better protection of Nodding Geebung , Small-flower Grevillea (and potentially, Hibbertia sp. , Bankstown and Bynoe's Wattle pending the outcome of 3 and 4) the person taking the action must engage a suitably qualified expert to prepare a Threatened Flora Offset Management Plan (TFOMP) (or plans) for the approval of the Minister. The TFOMP must include (but need not be limited to):	Y	<p>A Threatened Flora Offset Management Plan (TFOMP) was submitted as part of the Response to Submissions – Appendix J – Biodiversity Assessment Report. Threatened Flora Offset Management Plan was approved by DoTEE on 28/8/2017.</p> <p>A Biodiversity Offset Package was prepared in accordance with the State Conditions of Approval (SSD 6766) C23a and was approved by DP&E (now DPIE) on 31 May 2019.</p>
6	a) details of a direct offset that satisfies the requirements of the Department's offset policy, in accordance with the offset user guide (including timeframes for the delivery or acquisition of the direct offset);	Y	
6	b) map(s) and shapefiles that identify the location and boundaries of the direct offset;	Y	<u>Section 5 - Offsets</u> and <u>Figure 5-3: Offset sits for EPBC Act listed threatened flora species</u> of the TFOMP identifies the location and boundary of Wattle Grove Offset Area.
6	c) details of the management actions and performance objectives which will maintain and enhance the Nodding Geebung and Small-flower Grevillea habitat and/or population covered by the TFOMP (including the duration, intensity, and timing of management actions);	Y	Relevant sections of Management Action Plan in Appendix D of the BAR prepared for the Biobanking agreement application (WSP 2017). Also refer to <u>Section 6 - Management Actions on the EPBC Offset Sites</u> of the TFOMP.
6	d) an assessment of the baseline population and distribution for Nodding Geebung and Small-flower Grevillea within the direct offset, including: i. the number of plants protected and their location; and ii. plant and habitat condition.	Y	Baseline surveys for threatened flora species carried out in 2014, 2015 and 2016 and are outlined in <u>Section 3 - Threatened Flora Species</u> of the TFOMP.
6	e) measures for regular monitoring of the status of individuals of Nodding Geebung and Small-flower Grevillea and their habitat as measured against the baseline population and distribution, including: <ul style="list-style-type: none"> i. fluctuations in population size and distribution; and ii. response to disturbances and/or management actions. 	Y	<p>The application for the Biobanking agreement includes requirement for annual monitoring, including threatened flora populations.</p> <p><u>Section 7 - Adaptive Management and Monitoring of the Direct Offset Site</u> of the TFOMP provides details on measures for regular monitoring and management of nodding geebung and small-flower grevillea.</p>
6	f) provisions to revise the approved TFOMP in response to monitoring associated with condition 6(e); Native vegetation clearance must not occur until the TFOMP has been approved. The TFOMP must be implemented once approved. Should the action result in, or be likely to result in, residual impacts to Hibbertia sp. Bankstown or Bynoe's Wattle (as determined by the Minister), the TFOMP must also demonstrate how it meets the standards described in (a) to (f), for these two species.	Y	<p>The application for the Biobanking agreement includes provision for revising management action plans every five years in response to annual reporting outcomes</p> <p><u>Section 7.3 - Adaptive Management</u> of the TFOMP indicates this as it states</p> <p><i>In terms of the provisions to revise the Management Action Plan under the proposed Biobanking agreement, these are conducted at five yearly intervals and are specifically driven by the result of annual reporting and effectiveness of biodiversity gain at the direct offset site. Any revision or modification to the Management Action Plan must be approved by NSW OEH as part of the Biobanking agreement process.</i></p>
7	For the better protection of Commonwealth land, the person taking the action must engage a suitably qualified expert(s) to prepare a Construction Environment Management Plan (CEMP), for the approval of the Minister . The CEMP must include in relation to construction of the proposed facility;	Y	<p>Both IMEX and RALP have submitted these respective CEMPs to DoTEE. Initial comments have been received, addressed and resubmitted. DoTEE approved this document on 24/05/2017.</p> <p>CEMP and subplans have been made progressively to reflect minor amendments. Subsequent revisions to the CEMP and Sub-plans that have an impact on the requirements of the EPBC Approval (2011/6229) will result in an update to Appendix DD of the CEMP. This appendix will be submitted to the Federal Minister for review and if necessary, approval.</p>
7	a) details on the timing of construction works (accompanied by current and detailed maps);	Y	<p><u>Section 2.3 - Construction Program</u> of the IMEX CEMP (Rev 15) and <u>Table 10 - Indicative Construction Program</u> outlines the indicative construction program for the MPE Stage 1 Project. Section 2.3 states the following:</p> <p><i>Construction of the Proposal is planned to commence in the first quarter of 2017. The total period of construction works for the Proposal is expected to be approximately 18 months. Construction works have been divided into five 'works periods' which are interrelated and may potentially overlap. Subject to confirmation of construction, the order of these construction works periods may shift slightly. The indicative construction program is shown in Table 10.</i></p>

No.	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
		IMEX - Construction	Evidence / Comments
7	b) identification and quantification of all potential impacts associated with noise, vibration, air quality, traffic, light spill, hydrological changes, contamination, and indigenous heritage (including cumulative impacts associated with the DoF's proposed intermodal separately approved but related and adjacent intermodal terminal facility project , EPBC approval 2011/6086) upon Commonwealth land. Consideration must be given to people and communities at SME, DNSDC , Defence housing, and the environment more generally in neighbouring bushland areas. Of note, the air quality assessment must quantify all emissions arising from air pollutant sources for which there are established national air quality standards ; of PM _{2.5} and PM ₁₀ arising from project-related sources identified in the EIS.	Y	<p>Identification and quantification of all potential impacts are outlined in <u>Section 4 - Aspects, Impacts and Risks</u> of each aspect specific sub-plans (i.e. CNVMP, CAQMP, CTAMP, CSWMP, CHMP, CMP).</p> <p><u>Section 5 - Management Measures</u> of each aspect specific sub-plan (i.e. CNVMP, CAQMP, CTAMP, CSWMP, CHMP, CMP) describes how the potential impacts to the site, surrounding community (which includes local residents, SME, DNSDC, Defence housing) and the environment more generally are minimised.</p> <p>Note: School of Military Engineering (SME) has relocated from the MPW site.</p> <p>In particular, <u>Section 4.1.1 - Emissions Inventory</u> of the CAQMP (Rev 9) quantifies all emissions from all pollutant sources during construction. This states the following:</p> <p><i>The key emissions to air during the construction phase are Particulate Matter (PM), which is typically described in three size fractions:</i></p> <ul style="list-style-type: none">• PM_{2.5}• PM₁₀• PM with aerodynamic diameter of 50 microns or less (Total Suspended Particulates – TSP). <p><i>During mechanical motion and earth movements, the vast majority of PM generated is between 2.5 microns and 50 microns in aerodynamic diameter. PM greater than 10 microns in aerodynamic diameter cannot pass into the human respiratory system; however, PM of this size fraction can result in nuisance to surrounding receptors as a result of dust deposition. Consequently, in relation to PM, two potential impacts from dust generation are considered:</i></p> <ul style="list-style-type: none">• Ambient concentration of PM₁₀; and• Dust deposition (as a nuisance issue). <p><i>The principal sources of PM emissions will be from the following activities:</i></p> <ul style="list-style-type: none">• Vegetation clearing/ earthmoving during site preparation and haul roads construction;• Handling (loading/ unloading) of spoil/ demolition material;• Handling (loading/ unloading) of fill material, soils, aggregate, ballast etcetera;• Demolition of existing structures;• Movement of heavy plant and machinery within the site on unpaved haul roads and unsealed areas; and / or• Wind erosion from exposed areas and stockpiles. <p><i>The AQIA (ENVIRON Australia Pty Ltd, May 2015) quantified the emissions from key dust generating activities during works periods 1 (site preparation), 2 (earthworks) and 3 (engineering fill). It was considered in the AQIA that works periods 4 (concrete/ rail alignment construction) and 5 (miscellaneous structural construction) do not have significant dust generating equipment or activities.</i></p> <p><i>The emission factors used in the AQIA were developed by the United States Environmental Protection Agency (USEPA), and have been applied to estimate the amount of dust produced by each activity (material handling, wind erosion, hauling). Emissions have been quantified for TSP, PM₁₀ and PM_{2.5}, and are replicated from the AQIA (ENVIRON Australia Pty Ltd, May 2015) in Table 17.</i></p> <p>In addition <u>Table 17 - Construction Phase Emissions Estimates (kg/annum)</u> (ENVIRON Australia Pty Ltd, May 2015) provides estimates for TSP, PM_{2.5} and PM₁₀ of construction plant.</p> <p>Light spill impacts are identified within <u>Appendix CC - Light Spill Management</u> of the CEMP.</p>
7	c) the results of further investigations with regard to land contamination and indigenous heritage impacts (specifically, PADs two and three). If adverse impacts are identified, details on how such matters will be managed / mitigated must also be provided. Evidence of ongoing consultation with RAPs regarding further investigations for indigenous heritage objects/places must be provided;	Y	<p>Investigations regarding PADs 2 and 3 were completed prior to the commencement of MPE Stage 1 (SSD14- 6766). Refer to the Heritage Assessment (Artefact, 2016).</p> <p><u>Section 5.4 - Ongoing Consultation</u> of the IMEX CHMP (Rev 13) details the ongoing consultation between SIMTA and the RAPs, in particular the Tharawal Local Aboriginal Land Council. <u>Section 5.4</u> states</p> <p><i>Ongoing consultation will be undertaken with Registered Aboriginal Parties (RAPs), in particular Tharawal Local Aboriginal Land Council, throughout construction as follows:</i></p> <ul style="list-style-type: none">• Where changes to the Project may have implications for Aboriginal heritage management; or• Where there is a significant discovery in the course of site preparation or construction e.g. Aboriginal ancestral remains or archaeological features. <p><i>Urgent issues requiring the attention of RAPs will be communicated no later than one week of the issue arising.</i></p> <p><i>Feedback requested from the RAPs should be received within two weeks and no later than four weeks from the date correspondence is issued.</i></p> <p><i>The appropriate address and format for responses shall be provided as part of the request. Where no response is issued within this timeframe, a follow-up phone call will be made by the Environment Advisor to close out the outstanding request.</i></p> <p><i>The effectiveness and value of the consultation process will be periodically reviewed internally based on past consultation and feedback from the RAPs.</i></p>
7	d) refined details (including implementation timeframes) for the mitigation measures outlined in the EIS (sections 7.4.2, 7.4.3, 7.4.6, 7.4.7, 7.4.8 and 7.4.9) and summarised at Annexure A;	Y	<p><u>Section 5 - Management Measures</u> of each aspect specific construction sub-plan include refined details of management measures to be implemented during construction. These incorporate measures outlined in the EIS and summarised in Annexure A of the EPBC approval.</p> <p>Light spill impacts are managed in accordance with <u>Appendix CC - Light Spill Management</u> of the CEMP.</p>
7	e) a commitment to ensure no lights are installed above the height of 40 metres or, the maximum approved height of the intermodal warehouse buildings (whichever is less);	Y	<p><u>Section 6.7 - Lighting</u> of the MPE Stage 1 Urban Design and Landscape Plan (UDLP) outlines the lighting design for the IMEX terminal. During the Manual Phase, the highest lightpoles installed on site will be 18 metres along the rail corridor and within the drive-in area. During the Automatic Phase, the 18 metre light poles along the rail corridor will be decommissioned. The highest light poles installed on site will be 12 metres, provided for perimeter fencing. Section 6.7 states the following:</p> <p><i>The lighting design for the IMEX Terminal Facility takes into account the eventual transition from manual phase to automatic phase that forms part of the operational strategy of the Project site.</i></p> <p><i>The Basis of Design – Lighting Plan for the IMEX Terminal Facility is provided in Appendix D. AS 4282- 1997 Control of the obtrusive effects of outdoor lighting was referenced in the lighting design in order to minimise the impacts of lighting spill onto local residents. The report defines how the standard was addressed and included in the current design for the IMEX Terminal Facility. The obtrusive lighting compliance reports against AS 4282 are also provided in Appendix D, which confirm compliance with the standard in all instances. Lighting will be positioned to face downwards to eliminate upward light spill</i></p> <p><u>6.7.1 Lighting Design - Manual Phase</u></p> <p><i>The lighting design features 18 m high mast poles, mounted with high powered light-emitting diode (LED) floodlights, as the main source to illuminate most of the Project.</i></p> <p><i>Within the rail cargo area, 18 m high mast poles have been positioned at less than 50 m spacing along the rail corridor, between the second and third track. Each pole is mounted with four high power LED floodlights, angled 90° apart, with a tilt of 8° to allow wider illumination. The 18 m poles take into consideration the transition phase from manual to automatic operation. Keeping all the high mast poles at no more than 18 m height, the light poles situated within the rail corridor can continue to operate even during the installation of the new crane for automatic phase.</i></p> <p><i>For the remainder of the Project, 18 m high mast poles with one or two high power LED floodlights are used to cover the majority of the drive-in area. A combination of 12 m and 9 m poles is used to provide the additional required lighting in the more restricted areas.</i></p> <p><i>The perimeter fencing is illuminated mainly by the 12 m height pole. These fences are illuminated at a level which allow the perimeter closed circuit television to operate effectively. The local driveways and the carpark are illuminated by a combination of the 18 m high mast poles and the 12 m light poles. The 12 m light poles will be used to illuminate the areas which are difficult to reach from the 18 m high mast poles. A number of 9 m poles have been allocated near the pedestrian crossing given its higher point vertical illuminance light level requirement as required by AS 1158.</i></p> <p><u>6.7.2 Lighting Design - Automatic Phase</u></p> <p><i>Given that the Project will be transitioned into full automation with no manual labours, SIMTA advised there is little requirement for lighting in the container handling area. Some illumination is anticipated from the automated crane that is to be installed for the automatic phase.</i></p> <p><i>The 18 m high mast poles along the rail corridor will be decommissioned as part of the transition from manual to automated phase. The 12 m light poles provided for the perimeter / security fencing lighting will remain and serve the same purpose as the manual operation phase. Both the eastern and western fence lines will be shifted outward as part of the transition from manual to automatic phase, generating more space within the rail cargo area. As such, the perimeter poles will correspondingly shift with the new fence lines to keep the illuminance the same as manual operation phase.</i></p> <p><i>Additional lighting will be provided around the container transition area, where containers are moved by autonomous carriers onto road transport. This area will have additional lighting for this transition and driver safety.</i></p> <p><i>The local driveway and the carpark will be kept the same as for manual phase. The pedestrian crossing will be removed for the automated phase, but the lighting provided in manual phase will remain applicable for the automated phase. As such, the 9 m poles provided for the pedestrian crossing will be maintained.</i></p> <p>The <u>Management Measures</u> section of the <u>Light Spill Management plan (Appendix CC of the CEMP)</u> outlines that:</p> <p><i>The following management measures will be implemented during the construction of the Project:</i></p> <p><i>No lights will be installed above the height of 40 m or, the maximum approved height of the intermodal warehouse buildings (whichever is less)</i></p>
7	f) identification of the trigger values and criteria for all matters mentioned in condition 7(b) (excluding light spill, land contamination and indigenous heritage) that will be adopted for monitoring and managing potential impacts to Commonwealth land;	Y	<p><u>Section 6 - Compliance Management</u> of each aspect specific sub-plan (i.e. CAQMP, CTAMP, CNVMP, CSWMP) outlines aspect specific monitoring values and criteria that will be adopted for monitoring on the Project.</p>
7	g) details of a comprehensive monitoring program (including locations, frequency and duration) for: i. validating the anticipated impacts associated with condition 7(b); and ii. determining the effectiveness of proposed mitigation/management measures;	Y	<p><u>Section 6 - Compliance Management</u> of each aspect specific sub-plan outlines aspect specific monitoring programs for the project (i.e. air quality monitoring etc.).</p> <p>Review of performance against these criteria is also established in <u>Section 6 - Compliance Management</u> of each aspect specific sub-plan. Generally, the effectiveness of management measures are monitored by daily site inspections, weekly ER inspections and environmental audits.</p> <p>Monitoring of light spill is managed in accordance with the <u>Monitoring</u> section of the <u>Light Spill Management plan (Appendix CC of the CEMP)</u>.</p>

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7	h) provisions to revise the approved CEMP in response to monitoring associated with condition 7(g) including, details of response / contingency mechanisms to address any exceedances of the relevant trigger values;	Y	<p><u>Section 1.6 - Issue and Revision</u> of the CEMP (Rev 15) outlines the provisions to revise the CEMP. Revisions to this plan have been undertaken progressively to reflect minor amendemnts. Section 1.6 states the following</p> <p><i>The initial issue of this plan has been reviewed by the Contractor's Environmental Manager to ensure it meets the requirements of the Environmental Management System and SIMTA's Environmental policy, contract documentation, specifications and standards. The plan is approved for use on the project by SIMTA.</i></p> <p><i>Evidence of initial review and approval is by signatures on the cover sheet.</i></p> <p><i>Continuous improvement of this plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for identifying opportunities for improvement.</i></p> <p><i>Revisions of this CEMP may be required throughout the duration of the project to reflect changing circumstances or identified deficiencies.</i></p> <p><i>Revisions may result from:</i></p> <ul style="list-style-type: none">• Management Review• Audit (either internal or by external parties)• Client complaints or non-conformance reports• Changes to the Company's standard system• Changes to procedures, scope of works and/or systems after a potential Class 1 incident <p><i>Revisions shall be reviewed and approved by SIMTA prior to issue. Updates to this plan are numbered consecutively and issued to holders of controlled copies.</i></p> <p><i>The Independent Environmental Representative would be given the authority to approve/reject "minor" amendments to the CEMP. Minor amendments to the CEMP and associated environmental management system are those that:</i></p> <ul style="list-style-type: none">• are not considered to contradict the project planning approval and associated conditions,• do not significantly alter the outcomes of the project such that a planning modification would be required by the Department,• are not considered to carry significant environmental risk, more than those outlined in the project EIS,• will not impact surrounding communities. <p><i>Where the amendments are not considered to be major, i.e. not "minor" in nature, the CEMP will be submitted to the Department of Planning and Environment for review and approval. This plan will be reviewed annually as a minimum but may be updated more regularly depending on process changes and refinements.</i></p>
7	i) evidence of consultation with Defence regarding the adequacy of proposed mitigation measures in particular, those measures to mitigate potential light spill impacts upon residential dwellings within SME outside of standard construction hours ; and	Y	<p>The CEMP sub-plans were produced in consultation with the relevant stakeholders. <u>Section 1.3 - Consultation</u> and <u>Table 8 - Consultation Summary</u> of the IMEX CEMP (Rev 15) provides a summary of consultation undertaken . Defence advised that they do not wish to provide comments on the CEMP.</p> <p>Note: School of Military Engineering has relocated from the MPW site.</p>
7	j) details of a complaints handling procedure;	Y	<p><u>Section 7.4 - Complaints</u> of the IMEX CEMP (Rev 15) outlines how complaints are managed. It states the following:</p> <p><i>Public Complaints shall be logged with Elton Consulting and are to be responded to in accordance with Community Consultation Strategy (CCS) [Appendix W]. Environmental Management related complaints will be forwarded onto Project Environmental Representative by Project Community and Stakeholder Advisor.</i></p> <p><i>Management system non-conformances, non-compliances and recurring environmental incidents will be handled in accordance with the Environmental Management System – Corrective and Preventative Action.</i></p> <p><i>Non-conformance and non-compliance to Operational Control procedures or to the Environmental Management System shall be recorded and addressed by logging it on the Contractor's Project Corrective Actions Register [Appendix V].</i></p> <p><i>In addition, any actions required beyond normal practise, routine maintenance or operational activities need to be recorded on the CAR Register. These may include the following:</i></p> <ul style="list-style-type: none">• Incidents and associated corrective actions• Internal audit observations/non-compliance• Client audits or other notice of non-compliance or non-conformance• Notices or action from regulatory authorities. <p><i>Where possible, the CAR Register should also include "beyond best practise actions", which are identified opportunities to improve beyond compliance.</i></p> <p><i>The CAR Register differentiates issues or items by risk ranking. The nominated timeframes to resolve items on the CAR Register are as follows:</i></p> <p><i>Corrective and preventive actions may include:</i></p> <ul style="list-style-type: none">• Site remediation and rehabilitation• Increased site inspections and monitoring• Increase environmental awareness (re-training, tool-box meetings)• Review and improve existing environmental controls and job safety analyses/ work method statements <p><u>Appendix C - Complaints Handling</u> and <u>Appendix D - Enquiries Handling</u> of the IMEX Community Communication Strategy (CCS) (Rev 7) provides details on how complaints for the entire MPE S1 Project Site are managed.</p>
7	Commencement of the action may not occur until the CEMP has been approved. The CEMP must be implemented once approved.	Y	<p>IMEX CEMP (Rev 6) was approved by DotEE on 24 May 2017. Construction commenced on 26 June 2017.</p> <p>Subsequent revisions to the CEMP and Sub-plans that have an impact on the requirements of the EPBC Approval (2011/6229) will result in an update to Appendix DD of the CEMP. This appendix will be submitted to the Federal Minister for review and if necessary, approval.</p>
8	For the better protection of Commonwealth land, the person taking the action must engage a suitably qualified expert(s) to prepare an Operation Environment Management Plan (OEMP) for the approval of the Minister . The OEMP must include in relation to operation of the proposed facility:	N	<p>The OEMP and sub-plans are currently under review by DotEE.</p>
8	a) identification and quantification of all potential impacts associated with noise, vibration, air quality, traffic and light spill (including cumulative impacts associated with the DoFs proposed, intermodal separately approved but related and adjacent intermodal terminal facility project, EPBC approval 2011/6086) upon Commonwealth land. Consideration must be given to people and communities at SME, DNSDC , Defence housing, and the environment more generally in neighbouring bushland areas. Of note, the air quality assessment must quantify all emissions arising from air pollutant sources for which there are established national air quality standards; of carbon monoxide, nitrogen dioxide, PM25 and PM10 arising from projectrelated sources identified in the EIS;	N	<p><u>Section 5.2.1 - Environmental Management Activities and Controls;</u> <u>Appendix E - Aspects and Impacts Register</u> of the OEMP and <u>Section 3 - Implementation</u> of each relevant aspect specific sub-plan (ONVMP, OAQMP, OTAMP and UDLP) identify and quantify all potential operational impacts associated with the MPE Stage 1 Project. <u>Section 5.2.1</u> of the OEMP states</p> <p><i>This OEMP has been prepared in an aspect-based format that nominates for each environmental aspect, the tasks that are required to be addressed during the operational phases of the development, covering where relevant:</i></p> <ul style="list-style-type: none">• Environmental aspect• Environmental objectives• Control measures• Monitoring. <p><i>Refer to Appendix E for the risk register of operational activities which will be undertaken under this OEMP.</i></p> <p><i>The key environmental aspects of the project, including noise, visual, air quality and stormwater are summarised briefly in the following sections. However, the relevant sub-plans to this OEMP provide the specific detailed control measures being implemented to manage the complete range of environmental aspects. The Sub-Plans to this OEMP include:</i></p> <ul style="list-style-type: none">• Emergency Response Plan (PREC-QPMS-EN-PLN-0002), including the Flood Emergency Management Plan, Bushfire Management Plan and Bushfire Emergency and Evacuation Plan• Container Noise Barrier Management Plan (PREC-QPMS-EN-PLN-0004)• Flora and Fauna Management Plan (PREC-QPMS-EN-PLN-0005)• Stormwater Infrastructure and Operation and Maintenance Plan (PREC-QPMS-EN-PLN-0006)• Workplace Travel Plan (PREC-QPMS-EN-PLN-0007)• Noise and Vibration Management Plan (PREC-QPMS-EN-PLN-0008)• Traffic and Access Management Plan (PREC-QPMS-EN-PLN-0009)• Community Communication Strategy (PREC-QPMS-EN-PLN-0010)• Waste and Resource Management Plan (PREC-QPMS-EN-PLN-0011)• Air Quality Management Plan (PREC-QPMS-EN-PLN-0012)• Urban Design and Landscape Plan (SSS2-QPMS-EN-APP-00034)• Hazard and Risk Management Plan• Biodiversity Monitoring Strategy• Long term Contamination Management Plan <p><u>5.2.1.1 Noise Impacts</u></p> <p><i>All areas of the MLP East Precinct have been identified as having the potential for generating adverse noise impacts for nearby sensitive receivers (Appendix E). An Operational Noise and Vibration Management Plan (ONVMP) has been prepared as a sub-plan to this OEMP which addresses potential sources of noise emissions, training and awareness for employees, proactive noise management and monitoring measures and complaints handling procedures. In addition to the ONVMP a Container Noise Barrier Management Plan (CNBMP) has also been prepared, which specifically addresses how stacked shipping containers will be used to shield neighbouring areas from noise generated by the 24-7 operations of the IMEX terminal. The ONVMP and CNBMP, in addressing all noise-related impacts of the MLP East Precinct, satisfy the noise management requirements of this OEMP. Refer to the ONVMP and CNBMP for detailed mitigation measures, monitoring requirements and other aspects of noise management.</i></p> <p><u>5.2.1.2 Visual Impacts</u></p> <p><i>The UDLP provides detail as to the urban design and landscape measures to be employed to minimise the visual impact of the MLP East Precinct on the surrounding sensitive receivers. Potential views will occur along viewing corridors created by Moorebank Avenue and where topography provides some elevation above potential obstructions to views, such as from Casula to the west.</i></p> <p><i>Overall, the facility is in keeping with the surrounding land uses and any visual impacts will be effectively mitigated through the implementation of UDLP measures such as:</i></p> <ul style="list-style-type: none">• The use of directional lighting to avoid light spill to residences and surrounding bushland• Planted vegetation along Moorebank Avenue including trees and shrubs that screen viewpoints of the IMEX terminal and warehouses• Building setbacks from Moorebank avenue• Sensitive architectural design consideration of building orientation, height and colouration• Vegetated on-site detention basins. <p><i>Refer to the UDLP for further information regarding the mitigation of visual impacts across the MLP East Precinct.</i></p> <p><u>5.2.1.3 Watercourse Crossings</u></p> <p><i>The Rail Link for the MLP East Precinct crosses Georges River and Anzac Creek via a dedicated bridge and culvert respectively. The Stormwater Infrastructure Operation and Management Plan (SIOMP), as a sub-plan to this OEMP, has established a monitoring program for all stormwater infrastructure across the MLP East Precinct. The SIOMP requires monthly monitoring of the Georges River and Anzac Creek crossings to determine if there has been movement of the creek bed and bank. If the monitoring and ensuing investigation determines adverse impacts, then specific management measures will be implemented to address the cause as required. See the SIOMP for further details regarding water crossings and stormwater aspects.</i></p> <p><u>5.2.1.4 Air Quality Impacts</u></p> <p><i>An air quality monitoring programme will be established for operational phase, focused on the key pollutants CO, NO2, PM2.5 and PM10; real-time boundary monitoring will be installed to measure CO, NO2, PM2.5 and PM10emissions The Operational Air Quality Management Plan (OAQMP), as a sub-plan to this OEMP,</i></p>

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			<i>addresses air quality aspects, mitigation and monitoring measures in detail.</i>
8	b) refined details (including implementation timeframes) for the mitigation measures outlined in the EIS (sections 7.4.2, 7.4.6, 7.4.7, 7.4.8 and 7.4.9) and summarised at <u>Annexure A</u> ;	N	Refer to Section 2.2.1 - EPBC Act Approval of each relevant aspect specific sub-plan.
8	c) refined details of how heavy vehicles entering and exiting the site will be processed, including information on access and circulation both into, and within, the intermodal facility grounds;	N	Section 3.2 of the Operation Traffic and Access Management Plan (OTAMP) addresses this requirement. The OTAMP was submitted to DotEE for review and approval on 30/05/19.
8	d) measures to ensure no heavy vehicles entering or exiting the intermodal facility park, or wait, on Moorebank Avenue;	N	Section 3.2 of the Operation Traffic and Access Management Plan (OTAMP) addresses this requirement. The OTAMP was submitted to DotEE for review and approval on 30/05/19.
8	e) identification of the trigger values and criteria for all matters mentioned in condition 8(b) (excluding light spill) that will be adopted for monitoring and managing potential impacts to those Commonwealth land;	N	<u>Section 4.1 - Monitoring Requirements</u> of each relevant aspect specific sub-plan (i.e. OAQMP, ONVMP, OTAMP) identifies trigger values and criteria for monitoring.
8	f) details of a comprehensive monitoring program (including locations, frequency and duration) for: i. validating the anticipated impacts associated with condition 8(b); and ii. determining the effectiveness of mitigation/management measures (including the success of public transport incentives);	N	Refer to <u>Section 4.1 - Monitoring Requirements</u> of each relevant aspect specific sub-plan (i.e. OAQMP, ONVMP, OTAMP, OFFMP etc.) provide details on the monitoring program for each environmental aspect.
8	g) provisions to revise the approved OEMP in response to monitoring associated with condition 8(f) including, details of response / contingency mechanisms to address any exceedances of the relevant trigger values;	N	<p>Section 6.2.1 - Management Review and Continuous Improvement of the OEMP (Rev 12) provides details on provisions to review and update the OEMP. It states</p> <p><i>Qube will annually review the adequacy of the environmental and sustainability controls, procedures objectives and targets within the OEMP. This will enable Qube to determine whether the controls are still applicable to the activities being undertaken and to track progress against the objectives and targets.</i></p> <p><i>The review will address, as a minimum:</i></p> <ul style="list-style-type: none">• <i>Phasing of operation, as more warehouses are constructed</i>• <i>Changes in maintenance/ operational activities</i>• <i>Environmental monitoring outcomes</i>• <i>Progress against objectives and targets</i>• <i>Changes required to address incidents and non-conformances</i>• <i>Changes in organisational structure and responsibilities</i>• <i>Changes in standards and legislation</i>• <i>Changes in relevant sub-plans</i>• <i>Community feedback identifying issues with operation</i>• <i>Any Regulatory Agency or Council input/requirements or response from DP&E</i>• <i>Any third-party land holder inputs or requirements (see Figure 2 2).</i> <p><i>The management review will be documented and changes to the plan made by Qube's Site HSEQ Manager / Advisor.</i></p> <p><i>Minor updates (i.e. those which do not impact on compliance with the CoC) will be undertaken by Qube as appropriate and updates may include consultation with relevant Authorities and tenants. Consistency with relevant Commonwealth CoAs will also be considered. These changes would be reviewed and approved by the Qube Site HSEQ Manager / Advisor.</i></p> <p><i>If required, an Accordance Assessment will be prepared by the Principal's Representative to assess the proposed change to satisfy Qube that the change is in compliance/accordance with the documents listed in CoC A2. 'Terms of Consent' (SSD 7628).</i></p> <p>In addition, <u>Section 4 - Monitoring and Review</u> of each relevant aspect specific sub-plan (i.e. OTAMP, ONVMP, OAQMP, OFFMP etc.).</p>
8	h) evidence of consultation with Defence regarding the adequacy of proposed mitigation measures;	N	<u>Section 1.4 - Consultation</u> ; Table 1-1 <u>Consultation Summary</u> outlines the consultation undertaken with Defence during the preparation of the OEMP (Rev 12).
8	i) details of a complaints handling procedure;	N	<p>Section 4.5 - Community Consultation and Complaints Management of the OEMP (Rev 12) provides details of a complaints handling procedure. Section 4.5 states</p> <p><i>A Community Communication Strategy (CCS) has been developed to provide mechanisms to facilitate communication between Qube and the key stakeholders, including regulators, Council and the community (including adjoining affected landowners and businesses, and others directly impacted by the development). The CCS is required for the duration of the operation of MLP East Precinct and for a period of 24 months following the completion of operation.</i></p> <p><i>A Community Engagement Consultant (CEC) will manage all community liaison in accordance with the CCS.</i></p> <p><i>In addition, a Community Consultative Committee (CCC), comprising Qube, Council, members of the local community, stakeholder groups and an independent chairperson, was established prior to construction of the MLP and will continue to operate for at least five years following the commencement of operation.</i></p> <p><i>The CCC will continue to consider community issues and concerns and review environmental impacts and resulting from the operation of the MLP East Precinct.</i></p> <p><u>4.5.1 Complaints Management</u></p> <p><i>Public complaints will be logged with the CEC (on behalf of Qube) and are to be responded to in accordance with the CCS. Public complaints may be received via:</i></p> <ul style="list-style-type: none">• <i>MLP East Precinct email – simta@elton.com.au</i>• <i>24-hour information line - 1800 986 465</i>• <i>Postal address - PO Box 1488 Bondi Junction NSW 2022</i>• <i>MLP website – www.simta.com.au</i>• <i>Face to face interactions with personnel.</i> <p><i>Environmental management-related complaints will be managed in accordance with the CCS.</i></p> <p><u>4.5.2 Damage to Third Party Property Infrastructure</u></p> <p><i>Reports (including complaints) of damage to third party property or infrastructure due to operational work will be treated as an incident. Incident management is outlined in Section 4.6.</i></p> <p><i>Potential damage will be notified, classified, reported and investigated as per the incident management process. Section 3.2.17 of the Operation Traffic and Access Management Plan (OTAMP) contains a mechanism for the identification and rectification of damage to roads and road infrastructure. Third party landholders will be notified of damage occurring on property under their ownership.</i></p> <p><i>The initial response timeframes will follow the complaints process, as outlined within the CCS, however investigations and potential rectifications will be undertaken as per the incident management process. Dispute resolution is outlined within the CCS.</i></p> <p>In addition, the Operational CCS (Rev 3)(sent to DotEE for review and approval on 06/06/19) has been developed to facilitate communication between Qube and the key stakeholders (regulators, Council and the community).</p>
8	Commencement of operations may not occur until the OEMP has been approved. The OEMP must be implemented once approved.	N	The OEMP was submitted to DotEE for review and approval on 20/05/19. Operations will not commence until this plan has been approved.
9	For the better protection of Commonwealth land, the person taking the action must enter into a written agreement with Defence that specifies the use and ongoing maintenance of Moorebank Avenue. Prior to commencement of the action the person taking the action must provide a copy of that agreement to the Department.	N	Moorebank Ave is owned by the Commonwealth. At Financial Close (FC) between MIC and QUBE executed on 25/01/17, Moorebank Ave (Lot 2 DP1197707) was transferred within the Commonwealth from Defence to Department of Infrastructure, Regional Development and Cities (DIRD). MIC has a lease with DIRD and Qube has a 99 year lease with MIC under the Development and Operations Deed (DOD) from the date of FC.
10	Within one month after the commencement of the action, the person taking the action must advise the Department in writing of the actual date of commencement.	Y	DotEE was notified of the commencement of construction (the 'action') on the MPE site on 26/06/2017 via email on 22/07/17.

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11	The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement any management plan, strategy, or agreement required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.	Y	<p>The Project is managed in accordance with the Project CEMP which requires records be maintained.</p> <p>Regular compliance tracking is undertaken. Regular internal and external audits are also undertaken in accordance with the project CoC and approved CEMP. This includes auditing undertaken during operations.</p>
12	Within three months of every 12 month anniversary of the commencement of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans or agreements as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published.	Y	<p>The first Commonwealth Compliance Report (June 2017 - June 2018) was provided to DotEE on 21/08/2018. This report is currently available on the SIMTA website.</p> <p>The second Commonwealth Compliance Report (June 2018 - June 2019) was submitted to DotEE in September 2019.</p>
13	Upon the direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Y	No independent audit has been requested to date.
14	If the person taking the action wishes to carry out any activity otherwise than in accordance with any management plan specified in the conditions, the person taking the action must submit to the Department for the Minister's written approval a revised version of that management plan. The varied activity shall not commence until the Minister has approved the varied management plan in writing. The Minister will not approve a varied management plan unless the revised management plan would result in an equivalent or improved environmental outcome over time. If the Minister approves the revised management plan, then that management plan must be implemented in place of the management plan originally approved.	Y	IMEX and RALP CEMP and subplans were submitted to DotEE for review in February 2019 in response to the Show Cause Notice dated 11 February 2019.
15	If the Minister believes that it is necessary or convenient for the better protection of Listed Threatened species or the environment on Commonwealth land to do so, the Minister may request that the person taking the action make specified revisions to any management plan, as specified in the conditions and submit the revised management plan for the Minister's written approval. The person taking the action must comply with any such request. The revised approved management plan must be implemented. Unless the Minister has approved the revised management plan, then the person taking the action must continue to implement the management plan originally approved, as specified in the conditions.	Y	<p>IMEX and RALP CEMP and subplans were submitted to DotEE for review in February 2019 in response to the Show Cause Notice dated 11 February 2019.</p> <p>Future revisions to IMEX CEMP and Subplans will be prepared and implemented upon request from DotEE.</p>
16	If, at any time after five years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the Minister.	Y	Noted. Construction of MPE Stage 1 commenced on 22/06/2017.
17	Unless otherwise agreed to in writing by the Minister, the person taking the action must publish all management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within one month of being approved.	Y	<p>Construction Environmental Management Plans are available on the SIMTA website (https://simta.com.au/)</p> <p>The Commonwealth Department of the Environment and Energy (DotEE) submitted a Potential Breach Letter to Qube Holdings (Qube), dated 11 February 2019 inviting Qube to respond to several allegations as to possible contraventions of conditions of EPBC 2011/6229. This included allegations that Qube was in breach of Condition 17 as it did not publish Revision 5 of the CFFMP to the website. Further correspondence was provided by DotEE dated 22 and 25 February 2019 clarifying the allegations and extending the period for a response. A response to these allegations was submitted to the DotEE on behalf of Qube by its legal representatives on 11 March 2019. This matter is still being considered by DotEE.</p> <p>The revision of the plan available on the SIMTA website was Revision 12 (which superceded Revision 5) which is the most recent version of the plan approved for the MPE project pursuant to the applicable NSW planning approvals for the MPE project.</p>

EPBC (2011/6229) Mitigation Measures

Note:
CEMP - approved by DotEE 24/05/17
CFFMP - approved by DotEE 24/05/17

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Biodiversity		<p>The Part 3A Guidelines for Threatened Species Assessment (DEC & DPI 2005) require the description and justification of measures to mitigate adverse effects arising from development proposals. Primary consideration should be given to measures to avoid or minimise impacts; where avoidance and mitigation are not possible, offset strategies may be considered as a last resort. The steps in the avoid, mitigate and offset approach are as follows:</p> <p>a) Avoid areas of high biodiversity value wherever possible;</p>	Y	<p>The CFFMP (Rev 15) prescribes measures to avoid and minimise impacts on threatened species and communities listed under the BC Act (NSW) and EPBC Act (C'th). Table 11 - Stage 1 Construction, Management Action and Responsibilities outlines management measures implemented for the project.</p> <p>This is also addressed within Section 14 - Biodiversity and Appendix S - Biodiversity Assessment Report of the MPE Stage 1 EIS and Appendix J - Biodiversity Assessment Report of the MPE Stage 1 RTS.</p> <p>Note that Impacts to riparian corridors, threatened flora and aquatic habitats are not relevant to MPE Stage 1, Package 2 and will be addressed separately by the Construction Flora and Fauna Management Plan developed for MPE Stage 1, Package 1 (RALP).</p>
Biodiversity		<p>b) Mitigate actions and safeguard values identified for retention by prescribing appropriate controls; and</p>	Y	<p>The CFFMP (Rev 15) prescribes measures to avoid and minimise impacts on threatened species and communities listed under the BC Act (NSW) and EPBC Act (C'th). Table 11 - Stage 1 Construction, Management Action and Responsibilities outlines management measures implemented for the project.</p> <p>This is also addressed within Section 14 - Biodiversity and Appendix S - Biodiversity Assessment Report of the MPE Stage 1 EIS and Appendix J - Biodiversity Assessment Report of the MPE Stage 1 RTS.</p> <p>Note that Impacts to riparian corridors, threatened flora and aquatic habitats are not relevant to MPE Stage 1, Package 2 and will be addressed separately by the Construction Flora and Fauna Management Plan developed for MPE Stage 1, Package 1 (RALP).</p>
Biodiversity		<p>c) Compensate for or offset the removal of biodiversity values.</p>	Y	<p>The CFFMP (Rev 15) prescribes measures to avoid and minimise impacts on threatened species and communities listed under the BC Act (NSW) and EPBC Act (C'th). Table 11 - Stage 1 Construction, Management Action and Responsibilities outlines management measures implemented for the project.</p> <p>This is also addressed within Section 14 - Biodiversity and Appendix S - Biodiversity Assessment Report of the MPE Stage 1 EIS and Appendix J - Biodiversity Assessment Report of the MPE Stage 1 RTS.</p> <p>Note that Impacts to riparian corridors, threatened flora and aquatic habitats are not relevant to MPE Stage 1, Package 2 and will be addressed separately by the Construction Flora and Fauna Management Plan developed for MPE Stage 1, Package 1 (RALP).</p>
Biodiversity	Avoid	<p>a) The identified ecological values should be avoided as far as practicable</p>	Y	<p>Section 3 - Existing Environment of the CFFMP (Rev 15) outlines the existing ecological values on the MPE Stage 1 Project Site. Figure 2: Native vegetation within vicinity of the Project Site; Figure 3: Fauna Habitat and Threatened Fauna Species Locations and Figure 4: Identified Threatened Flora Species in Proximity to the Project Site show the ecological values associated with the project.</p> <p>Table 11 - Stage 1 Construction, Management Action and Responsibilities prescribes measures to avoid impact on ecological values.</p>
Biodiversity		<p>b) The construction footprint of the Principal proposal and construction access requirements should be reduced as far as possible to minimise impacts.</p>	Y	<p>Figure 3-1: Native vegetation within vicinity of the Project Site of the CFFMP (Rev 15) shows the construction footprint of the project and nearby vegetation.</p> <p>Site access and egress for all construction traffic will be via Moorebank Avenue as outlined in Section 4.2.1 - Access/Egress Points of the CTAMP (Rev 13). It states</p> <p><i>The majority of the contractor's construction related traffic would access the site from the north via Moorebank Avenue with some staff expected to arrive from the south.</i></p> <p><i>The Project will be accessed as follows (Figure 2: Construction Footprint and Site Access Route (Stage 1, Package 2)):</i></p> <ul style="list-style-type: none">• Main IMT compound access – via the existing traffic signal at DNSDC northern access on Moorebank Avenue• Secondary IMT compound access – via the existing traffic signal at the DNSDC Main Gate on Moorebank Avenue• A materials and emergency access point on the southern edge of the Project.
Biodiversity		<p>c) Avoid Endangered Ecological communities where possible.</p>	Y	<p>Table 5 - Objectives and Targets of the CFFMP (Rev 15) identifies the Objectives and Targets for the project, including:</p> <p><i>Minimise impacts or environmental consequences to threatened species, threatened populations, endangered ecological communities and their habitats.</i></p> <p>This is achieved through the implementation of management measures listed in Table 11 - Stage 1 Construction, Management Action and Responsibilities.</p> <p>Sectin 3.5 - Threatened Species of the CFFMP (Rev 15) identifies the threatened species identified on the project site. It states</p> <p><i>The amended Biodiversity Assessment Report prepared by Arcadis (2017) identified the below threatened species within the Project study area as outlined in the Environmental Impact Statement Figure 14-1: Ecological Study Area listed under the NSW Threatened Species Act 1995 (TSC Act), two of which are also listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act):</i></p> <ul style="list-style-type: none">• East Coast Freetail Bat (<i>Mormopterus norfolkensis</i>), TSC Listed: Vulnerable;• Southern Myotis (<i>Myotis macropus</i>), TSC Listed: Vulnerable;• Eastern Bentwing-bat (<i>Miniopterus schreibersii oceanensis</i>) TSC Listed: Vulnerable;• Grey-headed Flying Fox (<i>Pteropus poliocephalus</i>), TSC Listed: Vulnerable, EPBC Listed: Vulnerable;• Nodding Geebung (<i>Persoonia nutans</i>), TSC Listed: Endangered, EPBC Listed: Endangered; and• Small-flower Grevillea (<i>Grevillea parviflora</i> subsp. <i>parviflora</i>), TSC Listed: Vulnerable, EPBC Listed: Vulnerable• <i>Hibbertia puberula</i> subsp. <i>puberula</i> (endangered, TSC Act)• <i>Hibbertia fumana</i> (critically endangered TSC act). <p><i>Of these, Eastern Bentwing-bat, Grey-headed Flying Fox, and Nodding Geebung were recorded close to the Project site (refer to Figure 3 and 4, Table 9 and Table 11 FF7.1 and FF7.2).</i></p> <p><i>The area of impact is restricted to the Project site as depicted in Figure 1 i.e. the MPE Stage 1, Package 2 site. No clearing outside this area will be undertaken, and as such, no flora or fauna outside of this area will be impacted upon. It is noted that the Project site has been previously cleared and it is unlikely that any endangered flora species will be encountered. Pre-clearing surveys undertaken prior to clearing will include the identification of threatened species; where threatened species are identified the Unexpected Threatened Species Procedure will be enacted as outlined in Table 11 FF7.3.</i></p> <p><i>Further surveys undertaken by Arcadis in October and November 2016 within the Boot Land south of the Project site identified three additional threatened plant species. These identified species were:</i></p> <ul style="list-style-type: none">• Bynoe's Wattle (<i>Acacia bynoeana</i>), TSC Act listed: Endangered, EPBC Act listed: Vulnerable;• Downy Wattle (<i>Acacia pubescens</i>), TSC listed: vulnerable, EPBC listed: Vulnerable;<i>Hibbertia puberula</i> subsp. <i>puberula</i>, TSC Listed: Endangered;• <i>Hibbertia fumana</i>, TSC Listed: Critically endangered <p><i>Additional targeted flora surveys for the MPE Stage 1: Package 1, undertaken by Cumberland Ecology in summer 2017, identified 184 Hibbertia fumana and 186 Hibbertia puberula subsp. puberula within the construction boundary for that package. Neither of these species have been recorded within the Package 2 construction boundary.</i></p> <p><i>No threatened species have been identified within the Project site to date. The nearest threatened species are located north of Anzac Creek within the Boot Land over 100m to the south of the Project, with the exception of one strand of persoonia nutans which was identified in the EIS to be within 50m of the southern boundary of the Project, (figure 4). Table 9 outlines the likelihood of encountering threatened species. The flora species identified have been assessed as being unlikely to occur within the project boundary (table 9). Despite this, a precautionary approach has been adopted for clearing; pre-clearing surveys will be undertaken by an ecologist prior to any clearing on site, (table 11) and staff will be educated in the identification of threatened species.</i></p> <p><i>Should any unexpected threatened species be identified within the Project site, the Unexpected Threatened Species procedure will be implemented (Table 11 FF7.3) however no threatened species have been recorded within the Project site. If identified, translocation of threatened species will be considered.</i></p> <p><i>CoC C22 also requires that a 'Threatened Dragonfly Species Survey Plan' is undertaken to determine the presence or absence of threatened dragonfly species listed under the Fisheries Management Act 1994. As outlined in Table 9, a habitat assessment was undertaken by Arcadis (2016). No habitats for either Archaeophya adamsi or Austrocordulia leonardi were detected in the survey area (Georges River between the crossings of Cambridge Avenue and the M5 Southwestern Motorway at Moorebank) and it was concluded highly unlikely that the threatened dragonflies occur.</i></p>

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Biodiversity		d) Avoid known locations of threatened flora species where possible.	Y	<p>Figures 3-3a to 3-4b of the CFFMP (Rev 15) outlines the area of impact associated with the project. No clearing outside these areas will be undertaken.</p> <p>Table 11 - Stage 1 Construction, Management Action and Responsibilities: FF1.1, FF2.1, FF3.0 and FF3.3 outline measures to avoid impact to threatened flora species.</p> <p>FF1.1 states: <i>All site personnel shall undergo site specific induction training, which will include environmental awareness and Flora and Fauna management training. Toolbox meetings will also be undertaken as and when required and may be triggered by the detection of a threatened species or noxious weed (for example); covering specific environmental issues and Flora and Fauna control measures and identified threatened species as identified in this CFFMP. All staff shall be notified in the induction that clearing is limited to the construction footprint, and that clearing in Commonwealth Land is prohibited.</i></p> <p>FF2.1 states: <i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing. The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas ('no-go areas') which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p> <p>FF3.0 states: <i>To ensure that no more than 17 individual Nodding Geebungs and no more than 634 Small-flow Grevillea are cleared, the following will be undertaken:</i></p> <ul style="list-style-type: none"> • Recording of individuals cleared of each species cumulatively • Reconciling of totals of individuals of each species cleared against MPES1 and MPES2 cumulatively. <p>FF3.3 states Fauna Handling <i>Only the ecologist or fauna handler to touch or move fauna. If fauna is present, allow to move through worksite. If fauna does not relocate, or is injured (see also FF8.1), contact the ecologist, fauna handler, WIRES or local veterinary surgery as soon as practical to assist in relocation to adjacent retained habitat. Where handling of frogs is necessary, the risk of Chytrid pathogen transfer will be minimised and will follow the OEH Hygiene Protocol for the Control of Disease in Frogs (DECCW 2008a) as follows:</i></p> <ul style="list-style-type: none"> • Hands to be cleaned / disinfected between each frog or a new pair of disposable gloves used for each sample. • A 'one bag – one frog / tadpole' approach to handling will be used where capture and relocation is necessary. Bags are not to be reused.
Biodiversity		e) Avoid important fauna habitat features such as large hollow bearing trees where possible.	Y	<p>Section 3.4 - Fauna Habitat of the CFFMP (Rev 15) outlines the fauna habitat features likely to be found on site. It states</p> <p><i>Native vegetation has been predominantly cleared from the Project site and persists as isolated trees amongst expanses of mown exotic and native grasses. Habitat features such as rocky features, well-developed leaf litter, ground timber and hollow logs are absent from cleared and disturbed areas. Thus, the availability of sheltering and foraging habitat for reptiles and cover-dependent terrestrial mammals is reduced. Isolated trees offer potential nesting, sheltering and roosting habitat to birds such as Pied Currawong (Strepera graculina) and Noisy Miner (Manorina melanoccephala). Flowering eucalypts also provide foraging habitat for Grey-headed Flying Fox (Pteropus poliocephalus). A small number of scribbly gums (Eucalyptus sclerophylla) located in the south of the Project site (outside of the impact area) support small and medium-sized hollows, offering nesting habitat to hollow-dependent species such as Rainbow Lorikeet (Trichoglossus haematodus) and Scaly-breasted Lorikeet (Trichoglossus chlorolepidotus). A diversity of microchiropteran bat species were recorded in cleared and disturbed areas, including White-striped Mastiff Bat (Tadarida australis), Gould's Wattled Bat (Chalinolobus gouldii), Chocolate Wattled Bat (Chalinolobus morio), Little Forest Bat (Vespadelus vultumus) and the threatened Eastern Bentwing-bat (Miniopterus schreibersii oceanensis). Open grassy areas provide foraging habitat for ground-feeding birds such as White-winged Chough (Corcorax melanorhamphos), Red-rumped parrot (Psephotus haematonotus) and small terrestrial mammals such as the Brown Hare (Lepus capensis). Other small trees and shrubs throughout the SIMTA site that may offer sheltering and nesting habitat to smaller birds are restricted to small areas of horticultural plantings. The buildings currently on the Project site offer limited habitat features to native fauna, although they may support potential roosting habitat for microchiropteran bats. Given that inspection of these buildings was not possible during site surveys, it is assumed that some of the buildings offer potential fauna habitat. As outlined in Table 8, preclearance surveys, including echolocation call recording and dawn/dusk surveys will be undertaken by an ecologist to confirm any roost sites. If confirmed within the construction site, demolition of the buildings may be restricted to winter, outside of the critical breeding season. A lack of habitat connectivity within the Project site, and between the site and adjacent areas, reduces potential movement of arboreal mammals and cover-dependent fauna into and through the Project site. The riparian corridors associated with the Georges River and Anzac Creek, and the vegetated lands within the Southern Boot Land are not included within the current scope and are unlikely to be directly impacted by the Project. Specific management measures for these habitats will be included within a separate CFFMP for the Rail Link.</i></p> <p>Section 5.1 - Vegetation Clearance Protocol outlines the two stage clearing protocol which includes measures to identify habitat trees. The Protocol states</p> <p>Preclearance inspections <i>The project Ecologist is to undertake a pre-clearing survey within two weeks of vegetation clearing to identify any potential threatened species, endangered vegetation, weed infestation and habitat trees. The ecologist will identify at a minimum:</i></p> <ul style="list-style-type: none"> • The species, relative density and location of any weeds; • Locations of threatened flora and fauna species and habitat or hollow bearing trees; • Echolocation call recording and dawn/dusk surveys to confirm if the buildings are being used as roosting sites for any microchiropteran bats; • Trees which require limbs to be removed; • Native wildlife (e.g. reptiles, frogs) that can be captured and relocated; and • Identification of pest fauna species. <p><i>Should any threatened species be identified within the area to be cleared, refer to the Unexpected Finds Protocol in Table 11 (FF7.3). Based on the results of these preclearance surveys, mark up trees as follows (with spray paint on their trunks in a visible location):</i></p> <ul style="list-style-type: none"> • H = Habitat Tree. If hollow-bearing or habitat trees are identified as requiring removal the two-staged clearing process outlined below is to be implemented and the clearing supervised by an ecologist; • O = Ecologist has assessed the tree and it is ready for removal; • D = Ecologist has assessed the tree and it requires pre-inspection immediately prior to, and during removal. Two-staged clearing process outlined below. <p><i>Where hollow bearing trees are identified during preclearing surveys, the NBMS will be implemented prior to clearing.</i></p>
Biodiversity	Mitigate	Install appropriate drainage infrastructure (e.g. sediment basins, diversion drains), sediment and erosion controls prior to the commencement of construction.	Y	<p>The Erosion and Sediment Control Plan is located within Appendix C of the CSWMP (Rev 12).</p> <p>Table 11 - Mitigation/Management/Control Action and Responsibilities SW1, SW3, SW4, SW5, SW8, SW11 are measures associated with drainage infrastructure onsite.</p> <p>SW1 states Erosion and Sediment Control Plan <i>An Erosion and Sediment Control Plan (ESCP) for the Project construction is presented as Appendix C. The plan includes ERSED controls in accordance with Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2006) (the Blue Book') as outlined further below. Standard Drawings of ERSED controls are provided in Appendix D. These drawings outline construction measures and methods of installation of controls. The ESCP must be developed and approved by the Principal. The Principal's Environmental Representative will inspect the installation of the controls prior to breaking ground.</i></p> <p>SW3 states Drainage <i>Upslope diversion drains/bunds are to be installed to prevent clean water runoff from entering disturbed construction catchments. Clean water diversion drains are to be lined with geo-fabric and discharge to stabilised areas via level spreaders. Final design swales need to be established as soon as is practicable as they will play a role in the sediment control on the site, upon the insertion of rock check dams.</i></p> <p>SW4 states Sediment Basins <i>Sediment basins were originally proposed in the ESCP by Hyder (2015), however upon completion of the erosion hazard assessment and annual soil loss calculation it has been determined that sediment basins are no longer necessary. The details of the erosion hazard assessment are provided in Appendix B</i></p> <p>SW5 states Sediment Fences <i>Sediment fences are located around the perimeter of the site to ensure no untreated runoff leaves the site. They have also been located around the existing and proposed drainage channels to minimise sediment migration into waterways and sediment basins. Sediment fences are to be installed in accordance with Standard Drawing (SD) 6-8 as provided in Appendix D.</i></p> <p>SW8 states Sandbags and Sediment Socks <i>Sandbags and sediment socks are utilised to create a weir or check dam in table drains to slow the runoff water velocity and enable coarse sediment to settle. They can also be used to create diversion drains or bunds walls to contain liquids, or to supplement existing sediment controls and will be placed around any existing live stormwater pits or drop inlets prior to decommissioning of the structure. Locations will be confirmed on site and included in working sediment and erosion control plans.</i></p> <p>SW11 states Rock Check Dams <i>Rock checks are effective to slow the velocity of runoff collected in diversion drains, and allow some entrained sediment to settle out. They are simple to construct and are very effective. Refer to SD5-4 Rock Check Dam.</i></p>
Biodiversity	Mitigate	Clearing of vegetation is not to be undertaken during overland flow events.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF3.1 of the CFFMP (Rev 15) addresses this requirement. FF3.1 states</p> <p><i>Clearing of vegetation will be timed to avoid periods when rain is forecast in accordance with Chapter 4.4.2 of 'the Blue Book' and will not be undertaken during overland flow events.</i></p>

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Biodiversity	Mitigate	Clearly identifying sensitive areas and areas for construction and managing clearing such that clearing activities are constrained to these approved areas only.	Y	<p>Figure 3-3a to 3-4b of the CFFMP (Rev 15) outlines the area of impact associated with the project. No clearing outside these areas will be undertaken.</p> <p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF2.1 also addresses this requirement. FF2.1 states</p> <p><i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing. The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas ('no-go areas') which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p>
Biodiversity	Mitigate	Locate soil or mulch stockpiles away from watercourses and key stormwater flow paths to limit potential transport of these substances into the watercourses via runoff.	Y	<p>Figure 2: MPE Stage 1, Proposed stockpile locations of the CSWMP (Rev 12) shows the stockpile locations for the site. These are located > 100m away from Anzac Creek.</p>
Biodiversity	Mitigate	Dust suppression activities to be undertaken where appropriate.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities AQ5 and AQ16 of the CAQMP (Rev 9) prescribe the use of water carts for dust suppression.</p> <p>AQ5 states <i>Operation of a water cart on fill areas, unsealed travel routes and areas where scrapers/ graders are operating. The water rate will be adjusted accordingly to minimise generation of visible dust. The water will be transported to site by tankers for this purpose. The number and size of the water carts shall be regularly reviewed by the Construction Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run-off does not occur and leave the site.</i></p> <p>AQ16 states <i>Operation of a water cart on all unsealed internal roadways and travel routes, as well as fill areas and areas where scrapers/ graders are operating. The water rate will be adjusted accordingly to minimise generation of visible dust. The water will be transported to site by tankers for this purpose. The number and size of the water carts shall be regularly reviewed by the Construction Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run-off does not occur and leave the site</i></p>
Biodiversity	Mitigate	Stabilisation of disturbed areas, including revegetation in accordance with the VMP, is to be undertaken as soon as practicable after disturbance.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities- AQ3 of the CAQMP (Rev 9) addresses this requirement.</p> <p>AQ3 states <i>All disturbed areas where trees and other vegetation are removed are to be stabilised and or revegetated/ rehabilitated in accordance with the contractual requirements as soon as practical following final land shaping</i></p> <p>Revegetation occurs in accordance with FF5.1 of Table 11 - Stage 1 Construction, Management Action and Responsibilities of the CFFMP (Rev 15).</p> <p>FF5.1 states <i>The immediate intent of rehabilitation actions throughout the Project site is to re-establish site surfaces as soon as possible after disturbance to assist with erosion mitigation, and prevent the establishment of weed species. Actions will include:</i> <ul style="list-style-type: none"> • <i>Rehabilitation to commence as soon as practical after use of disturbed area has ceased.</i> • <i>Where soil has been compacted, ripping may be required prior to re-spread of topsoil.</i> • <i>Seed with native species to stabilise disturbed areas.</i> • <i>Where rainfall is not sufficient, watering may be required.</i> • <i>Where required, install temporary fencing until stabilisation is achieved.</i> • <i>Ongoing treatment of weed infestations is required throughout construction.</i> </p> <p>The Riparian Vegetation Management Plan required for riparian vegetation is included as Appendix M to the MPE Stage 1, Package 1 (RALP) CFFMP.</p>
Biodiversity	Mitigate	Emergency response protocols and procedures for implementation in the event of a contaminant spill or leak to be clearly articulated in the Construction Environmental Management Plan.	Y	<p>Appendix R - Emergency Response Plan of the CEMP (Rev 15) addresses this requirement.</p> <p>Health and Safety Plans are developed by the Construction Contractors on site.</p>
Biodiversity	Mitigate	Spill kits to be located to allow for timely response to uncontained spills. Site inductions are to include a briefing on the use of spill kits.	Y	<p>Section 6 - Training, Awareness and Competence and Table 13 - Training Awareness and Competence of the CEMP (Rev 15) outlines the project induction and training protocols. Section 6 states</p> <p><i>The contractor will provide all employees with suitable environmental induction / training to ensure that they are aware of their responsibilities and are competent to carry out the work. Environmental requirements will be explained to employees during site induction and on-going training via tool box meetings, briefings, notifications and the like. All employees (including subcontractors) will receive induction/ training in the following:</i></p> <ul style="list-style-type: none"> • <i>Relevant Environmental Policies and Management Systems including SHEMS</i> • <i>General requirements of the CEMP and sub-plans</i> • <i>Understanding individual authorities and responsibilities</i> • <i>Site environmental rules e.g. hours of operation, limits on high noise generating activities, designated loading/unloading areas</i> • <i>Heritage considerations</i> • <i>Potential consequences of departure from rules</i> • <i>Emergency procedure and response (e.g. Spill clean-up)</i> • <i>Basic understanding of their legal obligations</i> • <i>Location of environmentally sensitive areas and exclusion zones</i> • <i>Details of complaints handling procedure.</i> <p><i>Personnel performing tasks which can cause significant environmental impacts will be competent on the basis of appropriate education, training and / or experience.</i></p> <p><i>The contractor will provide all personnel with training in the requirements and implementation of this CEMP. The contractor will provide CEMP training for new staff members shall be completed within 1 month of their commencement on the project.</i></p> <p><i>The Contractors Environmental Manager will establish a schedule of environmental training which will include training in the operation and implementation of SIMTAs Environmental Management System.</i></p> <p><i>Training in high risk aspects shall be undertaken as the project progresses. An outline of the proposed training is provided below in Table 13 Training Awareness and Competence. The training shall be scheduled to reflect the requirements of the construction program.</i></p> <p><i>Additional training will be provided if required in response to a review of the CEMP or sub-plans requiring a change in environmental management, following an environmental incident, or due to the results of environmental monitoring.</i></p> <p>Section 5.3 - Emergency Spill Response and Figure 3: Emergency Spill Response Procedure of the CSWMP (Rev 12) also addresses this condition. Section 5.3 states</p> <p><i>In the event of a spill incident, the emergency spill response procedure below will be implemented. Emergency spill clean-up kits will be maintained on-site in agreed locations that are accessible and known to all site workers. Spill kits will be used in the event of inadvertent spills of fuels, oils, hydraulic fluids and other hazardous wastes, to contain the spill and avoid contamination of waters. Workers will be trained in the use of spill kits. Contaminated soils shall be excavated and disposed by means to be authorised by the Site Superintendent. Contamination mitigation and management measures are further outlined in Table 11, SW14.</i></p> <p>Multiple Spill kits located adjacent to work areas and are checked/ maintained during site inspections</p>
Biodiversity	Mitigate	Management of weeds in and adjacent to cleared areas will occur in accordance with a Weed Management Plan. This plan will include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols if required.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF3.4 and FF3.5 of the CFFMP (Rev 15) outlines the Weed management plan/protocol.</p> <p>FF3.4 states <i>Management of noxious weeds is to be undertaken in accordance with the Noxious Weeds Act 1993 and include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols including:</i></p> <ul style="list-style-type: none"> • <i>Weed areas to be flagged;</i> • <i>Weeds to be sprayed two weeks prior to clearing or stripped and disposed of off-site at a licenced waste facility. Weedy material must not be mulched or retained on site;</i> • <i>Equipment used for treating weed infestation(s) will be cleaned prior to moving to a new area within the Proposal site to minimise the likelihood of transferring any plant material and soil;</i> • <i>Soil stripped and stockpiled from areas containing known weed infestations are to be stored on cleared land at least 40 m from native vegetation. Stockpiles to be banded and covered to minimise potential of seed washing away;</i> • <i>Weed contaminated spoil to be removed to licenced landfill and</i> • <i>Plant and equipment brought on to site must be cleaned and free of deleterious material, mud and other material that may harbour weed seeds</i> • <i>Weekly inspections will also be undertaken. The identification of weeds will be included as part of this inspection</i> <p>FF3.5 states <i>All vehicles and other equipment to be used on site will be checked upon arrival to site to ensure it is free from excessive soil and vegetative matter to minimise the likelihood of introducing weeds and plant pathogens. Where necessary vehicles will be cleaned.</i></p>

Type	Part	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
			IMEX - Construction	Evidence/ Comments
Biodiversity	Mitigate	Management of noxious weeds are to be undertaken in accordance with the Noxious Weeds Act 1993.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF3.4 and FF3.5 of the CFFMP (Rev 15) outlines the Weed management plan/protocol.</p> <p>FF3.4 states <i>Management of noxious weeds is to be undertaken in accordance with the Noxious Weeds Act 1993 and include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols including:</i></p> <ul style="list-style-type: none">• Weed areas to be flagged;• Weeds to be sprayed two weeks prior to clearing or stripped and disposed of off-site at a licenced waste facility. Weedy material must not be mulched or retained on site;• Equipment used for treating weed infestation(s) will be cleaned prior to moving to a new area within the Proposal site to minimise the likelihood of transferring any plant material and soil;• Soil stripped and stockpiled from areas containing known weed infestations are to be stored on cleared land at least 40 m from native vegetation. Stockpiles to be banded and covered to minimise potential of seed washing away;• Weed contaminated spoil to be removed to licenced landfill and• Plant and equipment brought on to site must be cleaned and free of deleterious material, mud and other material that may harbour weed seeds• Weekly inspections will also be undertaken. The identification of weeds will be included as part of this inspection <p>FF3.5 states <i>All vehicles and other equipment to be used on site will be checked upon arrival to site to ensure it is free from excessive soil and vegetative matter to minimise the likelihood of introducing weeds and plant pathogens.</i> <i>Where necessary vehicles will be cleaned .</i></p>
Biodiversity	Mitigate	Equipment used for treating weed infestation will be cleaned prior to moving to a new area within the project site to minimise the likelihood of transferring any plant material and soil.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF3.4 and FF3.5 of the CFFMP (Rev 15) outlines the Weed management plan/protocol.</p>
Biodiversity	Mitigate	Soil stripped and stockpiled from areas containing known weed infestations are to be stored separately and are not to be moved to areas free of weeds.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF3.4 and FF3.5 of the CFFMP (Rev 15) outlines the Weed management plan/protocol.</p> <p>FF3.4 states <i>Management of noxious weeds is to be undertaken in accordance with the Noxious Weeds Act 1993 and include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols including:</i></p> <ul style="list-style-type: none">• Weed areas to be flagged;• Weeds to be sprayed two weeks prior to clearing or stripped and disposed of off-site at a licenced waste facility. Weedy material must not be mulched or retained on site;• Equipment used for treating weed infestation(s) will be cleaned prior to moving to a new area within the Proposal site to minimise the likelihood of transferring any plant material and soil;• Soil stripped and stockpiled from areas containing known weed infestations are to be stored on cleared land at least 40 m from native vegetation. Stockpiles to be banded and covered to minimise potential of seed washing away;• Weed contaminated spoil to be removed to licenced landfill and• Plant and equipment brought on to site must be cleaned and free of deleterious material, mud and other material that may harbour weed seeds• Weekly inspections will also be undertaken. The identification of weeds will be included as part of this inspection <p>FF3.5 states <i>All vehicles and other equipment to be used on site will be checked upon arrival to site to ensure it is free from excessive soil and vegetative matter to minimise the likelihood of introducing weeds and plant pathogens.</i> <i>Where necessary vehicles will be cleaned .</i></p>
Biodiversity	Mitigate	Fauna microhabitat such as logs should be removed from areas to be cleared and relocated to suitable nearby bushland areas in the presence of an ecologist.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF2.5 of the CFFMP (Rev 15) addresses this condition. FF2.5 states</p> <p><i>If fauna microhabitat (such as hollow logs) are identified, these will be removed from areas to be cleared and relocated outside of any exclusion fencing to suitable nearby bushland areas in the presence of an ecologist, as described in the Vegetation Clearance Protocol</i></p>
Biodiversity	Mitigate	Consider the installation of nest boxes in woodland vegetation in the rail corridor that may offer alternative nesting habitat to hollow dependent species recorded in the study area.	Y	<p>Nest Boxes are installed for the entire MPE Site in accordance with Section 5.3 - Nest Box Management and Appendix E - Nest Box Strategy of the CFFMP (Rev 15). Section 5.3 states</p> <p><i>At the time of the original approval of the CFFMP, a NBMS was not required to be developed as the RtS had not identified any hollow bearing trees. However, during pre-clearing surveys undertaken by Biosis, 25 hollows were identified in 13 hollow bearing trees across the MPE Stage 1, Package 2 site. Annexure B of the NBMS (see Appendix D) details the hollows identified in the MPE Stage 1, Package 2 site and specific measures to be implemented relating to Package 2.</i> <i>In accordance with this plan and advice received by DP&E during approval of this document, the NBMS approved by DP&E for MPE Stage 1 Package 1 has been adapted for use for Package 2 and is included within Appendix D. The amendments to the NBMS are consolidated within Annexure B of the NBMS and detailed below. Annexure B relates specifically to requirements for MPE stage 1, Package 2 and must be read in conjunction with the NBMS main document. Any measures outlined in other sections of the NBMS must be adhered to. Package 2 specific requirements of the NBMS are as follows:</i></p> <ul style="list-style-type: none">• Section 4.1 - Given the larger number of tree hollows to be removed for Stage 1, Package 2 (i.e. 33 hollows), the minimum offset ratio of 1:1 of nest boxes per hollow removed will be applied. The higher offset ratio of 2:1 as detailed within the NBMS is only recommended where very few hollows are to be removed.• Section 4.3.1 – Nest boxes for Stage 1, Package 2 are to be installed within land on the eastern bank of Georges River, as illustrated in Figure 4 of the NBMS. Where additional land is required to avoid over-crowding, nest boxes will be installed along the eastern bank of the Georges River immediately to the north of the area illustrated in Figure 4. The Southern Boot Land is not currently available for installation of nest boxes for Stage 1, Package 2.• Section 4.3.2 and Section 4.3.3 – Nest boxes will be installed and recorded by Waratah in accordance with the methodology provided in the NBMS. Data recorded (including GPS coordinates of individual nest box locations) will be appended to the NBMS.• Section 5.1 and Section 5.2 – Monitoring and maintenance is required annually in spring for the duration of construction. <p><i>To satisfy nest box monitoring required in accordance with the NBMS, nest box monitoring was undertaken across both MPE and MPW in November 2018 by Arcadis Ecologists in order to assess the condition and number of nest boxes across these sites. Based on these investigations, a memorandum (Appendix E) was developed on 8 February 2019 to consider the requirement to install additional nest boxes at the Moorebank Logistics Park (MLP). The memorandum provided a review of nest boxes installed to date and assessed the values and risks associated with the installation of additional nest boxes at MLP. This advice recommended that no additional nest boxes be installed for the following reasons:</i></p> <ul style="list-style-type: none">• The total number of nest boxes installed within the Georges River Corridor exceeds the recommended densities (i.e. is oversaturated), favouring over-abundant, adaptable and/or aggressive species which outcompete less tolerant native species• Availability of tree hollows and installation of nest boxes within the Bootland currently meet benchmark conditions so that additional supplementary nest boxes are not required• In addition to the above, there is no suitable woodland present in the rail corridor and the southern Bootland has recently been burned; presenting installation risks, as well as risks to the highly sensitive land• No threatened hollow-dependent fauna was recorded and therefore no habitat for these species will be removed. All hollows are in landscape planted trees in highly disturbed cleared or developed lands which do not provide habitat for threatened fauna• Installation of nest boxes is likely to benefit over-abundant highly adaptable species to the detriment of other fauna, as observed during monitoring in November 2018. <p><i>Based on this advice, no further nest boxes will be installed for the MPE Stage 1 site.</i></p> <p>As a result of nest box monitoring undertaken in November 2018, it was deemed unnecessary for additional next boxes to be installed for the MPE Stage 1 site.</p>
Biodiversity	Mitigate	High visibility plastic fencing is to be installed to clearly define the limits of the works area to not further encroach on fauna habitat.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF2.1 of the CFFMP (Rev 15) addresses this requirement. FF2.1 states</p> <p><i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing.</i> <i>The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas (‘no-go areas’) which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p>
Biodiversity	Mitigate	Undertake a pre-start up check for sheltering native fauna of all infrastructure, plant and equipment and/or during relocation of stored construction materials.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF6.4 of the CFFMP (Rev 15) addresses this requirement. FF6.4 states</p> <p><i>Undertake a pre-start-up check for sheltering native fauna of all infrastructure, plant and equipment and/or during relocation of stored construction materials</i></p>

Type	Part	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
			IMEX - Construction	Evidence/ Comments
Biodiversity	Mitigate	<ul style="list-style-type: none">• Undertake a two-stage approach to clearing:<ul style="list-style-type: none">o Remove non-hollow bearing trees at least 48 hours before habitat trees are removedo Hollow bearing trees are to be knocked with an excavator bucket or other machinery to encourage the fauna to evacuate the tree immediately prior to felling.o Felled trees must be left for a short period of time on the ground to give any fauna trapped in the tree an opportunity to escape before further processing of trees.o Felled hollow bearing trees must be inspected by an ecologist as soon as possible (not longer than 2 hours after felling)	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF3.2 of the CFFMP (Rev 15) addresses this requirement. FF3.2 states</p> <p><i>No clearing of any vegetation outside of the project footprint is permitted and clearing of native vegetation will be minimised where possible. Additional project approvals will be required. Clearing of vegetation outside of the defined clearing permit boundary is not permitted</i> Ecologist to be present on site during the clearing process for red flagged trees ('H' and 'O'). The two stage clearing process is outlined below and in Section 5.1.</p> <p>Stage 1:</p> <ul style="list-style-type: none">• Non-habitat vegetation removal must be undertaken a minimum of 48 hours prior to habitat tree removal. Habitat trees are to remain standing for 48 hours before clearing to allow fauna to vacate the habitat on their own accord. <p>Stage 2:</p> <ul style="list-style-type: none">• Immediately prior to felling, the habitat tree is to be knocked with an excavator bucket (or other machinery) to encourage fauna to evacuate the tree under the supervision of an ecologist. The tree may then be felled.• Felled trees must be left on the ground for a short period to allow any trapped fauna the opportunity to escape.• Felled hollow-bearing trees must be inspected by an ecologist immediately to check for injured or immature fauna.• Animals found prior to or during clearing activities will be released outside of any exclusion fencing to surrounding suitable habitat.• If any animal is injured, contact the relevant local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery as soon as practical. Until the animal can be cared for by a suitably qualified animal handler, if possible minimise stress to the animal and reduce the risk of further injury by:<ul style="list-style-type: none">– Handling fauna with care and as little as possible.– Covering larger animals with a towel or blanket and placing in a large cardboard box.– Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark location.• In the case of arboreal or flying mammals attempts will be made to relocate the den or roost. After capture, the animal(s) will be held by a trained wildlife carer for a period of no longer than two weeks until the roost or den can be relocated, either as an entire tree or part thereof.• Work may recommence once the animal(s) have been captured and removed from the area.• Felled trees will be placed between cleared and remnant bushland where possible to provide runways of ground cover for dispersal of animals.• Excess material may be mulched and used on site.• Remove unused mulch to designated stockpile locations and do not use mulch within 50m of waterways or drainage lines. <p><u>Section 5.1 - Vegetation Clearance Protocol</u> also outlines the vegetation clearing protocol. Section 5.1 states</p> <p><u>Preclearance inspections</u></p> <p>The project Ecologist is to undertake a pre-clearing survey within two weeks of vegetation clearing to identify any potential threatened species, endangered vegetation, weed infestation and habitat trees. The ecologist will identify at a minimum:</p> <ul style="list-style-type: none">• The species, relative density and location of any weeds;• Locations of threatened flora and fauna species and habitat or hollow bearing trees;• Echolocation call recording and dawn/dusk surveys to confirm if the buildings are being used as roosting sites for any microchiropteran bats;• Trees which require limbs to be removed;• Native wildlife (e.g. reptiles, frogs) that can be captured and relocated; and• Identification of pest fauna species. <p>Should any threatened species be identified within the area to be cleared, refer to the Unexpected Finds Protocol in Table 11 (FF7.3). Based on the results of these preclearance surveys, mark up trees as follows (with spray paint on their trunks in a visible location):</p> <ul style="list-style-type: none">• 'H' = Habitat Tree. If hollow-bearing or habitat trees are identified as requiring removal the two-staged clearing process outlined below is to be implemented and the clearing supervised by an ecologist;• 'O' = Ecologist has assessed the tree and it is ready for removal;• 'O' = Ecologist has assessed the tree and it requires pre-inspection immediately prior to, and during removal. Two-staged clearing process outlined below. <p>Where hollow bearing trees are identified during preclearing surveys, the NBMS will be implemented prior to clearing.</p>
Biodiversity	Mitigate	Site inductions are to include a briefing regarding the local fauna of the site and identification of protocols to be undertaken if fauna are encountered.	Y	<p><u>Table 9 - Threatened Species, Likelihood of Occurance within the Project</u> and <u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> FF1.1 of the CFFMP (Rev 15) addresses this requirement. FF1.1 states</p> <p><i>All site personnel shall undergo site specific induction training, which will include environmental awareness and Flora and Fauna management training. Toolbox meetings will also be undertaken as and when required and may be triggered by the detection of a threatened species or noxious weed (for example); covering specific environmental issues and Flora and Fauna control measures and identified threatened species as identified in this CFFMP. All staff shall be notified in the induction that clearing is limited to the construction footprint, and that clearing in Commonwealth Land is prohibited.</i></p>
Biodiversity	Mitigate	If any pits/trenches are to remain open overnight, they are to be securely covered, if possible. Alternatively, fauna ramps (logs or wooden planks) are to be installed to provide an escape for trapped fauna.	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF6.7 of the CFFMP (Rev 15) demonstrates that ramps are in place for site personnel and can be used by fauna if required. FF6.7 states</p> <p><i>If any pits/trenches are to remain open overnight, they are to be securely covered, where reasonable and feasible. Alternatively, fauna ramps (logs or wooden planks) are to be installed to provide an escape for trapped fauna.</i></p>
Biodiversity	Mitigate	Clearance of native vegetation should be minimised as far as is practicable.	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF2.2 of the CFFMP (Rev 15) addresses this requirement. FF2.2 states</p> <p><i>Trees will be removed for the construction of a permanent access point to the terminal site. Retained trees include:</i></p> <ol style="list-style-type: none">1. The existing mature trees located on the eastern side of Moorebank Avenue shown on Drawing LA01 (Landscape Masterplan) (dated 30.3.2015)2. Trees adjacent to the southern boundary of the site (as shown in Figure 3).3. Habitat trees marked on Figure 3 are to be retained <p><i>Trees to be retained shall be protected and maintained during preconstruction and construction activities in accordance with AS4970-2009 Protection of trees on development sites. This requires the establishment of Tree Protection Zone (TPZ), so that the trees remain viable. The radius of the TPZ is calculated for each tree by multiplying its DBH x 12. Fencing of the TPZ should be erected before any machinery or materials are brought onto the site and before the commencement of works including demolition. AS4687 specifies applicable fencing requirements. Shade cloth or similar should be attached to reduce the transport of dust, other particulate matter and liquids into the protected area. Fence posts and supports should have a diameter greater than 20 mm and be located clear of roots. Signs identifying the TPZ should be placed around the edge of the TPZ and be visible from within the development site.</i></p>
Biodiversity	Mitigate	Consider retention of some, or all, of the remnant scattered E. sclerophylla over patches of shrub and grass cover in the cleared grassland immediately south of the Principal site, in landscaping works.	Y	<p>Remnant scattered E. sclerophylla is located outside the IMEX construction boundary and would not be impacted by IMEX.</p> <p>Whenever additional impact to remnant scattered E. sclerophylla is potentially required (e.g. project modifications or request for minor amendments), consideration of the retention of scattered E. sclerophylla will be addressed in the environmental assessments associated with these activities.</p>
Biodiversity	Mitigate	The extent of, and limitations to, vegetation clearing would be clearly identified on construction plans.	Y	<p><u>Figure 4: Identified Threatened Flora Species in Proximity to the Project Site</u> and <u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF2.1 of the CFFMP (Rev 15) addresses this requirement. FF2.1 states</p> <p><i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing. The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas ('no-go areas') which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p>
Biodiversity	Mitigate	Any additional construction areas, such as site offices, construction stockpile locations and machinery/equipment laydown areas are to be located, where possible, within existing cleared or disturbed areas.	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF6.9 of the CFFMP (Rev 15) addresses this requirement. FF6.9 states</p> <p><i>Any additional construction areas, such as site offices, construction stockpile locations and machinery/equipment laydown areas will be located in previously cleared areas where possible.</i></p>
Biodiversity	Mitigate	Extent of clearing should be fenced with highly visible temporary fencing to minimise any extension of clearing beyond the area necessary.	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF2.1 of the CFFMP (Rev 15) addresses this requirement. FF2.1 states</p> <p><i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing. The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas ('no-go areas') which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p>
Biodiversity	Mitigate	A VMP should be prepared prior to construction, detailing restoration, regeneration and rehabilitation of areas of native vegetation in study area. The VMP should also detail appropriate management for the potential habitat of threatened plant species in the study area, including monitoring during and after construction works to ensure impacts are minimised.	Y	<p>A Riparian Vegetation Management Plan has been prepared for MPE Stage 1 – RALP CFFMP and is attached as Appendix M – Riparian Vegetation Management Plan.</p>

Type	Part	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
			IMEX - Construction	Evidence/ Comments
Biodiversity	Mitigate	As soon as possible rehabilitation will commence where possible. Management of land disturbed as a result of construction works will occur in accordance with a VMP.	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF5.1 of the CFFMP (Rev 15) address this requirement. FF5.1 states</p> <p><i>The immediate intent of rehabilitation actions throughout the Project site is to re-establish site surfaces as soon as possible after disturbance to assist with erosion mitigation, and prevent the establishment of weed species. Actions will include:</i></p> <ul style="list-style-type: none"> • Rehabilitation to commence as soon as practical after use of disturbed area has ceased. • Where soil has been compacted, ripping may be required prior to re-spread of topsoil. • Seed with native species to stabilise disturbed areas. • Where rainfall is not sufficient, watering may be required. • Where required, install temporary fencing until stabilisation is achieved. • Ongoing treatment of weed infestations is required throughout construction. <p>Rehabilitation to commence as soon as practical after use of disturbed area has ceased.</p>
Biodiversity	Mitigate	High visibility plastic fencing is to be installed to clearly define the limits of the works area as to not further encroach on EEC and locations of threatened flora species.	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF2.1 of the CFFMP (Rev 15) addresses this requirement. FF2.1 states</p> <p><i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing. The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas ('no-go areas') which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p>
Biodiversity	Mitigate	Fencing is to be installed delineating threatened species habitat to be retained. Appropriate warning signage is to be installed along this fencing at regular intervals. Site inductions are to include a briefing on the presence of threatened species and its habitat, its significance and locations and extents of no-go zones.	Y	<p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF1.1 and FF2.1 of the CFFMP (Rev 15) address this requirement.</p> <p>FF1.1 states <i>All site personnel shall undergo site specific induction training, which will include environmental awareness and Flora and Fauna management training. Toolbox meetings will also be undertaken as and when required and may be triggered by the detection of a threatened species or noxious weed (for example); covering specific environmental issues and Flora and Fauna control measures and identified threatened species as identified in this CFFMP. All staff shall be notified in the induction that clearing is limited to the construction footprint, and that clearing in Commonwealth Land is prohibited.</i></p> <p>FF2.1 states <i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing. The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas ('no-go areas') which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p>
Biodiversity	Mitigate	Design and construction of rail crossings over Anzac Creek and Georges River to be in accordance with Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge 2003).	N	Not applicable to this phase of works. Construction of the rail link and impact to riparian vegetation is not within the scope of works for IMEX.
Biodiversity	Mitigate	Minimise clearing and disturbance to the riparian zone where possible.	N	Not applicable to this phase of works. Construction of the rail link and impact to riparian vegetation is not within the scope of works for IMEX.
Biodiversity	Mitigate	Construction disturbance areas will be clearly demarcated to avoid accidental clearing or stockpiling in riparian vegetation.	N	Not applicable to this phase of works. Construction of the rail link and impact to riparian vegetation is not within the scope of works for IMEX.
Biodiversity		Landscaped zones to capture gross pollutants and oil and grits from pavement. These areas can be regularly maintained to remove rubbish and can be renewed on a regular basis.	N	Not applicable to construction. Will be addressed on MLP Operational documentation.
Biodiversity		Bio-retention installed in base of channels and swales proposed to capture and store stormwater. This will consist of bio-filtration layers, planting and subsoil collection and drainage.	N	Not applicable to construction. Will be addressed on MLP Operational documentation.
Biodiversity		Hot work not to be undertaken on declared total fire ban days.	Y	<p>Approval from RFS received 1/04/2018 to complete hot works during total fire bans for a period of 12 months.</p> <p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF1.2 of the CFFMP (Rev 15) addresses this requirement. Hot works will not occur on days declared 'Total Fire Ban'. FF1.2 states</p> <p>Induction training must also include bushfire hazards and risks. The bushfire threat during Stage 1 construction is considered to be low. However, there is a risk of ignition of adjoining bush to the south of the Project. Grassfires tend to be less intense than a forest fire however they can still generate enormous amounts of radiant heat and it is important that:</p> <ul style="list-style-type: none"> • all site offices would be accessible via all-weather access roads suitable for firefighting vehicles; • water supply must be readily identifiable and appropriate signage must be provided; and • application of restrictions during days of elevated fire danger including all activities likely to cause sparks or fire. <p>On days declared 'Total Fire Ban', not hot works to be undertaken and there is to be no high-risk activities or plant and equipment to be used for:</p> <ul style="list-style-type: none"> • Grass or vegetation reduction works (including mowing/slashing); • Arborist works (chainsaw); • Vehicle operations in long grass; • Other than – (Emergency works).
Biodiversity		Vehicles and plant should not block fire trails.	Y	<p>No fire trails through IMEX, however internal access roads a kept clear in line with CEMP and BMP.</p> <p><u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> - FF6.1 of the CFFMP (Rev 15) addresses this requirement. FF6.1 states</p> <p>Construction plant, equipment and materials are not to be stored within the dripline of any trees or vegetation to be retained or block access to any fire trails</p>
Biodiversity		Bushfire awareness included in staff induction and in toolbox talks pre-commencement.	Y	<p>Bushfire awareness included in face to face induction in accordance with the FF1.2 of <u>Table 11 - Stage 1 Construction, Management Action and Responsibilities</u> of the CFFMP (Rev 15). FF1.2 states</p> <p>Induction training must also include bushfire hazards and risks. The bushfire threat during Stage 1 construction is considered to be low. However, there is a risk of ignition of adjoining bush to the south of the Project. Grassfires tend to be less intense than a forest fire however they can still generate enormous amounts of radiant heat and it is important that:</p> <ul style="list-style-type: none"> • all site offices would be accessible via all-weather access roads suitable for firefighting vehicles; • water supply must be readily identifiable and appropriate signage must be provided; and • application of restrictions during days of elevated fire danger including all activities likely to cause sparks or fire. <p>On days declared 'Total Fire Ban', not hot works to be undertaken and there is to be no high-risk activities or plant and equipment to be used for:</p> <ul style="list-style-type: none"> • Grass or vegetation reduction works (including mowing/slashing); • Arborist works (chainsaw); • Vehicle operations in long grass; • Other than – (Emergency works).
Biodiversity		Directional lighting will be used where lighting is required in construction areas.	Y	<p><u>Appendix B - Out of Hours Works Protocol</u> of the CNVMP (Rev 14) addresses this requirement.</p> <p><i>In compliance with Commonwealth approval mitigation measures for biodiversity, directional lighting will be used where lighting is required in construction areas.</i></p>
Biodiversity		Frequent maintenance of construction machinery and plant will be undertaken to minimise unnecessary noise.	Y	<p><u>Section 5.2.7 - Maintenance of Plant and Equipment</u> of the CEMP (Rev 15) addresses this requirement. Section 5.2.7 states</p> <p><i>The contractor will ensure that plant and equipment are well maintained in a safe and serviceable manner. The following requirements apply:</i></p> <ul style="list-style-type: none"> • Plant will be inspected prior to operation on site. Fuel lines, hydraulic hoses or other items with the potential to impact the environment are to be inspected. Items found to be worn, damaged or otherwise degraded are to be replaced prior to operation. • Plant will be serviced, re-fuelled and washed-down only in approved areas where hydrocarbons can be captured and then properly disposed. • Fuelling will be carried out in bunded areas when fuelling from bulk tanks • Plant and equipment will be maintained to prevent / fix oil leaks • Plant will be driven and operated only in approved areas • Plant will have effective pollution control and sound attenuation devices fitted <p><i>Further information on environmental controls is contained in the ERAP (Appendix A).</i></p> <p>Pre-start checks conducted daily and maintenance complete when required.</p>

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Biodiversity		Dust suppression activities to be undertaken where appropriate.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities AQ5 and AQ16 of the CAQMP (Rev 9) prescribe the use of water carts for dust suppression.</p> <p>AQ5 states <i>Operation of a water cart on fill areas, unsealed travel routes and areas where scrapers/ graders are operating. The water rate will be adjusted accordingly to minimise generation of visible dust. The water will be transported to site by tankers for this purpose. The number and size of the water carts shall be regularly reviewed by the Construction Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run-off does not occur and leave the site.</i></p> <p>AQ16 states <i>Operation of a water cart on all unsealed internal roadways and travel routes, as well as fill areas and areas where scrapers/ graders are operating. The water rate will be adjusted accordingly to minimise generation of visible dust. The water will be transported to site by tankers for this purpose. The number and size of the water carts shall be regularly reviewed by the Construction Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run-off does not occur and leave the site</i></p>
Biodiversity		Speed limits will be developed so as to minimise the potential for fauna to be struck by a vehicle within the Principal site. All vehicles and plant in operation on the Principal site are to adhere to site rules relating to speed limits.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF6.2 of the CFFMP (Rev 15) enforces 20km speed limits and signs posted across IMEX site. FF6.2 states</p> <p>A site speed limit of 20km/h will be adhered to by all personnel to minimise the potential for fauna to be struck by a vehicle within the construction areas. All vehicles and plant in operation during construction are to adhere to site rules relating to speed limits.</p>
Biodiversity		If an animal is injured, contact one of the following local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery immediately	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF1.1 and FF3.3 of the CFFMP (Rev14) outlines the content included in induction.</p> <p>FF1.1 states <i>All site personnel shall undergo site specific induction training, which will include environmental awareness and Flora and Fauna management training. Toolbox meetings will also be undertaken as and when required and may be triggered by the detection of a threatened species or noxious weed (for example); covering specific environmental issues and Flora and Fauna control measures and identified threatened species as identified in this CFFMP. All staff shall be notified in the induction that clearing is limited to the construction footprint, and that clearing in Commonwealth Land is prohibited.</i></p> <p>FF3.3 states Fauna Handling <i>Only the ecologist or fauna handler to touch or move fauna.</i> <i>If fauna is present, allow to move through worksite. If fauna does not relocate, or is injured (see also FF8.1), contact the ecologist, fauna handler, WIRES or local veterinary surgery as soon as practical to assist in relocation to adjacent retained habitat.</i> <i>Where handling of frogs is necessary, the risk of Chytrid pathogen transfer will be minimised and will follow the OEH Hygiene Protocol for the Control of Disease in Frogs (DECCW 2008a) as follows:</i> <ul style="list-style-type: none"> • Hands to be cleaned / disinfected between each frog or a new pair of disposable gloves used for each sample. • A 'one bag – one frog / tadpole' approach to handling will be used where capture and relocation is necessary. Bags are not to be reused. </p>
Biodiversity		<ul style="list-style-type: none"> • Until the animal can be cared for by a suitably qualified animal handler, if possible minimise stress to the animal and reduce the risk of further injury by: <ul style="list-style-type: none"> o Handling fauna with care and as little as possible. o Covering larger animals with a towel or blanket and o placing in a large cardboard box. o Placing small animals in a cotton bag, tied at the top. o Keeping the animal in a quiet, warm, ventilated and dark 	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF1.1 and FF3.3 of the CFFMP (Rev14) outlines the content included in induction.</p> <p>FF1.1 states <i>All site personnel shall undergo site specific induction training, which will include environmental awareness and Flora and Fauna management training. Toolbox meetings will also be undertaken as and when required and may be triggered by the detection of a threatened species or noxious weed (for example); covering specific environmental issues and Flora and Fauna control measures and identified threatened species as identified in this CFFMP. All staff shall be notified in the induction that clearing is limited to the construction footprint, and that clearing in Commonwealth Land is prohibited.</i></p> <p>FF3.3 states Fauna Handling <i>Only the ecologist or fauna handler to touch or move fauna.</i> <i>If fauna is present, allow to move through worksite. If fauna does not relocate, or is injured (see also FF8.1), contact the ecologist, fauna handler, WIRES or local veterinary surgery as soon as practical to assist in relocation to adjacent retained habitat.</i> <i>Where handling of frogs is necessary, the risk of Chytrid pathogen transfer will be minimised and will follow the OEH Hygiene Protocol for the Control of Disease in Frogs (DECCW 2008a) as follows:</i> <ul style="list-style-type: none"> • Hands to be cleaned / disinfected between each frog or a new pair of disposable gloves used for each sample. • A 'one bag – one frog / tadpole' approach to handling will be used where capture and relocation is necessary. Bags are not to be reused. </p>
Biodiversity		Weed infestations that are identified during the operation of the Principal proposal are to be managed in accordance with the removal methods outlined in the Weed Management Plan.	N	Not applicable to construction. Measure will be addressed in the Operational Flora and Fauna Management Plan (OFFMP).
Air	Construction	A Construction Environmental Management Plan will be prepared prior to construction. This document will include provisions covering air quality management and mitigation, and will be implemented through good site environmental practice.	Y	<p>DotEE approved CEMP on 24/05/2017.</p> <p>CNVMP and CAQMP developed and approved by DPIE in May 2017.</p>
Air	Dust Management	Increasing the moisture content of the soil/surface to reduce emissions from site clearing, particularly during dry and windy conditions.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ 5, AQ6, AQ 12 and AQ16 of the CAQMP (Rev 9) outline the use of water carts, spray polymer on disturbed soil.</p> <p>AQ5 states <i>Operation of a water cart on fill areas, unsealed travel routes and areas where scrapers/ graders are operating. The water rate will be adjusted accordingly to minimise generation of visible dust. The water will be transported to site by tankers for this purpose. The number and size of the water carts shall be regularly reviewed by the Construction Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run-off does not occur and leave the site.</i></p> <p>AQ6 states <i>Use water sprays as a suppressant during road construction, when movement of materials generates visible dust and during dusty activities such as ballast dumping and compacting .</i></p> <p>AQ12 states <i>Where possible, materials and structures will be dampened using water sprays prior to demolition.</i></p> <p>AQ16 states <i>Operation of a water cart on all unsealed internal roadways and travel routes, as well as fill areas and areas where scrapers/ graders are operating. The water rate will be adjusted accordingly to minimise generation of visible dust. The water will be transported to site by tankers for this purpose. The number and size of the water carts shall be regularly reviewed by the Construction Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run-off does not occur and leave the site</i></p>
Air		Modifying work practices during periods of adverse weather.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ 1 of the CAQMP (Rev 9) outlines increased measures during dry windy conditions. AQ1 states</p> <p><i>Modify working practices by limiting clearing, stripping and spoil handling during periods of adverse weather (hot, dry and windy conditions) and when dust is seen leaving the site.</i></p>
Air		Limiting and staging clearing of designated footprint required for construction.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF2.1 of the CFFMP (Rev 15) addresses this requirement. FF2.1 states:</p> <p><i>No-go areas are identified as any area outside of the Project construction footprint. These no-go areas will be clearly identified on construction plans and include the southern and eastern boundaries of the site. The project boundaries will be physically demarcated on site with exclusion zone signage, as well as on construction plans to minimise the potential for staff and workers clearing outside the project boundaries. Existing chain link fencing on project boundaries will be inspected and fixed where necessary prior to clearing activities commencing. The extent of vegetation clearing is restricted to the MPE Stage 1, Package 2 construction boundary and is to be clearly identified on pre-clearing surveys and construction plans. Clearly identifying sensitive areas ('no-go areas') which cannot be impacted by construction and managing clearing such that clearing activities are constrained to these approved areas only. The boundary between the area to be cleared and adjoining vegetation will be clearly marked with high visibility fencing. This will also act to exclude fauna from entering the construction areas and reduce potential for direct fauna mortality.</i></p> <p>This is also addressed by Table 18 - Construction Mitigation/Management/Control Action and Responsibilities of the CAQMP (Rev 9) AQ2 which states: <i>Limit the extent of clearing of vegetation and topsoil to the designated footprint required for construction and appropriate staging of any clearing</i></p>
Air		Completing rehabilitation as quickly as possible.	Y	<p>Table 11 - Stage 1 Construction, Management Action and Responsibilities - FF5.1 of the CFFMP (Rev 15) addresses this requirement and it states:</p> <p><i>The immediate intent of rehabilitation actions throughout the Project site is to re-establish site surfaces as soon as possible after disturbance to assist with erosion mitigation, and prevent the establishment of weed species. Actions will include:</i></p> <ul style="list-style-type: none"> • Rehabilitation to commence as soon as practical after use of disturbed area has ceased. • Where soil has been compacted, ripping may be required prior to re-spread of topsoil. • Seed with native species to stabilise disturbed areas. • Where rainfall is not sufficient, watering may be required. • Where required, install temporary fencing until stabilisation is achieved. • Ongoing treatment of weed infestations is required throughout construction. <p>Rehabilitation is to commence as soon as practical after use of disturbed area has ceased.</p>
Air		Minimising the number of stockpiles on-site and number of work faces on stockpiles.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ27 of the CAQMP (Rev 9) addresses this requirement. AQ27 states</p> <p><i>Wind erosion from temporary stockpiles will be limited by minimising the number of work faces on stockpiles, minimising the number of stockpiles and through covering or temporary stabilisation (compaction of surface, water sprays, seeding, veneering) of the stockpiles.</i></p> <p>IMEX large stockpile area would be appropriately separated and labelled.</p>

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Air		Use of water sprays for dusty activities such as ballast dumping and compacting	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ6 of the CAQMP (Rev 9) addresses this requirement and it states</p> <p><i>Use water sprays as a suppressant during road construction, when movement of materials generates visible dust and during dusty activities such as ballast dumping and compacting.</i></p>
Air		Modify or cease demolition activities during periods of adverse weather (hot, dry and windy conditions).	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ13 of the CAQMP (Rev 9) addresses this requirement and it states</p> <p><i>During adverse weather (hot, dry and windy conditions), consideration will be given to modify demolition activities when dust is seen leaving the site</i></p>
Air		Using water sprays with earthmoving equipment during road construction	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - A16 of the CAQMP (Rev 9) addresses this requirement and it states</p> <p><i>Operation of a water cart on all unsealed internal roadways and travel routes, as well as fill areas and areas where scrapers/ graders are operating. The water rate will be adjusted accordingly to minimise generation of visible dust. The water will be transported to site by tankers for this purpose. The number and size of the water carts shall be regularly reviewed by the Construction Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run-off does not occur and leave the site</i></p>
Air		Modifying work practices during periods of high winds and/or dry conditions by limiting scraper/grader activity.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ17 of the CAQMP (Rev 9) addresses this requirement and it states</p> <p><i>Modifying work practices during periods of high winds and/or dry conditions by limiting scraper/ grader activity.</i></p> <p>Modification of work practices include: minimal surface disturbance works carried out during high winds events. Works stopped while dust suppression activities are complete.</p>
Air		Confining all on-site vehicles to a designated route and enforcing speed limits.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ15 and AQ18 of the CAQMP (Rev 9) addresses this requirement. Routes established and speed limits sign posted and enforced by traffic controllers.</p>
Air		Modifying work practices during periods of high winds and/or dry conditions by engaging a water truck to spray travel routes.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - A16 of the CAQMP (Rev 9) addresses this requirement and it states</p> <p><i>Operation of a water cart on all unsealed internal roadways and travel routes, as well as fill areas and areas where scrapers/ graders are operating. The water rate will be adjusted accordingly to minimise generation of visible dust. The water will be transported to site by tankers for this purpose. The number and size of the water carts shall be regularly reviewed by the Construction Manager to ensure that adequate watering is taking place and dust is kept to a minimum. Care is to be exercised to limit the amount of water used to ensure run-off does not occur and leave the site</i></p> <p>In addition, vehicle movements will be planned and controlled where possible</p>
Air		Controlling and reducing trip frequency and distance by coordinating delivery and removal of materials to avoid unnecessary trips, where possible.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ19 of the CAQMP (Rev 9) addresses this requirement and it states</p> <p><i>Trips and trip distances should be controlled and reduced where possible, for example by coordinating delivery and removal of materials to avoid unnecessary trips.</i></p> <p>Vehicle movements planned and controlled where possible.</p>
Air		Cleaning dirt that has been tracked onto sealed roads as soon as practicable. Dirt track-out should be managed using shaker grids and/or wheel cleaning.	Y	<p>Table 18 - Construction Mitigation/Management/Control Action and Responsibilities - AQ21 and AQ22 of the CAQMP (Rev 9) addresses this requirement. Rumble grids established at IMEX access points. Full time road sweeper operates on internal haul routes and Moorebank Ave if required.</p> <p>AQ21 states <i>Dirt track-out from construction traffic will be managed using shaker grids and/ or wheel cleaning. If thorough washing can be achieved, wheel washing may be carried out without a specific device, e.g. washing using a tide/ hose.</i></p> <p>AQ22 states <i>Dirt, sand and other materials that have been tracked onto public roads beyond the site boundary will be cleaned using a road sweeper as soon as practicable, but at a frequency of no less than twice daily during construction hours.</i></p>
Air	Operation	The following mitigations and compensatory measures will be undertaken, where feasible, to minimise potential impacts on local and regional air quality during operation of the Principal proposal: 1. Upgrade of rolling stock servicing the Principal site.	N	<p>Not applicable to construction.</p> <p>Measure will be addressed in the Operational Air Quality Management Plan (OAQMP).</p>
Air	Operation	2. Use of electrically powered container handling equipment in lieu of diesel equipment.	N	<p>Not applicable to construction.</p> <p>Measure will be addressed in the Operational Air Quality Management Plan (OAQMP).</p>
Air	Operation	3. Use of LPG forklifts in lieu of diesel forklifts.	N	<p>Not applicable to construction.</p> <p>Measure will be addressed in the Operational Air Quality Management Plan (OAQMP).</p>
Air	Operation	4. Minimise truck movements through the efficient management of deliveries and dispatches.	N	<p>Not applicable to construction.</p> <p>Measure will be addressed in the Operational Air Quality Management Plan (OAQMP).</p>
Air	Operation	5. Minimise truck idling and queuing on-site.	N	<p>Not applicable to construction.</p> <p>Measure will be addressed in the Operational Air Quality Management Plan (OAQMP).</p>
Hydrology	Mitigate	The following mitigation measures will be adopted for the Principal proposal to mitigate potential impacts on hydrology, water quality and flooding resulting from construction and operation of the Principal proposal. Rainwater tanks will be installed to collect roof water from the warehouses on the Principal site, and will be used for non-potable water demands such as toilet flushing and outdoor use.	N	<p>Warehouse construction not in the scope of works for MPE Stage 1, Package 2. Rainwater capture from warehouse rooves is addressed in Section 2.3, 4.1.1 and Appendix A3 of the MPE Stage 2 UDLP (Rev 6).</p>
Hydrology		Pre-treatment measures will be incorporated into the site stormwater design, including buffer strips and gross pollutant traps where deemed appropriate.	Y	<p>Section 4.5 - Stormwater Management and Appendix A - Landscape Plans of the MPE Stage 1 UDLP (Rev 11) addresses this requirement.</p> <p>Section 4.5 states <i>Construction of the Project will require vegetation clearing and bulk earthworks, which have the potential to lead to erosion and generate sediment laden runoff into the Georges River or Anzac Creek, thereby impacting water quality. The Construction Soil and Water Management Plan (CSWMP) and Erosion and Sediment Control Plan (ESCP) has been prepared in accordance with the principles and requirements of the Blue Book.</i> <i>The Project will result in changes to the Project's site catchment boundaries during operations. In addition, the Project will result in an increase in surface water generation and pollutant loads as a result of the increase in impervious surfaces on the site. Onsite detention (OSD) basins, outlet channels and water sensitive urban design (WSUD) elements will be sized to provide adequate system capacities and mitigate potential adverse flood impacts and increases in stormwater discharge from the site that may otherwise result from the Project. WSUD measures, including gross pollutant traps (GPT) and rain gardens, will be designed to ensure the quality of stormwater leaving the Project will be of equivalent quality to the existing conditions, or provide an improvement to stormwater quality leaving the Project. Likewise, the stormwater infrastructure has been designed such that the stormwater quality also satisfies the pollution targets of the Liverpool DCP.</i> <i>Refer to the Flood Emergency Response Plan for information on flood management strategy for the Project.</i></p> <p>Section 4.5.1 - Stormwater design refinements states <i>The design of the IMEX terminal as proposed in the MPE Stage 1 EIS included an open stormwater channel along the eastern and northern boundary to redirect stormwater flows from the adjacent land east of the IMEX terminal. This adjacent land is the site of the approved MPE Stage 2 Project. Consequently, the IMEX stormwater drainage design has been updated to remove the eastern and northern stormwater channel, which becomes redundant with implementation of the MPE Stage 2 drainage infrastructure; the Stage 2 drainage will directly interface with the IMEX terminal stormwater drainage pipes. This update to the design continues to satisfy the stormwater quality objectives of the Project as discussed in section 4.5 above.</i></p> <p>Other measures considered within MPE Stage 1 RALP Stormwater Design and IMEX Basis of Design package MO2.</p>

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Hydrology		Bio-retention systems will be incorporated into the site stormwater design, including rain gardens and bios wales, where deemed appropriate. These structures will also act as on-site detention basins, minimising the velocity and volume of flows leaving the site during storm events. Bio-retention systems will be designed to achieve the pollution reduction targets set out in the Liverpool DCP.	Y	<p>Section 4.5 - Stormwater Management and Appendix A - Landscape Plans of the MPE Stage 1 UDLP (Rev 11) addresses this requirement.</p> <p>Section 4.5 states <i>Construction of the Project will require vegetation clearing and bulk earthworks, which have the potential to lead to erosion and generate sediment laden runoff into the Georges River or Anzac Creek, thereby impacting water quality. The Construction Soil and Water Management Plan (CSWMP) and Erosion and Sediment Control Plan (ESCP) has been prepared in accordance with the principles and requirements of the Blue Book.</i> <i>The Project will result in changes to the Project's site catchment boundaries during operations. In addition, the Project will result in an increase in surface water generation and pollutant loads as a result of the increase in impervious surfaces on the site. Onsite detention (OSD) basins, outlet channels and water sensitive urban design (WSUD) elements will be sized to provide adequate system capacities and mitigate potential adverse flood impacts and increases in stormwater discharge from the site that may otherwise result from the Project. WSUD measures, including gross pollutant traps (GPT) and rain gardens, will be designed to ensure the quality of stormwater leaving the Project will be of equivalent quality to the existing conditions, or provide an improvement to stormwater quality leaving the Project. Likewise, the stormwater infrastructure has been designed such that the stormwater quality also satisfies the pollution targets of the Liverpool DCP.</i> <i>Refer to the Flood Emergency Response Plan for information on flood management strategy for the Project.</i></p> <p>Other measures considered within MPE Stage 1 RALP Stormwater Design and IMEX Basis of Design package MO2.</p>
Hydrology		On-site stormwater detention will be designed to achieve flood management in accordance with the flood modelling results outlined in the Flood Study and Stormwater Management report prepared by Hyder Consulting (Hyder Consulting, 2012a) and as updated within the Stormwater and Flooding Assessment (Hyder Consulting, 2012b).	Y	<p>Table 11 - Mitigation/Management/Control Action and Responsibilities - SW25 of the CSWMP (Rev12) addresses this requirement. SW25 states <i>On-site stormwater detention will be designed to achieve flood management in accordance with the flood modelling results outlined in the Flood Study and Stormwater Management report prepared by Hyder Consulting (Hyder Consulting, 2012a) and as updated within the Stormwater and Flooding Assessment (Hyder Consulting, 2012b).</i></p>
Hydrology		<p>The following design principles will be adopted during the design phase of the Georges River bridge:</p> <ul style="list-style-type: none"> • Bridge design will comply with the requirements of Australian Standard 5100:2004 - Bridge Design and RailCorp Engineering Standard ESC 310 - Underbridges. • Bridge piers will be located and orientated to align with the piers of the existing East Hills railway Line bridge. • The bridge deck height will match the height of the existing East Hills Railway Line bridge • Bridge piers will be designed and orientated to avoid the formation of large-scale turbulence or the erosion of the bed and banks of the waterway. • Light penetration under bridges to encourage fish passage will be maximised. • Use and extent of those bed and bank erosion control measures that may reduce aquatic habitat values or inhibit the regrowth of natural in-stream and bank vegetation will be minimised 	N	Not applicable to this phase of works. Construction of the rail link, Georges River Bridge and impact to riparian vegetation is not within the scope of works for IMEX.
Hydrology		<p>During construction of the Georges River bridge the following management approaches will be adopted:</p> <ul style="list-style-type: none"> • Works across the bed of the Georges River will be staged to minimise the total disturbance at any given time and to allow the full bypassing of stream flows around the works to maintain fish passage. • The management principles outlined in Managing Urban Stormwater (Landcom 2004) for sites with high erosion potential will be implemented. 	N	Not applicable to this phase of works. Construction of the rail link, Georges River Bridge and impact to riparian vegetation is not within the scope of works for IMEX.
Hydrology		<p>The following design principles will be adopted for design and sizing of the culverts across Anzac Creek:</p> <ul style="list-style-type: none"> • Fish passage requirements will be considered when selecting the type of culvert. • Where practical, culverts will be aligned with the downstream channel to minimise bank erosion. • A multi-cell culvert design will be considered with a combination of elevated "dry" cells to encourage terrestrial movement, and recessed "wet" cells to facilitate fish passage. • Altering the channel's natural flow, width, roughness and base-flow water depth through the culvert's wet cells will be avoided where possible. Wet cells will aim to have a minimum water depth of 0.2-0.5 metres to facilitate fish passage. • The culvert will be designed to maximise the geometric similarities of the natural channel profile from the bed of the culvert up to a flow depth of 0.5 metres ("Low Flow Design") as a minimum. • Where conditions allow, the construction of pools will be considered at both the inlet and outlet of the culvert to assist in the dissipation of flow energy and to act as resting areas for migrating fish. • If a low-flow channel is constructed within the base slab of the culvert, the channel will extend across the inlet and outlet aprons. <p>Debris deflector walls may be used to reduce the impact of debris blockages on fish passage.</p> <ul style="list-style-type: none"> • Rock protection and/or the formation of a stabilised energy dissipation pool at the outlet will be considered if necessary to assist in minimising erosion to avoid the formation of a perched culvert and damage to the stream bed and banks. • The design of the crossing will refer to the detailed engineering guidelines provided in Fairfull and Witheridge (2002). 	N	Not applicable to this phase of works. Construction of the rail link (including Anzac Creek upgrades) and impact to riparian vegetation is not within the scope of works for IMEX.
Hydrology		<p>The following management measures will be implemented during works in and adjacent to Anzac Creek to mitigate potential impacts on water quality during construction:</p> <ul style="list-style-type: none"> • All reasonable efforts will be taken to program construction activities during those periods when flood flows and fish passage is not likely to occur. As a minimum requirement, fish migrations and breeding periods, as advised by NSW DPI, will be avoided. • Temporary side-track crossings will be constructed from clean fill (free of fines) using pipe or box culvert cells to carry flows, or a temporary bridge structure. • All temporary works, flow diversion barriers and in-stream sediment control barriers will be removed as soon as practicable and in a manner that does not promote future channel erosion. • The construction site will be left in a condition that promotes native revegetation and shading of habitat pools. <p>The management principles outlined in Managing Urban Stormwater (Landcom 2004) for sites with high erosion potential will be implemented.</p> <ul style="list-style-type: none"> • A flood emergency response plan would be prepared and updated as necessary to address the staged development of the site. 	N	Not applicable to this phase of works. Construction of the rail link (including Anzac Creek upgrades) and impact to riparian vegetation is not within the scope of works for IMEX.
Hydrology		A Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP) will be implemented for the construction and operation phases of the development, with monitoring and review performance of sediment and water control structures during construction and operation phases. The SWMP and ESCPs will be developed in accordance with the principles and requirements of Managing Urban Stormwater (Landcom, 2004).	Y	<p>A Construction SWMP has been prepared and implemented for the IMEX project. This plan was developed in accordance with Managing Urban Stormwater (Landcom, 2004) as per <u>Section 2.3 - Guidelines</u> of the CSWMP (Rev 12) which states</p> <p><i>Additional guidelines and standards relating to the management of soil, stormwater and flooding include:</i></p> <ul style="list-style-type: none"> • <i>NSW Landcom publication Managing Urban Stormwater - Soils and Construction Edition 4 March 2004 (Blue Book)</i> • <i>Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (DECC 2015)</i> • <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000)</i> • <i>Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004)</i> • <i>Australian Rainfall and Runoff – Volume 1 (2001), Engineers Australia</i> • <i>NSW EPA Best Practice Note: Land farming (2014).</i> • <i>AS 1940-2004 The Storage and Handling of Flammable and Combustible Liquids</i> • <i>Australian Dangerous Goods Code Edition 7.4</i> • <i>State Environment Planning Policy 55</i> <p>Appendix C - Erosion and Sediment Control Plan of the CSWMP also addresses this condition.</p> <p>The Stormwater Infrastructure Operations Management Plan is in development for managing stormwater during operations</p>

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Hydrology	Stage 1A	The DRAINS and TUFLOW modelling of Stage 1A indicate that the proposed drainage and OSD will provide adequate capacity to mitigate potential flood impacts of the Stage 1A development.	Y	The IMEX site was developed in consideration of modelling undertaken within Appendix O of the MPE Concept EIS (Hyder 2013), MPE EPBC EIS (Hyder, 2013) and the MPE Stage 1 (SSD 6676) EIS.
Traffic	Construction	A Construction Traffic Management Plan (CTMP) will be implemented prior to and during construction of the Principal proposal.	Y	The CTAMP (Rev 13) addresses this requirement.
Traffic		Construction material will be sourced from within metropolitan Sydney and delivered to the Principal site primarily via the M5 Motorway, Hume Highway, M7 Motorway and Moorebank Avenue. Site access and egress for all construction traffic will be via Moorebank Avenue. Construction site entry is proposed just south of the existing signalised intersection, south of Anzac Avenue to minimise construction traffic impacts upon DNSDC. During later stages of construction, a separate egress point would likely be established to the south of the Principal site.	Y	Section 4.2.1 - Access/Egress Points and Section 4.3.2 - Heavy Vehicle Movements of the CTAMP (Rev 13) addresses this requirement. Section 4.2.1 states Site access and egress for all construction related traffic will be via Moorebank Avenue. The majority this traffic would access the site from the north, from the direction of the M5 motorway, with some staff expected to arrive from the south. Construction vehicles will access the site at the following access points: • Main IMT compound access – via the existing traffic signal at DNSDC northern access on Moorebank Avenue • Secondary IMT compound access – via the existing traffic signal at the DNSDC Main Gate on Moorebank Avenue • A materials and emergency access point on the southern edge of the Project. Section 4.3.2 states In accordance with the Commonwealth Mitigation Measures (Traffic), outlined in Table 6, all heavy vehicles (including for the haulage of spoil) are expected to access and egress the construction site at access points identified in Section 4.2.1 above. Heavy vehicles would then travel north along Moorebank Avenue towards the M5 Motorway and surrounding road network. It is anticipated that heavy vehicles would use the gazetted heavy vehicle routes to access the construction site. No heavy vehicles would use Anzac Road or other residential streets including Cambridge Avenue. In the event that disposal of unsuitable material to Glenfield Waste Facility is required, a small number of truck movements (expected to be less than six per day) will access the facility / Project site via Cambridge Avenue. Any additional heavy vehicle access to Cambridge Avenue would be conditional upon both ingress and egress only via the western end of Glenfield Road (intersection of Campbelltown Road), and would prevent heavy vehicle movements impacting Cambridge Avenue lane-narrowing at the Georges River crossing point. It is proposed that all suitable demolition materials will be retained on site for beneficial re-use following processing, however, some spoil material will be removed from the site and it is proposed to transport these materials for disposal using trucks, including using the empty fill-haulage trucks.
Traffic	Operation	Operation of the Principal proposal would be subject to an approved Traffic Management Plan which would include a Vehicle Booking System to regulate and manage truck arrivals to the Principal site and to prevent trucks queuing and waiting on Moorebank Avenue. The Traffic Management Plan will be developed to manage traffic flows in and around the Principal proposal and will include the following: Management measures to control entry to the Principal site for the security of freight, and staff. This would include strategies to minimise unauthorised access to the Principal site. Traffic management measures (e.g. a Vehicle Booking System) to control the arrival of authorized vehicles so that queuing is minimised and vehicles are directed to the correct location within the terminal. Measures to control access of staff and visitors so as to maintain safety and appropriate security, particularly for bonded or quarantined material. Measures such as short-range radios, GPS and wireless communications would be recommended to maximise the efficiency of access and circulation of vehicles, goods and staff within the Principal site. In addition to the stated Traffic Management Plan, all reasonable steps would be taken to encourage staff to use public transport, walk and cycle to reduce the dependence on travel to / from the Principal site by private motor vehicle. the Principal would assess the feasibility of the provision of a peak-hour express shuttle bus service to and from Liverpool Station via Moorebank Avenue and Newbridge Roads, with a potential expansion to this route over time to include Holsworthy Railway Station.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		The combined impact of the bus and rail focused measures would be to achieve specific public transport usage increases as a result of the Principal proposal, above those applying across the Liverpool LGA at the present time. If a reasonable proportion of employees live within the region, then substantial trip reduction benefits could be achieved. A the Principal employee public transport mode share of about 30 per cent is currently considered feasible, with a significant proportion of employees living locally. This would manifest through a 2-3 per cent increase in the walk mode share. In summary, measures to reduce private motor vehicle trips would include: 1. Development and implementation of a travel behaviour change program. 2. Reduce on-site car parking supply over-time (dependant on proportion of employees living locally and accessibility of public transport). 3. Consideration of the establishment of Holsworthy Station Express bus services. 4. Consideration of the establishment of Glenfield Station to Liverpool Station express bus. 5. Installation of a bus interchange and waiting area. 6. Bus priority works (establishment of designated bus lanes). 7. Design and construction of walking and cycleways. 8. Consideration of the extension of Bus Route 901. 9. Promote the establishment of Route 870, 871, and 872 bus	N	Not applicable to this reporting period (June 2018 - June 2019) as only construction activities have taken place. Operations are expected to commence in September 2019 and will be reported in the subsequent MPE Commonwealth Compliance Report (June 2019 - June 2020). The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic	Road Network Upgrades	The broader sub-regional road network will need to be upgraded progressively over the period to 2031 to cater for the forecast increase in traffic volumes which will result from both the Principal proposal and the general growth in population and employment traffic passing through the south-west of Sydney.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) addresses this requirement.
Traffic		Capacity improvements are currently proposed by the NSW Roads and Maritime Service on the M5 South West Motorway (widening to three lanes each way between Camden Valley Way at Casula and King Georges Road at Beverley Hills with an upgrade of the M5 South currently ongoing.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		Traffic studies conducted as part of the Concept Plan EA (Hyder Consulting, 2013c) identified some road capacity improvements that would be required to cater for the traffic demands from both background and additional traffic generated by the Principal proposal as a result of findings presented within Table 42. The study identified the following road network improvements that would be required by 2031 when the Principal proposal is operating at full capacity:	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		Widening of Moorebank Avenue to four lanes between the M5 Motorway/Moorebank Avenue grade separated interchange and the northern access point to the Principal site.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		Some localized improvements would be required around the central and southern access points to the Principal site.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.

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Traffic		Concurrent with four lane widening of Moorebank Avenue, the Moorebank Avenue/Anzac Road signal will require some widening at the approach roads.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		A new traffic signal at the northern access from the Principal site to Moorebank Avenue.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		The central access currently being used by DNSDC will be retained for the Principal access.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		Potential upgrades at the M5 Motorway/Moorebank Avenue grade interchange to cater for both background and additional the Principal traffic growth.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		Widening at the following ramp locations including: <ul style="list-style-type: none">• M5 westbound off-ramp.• M5 westbound on-ramp.• M5 eastbound off-ramp.• Moorebank Avenue northern approach.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic		These road network upgrades would be discussed and negotiated with RMS, potentially impacted stakeholders. Input from the community will also be sought.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Traffic	Rail	The exact nature and scale of the necessary expansion at various locations on the SSFL and East Hills Line will be developed during the detailed design and at this stage it is expected that the following modifications to the existing rail infrastructure will be required: <ul style="list-style-type: none">• South of the tie in from the southbound loop to the SSFL• North of the tie in from the northbound loop to the SSFL• Between the southern and northern connections the SSFL• Along the East Hills corridor, with potentially to go outside the project boundaries in both the West and East direction along the existing East Hills line Ongoing discussions will be held with ARTC to verify that design meets required standards.	N	Not applicable to this phase of works. Construction of the rail link is not within the scope of works for IMEX.
Traffic		During operation, open communication will be in place between the Principal and ARTC to manage train movements on the SSFL.	N	Not applicable to construction. The Operation Traffic and Access Management Plan (OTAMP) will address this requirement.
Noise	Construction	A Construction Noise and Vibration Management Plan would be developed to implement best practice mitigation and management measures to minimise noise impacts on surrounding land uses and sensitive receivers, including Commonwealth Land during construction.	Y	Construction Noise and Vibration Management Plan (CNVMP) prepared and implemented for the IMEX project. Only minor updates have been made to this plan, all of which were approved by the Environmental Representative. Changes were aslo made in light of the Land and Environment Court Ruling (March 2018).
Noise	Construction	The Construction Noise and Vibration Management plan would address the following noise issues: <ul style="list-style-type: none">• Construction hours: All construction activities would have regard to the standard hours of 07:00 am to 06:00 pm Monday to Friday, and 08:00am to 01:00 pm Saturday (with approval from relevant authorities).	Y	Section 6.1 - Hours of Work of the CNVMP (Rev 14) outlines the standard construction hours and resticted hours for the project and it states <i>All general construction works and activity will be scheduled to occur between the approved standard hours:</i> <ul style="list-style-type: none">• 7:00am to 6:00pm Mondays to Fridays, inclusive• 8:00am to 1:00pm Saturdays• At no time on Sundays or public holidays <i>'Construction works and activity with the potential to generate "high noise impact" will be restricted to the following hours:</i> <ul style="list-style-type: none">• between the hours of 8:00 am to 5:00 pm Monday to Friday• between the hours of 8:00 am to 1:00 pm Saturday <i>• in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block</i> <i>'Continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition. High-noise impact activitïes and work means "jack hammering, rock breaking or hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel or other work occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics".</i> <i>Out of Hours Works (OOHW) are works outside the approved Project standard hours. Where OOHW are required, the OOHW Protocol developed in accordance with CoC – E21 and CoC – E34(b)(iv) be implemented, as presented in Appendix B.</i> <i>Works may be undertaken outside of the standard construction hours as follows:</i> <ul style="list-style-type: none">• Where construction works will not generate LAeq, 15minute noise levels more than 5 dB above the rating background level at any residence and/or more than the noise management levels specified in Table 3 of the ICNG, as applicable to other sensitive land uses, as assessed in accordance with the ICNG and the additional requirements of this CNVMP; or• For the delivery of materials required by the police or other authorities for safety reasons; or• Where OOHW is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm;• Construction works approved via the OOHW Protocol, provided the relevant Council, local residents and other affected stakeholders and sensitive Receptors are informed of the timing and duration at least 48 hours prior to the commencement of the works; or• identified works are approved by the Secretary. No Out of Hours Works are undertaken unless approved by the ER (as per OOHW Protocol).
Noise	Construction	<ul style="list-style-type: none">• Works outside these hours that may be permitted would include (Wilkinson Murray 2013):<ul style="list-style-type: none">• Any works which do not cause noise emissions to be audible at any nearby sensitive receptors.	Y	Section 6.1 - Hours of Work of the CNVMP (Rev 14) outlines the standard construction hours and resticted hours for the project and it states <i>All general construction works and activity will be scheduled to occur between the approved standard hours:</i> <ul style="list-style-type: none">• 7:00am to 6:00pm Mondays to Fridays, inclusive• 8:00am to 1:00pm Saturdays• At no time on Sundays or public holidays <i>'Construction works and activity with the potential to generate "high noise impact" will be restricted to the following hours:</i> <ul style="list-style-type: none">• between the hours of 8:00 am to 5:00 pm Monday to Friday• between the hours of 8:00 am to 1:00 pm Saturday <i>• in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block</i> <i>'Continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition. High-noise impact activities and work means "jack hammering, rock breaking or hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel or other work occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics".</i> <i>Out of Hours Works (OOHW) are works outside the approved Project standard hours. Where OOHW are required, the OOHW Protocol developed in accordance with CoC – E21 and CoC – E34(b)(iv) be implemented, as presented in Appendix B.</i> <i>Works may be undertaken outside of the standard construction hours as follows:</i> <ul style="list-style-type: none">• Where construction works will not generate LAeq, 15minute noise levels more than 5 dB above the rating background level at any residence and/or more than the noise management levels specified in Table 3 of the ICNG, as applicable to other sensitive land uses, as assessed in accordance with the ICNG and the additional requirements of this CNVMP; or• For the delivery of materials required by the police or other authorities for safety reasons; or• Where OOHW is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm;• Construction works approved via the OOHW Protocol, provided the relevant Council, local residents and other affected stakeholders and sensitive Receptors are informed of the timing and duration at least 48 hours prior to the commencement of the works; or• identified works are approved by the Secretary. <u>Table 25 - Standard Noise and Vibration Mitigation Measures</u> NV6 address the requirements of this mitigation measure and it states <i>The approved CoC – E19 The Project standard construction hours are as follows:</i> <i>All general construction works and activity will be scheduled to occur between these hours, unless OOHW becomes necessary:</i> <ul style="list-style-type: none">• 7:00am to 6:00pm Mondays to Fridays, inclusive;• 8:00am to 1:00pm Saturdays; and• at no time on Sundays or public holidays. <i>As noise impacts are not anticipated during the approved hours, no shielding is warranted or provided for in this CNVMP.</i> <i>If additional mitigation during OOHW is recommended following a specific OOHW CNVIS, the CNVIS will provide further recommendations.</i> <i>Refer Section 4 of this plan for further detail.</i>

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				<p>Appendix B - Out of Hours Works Protocol of the CNVMP (Rev 14) addresses this requirement.</p> <p><i>Construction works will not generate LAeq, 15minute noise levels more than 5 dB above the rating background level at any residence and/or more than the noise management levels specified in Table 3 of the ICNG, as applicable to other sensitive land uses, as assessed in accordance with the ICNG and the additional requirements of this CNVMP</i></p>
Noise	Construction	<ul style="list-style-type: none"> The delivery of materials which is required outside of these hours as requested by Police or other authorities for safety reasons. Local residents would be informed of the timing and duration of approved works in accordance with the Principal's notification provisions. 	Y	<p>Section 6.1 - Hours of Work of the CNVMP (Rev 14) outlines the standard construction hours and restricted hours for the project and it states</p> <p><i>All general construction works and activity will be scheduled to occur between the approved standard hours:</i></p> <ul style="list-style-type: none"> 7:00am to 6:00pm Mondays to Fridays, inclusive 8:00am to 1:00pm Saturdays At no time on Sundays or public holidays <p><i>'Construction works and activity with the potential to generate "high noise impact" will be restricted to the following hours:</i></p> <ul style="list-style-type: none"> between the hours of 8:00 am to 5:00 pm Monday to Friday between the hours of 8:00 am to 1:00 pm Saturday in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block <p><i>'Continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition. High-noise impact activities and work means "jack hammering, rock breaking or hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel or other work occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics".</i></p> <p><i>Out of Hours Works (OOHW) are works outside the approved Project standard hours. Where OOHW are required, the OOHW Protocol developed in accordance with CoC – E21 and CoC – E34(b)(iv) be implemented, as presented in Appendix B.</i></p> <p><i>Works may be undertaken outside of the standard construction hours as follows:</i></p> <ul style="list-style-type: none"> Where construction works will not generate LAeq, 15minute noise levels more than 5 dB above the rating background level at any residence and/or more than the noise management levels specified in Table 3 of the ICNG, as applicable to other sensitive land uses, as assessed in accordance with the ICNG and the additional requirements of this CNVMP; or For the delivery of materials required by the police or other authorities for safety reasons; or Where OOHW is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; Construction works approved via the OOHW Protocol, provided the relevant Council, local residents and other affected stakeholders and sensitive Receptors are informed of the timing and duration at least 48 hours prior to the commencement of the works; or Identified works are approved by the Secretary. <p>Table 25 - Standard Noise and Vibration Mitigation Measures NV6 address the requirements of this mitigation measure and it states</p> <p><i>The approved CoC – E19 The Project standard construction hours are as follows:</i></p> <p><i>All general construction works and activity will be scheduled to occur between these hours, unless OOHW becomes necessary:</i></p> <ul style="list-style-type: none"> 7:00am to 6:00pm Mondays to Fridays, inclusive; 8:00am to 1:00pm Saturdays; and at no time on Sundays or public holidays. <p><i>As noise impacts are not anticipated during the approved hours, no shielding is warranted or provided for in this CNVMP.</i></p> <p><i>If additional mitigation during OOHW is recommended following a specific OOHW CNVIS, the CNVIS will provide further recommendations.</i></p> <p><i>Refer Section 4 of this plan for further detail.</i></p> <p>Appendix B - Out of Hours Works Protocol of the CNVMP (Rev 14) addresses this requirement.</p> <p><i>For the delivery of materials required by the police or other authorities for safety reasons</i></p>
Noise	Construction	<ul style="list-style-type: none"> Emergency work to avoid the loss of lives, property and/or to prevent environmental harm. 	Y	<p>Section 6.1, Table 25 - NV6 and Appendix B - Out of Hours Works Protocol of the CNVMP (Rev 14) addresses this requirement.</p> <p><i>Where OOHW is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm</i></p>
Noise	Construction	<ul style="list-style-type: none"> Any other work as approved through the Construction Noise and Vibration Management Plan Process. 	Y	<p>Section 6.1 - Hours of Work of the CNVMP (Rev 14) outlines the standard construction hours and restricted hours for the project and it states</p> <p><i>All general construction works and activity will be scheduled to occur between the approved standard hours:</i></p> <ul style="list-style-type: none"> 7:00am to 6:00pm Mondays to Fridays, inclusive 8:00am to 1:00pm Saturdays At no time on Sundays or public holidays <p><i>'Construction works and activity with the potential to generate "high noise impact" will be restricted to the following hours:</i></p> <ul style="list-style-type: none"> between the hours of 8:00 am to 5:00 pm Monday to Friday between the hours of 8:00 am to 1:00 pm Saturday in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block <p><i>'Continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition. High-noise impact activities and work means "jack hammering, rock breaking or hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel or other work occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics".</i></p> <p><i>Out of Hours Works (OOHW) are works outside the approved Project standard hours. Where OOHW are required, the OOHW Protocol developed in accordance with CoC – E21 and CoC – E34(b)(iv) be implemented, as presented in Appendix B.</i></p> <p><i>Works may be undertaken outside of the standard construction hours as follows:</i></p> <ul style="list-style-type: none"> Where construction works will not generate LAeq, 15minute noise levels more than 5 dB above the rating background level at any residence and/or more than the noise management levels specified in Table 3 of the ICNG, as applicable to other sensitive land uses, as assessed in accordance with the ICNG and the additional requirements of this CNVMP; or For the delivery of materials required by the police or other authorities for safety reasons; or Where OOHW is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; Construction works approved via the OOHW Protocol, provided the relevant Council, local residents and other affected stakeholders and sensitive Receptors are informed of the timing and duration at least 48 hours prior to the commencement of the works; or Identified works are approved by the Secretary. <p>Table 25 - Standard Noise and Vibration Mitigation Measures NV6 address the requirements of this mitigation measure and it states</p> <p><i>The approved CoC – E19 The Project standard construction hours are as follows:</i></p> <p><i>All general construction works and activity will be scheduled to occur between these hours, unless OOHW becomes necessary:</i></p> <ul style="list-style-type: none"> 7:00am to 6:00pm Mondays to Fridays, inclusive; 8:00am to 1:00pm Saturdays; and at no time on Sundays or public holidays. <p><i>As noise impacts are not anticipated during the approved hours, no shielding is warranted or provided for in this CNVMP.</i></p> <p><i>If additional mitigation during OOHW is recommended following a specific OOHW CNVIS, the CNVIS will provide further recommendations.</i></p> <p><i>Refer Section 4 of this plan for further detail.</i></p> <p>Appendix B - Out of Hours Works Protocol of the CNVMP (Rev 14) addresses this requirement.</p>
Noise	Construction	<ul style="list-style-type: none"> Training and awareness, which would include the following: <ul style="list-style-type: none"> Site awareness training/environmental inductions to provide instruction on noise mitigation techniques/measures to be implemented during construction of the Principal proposal. 	Y	<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none"> The location of potentially sensitive receptors All relevant noise and vibration mitigation measures Site hours of operation i.e. the permissible hours of work, including deliveries A summary of relevant licence and approval conditions Any limitations on high noise generating activities Construction employee parking areas Designated loading/unloading areas and procedures Emphasis that there should be no swearing, shouting or loud stereos/radios on site Details of the complaints handling procedure Details of the environmental incident procedures Outline the consequences of not complying with these measures. <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none"> Ensuring work occurs within approved hours Locating noisy equipment away from sensitive receptors Ensuring plant and equipment is well maintained and not making excessive noise Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p>

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Noise	Construction	• Working within approved hours.	Y	<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none">• The location of potentially sensitive receptors• All relevant noise and vibration mitigation measures• Site hours of operation i.e. the permissible hours of work, including deliveries• A summary of relevant licence and approval conditions• Any limitations on high noise generating activities• Construction employee parking areas• Designated loading/unloading areas and procedures• Emphasis that there should be no swearing, shouting or loud stereos/radios on site• Details of the complaints handling procedure• Details of the environmental incident procedures <p><i>Outline the consequences of not complying with these measures.</i></p> <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none">• Ensuring work occurs within approved hours• Locating noisy equipment away from sensitive receptors• Ensuring plant and equipment is well maintained and not making excessive noise• Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p>
Noise	Construction	• Working with noisy equipment away from sensitive receivers. o Using noise screens and temporary barriers	Y	<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none">• The location of potentially sensitive receptors• All relevant noise and vibration mitigation measures• Site hours of operation i.e. the permissible hours of work, including deliveries• A summary of relevant licence and approval conditions• Any limitations on high noise generating activities• Construction employee parking areas• Designated loading/unloading areas and procedures• Emphasis that there should be no swearing, shouting or loud stereos/radios on site• Details of the complaints handling procedure• Details of the environmental incident procedures <p><i>Outline the consequences of not complying with these measures.</i></p> <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none">• Ensuring work occurs within approved hours• Locating noisy equipment away from sensitive receptors• Ensuring plant and equipment is well maintained and not making excessive noise• Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p>
Noise	Construction	• Maintaining plant and equipment.	Y	<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none">• The location of potentially sensitive receptors• All relevant noise and vibration mitigation measures• Site hours of operation i.e. the permissible hours of work, including deliveries• A summary of relevant licence and approval conditions• Any limitations on high noise generating activities• Construction employee parking areas• Designated loading/unloading areas and procedures• Emphasis that there should be no swearing, shouting or loud stereos/radios on site• Details of the complaints handling procedure• Details of the environmental incident procedures <p><i>Outline the consequences of not complying with these measures.</i></p> <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none">• Ensuring work occurs within approved hours• Locating noisy equipment away from sensitive receptors• Ensuring plant and equipment is well maintained and not making excessive noise• Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p>
Noise	Construction	• Turning off machinery when not in use.	Y	<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none">• The location of potentially sensitive receptors• All relevant noise and vibration mitigation measures• Site hours of operation i.e. the permissible hours of work, including deliveries• A summary of relevant licence and approval conditions• Any limitations on high noise generating activities• Construction employee parking areas• Designated loading/unloading areas and procedures• Emphasis that there should be no swearing, shouting or loud stereos/radios on site• Details of the complaints handling procedure• Details of the environmental incident procedures <p><i>Outline the consequences of not complying with these measures.</i></p> <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none">• Ensuring work occurs within approved hours• Locating noisy equipment away from sensitive receptors• Ensuring plant and equipment is well maintained and not making excessive noise• Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p>

Type	Part	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
			IMEX - Construction	Evidence/ Comments
Noise	Construction	• Limiting the "clustering" of noisy plant / processes	Y	<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none">• The location of potentially sensitive receptors• All relevant noise and vibration mitigation measures• Site hours of operation i.e. the permissible hours of work, including deliveries• A summary of relevant licence and approval conditions• Any limitations on high noise generating activities• Construction employee parking areas• Designated loading/unloading areas and procedures• Emphasis that there should be no swearing, shouting or loud stereos/radios on site• Details of the complaints handling procedure• Details of the environmental incident procedures• Outline the consequences of not complying with these measures. <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none">• Ensuring work occurs within approved hours• Locating noisy equipment away from sensitive receptors• Ensuring plant and equipment is well maintained and not making excessive noise• Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p> <p><u>Table 25 - Standard Noise and Vibration Mitigation Measures:</u> NV11 of the CNVMP (Rev 14) addresses this requirement. NV11 states</p> <p><i>The following will occur:</i></p> <ul style="list-style-type: none">• Where feasible, simultaneous operation of noisy plant would be avoided.• The offset distance between noisy plant and adjacent sensitive receptors will be maximised.• Plant used intermittently to be throttled down or shut down.• Noise-emitting plant to be directed away from sensitive Receptors.• "Clustering" of noisy plant or processes will be limited.• Select and use lower vibrating generating equipment• Adhere to the safe working distances identified in Section 6.1.2• Select materials which require lower vibration generating activities to occur e.g. less compaction etc.
Noise	Construction	• Communication, including a notification process to inform residents of respite times.	Y	<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none">• The location of potentially sensitive receptors• All relevant noise and vibration mitigation measures• Site hours of operation i.e. the permissible hours of work, including deliveries• A summary of relevant licence and approval conditions• Any limitations on high noise generating activities• Construction employee parking areas• Designated loading/unloading areas and procedures• Emphasis that there should be no swearing, shouting or loud stereos/radios on site• Details of the complaints handling procedure• Details of the environmental incident procedures• Outline the consequences of not complying with these measures. <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none">• Ensuring work occurs within approved hours• Locating noisy equipment away from sensitive receptors• Ensuring plant and equipment is well maintained and not making excessive noise• Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p> <p><u>Table 25 - Standard Noise and Vibration Mitigation Measures:</u> NV1, NV2 and NV3 of the CNVMP (Rev 14) addresses this requirement.</p> <p>NV1 states</p> <p><i>As per CoC – E2 c) the approved hours of work, the name of the site/project manager, the responsible managing company, its address and 24 hour contact phone number for any inquiries, including construction/noise complaints will be displayed at the site, typically near site entrance points.</i></p> <p><i>Notification will be conducted in accordance with the processes established within the Community Communication Strategy. Notification will occur detailing all upcoming construction activities at least 14 days prior to commencement of relevant works.</i></p> <p><i>The Project website, information and response lines, email distribution list and any applicable community based forums will also be utilised for this purpose.</i></p> <p><i>Consultation in response to complaints (if received) will be undertaken, refer to Section 9 of this Plan for further detail.</i></p> <p>NV2/NV3 states</p> <p><i>A site-specific induction will be provided to all site personnel, contractors and sub-contractors with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This will include the location of receptors, specific mitigation measures, site hours of operation, noise complaints procedure, etc. as well as the consequences of not complying with these mitigation measures.</i></p> <p><i>Refer to Section 7 of this Plan for further detail.</i></p>
Noise	Construction			<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none">• The location of potentially sensitive receptors• All relevant noise and vibration mitigation measures• Site hours of operation i.e. the permissible hours of work, including deliveries• A summary of relevant licence and approval conditions• Any limitations on high noise generating activities• Construction employee parking areas• Designated loading/unloading areas and procedures• Emphasis that there should be no swearing, shouting or loud stereos/radios on site• Details of the complaints handling procedure• Details of the environmental incident procedures• Outline the consequences of not complying with these measures. <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none">• Ensuring work occurs within approved hours• Locating noisy equipment away from sensitive receptors• Ensuring plant and equipment is well maintained and not making excessive noise• Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p>

Type	Part	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
			IMEX - Construction	Evidence/ Comments
Noise	Construction	• Non-conformance, preventative and corrective action procedures.	Y	<p>Section 8.1 - Training of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>All site personnel, contractors and sub-contractors shall undergo site specific induction training, which will include noise and vibration management training developed with an emphasis on understanding and managing noise impacts from the work activities being undertaken.</i></p> <p><i>This site-specific induction training will include:</i></p> <ul style="list-style-type: none">• The location of potentially sensitive receptors• All relevant noise and vibration mitigation measures• Site hours of operation i.e. the permissible hours of work, including deliveries• A summary of relevant licence and approval conditions• Any limitations on high noise generating activities• Construction employee parking areas• Designated loading/unloading areas and procedures• Emphasis that there should be no swearing, shouting or loud stereos/radios on site• Details of the complaints handling procedure• Details of the environmental incident procedures• Outline the consequences of not complying with these measures. <p><i>Toolbox meetings will be undertaken as required covering specific environmental issues and will include noise and vibration control measures where required, including but not limited to:</i></p> <ul style="list-style-type: none">• Ensuring work occurs within approved hours• Locating noisy equipment away from sensitive receptors• Ensuring plant and equipment is well maintained and not making excessive noise• Turning off machinery when not in use <p><i>Toolbox training on noise and vibration management requirements and measures will be completed by the Environmental Manager (or nominated authority) during the Project.</i></p> <p><i>Personnel directly involved in implementing noise and vibration control measures on site will be given specific training in the various measures to be implemented. Records of all training will be filed in the Project filing system.</i></p>
Noise	Construction	Selection of quiet plant and processes wherever feasible and retrofitting reversing alarms that are quieter and display less annoying characteristics. Such alarms could include "smart alarms" and "squawker alarms".	Y	<p>Table 25 - Standard Noise and Vibration Mitigation Measures NV13 of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>Non-tonal reversing beepers (or an equivalent mechanism) will be fitted and used on all construction vehicles and mobile plant regularly used on site (and for any out of hours work) where appropriate.</i></p> <p>All plant will be fitted with non-tonal reversing alarms.</p>
Noise	Construction	Where appropriate, specific mitigation measures that may be considered would include: Portable temporary screens to mitigate specific noise sources.	Y	<p>Section 7.2 - Additional Mitigation Measures of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>The implementation of the standard mitigation measures, together with community consultation should significantly reduce the noise and vibration impacts on nearby sensitive receptors. Nevertheless, due to the highly variable nature of activities associated with the Project, noise and vibration exceedances could occur under exceptional circumstances. As this potential exists, a number of additional measures to mitigate such exceedances (primarily aimed at pro-active engagement with affected sensitive receivers) have been identified below (Table 27). A full description of each measure is provided in Appendix C of the CNS.</i></p> <p><i>In circumstances where, after the application of the standard mitigation measures, the construction noise and vibration levels are still predicted to exceed the noise or vibration objectives, the relevant Additional Mitigation Measures Matrix (AMMM) from the CNS are to be used to determine the additional measures to be implemented.</i></p> <p><i>Using the relevant AMMM, the following steps will be carried out to determine the additional mitigation measures to be implemented:</i></p> <ul style="list-style-type: none">• Determine the time period when the work is to be undertaken;• Determine the level of exceedance; and• Identify the relevant additional mitigation measures from Table 27 and Table 28. <p><i>The relevant AMMM for the Project (air-borne noise) is reproduced in Table 28 below. Those applicable to ground-borne noise and vibration are excluded from this CNVMP as any impacts are unlikely to occur.</i></p>
Noise	Construction	Respite periods (e.g. for extended periods of driven piling and use of rock breakers).	Y	<p>Section 6.1 - Hours of Work of the CNVMP (Rev 14) outlines the standard construction hours and restricted hours for the project and it states</p> <p><i>All general construction works and activity will be scheduled to occur between the approved standard hours:</i></p> <ul style="list-style-type: none">• 7:00am to 6:00pm Mondays to Fridays, inclusive• 8:00am to 1:00pm Saturdays• At no time on Sundays or public holidays <p><i>Construction works and activity with the potential to generate "high noise impact" will be restricted to the following hours:</i></p> <ul style="list-style-type: none">• between the hours of 8:00 am to 5:00 pm Monday to Friday• between the hours of 8:00 am to 1:00 pm Saturday• in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block <p><i>'Continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition. High-noise impact activities and work means "jack hammering, rock breaking or hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel or other work occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics".</i></p> <p><i>Out of Hours Works (OOHW) are works outside the approved Project standard hours. Where OOHW are required, the OOHW Protocol developed in accordance with CoC – E21 and CoC – E34(b)(iv) be implemented, as presented in Appendix B.</i></p> <p><i>Works may be undertaken outside of the standard construction hours as follows:</i></p> <ul style="list-style-type: none">• Where construction works will not generate LAeq, 15minute noise levels more than 5 dB above the rating background level at any residence and/or more than the noise management levels specified in Table 3 of the ICNG, as applicable to other sensitive land uses, as assessed in accordance with the ICNG and the additional requirements of this CNVMP; or• For the delivery of materials required by the police or other authorities for safety reasons; or• Where OOHW is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm;• Construction works approved via the OOHW Protocol, provided the relevant Council, local residents and other affected stakeholders and sensitive Receptors are informed of the timing and duration at least 48 hours prior to the commencement of the works; or• identified works are approved by the Secretary. <p>Table 25 - NV7 of the CNVMP (Rev 14) addresses this requirement. NV7 states</p> <p><i>CoC – E20 places further restriction on the hours that 'high noise impact' generating activities may occur.</i></p> <p><i>Construction works and activity with the potential to generate high noise impact will be scheduled to occur between these hours:</i></p> <ul style="list-style-type: none">• between the hours of 8:00 am to 5:00 pm Monday to Friday;• between the hours of 8:00 am to 1:00 pm Saturday; and• in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block. <p><i>Refer Section 4 of this plan for further detail.</i></p>
Noise	Construction	Consideration of offset distances, orientation and position of noisy plant away from sensitive receivers, including the SME and DNSDC operations.	Y	<p>Section 6.1 - Hours of Work of the CNVMP (Rev 14) outlines the standard construction hours and restricted hours for the project and it states</p> <p><i>All general construction works and activity will be scheduled to occur between the approved standard hours:</i></p> <ul style="list-style-type: none">• 7:00am to 6:00pm Mondays to Fridays, inclusive• 8:00am to 1:00pm Saturdays• At no time on Sundays or public holidays <p><i>Construction works and activity with the potential to generate "high noise impact" will be restricted to the following hours:</i></p> <ul style="list-style-type: none">• between the hours of 8:00 am to 5:00 pm Monday to Friday• between the hours of 8:00 am to 1:00 pm Saturday• in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block <p><i>'Continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition. High-noise impact activities and work means "jack hammering, rock breaking or hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel or other work occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics".</i></p> <p><i>Out of Hours Works (OOHW) are works outside the approved Project standard hours. Where OOHW are required, the OOHW Protocol developed in accordance with CoC – E21 and CoC – E34(b)(iv) be implemented, as presented in Appendix B.</i></p> <p><i>Works may be undertaken outside of the standard construction hours as follows:</i></p> <ul style="list-style-type: none">• Where construction works will not generate LAeq, 15minute noise levels more than 5 dB above the rating background level at any residence and/or more than the noise management levels specified in Table 3 of the ICNG, as applicable to other sensitive land uses, as assessed in accordance with the ICNG and the additional requirements of this CNVMP; or• For the delivery of materials required by the police or other authorities for safety reasons; or• Where OOHW is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm;• Construction works approved via the OOHW Protocol, provided the relevant Council, local residents and other affected stakeholders and sensitive Receptors are informed of the timing and duration at least 48 hours prior to the commencement of the works; or• identified works are approved by the Secretary. <p>Table 25 - Standard Noise and Vibration Mitigation Measures NV11 of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>The following will occur:</i></p> <ul style="list-style-type: none">• Where feasible, simultaneous operation of noisy plant would be avoided.• The offset distance between noisy plant and adjacent sensitive receptors will be maximised.• Plant used intermittently to be throttled down or shut down.• Noise-emitting plant to be directed away from sensitive Receptors.• "Clustering" of noisy plant or processes will be limited.• Select and use lower vibrating generating equipment <p><i>Adhere to the safe working distances identified in Section 6.1.2</i></p> <p><i>Select materials which require lower vibration generating activities to occur e.g. less compaction etc.</i></p>

Type	Part	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
			IMEX - Construction	Evidence/ Comments
Noise	Construction	Completion of loading and unloading activities away from sensitive receivers.	Y	<p>Table 25 - Standard Noise and Vibration Mitigation Measures - NV14 of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>In accordance with CoC – E23 construction vehicles will be operated so as to minimise any construction noise impacts from the construction site. To achieve this the following will occur:</i></p> <ul style="list-style-type: none">• Loading and unloading of materials/deliveries will occur as far as possible from receptors.• Site access points and roads will be selected as far as possible away from receptors.• Dedicated loading/unloading areas to be shielded if close to receptors.• Delivery vehicles will be fitted with straps rather than chains for unloading, wherever reasonable and feasible.• Delivery personnel and truck drivers to be made aware of approved haulage routes and access in and out of the construction site.• Prevention of vehicles and plant queuing and idling outside the site prior to the morning start time.• Pre-determined delivery times will be issued to suppliers and radio communication will be used to confirm status of the delivery.• Any unsatisfactory noise performance for specific vehicles and/or the operators will be dealt with on a case by case basis. <p><i>In accordance with CoC – E24 no use of compression brakes will be permitted for construction vehicles associated with construction in the vicinity of the subject site.</i></p>
Noise	Construction	Use of spotters, closed circuit television monitors, "smart" reversing alarms, or "squawker" type reversing alarms in place of traditional reversing alarms.	Y	<p>Table 25 - Standard Noise and Vibration Mitigation Measures - NV13 of the CNVMP (Rev 14) addresses this requirement.</p> <p><i>Non-tonal reversing beepers (or an equivalent mechanism) will be fitted and used on all construction vehicles and mobile plant regularly used on site (and for any out of hours work) where appropriate.</i></p> <p>All plant fitted with non-tonal reversing alarms</p>
Noise	Construction	The anticipated effectiveness of some noise mitigation techniques in reducing construction noise impacts are presented in Table 84.	Y	<p><i>Note: Table 84 - Noise mitigation measures and indicative noise reduction (Wilkinson Murray, 2013) of the MPE EPBC EIS (Hyder, 2012).</i></p> <p>Considered during detailed design.</p> <p>Section 7.2 - Additional Mitigation Measures of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>The implementation of the standard mitigation measures, together with community consultation should significantly reduce the noise and vibration impacts on nearby sensitive receptors. Nevertheless, due to the highly variable nature of activities associated with the Project, noise and vibration exceedances could occur under exceptional circumstances. As this potential exists, a number of additional measures to mitigate such exceedances (primarily aimed at pro-active engagement with affected sensitive receivers) have been identified below (Table 27). A full description of each measure is provided in Appendix C of the CNS.</i></p> <p><i>In circumstances where, after the application of the standard mitigation measures, the construction noise and vibration levels are still predicted to exceed the noise or vibration objectives, the relevant Additional Mitigation Measures Matrix (AMMM) from the CNS are to be used to determine the additional measures to be implemented.</i></p> <p><i>Using the relevant AMMM, the following steps will be carried out to determine the additional mitigation measures to be implemented:</i></p> <ul style="list-style-type: none">• Determine the time period when the work is to be undertaken;• Determine the level of exceedance; and• Identify the relevant additional mitigation measures from Table 27 and Table 28. <p><i>The relevant AMMM for the Project (air-borne noise) is reproduced in Table 28 below. Those applicable to ground-borne noise and vibration are excluded from this CNVMP as any impacts are unlikely to occur.</i></p> <p>Section 8.2 - Monitoring and Reporting Requirements details the noise monitoring procedures in place to measure the effectiveness of noise mitigation measure on site and it states</p> <p><i>Attended measurements will be the focus of all noise and vibration monitoring. Unattended noise and vibration monitoring will not be undertaken unless specific circumstances warrant. Real-time or internet accessible noise and vibration monitoring systems are not warranted and will not be implemented for the Project works unless specific circumstances warrant.</i></p> <p><i>All attended measurements will be conducted by appropriately trained personnel in the measurement and assessment of construction noise and vibration. They will be familiar with the requirements of the relevant standards and procedures.</i></p> <p><i>Attended noise measurements will be undertaken by an operator using a hand held Type 1 or Type 2 'integrating-averaging' sound level meter. The device will be calibrated prior to and after all measurement rounds, with any change in calibration levels noted. Measurements will be completed with the sound level meter mounted to a tripod at a height of 1.2-1.5m and with a windscreen fitted.</i></p> <p><i>Noise monitoring will not be completed within 3 m of any reflective structure or wall, if possible. Where it is not possible to measure more than 3 m from any reflective structure or wall, a reduction of up to 2.5 dB will be applied to the measured site noise contribution (LAeq, 15 minute) to account for the likely increase in noise associated with reflective surfaces. No noise monitoring will be completed during periods where wind speeds exceed 5 m/s or during any rain events.</i></p> <p><i>Instantaneous noise levels for all noted noise emission sources (extraneous or otherwise) and meteorological conditions (average and maximum wind speeds, temperature, precipitation and cloud cover etc.) shall be recorded during all measurements.</i></p> <p><i>Monitoring will be conducted as per the requirements of this CNVMP and with due regard to AS1055, AS61672, AS1259 (or similar), IEC60942, or the NSW Vibration Guideline as relevant to the monitoring being conducted.</i></p> <p><i>All noise samples shall be recorded using the "fast" time response of the sound level meter. Site activity records will be maintained during any noise or vibration monitoring events.</i></p> <p>Section 8.6 - Review and Improvement outlines procedures for improving measures when identified and it states</p> <p><i>The CNVMP will be reviewed on a case by case basis and where circumstances arise during the works that require amends to the plan. The type of circumstances that may trigger a CNVMP review could include, but are not limited to, significant changes in construction procedures, management protocols or environmental requirements; trends in validated noise or vibration complaints are identified; and/or an increase in noise and vibration impacts is identified.</i></p> <p><i>Where noise (or vibration) levels are repeatedly identified (e.g. via monitoring) to be above management levels or the predicted values in the NVIA, a review of this CNVMP will be undertaken. The following steps will be completed:</i></p> <ul style="list-style-type: none">• review and identify the cause of any noise (or vibration) exceedances. This should focus on the plant, equipment or machinery in use at the time, or activities undertaken so that any trends can be identified;• confirm the type and extent of any mitigation or corrective actions implemented during the non-compliant events;• identify, develop and implement any opportunities for improvement or additional mitigation or management measures that will assist to minimise impacts associated with any trends; and• revise this management plan document, or supplement this plan (e.g. with separate work instructions) to reflect the outcomes of the review. <p><i>The revised management plan (or supplementary documentation) will be developed to the satisfaction of the Environmental Manager, so that the management strategy and management measures continue to assist to minimise impacts at receptors and to ensure that the plan remains an effective instrument for noise management and mitigation.</i></p> <p><i>The CNVMP review will reflect these considerations and upon final approval of the revised CNVMP, the document will be circulated to relevant personnel.</i></p>
Noise	Construction	Ground borne vibration levels would be measured and monitored to establish the minimum working separation between the equipment and nearby vibration sensitive receivers and buildings that have the potential to be impacted when vibration-generating equipment is used during construction of the Principal proposal.	Y	<p>Section 8.2.3 - Vibration Monitoring of the CNVMP (Rev 14) addresses this requirement and it states</p> <p><i>Vibration monitoring of plant or equipment or in the community may be required. Circumstances where this may be required include:</i></p> <ul style="list-style-type: none">• In response to vibration complaint• Works occurring near or adjacent to retained heritage structures <p><i>The implementation of all noise and vibration mitigation measures will be monitored regularly throughout the works and audited on a three monthly basis. The location of vibration monitoring has not yet been nominated as there are currently no predicted vibration impacts.</i></p> <p><i>Specific monitoring requirements and measures for heritage and other sensitive structures are described below:</i></p> <ul style="list-style-type: none">• Should activities with the potential to generate significant vibration events in close proximity to heritage structures be identified, vibration testing will be undertaken for the activity at a location away from sensitive buildings or structures.• The safe working distances for human comfort specified in Table 26 will be used to trigger this testing requirement, where the human comfort safe working distance values are adhered to there is negligible risk of vibration events exceeding the DIN4150:3 "Line 3" structural damage criteria.• The vibration test location will be established so that impacts to heritage structures will not occur.• The vibration testing will determine the actual safe working distance based on compliance with the DIN4150:3 "Line 3" structural damage criteria for heritage structures or other structures that, because of their particular sensitivity to vibration, cannot be classified under either "Line 1" or "Line 2" classifications.• The vibration testing methodology will be established by a suitably experienced person and/or in consultation with a qualified technical specialist.• The outcomes of the vibration testing may require continuous unattended vibration monitoring to occur for select activities. The methodology for any ongoing vibration monitoring will be established by a suitably experienced person and/or in consultation with a qualified technical specialist.• Pre- and post- construction dilapidation surveys of sensitive structures where blasting and/ or vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria).• Impacts to heritage structures are not expected, such that detailed options for any alteration of construction methodology will be evaluated and implemented on a case-by-case basis and if specific circumstances arise that deem it necessary. <p>No vibration complaints received during this reporting period.</p>

Type	Part	Condition	MPE Stage 1, Package 2 - Import-Export Terminal	
			IMEX - Construction	Evidence/ Comments
Noise	Operation	<p>To reduce noise and vibration impacts of the Principal proposal during operation, the following recommendations as presented within Wilkinson Murray (2013) would be implemented:</p> <p>the Principal would make provisions for a potential noise barrier along the western boundary of the Principal site. The requirement for the barrier will be confirmed during detailed assessments at each development application stage for approval under the NSW State planning approval process.</p> <p>Facilities such as administration buildings and employee carparks would be placed in locations to provide an increased buffer distance between the Principal site operations and sensitive receptors, i.e. the north-eastern corner and eastern portions of the site.</p> <p>Buildings or structures with acoustic shielding potential will be placed near the north-east and south-east boundaries of the site to assist in noise attenuation of the Principal proposal.</p>	N	<p>Not applicable to construction.</p> <p>The Operation Noise and Vibration Management Plan (ONVMP) will address this requirement.</p>
Visual Amenity		<p>The visual amenity impact of the Principal proposal to the nearby residential receptors is anticipated to be low, however, the visual amenity impacts would be improved through implementing the following mitigation measures:</p> <p>•Optimising visual buffers within the land use layout of the Principal site.</p>	N	<p>Not applicable to construction.</p> <p>Section 4.4, 6.2 and Appendix A - Landscape Plans of the MPE Stage 1 UDLP addresses this requirement.</p>
Visual Amenity		<p>Establishing high quality landscaping to reinforce the surrounding natural context and ecological qualities.</p>	N	<p>Not applicable to construction.</p> <p>Section 6.2 and Appendix A - Landscape Plans of the MPE Stage 1 UDLP addresses this requirement.</p>
Visual Amenity		<p>Installation of an 18 metre-wide screening vegetation corridor and bio-retention swale along the Moorebank Avenue, which will combine a selection of native tree species with dense tree canopy and low screen planting.</p>	N	<p>Not applicable to construction.</p> <p>Section 6.2 and Appendix A - Landscape Plans of the MPE Stage 1 UDLP addresses this requirement.</p>
Visual Amenity		<p>Punctuation of nodal points along Moorebank Avenue with appropriate landscaping.</p>	N	<p>Not applicable to construction.</p> <p>Section 6.2 of the MPE Stage 1 UDLP addresses this requirement.</p>
Visual Amenity		<p>Installation of a 'boundary treatment' or 'buffer zone' along the other site boundaries (from Moorebank Avenue), consisting of existing local species in the area and providing an essential scale of planting to complement the built form, including:</p> <p>- A southern boundary landscape corridor (between 10 and 20 metres wide) and bio-retention basin</p>	N	<p>Not applicable to construction.</p> <p>Section 4.4 and 6.2 of the MPE Stage 1 UDLP addresses this requirement.</p>
Visual Amenity		<p>An eastern boundary buffer zone of 13.5 metres comprising a 2.5 metre landscape corridor, six metre internal light vehicle access road and five metre wide bioretention swale.</p>	N	<p>Not applicable to construction.</p> <p>Not applicable to the IMEX terminal.</p>
Visual Amenity		<p>Tall (20 metres at maturity) trees planted along the cleared railway alignment, interspersed with medium trees.</p>	N	<p>Not applicable to construction.</p> <p>Section 4.4 and 7.2 of the MPE Stage 1 UDLP addresses this requirement.</p>
Light Spill		<p>Further light spill assessment would be undertaken as part of subsequent stages of the development as well as ongoing monitoring of operational performance to analyse and describe the contribution and impacts of the development at the local scale and determine any potential impacts upon sensitive receptors. This performance analysis would build upon results of modelling undertaken as part of this and the Concept Plan assessment enabling results and refinements to be included for the construction of each stage. This modelling would include the use of reduced impact lighting poles that are anticipated to be much lower than modelled and not exceed the height of warehouses.</p>	N	<p>Not applicable to construction.</p> <p>Light assessment undertaken as part of IMEX Basis of Design (Appendix D of the MPE Stage 1 UDLP).</p>
		<p>Lighting of the Principal proposal will be designed to meet the requirements of the Australian Standards:</p> <p>1. AS4282 1997 Control of the Obtrusive Effect of Outdoor Lighting.</p> <p>2. AS1158.3.1 Lighting for roads and public spaces - Pedestrian area (Category P) lighting - Performance and design requirements</p>	N	<p>Not applicable to construction.</p> <p>Light assessment undertaken as part of IMEX Basis of Design (Appendix D of the MPE Stage 1 UDLP).</p>

Acronyms	
CEMP	Construction Environmental Management Plan
CAQMP	Construction Air Quality Management Plan
CFFMP	Construction Flora and Fauna Management Plan
CHMP	Construction Heritage Management Plan
CNVMP	Construction Noise and Vibration Management Plan
CSWMP	Construction Soil and Water Management Plan
CTAMP	Construction Traffic and Access Management Plan
OEMP	Operational Environmental Management Plan
OAQMP	Operational Air Quality Management Plan
OFFMP	Operational Flora and Fauna Management Plan
ONVMP	Operational Noise and Vibration Management Plan
SIOMP	Stormwater Infrastructure Operation and Maintenance Plan
OTAMP	Operational Traffic and Access Management Plan
UDLP	Urban Development and Landscape Plans

APPENDIX EE

MPE Stage 1 Urban Design and Landscape Plan

URBAN DESIGN AND LANDSCAPE PLAN

Moorebank Precinct East Stage 1

19 DECEMBER 2018

SYDNEY INTERMODAL TERMINAL ALLIANCE PROJECT

Moorebank Precinct East Stage 1

Urban Design and Landscape Plan

Author

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Checker

[REDACTED]

Approver

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002	09/05/17	Draft issue to SIMTA for comment	[REDACTED]	
003	16/05/17	Submission to DP&E	[REDACTED]	
004	25/05/17	Minor updates	[REDACTED]	
005	30/10/17	DP&E review comments and minor clarification	[REDACTED]	
006	04/01/2018	Details of the seed mix	[REDACTED]	
007	29/01/2018	Obtrusive lighting compliance clarification	[REDACTED]	
008	20/02/2018	Reference to AS 4284 corrected in section 6.6	[REDACTED]	
009	22/11/2018	Updates to seed mix, access tracks, reinforced earth fill and sustainability	[REDACTED]	
010	19/12/2018	Update with Rail Link Detailed Design Drawings	[REDACTED]	

ACRONYMS AND DEFINITIONS

Acronym / Term	Meaning
AHD	Australian height datum
ARTC	Australian Rail Track Corporation
AS	Australian Standard
Boot land	The area of native vegetation located to the east of Moorebank Avenue, north of the East Hills rail line and south and east of the MPE site. Owned by the Commonwealth of Australia. Lot 4 DP 1197707.
CoC	Conditions of Consent
CSWMP	Construction Soil and Water Management Plan
Cwth	Commonwealth
DNSDC	Defence National Storage and Distribution Centre
DCP	Development Control Plan
DP&E	Department of Planning and Environment
EIS	Environmental Impact Statement
EP&A Act	<i>Environment Planning and Assessment Act 1979</i>
EPA	Environment Protection Authority
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
ESCP	Erosion and Sediment Control Plan
GPTs	Gross pollutant traps
HV	High voltage
IMEX	Import-export
IMT	Intermodal Terminal Facility. The MPE Stage 1 Project includes the construction of the following key components together comprising the IMT: <ul style="list-style-type: none"> • IMEX Terminal Facility including truck processing and loading areas • Rail loading and container storage areas • Administration facility and associated car parking • Rail Link.
km	kilometre
kV	kilovolt
LED	Light-emitting diode
LCC	Liverpool City Council
LV	Low voltage
m	metre
Moorebank Intermodal Terminal Precinct	The site which is the subject of both the MPE Concept Approval (MP_10_0913) and the MPW Concept Approval (SSD 5066)
MPE	Moorebank Precinct East
MPE Site	The site at Moorebank as approved by the Concept Plan (MP_10_0913)
The Project	The whole of the land to which the MPE Stage 1 Project approval SSD 6766 relates, including both MPE Stage 1 Package 1, and MPE Stage 1 Package 2.

Acronym / Term	Meaning
MPE Stage 1, Package 1	Also known as the Rail Link. The construction of the Rail Link connecting the Southern Sydney Freight Line to the IMEX Terminal Facility, traversing across the Boot land, RailCorp Land, Moorebank Avenue, the MPW Golf Course, Georges River, and Glenfield Waste Facility
MPE Stage 1, Package 2	Also known as the IMEX Terminal Facility. The construction of the IMEX Terminal Facility, including the following key components: <ul style="list-style-type: none"> Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue Rail loading and container storage areas - installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively Administration facility and associated car parking - light vehicle access from Moorebank Avenue
MPW	Moorebank Precinct West
Native vegetation	Areas of plant community types mapped by Arcadis and WSP Parsons Brinckerhoff in the Moorebank Precinct (including MPE and MPW) being a consolidation of all assessments for the Moorebank Precinct conducted since 2011.
NSWFR	NSW Fire and Rescue
OEH	Office of Environment and Heritage
OSD	Onsite detention
POEO Act	<i>Protection of Environment Operations Act 1997</i>
Rail corridor	Area defined as the 'Rail Corridor' within the Concept Plan Approval (MP_10_0913). The Rail Link is also included within this area.
RailCorp Land	Lot 1 DP 825352 (part of the rail corridor) and owned by RailCorp
RL	Relative levels
REW	Reinforced Earth Wall
RMS	Road and Maritime Services
SIMTA	Sydney Intermodal Terminal Alliance
SME	School of Military Engineering
SSD	State Significant Development
SSFL	Southern Sydney Freight Line
UDLP	Urban Design and Landscape Plan
Wattle Grove Offset Area	Occurs within the Boot land. Contains all of the species credits that will deliver the direct offset for EPBC Act threatened flora. An application for a biobanking agreement has been lodged with the OEH to establish a biobank site which includes this offset area.
WSUD	Water sensitive urban design

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COMPLIANCE MATRICES

Table 1 Conditions of Consent (CoC)

CoC	Requirement	Document Reference
C3	The Application shall prepare and implement an Urban Design and Landscape Plan for the project. The Plan shall present an integrated urban design for the project. The Plan shall include, but not necessarily limited to:	This plan
	a) Final design details of the proposed external materials and finishes;	Section 6.1 Section 7.1 Appendix B
	b) Location of existing vegetation and proposed landscaping (including use of indigenous and endemic species where possible) and design features;	Section 3.4 Sections 4.1 Appendix A
	c) Strategies for progressive landscaping of other environmental controls such as erosion and sedimentation controls, drainage and noise mitigation; and	Section 6.2 Section 6.4 Section 6.5 Section 6.6 Sections 7.2 Section 7.4 Section 7.5 Appendix D
	d) Location and design treatments for any associated footpaths and cyclist elements and other features such as seating, lighting (in accordance with AS 4282-1997 Control of the Obtrusive Effective of Outdoor lighting), fencing, and signs;	Section 6.3 Section 6.7 Section 7.3 Section 7.6 Appendix C Appendix E Appendix F
G4	Signage shall be installed in accordance with Drawing A3001 Issue C (Terminal – Signage Details) dated 14/04/2015, unless otherwise agreed by the Secretary.	Section 6.3 Appendix C

Table 2 Infrastructure Sustainability Council of Australia (ISCA) Requirements

ISCA Credit Reference	Requirement	Document Reference
Urb-1	<p>An urban and landscape design plan is developed and implemented that includes the following:</p> <ol style="list-style-type: none"> 1. Site analysis 2. Vision and objectives for the infrastructure 3. Site planning 4. Strategies that respond to: <ol style="list-style-type: none"> a. The relevant People and Place principles outlined in the Australian Urban Design Protocol (AUDP) or 	<ol style="list-style-type: none"> 1. Section 3 2. Section 5 3. Section 4 4. Refer to MPE S2 UDLP

ISCA Credit Reference	Requirement	Document Reference
	b. Other ISCA approved guidelines.	

1 INTRODUCTION

The Sydney Intermodal Terminal Alliance (SIMTA) received approval for the construction and operation of Stage 1 of the Moorebank Precinct East (MPE) Project, comprising an Intermodal Terminal (IMT) Facility including Rail Link (Package 1) and Import Export (IMEX) Terminal Facility (Package 2) on 12 December 2016 (SSD 6766). This Urban Design and Landscape Plan (UDLP) has been developed to satisfy condition C3 of the Conditions of Consent (CoC) and covers both Package 1 and Package 2 of the MPE Stage 1 Project (the Project).

This UDLP has been established to demonstrate SIMTA's approach to urban design for the Project. This UDLP addresses the relevant requirements of the Development Consent, including the Environmental Impact Statement (EIS), Submissions Report and Minister's CoC, and all applicable guidelines and standards.

1.1 Background and Scope

The MPE Project is located approximately 27 kilometres (km) south-west of the Sydney Central Business District (CBD) and approximately 26 km west of Port Botany and includes the former Defence National Storage and Distribution Centre (DNSDC) site.

The MPE Project involves the development of an IMT facility, including warehouse and distribution facilities, Rail Link, freight village (ancillary site and operational services), stormwater infrastructure, landscaping, servicing and associated works on the eastern side of Moorebank Avenue. It is to be developed in three key stages:

- Stage 1 - Construction of the IMEX Terminal Facility and Rail Link
- Stage 2 - Construction of warehouses and distribution facilities
- Stage 3 - Extension of the IMEX Terminal Facility and completion of warehouses and distribution facilities.

Stage 1 will be constructed across two packages (refer to Figure 1):

- Package 1: The Rail Link includes a connection to the IMEX Terminal Facility, and traverses across Moorebank Avenue, Anzac Creek and Georges River prior to connecting to the Southern Sydney Freight Line (SSFL).
- Package 2: The IMEX Terminal Facility includes the following key components:
 - Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue
 - Rail loading and container storage areas - installation of four rail sidings with adjacent container storage area serviced by handling equipment initially and overhead gantry cranes progressively
 - Administration facility and associated car parking - light vehicle access from Moorebank Avenue.

1.2 Project Description

The layout of the IMEX Terminal Facility generally comprises operational areas, an administration area, rail sidings, utilities and drainage infrastructure, landscaping and signage. The operational areas of the IMEX Terminal Facility consist of the primary and secondary container loading / unloading areas and container storage areas, and the truck holding area.

1.2.1 Environmental Planning Approval

The Project has been assessed by the Department of Planning and Environment (DP&E) under Part 4.1 (now division 4.7 as of 1 March 2018) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as State Significant Development (SSD). The Planning Assessment Commission (PAC) granted approval for the MPE Stage 1 Project on 12 December 2016 and is subject to the Minister's CoC, 18 December 2016 (SSD 6766). The construction and operation of the MPE Stage 1 project was subject to an appeal in September 2017 (Appeal Number 2017/00081889). The approval was upheld and the revised CoC were released on 13 March 2018.

The Project's impacts, consultation and mitigation were documented in the following suite of documents:

- State Significant Development Consent SSD 6766 (as amended in the Land and Environment Court 13 March 2018)
- SIMTA Intermodal Terminal Facility – Stage 1 – Environmental Impact Statement (EIS) (Hyder Consulting Pty Ltd, May 2014)
- SIMTA Intermodal Terminal Facility – Stage 1 – Response to Submissions (Hyder Consulting Pty Ltd, September 2015)
- *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval (No. 2011/6229) granted on March 2014.

1.3 Purpose and Application

This UDLP has been prepared to satisfy CoC C3 to facilitate for the commencement of permanent built works for the Rail Link and IMEX Terminal Facility. CoC C3 of the Development Consent (SSD 6766) states the following:

The Applicant shall prepare and implement an Urban Design and Landscape Plan for the project. The Plan shall present an integrated urban design for the project. The Plan shall include, but not necessarily be limited to:

- a. final design details of the proposed external materials and finishes;*
- b. location of existing vegetation and proposed landscaping (including use of indigenous and endemic species where possible) and design features;*
- c. strategies for progressive landscaping of other environmental controls such as erosion and sedimentation controls, drainage and noise mitigation; and*
- d. location and design treatments for any associated footpaths and cyclist elements, and other features such as seating, lighting (in accordance with AS 4282-1997 Control of the Obtrusive Effect of Outdoor Lighting), fencing, and signs;*

The Plan shall be submitted for the approval of the Secretary prior to the commencement of permanent built works and/ or landscaping, unless otherwise agreed by the Secretary.

This UDLP provides the overarching design principles, visions and objectives for the Project and provides detail on how these have been incorporated into urban design and landscaping. The following steps were undertaken in this UDLP and the document has been structured accordingly:

- Identification of key features of the site that will influence the planning and design of the development (Section 3)
- Identification of local site context findings on the site and in the area surrounding the site that will influence the planning and design of the development (Section 3)
- Description of the potential impacts and mitigation measures associated with various aspects of the Project's regional and local site context, which have been assessed in the EIS (Section 4)
- Identification of the vision and objectives of the development relating to urban design and landscape (Section 5)
- Analysis of the key design feature strategies for progressive landscaping of other environmental control such as drainage, erosion and sedimentation control and noise mitigation (Section 6 and 7).

2 DEVELOPMENT CONCEPT

Re-development of the Project involves the demolition of the former DNSDC site and will include the following typical built form and operating elements:

Intermodal Terminal (IMT) Facility: The IMT facility will be located on the western part of the Project site, adjacent to Moorebank Avenue. The total terminal area is approximately 244,000 m² including the following key elements:

- Four rail sidings of up to approximately 600 m in length
- Container hardstand to be used for container sorting and storage (up to 5 containers high or 12.5 m)
- Administration offices and ancillary operational facilities.

The IMT facility is anticipated to operate 24 hours a day, 7 days a week and use the following equipment:

- Automated and remote operated gantry systems to move containers from rail cars
- Modern container and secondary freight handling equipment
- An operations and control centre, ancillary facilities and amenities
- Container washdown facilities (likely to be of steel construction)
- Diesel and LPG fuel storage tanks (steel construction).

Rail Link: Fundamental to the operation of the IMT facility is a 2.8 km train line along with its required infrastructure, to connect the IMEX Terminal Facility and Interstate Terminals to the SSFL, and which is capable of accommodating trains up to 1.8 km in length. These primary built form and operating zones will be integrated together in a cohesive manner by addressing the following supporting urban issues:

- **Accessibility:** Well defined roadways and pathways for vehicles, pedestrians and cyclists will be designed for safe and comfortable movement, whilst providing clear and legible internal connectivity.
- **Streetscape:** Defined streetscape and urban elements will provide visual character, theming and a sense of place throughout the development.
- **Landscaping:** The landscape design will create a strong uniform identity throughout the development through the reinforcement and extension of the surrounding natural context and ecological qualities. It will create clear entry markers, enhance vistas, and reinforce the hierarchy of roads within the Project.
- **Signage and Lighting:** Signage and lighting will be utilised throughout the development to enhance the quality and experience of the occupants and users. Signage will complement the design style and streetscape to create a unique identity and sense of place.
- **Safety and Security:** Measures will be implemented to ensure a high level of safety and security at all times, to the development, its occupants, and the community populating surrounding lands.

Warehousing on the MPE Site is subject to a separate approval, SSD 7628, and is not discussed within this UDLP.

3 IMPLEMENTATION

3.1 Context and Scale

The Project is located approximately 2.5 km to the south of Liverpool City Centre near a number of significant industrial areas, including Moorebank (Yulong and Amiens) and Warwick Farm to the north, Chipping Norton to the north-east, Prestons to the west and Glenfield and Ingleburn to the southwest. The Holsworthy Military Reserve is located to the south on the opposite side of East Hills Passenger Line. Nearby residential areas include Wattle Grove, Moorebank, Holsworthy and Casula, which are located to the east and northeast.

The Moorebank Industrial Area is north of the Project, with the majority situated to the north of the M5 Motorway between Newbridge Road, the Georges River and Anzac Creek. This industrial area comprises approximately 200 hectares, and supports a range of industrial uses including freight and logistics, heavy and light manufacturing office and business park developments.

The Rail Link connecting the SSFL to the IMEX Terminal Facility, traverses across the Boot Land (to the south of the Project), RailCorp Land, Moorebank Avenue, the Moorebank Precinct West (MPW) Golf Course, Georges River (running along the western boundary of MPW), and Glenfield Waste Facility.

3.2 Topography and Landform

The Project topography is generally flat with relative levels (RLs) ranging between 14 m and 16 m Australian height datum (AHD) along the eastern Project boundary. The land rises from approximately RL 14 m AHD at each end to a localised peak of RL 22 m AHD about midway along the length.

The Project site has been subjected to substantial development over the years, and considerable changes have been made to the natural landscape. Consequently, the Project is underlain with a mixture of residual soils and filled materials, with undisturbed areas retaining some residual topsoil.

The most prominent natural features in close proximity to the site include Anzac Creek external to the Southern Boundary of the IMEX Terminal Facility and Georges River to the west of the Project. There is an existing stormwater discharge point on Moorebank Avenue, and another two discharge points on the eastern site boundary. The riparian setback for Anzac Creek, as specified by the NSW Office of Water, is 30 m.

3.3 Land Use

The Project was previously occupied by the Department of Defence and is commonly known as the DNSDC site. Previous operational activities on the Project can be generally described as including warehousing and logistics operations, vehicle and equipment hardstands, as well as some container storage serviced by an internal road network.

The residential suburb of Wattle Grove is located to the northeast and east. The Casula residential area is approximately 1 km west of the Project and divided by the School of Military Engineering (SME), Georges River and the SSFL.

Approximately 1 km to 1.5 km west from the Project, the SSFL and passenger rail line run in a north-south direction and are bounded by the Casula residential area. To the south of the Project, the existing East Hills railway line runs in an east-west direction. The outer area to the east and north of the site comprises the Wattle Grove residential area (primarily low density), extensive commercial and industrial developments and major motorways.

Surrounding natural elements include:

- Georges River which runs along the western boundary of the SME
- Anzac Creek, which runs along the eastern boundary of the Commonwealth owned land, linking to Chipping Norton Lake and Georges River to the north
- Existing landscape and vegetation known as the 'Cumberland Plain Woodland' running along approximately one half of the eastern boundary and full length of southern boundary of the site, forming a physical barrier to surrounding areas. This bushland is primarily regenerated vegetation and includes

Anzac Creek. The density of the bushland provides significant screening to much of the south and east of the Project from surrounding areas.

3.4 Existing Vegetation

3.4.1 IMEX Terminal Facility

In its undeveloped state circa 1930, the area of the IMEX Terminal Facility appeared to be vegetated with a mosaic of low vegetation types, possibly including woodland and dense healthy shrub land, with some clearing in the east and numerous tracks intersecting the site and lands to the east and south.

Due to the industrial history, almost all the natural vegetation has been largely cleared from the Project with the exception of what appears to be an increase in growth of trees and shrubs in the south of the Project, particularly along the constructed drainage channels and adjoining areas to the south and west.

Based on the results of the field assessment reported in the Biodiversity Assessment Report (Hyder 2015), the vegetation within the IMEX Terminal Facility consists almost entirely of planted trees with a mown or managed understorey, and does not meet the criteria for any threatened ecological communities. The planted tree species are typical of cultivated eucalypts that are commonly found as mature street trees in suburban Sydney, with *Eucalyptus microcorys* (Tallowwood), *E. saligna* (Sydney Blue Gum), *Corymbia maculata* (Spotted Gum) and *C. citriodora* (Lemon-scented Gum) frequently recorded.



Photograph 1: Mature trees of *Eucalyptus saligna* and *Corymbia maculata* on the Project site (Hyder 2015)



Photograph 2: Mature trees of *Eucalyptus microcorys* on the Project site (Hyder 2015)

The ground layer in the non-paved areas of the Project consisted of mown grass lawns, dominated by *Cynodon dactylon* (Couch), *Pennisetum clandestinum* (Kikuyu) and other exotic grass species; there was a native grass component persisting in some locations, with native grasses observed including *Paspalidium distans*, *Austrodanthonia sp.* (Wallaby Grass) and *Eragrostis leptostachya* (Paddock Lovegrass) as well as some small native herbs.

To the south and southeast of the IMEX Terminal Facility, and north of the Boot Land, is a network of drainage channels with some tree plantings and some apparent tree and shrub regeneration. The channels supported a mixture of native, non-local native and exotic trees and shrubs including *Eucalyptus saligna*, *E. tereticornis* (Forest Red Gum), *Corymbia maculata*, *Melaleuca quinquenervia* (Broad-leaved Paperbark), *Casuarina glauca* (Swamp Oak) and *Eucalyptus parramattensis* (Parramatta Red Gum).

3.4.2 Rail Corridor

The rail corridor contains the Rail Link which extends through portions of the former DNSDC south and Southern Boot Land, RailCorp Land, MPW site, Glenfield Waste Facility, Georges River and connects to the SSFL.

To the south of the IMEX Terminal Facility is a fenced area of bushland bordered by the existing rail spur to the east, and Moorebank Avenue to the west. Anzac Creek runs from west to east in the northern portion of this bushland. The section of Anzac Creek supports dense stands of *Typha orientalis* (Broad-leaf Cumbungi) and *Bolboschoenus fluviatilis* (Club-rush) and contains the Wattle Grove Offset Area under the EPBC Act threatened flora.

Fringing Anzac Creek is a narrow band of swamp woodland dominated by *Melaleuca linariifolia* (Flax-leaved Paperbark); the understory of this forest varied from sedges, especially *Leptocarpus tenax* which dominated in patches, to ferns, grasses and dense shrubs. To the south of the eastern part of Anzac Creek there are occasional emergent trees of *Angophora subvelutina* (Broad-leaved Apple) and *Eucalyptus sclerophylla*. Adjoining the southern bank of the western section of Anzac Creek the vegetation is disturbed and dominated by exotic vegetation, with a large stand of *Phyllostachys aurea* (Golden Bamboo), thickets of *Acacia decurrens* (Black Wattle) and *Pennistemon clandestinum*.

To the south of Anzac Creek is a large tract of relatively intact woodland dominated by *Eucalyptus sclerophylla* and *E. parramattensis* with a sub-canopy of *Angophora bakeri* (Narrow-leaved Apple) and *Melaleuca decora* (White Cloud Tree). The understory varies in structure from relatively open in the mid-layer with dense grass and low shrubs to dense shrubs and a sparse shrub and grass understory.

The area adjoining the disused rail line in the south-east of the Project supports mature trees of *Eucalyptus sclerophylla* (Hard-leaved Scribbly Gum) and numerous shrubs of *Acacia* spp., *Allocasuarina littoralis* (Black She-oak), *Hakea salicifolia* (Willow Hakea) and *Melaleuca nodosa* (Ball Honey-myrtle). The ground layer was characterised by native grasses including *Aristida ramosa* (Wiregrass), *Entolasia stricta* (Wiry Panic), *Paspalidium distans* and *Themeda australis* (Kangaroo Grass) and there were a number of small groundlayer herb and shrub species including *Astroloma humifusum* (Cranberry Heath), *Laxmannia gracilis* (Slender Wire Lily), *Pimelea linifolia* (Slender Rice Flower) and *Lomandra* spp. Exotic cover was low, with *Eragrostis curvula* (African Lovegrass) dominating in patches.

The land within approximately 100 m of the eastern bank of the Georges River supports forest vegetation. On the steep slope adjacent to the riverbank, the riparian vegetation is severely degraded, currently reduced to mature trees of *Eucalyptus saligna* x *botryoides* (Blue Gum/Bangalay hybrid) and *E. longifolia* (Woollybutt) with an understory dominated by *Ligustrum sinense* (Small-leaved Privet) and smothered by exotic weeds, mainly *Cardiospermum grandiflorum* (Balloon Vine), *Lantana camara* (Lantana) and *Delairea odorata* (Cape Ivy).

The vegetation is less disturbed upslope and includes a mixed native and exotic understory with mature trees of *E. saligna* x *botryoides*. On the western bank of the Georges River, adjacent to the Glenfield Waste Facility, the vegetation is similar in structure and condition to that on the eastern bank. The southern part of the riparian forest on the study area supported a canopy dominated by *E. saligna* x *botryoides* to 20 m in height.

The understory on the river flats near the existing rail bridge consists of a mixture of local native shrub, herb and grass species and some dense stands of *Olea europaea* subsp. *cuspidata* and *Lantana camara*, with *Tradescantia fluminensis* dominating the ground layer in some areas.

In the northern parts of the riparian corridor, the steep slopes support trees of *E. saligna* x *botryoides* and *E. baueriana* over a dense shrub layer of *Olea europaea* subsp. *cuspidata*, *Ligustrum lucidum* and *Lantana camara* (Plate 24). The native small tree species *Backhousia myrtifolia* (Grey Myrtle) and *Melaleuca decora* occurred sporadically.

Most of the area of Glenfield Waste Facility is currently an active quarry and landfill site. The natural landform has been excavated and the vegetation consists of weedy exotic herbs and grasses and some native shrubs and small trees, some of which may have been planted as part of revegetation of constructed slopes. The native trees and shrubs *Angophora floribunda*, *Acacia decurrens* and *Acacia binervia* were abundant on the slope adjoining the eastern haul road.

3.5 Transport Network

The Project is located approximately 1.3 km south of the intersection of Moorebank Avenue and the M5 Motorway. The M5 Motorway provides the main road link between the Project and the key employment and industrial areas within the West and South Western Sydney Sub-Regions. The M5 Motorway connects with the M7 Motorway to the west, providing access to the Greater Sydney Metropolitan Region and NSW road network. Similarly, the M5 Motorway is the principal connection to Sydney's north and north-east via the Hume Highway.

The Project is within close proximity of the M5 Motorway, which intersects with Moorebank Avenue approximately 600 m to the north. Moorebank Avenue runs in a north-south direction and provides a direct connection between the Liverpool City Centre, M5 Motorway on/off ramps to the north, and the Glenfield / Macquarie Fields residential areas to the south.

The SSFL is located 1 km to the west of the Project. The SSFL is a 36 km dedicated freight line between Macarthur and Chullora. The closest passenger railway stations are Casula and Liverpool. Casula railway station is separated from the Project by the Georges River. Casula railway station is situated on the South and Cumberland railway lines. Liverpool railway station is separated from the Project by the M5 Motorway to the north and the Georges River to the west. This interchange station services the South, Cumberland, Bankstown and Inner West railway lines. The East Hills railway line is to the south of the Project and also forms the boundary to the Rail Link. It crosses the Georges River to the south-west and runs through the Glenfield Waste Facility before connecting into the South and Cumberland railway line corridor.

3.6 Other

For additional information on other existing character aspects, refer to the following sections in the EIS:

- Section 5 - Statutory Planning Approvals (Pages 79-96)
- Section 11 Climate Change Risk and Adaptation Assessment (Pages 50-68)
 - Appendix X Greenhouse Gas and Climate Change Impact Assessment
- Section 16 and 17 - Indigenous Heritage and Non-Indigenous Heritage (Pages 345-368)
- Section 18: Hazard and Risk (Pages 395-413)
- Section 20.4: Property and Infrastructure (Pages 461-485)
- Operational Environmental Management Plan.

4 URBAN DESIGN CONTEXT

4.1 Vegetation

Large native trees and various understorey planting endemic to the local area have been selected to create a buffer and serve in minimising visual impacts from the surrounding urban landscape. Given that the Project site is bounded to the south with existing vegetation communities, the landscape design serves to integrate the development with the surrounding environment by using tree, shrub and groundcover species that are local to the area to create habitat opportunities and links to the surrounding context. The tree planting has been designed with the intent of creating a uniform canopy cover throughout the area.

Proposed plant species have been selected for their site-suitability with many species selected from Liverpool City Council's (LCC) recommended plant list. The selection and location of landscaping has been designed to minimise bushfire impact and through on-going maintenance will contribute to a reduction in bushfire threat.

4.2 Transport Network

An analysis conducted for the EIS found that during operation, the Project will have a minor impact on Moorebank Avenue, Anzac Road, Cambridge Avenue and M5 Motorway. Intersection modelling and analysis of the 2016 scenario indicated that Project will not exceed the current capacity on the M5 Motorway/ Moorebank Avenue, the M5 Motorway/ Hume Highway, the M5 Motorway / Heathcote Road and Cambridge Avenue, nor would it reduce the Level of Service of the Moorebank Avenue / Heathcote Road intersection once the upgrades that have been previously identified by Roads and Maritime Services (RMS) and Transport for NSW are complete.

A Preliminary Operational Traffic Management Plan has been prepared to identify the management strategies to minimise traffic impacts associated with operation of the facility and would be finalised prior to operation of the IMT facility. The Construction Traffic and Access Management Plan provides the management measures relating to traffic and access for the Project. A Final Operational Traffic and Access Management Plan is currently in development.

4.3 Access

Access to the Project will be to and from Moorebank Avenue. However, no heavy vehicles will be permitted to turn right from Moorebank Avenue into the Project. ,

Formal pedestrian facilities are currently provided on the western side of Moorebank Avenue only. The pedestrian pathway extends from the northern boundary of the IMEX Terminal Facility to Chatham Avenue. Traffic light controlled crossings to the eastern side of Moorebank Avenue are provided at:

- Intersection of the access road to the Defence Joint Logistics Unit (east)
- IMEX Terminal Facility main entrance (opposite the Defence Support Rd)
- IMEX Terminal Facility secondary entrance
- Intersection at Chatham Avenue.

The Project will have a pedestrian crossing and signals at the IMEX Terminal Facility Administration Building (near the car park). Further to these external signals and pedestrian crossing, there will be new pedestrian access pathways on the eastern and western boundaries of Moorebank Avenue adjacent to the IMEX Terminal Facility entrance.

4.3.1 Access Tracks

Access tracks will be constructed to facilitate construction and on-going maintenance of the Rail Link. The access tracks will also enable access for the Glenfield Waste Facility operators (on the Glenfield Waste Facility site) and for Sydney Trains (within the RailCorp Land and the East Hills Rail Corridor).

The access tracks will be a combination of pedestrian and vehicular. These access tracks will be located within the identified footprint of the Rail Link and will utilise previously disturbed corridors, wherever possible.

A summary of the access tracks is provided below in Table 3, and the RailCorp Maintenance Access Road detailed design is provided in Appendix G.

Table 3 Rail Link Access Tracks

Location	Track Section	Description
West of Georges River	From the Georges River Bridge to the SSFL, through the Glenfield Waste Facility	<ul style="list-style-type: none"> Main access track located on the eastern side of the Rail Link A level area will be provided near the southern and northern connections to facilitate maintenance An informal level crossing will be provided over the southern connection at this location Access through existing gate into Australian Rail Track Corporation (ARTC) / Sydney Trains Rail Corridor Street access provided from Cambridge Avenue through the Glenfield Waste Facility main entrance.
East of Georges River	From the Georges River bridge to Moorebank Avenue	<ul style="list-style-type: none"> Main access track located on the northern side of the Rail Link The access track provides the opportunity to access under the proposed Georges River Bridge via an existing access track Pedestrian (restricted personnel) access is available under the Moorebank Avenue overbridge Street access will be from Moorebank Avenue.
East of Moorebank Avenue	From Moorebank Avenue to Rail Line	<ul style="list-style-type: none"> Vehicle access is provided from Moorebank Avenue to Anzac Creek culvert Vehicle access is also provided from Moorebank Avenue to the rail link just north of the bootland
RailCorp Maintenance Access Road	Access off Moorebank Avenue southbound lane, just north of the existing Moorebank Avenue Bridge over the East Hills Line	<ul style="list-style-type: none"> This track is a combination of sealed and unsealed road stretching east approximately 150m from Moorebank Avenue to the existing East Hills rail corridor 12m wide swing gate and lock at the intersection of the track with Moorebank Avenue Gate linking the proposed access track to the East Hills Line corridor Only be accessible to authorised maintenance personnel and is required to ensure members of the public do not enter. Right hand turn movements into and out of the access road will be banned due to lack of sight; with access / egress restricted to left-in and left-out only.

4.4 View Corridors

There are a number of existing view corridors looking toward the Project. The prominence of these views are strongest passing along the direct frontage at Moorebank Avenue, and to some extent from further distances where there is currently minimal visual impairment across cleared or unobstructed land. Views from further surrounding residential areas generally have minimal or no views due to the significant viewing distance, undulated topography and landform, or shielding by other existing structures and vegetation.

Measures to reduce the visual impact of the Project primarily comprise of screen planting in key areas and visual buffers to produce a high-quality landscape that reinforces and extends the surrounding natural context and ecological qualities. The landscape treatment will visually and physically connect with the existing landscape and vegetation adjacent to the site.

Along the Moorebank Avenue frontage, an 18 m wide corridor of screening vegetation and a bio-retention swale will be comprised of native tree species with a dense tree canopy and lower screen planting. Along the site boundaries, a “Boundary Treatment” and “Buffer Zone” will incorporate landscape treatment consistent with existing local species in the area and provide an essential scale of planting to complement the developments built-form.

Where landscaping is clear of railway lines, planting will comprise mixed tree planting to create natural feeling through landscape zones and mixed under-storey planting consisting of native shrubs and ground covers to form a virtually impenetrable barrier when mature. This treatment will mitigate views from surrounding areas, and the existing tree planting (where retained) along Moorebank Avenue in conjunction with proposed screening and feature walls, would screen a large proportion of potential views from the north-west.

Overall, the proposed landscape treatments will result in an improvement in the visual amenity of the entire site and will increase the current level of screening.

4.5 Stormwater Management

Construction of the Project will require vegetation clearing and bulk earthworks, which have the potential to lead to erosion and generate sediment laden runoff into the Georges River or Anzac Creek, thereby impacting water quality. The Construction Soil and Water Management Plan (CSWMP) and Erosion and Sediment Control Plan (ESCP) has been prepared in accordance with the principles and requirements of the Blue Book.

The Project will result in changes to the Project’s site catchment boundaries during operations. In addition, the Project will result in an increase in surface water generation and pollutant loads as a result of the increase in impervious surfaces on the site. Onsite detention (OSD) basins, outlet channels and water sensitive urban design (WSUD) elements will be sized to provide adequate system capacities and mitigate potential adverse flood impacts and increases in stormwater discharge from the site that may otherwise result from the Project. WSUD measures, including gross pollutant traps (GPT) and rain gardens, will be designed to ensure the quality of stormwater leaving the Project will be of equivalent quality to the existing conditions, or provide an improvement to stormwater quality leaving the Project.

Refer to the Flood Emergency Response Plan for information on flood management strategy for the Project.

4.6 Site Characteristic Analysis

An analysis of the Project, to demonstrate the integration of the general and local site context, and the proposed objectives and principles, was undertaken to determine constraints and opportunities for the development. The general and local site context findings are discussed in Section 3, while the landscape and building design objectives and principles are presented in Sections 5 and 6. The following constraints and opportunities were determined and are presented in relative importance:

- Due to site dimensional constraints, space is a premium within the Rail Link. The rail corridor must not exceed 20 m in width, as this area will be cleared for the construction and operation of the Rail Link. This corridor will also be 20 m wide within ecologically sensitive areas including the Southern Boot Land and Georges River riparian corridor. As such, this presents an opportunity for the development to integrate into surrounding land uses and existing developments through use of considered structures, existing landforms and vegetation.
- The Project is located in an industrial area, and will be zoned as industrial. As such, this provides an opportunity for the development to provide safe and efficient circulation for pedestrian, cyclists and vehicles.
- Due to the large scale of the development, there is opportunity for landscape screening along the boundary of the Project site to partially shield the operating environment of the development. Utilising a ‘Buffer Zone’ for the Project along Moorebank Avenue, strong shielding vegetation will be provided on either side of a bio-retention swale and will include a combination of dense tree canopy cover as well as lower screen planting.
- Opportunities to include the history of the site throughout the Project will be developed through a Heritage Interpretation Plan.

5 IDENTIFICATION OF VISION, OBJECTIVES AND PRINCIPLES

5.1 Vision

The Project will not only provide vital infrastructure and employment growth, it will be a premier business logistics centre, providing the Moorebank business area with a unique identity through urban renewal. The process will see the Project become an integrated component within the existing landscape and becoming a significant feature in terms of local and community identity and connectivity to the greater Sydney and Liverpool areas.

The design for the Project will aim to improve the existing landscape and be sensitive to existing environmental qualities. The urban design principles outlined in Section 5.2 are proposed to ensure that the unique aspects of the Project and surrounding areas are reflected in the development design solution.

The built form, open space and landscape elements aim to promote visually pleasing environments. Both the urban and building design principles proposed in this document are generally in accordance with the requirements and objectives stated in Sections 1.2 and 1.4 of the Liverpool Development Control Plan (DCP) 2008. It is intended that the built form shall be varied and interesting to provide an attractive and articulated streetscape. The selection of building materials and colours will be appropriate for intended use according to the land use structure.

5.2 Urban Design Principles

The urban design principles and overall Project vision have been formed around a set of core values, derived from Sections 3 and 4 presented above, which can be summarised as:

Responsive: the design will be both responsive and sympathetic to the form, colours and textures of the natural and cultural character of the existing landscape. The Project will integrate with, and improve the existing site character to form a high performance and quality urban landscape feature.

- **Community:** while the Project will have limited access to the general public, the Project will include a provision for suitable and sufficient amenity which may be accessible by both the occupants and the public (albeit predominantly indirectly). This improved local amenity will incorporate landscaping and open spaces for employees, creating a 'sense of place' and conveying a feeling of community.
- **Considerate:** landscape and urban treatments will be considerate of the need to provide visual and acoustic shielding in the form of vegetation, landform and structures. A positive visual, environmental and management relationship with adjoining lands will be reinforced.
- **Connectivity:** a suite of design instruments will connect the various MPE site precincts, including well defined landscaping, entry statements, newly constructed landforms and streetscape elements, signage, street furniture and other built elements. Provision will be made to accommodate on-site heritage interpretation options.
- **Identity:** the urban design and landscape form will express the character of the Project and communicate a strong and unique identity that complements the surrounding land uses.
- **Adaptability:** a high quality urban design standard will be adopted which is both adaptable and flexible in each key component to enable longevity, maintained value and ability to suit the needs of future generations, for its stakeholders, occupants and the community.
- **Sustainability:** ecologically sustainable development principles will be incorporated into all facets of the Project where feasible and reasonable. WSUD will be integrated into the built and landscaped elements of the development, and on-site collection and re-use of stormwater and recycled water will be considered.
- **Movement:** the urban design will support an internal vehicular and pedestrian traffic network that will be both safe and efficient and may incorporate an integrated public or on-site transport system as well as pedestrian and cycle connections throughout the Project and to surrounding areas
- **Visually Appealing:** the urban design will be visually appealing to the public and surrounding areas to ensure continuity between the Project and surrounding areas.

5.3 Objectives

A summary of the urban design objectives that have been adopted for the Project is outlined below:

- Preferential use of native and endemic plant species and maximise landscaped areas wherever possible
- Create a distinctive and attractive natural environment within the context of an industrial complex
- Maintain landscape values and be sensitive to the existing environmental values of the site and surrounding area
- Maximise environmentally sustainable design where feasible and reasonable
- Provide an aesthetically pleasing and safe environment for workers and visitors alike
- Signage to promote and enhance safety, security and efficient way-finding for pedestrians, cyclists and vehicles at all hours of operation
- Promote appropriate lighting and security systems design to ensure that all employment areas are safe and secure at all hours of operation as well as out of hours
- Minimise visual impacts on surrounding areas through façade design and integration of the Project with surrounding land uses
- Meet sustainability requirements of the Project (per the Clean Energy Finance Corporation mandated conditions).

6 IMEX TERMINAL FACILITY

6.1 Structures

6.1.1 Administration Building

The administration building has been designed:

- In accordance with the Building Code and relevant Australian Standards (AS)
- To be suitable to support a peak demand of 30 office staff and 10 field staff
- With a building management system, capable of controlling and regulating air-conditioning and electrical utilities. Fit out of the administration building must be to the Principal's satisfaction and approval.

All IMEX Terminal Facility operations will be controlled from the administration building control room and all utilities will be monitored via the administration building. A model of the administration building is presented in Figure 1. The materials and external finishes are listed in Appendix B.



Figure 1 Administration Building

6.1.2 High Voltage Substation

A new 11 kilovolt (kV) high voltage (HV) power supply will be provided to the Project to service the IMEX Terminal Facility and the future site expansion (MPE Stage 2). From the Endeavour Energy substation outside the Project boundary, one 11 kV feed will connect to a northern HV switchroom constructed and energised initially for manual stage operations. During this manual phase the HV switchroom will contain two HV switchboards including the Main Switchboard North (MSN) and Distribution Switchboard North (DSN).

For the future automated stage, a second southern HV switchroom will be constructed and energised via the second 11kV feed from the Endeavour Energy second switching station. The southern HV switchroom will contain three HV switchboards, Main Switchboard South Distribution Switchboard South and Crane Supply Switchboard South. The configuration of these switchboards will be similar to switchboards in the north switchroom.

Conduit reticulation will be installed around the site, both for HV and low voltage (LV) power. The conduits will be capped initially at the manual phase boundary, then extended during a future contract scope for automated works to power infrastructure within the automated phase boundary. HV conduits will also be installed and capped at the boundary to cater for supply to the future eastern precinct warehouses.

New 11kV power feeds connect to the Anzac Zone substation in Anzac Road, where three existing panels will be made available. From there, three cables will follow the southern verge of Anzac Road and cross Moorebank Ave. A feed will be provided to the future MPW expansion. The cables will continue to run within the western verge of the proposed widened Moorebank Avenue to the existing stormwater culvert. Then, the cables will cross the road and connect to two new Endeavour Energy substations. From there power will be reticulated to the northern HV substation.

The HV switchroom design is presented in Appendix B.

6.1.3 Fire Water Tanks

The fire water supplies to service the IMEX Terminal Facility include provision for fire water storage tanks, two fire hydrant diesel pumps and one jockey pump,.

The fire hydrant system design has adopted the following design criteria:

- Designed to provide coverage for the IMEX Terminal Facility in compliance with the Fire Engineering Report and NSW Fire and Rescue (NSWFR) operational specifications. Fire hydrant pumps have been designed to provide required pressures and flows for the IMEX Terminal Facility in compliance with the AS 2419.1 and AS 2941 requirements and in accordance with Fire Engineering Report and NSWFR operational specifications. They will also provide nominated flows and pressure at the MPE Stage 2 site boundary
- Above ground water storage tanks which provide the water supply will be compliant with AS2419.1 requirements and in accordance with Fire Engineering Report and NSWFR operational specifications (2 x 415 kl tanks)
- Pumps will comply with AS 2941 requirements for automated starting
- IMEX Terminal Facility fire hydrant system flow will be 40 L/s
- IMEX Terminal Facility minimum residual pressure at the most disadvantaged fire hydrant will be 700 kPa
- Trenching methods shall follow AS3500; embedment of pipe shall be Controlled Low Strength Material (CLSM) or concrete encased when subject to utility crossings or reduced cover
- In ground fire hydrant main ring is PE100 PN16 SDR11 DN280 pipe and fittings with electrofusion joints and poly-wrap sleeve
- In ground fire hydrant branches to hydrant shall be PE100 PN16 SDR11 DN180 pipe and fittings with electrofusion joints and poly-wrap sleeve
- Above ground fire hydrant main ring service shall be DN100 roll grooved hot dipped galvanised steel medium pipes, fittings and couplings
- In ground sprinkler service, main pipe shall be PE100 PN16 SDR11 DN315 pipe and fittings with electrofusion joints and poly-wrap sleeve.

A model of the fire water tanks is presented in Figure 2.

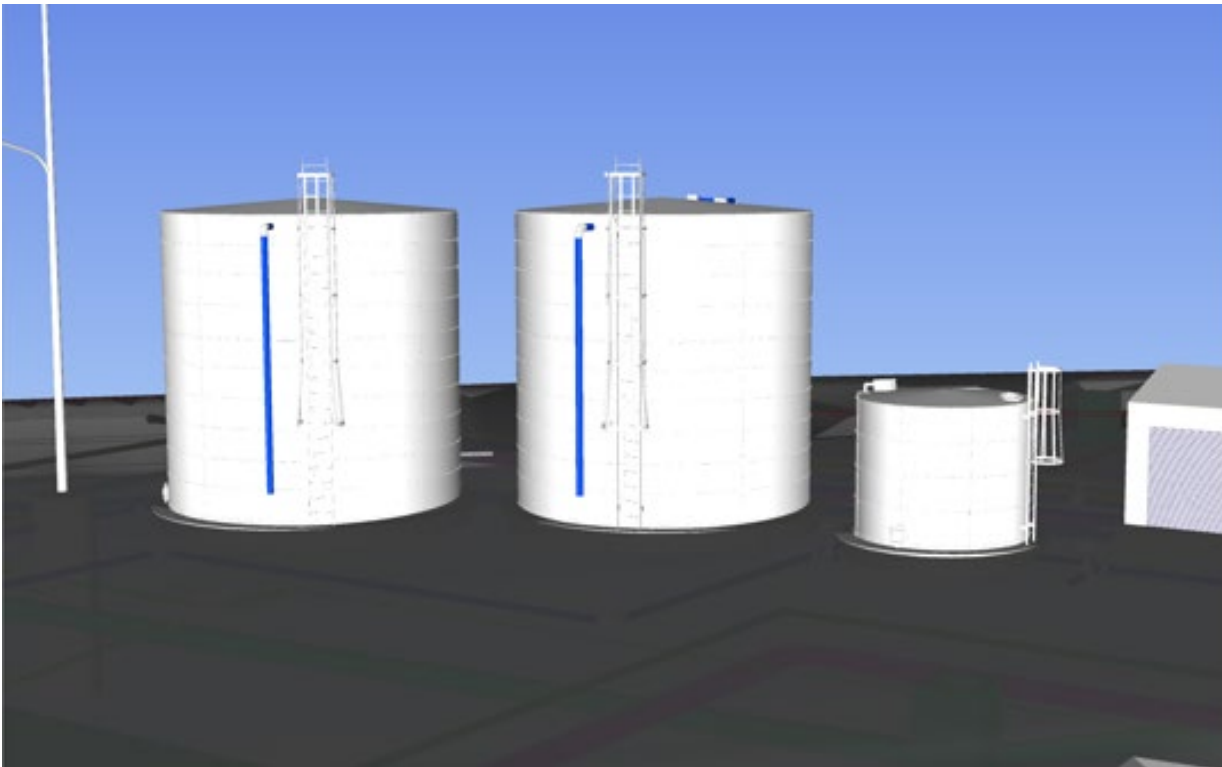


Figure 2 Fire Water Tank Model

6.1.4 Pumphouse

Potable water for the site will be sourced from the DN200 cast iron cement lined (CICL) Sydney Water Corporation water main in Moorebank Avenue, via a proposed new DN200 connection that will supply potable, hydrant and sprinkler water to both the IMEX Terminal Facility and the future SIMTA precinct expansion (MPE Stage 2).

The potable water service on the IMEX Terminal Facility will extend from the connection point on Moorebank Avenue through an authority water meter assembly and via an underground poly welded pipe to a pressure pump set located in the pump house. From there the line is routed to the Administration Building fixtures, with a further extension to the south of the Administration Building for future maintenance use. No other facilities in the IMEX Terminal Facility will require supply of potable water.

The allocations for the future precinct (MPE Stage 2) will include space allowances for both a 50 kL tank and pressure pump set in the pumphouse.

The potable water service will enter the site and feed into the pumphouse and the pressure pump set. From the pumphouse, the potable water service will reticulate around the northern end of the carpark to the Administration Building.

The pumphouse will be constructed using the same cladding as the Administration Building. The external finish materials are provided in Appendix B.

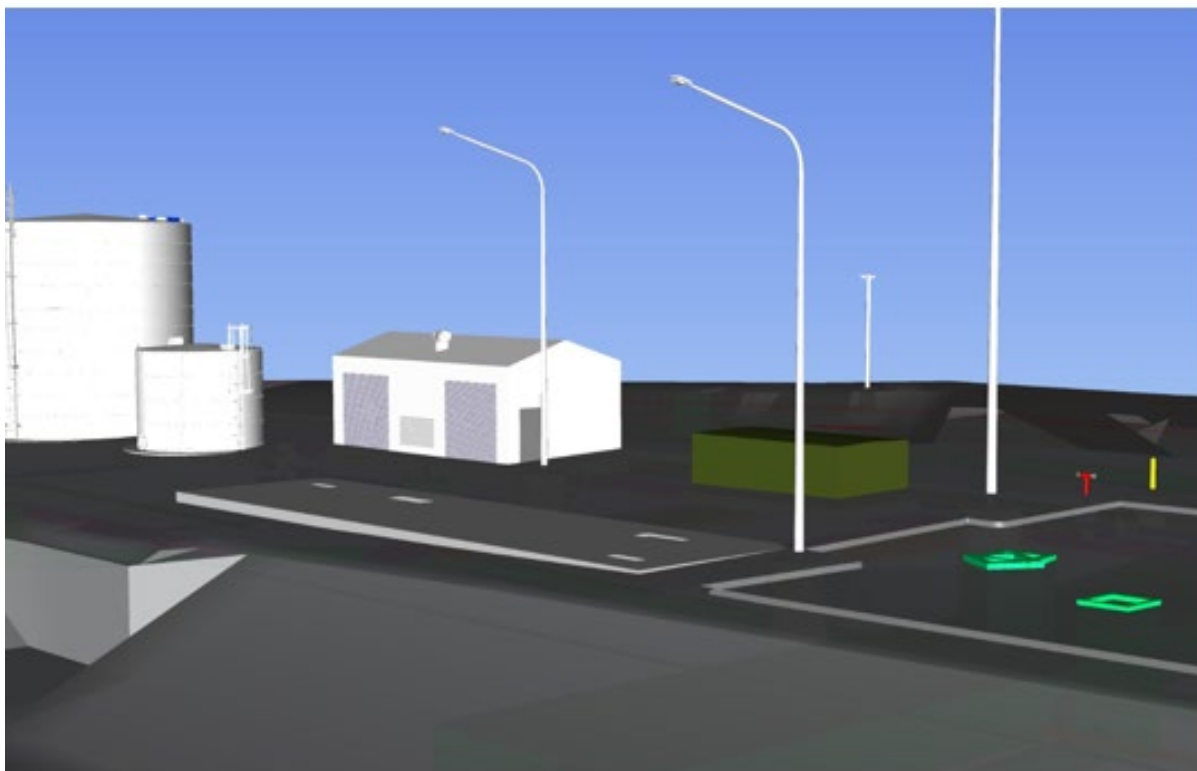


Figure 3 Pumphouse Model

6.1.5 Footpaths, Cycle Paths and Car Parks

There are no pedestrian footpaths or cycle paths within the IMEX Terminal Facility.

There is one car park connected to the administration building which will be accessible by the public. The pavement materials are provided in Appendix E.

6.2 Landscaping

The landscape focus of the Project centres along the Moorebank Avenue frontage which forms a major connection to the Project. This frontage incorporates a vegetated bio-retention channel which follows the length of the Moorebank Avenue frontage (refer to Appendix A). Large native trees and various understorey planting endemic to the local area have been selected within this area to create a buffer and serve in minimising visual impacts from the surrounding urban landscape.

Given that the Project site is bounded to the south with existing vegetation communities, the landscape design serves to integrate the development with the surrounding environment by using tree, shrub and groundcover species that are local to the area to create habitat opportunities and links to the surrounding context. The tree planting has been designed with the intent of creating a uniform canopy cover throughout the area.

Plant species have been selected for their site-suitability with many species selected from LCC's recommended plant list. Topsoil will be placed in the landscaped areas throughout the Project site. The Landscape Plans for IMEX Terminal Facility have been developed by Ground Ink (refer to Appendix A).

6.3 Fencing, Gates, Barriers and Signage

6.3.1 Fencing and Gates

Fences and gates are detailed in the Approved for Construction Design Report – Fencing, Gate and Signage Package

Fencing shall generally be in accordance with AS1725.1 (2010). Different types of fencing will be designed and include the following (refer to Appendix C):

- A 3 m high security fence inclusive of five strands of barbed wire, with own footings which will be located around the bonded areas
- A 2.1 m high fence with own footings or base plate adaptors for selected paved areas. For concrete block pavements, the fence posts will be carried on separate footings. This fence will be located around culverts, service installations and other internal or interim site boundaries to separate specific use areas.

Fencing will comprise of the following:

- Chain wire mesh, which is hot dip galvanised
- Wire pitch will be 50 mm
- Wire thickness will be 3.15 mm
- Support posts, top and bottom rails, and bracing cable/poles will be installed as per relevant standards.

Where gates are non-standard or specialist, a general performance requirement has been stipulated on plans. This will assist the Construction Contractor in obtaining quotations and installing compliant gates. This requirement is particular to the site entry gate, rail gate as well as other automated gates. All standard gates will comply with AS1725.1 (2010).

Perimeter fencing will be constructed according to the Depot Licence Application Guidelines (refer to Appendix F) and will include the following:

- Base to be secured where practicable and topped with fixed security wire
- No overhanging trees which could facilitate a breach of the perimeter
- To be maintained in good condition.

6.3.2 Barriers

Barriers are used on the Project for multifunctional purposes including providing a fence / security outcome, separating use areas and mitigating potential incidents. The following barriers will be used at the Project:

- Road and Maritime Services (RMS) standard F-Type barrier (including embankment)
- RMS standard W-Beam barrier (including median)
- RMS standard Thriebeam Barrier
- RMS standard Temporary F-Type barrier (modified with drainage slots).

6.3.3 Signage

Signage for the IMEX Facility Terminal is generally in accordance with CoC G4 and Drawing A3001 in Appendix C.

6.4 Erosion and Sediment Control

The erosion and sediment management measures prescribed for the Project are based on the mitigation measures presented in the EIS, Commonwealth Conditions of Approval (CoA), and the Minister's CoC, as well as applicable industry guidelines. Further erosion and sediment control details are outlined in the CSWMP and Progressive ESCP.

The guiding principles for erosion and sediment control that were adopted are as follows:

- Priority should be given to management practices that minimise erosion, rather than to those that capture sediment downslope or at the catchment outlet
- Progressively stabilise and rehabilitate exposed surfaces as soon as practicable
- Minimise the area of soil disturbed and exposed to erosion at any one time
- Divert clean water around the Project or control the flow of clean water at non-erodible velocities through the Project
- Provision of boundary treatments around the perimeter of construction areas to minimise the migration of sediment off the Project
- Permanent or temporary drainage works will be installed as early as practical in the construction program to minimise uncontrolled drainage and associated erosion, including the OSD basins and flood conveyance works
- Stockpiles will be located away from flow paths on appropriate impermeable surfaces, to minimise potential sediment transportation. Where practicable, stockpiles will be stabilised if in place for more than ten days and will be formed with sediment filters in place immediately downslope.
- Existing catchments and sub-catchment boundaries will be maintained as far as practicable
- Site imperviousness and grades should be limited to the extent of existing imperviousness and grades under existing development conditions
- The wheels of all vehicles will be cleaned prior to exiting the construction site where excavation occurs to prevent the tracking of mud. Where this is not practical, or excessive soil transfer occurs onto paved areas, street cleaning will be undertaken when necessary
- Inspection of all permanent and temporary erosion and sedimentation control works prior to and post rainfall events and prior to closure of the Project
- Erosion and sediment control structures to be inspected and maintained, repaired or augmented as required.

6.5 Noise

As per the EIS, no noise mitigation measures that require landscaping will be constructed on the IMEX Terminal Facility.

6.6 Non-Paved Surface Treatment

Non-paved surface treatment will be provided at the following locations for the manual operation phase:

- Along the western boundary, within either side of the OSD channel and setback areas from the channel to internal pavements, facilities areas and the administration building
- Within either side of the temporary eastern drainage channel
- Within the batter and tie-in areas along the southern boundary.

The majority of these areas are stormwater conveyance channels, therefore will be treated with various geo-matting to provide initial and longer-term erosion control. A hydroseed grass mix will be applied to these areas to promote medium-long term establishment of vegetation for erosion protection. Areas not designated for stormwater conveyance will be treated with a hydroseed grass mix as minimum to assist in stabilisation of the area.

The automated phase will require the western OSD channel to be filled including the removal of surface treatment within the area.

6.7 Lighting

The lighting design for the IMEX Terminal Facility takes into account the eventual transition from manual phase to automatic phase that forms part of the operational strategy of the Project site.

The Basis of Design – Lighting Plan for the IMEX Terminal Facility is provided in Appendix D. AS 4282-1997 *Control of the obtrusive effects of outdoor lighting* was referenced in the lighting design in order to minimise the impacts of lighting spill onto local residents. The report defines how the standard was addressed and included in the current design for the IMEX Terminal Facility. The obtrusive lighting compliance reports against AS 4282 are also provided in Appendix D, which confirm compliance with the standard in all instances. Lighting will be positioned to face downwards to eliminate upward light spill

6.7.1 Lighting Design – Manual Phase

The lighting design features 18 m high mast poles, mounted with high powered light-emitting diode (LED) floodlights, as the main source to illuminate most of the Project.

Within the rail cargo area, 18 m high mast poles have been positioned at less than 50 m spacing along the rail corridor, between the second and third track. Each pole is mounted with four high power LED floodlights, angled 90° apart, with a tilt of 8° to allow wider illumination. The 18 m poles take into consideration the transition phase from manual to automatic operation. Keeping all the high mast poles at no more than 18 m height, the light poles situated within the rail corridor can continue to operate even during the installation of the new crane for automatic phase.

For the remainder of the Project, 18 m high mast poles with one or two high power LED floodlights are used to cover the majority of the drive-in area. A combination of 12 m and 9 m poles is used to provide the additional required lighting in the more restricted areas.

The perimeter fencing is illuminated mainly by the 12 m height pole. These fences are illuminated at a level which allow the perimeter closed circuit television to operate effectively. The local driveways and the carpark are illuminated by a combination of the 18 m high mast poles and the 12 m light poles. The 12 m light poles will be used to illuminate the areas which are difficult to reach from the 18 m high mast poles.

A number of 9 m poles have been allocated near the pedestrian crossing given its higher point vertical illuminance light level requirement as required by AS 1158.

6.7.2 Lighting Design – Automatic Phase

Given that the Project will be transitioned into full automation with no manual labours, SIMTA advised there is little requirement for lighting in the container handling area. Some illumination is anticipated from the automated crane that is to be installed for the automatic phase.

The 18 m high mast poles along the rail corridor will be decommissioned as part of the transition from manual to automated phase. The 12 m light poles provided for the perimeter / security fencing lighting will remain and serve the same purpose as the manual operation phase. Both the eastern and western fence lines will be shifted outward as part of the transition from manual to automatic phase, generating more space within the rail cargo area. As such, the perimeter poles will correspondingly shift with the new fence lines to keep the illuminance the same as manual operation phase.

Additional lighting will be provided around the container transition area, where containers are moved by autonomous carriers onto road transport. This area will have additional lighting for this transition and driver safety.

The local driveway and the carpark will be kept the same as for manual phase. The pedestrian crossing will be removed for the automated phase, but the lighting provided in manual phase will remain applicable for the automated phase. As such, the 9 m poles provided for the pedestrian crossing will be maintained.

7 RAIL LINK

7.1 Structures

Rail Link earthworks detailed design drawings have been provided in Appendix H. These drawings outline the earthworks design, as well as location of the structures associated with the Rail Link (which are further described below).

7.1.1 Georges River Bridge

The Georges River Bridge facilitates the new rail alignment to connect the SSFL to the Project by spanning across Georges River and Tarakan Road. This new structure comprises a six-span structure with an overall length of approximately 178 m, along the deck control line. Span 1 is 23.4 m in length, and the five remaining spans are 31 m long along the deck control line.

The Georges River Bridge has a varying horizontal alignment with the skew angle increasing for each span, reaching a maximum angle of 29° skew to the bridge control line at the Western abutment. The piers and abutments are all parallel, but due to the varying horizontal alignment, the girders in each span have a different end skew. The total width of the rail bridge, perpendicular to the rail, is 10.575 m minimum, and 10.595 m maximum, and accommodates two rail tracks.

There is an existing bridge located immediately upstream of the proposed bridge. The existing bridge soffit level is approximately 13.07 m AHD. The proposed bridge will have a soffit level of 14.1 m AHD to assist with the afflux requirements. A preliminary artist's impression of the Georges River Bridge also showing the existing bridge, is shown in Figure 4.



Figure 4 Artists Impression of Georges River Bridge

Table 4 outlines the concrete and reinforcements properties for the Georges River Bridge.

Table 4 Concrete and Reinforcement Properties for the Georges River Bridge

Design Parameter	Value
Concrete Properties	
Cast in-situ Piles	40 MPa
Super-T girders	50 MPa

Design Parameter	Value
Substructure elements	40 MPa
Approach Slabs	40 MPa
Deck Slabs	40 MPa
Mass Concrete	20 MPa
Reinforcement Properties	
Cast in-situ Piles	40 MPa
Super-T girders	50 MPa
Substructure elements	40 MPa
Approach Slabs	40 MPa
Deck Slabs	40 MPa
Mass Concrete	20 MPa

7.1.2 Reinforced Earth Wall

The design of the reinforced earth wall (REW) assumes a coherent gravity block of reinforced earth, retaining and supporting geotechnically specified loads. Reinforced earth is a composite reinforced soil structure formed by the association of granular soil and facing reinforcement products. The reinforced earth wall will also comprise of the following:

- Temporary hydroseeding as outlined in Section 7.2 and Appendix A to prepare the external surface for landfilling activities that will be undertaken by GWS in the future between approximate southbound chainages 40300 and chainage 40050
- Shotcrete walls where soil nails are being utilised between approximate southbound chainages 40050 and chainage 39900
- High Density Poly-Ethylene liner from top of batter to bench along the southern tie-in to SSFL to prepare the external surface for landfilling activities that will be undertaken by GWS in the future.

The coherent gravity block is defined by the facing, the extent of the reinforcement and its associated granular fill. This block acts as a gravity retaining structure whose external stability takes into account the loading of the block and its resistance to sliding, overturning and bearing pressure at the base. The internal stability takes into account the definition of an active and resistant zone whose geometry is determined by the characteristics of the system and its loading.

The method of design complies with the requirements of RMS design specification R57. The design life is 100 years.

A brief description of the reinforced earth wall is provided below in Table 5.

Table 5 Key Reinforced Earth Wall Design Features

Element	Information
Facing Panels	<ul style="list-style-type: none"> • TerraPlus® Precast Concrete facing panels • 2000 mm (nominal) high x 2000 mm (nominal) wide • Concrete strength - Grade 40 MPa • Minimum cover to reinforcement - 40 mm

Element	Information
Reinforcing Strips	<ul style="list-style-type: none"> Galvanised REhas® Strips reinforcement system - ribbed flat steel reinforcing strip designed to Reinforced Earth Pty Limited's specifications to maximise the tensile and adherence capacity of the reinforcement Size: 50 mm x 4 mm HA nominal section and 45 mm x 5 mm HAR nominal section Minimum Yield strength - 400 MPa Minimum Tensile Strength - 520 MPa Galvanised Coating Mass – 600 g/m² (85 µm equivalent thickness)
Soil Properties	<ul style="list-style-type: none"> Granular material meeting the REPL specifications as a minimum and R57 Comply with the requirement of free draining material, as such, must have a grading limit of not more than 5% passing the 75 µm sieve
Loading Factors	<ul style="list-style-type: none"> Designed to support a uniform live load equivalent to 300 LA rail traffic loading along the railway, and the surcharge from trafficable access road for maintenance vehicles Considered the effects of Temporary Fresh Water Inundation up to 100 year ARI Flood level RL11.560 m in front of wall REW 1 and partially in front of REW2

7.1.2.1 Drainage

The track formation supported by the reinforced earth vertical wall and 0.6H to 1.0V Soil Nail Embankments will be drained via half pipe drains at the top of each retaining structure. Flows from these drains are collected via pits and pipes and discharged through the base of the retaining wall towards the Georges River via GPTs and riprap aprons at the outlets.

The track formation south of the earth retaining structures and up to the maintenance access road (at 40.3 km) will be drained by cess drains to the west side of the track, and to the east side of the track the land will be graded out to the existing maintenance access road to allow stormwater to sheet flow off the Rail Link formation towards the Georges River. The cess drains connect to a GPT, riprap apron and level spreader at 40.085 km, before discharging into the Georges River.

7.1.3 Moorebank Avenue Overbridge

The Moorebank Avenue Overbridge facilitates the new rail alignment to connect the SSFL to the Project by spanning over the rail alignment to be constructed under the existing Moorebank Avenue.

The Moorebank Avenue Overbridge consists of a single span of 9.8 m between pile centrelines. The Moorebank Avenue Overbridge carries road traffic on Moorebank Avenue from Anzac Road to Cambridge Avenue, and allows the new rail alignment to pass beneath the bridge deck and through the existing embankment. The span arrangement is set to ensure that the width of the bridge follows the alignment of the railway beneath the deck slab. The bridge deck covering the rail line has an overall length of approximately 38.5 m along the deck control line. The total width of the bridge between traffic barriers to accommodate the road geometry is 11.8 m.

A brief description of the bridge structure is provided below in Table 7.

Table 6 Key Bridge Design Features

Element	Information
Rail	<p>A single rail track is provided. The total width of the bridge deck perpendicular to the rail, is 8.9 m in accordance with ARTC T&C CoP Section 7 Clearance. The track is classified as 80MLF23, Standard Gauge AS60kg Rail with Medium Duty sleepers and Resilient Fasteners.</p> <p>The track alignment is flat, along the length of the bridge longitudinally, and has a transverse fall of 2%. The top of rail levels have been based on the following depths:</p> <ul style="list-style-type: none"> Ballast Depth - min. 250 mm Rail, Pad & Sleeper depth – (min 355 mm) The minimum ballast depth is measured from the bottom of the (medium duty) concrete sleeper directly under the low rail.

Element	Information
Road	Moorebank Avenue facilitates road traffic between from Anzac Road and Cambridge Avenue. The road is on a horizontal radius of 500 m to the bridge deck control line. Across the bridge medium performance concrete traffic barriers are provided. The existing Moorebank Avenue road will require lifting at the bridge location to accommodate the rail line below and will necessitate tie-in with the existing road.
Superstructure	<p>The superstructure consists of a cast in-situ reinforced concrete deck slab which is integral with the substructure. The reinforced concrete slab is 650 mm thick, and will have a minimum 85 mm thick asphaltic surfacing layer.</p> <p>Due to the high skew of the bridge, squaring up the deck is necessary to provide propping to the abutment walls where the fill height on one abutment is different to the other which produces a global twisting action of the entire structure.</p> <p>Squaring off the bridge ends results in a dead-zone behind the traffic barriers with safety screen on top. A handrail is provided along this squared off edge of the bridge deck. The steel protection angle is required along the leading edges under the deck over the railway corridor.</p>
Substructure	The substructure arrangement comprises reinforced integral abutments supported on 900mm diameter contiguous bored cast in place concrete piles. The piled substructure will be constructed using a top-down construction method. When the deck is complete, the area in front of the piles will be excavated and shotcrete placed between the piles to retain the existing fill behind.
Foundations	Abutment: Reinforced concrete piles are founded onto medium strength siltstone or better.
Articulation	Longitudinal and transverse forces from the deck are transferred to the substructure through the integral connection. The portal frame structure restrains the deck in both directions and these induced deck forces are transferred to the fill behind the abutments. In this instance the soil pressure behind the walls is utilised to resist longitudinal forces induced from both braking and earthquake effects.

7.1.3.1 Drainage

The location of the Moorebank Avenue Overbridge has impacted on the existing drainage regime of the road. Stormwater runoff is allowed to sheet flow over the fill embankment shoulder with no positive drainage provided.

The provision of the bridge will cause run off from the bridge deck to be concentrated and will need to be collected at the downstream end.

7.1.4 Anzac Creek Culvert

The culvert structure at Anzac Creek is approximately 20.1 m long and consists of an eight-cell 2.1 m by 1.8 m (internal dimensions) supported on a cast in-situ reinforced concrete base slab. Concrete apron slabs are provided both upstream and downstream of the culvert and form monolithic extensions to the base slab. These apron slabs provide stability to the wing walls. The roof slab of the culvert supports the rail tracks and ballast.

The cast in-situ base slab is approximately 4.81 m wide and 20.105 m long and cast on a 0.5% grade (falling upstream to downstream). The 450 mm thick base slab is cast on a 50 mm thick blinding layer. The final width and length of the base slab is dependent on the supplier's details of the crown units to be incorporated into the works.

The base slab is to be constructed as a continuous slab without expansion or contraction joints. Early thermal and shrinkage cracks are controlled by reinforcement provided in accordance with AS5100 and CIRIA C660 assuming full restraint conditions. The apron slabs and the base slab are made continuous through the provision of continuity reinforcement across the construction joint.

Pre-cast wing walls are placed on levelling shim pads and made structurally continuous with the apron slabs using a stitch pour. An isolation joint is provided at the interface between the wing walls and the end precast crown units to allow for differential movement. The joint gap is filled with a compressible filler board and sealed at the back to prevent fines from getting through the joint. Based on the results from the flood

modelling, rip rap scour protection is required. This will take the form of a downturn provided at the front of the apron slab. To satisfy environmental requirements, the rip rap has been extended to create a shallow “pool” both upstream and downstream of the apron slab.

The concrete and reinforcement properties for the Anzac Creek Culvert are outlined in Table 7.

Table 7 Concrete and Reinforcement Properties for the Anzac Creek Culvert

Design Parameter	Value
Concrete Properties	
Wing Walls	40 MPa
Base slab and Apron slab	40 MPa
Mass Concrete	20 MPa
Reinforcement Properties	
Deformed Bars – D500N Grade	500 MPa

7.1.4.1 Drainage

The deck has a 0.5% cross fall in the transverse direction and a selected fill material laid on top of the waterproofing membrane over the crown unit will facilitate a 0.5% long fall. The runoff will be collected at the downstream end of the culvert where there is a drainage trench beneath the ballast. At the lower end of the drainage trench there is a 200 mm thick concrete upstand which holds a 250 mm diameter pipe. This allows the runoff collection to be piped along and behind the wing wall to discharge onto the drainage system at the bottom of the embankment.

7.1.5 Signal Bungalow and Location Cases

Two pieces of essential rail utility infrastructure, specifically a signal bungalow and location cases, will be installed adjacent to the rail corridor. The signal bungalow is located near the IMEX Terminal Facility, while the location cases will be in the SME land.

7.1.5.1 Drainage

The signal bungalow comprises a hut measuring 4000 mm by 3100 mm that sits on a concrete slab footing of 5,160 mm by 6,000 mm. The bungalow is designed to comply with the flood levels. The location case is composed of a 2 mm aluminium grade 5052 cabinet that measures 1995 mm by 591 mm by 2065 mm.

No additional impacts to the local drainage regime are expected from these structure, beyond those previously assessed.

7.2 Landscaping

Hydroseeding is nominated for all batters within the Rail Link to maintain a low fuel. The seed mix nominated will be based upon what is available and where the seeding is to take place on the Project site. The seed mix will be confirmed in consultation with either the Landscape Architect and / or the Project Ecologist but will be based upon the suggested hydroseeding mix outlined in Appendix A.

7.3 Fencing, Gate and Signage

Fencing, Gate and Signage details can be found in the Approved for Construction Design Report – Fencing, Gate and Signage Package. Indicative fencing, gates, barriers and signage drawings have been provided in Appendix C.

7.3.1 Fencing

A boundary fence will provide security to the 3.8 km rail corridor to ensure access is restricted to authorised personnel only. The fence will be tied into the existing fencing of the SSFL Corridor and runs along both sides of the northern and southern connections from the rail corridor to the SSFL. This fencing continues to the proposed Georges River Bridge where it has been tied into the bridge abutments. East of the Georges River Bridge, the fencing will provide a boundary fence between the eastern abutments of the Georges River Bridge and the Moorebank Avenue Overbridge.

The fence will be chain link fabric 1800 mm in height with a maximum ground clearance of 80 mm. All pipe posts, bracing rails and stays shall be medium quality to AS 1163 Grade C250L0.

The extent of the rail corridor includes all rail assets, combined services route, cut and fill batters, retaining structures, cess and batter drains, access tracks, and all other components, to allow all operational and maintenance activities to be undertaken within the fence lines.

7.3.2 Gates

There are 15 gates allowing access into the rail corridor, including 4 m wide swing gates with signage along the shared access roads which allows for maintenance and emergency vehicle access.

Gates are provided where required to allow access to / from existing maintenance access roads, to drainage infrastructure, access to Georges River Bridge, Moorebank Avenue Overbridge, at Service Crossings, at the GWS detention basin, the GWS triangle of land, Anzac Creek Culvert and RailCorp Maintenance Access Road linking Moorebank Avenue to the East Hills Rail Corridor. Gates will be 4m wide to allow for maintenance and emergency vehicle access. All gate hinges will be constructed to prevent tampering, removal or damage in order to ensure that gates are of equal strength in construction to the remainder of the fencing. Where required, drop bolts, locking chains and padlocks shall be in accordance with the standard drawings showing the details.

7.3.3 Signage

Signage will meet the specifications of ARTC or Sydney Trains, as required. Signage includes:

- Rail Corridor Entry Signs (Pedestrian and Vehicles) – W560
- Network Control Boundary Signs
- Trackside Signage
- Limited Clearance warning signs
- Danger Sign – No Safe Place.

7.4 Erosion and Sediment Control

The overarching principals of erosion and sediment control are detailed within Section 6.4.

7.5 Noise

As per the EIS, no noise mitigation measures that require landscaping will be constructed on for the Project, however, provision for noise walls has been incorporated into the design along the entirety of the Rail Link in accordance with CoC C27.

7.6 Lighting

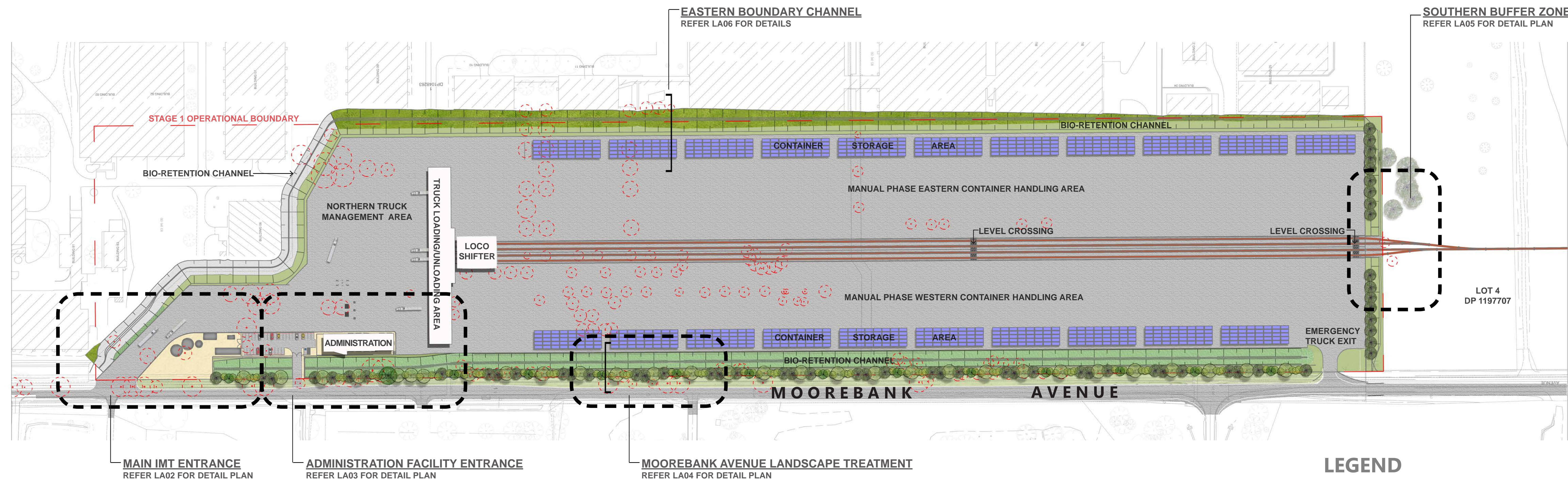
There are no lighting provisions for the rail corridor.

APPENDIX A

Landscape Plans

MOOREBANK PRECINCT EAST - STAGE 1

LANDSCAPE PLAN



DRAWING LIST

LA01	MPE Stage 1 Landscape Masterplan
LA02	Main Entrance Landscape Plan
LA03	Administration Facility Landscape Plan
LA04	Moorebank Avenue Landscape Plan
LA05	Southern Buffer Landscape Plan
LA06	Eastern Boundary Channel

LANDSCAPE DESIGN STATEMENT

The Moorebank Precinct East Stage 1 Proposal involves the development of an intermodal terminal facility including warehouses and distribution facilities, stormwater, landscaping, servicing and associated works east of Moorebank Avenue. The Proposal also includes a Rail link connection within an identified rail corridor connecting the southern area of the Moorebank Precinct development to the Southern Sydney Freight Line.

The Landscape focus of this stage is centres along the Moorebank Avenue frontage which forms a major connection to the Moorebank Precinct Proposal. This frontage incorporates a vegetated bio-retention channel which follows the length of the Moorebank Avenue frontage. Large native trees and various understorey planting endemic to the local area have been selected within this area to create a buffer and serve in minimising visual impacts from the surrounding urban landscape.

Given that the site is bounded to the south with existing vegetation communities, the landscape design serves to integrate the development with the surrounding environment by using tree, shrub and groundcover species that are local to the area to create habitat opportunities and links to the surrounding context. The proposed tree planting has been designed with the intent of creating a uniform canopy cover throughout the area.

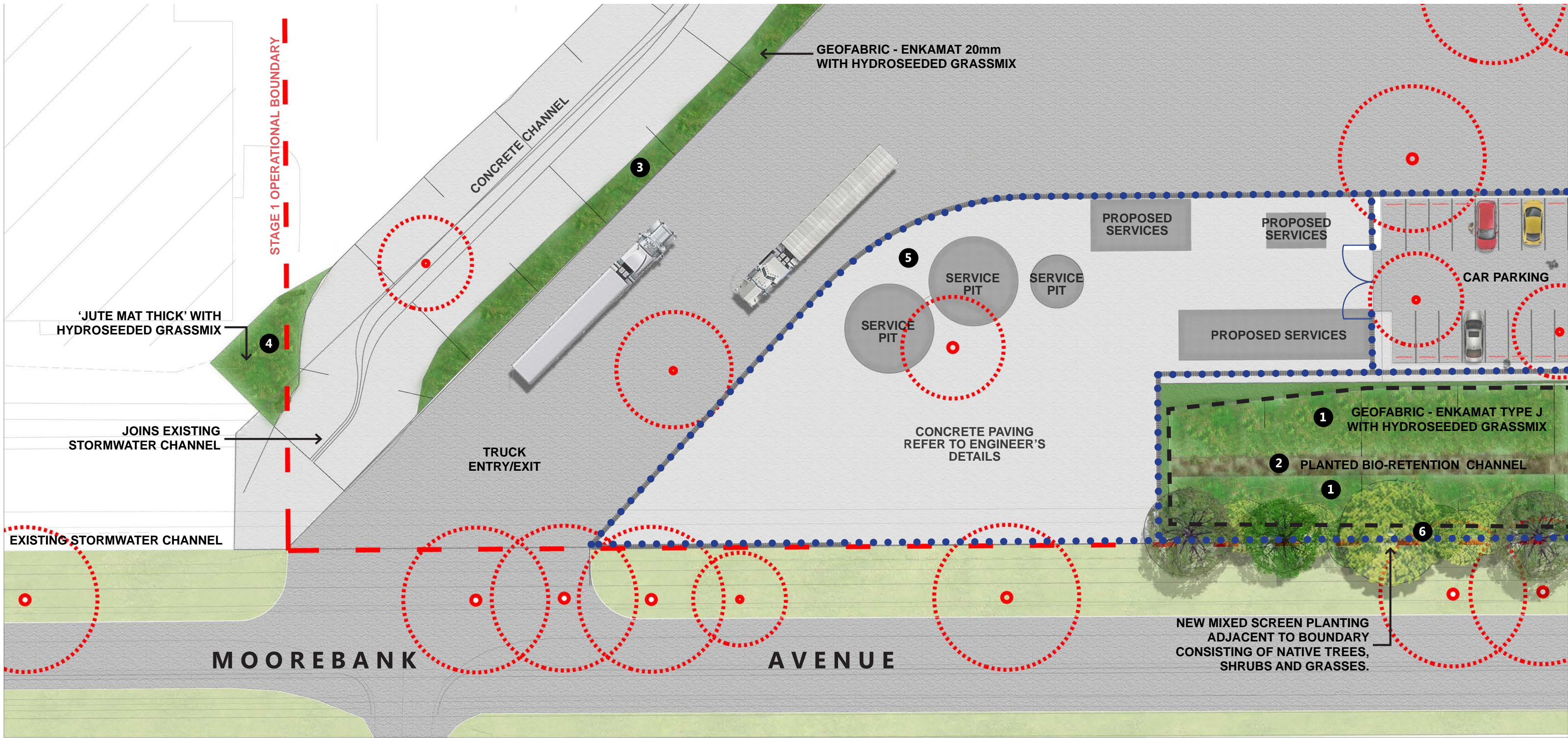
Proposed plant species have been selected for their site-suitability with many species selected from Liverpool City Council's recommended plant list.

LEGEND

- STAGE 1 OPERATIONAL BOUNDARY
- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED
- PROPOSED TREES
- 'JUTE MAT THICK' WITH HYDROSEEDED GRASS MIX
- HYDROSEEDED GRASS MIX
- GEOFABRIC (ENKAMAT 20mm WITH HYDROSEEDED GRASS MIX)
- GEOFABRIC (ENKAMAT TYPE J WITH HYDROSEEDED GRASS MIX)
- BIO-RETENTION PLANTING MIX
- CONCRETE CHANNEL
- CONTAINER STORAGE
- RAIL LINK

NOTE: EXISTING TREES WILL BE RETAINED WHERE REASONABLE, FEASIBLE AND PRACTICAL TO DO SO

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					<div>A</div> <div>30.3.15</div> <div>FOR DEVELOPMENT APPLICATION</div> <div>KM</div> <div>RL</div>							
					<div>B</div> <div>21.4.17</div> <div>UDLP REVIEW</div> <div>BH</div> <div>RL</div>							
					<div>C</div> <div>16.5.17</div> <div>UDLP REVIEW</div> <div>CL</div> <div>RL</div>							



LANDSCAPE PLAN

KEY PLAN



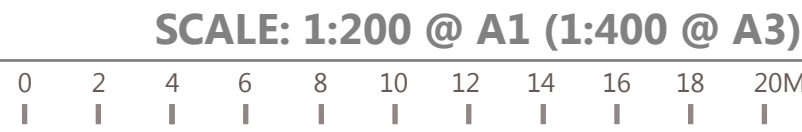
LEGEND

- STAGE 1 OPERATIONAL BOUNDARY
- PROPOSED SECURITY FENCE
- EXTENT OF BIO-RETENTION CHANNEL
- EXISTING TREES TO BE REMOVED
- PROPOSED TREES
- BIO-RETENTION PLANTING MIX
- HYDROSEEDED GRASS MIX (REFER TO PLANTING KEY)
- CONCRETE CHANNEL

NOTE: EXISTING TREES WILL BE RETAINED WHERE REASONABLE, FEASIBLE AND PRACTICAL TO DO SO

PLANTING KEY

- 1 GEOFABRIC - ENKAMAT TYPE J WITH HYDROSEEDED GRASSMIX
- 2 BIO-RETENTION PLANTING MIX
- 3 GEOFABRIC - ENKAMAT 20mm WITH HYDROSEEDED GRASSMIX
- 4 'JUTE MAT THICK' WITH HYDROSEEDED GRASSMIX
- 5 LOW NATIVE GRASSES TO ENSURE SITE LINES ARE MAINTAINED
- 6 NATIVE SCREEN PLANTING



HYDROSEEDED GRASS MIX 1 3 4

BOTANICAL NAME	COMMON NAME	POT SIZE	MIX	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
<i>Aristida ramosa</i>	Wire Grass	Seed	10%	1.2m	✓
<i>Austroranthonia fulva</i>	Wallaby Grass	Seed	10%	0.5m	✓
<i>Austrostipida pubescens</i>	Speargrass	Seed	15%	1.2m	✓
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Seed	5%	0.8m	✓
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Seed	10%	0.2m	✓
<i>Eragrostis brownii</i>	Brown's Lovegrass	Seed	5%	0.3m	✓
<i>Goodenia hederacea</i>	Ivy Goodenia	Seed	5%	0.5m	✓
<i>Lomandra cylindrica</i>	Needle Mat-Rush	Seed	10%	0.3m	✓
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Seed	10%	1.5m	✓
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Seed	10%	0.7m	✓
<i>Themeda australis</i>	Kangaroo Grass	Seed	10%	0.5m	✓

NATIVE GRASSES PLANT MIX 5

BOTANICAL NAME	COMMON NAME	POT SIZE	MIX	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
<i>Austroranthonia fulva</i>	Wallaby Grass	Viro Tube	4/m ²	0.5m	✓
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Viro Tube	4/m ²	1.5m	✓
<i>Imperata cylindrica</i>	Blady Grass	Viro Tube	4/m ²	0.5m	✓
<i>Lomandra longifolia</i> 'katrinus'	Needle Mat-Rush	Viro Tube	4/m ²	1.2m	✓
<i>Lomandra longifolia</i> 'tanika'	Spiny-headed Mat-rush	Viro Tube	4/m ²	0.6m	✓
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Viro Tube	4/m ²	0.7m	✓
<i>Themeda australis</i>	Kangaroo Grass	Viro Tube	4/m ²	0.5m	✓

BIO-RETENTION PLANT MIX 2

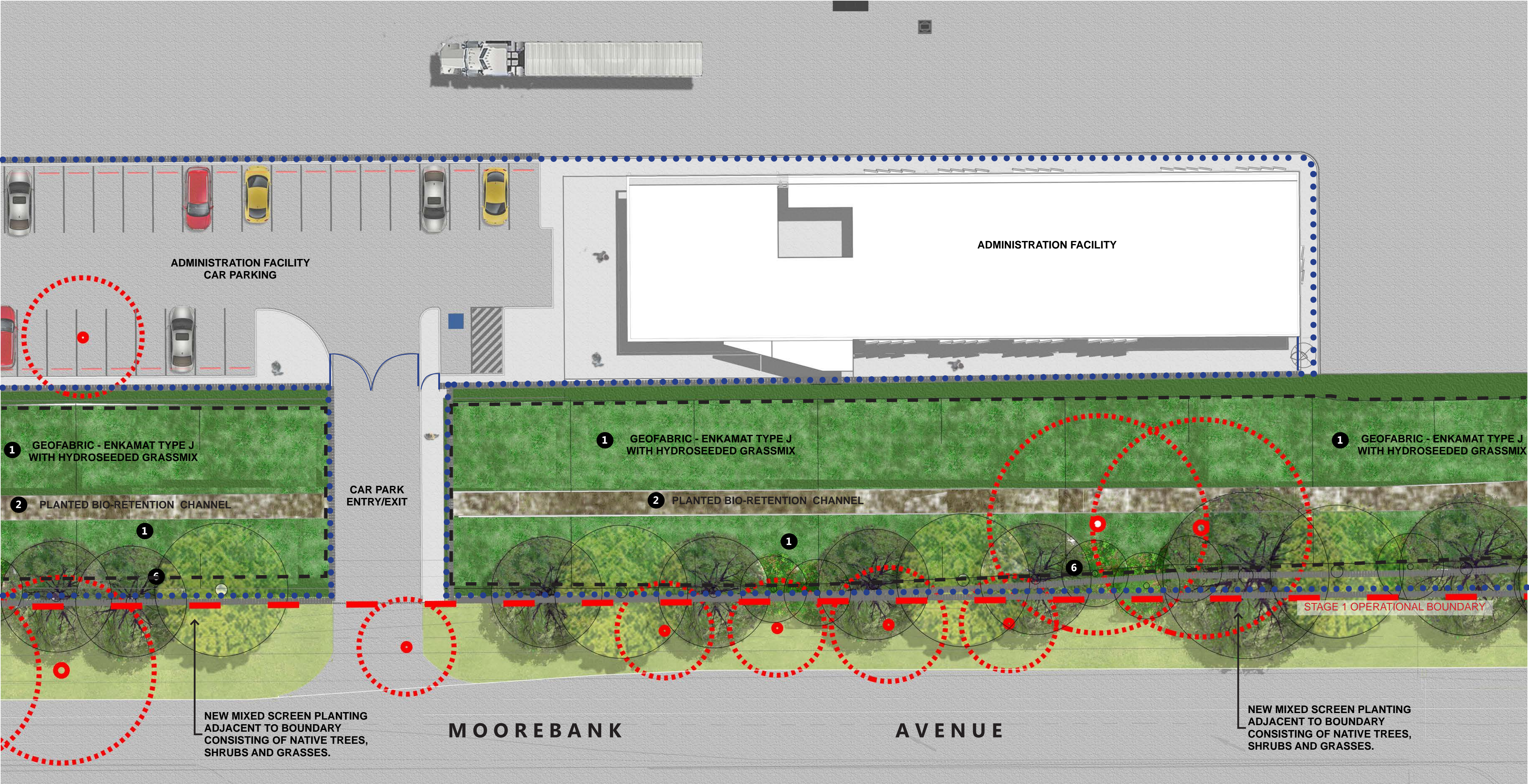
BOTANICAL NAME	COMMON NAME	POT SIZE	DENSITY	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
<i>Baumea articulata</i>	Jointed Twig-rush	Viro Tube	4/m ²	1.5m	✓
<i>Bolboschoenus fluviatilis</i>	Club-rush	Viro Tube	4/m ²	1.5m	✓
<i>Carex appressa</i>	Tall Sedge	Viro Tube	4/m ²	1m	✓
<i>Carex breviculmis</i>		Viro Tube	4/m ²	0.4m	✓
<i>Dampiera stricta</i>	Blue Dampiera	Viro Tube	4/m ²	0.3m	✓
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Viro Tube	4/m ²	0.2m	✓
<i>Gahnia clarkii</i>	Tall Saw-sedge	Viro Tube	4/m ²	1.8m	✓
<i>Goodenia hederacea</i>	Ivy Goodenia	Viro Tube	4/m ²	0.5m	✓
<i>Hemarthria uncinata</i>	Mat Grass	Viro Tube	4/m ²	1m	✓
<i>Isolepis inundata</i>	Water Club-rush	Viro Tube	4/m ²	0.5m	✓
<i>Juncus continuus</i>	Rush	Viro Tube	4/m ²	1m	✓
<i>Juncus prismatocarpus</i>	Branching Rush	Viro Tube	4/m ²	0.6m	✓
<i>Juncus usitatus</i>	Common Rush	Viro Tube	4/m ²	0.8m	✓
<i>Laxmannia gracilis</i>	Slender Wire Lily	Viro Tube	4/m ²	0.3m	✓
<i>Leptocarpus tenax</i>		Viro Tube	4/m ²	0.7m	✓
<i>Lepyrodia scariosa</i>		Viro Tube	4/m ²	0.7m	✓
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Viro Tube	4/m ²	0.7m	✓
<i>Philydrum lanuginosum</i>	Woolly Waterlily, Frogmouth	Viro Tube	4/m ²	0.6m	✓
<i>Schoenus apogon</i>	Fluke Bog-rush, Common Bog-rush	Viro Tube	4/m ²	0.3m	✓

WESTERN BUFFER PLANT SCHEDULE 6

BOTANICAL NAME	COMMON NAME	POT SIZE	DENSITY	EXPECTED MATURE HEIGHT	NATIVE	MIX
Trees						
<i>Angophora floribunda</i>	Rough-barked Apple	5L	As Shown	Up to 30m	✓	N/A
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	5L	As Shown	Up to 30m	✓	N/A
<i>Eucalyptus fibrosa</i>	Red Ironbark	5L	As Shown	Up to 35m	✓	N/A
<i>Eucalyptus longifolia</i>	Woollybutt	5L	As Shown	Up to 35m	✓	N/A
<i>Eucalyptus moluccana</i>	Grey Box	5L	As Shown	Up to 25m	✓	N/A
<i>Eucalyptus sclerophylla</i>	Hard-leaved Scribbly Gum	5L	As Shown	Up to 15m	✓	N/A
<i>Melaleuca decora</i>	White Cloud Tree	5L	As Shown	Up to 10m	✓	N/A
<i>Zelkova serrata</i> 'Schmidlow' 'Wireless'	Zelkova	100L	As Shown	Up to 9m	✓	N/A
Shrubs						
<i>Acacia brownii</i>	Golden Prickly Moses	150mm	1	Up to 1m	✓	5%
<i>Acacia falcata</i>	Sickle Wattle	150mm	0.5	Up to 3m	✓	5%
<i>Acacia parramattensis</i>	Parramatta Green Wattle	150mm	0.5	Up to 6m	✓	5%
<i>Banksia spinulosa</i>	Hairpin Banksia	150mm	0.5	Up to 1.5m	✓	5%
<i>Banksia oblongifolia</i>	Fern-Leafed Banksia	150mm	1	Up to 1m	✓	5%
<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush	150mm	0.5	Up to 2m	✓	10%
<i>Dillwynia parvifolia</i>	Coral Heath	150mm	2	Up to 0.5m	✓	5%
<i>Egicoris micophylla</i>		150mm	1	Up to 1m	✓	10%
<i>Hakea sericea</i>	Needlebrush, Silky Hakea	150mm	0.5	Up to 1.5m	✓	10%
<i>Hakea teretifolia</i>	Needlebrush, Dagger Hakea	150mm	0.5	Up to 1.5m	✓	10%
<i>Kunzea ambigua</i>	Tick-bush	150mm	0.5	Up to 3m	✓	10%
<i>Melaleuca nodosa</i>	Ball Honey-myrtle	150mm	0.5	Up to 3m	✓	10%
<i>Philotheca salsolifolia</i>	Philotheca	150mm	1	Up to 1m	✓	5%
<i>Pultenaea villosa</i>	Hairy Bush-pea	150mm	0.5	Up to 2m	✓	5%
Groundcovers						
<i>Austroranthonia fulva</i>	Wallaby Grass	Viro Tube	4/m ²	0.5m	✓	10%
<i>Billardiera scandens</i>	Hairy Apple Berry	Viro Tube	2/m ²	1.5m	✓	5%
<i>Dampiera stricta</i>	Blue Dampiera	Viro Tube	2/m ²	0.3m	✓	5%
<i>Dianella caerulea</i>	Blue Flax-lily	Viro Tube	4/m ²	0.8m	✓	10%
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Viro Tube	4/m ²	0.8m	✓	10%
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Viro Tube	4/m ²	0.2m	✓	10%
<i>Hardenbergia violacea</i>	False Sarsaparilla	Viro Tube	2/m ²	1m	✓	10%
<i>Imperata cylindrica</i>	Blady Grass	Viro Tube	4/m ²	0.3m	✓	10%
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Viro Tube	2/m ²	1.5m	✓	10%
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Viro Tube	4/m ²	0.7m	✓	10%
<i>Themeda australis</i>	Kangaroo Grass	Viro Tube	4/m ²	0.5m	✓	10%

PLANT IMAGES





LANDSCAPE PLAN

KEY PLAN



LEGEND

- STAGE 1 OPERATIONAL BOUNDARY
- PROPOSED SECURITY FENCE
- EXTENT OF BIO-RETENTION CHANNEL
- (Red dashed circle) EXISTING TREES TO BE REMOVED
- (Green circle) PROPOSED TREES
- (Green rectangle) BIO-RETENTION PLANTING MIX
- (Green rectangle) HYDROSEEDED GRASS MIX (REFER TO PLANTING KEY)

NOTE: EXISTING TREES WILL BE RETAINED WHERE REASONABLE, FEASIBLE AND PRACTICAL TO DO SO

PLANTING KEY

- 1 GEOFABRIC - ENKAMAT TYPE J WITH HYDROSEEDED GRASSMIX
- 2 BIO-RETENTION PLANTING MIX
- 6 NATIVE SCREEN PLANTING

PLANT IMAGES



Angophora floribunda

Eucalyptus sclerophylla

HYDROSEEDED GRASS MIX 1

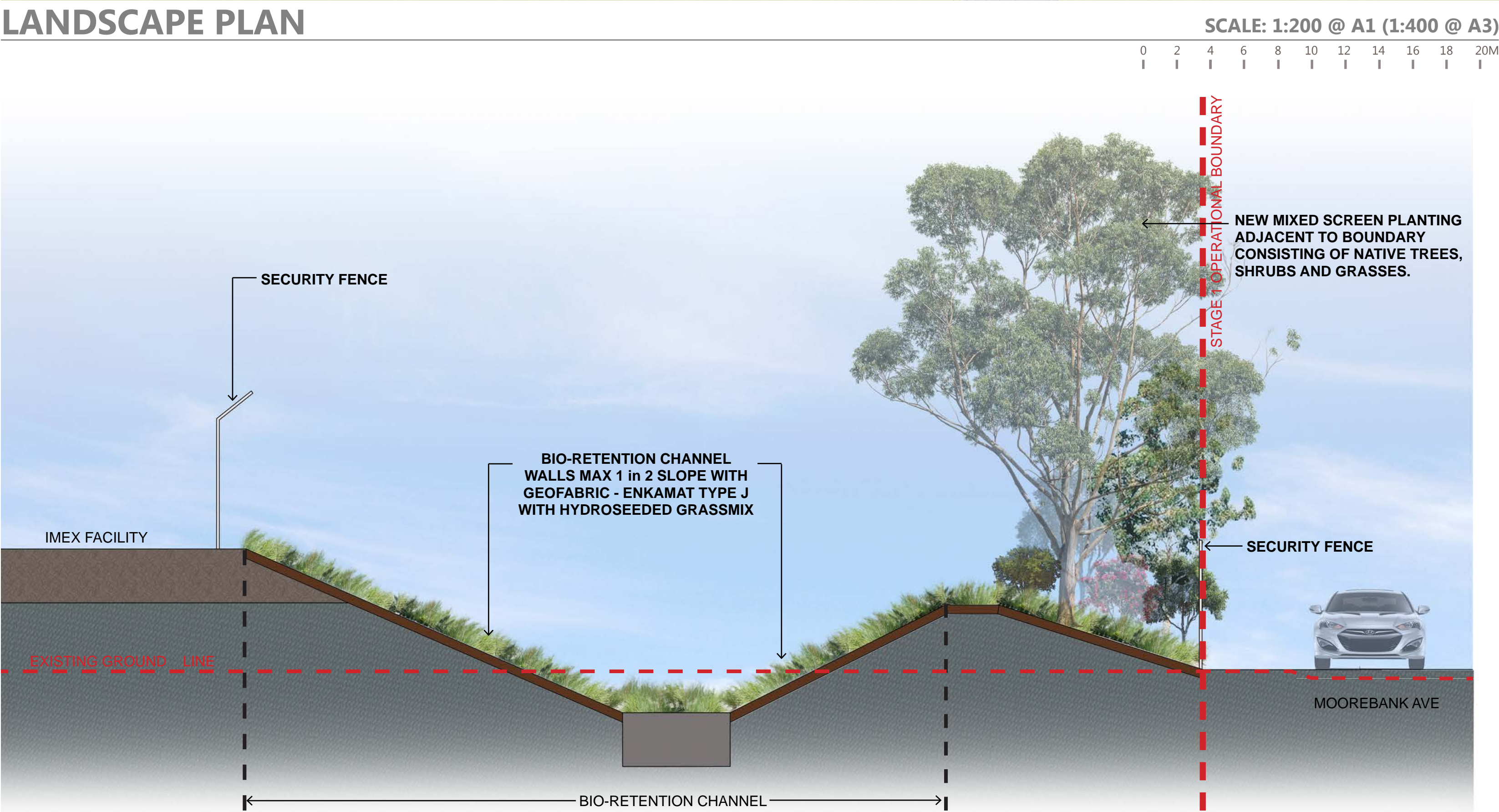
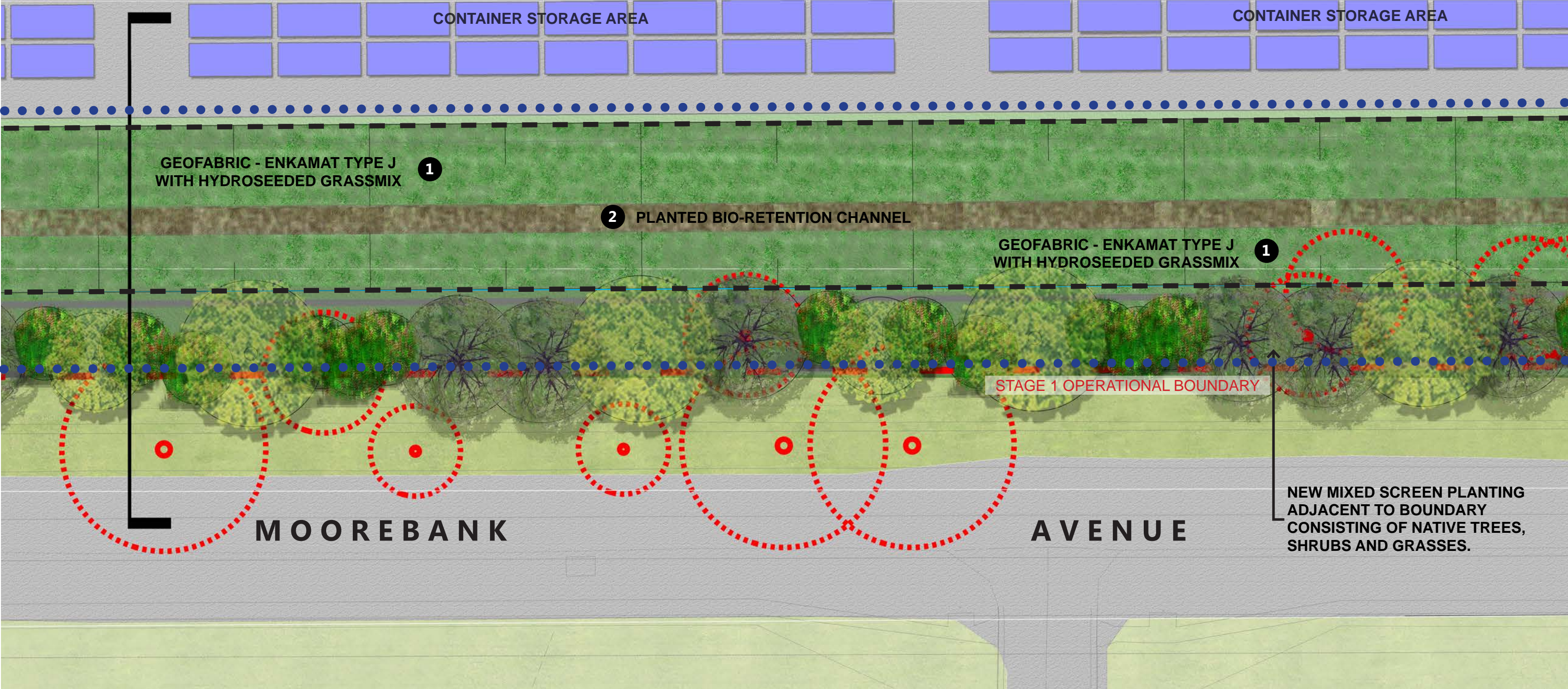
BOTANICAL NAME	COMMON NAME	POT SIZE	MIX	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
<i>Aristida ramosa</i>	Wire Grass	Seed	10%	1.2m	✓
<i>Austroranthonia fulva</i>	Wallaby Grass	Seed	10%	0.5m	✓
<i>Austrostipida pubescens</i>	Speargrass	Seed	15%	1.2m	✓
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Seed	5%	0.8m	✓
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Seed	10%	0.2m	✓
<i>Eragrostis brownii</i>	Brown's Lovegrass	Seed	5%	0.3m	✓
<i>Goodenia hederacea</i>	Ivy Goodenia	Seed	5%	0.5m	✓
<i>Lomandra cylindrica</i>	Needle Mat-Rush	Seed	10%	0.3m	✓
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Seed	10%	1.5m	✓
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Seed	10%	0.7m	✓
<i>Themeda australis</i>	Kangaroo Grass	Seed	10%	0.5m	✓

BIO-RETENTION PLANT MIX 2

BOTANICAL NAME	COMMON NAME	POT SIZE	DENSITY	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
<i>Baumea articulata</i>	Jointed Twig-rush	Viro Tube	4/m ²	1.5m	✓
<i>Balboschoenus fluviatilis</i>	Club-rush	Viro Tube	4/m ²	1.5m	✓
<i>Carex appressa</i>	Tall Sedge	Viro Tube	4/m ²	1m	✓
<i>Carex breviculmis</i>		Viro Tube	4/m ²	0.4m	✓
<i>Dampiera stricta</i>	Blue Dampiera	Viro Tube	4/m ²	0.3m	✓
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Viro Tube	4/m ²	0.2m	✓
<i>Gahnia clarkei</i>	Tall Saw-sedge	Viro Tube	4/m ²	1.8m	✓
<i>Goodenia hederacea</i>	Ivy Goodenia	Viro Tube	4/m ²	0.5m	✓
<i>Hemarthria uncinata</i>	Mat Grass	Viro Tube	4/m ²	1m	✓
<i>Isolepis inundata</i>	Water Club-rush	Viro Tube	4/m ²	0.5m	✓
<i>Juncus continous</i>	Rush	Viro Tube	4/m ²	1m	✓
<i>Juncus prismatocarpus</i>	Branching Rush	Viro Tube	4/m ²	0.6m	✓
<i>Juncus usitatus</i>	Common Rush	Viro Tube	4/m ²	0.8m	✓
<i>Laxmannia gracilis</i>	Slender Wire Lily	Viro Tube	4/m ²	0.3m	✓
<i>Leptocarpus tenax</i>		Viro Tube	4/m ²	0.7m	✓
<i>Lepydria scariosa</i>		Viro Tube	4/m ²	0.7m	✓
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Viro Tube	4/m ²	0.7m	✓
<i>Philydrum lanuginosum</i>	Woolly Waterlily, Frogmouth	Viro Tube	4/m ²	0.6m	✓
<i>Schoenus apogon</i>	Fluke Bog-rush, Common Bog-rush	Viro Tube	4/m ²	0.3m	✓

WESTERN BUFFER PLANT SCHEDULE 6

BOTANICAL NAME	COMMON NAME	POT SIZE	DENSITY	EXPECTED MATURE HEIGHT	NATIVE	MIX
Trees						
<i>Angophora floribunda</i>	Rough-barked Apple	5L	As Shown	Up to 30m	✓	N/A
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	5L	As Shown	Up to 30m	✓	N/A
<i>Eucalyptus fibrosa</i>	Red Ironbark	5L	As Shown	Up to 35m	✓	N/A
<i>Eucalyptus longifolia</i>	Woollybutt	5L	As Shown	Up to 35m	✓	N/A
<i>Eucalyptus moluccana</i>	Grey Box	5L	As Shown	Up to 25m	✓	N/A
<i>Eucalyptus sclerophylla</i>	Hard-leaved Scribbly Gum	5L	As Shown	Up to 15m	✓	N/A
<i>Melaleuca decora</i>	White Cloud Tree	5L	As Shown	Up to 10m	✓	N/A
<i>Zelkova serrata</i>	'Schmidlow' Wireless	100L	As Shown	Up to 9m	✓	N/A
Shrubs						
<i>Acacia brownii</i>	Golden Prickly Moses	150mm	1	Up to 1m	✓	5%
<i>Acacia falcata</i>	Sickle Wattle	150mm	0.5	Up to 3m	✓	5%
<i>Acacia paramattensis</i>	Parramatta Green Wattle	150mm	0.5	Up to 6m	✓	5%
<i>Banksia spinulosa</i>	Hairpin Banksia	150mm	0.5	Up to 1.5m	✓	5%
<i>Banksia oblongifolia</i>	Fern-Leafed Banksia	150mm	1	Up to 1m	✓	5%
<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush	150mm	0.5	Up to 2m	✓	10%
<i>Dillwynia parvifolia</i>		150mm	2	Up to 0.5m	✓	5%
<i>Epacris micophylla</i>	Coral Heath	150mm	1	Up to 1m	✓	10%
<i>Hakea sericea</i>	Needlebush, Silky Hakea	150mm	0.5	Up to 1.5m	✓	10%
<i>Hakea teretifolia</i>	Needlebush, Dagger Hakea	150mm	0.5	Up to 1.5m	✓	10%
<i>Kunzea ambigua</i>	Tick-bush	150mm	0.5	Up to 3m	✓	10%
<i>Melaleuca nodosa</i>	Ball Honey-myrtle	150mm	0.5	Up to 3m	✓	10%
<i>Philotheca salsolifolia</i>	Philotheca	150mm	1	Up to 1m	✓	5%
<i>Pultenaea villosa</i>	Hairy Bush-pea	150mm	0.5	Up to 2m	✓	5%
Groundcovers						
<i>Austroranthonia fulva</i>	Wallaby Grass	Viro Tube	4/m ²	0.5m	✓	10%
<i>Billardiera scandens</i>	Hairy Apple Berry	Viro Tube	2/m ²	1.5m	✓	5%
<i>Dampiera stricta</i>	Blue Dampiera	Viro Tube	2/m ²	0.3m	✓	5%
<i>Dianella caerulea</i>	Blue Flax-lily	Viro Tube	4/m ²	0.8m	✓	10%
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Viro Tube	4/m ²	0.8m	✓	10%
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Viro Tube	4/m ²	0.2m	✓	10%
<i>Hardenbergia violacea</i>	False Sarsaparilla	Viro Tube	2/m ²	1m	✓	10%
<i>Imperata cylindrica</i>	Blady Grass	Viro Tube	4/m ²	0.3m	✓	10%
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Viro Tube	2/m ²	1.5m	✓	10%
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Viro Tube	4/m ²	0.7m	✓	10%
<i>Themeda australis</i>	Kangaroo Grass	Viro Tube	4/m ²	0.5m	✓	10%



HYDROSEEDED GRASS MIX 1

BOTANICAL NAME	COMMON NAME	POT SIZE	MIX	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
<i>Aristida ramosa</i>	Wire Grass	Seed	10%	1.2m	✓
<i>Austrodanthonia fulva</i>	Wallaby Grass	Seed	10%	0.5m	✓
<i>Austrostipida pubescens</i>	Speargrass	Seed	15%	1.2m	✓
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Seed	5%	0.8m	✓
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Seed	10%	0.2m	✓
<i>Eragrostis brownii</i>	Brown's Lovegrass	Seed	5%	0.3m	✓
<i>Goodenia hederacea</i>	Ivy Goodenia	Seed	5%	0.5m	✓
<i>Lomandra cylindrica</i>	Needle Mat-Rush	Seed	10%	0.3m	✓
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Seed	10%	1.5m	✓
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Seed	10%	0.7m	✓
<i>Themeda australis</i>	Kangaroo Grass	Seed	10%	0.5m	✓

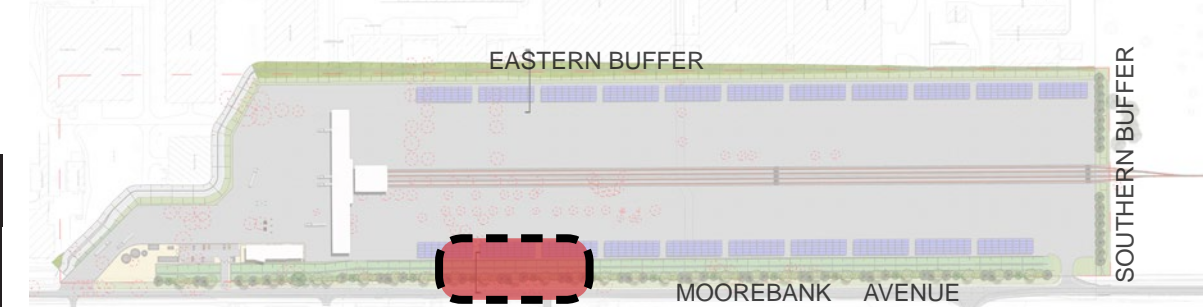
BIO-RETENTION PLANT MIX 2

BOTANICAL NAME	COMMON NAME	POT SIZE	DENSITY	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
<i>Baumea articulata</i>	Jointed Twig-rush	Viro Tube	4/m ²	1.5m	✓
<i>Bolboschoenus fluviatilis</i>	Club-rush	Viro Tube	4/m ²	1.5m	✓
<i>Carex appressa</i>	Tall Sedge	Viro Tube	4/m ²	1m	✓
<i>Carex breviculmis</i>		Viro Tube	4/m ²	0.4m	✓
<i>Dampiera stricta</i>	Blue Dampiera	Viro Tube	4/m ²	0.3m	✓
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Viro Tube	4/m ²	0.2m	✓
<i>Gahnia clarkii</i>	Tall Saw-sedge	Viro Tube	4/m ²	1.8m	✓
<i>Goodenia hederacea</i>	Ivy Goodenia	Viro Tube	4/m ²	0.5m	✓
<i>Hemarthria uncinata</i>	Mat Grass	Viro Tube	4/m ²	1m	✓
<i>Isolepis inudata</i>	Water Club-rush	Viro Tube	4/m ²	0.5m	✓
<i>Juncus continuus</i>	Rush	Viro Tube	4/m ²	1m	✓
<i>Juncus prismatocarpus</i>	Branching Rush	Viro Tube	4/m ²	0.6m	✓
<i>Juncus usitatus</i>	Common Rush	Viro Tube	4/m ²	0.8m	✓
<i>Laxmannia gracilis</i>	Slender Wire Lily	Viro Tube	4/m ²	0.3m	✓
<i>Leptocarpus tenax</i>		Viro Tube	4/m ²	0.7m	✓
<i>Lepyrodia scariosa</i>		Viro Tube	4/m ²	0.7m	✓
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Viro Tube	4/m ²	0.7m	✓
<i>Philydrum lanuginosum</i>	Woolly Waterlily, Frogmouth	Viro Tube	4/m ²	0.6m	✓
<i>Schoenus apogon</i>	Fluke Bog-rush, Common Bog-rush	Viro Tube	4/m ²	0.3m	✓

WESTERN BUFFER PLANT SCHEDULE 6

BOTANICAL NAME	COMMON NAME	POT SIZE	DENSITY	EXPECTED MATURE HEIGHT	NATIVE	MIX
Trees						
<i>Angophora floribunda</i>	Rough-barked Apple	5L	As Shown	Up to 30m	✓	N/A
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	5L	As Shown	Up to 30m	✓	N/A
<i>Eucalyptus fibrosa</i>	Red Ironbark	5L	As Shown	Up to 35m	✓	N/A
<i>Eucalyptus longifolia</i>	Woollybutt	5L	As Shown	Up to 35m	✓	N/A
<i>Eucalyptus moluccana</i>	Grey Box	5L	As Shown	Up to 25m	✓	N/A
<i>Eucalyptus sclerophylla</i>	Hard-leaved Scribbly Gum	5L	As Shown	Up to 15m	✓	N/A
<i>Melaleuca decora</i>	White Cloud Tree	5L	As Shown	Up to 10m	✓	N/A
<i>Zelkova serrata</i> 'Schmidlaw' 'Wireless'	Zelkova	100L	As Shown	Up to 9m	✓	N/A
Shrubs						
<i>Acacia brownii</i>	Golden Prickly Moses	150mm	1	Up to 1m	✓	5%
<i>Acacia falcata</i>	Sickle Wattle	150mm	0.5	Up to 3m	✓	5%
<i>Acacia parramattensis</i>	Parramatta Green Wattle	150mm	0.5	Up to 6m	✓	5%
<i>Banksia spinulosa</i>	Hairpin Banksia	150mm	0.5	Up to 1.5m	✓	5%
<i>Banksia oblongifolia</i>	Fern-Leafed Banksia	150mm	1	Up to 1m	✓	5%
<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush	150mm	0.5	Up to 2m	✓	10%
<i>Dillwynia parvifolia</i>		150mm	2	Up to 0.5m	✓	5%
<i>Eporcis micophylla</i>	Coral Heath	150mm	1	Up to 1m	✓	10%
<i>Hakea sericea</i>	Needlebrush, Silky Hakea	150mm	0.5	Up to 1.5m	✓	10%
<i>Hakea teretifolia</i>	Needlebrush, Dagger Hakea	150mm	0.5	Up to 1.5m	✓	10%
<i>Kunzea ambigua</i>	Tick-bush	150mm	0.5	Up to 3m	✓	10%
<i>Melaleuca nodosa</i>	Ball Honey-myrtle	150mm	0.5	Up to 3m	✓	10%
<i>Philotheca salsolifolia</i>	Philotheca	150mm	1	Up to 1m	✓	5%
<i>Putenaea villosa</i>	Hairy Bush-pea	150mm	0.5	Up to 2m	✓	5%
Groundcovers						
<i>Austrodanthonia fulva</i>	Wallaby Grass	Viro Tube	4/m ²	0.5m	✓	10%
<i>Billardiera scandens</i>	Hairy Apple Berry	Viro Tube	2/m ²	1.5m	✓	5%
<i>Dampiera stricta</i>	Blue Dampiera	Viro Tube	2/m ²	0.3m	✓	5%
<i>Dianella caerulea</i>	Blue Flax-lily	Viro Tube	4/m ²	0.8m	✓	10%
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Viro Tube	4/m ²	0.8m	✓	10%
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Viro Tube	4/m ²	0.2m	✓	10%
<i>Hardenbergia violacea</i>	False Sarsaparilla	Viro Tube	2/m ²	1m	✓	10%
<i>Imperata cylindrica</i>	Blady Grass	Viro Tube	4/m ²	0.3m	✓	10%
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Viro Tube	2/m ²	1.5m	✓	10%
<i>Microlaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Viro Tube	4/m ²	0.7m	✓	10%
<i>Themeda australis</i>	Kangaroo Grass	Viro Tube	4/m ²	0.5m	✓	10%

KEY PLAN



LEGEND

--- STAGE 1 OPERATIONAL BOUNDARY

.... PROPOSED SECURITY FENCE

--- EXTENT OF BIO-RETENTION CHANNEL

EXISTING TREES TO BE REMOVED

PROPOSED TREES

BIO-RETENTION PLANTING MIX

HYDROSEEDED GRASS MIX (REFER TO PLANTING KEY)

CONTAINER STORAGE

NOTE: EXISTING TREES WILL BE RETAINED WHERE REASONABLE, FEASIBLE AND PRACTICAL TO DO SO

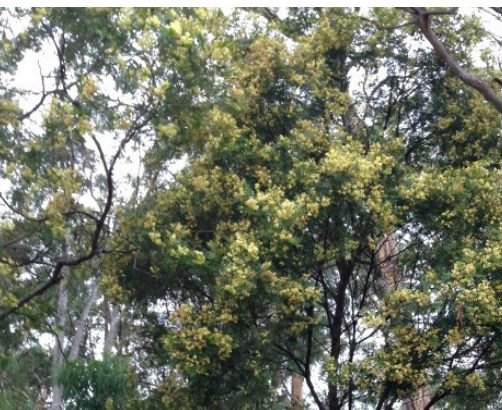
PLANTING KEY

1 GEOFABRIC - ENKAMAT TYPE J WITH HYDROSEEDED GRASSMIX

2 BIO-RETENTION PLANTING MIX

6 NATIVE SCREEN PLANTING

PLANT IMAGES



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DRAFT
FOR REVIEW

Engineer

ARCADIS

Architect

REIDCAMPBELL

Project Manager

TACTICAL
GROUP

Issue

Date

Description

FOR DEVELOPMENT APPLICATION

UDLP REVIEW

UDLP REVIEW

Drawn

Checked

KM

RL

BH

CL

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Project

MOOREBANK PRECINCT EAST - STAGE 1
IMEX TERMINAL, Moorebank, NSW

Project Address

Moorebank Avenue, Moorebank, NSW

Date

Revision

Job Number

Drawing Number

16.05.2017

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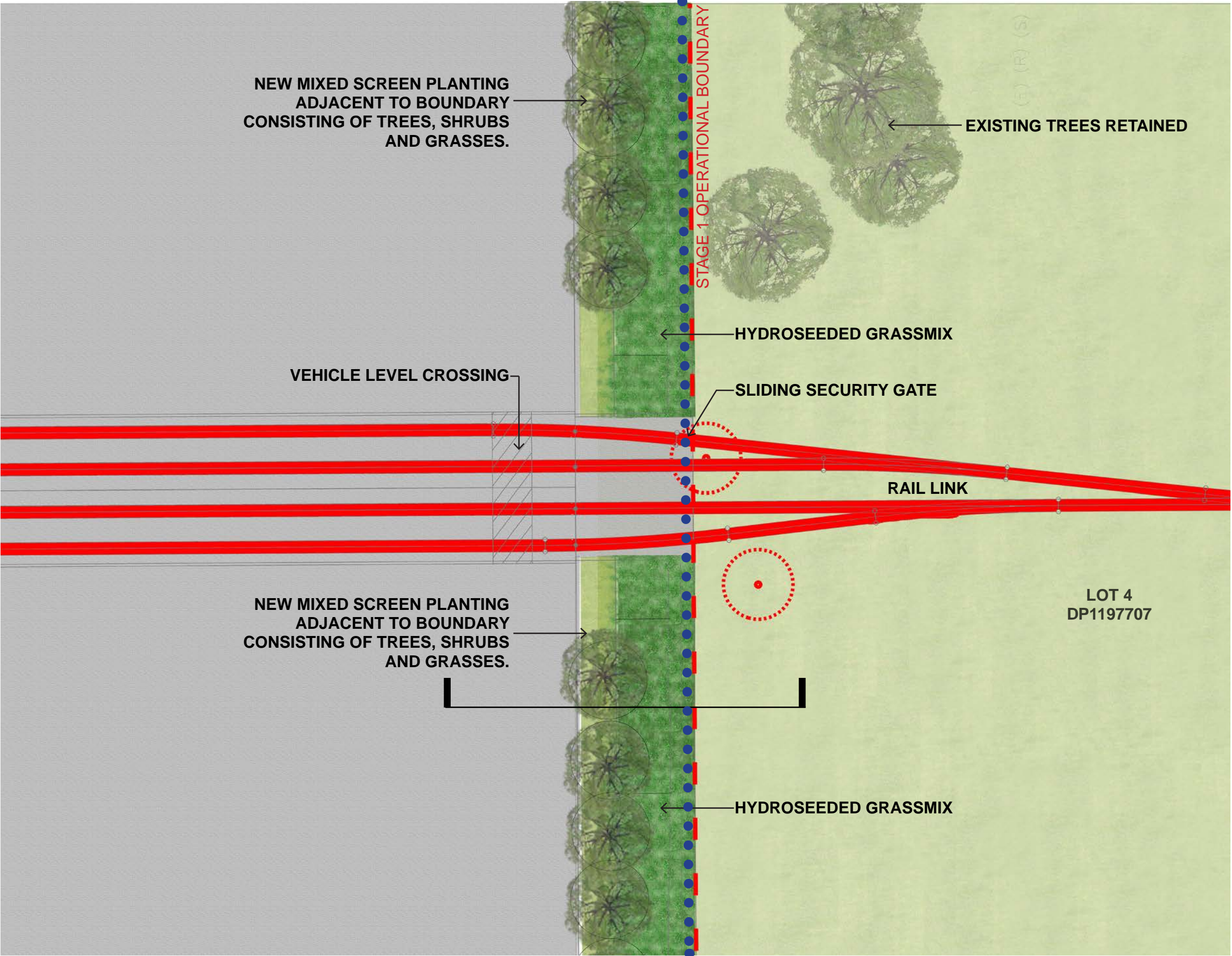
LA04

Scale

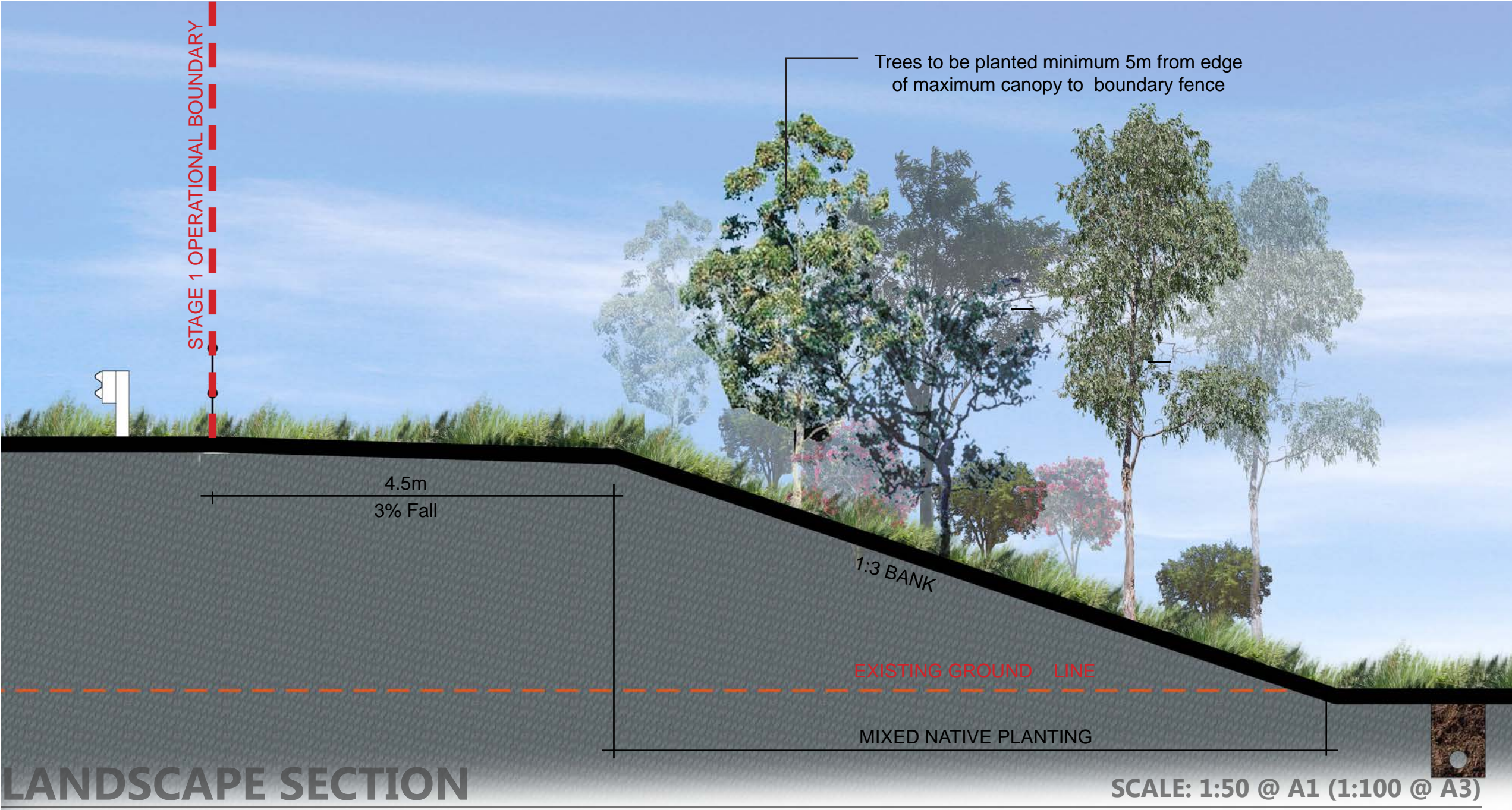
AS SHOWN

Drawing Name

MOOREBANK AVENUE LANDSCAPE PLAN



LANDSCAPE PLAN



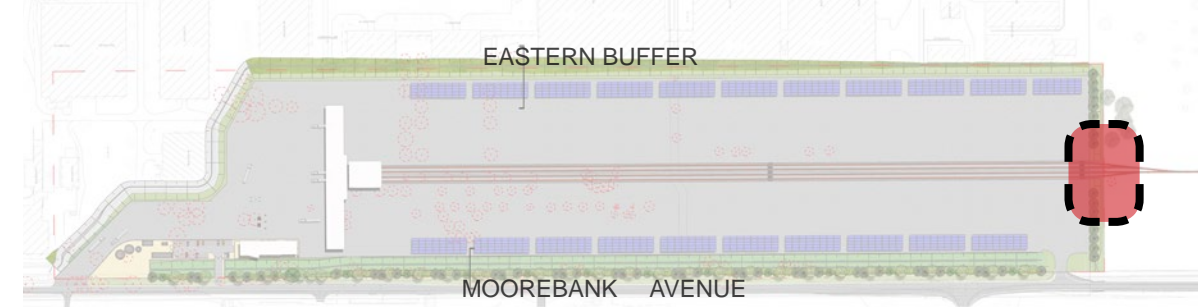
HYDROSEEDED GRASS MIX

BOTANICAL NAME	COMMON NAME	POT SIZE	MIX	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
<i>Aristida ramosa</i>	Wire Grass	Seed	10%	1.2m	✓
<i>Austroranthonia fulva</i>	Wallaby Grass	Seed	10%	0.5m	✓
<i>Auistrostipida pubescens</i>	Speargrass	Seed	15%	1.2m	✓
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Seed	5%	0.8m	✓
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Seed	10%	0.2m	✓
<i>Eragrostis brownii</i>	Brown's Lovegrass	Seed	5%	0.3m	✓
<i>Goodenia hederacea</i>	Ivy Goodenia	Seed	5%	0.5m	✓
<i>Lomandra cylindrica</i>	Needle Mat-Rush	Seed	10%	0.3m	✓
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Seed	10%	1.5m	✓
<i>Microalaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Seed	10%	0.7m	✓
<i>Themeda australis</i>	Kangaroo Grass	Seed	10%	0.5m	✓

SOUTHERN BUFFER PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	POT SIZE	DENSITY	EXPECTED MATURE HEIGHT	NATIVE	MIX
Trees						
<i>Angophora bakeri</i>	Narrow-leaved Apple	5L	As Shown	Up to 10m	✓	N/A
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	5L	As Shown	Up to 30m	✓	N/A
<i>Eucalyptus parramattensis</i>	Parramatta Red Gum	5L	As Shown	Up to 15m	✓	N/A
<i>Eucalyptus sclerophylla</i>	Hard-leaved Scribbly Gum	5L	As Shown	Up to 15m	✓	N/A
<i>Eucalyptus tereticornis</i>	Forest Red Gum	5L	As Shown	Up to 25m	✓	N/A
<i>Melaleuca decora</i>	White Cloud Tree	5L	As Shown	Up to 10m	✓	N/A
<i>Zelkova serrata</i>	'Schmidlow' Wireless	100L	As Shown	Up to 9m	✓	N/A
Shrubs						
<i>Acacia brownii</i>	Golden Prickly Moses	150mm	1	Up to 1m	✓	5%
<i>Acacia falcata</i>	Sickle Wattle	150mm	0.5	Up to 3m	✓	5%
<i>Acacia parramattensis</i>	Parramatta Green Wattle	150mm	0.5	Up to 4m	✓	5%
<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush	150mm	0.5	Up to 2m	✓	10%
<i>Dillwynia parvifolia</i>		150mm	2	Up to 0.5m	✓	5%
<i>Epacris micophylla</i>	Coral Heath	150mm	1	Up to 1m	✓	10%
<i>Hakea sericea</i>	Needlebush, Silky Hakea	150mm	0.5	Up to 1.5m	✓	10%
<i>Hakea teretifolia</i>	Needlebush, Dagger Hakea	150mm	0.5	Up to 1.5m	✓	10%
<i>Kunzea ambigua</i>	Tick-bush	150mm	0.5	Up to 3m	✓	10%
<i>Leptospermum polygalifolium</i>	Tantoon	150mm	0.5	Up to 2m	✓	5%
<i>Leptospermum trinervium</i>	Slender Tea-tree	150mm	0.5	Up to 3m	✓	5%
<i>Melaleuca nodosa</i>	Ball Honey-myrtle	150mm	0.5	Up to 3m	✓	5%
<i>Philotheca salsolifolia</i>	Philotheca	150mm	1	Up to 1m	✓	5%
<i>Pultenaea villosa</i>	Hairy Bush-pea	150mm	0.5	Up to 2m	✓	10%
Groundcovers						
<i>Austroranthonia fulva</i>	Wallaby Grass	Viro Tube	4/m ²	0.5m	✓	10%
<i>Billardiera scandens</i>	Hairy Apple Berry	Viro Tube	2/m ²	1.5m	✓	10%
<i>Dampiera stricta</i>	Blue Dampiera	Viro Tube	2/m ²	0.3m	✓	10%
<i>Dianella caerulea</i>	Blue Flax-lily	Viro Tube	4/m ²	0.8m	✓	10%
<i>Dianella revoluta</i>	Blue Flax-lily, Spreading Flax-lily	Viro Tube	4/m ²	0.8m	✓	10%
<i>Dichondra repens</i>	Kidney-weed, Mercury Bay Weed	Viro Tube	4/m ²	0.2m	✓	10%
<i>Imperata cylindrica</i>	Blady Grass	Viro Tube	4/m ²	0.3m	✓	10%
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Viro Tube	2/m ²	1.5m	✓	10%
<i>Microalaena stipoides</i>	Weeping Grass, Meadow Rice-grass	Viro Tube	4/m ²	0.7m	✓	10%
<i>Themeda australis</i>	Kangaroo Grass	Viro Tube	4/m ²	0.5m	✓	10%

KEY PLAN



LEGEND

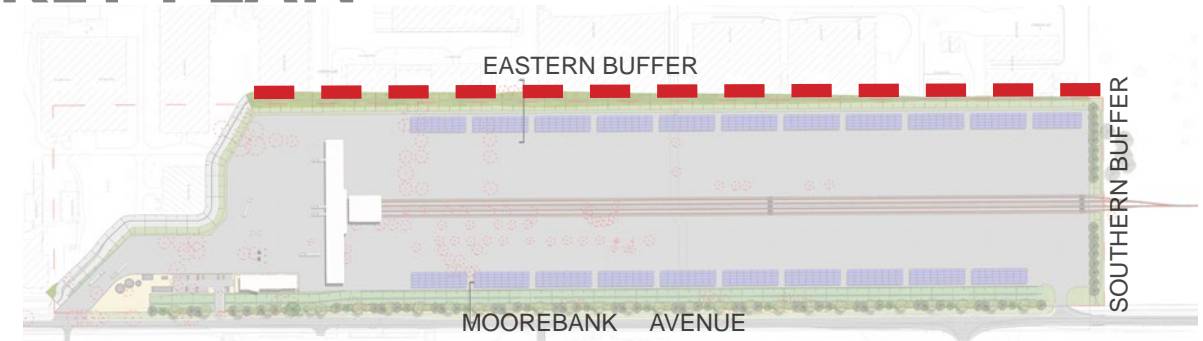
- STAGE 1 OPERATIONAL BOUNDARY
- PROPOSED SECURITY FENCE
- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED
- PROPOSED TREES
- HYDROSEEDED GRASS MIX (REFER TO PLANTING KEY)
- RAIL LINK

NOTE: EXISTING TREES WILL BE RETAINED WHERE REASONABLE, FEASIBLE AND PRACTICAL TO DO SO

PLANT IMAGES



KEY PLAN



PLANT IMAGES



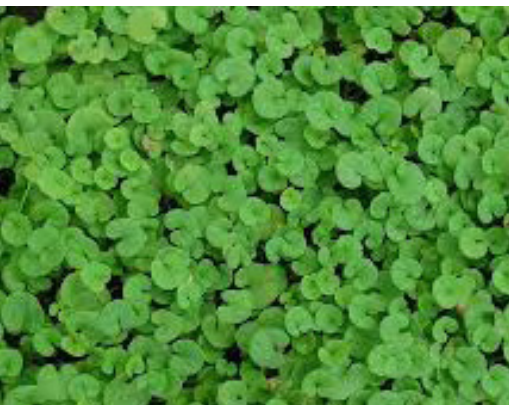
Aristida ramosa



Austrodanthonia fulva



Dianella revoluta



Dichondra repens



Lomandra cylindrica



Lomandra longifolia



Eragrostis brownii



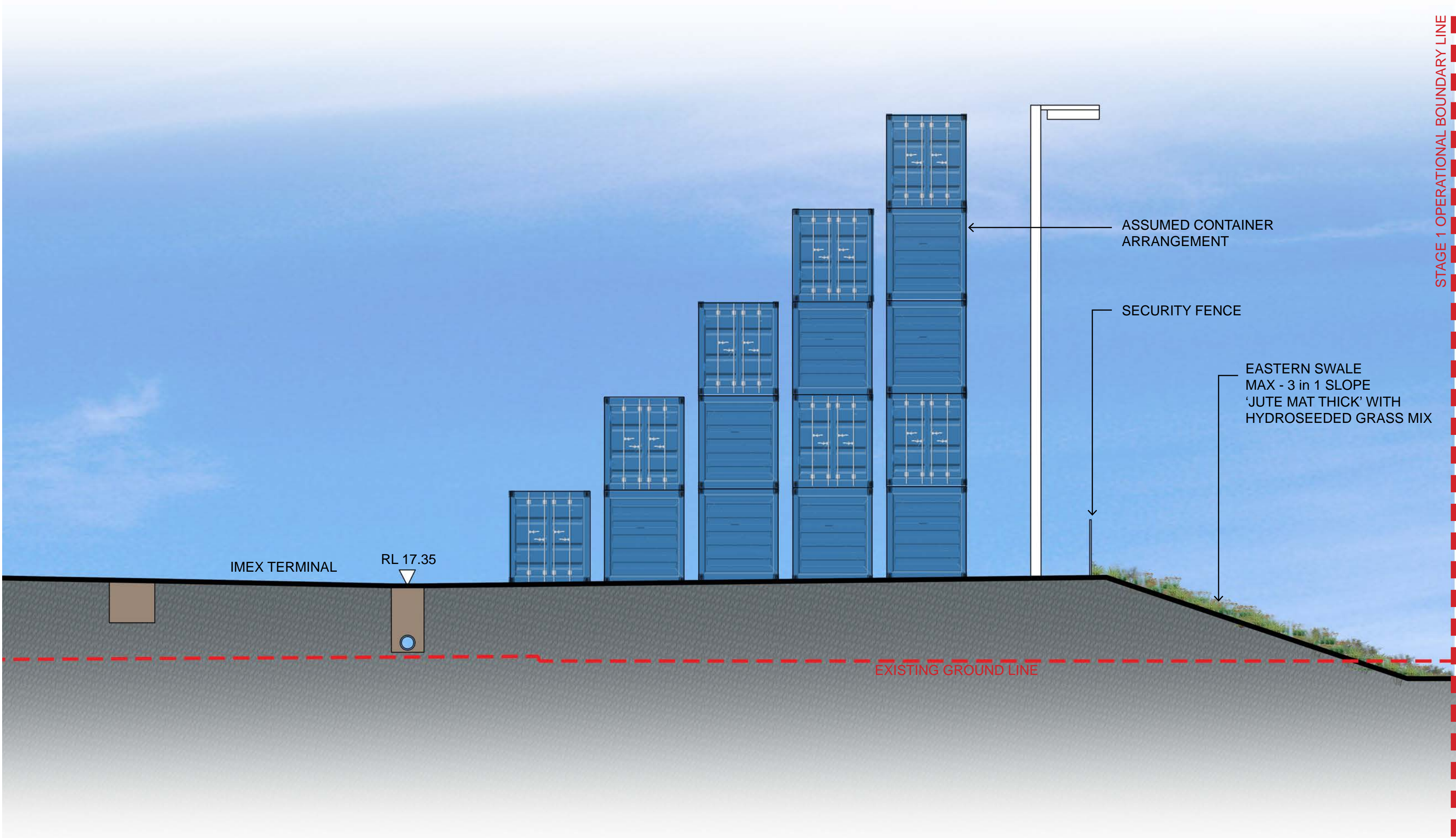
Goodenia hederacea



Microlaena stipoides



Themeda australis



LANDSCAPE SECTION

SCALE: 1:100 @ A1 (1:200 @ A3)

HYDROSEEDED GRASS MIX

BOTANICAL NAME	COMMON NAME	POT SIZE	MIX	EXPECTED MATURE HEIGHT	NATIVE
Groundcovers					
Aristida ramosa	Wire Grass	Seed	10%	1.2m	✓
Austrodanthonia fulva	Wallaby Grass	Seed	10%	0.5m	✓
Austrastipida pubescens	Speargrass	Seed	15%	1.2m	✓
Dianella revoluta	Blue Flax-lily, Spreading Flax-lily	Seed	5%	0.8m	✓
Dichondra repens	Kidney-weed, Mercury Bay Weed	Seed	10%	0.2m	✓
Eragrostis brownii	Brown's Lovegrass	Seed	5%	0.3m	✓
Goodenia hederacea	Ivy Goodenia	Seed	5%	0.5m	✓
Lomandra cylindrica	Needle Mat-Rush	Seed	10%	0.3m	✓
Lomandra longifolia	Spiny-headed Mat-rush	Seed	10%	1.5m	✓
Microlaena stipoides	Weeping Grass, Meadow Rice-grass	Seed	10%	0.7m	✓
Themeda australis	Kangaroo Grass	Seed	10%	0.5m	✓

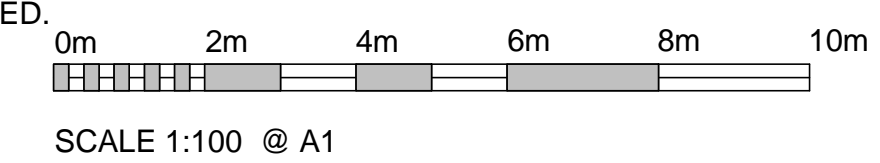
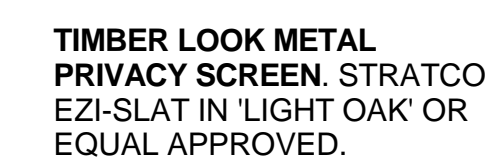
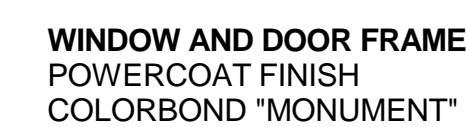
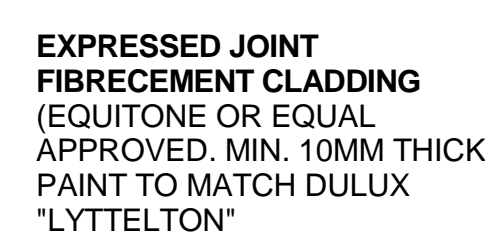
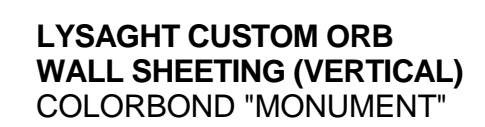
APPENDIX B

IMEX - Site Layout



Flow Number	Issue
17101_A_CD_A100	2

IMEX - Administration Building



NOTES:
1. THIS DRAWING IS TO BE READ IN CONJUNCTION
WITH ALL CONSULTANT'S DOCUMENTATION
INCLUDING SECTION J REPORT (AUTHOR ARCADIS)
DATED 12/04/17 AND ACOUSTIC REPORT (AUTHOR
WILKINSON MURRAY) DATED 26/04/17

[illegible]

REID CAMPBELL
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Level 15, 124 Walker Street
North Sydney NSW 2060 Australia
Tel: 61 02 9954 5010 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

CONSTRUCTION DOCUMENTATION

Client

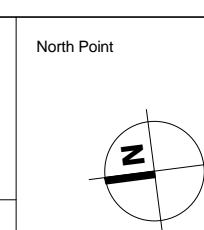
QUBE

Managing Consultant

TACTICAL

GROUP

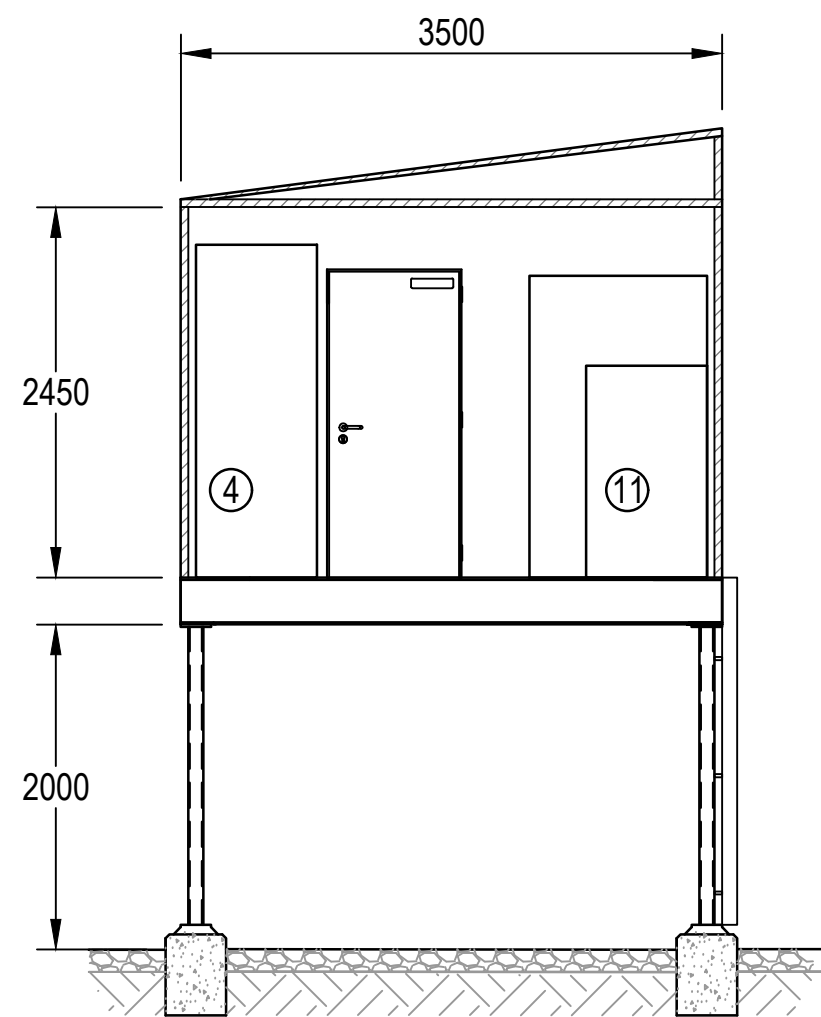
Project		
MOOREBANK INTERMODAL ADMINISTRATION BUILDING		
MOOREBANK AVENUE, MOOREBANK, NSW		
Drawn	Checked	Print Date
BF	PE	08-May-17 9:09:44 AM



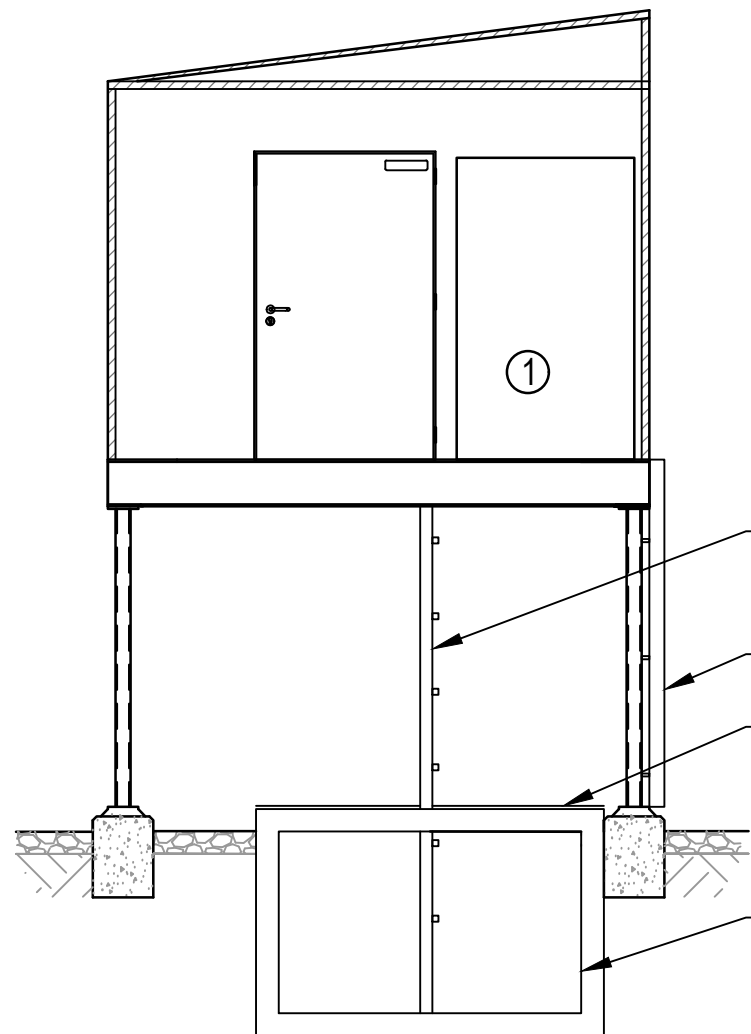
Drawing Title	
EXTERNAL FINISHES	
Drawing Number	Issue
117101 A CD A320	1

IMEX - HV Substation

- NOTES:
1. REFER DRAWING IMEX-ARC-EL-DWG-0020 FOR SWITCHROOM PLAN VIEW

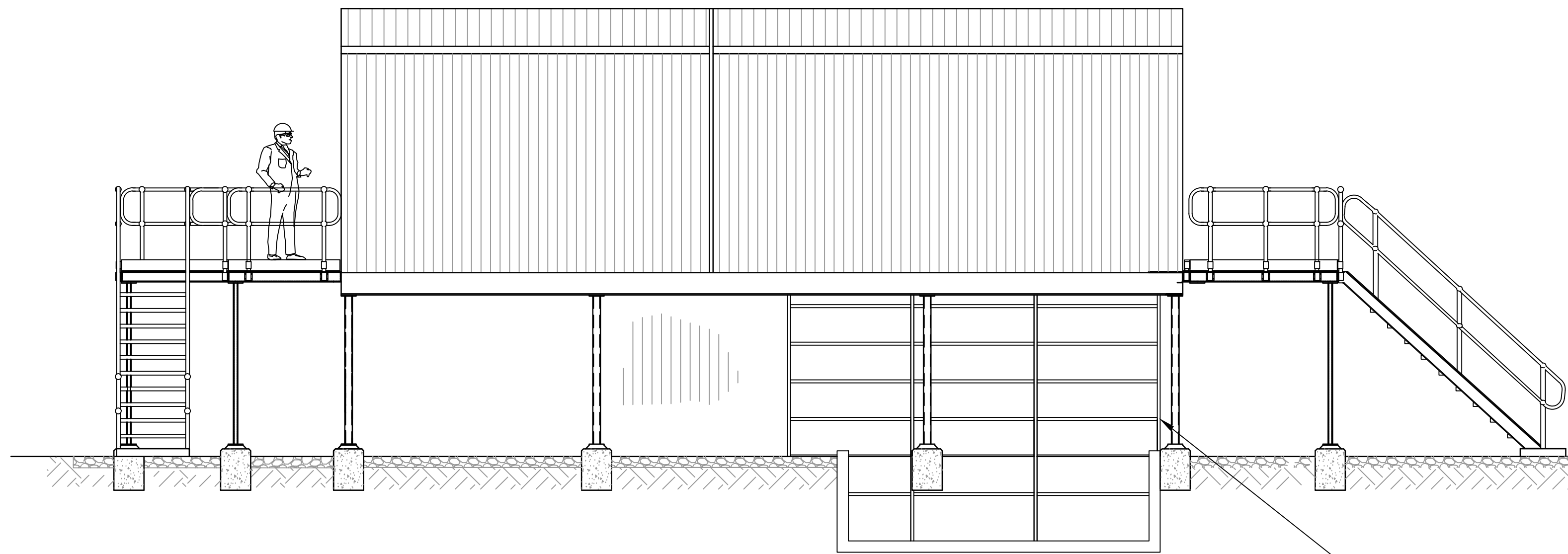


SECTION B
1:50



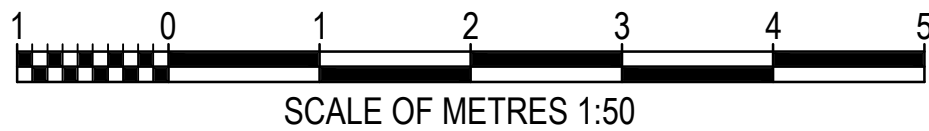
SECTION C
1:50

CABLE SUPPORT STRUCTURE
UNISTRUT P1000 + FITTINGS
FIRE WALL 120/120/120
GALV. CHEQUER PLATE
STEEL COVERS
CABLE TRENCH



SECTION D
1:50

CABLE SUPPORT STRUCTURE



SCALE OF METRES 1:50

Issue	Description	Date
04	ISSUED FOR CONSTRUCTION	28-04-17
03	ISSUED FOR CONSTRUCTION	28-04-17
02	DETAILED DESIGN UPDATE	21-04-17
01	DETAILED DESIGN	07-04-17



Status ISSUED FOR CONSTRUCTION			
Scales		Current Issue Signatures	
		Drawn	N.SINGH
Original Size	A1	Designed	A.NATHAN
Height Datum	N/A	Checked	B.LATHOURAS
Grid	N/A	Approved	P.HOGAN
Filename:			

Project MOOREBANK MPE STAGE 1 IMEX NUMBER 1	
Title ELECTRICAL MANUAL OPERATION PHASE NORTH SUBSTATION BUILDING ELEVATIONS	

Arcadis Australia Pacific Pty Limited
Level 5, 141 Walker St
NORTH SYDNEY NSW 2060
ABN 76 104 485 289
Tel No: +61 2 8907 9000
Fax No: +61 2 8907 9001
arcadis.com

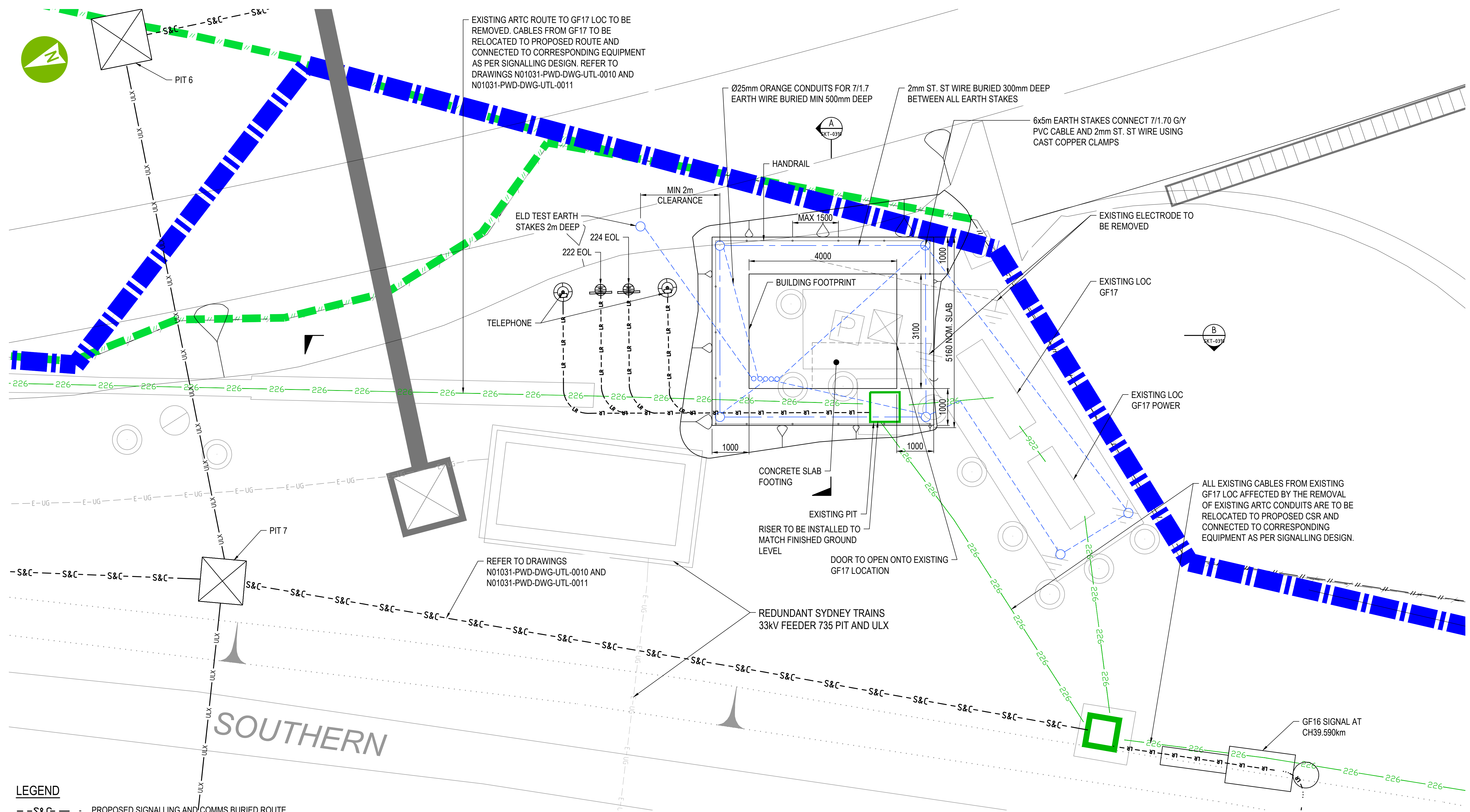
Volume No.
M03

Project No.
10004975

Drawing No.
IMEX -ARC-EL -DWG-0021 -

Issue
04

Rail Corridor - Signal Bungalow



PLAN

NOTES

	ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT		MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE		SERVICES AND UTILITIES GF 16 GENERAL ARRANGEMENT					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
	N01031	- PWD	- DRG	- UTL	- 0302	-	

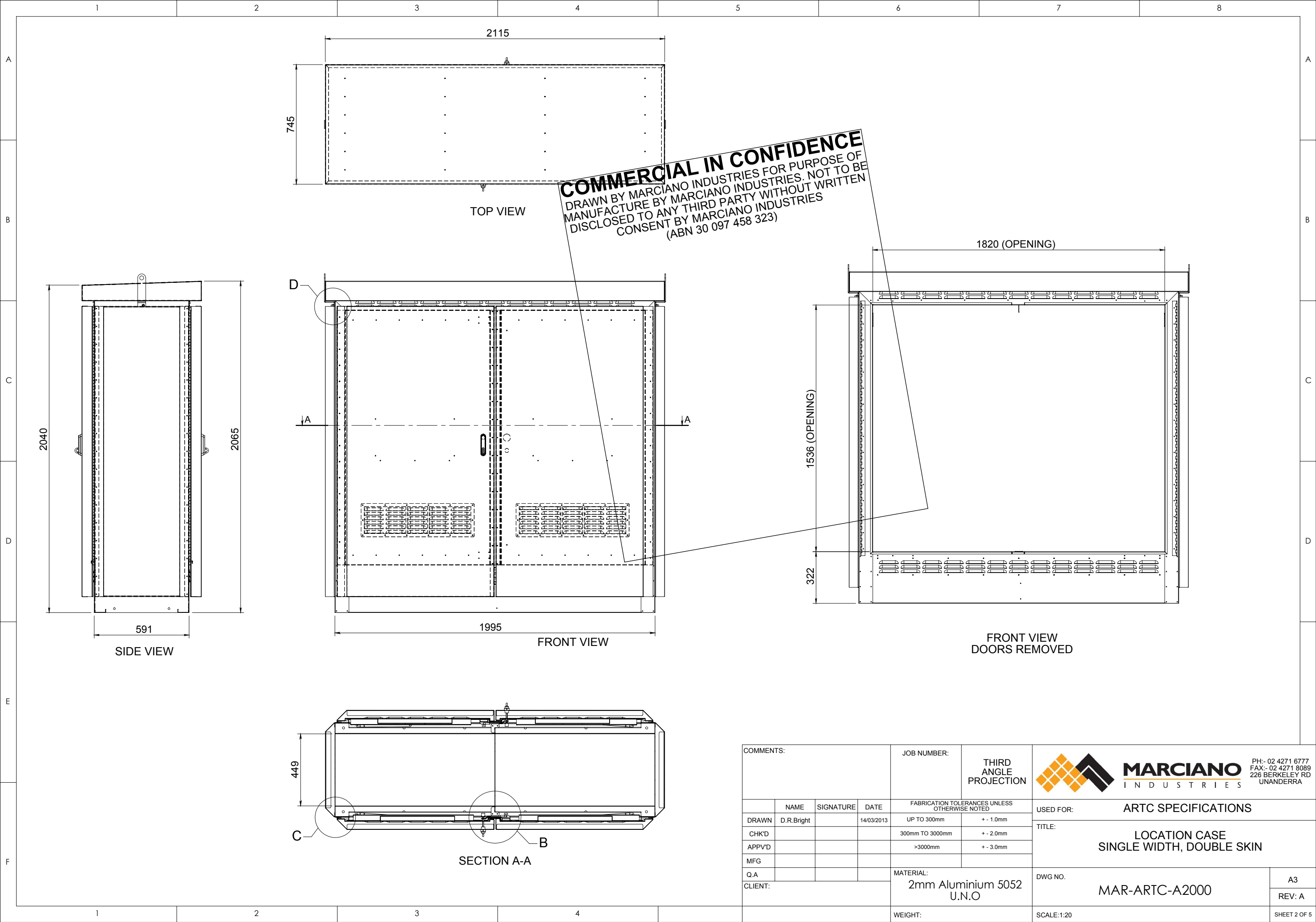



SIMTA | SYDNEY
INTERMODAL
TERMINAL
ALLIANCE

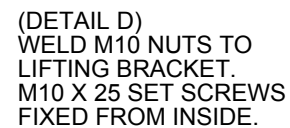
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E	FOR CONSTRUCTION
	APPROVED
	DATE
	A. O'SHEA

Rail Corridor - Location Case

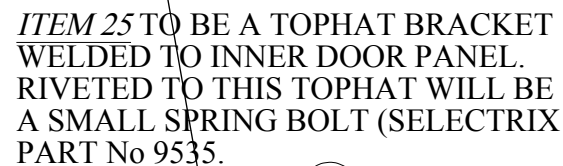


COMMENTS:				JOB NUMBER:		THIRD ANGLE PROJECTION		 MARCIANO INDUSTRIES PH:- 02 4271 6777 FAX:- 02 4271 8089 226 BERKELEY RD UNANDERRA	
	NAME	SIGNATURE	DATE	FABRICATION TOLERANCES UNLESS OTHERWISE NOTED		USED FOR: ARTC SPECIFICATIONS			
DRAWN	D.R.Bright		14/03/2013	UP TO 300mm	+ - 1.0mm	TITLE: LOCATION CASE SINGLE WIDTH, DOUBLE SKIN			
CHK'D				300mm TO 3000mm	+ - 2.0mm				
APPV'D				>3000mm	+ - 3.0mm				
MFG									
Q.A				MATERIAL: 2mm Aluminium 5052 U.N.O		DWG NO. MAR-ARTC-A2000		A3	
CLIENT:								REV: A	
				WEIGHT:		SCALE:1:20		SHEET 2 OF 5	




COMMERCIAL IN CONFIDENCE
DRAWN BY MARCIANO INDUSTRIES FOR PURPOSE OF
MANUFACTURE BY MARCIANO INDUSTRIES. NOT TO BE
DISCLOSED TO ANY THIRD PARTY WITHOUT WRITTEN
CONSENT BY MARCIANO INDUSTRIES
(ABN 30 097 458 323)

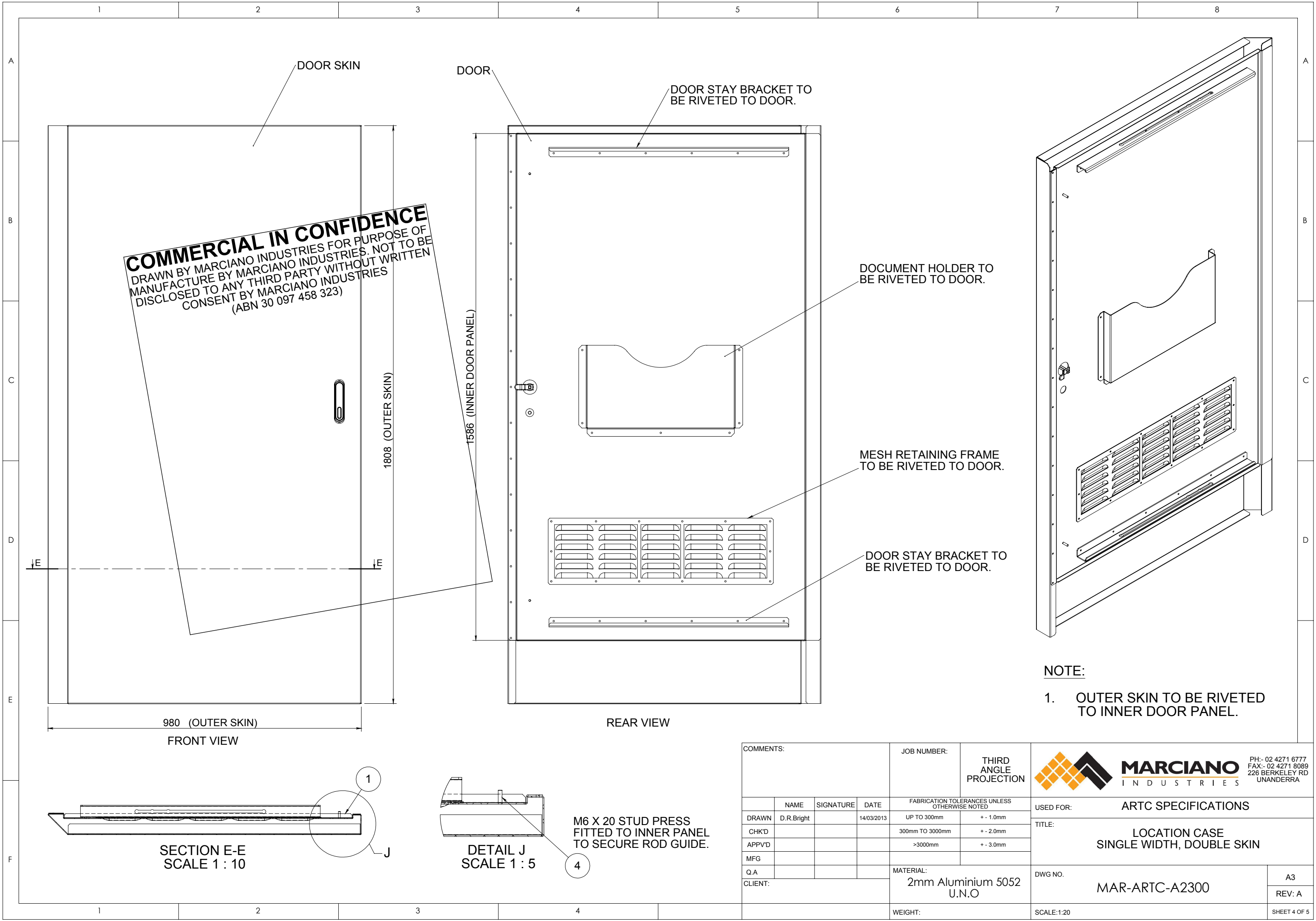
DETAIL D
SCALE 1 : 3.5




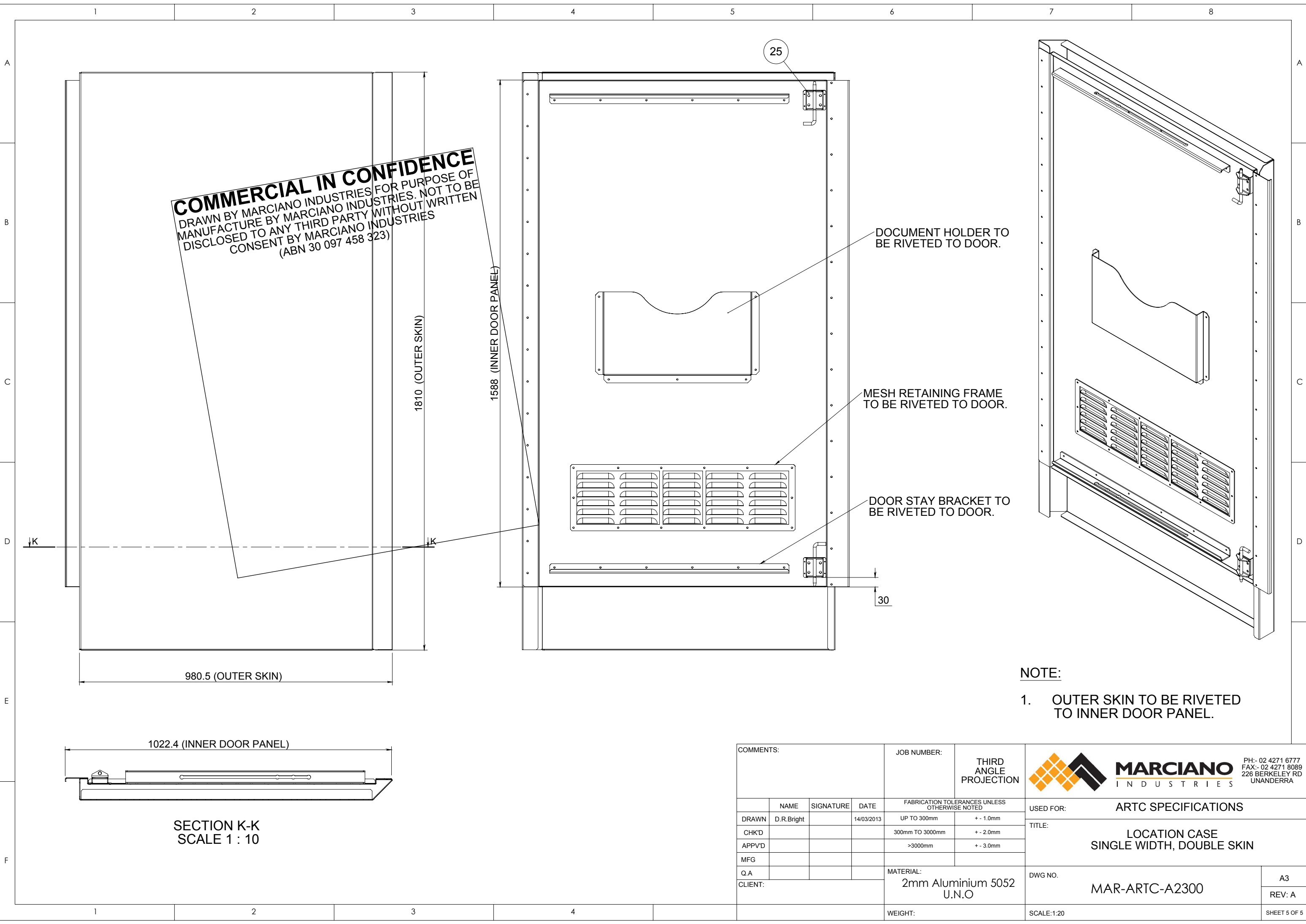
PIANO HINGE RIVETED
TO ENCLOSURE AND
DOOR ASSEMBLY.



COMMENTS:				JOB NUMBER:		THIRD ANGLE PROJECTION		 MARCIANO INDUSTRIES <div>PH:- 02 4271 6777 FAX:- 02 4271 8089 226 BERKELEY RD UNANDERRA</div>	
	NAME	SIGNATURE	DATE	FABRICATION TOLERANCES UNLESS OTHERWISE NOTED		USED FOR: ARTC SPECIFICATIONS			
DRAWN	D.R.Bright		14/03/2013	UP TO 300mm	+ - 1.0mm	TITLE: LOCATION CASE SINGLE WIDTH, DOUBLE SKIN			
CHK'D				300mm TO 3000mm	+ - 2.0mm				
APP'VD				>3000mm	+ - 3.0mm				
MFG									
Q.A				MATERIAL: 2mm Aluminium 5052 U.N.O		DWG NO. MAR-ARTC-A2000			A3
CLIENT:									REV: A
				WEIGHT:		SCALE: 1:20			SHEET 3 OF 5

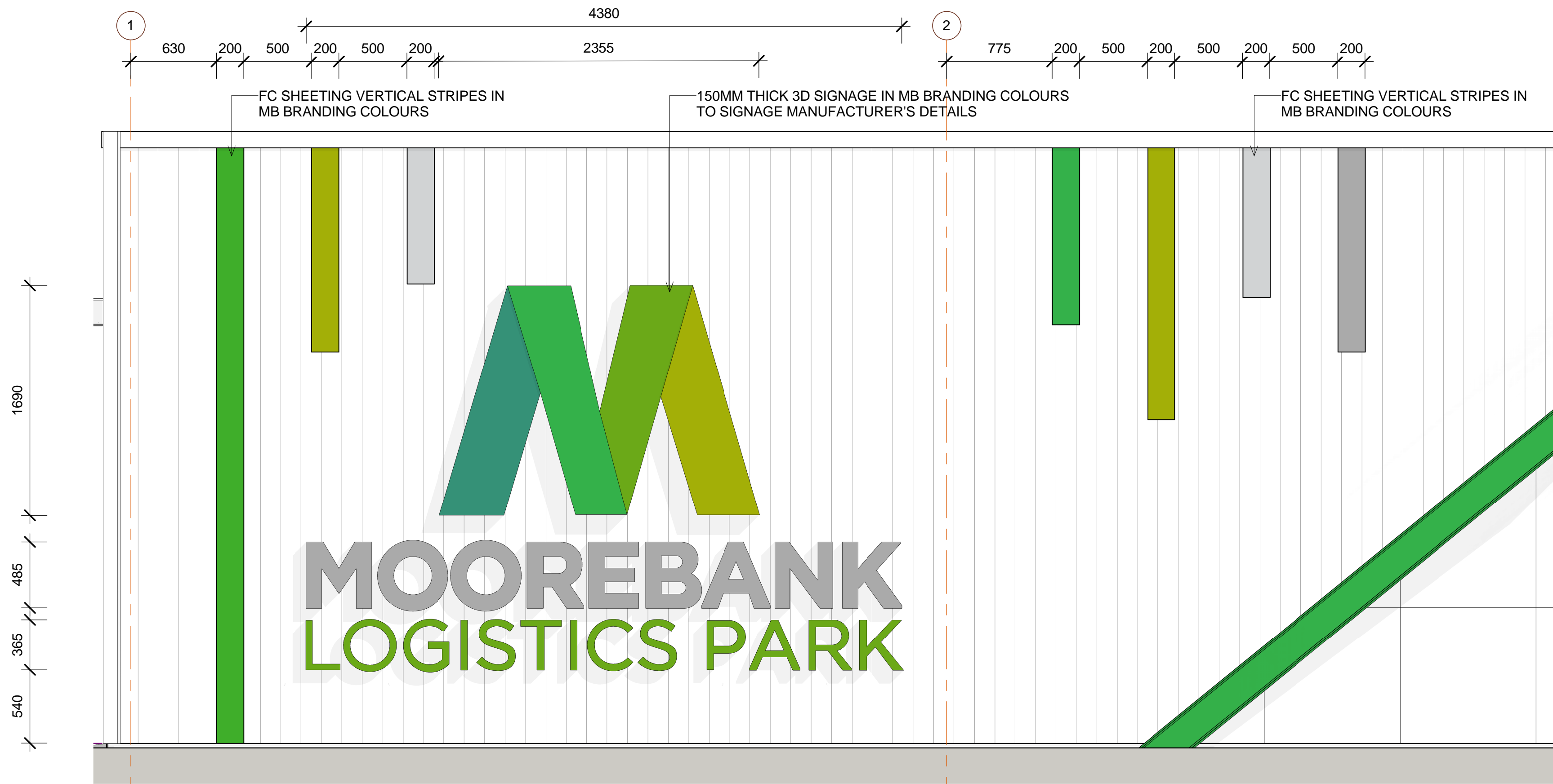


COMMENTS:				JOB NUMBER:		THIRD ANGLE PROJECTION		 <div>MARCIANO INDUSTRIES</div> <div>PH:- 02 4271 6777 FAX:- 02 4271 8089 226 BERKELEY RD UNANDERRA</div>	
	NAME	SIGNATURE	DATE	FABRICATION TOLERANCES UNLESS OTHERWISE NOTED		USED FOR: ARTC SPECIFICATIONS			
DRAWN	D.R.Bright		14/03/2013	UP TO 300mm	+ - 1.0mm	TITLE: LOCATION CASE SINGLE WIDTH, DOUBLE SKIN			
CHK'D				300mm TO 3000mm	+ - 2.0mm				
APPV'D				>3000mm	+ - 3.0mm				
MFG									
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CLIENT:								A3	
								REV: A	
				WEIGHT:		SCALE:1:20		SHEET 4 OF 5	



APPENDIX C

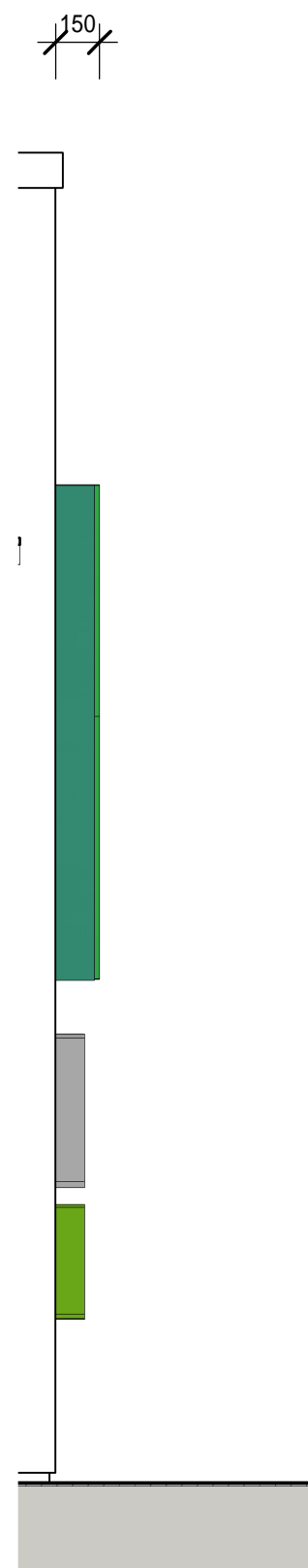
Fencing, Barriers and Gates



1
A720

SIGNAGE ELEVATION

1 : 25



2
A720

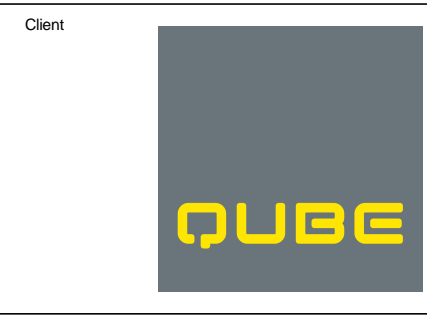
SIGNAGE SIDE VIEW

1 : 25

<p>Notes</p> <p>This drawing and design is subject to Reid Campbell (NSW) Pty Ltd copyright and may not be reproduced without prior written consent.</p> <p>Contractor to verify all dimensions on site before commencing work.</p> <p>Report all discrepancies to project manager prior to construction.</p> <p>Figured dimensions to be taken in preference to scaled drawings.</p> <p>All work is to conform to relevant Australian Standards and other Codes as applicable, together with other Authorities' requirements and regulations.</p>	Issue	Description	Date	Ver	Auth
	1	CONSTRUCTION ISSUE	05/05/2017		

REIDCAMPBELL
Architecture, Interiors, Planning
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North Sydney NSW 2060 Australia
Tel: 61 02 9954 5011 Email: sydney@reidcampbell.com
Fax: 61 02 9954 4946 Web: www.reidcampbell.com

CONSTRUCTION
DOCUMENTATION



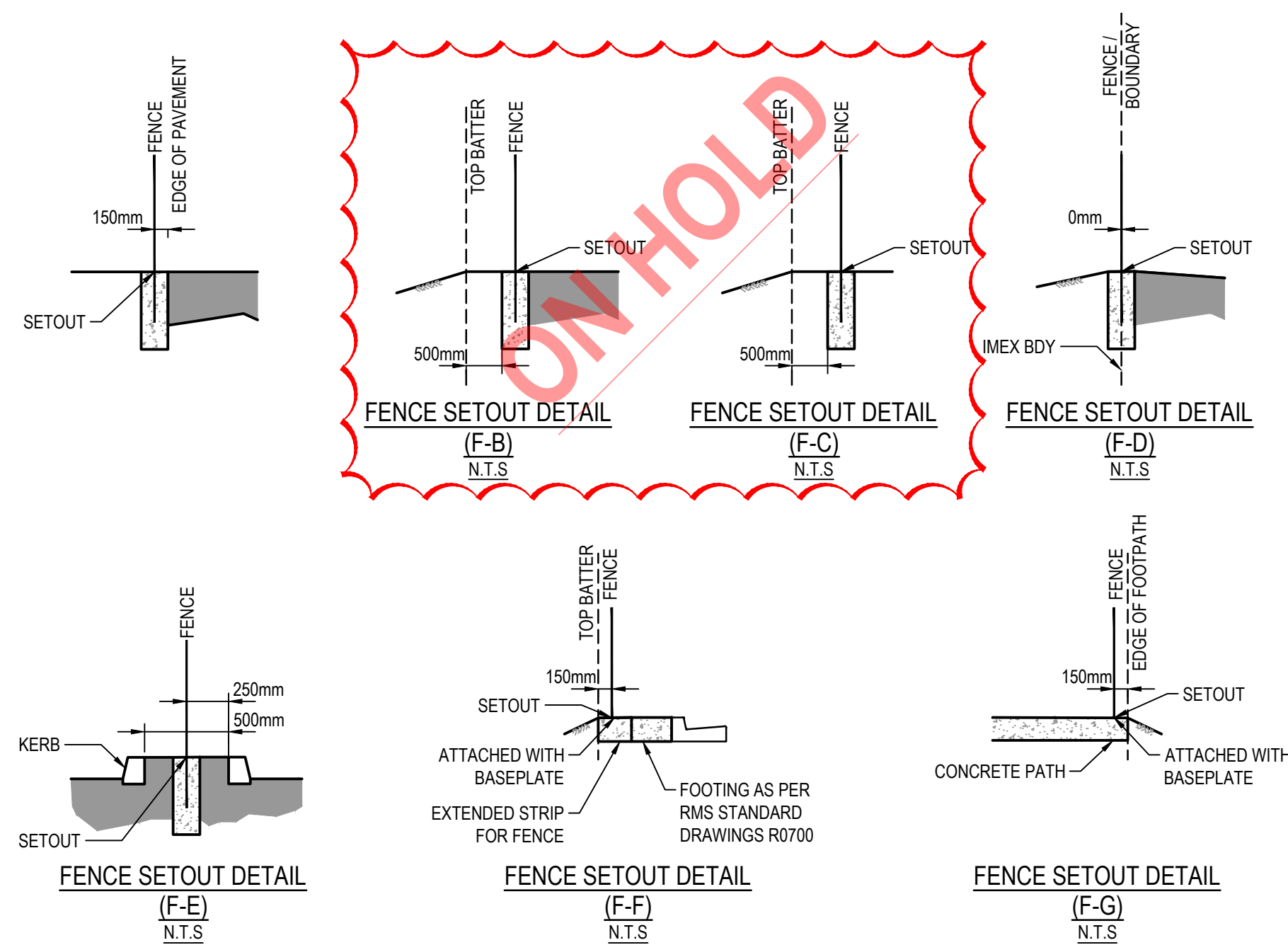
Project
**MOOREBANK INTERMODAL
ADMINISTRATION BUILDING**
MOOREBANK AVENUE, MOOREBANK, NSW

Drawn	Checked	Print Date
Author	Approved	5-May-17 4:37:20 PM

North Point

N/A

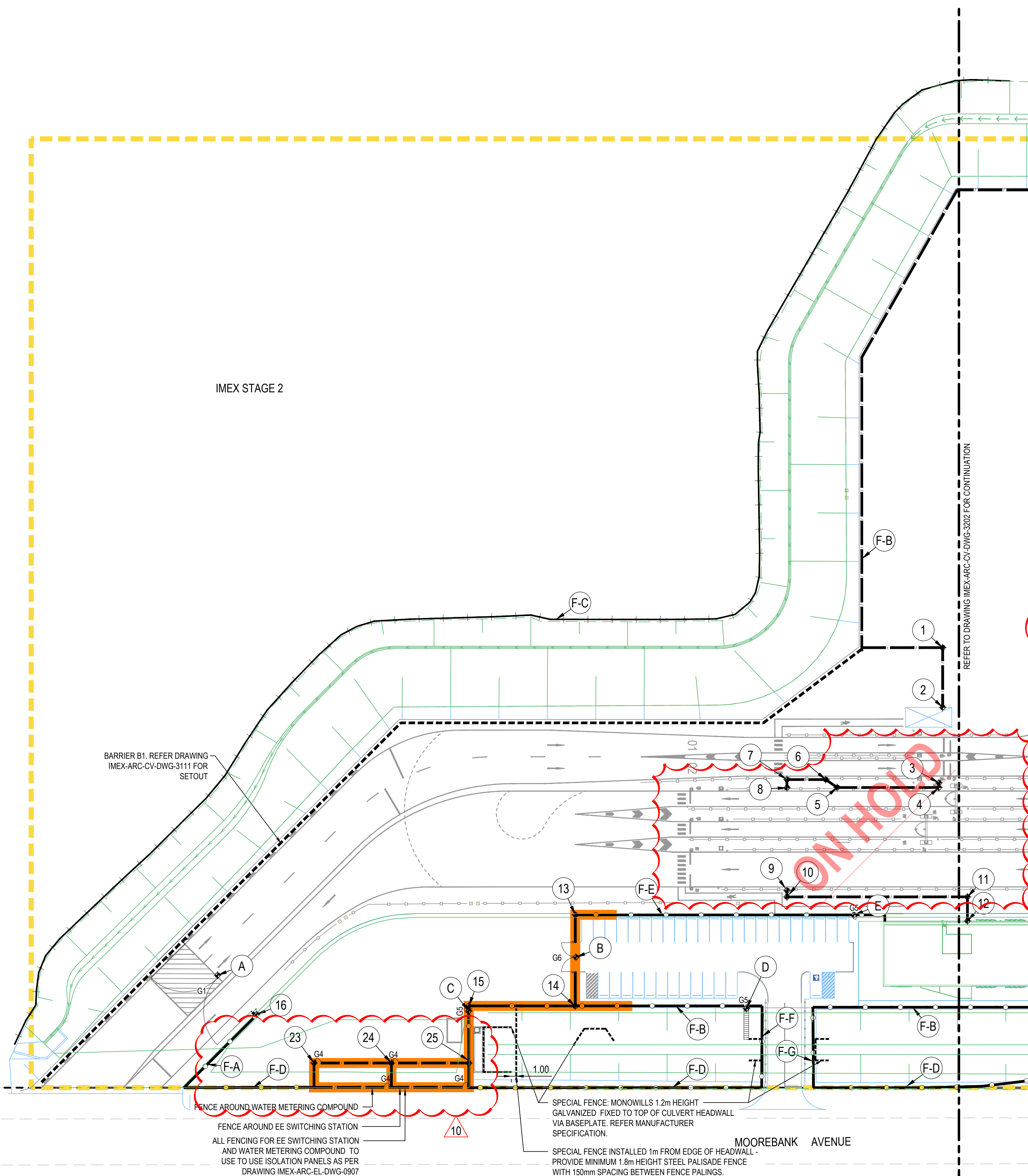
<p>NOTES:</p> <p>1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT'S DOCUMENTATION INCLUDING SECTION J REPORT (AUTHOR ARCADIS) DATED 12/04/17 AND ACOUSTIC REPORT (AUTHOR WILKINSON MURRAY) DATED 26/04/17</p>		
Drawing Title EXTERNAL SIGNAGE		
Drawing Number 117101_A_CD_A720	Issue 1	









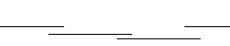
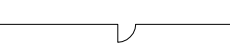




FENCE SETOUT TABLE		
POINT	EASTING	NORTHING
1	308153.946	6241187.484
2	INTERSECT WITH GUARD HOUSE	
3	INTERSECT WITH CAMCO EQUIPMENT	
4	308125.384	6241191.914
5	308128.049	6241212.782
6	308129.956	6241214.891
7	308130.974	6241222.863
8	INTERSECT WITH CAMCO EQUIPMENT	
9	INTERSECT WITH CAMCO EQUIPMENT	
10	308106.920	6241225.935
11	308102.212	6241188.925
12	INTERSECT WITH ADMIN BUILDING	
13	308108.798	6241269.794
14	308089.070	6241272.186
15	308092.912	6241294.012
16	308105.779	6241344.690
17	308074.894	6241155.115
18	INTERSECT WITH TURNSTILE	
19	307987.515	6240450.355
20	307974.062	6240452.075
21	307969.018	6240452.720
22	INTERSECT WITH BOUNDARY FENCE	
23	308085.258	6241327.219
24	308083.215	6241311.350
25	308081.206	6241295.491
26	307963.912	6240412.565

GATE SETOUT TABLE		
POINT	EASTING	NORTHING
A	308096.734	6241337.726
B	308100.099	6241270.754
C	308091.866	6241294.146
D	308085.095	6241237.182
E	308101.478	6241212.677
F	308075.691	6241150.638
G	308033.680	6240814.425
H	307987.851	6240455.583
I	307967.428	6240440.103

NOTE: GATE SETOUT IS APPROXIMATE AND AT THE CENTRAL OPENING LOCATION (I.E. 6m WIDE GATE WILL BE SETOUT FROM CENTRE AT 3m IN FROM EACH EDGE). GATES SHALL BE LOCATED BY THE CONTRACTOR ON THE MAIN FENCE LINE AND IN CONSIDERATIONS OF OTHER STRUCTURES/ACCESS REQUIREMENTS TO THE SATISFACTION OF THE SUPERINTENDENT



- ### LEGEND

- | | |
|---|---|
|  | IMEX BOUNDARY |
|  | TYPE 1 FENCE |
|  | TYPE 2 FENCE |
|  | TYPE 3 FENCE |
|  | TYPE 4 FENCE |
|  | VEHICLE SWING GATES |
|  | VEHICLE SLIDING GATES |
|  | PEDESTRIAN SWING GATE |
|  | B1 BARRIER WITH FENCE. REFER DRAWING IMEX-ARC-CV-DWG-3111 FOR DETAILS |
|  | SPECIAL FENCE. REFER NOTE ON PLAN. |
|  | ISOLATION PANELS. REFER NOTE ON PLAN. |
|  | GANTRY STEPS - REFER TO DRAWING IMEX-ARC-CV-DWG-3111 FOR DETAIL |
| GX | GATE NUMBER - REFER TO DRAWING IMEX-ARC-CV-DWG-3001 FOR GATE SCHEDULE |
| T1 | TURNSTILE |

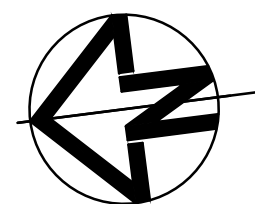
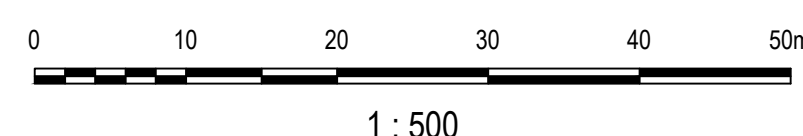
NOTES

1. UNLESS OTHERWISE INDICATED ON PLAN OR ON SETOUT DETAIL, ALL FENCES SHALL USE INDEPENDENT FOOTING. THE USE OF BRACKETS FOR DIRECT CONCRETE PAVEMENT CONNECTION WILL BE INDICATED.
2. REFER DRAWING IMEX-ARC-CV-DWG-3001 FOR FURTHER NOTES.
3. REFER DRAWING IMEX-ARC-CV-DWG-3201 FOR TYPICAL FENCE SETOUT DETAILS.
4. GANTRY STEPS TO BE GALVANIZED STEEL WITH HANDRAIL IN ACCORDANCE WITH AS165.7 CONCRETE FOOTING AND GANTRY STEP IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. REFER TO DRAWING IMEX-ARC-CV-DWG-3111 FOR TYPICAL DETAIL.

ON HOLD

1. EXACT LOCATION OF CAMCO PLUS OPERATIONAL REQUIREMENTS OF THE WEIGH-IN-MOTION / OCR TO BE CLARIFIED.

10	AFC UPDATE	07/07/2017
09	AFC UPDATE	06/06/2017
08	AFC UPDATE	05/06/2017
07	AFC UPDATE	22/05/2017
06	AFC UPDATE	19/05/2017
05	AFC UPDATE	17/05/2017
04	ISSUE FOR CONSTRUCTION	12/05/2017
03	ISSUE FOR COMMENTS	10/05/2017
02	REVIEWER COMMENTS INCORPORATED	07/04/2017
Issue	Description	Date



Client	
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	Status
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FOR CONSTRUCTION

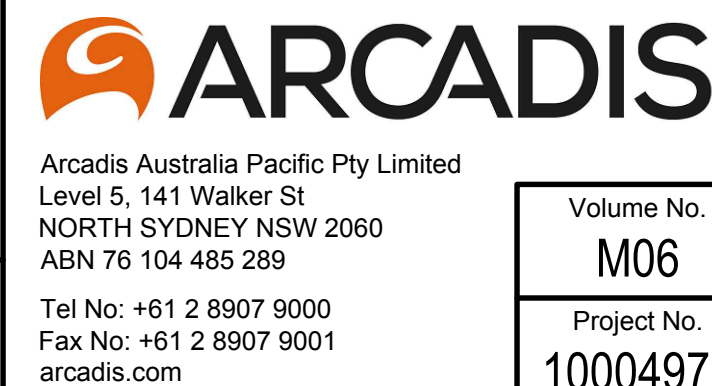
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Project	
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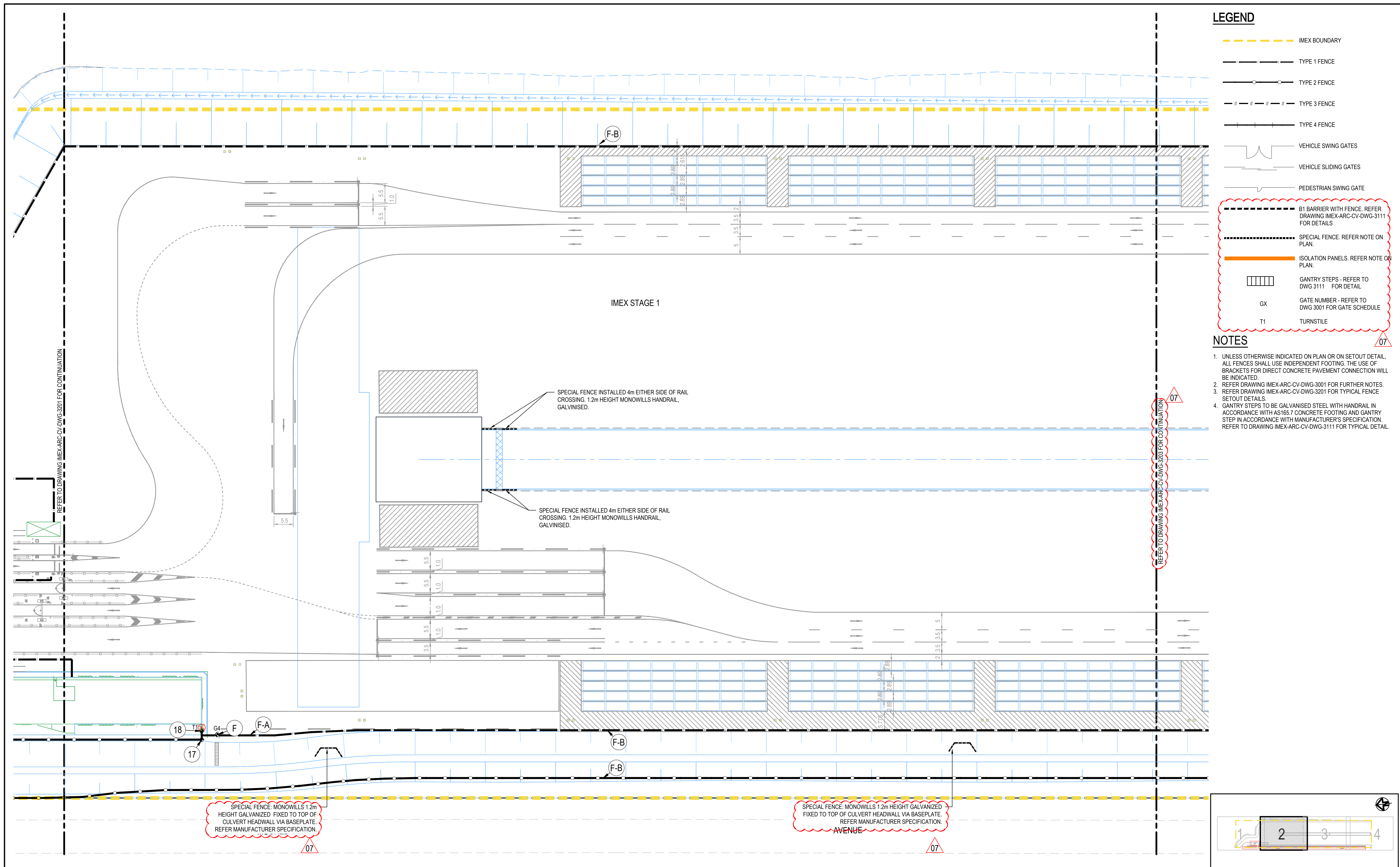
MOOREBANK MPE
STAGE 1
IMEX NUMBER 1

	Title
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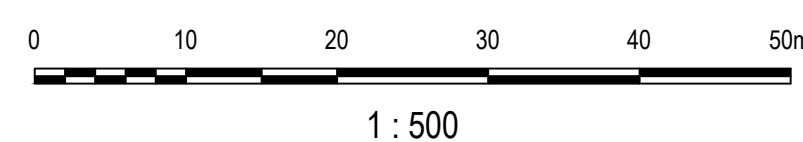
FENCING AND GATE PLAN SHEET 1



Drawing No.	Issue
IMEX -ARC-CV-DWG- 3201-	10




Issue	Description	Date
07	AFC UPDATE	05/06/2017
06	AFC UPDATE	19/05/2017
05	AFC UPDATE	17/05/2017
04	ISSUE FOR CONSTRUCTION	12/05/2017
03	ISSUE FOR COMMENTS	10/05/2017
02	REVIEWER COMMENTS INCORPORATED	07/04/2017
01	DETAILED DESIGN	30/03/2017



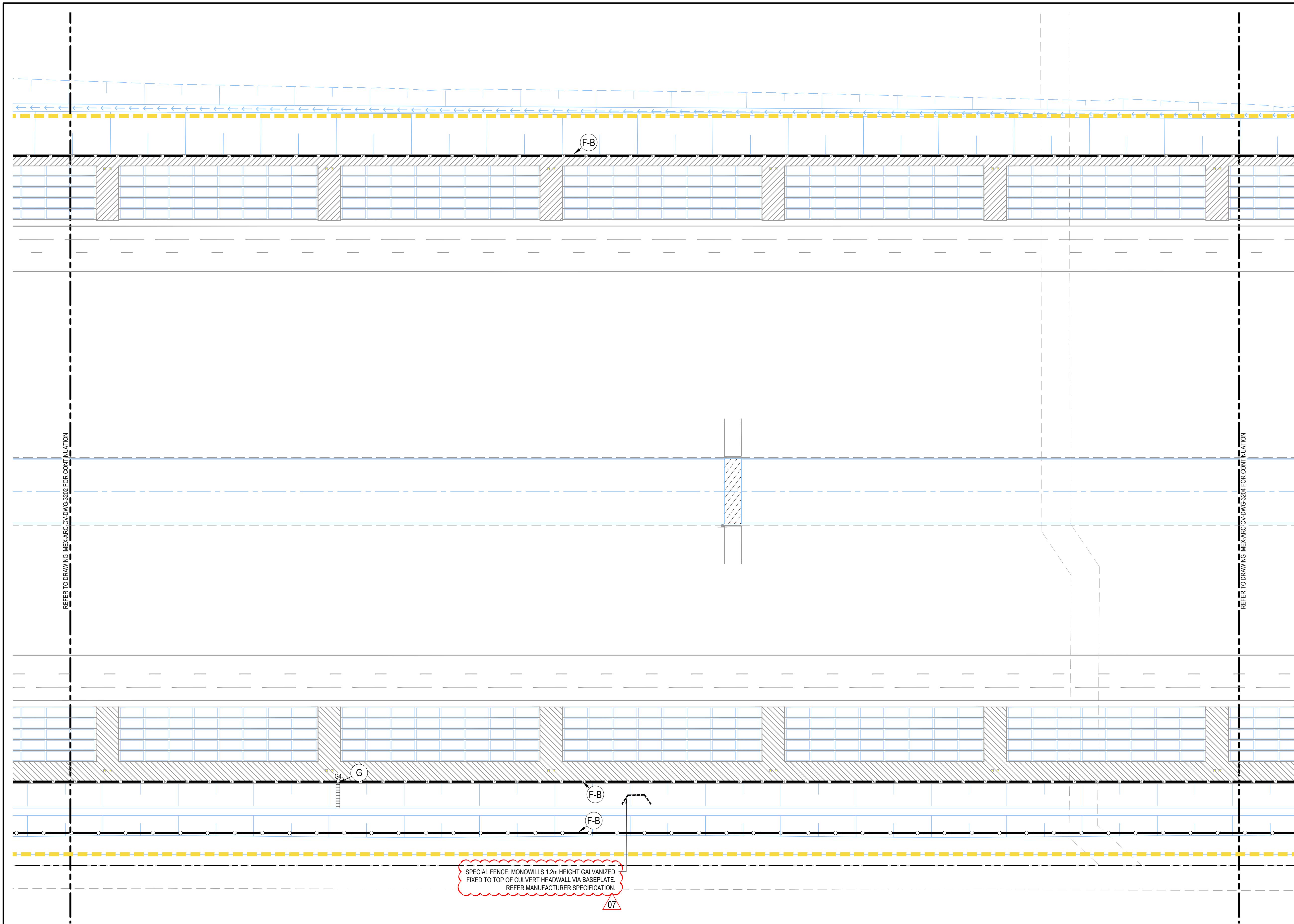
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		Approved M.KEFFORD

Project	MOOREBANK MPE STAGE 1 IMEX NUMBER 1
Title	FENCING AND GATE PLAN SHEET 2



Arcadis Australia Pacific Pty Limited
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arcadis.com

Volume No.	M06
Project No.	10004975
Drawing No.	IMEX -ARC-CV-DWG-3202-
Issue	07



LEGEND

- IMEX BOUNDARY
- TYPE 1 FENCE
- TYPE 2 FENCE
- TYPE 3 FENCE
- TYPE 4 FENCE
- VEHICLE SWING GATES
- VEHICLE SLIDING GATES
- PEDESTRIAN SWING GATE
- B1 BARRIER WITH FENCE. REFER DRAWING IMEX-ARC-CV-DWG-3111 FOR DETAILS
- SPECIAL FENCE. REFER NOTE ON PLAN.
- ISOLATION PANELS. REFER NOTE ON PLAN.
- GANTRY STEPS - REFER TO DWG 3111 FOR DETAIL
- GATE NUMBER - REFER TO DWG 3001 FOR GATE SCHEDULE
- TURNSTILE

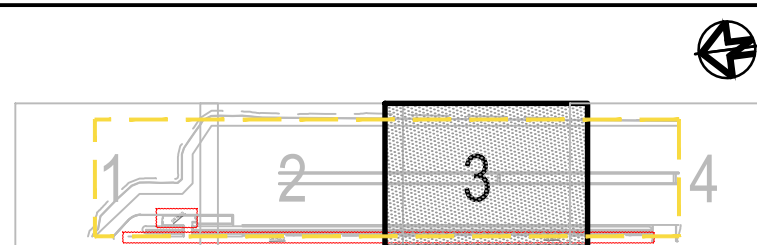
NOTES

- UNLESS OTHERWISE INDICATED ON PLAN OR ON SETOUT DETAIL, ALL FENCES SHALL USE INDEPENDENT FOOTING. THE USE OF BRACKETS FOR DIRECT CONCRETE PAVEMENT CONNECTION WILL BE INDICATED.
- REFER DRAWING IMEX-ARC-CV-DWG-3001 FOR FURTHER NOTES.
- REFER DRAWING IMEX-ARC-CV-DWG-3201 FOR TYPICAL FENCE SETOUT DETAILS
- GANTRY STEPS TO BE GALVANISED STEEL WITH HANDRAIL IN ACCORDANCE WITH AS165.7 CONCRETE FOOTING AND GANTRY STEP IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. REFER TO DRAWING IMEX-ARC-CV-DWG-3111 FOR TYPICAL DETAIL.

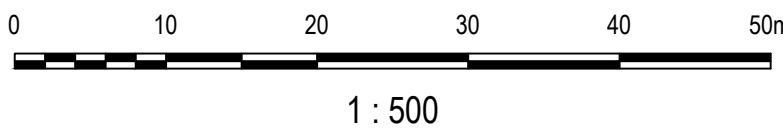
07

SPECIAL FENCE: MONOWILLS 1.2m HEIGHT GALVANIZED FIXED TO TOP OF CULVERT HEADWALL VIA BASEPLATE. REFER MANUFACTURER SPECIFICATION.

07



Issue	Description	Date
07	AFC UPDATE	05/06/2017
06	AFC UPDATE	19/05/2017
05	AFC UPDATE	17/05/2017
04	ISSUE FOR CONSTRUCTION	12/05/2017
03	ISSUE FOR COMMENTS	10/05/2017
02	REVIEWER COMMENTS INCORPORATED	07/04/2017
01	DETAILED DESIGN	30/03/2017



Client



Status

FOR CONSTRUCTION

Scales

1 : 500

Current Issue Signatures

Original Size

A1

Height Datum

AHD

Grid

MGA

Filename:

IMEX-ARC-CV-DWG-3203-FencingPlanSheet3.dwg

Project

MOOREBANK MPE
STAGE 1
IMEX NUMBER 1

Title

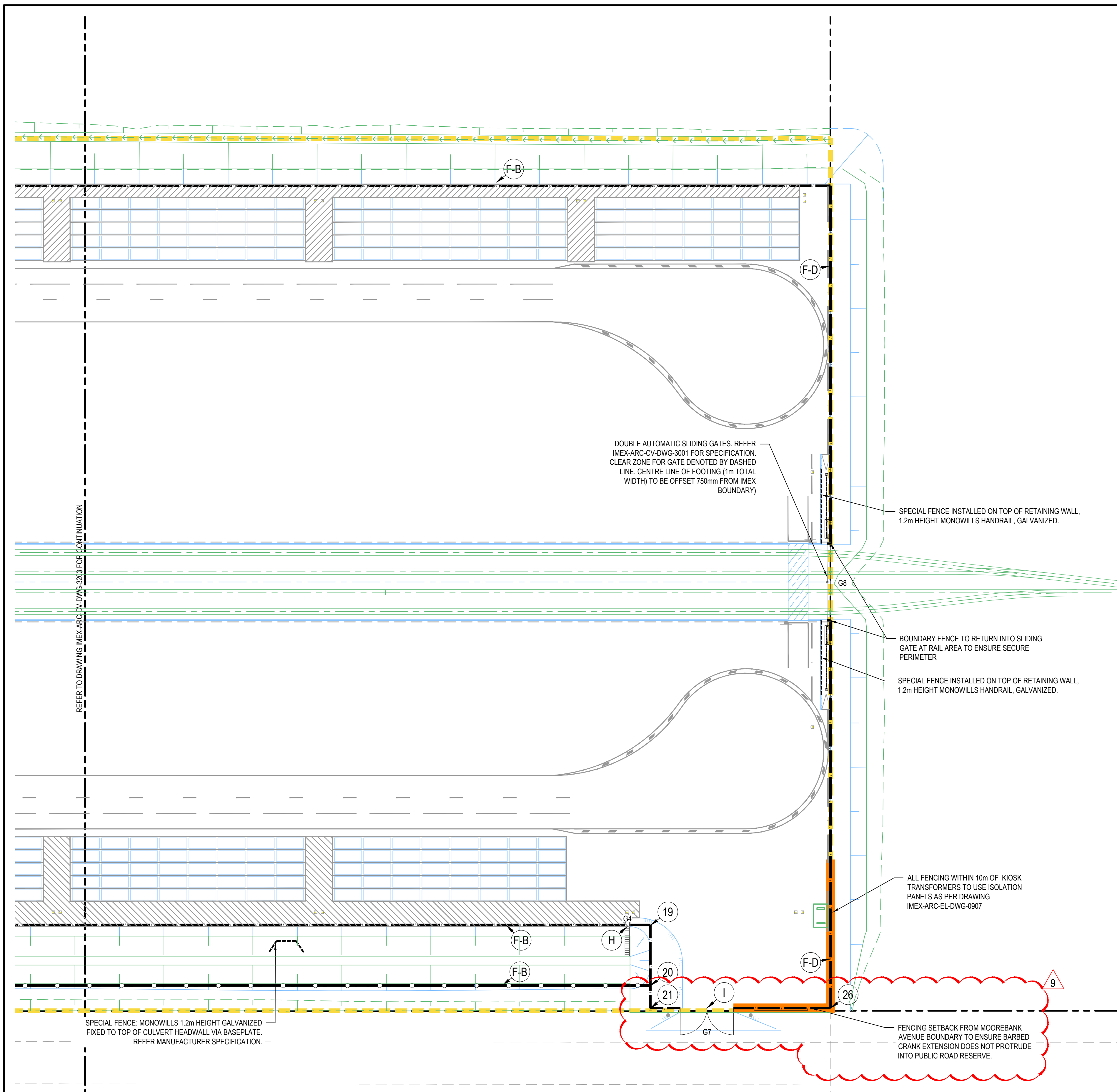
FENCING AND GATE PLAN
SHEET 3

Arcadis Australia Pacific Pty Limited
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arcadis.com

Volume No.
M06

Project No.
10004975

Drawing No. **IMEX -ARC-CV-DWG-3203-** Issue **07**



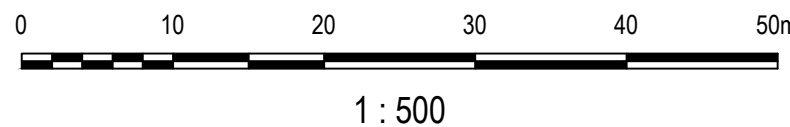
LEGEND

- IMEX BOUNDARY
- TYPE 1 FENCE
- TYPE 2 FENCE
- TYPE 3 FENCE
- TYPE 4 FENCE
- VEHICLE SWING GATES
- VEHICLE SLIDING GATES
- PEDESTRIAN SWING GATE
- B1 BARRIER WITH FENCE. REFER DRAWING IMEX-ARC-CV-DWG-3111 FOR DETAILS
- SPECIAL FENCE. REFER NOTE ON PLAN.
- ISOLATION PANELS. REFER NOTE ON PLAN.
- GANTRY STEPS - REFER TO DRAWING IMEX-ARC-CV-DWG-3111 FOR DETAIL
- GX GATE NUMBER - REFER TO DRAWING IMEX-ARC-CV-DWG-3001 FOR GATE SCHEDULE
- T1 TURNSTILE

NOTES

- UNLESS OTHERWISE INDICATED ON PLAN OR ON SETOUT DETAIL, ALL FENCES SHALL USE INDEPENDENT FOOTING. THE USE OF BRACKETS FOR DIRECT CONCRETE PAVEMENT CONNECTION WILL BE INDICATED.
- REFER DRAWING IMEX-ARC-CV-DWG-3001 FOR FURTHER NOTES.
- REFER DRAWING IMEX-ARC-CV-DWG-3201 FOR TYPICAL FENCE SETOUT DETAILS.
- GANTRY STEPS TO BE GALVANISED STEEL WITH HANDRAIL IN ACCORDANCE WITH AS165.7 CONCRETE FOOTING AND GANTRY STEP IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. REFER TO DRAWING IMEX-ARC-CV-DWG-3111 FOR TYPICAL DETAIL.

09	AFC UPDATE	07/07/2017
08	AFC UPDATE	05/06/2017
07	AFC UPDATE	19/05/2017
06	AFC UPDATE	17/05/2017
05	ISSUE FOR CONSTRUCTION	12/05/2017
04	ISSUE FOR COMMENTS	10/05/2017
03	PROVIDED PRODUCT SPECIFICATION FOR RAIL GATE	03/05/2017
02	REVIEWER COMMENTS INCORPORATED	07/04/2017
01	DETAILED DESIGN	30/03/2017
Issue	Description	Date



Client



Status

FOR CONSTRUCTION

Scales

1 : 500

Current Issue Signatures

Original Size

A1

Height Datum

AHD

Grid

MGA

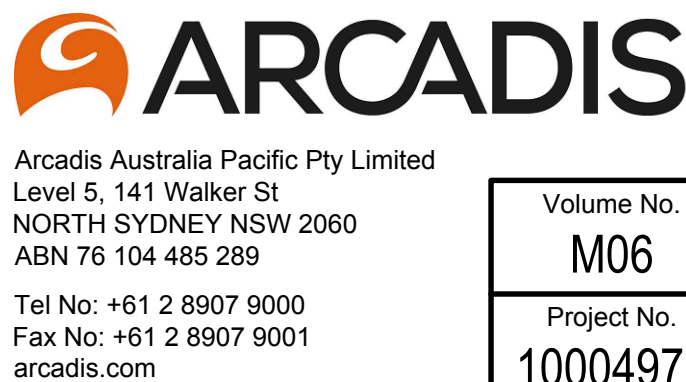
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Designed L.CORSCADDEN
Checked G.DE SILVA
Approved M.KEFFORD
Filename: IMEX-ARC-CV-DWG-3204-FencingPlanSheet4.dwg

Project

MOOREBANK MPE
STAGE 1
IMEX NUMBER 1

Title

FENCING AND GATE PLAN
SHEET 4



Volume No. M06
Project No. 10004975
Drawing No. IMEX -ARC-CV-DWG-3204-
Issue 09

GENERAL NOTES

- 1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- 2. PROPOSED CHAIN WIRE FENCE TO BE IN ACCORDANCE WITH SYDNEY TRAINS DRAWING CV 0285934 WITH NO BARBED WIRE.
- 3. PROPOSED INSULATED CHAIN WIRE FENCE TO BE IN ACCORDANCE WITH SYDNEY TRAINS DRAWING CV 0285942 WITH NO BARBED WIRE.
- 4. PROPOSED CHAIN WIRE GATE TO BE IN ACCORDANCE WITH SYDNEY TRAINS DRAWING CV 0285938 AND CV 0285939 WITH NO BARBED WIRE.
- 5. INSULATION PANELS ARE TO BE INSTALLED EVERY 100 METRES BETWEEN CHAINAGE 40km950 AND 41km750 ON THE NORTHERN PERIMETERS.
- 6. ALL FENCE POSTS AND FOOTINGS TO BE COORDINATED ON SITE BY CONTRACTOR. POT HOLING REQUIRED PRIOR TO ANY EXCAVATION OR CONSTRUCTION TO IDENTIFY EXISTING INFRASTRUCTURE AND SERVICES.

FENCING

- 1. CHAIN-LINK FABRIC FENCES ARE TO BE INSTALLED IN ACCORDANCE WITH SYDNEY TRAINS STANDARD DRAWINGS CV0285934, CV0285938, CV0285939 AND CV0285942.
- 2. EXISTING FENCES THAT ARE TO BE INCORPORATED INTO THIS DESIGN THAT DO NOT COMPLY WITH THE DESIGN REQUIREMENTS AS SET OUT IN ESC 510 ARE TO BE REPLACED WITH NEW FENCING AS SET OUT IN ESC 510.
- 3. WHERE EXISTING FENCE IS TO BE CUT AND TIED INTO PROPOSED FENCE, THEY ARE TO TERMINATE ON THEIR OWN END POST TO THE SATISFACTION OF THE OWNER. THE CONNECTION BETWEEN THE PRIVATE FENCE AND THE RAILWAY BOUNDARY FENCE IS TO BE ADEQUATE FOR STOCK OR TRESPASS CONTROL.
- 4. WHERE THE FENCE IS REQUIRED TO BE ERECTED ON AN EXISTING CURVED BOUNDARY, THE FENCE IS TO BE ERECTED AS A SERIES OF CHORDS OR TANGENTS WITH THE DISTANCE BETWEEN THE POSTS REDUCED, IN ACCORDANCE WITH ASA STANDARD (T HR CI 12160 ST).
- 5. URBAN FENCES ARE TO BE 1800mm HIGH, PLAIN TOP CHAIN-LINK FABRIC FENCE IN ACCORDANCE WITH AS1725.
- 6. ALL ACCESS GATES ARE TO HAVE THE STANDARD RAIL BOUNDARY GATE SIGN ATTACHED.

BOLLARDS, STEEL CHAINS AND PADLOCKS

- 1. BOLLARDS TO MEET THE FOLLOWING REQUIREMENTS, ARTC-11-01 SECTION 16.4
 - BOLLARDS TO HAVE EYELETS FOR CONNECTING THE CHAIN TO THE EYELETS.
 - THE BOLLARDS TO BE CONSTRUCTED OF GREATER THAN OR EQUAL 100mm NOMINAL BORE HEAVY GALVANISED STEEL PIPE TO AS1074 AND TO INCLUDE CAPS.
 - IN-GROUND BOLLARDS SHALL BE CONCRETED 1m INTO THE GROUND.
 - THE MINIMUM HEIGHT ABOVE GROUND LEVEL TO BE 1.5m AND THE BOLLARDS TO BE FINISHED IN GLOSS WHITE ENAMEL.
- 2. CHAIN TO BE HEAVY DUTY 6mm GALVANISED FINISH CHAIN WITH 22X35mm (OR SIMILAR) LINKS.
- 3. ALL PADLOCKS TO BE STANDARD BRASS PADLOCK.
- 4. FOR PADLOCK SCHEDULE, REFER TO DRAWING N01031-PWD-DRG-FEN-0041.

INSULATION PANELS

- 1. INSULATION PANELS ARE TO BE A MINIMUM OF 2200mm IN LENGTH.
- 2. NON-METALLIC POSTS OF THE INSULATION PANELS ARE TO HAVE A MINIMUM CLEARANCE OF 50mm AND MAXIMUM CLEARANCE OF 100mm FROM THE ADJACENT METALLIC POST OF THE CONTINUOUS FENCING.
- 3. INSULATION PANEL NON-METALLIC FENCING MUST HAVE A WARNING SIGN ATTACHED AS SHOWN IN SYDNEY TRAINS STANDARD DRAWING CV0285942.

SIGNAGE

- 1. ALL W560 SIGNS ARE TO BE INSTALLED ON GATES TO ACCESS THE RAIL CORRIDOR FACING THE NON-RAIL CORRIDOR SIDE.
- 2. ALL SIGNS ARE TO BE INSTALLED 1500mm ABOVE THE FINISHED LEVEL AT THE LOCATION THAT THEY ARE INSTALLED.
- 3. ALL SIGN ARE TO BE INSTALLED IN ACCORDANCE WITH ARTC STANDARDS ETF-11-01 AND ETF-16-01.
- 4. ALL SIGNAGE TO BE PROVIDED IN ACCORDANCE WITH ARTC ENGINEERING STANDARD SPS 03.
- 5. LIMITED CLEARANCE SIGNS TO BE INSTALLED IN ACCORDANCE WITH T HR CI 12070 ST (SECTION 6.4). IN ACCORDANCE WITH T HR CI 12070 ST THE CENTRE OF THE SIGNS TO BE LOCATED APPROXIMATELY 1.5 METRES ABOVE THE GROUND. THE 'LIMITED CLEARANCE' SIGN TO BE ATTACHED ON THE HANDRAILS OR END OF THE WALL STRUCTURES AND POSITIONED SO THAT IT IS CLEARLY VISIBLE TO WORKERS APPROACHING THE WALL STRUCTURE.
- 6. NO SAFE PLACE SIGNS TO BE INSTALLED IN ACCORDANCE WITH T HR CI 12070 ST (SECTION 7.0) AND SHALL COMPLY WITH DRAWING CV 0282111. DETAILS OF FIXING BRACKETS, BOLTS, ETC. ARE DETAILED IN THE DRAWING CV 0282111. ALL SIGNS TO BE POST MOUNTED. THE CENTRE OF THE SIGN TO BE LOCATED APPROXIMATELY 1.5 METRES ABOVE THE GROUND. THE CLOSEST PART OF THE SIGN SHALL NOT BE ANY CLOSER TO THE GAUGE FACE OF THE NEAREST RUNNING RAIL THAN 1800 MM.
- 7. SIGNALLING SIGNAGE TO BE PROVIDED IN ACCORDANCE WITH SIGNALLING STANDARDS AND SPECIFICATIONS ANSG 604, SPS 03 AND SPG 1210.
- 8. LIMITED CLEARANCE SIGN, NETWORK CONTROL BOUNDARY SIGN, RMS R2-4, NO VEHICULAR ACCESS SIGN, ACCESS SYDNEY TRAIN CORRIDOR SIGN, ACCESS SIMTA RAIL CORRIDOR SIGN, RMS R6-11 SIGN AND RMS R6-11 SIGN TO BE MOUNTED ON POSTS 1.5m ABOVE THE NEAREST EDGE OF TRAVELLED WAY IN ACCORDANCE WITH AS 1742.2-2009 CLAUSE D2.3.4.
- 9. RX-2 ASSEMBLY SIGNS TO BE MOUNTED ON POSTS 1.5m ABOVE THE NEAREST EDGE OF TRAVELLED WAY IN ACCORDANCE WITH AS 1742.7:2016 CLAUSE B2.3.4.
- 10. KILOMETRE AND HALF KILOMETRE POSTS TO BE INSTALLED IN ACCORDANCE WITH RAILCORP ENGINEERING STANDARD ESC 210 SECTION 8.3 (KILOMETRE POSTS) AND MANUFACTURED IN ACCORDANCE WITH SPC 213. LATERAL PLACEMENT OF KILOMETRE POSTS IN ACCORDANCE WITH RAILCORP ENGINEERING STANDARD ESC 210 FIGURE 16.

REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA

SCALE	SIZE
N.T.S.	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	S.MURPHY

FOR CONSTRUCTION
APPROVED
A. O'SHEA
A.O'SHEA

ARTC DRAWING No			EDMS No			EDMS REV				
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
TITLE	FENCING GENERAL NOTES									
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
N01031	-	PWD	-	DRG	-	FEN	-	0005	-	02



GEORGES RIVER

From
Sydney

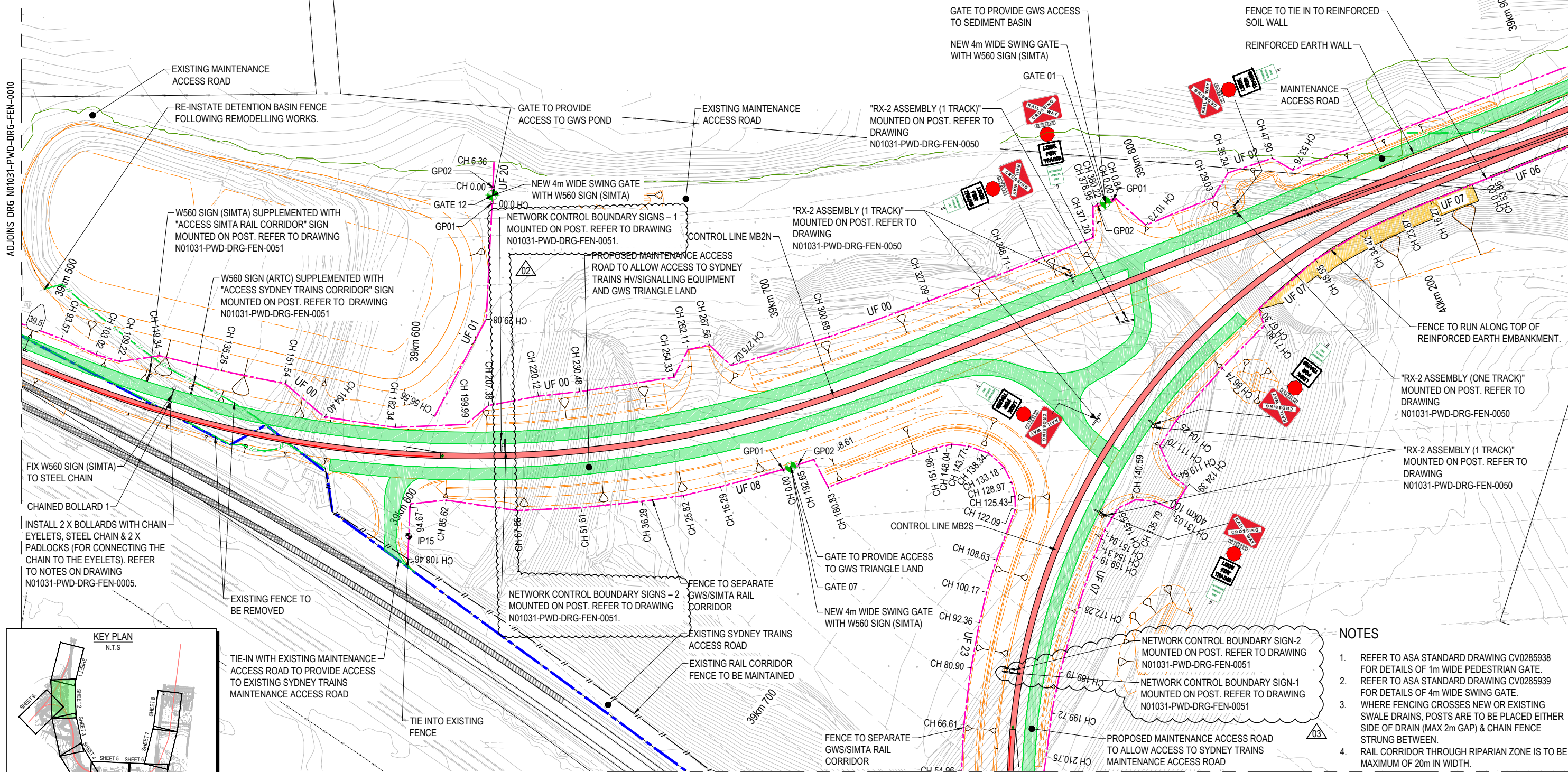
To Moorebank Imex
Terminal

LEGEND

	PROPOSED TRACK ALIGNMENT		CADASTRAL BOUNDARY		RIPARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES
	PROPOSED SECURITY FENCE		CONTOUR		SIGN LOCATION
	4m WIDE SWING GATE		EXISTING FENCE		km SIGNS
	1m WIDE PEDESTRIAN GATE		EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE		HALF km SIGNS
	PROPOSED REINFORCED EARTH WALL		EXISTING FENCE TO BE REMOVED		
	FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT		INSULATION PANEL		

ADJOINS DRG N01031-PWD-DRG-FEN-0010

ADJOINS DRG N01031-PWD-DRG-FEN-0012



PLAN
1:500

ADJOINS DRG N01031-PWD-DRG-FEN-0018

5 0 10 20m
SCALE 1:500

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.

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CLIENT

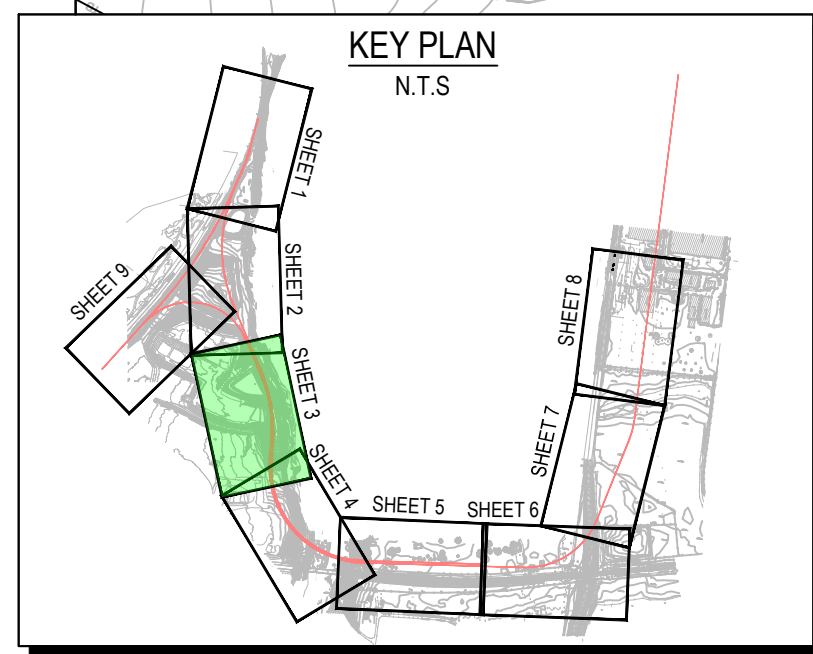
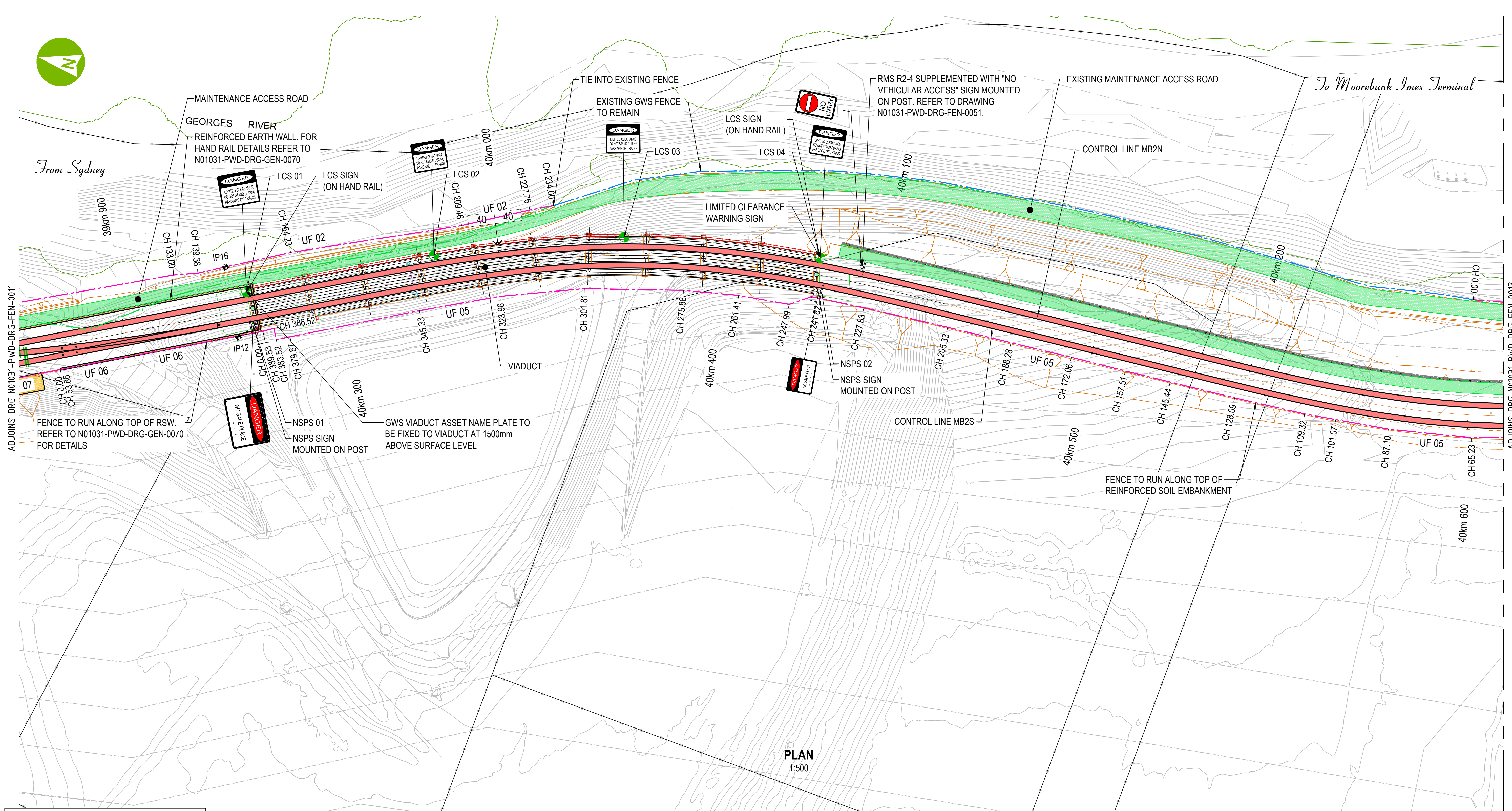


REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
03	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	S.MURPHY

FOR CONSTRUCTION
APPROVED
DATE 01.06.17
A.O'SHEA

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 2 OF 9
DRAWING No.	N01031
PROJECT No.	PWD
ZONE	DRG
TYPE	FEN
DISC	
NUMBER	0011
REV	03

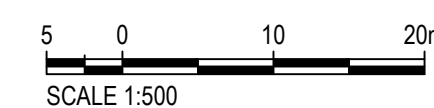


LEGEND

	PROPOSED TRACK ALIGNMENT		CADASTRAL BOUNDARY		RIPIARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES
	PROPOSED SECURITY FENCE		CONTOUR		SIGN LOCATION
	4m WIDE SWING GATE		EXISTING FENCE		km SIGNS
	1m WIDE PEDESTRIAN GATE		EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE		HALF km SIGNS
	PROPOSED REINFORCED EARTH WALL		EXISTING FENCE TO BE REMOVED		
	FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT		INSULATION PANEL		

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.



ARTC DRAWING No. EDMS No. EDMS REV.

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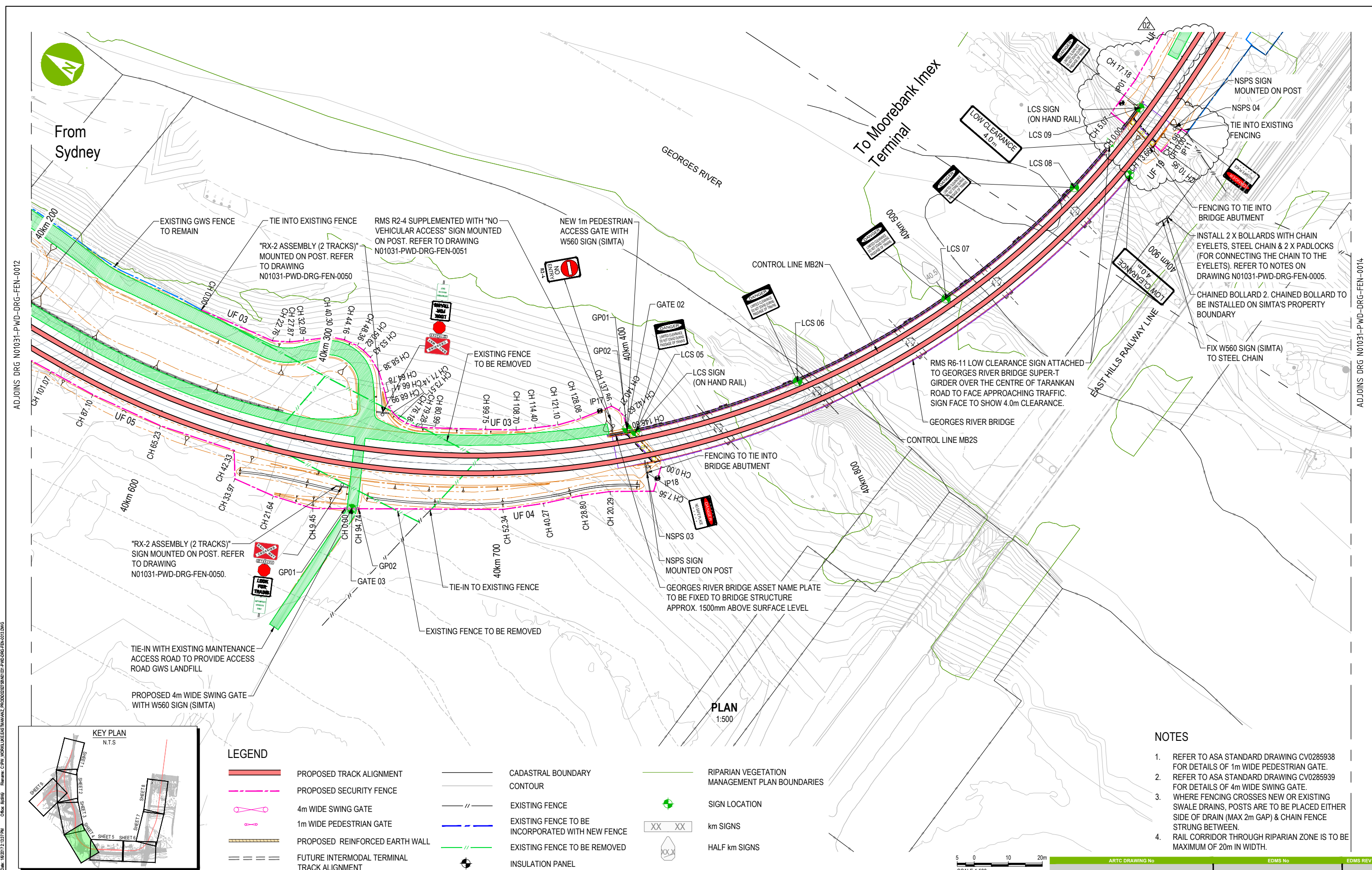


REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	P.NOONAN
CHECKED	M.SAKIB

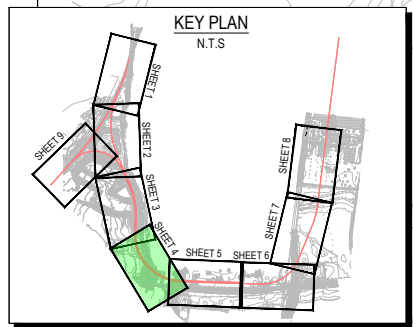
FOR CONSTRUCTION
APPROVED
A.O'SHEA
A.O'SHEA

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 3 OF 9
DRAWING No.	N01031
PROJECT No.	N01031
ZONE	PWD
TYPE	DRG
DISC	FEN
NUMBER	0012
REV	01



ADJOINS DRG N01031-PWD-DRG-FEN-0012

ADJOINS DRG N01031-PWD-DRG-FEN-0014

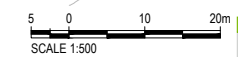


LEGEND

- | | | | | | |
|--|--|--|--|--|---|
| | PROPOSED TRACK ALIGNMENT | | CADASTRAL BOUNDARY | | RIPIARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES |
| | PROPOSED SECURITY FENCE | | CONTOUR | | SIGN LOCATION |
| | 4m WIDE SWING GATE | | EXISTING FENCE | | km SIGNS |
| | 1m WIDE PEDESTRIAN GATE | | EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE | | HALF km SIGNS |
| | PROPOSED REINFORCED EARTH WALL | | EXISTING FENCE TO BE REMOVED | | |
| | FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT | | INSULATION PANEL | | |

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.



REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA

SCALE	AS SHOWN	SIZE	A1
DRAWN	A.LITTLE		
DESIGNED	M.SAKIB		
CHECKED	S.MURPHY		

FOR CONSTRUCTION	
APPROVED	DATE 01.06.17
A.O'SHEA	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 4 OF 9
DRAWING No.	N01031
PROJECT No.	N01031
ZONE	PWD
TYPE	DRG
DISC	FEN
NUMBER	0013
REV	02

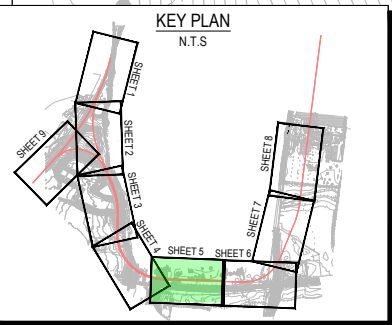
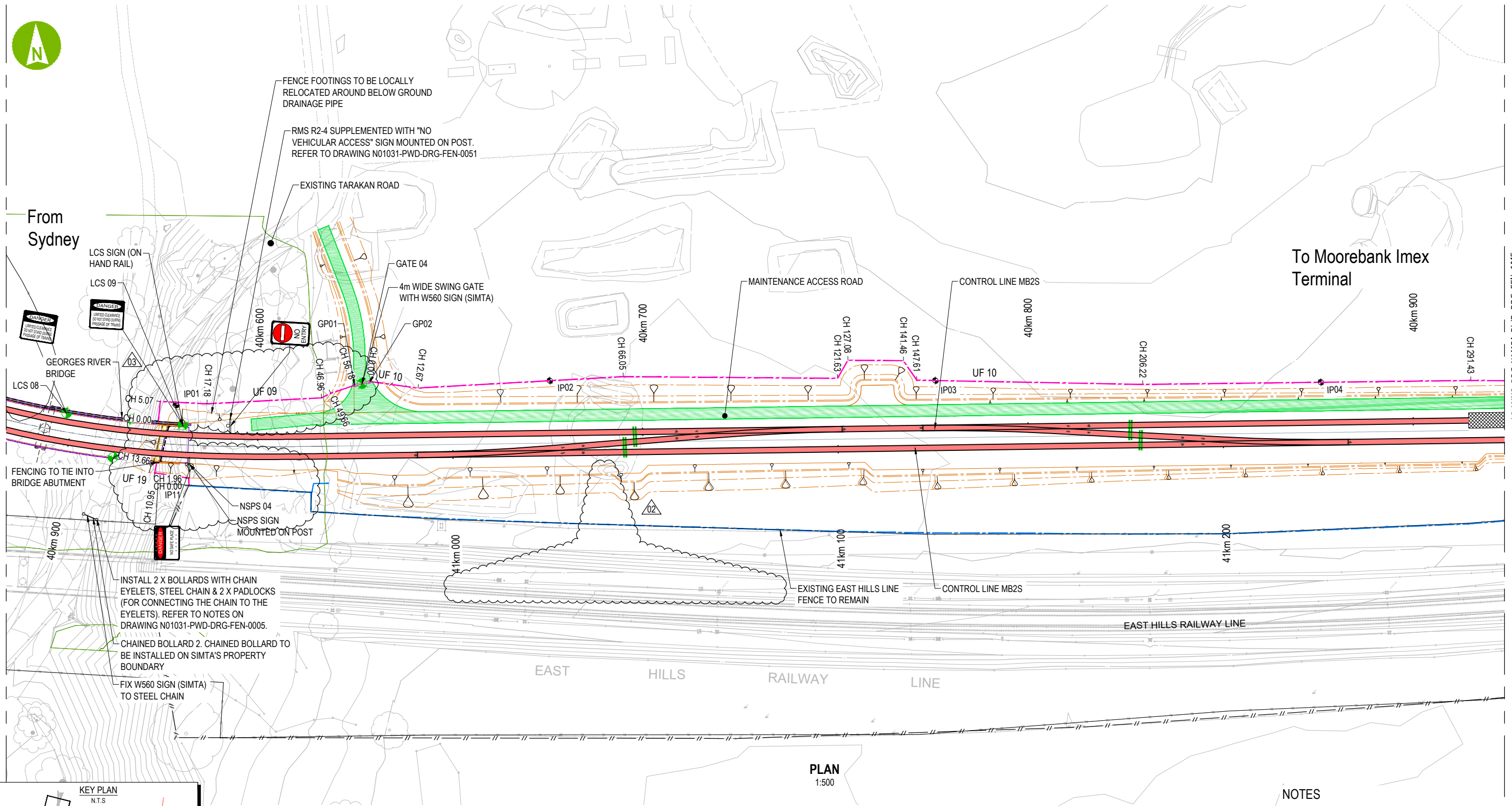


ADJOINS DRG N01031-PWD-DRG-FEN-0013

From
Sydney

To Moorebank Imex
Terminal

ADJOINS DRG N01031-PWD-DRG-FEN-0015

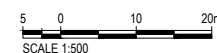


LEGEND

	PROPOSED TRACK ALIGNMENT		CADASTRAL BOUNDARY		RIPIARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES
	PROPOSED SECURITY FENCE		CONTOUR		SIGN LOCATION
	4m WIDE SWING GATE		EXISTING FENCE		km SIGNS
	1m WIDE PEDESTRIAN GATE		EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE		HALF km SIGNS
	PROPOSED REINFORCED EARTH WALL		EXISTING FENCE TO BE REMOVED		
	FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT		INSULATION PANEL		

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.



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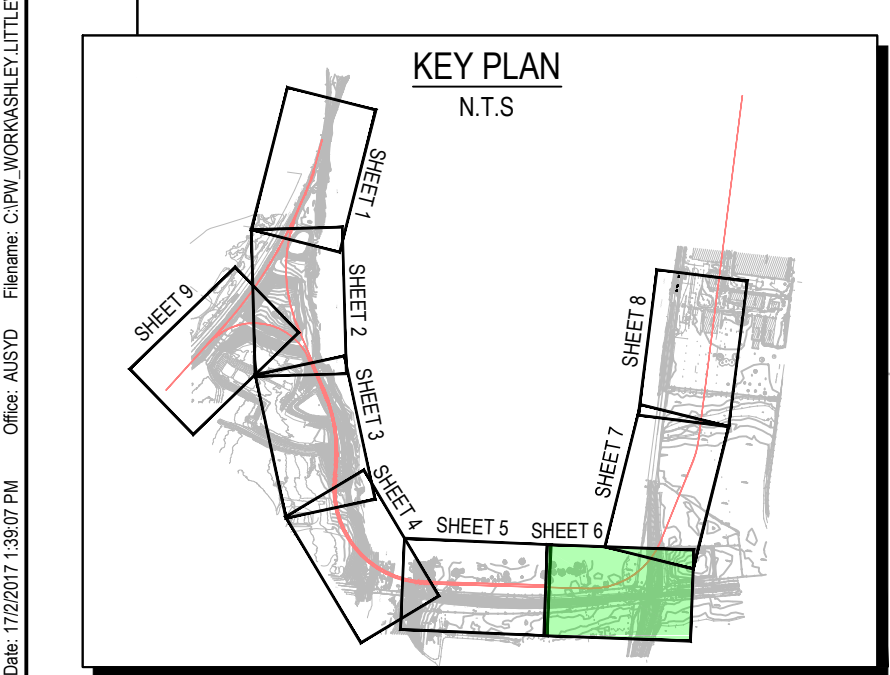
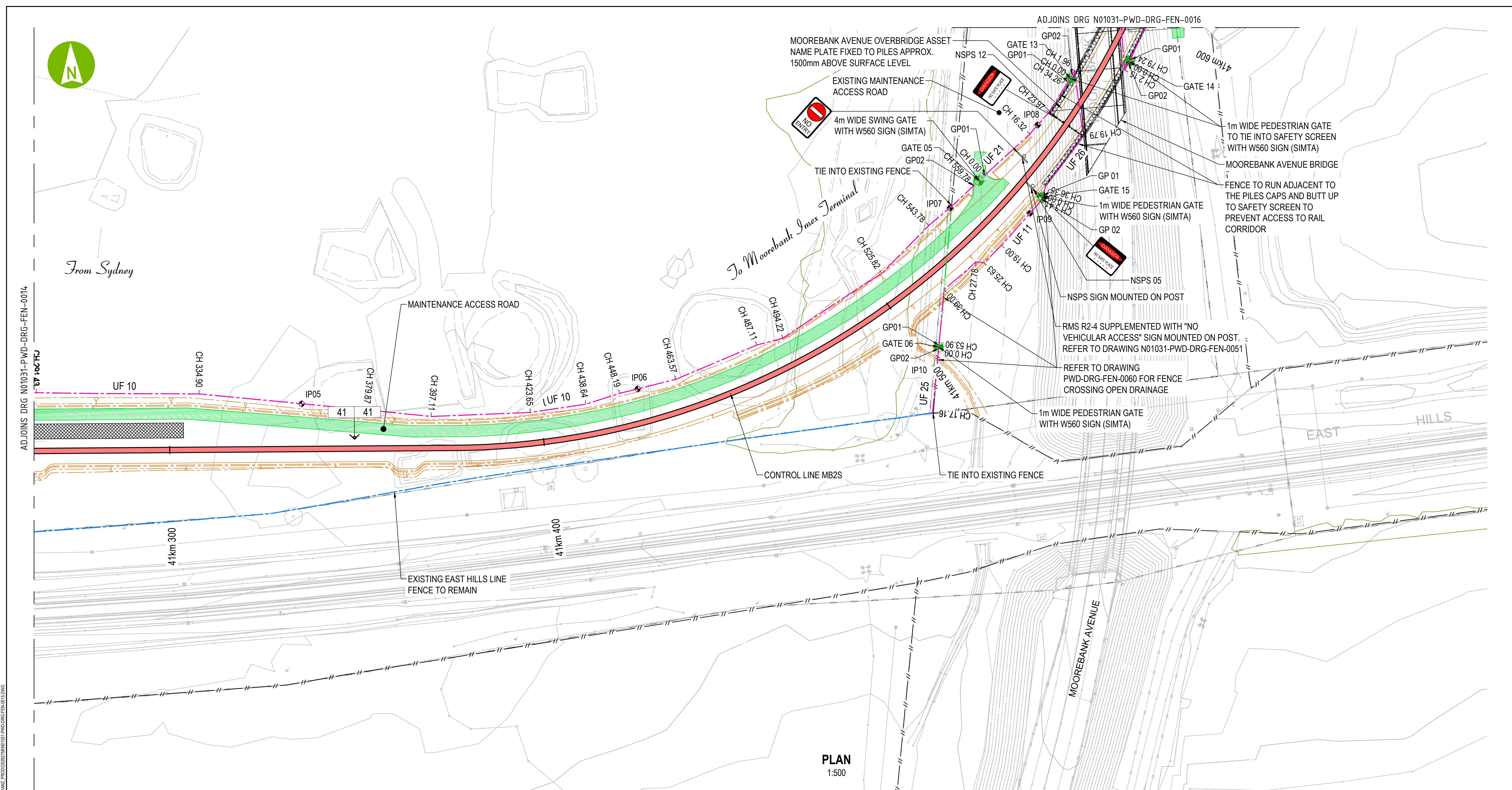


REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
03	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA

SCALE	AS SHOWN	SIZE	A1
DRAWN	A.LITTLE		
DESIGNED	M.SAKIB		
CHECKED	S.MURPHY		

FOR CONSTRUCTION	
APPROVED	DATE 01.06.17
A.O'SHEA	
A.O'SHEA	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1											
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 5 OF 9											
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV						
	N01031	- PWD	- DRG	- FEN	0014	03						



LEGEND

- | | | | | | |
|--|--|--|--|--|---|
| | PROPOSED TRACK ALIGNMENT | | CADASTRAL BOUNDARY | | RIPIARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES |
| | PROPOSED SECURITY FENCE | | CONTOUR | | SIGN LOCATION |
| | 4m WIDE SWING GATE | | EXISTING FENCE | | km SIGNS |
| | 1m WIDE PEDESTRIAN GATE | | EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE | | HALF km SIGNS |
| | PROPOSED REINFORCED EARTH WALL | | EXISTING FENCE TO BE REMOVED | | |
| | FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT | | INSULATION PANEL | | |

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.

SCALE 1:500

ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 6 OF 9					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	PWD	DRG	FEN	0015	01

REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA

SCALE	AS SHOWN	SIZE	A1
DRAWN	A.LITTLE		
DESIGNED	P.NOONAN		
CHECKED	M.SAKIB		

FOR CONSTRUCTION	
APPROVED	
DATE 17.02.17	
A.O'SHEA	
A.O'SHEA	

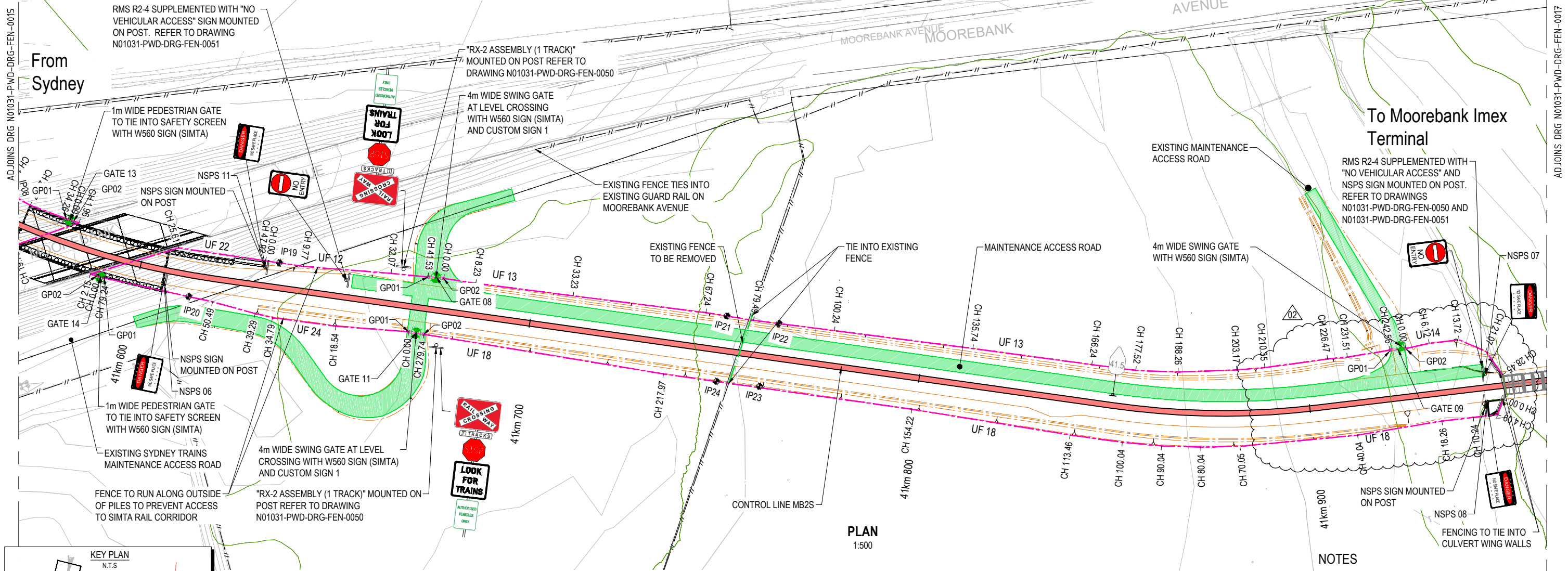


ADJOINS DRG N01031-PWD-DRG-FEN-0015

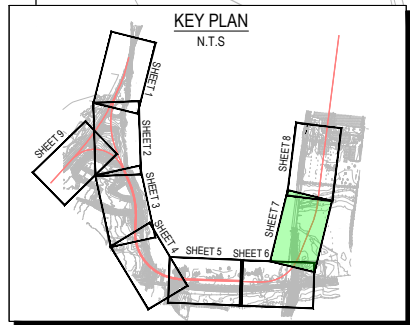
ADJOINS DRG N01031-PWD-DRG-FEN-0017

From
Sydney

To Moorebank Imex
Terminal



PLAN
1:500

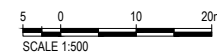


LEGEND

	PROPOSED TRACK ALIGNMENT		CADASTRAL BOUNDARY		RIPIARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES
	PROPOSED SECURITY FENCE		CONTOUR		SIGN LOCATION
	4m WIDE SWING GATE		EXISTING FENCE		km SIGNS
	1m WIDE PEDESTRIAN GATE		EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE		HALF km SIGNS
	PROPOSED REINFORCED EARTH WALL		EXISTING FENCE TO BE REMOVED		
	FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT		INSULATION PANEL		

NOTES

1. REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
2. REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
3. WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
4. RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.



ARTC DRAWING No. EDMS No. EDMS REV

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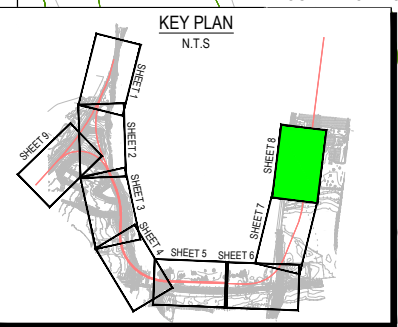
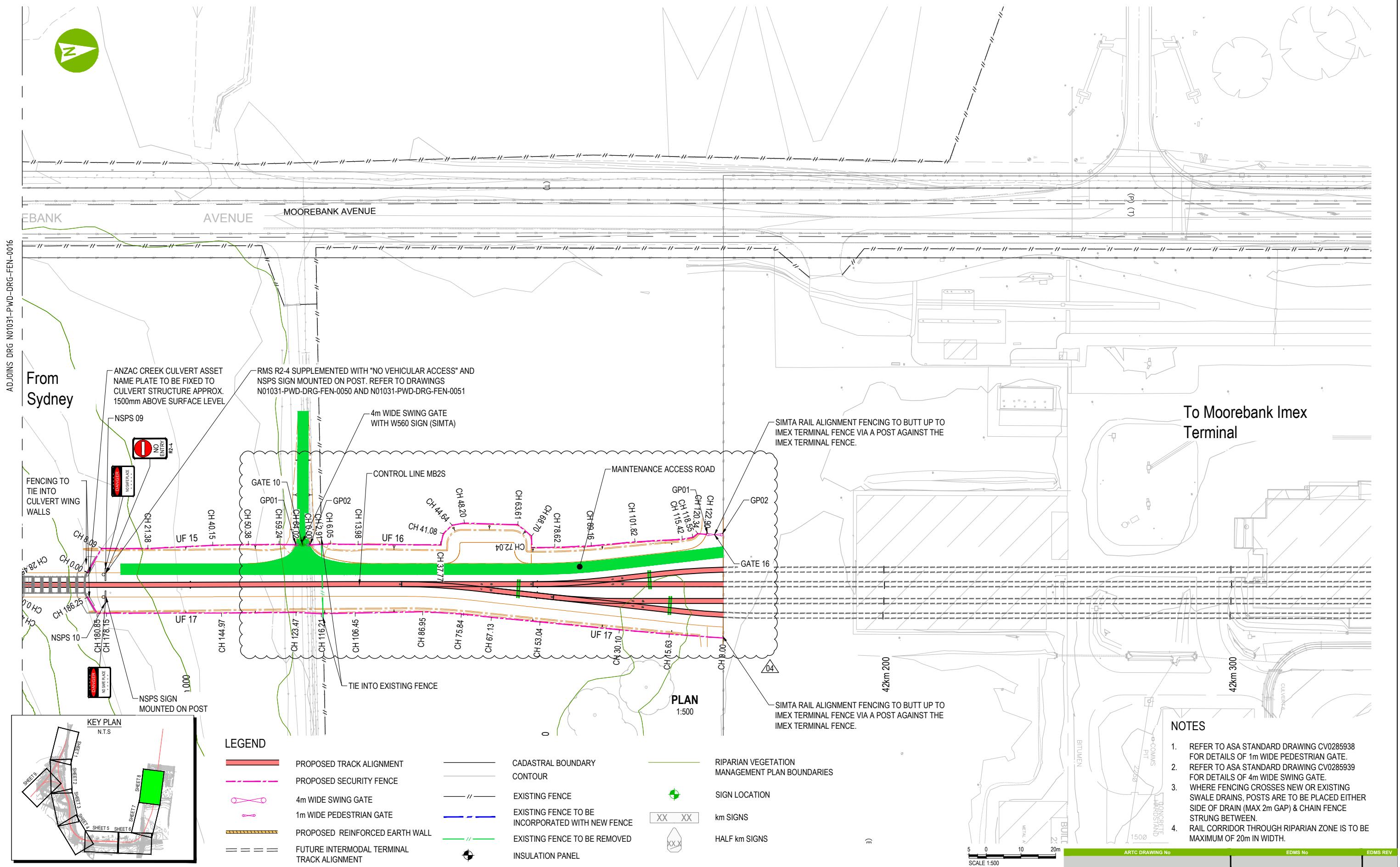
REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA

SCALE	AS SHOWN	SIZE	A1
DRAWN	A.LITTLE	DESIGNED	M.SAKIB
CHECKED	S.MURPHY		

FOR CONSTRUCTION	
APPROVED	DATE 01.06.17
A.O'SHEA	
A.O'SHEA	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1											
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 7 OF 9											
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV						
	N01031	PWD	DRG	FEN	0016	02						

ADJOINS DRG N01031-PWD-DRG-FEN-0016



LEGEND

- | | | | | | |
|--|--|--|--|--|---|
| | PROPOSED TRACK ALIGNMENT | | CADASTRAL BOUNDARY | | RIPIARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES |
| | PROPOSED SECURITY FENCE | | CONTOUR | | SIGN LOCATION |
| | 4m WIDE SWING GATE | | EXISTING FENCE | | km SIGNS |
| | 1m WIDE PEDESTRIAN GATE | | EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE | | HALF km SIGNS |
| | PROPOSED REINFORCED EARTH WALL | | EXISTING FENCE TO BE REMOVED | | |
| | FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT | | INSULATION PANEL | | |

- NOTES
1. REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
 2. REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
 3. WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
 4. RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.

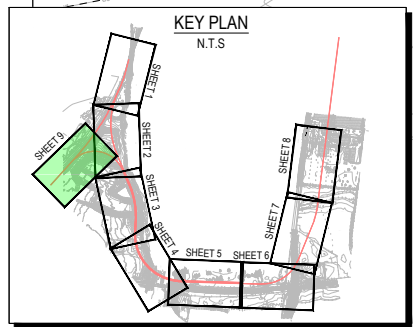
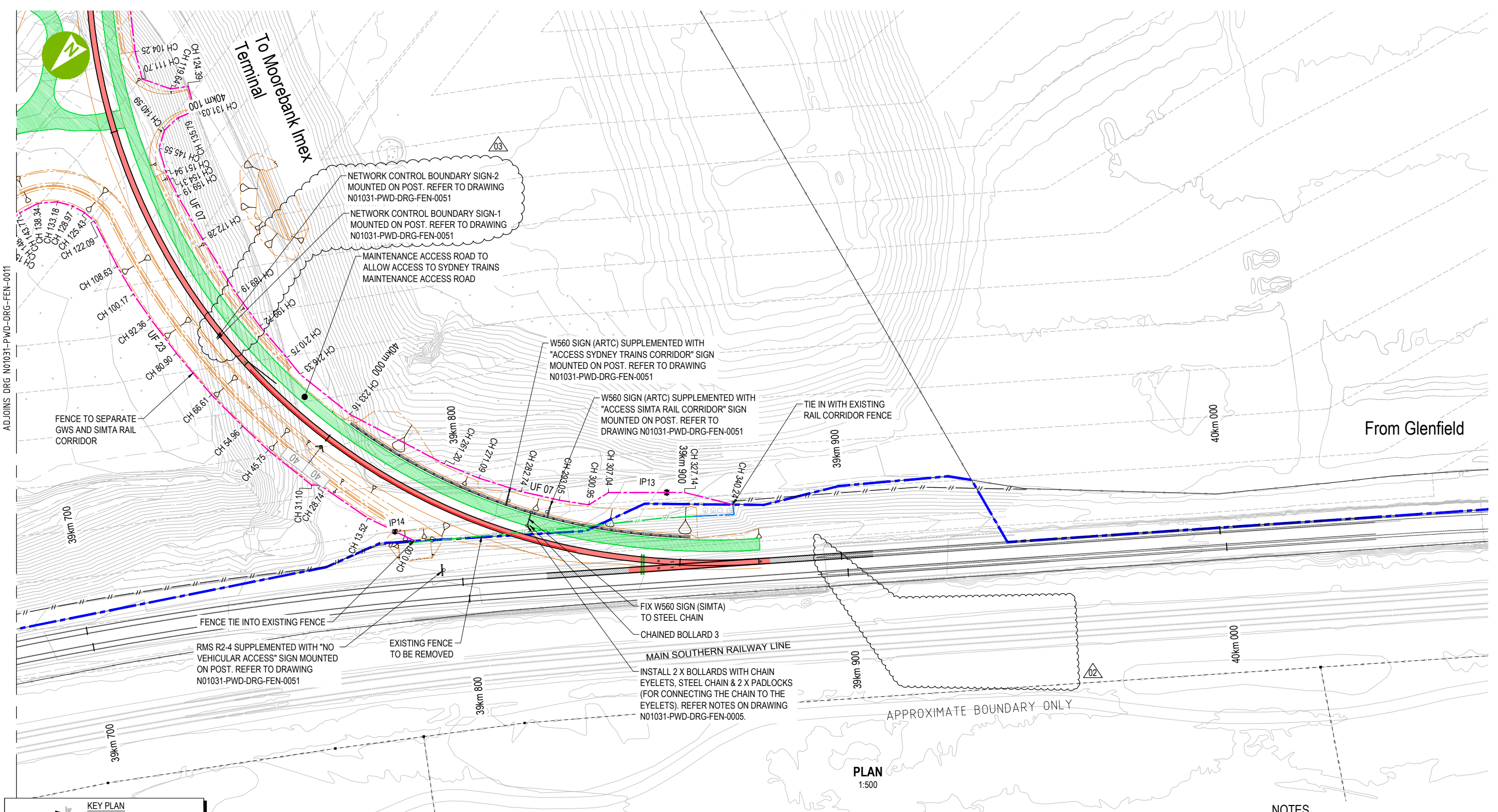
ARTC DRAWING No	EDMS No	EDMS REV
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REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
03	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
04	14.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	S.MURPHY

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 14.06.17

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1											
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 8 OF 9											
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV						
	N01031	- PWD	- DRG	- FEN	- 0017	- 04						

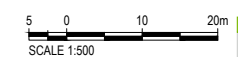


LEGEND

- | | | | | | |
|--|--|--|--|--|---|
| | PROPOSED TRACK ALIGNMENT | | CADASTRAL BOUNDARY | | RIPIARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES |
| | PROPOSED SECURITY FENCE | | CONTOUR | | SIGN LOCATION |
| | 4m WIDE SWING GATE | | EXISTING FENCE | | km SIGNS |
| | 1m WIDE PEDESTRIAN GATE | | EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE | | HALF km SIGNS |
| | PROPOSED REINFORCED EARTH WALL | | EXISTING FENCE TO BE REMOVED | | |
| | FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT | | INSULATION PANEL | | |

NOTES

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3. WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
4. RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.



ARTC DRAWING No		EDMS No		EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1				
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 9 OF 9				
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER
	N01031	- PWD	- DRG	- FEN	- 0018
		APPROVED		DATE	
		A. O'SHEA		01.06.17	
		A.O'SHEA			

REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
03	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA

SCALE	AS SHOWN	SIZE	A1
DRAWN	A.LITTLE		
DESIGNED	M.SAKIB		
CHECKED	S.MURPHY		

Print Date: 16/01/17 14:20 PM Client: AUSTRAL Drawing: C:\P\ WORK\2017\01\16\101_PWD_056_FEN_030.DWG

UF 00		
CHAINAGE	EASTING	NORTHING
0.00	306983.799	6240792.451
5.47	306981.846	6240787.337
21.76	306976.425	6240771.980
51.00	306964.767	6240745.168
56.06	306962.336	6240740.725
61.03	306960.507	6240736.105
70.54	306958.025	6240726.926
73.85	306957.261	6240723.704
93.57	306950.805	6240705.071
103.02	306947.098	6240696.378
109.22	306945.540	6240690.377
119.34	306947.242	6240680.407
135.26	306943.884	6240664.840
151.54	306941.058	6240648.804
164.40	306933.011	6240638.780
182.34	306930.867	6240620.970
199.99	306932.073	6240603.354
207.38	306936.957	6240597.814
220.12	306939.639	6240585.354
230.48	306941.012	6240575.089
254.33	306945.253	6240551.623
262.11	306952.257	6240548.238
267.56	306953.554	6240542.942
275.02	306948.570	6240537.390
300.68	306956.390	6240512.953
327.09	306966.022	6240488.361
348.71	306974.123	6240468.317
371.20	306982.952	6240447.627
378.95	306990.692	6240447.850
380.22	306991.148	6240446.663

UF 01		
CHAINAGE	EASTING	NORTHING
0.00	306987.581	6240598.243
29.08	306958.514	6240598.945
56.56	306933.923	6240611.215

UF 02		
CHAINAGE	EASTING	NORTHING
0.00	306992.538	6240442.912
0.84	306992.816	6240442.117
10.73	306986.411	6240434.582
29.03	306993.779	6240417.837
36.24	307000.061	6240414.288
47.90	307003.985	6240403.308
53.76	307001.192	6240398.154
133.00	307031.078	6240324.767
139.38	307032.891	6240318.650
164.23	307043.215	6240296.055
209.46	307059.418	6240253.825
227.76	307067.165	6240237.242
234.00	307069.507	6240231.462

UF 03		
CHAINAGE	EASTING	NORTHING
0.00	307095.711	6239991.147
22.76	307098.616	6239968.568
27.87	307100.898	6239964.000
32.09	307103.458	6239960.650
40.30	307108.491	6239954.165
44.16	307109.695	6239950.491
48.36	307110.148	6239946.320
50.62	307109.873	6239944.079
53.43	307109.165	6239941.358
58.38	307106.835	6239936.989
64.78	307102.474	6239932.302
66.41	307101.251	6239931.230
68.99	307099.562	6239929.274
71.14	307098.610	6239927.353
73.51	307097.993	6239925.061
76.18	307097.919	6239922.393
79.28	307098.536	6239919.356
80.99	307099.174	6239917.772
99.75	307108.306	6239901.374
108.70	307112.731	6239893.594
114.40	307116.192	6239889.071
121.10	307120.302	6239883.780
128.08	307125.359	6239878.966
137.86	307133.117	6239873.016
140.27	307133.183	6239870.607
142.63	307132.369	6239868.391
145.80	307130.117	6239866.162

UF 04		
CHAINAGE	EASTING	NORTHING
0.00	307125.287	6239851.440
7.56	307117.943	6239849.654
20.29	307111.365	6239860.551
28.80	307106.058	6239867.207
40.27	307098.290	6239875.651
52.34	307090.667	6239885.000
94.74	307069.177	6239921.555

UF 05		
CHAINAGE	EASTING	NORTHING
0.00	307067.141	6239924.998
9.45	307062.347	6239933.146
21.64	307059.571	6239945.008
33.97	307058.120	6239957.262
42.33	307065.194	6239961.709
65.23	307060.323	6239984.088
87.10	307057.993	6240005.829
101.07	307057.570	6240019.792
109.32	307057.310	6240028.041
128.09	307057.597	6240046.805
145.44	307058.113	6240064.151
157.51	307058.493	6240076.212
172.06	307059.053	6240090.752
188.28	307059.481	6240106.971
205.33	307059.952	6240124.008
227.83	307060.408	6240146.503
241.82	307060.356	6240160.499
247.99	307057.169	6240165.780
261.41	307056.712	6240179.187
275.88	307054.991	6240193.561
301.81	307050.016	6240219.011
323.96	307043.431	6240240.150
345.33	307035.396	6240259.952
383.52	307020.166	6240294.976
386.52	307022.917	6240296.173
389.53	307021.569	6240298.868

UF 06		
CHAINAGE	EASTING	NORTHING
0.00	307021.569	6240298.868
53.86	307000.717	6240348.522

UF 07		
CHAINAGE	EASTING	NORTHING
0.00	307000.718	6240348.520
16.27	306994.325	6240363.485
23.87	306991.208	6240370.418
34.42	306986.546	6240379.881
48.55	306978.955	6240391.795
67.30	306966.320	6240405.646
71.80	306962.028	6240404.281
86.74	306951.147	6240414.515
104.25	306937.652	6240425.670
111.70	306931.311	6240429.585
119.64	306924.094	6240426.266
124.39	306921.152	6240422.549
131.03	306915.479	6240426.010
135.79	306917.376	6240430.375
140.59	306917.685	6240435.165
145.55	306915.432	6240439.583
151.94	306909.894	6240442.766
154.31	306907.675	6240443.604
159.19	306903.073	6240445.230
172.28	306890.508	6240448.910
189.19	306874.107	6240453.035
199.72	306863.744	6240454.878
210.75	306852.764	6240455.936
216.33	306847.229	6240456.643
233.16	306830.474	6240455.112
261.20	306803.551	6240447.256
271.09	306794.368	6240443.593
282.74	306783.928	6240438.412
293.05	306775.102	6240433.084
300.95	306768.633	6240428.546
307.04	306767.168	6240422.644
327.14	306752.725	6240408.654
340.24	306741.368	6240402.136

UF 08		
CHAINAGE	EASTING	NORTHING
0.00	306922.925	6240523.647
16.29	306918.163	6240539.221
25.82	306915.727	6240548.440
36.29	306913.999	6240558.769
51.61	306911.981	6240573.952
67.66	306910.876	6240589.964
85.62	306913.006	6240607.795
94.67	306911.839	6240616.776
108.46	306898.050	6240616.973

UF 09		
CHAINAGE	EASTING	NORTHING
0.00	307281.554	6239785.884
5.07	307282.271	6239790.903
10.00	307287.179	6239790.436
17.18	307294.327	6239789.756
20.00	307297.147	6239789.778
30.00	307307.146	6239789.858
40.00	307317.146	6239789.937
46.96	307324.106	6239789.992
49.66	307326.581	6239791.072
50.00	307326.908	6239791.165
56.18	307332.849	6239792.859

UF 10		
CHAINAGE	EASTING	NORTHING
0.00	307336.783	6239793.584
12.67	307349.265	6239791.406
66.05	307402.637	6239792.069
121.63	307458.141	6239789.194
127.08	307461.087	6239793.783
141.46	307475.447	6239793.022
147.61	307478.716	6239787.815
206.22	307537.215	6239784.154
291.43	307622.383	6239781.454
334.90	307665.810	6239779.503
397.11	307727.456	6239771.177
423.65	307753.997	6239771.265
438.64	307768.901	6239772.911
448.19	307778.099	6239775.480
463.57	307793.147	6239778.648
487.11	307815.145	6239787.010
494.22	307822.087	6239788.555
518.63	307842.934	6239801.259
525.82	307849.160	6239804.863
543.78	307862.204	6239817.209
559.78	307874.550	6239827.375

UF 11		
CHAINAGE	EASTING	NORTHING
0.00	307893.430	6239825.592
3.41	307892.165	6239822.430
19.00	307881.396	6239811.152
25.63	307876.511	6239806.676
27.78	307874.379	6239806.992
39.00	307865.631	6239799.960
53.90	307863.696	6239785.187

UF 12		
CHAINAGE	EASTING	NORTHING
0.00	307923.570	6239900.760
9.77	307927.307	6239909.786
32.07	307934.428	6239930.924
41.53	307937.597	6239939.836

UF 13		
CHAINAGE	EASTING	NORTHING
0.00	307938.938	6239943.605
8.23	307942.108	6239951.201
10.00	307942.755	6239952.847
20.00	307946.409	6239962.156
30.00	307950.063	6239971.464
33.23	307951.244	6239974.474
40.00	307953.703	6239980.778
50.00	307957.337	6239990.094
60.00	307960.972	6239999.411
67.24	307963.601	6240006.152
70.00	307964.692	6240008.691
79.49	307968.436	6240017.410
80.00	307968.622	6240017.886
90.00	307972.259	6240027.202
100.00	307975.896	6240036.517
100.24	307975.983	6240036.741
110.00	307979.550	6240045.825
120.00	307983.205	6240055.134
130.00	307986.859	6240064.442
135.74	307988.958	6240069.788
140.00	307990.537	6240073.741
150.00	307994.246	6240083.028
160.00	307997.956	6240092.314
166.24	308000.271	6240098.112
170.00	308001.660	6240101.603
177.52	308004.442	6240108.592
180.00	308005.132	6240110.972
188.26	308007.431	6240118.906
190.00	308007.796	6240120.606
200.00	308009.891	6240130.384
203.17	308010.554	6240133.479
210.00	308011.667	6240140.223
210.35	308011.725	6240140.571
220.00	308012.769	6240150.161
226.47	308013.469	6240156.590
230.00	308013.998	6240160.084
231.51	308014.224	6240161.576
240.00	308014.951	6240170.035
242.56	308015.170	6240172.584

UF 14		
CHAINAGE	EASTING	NORTHING
0.00	308015.732	6240176.545
6.12	308015.931	6240182.659
10.00	308016.426	6240186.510
13.72	308016.899	6240190.197
20.00	308020.671	6240195.221
21.07	308021.315	6240196.078
28.45	308028.194	6240198.741

UF 19		
CHAINAGE	EASTING	NORTHING
0.00	307288.747	6239768.726
1.96	307288.801	6239770.687
10.00	307280.915	6239772.245
10.95	307279.983	6239772.429
13.66	307280.645	6239775.057

UF 21		
CHAINAGE	EASTING	NORTHING
0.00	307877.565	6239830.003
16.32	307890.007	6239840.561
23.97	307895.271	6239846.122
34.26	307901.122	6239854.583

UF 23		
CHAINAGE	EASTING	NORTHING
0.00	306795.242	6240467.330
13.52	306808.114	6240471.485
28.74	306823.115	6240473.997
31.10	306824.886	6240475.559
45.75	306839.484	6240476.891
54.96	306848.686	6240476.994
66.61	306860.334	6240476.769
80.90	306874.553	6240475.321
92.36	306885.868	6240473.504
100.17	306893.521	6240471.955
108.63	306901.667	6240469.678
122.09	306914.402	6240465.303
125.43	306917.734	6240465.457
128.97	306921.154	6240466.381
133.18	306924.861	6240468.364
138.34	306928.275	6240472.236
143.77	306930.002	6240477.385
148.04	306930.341	6240481.643
151.98	306929.385	6240485.462
180.83	306918.781	6240512.295
188.61	306925.592	6240516.062
192.65	306924.252	6240519.873

UF 25		
CHAINAGE	EASTING	NORTHING
0.00	307863.565	6239784.195
17.16	307861.316	6239767.183

UF 26		
CHAINAGE	EASTING	NORTHING
0.00	307901.637	6239855.440
1.96	307902.645	6239857.116
19.79	307904.256	6239839.356
36.35	307893.803	6239826.521

02



REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	FOR CONSTRUCTION		PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA	NTS	A1	<div>APPROVED</div> <div>DATE 01.06.17</div> <div>A. O'SHEA</div> <div>A.O'SHEA</div>		TITLE	<div>FENCING SET-OUT POINTS - FENCING SHEET 2 OF 2</div>					
02	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA	DRAWN A.LITTLE										
				DESIGNED M.SAKIB										
				CHECKED S.MURPHY										
								DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
									N01031	- PWD	- DRG	- FEN	- 0031	- 02

Rev: 02 15/02/2017 10:49 PM C:\Users\AUGUST\Documents\Aurecon\Projects\MOOREBANK\01- FENCING\ENCL001.DWG

GATE 01					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	306992.538	6240442.912	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	306991.148	6240446.663			

GATE 02					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307130.117	6239866.162	1m WIDE	PEDESTRIAN ACCESS GATE	CV0285938
GP02	307129.406	6239865.459			

GATE 03					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307067.141	6239924.998	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	307069.177	6239921.555			

GATE 04					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307332.849	6239792.859	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	307336.783	6239793.584			

GATE 05					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307877.565	6239830.004	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	307874.556	6239827.369			

GATE 06					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307863.696	6239785.187	1m WIDE	PEDESTRIAN ACCESS GATE	CV0285938
GP02	307863.565	6239784.195			

GATE 07					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	306922.925	6240523.647	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	306924.252	6240519.873			

GATE 08					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307937.597	6239939.836	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	307938.938	6239943.605			

GATE 09					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	308015.170	6240172.584	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	308015.732	6240176.545			

GATE 10					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	308029.689	6240279.963	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	308030.240	6240283.925			

GATE 11					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307949.887	6239931.583	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	307951.474	6239935.255			

GATE 12					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	306987.581	6240598.243	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	306991.580	6240598.147			

GATE 13					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307901.122	6239854.583	1m WIDE	PEDESTRIAN ACCESS GATE	CV0285938
GP02	307901.637	6239855.440			

GATE 14					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307917.599	6239859.418	1m WIDE	PEDESTRIAN ACCESS GATE	CV0285938
GP02	307917.096	6239858.554			

GATE 15					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	307892.450	6239823.142	1m WIDE	PEDESTRIAN ACCESS GATE	CV0285938
GP02	307892.828	6239824.069			

GATE 16					
POINT	EASTING	NORTHING	SIZE	OPERATION	DRAWING REF
GP01	308041.787	6240398.095	4m WIDE	VEHICLE ACCESS GATE	CV0285939
GP02	308042.339	6240402.057			

INSULATION PANELS		
POINT	EASTING	NORTHING
IP01	307286.312	6239789.757
IP02	307383.548	6239791.848
IP03	307483.531	6239787.513
IP04	307583.508	6239782.687
IP05	307693.138	6239775.858
IP06	307782.896	6239776.490
IP07	307867.841	6239821.619
IP08	307892.301	6239842.804
IP09	307889.302	6239819.432
IP10	307862.740	6239777.855
IP11	307283.766	6239770.082
IP12	307018.837	6240304.856
IP13	306756.112	6240411.935
IP14	306800.534	6240469.038
IP15	306903.754	6240616.891
IP16	307035.961	6240311.929
IP17	307130.157	6239875.286
IP18	307121.808	6239850.594
IP19	307924.930	6239904.045
IP20	307927.808	6239879.489
IP21	307965.780	6240011.114
IP22	307970.781	6240023.473
IP23	307985.053	6240014.784
IP24	307980.901	6240004.220

02

02

02

REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA

SCALE	SIZE
NTS	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
S.MURPHY	

FOR CONSTRUCTION	
<i>A. O'SHEA</i>	DATE 01.06.17
	A.O'SHEA

ARTC DRAWING No			EDMS No			EDMS REV									
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1												
TITLE			FENCING SET-OUT POINTS - GATES AND INSULATION PANELS												
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER		REV						
N01031			-	PWD	-	DRG	-	FEN		-	0040		-	02	

NAME/NO.	QTY.	COMMENTS
W560	17	POSTED AT SITE ENTRANCE
NO SAFE PLACE SIGN	13	POSTED WHERE ACCESS IS NOT PERMITTED DURING NORMAL OPERATING CONDITIONS
LIMITED CLEARANCE WARNING SIGN	9	
NETWORK CONTROL BOUNDARY SIGN-1	2	
NETWORK CONTROL BOUNDARY SIGN-2	2	
RX-2 ASSEMBLY (1 TRACK)	8	
RX-2 ASSEMBLY (2 TRACKS)	2	
RMS R2-4	7	
NO VEHICULAR ACCESS SIGN	7	
ACCESS SYDNEY TRAIN CORRIDOR SIGN	1	
ACCESS SIMTA TRAIN CORRIDOR SIGN	1	
RMS R6-11	2	

SIGNAGE SCHEDULE

REFERENCE	SIGN	EASTING	NORTHING	COMMENTS
GATE 01	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 1
GATE 02	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 03	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 3
GATE 04	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 05	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 06	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 07	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 1
GATE 08	W560 (SIMTA) AND CUSTOM SIGN 1	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 5
GATE 09	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 10	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 11	W560 (SIMTA) AND CUSTOM SIGN 1	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 5
GATE 12	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 1
GATE 13	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 14	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 15	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
GATE 16	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
CHAINED BOLLARD 1	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 4
CHAINED BOLLARD 2	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 2
CHAINED BOLLARD 3	W560 (SIMTA)	CENTRALLY AFFIXED TO GATE		PADLOCK TYPE 4
ACCESS SIMTA RAIL CORRIDOR	W560 (SIMTA)	306942.155	6240682.558	
ACCESS SYDNEY RAIL CORRIDOR	W560 (SIMTA)	306939.477	6240672.462	
NETWORK CONTROL BOUNDARY	SIGN -1	306927.105	6240593.858	
NETWORK CONTROL BOUNDARY	SIGN -1	306988.554	6240378.589	
NETWORK CONTROL BOUNDARY	SIGN -2	306927.105	6240593.858	
NETWORK CONTROL BOUNDARY	SIGN -2	306988.554	6240378.589	
				02
LCS 01	LOW CLEARANCE SIGN	307036.094	6240311.990	
LCS 02	LOW CLEARANCE SIGN	307050.352	6240259.255	
LCS 03	LOW CLEARANCE SIGN	307065.345	6240211.627	
LCS 04	LOW CLEARANCE SIGN	307070.769	6240160.432	
LCS 05	LOW CLEARANCE SIGN	307130.260	6239863.161	
LCS 06	LOW CLEARANCE SIGN	307167.329	6239829.777	
LCS 07	LOW CLEARANCE SIGN	307210.478	6239804.690	
LCS 08	LOW CLEARANCE SIGN	307257.849	6239788.968	
LCS 09	LOW CLEARANCE SIGN	307281.933	6239785.004	
NSPS 12	LOW CLEARANCE SIGN	307897.182	6239843.913	
NSPS 11	LOW CLEARANCE SIGN	307926.266	6239899.791	
NSPS 01	NO SAFE PLACE SIGN	307018.784	6240304.856	
NSPS 02	NO SAFE PLACE SIGN	307062.080	6240158.872	
NSPS 03	NO SAFE PLACE SIGN	307127.120	6239852.403	
NSPS 04	NO SAFE PLACE SIGN	307279.327	6239776.039	
NSPS 05	NO SAFE PLACE SIGN	307892.692	6239827.538	
NSPS 06	NO SAFE PLACE SIGN	307921.398	6239873.540	
NSPS 07	NO SAFE PLACE SIGN	308026.895	6240194.506	
NSPS 08	NO SAFE PLACE SIGN	308033.857	6240193.277	
NSPS 09	NO SAFE PLACE SIGN	307287.874	6239784.468	
NSPS 10	NO SAFE PLACE SIGN	308037.604	6240223.099	
NSPS 11	NO SAFE PLACE SIGN	307925.096	6239900.274	
NSPS 12	NO SAFE PLACE SIGN	307897.497	6239844.400	

SIGNAGE SCHEDULE

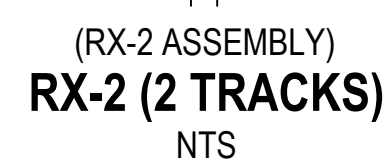
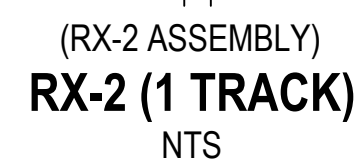
REFERENCE	SIGN	EASTING	NORTHING	COMMENTS
ASSEMBLY (1 TRACK)	RX-2	306914.726	6240443.726	
ASSEMBLY (1 TRACK)	RX-2	306937.269	6240445.038	
ASSEMBLY (1 TRACK)	RX-2	306936.164	6240431.405	
ASSEMBLY (1 TRACK)	RX-2	306962.817	6240438.809	
ASSEMBLY (1 TRACK)	RX-2	306973.327	6240452.298	
ASSEMBLY (1 TRACK)	RX-2	306990.257	6240412.557	
ASSEMBLY (2 TRACKS)	RX-2	307096.530	6239929.660	
ASSEMBLY (2 TRACKS)	RX-2	307072.746	6239929.293	
ASSEMBLY (1 TRACK)	RX-2	307934.151	6239934.267	
ASSEMBLY (1 TRACK)	RX-2	307954.927	6239937.643	
NO VEHICULAR ACCESS SIGN	R2-4	307933.257	6239919.462	
NO VEHICULAR ACCESS SIGN	R2-4	307128.419	6239869.669	
NO VEHICULAR ACCESS SIGN	R2-4	308026.895	6240194.506	
NO VEHICULAR ACCESS SIGN	R2-4	307888.358	6239834.749	
NO VEHICULAR ACCESS SIGN	R2-4	307299.542	6239783.836	
NO VEHICULAR ACCESS SIGN	R2-4	307288.449	6239774.297	
NO VEHICULAR ACCESS SIGN	R2-4	307070.705	6240149.268	
NO VEHICULAR ACCESS SIGN	R2-4	306716.873	6240394.180	

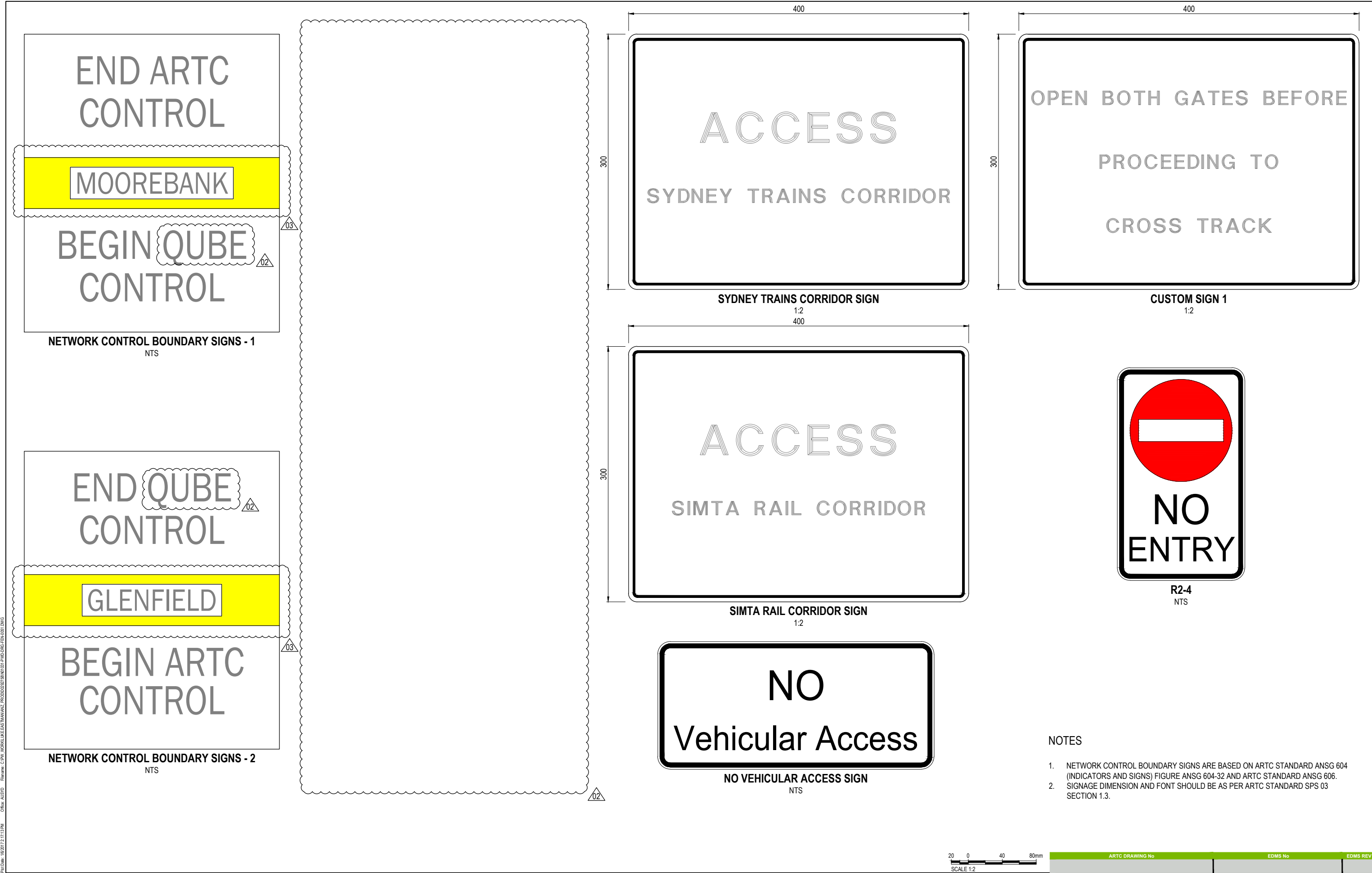
NOTES

1. PADLOCKS ARE TO BE PROVIDED WITH DIFFERENT KEYS BASED ON THE FOLLOW ACCESS AUTHORITY:
 - PADLOCK TYPE 1 - GWS ACCESS ONLY
 - PADLOCK TYPE 2 - SIMTA ACCESS ONLY
 - PADLOCK TYPE 3 - GWS AND SIMTA ACCESS ONLY
 - PADLOCK TYPE 4 - SYDNEY TRAINS AND ARTC ACCESS ONLY
 - PADLOCK TYPE 5 - SYDNEY TRAINS AND SIMTA ACCESS ONLY



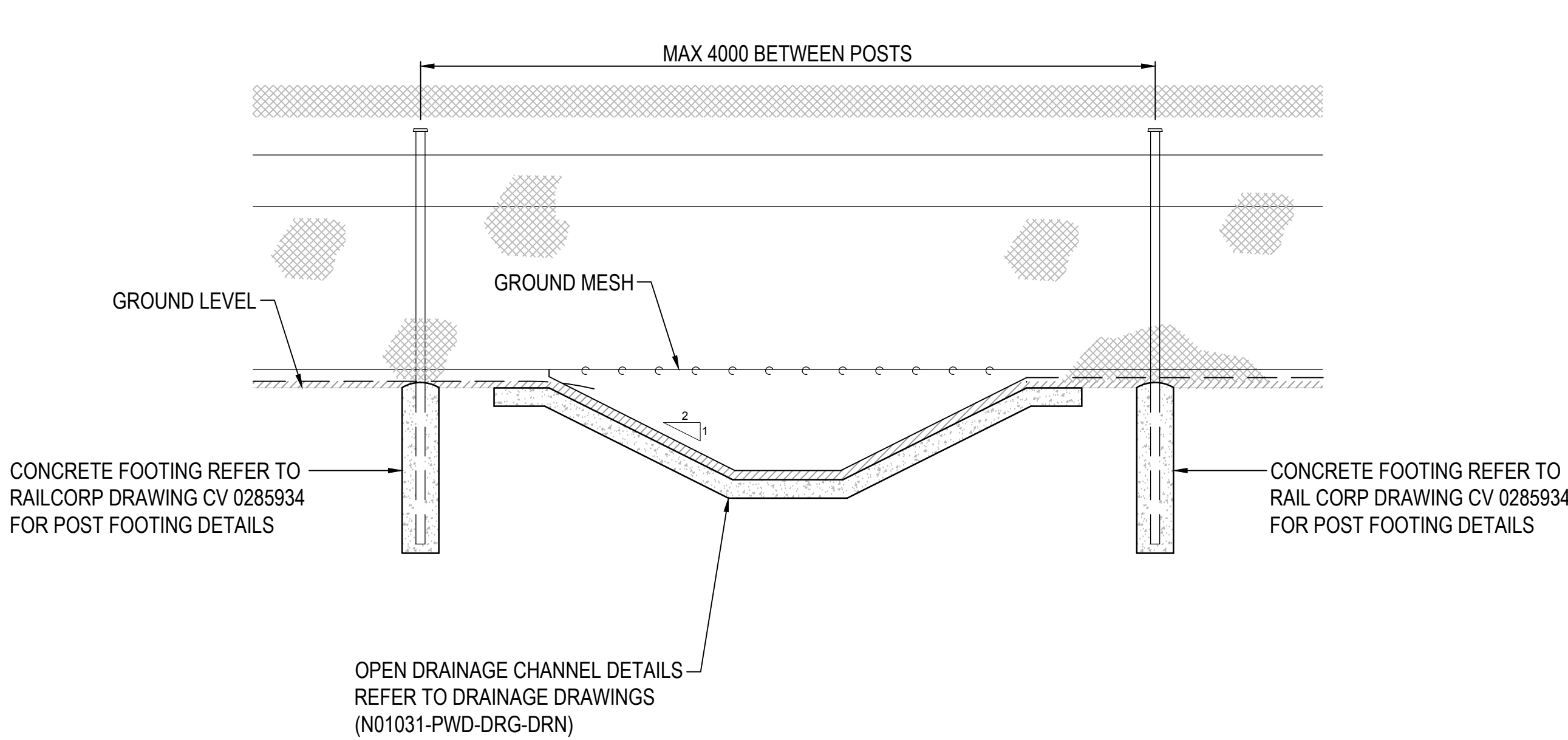
ARTC DRAWING No.				EDMS No.				EDMS REV	
PROJECT		MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE		FENCING SIGNAGE SCHEDULE							
DRAWING No.		PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
		N01031	- PWD	- DRG	- FEN	- 0041	- 03		



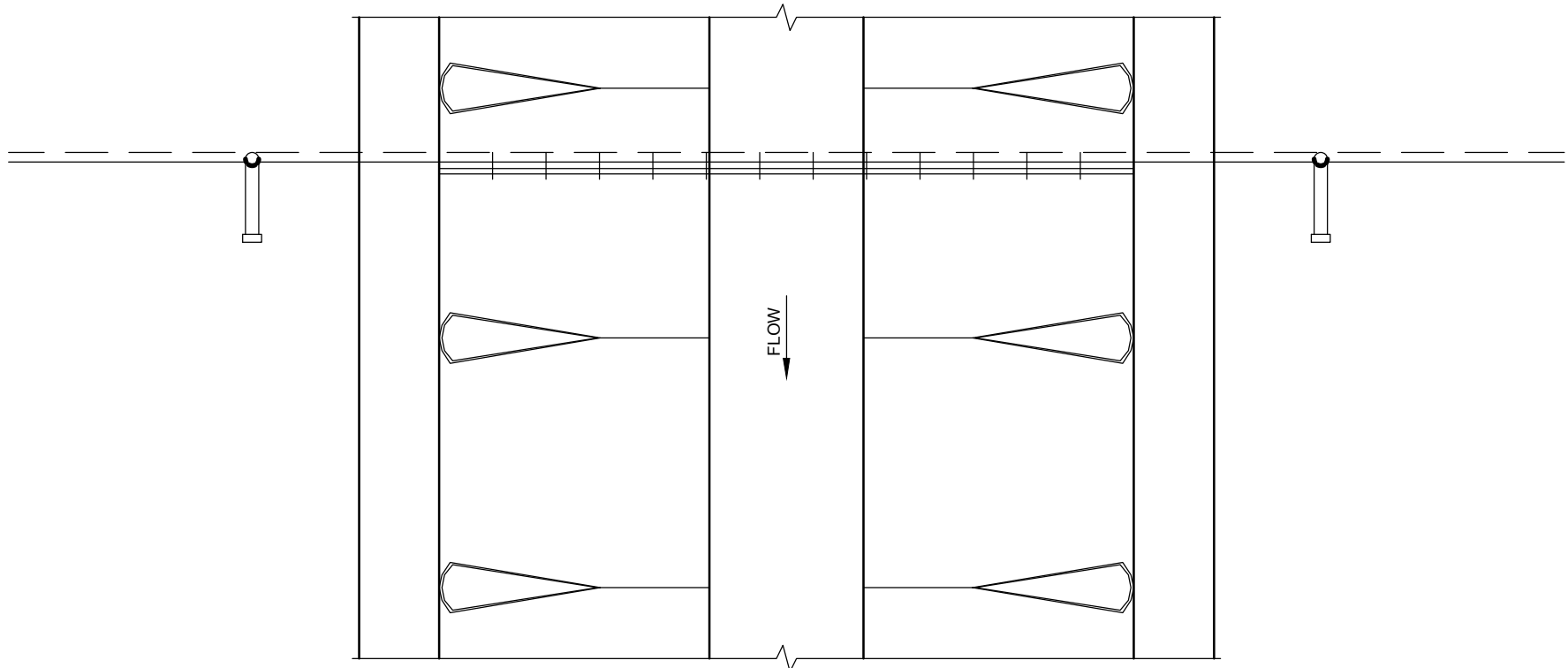


- NOTES
1. NETWORK CONTROL BOUNDARY SIGNS ARE BASED ON ARTC STANDARD ANSG 604 (INDICATORS AND SIGNS) FIGURE ANSG 604-32 AND ARTC STANDARD ANSG 606.
 2. SIGNAGE DIMENSION AND FONT SHOULD BE AS PER ARTC STANDARD SPS 03 SECTION 1.3.

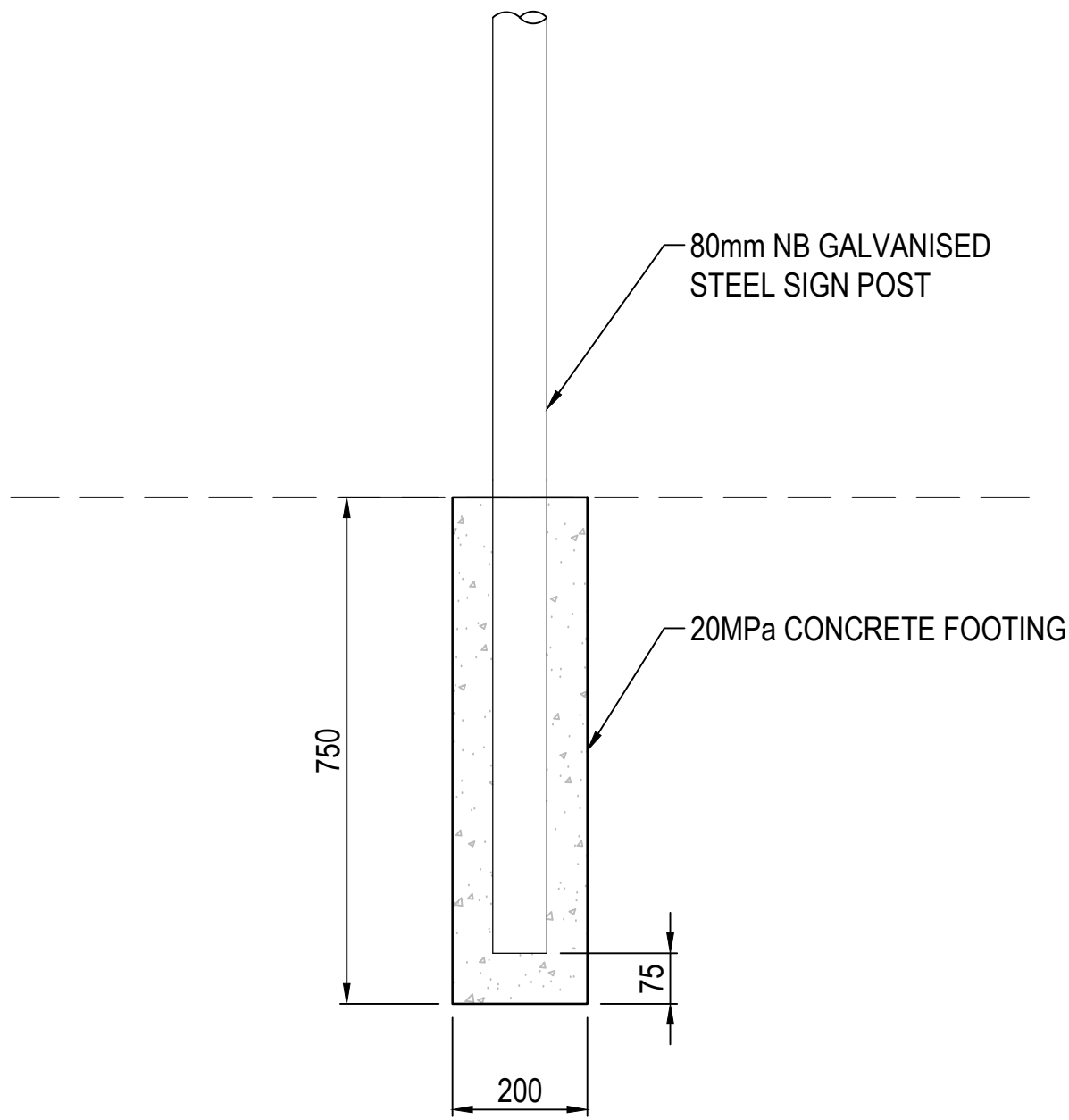
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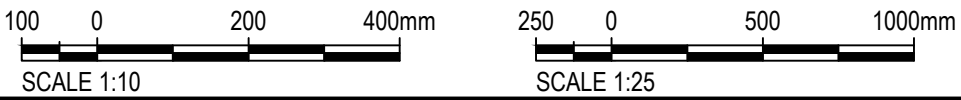
FENCE ELEVATION
1:25



FENCE ELEVATION
1:25



SIGN FOOTING DETAIL
1:10



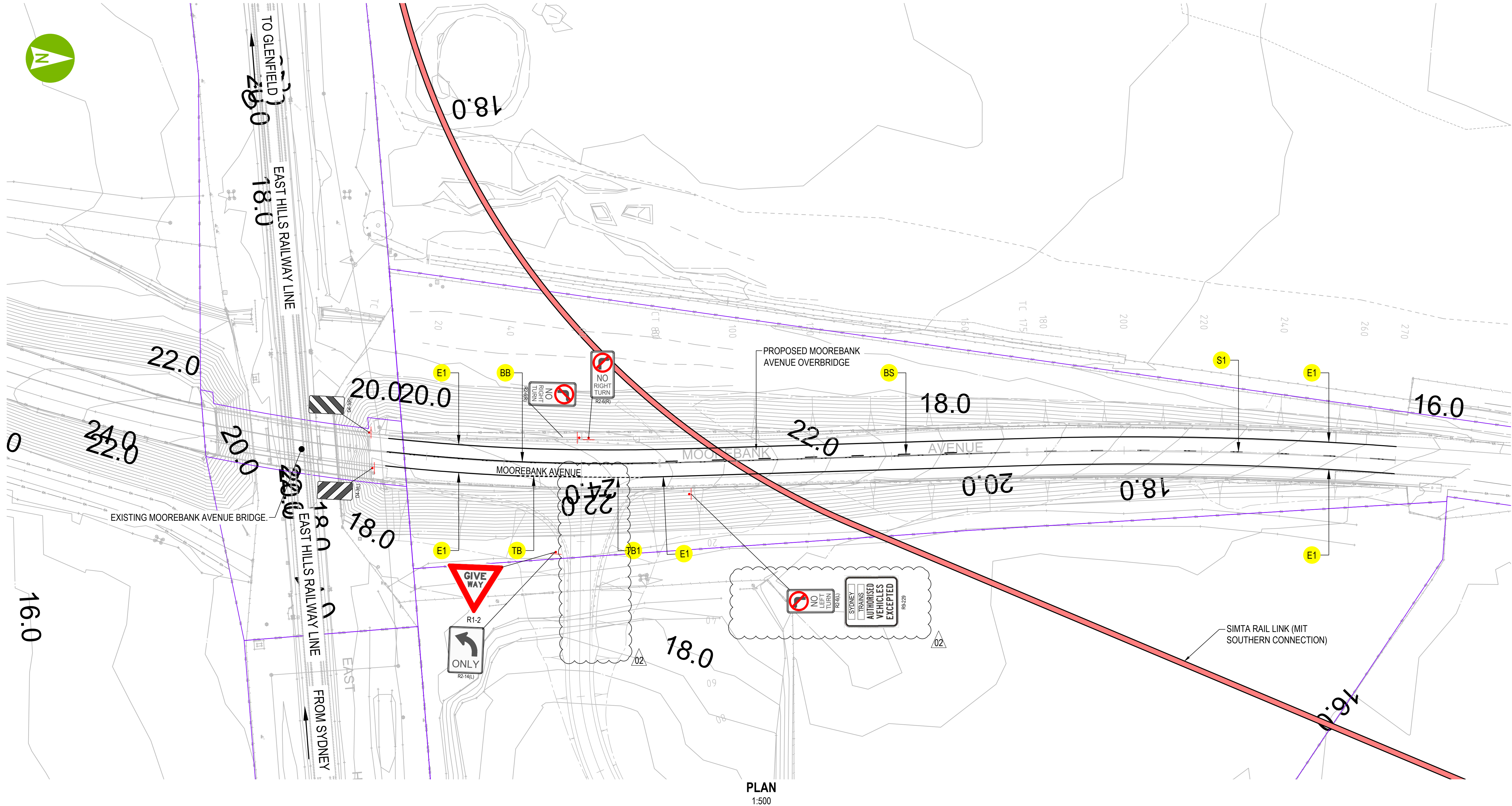
REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	P.NOONAN
CHECKED	M.SAKIB

FOR CONSTRUCTION
APPROVED
A.O'SHEA
A.O'SHEA

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	FENCING FENCING DETAIL - CROSSING OPEN DRAIN TYPICAL DETAILS	
DRAWING No.	PROJECT No.	ZONE
N01031	-	PWD
	TYPE	DISC
	-	DRG
	FEN	NUMBER
	-	0060
	REV	
	-	01

Plot Date: 2025/06/11 12:11 AM Project: CPB WORKMANSALAN SAVANNAH PROJ002025100101 PWD-DRG-CIV-0002.DWG Office: AUS/01



NOTES

1. REFER RMS MANUAL DELINEATION SECTION 4 LONGITUDINAL MARKINGS FOR MORE DETAILS ON PATTERNS AND DIMENSIONS.

2. SIGNS RELATING TO ROADWORKS AND CONSTRUCTION TRAFFIC MANAGEMENT TO BE INCLUDED IN CPB CONSTRUCTION TRAFFIC MANAGEMENT PLAN.

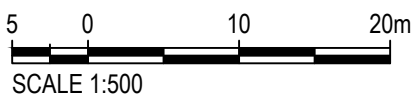
3. PAVEMENT MARKINGS TO BE PROVIDED IN ACCORDANCE WITH ROADS AND MARITIME QA SPECIFICATION R141. TEMPORARY DELINEATION PAVEMENT MARKINGS TO BE PROVIDED AS WATERBORNE PAINT ON ASPHALT SURFACES.
4. RETRO - REFLECTIVE RAISED PAVEMENT MARKERS (RRPMs) SHALL BE USED TO AUGMENT PAVEMENT MARKINGS. FOR TYPE AND COLOUR OF RRPMs TO AUGMENT MARKINGS REFER RMS DELINEATION SECTION 15 - RAISED PAVEMENT MARKERS (TABLE 15.1)

5. RETRO - REFLECTIVE RAISED PAVEMENT MARKERS MUST COMPLY WITH THE RMS QA SPECIFICATION R142 RETRO - REFLECTIVE RAISED PAVEMENT MARKERS WITH THE REQUIREMENTS OF AS 1906.3 AND HAVE THE DIMENSION SHOWN IN RMS DELINEATION SECTION 15 - RAISED PAVEMENT MARKERS (FIGURE 15.5)
6. INSTALLATION, PLACEMENT AND POSITIONING OF RRPMs SHALL BE IN ACCORDANCE WITH RMS DELINEATION SECTION 15 - RAISED PAVEMENT MARKERS (SECTION 15.7)

LEGEND - KERB TYPE

- S1 DIVIDING (SEPARATIONS) LINE ON 2 LANE ROAD
- E1 LEFT HAND EDGE ON GENERAL PURPOSE ROAD
- BS DIVIDING (BARRIER) LINES (RESTRICTED OVERTAKING IN ONE DIRECTION)
- BB DIVIDING (BARRIER) LINES
- L3 LANE LINE ON A MULTI LANE ROAD
- TB GIVE WAY LINE (USED WITH SIGNS)
- TB1 GIVE WAY LINE (USED ON RIGHT SIDE OF ROAD)

REFER RMS MANUAL DELINEATION SECTION 4 LONGITUDINAL MARKINGS FOR MORE DETAILS ON PATTERNS AND DIMENSIONS.

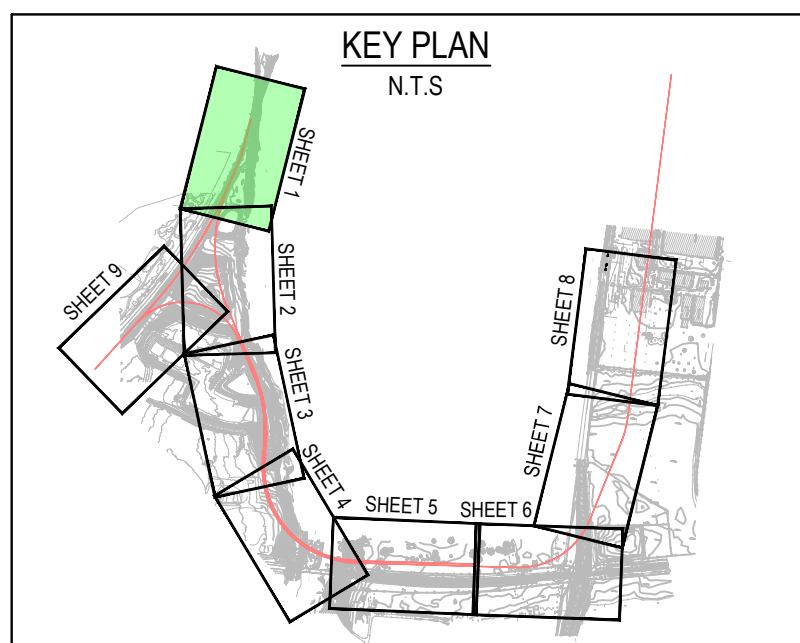
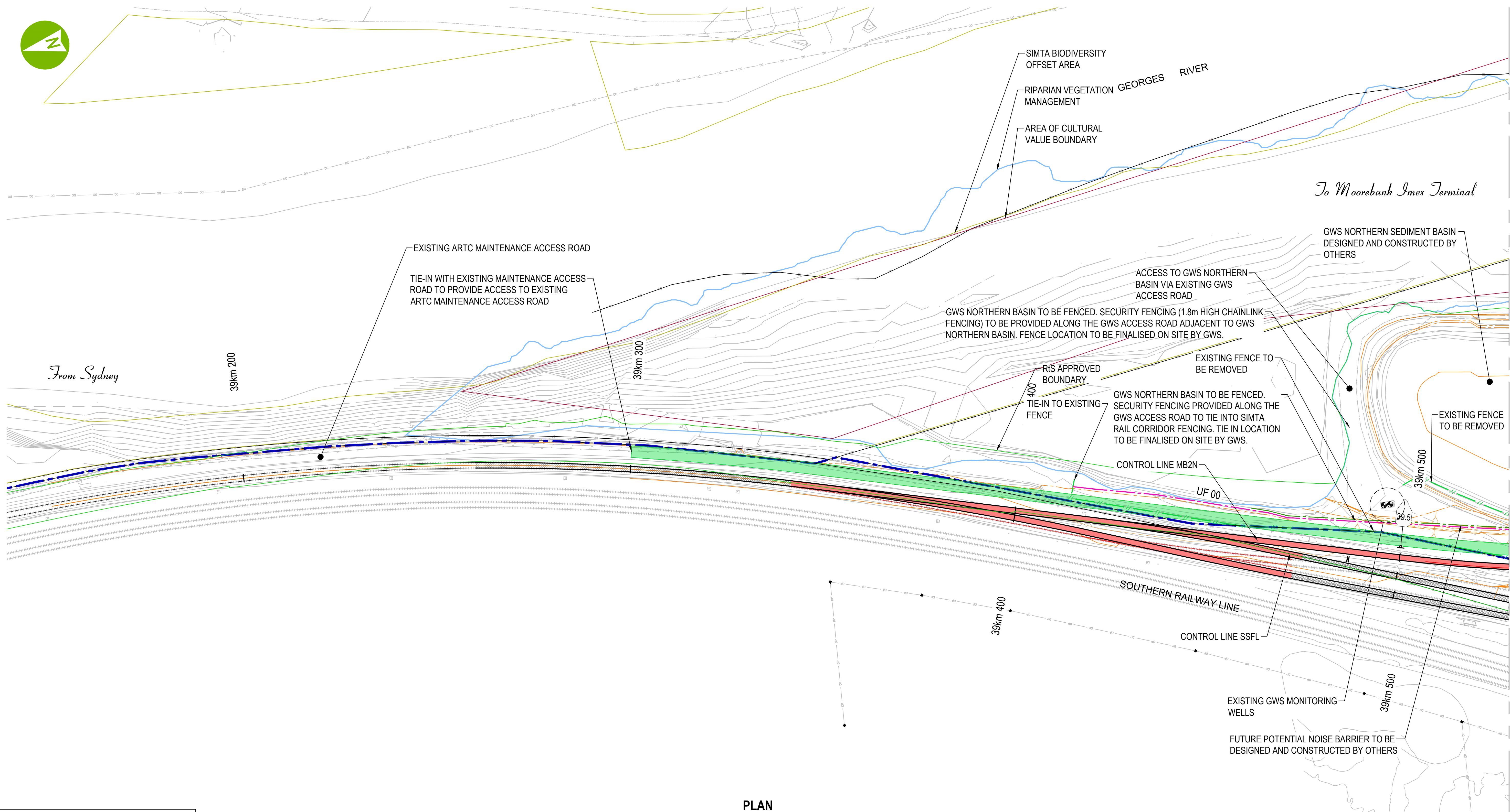


ARTC DRAWING No			EDMS No			EDMS REV					
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1										
TITLE	MOOREBANK AVENUE OVERBRIDGE PERMANENT ROAD LINEMARKING AND SIGNAGE PLAN										
DRAWING No.	PROJECT No.	-	ZONE	-	TYPE	-	DISC	-	NUMBER	-	REV
	N01031		PWD		DRG		CIV		0090		02

REV	DATE	REVISION DETAILS	APPROVED
01	21.12.16	ACCEPTED FOR CONSTRUCTION	AOS
02	26.06.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	MS

SCALE	SIZE
AS SHOWN	A1
DRAWN	
M.AHMAD	
DESIGNED	
M.SAKIB	
CHECKED	
D.EGITTO	

FOR CONSTRUCTION	
APPROVED	
M.SAKIB	
DATE	
26.06.18	



LEGEND

	PROPOSED TRACK ALIGNMENT
	PROPOSED SECURITY FENCE (1.8m HIGH CHAINLINK FENCE)
	4m WIDE SWING GATE
	1m WIDE PEDESTRIAN GATE
	PROPOSED REINFORCED EARTH WALL
	FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT

	CADASTRAL BOUNDARY
	CONTOUR
	EXISTING FENCE
	PROPOSED GWS LANDFILL RUBBISH CATCH FENCE
	EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE
	EXISTING FENCE TO BE REMOVED
	INSULATION PANEL
	GWS LANDFILL RUBBISH CATCH STRAINER POST

	SIGN LOCATION
	km SIGNS
	HALF km SIGNS
	FUTURE NOISE WALL
	EXTENT OF EARTHWORKS
	AREA OF CULTURAL VALUE BOUNDARY

	RIS APPROVED CONSTRUCTION BOUNDARY
	SIMTA BIODIVERSITY OFFSET AREA
	RIPARIAN VEGETATION MANAGEMENT
	VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY
	RALP ACCESS ROAD
	GWS ACCESS ROAD
	PROPOSED RALP AND GWS SHARED ACCESS ROAD



NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.

REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
03	14.07.17	90% ARTC DESIGN ISSUE	A.O'SHEA
04	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	13.06.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN	
E1	23.07.18	GWS RE-DESIGN - 100% FINAL DESIGN	
05	29.08.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB
06	05.10.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
S.MURPHY	

FOR CONSTRUCTION	DATE
APPROVED	29.08.18
M.SAKIB	
M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 1 OF 9
DRAWING No.	PROJECT No. N01031 - ZONE PWD - TYPE DRG - DISC FEN - NUMBER 0010 - REV 06



GEORGES RIVER

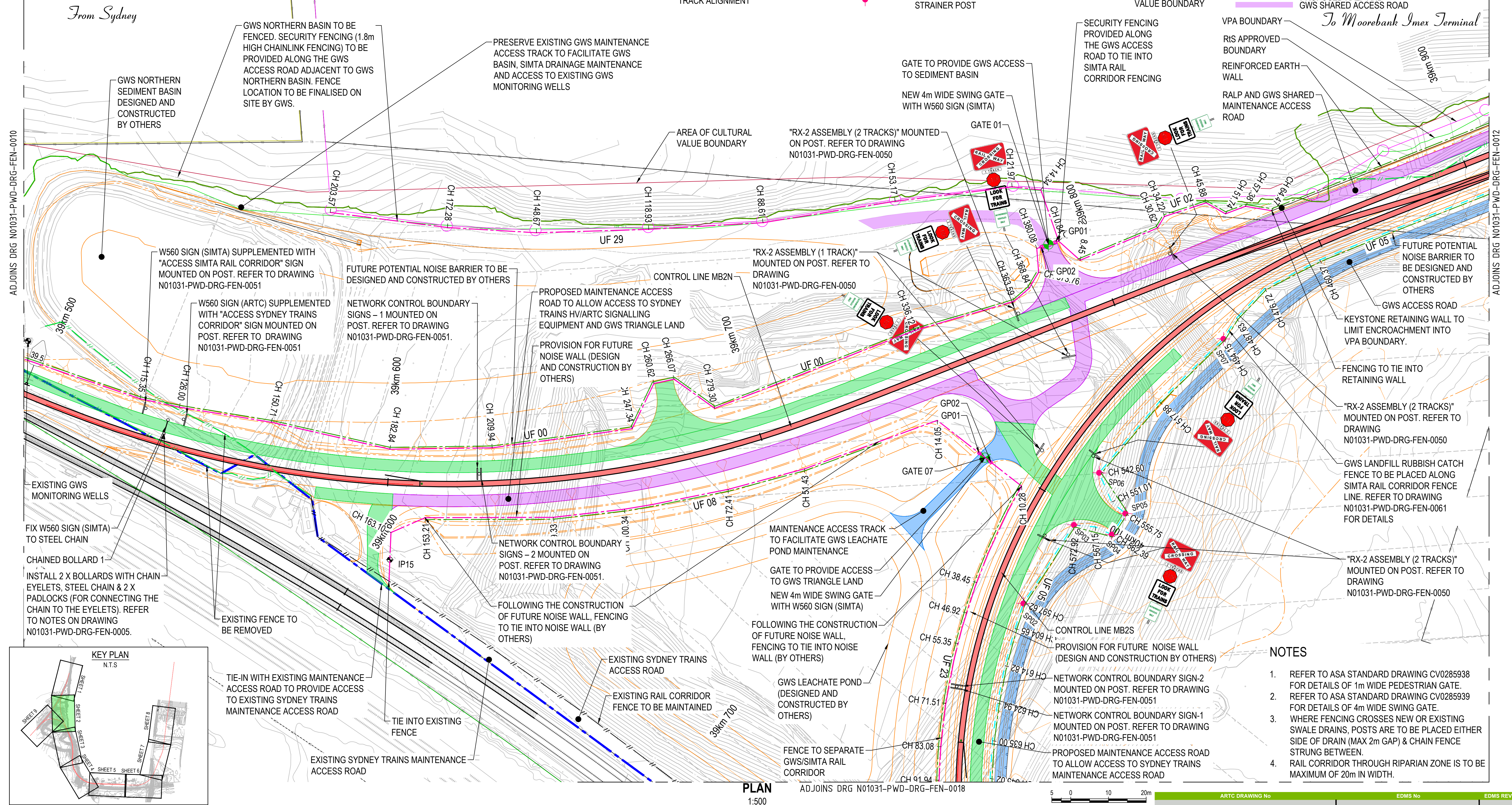
LEGEND

- PROPOSED TRACK ALIGNMENT
- PROPOSED SECURITY FENCE (1.8m HIGH CHAINLINK FENCE)
- 4m WIDE SWING GATE
- 1m WIDE PEDESTRIAN GATE
- PROPOSED REINFORCED EARTH WALL
- FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT

- CADASTRAL BOUNDARY
- CONTOUR
- EXISTING FENCE
- PROPOSED GWS LANDFILL RUBBISH CATCH FENCE
- EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE
- EXISTING FENCE TO BE REMOVED
- INSULATION PANEL
- GWS LANDFILL RUBBISH CATCH STRAINER POST

- SIGN LOCATION
- km SIGNS
- HALF km SIGNS
- FUTURE NOISE WALL
- EXTENT OF EARTHWORKS
- AREA OF CULTURAL VALUE BOUNDARY

- RIS APPROVED CONSTRUCTION BOUNDARY
- SIMTA BIODIVERSITY OFFSET AREA
- RIPARIAN VEGETATION MANAGEMENT
- VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY
- RALP ACCESS ROAD
- GWS ACCESS ROAD
- PROPOSED RALP AND GWS SHARED ACCESS ROAD



PLAN
1:500

SCALE 1:500

ARTC DRAWING No. EDMS No. EDMS REV.

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.

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REV	DATE	REVISION DETAILS	APPROVED
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA
03	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA
04	14.07.17	90% ARTC DESIGN ISSUE	A. O'SHEA
05	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	13.06.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN	
E1	23.07.18	GWS RE-DESIGN - 100% FINAL DESIGN	
06	29.08.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB
07	05.10.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	S.MURPHY

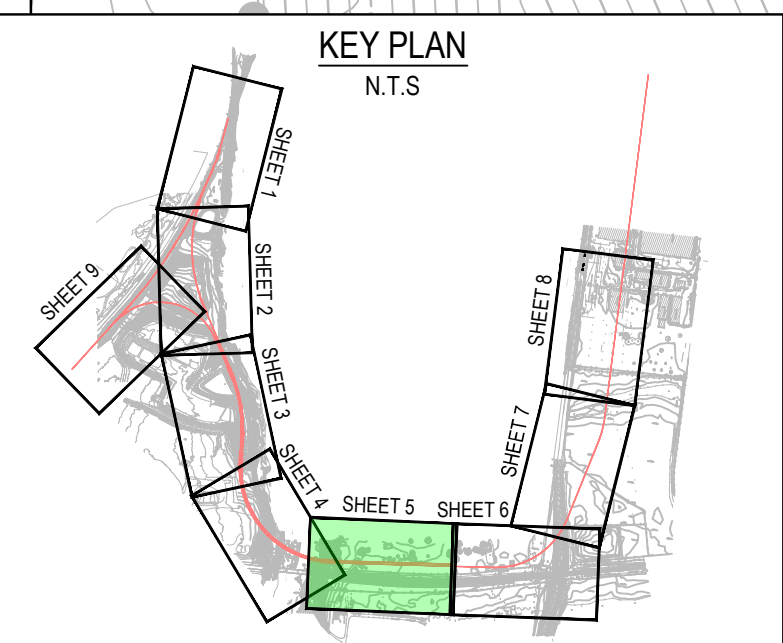
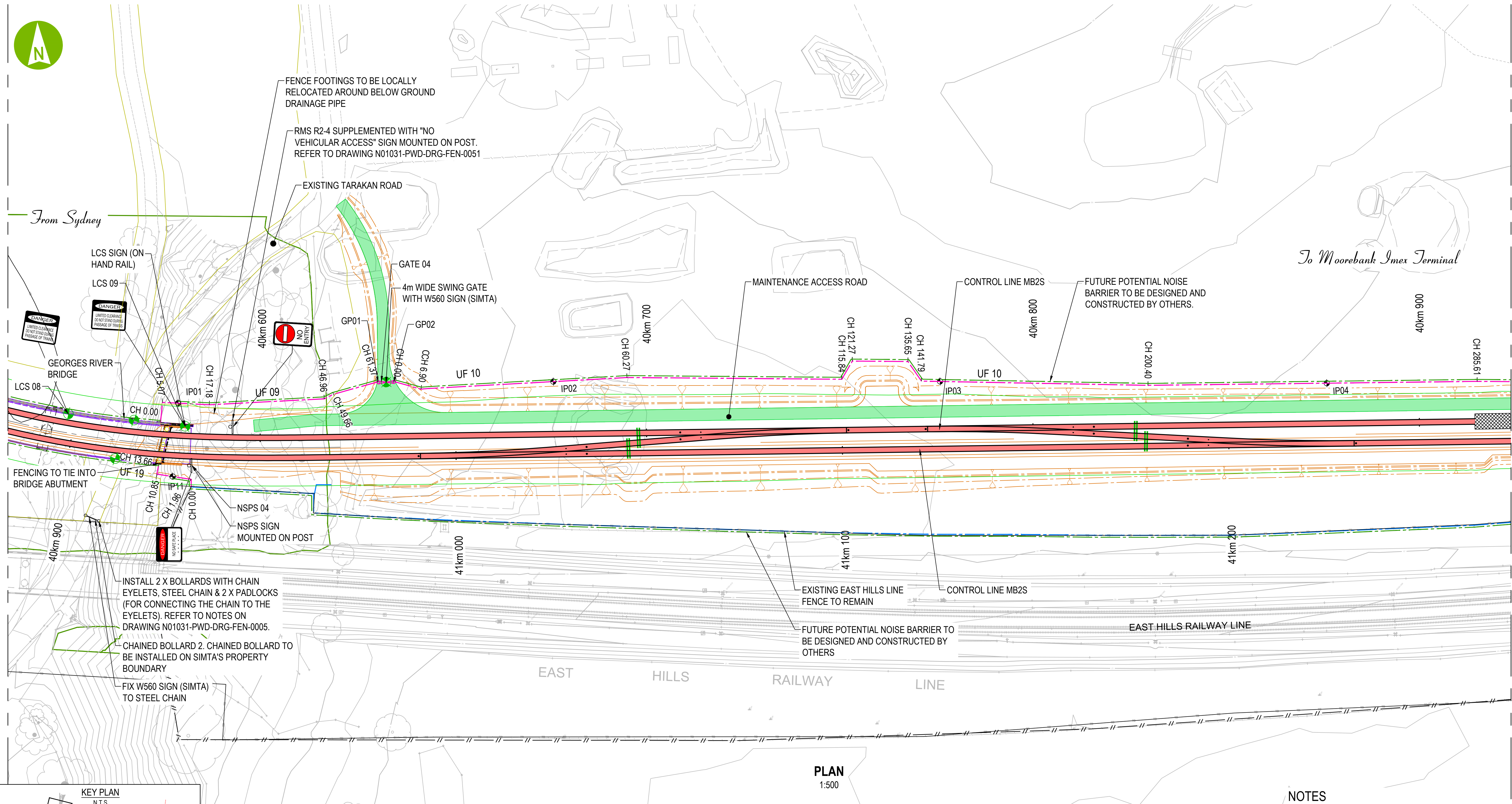
FOR CONSTRUCTION
APPROVED
DATE
29.08.18
M.SAKIB

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 2 OF 9
DRAWING No.	N01031
PROJECT No.	PWD
ZONE	DRG
TYPE	FEN
DISC	
NUMBER	0011
REV	07



ADJOINS DRG N01031-PWD-DRG-FEN-0013

ADJOINS DRG N01031-PWD-DRG-FEN-0015



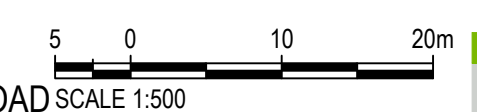
LEGEND

- PROPOSED TRACK ALIGNMENT
- PROPOSED SECURITY FENCE (1.8m HIGH CHAINLINK FENCE)
- 4m WIDE SWING GATE
- 1m WIDE PEDESTRIAN GATE
- PROPOSED REINFORCED EARTH WALL
- FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT
- CADASTRAL BOUNDARY
- CONTOUR
- EXISTING FENCE
- PROPOSED GWS LANDFILL RUBBISH CATCH FENCE
- EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE
- EXISTING FENCE TO BE REMOVED
- INSULATION PANEL
- GWS LANDFILL RUBBISH CATCH STRAINER POST
- SIGN LOCATION
- km SIGNS
- HALF km SIGNS
- FUTURE NOISE WALL
- EXTENT OF EARTHWORKS
- AREA OF CULTURAL VALUE BOUNDARY
- RIS APPROVED CONSTRUCTION BOUNDARY
- SIMTA BIODIVERSITY OFFSET AREA
- RIPARIAN VEGETATION MANAGEMENT
- VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY
- RALP ACCESS ROAD
- GWS ACCESS ROAD
- PROPOSED RALP AND GWS SHARED ACCESS ROAD

PLAN
1:500

NOTES

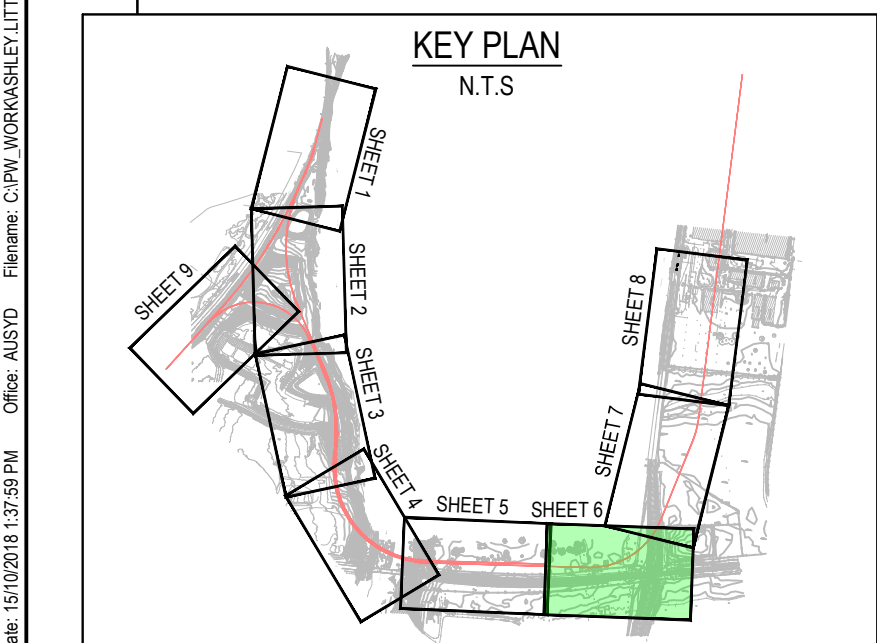
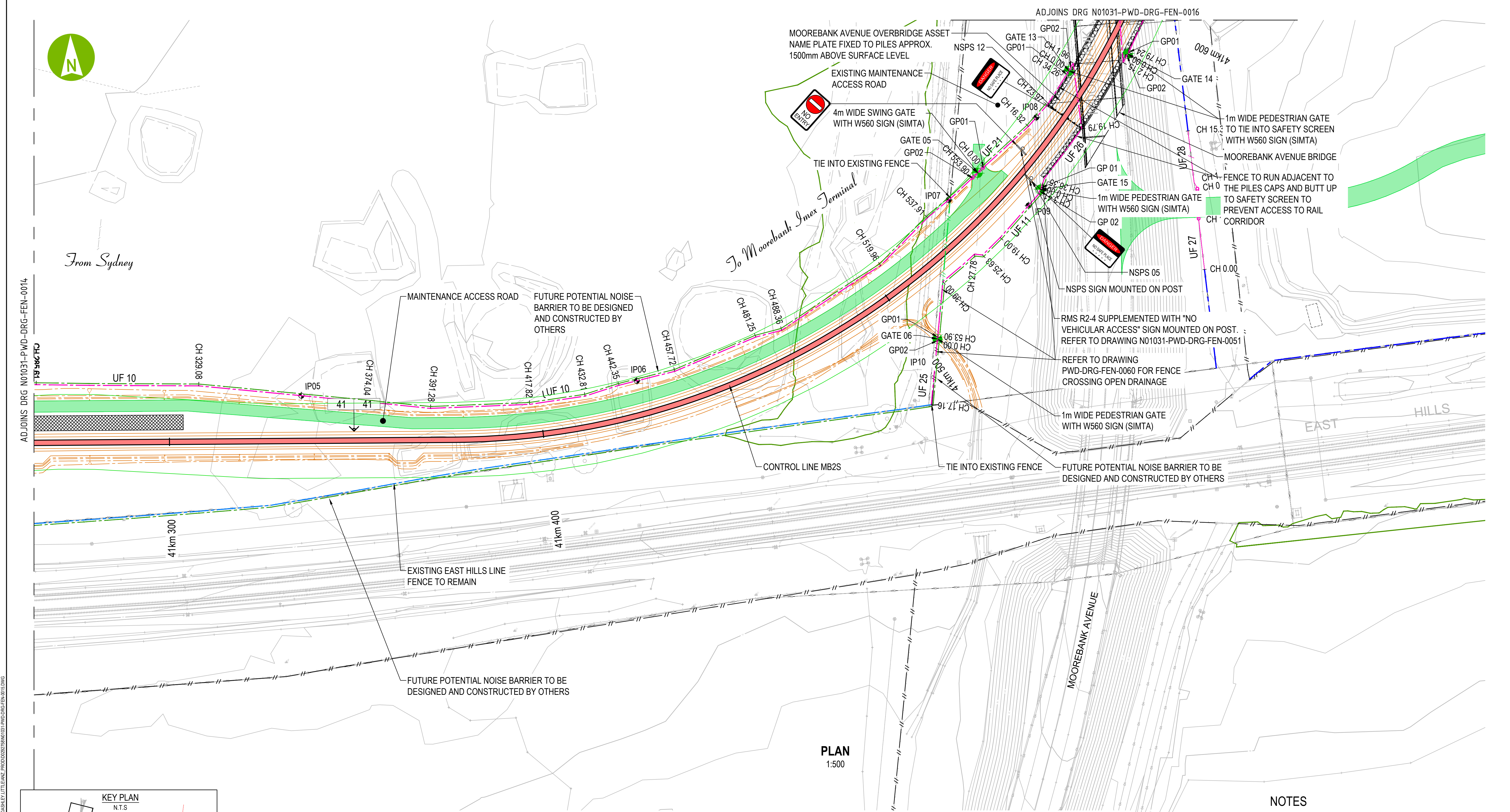
- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.



ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT		MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1				
TITLE		FENCING GENERAL ARRANGEMENT PLAN SHEET 5 OF 9				
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- FEN	- 0014	- 04



REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
03	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
04	05.10.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB



LEGEND

- | | | | | | | | |
|--|---|--|--|--|---------------------------------|--|---|
| | PROPOSED TRACK ALIGNMENT | | CADASTRAL BOUNDARY | | SIGN LOCATION | | RIS APPROVED CONSTRUCTION BOUNDARY |
| | PROPOSED SECURITY FENCE (1.8m HIGH CHAINLINK FENCE) | | CONTOUR | | km SIGNS | | SIMTA BIODIVERSITY OFFSET AREA |
| | 4m WIDE SWING GATE | | EXISTING FENCE | | HALF km SIGNS | | RIPARIAN VEGETATION MANAGEMENT |
| | 1m WIDE PEDESTRIAN GATE | | PROPOSED GWS LANDFILL RUBBISH CATCH FENCE | | FUTURE NOISE WALL | | VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY |
| | PROPOSED REINFORCED EARTH WALL | | EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE | | EXTENT OF EARTHWORKS | | RALP ACCESS ROAD |
| | FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT | | EXISTING FENCE TO BE REMOVED | | AREA OF CULTURAL VALUE BOUNDARY | | GWS ACCESS ROAD |
| | | | INSULATION PANEL | | | | PROPOSED RALP AND GWS SHARED ACCESS ROAD |
| | | | GWS LANDFILL RUBBISH CATCH STRAINER POST | | | | |

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.

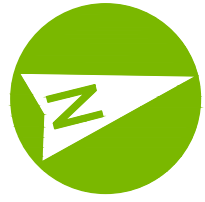


REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	05.10.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	S.MURPHY

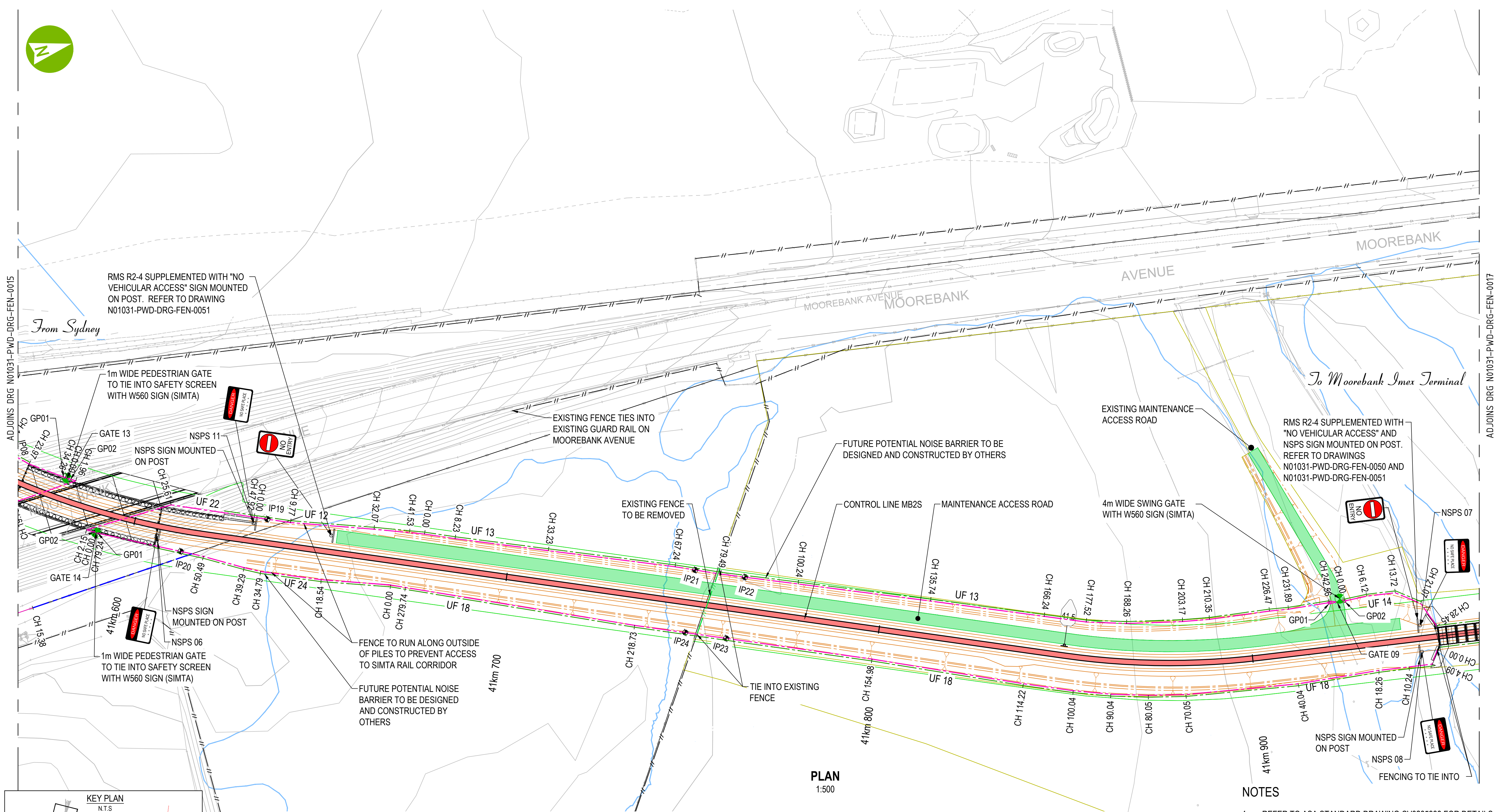
FOR CONSTRUCTION
APPROVED
DATE 17.02.17
A.O'SHEA

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 6 OF 9
DRAWING No.	N01031
PROJECT No.	PWD
ZONE	DRG
TYPE	FEN
DISC	
NUMBER	0015
REV	02



ADJOINS DRG N01031-PWD-DRG-FEN-0015

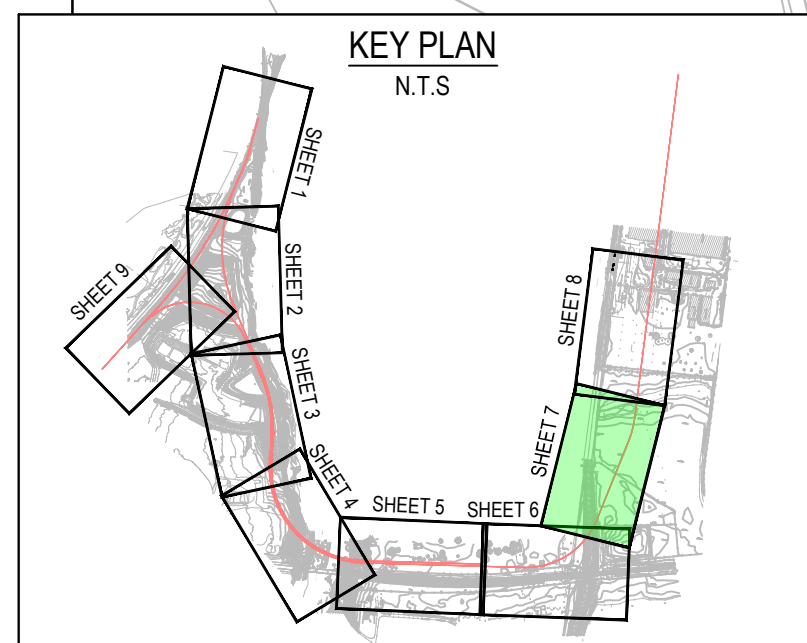
ADJOINS DRG N01031-PWD-DRG-FEN-0017



PLAN
1:500

NOTES

1. REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
2. REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
3. WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
4. RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.
5. REFER TO DRAWING N01031-PWD-DRG-CIV-1020 FOR FENCING GATES AND SIGNAGE FOR SYDNEY TRAINS ACCESS ROAD.



LEGEND

- PROPOSED TRACK ALIGNMENT
- PROPOSED SECURITY FENCE (1.8m HIGH CHAINLINK FENCE)
- 4m WIDE SWING GATE
- 1m WIDE PEDESTRIAN GATE
- PROPOSED REINFORCED EARTH WALL
- FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT

- CADASTRAL BOUNDARY
- CONTOUR
- EXISTING FENCE
- PROPOSED GWS LANDFILL RUBBISH CATCH FENCE
- EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE
- EXISTING FENCE TO BE REMOVED
- INSULATION PANEL
- GWS LANDFILL RUBBISH CATCH STRAINER POST

- SIGN LOCATION
- km SIGNS
- HALF km SIGNS
- FUTURE NOISE WALL
- EXTENT OF EARTHWORKS
- AREA OF CULTURAL VALUE BOUNDARY

- RIS APPROVED CONSTRUCTION BOUNDARY
- SIMTA BIODIVERSITY OFFSET AREA
- RIPARIAN VEGETATION MANAGEMENT
- VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY
- RALP ACCESS ROAD
- GWS ACCESS ROAD
- PROPOSED RALP AND GWS SHARED ACCESS ROAD

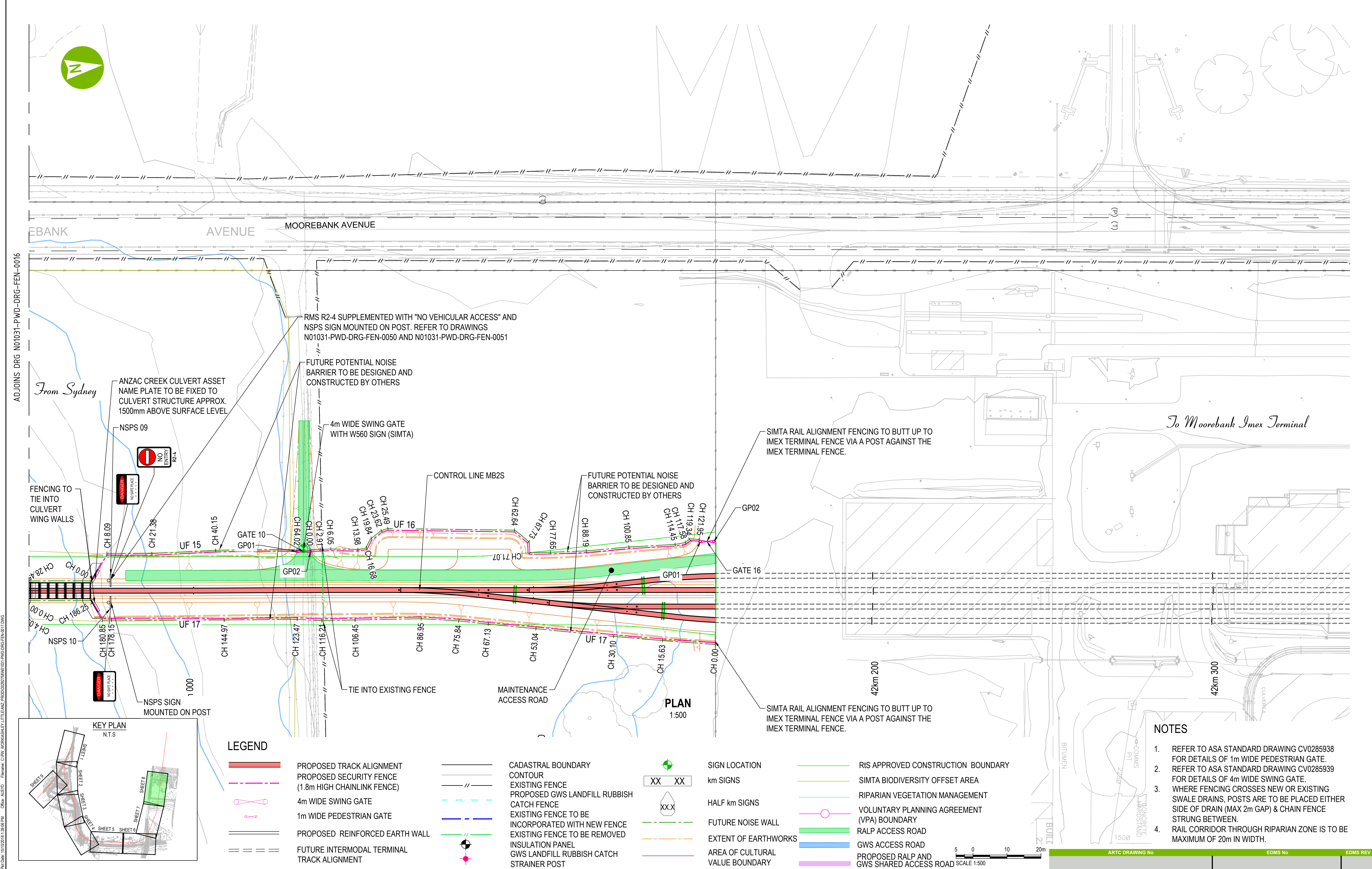
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ARTC DRAWING No			EDMS No			EDMS REV			
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1								
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 7 OF 9								
	PROJECT No.	ZONE	TYPE	DISC		NUMBER	REV		
DRAWING No.	N01031	- PWD	- DRG	- FEN	-	0016	- 04		

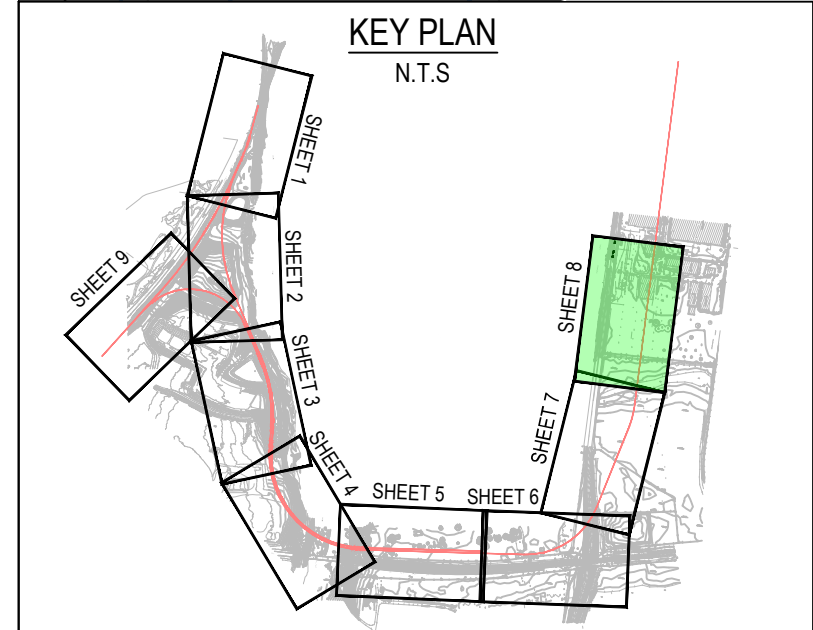
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REV	DATE	REVISION DETAILS	APPROVED
01	17.02.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
E1	23.07.18	GWS RE-DESIGN - 100% FINAL DESIGN	M.SAKIB
03	29.08.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB
04	05.10.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB



Proj Date: 15/10/2018 12:06 PM, Office: AUSTRALIA, Filename: C:\P\WORKSPACE\PROJECTS\MOOREBANK\01-PWD-DRG-FEN-0016.DWG



LEGEND

- | | | | | | | | |
|--|---|--|--|--|---------------------------------|--|---|
| | PROPOSED TRACK ALIGNMENT | | CADASTRAL BOUNDARY | | SIGN LOCATION | | RIS APPROVED CONSTRUCTION BOUNDARY |
| | PROPOSED SECURITY FENCE (1.8m HIGH CHAINLINK FENCE) | | EXISTING FENCE | | km SIGNS | | SIMTA BIODIVERSITY OFFSET AREA |
| | 4m WIDE SWING GATE | | PROPOSED GWS LANDFILL RUBBISH CATCH FENCE | | HALF km SIGNS | | RIPARIAN VEGETATION MANAGEMENT |
| | 1m WIDE PEDESTRIAN GATE | | EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE | | FUTURE NOISE WALL | | VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY |
| | PROPOSED REINFORCED EARTH WALL | | EXISTING FENCE TO BE REMOVED | | EXTENT OF EARTHWORKS | | RALP ACCESS ROAD |
| | FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT | | INSULATION PANEL | | AREA OF CULTURAL VALUE BOUNDARY | | GWS ACCESS ROAD |
| | | | GWS LANDFILL RUBBISH CATCH STRAINER POST | | | | PROPOSED RALP AND GWS SHARED ACCESS ROAD |

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.

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CPB
CONTRACTORS

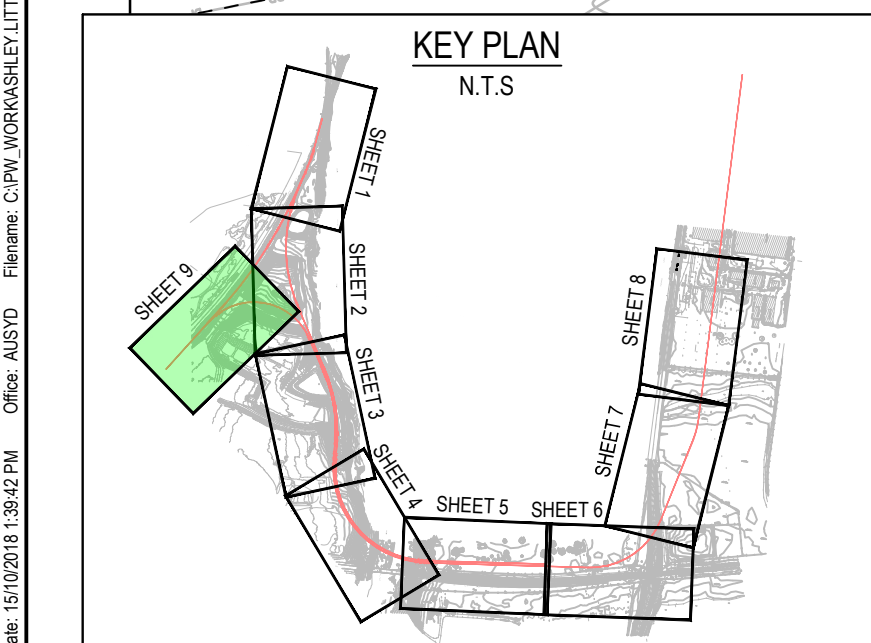
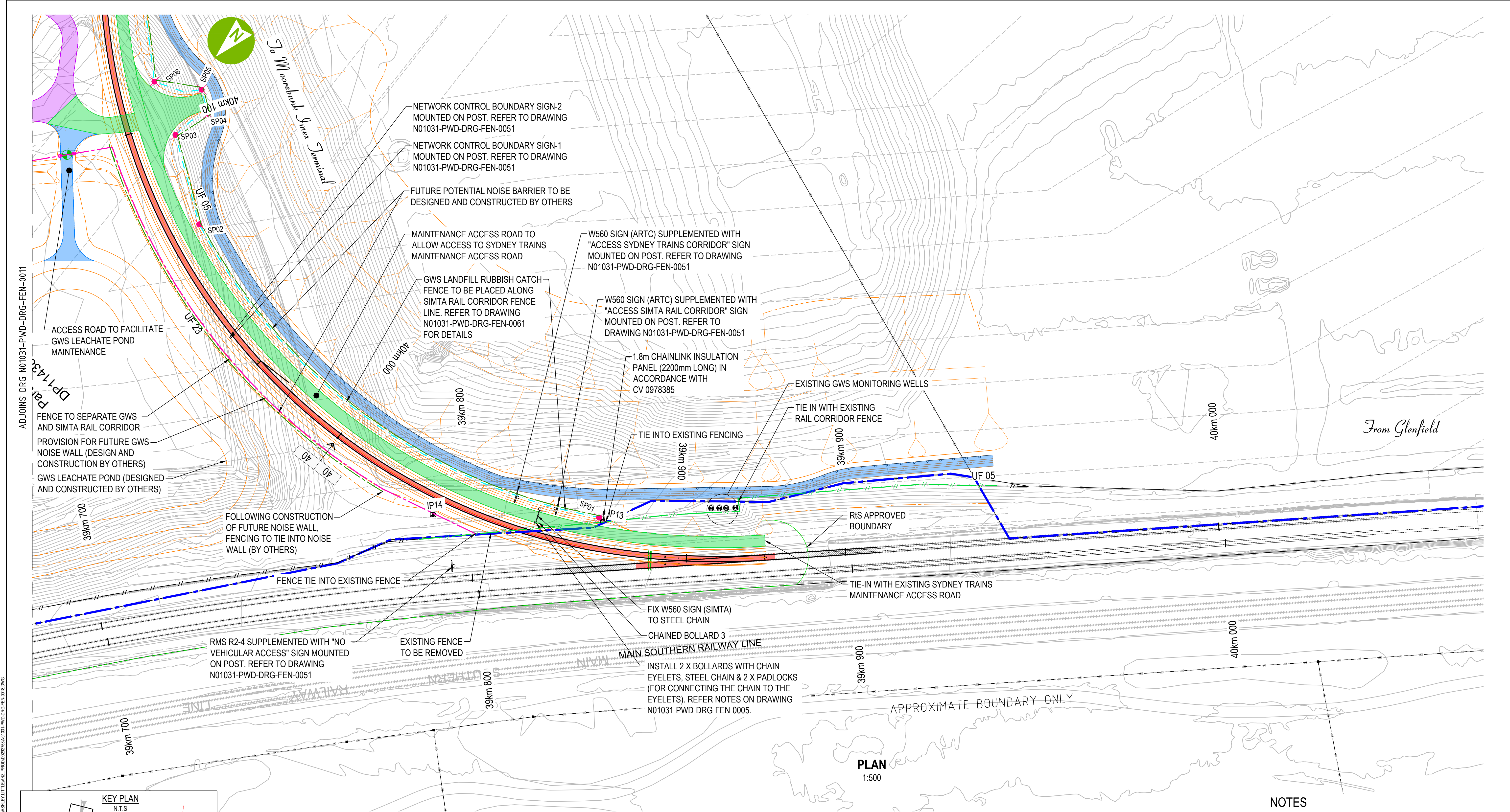
SIMTA
SYDNEY INTERMODAL TERMINAL ALLIANCE

REV	DATE	REVISION DETAILS
01	17.02.17	ACCEPTED FOR CONSTRUCTION
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION
03	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION
04	14.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION
05	29.08.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION
06	05.10.18	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION

APPROVED	SCALE	SIZE
A.O'SHEA	AS SHOWN	A1
A.O'SHEA	DRAWN	A.LITTLE
M.SAKIB	DESIGNED	M.SAKIB
M.SAKIB	CHECKED	S.MURPHY

FOR CONSTRUCTION	APPROVED	DATE
	M.SAKIB	29.08.18
	M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 8 OF 9
DRAWING No.	PROJECT No. N01031 - ZONE PWD - TYPE DRG - DISC FEN - NUMBER 0017 - REV 06



LEGEND

	PROPOSED TRACK ALIGNMENT		CADASTRAL BOUNDARY		SIGN LOCATION		RIS APPROVED CONSTRUCTION BOUNDARY
	PROPOSED SECURITY FENCE (1.8m HIGH CHAINLINK FENCE)		CONTOUR		km SIGNS		SIMTA BIODIVERSITY OFFSET AREA
	4m WIDE SWING GATE		EXISTING FENCE		HALF km SIGNS		RIPARIAN VEGETATION MANAGEMENT
	1m WIDE PEDESTRIAN GATE		PROPOSED GWS LANDFILL RUBBISH CATCH FENCE		FUTURE NOISE WALL		VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY
	PROPOSED REINFORCED EARTH WALL		EXISTING FENCE TO BE INCORPORATED WITH NEW FENCE		EXTENT OF EARTHWORKS		RALP ACCESS ROAD
	FUTURE INTERMODAL TERMINAL TRACK ALIGNMENT		EXISTING FENCE TO BE REMOVED		AREA OF CULTURAL VALUE BOUNDARY		GWS ACCESS ROAD
			INSULATION PANEL				PROPOSED RALP AND GWS SHARED ACCESS ROAD
			GWS LANDFILL RUBBISH CATCH STRAINER POST				

NOTES

- REFER TO ASA STANDARD DRAWING CV0285938 FOR DETAILS OF 1m WIDE PEDESTRIAN GATE.
- REFER TO ASA STANDARD DRAWING CV0285939 FOR DETAILS OF 4m WIDE SWING GATE.
- WHERE FENCING CROSSES NEW OR EXISTING SWALE DRAINS, POSTS ARE TO BE PLACED EITHER SIDE OF DRAIN (MAX 2m GAP) & CHAIN FENCE STRUNG BETWEEN.
- RAIL CORRIDOR THROUGH RIPARIAN ZONE IS TO BE MAXIMUM OF 20m IN WIDTH.

REV	DATE	REVISION DETAILS	APPROVED
02	13.04.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	
03	01.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A.O'SHEA
04	14.07.17	90% ARTC DESIGN ISSUE	A.O'SHEA
05	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	13.06.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN	
E1	23.07.18	GWS RE-DESIGN - 100% FINAL DESIGN	
06	29.08.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB
07	05.10.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB

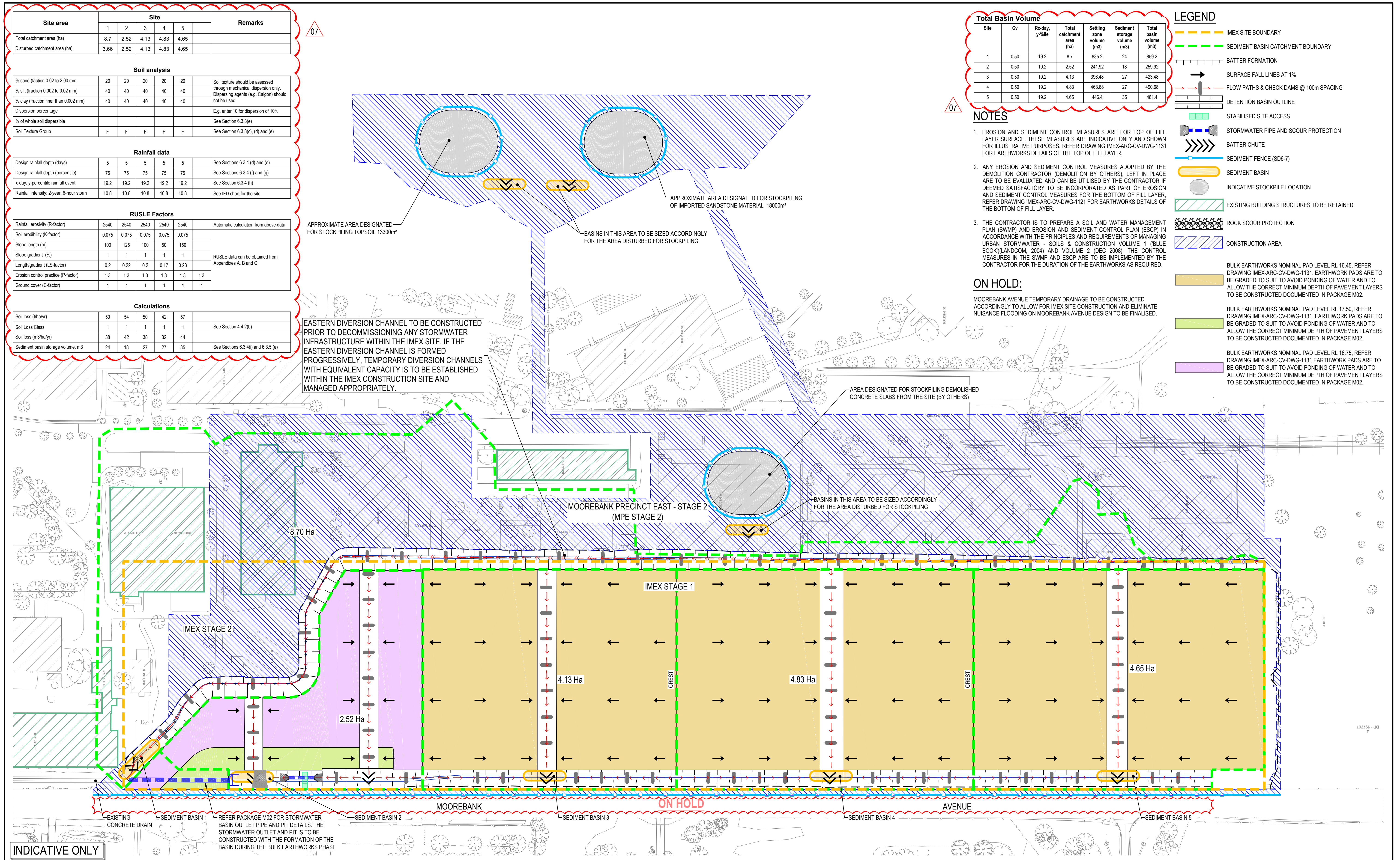
SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
S.MURPHY	

FOR CONSTRUCTION	DATE
APPROVED	29.08.18
M.SAKIB	
M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	FENCING GENERAL ARRANGEMENT PLAN SHEET 9 OF 9
DRAWING No.	PROJECT No. N01031 - ZONE PWD - TYPE DRG - DISC FEN - NUMBER 0018 - REV 07

APPENDIX D

Erosion and Sediment Control Plan



Issue	Description	Date
07	AFC UPDATE	19/05/2017
06	AFC UPDATE	17/05/2017
05	REVIEWER COMMENTS INCORPORATED	07/04/2017
04	ISSUE FOR CONSTRUCTION	27/03/2017
03	INDEPENDENT VERIFIERS COMMENTS INCORPORATED	24/02/2017
02	CLIENT COMMENTS INCORPORATED	21/02/2017
01	DETAILED DESIGN	17/02/2017

0 30 60 90 120 150m

1 : 1500

Client

SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

TACTICAL GROUP

Status

FOR CONSTRUCTION TO BE USED FOR CONSTRUCTION

Scales

1:1500

Original Size

A1

Height Datum

AHD

Grid

MGA

Current Issue Signatures

Drawn A.ZHAO

Designed L.CORSCADDEN

Checked G.DE SILVA

Approved M.KEFFORD

Filename:IMEX-ARC-CV-DWG-1101-ErosionAndSedimentControlPlan.dwg

Project

MOOREBANK MPE STAGE 1 IMEX NUMBER 1

Title

EROSION AND SEDIMENT CONTROL PLAN

ARCADIS

Arcadis Australia Pacific Pty Limited
Level 5, 141 Walker St
NORTH SYDNEY NSW 2060
ABN 76 104 485 289
Tel No: +61 2 8907 9000
Fax No: +61 2 8907 9001
arcadis.com

Volume No.

M01

Project No.

10004975

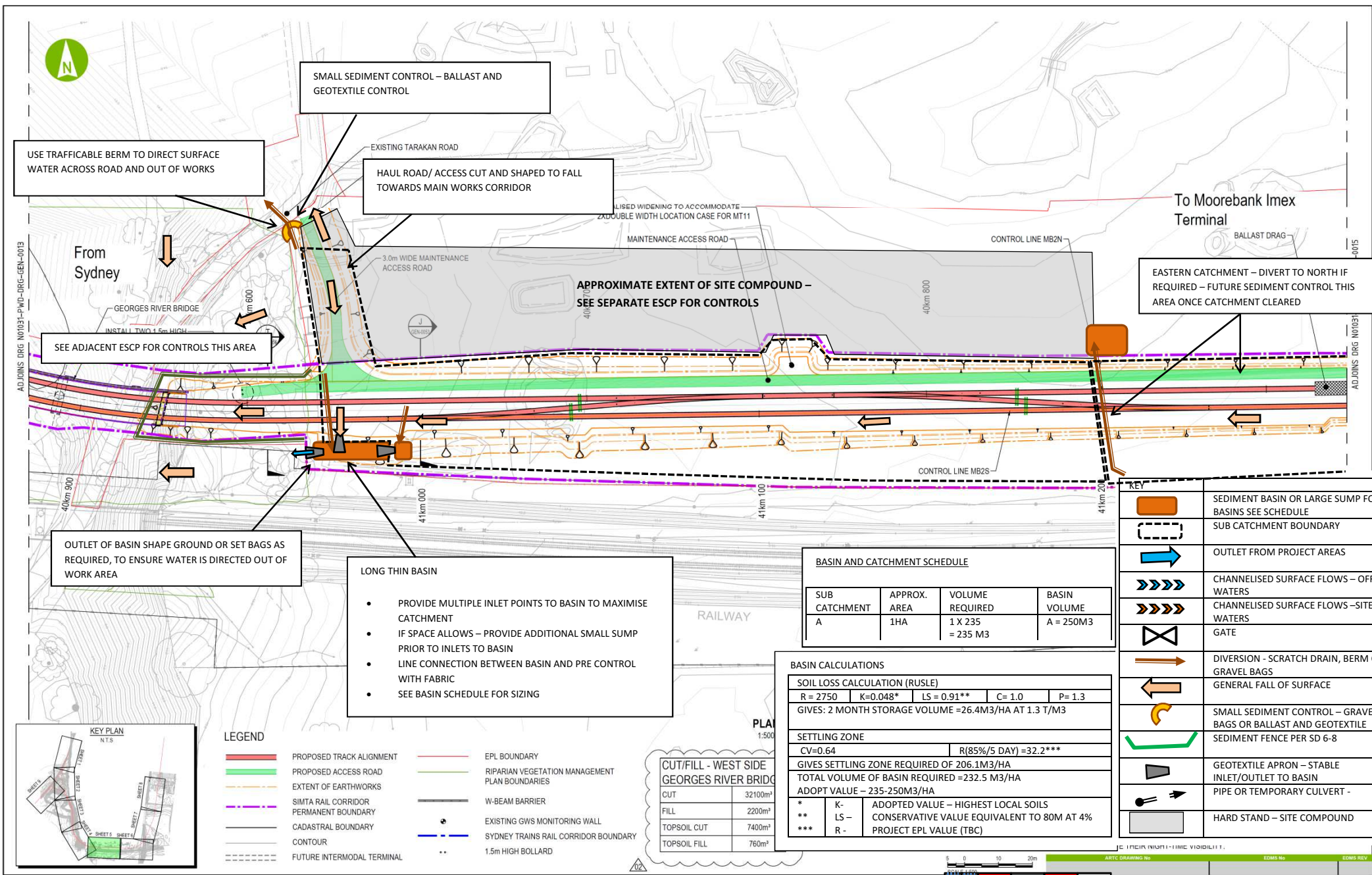
Drawing No.

IMEX -ARC-CV-DWG-1101-

Issue

07

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APPENDIX E

Lighting Plan and Lighting Layouts

BASIS OF DESIGN REPORT

MOOREBANK MPE STAGE 1 IMEX NUMBER 1

10 JANUARY 2018

EXTRACT

Incorporating



2 IMEX TERMINAL DESIGN CRITERIA

2.1 Design Codes and Standards

The latest version of the following design codes, standards and guidelines have been referenced for the project design and where relevant, incorporated as a requirement for construction:

2.1.1 Australian Standards

AS 1049 – 2003	Telecommunication Cables Insulation and Sheath Polyethylene
AS 1085 – 2002	Railway Track Materials
AS/NZS 1158 – 2010	Set - Access Lighting / Carparks / Roadways
AS/NZS 1170.0 – 2002	Structural design actions – general principles
AS/NZS 1170.1 – 2002	Structural design actions – permanent, imposed and other actions
AS/NZS 1170.2 – 2011	Structural design actions – Part 2, Wind actions
AS 1170.4 – 2007	Earthquake Loads
AS 1289 (set)	Methods of testing soils for engineering purposes
AS/NZS 1477 – 2006	PVC Pipes and Fitting for Pressure Application
AS 1554 – 2010	Set - Structural Steel Welding
AS 1597	Precast reinforced concrete box culverts
AS 1657 – 2013	Fixed platform, walkway, stairways and ladders
AS 1670.1 – 2015	Fire Detection, warning, control and intercom systems – System design, installation and commissioning
AS/NZS 1680.1	General Lighting
AS 1725.1 – 2010	Chain link fabric fencing Part 1: Security Fences and Gates – General Requirements
AS/NZS 2033 – 2008	Installation of Polyethylene Pipe Systems
AS/NZS 2053	Non-metallic conduits and fittings
AS 2067 – 2016	Substation and High Voltage Installations exceeding 1KV _a - a.c.
AS 2159 – 2009	Piling – Design and installation
AS 2200 – 2006	Design Charts for Water Supply and Sewerage
AS/NZS 2293.1	Emergency Lighting
AS 2419.1 – 2005	Fire Hydrant Installations
AS/NZS 2439	Perforated plastic drainage and effluent pipe and associated fittings
AS 2441 – 2005	Installation of Fire Hose Reels
AS 2444 – 2001	Fire Extinguishers
AS 2566.1 – 1998	Buried Flexible Pipelines – Structural Design
AS 2601 – 2001	The Demolition of Structures
AS/NZS 2638 – 2011	Gate Valves for Waterworks Purposes
AS 2756 – 1991	(R2016) Low-voltage switchgear and control gear - Mounting rails for mechanical support of electrical equipment
AS 2890 – 2009	Parking Facilities
AS 2941 – 2013	Fixed Pump set installations
AS/NZS 3000	Electrical Wiring Rules

AS/NZS 3080	Telecommunications Installation – Generic cabling for commercial premises.
AS/NZS 3084	Telecommunication Installations – Telecommunication Pathways and Spaces for Commercial Buildings
AS/NZS 3500 – 2015	Plumbing and Drainage
AS 3600 – 2009	Concrete structures
AS 3725 – 2007	Design for Installation of Buried Concrete Pipes
AS 3735 – 2001	Concrete Structures Retaining Liquids
AS 3798 – 2007	Guidelines on earthworks for commercial and residential developments
AS 3996 – 2006	Access covers and grates
AS/NZS 4058	Precast concrete pipes (pressure and non-pressure)
AS 4100 – 1998	Steel structures
AS/NZS 4129 – 2008	Fittings for Polyethylene Pipes for Pressure Purposes
AS/NZS 4130 – 2009	Polyethylene Pipes for Pressure Purposes
AS 4282 – 1997	Control of the obtrusive effects of outdoor lighting
AS 4600 – 2005	Cold-formed steel structures
AS 4678 – 2002	Earth-retaining structures
AS 4680 – 2006	Hot-dip Galvanized (Zinc) Coatings on Fabricated Ferrous Articles
AS 4795 – 2006	Butterfly Valves for Waterworks Purposes
AS 4997 – 2005	Guidelines for the design of maritime structures
AS 5100 – 2007	Bridge Design Code Set
AS 5200.000 – 2006	Plumbing and Drainage Products
BCA 2016	Building Code of Australia
WSA 01 – 2004	Water Supply Code of Australia
WSA 02 – 2014	Gravity Sewerage Code of Australia
WSA 03 – 2011	Water Supply Code of Australia
WSA 04 – 2005	Sewage Pumping Station Code of Australia
Relevant Building Surveyor	
NSW Fire & Rescue (NSWFR) requirements	
Liverpool City Council Development Design Specification D5 – Stormwater Drainage Design	

2.1.2 International Standards

ISO 14763-3	Telecommunications installations – Generic cabling systems – Specification for the testing of optical fibre communication cabling
ISO 12488-1	Cranes – Tolerances for wheels and travel and traversing tracks – Part 1: General, 2 nd Edition
BS EN 15011:2011	Cranes – Bridge and gantry cranes
FEM 1.001(10.1998)	Rules for the design of hoisting appliances
FEM 1.004(07.2000)	Recommendation for the calculation of wind loads on crane structures

2.1.3 Guidelines

Australian Rainfall & Runoff

Austrorads Guide to Pavement Technology Part 2: Pavement Structural Design

The Structural Design of Heavy Duty Pavements for Ports and Other Industries (Edition. 4) December 2007 published by Interpave.

Austrorads Guide to Road Design - Set

Austrorads Guide to Pavement Technology - Set

Austrorads Guide to Bridge Technology - Set

Austrorads Guide to Traffic Engineering Management - Set

Austrorads Guide to Transport Planning

Austrorads Guide to Road Safety - Set

Austrorads Design Vehicles and Turning Path Templates

Austrorads Waterway design. A Guide to Hydraulic design of Bridges Culverts and Floodways

RMS Supplements to the Austrorads Guide to Pavement Technology

RMS Supplements to the Austrorads Guide to Bridge Technology

RMS Supplements to the Austrorads Guide to Traffic Engineering Management

RMS Supplements to the Austrorads Guide to Transport Planning

RMS Supplements to the Austrorads Guide to Road Safety

RMS Traffic Signal Operation Specification

RMS Supplement to AS 1742

RMS Supplement to AS 1743

RMS Procedures for use in the Preparation of a Traffic Management Plan (TMP)

RMS Roads and Maritime Services Guidelines for Road Safety Audit Practices

RMS Supplement to AS 2890

The Structural Design of Heavy Duty Pavements for Port and Other Industries (Interpave, 2008)

Guide to Industrial Floors and Pavements (Cement Concrete & Aggregates Australia, 2009)

2.1.4 RMS Specifications

RMS 3051 RMS QA Specification 3051 - Granular Base and Subbase Materials for Surfaced Road Pavements

RMS 3071 RMS QA Specification 3071 – Selected Material in Formation Layers

RMS 3222 RMS QA Specification 3222 – No-Fines Concrete (For Subsurface Drainage)

RMS 3252 RMS QA Specification 3252 – Polymer Modified Binder for Pavements

RMS 3552 Subsurface Drainage Pipe (Corrugated Perforated and Non-Perforated Plastic)

RMS 3557 RMS QA Specification 3557 - Flexible Strip Filter Drains

RMS 3580 RMS QA Specification 3580 - Aggregate Filter Materials for Subsurface Drainage

RMS B110 RMS QA Specification B110 - Supply of Pretensioned Precast Concrete Members

RMS B113 RMS QA Specification B113 - Post-Tensioning of Concrete

RMS B114 RMS QA Specification B114 - Ground anchors

RMS B115 RMS QA Specification B115 - Precast Concrete Members (Not Pretensioned)

RMS B150 RMS QA Specification B150 - Erection of Pretensioned Precast Concrete Members

RMS B153 RMS QA Specification B153 - Erection of Precast Concrete Members (Not Pretensioned)

RMS B200 RMS QA Specification B200 - Fabrication of Major Steel Structural Members

RMS B204 RMS QA Specification B204 - Welding of Bridges and Other Road Structures

RMS B220 RMS QA Specification B220 - Protective Treatment of Bridge Steelwork

RMS B240 RMS QA Specification B240 - Supply of Bolts, Nuts, Screws and Washers

RMS B260 RMS QA Specification B260 - Erection of Structural Steelwork

RMS B264 RMS QA Specification B264 - Erection of Barrier Railings and Minor Components

RMS B280 RMS QA Specification B280 - Unreinforced Elastomeric Bearing Pads and Strips

RMS B281 RMS QA Specification B281 - Laminated Elastomeric Bearings

RMS B282 RMS QA Specification B282 - Pot Bearings – Structural Steel

RMS B283 RMS QA Specification B283 - Pot Bearings – Stainless Steel

RMS B284 RMS QA Specification B284 - Installation of Bridge Bearings

RMS B30 RMS QA Specification B30 - Excavation and Backfill for Bridgeworks

RMS B341 RMS QA Specification B341 - Demolition of Existing Structure

RMS B349 RMS QA Specification B349 - Supply of Precast Concrete Noise Walls (Not Pretensioned)

RMS B57 RMS QA Specification B57 - Driven Cast-in-Place Concrete Piles

RMS B58 RMS QA Specification B58 - Permanently Cased Cast-in-Place Reinforced Concrete Piles

RMS B59 RMS QA Specification B59 - Bored Cast-in-Place Reinforced Concrete piles (without Permanent Casing)

RMS B61 RMS QA Specification B61 - Driven Composite Piles

RMS B63 RMS QA Specification B63 - Concrete Injected (CFA) Piling

RMS B80 RMS QA Specification B80 - Concrete Work for Bridges

RMS B82 RMS QA Specification B82 - Shotcrete Work

RMS GTD 2012/001 Roads & Maritime Services - GTD 2012/001 - Technical Direction Geotechnology

RMS Pub 13.184 Traffic Modelling Guidelines. (Issued Feb 2013)

RMS Q6 RMS Specification D&C Q6 - Quality Management System

RMS R11 RMS QA Specification R11 - Stormwater Drainage

RMS R15 RMS QA Specification R15 - Kerbs and Gutters

RMS R83 RMS QA Specification R83 - Jointed Concrete Base

RMS R132 RMS QA Specification R132 - Safety Barrier Systems

RMS R271 RMS QA Specification R271 - Design and Construction of Noise Walls

RMS R44 RMS QA Specification R44 - Earthworks

RMS R50 RMS QA Specification R50 - Stabilisation of Earthworks

RMS R53 RMS QA Specification R53 - Concrete (for General Use), Mortar and Grout

RMS R55 RMS QA Specification R55 - Rock Filled Gabions and Mattresses

RMS R57 RMS QA Specification R57 - Design of Reinforced Soil Walls

RMS R58 RMS QA Specification R58 - Construction of Reinforced Soil Walls (Contractor's Design)

RMS R63 RMS QA Specification R63 - Geotextiles (Separation and Filtration)

RMS R64 RMS QA Specification R64 - Soil Nailing

RMS R68 RMS QA Specification R68 - Shotcrete work without steel fibres

RMS R73 RMS QA Specification R73 – Construction of Plant Mixed Heavily Bound Pavement Course

RMS R116 RMS QA Specification R116 – Heavy Duty Dense Graded Asphalt

RMS R132 RMS QA Specification R132 - Safety Barrier Systems

RMS R173 RMS QA Specification R173 – General Concrete Paving

RMS Soil Testing Methods

2.1.5 Additional Requirements to RMS Specifications

Additional specification requirements to RMS R83 are provided in section 12 of this report.

2.2 Reference Documents

The design has been based on the following documents:

- The SIMTA Principal's Project Requirements document;
- The AECOM Basis of Design document, number 60492251, dated 24 November 2016;
- AECOM Drawings included in *Laing O'Rourke Final Offer*, received via Aconex reference number LORAC-GCOR-000197, dated 02 August 2016

2.3 Durability and Design Life

The Design Life of Assets and Sub Assets are to be set out in a separate Durability Report for the project, at Appendix B, and included in the final detailed design package.

The Arcadis design for durability is based on the following;

- on relevant Industry standards, guidelines and good industry practice in following normal maintenance and replacement of maintenance spares,
- to provide a service life which falls within the range of conditions contemplated by the manufacturer in deducing the design life of the asset.

The design life of proprietary equipment and other assets designed by suppliers will need to be referenced to the suppliers to ascertain the service life of these proprietary goods based on the supplier's experience and its assessment of the maintainability and reliability of its products

16 LIGHTING

16.1 Design Strategy

The lighting design for the Moorebank IMEX terminal takes into account the eventual transition from Manual Phase to Automatic Phase that forms part of the operational strategy of the site. As such, the lighting design covers the both of the following phases:

- Manual Operation Phase;
- Automatic Operation Phase.

Taking into account the above planned transition, the design strategy aims to achieve the following:

- Provide sufficient lighting to the Manual Operation Phase in accordance with relevant Australian Standards.
- Minimise the impact of operation during Manual Operation Phase;
- Minimise the impact of transition from Manual Operation Phase to Automatic Operation Phase
- Minimise the impact of the automatic phase transition by maximising the reusability of the lighting design proposed for the manual operation.

16.2 Design Criteria

The following table shows the lighting levels designed for the Manual Operation Phase

Manual Phase Area	Lighting Level
Overall Site	General Storage – Pedestrian Access with Through Traffic E_{av} 20 lx, E_{min} 2.5lx,
Local Driveways	P4 as per AS1158.3
Carpark	P11b as per AS1158.3
Pedestrian Crossing	PX3 as per AS1158.4
Fencing	5 lux average illuminance

The following table shows the lighting levels designed for the Automatic Operation Phase

Manual Phase Area	Lighting Level
Site – Loading / Drive-in Area	General Storage – Pedestrian Access with Through Traffic E_{av} 20 lx, E_{min} 2.5lx,
Local Driveways	P4 as per AS1158.3
Carpark	P11b as per AS1158.3
Pedestrian Crossing	PX3 as per AS1158.4
Fencing	5 lux average illuminance

The lighting design have been undertaken in accordance to the above standards. The design calculations have been completed using the lighting software AGI32. The design calculations are provided within the Appendix.

16.2.1 Manual Phase - Lighting Design

16.2.1.1 Lighting Design

Overall Terminal Site

The lighting design features 18m high mast poles, mounted with high powered LED floodlights, as the main source to illuminate most of the site area.

Within the rail cargo area, 18m high mast poles have been positioned at less than 50m spacing's along the rail corridor, between the second and third track. Each pole is mounted with four high power LED floodlights, angled 90° apart, with a tilt of 8° to allow wider illumination.

18m poles have been chosen, taking into consideration the transition phase from Manual to Automatic Operation. Keeping all the high mast poles at no more than 18m height, the light poles situated within the rail corridor can continue to operate even during the installation of the new crane for automatic phase.

For the remainder of the site, 18m high mast poles with one or two high power LED floodlights are used to cover the majority of the drive-in area.

A combination of 12m and 9m poles is used to provide the additional required lighting in the more restricted areas.

The perimeter fencing is illuminated mainly by the 12m height pole. These fences are illuminated at a level which allow the perimeter CCTVs to operate effectively.

Local Driveway / Carpark

The local driveways and the carpark are illuminated by a combination of the 18m high mast poles and the 12m light poles. The 12m light poles have been used to illuminate the areas which are difficult to reach from the 18m high mast poles.

Pedestrian Crossing

A number of 9m poles have been allocated near the pedestrian crossing given its higher point vertical illuminance light level requirement as required by AS1158.

Emergency/Maintenance lighting

SIMTA have not advised to provide any emergency/maintenance lighting.

SIMTA have advised that all planned maintenance will be performed during daylight hours. For emergency, overnight maintenance, if the permanently installed lighting is not adequate to perform detailed tasks in a specific location, then SIMTA have advised that portable flood light plant will be used to supplement the installed lighting.

16.2.1.2 Lighting Power Supply

Each light pole within the terminal site is powered by one of the distribution boards provided throughout the site. Generally light poles shall be powered by the closest distribution boards, minimizing the wiring distance and cable sizes required.

Unless otherwise stated in the distribution board and circuit schedule, each light pole is typically wired by a single phase 2c x 16mm² + earth XLPE cable. Adjacent light poles are alternately wired in different circuits through the three-phase supply, reducing the chance of two adjacent poles failing together due to any one circuit failing.

16.2.2 Automated Phase:

16.2.2.1 Lighting Design

Automated Rail Cargo Area

Given the site will be transitioned into full automation with no manual labours, SIMTA advised there is no requirement for lighting. Some illumination is anticipated from the automated crane that is to be installed for the automatic phase.

The 18m high mast poles along the rail corridor shall be decommissioned as part of the transition from manual to automated phase.

The 12m light poles provided for the perimeter/security fencing lighting will remain and serve the same purpose as the manual operation phase. Both the eastern and western fencelines will be shifted outward as part of the transition from manual to automatic phase, generating more space within the rail cargo area. As such, the perimeter poles will correspondingly shift with the new fence lines to keep the illuminance the same as manual operation phase.

Local Driveway / Carpark

The local driveway and the carpark will be kept generally the same as for manual phase. As the front of house, drive in area of the automated phase is greater than the manual phase, additional 18m high mast poles shall be provided to illuminate the additional area.

Pedestrian Crossing

The pedestrian crossing will be removed during the transition from manual to automated phase. Therefore the lighting will not be required during Automatic phase.

Emergency/Maintenance lighting

No additional emergency / maintenance lighting will be provided as per manual phase.

16.2.2.2 Lighting Power Supply

The lighting power supply will follow the same topology as the manual phase wiring.

16.2.3 Luminaires

LED luminaires is used in the design given the advantages LED technology has over other luminaire technologies such as the following:

- Energy efficiency;
- Increased life time;
- Colour rendering;
- No warm up period.

Luminaires are constructed as full cut off type, with all lights sitting flat (zero-degree tilt) except the luminaires within the rail corridor.

The luminaires can be controlled via photoelectric cell which can be mounted at the top of each pole/luminaire.

Luminaires are minimum IP66 grade which are suitable for outdoor application.

The colour temperature for all luminaires used in the design are 4000K standard.

16.2.4 Light Poles

The design features three types of poles, 18m, 12m and 9m height. The 18m high mast poles shall be minimum HD grade given some of it being positioned within the rail corridor.

The luminaires are typically mounted at the top of the poles with a typical outreach of 2m. In addition to luminaires, some of the poles are used to mount CCTVs and WAPs in order to reduce the number of dedicated CCTV security poles needed for the design.

For all 18m high mast poles, 1 x 80mm orange HD uPVC conduit shall be used as the underground entry pathway for the electrical cabling to the luminaires. For all other light poles, 1 x 50mm orange HD uPVC shall be used.

For all the light poles mounted with communications equipment such as CCTVs or WAPs, an additional 1 x 50mm white HD uPVC conduit is used as a dedicated pathway to maintain the required segregation between ELV and LV cables in accordance with AS/CF S009

EXTRACT

The EIS contains new visual impact assessment (by Reid Campbell 2015) and a new light spill assessment (AECOM 2015). This new light spill assessment was required for a new arrangement to be considered after the 2013 EIS.

19.1.3 Revised Statement of Commitments

1. The principles of Crime Prevention Through Environmental Design have been considered and incorporated into the design
2. The proponent shall encourage walking and cycling by the inclusion of appropriate facilities including under cover bike storage, showers and change facilities.
3. Appropriate areas have been provided for the storage of waste and recyclable material

19.1.4 CoA Compliance

1. Condition B1: Access for people with disabilities has been allowed for in offices and amenities in accordance with the Disability Discrimination Act 1992 (Commonwealth).
2. Condition B4: Site layout and access. The design of the main access gate precludes heavy road freight vehicles from using Moorebank Avenue south. There is no left turn from the site onto Moorebank Avenue, and no right turn from Moorebank Avenue into the terminal site.
3. Condition B5: The conditions stipulated in condition B5 have been included within the design to ensure access for heavy vehicles and minimise disruption to Moorebank Avenue. Such measures include:
 - a. internal roads, driveways and parking have been designed in accordance with the latest versions of AS 2890.1 – 2004, AS 2890.6-2009 and AS 2890.2 – 2002 for heavy vehicle usage;
 - b. the swept path of the longest vehicle entering and exiting the subject as well as manoeuvrability through the site is in accordance with AUSTROADS
 - c. The layout of the site has been designed to ensure heavy vehicles associated with the operation of the intermodal terminal can be accommodated on site in the event of an incident blocking access to the M5 Motorway/ Moorebank Avenue to avoid queuing on public roads.
 - d. The layout of the site has been designed so that heavy vehicles are not required to select reverse gear.
 - e. the design ensures that all vehicles are wholly contained on site before being required to stop;
4. Condition B6: Emergency access provision has been included.
5. Condition B7: A lighting plan will be prepared and submitted by Arcadis based on the illumination strategy and lighting drawings and specifications by the Designer. The Developed Design complies with B7.

The Stage 1 EIS states that the light pole heights will vary between 13.55m and 21m, these heights have been adhered to. This is further emphasised by the EPBC approval stating that light poles must not exceed the height of warehouses; the building heights permitted under the Concept Plan Approval included allowances for 32 m high materials handling equipment, a 30 m high control tower, 21 m high warehouse and 15 m high "other" buildings.

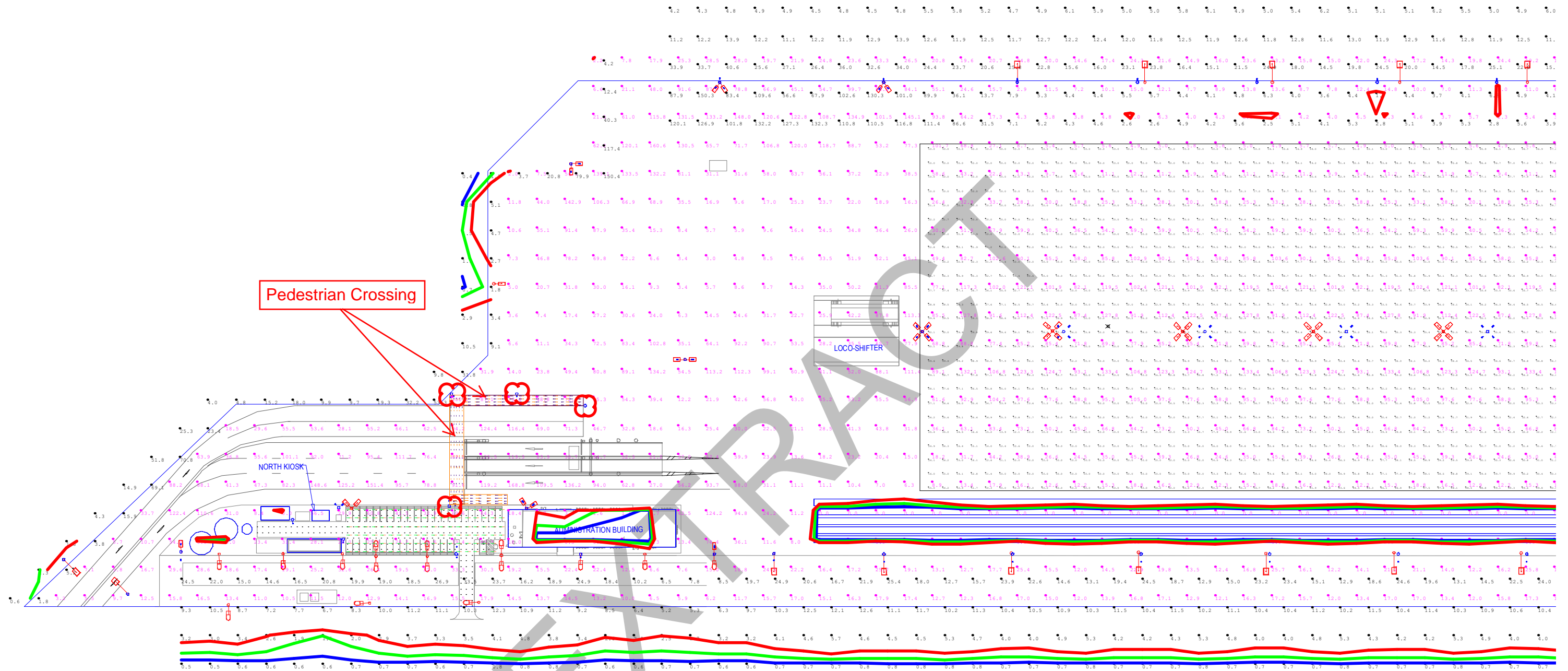
The effects of light spill are discussed in Section 17.3.2 of the EIS, which assessed the lighting arrangement for the Proposal

The assessment demonstrated that the proposed arrangement would be consistent with AS4282-1997 and no further mitigation measures were deemed necessary, in addition to the commitments included under the Concept Plan Approval."

6. Condition B8: The design does not preclude the ability to install a bus stop on Moorebank Avenue.

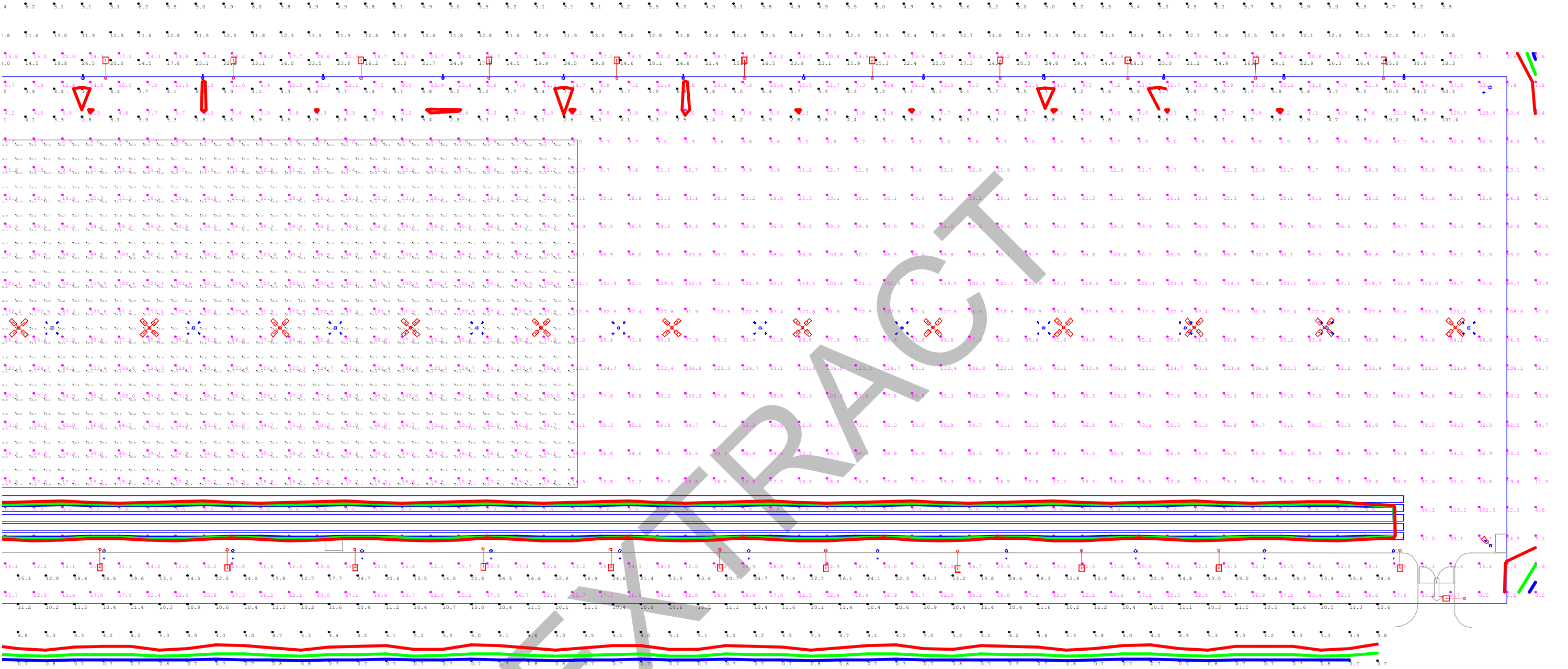
AL PHASE OPERATION - LIGHTING CALCULATIONS

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




Isoline Legend	
Illuminance (Lux)	
Color	Value
<div></div>	0.85
<div></div>	1.5
<div></div>	2.5

 Pedestrian Crossing Lights



Isoline Legend	
Illuminance (Lux)	
Color	Value
<div></div>	0.85
<div></div>	1.5
<div></div>	2.5

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	LLF
	72	SR4H757A2 Raptor 1270W NB gla	SINGLE	0.750
	45	ATB2_60BLEDE13_XXXXX R3	SINGLE	0.750
	2	StreetLED 37W 4K Aeroscreen 2	SINGLE	0.750

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Max/Min
Carpark Horizontal	Illuminance	Lux	36.18	77.8	10.6	7.34
Carpark Vertical	Illuminance	Lux	23.17	48.3	9.1	N.A.
Carpark Vertical_1	Illuminance	Lux	32.79	74.2	10.8	N.A.
Fence	Illuminance	Lux	8.46	33.5	0.5	67.00
Fence_1	Illuminance	Lux	16.24	150.3	1.6	93.94
Fence_2	Illuminance	Lux	20.70	150.4	0.4	376.00
Glare in Rail Cargo_1	Illuminance	Lux	64.18	142.9	5.7	25.07
Glare in Rail Cargo_1	Glare Rating	N.A.	26.08	36.2	10.0	3.62
ObtrusiveLight_1_Cd_Seg1	Obtrusive Light - Cd	N.A.	601.22	1513	490	3.09
ObtrusiveLight_1_Cd_Seg2	Obtrusive Light - Cd	N.A.	685.04	956	509	1.88
ObtrusiveLight_1_Cd_Seg3	Obtrusive Light - Cd	N.A.	859.79	1867	561	3.33
ObtrusiveLight_1_Cd_Seg4	Obtrusive Light - Cd	N.A.	570.48	1048	466	2.25
ObtrusiveLight_1_Ill_Seg1	Obtrusive Light - Ill	Lux	0.14	0.2	0.1	2.00
ObtrusiveLight_1_Ill_Seg2	Obtrusive Light - Ill	Lux	0.50	0.9	0.0	N.A.
ObtrusiveLight_1_Ill_Seg3	Obtrusive Light - Ill	Lux	0.33	0.7	0.1	7.00
ObtrusiveLight_1_Ill_Seg4	Obtrusive Light - Ill	Lux	0.18	0.3	0.1	3.00
PedX_Vert1Left	Illuminance	Lux	52.76	90.1	29.4	N.A.
PedX_Vert1Right	Illuminance	Lux	52.78	80.9	16.1	5.02
PedX_Vert2Down	Illuminance	Lux	71.81	117.4	20.0	N.A.
PedX_Vert2Up	Illuminance	Lux	48.50	103.4	18.4	5.62
PedX_Vert3Left	Illuminance	Lux	44.30	61.4	18.2	N.A.
PedX_Vert3Right	Illuminance	Lux	50.84	75.8	38.0	N.A.
Site	Illuminance	Lux	43.97	168.8	0.0	N.A.

Obtrusive Light - Compliance Report

AS 4282-1997, Pre-Curfew, Commercial

Filename: 2017-04-06 - Moorebank IMEX Manual Phase

11/04/2017 11:47:22 AM

Illuminance

Maximum Allowable Value: 25 Lux

Calculations Tested (4):

Calculation Label	Test Results	Max. Illum.	
ObtrusiveLight_1_III_Seg1	PASS		0.2
ObtrusiveLight_1_III_Seg2	PASS		0.9
ObtrusiveLight_1_III_Seg3	PASS		0.7
ObtrusiveLight_1_III_Seg4	PASS		0.3

Luminous Intensity (Cd) Per Luminaire

Maximum Allowable Value: 7500 Cd

Control Angle: 83 Degrees

Luminaire Locations Tested (119)

Test Results: **PASS**

EXTRA

Obtrusive Light - Compliance Report

AS 4282-1997, Post-Curfew, Commercial

Filename: 2017-04-06 - Moorebank IMEX Manual Phase

11/04/2017 11:46:16 AM

Illuminance

Maximum Allowable Value: 4 Lux

Calculations Tested (4):

<u>Calculation Label</u>	<u>Test Results</u>	<u>Max. Illum.</u>	
ObtrusiveLight_1_Ill_Seg1	PASS		0.2
ObtrusiveLight_1_Ill_Seg2	PASS		0.9
ObtrusiveLight_1_Ill_Seg3	PASS		0.7
ObtrusiveLight_1_Ill_Seg4	PASS		0.3

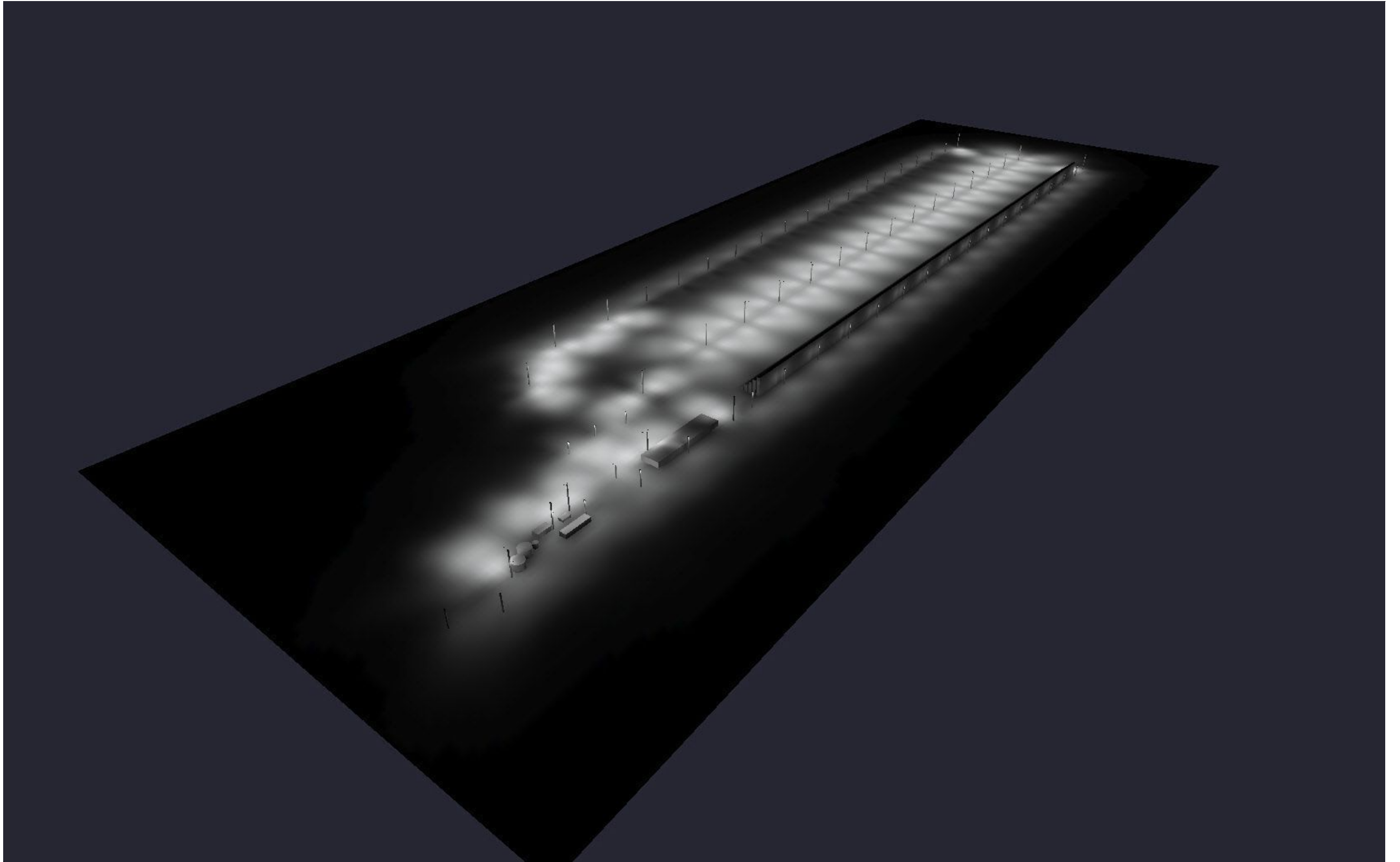
Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 2500 Cd

Calculations Tested (4):

<u>Calculation Label</u>	<u>Test Results</u>
ObtrusiveLight_1_Cd_Seg1	PASS
ObtrusiveLight_1_Cd_Seg2	PASS
ObtrusiveLight_1_Cd_Seg3	PASS
ObtrusiveLight_1_Cd_Seg4	PASS

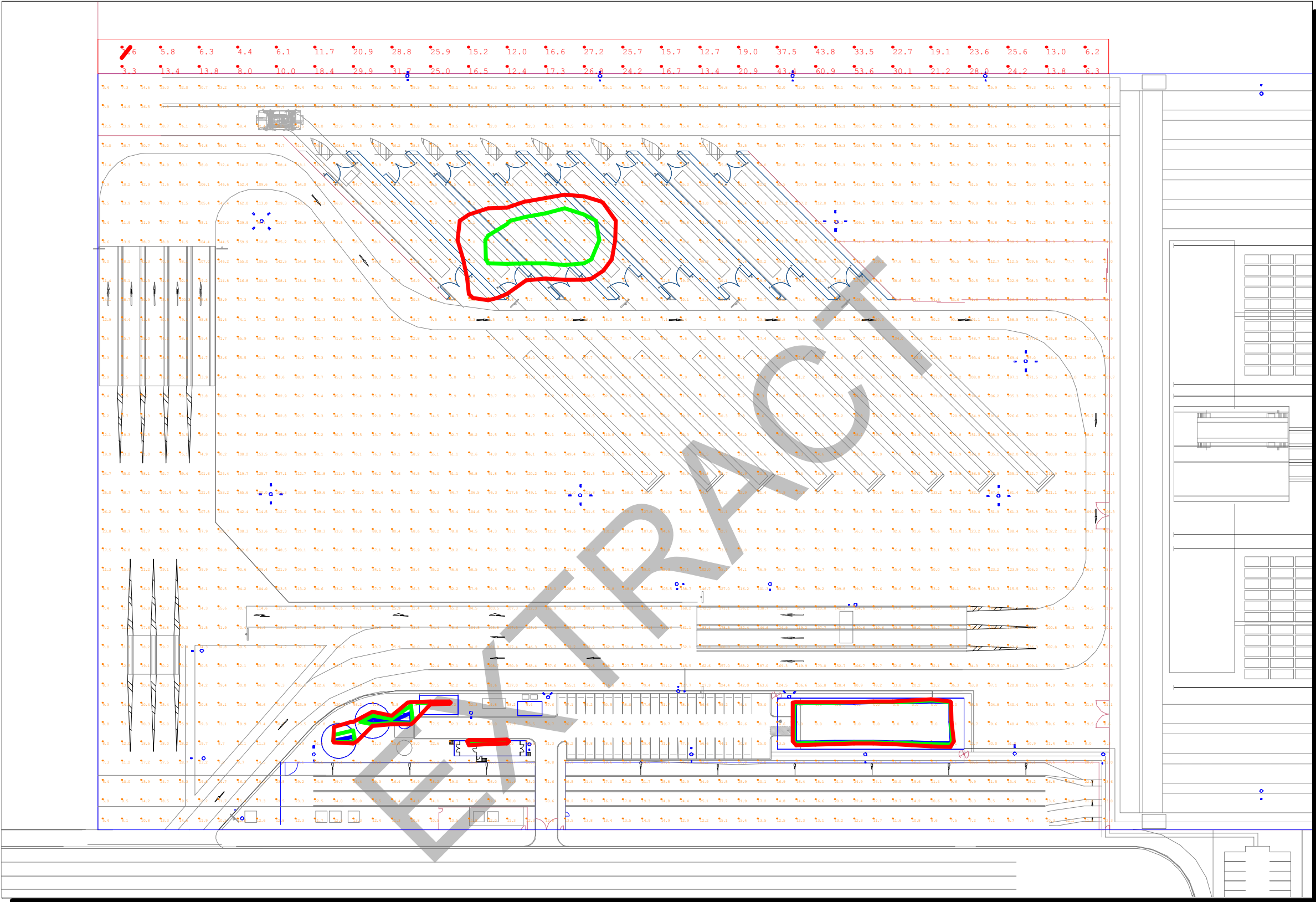
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






AUTO PHASE OPERATION - LIGHTING CALCULATION

			<div>Client</div> <div><div><div>SIMTA</div><div>SYDNEY INTERMODAL TERMINAL ALLIANCE</div></div><div><div>TACTICAL</div><div>GROUP</div></div></div>		<div>Project</div> <div>MOOREBANK PRECINCT EAST (MPE)</div> <div>IMPORT/EXPORT TERMINAL ELECTRICAL</div>	<div><div>Arcadis Australia Pacific Pty Limited Level 5, 141 Walker St NORTH SYDNEY NSW 2060 ABN 76 104 485 289 Tel No: +61 2 8907 9000 Fax No: +61 2 8907 9001 arcadis.com</div></div>	<div>Volume No.</div> <div>-</div>
				<div>Title</div>			<div>Project No.</div> <div>10004975</div>
Issue	Description	Date					

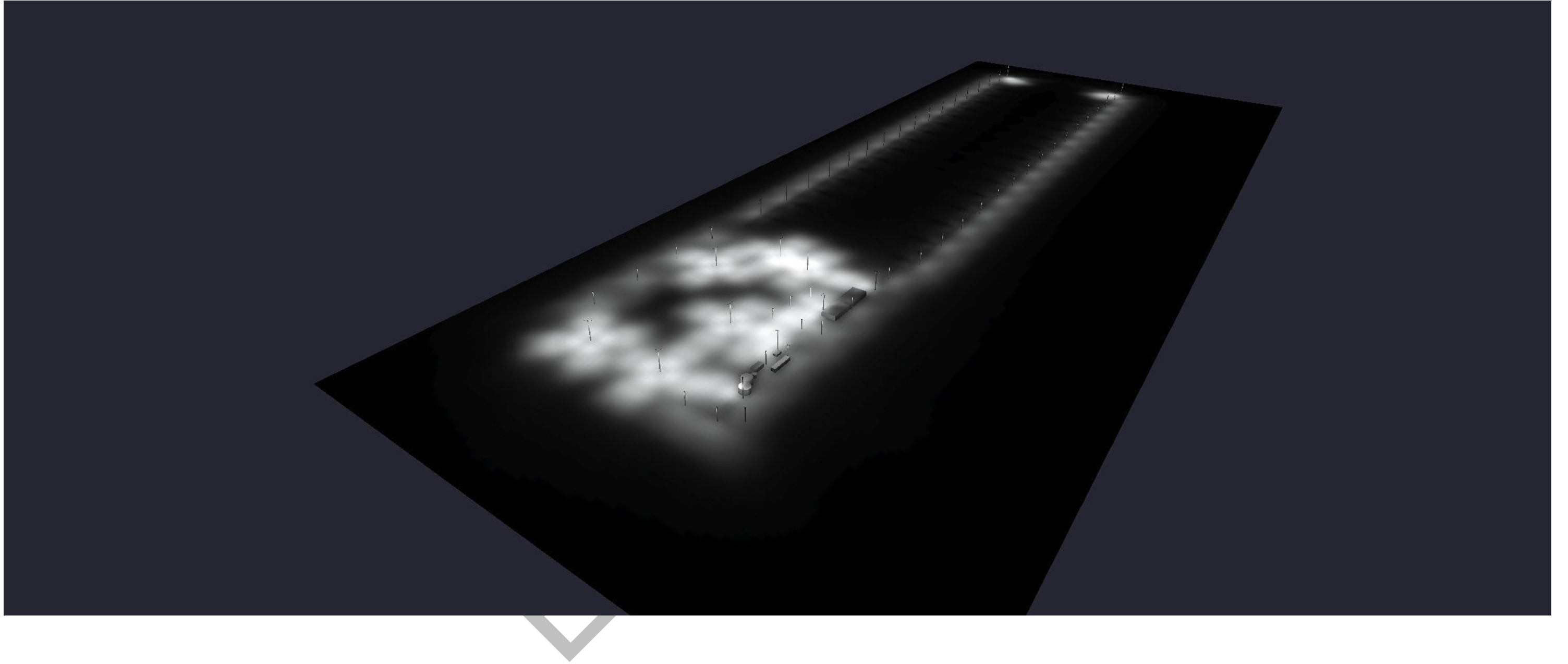
 100mm on Original



Isoline Legend	
Illuminance (Lux)	
Color	Value
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	1.5
	2.5

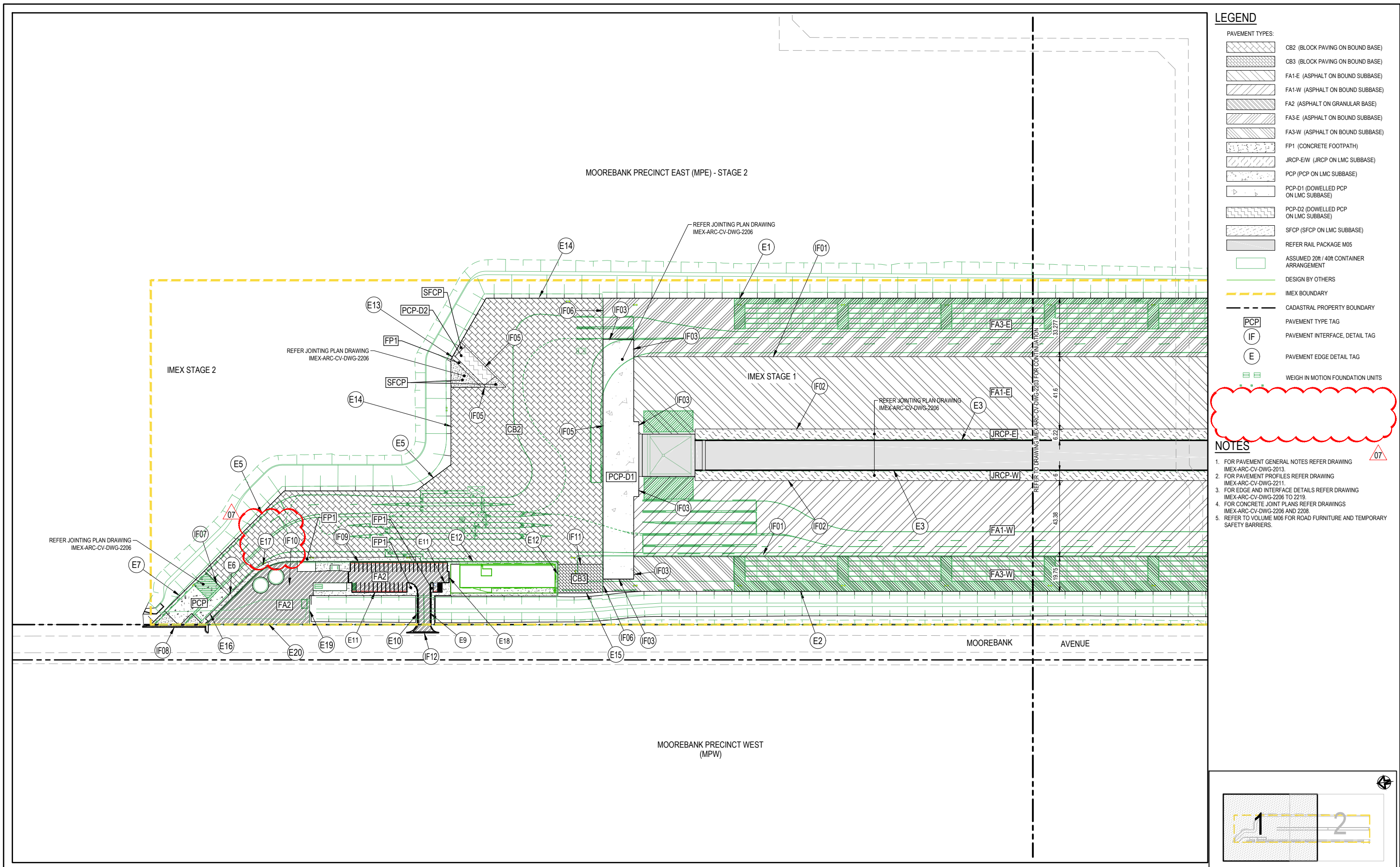
Luminaire Schedule					
Symbol	Qty	Label		Arrangement	LLF
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	54	ATB2_60BLEDE13_XXXXX_R3		SINGLE	0.750
	1	StreetLED 37W 4K Aeroscreen 2		SINGLE	0.750

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Max/Min
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Front Area	Illuminance	Lux	62.12	259.5	0.0	N.A.

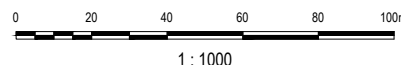


APPENDIX F

Car Park – Pavement Materials



Issue	Description	Date
07	AFC UPDATE	07/07/2017
06	AFC UPDATE	22/05/2017
05	AFC UPDATE	19/05/2017
04	AFC UPDATE	17/05/2017
03	ISSUE FOR CONSTRUCTION	27/04/2017
02	REVIEWER COMMENTS INCORPORATED	07/04/2017
01	DETAILED DESIGN	31/03/2017



FOR CONSTRUCTION TO BE USED FOR CONSTRUCTION	
Scales	1 : 1000
Original Size	A1
Height Datum	AHD
Grid	MGA
Filename:	IMEX-ARC-CV-DWG-2202-PavementPlanSheet1.dwg
Status	
FOR CONSTRUCTION TO BE USED FOR CONSTRUCTION	
Drawn	J.YAZDANI
Designed	L.CORSCADDEN
Checked	G.DE SILVA
Approved	M.KEFFORD

Project	MOOREBANK MPE STAGE 1 IMEX NUMBER 1
Title	PAVEMENT PLAN SHEET 1

ARCADIS

Arcadis Australia Pacific Pty Limited
Level 5, 141 Walker St
NORTH SYDNEY NSW 2060
ABN 76 104 485 289
Tel No: +61 2 8907 9000
Fax No: +61 2 8907 9001
arcadis.com

Volume No.
M02

Project No.
10004975

Drawing No.
IMEX -ARC-CV-DWG-2202-

Issue
07

APPENDIX G

Depot Licence Application Guidelines



Australian Government

Department of Immigration
and Border Protection

Applying for a Depot Licence – Application Guidelines

NOTE: Identity documents must be either originals or certified copies. A certified copy is a copy of an original document that has been certified as a true and correct copy by a person who is authorised to witness a statutory declaration. These copies should be annotated with “**certified true copy of the original, which I have sighted**” and the signature, date, full name and appointment/qualifications of the person certifying. Refer to the document *100 Point Identification Guidelines* for more details on document certification.

This guide provides information on the application process for a licence to operate a Depot under Part IVA of the *Customs Act 1901* (the Act).

Applications are to be made to the Department of Immigration and Border Protection (the Department). Successful applications will be granted a licence to operate the premises as a Depot under Section 77G of the Act and in accordance with Customs-related laws¹.

The Department requires the business and personal information outlined in this application guide and any other information requested as part of the application process to assess applications against the requirements of Customs-related laws. Any information provided will be used only for that purpose for which it is collected. Failure to provide the required information may result in the application for a Depot Licence being rejected.

¹ Customs-related laws, as defined in Section 4B of the Act, includes:
(c) any other Act, or any Regulations made under any other Act, in so far as the *Customs Act 1901* or *Customs Regulation 2015* relate to the importation or exportation of goods, where the importation or exportation is subject to compliance with any condition or restriction or is subject to any tax, duty, levy or charge (however described).

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1. General Information

1.1 Customs Control

The Department, which incorporates the Australian Border Force (ABF), protects Australia's border and manages the movement of people and goods across it. In terms of goods, management means facilitating legitimate trade and cross-border movement; and protection means monitoring for prohibited exports and imports, breaches of customs-related laws and threats to the revenue. Section 30 of the Act establishes customs control of goods from the time of their importation until they are entered into home consumption or re-exported to a place outside Australia; and for goods intended for export, from the time of receipt at a customs place until their exportation to a place outside Australia. Goods under customs control may be inspected at a Depot or other customs place.

A range of provisions in the Act also applies to goods under customs control. For example, goods under customs control must:

- Not be moved/tampered with unless under authority (section 33)
- Be kept safely and/or accounted for (sections 36, 37)
- Be accessible to officers for inspection etc. (section 77N(6))
- Only be dealt with under authority (sections 71E, 119AA, 119AB, 119AC)
- Not be received by a Depot the licence for which has been suspended (section 77VA)
- Have appropriate commercial documentation (section 77N(8))

The movement of goods under customs control (for example between licensed premises) requires permission. A number of reporting obligations also fall upon licensees in relation to both goods and business operations.

To help licensed and registered operators at customs places comply with obligations under Customs-related laws, the Department manages an Infringement Notice Scheme. While statutory penalties exist, the Department's preference is to work cooperatively with industry, in the first instance, to increase compliance (ACN2014/07 and ACN 2013/67).

1.2 Integrated Cargo System (ICS)

The ICS is an electronic system used to facilitate and record the movement of goods into and out of Australia.

All applicants are required to register as a client in the ICS and purchase a digital certificate in order to communicate electronically with the Department. The ICS registration must be completed using the ABN under which the Depot application has been made.

For information on how to register in and access the ICS and any related matters please see the Department website at www.border.gov.au then proceed to the Cargo Support page. There are a number of useful fact sheets and step-by-step processes, however if you are still having difficulty please contact Cargo Support on 1300 558 099 or by email at cargosupport@border.gov.au.

Note: The National Depot and Warehouse Licensing section is unable to assist with ICS registration or digital certificates.

Licence applications are unable to be processed if client registration has not been completed.

1.3 Licensing

The Department administers a number of licensing and registration regimes under the Act. These regimes are designed to allow industry to work with Government to facilitate the achievement of legitimate business goals while maintaining border security. Section IVA sets out the legislative framework for the licensing of Depots. Even though licences are issued to individuals, companies or partnerships, each licence is issued for a specific place and licensees with more than one Depot require a licence for each of their premises.

Language

In some international publications, warehouses are referred to as bonds or bonded warehouses. This is a legacy from the use of bonds as security for licensed premises and does not have a meaning under Australia's current legislative regime. However, the term underbond movement is still used administratively to refer to the movement of goods subject to customs control.

1.4 Types of licences

Depots

A Depot is a place that is operated under licence to hold and/or unpack imported goods, hold and/or unpack goods for export and for the examination of goods by officers of the Department. Because a person may hold several licences to conduct distinct activities at distinct places, each licence must be maintained separately.

Goods for export remain under customs control until their export and imported goods remain under customs control until they are entered for domestic consumption or re-exported. This means that goods can only leave a Licensed Depot under permission.

Storage of goods subject to customs control in a Licensed Depot is permitted until the end of the month after the month of receipt in the Depot. The Depot may seek an extension under section 77P the Act to hold the goods for a further 30 days. If legislative import requirements have not been met and this period has elapsed, the goods must be transferred to a Licensed Warehouse (if possible) or arrangements be made for the disposal/destruction of the goods.

Customs Brokers

The statutory scheme for the licensing of customs brokers operates to protect the Commonwealth Revenue and to protect the community by giving assurance that customs reporting and payment of duty are undertaken in a professional and ethical manner. Licensed Brokers are expected to understand a range of import and export policies.

Warehouses

Licensed Warehouses allow long-term storage of goods that are subject to customs control and subsequently, deferral of any payable duties and taxes. Special classes of

warehouse exist including duty free shops, catering bonds, providores and specialist warehouses that deal in Excise Equivalent Goods (EEGs).

Activities permitted in warehouses are limited to ensure the security of the goods and the revenue payable to the Commonwealth is protected. Apart from approved storage, blending, unpacking, repacking and packaging of certain types of goods, any activities that involve "value adding" are not permitted.

Ship and aircraft stores are also managed via the warehouse licensing regime. Companies managing stores are commonly called providores or catering bonds. There are a range of special reporting requirements for ship and aircraft stores.

1.5 Depot Activities

Persons may only be licensed to conduct the following activities at Depots:

- Holding of imported goods subject to customs control
- Unpacking of imported goods subject to customs control
- Holding of goods for export subject to customs control and/or
- Packing of goods for export subject to customs control into containers etc.

The licence may be issued in relation to goods generally, or only in relation to goods of specific classes. Licence holders may only use the premises for the purposes specified in the licence. Activities permitted in warehouses are limited to ensure the security of the goods and the revenue payable to the Commonwealth is protected. Authorised officers may conduct cargo examinations and/or audits at all Licensed Depots.

Note: Goods that are not currently under customs control may also be packed for export at places other than a licensed Depot.

1.6 Licence Conditions

Depot operators are subject to a range of obligations, including compliance with conditions of the licence (see [ACN 2013/56](#)), reporting obligations and maintenance of systems to ensure accountability. One such condition of a licence is to provide adequate training to make staff aware of their obligations in dealing with goods subject to customs control. This means that all employees working in the management and control of a Depot or of customs controlled goods are expected to understand their obligations under Customs-related laws.

A breach of a Depot licence condition is an offence and non-compliance with the conditions of a licence may lead to administrative action, including the issuing of an Infringement Notice, prosecution for the offence, and suspension or even cancellation of the licence if deemed necessary.

1.7 Licence Fees

Depot licence fees are imposed by operation of the Act and *Customs Depot Licensing Charges Act 1997*. For initial applications, a fee of \$3000 must be paid before processing of the application can commence. An invoice will be issued once the application has been received.

An annual \$4000 fee is payable for every Depot Licence. This fee is applied pro rata in the first year and must be paid within 30 days of the approval of the licence. It is also applied pro rata for the last year, so operators intending to surrender a licence are encouraged to contact the Warehouse and Depot Licensing team as early as possible to ensure that the appropriate refund can be processed.

Fees are paid annually and are based on a standard financial year (1 July to 30 June).

If a Depot has handled less than 300 transactions or lines of cargo in the previous 12 months they may be eligible for a reduced renewal fee of \$1500. To qualify for the reduced licence fee operators need to contact Warehouse and Depot Licensing in writing prior to May each year.

Note that the reduced fee of \$1500 does not apply to the initial year.

1.8 Department of Agriculture and Water Resources (DAWR)

DAWR separately approves places for the provision of biosecurity activities through Approved Arrangements (AA). AA sites, formerly known as Quarantine Approved Premises (QAP), are not managed through the Department. Depending on the type of cargo being handled at a Licensed Depot, biosecurity requirements may apply. Licence holders should contact their nearest DAWR regional office or visit the DAWR website at www.agriculture.gov.au for information regarding AA requirements.

1.9 Application Process

All applications are assessed against the criteria laid out in customs legislation and associated policies. The applicant and all persons in positions of 'management or control' are required to be 'fit and proper'. Not all premises are appropriate to be operated as a Licensed Warehouse. The application process includes a site visit, to determine the adequacy of the premises to deal with goods subject to customs control and the viability of the business model and operating systems.

On receipt of an application an invoice is issued for the application fee. Assessment and processing of an application commences once the application fee has been paid; and any additional or missing information/supporting documentation will be requested at this stage. The application process can take up to 60 days from the date that all information and documentation required to complete the application assessment has been received.

Note: a Depot licence cannot be held by a Trust. While licences are usually held by natural persons, partnerships or companies, a licence may also be granted to the Trustee of a Trust upon presentation of a "Deed of Trusteeship" but the licence cannot be issued to the Trust itself.

Important Note: Under Section 234(1)(d) of the Act, it is an offence to intentionally make a false or misleading statement to an officer, or intentionally omit information from a statement made to an officer without which the statement is false or misleading.

A false or misleading statement made in an application for a Depot licence may result in a decision not to grant a Depot licence and/or the person may be convicted of an offence under section 234(2)(b) of the Act.

1.10 Review of Decisions

Applicants who feel that a decision is injudicious can contact the Department to request internal review. Whether or not an applicant initially requests an internal review, some decisions are appealable to the Administrative Appeals Tribunal.

A decision not to grant a Depot Licence is a reviewable decision, under section 273GA(aaq) of the Act. A decision not to extend the time given to produce further information in relation to an application (when requested to do so in writing by the applicant) is also a reviewable decision.

In order to have a decision reviewed by the Administrative Appeals Tribunal, an applicant must apply to the Tribunal within 28 days of the decision being made, or any such further time as allowed in accordance with section 29 of the *Administrative Appeals Tribunal Act, 1975*.

2. How to Complete the Application Form

You must complete each section of the application form unless otherwise stated. The paragraphs below are numbered to correspond with the questions on the application form.

1. Contact Details for Application

A contact for the application process needs to be nominated. This person must be the person who lodges the application and also must have knowledge of all aspects of the application. This usually means that they should know all relevant details of the business case for the operation of the proposed site.

This section is for the details of the contact and may be different to the details in the rest of the application. The contact must remain the same throughout the application process. Where this is not possible, complete details of a new contact must be provided.

2. Client Name

The client name is the name of the person, partnership or company applying for the Depot licence. **A Depot licence cannot be held by a Trust**; however a licence may be issued to the Trustee of a Trust upon presentation of a "Deed of Trusteeship".

3. Australian Business Number (ABN)

The ABN of the person, partnership or company applying for the Depot licence must be used on the application. Depot applications must be completed using the ABN under which the ICS registration has been made (see part 1.2 of this document).

4. Establishment (Depot) Name

The Establishment name is the name by which the Depot is to be known. This name does not have to be the same as the client name or even a name registered with the Australian Business Register (ABR).

5. Physical Site Address

The physical site address is the address of the premises where the proposed Depot is situated.

Although a Depot licence may be issued to a person, company or partnership, the licence is for a single specified place only. Licensees operating multiple Depots will need a licence for each premises.

Once issued, any intended variation to a licensed premises, including a change of address, must be approved by the Department **before** the Depot site is changed or operations are moved to another premises. The application to vary a licence may take up to 60 days from receipt of a completed application and so sufficient time must be allowed for business planning to move a licensed Depot to a different site.

6. Location of the Depot Relative to Australian Border Force Offices

Will the proposed Depot will be located more than 40 km from the nearest ABF office?

Depots located more than 40 km from a place where ABF officers conduct their normal business are liable to pay the travelling expenses of authorised officers performing their duties at such Depots in accordance with the *Customs Regulation 2015*.

Note: Under the Act, an application may be refused if the premises to be licensed is considered to be too remote from the nearest ABF office.

7. After Hours Contact

You must provide the name and phone number of a person who can be contacted after hours in regards to the Depot, for example, a night manager.

8. Address of Head Office

The following addresses where applicable:

- The street and/or postal address of the registered company office in the State or Territory in which the application for a licence is made or
- The street and/or postal address of the company head office of the applicant if not in the State or Territory where the application for a licence is made.

9. ICS Client Registration

You are required to be registered as a client in the ICS (see part 1.2 of this document). The registration must be completed using the ABN under which the Depot application has been made. Please indicate on the form if the registration has been completed.

10. Communicating Electronically with the Department

All Depots must maintain electronic communication with the Department via the ICS.

Please indicate the method that you will use to access the ICS:

- Customs Interactive (CI) or
- Electronic Data Interchange (EDI).

If you will be accessing the ICS via EDI, you must provide details of the software that you will be using.

11. Company membership and persons who participate in the management or control of the depot

Each person in a position of Management or Control ([ACN2014/23](#) refers) of the proposed Depot or of goods subject to customs control that would be dealt with by the proposed Depot must be identified as part of the application process.

Applicants must provide a list of the following persons:

- The applicant (where the applicant is an individual natural person)

- All partners (where the applicant is a partnership) and
- All persons who will participate in a position of management or control of the Depot including all company directors, officers, shareholders, managers, supervisors, employees who cover for supervisors and managers leave, any staff who have control over the recording and movement of goods when they enter and leave the Depot, and any staff that have afterhours access to the Depot (regardless of whether swipe access, key or alarm code holders).

All persons nominated in response to this question will be the subject of police records and other background checks. A separate B301 form must be attached for each person in a position of Management or Control. The information is used to satisfy the requirement that the nominees are “fit and proper” persons for the purposes of section 77K of the Act. Each person must ensure that the full 10 years of address history is completed on the form.

If the form is submitted incomplete or if any information is missing from the form, the Department may be unable to process the request and/or may be unable to determine if the person is a fit and proper person. If a person chooses not to submit a consent form, the Department must consider this when assessing the application. The failure of an individual to give consent or provide all required information may result in the rejection of the application as the Department may be unable to determine whether that individual is a fit and proper person.

Additionally, those people nominated as being involved in the management and/or control of the Depot will be required to establish their identity by providing **certified** copies of identification documents, which total **100 points** or more

It is a condition of a Depot licence that the licence holder provides details to the Department within 30 days of a new staff member commencing in a position of management or control. These persons will be subject to the same “fit and proper person” requirements as staff nominated during the application process.

Note: If you run out of space on the form, please attach a separate piece of paper.

12. Prior Experience

Do you or any of the persons nominated as being in management or control of the Depot have prior experience in the operation of a Licensed Depot? If any person nominated as being in management or control of the Depot currently holds or has ever held another customs licence of any kind, this should be noted here.

If you have ticked yes, please provide a brief outline of the experience and/or other licences held in the space provided on the form.

Note: If you run out of space on the form, please attach a separate piece of paper.

13. Depot Activities

Please include the activities that you propose to conduct in the Depot. The following are the only activities that may be undertaken in a Depot by the licence holder:

- Holding of imported goods subject to customs control;

- Unpacking of imported goods subject to customs control;
- Holding of goods for export subject to customs control; and
- Packing of goods for export subject to customs control into containers etc.

14. Depot Categories

Please include the type of Depot/s that you are proposing to operate. All Depot activities as listed in point 13 may be conducted in any of the following Depot categories:

- Air Cargo – CTO functions
- Air Cargo - General
- Sea Cargo – Containerised general cargo (LCL and FAK)
- Personal effects – Sea
- Personal effects – Air
- Postal articles only

Activities that can be carried out at the following categories of Depots are restricted:

- Sea Cargo – FCL container park – hold imported goods subject to customs control only
- Sea Cargo – Non-containerised general cargo – hold imported goods subject to customs control and hold goods for export subject to customs control only.

“FCL” means a full container load

“LCL” means less than full container load

“FAK” means freight all kinds

“CTO” means Cargo Terminal Operator

15. Use of Premises for Purposes other than Depot Activities

Do you propose to use the premises for any activities other than those outlined in question 13 (Depot Activities)? If yes, please provide a brief explanation in the space provided. For example, if a section of the premises will not be part of the licensed Depot and will be used for other purposes.

16. Customs section 79 Warehouses

Is any part of the premises where the proposed Depot is located currently licensed as a section 79 warehouse or proposed to be licensed as a section 79 warehouse?

17. Quality Management System

Do you have a certified Quality Management System? If yes, please indicate the standard you are using.

Although a certified QMS is not mandatory, it is expected that Licensed Depots conduct Quality Assurance (QA) on consignments received each month. In particular, ‘time-up’ cargo must be accounted for. Any discrepancy identified through QA activities must be notified to the Department. This forms the bare

minimum of QA and licence applications for high-volume operators are expected to demonstrate an appropriately rigorous audit and stocktake schedule as well as an effective QMS.

18. Standard Operating Procedures (SOPs)

You are required to have documented SOPs for the operations to take place within the Depot. These documents will need to be made available upon request by the Department.

As a part of our assessment of your application you must indicate if you have developed SOPs for your proposed operation.

Attachments to be included in your Application

While some of the following information and documentation is mandatory and must accompany the application, other documents and information should only be submitted on request by the Licensing Officer who is processing your application.

19. Constitutional Documents

You **may** be required to provide a copy of one or more of the following documents to establish the arrangements under which the company operates:

- Articles of Association
- Constitution
- Replaceable Rules
- Partnership Agreement
- Certificate of Registration of a Foreign Company

20. Management and Control – MANDATORY

A Department pro-forma consent form (B301) **must** be completed by each nominated person including the applicant (if an individual natural person), partners (if applicable) and any director, shareholder or employee who will be involved in the management and/or control of the Depot.

Personnel who will have control of, or are responsible for delivery of cargo, have afterhours access or provide absence cover for supervisors and managers should also be included in this list.

Such persons will be subject to police record and other background checks, which are required in order to determine eligibility requirements for granting a Depot licence as per section 77K of the Act.

Each person ensure that the full 10 years of address history is completed on the form.

If the form is submitted incomplete or if any information is missing from the form, the Department may be unable to process the request and/or may be unable to determine if the person is a “fit and proper person” and/or the application may be refused.

If a person chooses not to submit a consent form, the Department must consider this when assessing the application. The failure of an individual to give consent

may result in the rejection of your application as the Department may be unable to determine whether that individual is a “fit and proper person”.

Additionally, those people nominated as being involved in the management and/or control of the Depot will be required to establish their identity by providing **certified** copies of identification documents, which total **100 points** or more.

A copy of the *B301 ‘Consent to Obtain Personal Information’ form* and a *100 Points of Identification Guideline* can be found on the Licensing page of the Department’s website at www.border.gov.au.

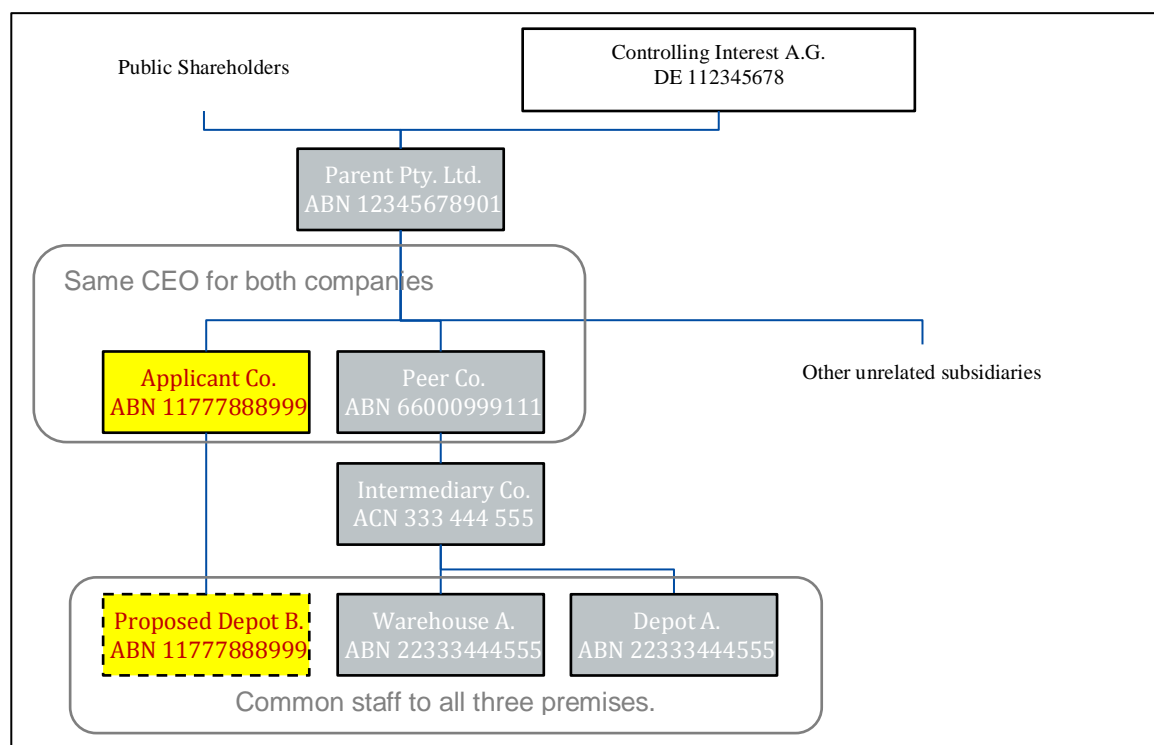
Any details about individuals contained within the Depot application form, associated information or information obtained as a result of police record and other background checks is personal information and will remain confidential in accordance with the Australian Privacy Principles of the *Privacy Act 1988* and the requirements of Part 6 of the *Australian Border Force Act 2015*.

21. Corporate Membership Structure – MANDATORY

This information **must** be provided. For small businesses, this may be as brief as a statement that no other corporate structures exist beyond the owner and any directors listed in the Depot Management section. However, large operators are expected to set out the organisational relationships comprehensively. Where relationships exist with other businesses unconnected with the proposed Depot, these can be summarised.

All other licensed premises must be included in this information and their relationships explained.

A diagram is often useful in addition to the full explanation to help with visualisation. The following example shows a simple diagram for a company structure of moderate complexity:



The information provided will be used by the Department to risk assess the company, companies and individuals associated with the applicants.

22. Company Extract – MANDATORY

If the application relates to a registered company, a 'Company Extract' **must** accompany the application. This document is available for purchase from the Australian Securities and Investment Commission (ASIC) website at www.asic.gov.au/search.

ASIC may also be contacted via:

Phone: 03 5177 3988

Email: info.enquiries@asic.gov.au

Company search documents must include full details of company registration, registered addresses, share details and company administration including directors.

23. Financial Information – MANDATORY

You **must** provide a copy of the last audited financial statements, that is:

- Balance Sheet
- Trading and Profit and Loss Accounts

If an audited statement is not available, you must provide the most current profit and loss statement and balance sheet or any financial statements showing the present trading position of the company.

If the application relates to a new company and no financial records are available, you must provide a comprehensive business plan including, but not limited to:

- Sales projections
- Estimated expenses
- Assessment of strengths and weaknesses
- Assessment of opportunities and threats
- Estimated profit / loss figures
- Estimated number of transactions

The information provided will be used by the Department to assess the company in relation to its financial viability and risk to the revenue of the Commonwealth.

24. Depot Site Plans – MANDATORY

You **must** provide three certified copies of the plan (no larger than A3) of the proposed Depot premises outlining **ALL** of the following details:

- The area to be licensed must be outlined in **RED**
- The location of access points including doors, windows, roller shutters, vehicular access, lifts and staircases
- The location of a secure storage area (deadhouse) for customs purposes

- The location of electronic security system movement sensors and reed switches
- The location of where activities will occur within the Depot, for example, storage of cargo, unpacking of containers and export consolidation
- The location of the area set aside for ABF officers to conduct cargo examinations
- The location of facilities for ABF officers to conduct compliance checks including, but not limited to, office space, desk, chair, access to Depot records and telephone
- If the premises include a section 79 warehouse, indicate the location of this on the plan
- The location of a car park specifically designated for use by ABF officers
- If the proposed licensed area only forms part of a building, the remaining areas of the building and usage/tenants must be noted.
- If the proposed licensed area is a whole building, surrounding features should be noted (secure complex, fencing, public roads, other buildings, etc).

Note: Office space and amenities should be excluded from the proposed licensed area.

The site plan does not have to be professionally drafted; however, if you choose to draft the site plan yourself, either using a computer or by hand-drawing it on graph paper, it must be neat, legible, use the appropriate colour coding detailed above and be reasonably to scale. The site plan forms an important part of the Depot licence as it is used by ABF officers to identify approved physical layout and security measures, and so it must be functional.

Each copy must include the following endorsement on the plan, and must be signed by an authorised official of the company.

"I hereby certify that this is a correct plan of the premises at (insert street address) operated by (insert name of business) and referred to in the application for a new/amended Depot licence dated --/--/--. I also certify that the area/areas bound in red is/are the area/areas of the proposed licensed Depot."

Name:

Signature:

Date:

25. Construction of Premises – MANDATORY

You **must** describe the construction and layout of the proposed Depot premises. For example, two storey building, double brick walls, reinforced concrete floors, tile roof, two doorways secured by steel doors, a vehicular entrance.

You must also provide written evidence from the relevant state authority of compliance with WH&S Regulations with regard to asbestos, including written evidence of the risk assessment if asbestos is present in the proposed premises.

By this requirement a competent person (defined in the WHS Regulation) must identify the presence and location of asbestos and assess the risks in accordance with the code of practice. The information must then be recorded in an asbestos register to be kept on the premises.

The Department has a duty of care not to place staff at risk of injury from asbestos; however, the primary duty of care obligation for controlling asbestos in licensed premises sits with the building owner. Where the licence applicant leases the premises the applicant must apply to the building owner for this information.

Note: Where asbestos is identified in the premises and the licensing officer has deemed the risk low enough to allow the granting of a licence that licence will be conditioned to require ongoing assessments by the relevant authority. The frequency of ongoing assessments must be in accordance with the relevant State or Territory legislation or Asbestos Management Plan. Reassessment is required sooner than scheduled if there is any disturbance of the asbestos.

Failure to comply with this requirement may lead to the rejection of the application or, where a licence has been granted, cancellation of the licence.

26. Physical Security of the Premises – MANDATORY

The physical security of the Depot must be at a minimum equal to commercial security standards having regard to the nature of the place and the procedures and methods that are put in place to ensure the security of goods.

Details of existing and/or proposed security arrangements for the Depot including, but not limited to, the following:

- Alarm systems
- CCTV / IPTV
- Window and door security
- Fencing
- Dead house construction
- Security patrols
- Name and address of the security company used
- Details about access to the Depot by personnel including names and positions of key holders and other staff who have unfettered access the controlled area.

As previously stated, if electronic security systems have been installed, you should clearly mark the location of all the movement sensors and reed switches on the certified plans.

See Appendix 2 for guidelines relating to physical security requirements for Depots.

Note: An authorised officer can visit the proposed Depot location to discuss physical security provisions during the licence application process.

27. Examination Facilities for ABF Officers – MANDATORY

It is a condition of a Depot licence for you as the licence holder to provide **adequate space and facilities** for the examination of goods by ABF officers.

Minimum requirements of such facilities, include, but are not limited to:

- Access to the proposed premises for ABF vehicles including Mobile X-ray Units (MXUs) and operating space which is not exposed to the elements. The minimum operating space required for the MXU is 8m x 8m.
- Access to single phase flat pin 10 amp plug for MXUs (standard 240 volt plug).
- High visibility bollard/barriers or equivalent protection from mobile plant/vehicles for ABF work areas.
- Adequate lighting levels (minimum 400 lux in examination area and office accommodation as prescribed by performance standard: AS1680.2 Interior lighting - Industrial tasks and processes).
- ABF examination work bench with a **stainless steel** bench top and **minimum dimensions** of 1.8m length by 750mm width and 900mm high, with power source access. An additional stainless steel bench with a minimum height of 700mm may also be required – **ABF officers will advise applicants of the bench dimension requirements during the application process.**
- S77G Depot staff to present cargo for inspection and to remove upon completion of examination.

The examination area is to be located a safe distance from areas where fumigant activity and biosecurity inspection would be taking place and protected from natural elements, artificially produced temperature devices and vehicle emissions. It is the responsibility of the licence holder to maintain the ABF examination area and keep it clear when not in use by ABF officers.

The ABF examination facilities **cannot** be shared with those used by other government officers conducting biosecurity inspections due to cross-contamination concerns.

Goods should be stacked in such a way as to allow reasonable access for authorised officers to examine the goods and, unless otherwise authorised by the Department, import and export cargo must be separated.

It is a condition of all Depot licences that any goods **not** subject to customs control ('free goods') must be stored in a separate and distinct area from goods subject to customs control.

28. Physical Separation of Premises

If the place to be licensed is a section or part of a building as opposed to the whole building, please provide details as to how the area to be licensed will be physically separated from the rest of the building. For example, internal fencing or by clearly delineating the area by painted lines, dependant on the outcome of a risk assessment by the regional ABF officers.

If the building is shared with another tenant or company, the proposed licensed area can only be under the control of the applicant company and must not include any area under the control of another tenant. The area must be separated by a floor to ceiling wall or strong metal fencing and a higher level of security may be required in this instance.

If the proposed premises is shared with another entity, you must provide details of the other tenants and nature of their business.

29. Ownership/Lease Verification – MANDATORY

You must provide evidence of ownership of the land/property where the Depot will be situated.

If the land/property is leased, you must provide a signed copy of the lease document.

30. Depot Procedures and Recording Systems – MANDATORY

It is a requirement that all Depots are registered in the ICS and that all cargo movements are communicated electronically to the Department via the ICS. Records must be maintained and they must provide a clear audit trail of all incoming and outgoing goods. The Depot licence holder is responsible for all goods in the Depot and is liable for the duty on any goods that cannot be accounted for.

Relevant commercial documents must be kept for a minimum period of five years; however, it is essential that the Depot licence holder also maintain permanent records to allow the history of the movement of all goods into and out of the Depot to be readily traced.

The types of records to be kept include, but are not limited to:

- The date and time of receipt of goods
- The date and time of unpack of containers/cargo (if applicable)
- Details of surplus or short landed goods, pillages etc.
- Details of the release of goods including the date and time.

Note: These records may be manual or computer based and must be made available to authorised officers upon request.

Manual Based Recording Systems

If your recording system is manual, you must provide the Department with the following detailed information:

- The location of the documents and the designation of the person/s who process them
- Copies of registers, forms or other documents used or proposed to be used in connection with the Depot operations

Computer Based Recording Systems

If you will be using commercially available software, please provide the name of the software and company.

If you are using non-commercially available software, please provide specific details about the system and include screen prints of receipt and delivery screens.

Irrespective of whether you are using commercially or non-commercially available software:

- Does the software interface with the ICS?
- Are cargo receipt and release reports available?
- Is a stock list report available?
- Does the software generate a 'delivery notice' for releasing cargo? If yes, is the generation of the notice linked to the ICS consolidated status of the cargo?
- Are all computer records accessible from on-site? If no, please provide details regarding the location of computer records.

Note: Customs will evaluate such procedures and systems and will either accept their adequacy for Customs purposes or indicate the nature of any inadequacies.

Depot Procedures

All standard operating procedures or other procedural documents relating to the operation of the Depot must be provided in the application supporting documentation.

It is a condition of all Depot licences that the holder must provide adequate training to make staff aware of their obligations in dealing with goods subject to customs control.

3. Submitting the Application

When the application form and requested attachments have been completed, please submit your application to:

Department of Immigration and Border Protection
National Depot and Warehouse Licensing
GPO Box 9984
Sydney NSW 2001
Email: licensing@border.gov.au

Receipt of your application will be acknowledged by a Licensing officer and you will be invoiced for the \$3,000 application fee.

Processing of your application will not begin until the \$3000 application fee has been paid.

On receipt of payment the Licensing officer will assess your application and advise you of any outstanding information.

Provided that all the required information and accompanying documentation has been submitted, and pending the status of access to the Integrated Cargo System, your application will take up to 60 days to process.

If you do not provide all information, including any outstanding information advised at the time of initial assessment of your application, processing of the application may be delayed or refused. If an application is refused, you will be required to submit a new application. Where administrative processing work and a site inspection have been conducted as part of an application, the application fee will not be refunded if the application is withdrawn or refused.

Appendix 1

Your legal responsibilities

It is your responsibility to be aware of all your legislative responsibilities. When granted your licence will contain a number of conditions. It is important that you read and understand these conditions. A breach of a licence condition is a strict liability offence and may result in the issuance of an Infringement Notice, prosecution under the Act and ultimately suspension and/or cancellation of your licence.

Please visit the Federal Register of Legislation website at <https://www.legislation.gov.au/> to review Depot and warehouse legislation, including but not limited to:

- Sections 77G to 77ZA of the Act (Depots)
- Sections 79 to 102A of the Act (warehouses including duty free stores)
- Sections 33 and 34 of the Regulation
- Sections 35 to 71 of the Regulation and
- *The Customs Licensing Charges Act 1997*

Below is an extract from the Customs Act 1901 outlining the role of a Licensed Depot

Customs Act 1901 Section 77G - Depot licences

- 1) Subject to this Part, the Comptroller-General of Customs may, on an application made by a person or partnership in accordance with section 77H, grant the person or partnership a licence in writing, to be known as a Depot licence, to use a place described in the licence for any one or more of the following purposes:
 - a) the holding of imported goods that are subject to customs control section 30;
 - b) the unpacking of goods referred to in paragraph (a) from receptacles;
 - c) the holding of goods for export that are subject to customs control under section 30;
 - d) the packing of goods referred to in paragraph (c) into receptacles;
 - e) the examination of goods referred to in paragraph (a) or (c) by authorised officers.
- 2) A Depot licence may be granted:
 - a) in relation to all the purposes referred to in subsection (1) or only to a particular purpose or purposes referred to in subsection (1) as specified in the licence; and
 - b) in relation to goods generally or to goods of a specified class or classes as specified in the licence.

Appendix 2

Physical Security Standards

The physical security standards that are required in order for premises to be licensed to operate as a Depot are designed to protect the security of goods subject to customs control; and in turn are an important factor in the Department's role of protecting the Australian community and the revenue of the Commonwealth.

Individual site inspections are conducted for all Depot licence applications as well as applications to vary an existing Depot licence. The security measures required in order for a licence application to be approved will vary between premises.

Physical security assessments consider the threats and the risks and take into account the location and construction of the premises; the type, value and volume of the goods that will be stored at the premises; the activities that will be conducted at the premises; and any other relevant risk factors, such as the compliance history of the company.

Threats range from petty crime, such as incidental theft, to major crimes such as criminal infiltration. While no security system is infallible, by using a collective number of security measures the risk is minimised. The physical security measures required of a licensed Depot work on the principle of deter, detect, delay and control.

The following details **some** of the considerations and measures that may be applied when risk assessing a proposed Depot premises.

The Building(s)

1. Internal Size – will be dependent on the proposed operation and should take into account the capacity to accommodate the relevant cargo transport mode (e.g. trailers with shipping containers), type and volume of cargo, sufficient space for unpacking/packing, the need for a deadhouse, a requirement for a 'free goods' area, storage requirements, and ABF office and inspection area requirements for cargo examination. **Essentially, the premises must be fit for purpose.**
2. Entry Doors and Locks – entrance/external doors must be of solid construction and be fitted with deadlock type devices/keypad code locks/electronic locks except for those that are prohibited by state or local authority legislation (that is, safety or fire exit restrictions). In those instances, there will be a type of lock that is approved. Entry doors to the licensed area must **not** be kept in the open position, even during business hours.
3. Freight Doors – receiving/delivery freight doors must be of robust material and access via the doors is to be monitored. Doors may include a separate lockable pedestrian access, which should be used when doors are not being used by trucks. Depending on the environment some freight doors may be fitted with sensors to open/close the door automatically during business hours.
4. Windows – should be constructed of material to prevent illegal entry or be fitted with barriers (steel mesh or bars) which will be fixed to resist removal.
5. Alarms and/or intrusion detection devices – must be configured to cover doors, windows, walls, floor, roof and manholes. This system should be connected to a security monitoring point such as a security company or the police.
6. Internal Fencing – if applicable, areas set aside within the secure perimeter for the storage of un-entered cargo in shipping containers are to be fenced to a total

minimum height of 3 meters. The area is to be separate to those used for storage of 'free goods', export and deconsolidation space. Mesh should be chain link to Australian Standards that is minimum thickness of 3.15mm and in the 5 cm gauge range. Fences are to be topped with security wire to deter intrusion. Shipping containers must be stored door-to-door Note: Internal fencing is not required for all Depots.

7. Secure Area (Deadhouse) Requirements – All Depots (excluding FCL container parks and those handling break-bulk cargo) **must** have a secure area known as a deadhouse. The deadhouse must be a fully enclosed cage (including a roof) and should be bolted to the floor and building walls if the walls form part of the deadhouse. The mesh used must meet Australian Standards – chain link type in 5cm range with minimum thickness of 3.15mm. If the building walls are tin or stud wall, the mesh is to extend to all sides.

The **MINIMUM** size of the deadhouse must be:

- General – 2.4m long x 2.4m wide x 2.4m high
- HVSO (High Volume Special Operator) – 1.2m long x 1.2m wide x 2.4m high

The deadhouse must be locked and in a highly secure condition **at all times**. The chain and padlock should be of sufficient thickness and strength, and secured tightly with as little 'slack' as possible in the chain, so that it is not easily defeated. Padlocks that meet the Australian Standard for padlocks (AS4145.4) should be utilised for both the deadhouse and any internal gates into the licensed area.

The types of goods to be secured in the deadhouse are high-risk or high value goods, for example, firearms, prohibited imports, damaged cargo or packages that have become opened during transport or there is evidence of possible pillage.

The issuing of keys for the deadhouse must be controlled and suitable records maintained (see Access to Controlled Areas). A specific employee should be in charge of the deadhouse and be responsible for the safekeeping of the goods and relevant recordkeeping.

The deadhouse must be kept accessible and not be used for any purpose other than that for which it is intended. Nothing should be stored on top of or above the deadhouse.

Perimeter Fencing

Buildings used for the consolidation/deconsolidation, packing/unpacking, storage and examination of goods subject to customs control are generally required to be encircled by perimeter fencing constructed of materials that discourage illegal entry.

Perimeter fencing for Depots should be either palisade or heavy-duty chain link in 5-10 cm gauge range with a thickness of no less than 3.15mm, and be of sufficient height to prevent illegal entry through, over or under. Depending on the assessed risk, perimeter fences total height minimum requirements range from 2.4m to 3m

Where chain link fencing is used, the base of the fence should be secured where practicable and must be topped with fixed security wire. There should be no overhanging trees, which could facilitate a breach of the perimeter and fences must be maintained in good condition at all times.

Gates

External and/or internal perimeter gates should be constructed of materials robust enough to prevent entry, be of similar height to fences and topped with security wire that is at least the total height of the corresponding fence. Entry and exit points should be controlled and access restricted. All gates are to be fitted with security locks and, where possible, alarms to a central control point.

Lighting

Exterior security lighting must be installed at certain points including all entries and exits to the licensed premises, container storage areas, vehicle parking and holding areas. Lighting should be sufficient to ensure every part of the area is sufficiently illuminated to enable identification of persons at a distance of 10 metres.

Access to Controlled Areas

The issuing of keys / combinations / cards for access to buildings, doors, gates and high security areas must be controlled including the maintenance of suitable records. For example, a register that includes details such as key/pass number, date of issue, name and date returned.

Rail Access (if applicable)

Rail gates are to be manned when rail operations are in progress. Gates are to be constructed to prevent vehicle access and are to be as robust as the fencing, securely locked when not in use.

Signage

ABF signs are to be posted at all entrances and in public areas advising of conditions of entry, including that goods and vehicles may be searched. The ABF will provide the required number of signs if/when the licence application is approved. It is a condition of a Depot licence that ABF signage **must not be removed** without prior authorisation.

Security Patrols

After normal working hours, security patrols should be engaged to make random inspections to ensure the safekeeping of the cargo in the Depot.

Vehicle Parking

Parking for employer/employee (non-customs) vehicles is to be a noticeable distance from the doors leading to cargo storage/unpacking areas. If space permits, the parking area should be outside the perimeter fencing.

Operating Procedures in respect to Physical Security

Operating procedures are to be such that cargo, containers, vehicles or other equipment are not placed near fences in such a manner as to facilitate unauthorised access to freight stored inside. In addition:

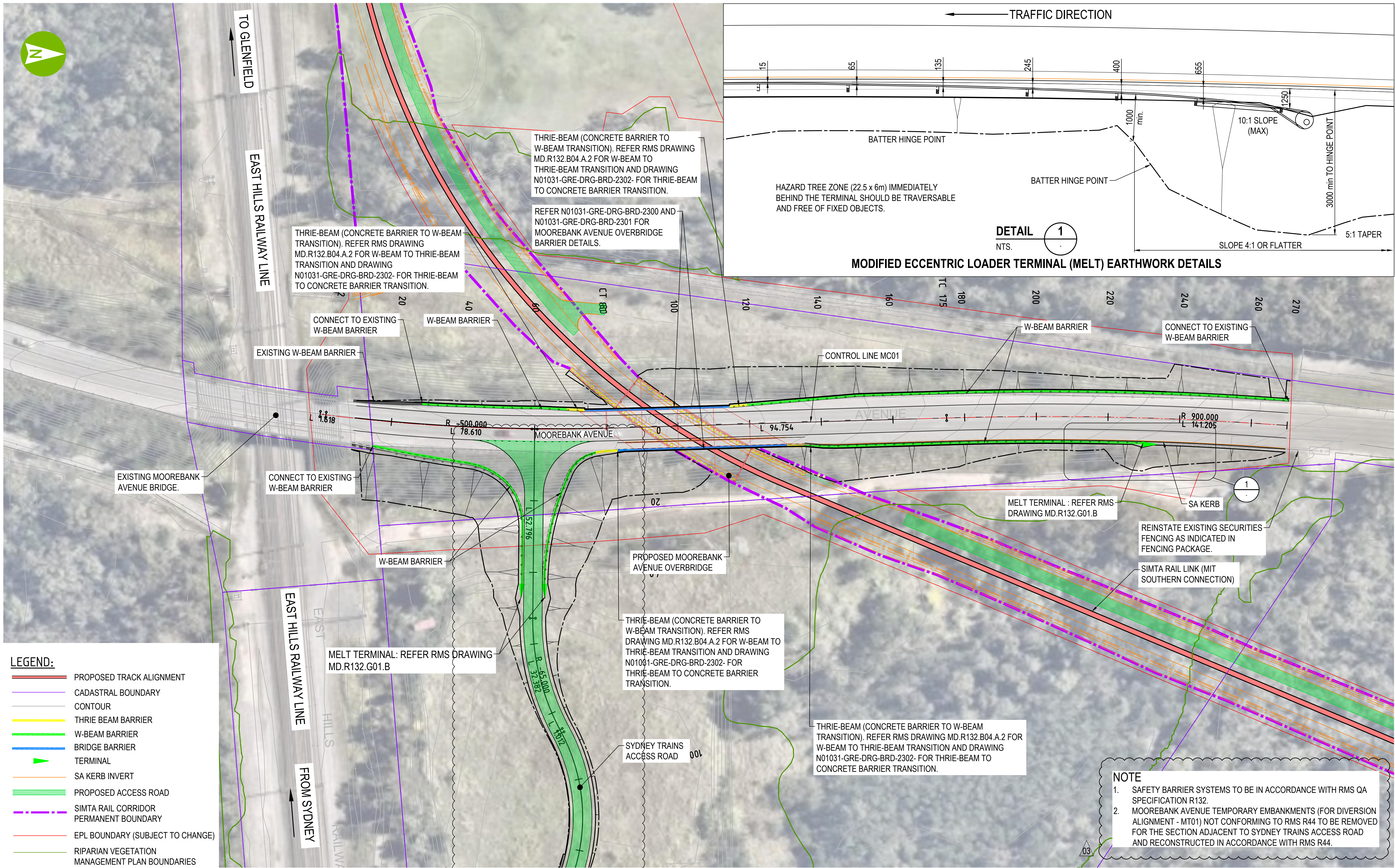
- Machinery and vehicles must be immobilised when the Depot is closed

- Containers must be stacked door to door with separate areas for full and empty containers
- All containers and pallets where unpacking has started but not finished are to be stored inside the building when the Depot is closed
- Lost or stolen keys, access passes or attempts to illegally enter the area are to be reported to the Department without delay
- Keys and passes are to be returned to Depot management prior to an employee ceasing employment with the company. The Department is to be informed immediately of failures to comply

Issue of Licence

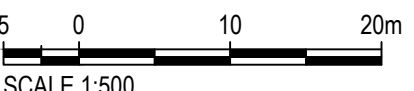
When a Depot licence is granted, a hard copy of that licence is forwarded to the Depot. It is a requirement that the licence, which sets out the conditions under which the Depot is licensed must remain at the premises. Upon renewal a Certificate of Renewal will be forwarded; however the original licence must be retained, until such time as a new licence is issued. The licence must be surrendered if the licence is cancelled for any reason, including voluntary surrender.

APPENDIX G RAILCORP MAINTENANCE ACCESS ROAD



- LEGEND:**
- PROPOSED TRACK ALIGNMENT
 - CADASTRAL BOUNDARY
 - CONTOUR
 - THRIE BEAM BARRIER
 - W-BEAM BARRIER
 - BRIDGE BARRIER
 - TERMINAL
 - SA KERB INVERT
 - PROPOSED ACCESS ROAD
 - SIMTA RAIL CORRIDOR PERMANENT BOUNDARY
 - EPL BOUNDARY (SUBJECT TO CHANGE)
 - RIPARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES

PLAN
1:500



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02	26.06.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	MS
03	03.09.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	MS

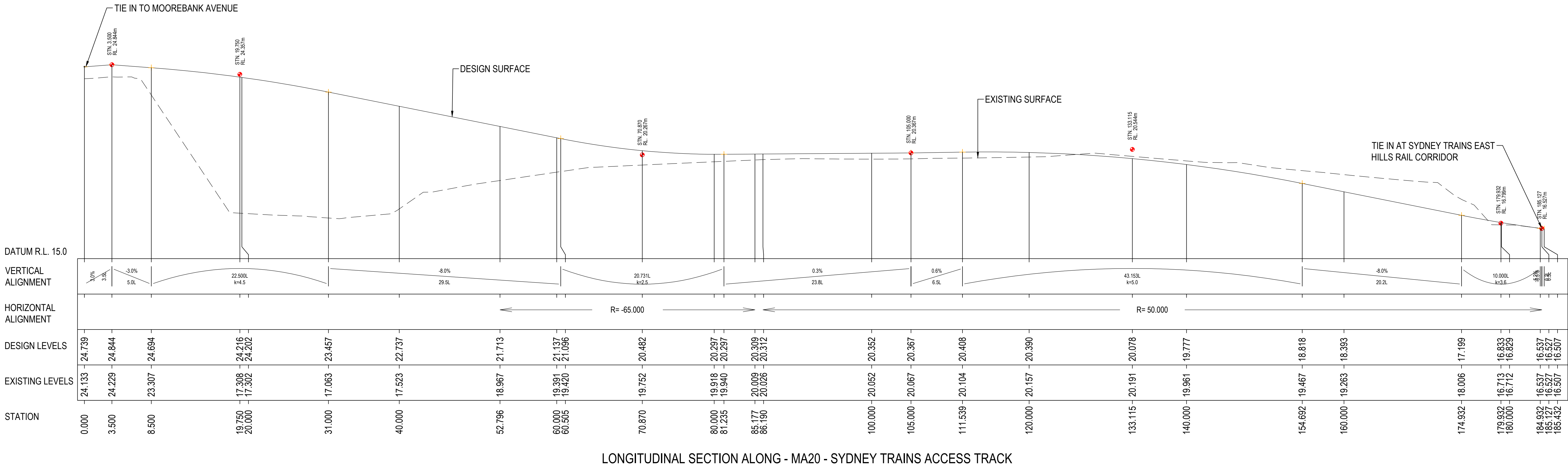
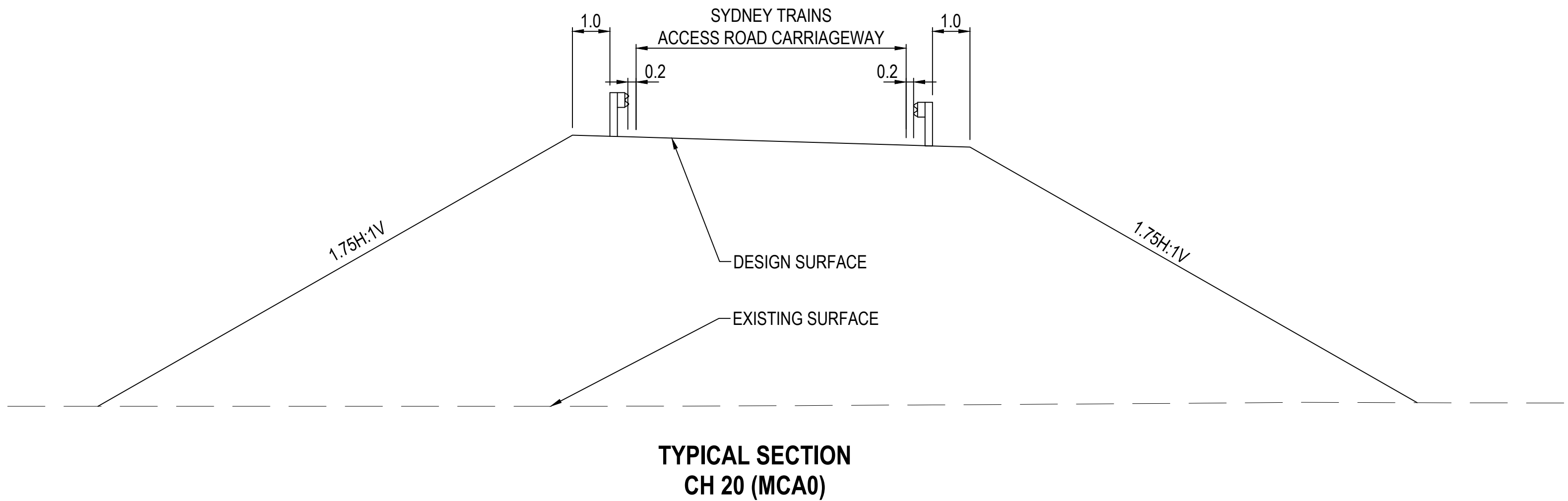
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DESIGNED	M.SAKIB
CHECKED	D.EGITTO

FOR CONSTRUCTION	DATE 03.09.18
APPROVED	M.SAKIB

ARTC DRAWING No			EDMS No			EDMS REV					
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TITLE			MOOREBANK AVENUE OVERBRIDGE PERMANENT ROAD GENERAL ARRANGEMENT PLAN								
DRAWING No.		PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
N01031		-	PWD	-	DRG	-	CIV	-	0010	-	03

LEGEND

- DESIGN SURFACE
- EXISTING SURFACE
- W-BEAM



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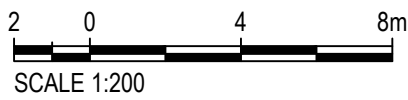
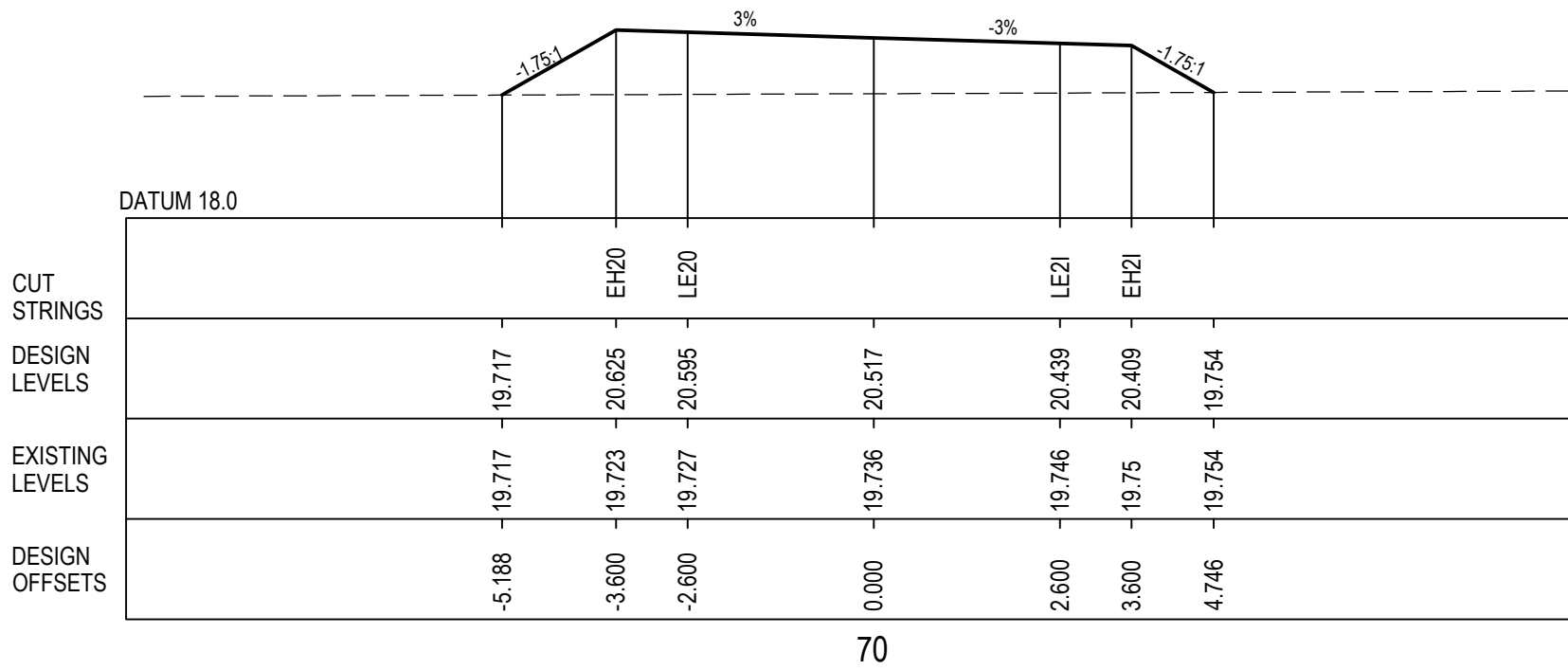
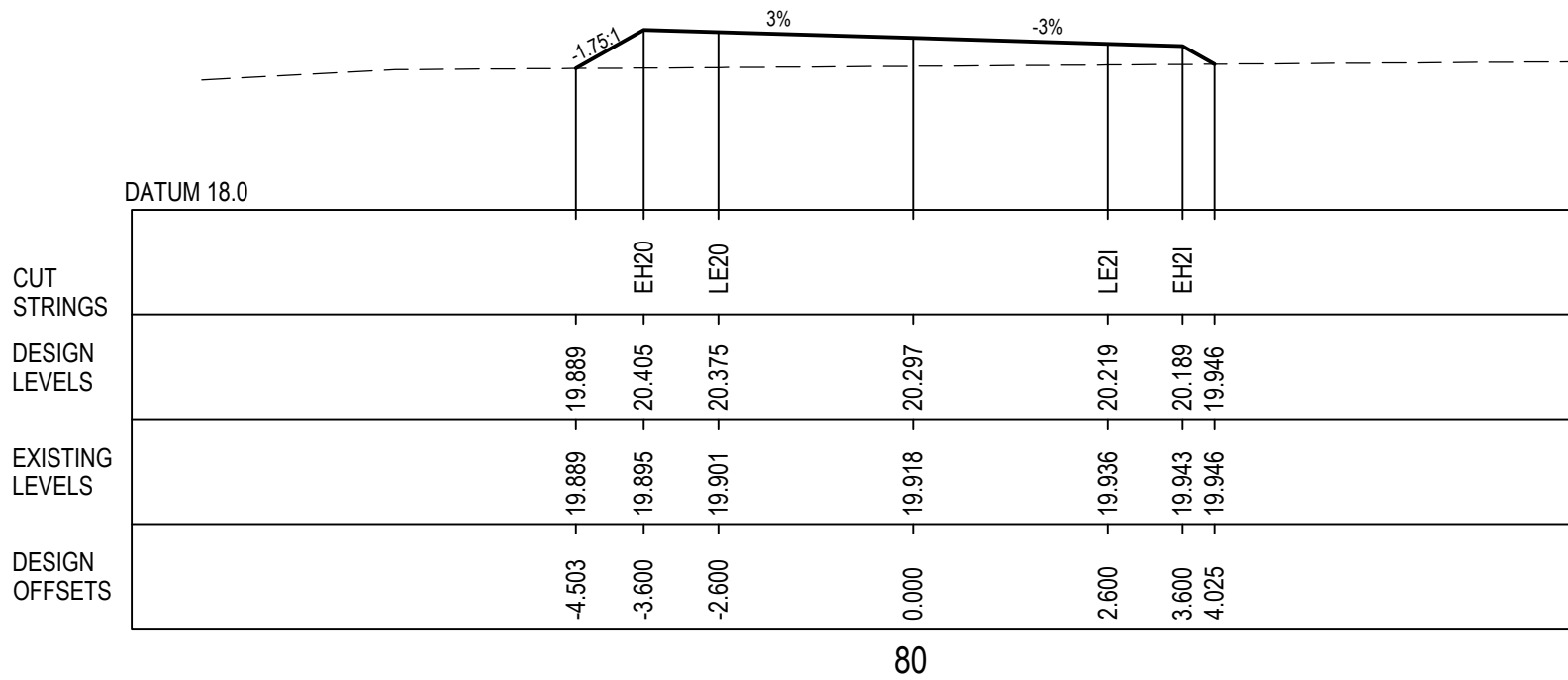
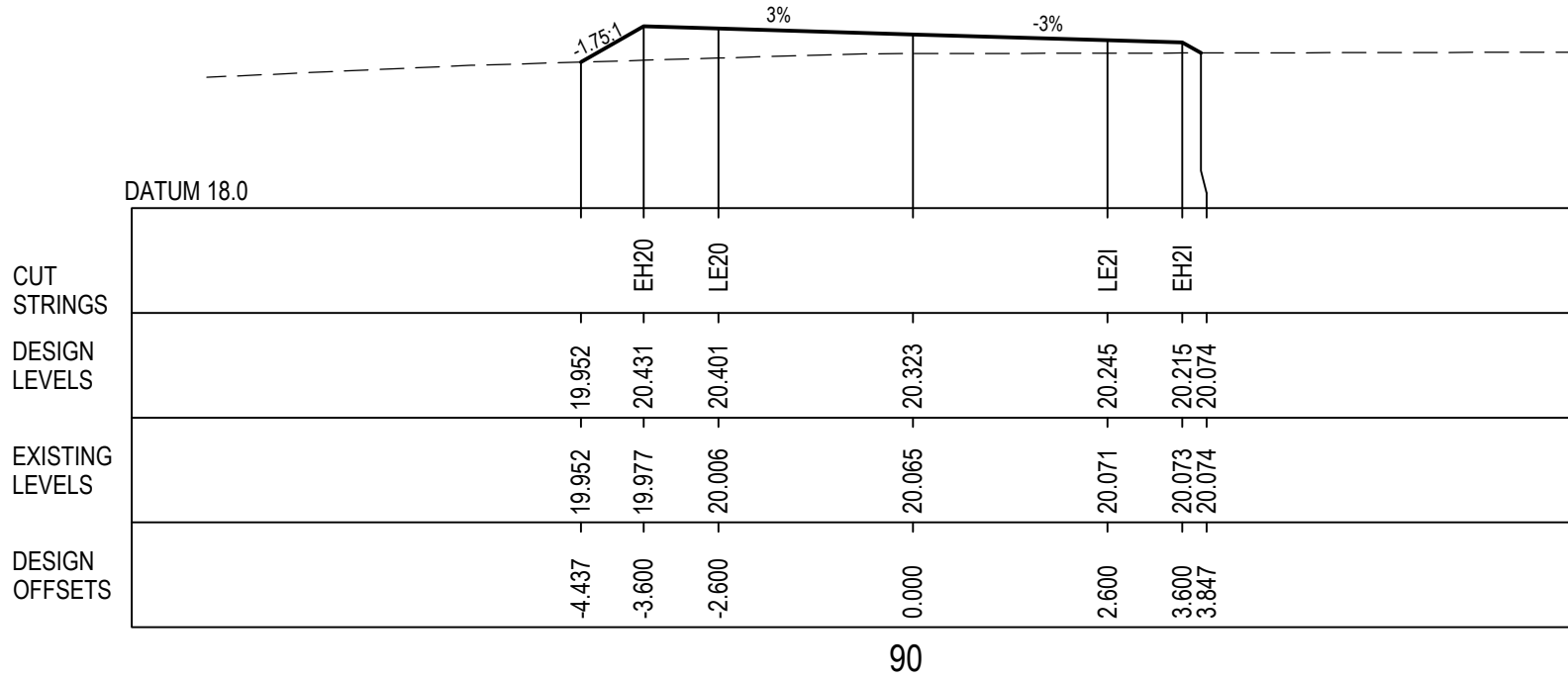
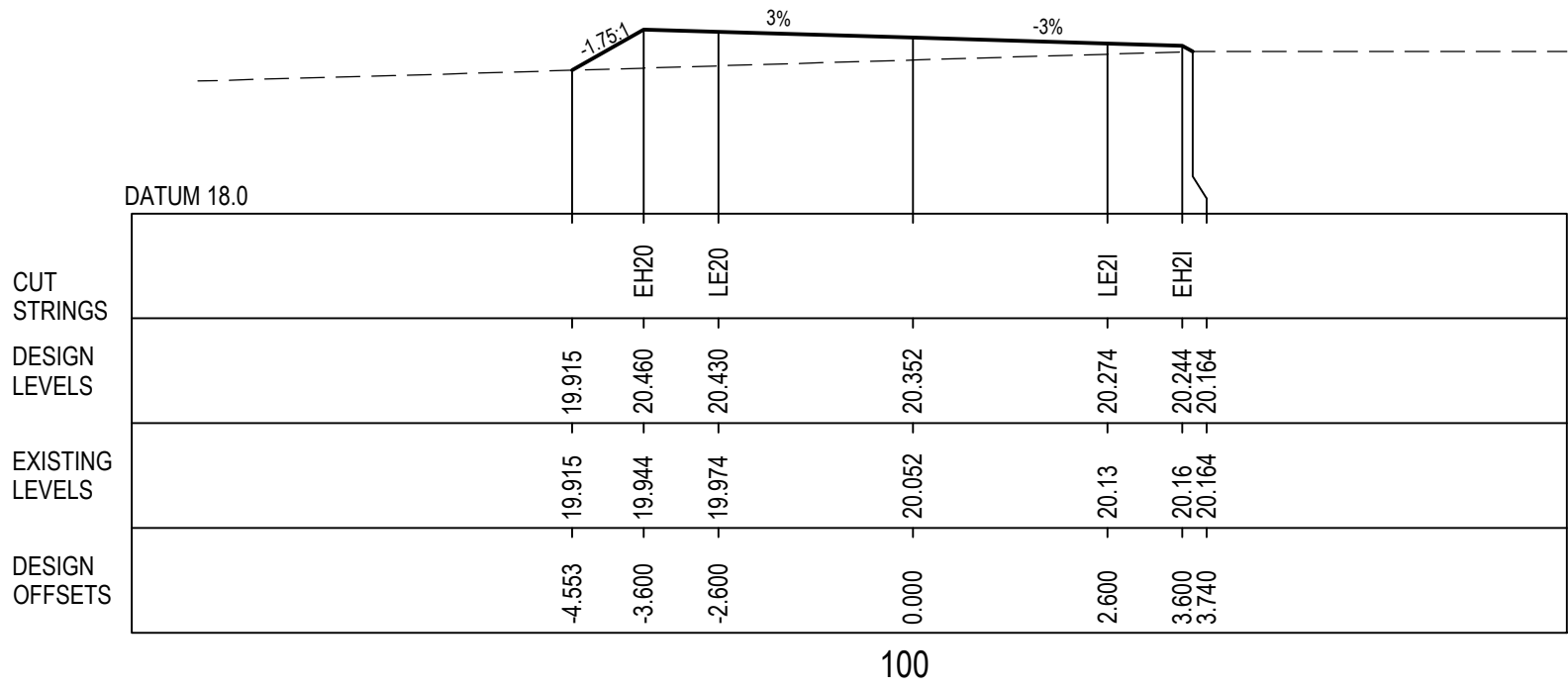
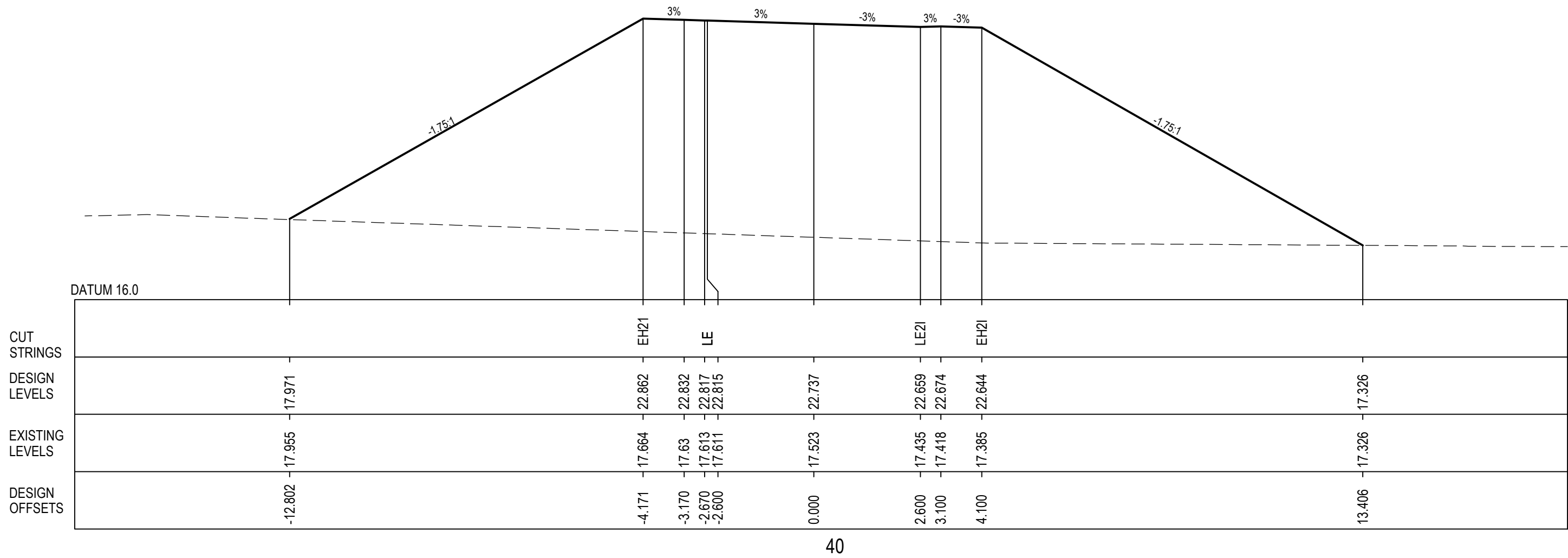
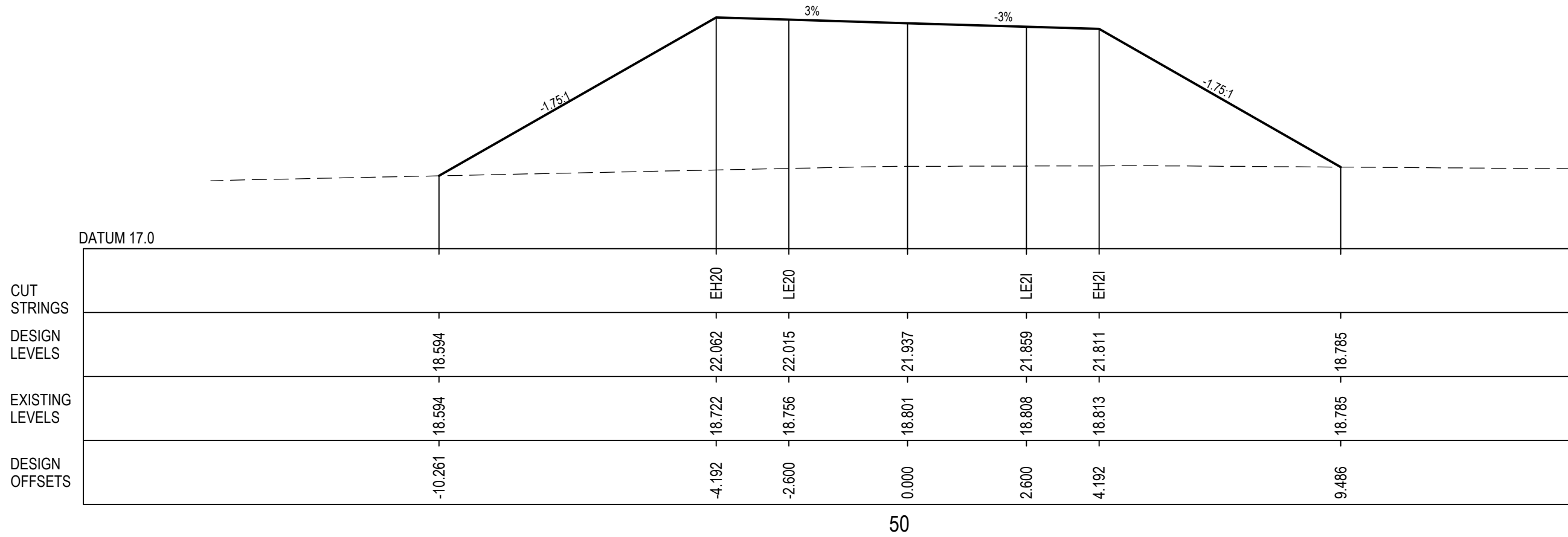
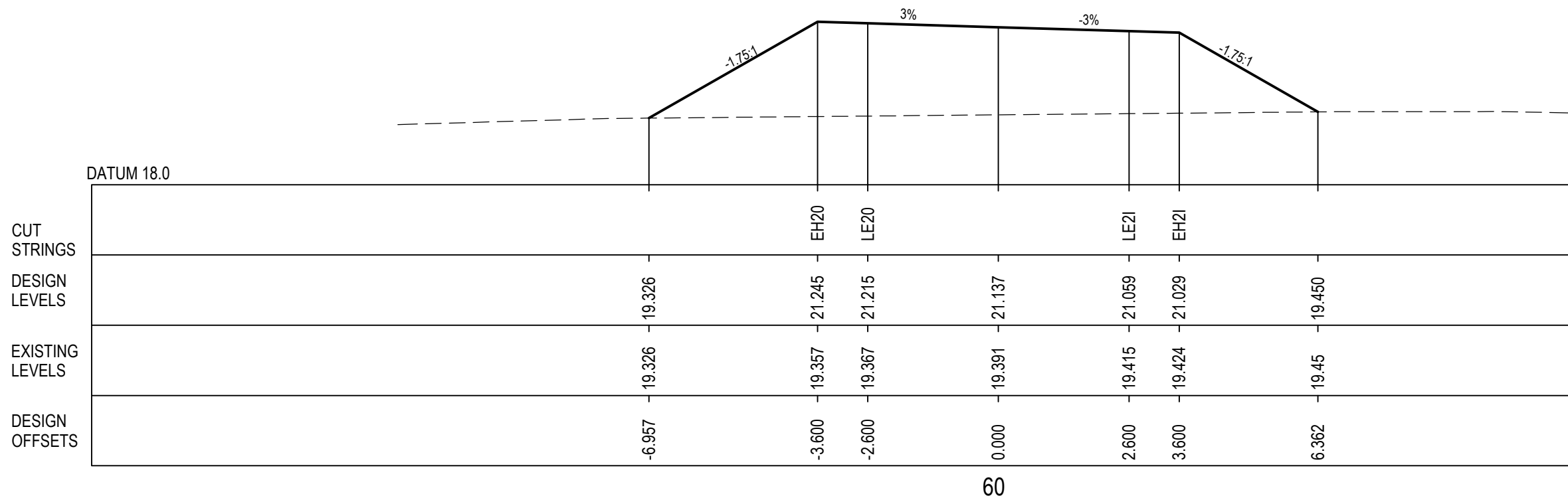
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M.AHMAD	
DESIGNED	
M.SAKIB	
CHECKED	
D.EGITTO	

FOR CONSTRUCTION	
APPROVED	
DATE	
26.06.18	
M.SAKIB	
M.SAKIB	

LEGEND

- EXISTING SURFACE
- PERMANENT DESIGN
- PROPOSED RAIL DESIGN



ARTC DRAWING No			EDMS No			EDMS REV				
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TITLE	MOOREBANK AVENUE OVERBRIDGE SYDNEY TRAINS ACCESS ROAD CROSS SECTIONS - SHEET 2 OF 3									
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
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CLIENT

CPB

CONTRACTORS

SIMTA

SYDNEY
INTERMODAL
TERMINAL
ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
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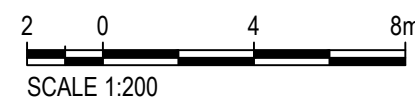
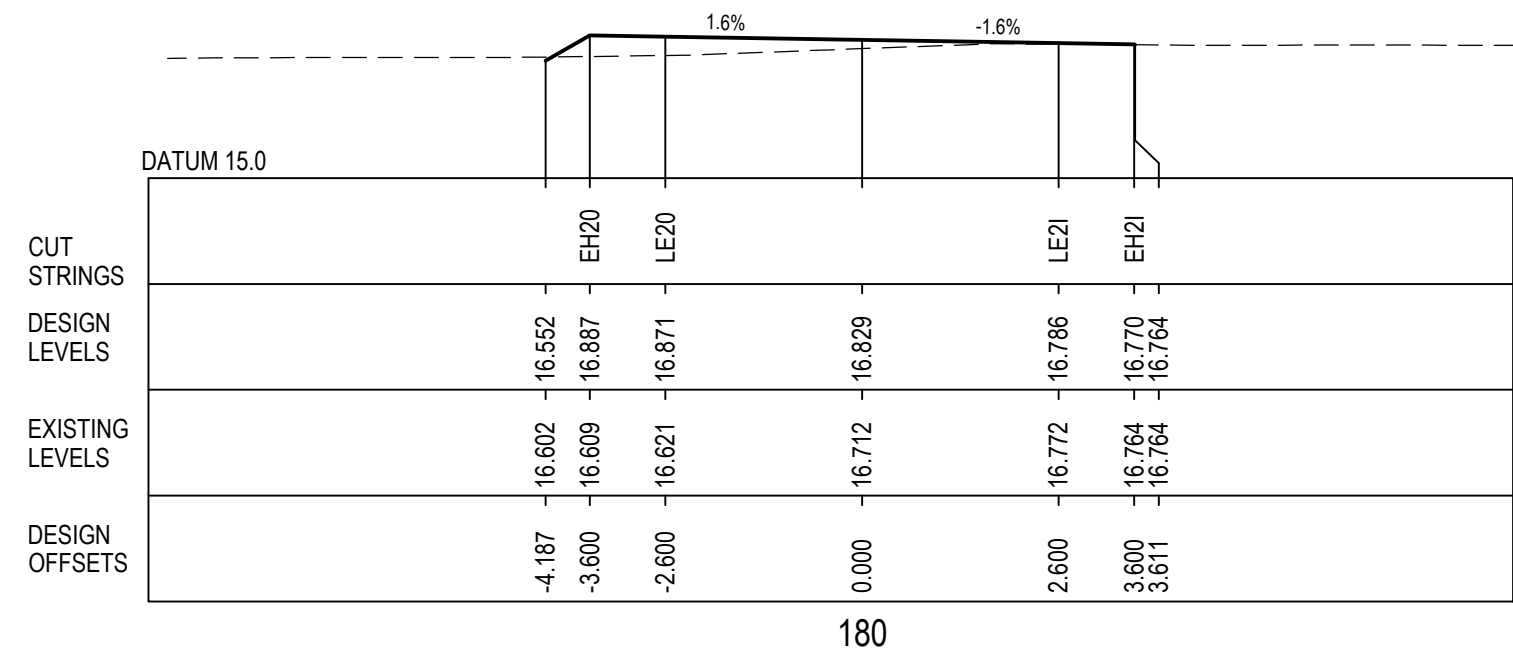
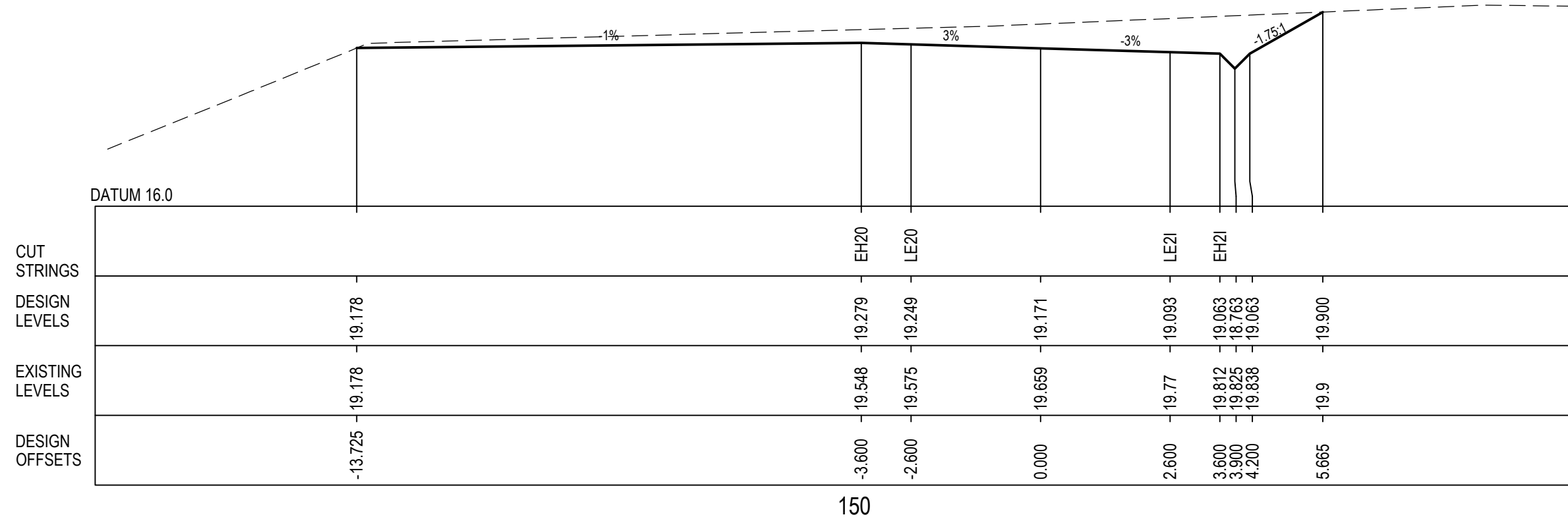
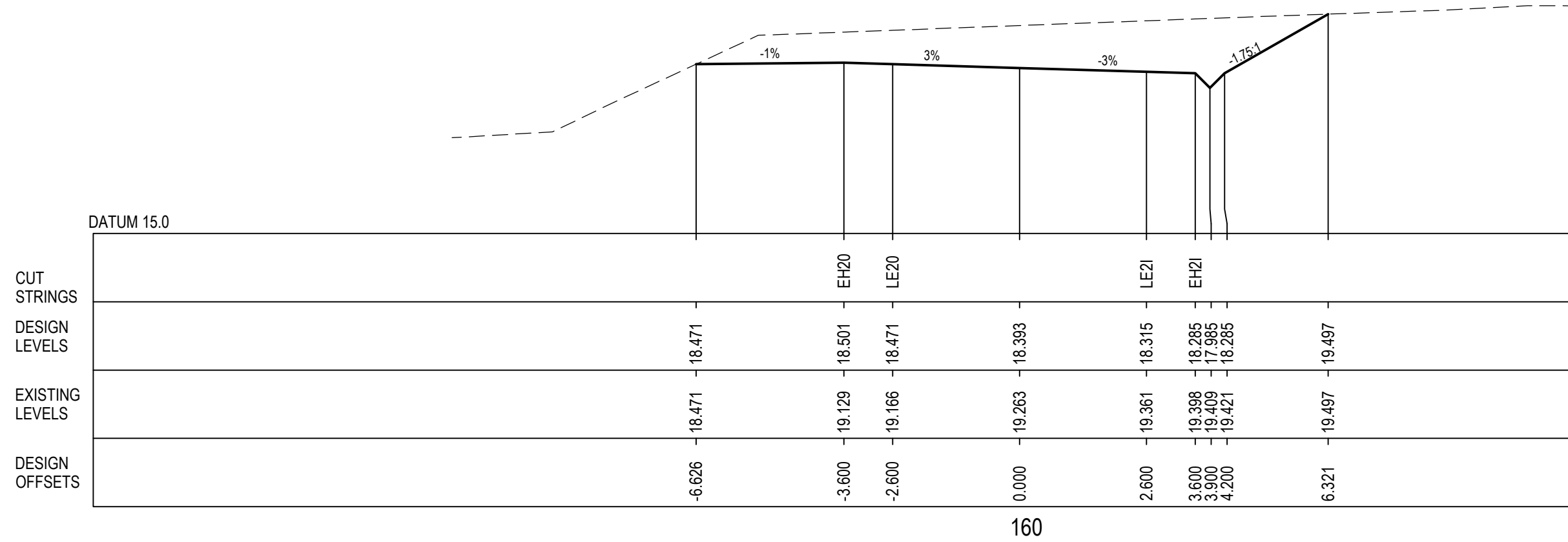
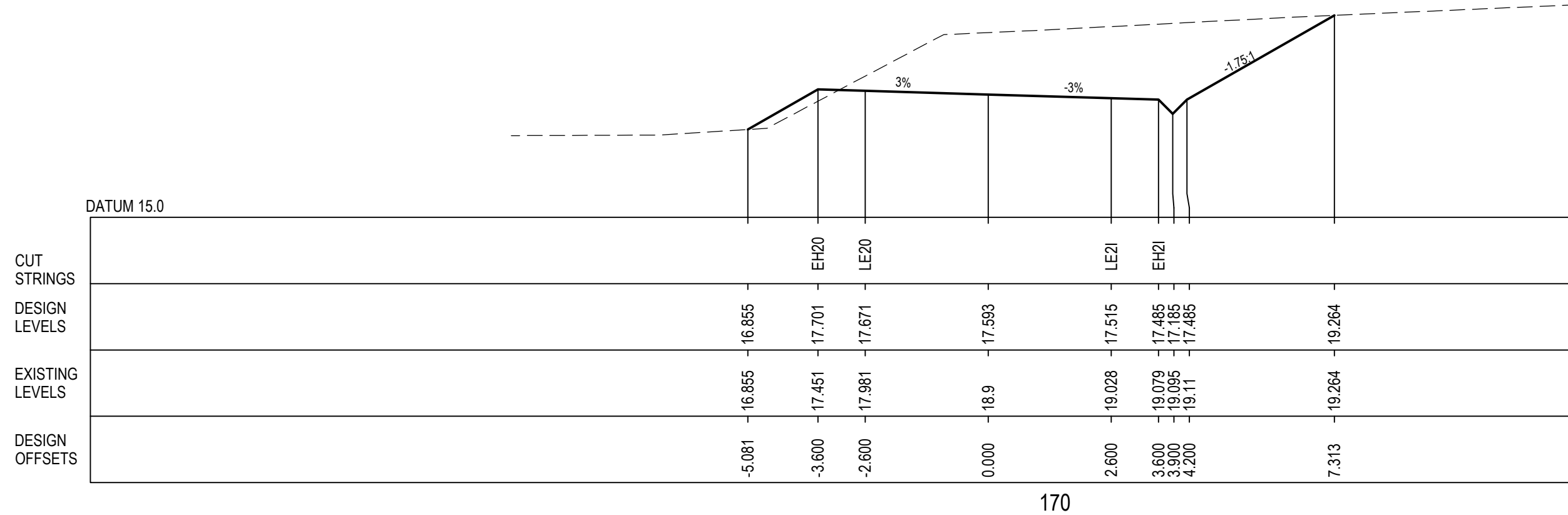
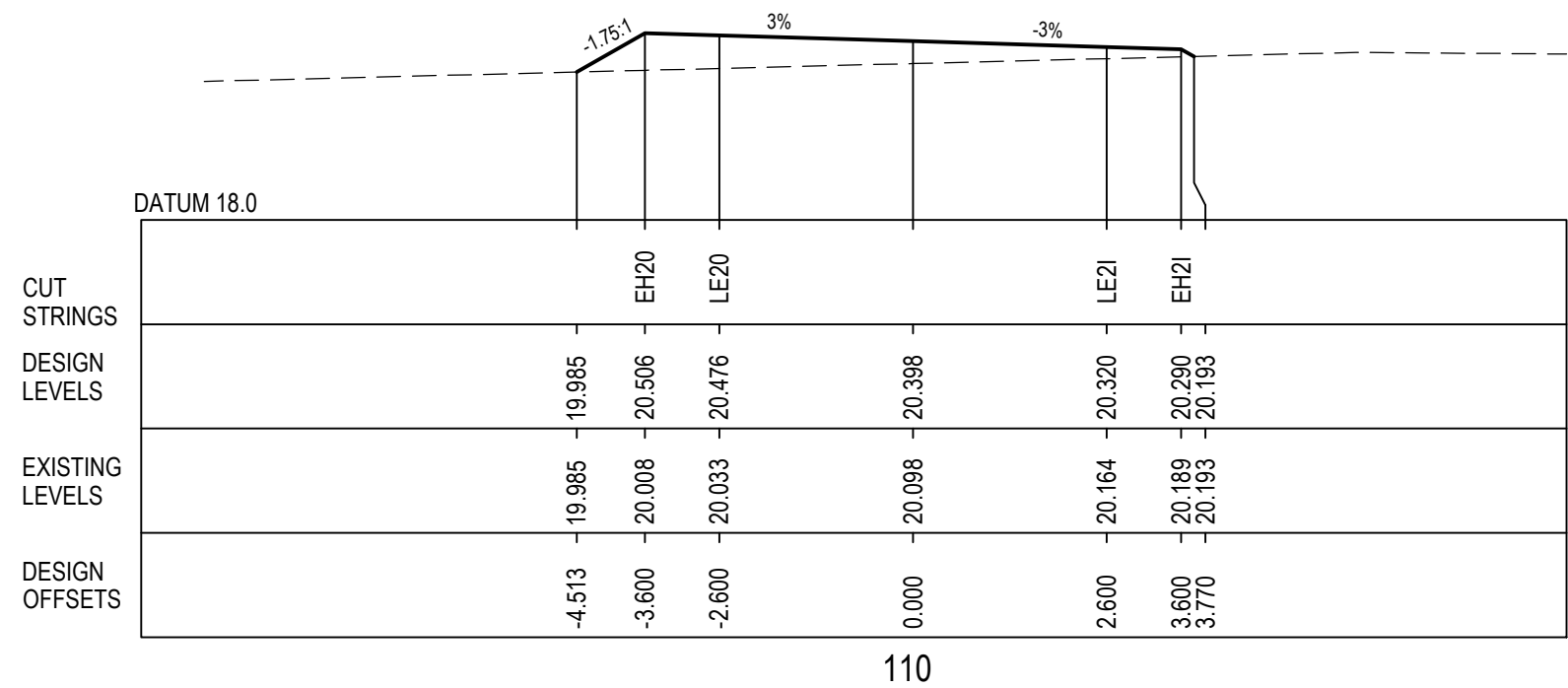
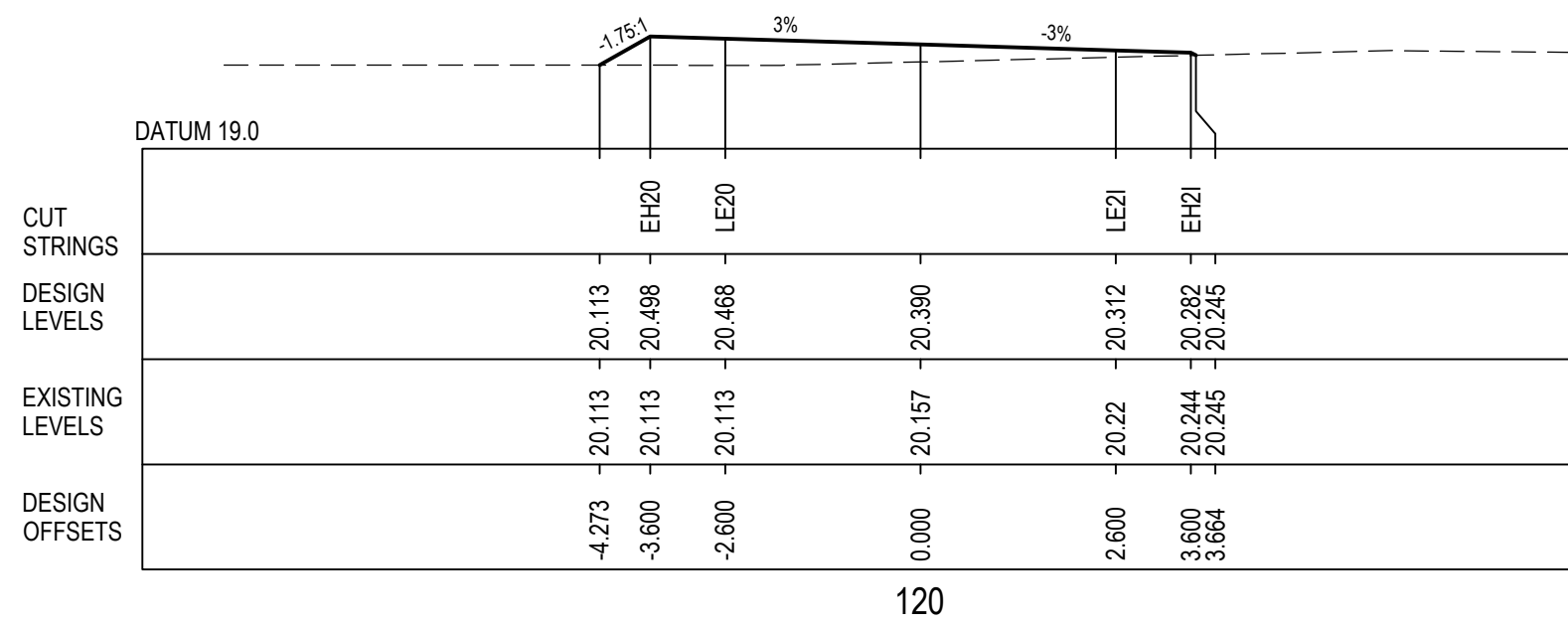
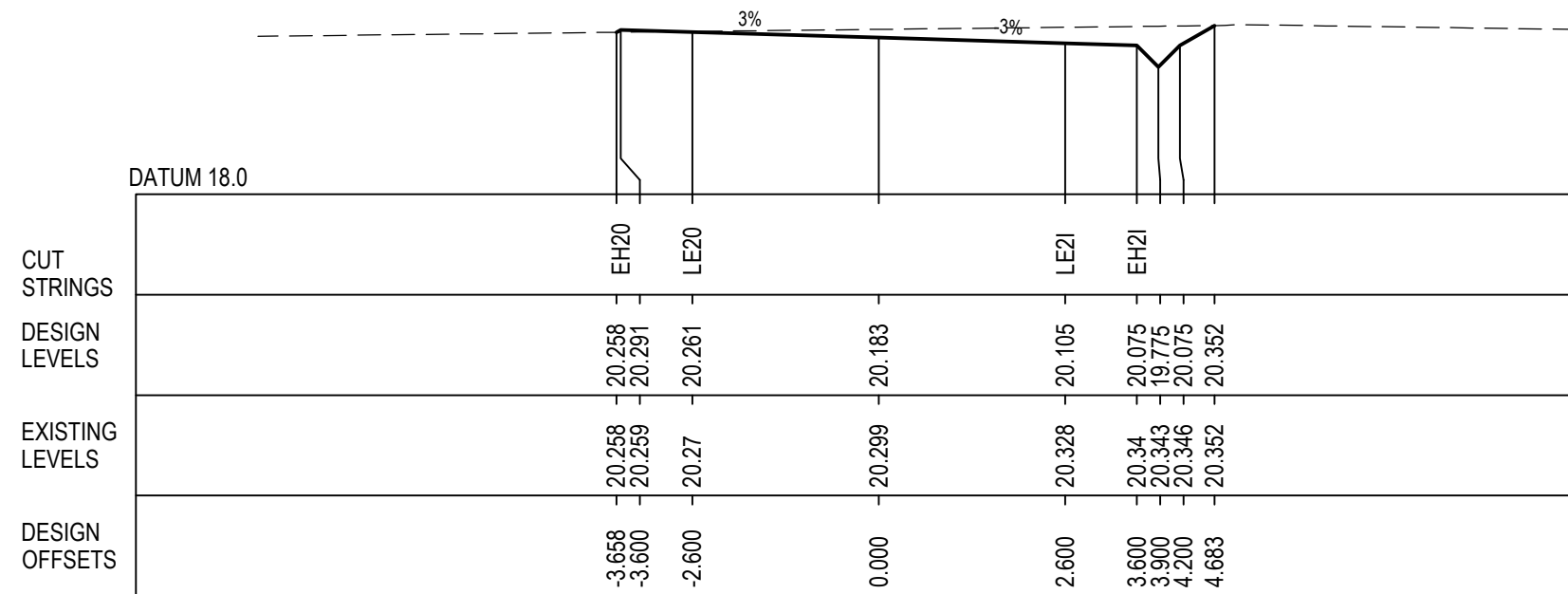
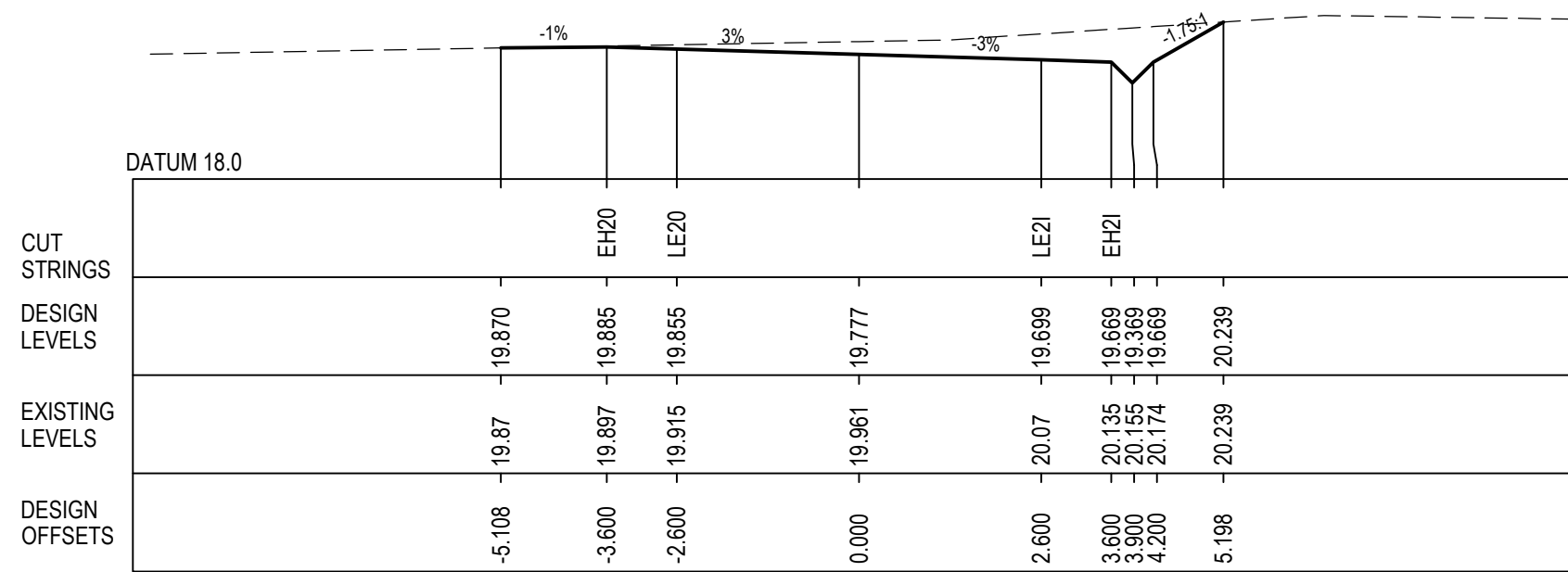
FOR CONSTRUCTION	
APPROVED	
DATE	
26.06.18	
M.SAKIB	
M.SAKIB	

aurecon

www.aurecongroup.com

LEGEND

- EXISTING SURFACE
----- PERMANENT DESIGN
+ + + PROPOSED RAIL DESIGN



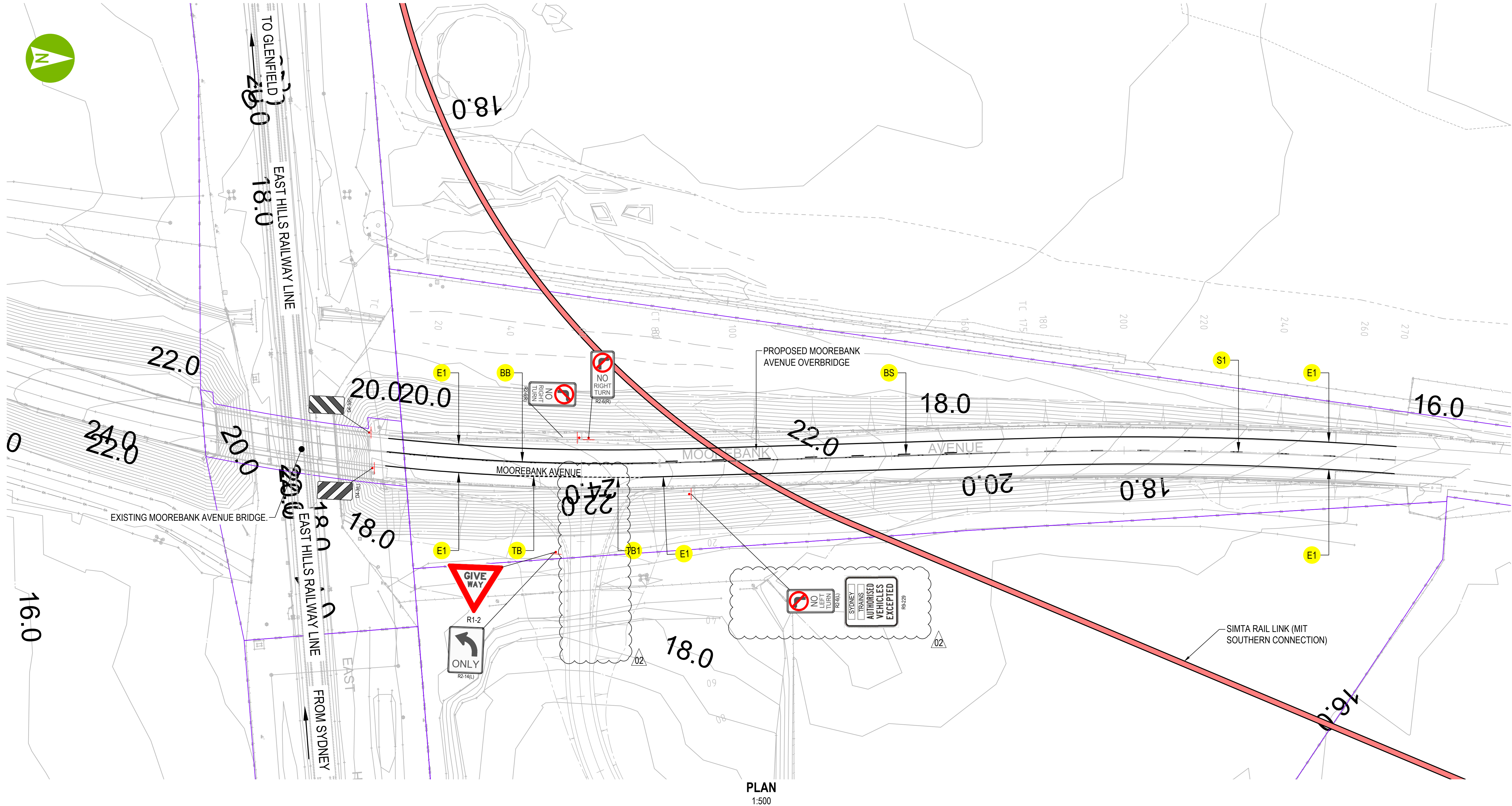
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DRAWN	
M.AHMAD	
DESIGNED	
M.SAKIB	
CHECKED	
D.EGITTO	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	26.06.18
M.SAKIB	

ARTC DRAWING No		EDMS No			EDMS REV					
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
TITLE	MOOREBANK AVENUE OVERBRIDGE SYDNEY TRAINS ACCESS ROAD CROSS SECTIONS - SHEET 3 OF 3									
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
N01031	-	PWD	-	DRG	-	CIV	-	0067	-	01

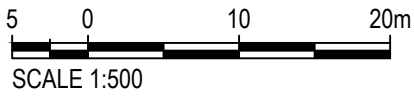
Plot Date: 2025/06/11 12:11 AM Project: CPB WORKMANSALU SAVANNAH PROJ002025100101 PWD DRG CIV 0090.DWG Office: AUS/01



- NOTES**
- REFER RMS MANUAL DELINEATION SECTION 4 LONGITUDINAL MARKINGS FOR MORE DETAILS ON PATTERNS AND DIMENSIONS.
 - SIGNS RELATING TO ROADWORKS AND CONSTRUCTION TRAFFIC MANAGEMENT TO BE INCLUDED IN CPB CONSTRUCTION TRAFFIC MANAGEMENT PLAN.
 - PAVEMENT MARKINGS TO BE PROVIDED IN ACCORDANCE WITH ROADS AND MARITIME QA SPECIFICATION R141. TEMPORARY DELINEATION PAVEMENT MARKINGS TO BE PROVIDED AS WATERBORNE PAINT ON ASPHALT SURFACES.

- RETRO - REFLECTIVE RAISED PAVEMENT MARKERS (RRPMs) SHALL BE USED TO AUGMENT PAVEMENT MARKINGS. FOR TYPE AND COLOUR OF RRPMs TO AUGMENT MARKINGS REFER RMS DELINEATION SECTION 15 - RAISED PAVEMENT MARKERS (TABLE 15.1)
- RETRO - REFLECTIVE RAISED PAVEMENT MARKERS MUST COMPLY WITH THE RMS QA SPECIFICATION R142 RETRO - REFLECTIVE RAISED PAVEMENT MARKERS WITH THE REQUIREMENTS OF AS 1906.3 AND HAVE THE DIMENSION SHOWN IN RMS DELINEATION SECTION 15 - RAISED PAVEMENT MARKERS (FIGURE 15.5)
- INSTALLATION, PLACEMENT AND POSITIONING OF RRPMs SHALL BE IN ACCORDANCE WITH RMS DELINEATION SECTION 15 - RAISED PAVEMENT MARKERS (SECTION 15.7)

- LEGEND - KERB TYPE**
- S1 DIVIDING (SEPARATIONS) LINE ON 2 LANE ROAD
 - E1 LEFT HAND EDGE ON GENERAL PURPOSE ROAD
 - BS DIVIDING (BARRIER) LINES (RESTRICTED OVERTAKING IN ONE DIRECTION)
 - BB DIVIDING (BARRIER) LINES
 - L3 LANE LINE ON A MULTI LANE ROAD
 - TB GIVE WAY LINE (USED WITH SIGNS)
 - TB1 GIVE WAY LINE (USED ON RIGHT SIDE OF ROAD)
- REFER RMS MANUAL DELINEATION SECTION 4 LONGITUDINAL MARKINGS FOR MORE DETAILS ON PATTERNS AND DIMENSIONS.



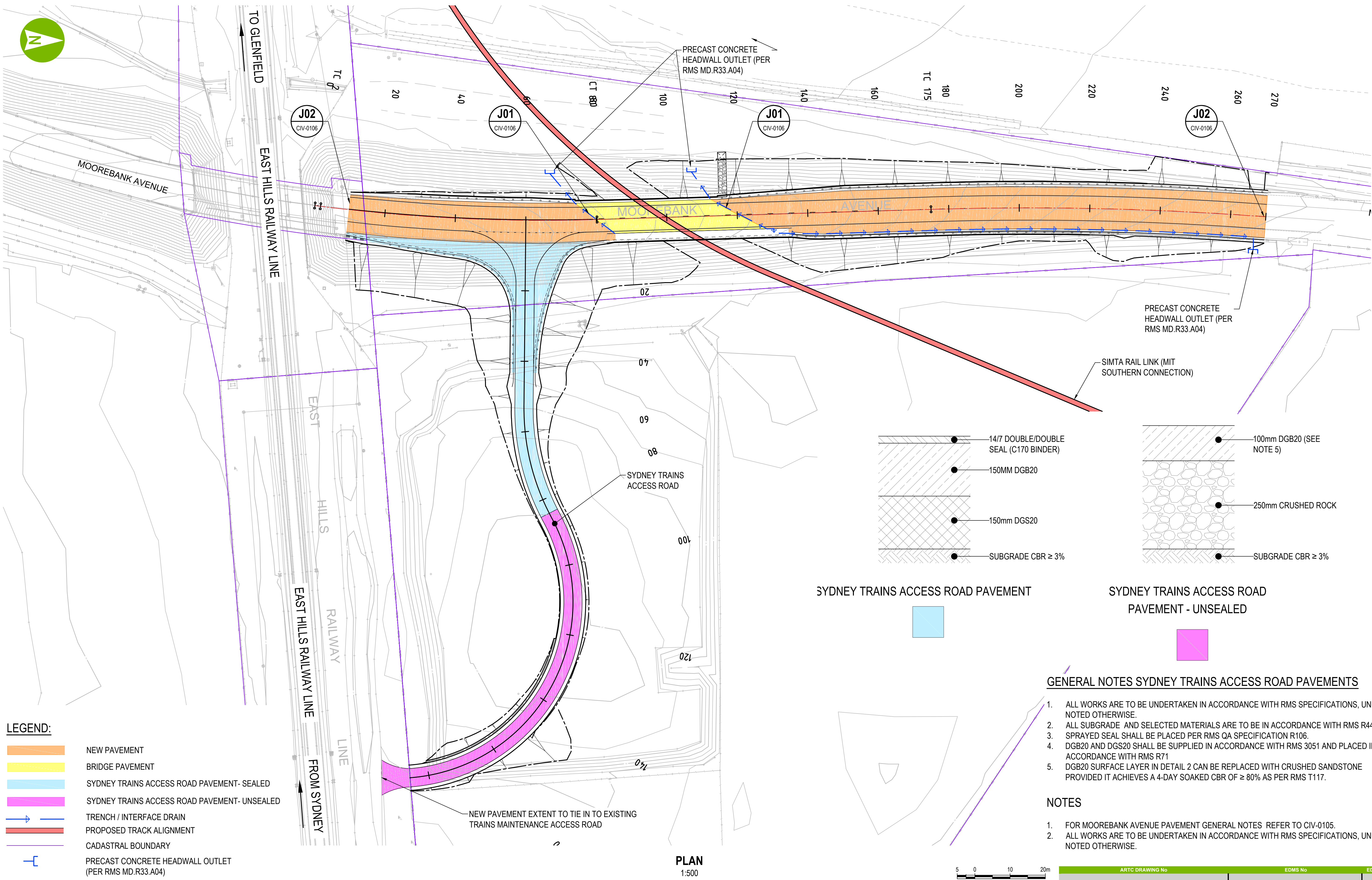
REV	DATE	REVISION DETAILS	APPROVED
01	21.12.16	ACCEPTED FOR CONSTRUCTION	AOS
02	26.06.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	MS

SCALE	SIZE
AS SHOWN	A1
DRAWN	M.AHMAD
DESIGNED	M.SAKIB
CHECKED	D.EGITTO

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	26.06.18
M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	MOOREBANK AVENUE OVERBRIDGE PERMANENT ROAD LINEMARKING AND SIGNAGE PLAN
DRAWING No.	PROJECT No. N01031 - ZONE PWD - TYPE DRG - DISC CIV - NUMBER 0090 - REV 02

Proj Date: 20/06/18 10:41:12 AM Client: CPB WORKMALESHAH AMMANJOL Project: MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1 Drawing: PWD-DRG-CIV-0110.DWG



LEGEND:

- NEW PAVEMENT
- BRIDGE PAVEMENT
- SYDNEY TRAINS ACCESS ROAD PAVEMENT- SEALED
- SYDNEY TRAINS ACCESS ROAD PAVEMENT- UNSEALED
- TRENCH / INTERFACE DRAIN
- PROPOSED TRACK ALIGNMENT
- CADASTRAL BOUNDARY
- PRECAST CONCRETE HEADWALL OUTLET (PER RMS MD.R33.A04)

GENERAL NOTES SYDNEY TRAINS ACCESS ROAD PAVEMENTS

- ALL WORKS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH RMS SPECIFICATIONS, UNLESS NOTED OTHERWISE.
- ALL SUBGRADE AND SELECTED MATERIALS ARE TO BE IN ACCORDANCE WITH RMS R44.
- SPRAYED SEAL SHALL BE PLACED PER RMS QA SPECIFICATION R106.
- DGB20 AND DGS20 SHALL BE SUPPLIED IN ACCORDANCE WITH RMS 3051 AND PLACED IN ACCORDANCE WITH RMS R71
- DGB20 SURFACE LAYER IN DETAIL 2 CAN BE REPLACED WITH CRUSHED SANDSTONE PROVIDED IT ACHIEVES A 4-DAY SOAKED CBR OF $\geq 80\%$ AS PER RMS T117.

NOTES

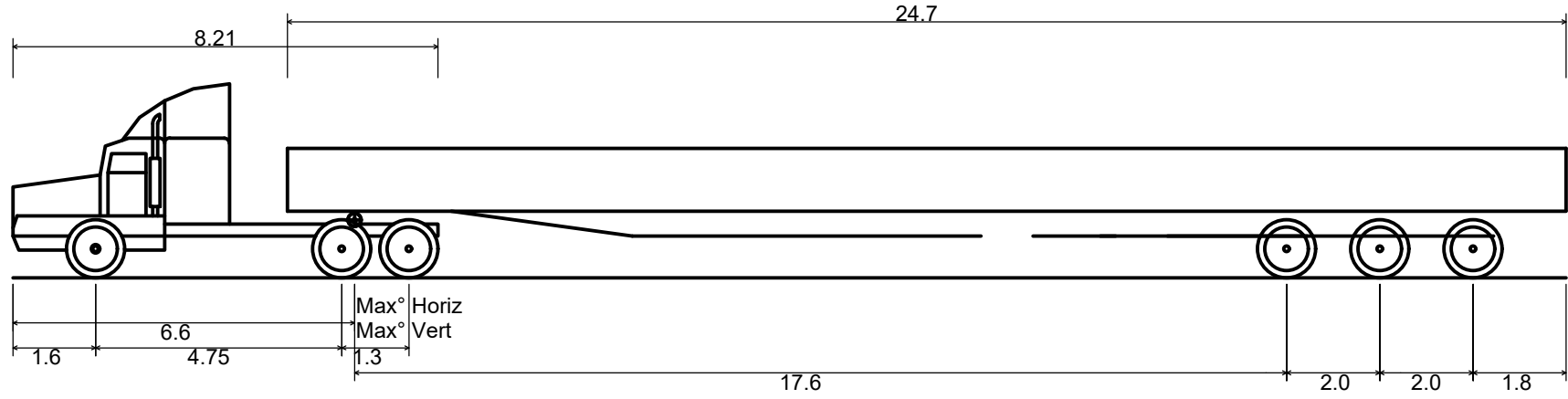
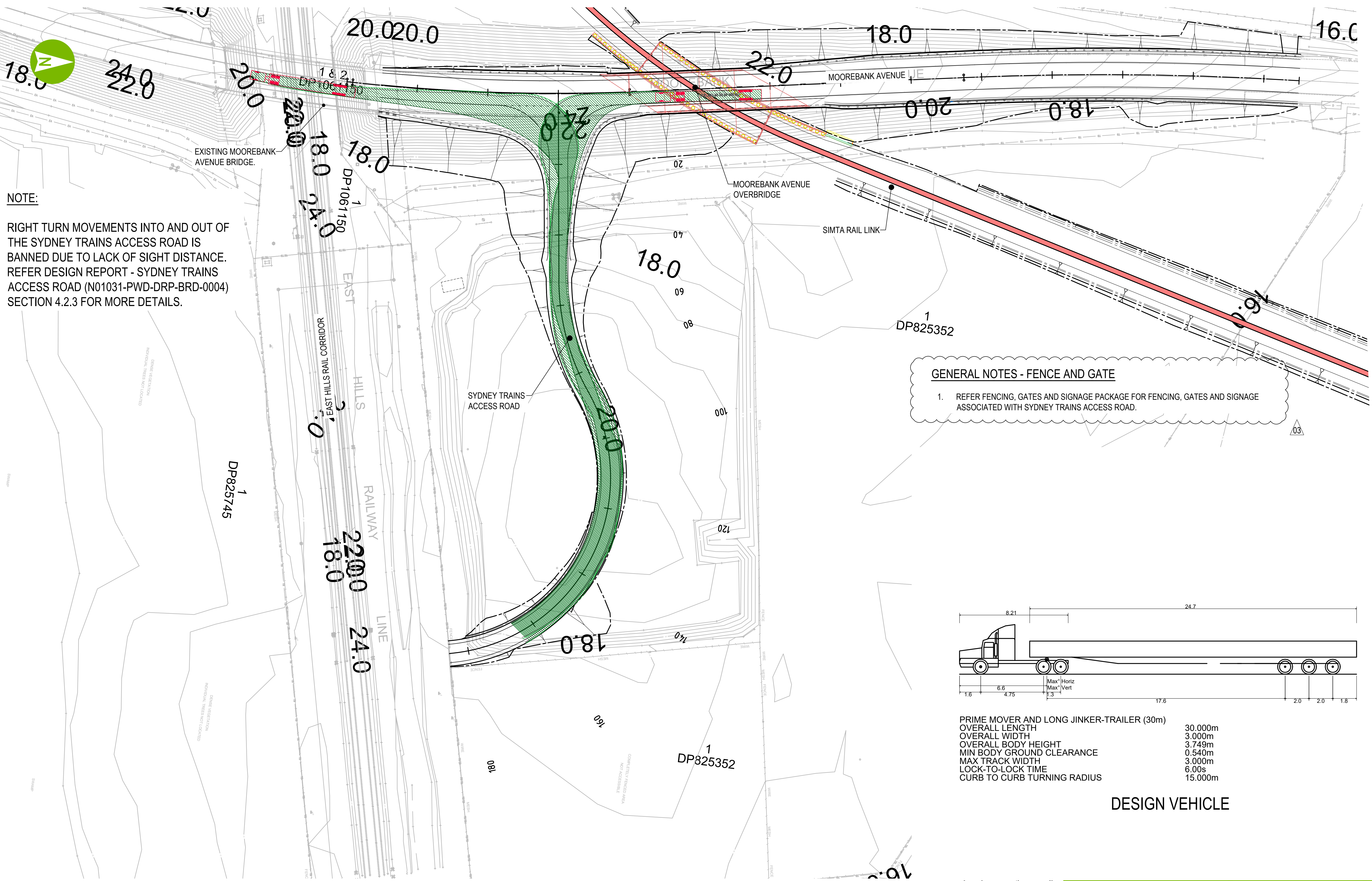
- FOR MOOREBANK AVENUE PAVEMENT GENERAL NOTES REFER TO CIV-0105.
- ALL WORKS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH RMS SPECIFICATIONS, UNLESS NOTED OTHERWISE.

REV	DATE	REVISION DETAILS	APPROVED
01	21.12.16	ACCEPTED FOR CONSTRUCTION	AOS
02	26.06.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	MS

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.KOVACEVIC
DESIGNED	J.KEMP
CHECKED	D.EGITTO

FOR CONSTRUCTION
APPROVED
DATE
26.06.18
M.SAKIB
M.SAKIB

ARTC DRAWING No		EDMS No		EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	MOOREBANK AVENUE OVERBRIDGE PERMANENT ROAD PAVEMENT PLAN AND PROFILES					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- CIV	0110	- 02



PRIME MOVER AND LONG JINKER-TRAILER (30m)	
OVERALL LENGTH	30.000m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.749m
MIN BODY GROUND CLEARANCE	0.540m
MAX TRACK WIDTH	3.000m
LOCK-TO-LOCK TIME	6.00s
CURB TO CURB TURNING RADIUS	15.000m

DESIGN VEHICLE

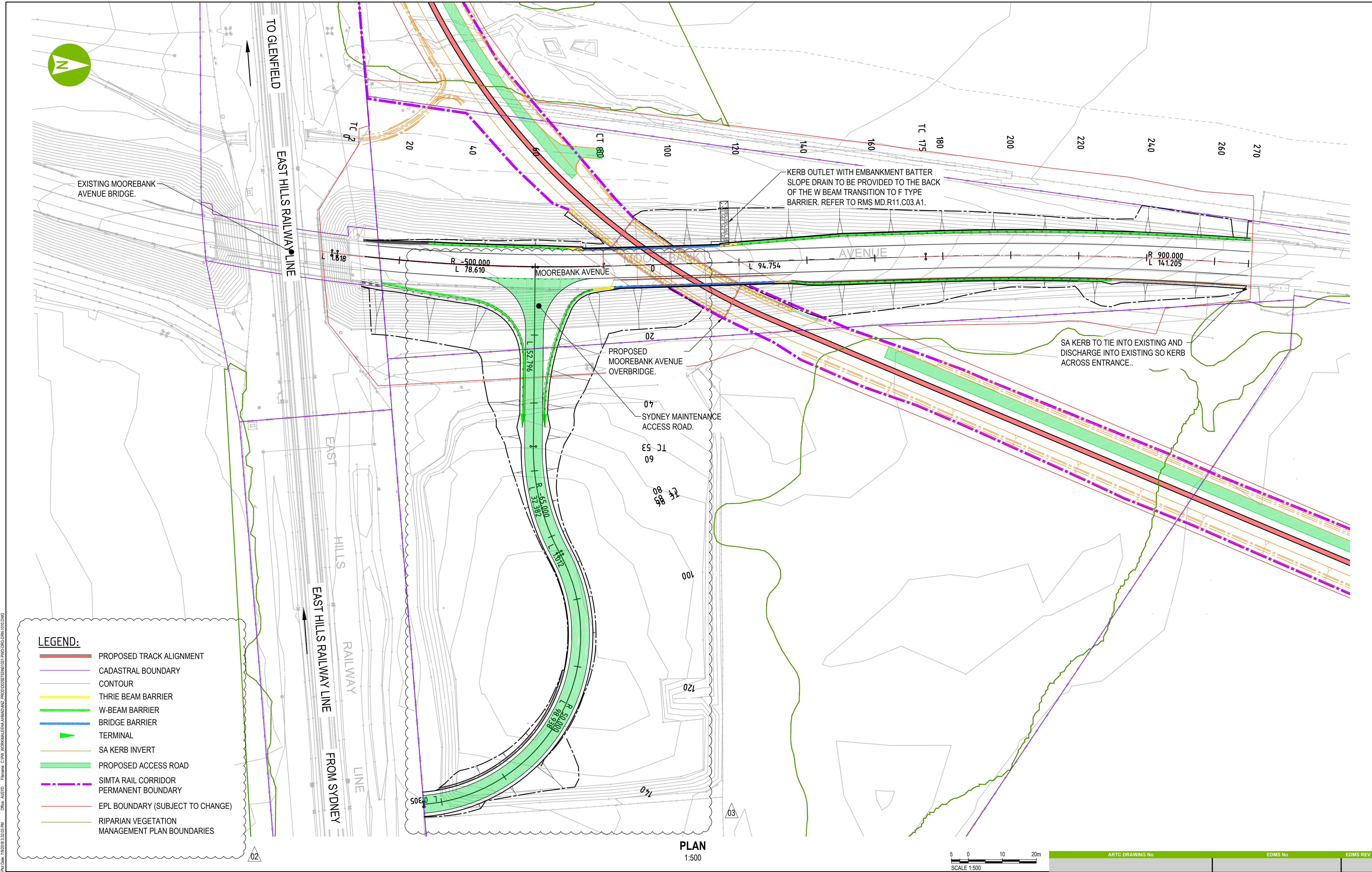


ARTC DRAWING No			EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE	MOOREBANK INTERMODAL PROJECT SYDNEY TRAINS ACCESS ROAD TURNING MOVEMENTS						
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
	N01031	PWD	DRG	CIV	1020	03	

REV	DATE	REVISION DETAILS	APPROVED
01	26.06.18	ACCEPTED FOR CONSTRUCTION	MS
02	06.07.18	ACCEPTED FOR CONSTRUCTION	MS
03	03.09.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	MS

SCALE	AS SHOWN	SIZE	A1
DRAWN	M.AHMAD		
DESIGNED	M.SAKIB		
CHECKED	D.IGITTO		

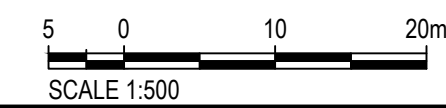
FOR CONSTRUCTION	
APPROVED	
DATE	
03.09.18	
M.SAKIB	
M.SAKIB	



LEGEND:

- PROPOSED TRACK ALIGNMENT
- CADASTRAL BOUNDARY
- CONTOUR
- THREE BEAM BARRIER
- W-BEAM BARRIER
- BRIDGE BARRIER
- TERMINAL
- SA KERB INVERT
- PROPOSED ACCESS ROAD
- SIMTA RAIL CORRIDOR PERMANENT BOUNDARY
- EPL BOUNDARY (SUBJECT TO CHANGE)
- RIPARIAN VEGETATION MANAGEMENT PLAN BOUNDARIES

PLAN
1:500

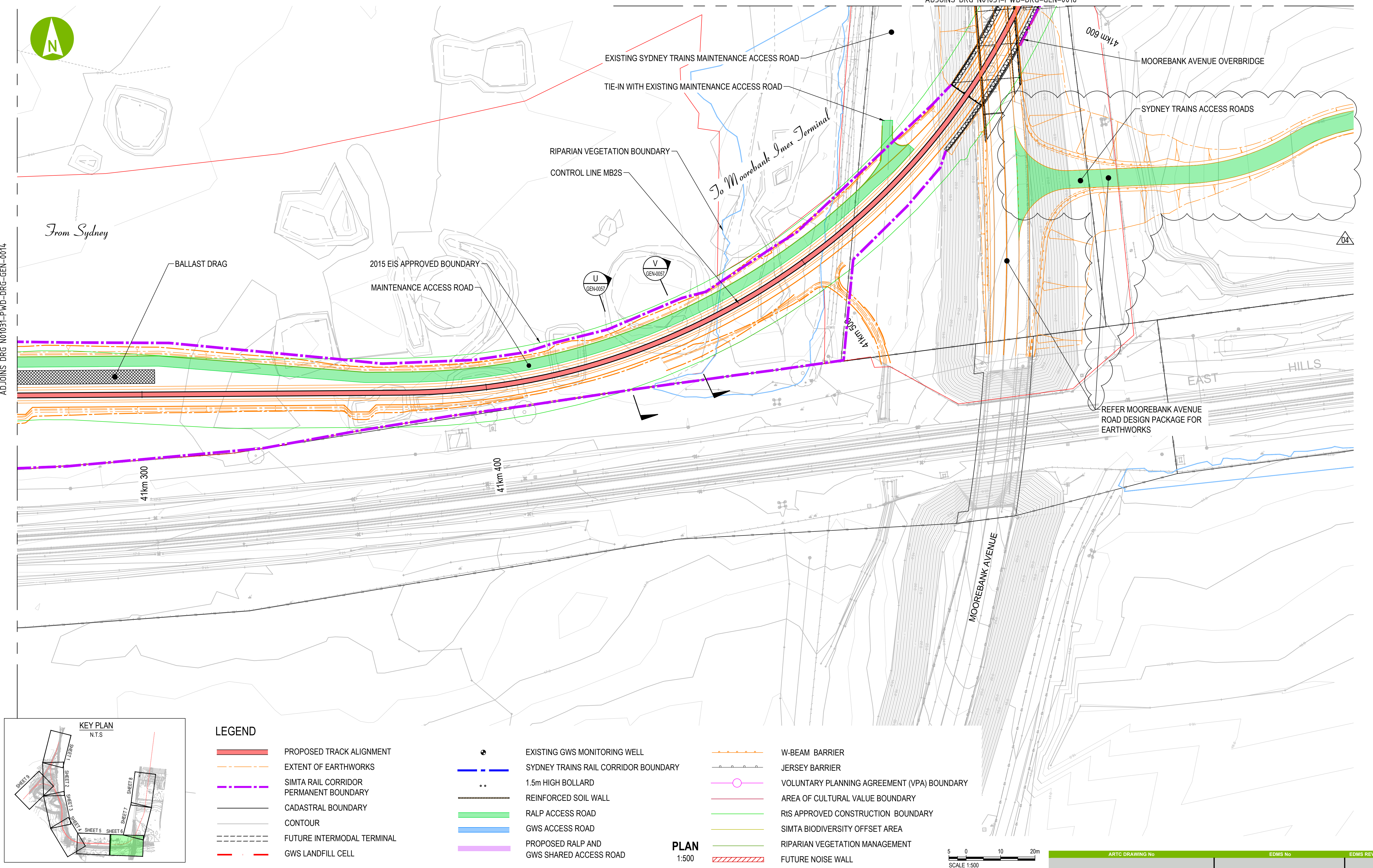


REV	DATE	REVISION DETAILS	APPROVED
01	21.12.16	ACCEPTED FOR CONSTRUCTION	AOS
02	26.06.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	MS
03	03.09.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	MS

SCALE	SIZE
AS SHOWN	A1
DRAWN	M.AHMAD
DESIGNED	M.SAKIB
CHECKED	D.EGITTO

FOR CONSTRUCTION
APPROVED
DATE 03.09.18
M.SAKIB

ARTC DRAWING No			EDMS No			EDMS REV			
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1								
TITLE	MOOREBANK AVENUE OVERBRIDGE PERMANENT ROAD DRAINAGE PLAN								
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV			
	N01031	0000	DRG	DRN	1010	03			



REV	DATE	REVISION DETAILS
01	20.01.17	ACCEPTED FOR CONSTRUCTION
02	26.10.17	ACCEPTED FOR CONSTRUCTION RESUBMISSION
03	14.02.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION
04	18.09.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION

APPROVED	SCALE	SIZE
A. O'SHEA	AS SHOWN	A1
M.SAKIB	DRAWN	
M.SAKIB	A.LITTLE	
M.SAKIB	DESIGNED	
	M.SAKIB	
	CHECKED	
	W.DENG	

FOR CONSTRUCTION	
APPROVED	
DATE	18.09.15
M.SAKIB	
M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 6 OF 9					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD -	DRG	- GEN -	0015	04

APPENDIX H RAIL LINK EARTHWORKS DESIGN

[illegible]

DRAWING	TITLE	DISCIPLINE	DRAWING TYPE
N01031-PWD-DRG-GEN-0090	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SOIL NAIL EMBANKMENT PLAN
N01031-PWD-DRG-GEN-0091	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SOIL NAIL EMBANKMENT - LONGITUDINAL SECTION
N01031-PWD-DRG-GEN-0092	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SOIL NAIL EMBANKMENT- LONGITUDINAL SECTION
N01031-PWD-DRG-GEN-0093	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SOIL NAIL EMBANKMENT CROSS SECTION
N01031-PWD-DRG-GEN-0094	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SOIL NAIL EMBANKMENT CROSS SECTION
N01031-PWD-DRG-GEN-0095	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SOIL NAIL EMBANKMENT CROSS SECTION
N01031-PWD-DRG-GEN-0096	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SOIL NAIL/ROCK BOLT SCHEDULE
N01031-PWD-DRG-GEN-0097	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SOIL NAIL EMBANKMENT- DETAILS
N01031-PWD-DRG-GEN-0110	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0111	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0112	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0113	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0114	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0115	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0116	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0117	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0118	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0119	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0120	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0121	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0122	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0123	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0124	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0125	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT PLAN
N01031-PWD-DRG-GEN-0150	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0151	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0152	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0153	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0154	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0155	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0156	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0157	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0158	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT LONGSECTION
N01031-PWD-DRG-GEN-0160	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GROUND TREATMENT SCHEDULE
N01031-PWD-DRG-GEN-0202	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	ACCESS ROAD PLAN & LONG SECTION
N01031-PWD-DRG-GEN-0203	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	ACCESS ROAD PLAN & LONG SECTION
N01031-PWD-DRG-GEN-0204	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	ACCESS ROAD PLAN & LONG SECTION
N01031-PWD-DRG-GEN-0205	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	ACCESS ROAD PLAN & LONG SECTION
N01031-PWD-DRG-GEN-0206	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	ACCESS ROAD PLAN & LONG SECTION
N01031-PWD-DRG-GEN-0220	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SETOUT TABLE
N01031-PWD-DRG-GEN-0221	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SETOUT TABLE
N01031-PWD-DRG-GEN-0222	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SETOUT TABLE
N01031-PWD-DRG-GEN-0223	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	SETOUT TABLE
N01031-PWD-DRG-GEN-0250	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GABION WALL 1 - DETAILS
N01031-PWD-DRG-GEN-0251	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GABION WALL 2 & 3 - DETAILS
N01031-PWD-DRG-GEN-0252	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GABION WALL 4 - DETAILS
N01031-PWD-DRG-GEN-0253	MOOREBANK INTERMODAL PROJECT	BULK EARTHWORKS	GABION WALL 5 - DETAILS

ARTC DRAWING No				EDMS No				EDMS REV	
PROJECT		MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE		BULK EARTHWORKS DRAWING INDEX							
DRAWING No.		PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
		N01031	- PWD	- DRG	- GEN	- 0002	- 05		

GENERAL NOTES

- EARTHWORKS DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT ID : N01031-PWD-SPE-EWK-0001).
- THE WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS (DOCUMENT ID: N01031-PWD-SPE-EWK-0001) AND THE PREVAILING ARTC AND RMS SPECIFICATIONS AS NOTED IN THE PROJECT SPECIFICATIONS.
- ALL DESIGN, MATERIALS, EQUIPMENT, WORKMANSHIP AND INSTALLATION SHALL COMPLY WITH THE LATEST REVISION OF THE RELEVANT ENGINEERING STANDARD AS DETAILED IN THE MOOREBANK INTERMODAL TERMINAL DEVELOPMENT RALP No1 - PPR APPENDIX 8, PERFORMANCE SPECIFICATION UNLESS OTHERWISE NOTED IN THE DRAWINGS OR EARTHWORKS SPECIFICATIONS.
- COMPACTION TESTING SHALL BE CARRIED OUT TO MEET THE MINIMUM REQUIREMENTS IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION.
- REVEGETATION WORKS INCLUDES SPREADING AND COMPACTION OF SITE WON TOPSOIL AND HYDRO SEEDING OF BATTERS AND DISTURBED LANDS.

EMBANKMENT

- TERRACES/ BENCHES IN EXISTING EMBANKMENT BATTERS SHALL BE INSPECTED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER FOR UNSUITABLE MATERIALS OR WATER SEEPAGE PRIOR TO PLACEMENT OF FILL MATERIAL.
- EMBANKMENT FOUNDATIONS TO BE INSPECTED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER AND TREATMENT TYPE APPROVED AFTER PROOF ROLLING IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION.

CUTTING

- ALL CUT FLOORS SHALL BE PROOF ROLLED OR TREATED WHERE APPROPRIATE IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION. THE FORMATION SHALL BE INSPECTED FOR UNSUITABLE MATERIALS PRIOR TO PLACEMENT OF FILL MATERIAL BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.
- PROOF ROLLING TO BE WITNESSED AND THE CUT FLOOR TREATMENT TYPE APPROVED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.
- CUT BATTERS AND BENCH WIDTHS SHALL BE CONFIRMED BY A GEOTECHNICAL ENGINEER ON SITE BASED ON EXPOSED GROUND CONDITIONS.
- CUT BATTERS ARE TO BE CLEANED AND INSPECTED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.

MATERIALS

- WHERE THE ENGINEER CONSIDERS THAT THE MATERIAL IN THE BOTTOM OF CUTTINGS OR IN THE NATURAL SURFACE BENEATH EMBANKMENTS IS UNSUITABLE FOR TRACK STRUCTURE OR EMBANKMENT SUPPORT, SUCH MATERIAL SHALL BE EXCAVATED AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND DISPOSED OF TO SPOIL.
- SITE WON MATERIAL AND IMPORTED MATERIAL FOR USE IN STRUCTURAL ZONES SHALL COMPLY WITH THE REQUIREMENTS NOTED IN PROJECT EARTHWORKS SPECIFICATION (DOCUMENT ID: 01031-PWD-SPE-EWK-0001).
- CAPPING MATERIAL SHALL COMPLY WITH THE REQUIREMENTS NOTED IN PROJECT EARTHWORKS SPECIFICATION (DOCUMENT ID: 01031-PWD-SPE-EWK-0001).

BOLLARDS

- BOLLARDS TO MEET THE FOLLOWING REQUIREMENTS, SPECIFIED IN SPG 0705 SECTION 24.6:
 - THE BOLLARDS TO BE CONSTRUCTED OF GREATER THAN OR EQUAL 100mm NOMINAL BORE HEAVY GALVANISED STEEL PIPE TO AS1074 AND TO INCLUDE CAPS.
 - BOLLARDS SHALL BE CONCRETED IN A PERMANENT CONCRETE FOOTING 600mm DIAMETER AND A MINIMUM OF 1000mm DEEP.
 - THE MINIMUM HEIGHT ABOVE GROUND LEVEL TO BE 1.5m AND THE BOLLARDS TO BE FINISHED IN GLOSS WHITE ENAMEL.
 - BOLLARDS TO HAVE RED REFLECTIVE BAND TO IMPROVE THEIR NIGHT-TIME VISIBILITY.

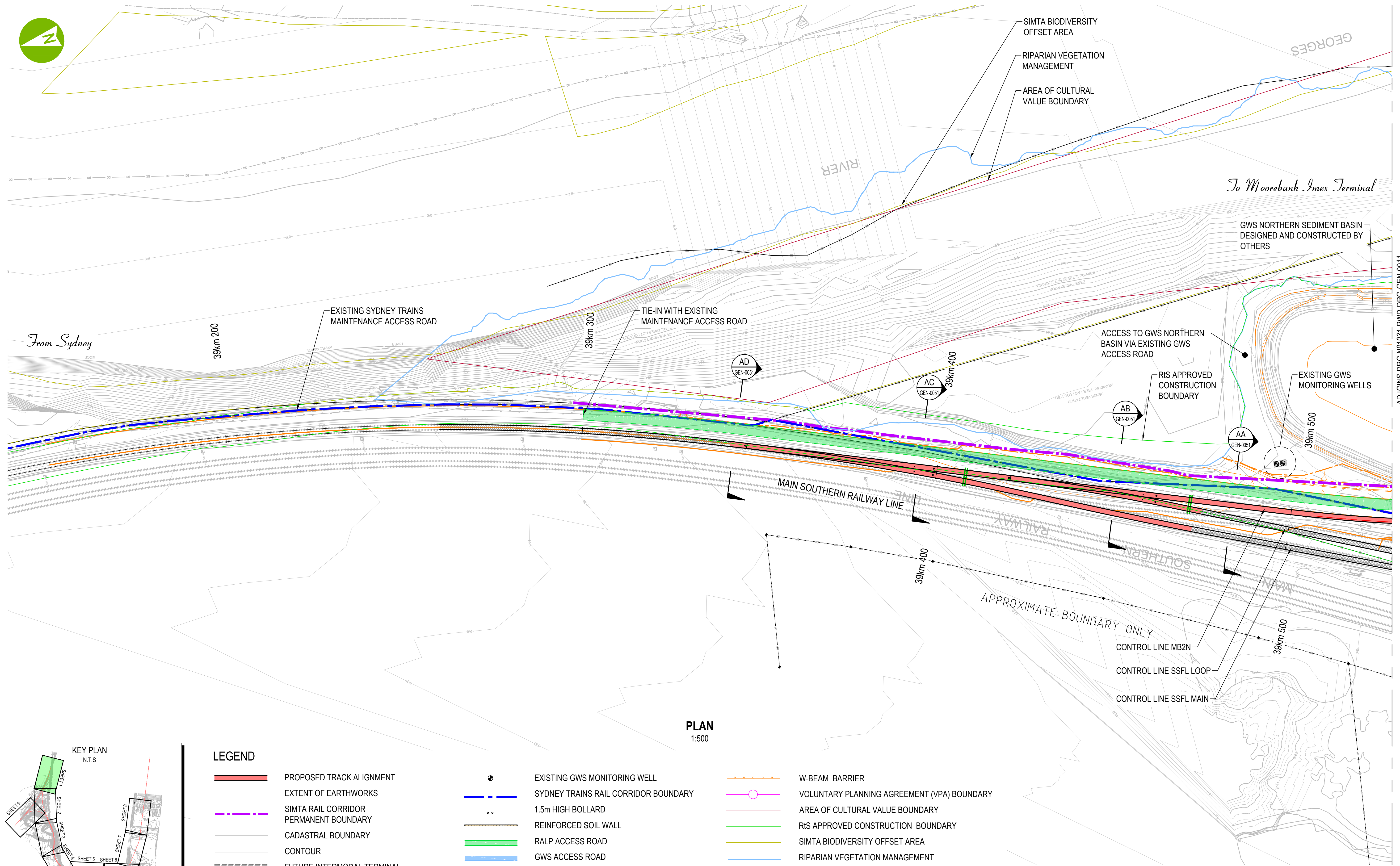
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REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	14.07.17	90% ARTC DESIGN ISSUE	A.O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

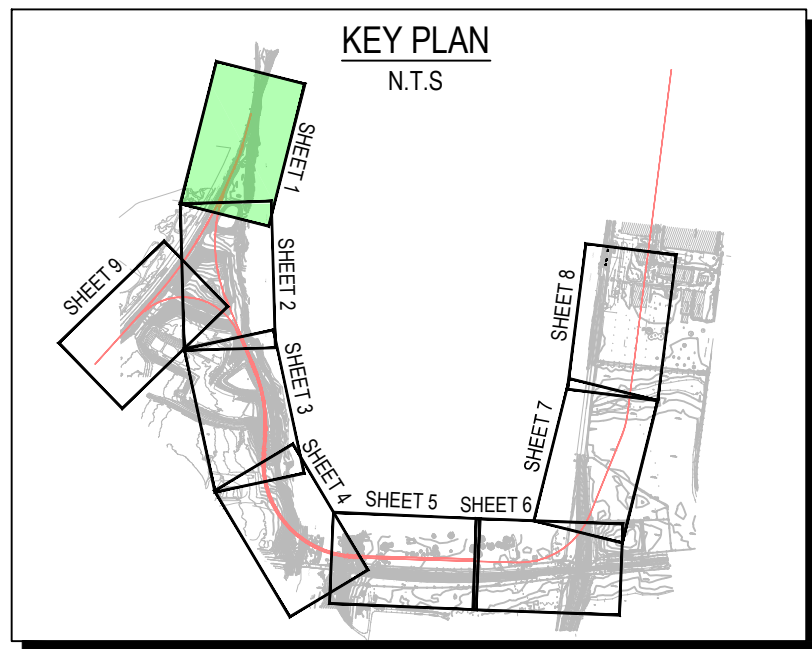
SCALE	SIZE
N.T.S.	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

ARTC DRAWING No		EDMS No		EDMS REV						
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
TITLE	BULK EARTHWORKS GENERAL NOTES AND LEGEND SHEET 1 OF 1									
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
N01031	-	PWD	-	DRG	-	GEN	-	0005	-	03

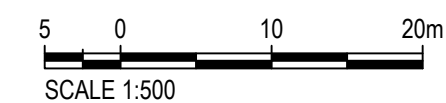


PLAN
1:500



LEGEND

- | | | | | | |
|--|--|--|--|--|---|
| | PROPOSED TRACK ALIGNMENT | | EXISTING GWS MONITORING WELL | | W-BEAM BARRIER |
| | EXTENT OF EARTHWORKS | | SYDNEY TRAINS RAIL CORRIDOR BOUNDARY | | VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY |
| | SIMTA RAIL CORRIDOR PERMANENT BOUNDARY | | 1.5m HIGH BOLLARD | | AREA OF CULTURAL VALUE BOUNDARY |
| | CADASTRAL BOUNDARY | | REINFORCED SOIL WALL | | RIS APPROVED CONSTRUCTION BOUNDARY |
| | CONTOUR | | RALP ACCESS ROAD | | SIMTA BIODIVERSITY OFFSET AREA |
| | FUTURE INTERMODAL TERMINAL | | GWS ACCESS ROAD | | RIPARIAN VEGETATION MANAGEMENT |
| | GWS LANDFILL CELL | | PROPOSED RALP AND GWS SHARED ACCESS ROAD | | FUTURE NOISE WALL |

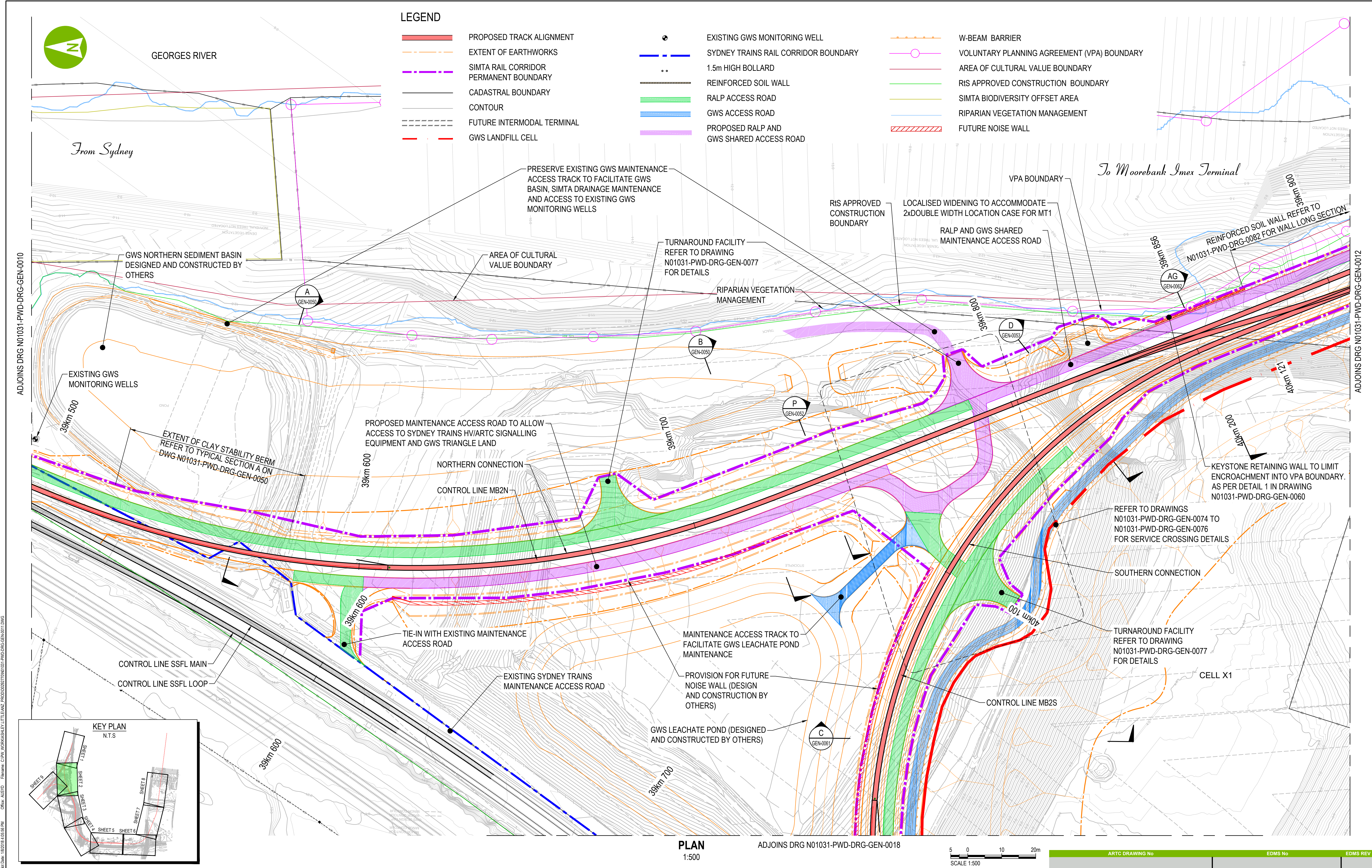


REV	DATE	REVISION DETAILS
01	20.01.17	ACCEPTED FOR CONSTRUCTION
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)
03	31.07.18	ACCEPTED FOR CONSTRUCTION


APPROVED	SCALE	SIZE
A. O'SHEA	AS SHOWN	A1
M.SAKIB		
	DRAWN	
	A.LITTLE	
	DESIGNED	
	M.SAKIB	
	CHECKED	
	W.DENG	

FOR CONSTRUCTION
APPROVED
M.SAKIB
DATE
31.07.18



ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 1 OF 9					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0010	03



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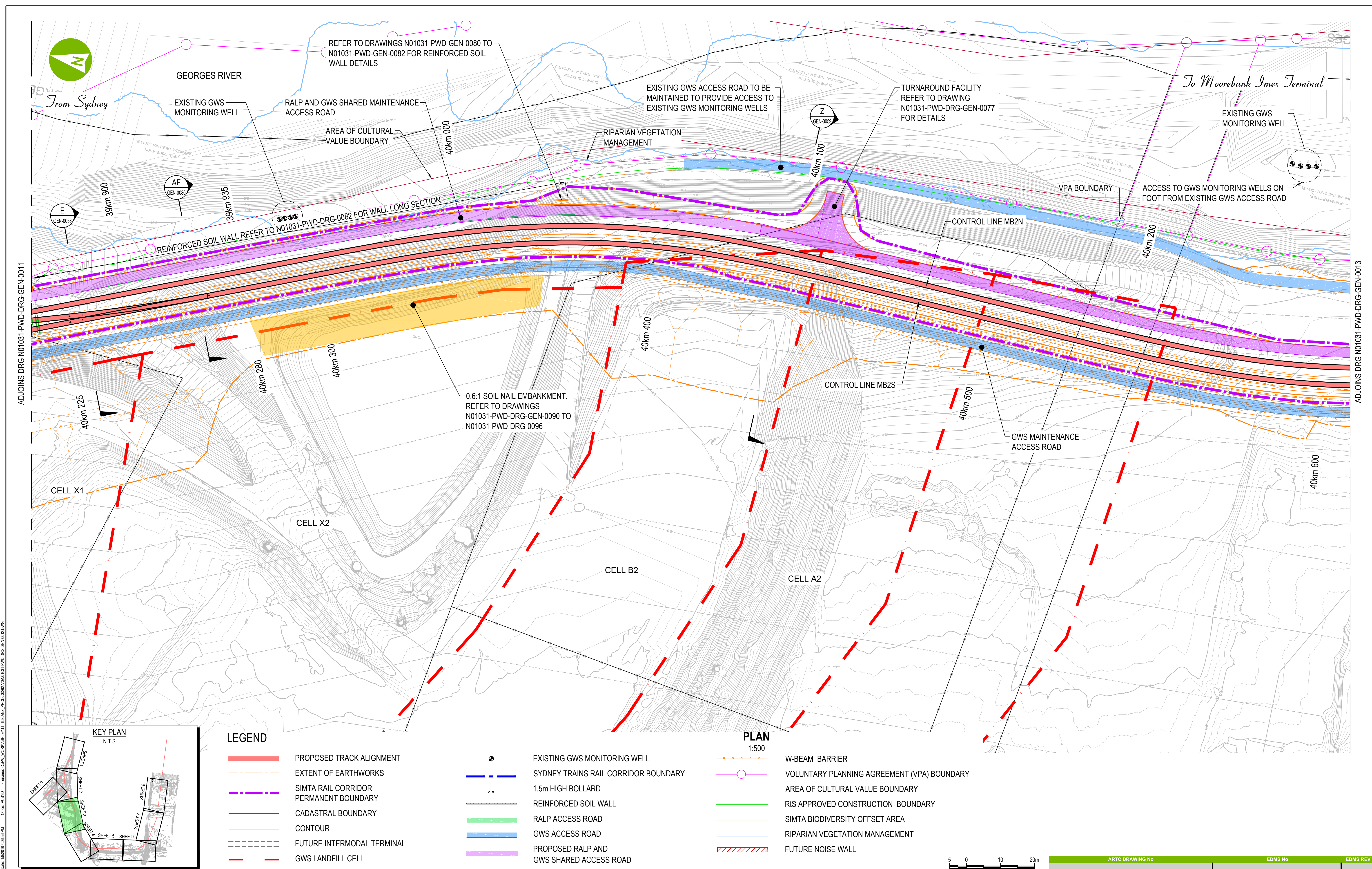
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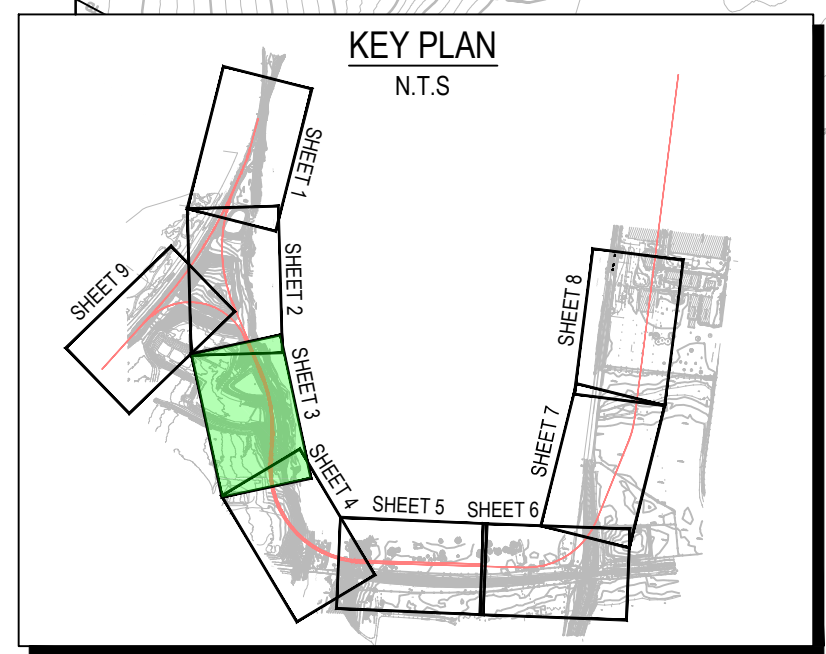
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01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA	AS SHOWN	A1
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA		
03	07.02.18	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	M.SAKIB		
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)			
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)			
04	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB		

FOR CONSTRUCTION	APPROVED	DATE
	M.SAKIB	31.07.18
	M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 2 OF 9					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
N01031	N01031	PWD	DRG	GEN	0011	04



Proj Date: 18/07/2018 14:05:55 PM Client: CPB Drawing: CPB WORKSHEED LITTLEANZ Project: 0020270001031-PWD-DRG-GEN-0012.DWG



LEGEND

- | | | | | | |
|--|--|--|--|--|---|
| | PROPOSED TRACK ALIGNMENT | | EXISTING GWS MONITORING WELL | | W-BEAM BARRIER |
| | EXTENT OF EARTHWORKS | | SYDNEY TRAINS RAIL CORRIDOR BOUNDARY | | VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY |
| | SIMTA RAIL CORRIDOR PERMANENT BOUNDARY | | 1.5m HIGH BOLLARD | | AREA OF CULTURAL VALUE BOUNDARY |
| | CADASTRAL BOUNDARY | | REINFORCED SOIL WALL | | RIS APPROVED CONSTRUCTION BOUNDARY |
| | CONTOUR | | RALP ACCESS ROAD | | SIMTA BIODIVERSITY OFFSET AREA |
| | FUTURE INTERMODAL TERMINAL | | GWS ACCESS ROAD | | RIPARIAN VEGETATION MANAGEMENT |
| | GWS LANDFILL CELL | | PROPOSED RALP AND GWS SHARED ACCESS ROAD | | FUTURE NOISE WALL |

PLAN
1:500



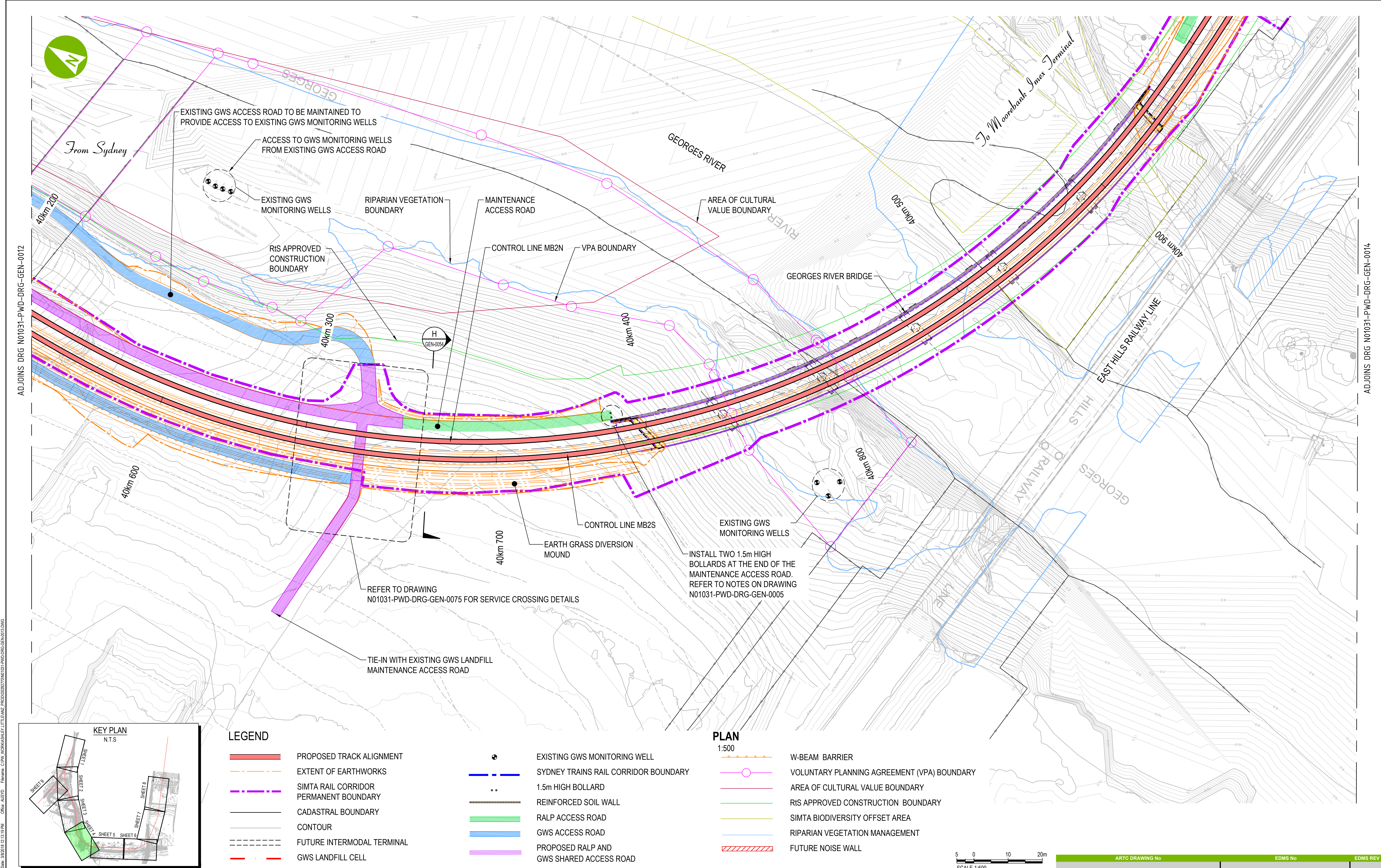
REV	DATE	REVISION DETAILS
01	20.01.17	ACCEPTED FOR CONSTRUCTION
02	07.02.18	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)
03	31.07.18	ACCEPTED FOR CONSTRUCTION

APPROVED
A. O'SHEA
M.SAKIB
M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

SCALE 1:500	
FOR CONSTRUCTION	
APPROVED	
	DATE
	31.07.18
M.SAKIB	
M.SAKIB	

ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 3 OF 9							
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
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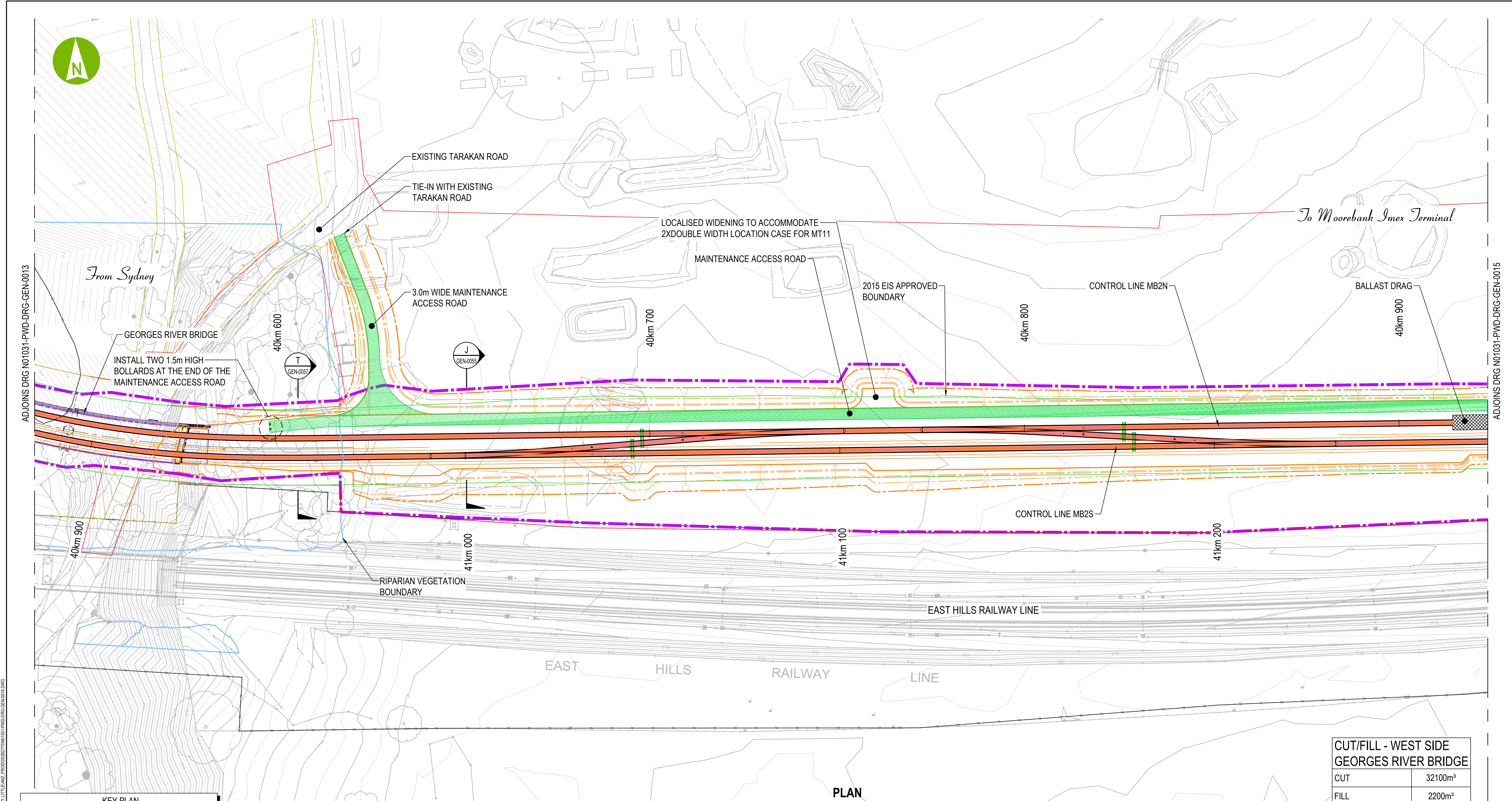
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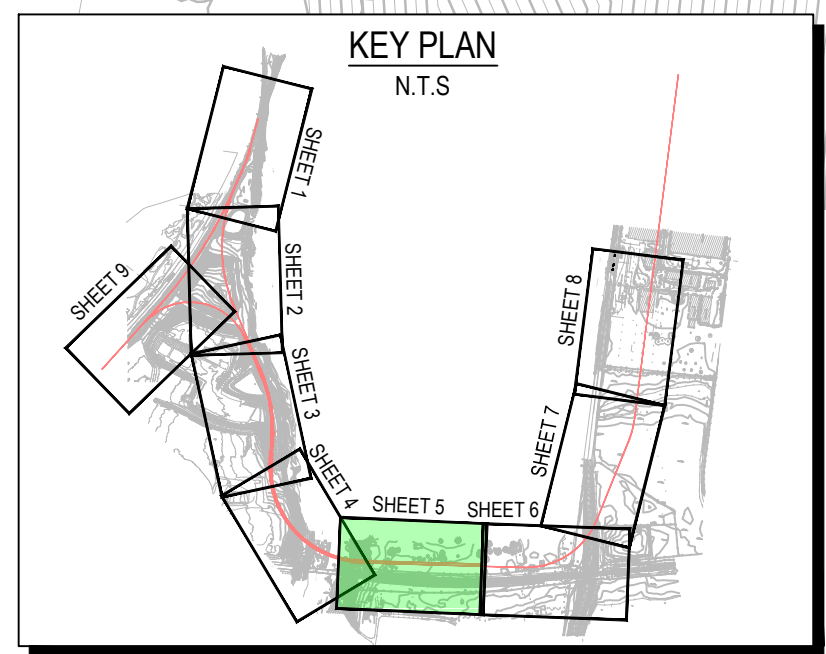
CONTRACTORS

SYDNEY INTERMODAL TERMINAL ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	FOR CONSTRUCTION	PROJECT	TITLE	DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA	AS SHOWN	A1	APPROVED M.SAKIB DATE 31.07.18	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 4 OF 9	N01031	PWD	DRG	GEN		0013	03
02	07.02.18	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	M.SAKIB												
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)		DRAWN A.LITTLE											
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	M.SAKIB	DESIGNED M.SAKIB											
03	31.07.18	ACCEPTED FOR CONSTRUCTION		CHECKED W.DENG											



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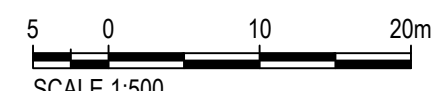


LEGEND

- | | | | | | |
|--|--|--|--|--|-----------------------------|
| | PROPOSED TRACK ALIGNMENT | | EXISTING GWS MONITORING WELL | | W-BEAM BARRIER |
| | EXTENT OF EARTHWORKS | | SYDNEY TRAINS RAIL CORRIDOR BOUNDARY | | VOLUNTARY PLANNING AGREE |
| | SIMTA RAIL CORRIDOR PERMANENT BOUNDARY | | 1.5m HIGH BOLLARD | | AREA OF CULTURAL VALUE BC |
| | CADASTRAL BOUNDARY | | REINFORCED SOIL WALL | | RIS APPROVED CONSTRUCTION |
| | CONTOUR | | RALP ACCESS ROAD | | SIMTA BIODIVERSITY OFFSET / |
| | FUTURE INTERMODAL TERMINAL | | GWS ACCESS ROAD | | RIPARIAN VEGETATION MANAG |
| | GWS LANDFILL CELL | | PROPOSED RALP AND GWS SHARED ACCESS ROAD | | FUTURE NOISE WALL |

NOTE:

1. BOLLARDS TO MEET THE FOLLOWING REQUIREMENTS, SPECIFIED IN SPG 0705 SECTION 24.6:
- THE BOLLARDS TO BE CONSTRUCTED OF GREATER THAN OR EQUAL 100mm NOMINAL BORE HEAVY GALVANISED STEEL PIPE TO AS1074 AND TO INCLUDE CAPS.
 - IN-GROUND BOLLARDS SHALL BE CONCRETED 1m INTO THE GROUND AND CONCRETE FOOTING SHALL BE 600mm DIA.
 - BOLLARDS SHALL BE CONCRETED IN A PERMANENT CONCRETE FOOTING 600mm DIAMETER AND A MINIMUM OF 1000mm DEEP.
 - THE MINIMUM HEIGHT ABOVE GROUND LEVEL TO BE 1.5m AND THE BOLLARDS TO BE FINISHED IN GLOSS WHITE ENAMEL.
 - BOLLARDS TO HAVE RED REFLECTIVE BAND TO IMPROVE THEIR NIGHT-TIME VISIBILITY.

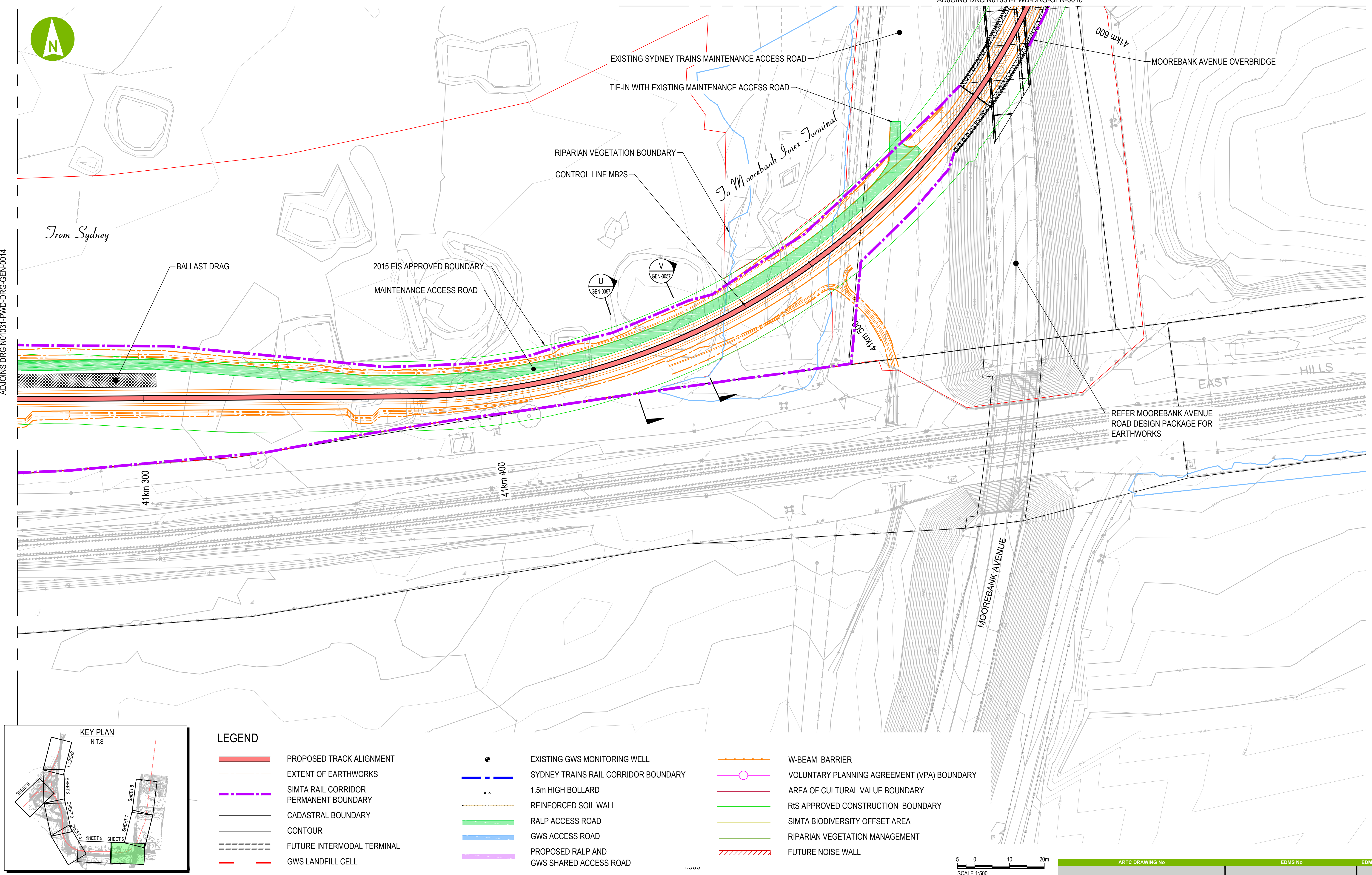


CUT/FILL - WEST SIDE GEORGES RIVER BRIDGE

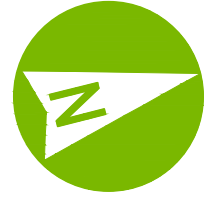
CUT	32100m³
FILL	2200m³
TOPSOIL CUT	7400m³
TOPSOIL FILL	760m³



REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	FOR CONSTRUCTION		PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA	AS SHOWN	A1	APPROVED DATE 20.01.17 A. O'SHEA	TITLE BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 5 OF 9	DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA	DRAWN A.LITTLE	N01031				-	PWD	-	DRG	-	GEN	-	0014	-	03
03	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB	DESIGNED M.SAKIB														
				CHECKED W.DENG														

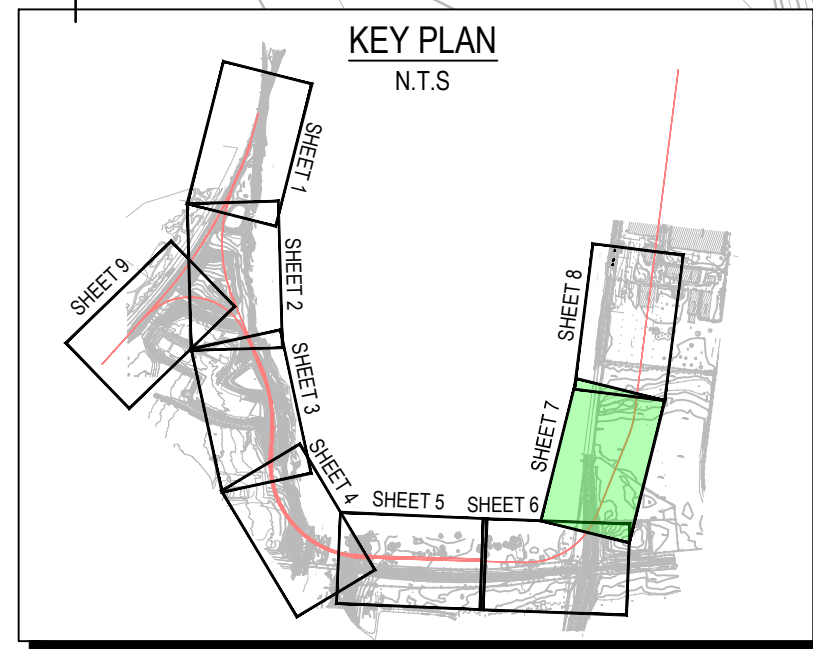
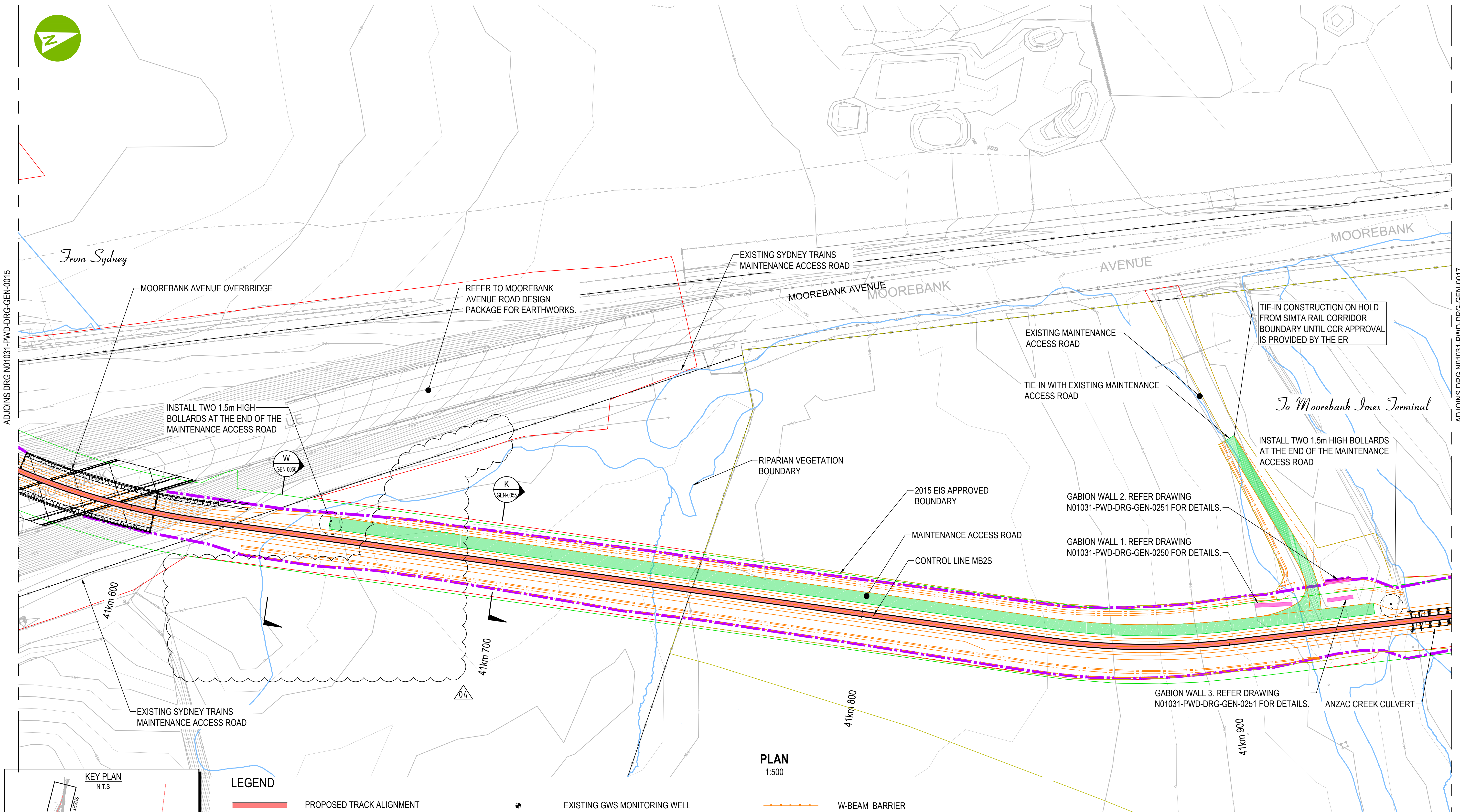


CLIENT		REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	FOR CONSTRUCTION	PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
<div><div><div></div><div></div><div></div></div><div>CPB CONTRACTORS</div></div> <div><div>SIMTA</div><div>SYDNEY INTERMODAL TERMINAL ALLIANCE</div></div>		01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA	AS SHOWN	A1	<div>APPROVED</div> <div>DATE 20.01.17</div> <div>A. O'SHEA</div> <div>A. O'SHEA</div>	TITLE	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 6 OF 9					
		02	26.10.17	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB										
						DRAWN									
						A.LITTLE									
						DESIGNED									
						M.SAKIB									
						CHECKED									
						W.DENG									
									DRAWING No.	PROJECT No.	ZONE.	TYPE.	DISC.	NUMBER	REV
									N01031	- PWD -	DRG -	GEN -	0015	- 02	



ADJOINS DRG NO1031-PWD-DRG-GEN-0015

ADJOINS DRG NO1031-PWD-DRG-GEN-0017



LEGEND

	PROPOSED TRACK ALIGNMENT		EXISTING GWS MONITORING WELL		W-BEAM BARRIER
	EXTENT OF EARTHWORKS		SYDNEY TRAINS RAIL CORRIDOR BOUNDARY		VOLUNTARY PLANNING AGREEMENT
	SIMTA RAIL CORRIDOR PERMANENT BOUNDARY		1.5m HIGH BOLLARD		AREA OF CULTURAL VALUE BOUNDARY
	CADASTRAL BOUNDARY		REINFORCED SOIL WALL		RIS APPROVED CONSTRUCTION
	CONTOUR		RALP ACCESS ROAD		SIMTA BIODIVERSITY OFFSET AREA
	FUTURE INTERMODAL TERMINAL		GWS ACCESS ROAD		RIPARIAN VEGETATION MANAGEMENT
	GWS LANDFILL CELL		PROPOSED RALP AND GWS SHARED ACCESS ROAD		FUTURE NOISE WALL

PLAN
1:500

NOTES:

- BOLLARDS TO MEET THE FOLLOWING REQUIREMENTS, SPECIFIED IN SPG 0705 SECTION 24.6:
 - THE BOLLARDS TO BE CONSTRUCTED OF GREATER THAN OR EQUAL 100mm NOMINAL BORE HEAVY GALVANISED STEEL PIPE TO AS1074 AND TO INCLUDE CAPS.
 - IN-GROUND BOLLARDS SHALL BE CONCRETED 1m INTO THE GROUND AND CONCRETE FOOTING SHALL BE 600mm DIA.
 - BOLLARDS SHALL BE CONCRETED IN A PERMANENT CONCRETE FOOTING 600mm DIAMETER AND A MINIMUM OF 1000mm DEEP.
 - THE MINIMUM HEIGHT ABOVE GROUND LEVEL TO BE 1.5m AND THE BOLLARDS TO BE FINISHED IN GLOSS WHITE ENAMEL.
 - BOLLARDS TO HAVE RED REFLECTIVE BAND TO IMPROVE THEIR NIGHT-TIME VISIBILITY.

5 0 10 20m
SCALE 1:500

ARTC DRAWING No. EDMS No. EDMS REV.

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CPB
CONTRACTORS

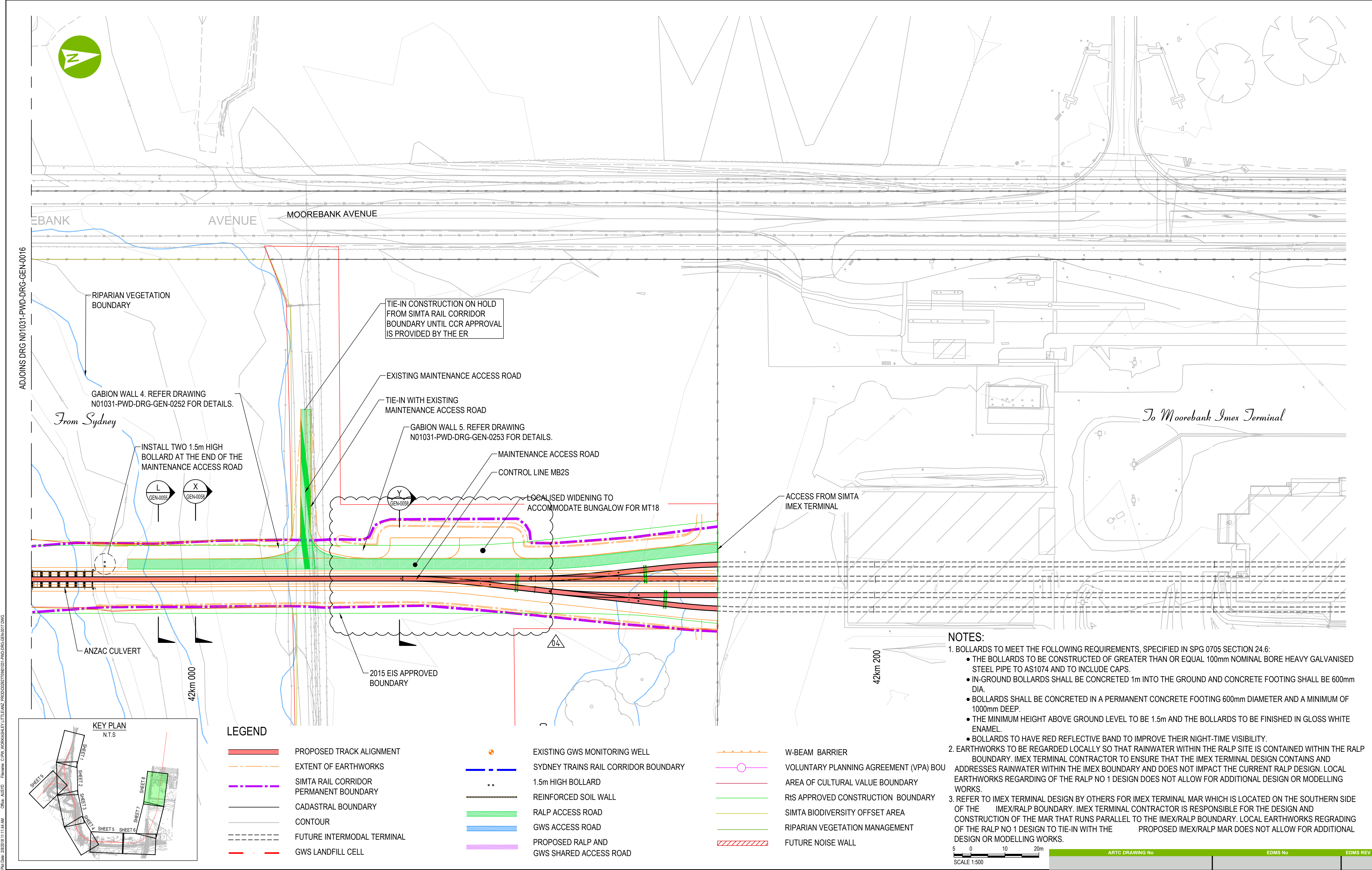
SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	19.12.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	M.SAKIB
03	09.02.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	M.SAKIB
04	31.07.18	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	DATE
APPROVED	31.07.18
M.SAKIB	
M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 7 OF 9
DRAWING No.	PROJECT No. ZONE TYPE DISC NUMBER REV
N01031	- PWD - DRG - GEN - 0016 - 04



Proj Date: 2020/08/11 11:44 AM Client: AUSGO Filename: C:\PM\WORKSPACE\LETTLE\ANZ\PROJECTS\2020\7016031-PWD-DRG-GEN-0017.DWG Drawn: AUSGO

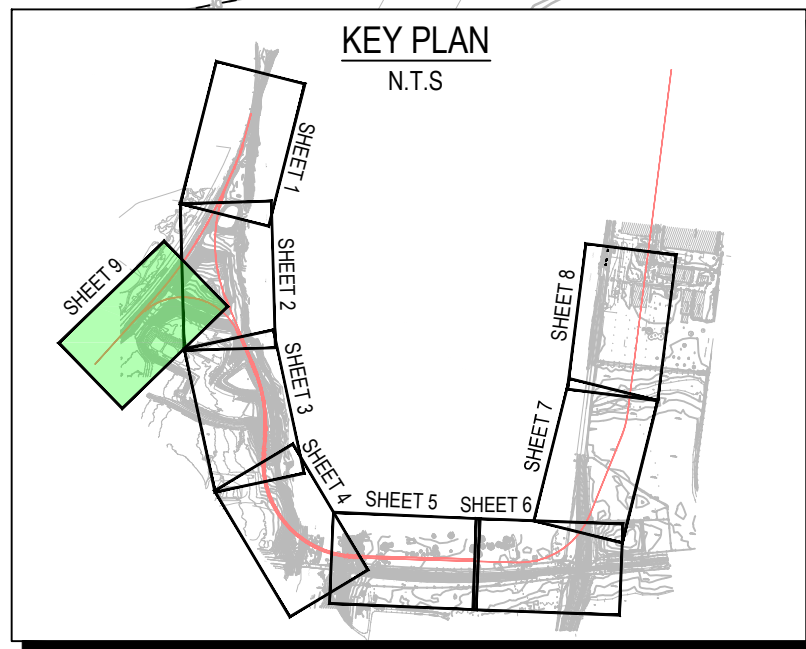
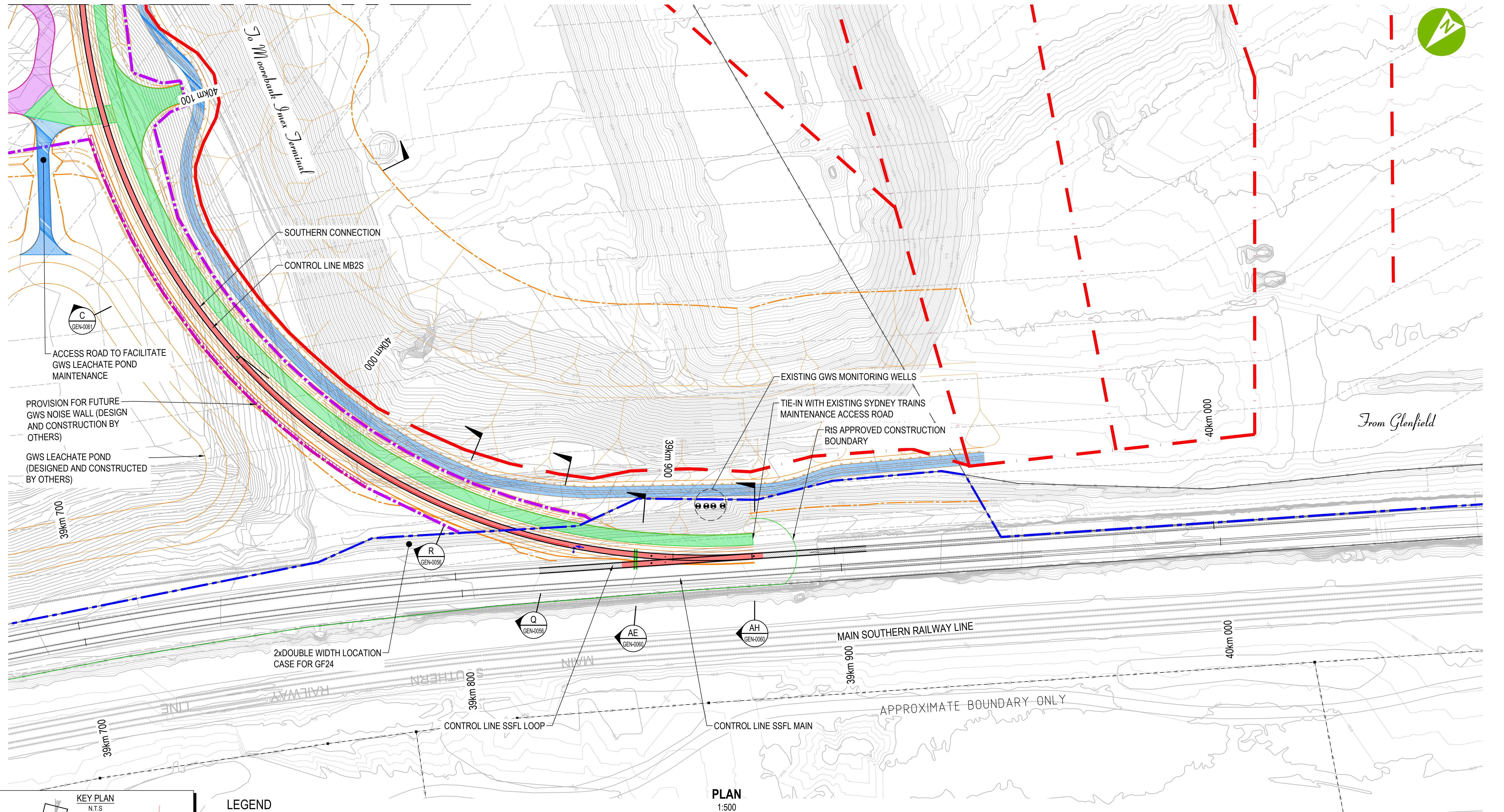
CLIENT

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA
03	19.12.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	M.SAKIB
04	31.07.18	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

FOR CONSTRUCTION	DATE
APPROVED	31.07.18
M.SAKIB	
M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 8 OF 9
DRAWING No.	PROJECT No. N01031
ZONE	PWD
TYPE	DRG
DISC	GEN
NUMBER	0017
REV	04



LEGEND

—	PROPOSED TRACK ALIGNMENT	●	EXISTING GWS MONITORING WELL	—	W-BEAM BARRIER
---	EXTENT OF EARTHWORKS	---	SYDNEY TRAINS RAIL CORRIDOR BOUNDARY	○	VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY
---	SIMTA RAIL CORRIDOR PERMANENT BOUNDARY	..	1.5m HIGH BOLLARD	---	AREA OF CULTURAL VALUE BOUNDARY
---	CADASTRAL BOUNDARY	---	REINFORCED SOIL WALL	---	RIS APPROVED CONSTRUCTION BOUNDARY
---	CONTOUR	---	RALP ACCESS ROAD	---	SIMTA BIODIVERSITY OFFSET AREA
---	FUTURE INTERMODAL TERMINAL	---	GWS ACCESS ROAD	---	RIPARIAN VEGETATION MANAGEMENT
---	GWS LANDFILL CELL	---	PROPOSED RALP AND GWS SHARED ACCESS ROAD	---	FUTURE NOISE WALL

5 0 10 20m
SCALE 1:500

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CPB
CONTRACTORS

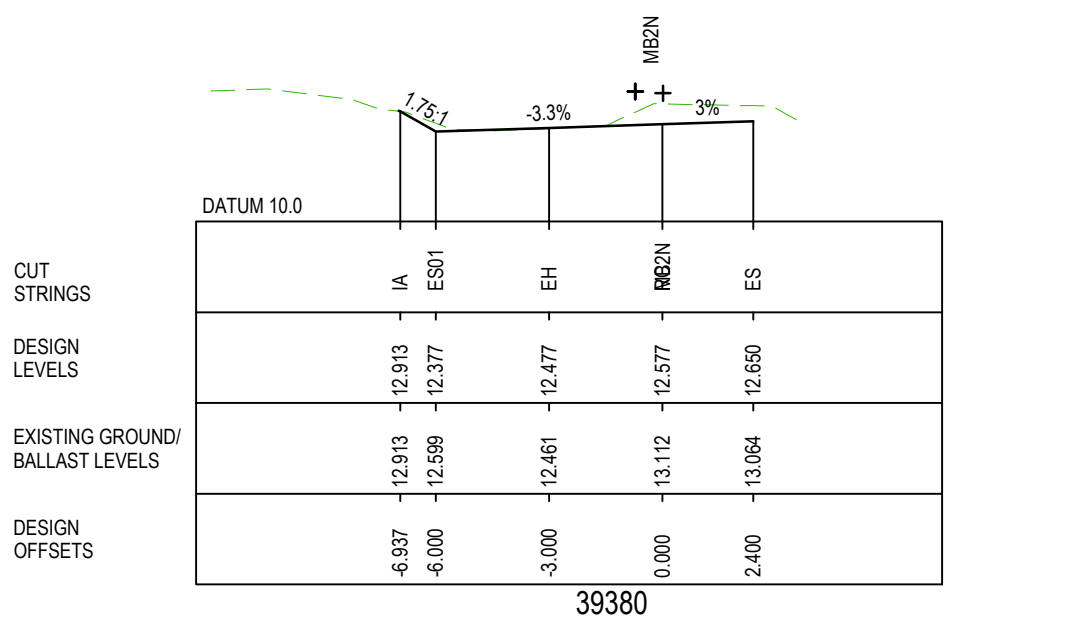
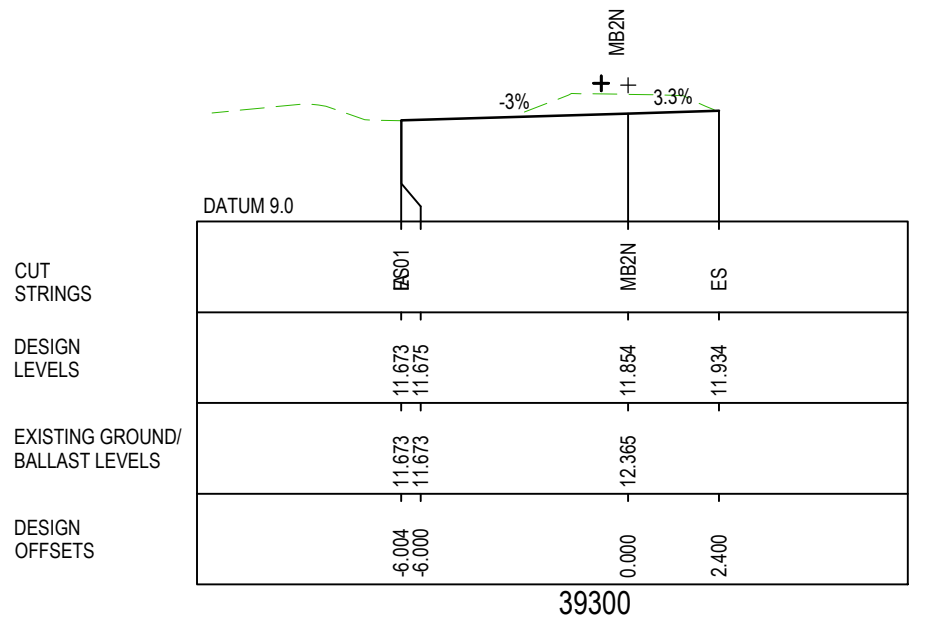
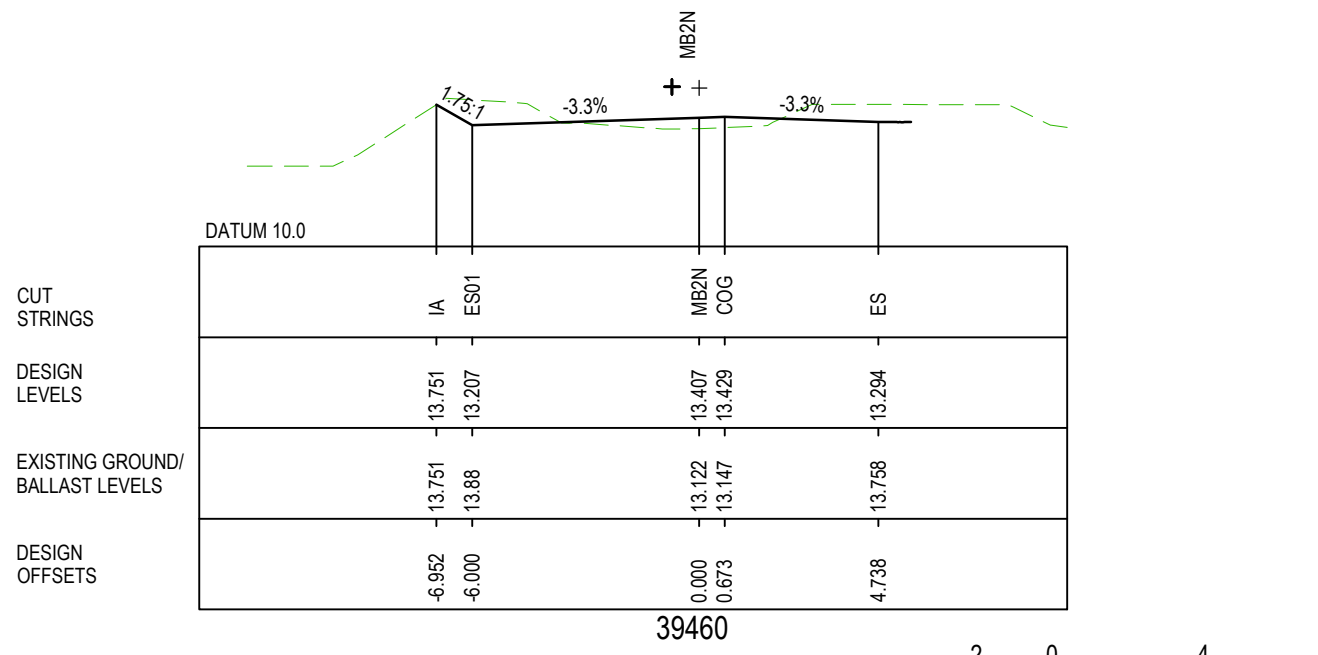
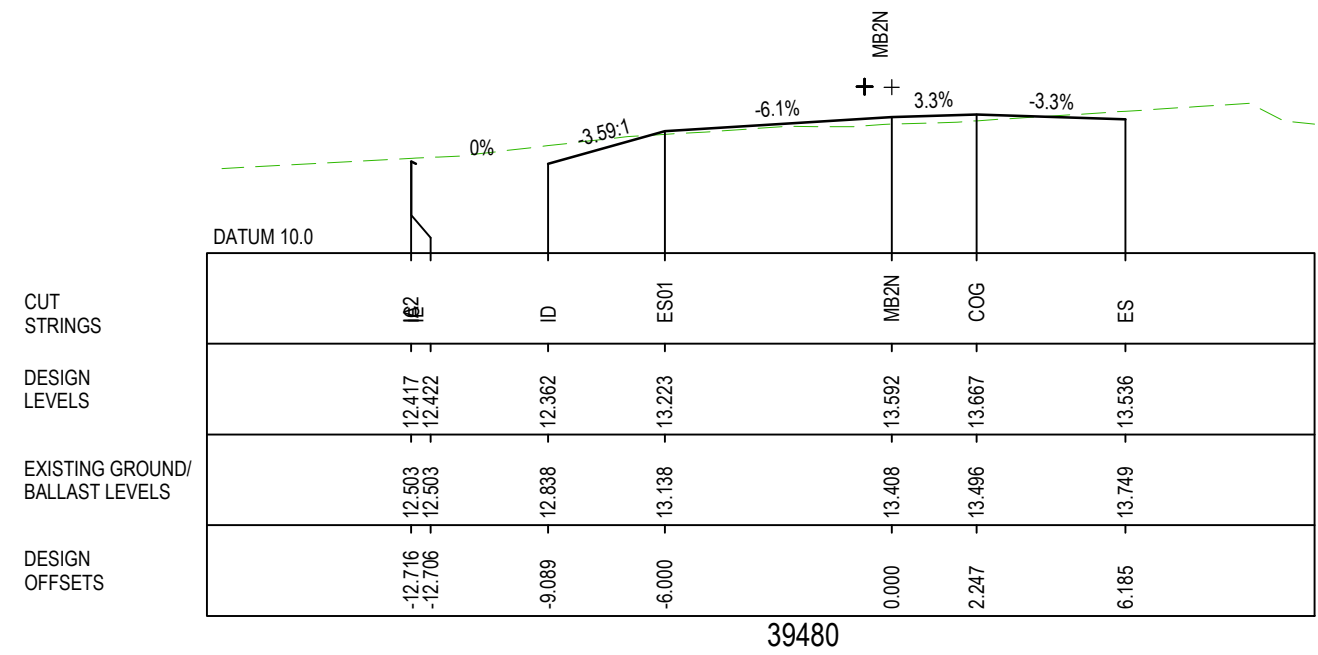
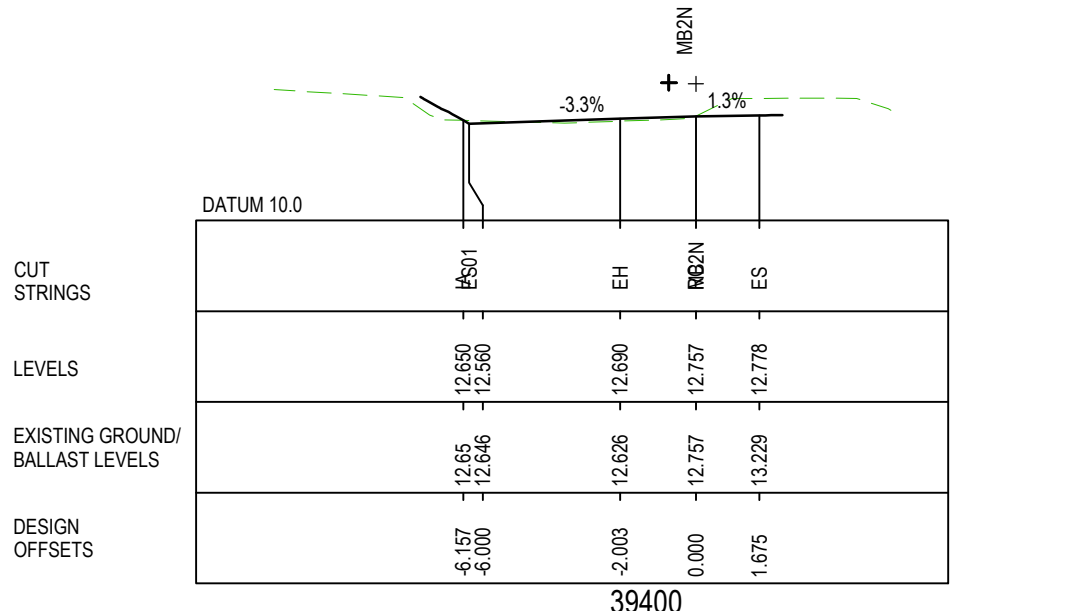
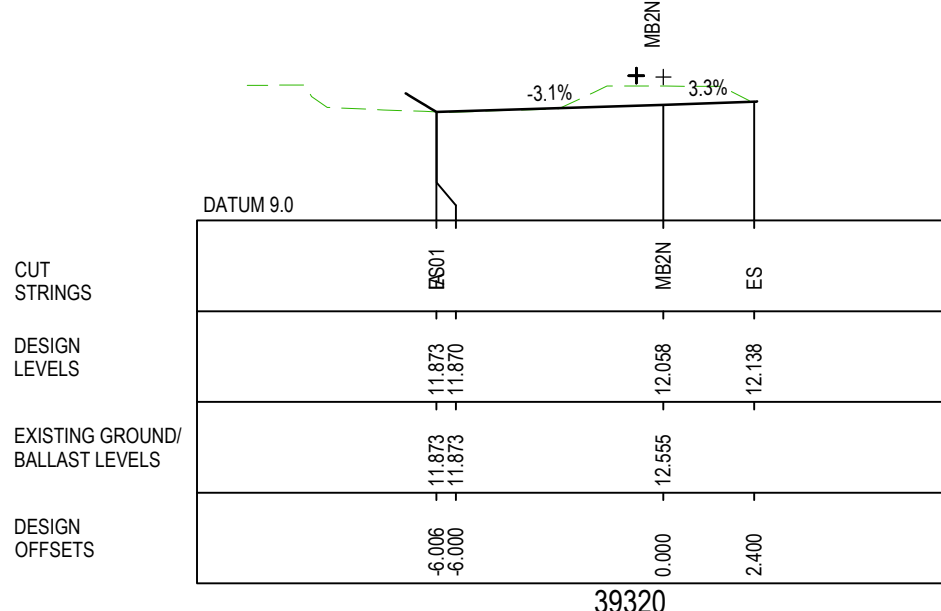
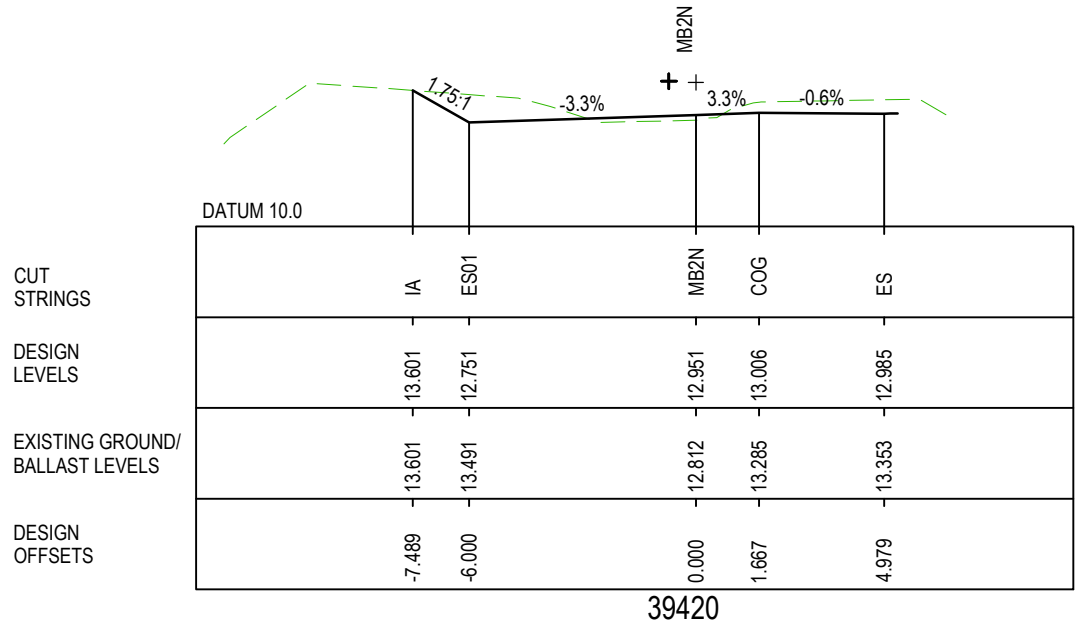
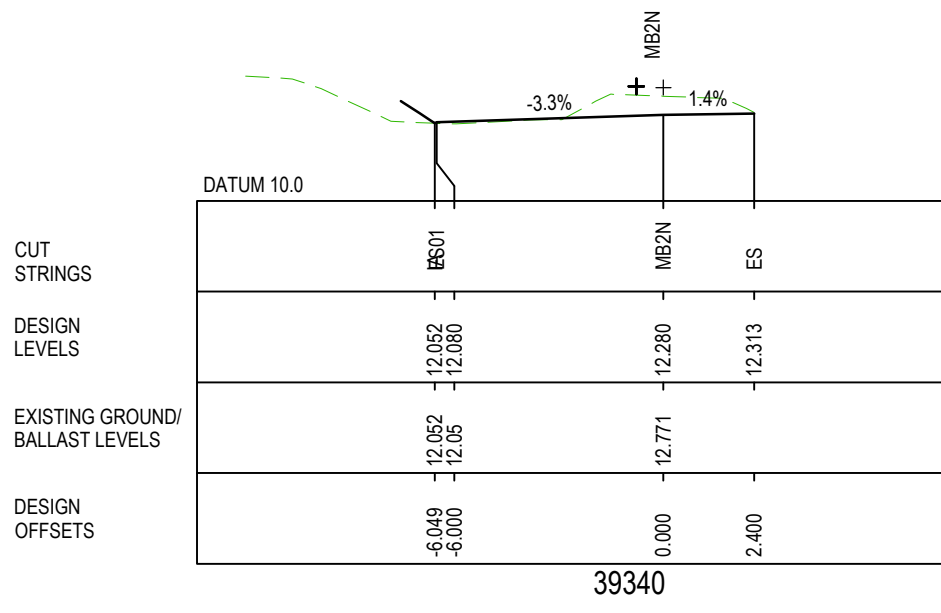
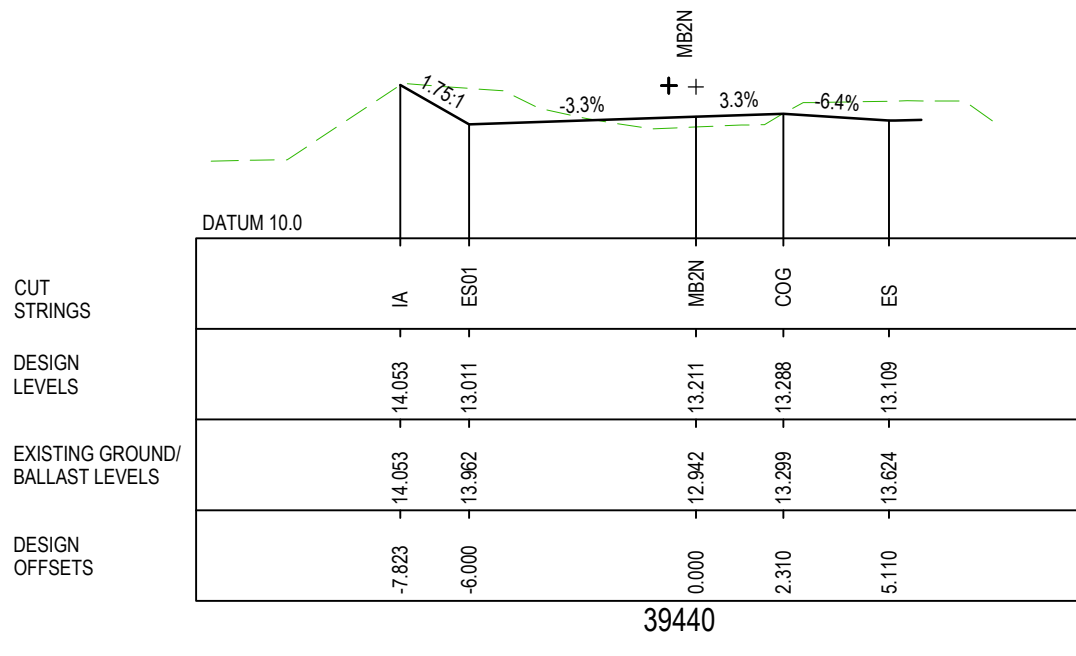
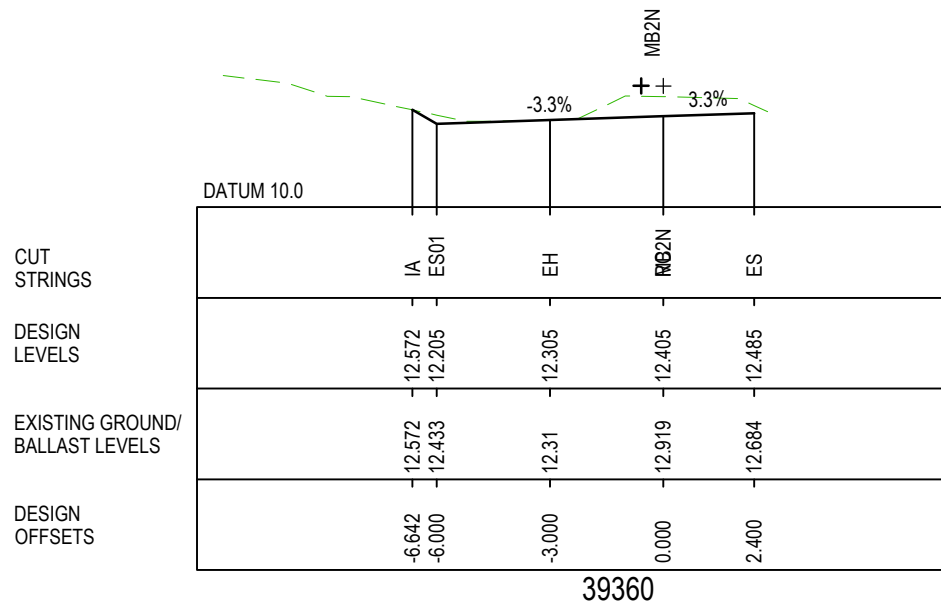
SIMTA SYDNEY INTERMODAL TERMINAL ALLIANCE

REV	DATE	REVISION DETAILS
01	20.01.17	ACCEPTED FOR CONSTRUCTION
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION
03	07.02.18	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)
04	31.07.18	ACCEPTED FOR CONSTRUCTION

APPROVED	SCALE	SIZE
A. O'SHEA	AS SHOWN	A1
A. O'SHEA	DRAWN	A.LITTLE
M.SAKIB	DESIGNED	M.SAKIB
M.SAKIB	CHECKED	W.DENG

FOR CONSTRUCTION	APPROVED	DATE
M.SAKIB	M.SAKIB	31.07.18

ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN SHEET 9 OF 9					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0018	04



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REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB	AS SHOWN	A1
				DRAWN	
				A.LITTLE	
				DESIGNED	
				M.SAKIB	
				CHECKED	
				W.DENG	

FOR CONSTRUCTION

APPROVED
M.SAKIB
DATE
31.07.18

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS NORTHERN CONNECTION CROSS SECTIONS SHEET 1 OF 8					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
N01031	-	PWD	-	DRG	-	GEN
					0020	-
						01

LEGEND

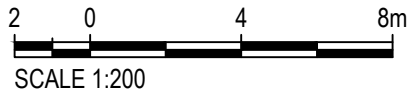
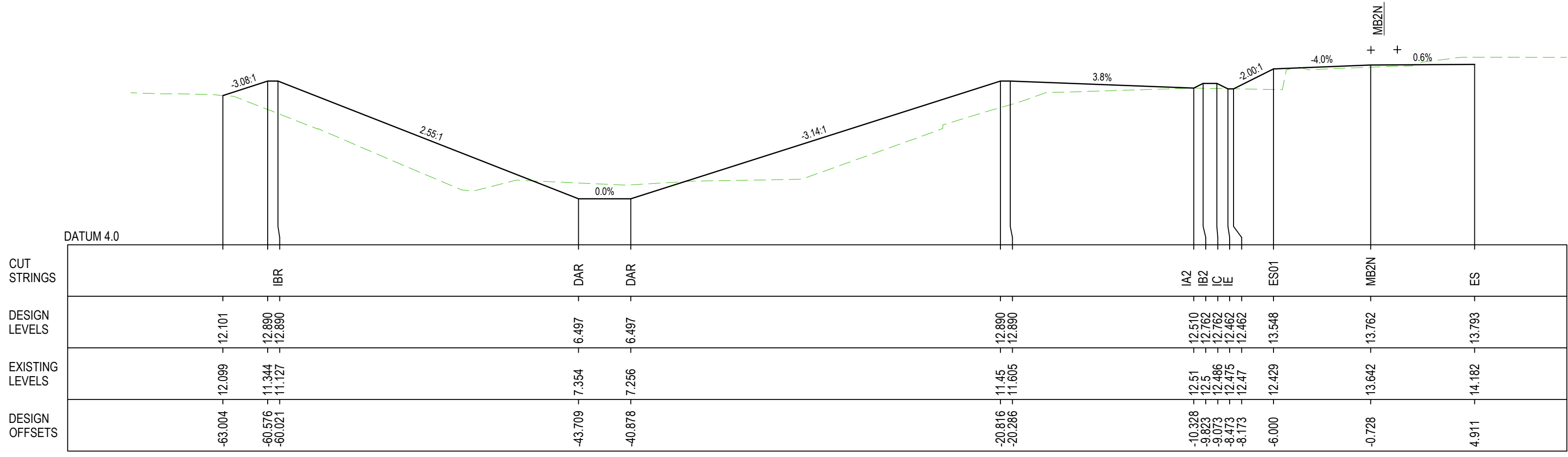
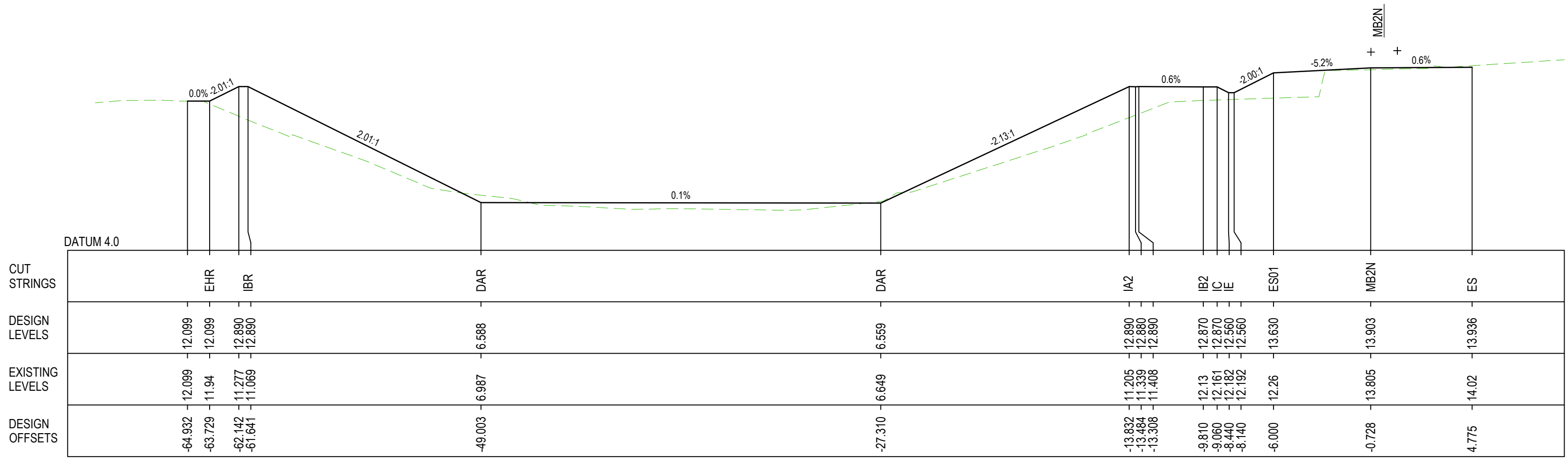
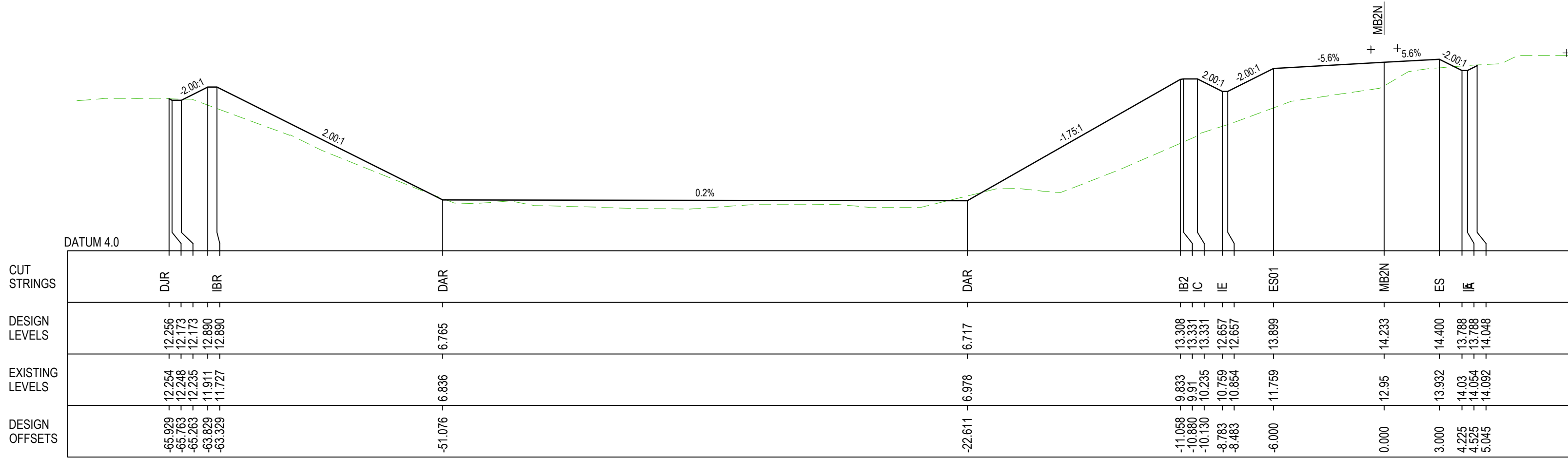
DESIGN SURFACE (TOP OF CAPPING)

EXISTING SURFACE

BRIDGE STRUCTURE

+++

PROPOSED RAIL DESIGN



ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE	BULK EARTHWORKS NORTHERN CONNECTION CROSS SECTIONS SHEET 2 OF 8							
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
	N01031	- PWD	- DRG	- GEN	- 0021	- 01		

REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

LEGEND

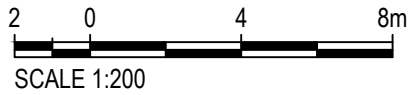
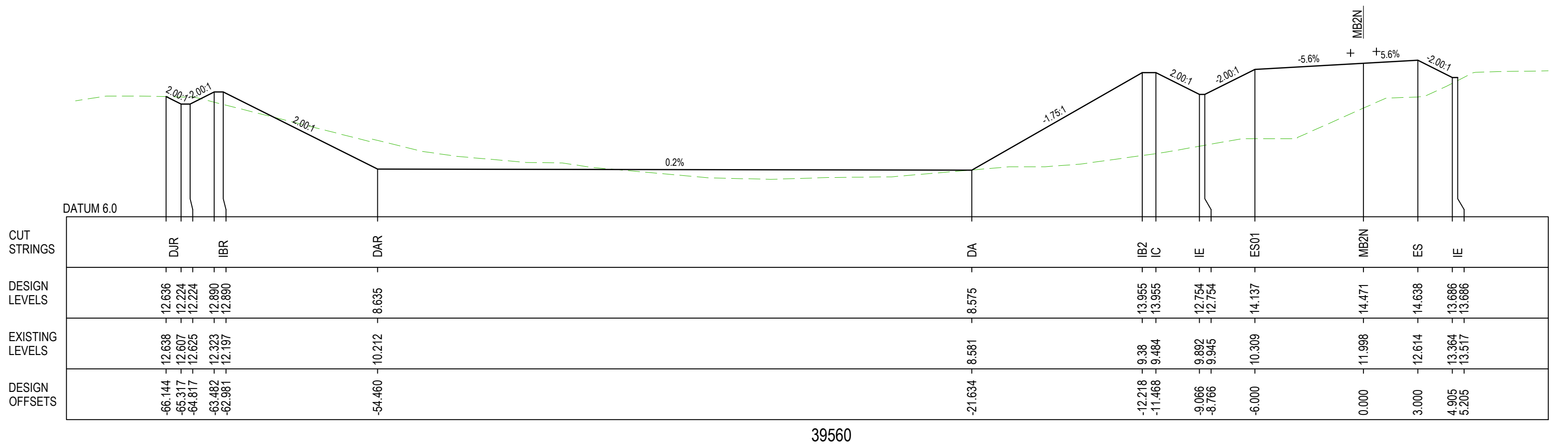
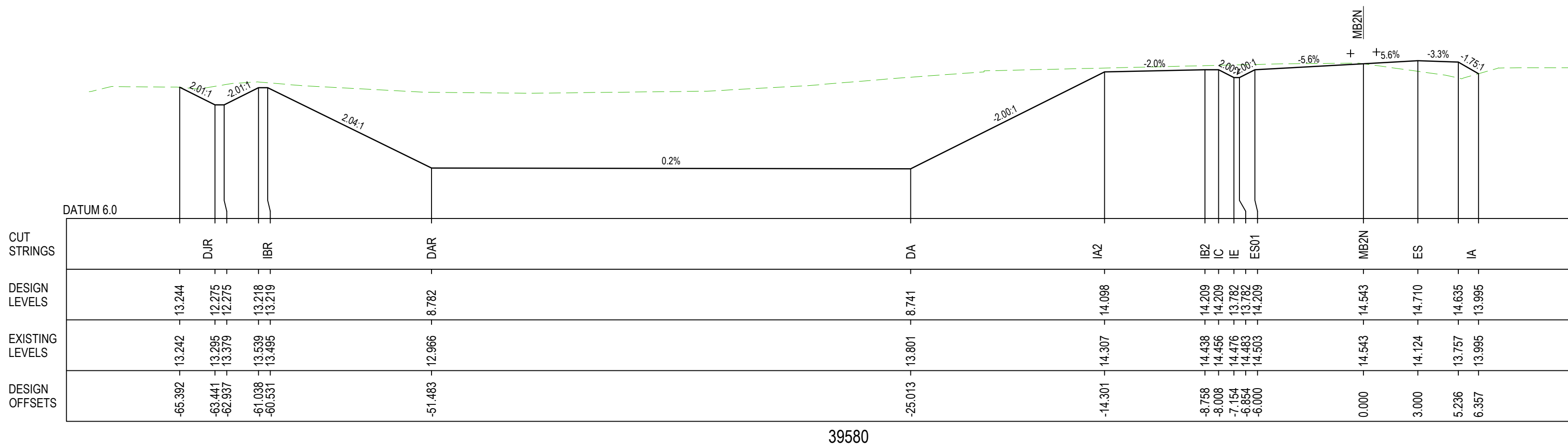
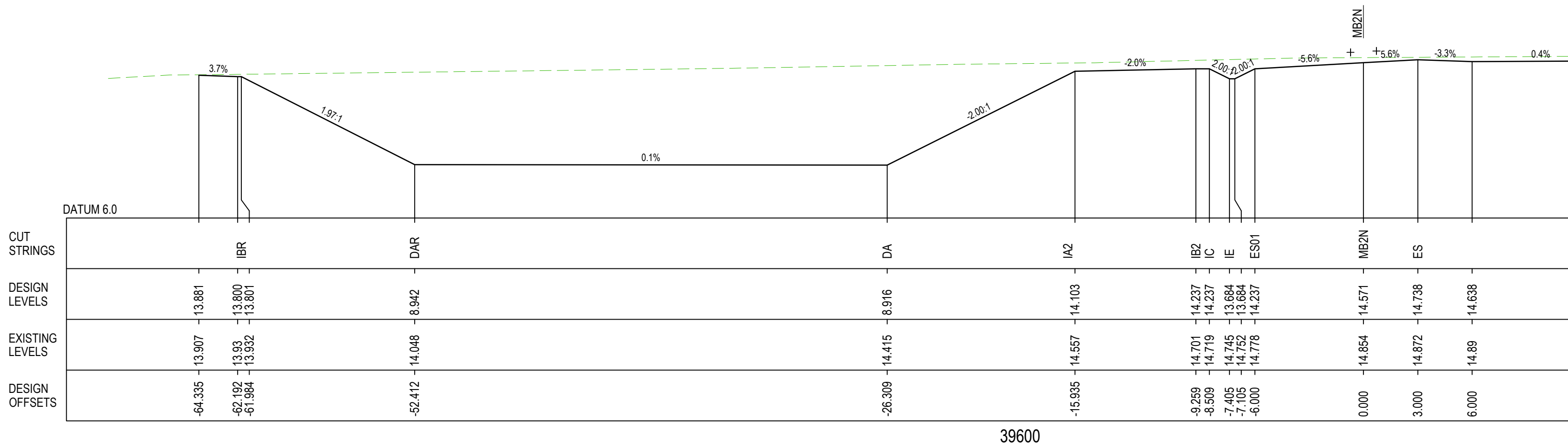
DESIGN SURFACE (TOP OF CAPPING)

EXISTING SURFACE

BRIDGE STRUCTURE

+++

PROPOSED RAIL DESIGN



CLIENT

CPB CONTRACTORS

SIMTA

SYDNEY INTERMODAL TERMINAL ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE AS SHOWN

SIZE A1

DRAWN A.LITTLE

DESIGNED M.SAKIB

CHECKED W.DENG

FOR CONSTRUCTION

APPROVED

DATE 31.07.18

M.SAKIB

PROJECT	TITLE	DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	BULK EARTHWORKS NORTHERN CONNECTION CROSS SECTIONS SHEET 3 OF 8	N01031	N01031	PWD	DRG	GEN	0022	01

Plot Date: 18/07/18 11:50 PM Office: AUS/01 Filename: C:\PM\WORKSPACE\LITTLE\AUS\PROJECTS\2017\N01031\PWD\DRG\GEN\0022.DWG

aurecon

www.aurecongroup.com

CPB CONTRACTORS

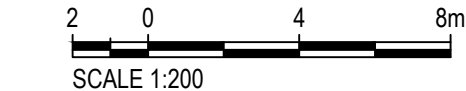
SIMTA

SYDNEY INTERMODAL TERMINAL ALLIANCE

Plot Date: 18/07/18 4:16:07 PM Office: AUS/01 Filename: C:\PM\WORKSPACE\LEV\LITTLEANZ\PROJECTS\2017\MOI\031\FWD\DRG\GEN\0023.DWG

REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

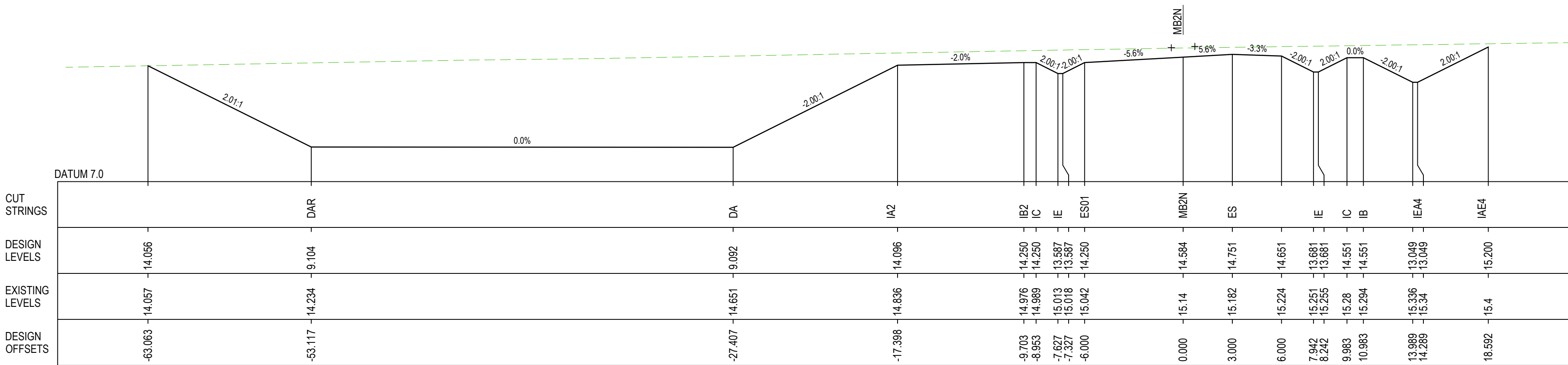
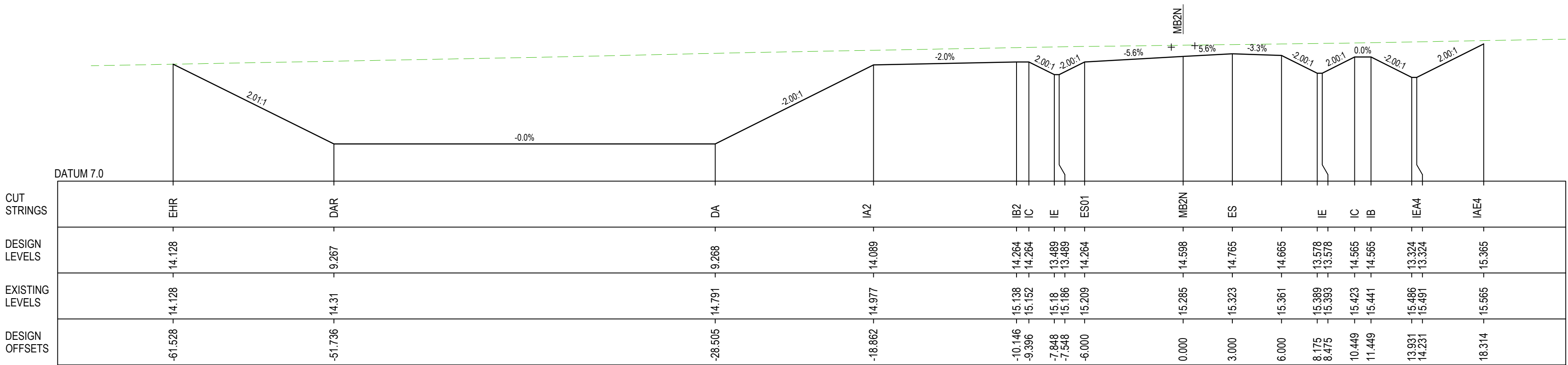
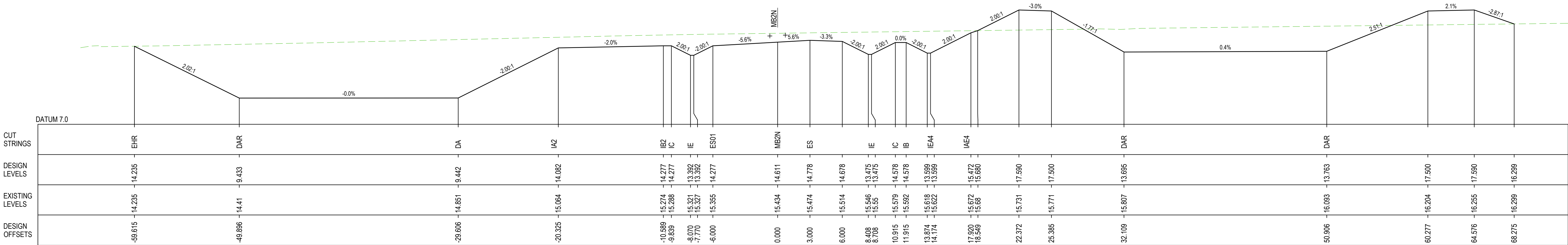


FOR CONSTRUCTION
APPROVED
M.SAKIB
DATE 31.07.18

ARTC DRAWING No		EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1		
TITLE	BULK EARTHWORKS NORTHERN CONNECTION CROSS SECTIONS SHEET 4 OF 8		
DRAWING No.	PROJECT No. N01031	ZONE PWD	TYPE DRG
	DISC GEN	NUMBER 0023	REV 01

LEGEND

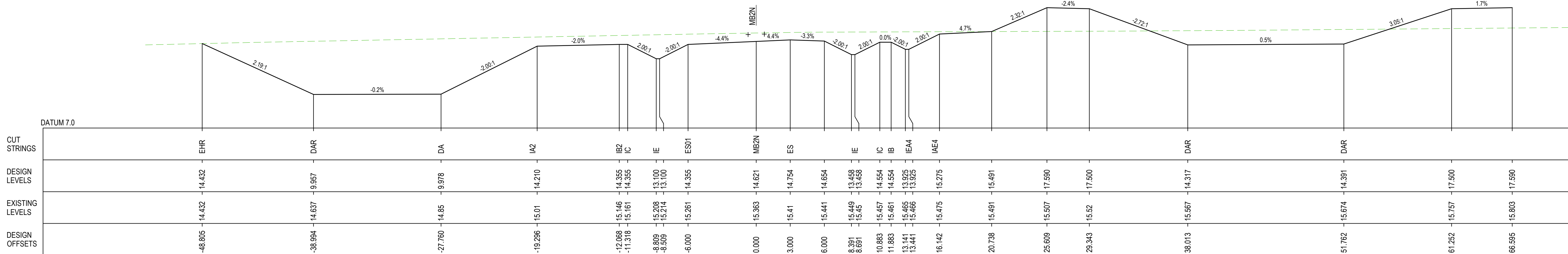
- DESIGN SURFACE (TOP OF CAPPING)
- EXISTING SURFACE
- BRIDGE STRUCTURE
- PROPOSED RAIL DESIGN



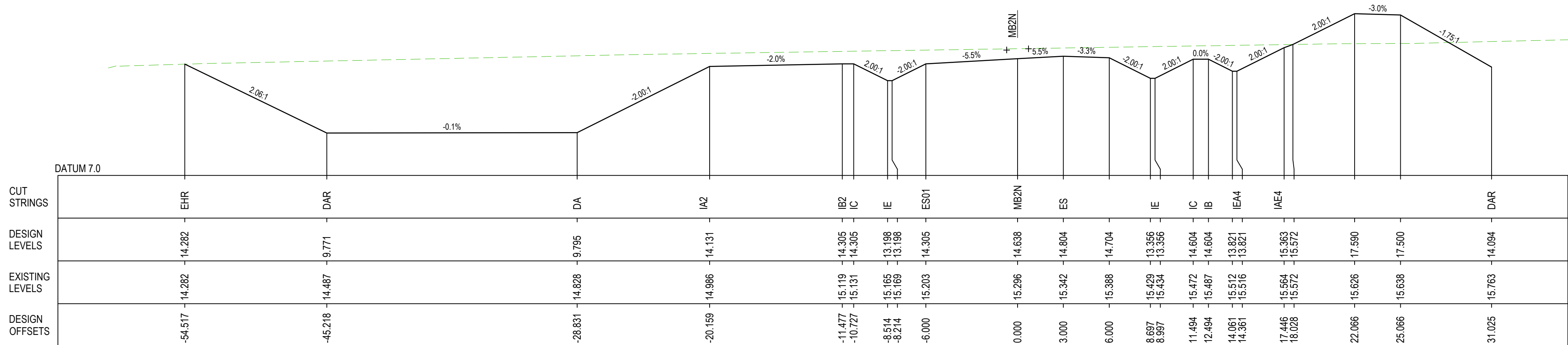
LEGEND

- DESIGN SURFACE (TOP OF CAPPING)
- EXISTING SURFACE
- BRIDGE STRUCTURE
- ++ +

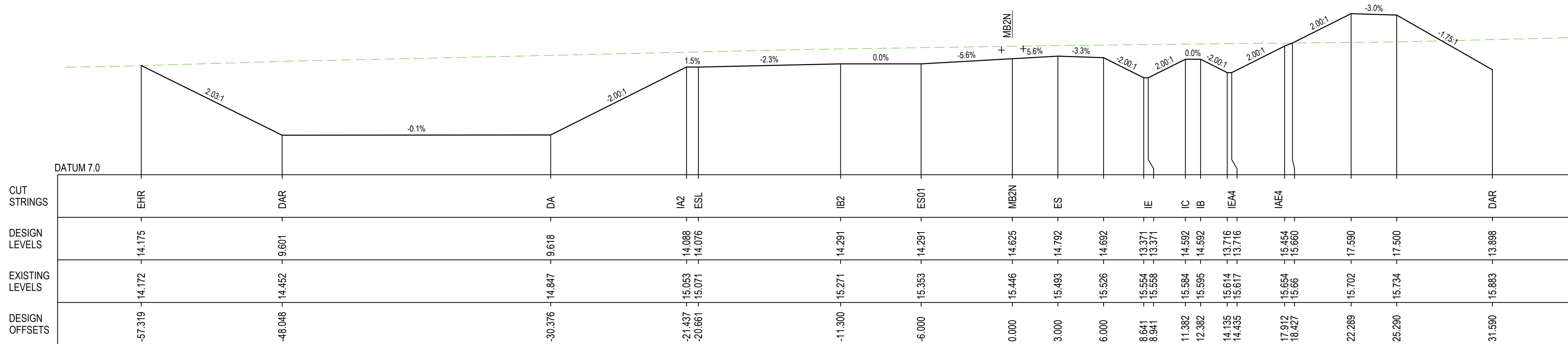
PROPOSED RAIL DESIGN



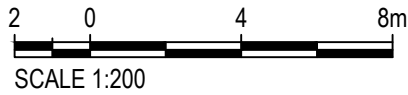
39720



39700



39680



ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE			BULK EARTHWORKS NORTHERN CONNECTION CROSS SECTIONS SHEET 5 OF 8					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
N01031	- PWD	- DRG	- GEN	- 0024	- 01			

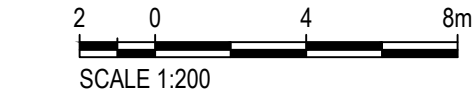
REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

Proj Date: 18/02/2018 4:16:55 PM Office: AUS/30 Filename: C:\PM\WORKSPACE\LEV\LITTLEANZ_PWD\0202770\031\FWD\DRG\GEN\0025.DWG

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

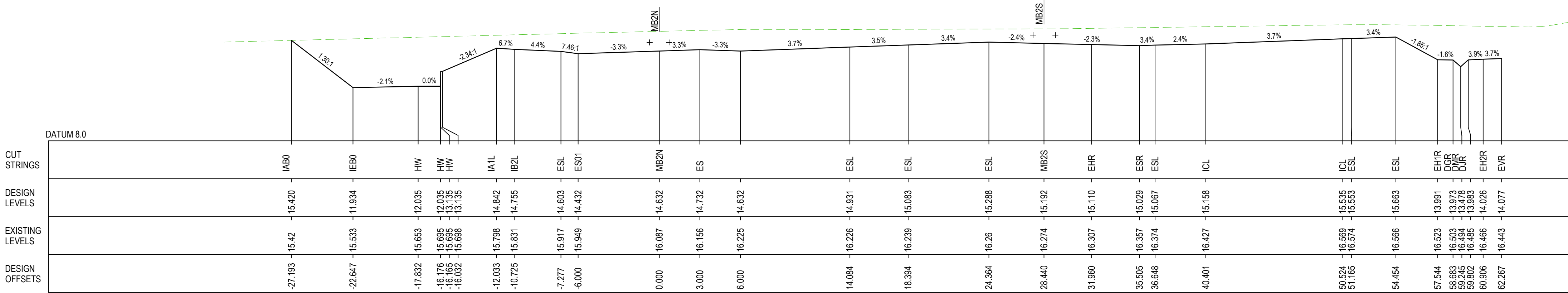


FOR CONSTRUCTION
APPROVED
DATE 31.07.18
M.SAKIB
M.SAKIB

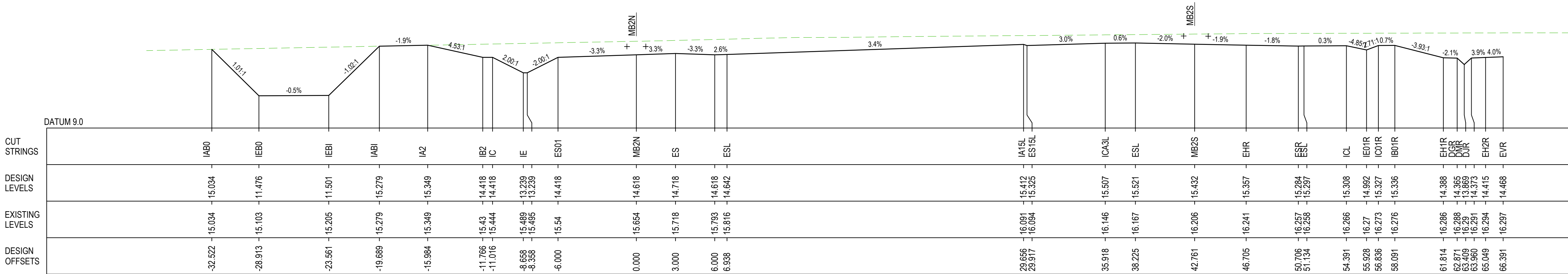
ARTC DRAWING No.			EDMS No.			EDMS REV		
PROJECT		MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE		BULK EARTHWORKS NORTHERN CONNECTION CROSS SECTIONS SHEET 6 OF 8						
DRAWING No.		PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
		N01031	- PWD -	DRG	GEN	- 0025	- 03	

LEGEND

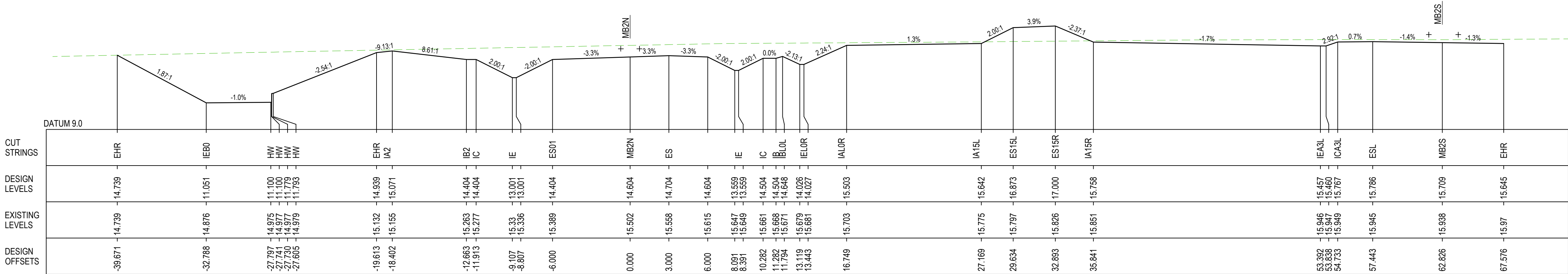
- DESIGN SURFACE (TOP OF CAPPING)
- EXISTING SURFACE
- BRIDGE STRUCTURE
- PROPOSED RAIL DESIGN



39780



39760

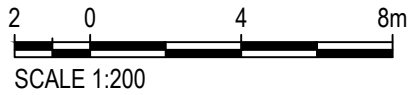
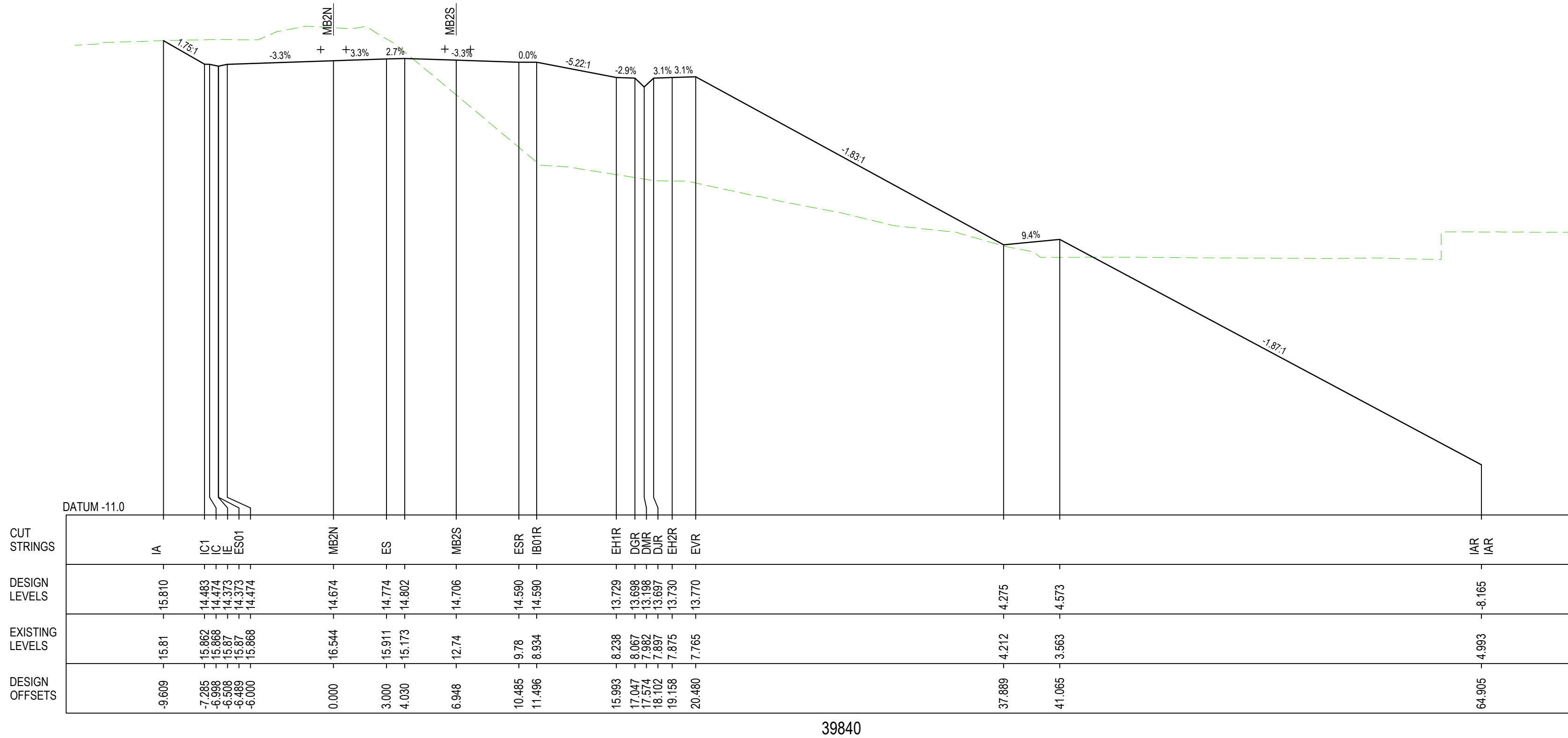
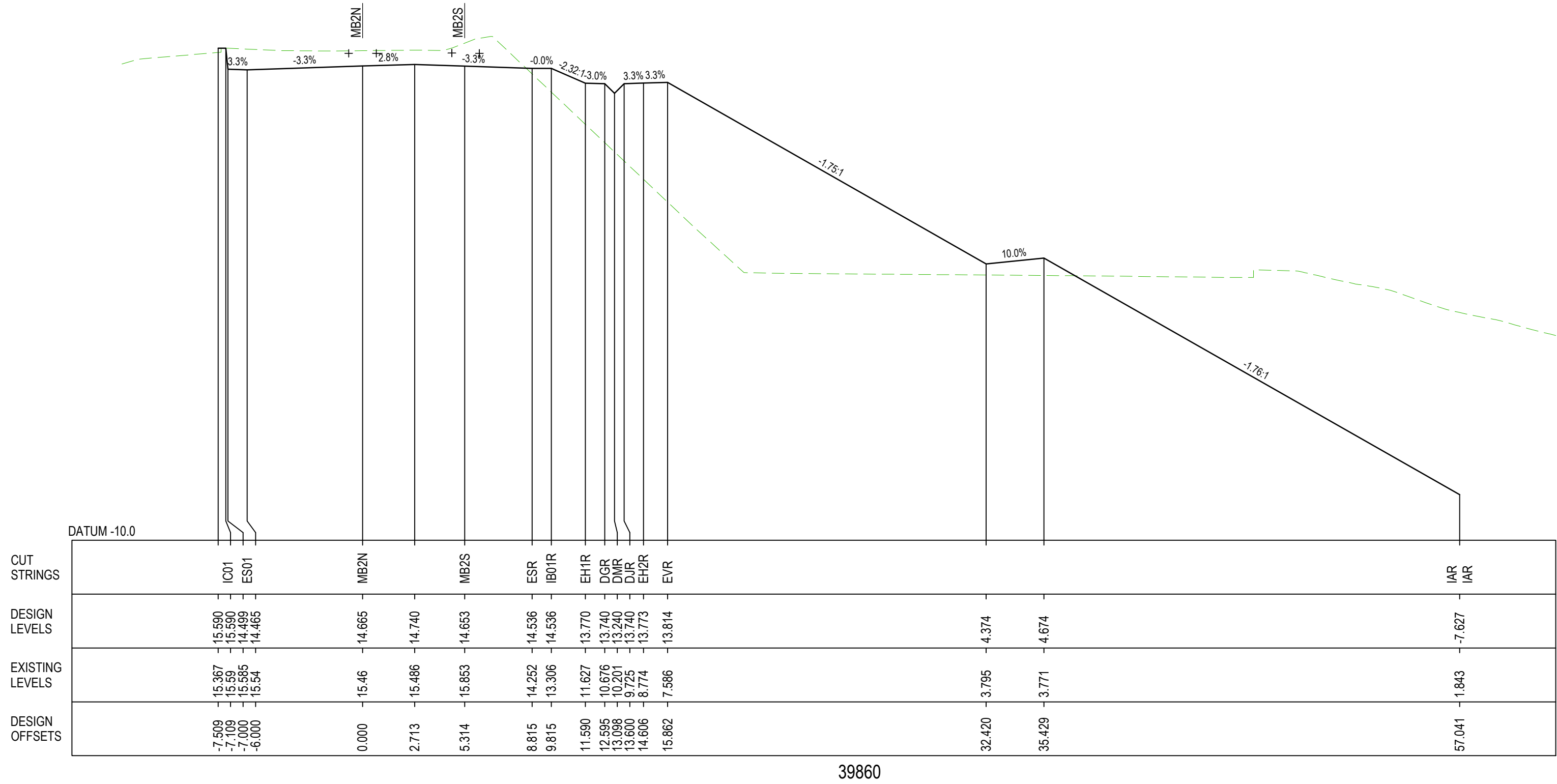


39740

Proj Date: 18/02/18 4:17:55 PM Office: AUS/SYD Filename: C:\P\ WORKSPACE\EV LITTLE\ANZ PROJ\02\2770\N01031\FWD\DRG\GEN\027.DWG

LEGEND

- DESIGN SURFACE (TOP OF CAPPING)
- EXISTING SURFACE
- BRIDGE STRUCTURE
- PROPOSED RAIL DESIGN



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS NORTHERN CONNECTION CROSS SECTIONS SHEET 8 OF 8	
DRAWING No.	PROJECT No.	ZONE
N01031	-	PWD
	TYPE	DISC
	DRG	GEN
	NUMBER	REV
	0027	- 03

LEGEND

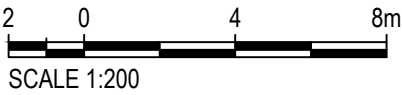
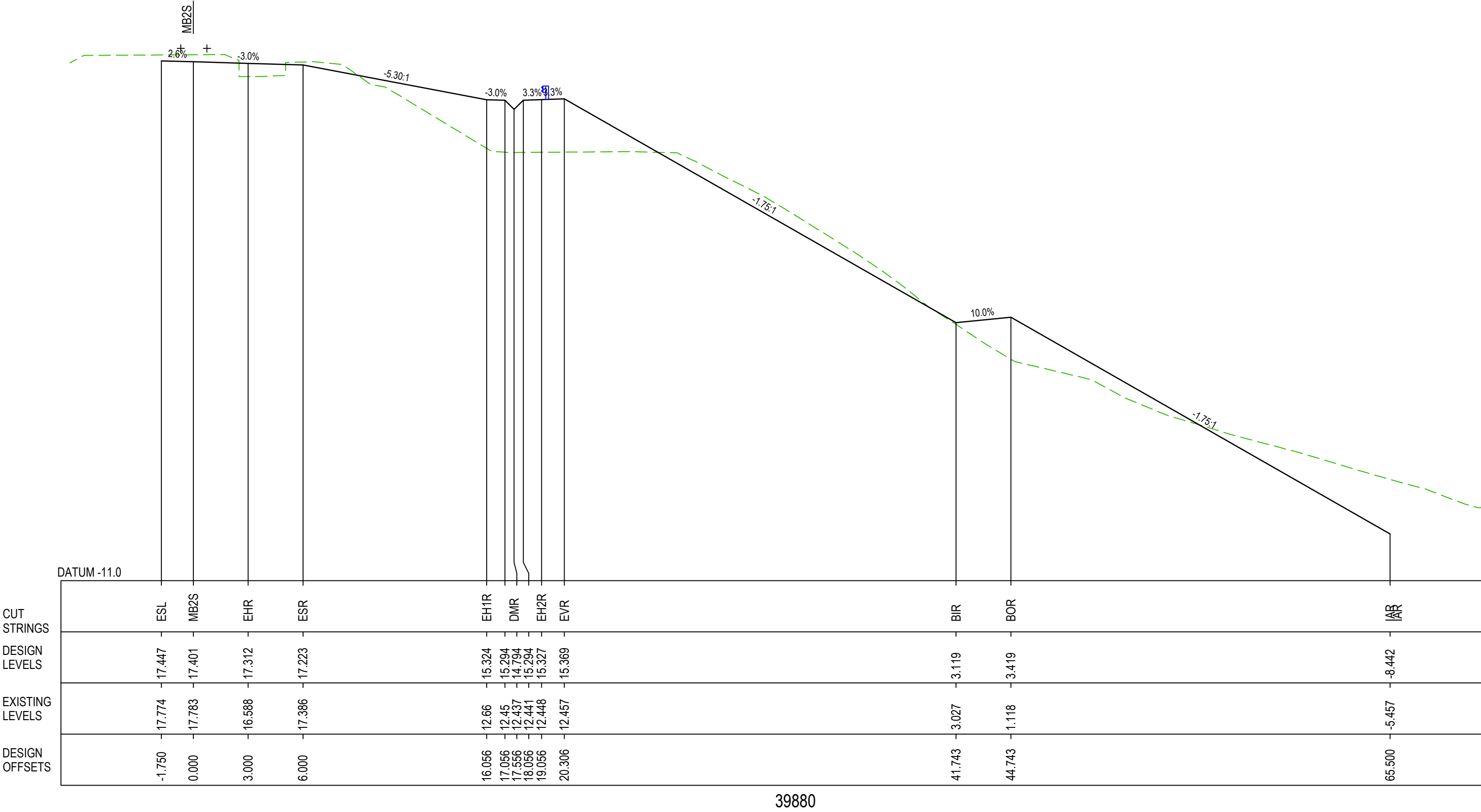
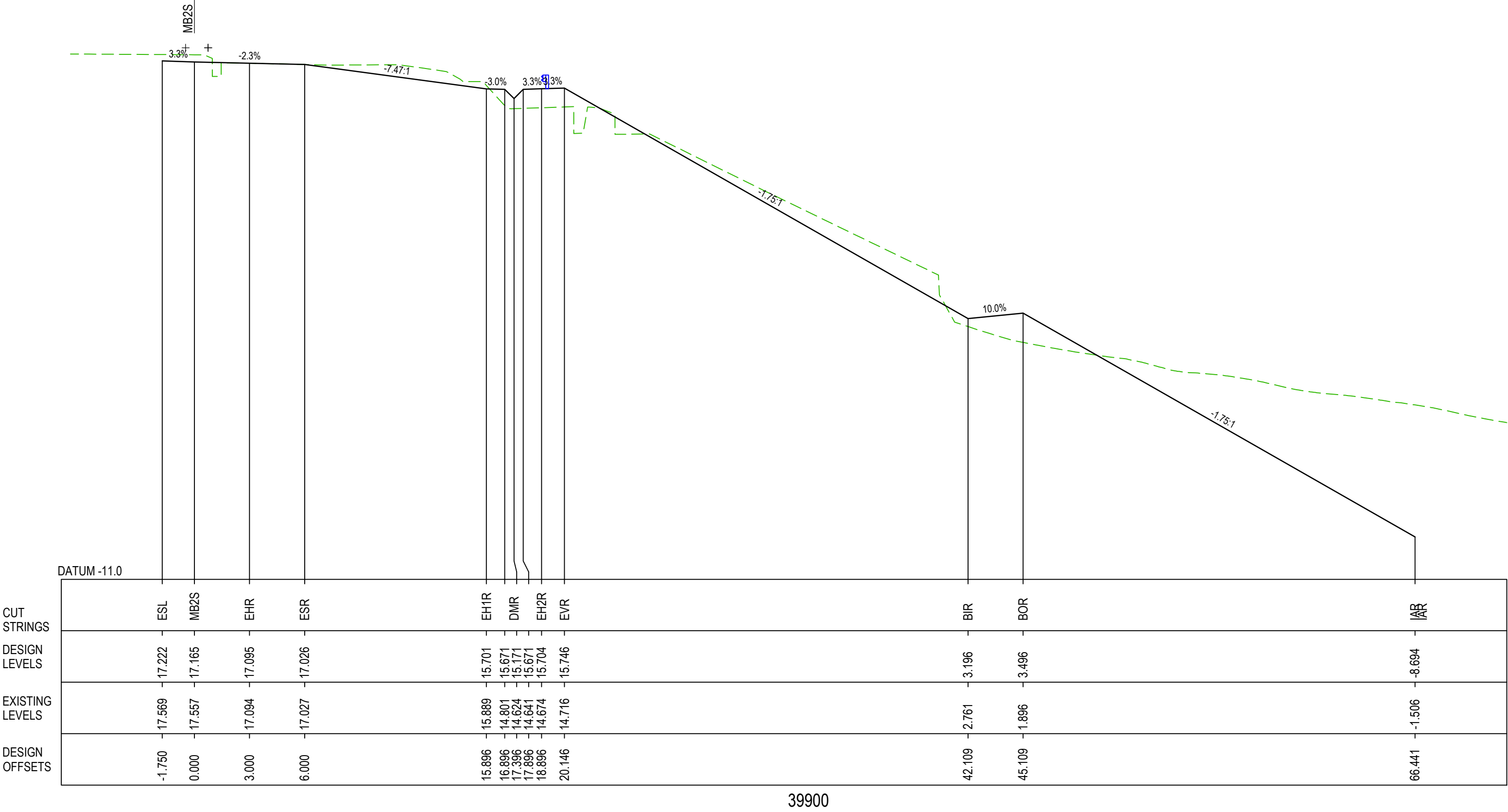
DESIGN SURFACE (TOP OF CAPPING)

EXISTING SURFACE

BRIDGE STRUCTURE

+++

PROPOSED RAIL DESIGN



ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 1 OF 19							
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
	N01031	- PWD	- DRG	- GEN	- 0028	- 02		

REV	DATE	REVISION DETAILS
01	20.01.17	ACCEPTED FOR CONSTRUCTION
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)
02	31.07.18	ACCEPTED FOR CONSTRUCTION

APPROVED	SCALE	SIZE
A. O'SHEA	AS SHOWN	A1
	DRAWN	
	A.LITTLE	
	DESIGNED	
	M.SAKIB	
	CHECKED	
	W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

LEGEND

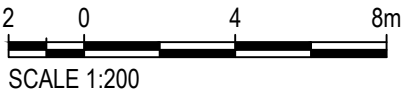
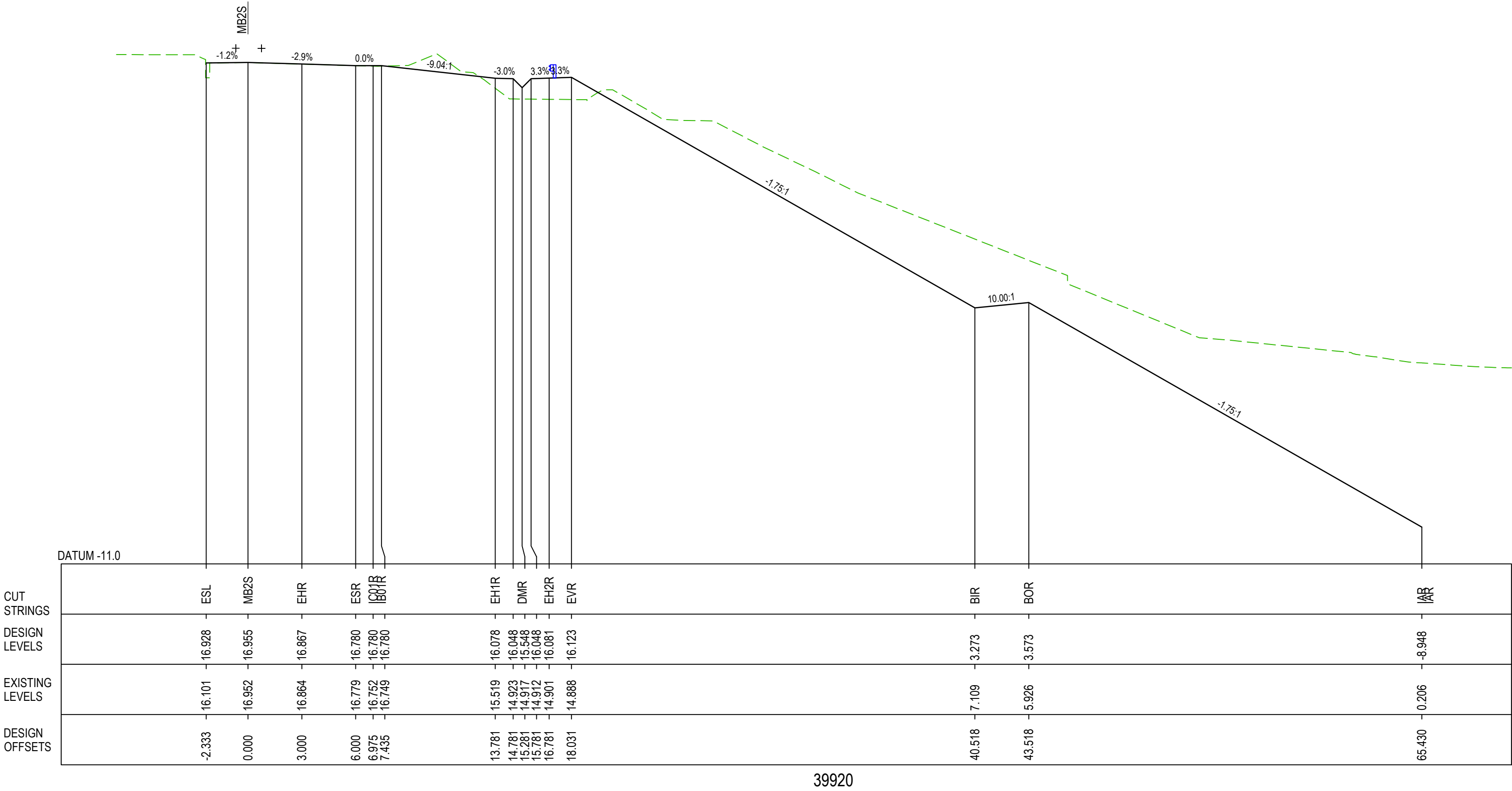
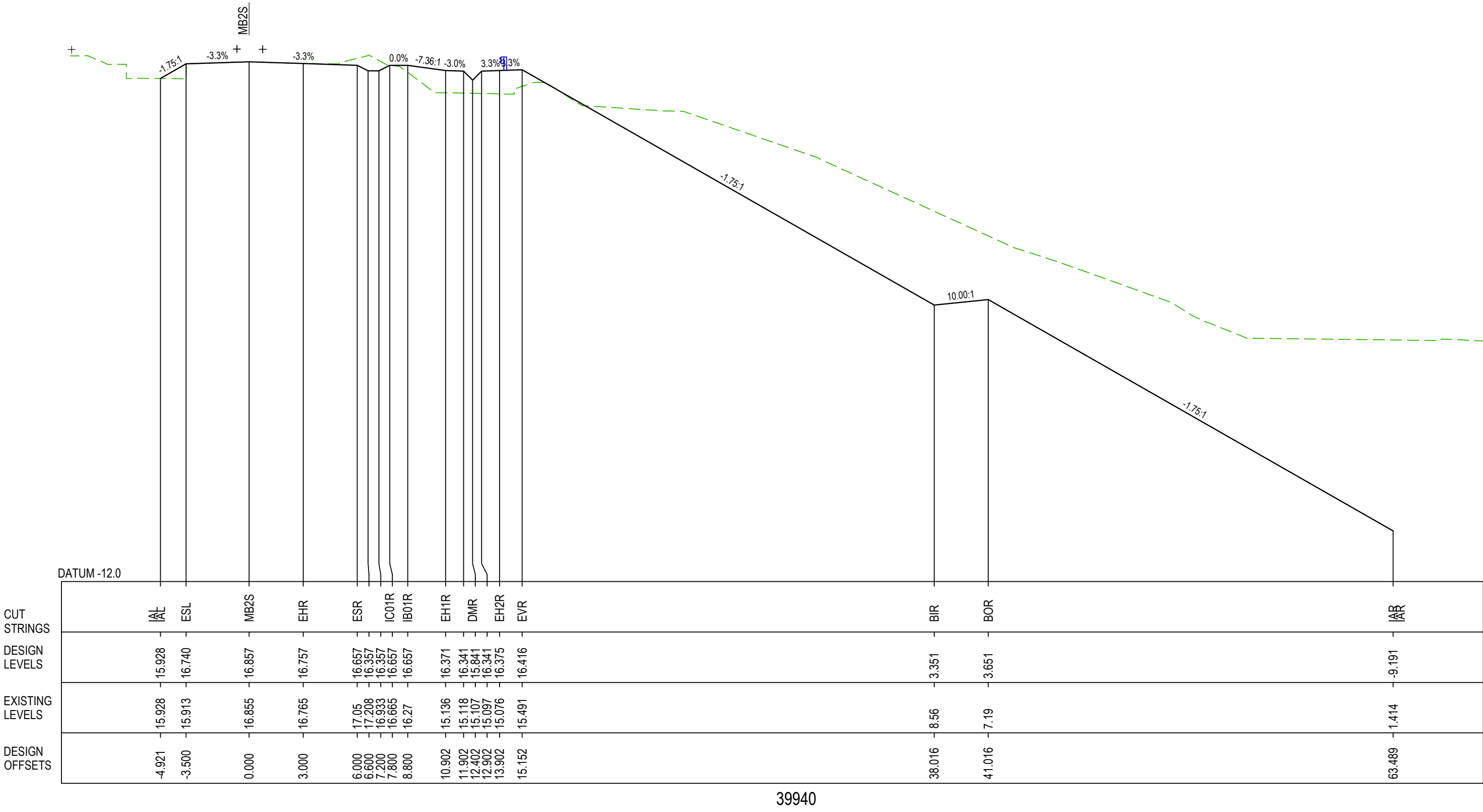
DESIGN SURFACE (TOP OF CAPPING)

EXISTING SURFACE

BRIDGE STRUCTURE

+++

PROPOSED RAIL DESIGN



ARTC DRAWING No			EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 2 OF 19						
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
	N01031	- PWD	- DRG	- GEN	- 0029	- 01	

REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	
DATE 31.07.18	
M.SAKIB	

LEGEND

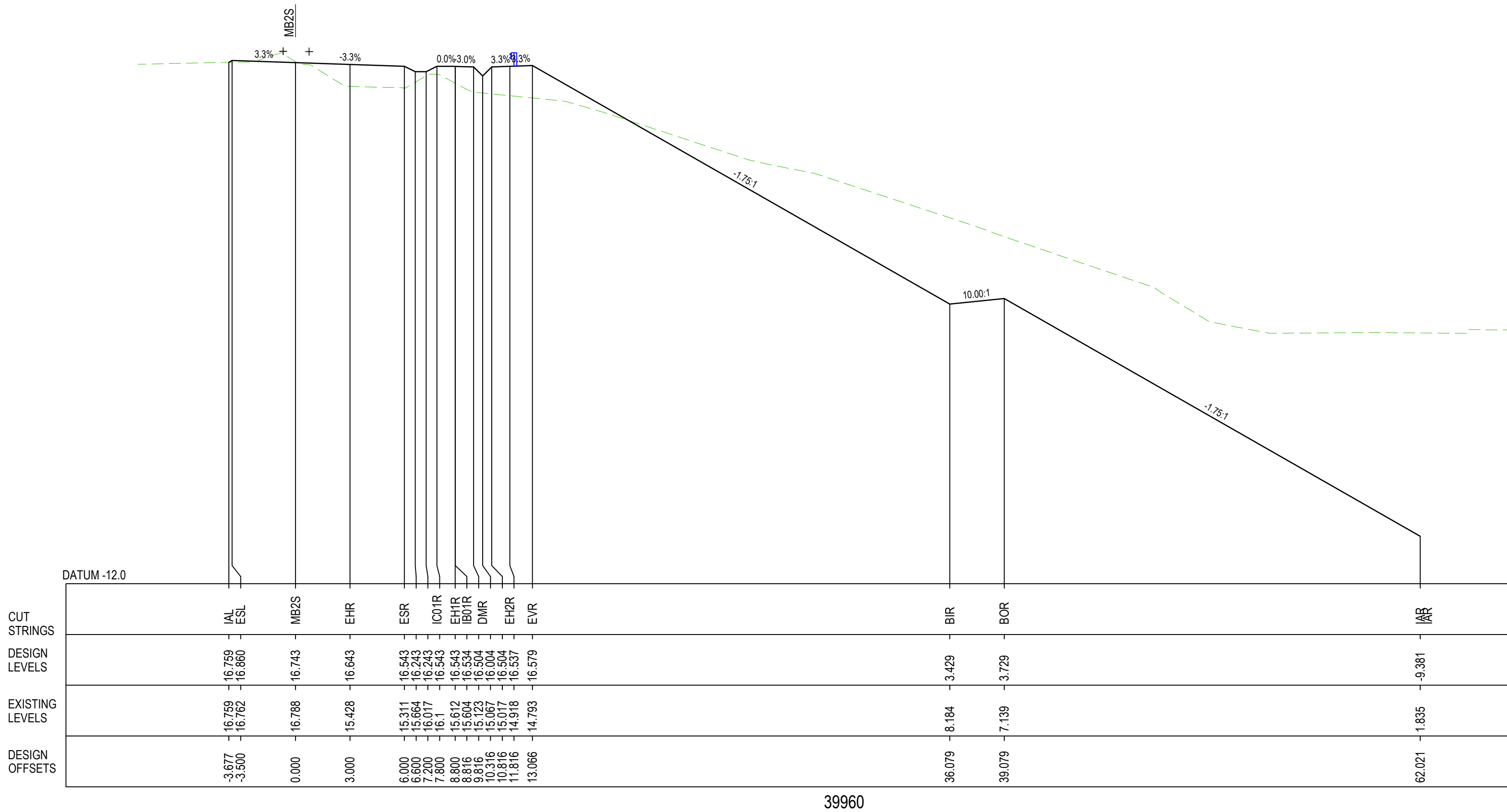
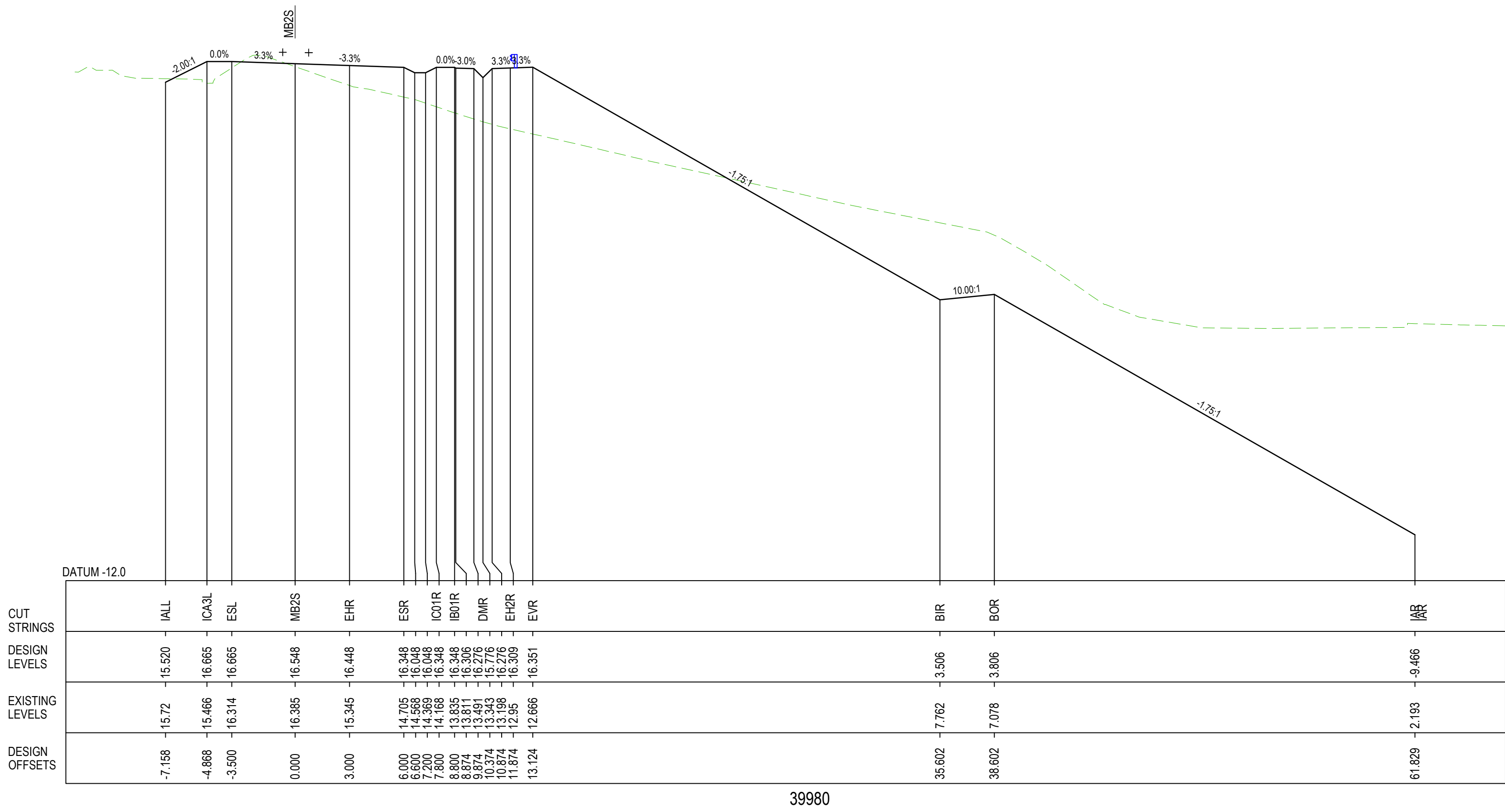
DESIGN SURFACE (TOP OF CAPPING)

EXISTING SURFACE

BRIDGE STRUCTURE

+++

PROPOSED RAIL DESIGN



ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 3 OF 19							
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
	N01031	- PWD	- DRG	- GEN	- 0030	- 03		

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
	31.07.18
M.SAKIB	



FOR CONSTRUCTION

APPROVED

DATE

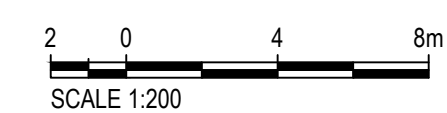
M.SAKIB

31.07.18

M.SAKIB

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 4 OF 19					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	- 0031	- 03

40040

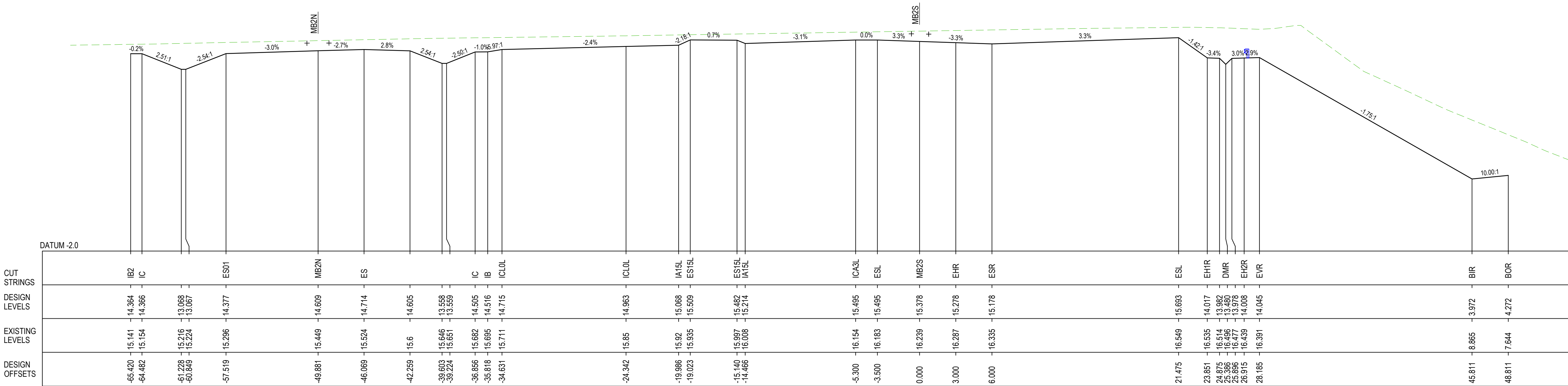


ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 5 OF 19					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
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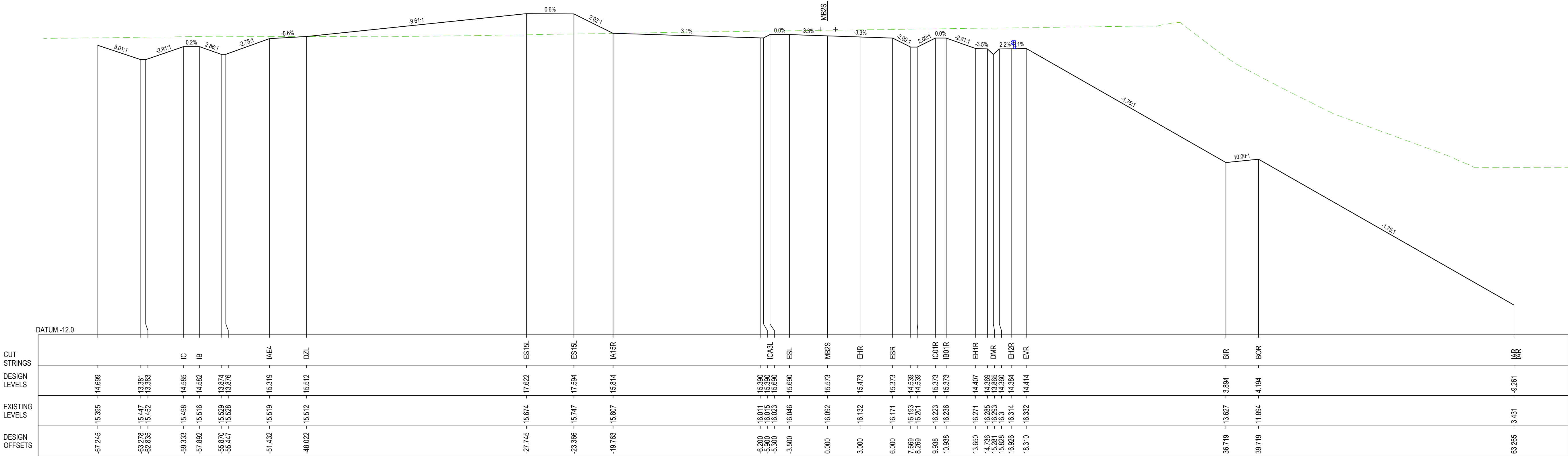
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LEGEND

- DESIGN SURFACE (TOP OF CAPPING)
- EXISTING SURFACE
- BRIDGE STRUCTURE
- PROPOSED RAIL DESIGN



40100



40080



SCALE 1:200

FOR CONSTRUCTION

APPROVED

M.SAKIB

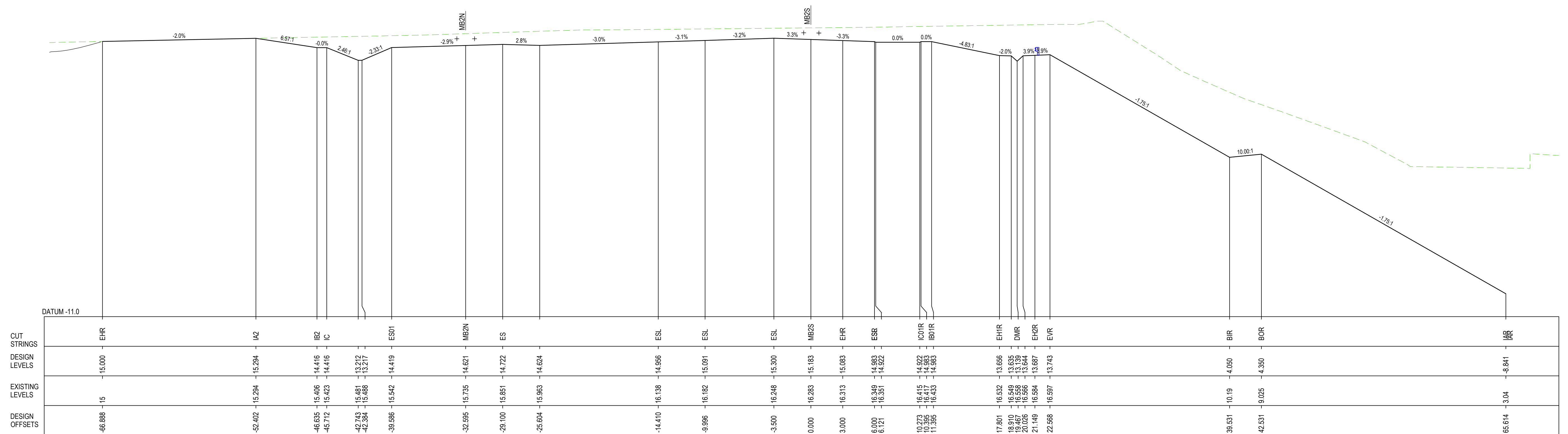
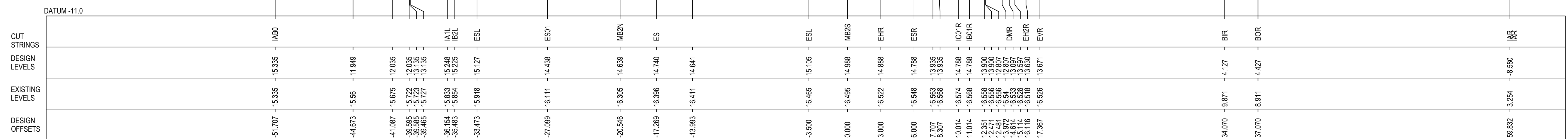
M.SAKIB

ARTC DRAWING No			EDMS No			EDMS REV				
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 6 OF 19									
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
N01031	-	PWD	-	DRG	-	GEN	-	0033	-	03



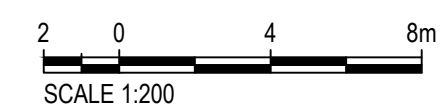
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	



40140

40120



ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 7 OF 19					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0034	- 03

LEGEND

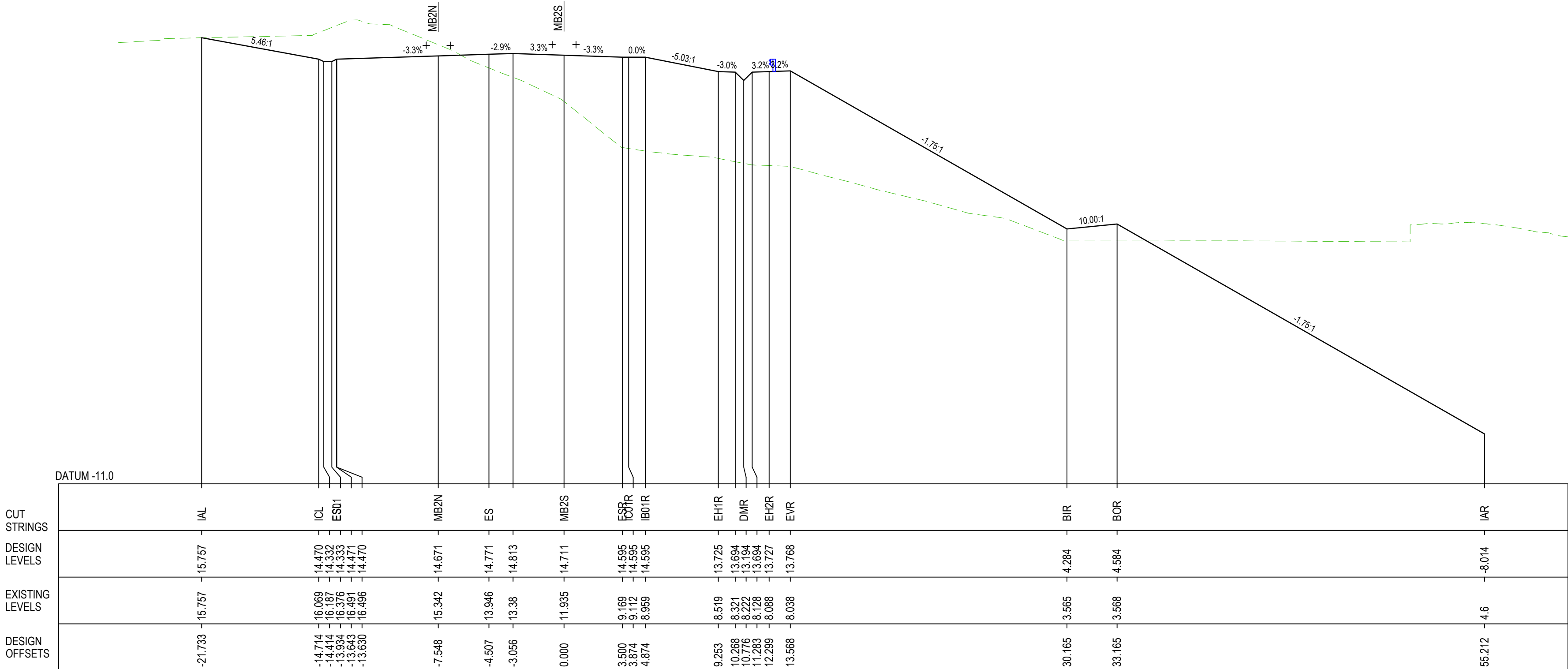
DESIGN SURFACE (TOP OF CAPPING)

EXISTING SURFACE

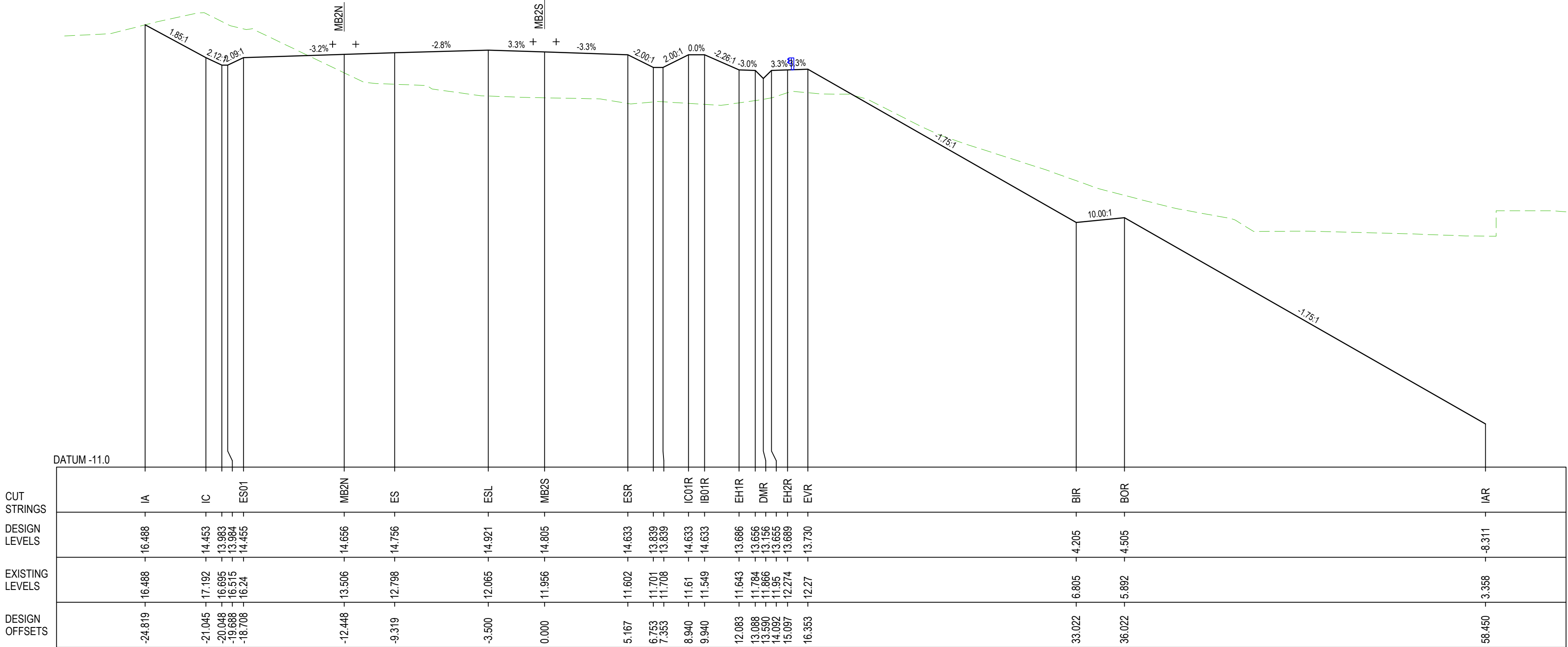
BRIDGE STRUCTURE

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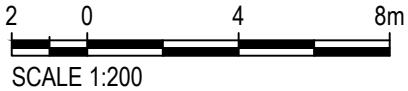
PROPOSED RAIL DESIGN



40180



40160

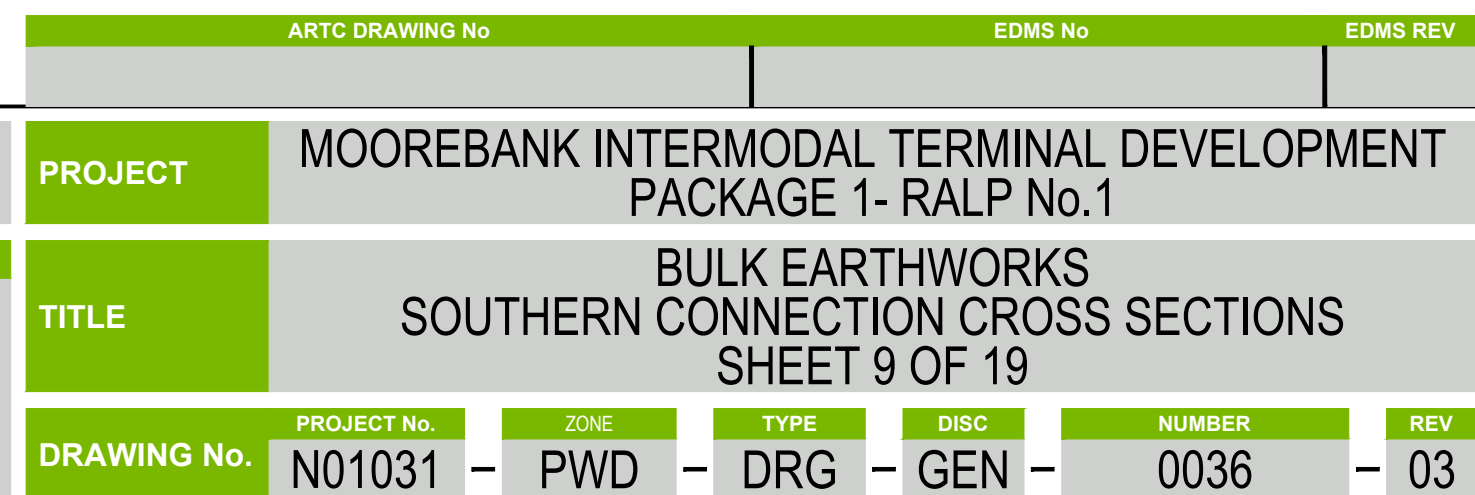
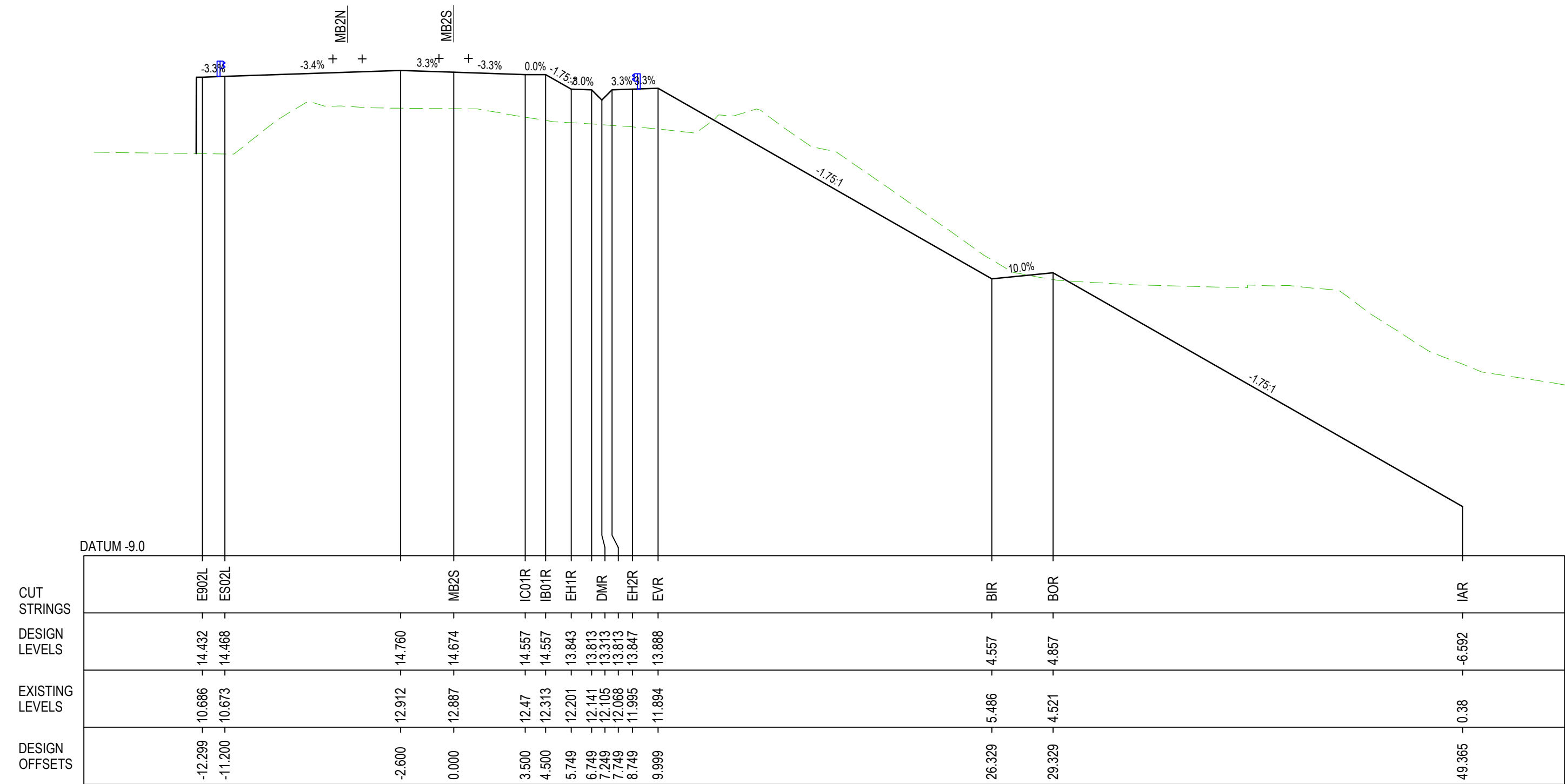
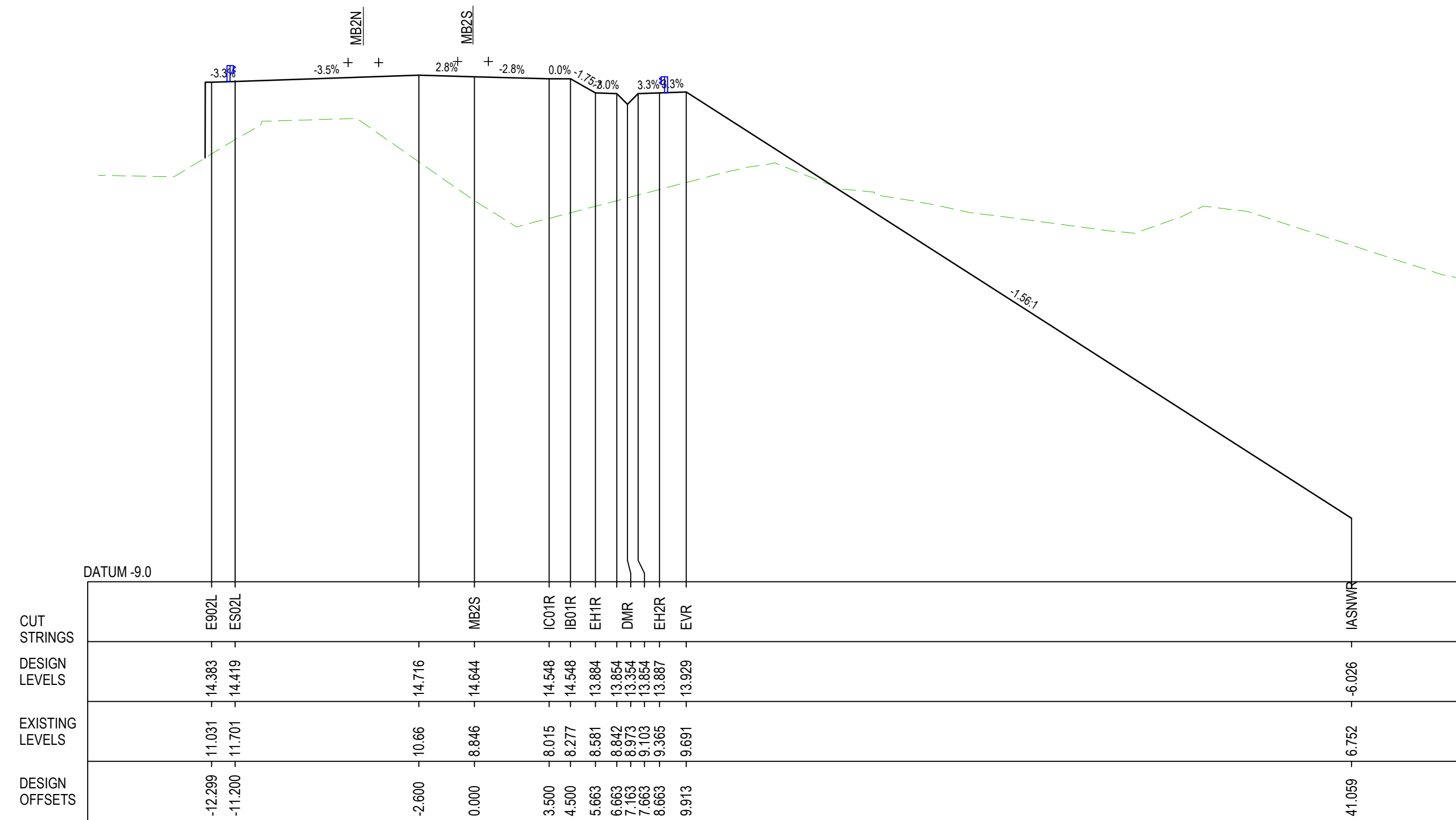


ARTC DRAWING No			EDMS No			EDMS REV			
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1								
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 8 OF 19								
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV			
	N01031	- PWD	- DRG	- GEN	- 0035	- 03			

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	
M.SAKIB	
DATE	
31.07.18	
M.SAKIB	



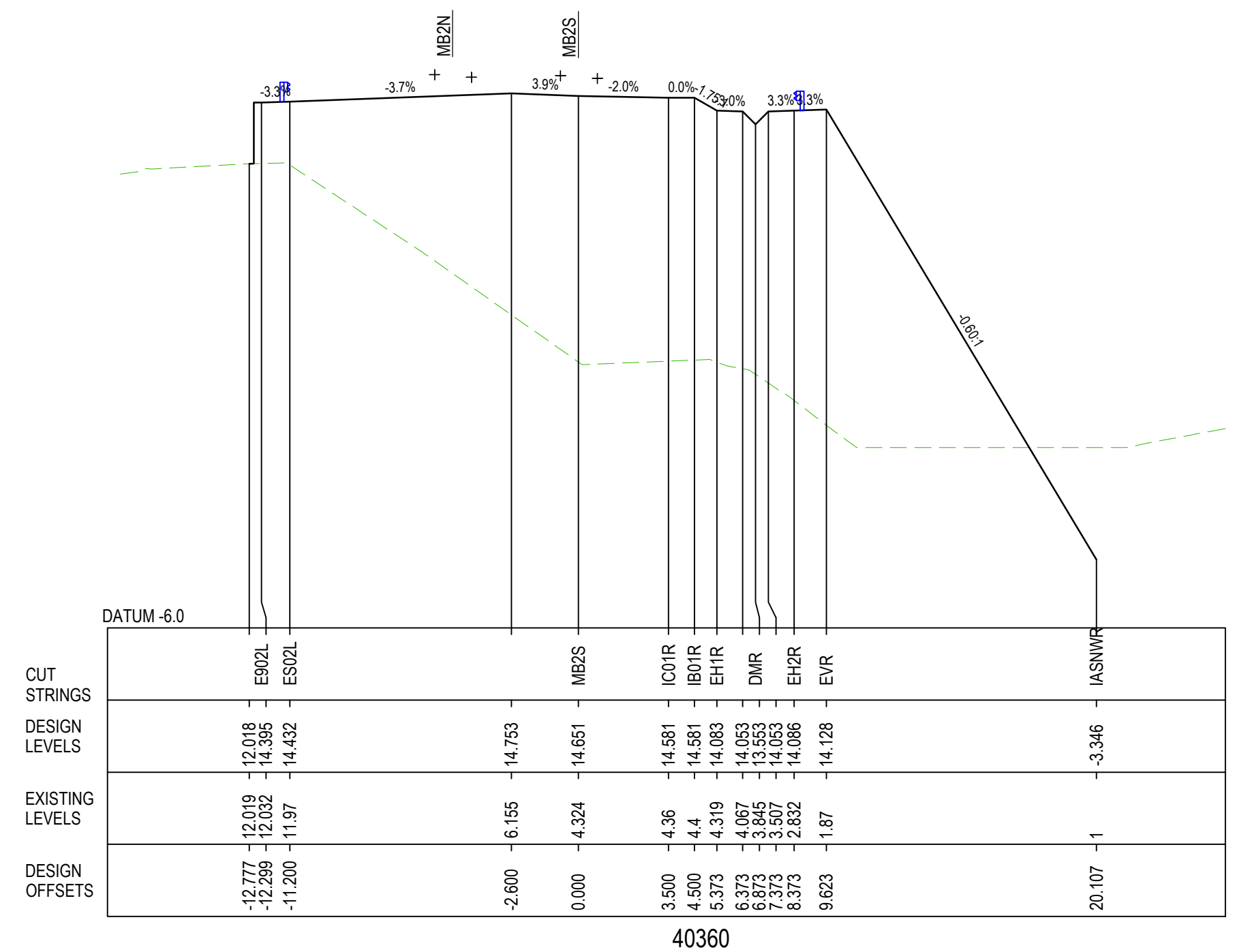
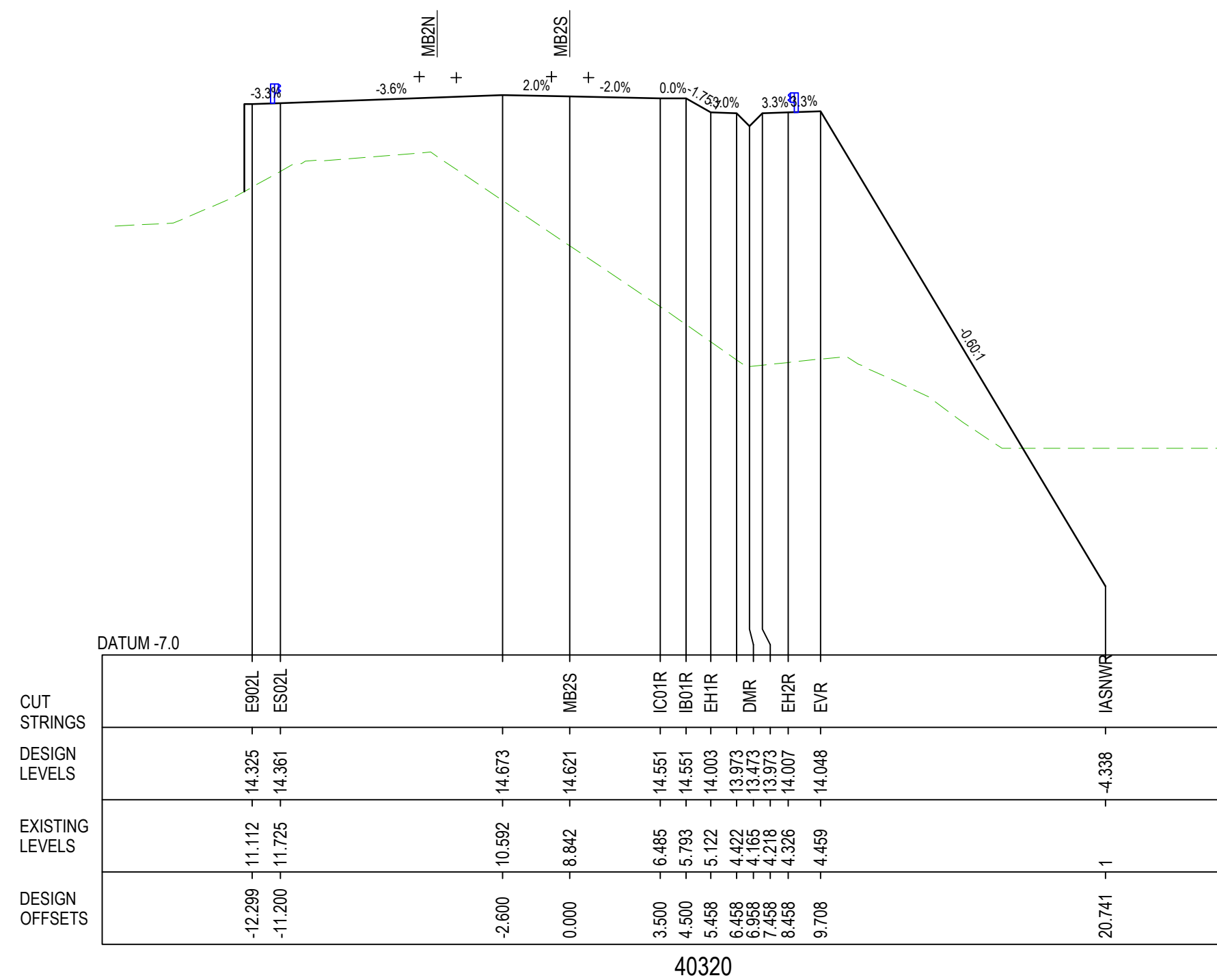
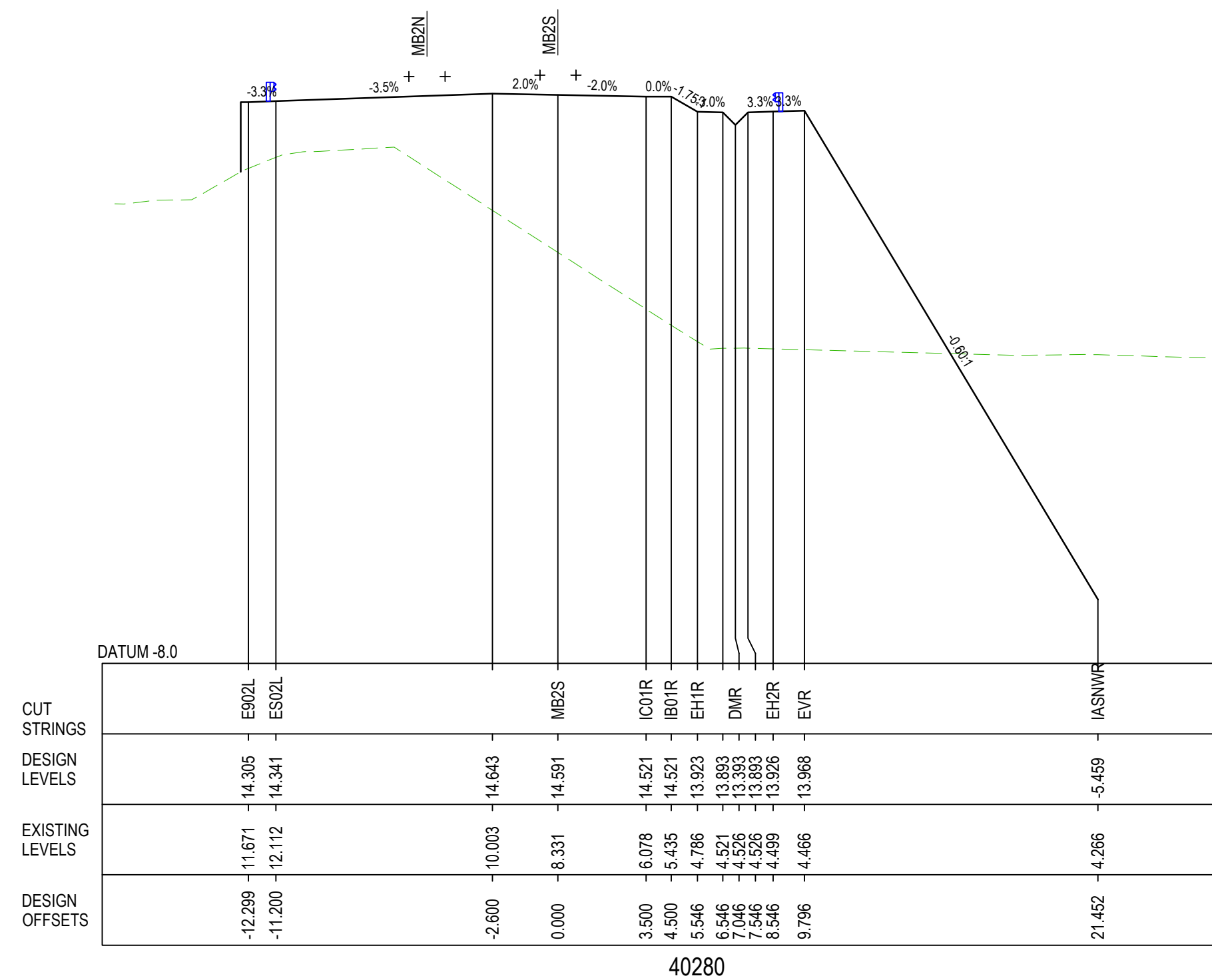
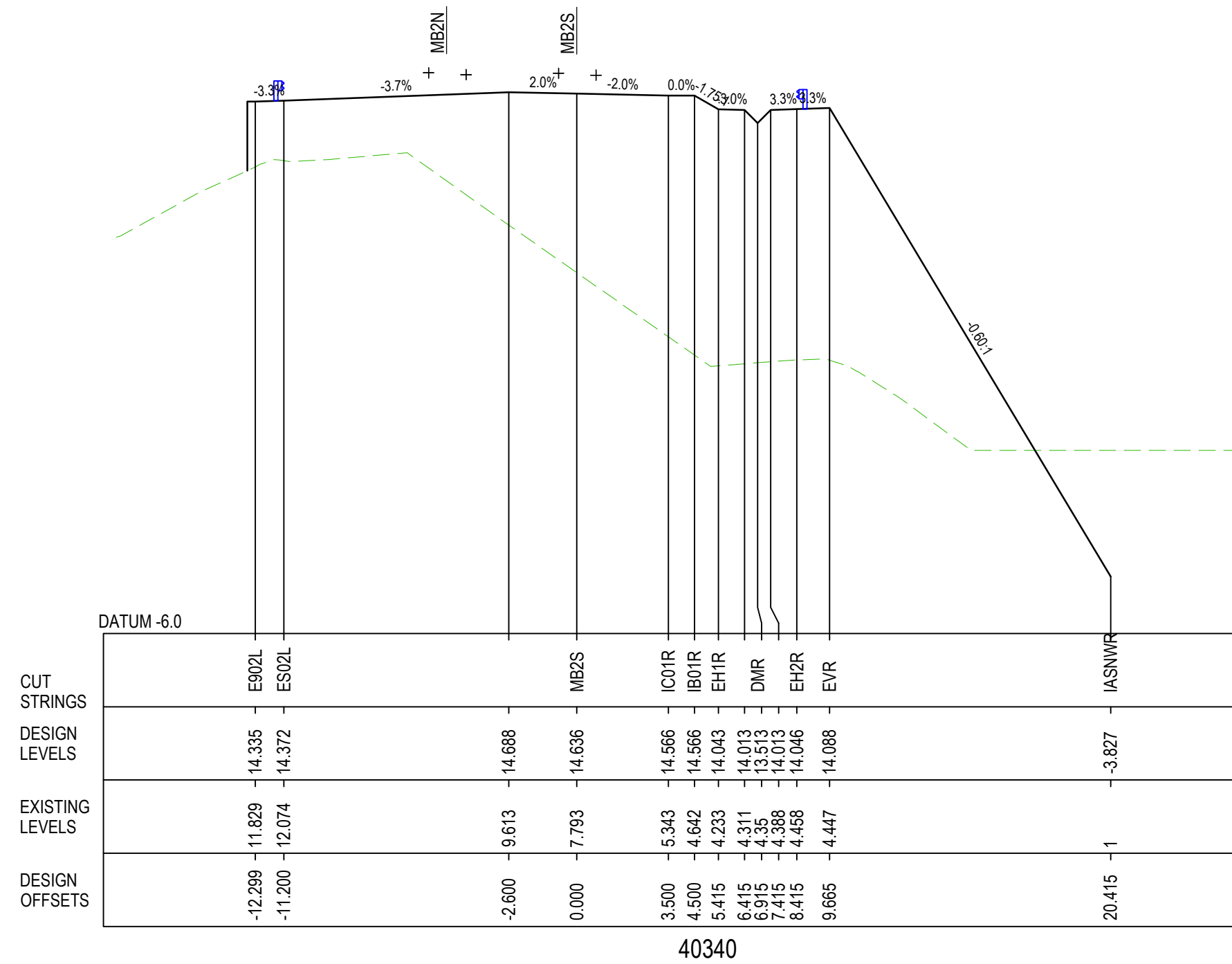
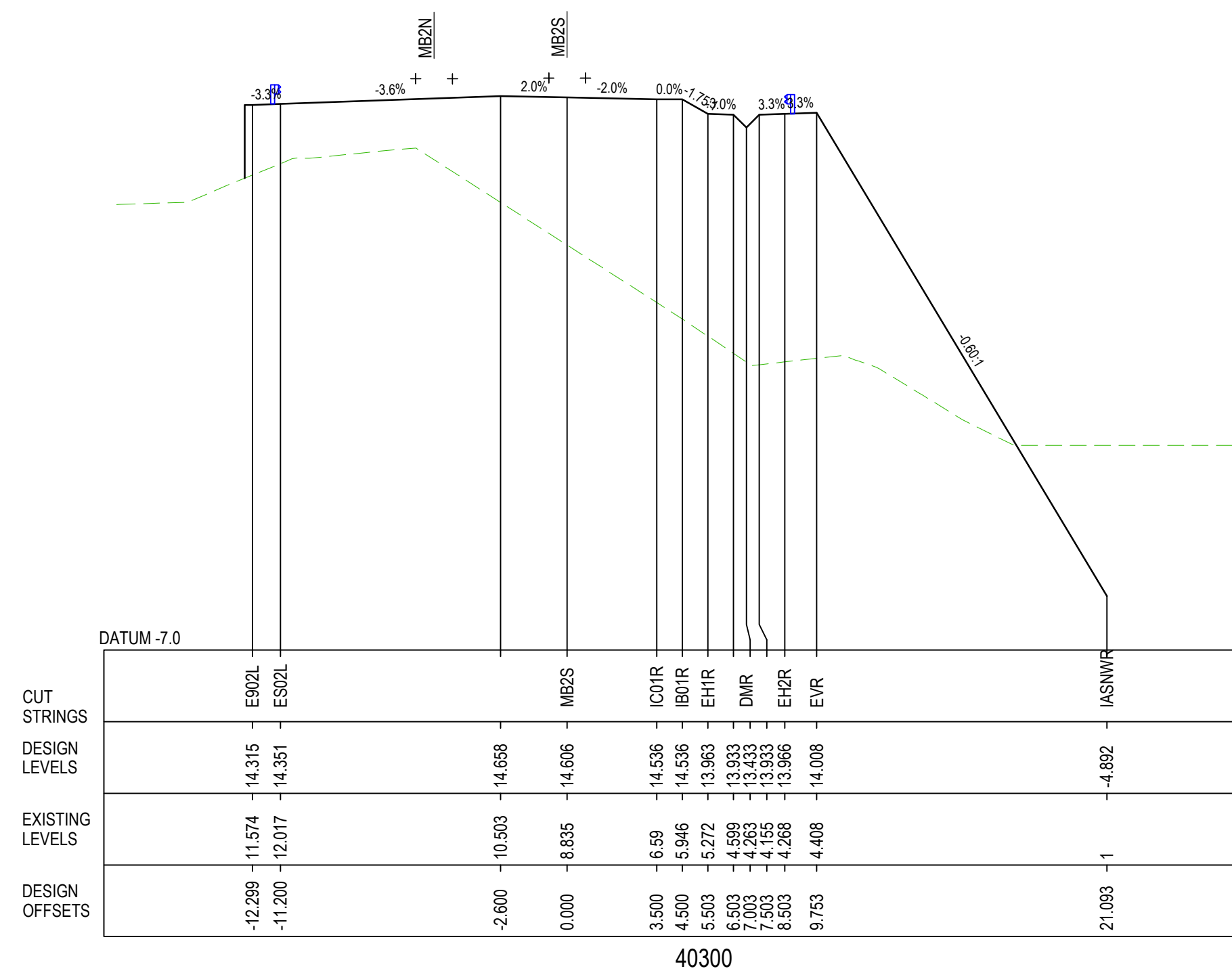
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DESIGN SURFACE (TOP OF CAPPING)

EXISTING SURFACE

BRIDGE STRUCTURE

PROPOSED RAIL DESIGN



LEGEND

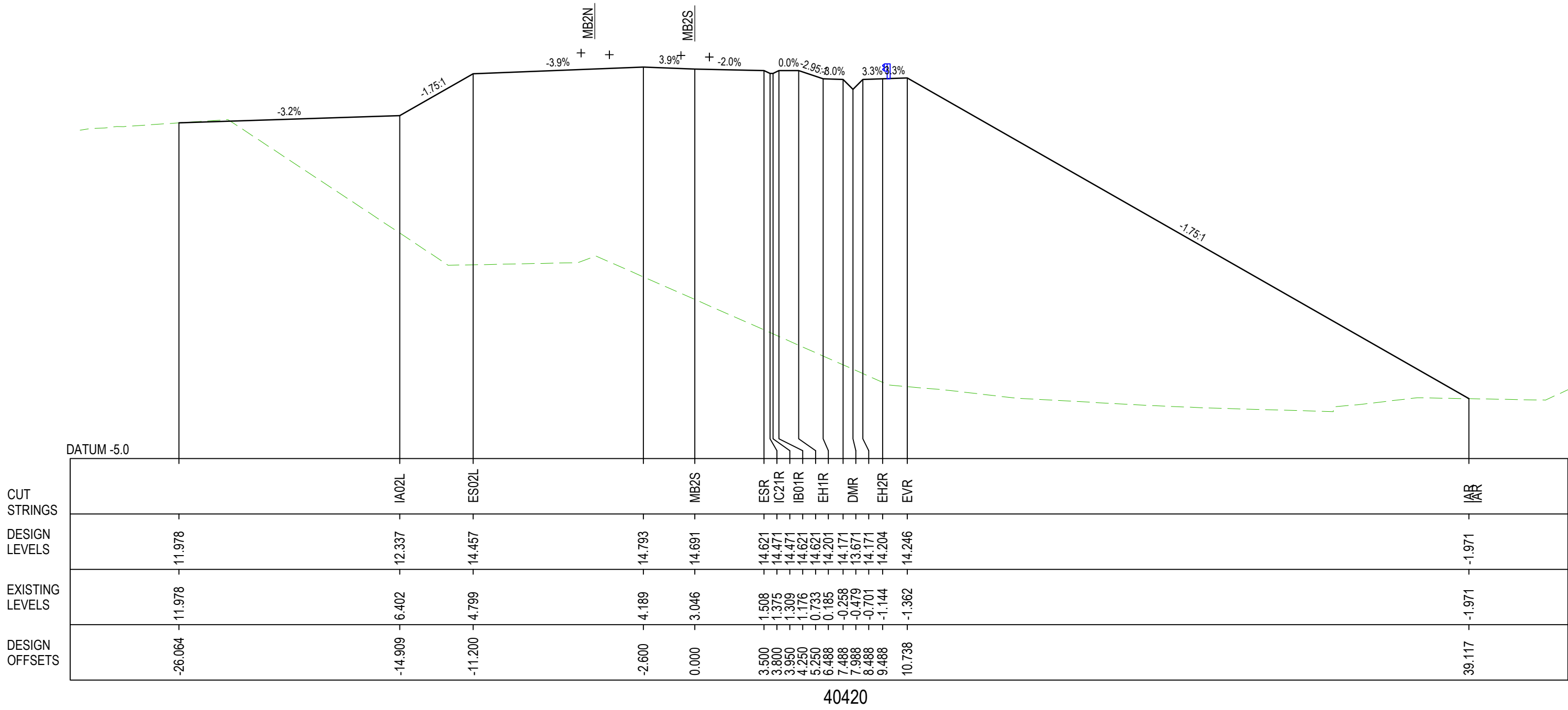
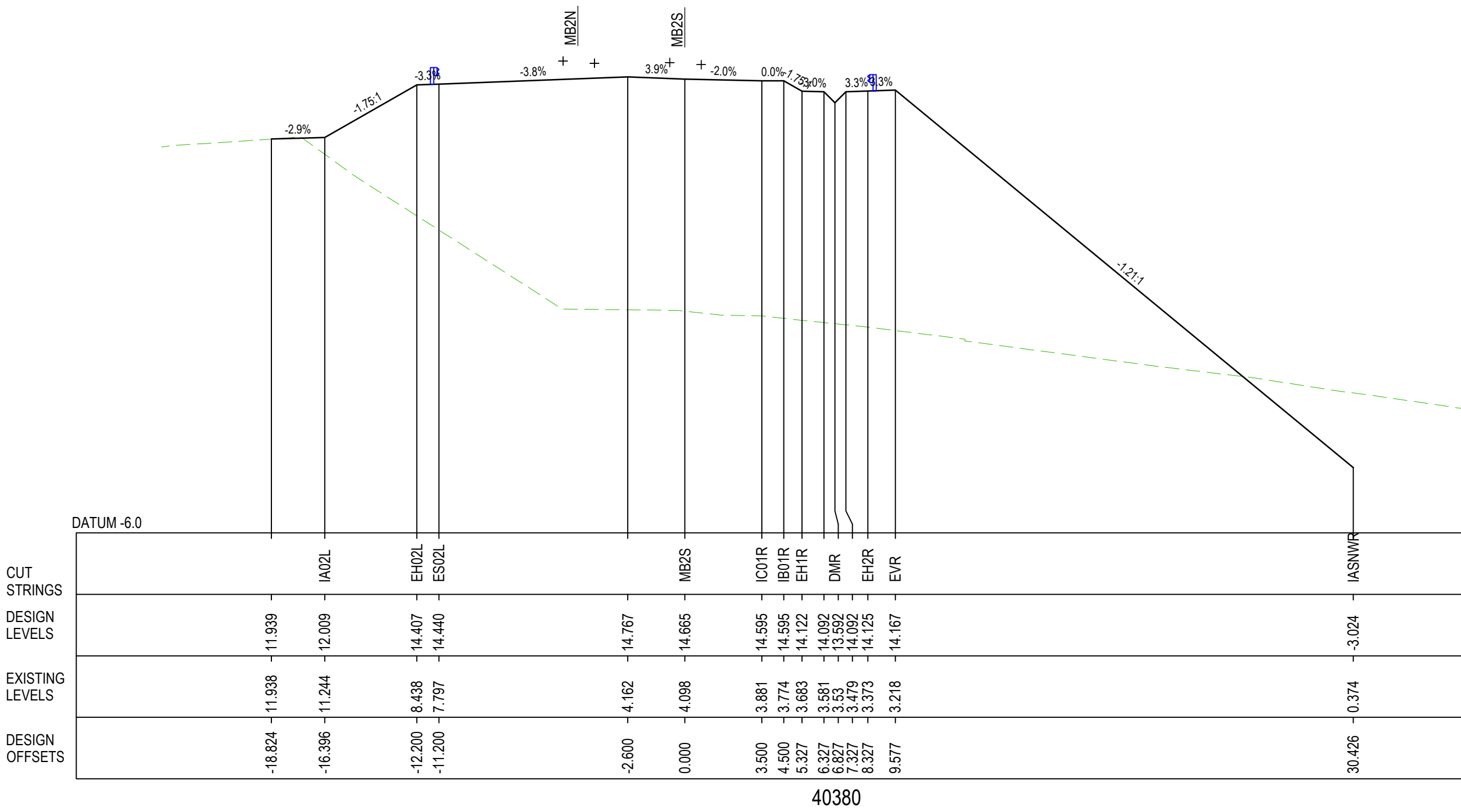
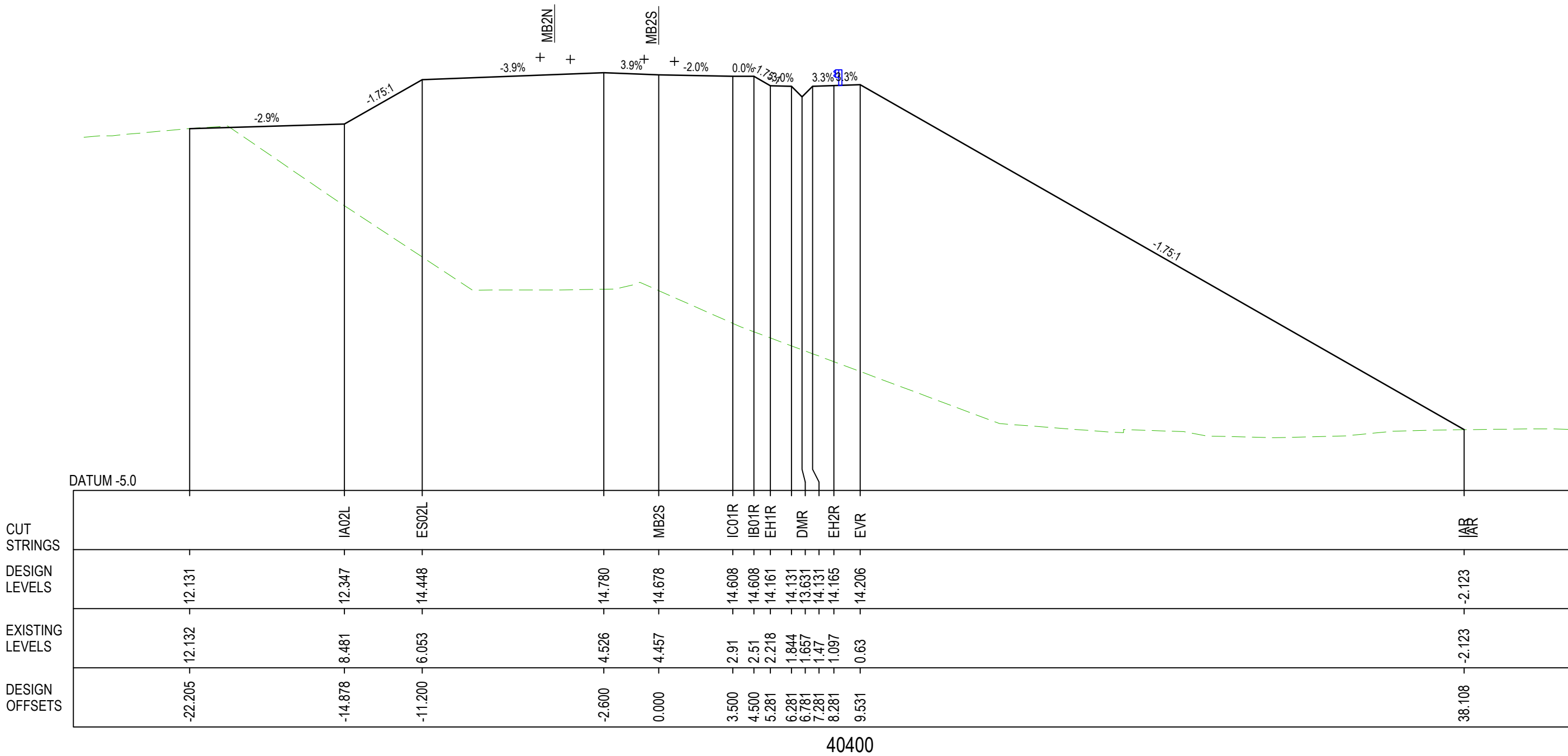
DESIGN SURFACE (TOP OF CAPPING)

EXISTING SURFACE

BRIDGE STRUCTURE

+++

PROPOSED RAIL DESIGN



CLIENT

aurecon

www.aurecongroup.com

CPB

CONTRACTORS

SIMTA

SYDNEY
INTERMODAL
TERMINAL
ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

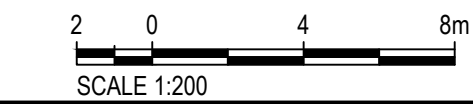
FOR CONSTRUCTION	DATE 31.07.18
APPROVED	M.SAKIB

ARTC DRAWING No			EDMS No			EDMS REV			
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1								
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 11 OF 19								
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV			
	N01031	- PWD	- DRG	- GEN	- 0038	- 02			

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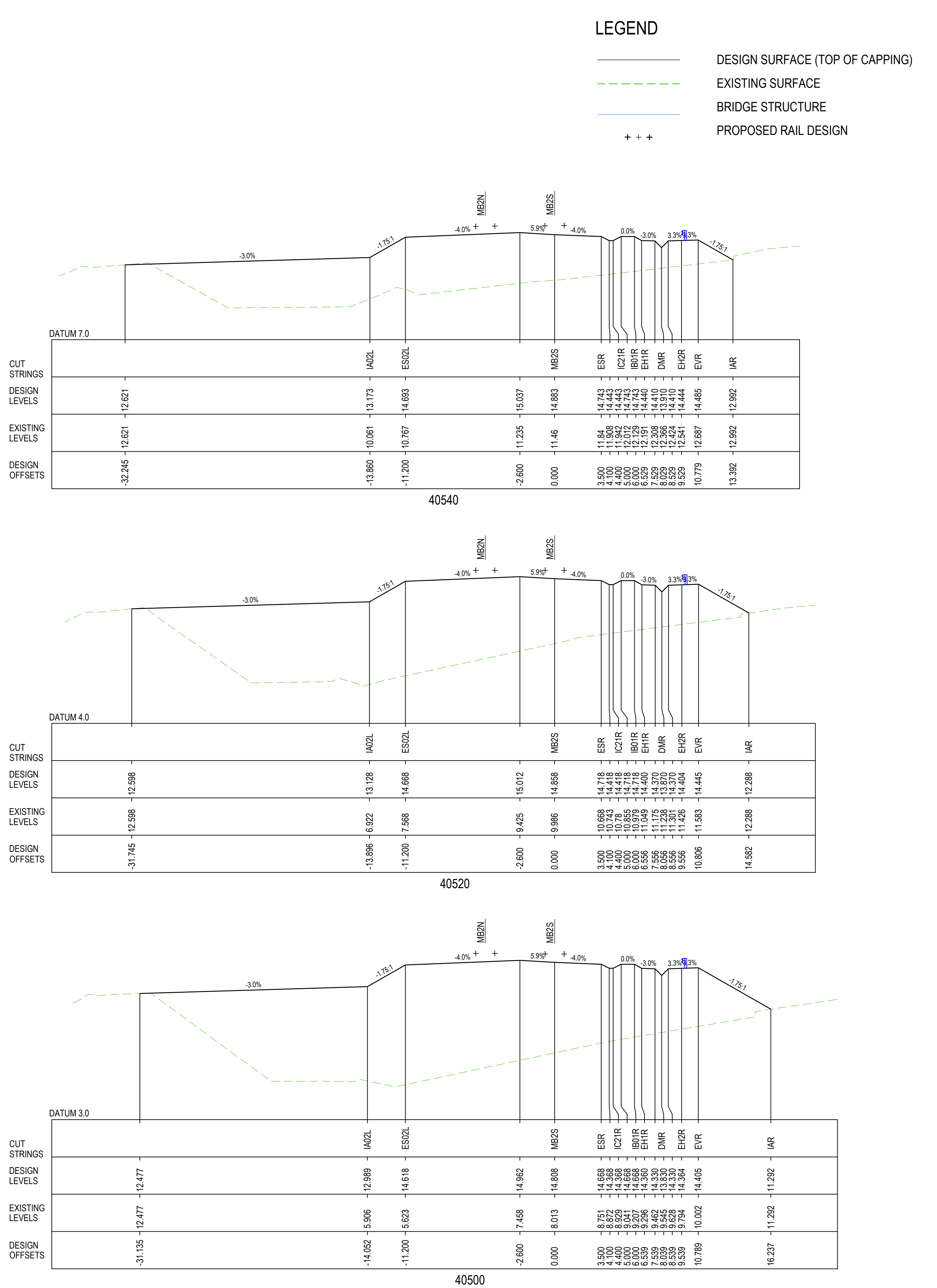
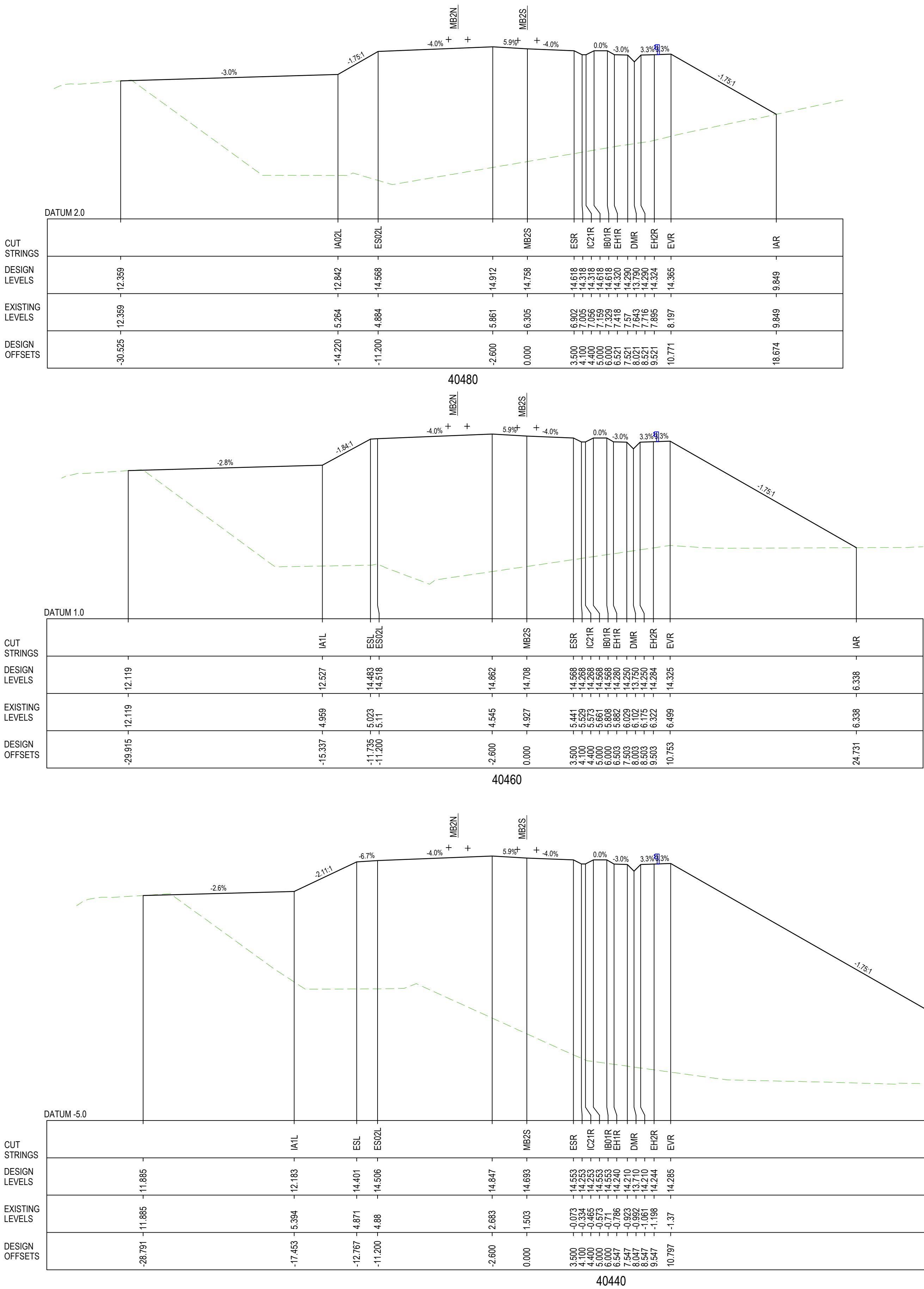
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

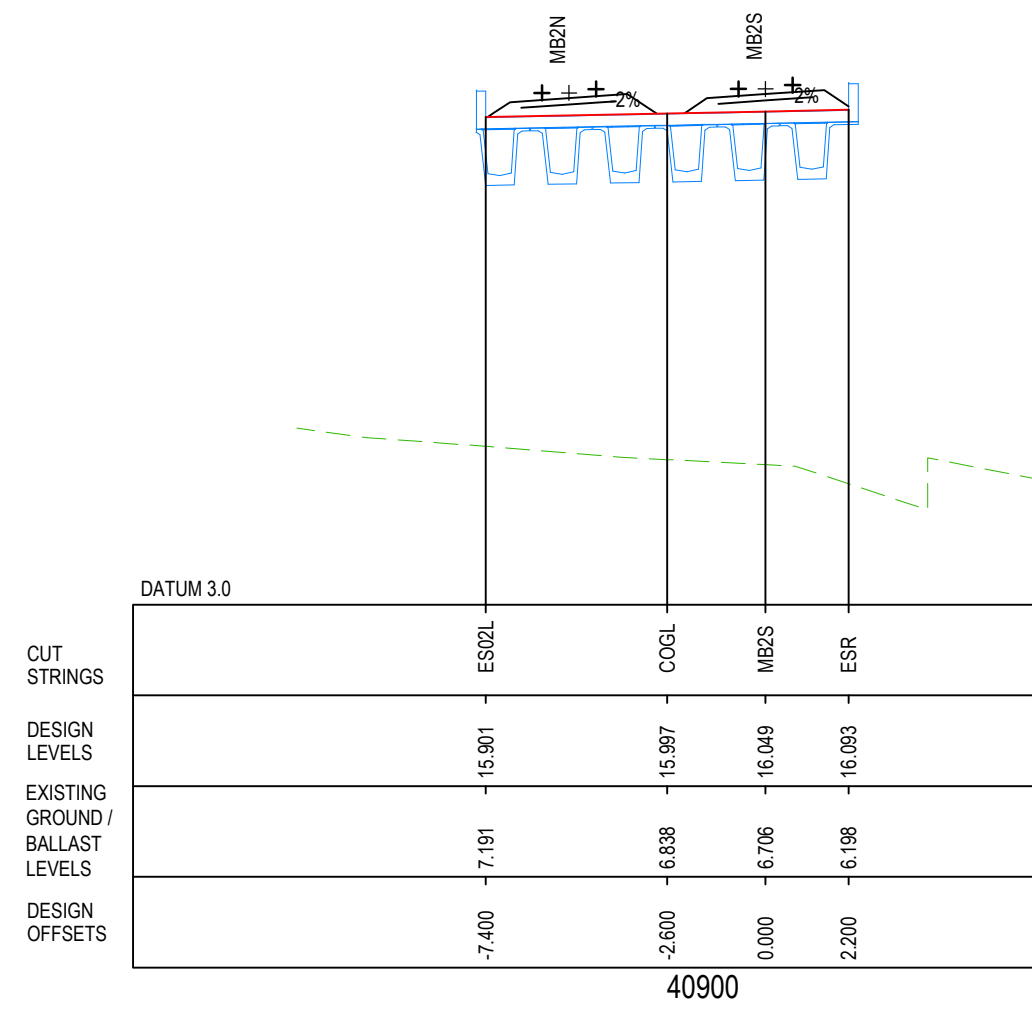
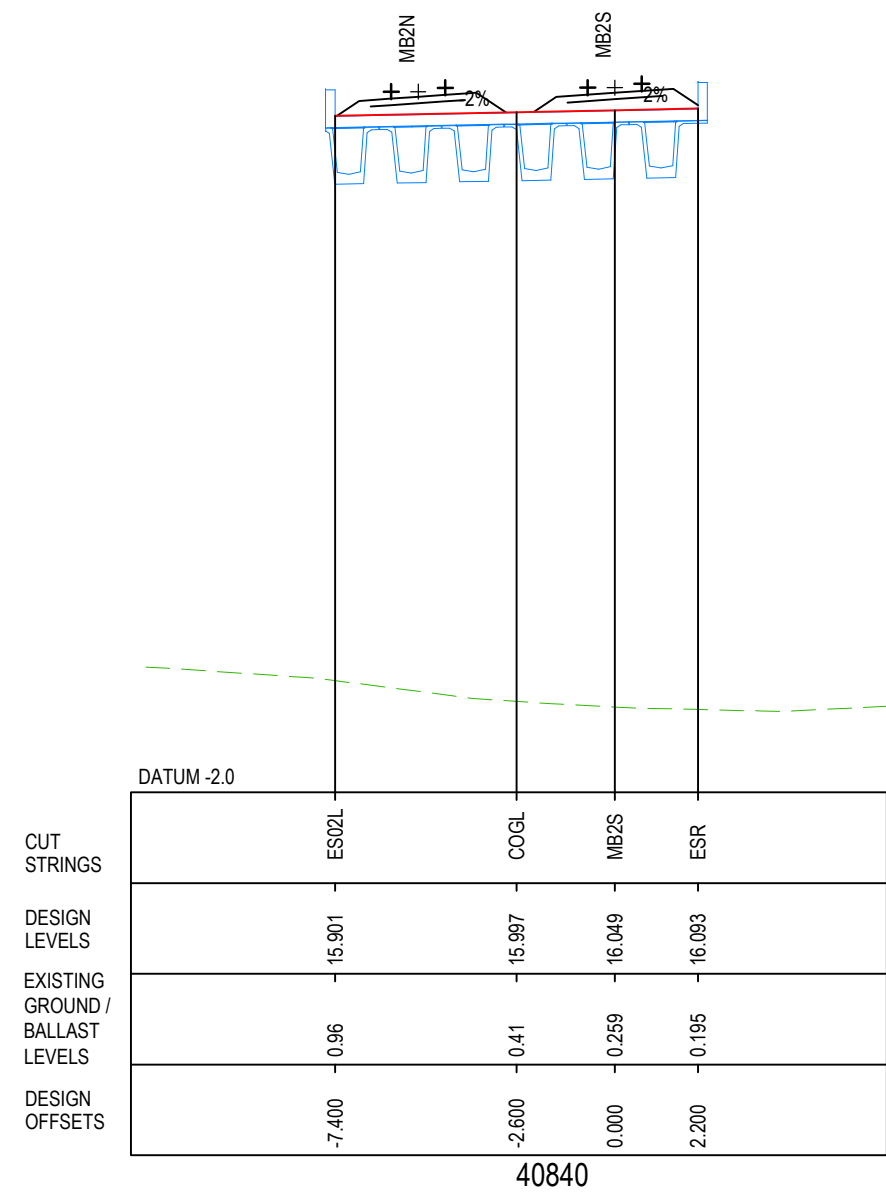
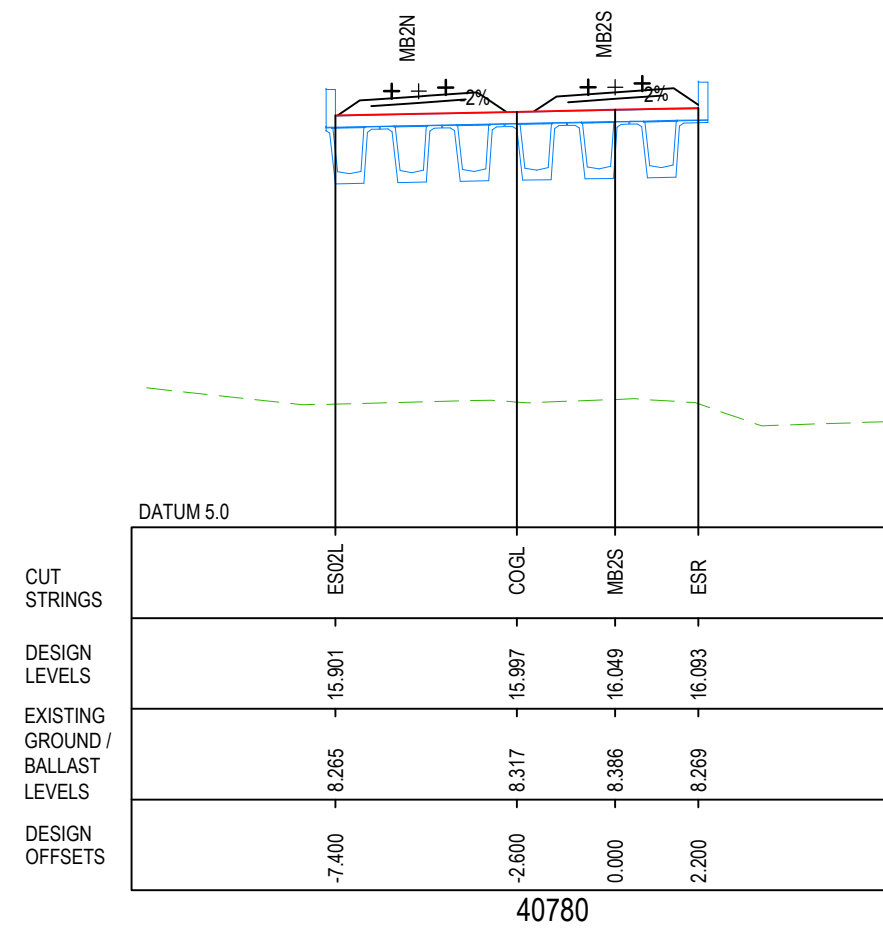
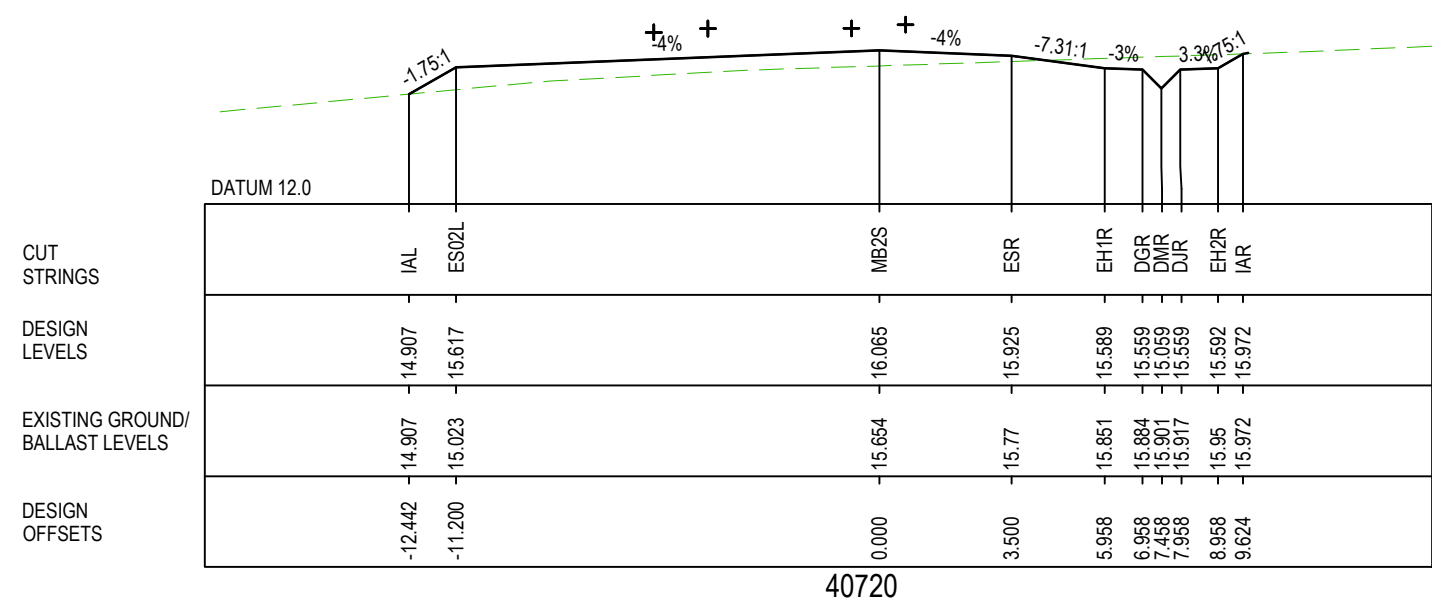
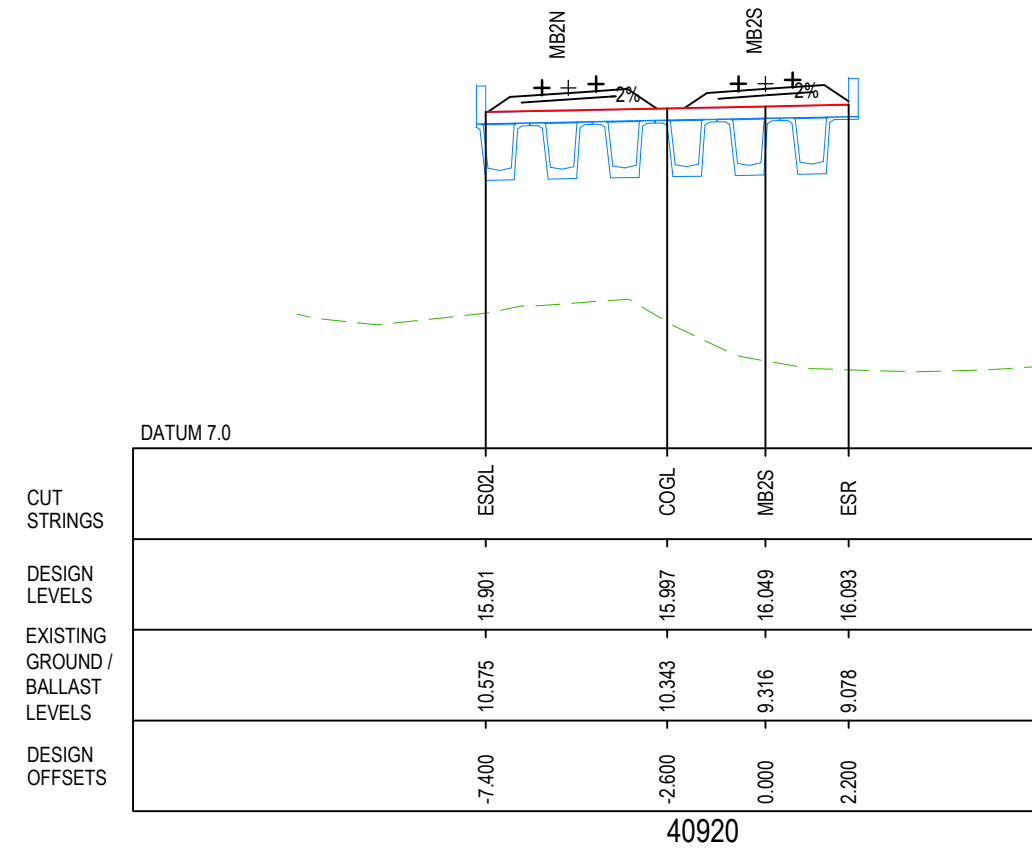
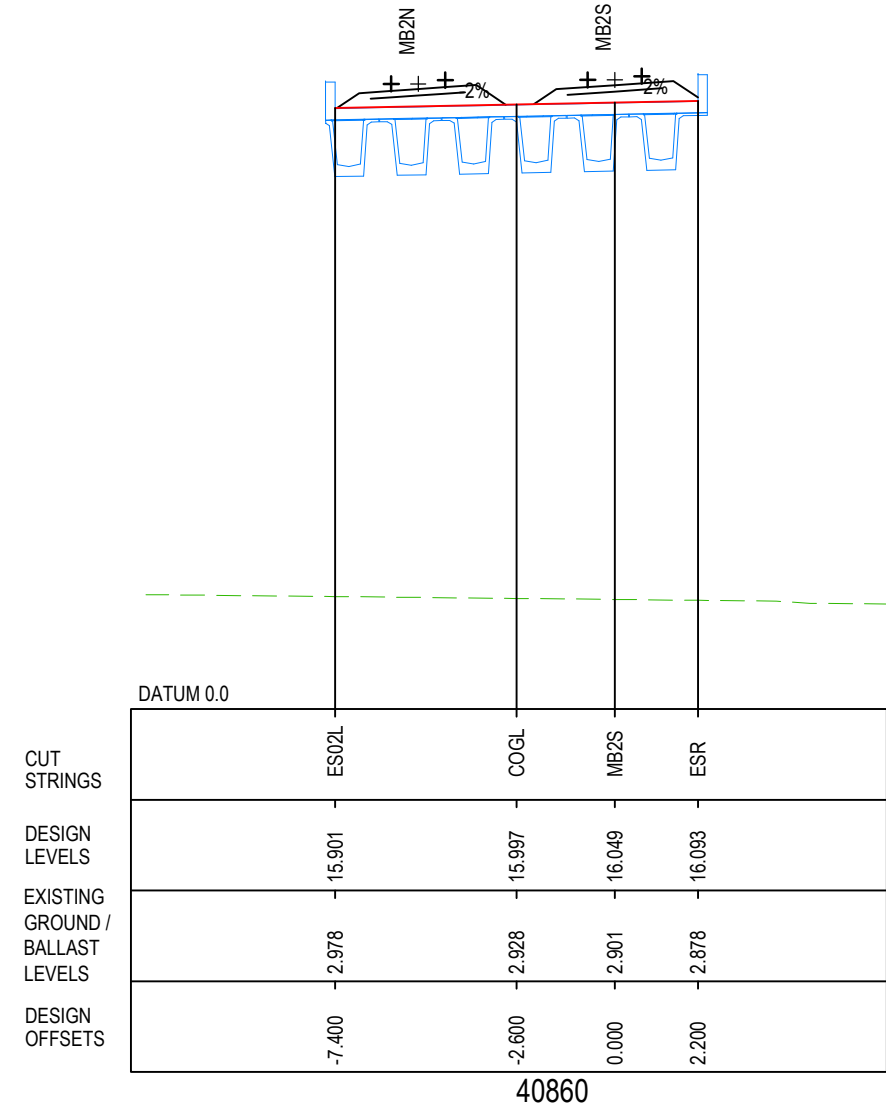
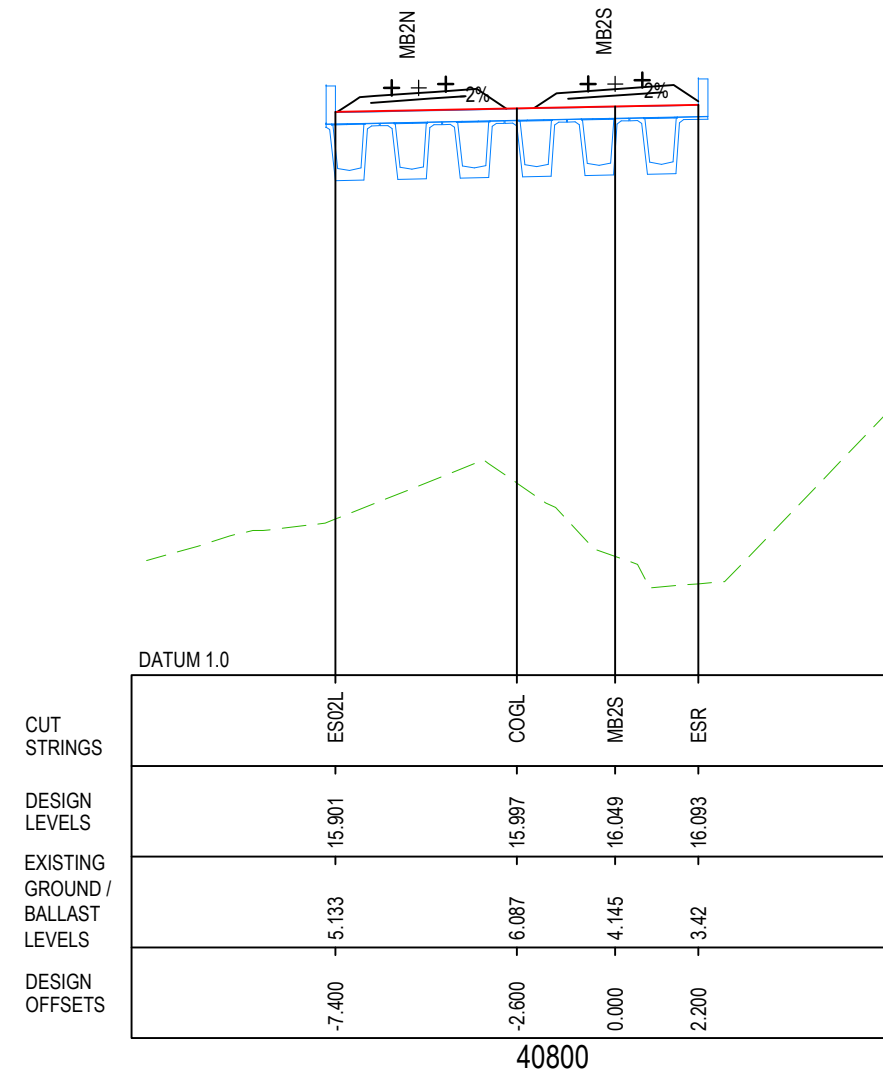
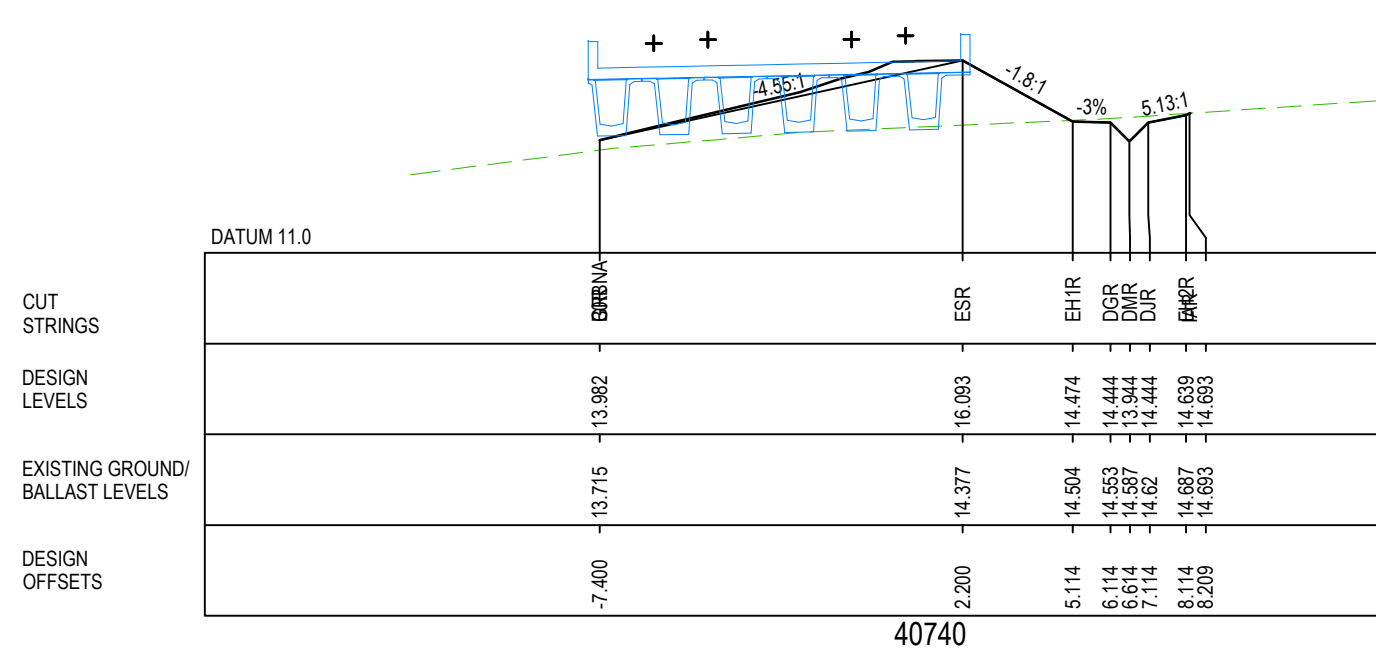
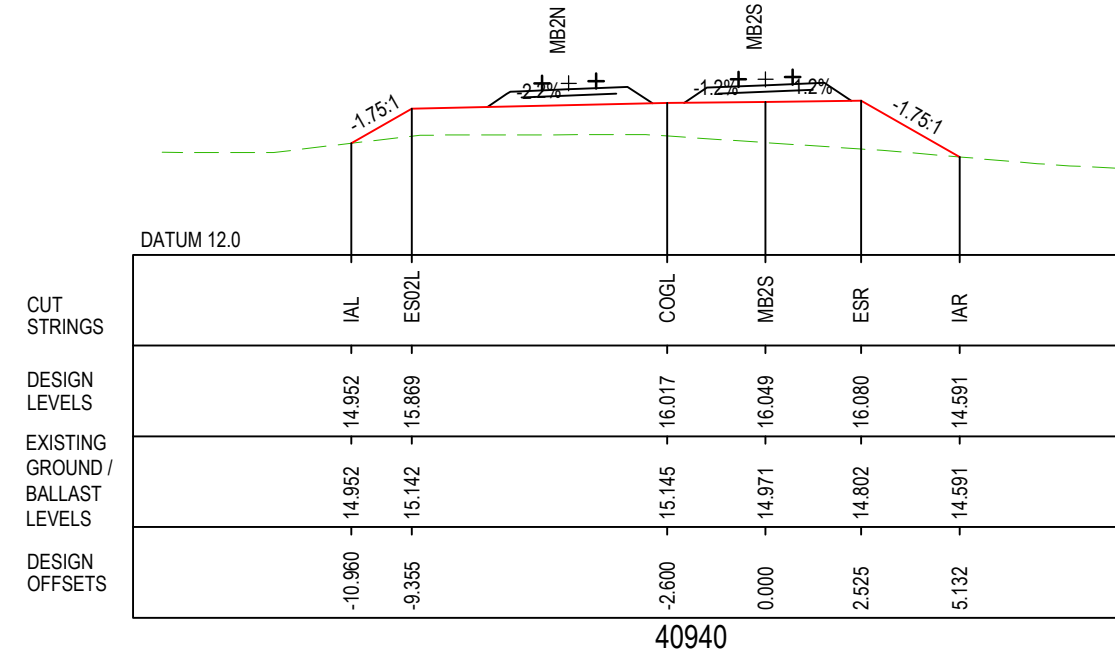
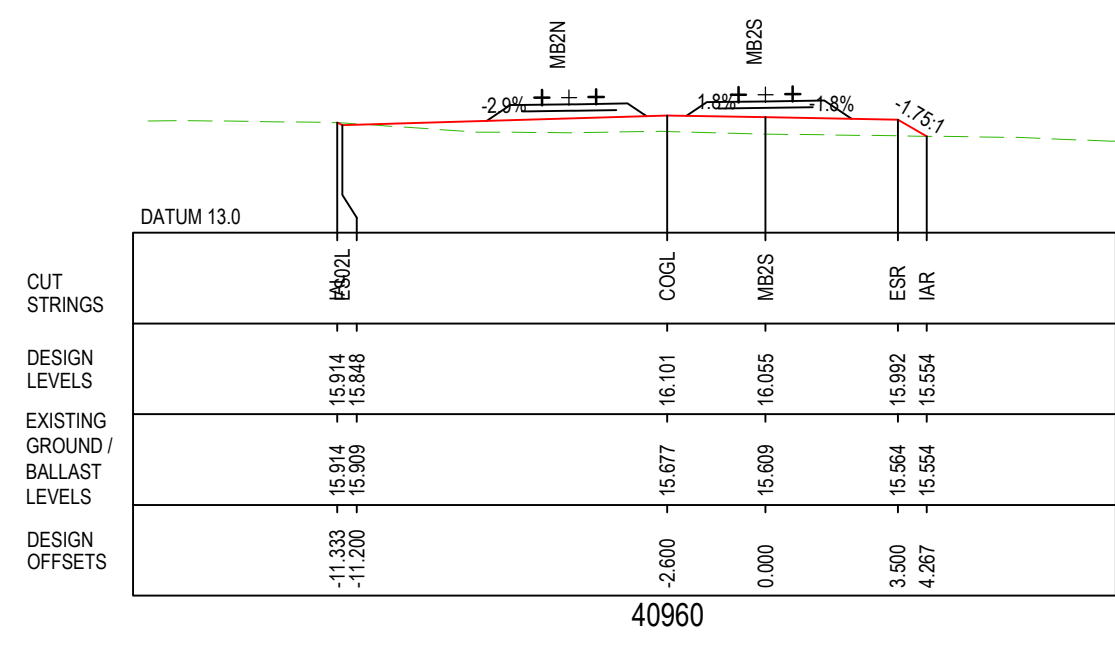
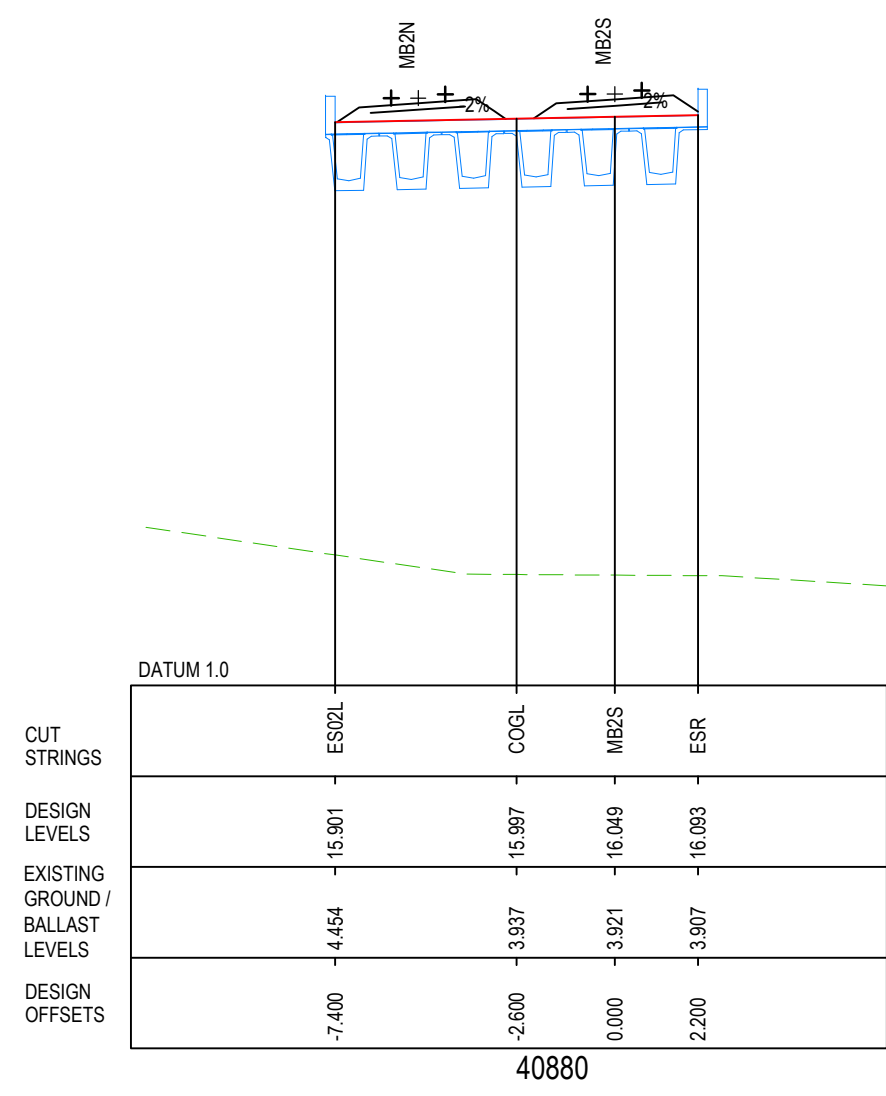
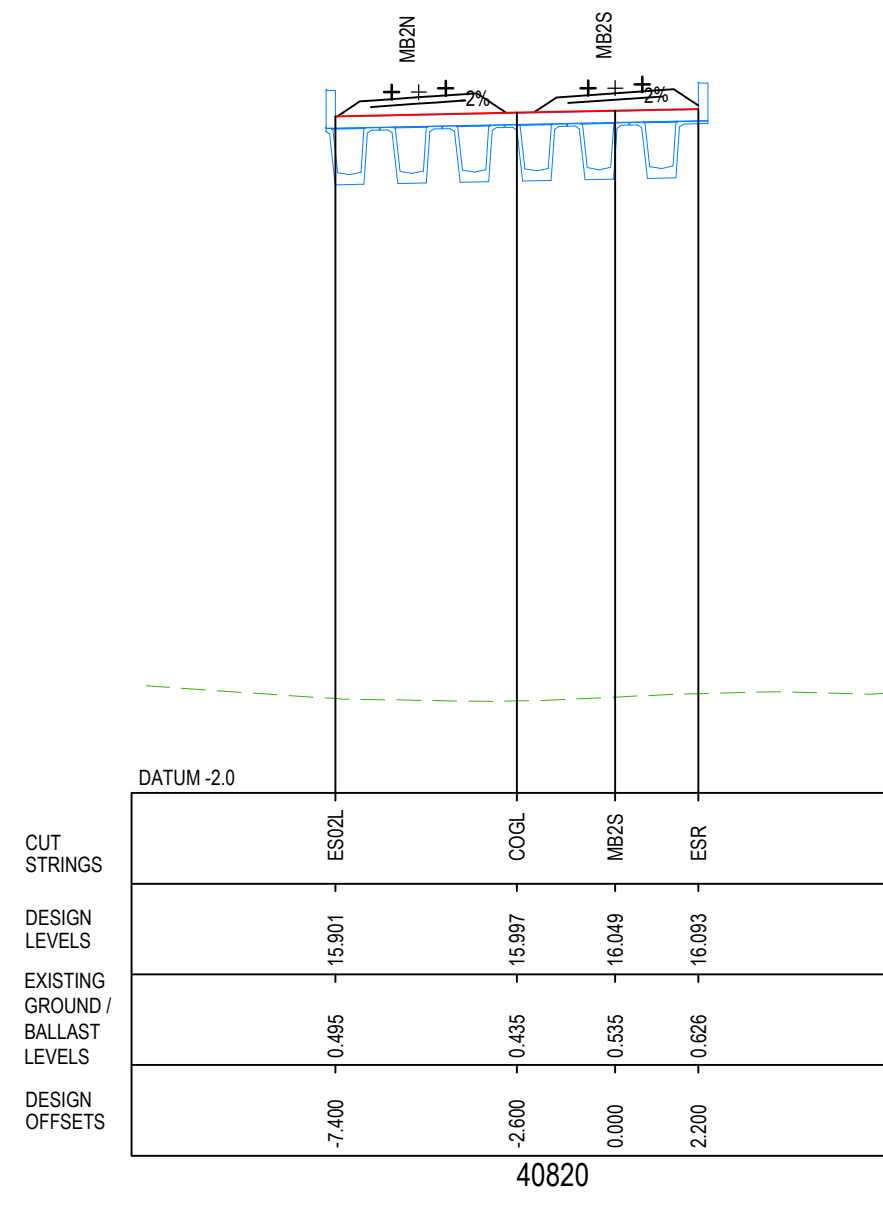
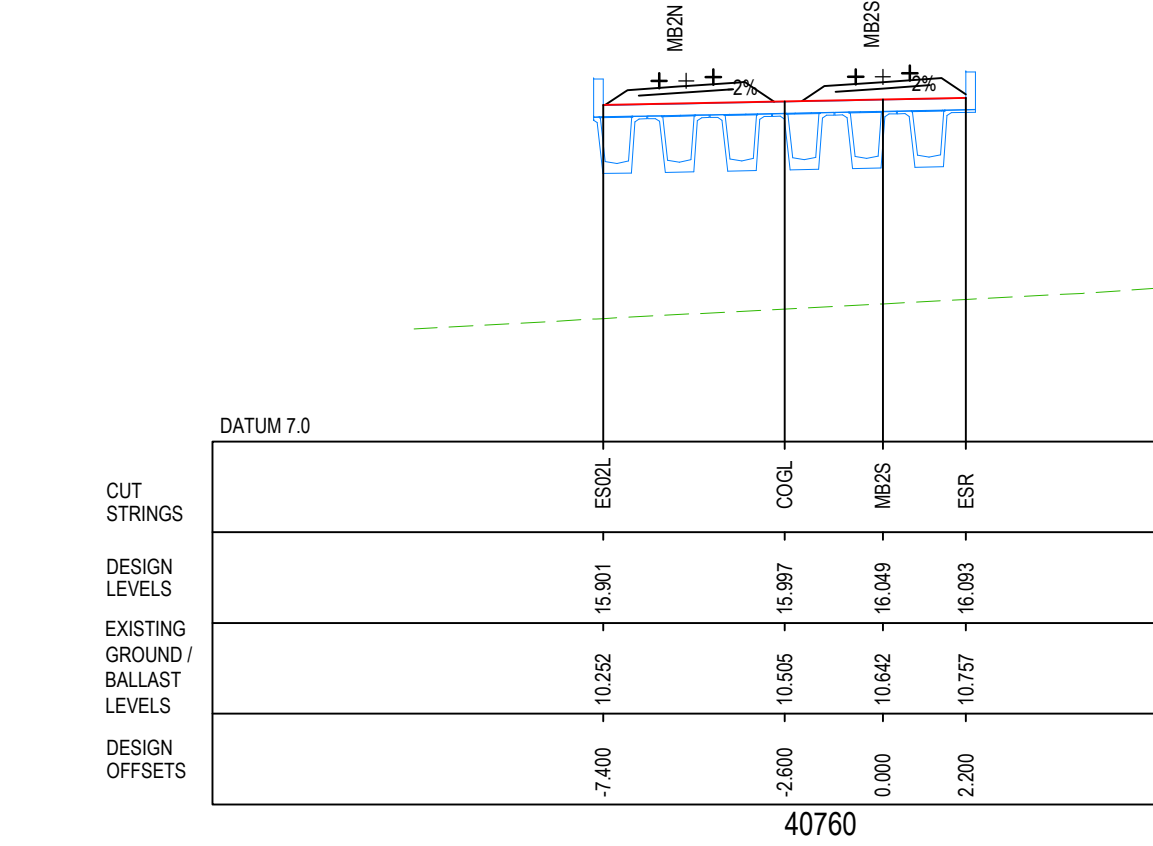


FOR CONSTRUCTION
APPROVED
M.SAKIB
DATE 31.07.18

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 12 OF 19	
DRAWING No.	PROJECT No.	ZONE
N01031		PWD
	TYPE	DISC
	DRG	GEN
	NUMBER	REV
	0039	03



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Office: AUS/01
Print Date: 18/07/2018 2:26:50 PM

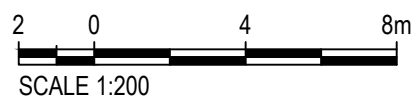
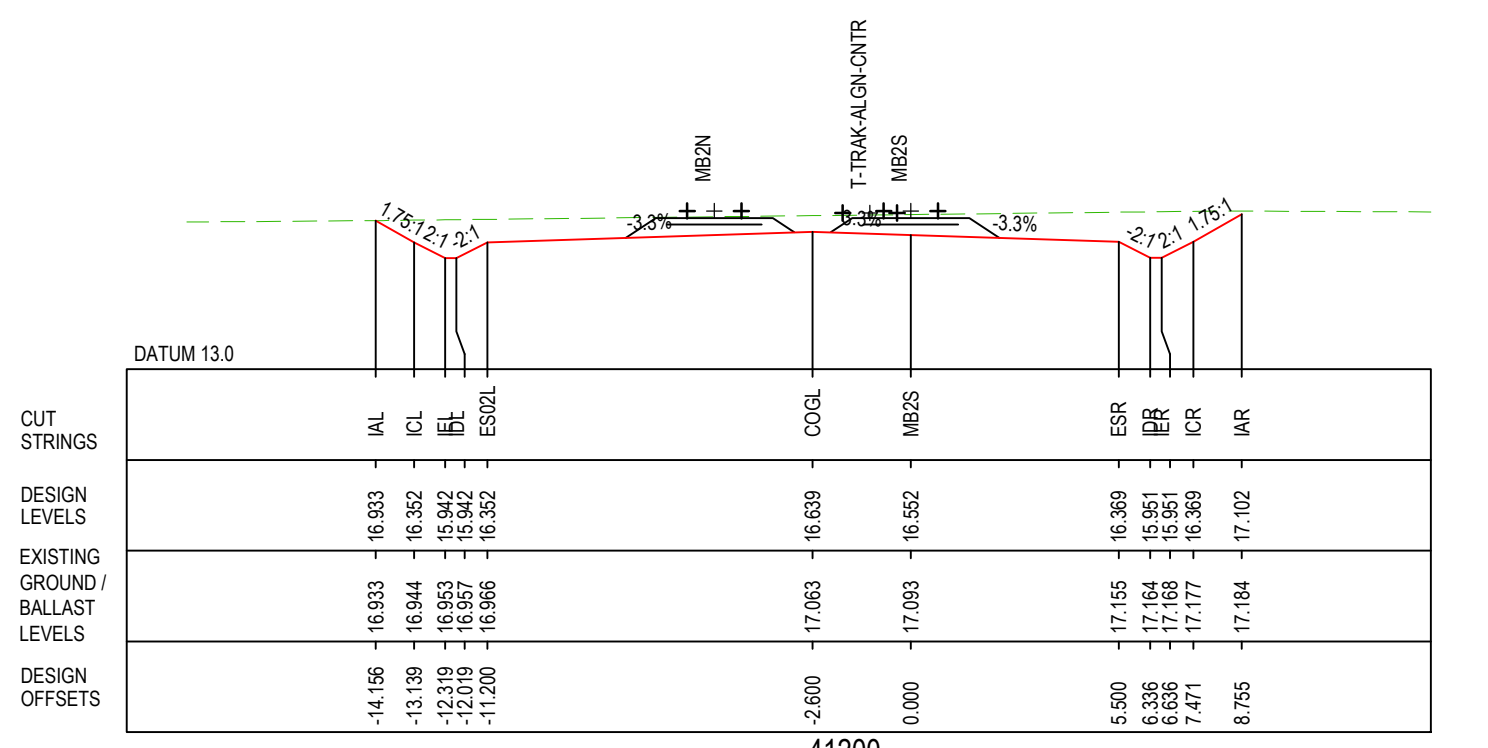
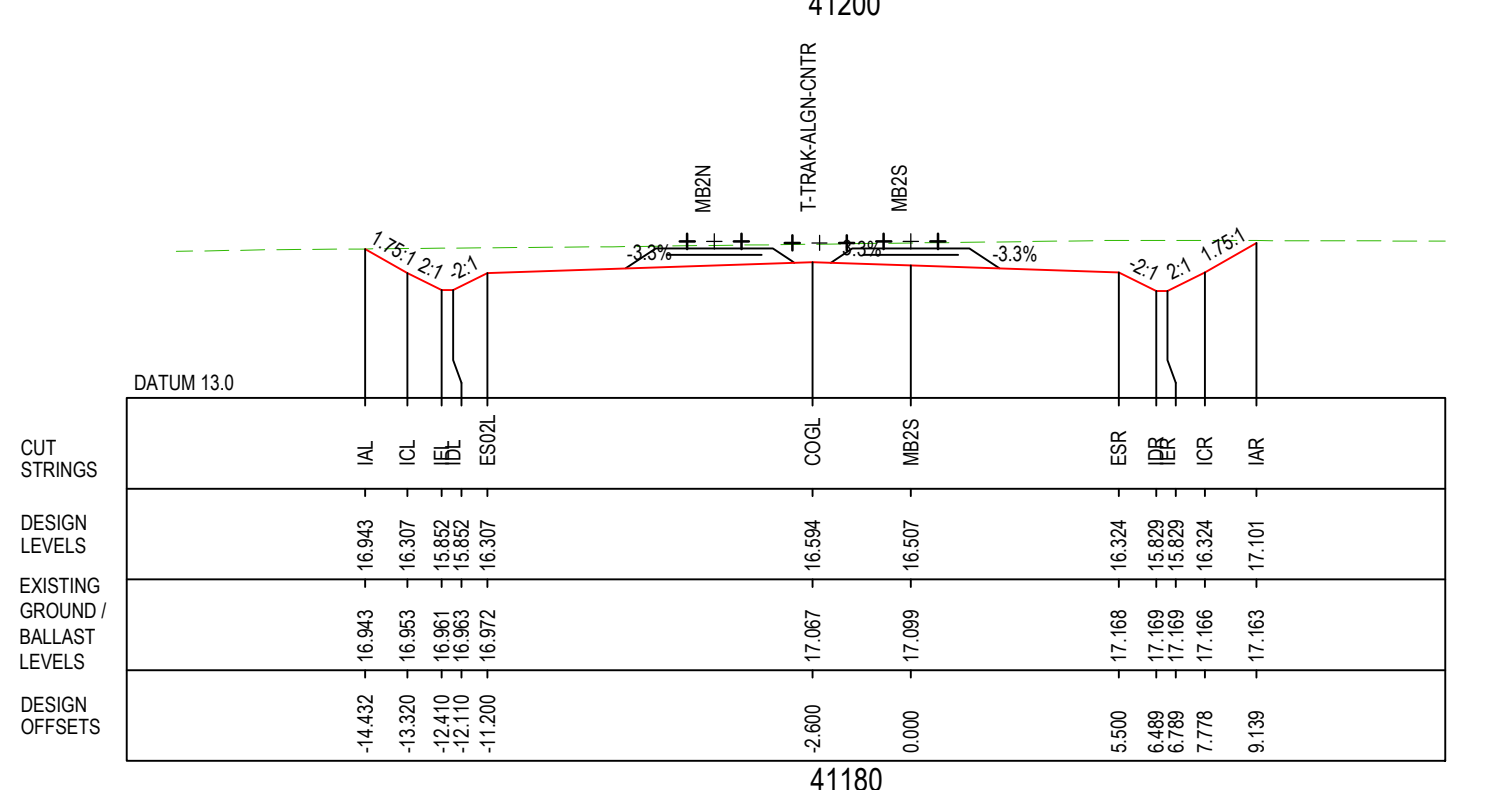
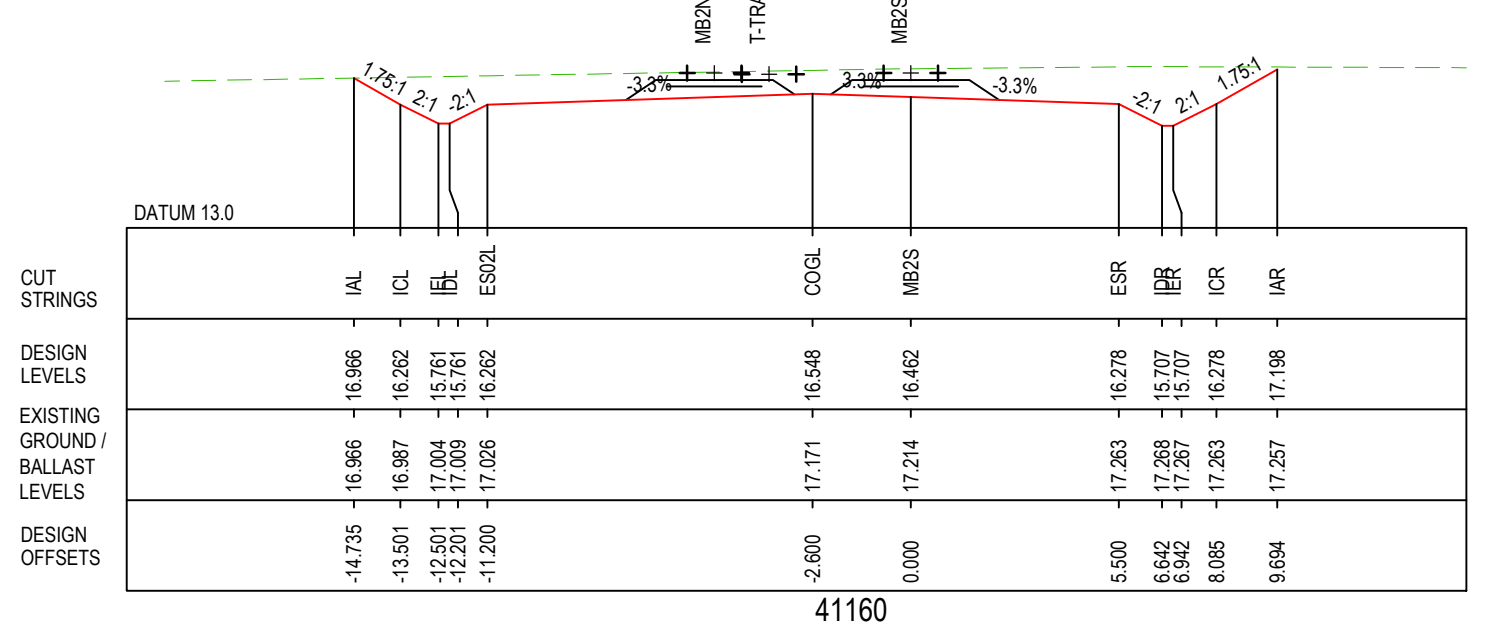
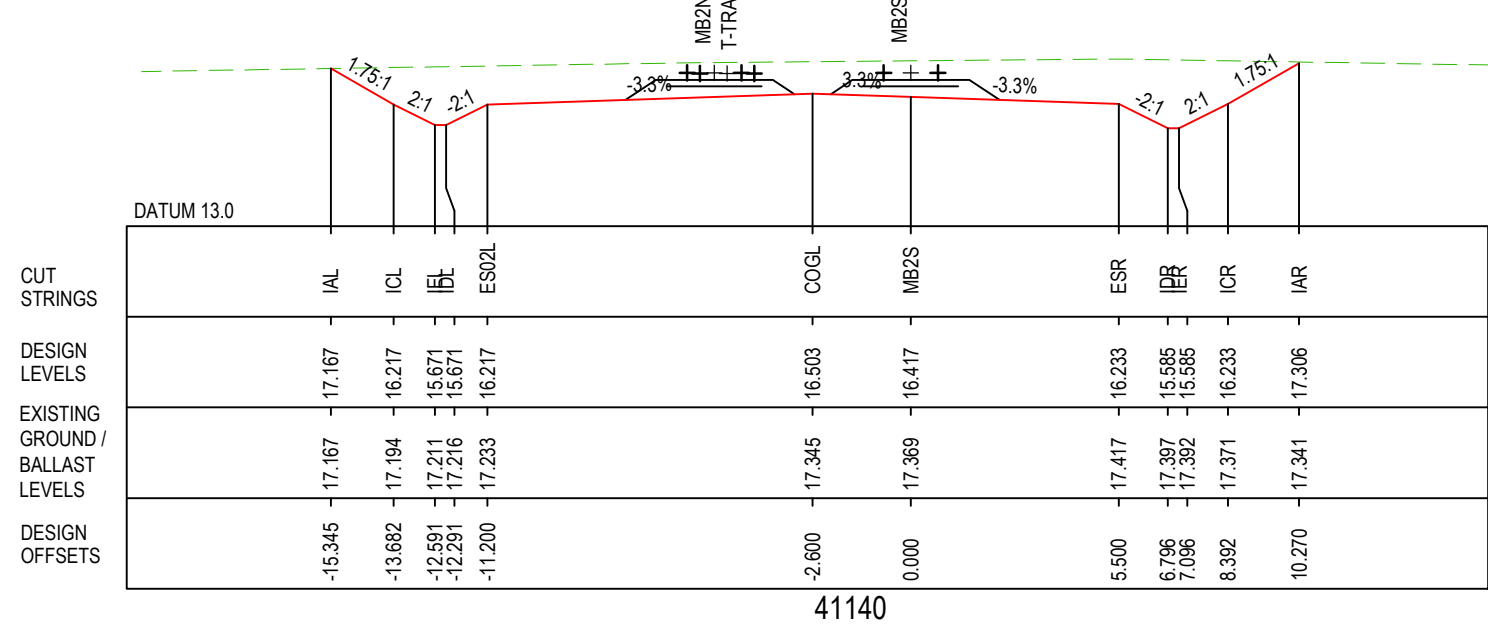
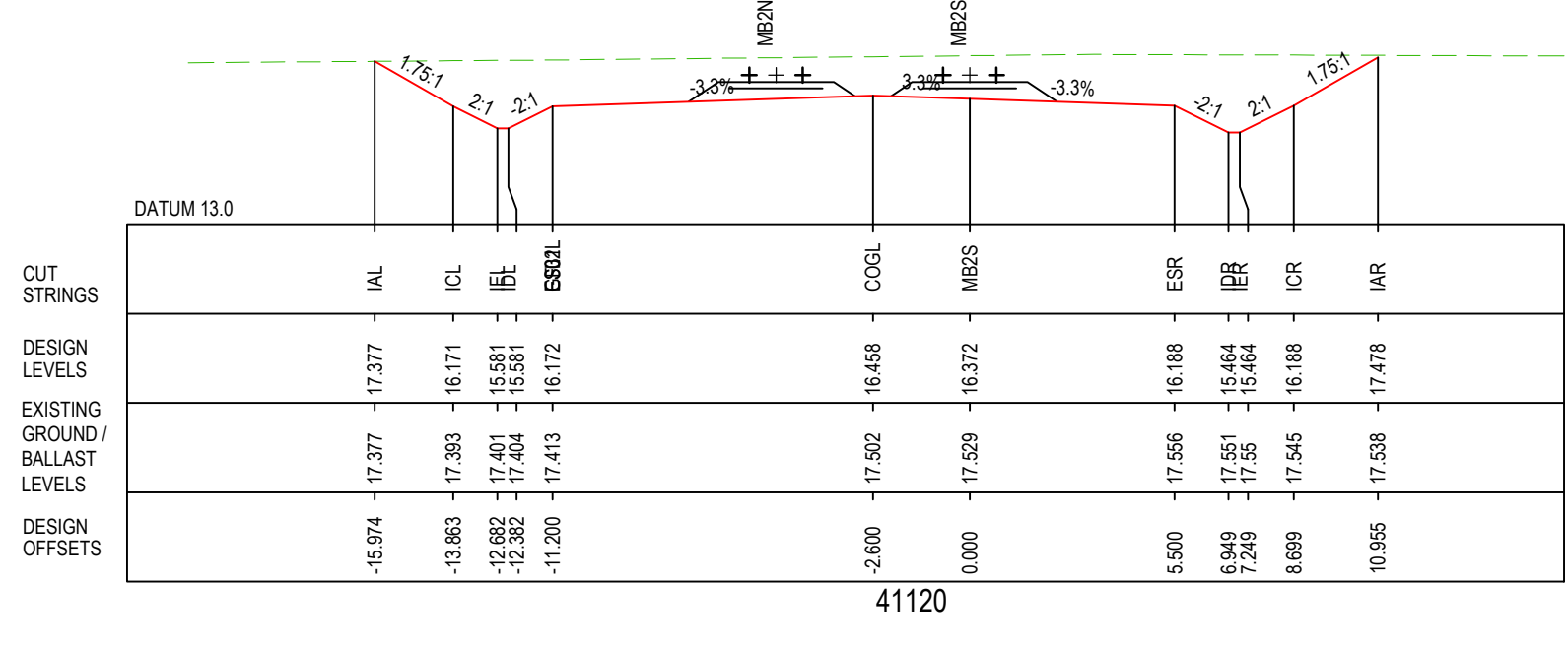
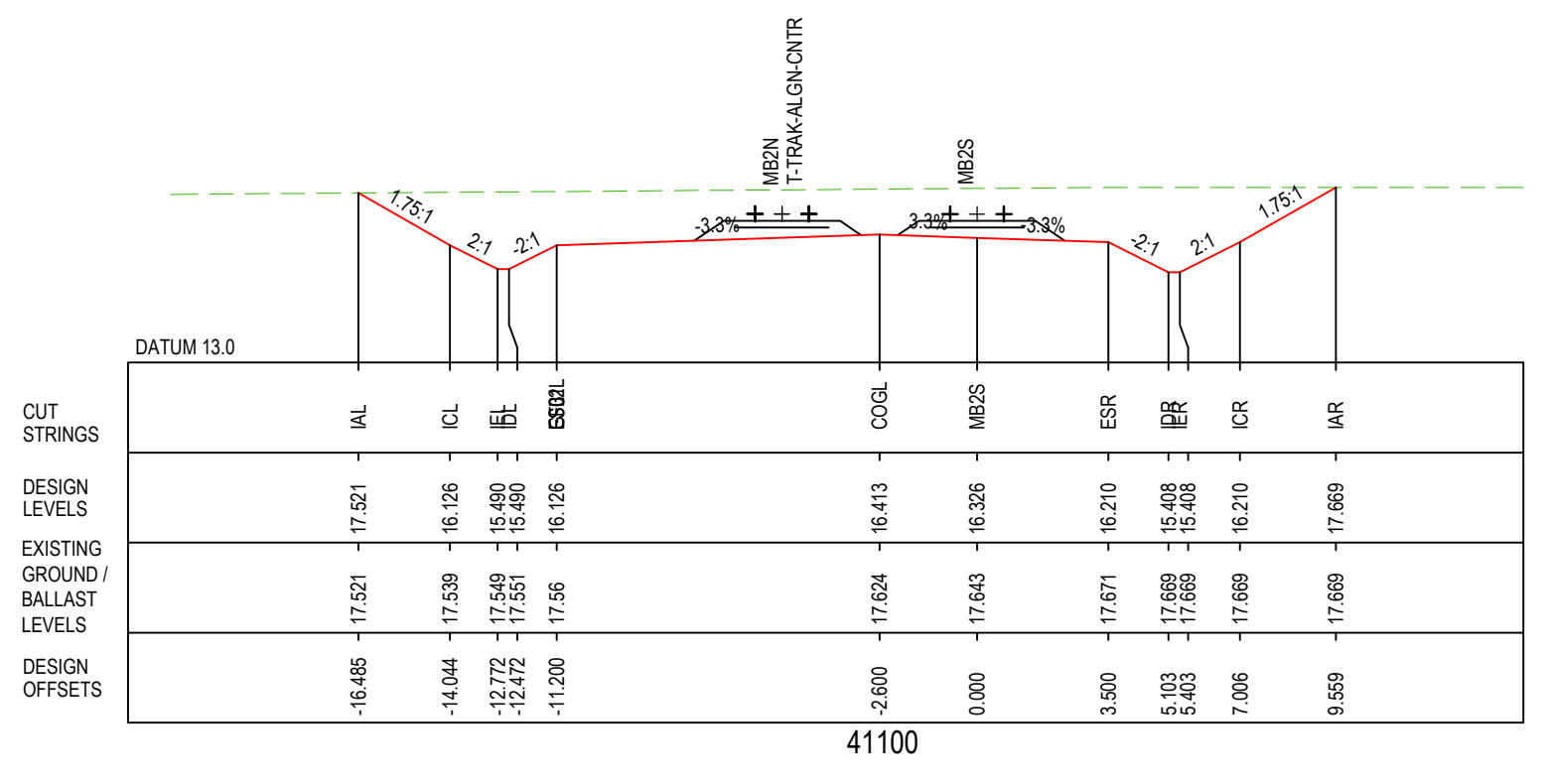
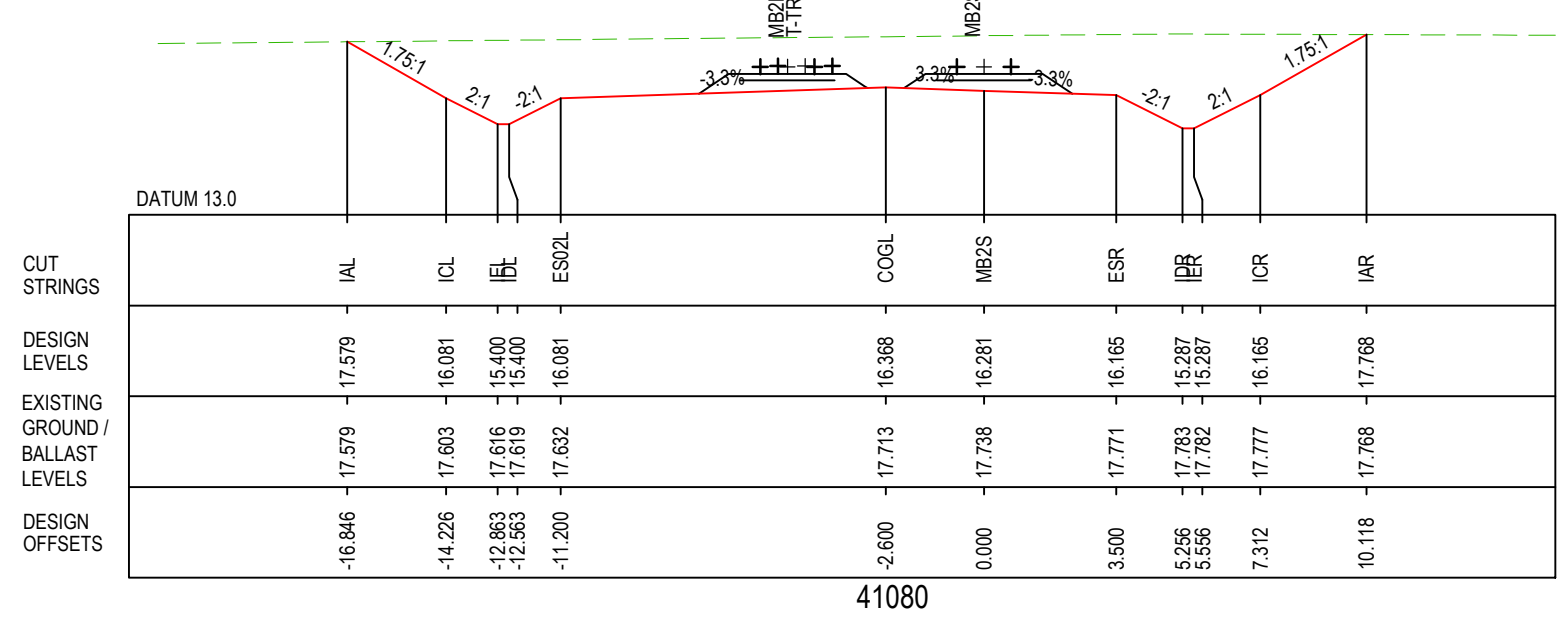
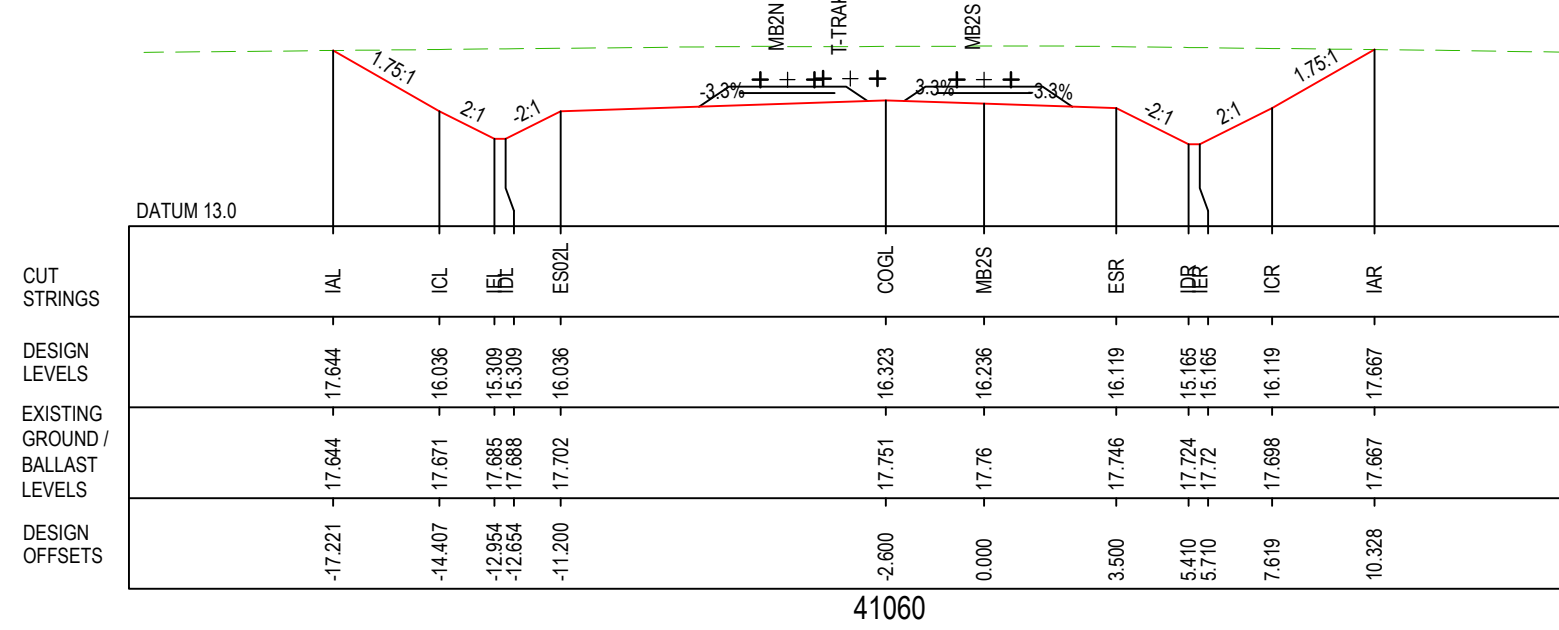
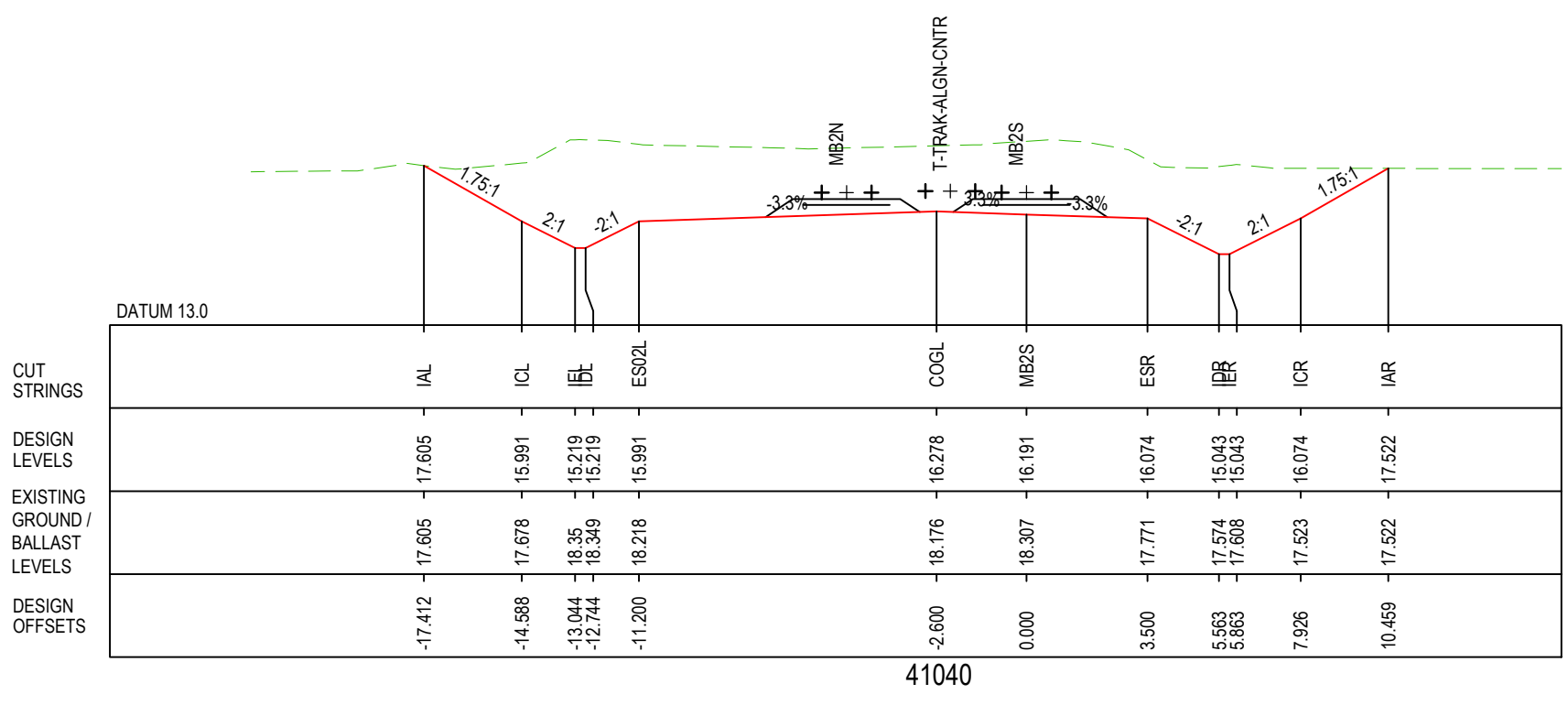
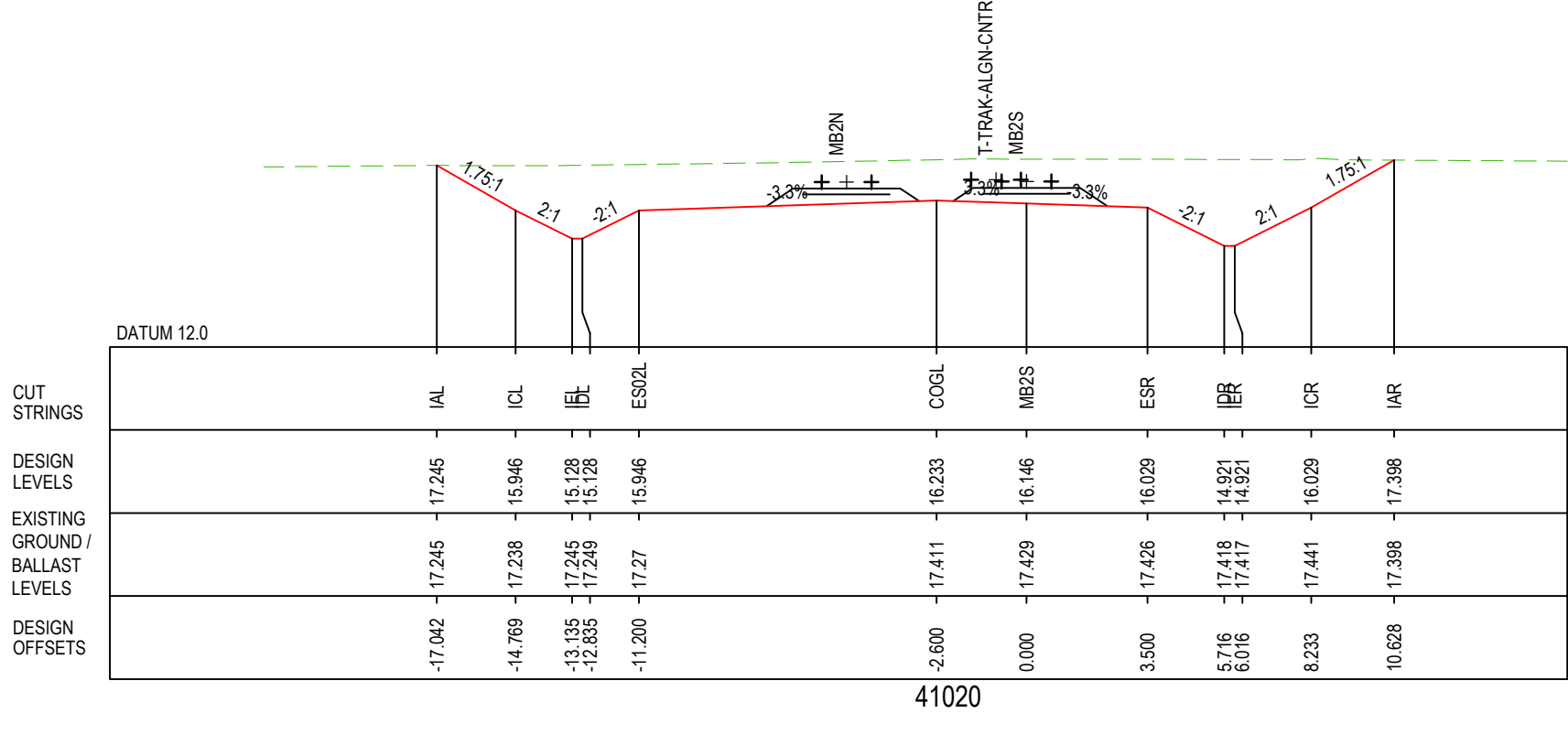
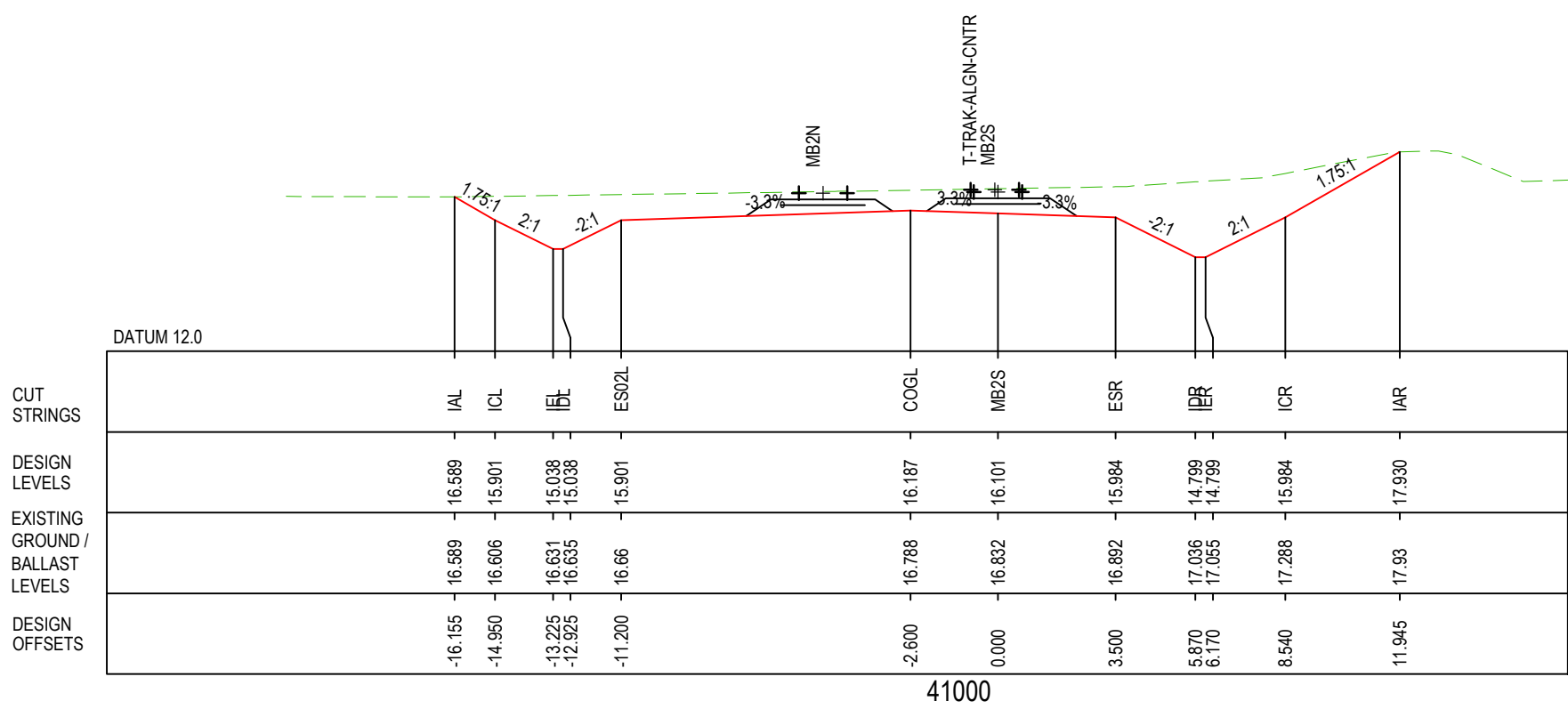
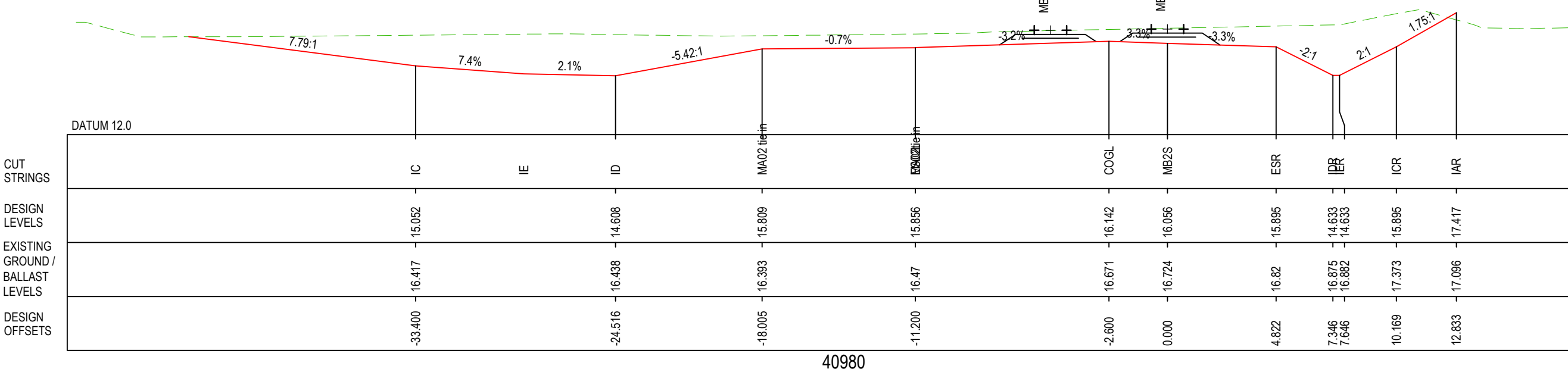


REV	DATE	REVISION DETAILS	APPROVED
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
DATE 31.07.18
M.SAKIB

ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT		MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE		BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 14 OF 19						
DRAWING No.		PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
		N01031	- PWD	- DRG	- GEN	- 0041	- 01	

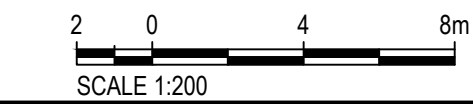
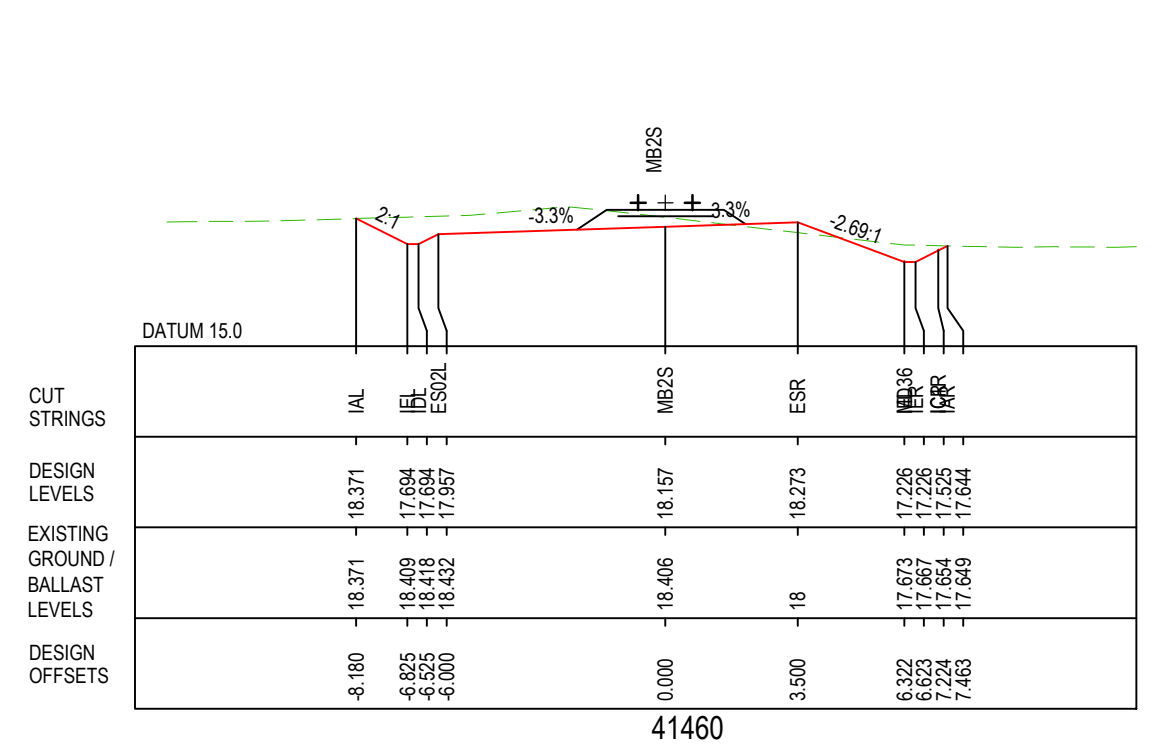
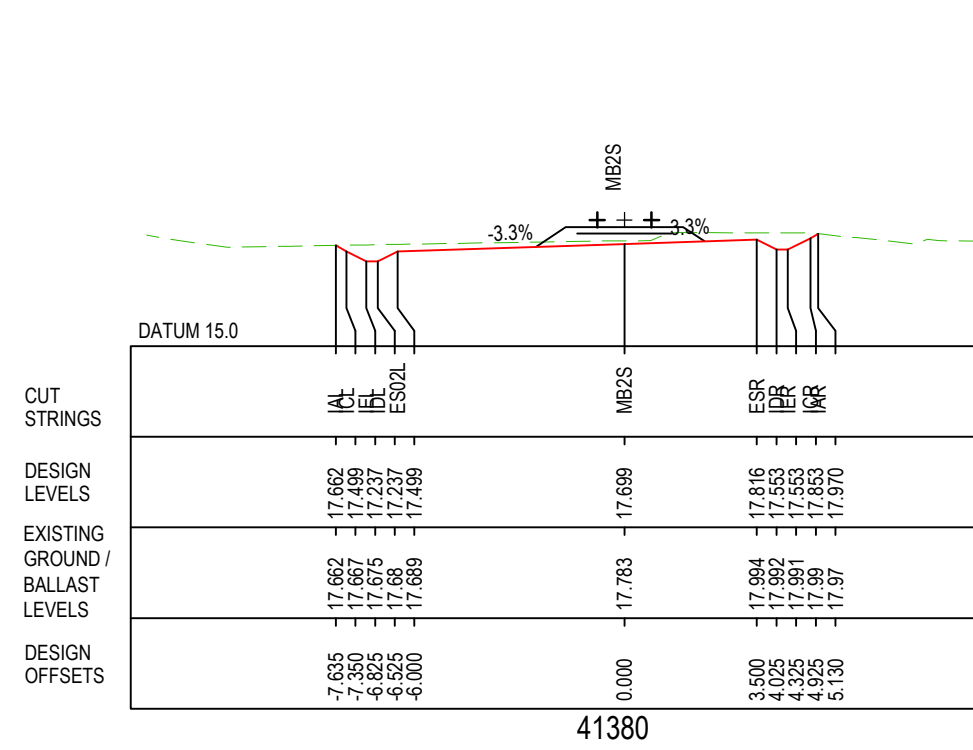
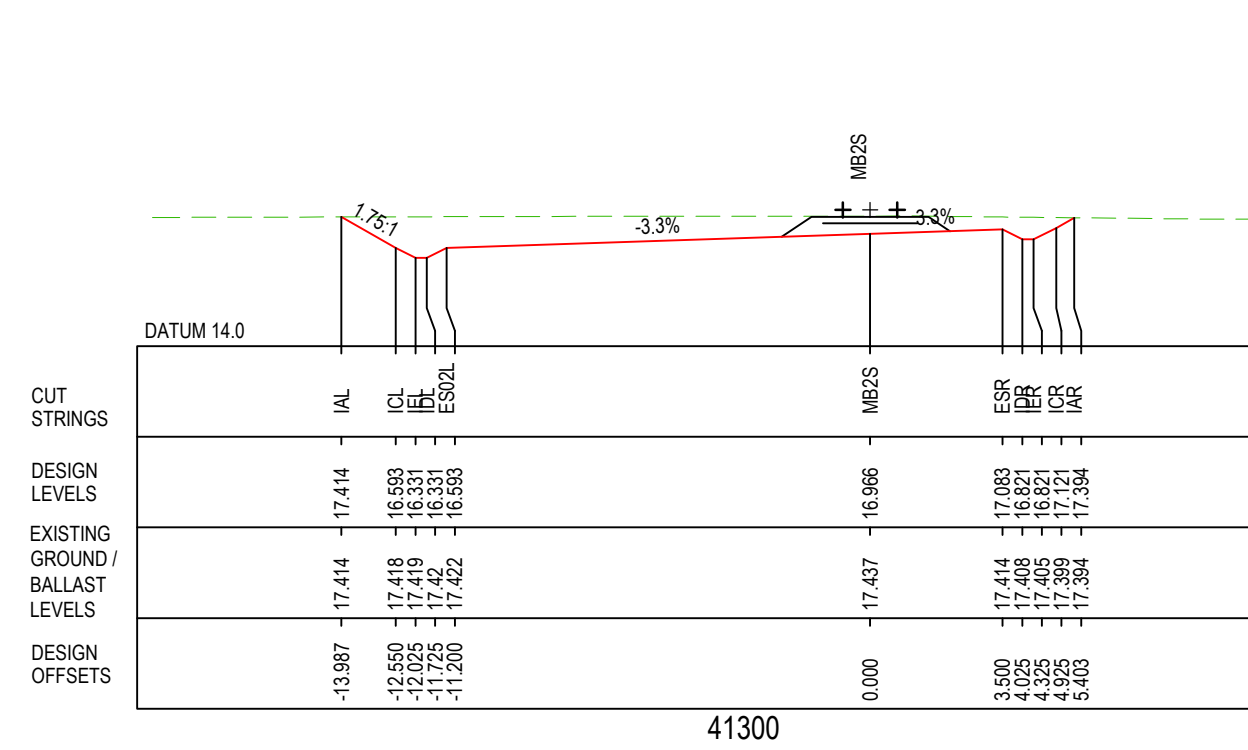
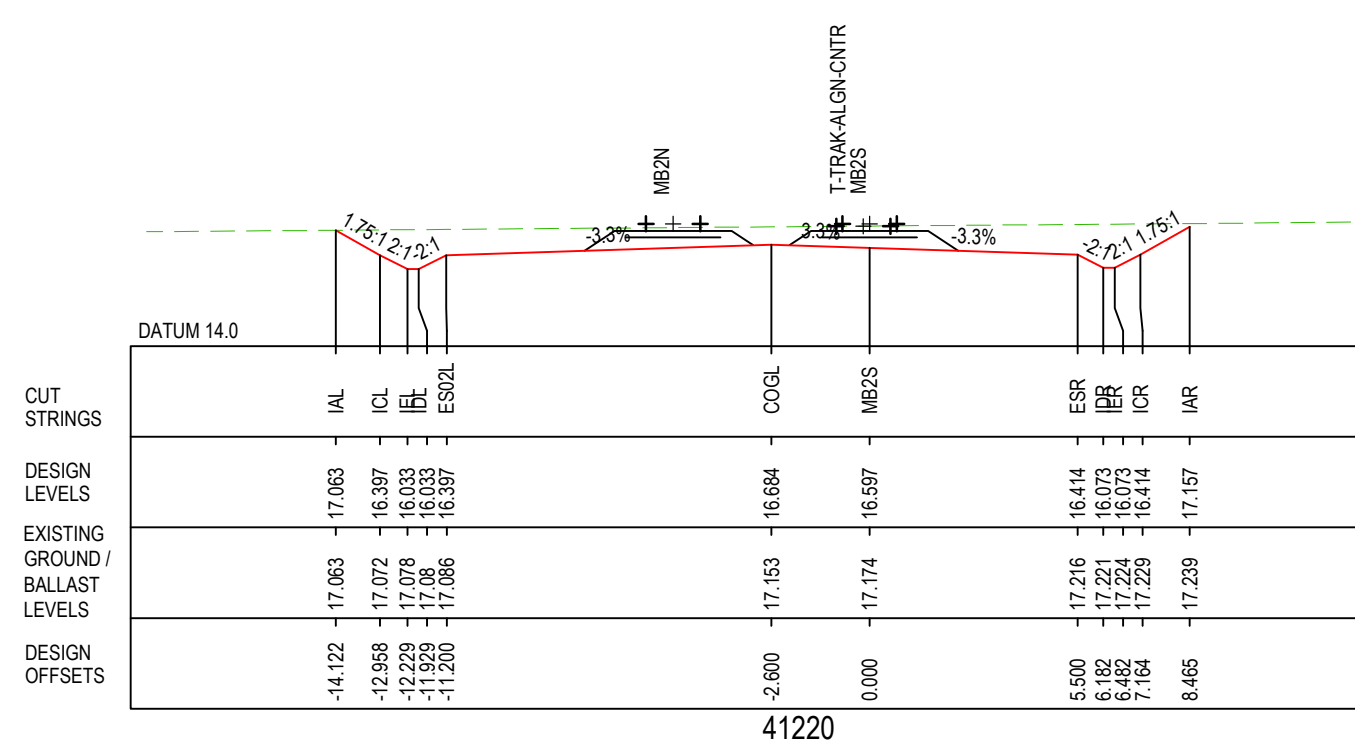
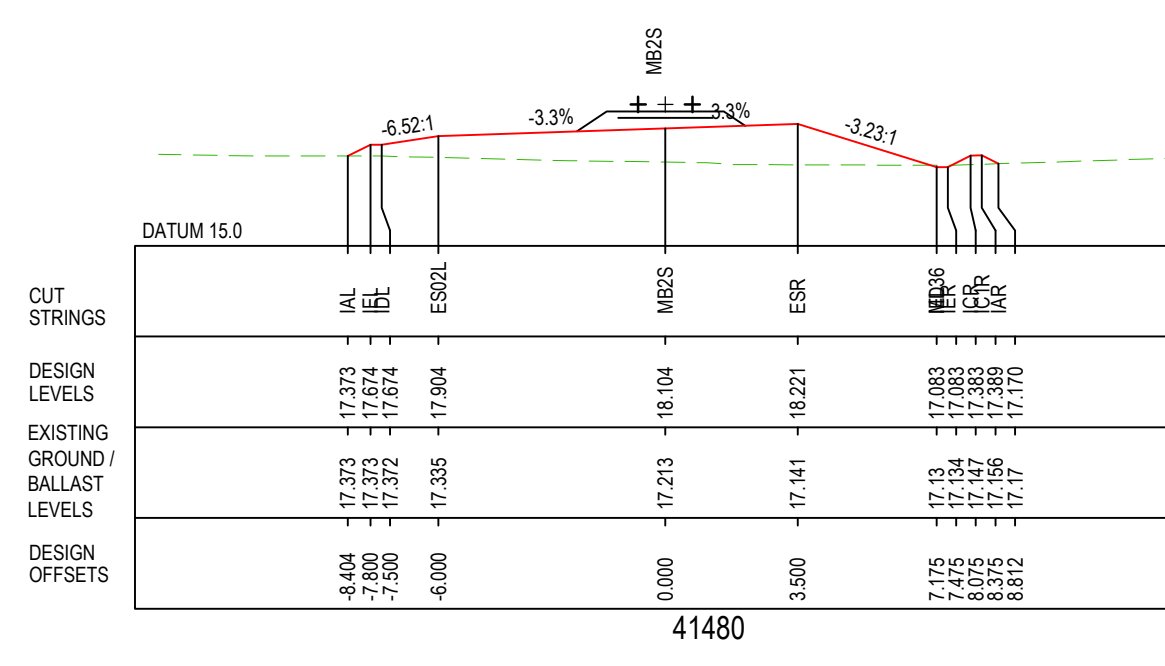
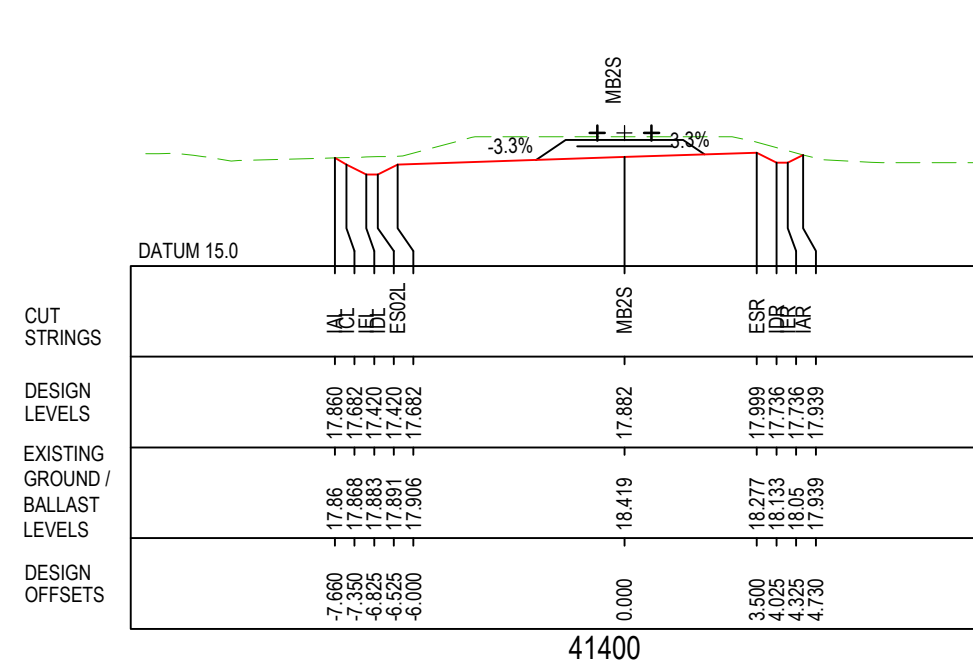
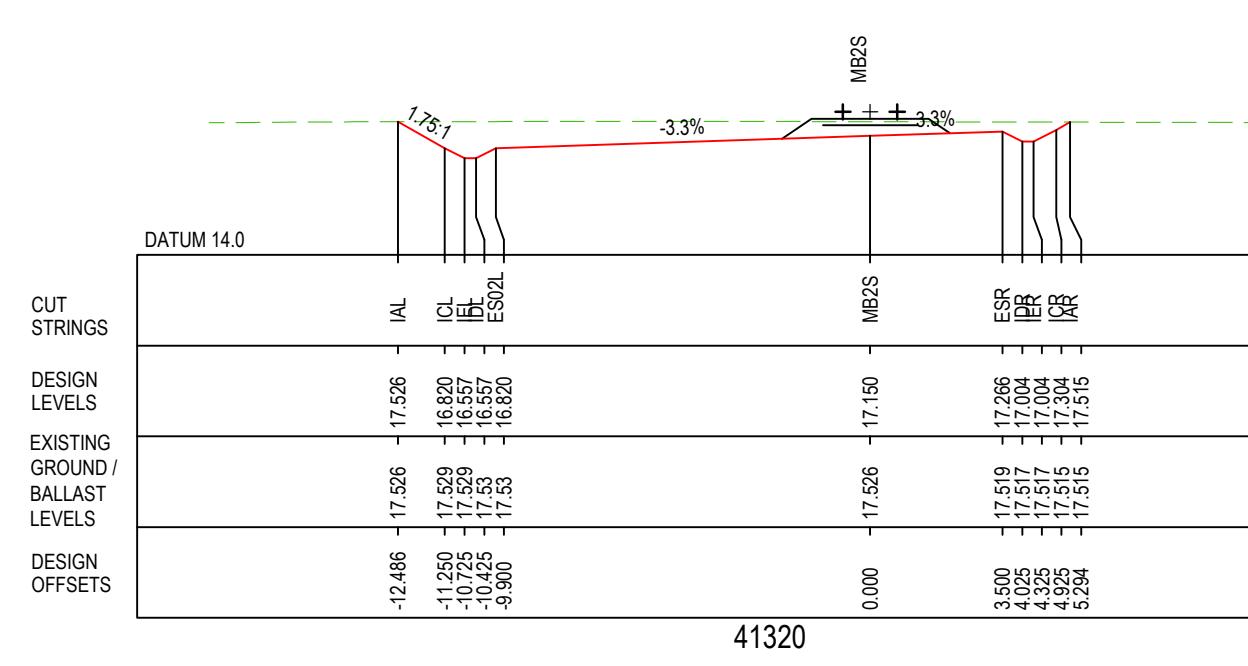
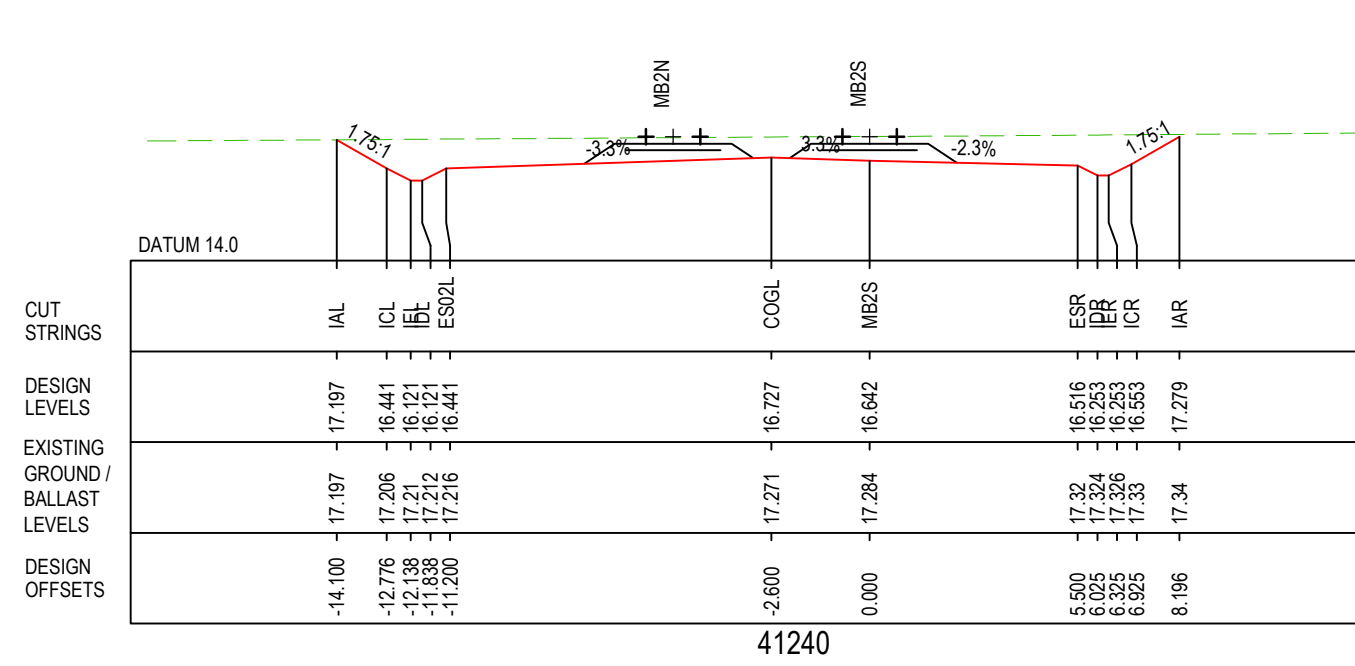
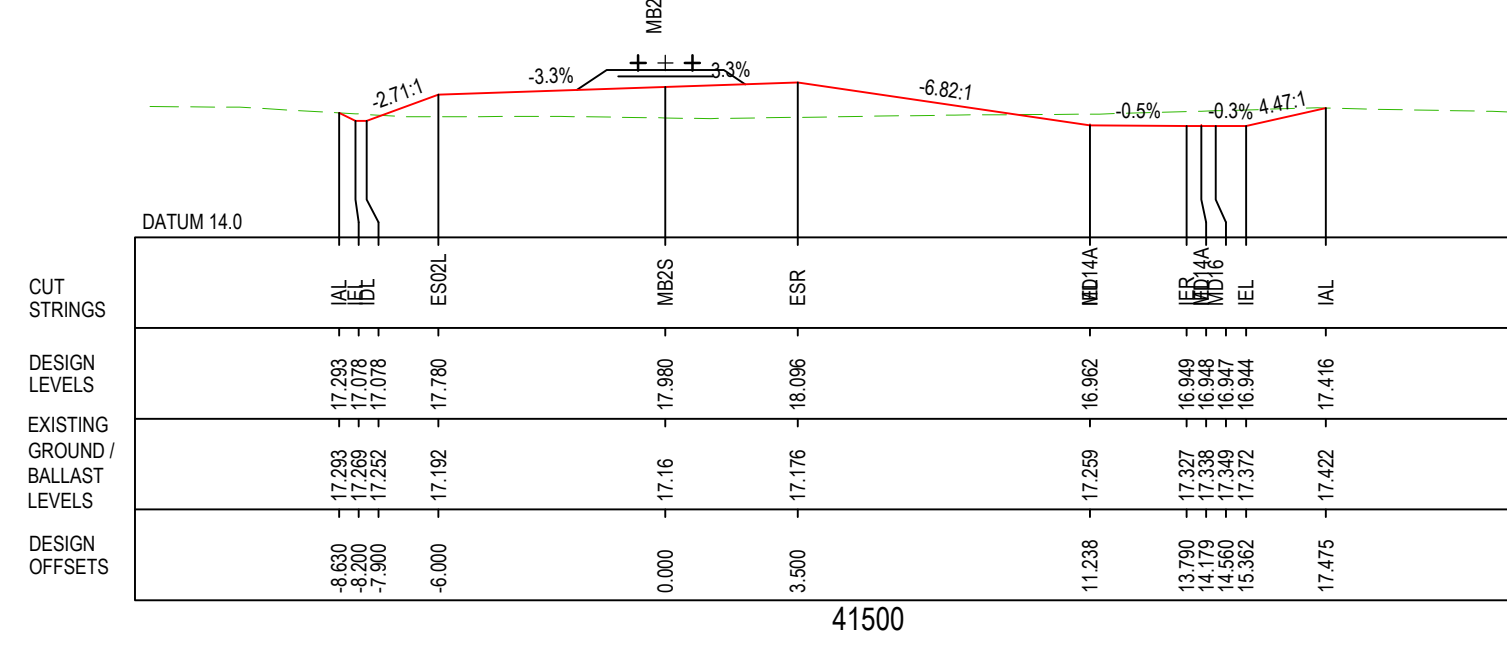
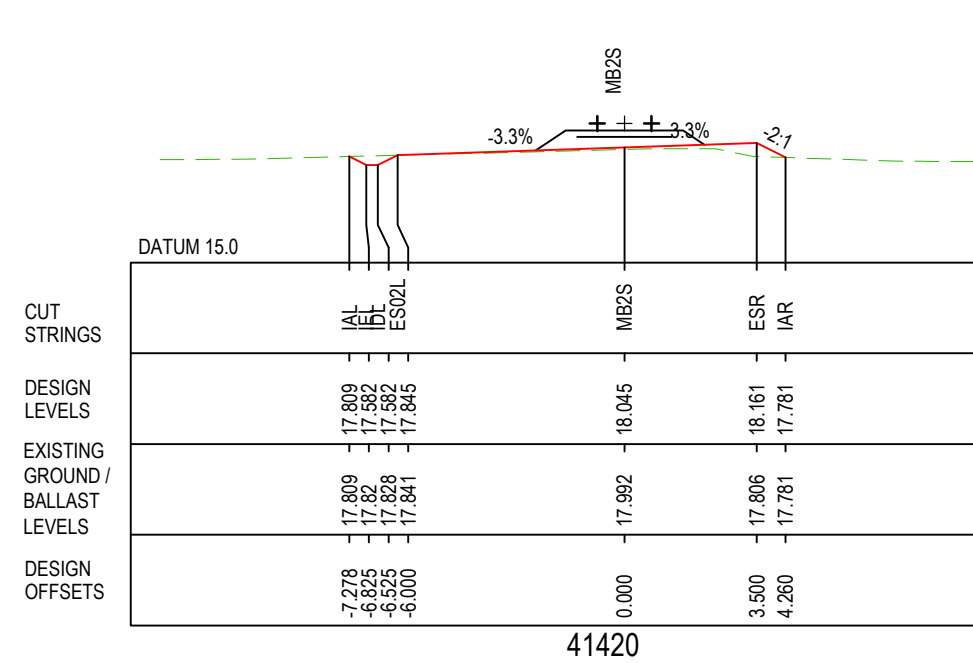
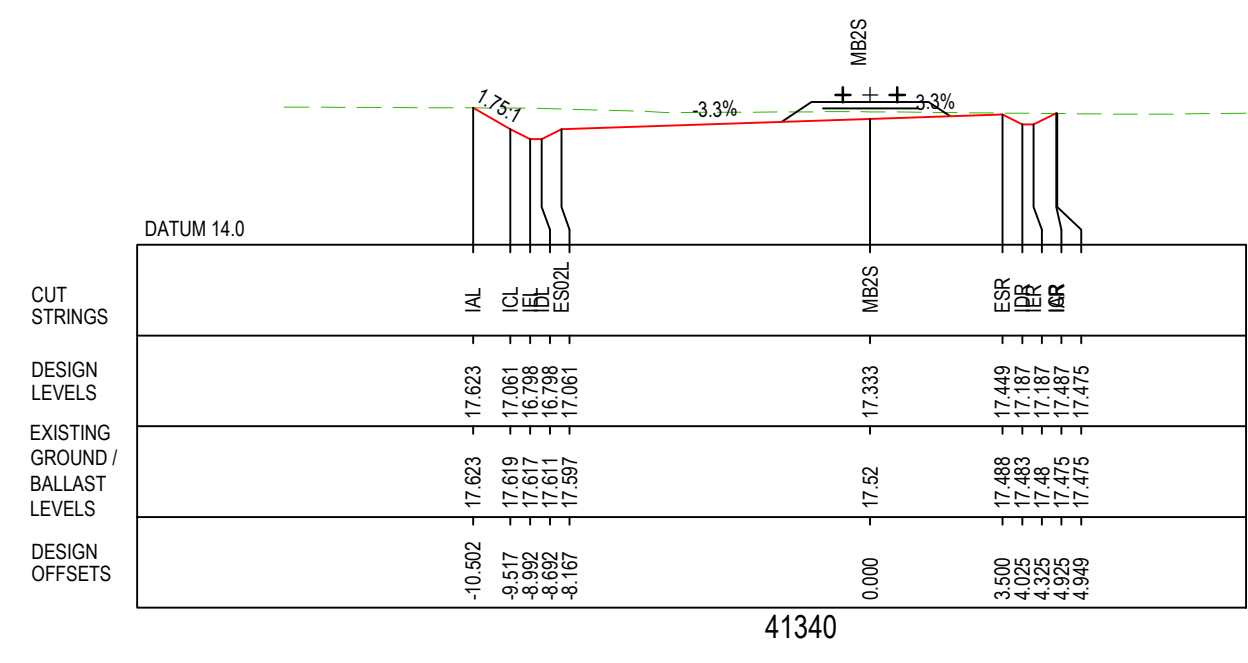
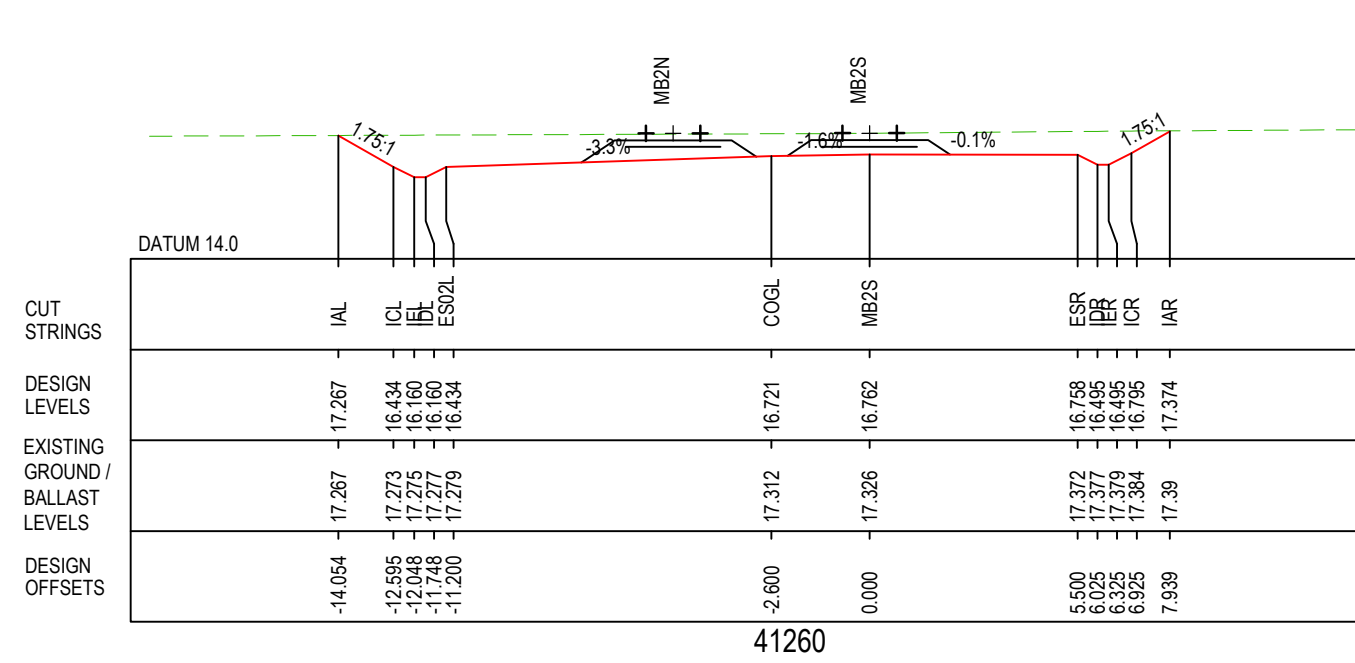
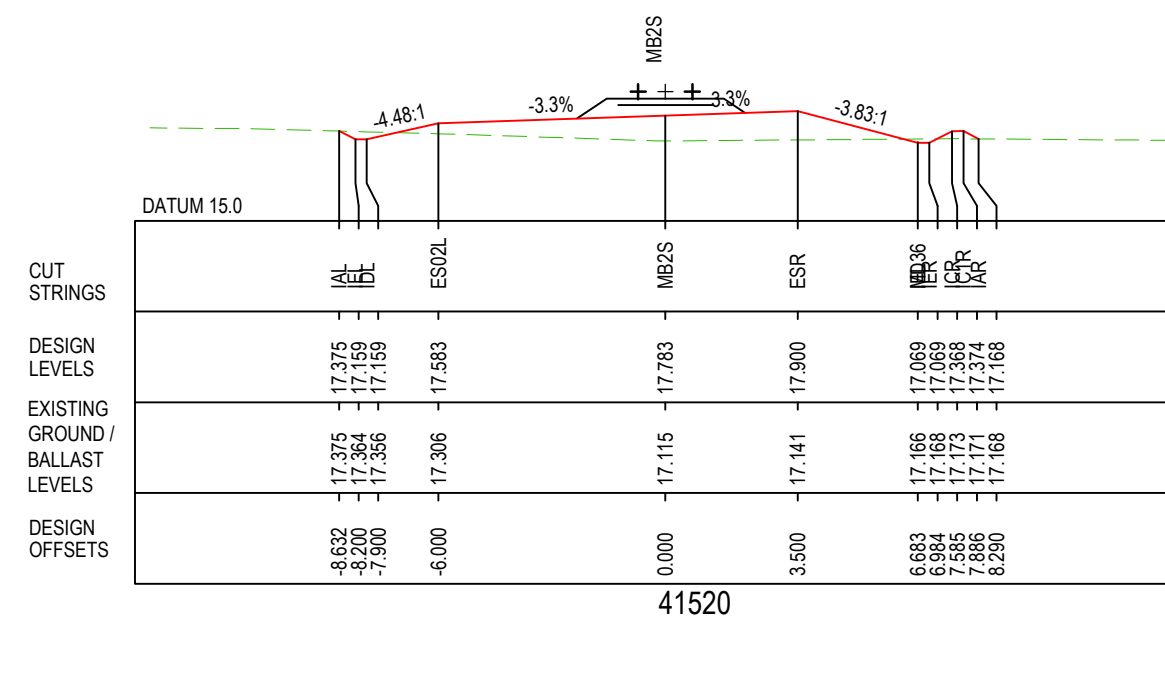
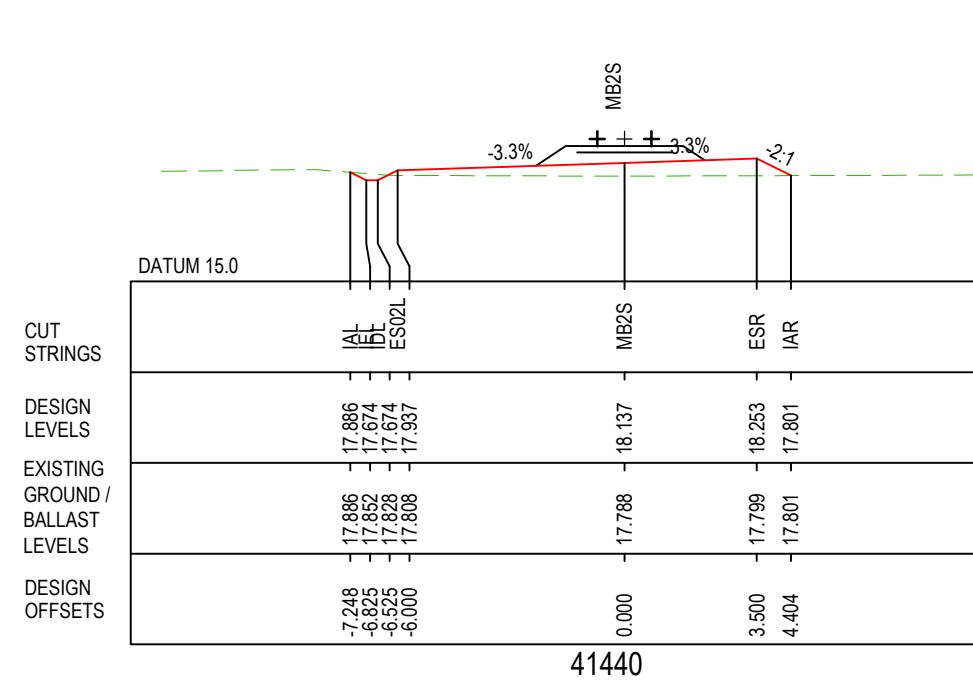
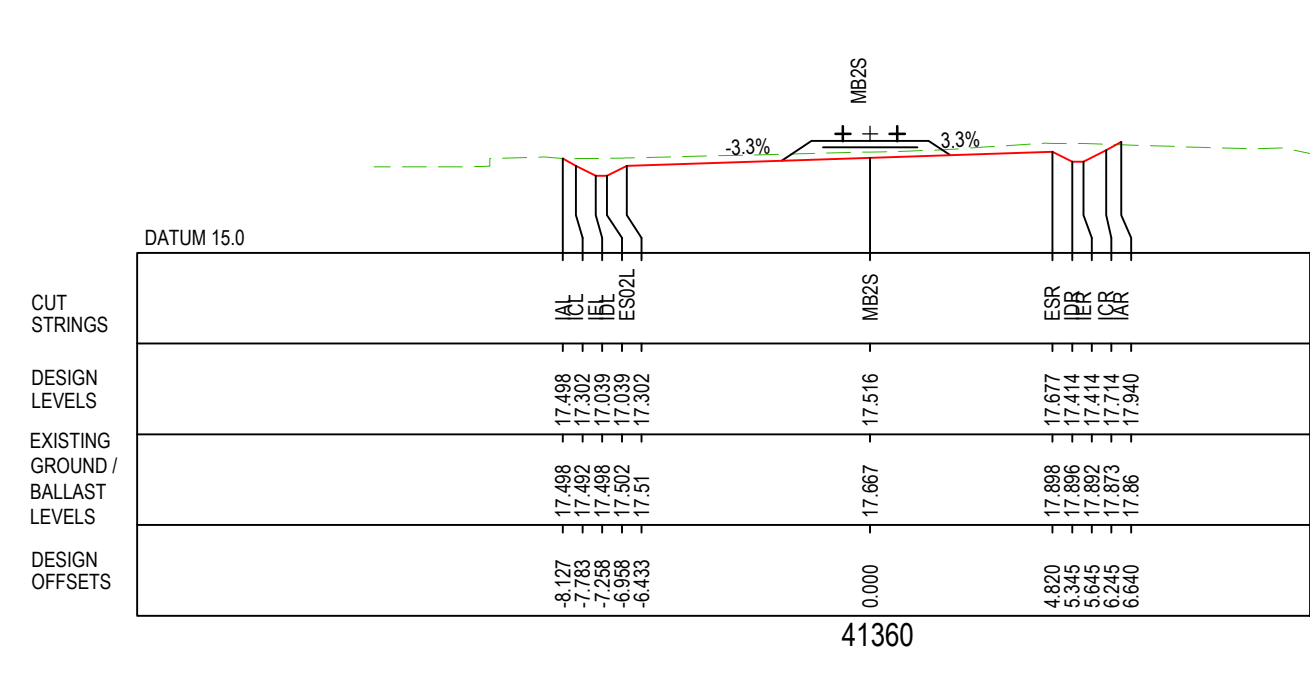
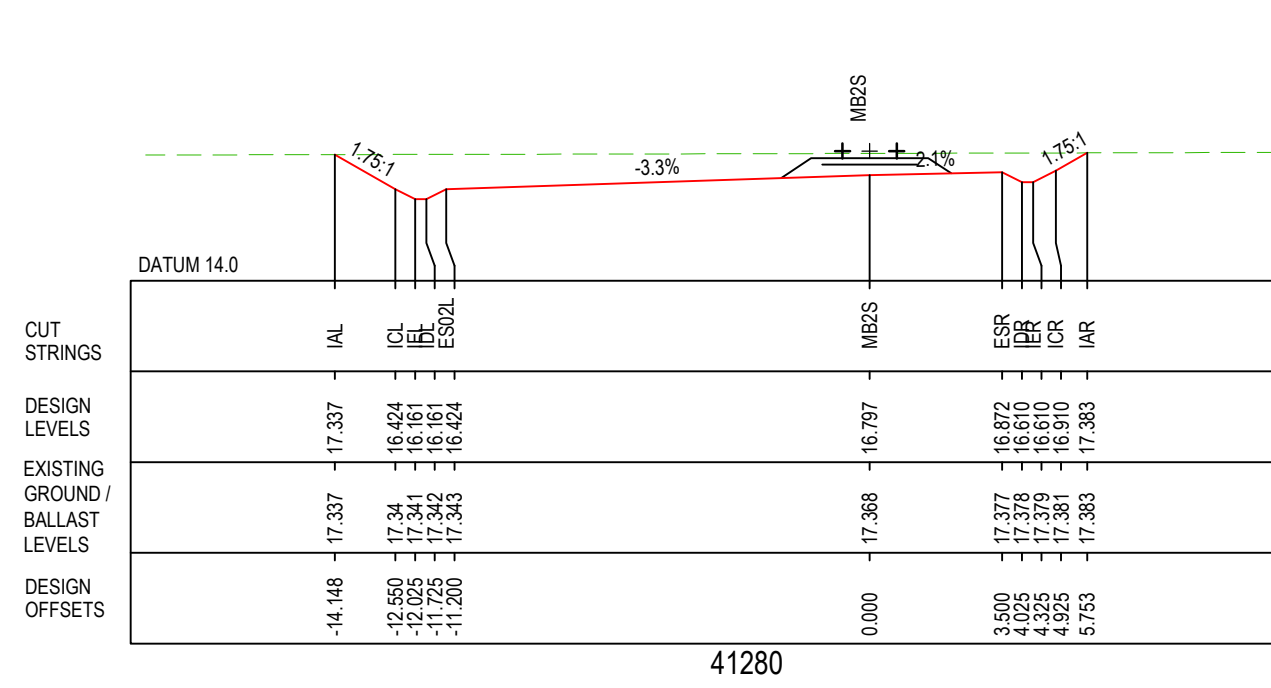


REV	DATE	REVISION DETAILS	APPROVED
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
DATE 31.07.18
M.SAKIB

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 15 OF 19	
DRAWING No.	PROJECT No.	ZONE
	N01031	PWD
	TYPE	DRG
	DISC	GEN
	NUMBER	0042
	REV	01

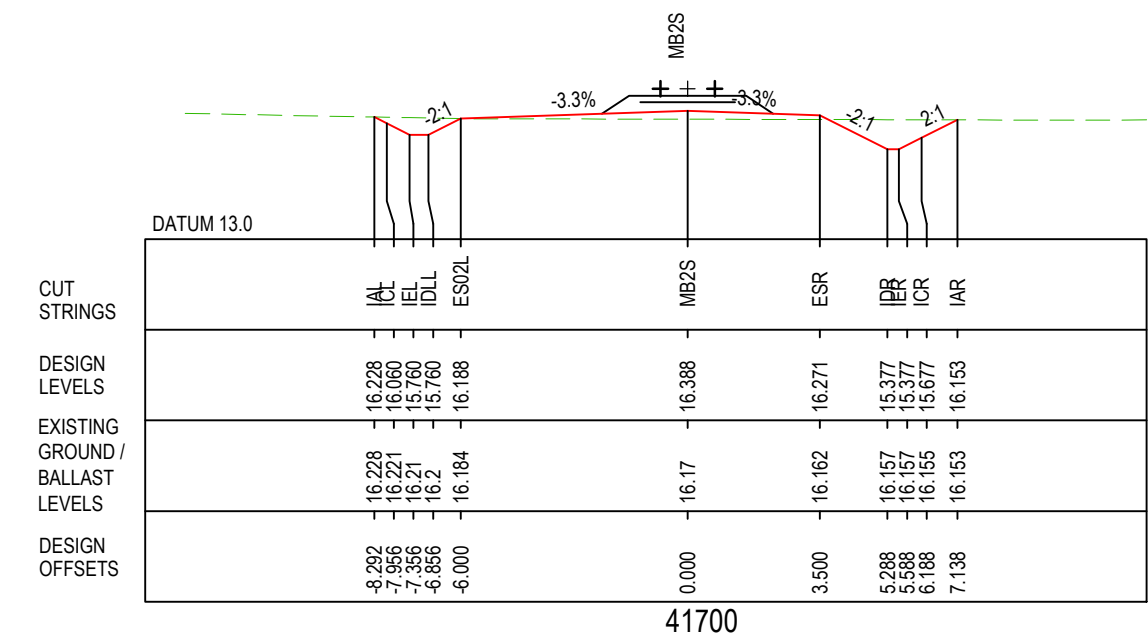
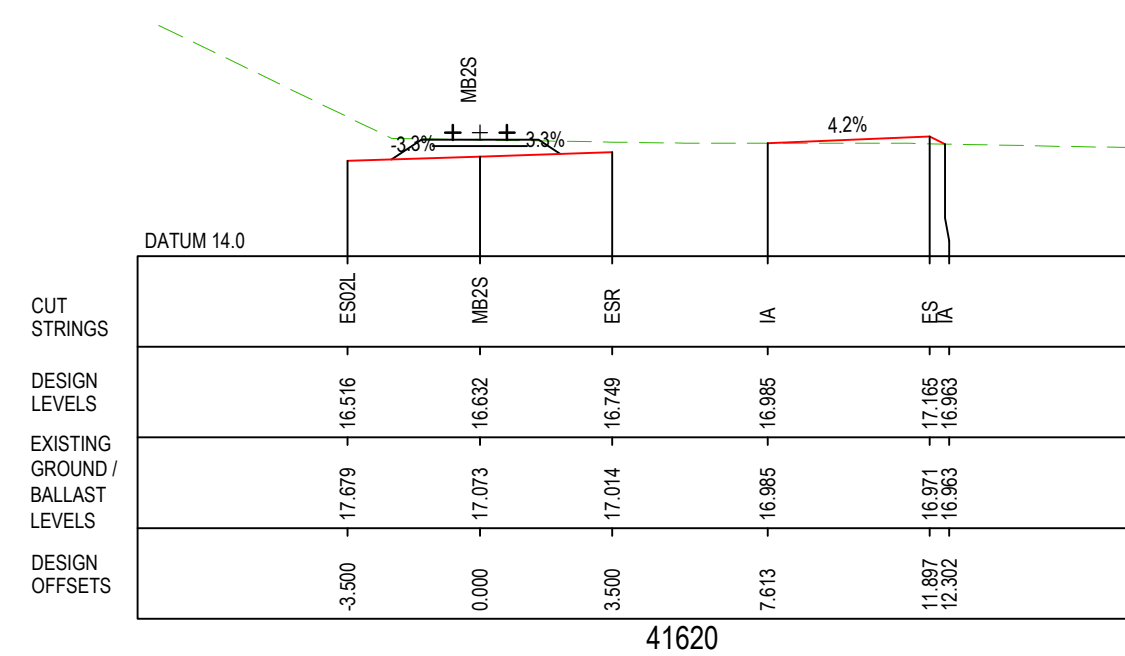
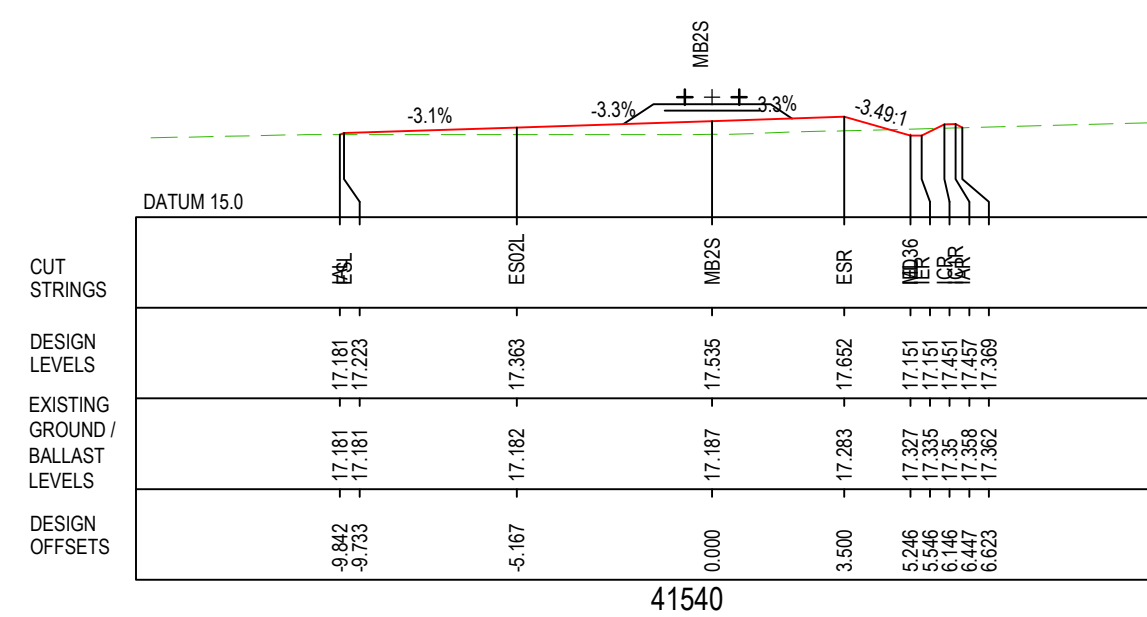


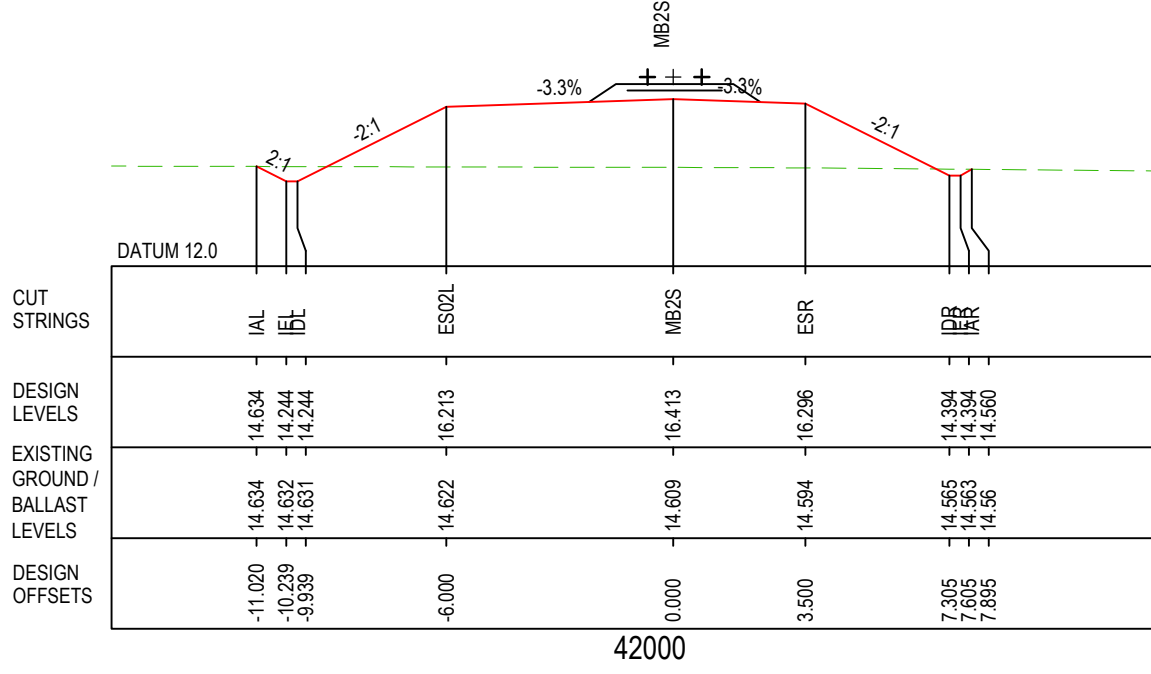
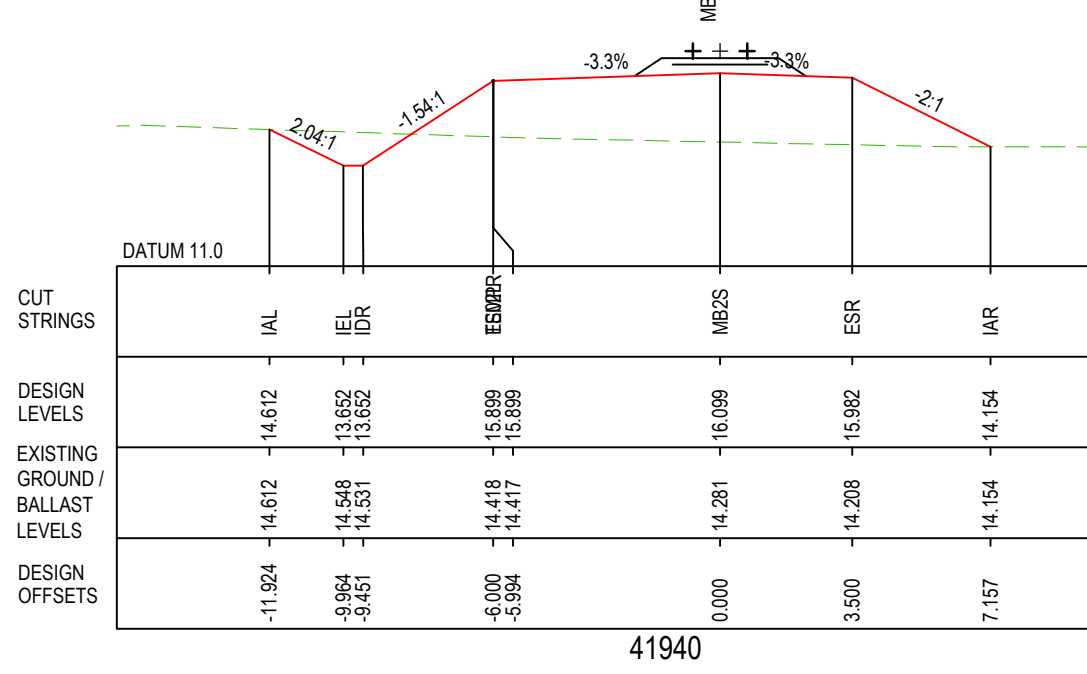
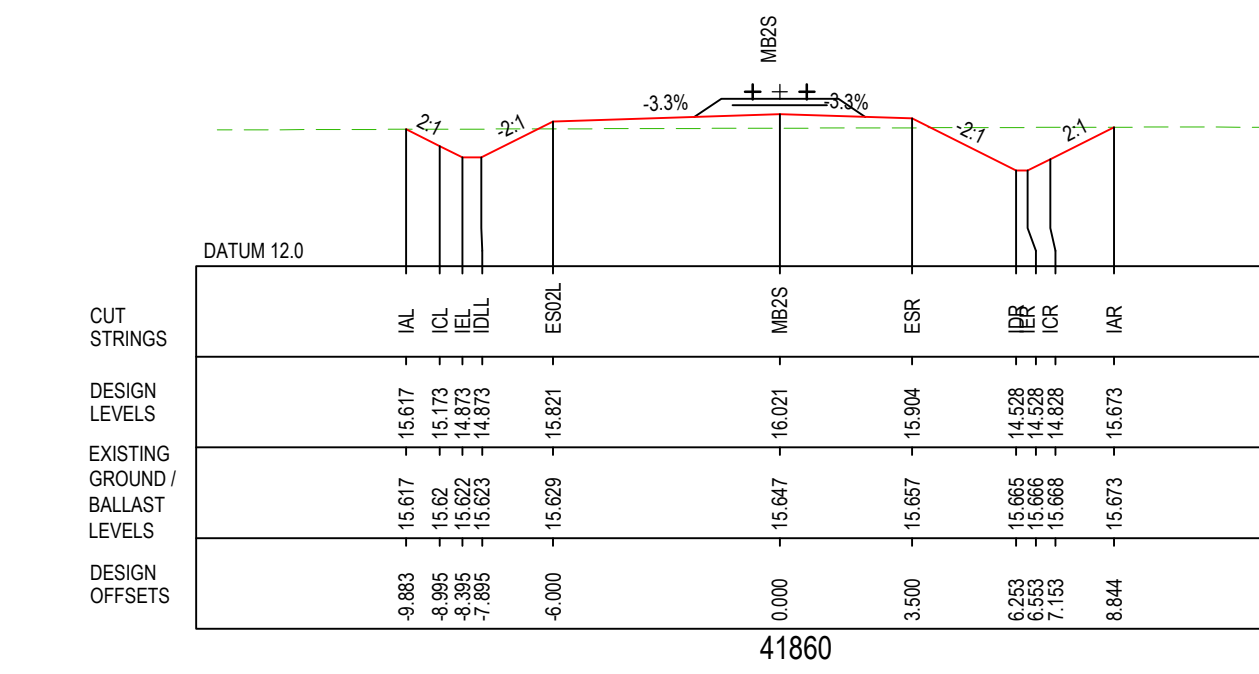
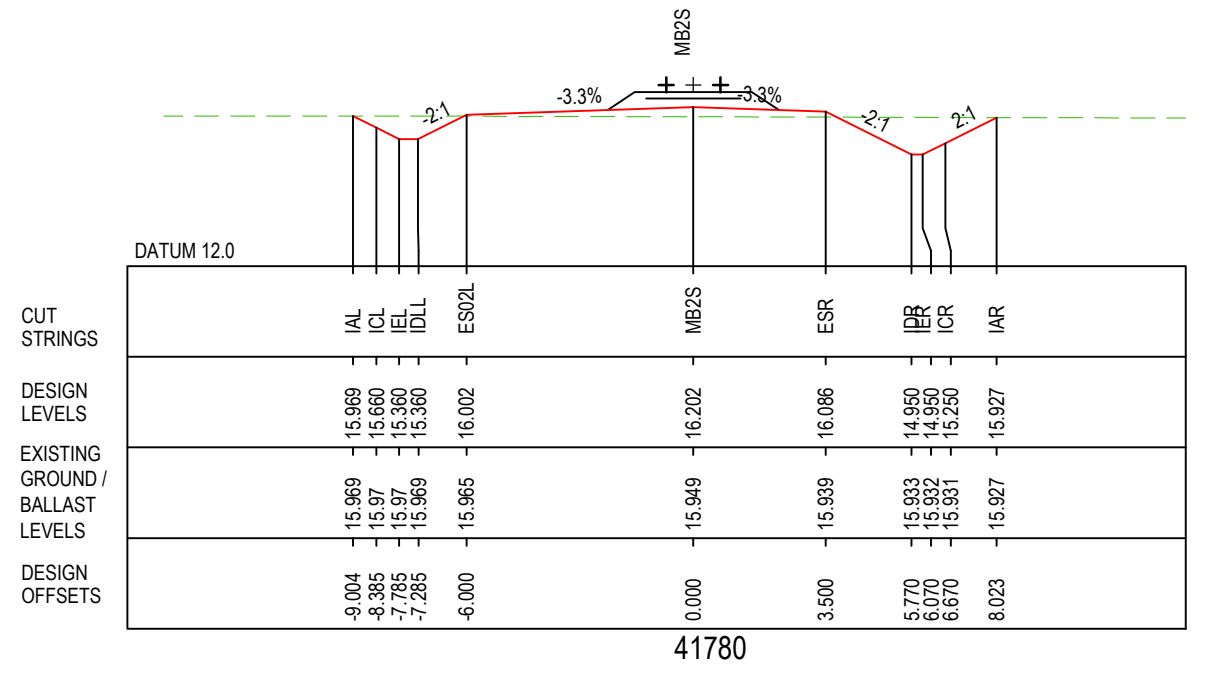
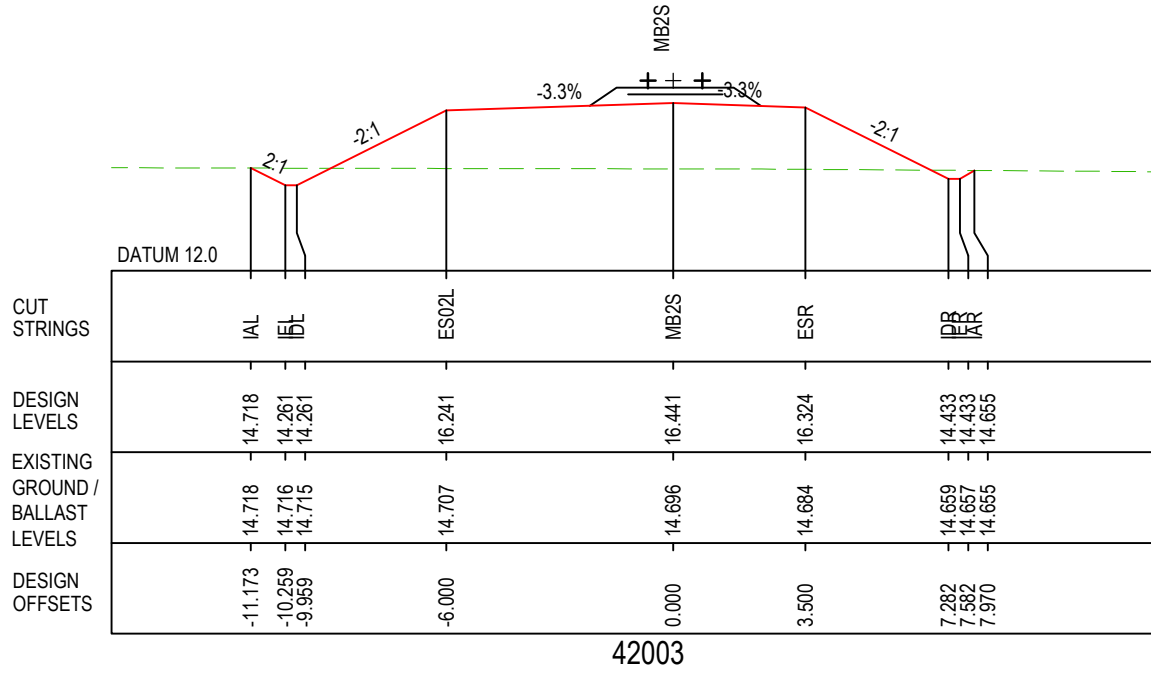
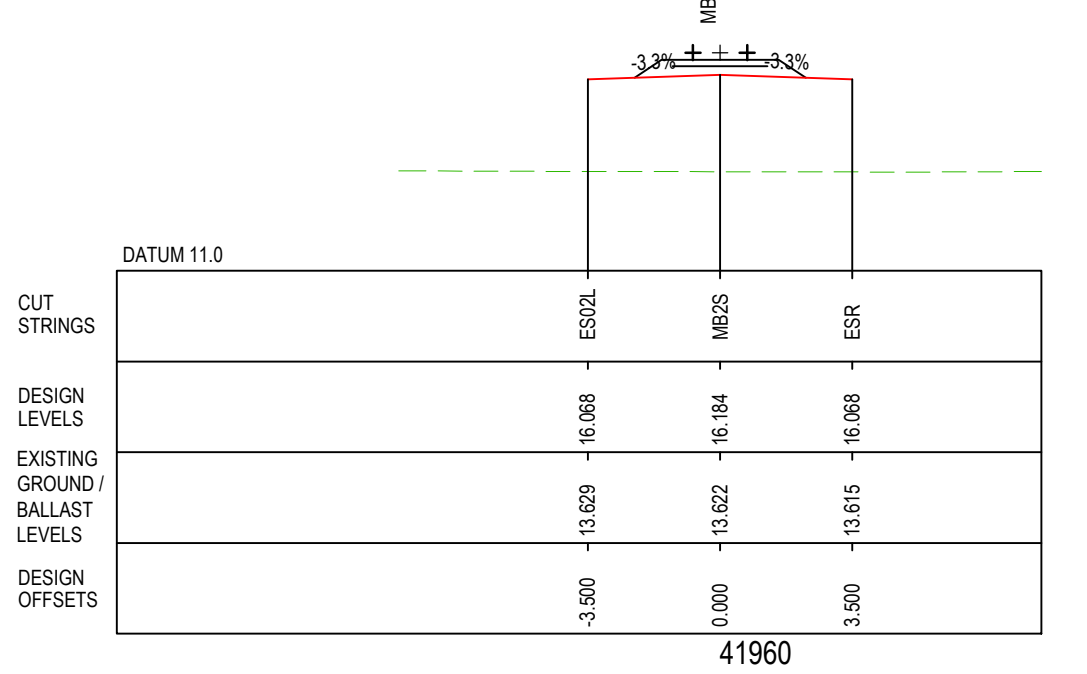
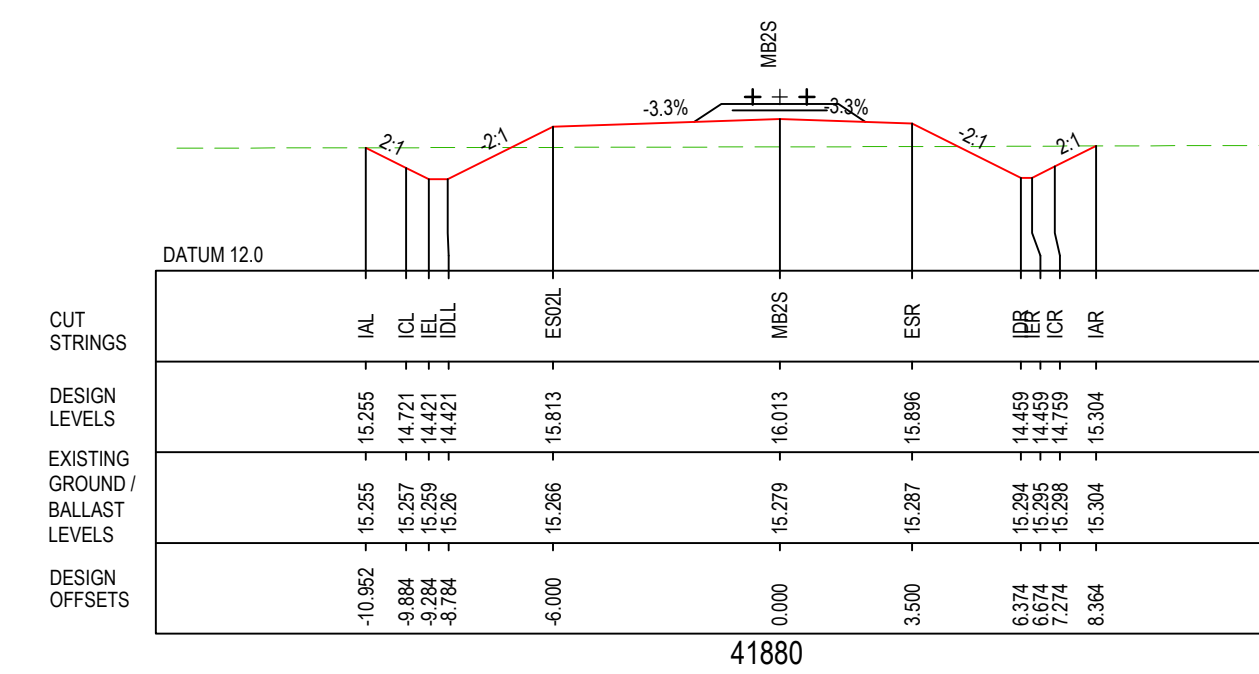
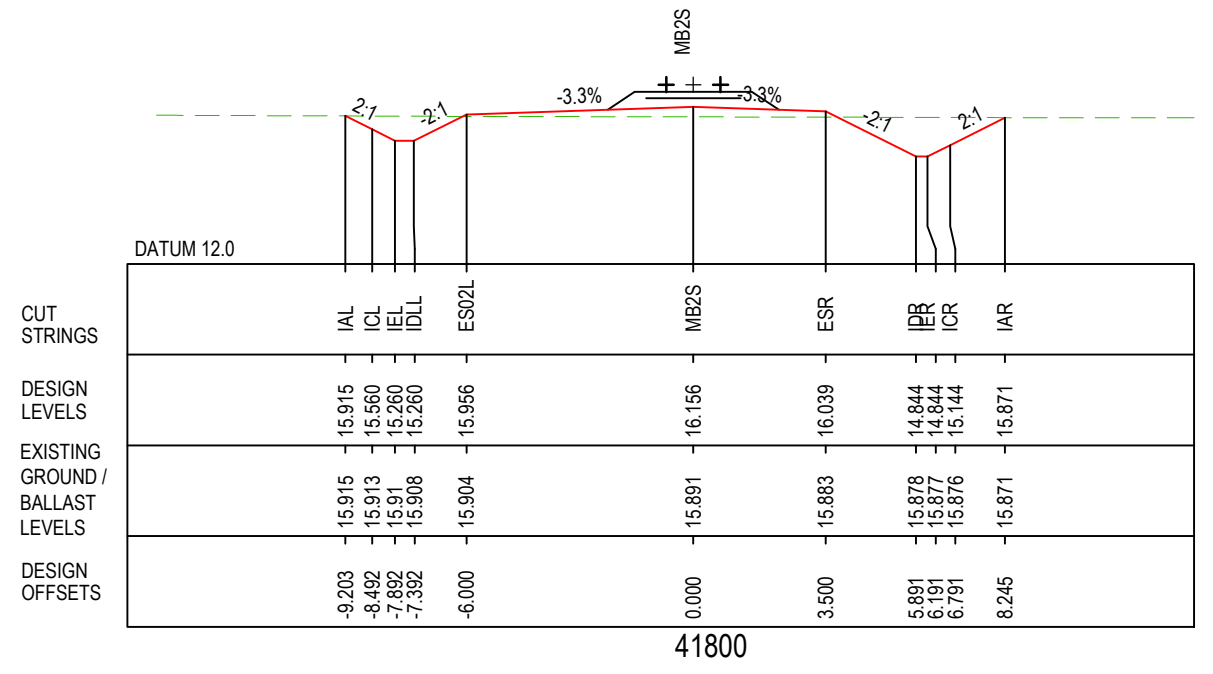
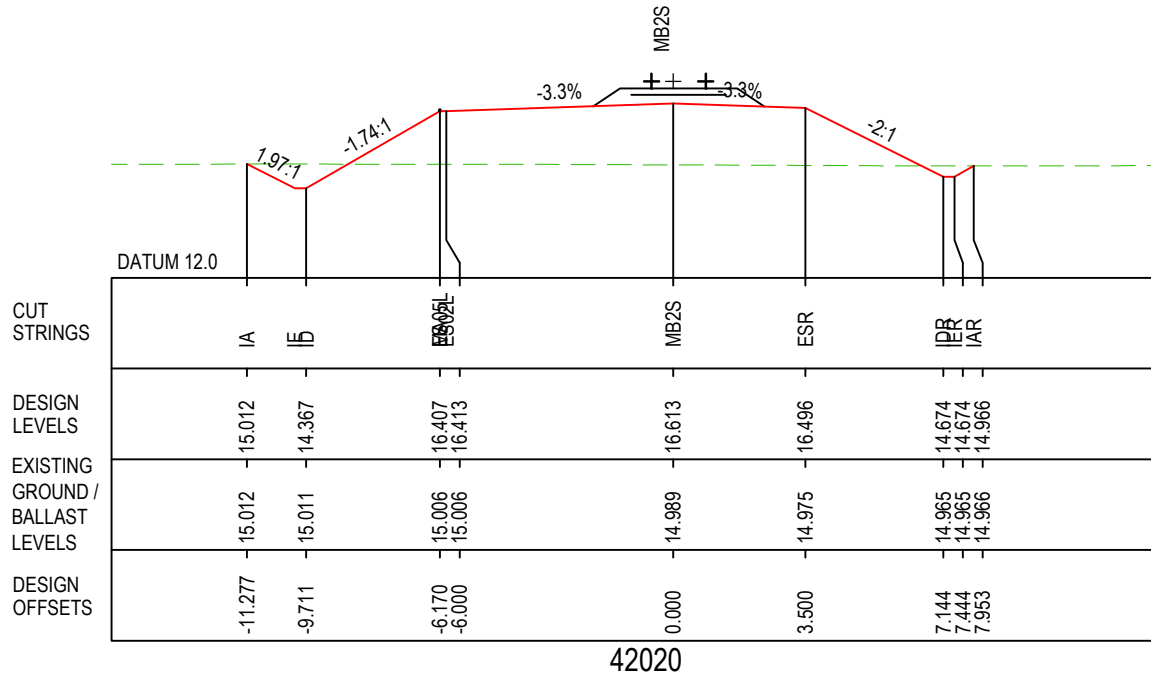
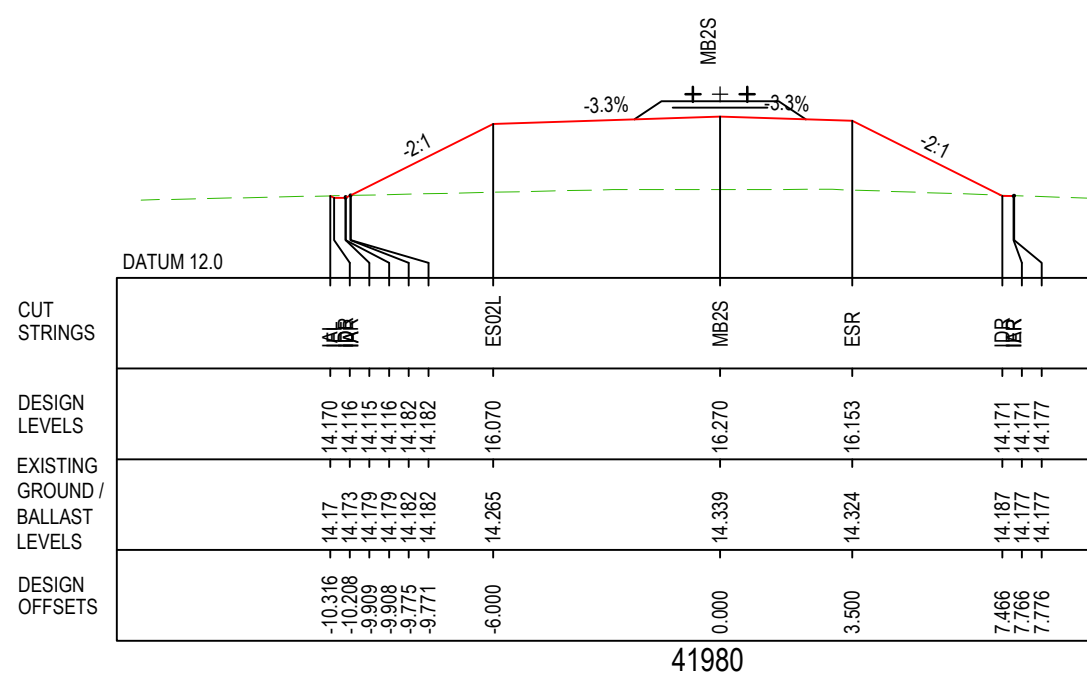
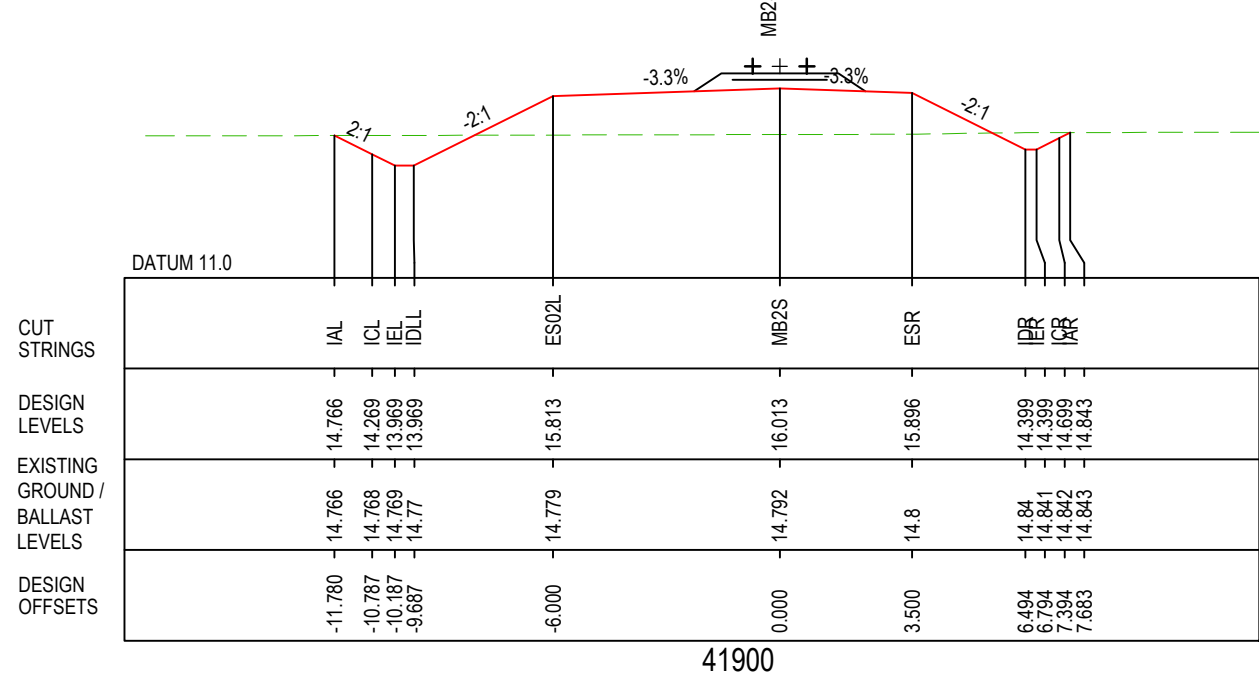
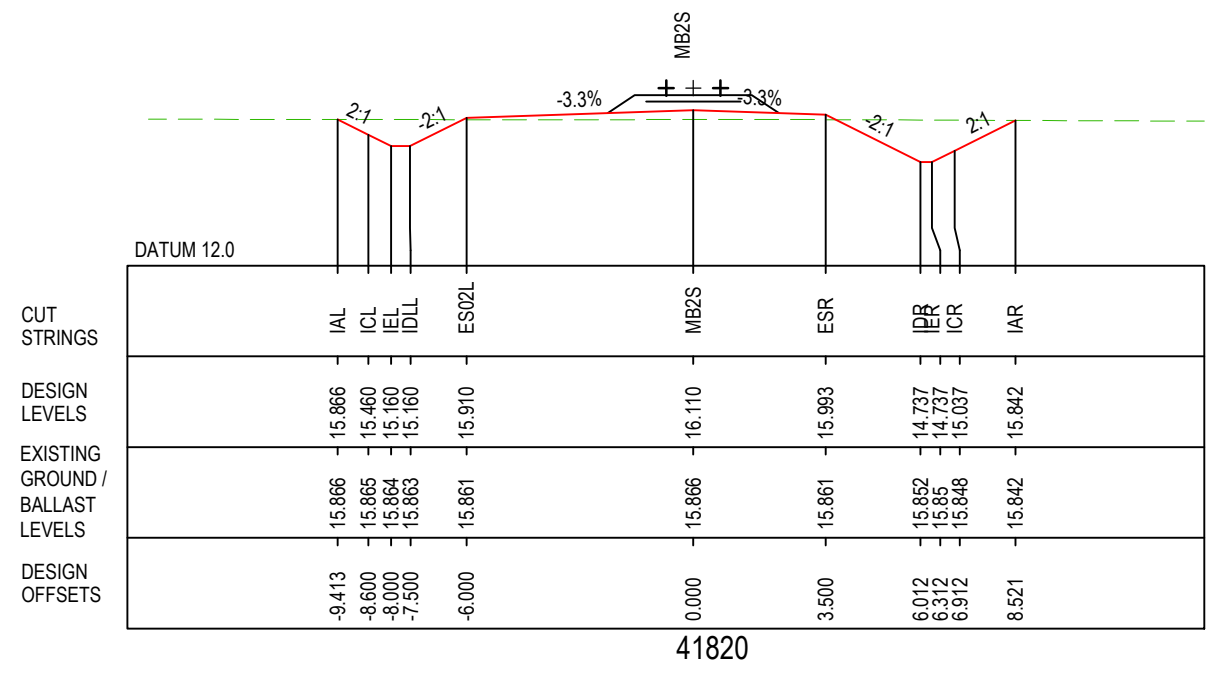
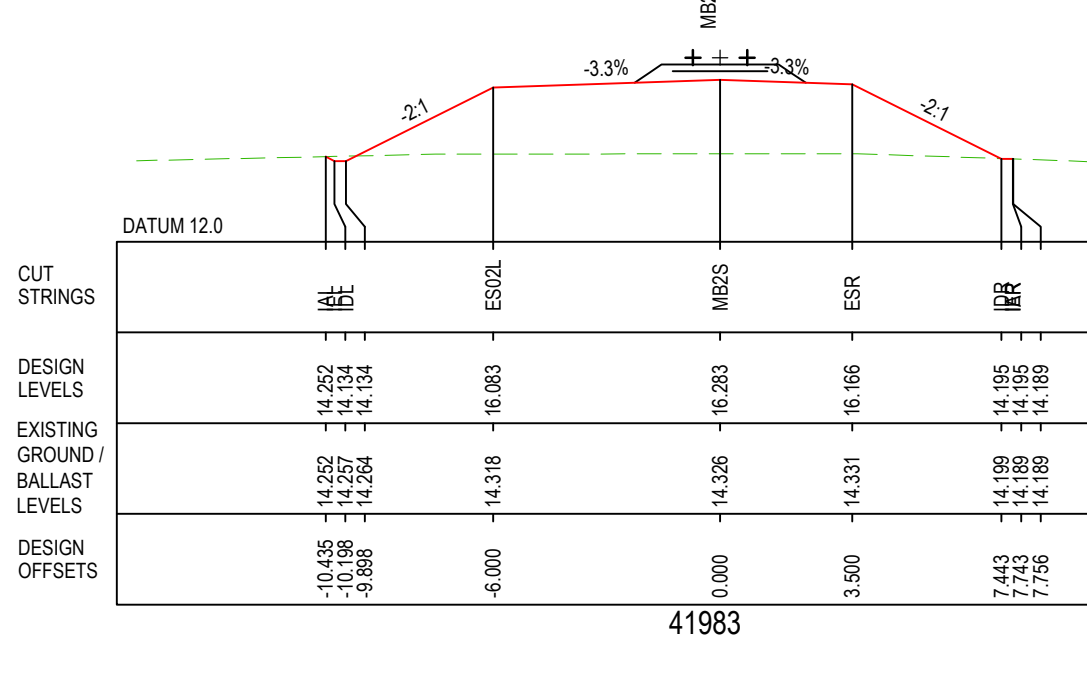
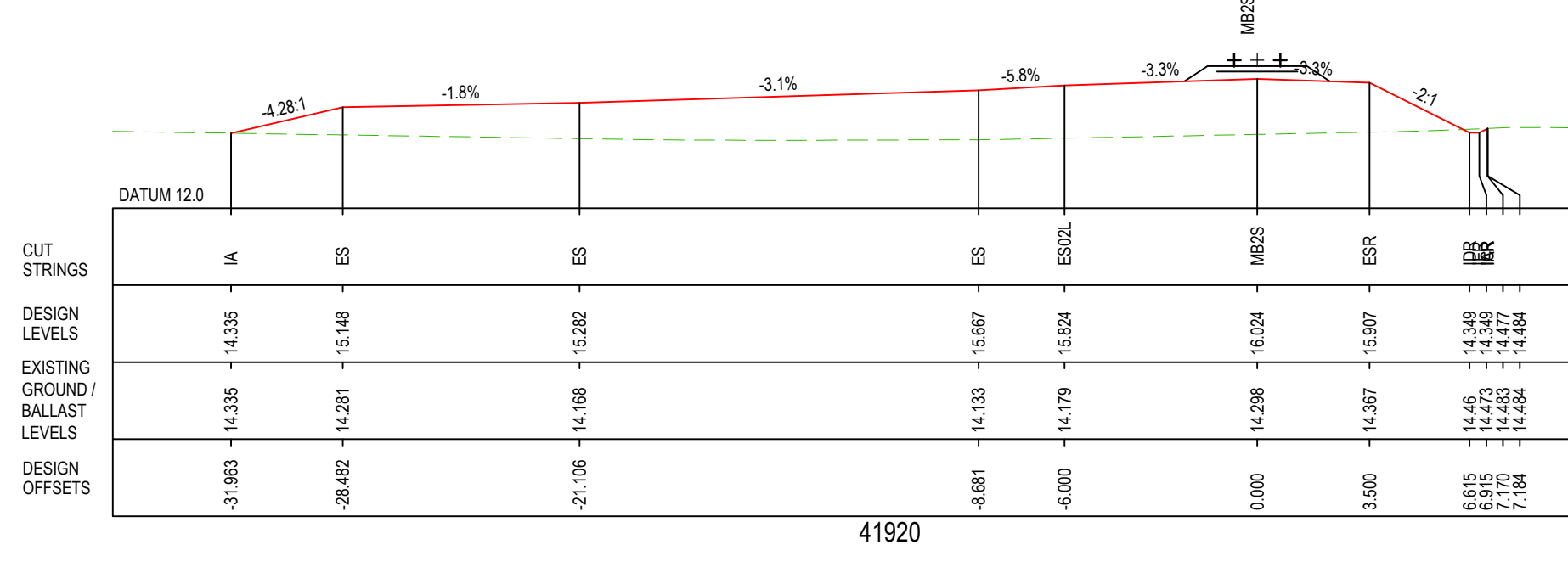
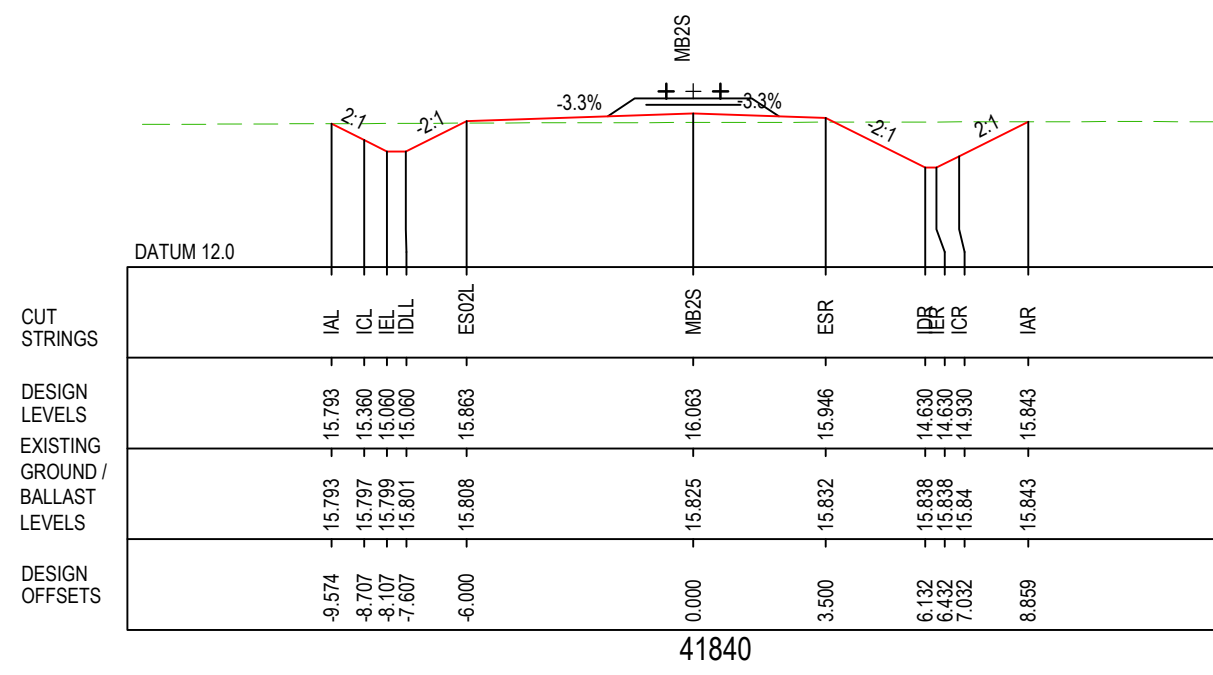
REV	DATE	REVISION DETAILS	APPROVED
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
DATE 31.07.18
M.SAKIB

ARTC DRAWING No		EDMS No		EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 16 OF 19					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	- 0043	- 01



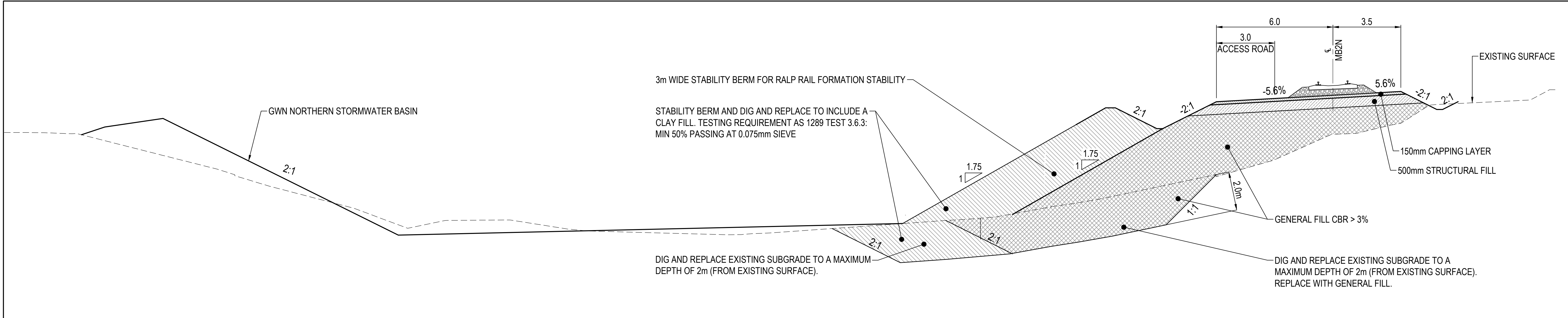


REV	DATE	REVISION DETAILS
01	31.07.18	ACCEPTED FOR CONSTRUCTION

APPROVED	SCALE	SIZE
M.SAKIB	AS SHOWN	A1
	DRAWN	
	A.LITTLE	
	DESIGNED	
	M.SAKIB	
	CHECKED	
	W.DENG	

FOR CONSTRUCTION
APPROVED
M.SAKIB
DATE
31.07.18

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION CROSS SECTIONS SHEET 18 OF 19	
DRAWING No.	PROJECT No.	ZONE
	N01031	PWD
	TYPE	DRG
	DISC	GEN
	NUMBER	0045
	REV	01



SECTION A

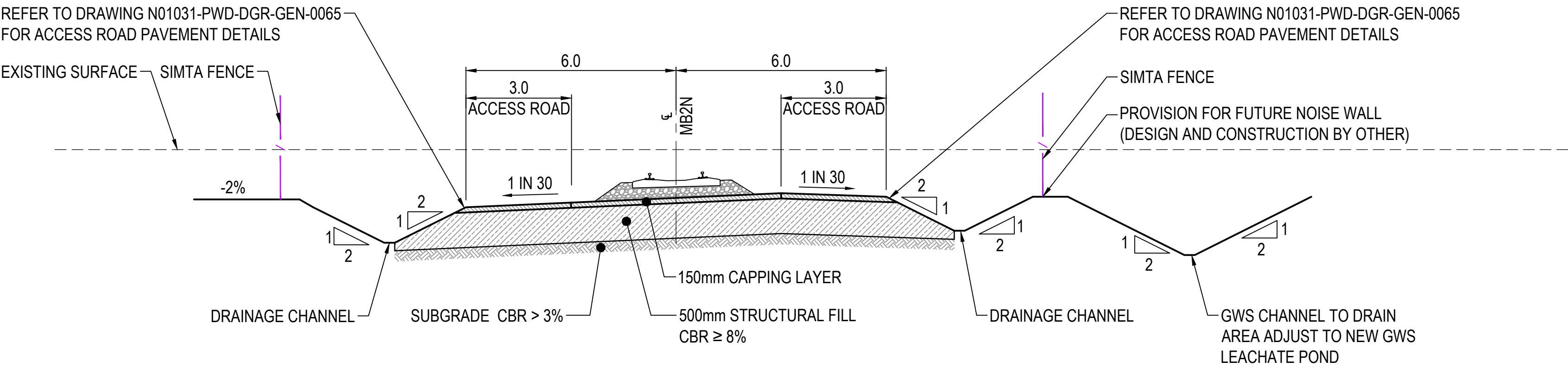
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GEN-0011 0112

TYPICAL SECTION - CONTROL LINE MB2N
CH 39553

NOTES FOR TYPICAL CROSS SECTIONS

- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
- C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
- FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
- FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
- LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- SUBSOILS MAY BE REQUIRED REFER TO N0131-DRG-GEN-0066 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER. REFER TO DRAWING N01031-PWD-DRG-GEN-0065 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.

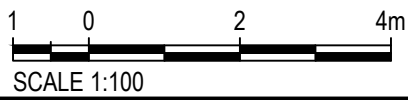


SECTION B

1:100

GEN-0011 0113

TYPICAL SECTION - CONTROL LINE MB2N
CH 39720

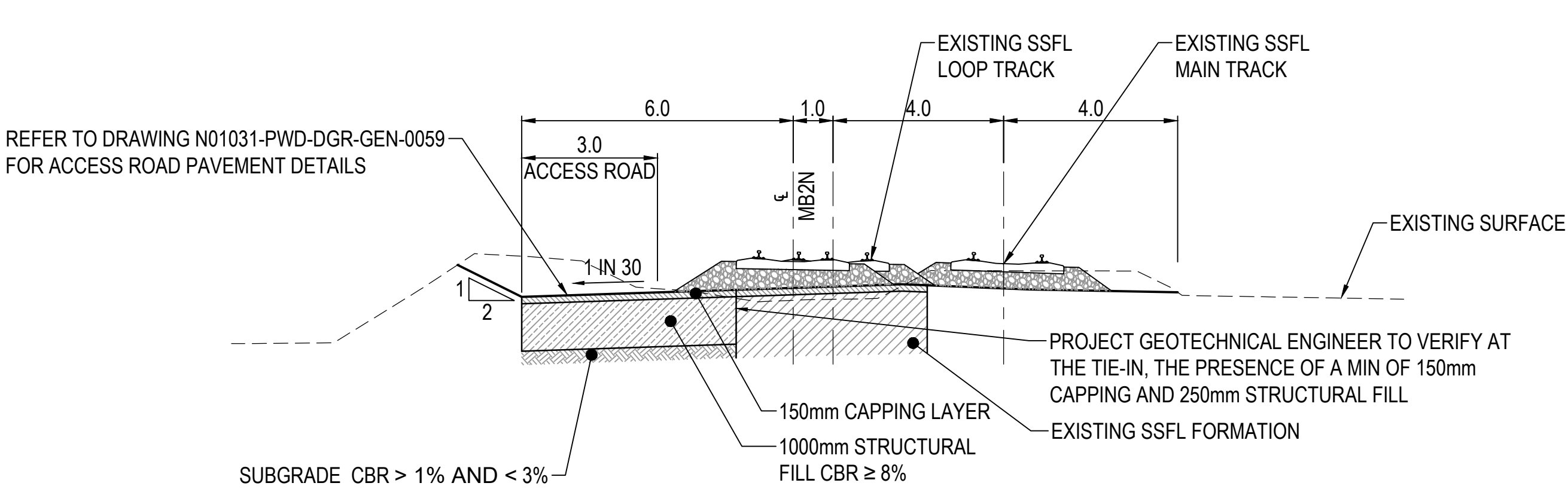


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	
APPROVED	DATE 31.07.18
M.SAKIB	
M.SAKIB	

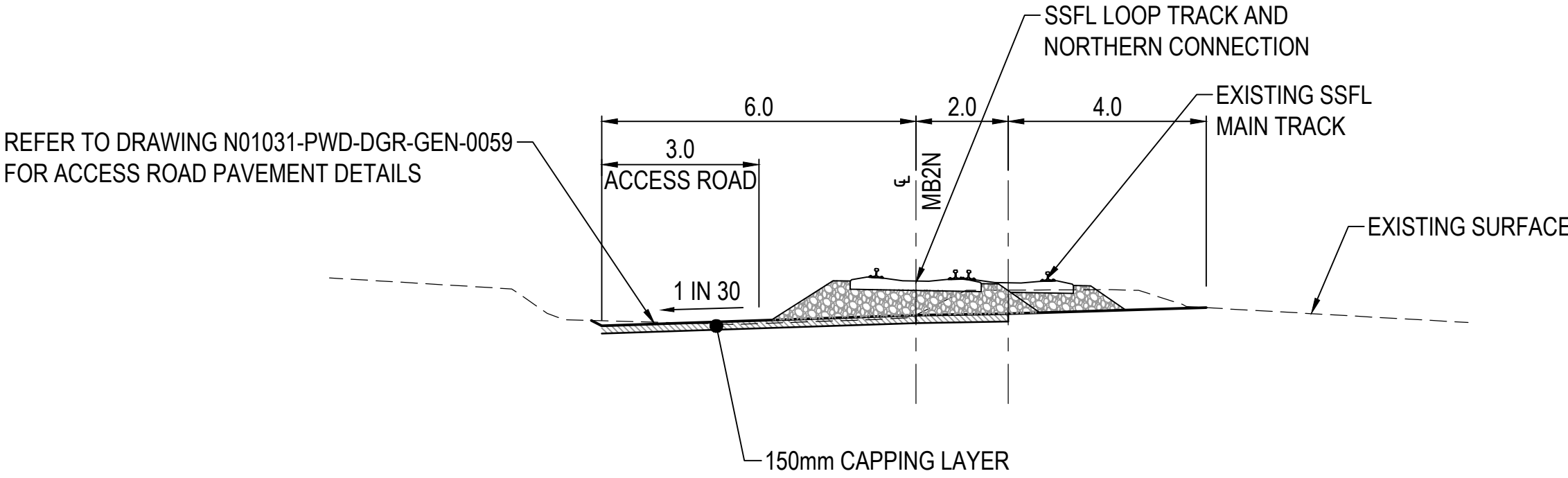
ARTC DRAWING No				EDMS No				EDMS REV					
PROJECT		MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1											
TITLE		BULK EARTHWORKS NORTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 1 OF 3											
DRAWING No.		PROJECT No.		ZONE		TYPE		DISC		NUMBER		REV	
N01031		- N01031		PWD		DRG		GEN		0050		03	



SECTION **AB**
1:100 GEN-0010

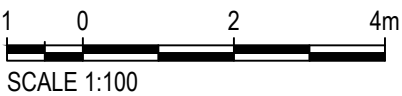
TYPICAL SECTION - CONTROL LINE MB2M
CH 39450

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
2. REFER TO DRAWINGS N01031-PWD-SPE-EWK-0025 TO N01031-PWD-DRG-GEN-0040 FOR EARTHWORKS CROSS SECTIONS.
3. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
5. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
6. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
7. FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
8. FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
9. LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
10. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
11. SUBSOILS MAY BE REQUIRED REFER TO N0131-PWD-GEN-0059 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE.
THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER.
REFER TO DRAWING N01031-PWD-DRG-GEN-0059 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.
12. REFER TO DRAWING N01031-PWD-DRG-GEN-0081 FOR FOUNDATION TRANSITION DETAIL BETWEEN EXISTING SSFL FOUNDATION AND PROPOSED FOUNDATION TREATMENT.
13. INSTALL COMPACTED GENERAL FILL LAYER (AS PER CLAUSE 3.1.2 OF THE EARTHWORK SPECIFICATION) OVER THE EXPOSED SAND LAYER EXTENDING APPROXIMATELY FROM CH39880 TO CH40180 (ON MB2S) AND THEN FROM CH40230 TO CH40258 (ON MB2S). THE VERTICAL EXTENT OF THE SAND LAYER IS APPROXIMATELY BETWEEN RL11m AND AL3m. THE EXTENT OF THE SAND LAYER IS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE.



SECTION **AD**
1:100 GEN-0010

TURNOUT TYPICAL SECTION - CONTROL LINE MB2N
CH 39350



REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	FOR CONSTRUCTION		PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1								
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA	AS SHOWN	A1												
				DRAWN J.RASAMEEMANEEPONG		APPROVED DATE 20.01.17 A. O'SHEA A. O'SHEA		TITLE	BULK EARTHWORKS NORTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 2 OF 3								
				DESIGNED M.SAKIB													
				CHECKED W.DENG													
						DRAWING No.	PROJECT No.		ZONE		TYPE		DISC		NUMBER		REV
							N01031	-	PWD	-	DRG	-	GEN	-	0051	-	01



3. INSTALL COMPACTED GENERAL FILL LAYER (AS PER CLAUSE 3.1.2 OF THE EARTHWORK SPECIFICATION) OVER THE EXPOSED SAND LAYER EXTENDING APPROXIMATELY FROM



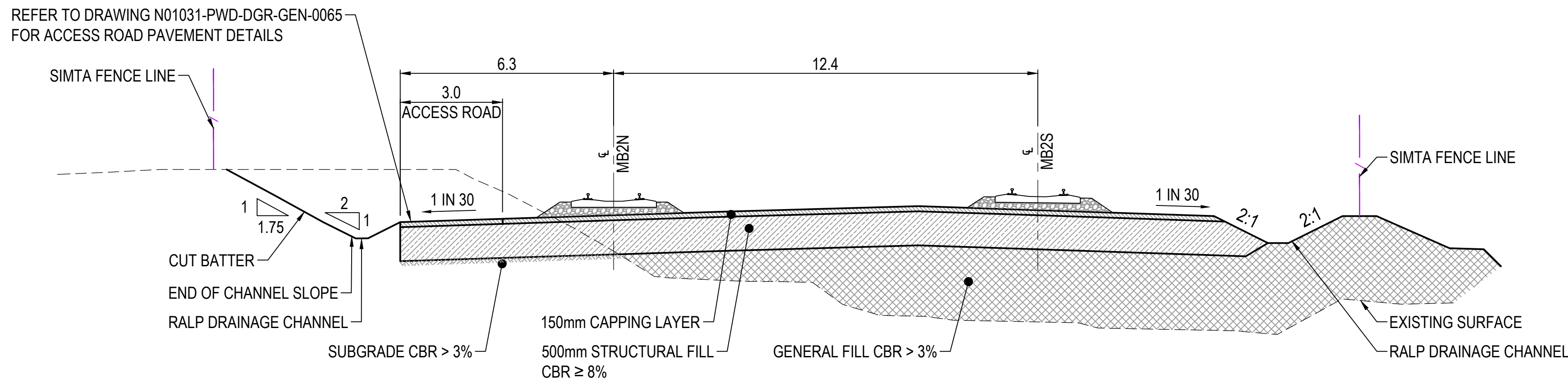
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE	BULK EARTHWORKS NORTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 3 OF 3						
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
	N01031	- PWD	- DRG	- GEN	0052	03	

Proj Date: 30/06/18 11:52:21 PM Pw: C:\P\ WORK\MOOREBANK\SAVING\ PRO\0207\01\01031-PWD-DRG-GEN-0053.DWG C:\P\ WORK\MOOREBANK\SAVING\ PRO\0207\01\01031-PWD-DRG-GEN-0053.DWG

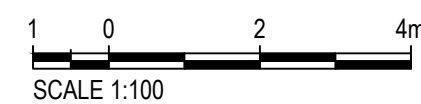
NOTES FOR TYPICAL CROSS SECTIONS

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
2. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
3. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
5. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
6. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
7. FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
8. FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
9. LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
10. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
11. SUBSOILS MAY BE REQUIRED REFER TO N0131-DRG-GEN-0066 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER. REFER TO DRAWING N01031-PWD-DRG-GEN-0065 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.

SECTION E
1:100
TYPICAL SECTION - CONTROL LINE MB2S
CH 40230



SECTION D
1:100
TYPICAL SECTION - CONTROL LINE MB2S
CH 40160



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

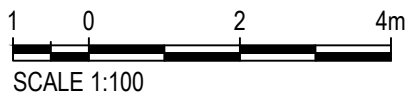
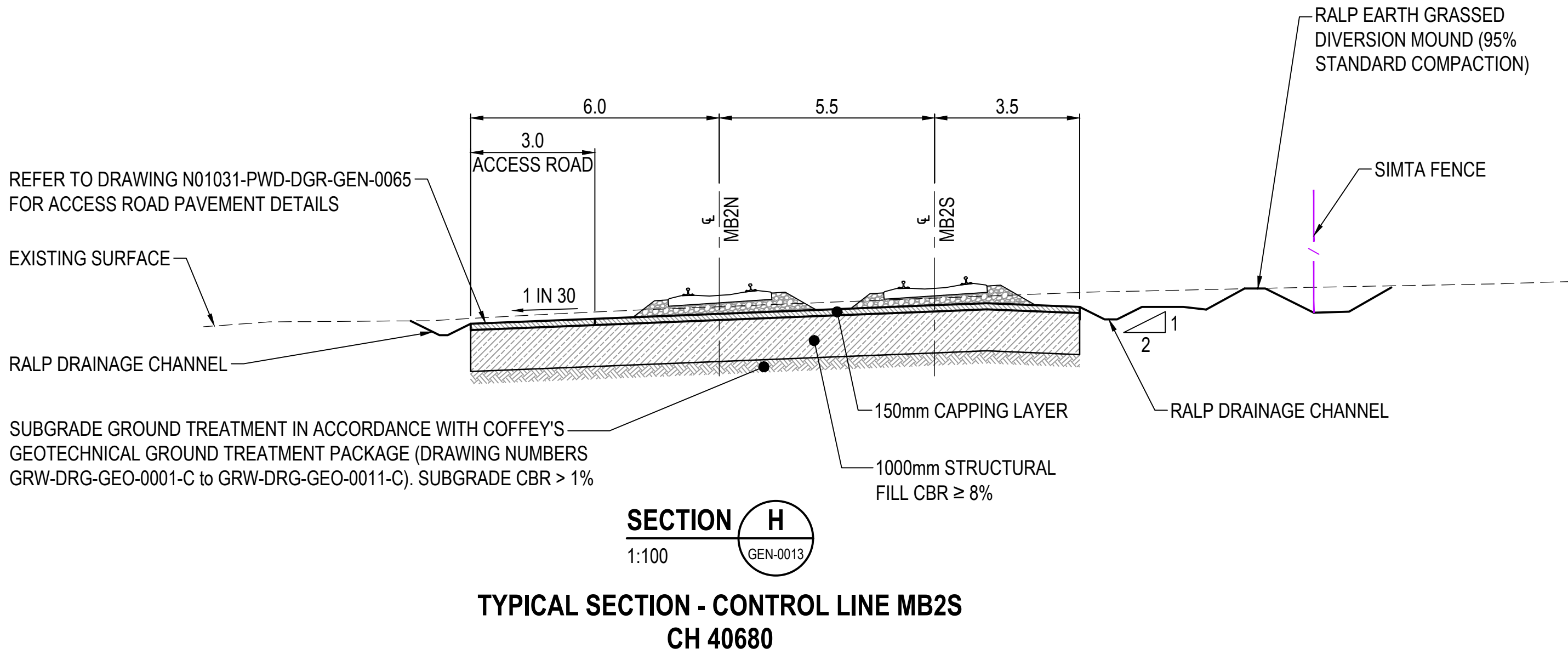
FOR CONSTRUCTION	
APPROVED	DATE 31.07.18
M.SAKIB	
M.SAKIB	

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 1 OF 10	
DRAWING No.	PROJECT No.	ZONE
N01031		PWD
	TYPE	DISC
	DRG	GEN
	NUMBER	REV
	0053	02

Proj Date: 30/08/17 15:42 AM C:\P\ WORK\AURECON\AURECON\PROJECTS\TJUNG\01 PWD-DRG-GEN-0054.DWG P:\Users\CPB\WORK\AURECON\AURECON\PROJECTS\TJUNG\01 PWD-DRG-GEN-0054.DWG

NOTES FOR TYPICAL CROSS SECTIONS

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
2. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
3. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
5. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
6. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
7. FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
8. FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
9. LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
10. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
11. SUBSOILS MAY BE REQUIRED REFER TO N0131-DRG-GEN-0066 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER. REFER TO DRAWING N01031-PWD-DRG-GEN-0065 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.

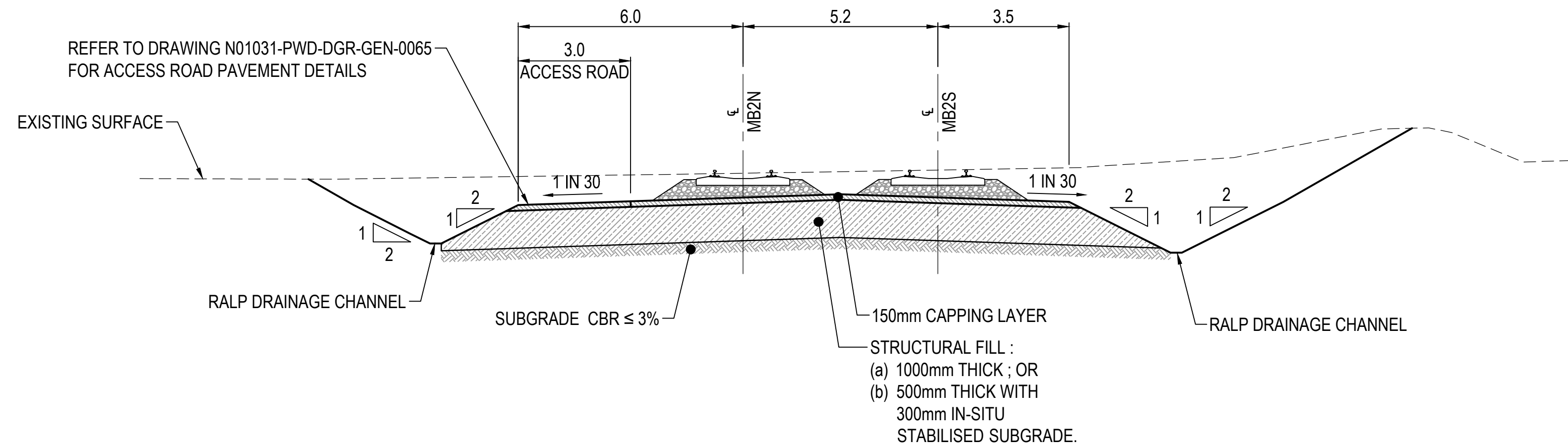


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

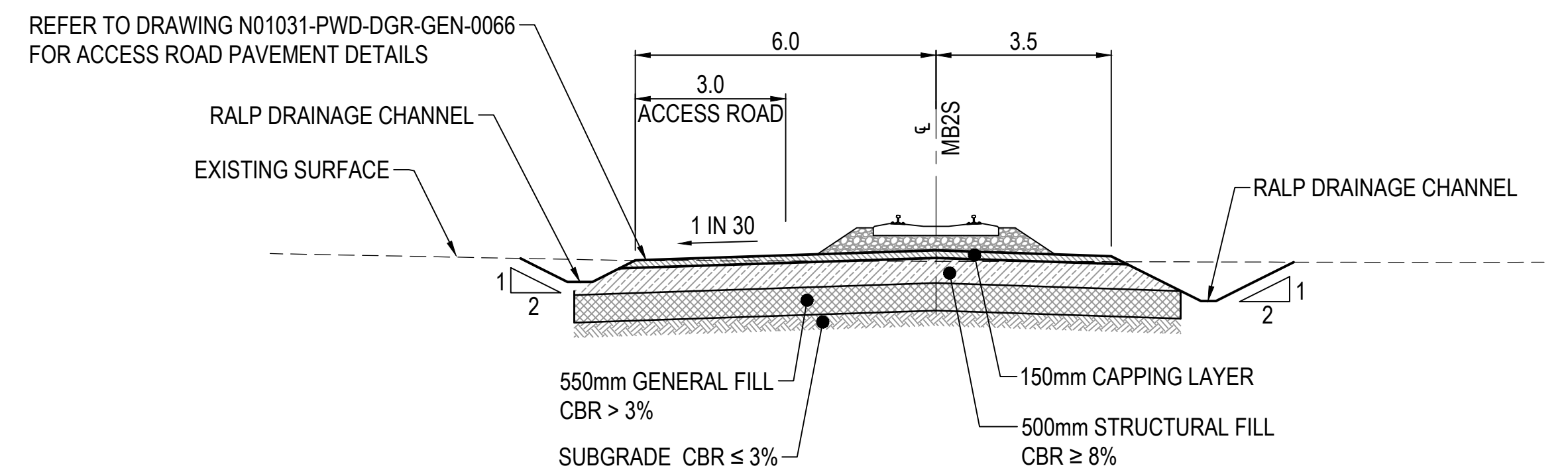
FOR CONSTRUCTION	
APPROVED	DATE
	31.07.18
M.SAKIB	
M.SAKIB	

ARTC DRAWING No			EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 2 OF 10						
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
	N01031	- PWD	- DRG	- GEN	- 0054	- 03	



SECTION J
1:100
GEN-0014

TYPICAL SECTION - CONTROL LINE MB2S
CH 41000
CH 41740 (SIMILAR GROUND TREATMENT)

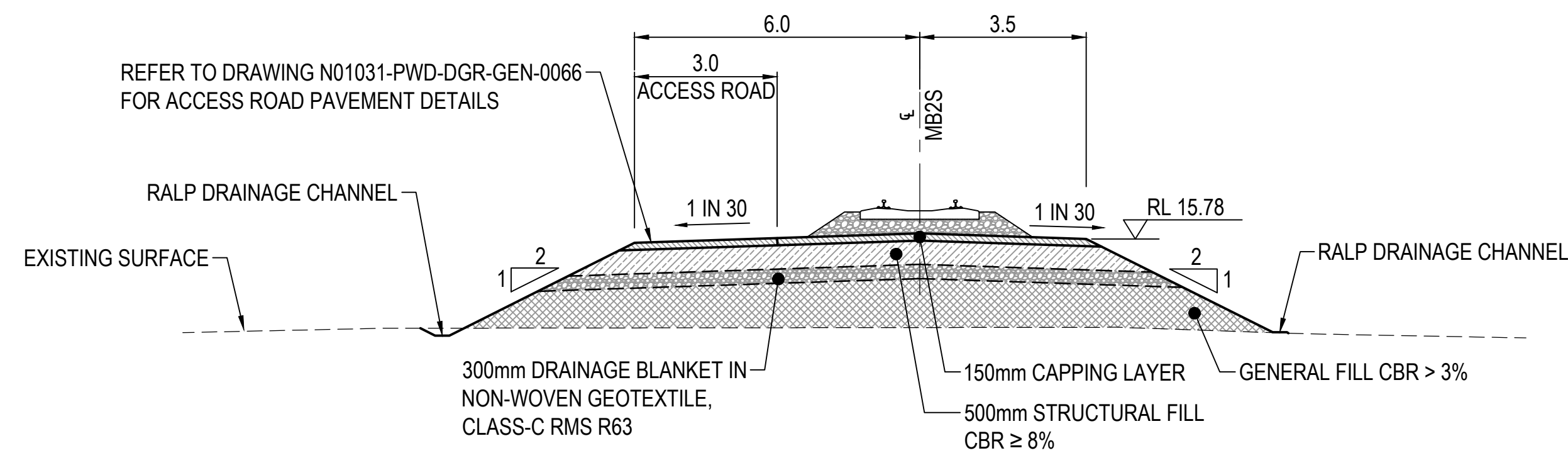


SECTION K
1:100
GEN-0016

TYPICAL SECTION - CONTROL LINE MB2S
CH 41700
CH 41800 (SIMILAR)

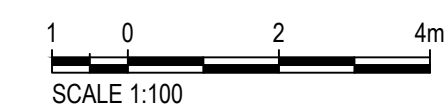
NOTES FOR TYPICAL CROSS SECTIONS

- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
- C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
- FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
- FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
- LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- SUBSOILS MAY BE REQUIRED REFER TO N0131-DRG-GEN-0066 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER. REFER TO DRAWING N01031-PWD-DRG-GEN-0065 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.



SECTION L
1:100
GEN-0017

TYPICAL SECTION - CONTROL LINE MB2S
CH 41985

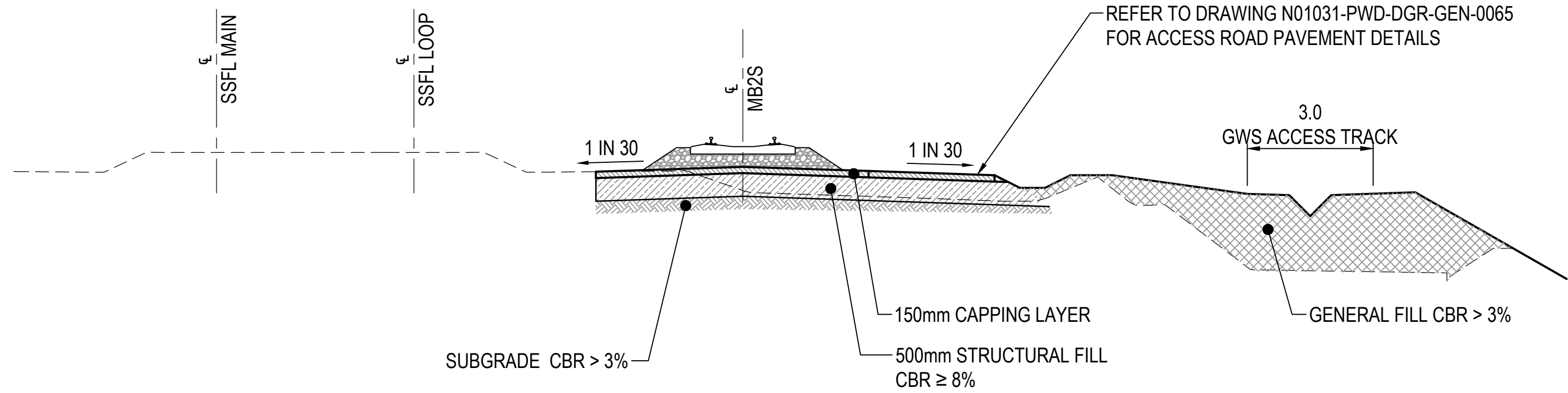


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	APPROVED
	DATE 20.01.17
	A. O'SHEA
	A. O'SHEA

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 3 OF 10	
DRAWING No.	PROJECT No.	ZONE
N01031	-	PWD
	TYPE	DISC
	-	DRG
	NUMBER	REV
	0055	- 02

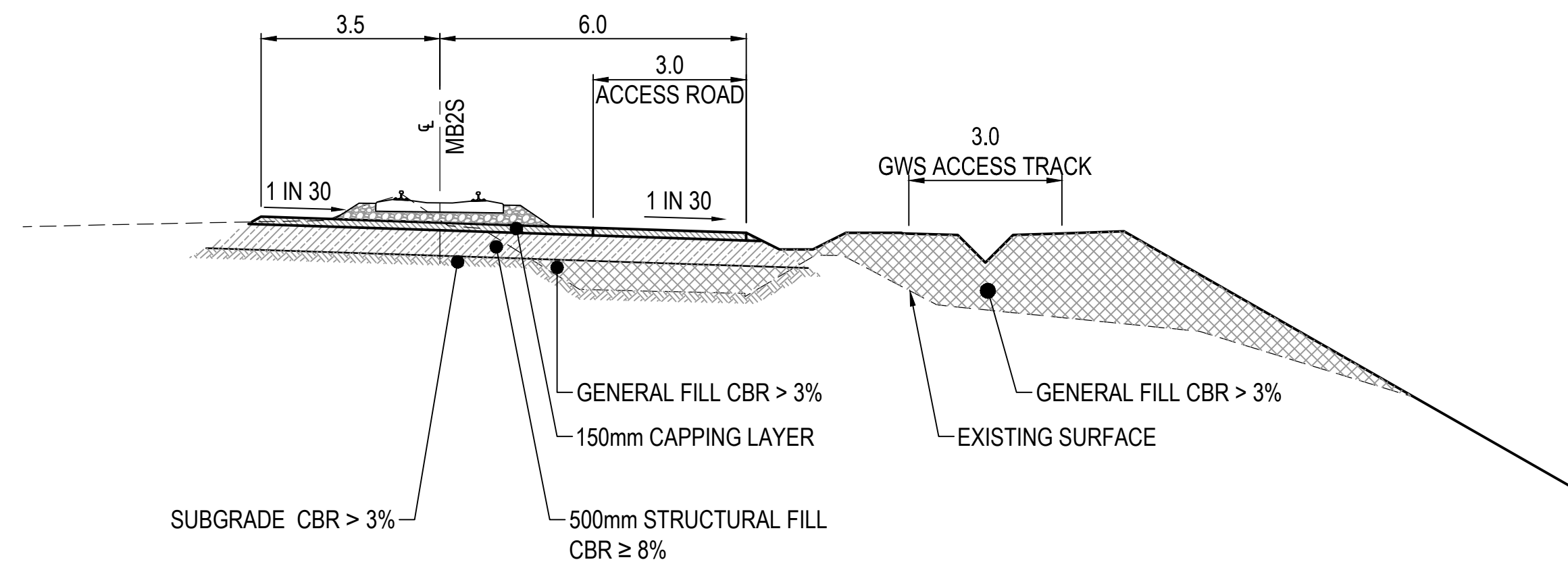


SECTION **Q**
1:100
GEN-0018 0125

TYPICAL SECTION - CONTROL LINE MB2S
CH 39932

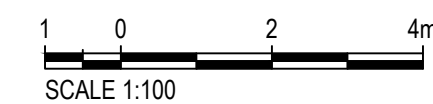
NOTES FOR TYPICAL CROSS SECTIONS

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
2. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
3. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
5. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
6. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
7. FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
8. FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
9. LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
10. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
11. SUBSOILS MAY BE REQUIRED REFER TO N0131-DRG-GEN-0066 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER. REFER TO DRAWING N01031-PWD-DRG-GEN-0065 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.



SECTION **R**
1:100
GEN-0018 0125

TYPICAL SECTION - CONTROL LINE MB2S
CH 39960

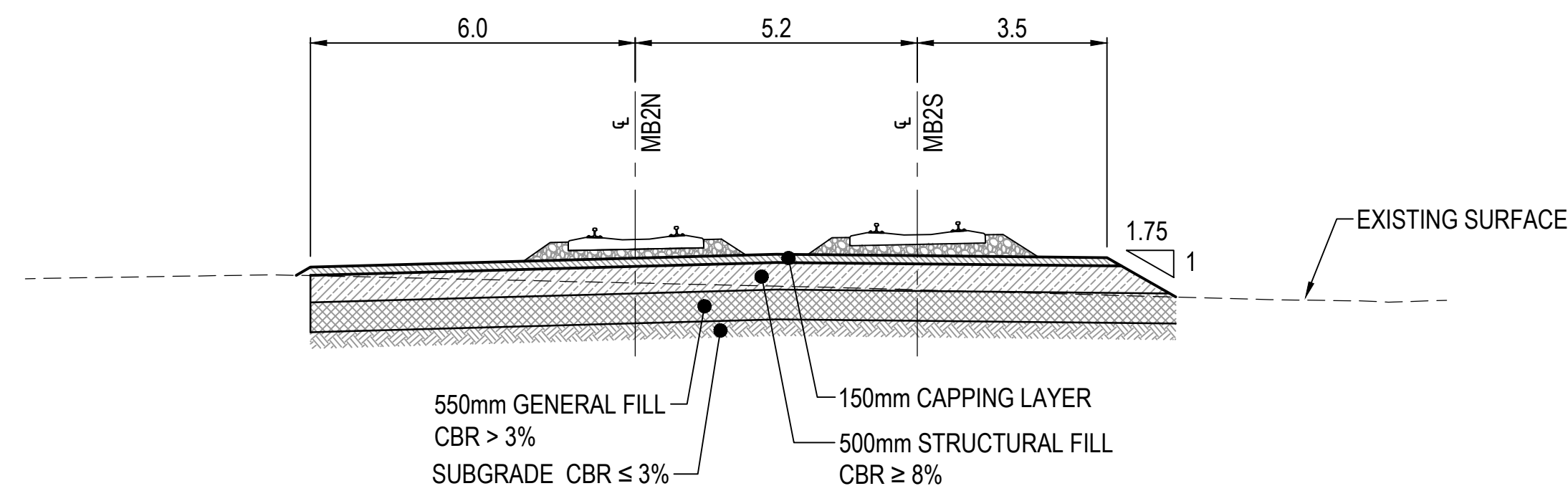


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

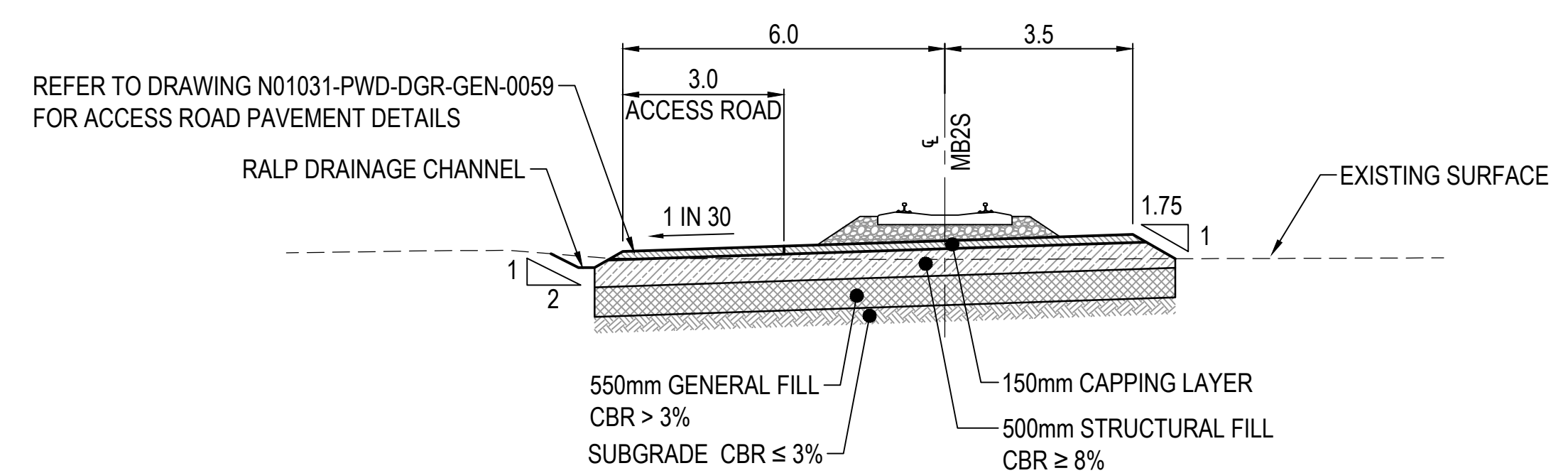
FOR CONSTRUCTION	
APPROVED	DATE 31.07.18
M.SAKIB	
M.SAKIB	

ARTC DRAWING No		EDMS No		EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 4 OF 10					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0056	- 03



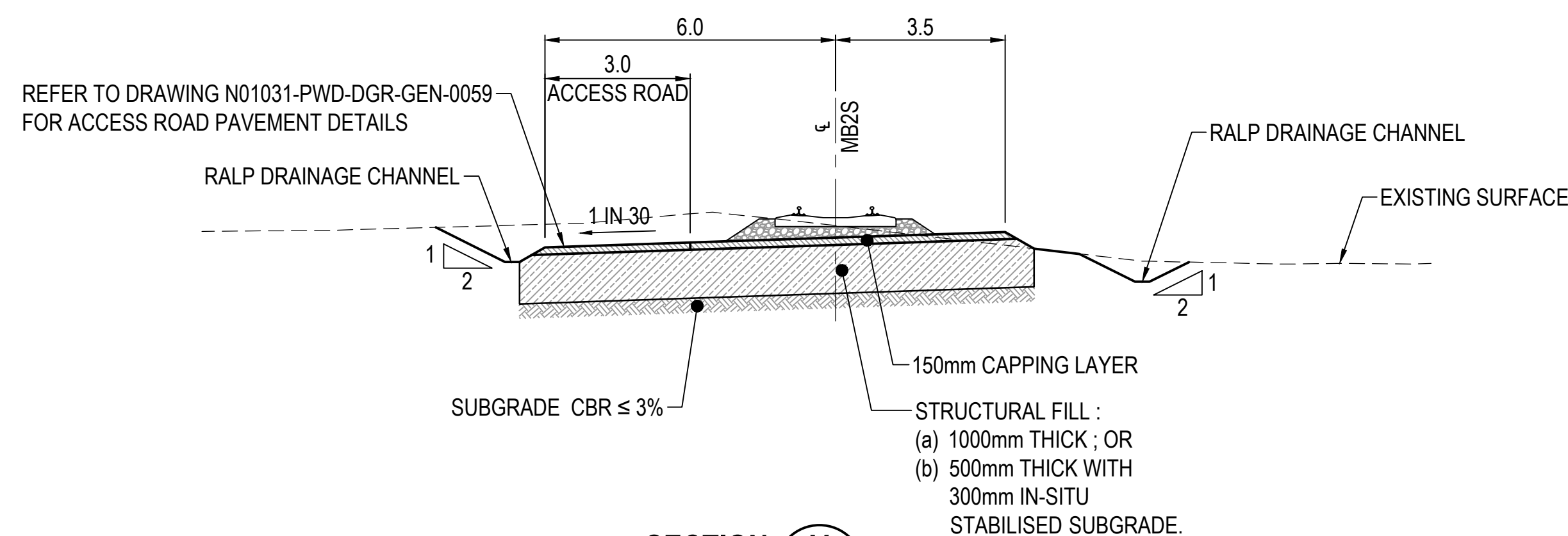
SECTION T
1:100
GEN-0014

TYPICAL SECTION - CONTROL LINE MB2S
CH 40955



SECTION U
1:100
GEN-0015

TYPICAL SECTION - CONTROL LINE MB2S
CH 41440

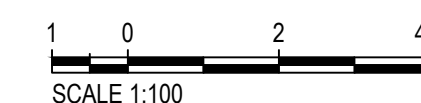


SECTION V
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GEN-0015

TYPICAL SECTION - CONTROL LINE MB2S
CH 41460

NOTES

1. REFER PREVIOUS DRAWING FOR TYPICAL CROSS SECTION NOTES

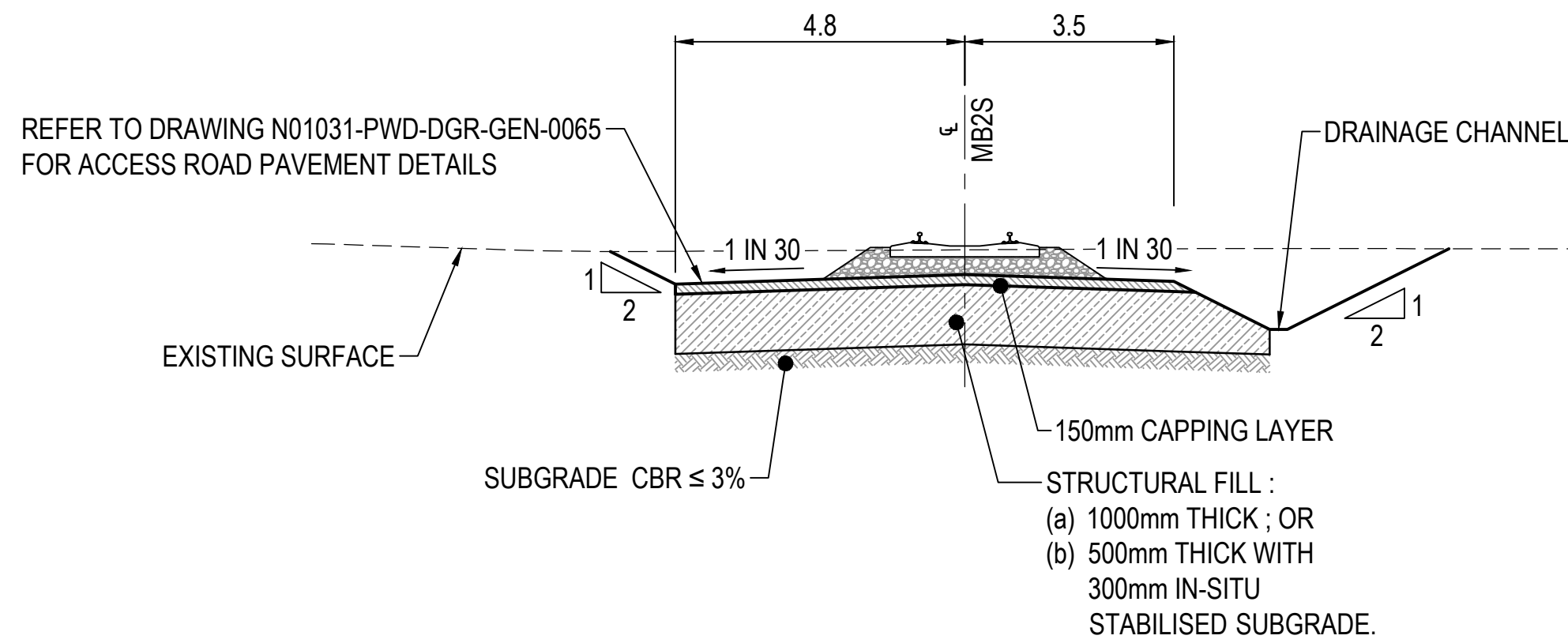


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

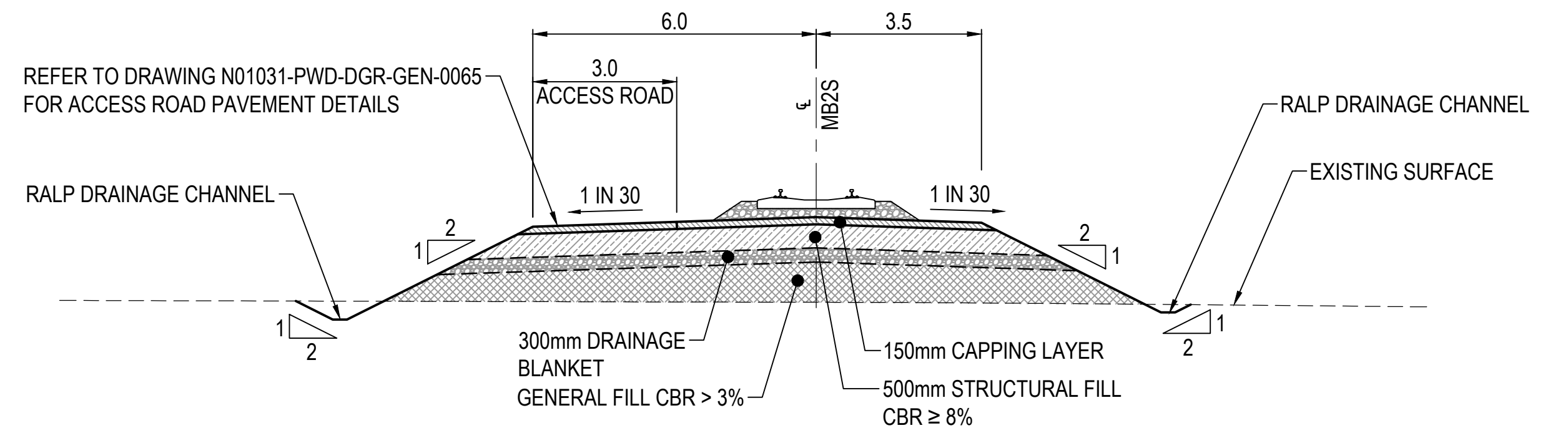
FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17

ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 5 OF 10					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0057	- 01



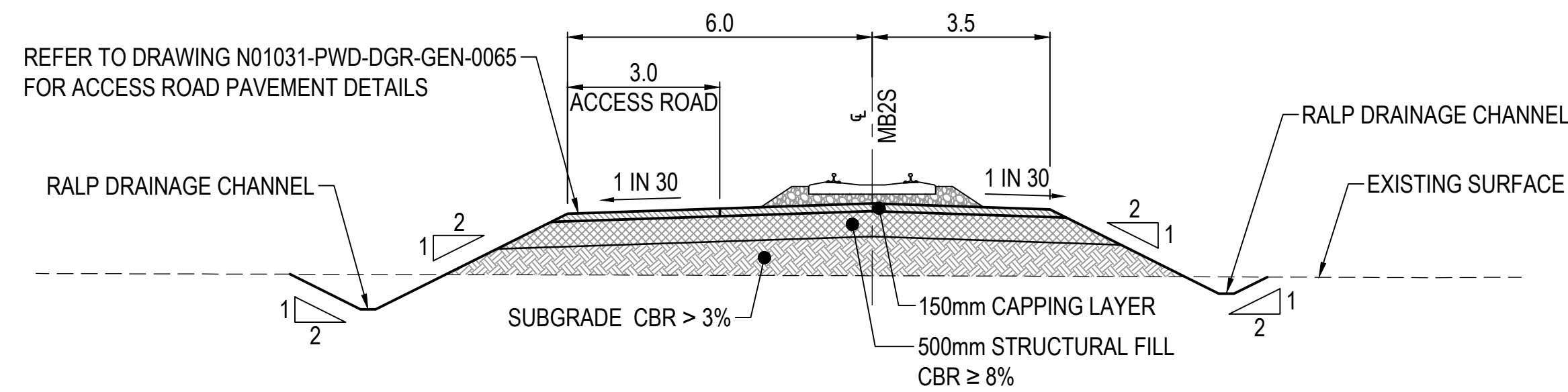
SECTION **W**
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GEN-0016

TYPICAL SECTION - CONTROL LINE MB2S
CH 41640



SECTION **X**
1:100
GEN-0017

TYPICAL SECTION - CONTROL LINE MB2S
CH 42000

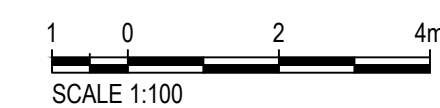


SECTION **Y**
1:100
GEN-0017

TYPICAL SECTION - CONTROL LINE MB2S
CH 42060

NOTES FOR TYPICAL CROSS SECTIONS

- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
- C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
- FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
- FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
- LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- SUBSOILS MAY BE REQUIRED REFER TO N0131-DRG-GEN-0066 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER. REFER TO DRAWING N01031-PWD-DRG-GEN-0065 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.

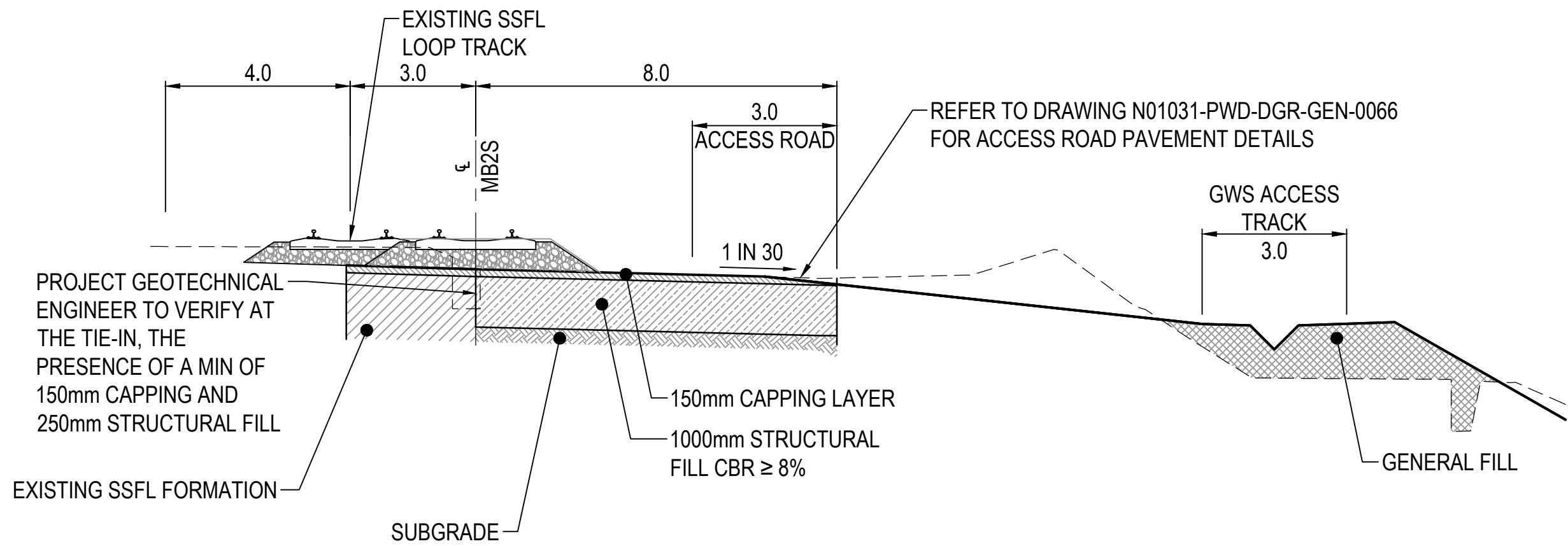


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

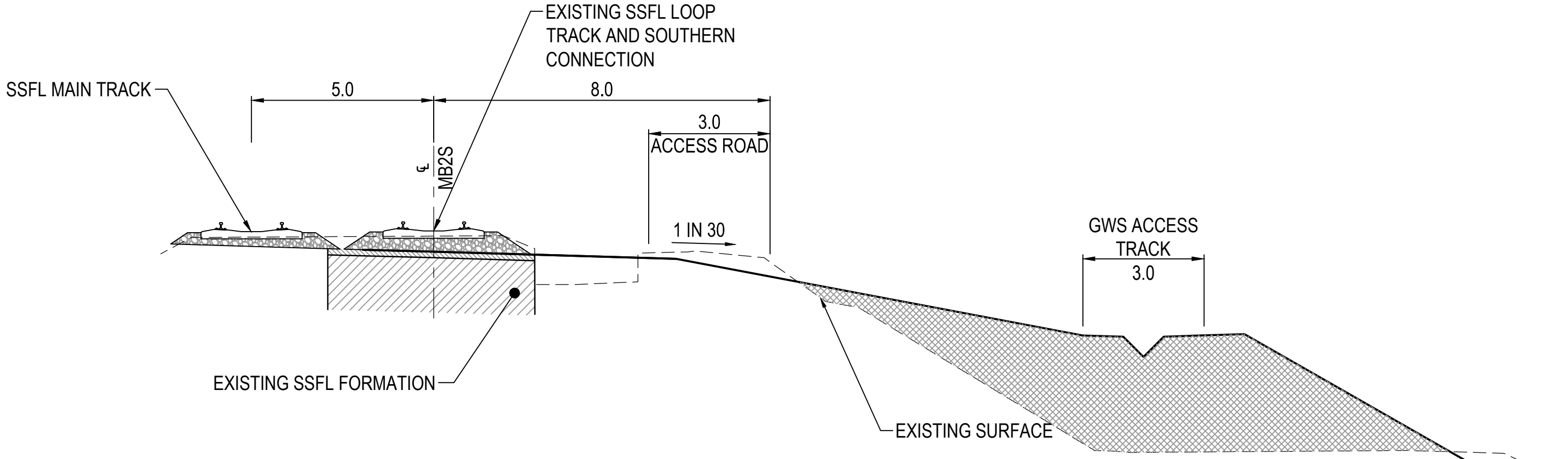
FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 6 OF 10	
DRAWING No.	PROJECT No.	ZONE
N01031	-	PWD
TYPE	DISC	NUMBER
DRG	- GEN	0058
REV	01	



SECTION **AE**
1:100
GEN-0018 0125

TYPICAL SECTION - CONTROL LINE MB2S
CH 39910

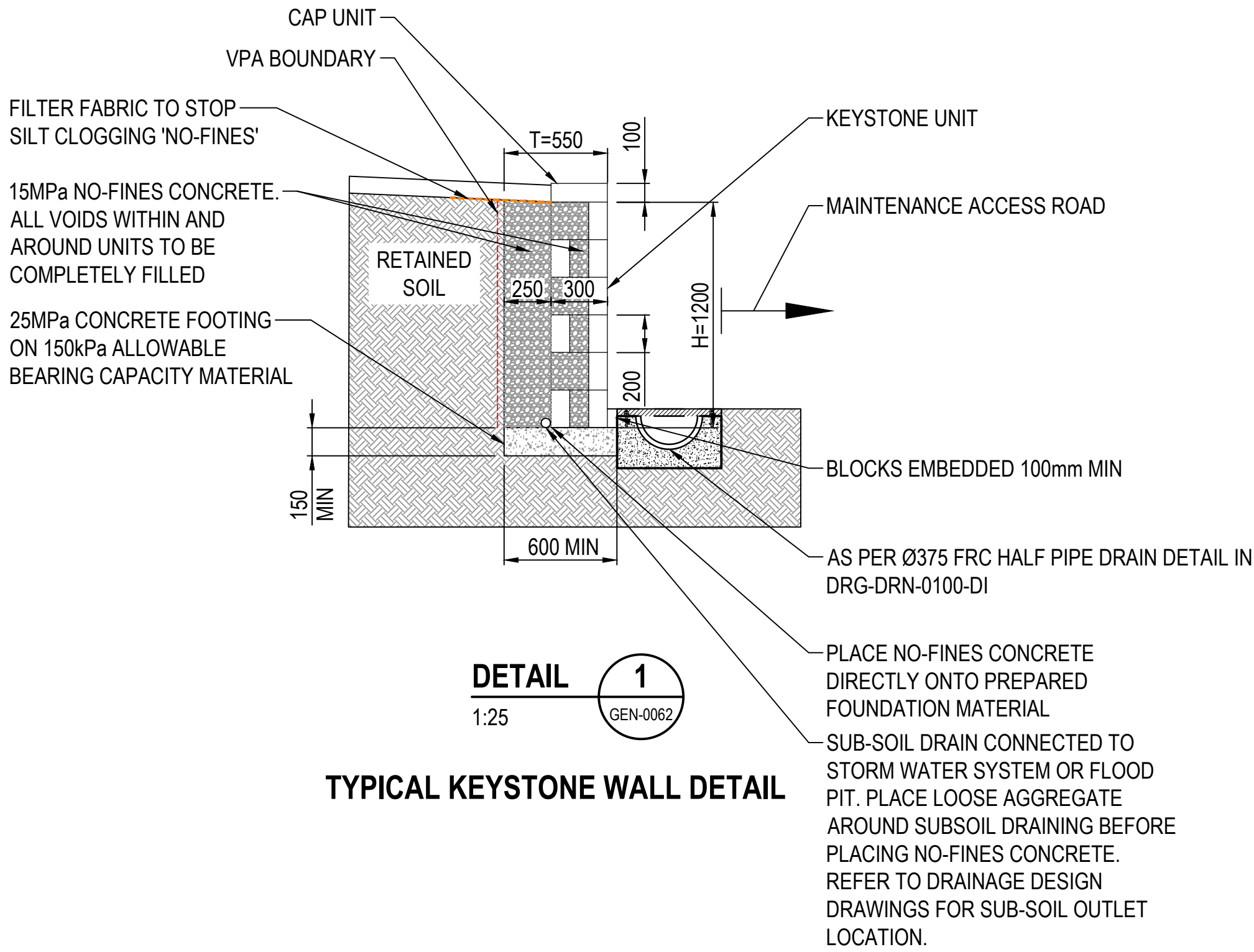


SECTION **AH**
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GEN-0018 0126

TYPICAL SECTION - CONTROL LINE MB2S
CH 39880

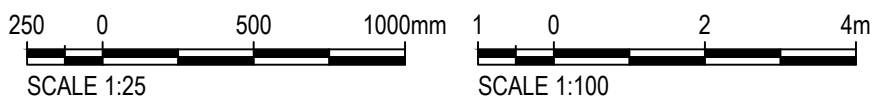
NOTES FOR TYPICAL CROSS SECTIONS

- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
- REFER TO DRAWINGS N01031-PWD-SPE-EWK-0025 TO N01031-PWD-DRG-GEN-0040 FOR EARTHWORKS CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
- C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
- FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
- FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
- LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- SUBSOILS MAY BE REQUIRED REFER TO N0131-PWD-GEN-0059 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER. REFER TO DRAWING N01031-PWD-DRG-GEN-0059 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0081 FOR FOUNDATION TRANSITION DETAIL BETWEEN EXISTING SSFL FOUNDATION AND PROPOSED FOUNDATION TREATMENT.
- INSTALL COMPACTED GENERAL FILL LAYER (AS PER CLAUSE 3.1.2 OF THE EARTHWORK SPECIFICATION) OVER THE EXPOSED SAND LAYER EXTENDING APPROXIMATELY FROM CH39880 TO CH40180 (ON MB2S) AND THEN FROM CH40230 TO CH40258 (ON MB2S). THE VERTICAL EXTENT OF THE SAND LAYER IS APPROXIMATELY BETWEEN RL11m AND RL3m. THE EXTENT OF THE SAND LAYER IS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE.



DETAIL **1**
1:25
GEN-0062

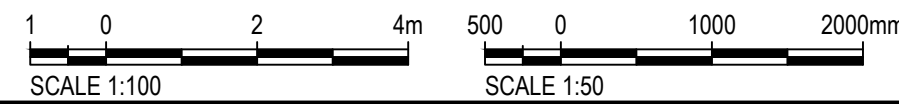
TYPICAL KEYSTONE WALL DETAIL



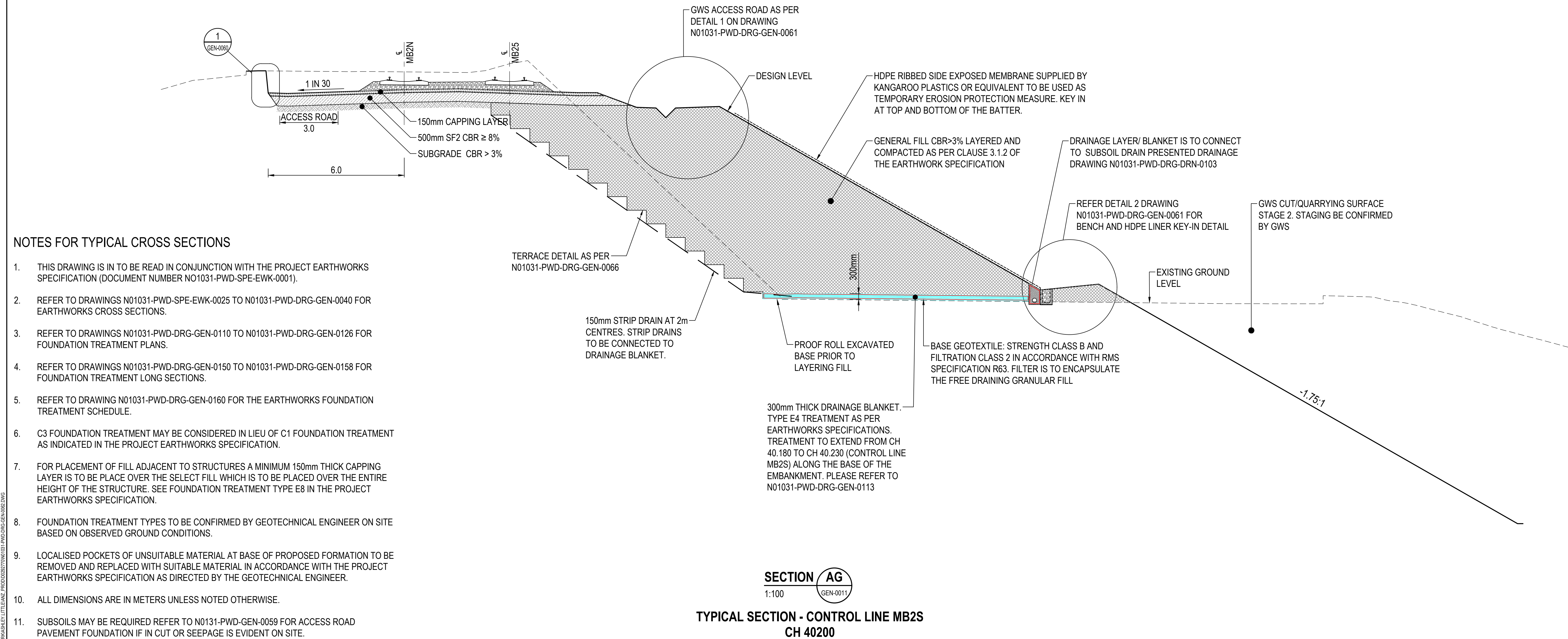
ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE			BULK EARTHWORKS SOUTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 8 OF 10					
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
			N01031	- PWD	- DRG	- GEN	- 0060	- 02



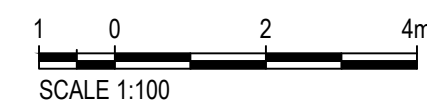
VERTICAL EXTENT OF THE SAND LAYER IS APPROXIMATELY BETWEEN RL11m AND RL3m.
THE EXTENT OF THE SAND LAYER IS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER OF THE SITE.



Proj Date: 18/07/18 1:26:42 PM C:\PWA\WORKSPACE\PROJECTS\10031-PWD-DRG-GEN-0011.DWG P:\DWG\10031-PWD-DRG-GEN-0011.DWG 01/07/18 1:26:42 PM 01/07/18 1:26:42 PM



- NOTES FOR TYPICAL CROSS SECTIONS**
- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
 - REFER TO DRAWINGS N01031-PWD-SPE-EWK-0025 TO N01031-PWD-DRG-GEN-0040 FOR EARTHWORKS CROSS SECTIONS.
 - REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR FOUNDATION TREATMENT PLANS.
 - REFER TO DRAWINGS N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
 - REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
 - C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
 - FOR PLACEMENT OF FILL ADJACENT TO STRUCTURES A MINIMUM 150mm THICK CAPPING LAYER IS TO BE PLACE OVER THE SELECT FILL WHICH IS TO BE PLACED OVER THE ENTIRE HEIGHT OF THE STRUCTURE. SEE FOUNDATION TREATMENT TYPE E8 IN THE PROJECT EARTHWORKS SPECIFICATION.
 - FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
 - LOCALISED POCKETS OF UNSUITABLE MATERIAL AT BASE OF PROPOSED FORMATION TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL IN ACCORDANCE WITH THE PROJECT EARTHWORKS SPECIFICATION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
 - ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
 - SUBSOILS MAY BE REQUIRED REFER TO N0131-PWD-GEN-0059 FOR ACCESS ROAD PAVEMENT FOUNDATION IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER. REFER TO DRAWING N01031-PWD-DRG-GEN-0059 FOR ACCESS ROAD PAVEMENT (FOUNDATION) DETAILS.
 - REFER TO DRAWING N01031-PWD-DRG-GEN-0081 FOR FOUNDATION TRANSITION DETAIL BETWEEN EXISTING SSFL FOUNDATION AND PROPOSED FOUNDATION TREATMENT.
 - INSTALL COMPACTED GENERAL FILL LAYER (AS PER CLAUSE 3.1.2 OF THE EARTHWORK SPECIFICATION) OVER THE EXPOSED SAND LAYER EXTENDING APPROXIMATELY FROM CH39880 TO CH40180 (ON MB2S) AND THEN FROM CH40230 TO CH40258 (ON MB2S). THE VERTICAL EXTENT OF THE SAND LAYER IS APPROXIMATELY BETWEEN RL11m AND AL3m. THE EXTENT OF THE SAND LAYER IS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE.



aurecon
www.aurecongroup.com

CPB
CONTRACTORS

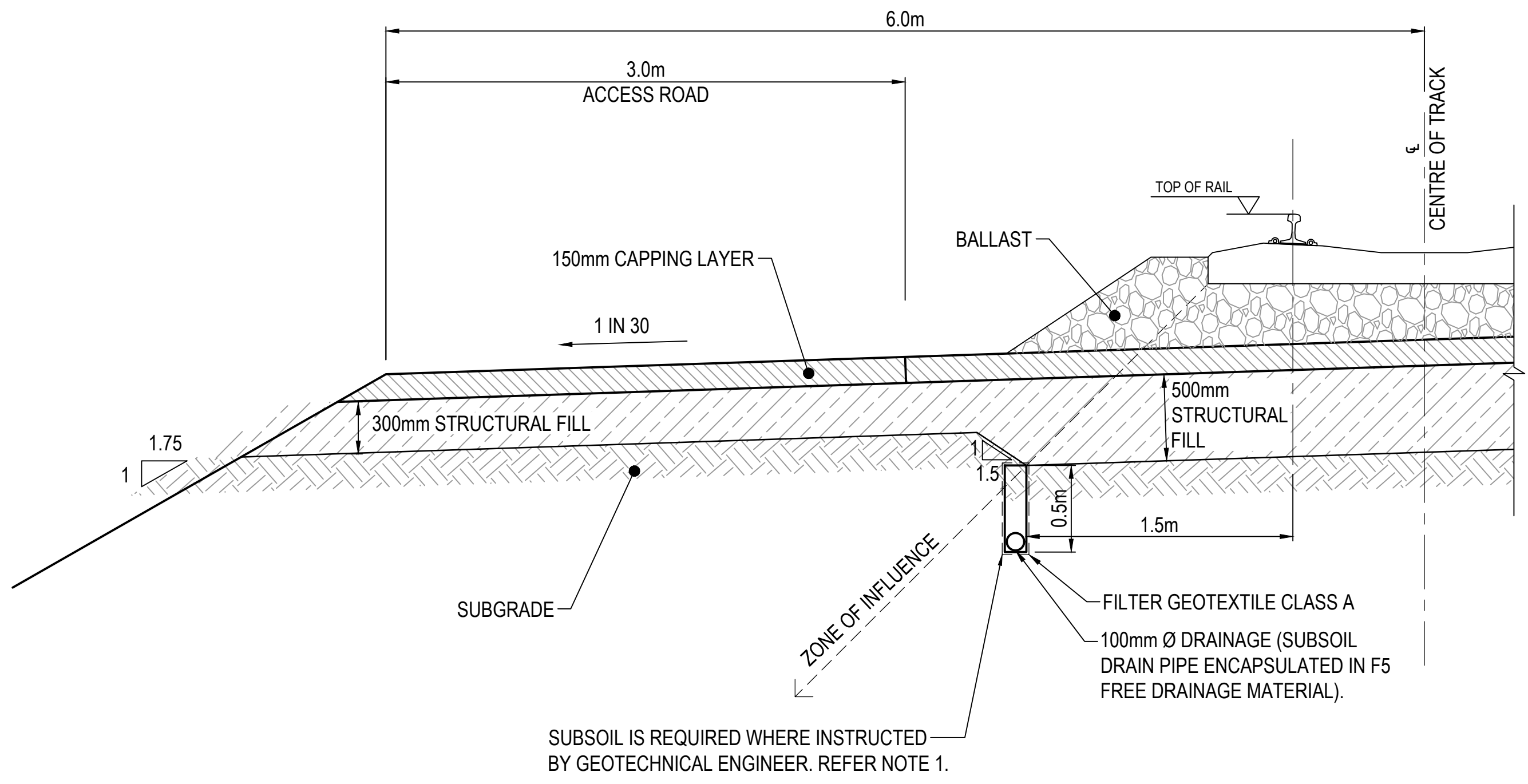
SIMTA | SYDNEY
INTERMODAL
TERMINAL
ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

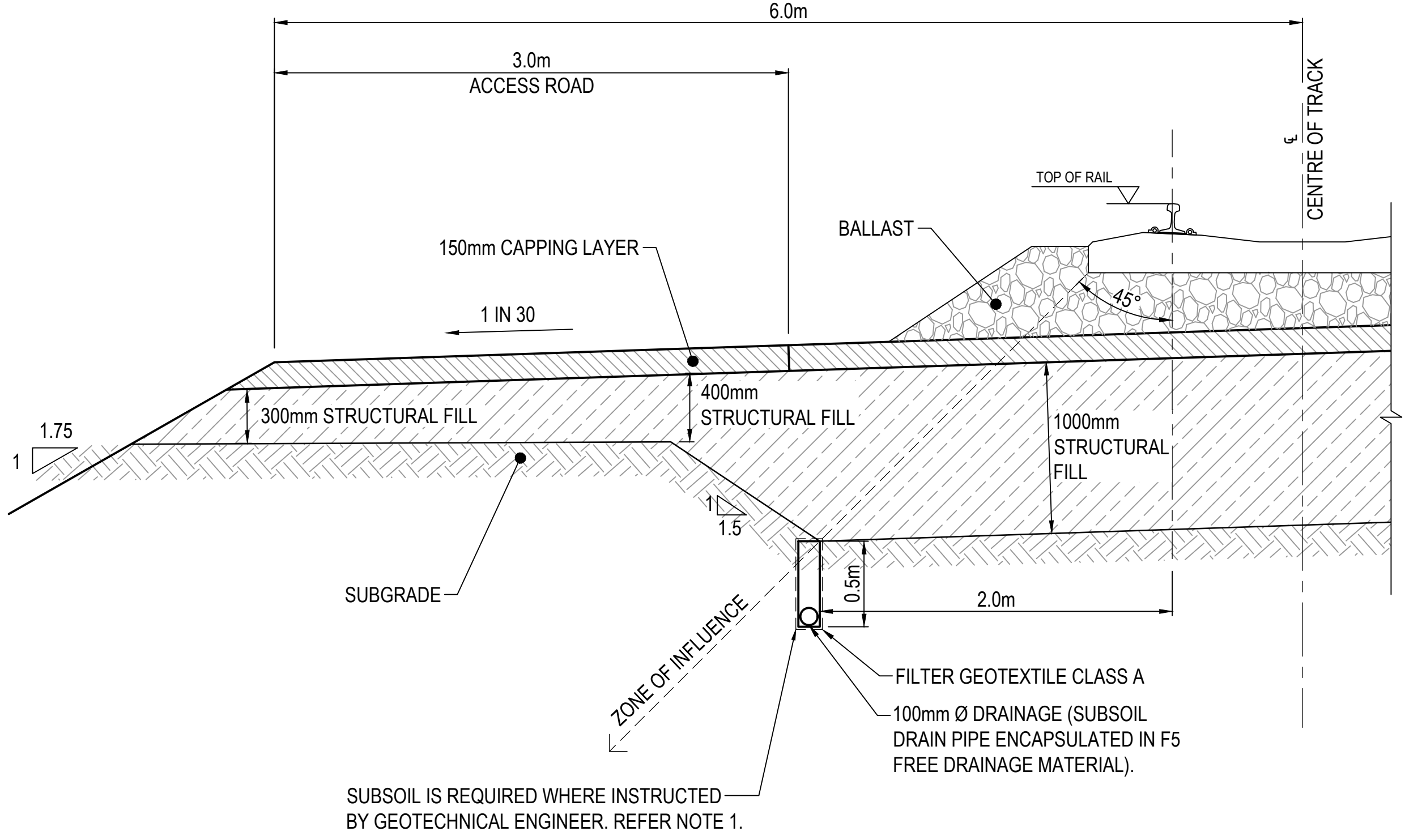
SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE 31.07.18
M.SAKIB	
M.SAKIB	

ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SOUTHERN CONNECTION TYPICAL CROSS SECTIONS SHEET 10 OF 10					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	- 0062	- 02



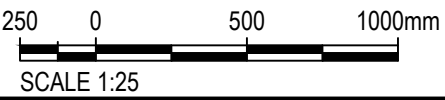
OPTION 1 : SUBGRADE CBR ≥ 3%
1:25



OPTION 2 : SUBGRADE CBR < 3%
1:25

NOTES FOR TYPICAL DETAILS

1. SUBSOILS MAY BE REQUIRED IF IN CUT OR SEEPAGE IS EVIDENT ON SITE.
THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER.

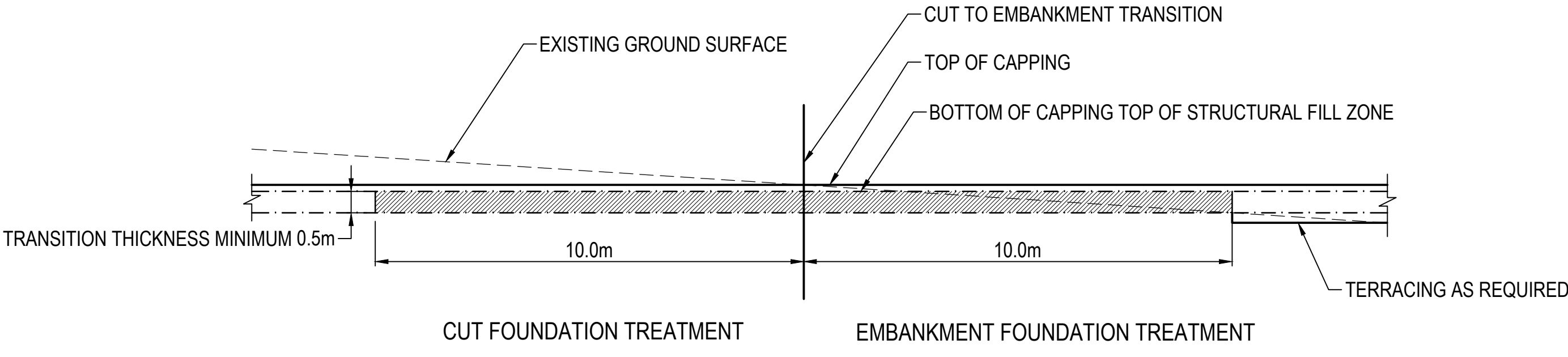


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

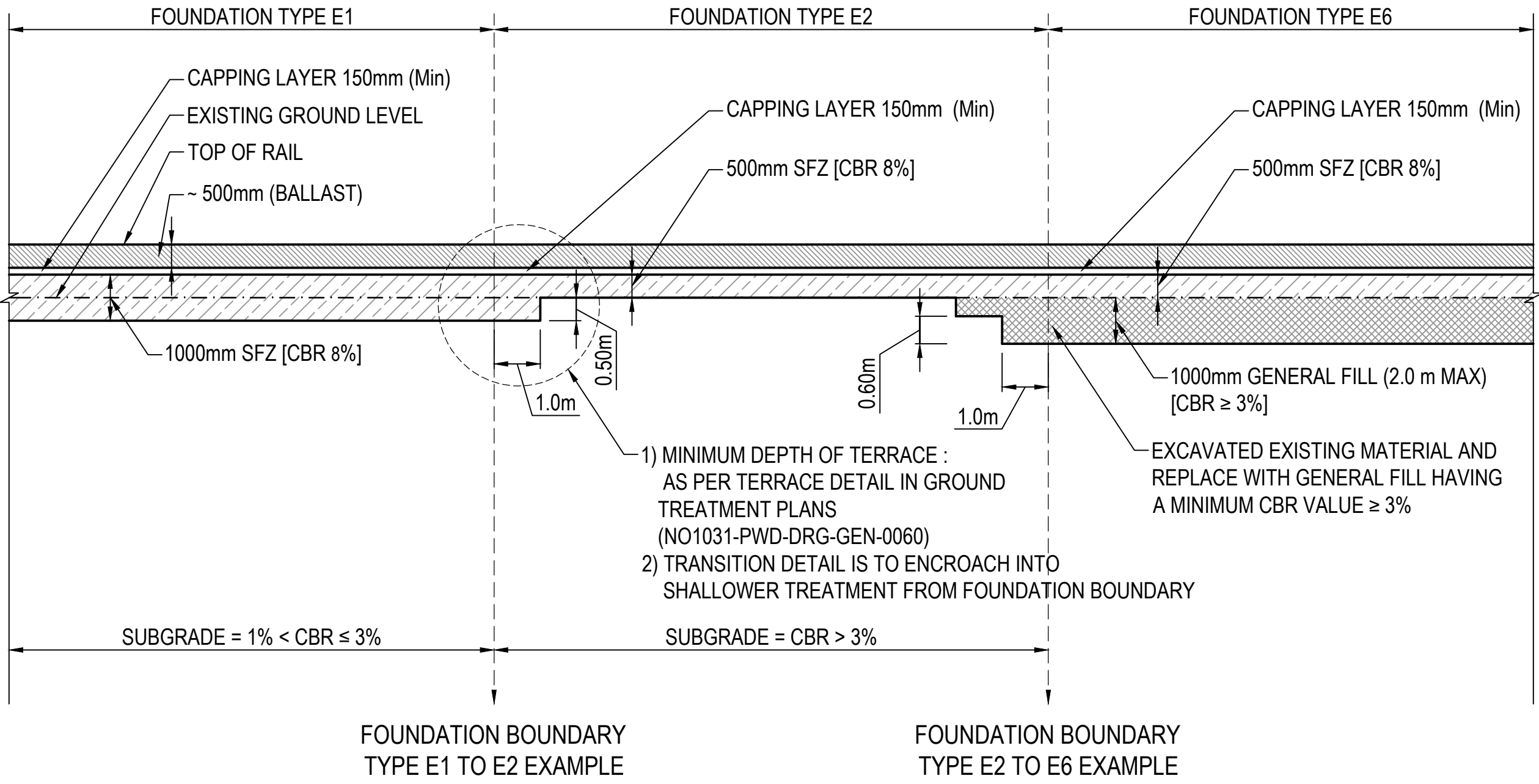
SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	
APPROVED	DATE 31.07.18
M.SAKIB	
M.SAKIB	

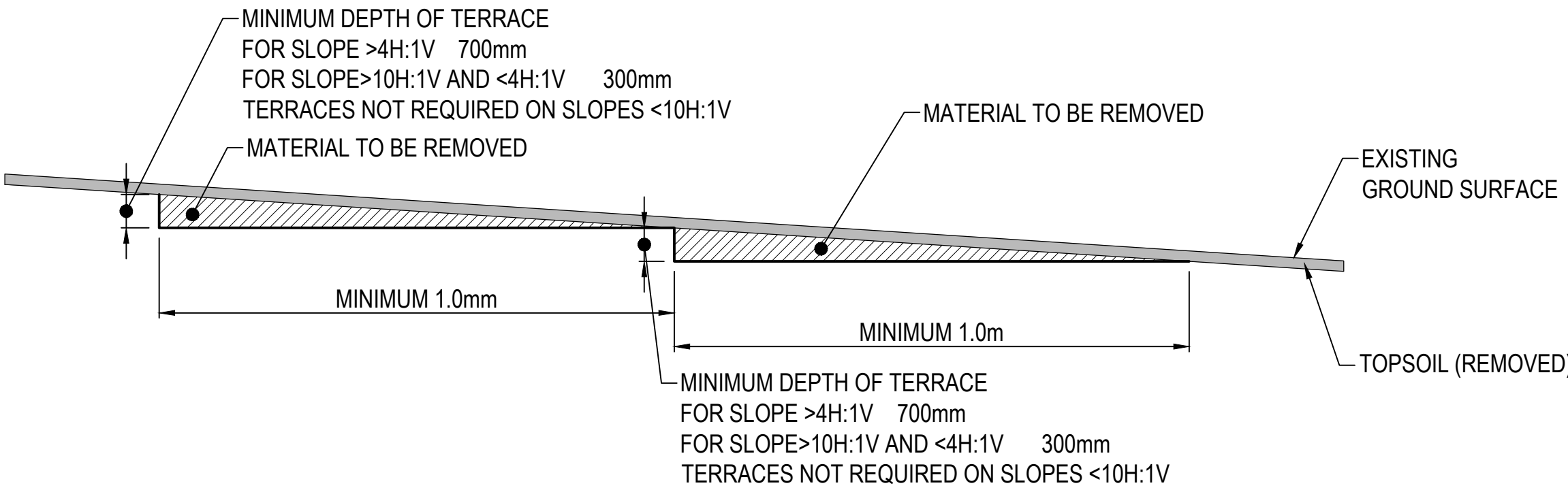
ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS TYPICAL DETAILS SHEET 1 OF 2	
DRAWING No.	PROJECT No.	ZONE
N01031		PWD
	TYPE	DISC
	DRG	GEN
	NUMBER	REV
	0065	03



CUT TO EMBANKMENT FOUNDATION TREATMENT TRANSITION
1:100



FOUNDATION TRANSITION DETAILED EXAMPLE
1:100

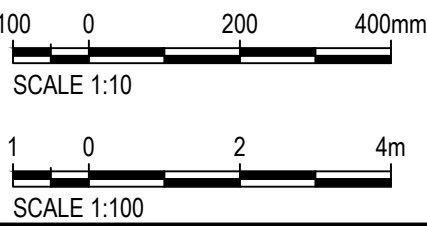


EXISTING SLOPE TREATMENT
1:10

- LEGEND
- BALLAST
 - CAPPING LAYER
 - STRUCTURAL FILL ZONE (SFZ)
 - GENERAL FILL
 - EXISTING GROUND LEVEL

NOTES FOR TYPICAL DETAILS

1. SUBSOILS MAY BE REQUIRED IF IN CUT OR SEEPAGE IS EVIDENT ON SITE. THE REQUIREMENT FOR SUBSOIL IS TO BE DECIDED ON SITE BY GEOTECHNICAL ENGINEER.



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

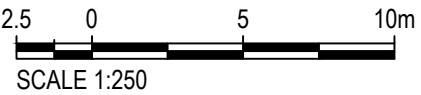
SCALE	SIZE
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DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	DATE
	31.07.18
M.SAKIB	
M.SAKIB	

ARTC DRAWING No			EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE	BULK EARTHWORKS TYPICAL DETAILS SHEET 2 OF 2						
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
	N01031	- PWD	- DRG	- GEN	- 0066	- 03	



PLAN
1:250



CPB

CONTRACTORS

SIMTA

SYDNEY
INTERMODAL
TERMINAL
ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	24.07.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	G. RUSINOL
03	08.09.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	G. RUSINOL
04	23.09.17	ACCEPTED FOR CONSTRUCTION RESUBMISSION	G. RUSINOL
05	03.10.17	ACCEPTED FOR CONSTRUCTION RESUBMISSION	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
06	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1

FOR CONSTRUCTION

DRAWN	APPROVED	DATE
J.RASAMEEMANEEPPONG	M.SAKIB	31.07.18
DESIGNED	M.SAKIB	
CHECKED	M.SAKIB	
W.DENG		

1:250

0 5 10m

SCALE 1:250

ARTC DRAWING No		EDMS No		EDMS REV	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1				
TITLE	BULK EARTHWORKS SERVICE CROSSING - NORTHERN-SOUTHERN CONNECTION SHEET 1 OF 2				

DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
N01031	-	PWD	-	DRG	-	GEN
					0070	-
						06



PLAN
1:250



CLIENT

CPB

CONTRACTORS

SIMTA

SYDNEY
INTERMODAL
TERMINAL
ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

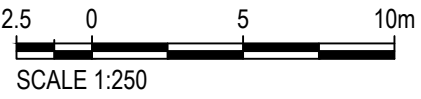
SCALE	SIZE
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DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE 31.07.18
M.SAKIB	
M.SAKIB	

ARTC DRAWING No			EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE	BULK EARTHWORKS SERVICE CROSSING - NORTHERN-SOUTHERN CONNECTION SHEET 2 OF 2						
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
N01031	-	PWD	-	DRG	-	0071	- 01



PLAN
1:250



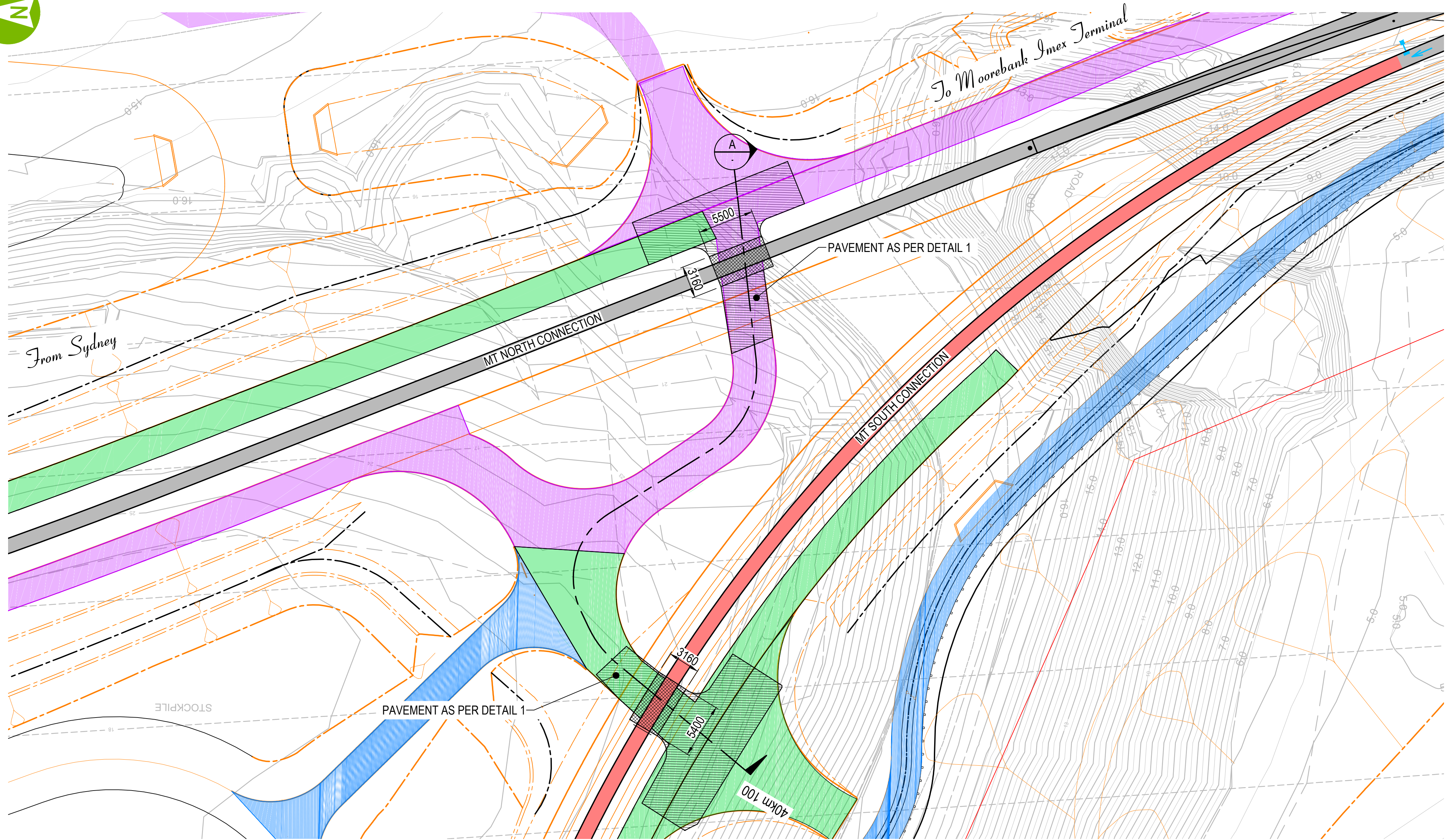
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REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

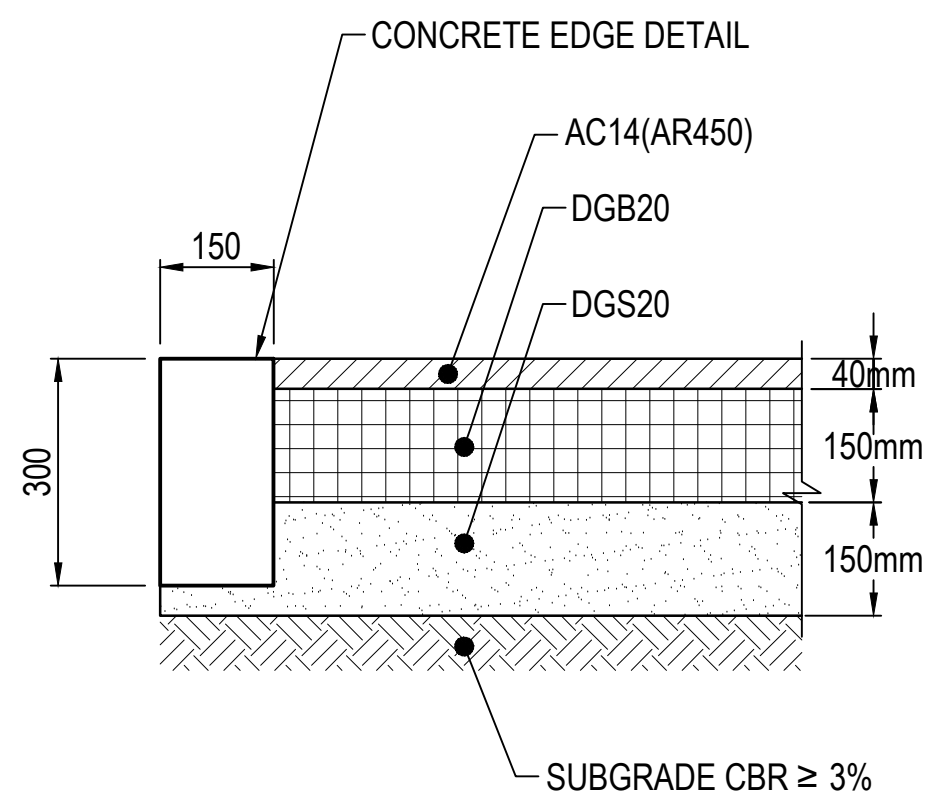
ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE	BULK EARTHWORKS SERVICE CROSSING - SOIL NAIL WALL TO GRB SHEET 1 OF 1							
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
N01031	-	PWD	-	DRG	-	0072	-	01



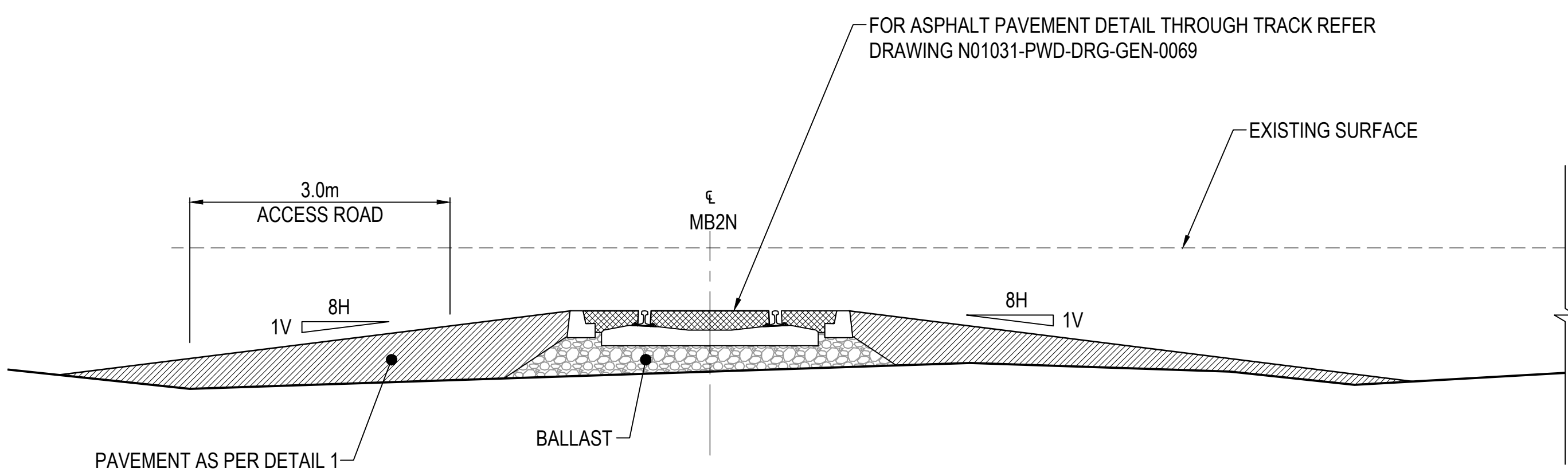
PLAN
1:250

LEGEND

- PROPOSED TRACK ALIGNMENT
- EXTENT OF EARTHWORKS
- SIMTA RAIL CORRIDOR PERMANENT BOUNDARY
- CONTOUR
- RALP ACCESS ROAD
- GWS ACCESS ROAD
- PROPOSED RALP AND GWS SHARED ACCESS ROAD

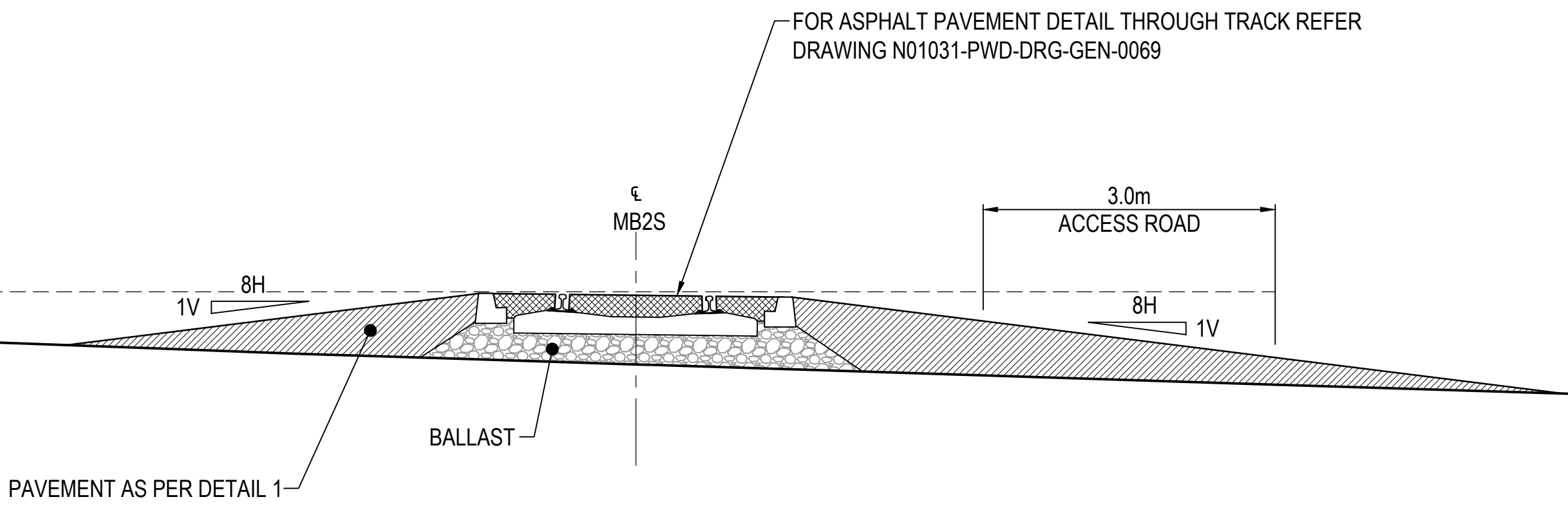


DETAIL 1
1:10



FOR ASPHALT PAVEMENT DETAIL THROUGH TRACK REFER
DRAWING N01031-PWD-DRG-GEN-0069

EXISTING SURFACE



FOR ASPHALT PAVEMENT DETAIL THROUGH TRACK REFER
DRAWING N01031-PWD-DRG-GEN-0069

SECTION A
1:50

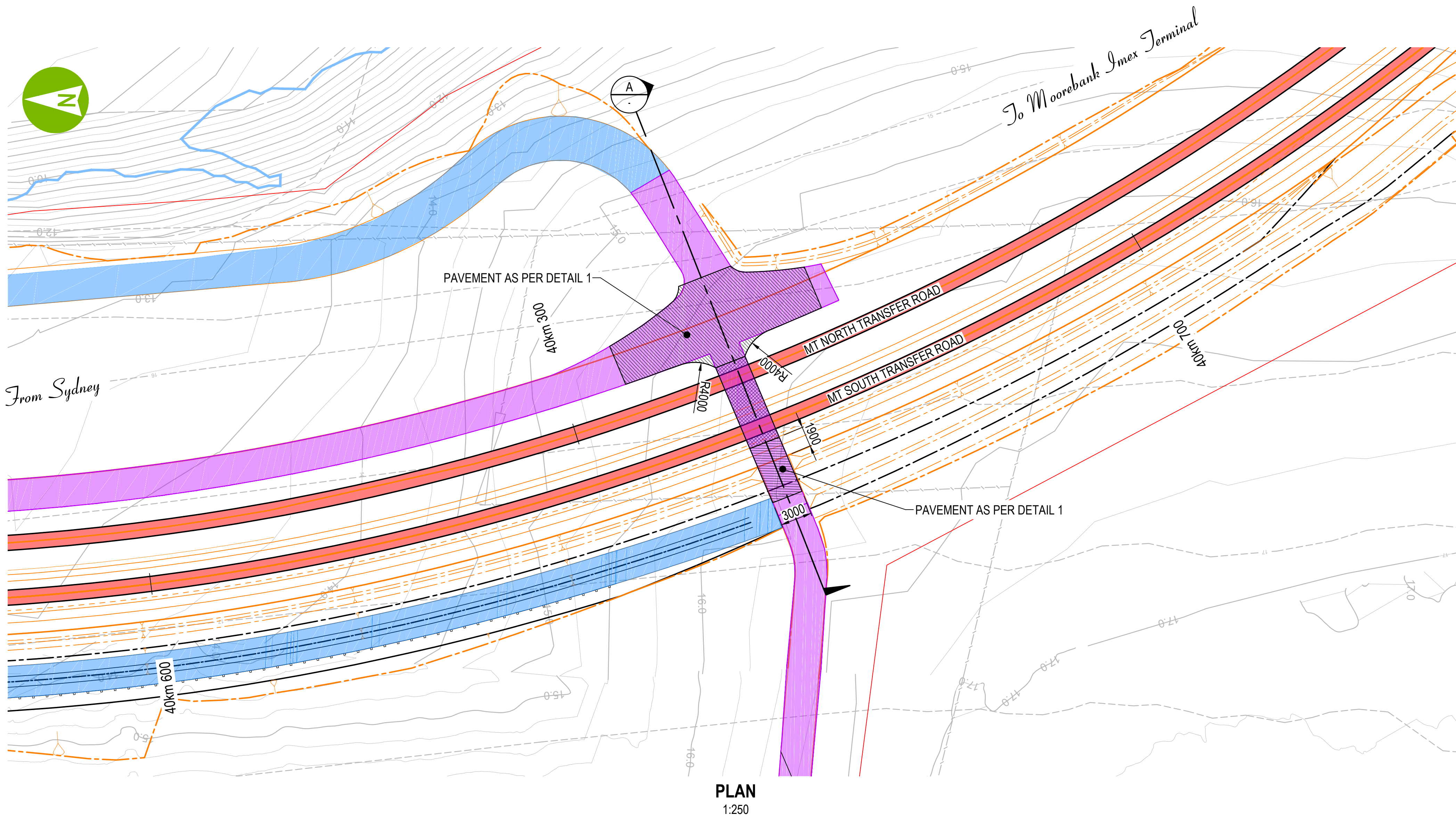


REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

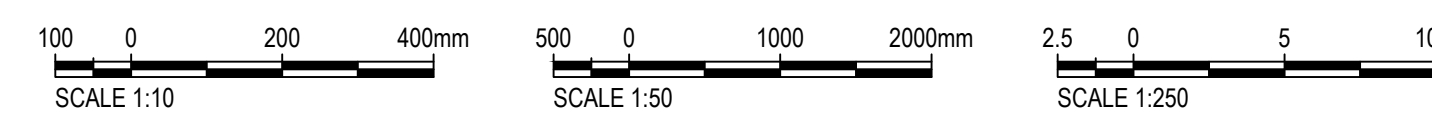
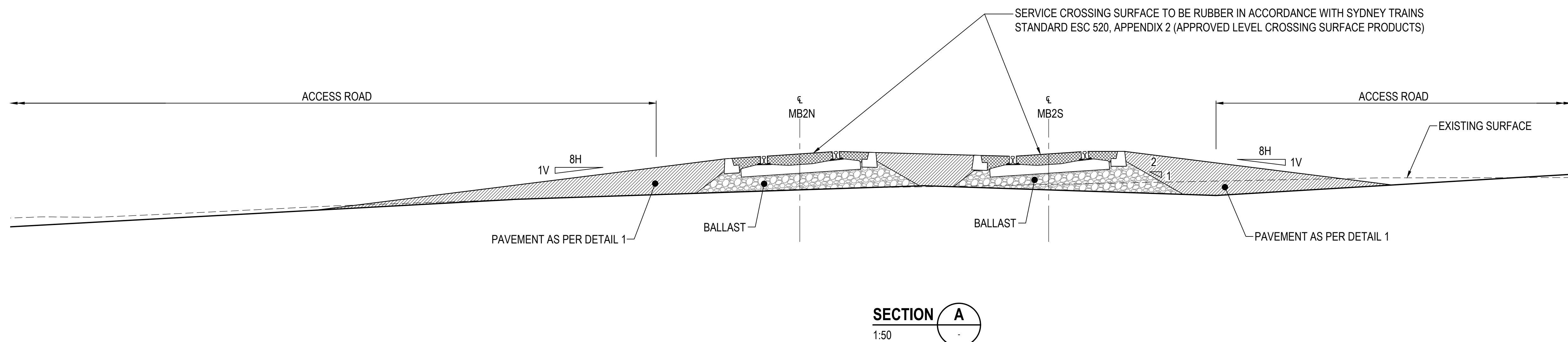
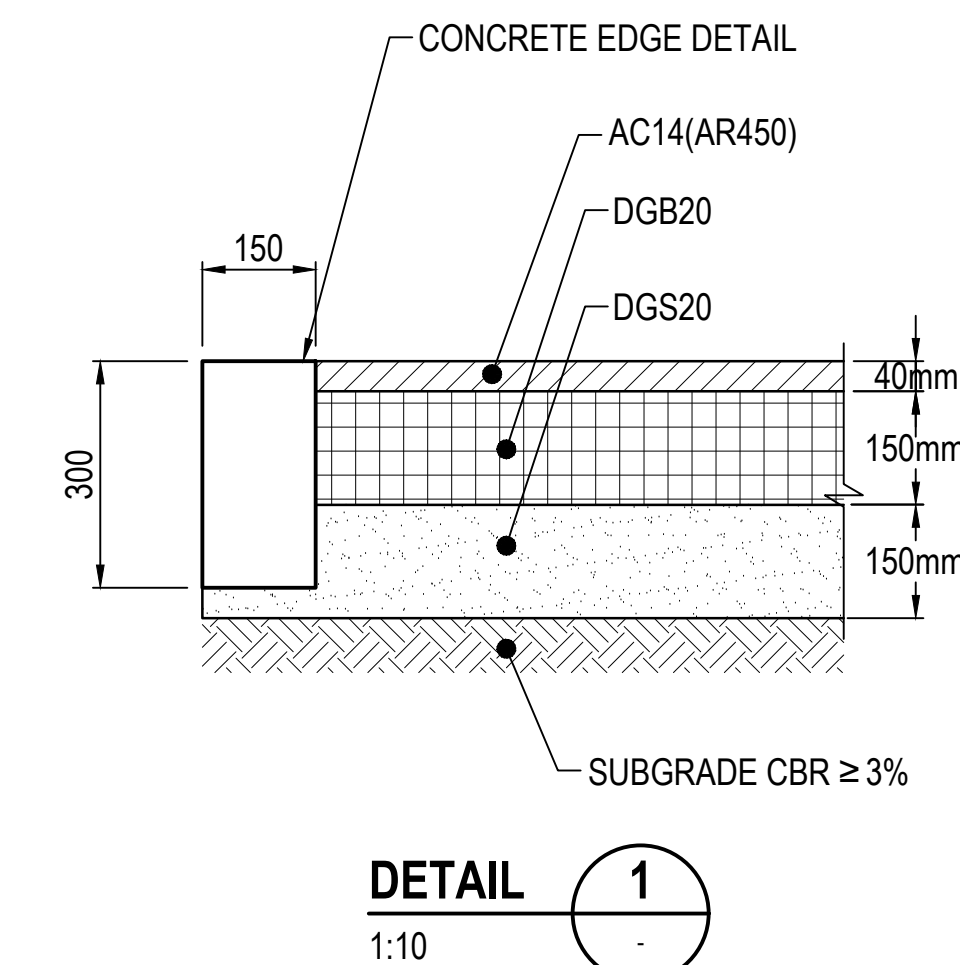
SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPPONG
DESIGNED	M.SAKIB
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
DATE 31.07.18
M.SAKIB

ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SERVICE CROSSING DETAIL SHEET 1 OF 3					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	- 0074	- 01



- LEGEND**
- PROPOSED TRACK ALIGNMENT
 - EXTENT OF EARTHWORKS
 - SIMTA RAIL CORRIDOR PERMANENT BOUNDARY
 - CONTOUR
 - RALP ACCESS ROAD
 - GWS ACCESS ROAD
 - PROPOSED RALP AND GWS SHARED ACCESS ROAD

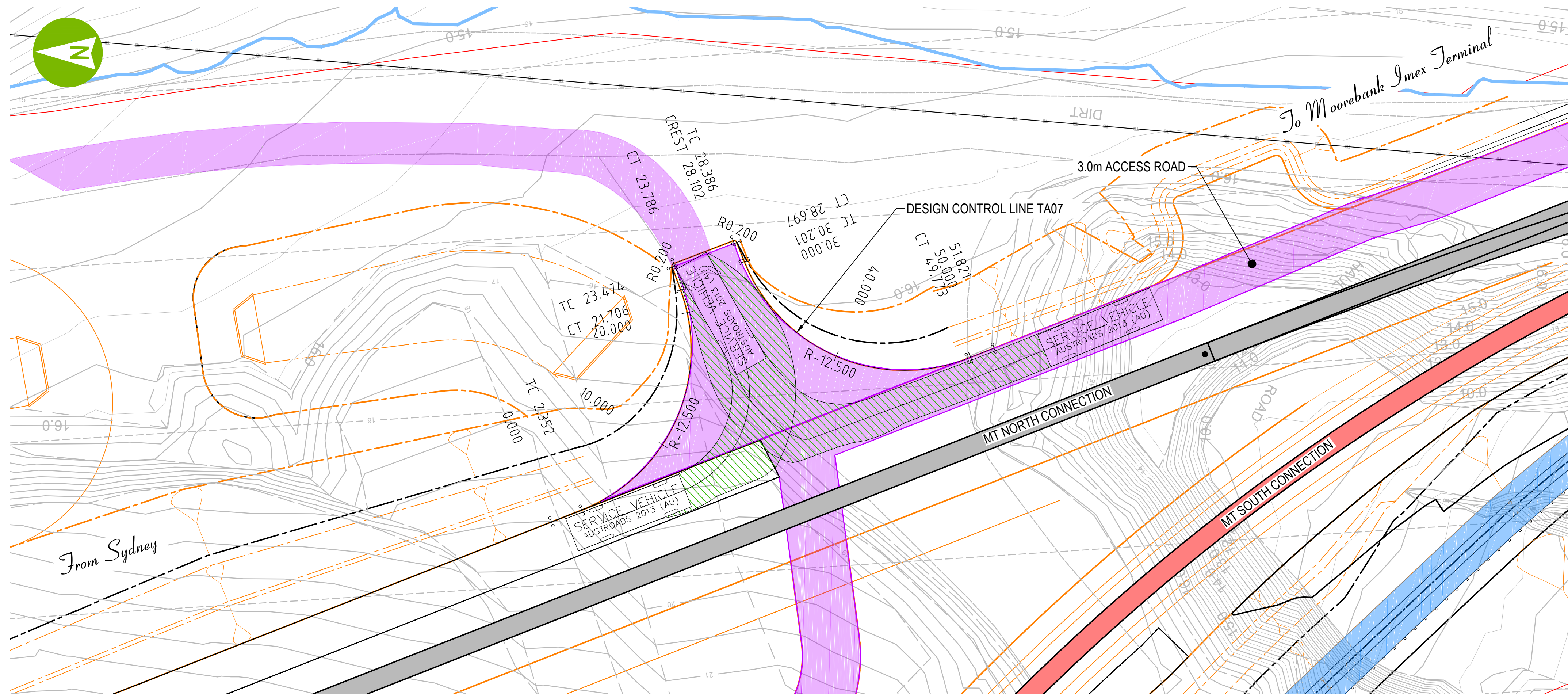


REV	DATE	REVISION DETAILS
01	20.01.17	ACCEPTED FOR CONSTRUCTION
02	24.07.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)
03	31.07.18	ACCEPTED FOR CONSTRUCTION

APPROVED	SCALE	SIZE
A. O'SHEA	AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPPONG	
DESIGNED	M.SAKIB	
CHECKED	W.DENG	

FOR CONSTRUCTION	DATE
M.SAKIB	31.07.18
M.SAKIB	

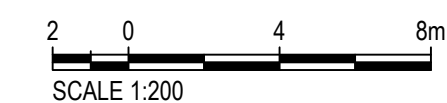
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PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
TITLE	BULK EARTHWORKS SERVICE CROSSING DETAIL SHEET 2 OF 3									
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
N01031	-	PWD	-	DRG	-	GEN	-	0075	-	03



PLAN
1:200

LEGEND

- PROPOSED TRACK ALIGNMENT
- EXTENT OF EARTHWORKS
- SIMTA RAIL CORRIDOR PERMANENT BOUNDARY
- CONTOUR
- RALP ACCESS ROAD
- GWS ACCESS ROAD
- PROPOSED RALP AND GWS SHARED ACCESS ROAD



ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE			BULK EARTHWORKS TURNAROUND FACILITY DETAIL SHEET 1 OF 1					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
N01031	- PWD	- DRG	- GEN	- 0077	- 01			

CLIENT

SYDNEY INTERMODAL TERMINAL ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE AS SHOWN

SIZE A1

FOR CONSTRUCTION

APPROVED

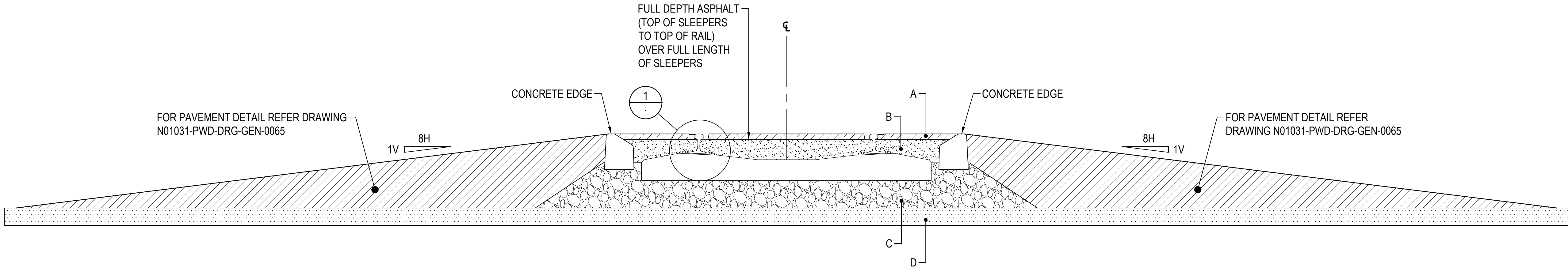
DATE 31.07.18

M.SAKIB

DRAWN J.RASAMEEMANEEPONG

DESIGNED M.SAKIB

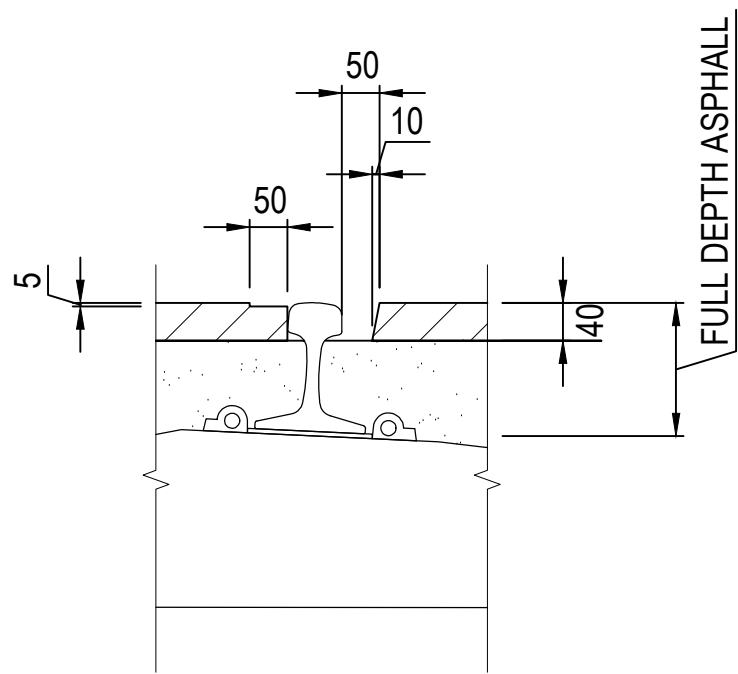
CHECKED W.DENG



PAVEMENT DETAIL CROSS SECTION AT SERVICE CROSSING
1:20

TRACK FOUNDATION DETAIL

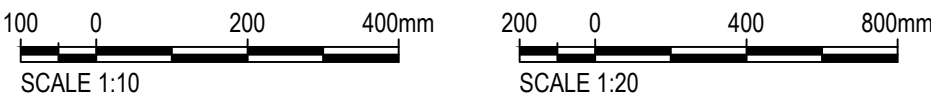
A	ASPHALT WEARING COURSE 40mm SIZE 14 AR450 BINDER ASPHALT TYPE Hm
B	INTERMEDIATE LAYER ASPHALT 60mm SIZE 20 TYPE T (CLASS 320) BASE LAYER ASPHALT 90mm SIZE 20 TYPE T (CLASS 320)
C	COMPACTED BALLAST 250mm (MIN)
D	CAPPING LAYER



DETAIL 1
1:10

NOTES

- ALL DIMENSIONS IN MILLIMETERS.
- REFER TO TYPICAL CROSS-SECTIONS ,GROUND TREATMENT PLANS AND LONGSECTIONS FOR FOUNDATION TREATMENT UNDERNEATH CAPPING LAYER.



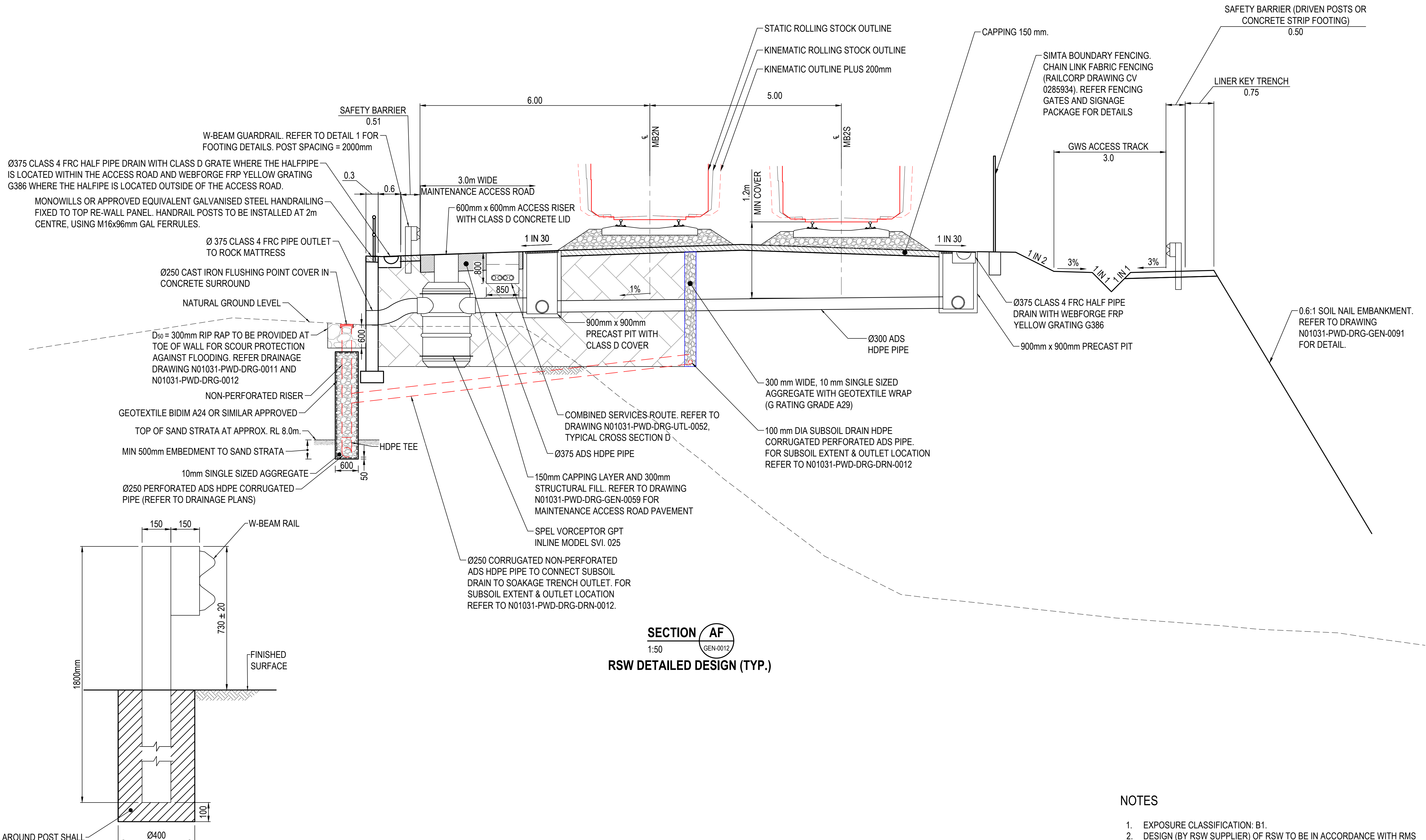
ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE			BULK EARTHWORKS LEVEL CROSSING DETAILS SHEET 1 OF 1					
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
			N01031	-	PWD	-	DRG	-
							GEN	-
							0078	-
								01

REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
P.KHAIPRAPHA	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

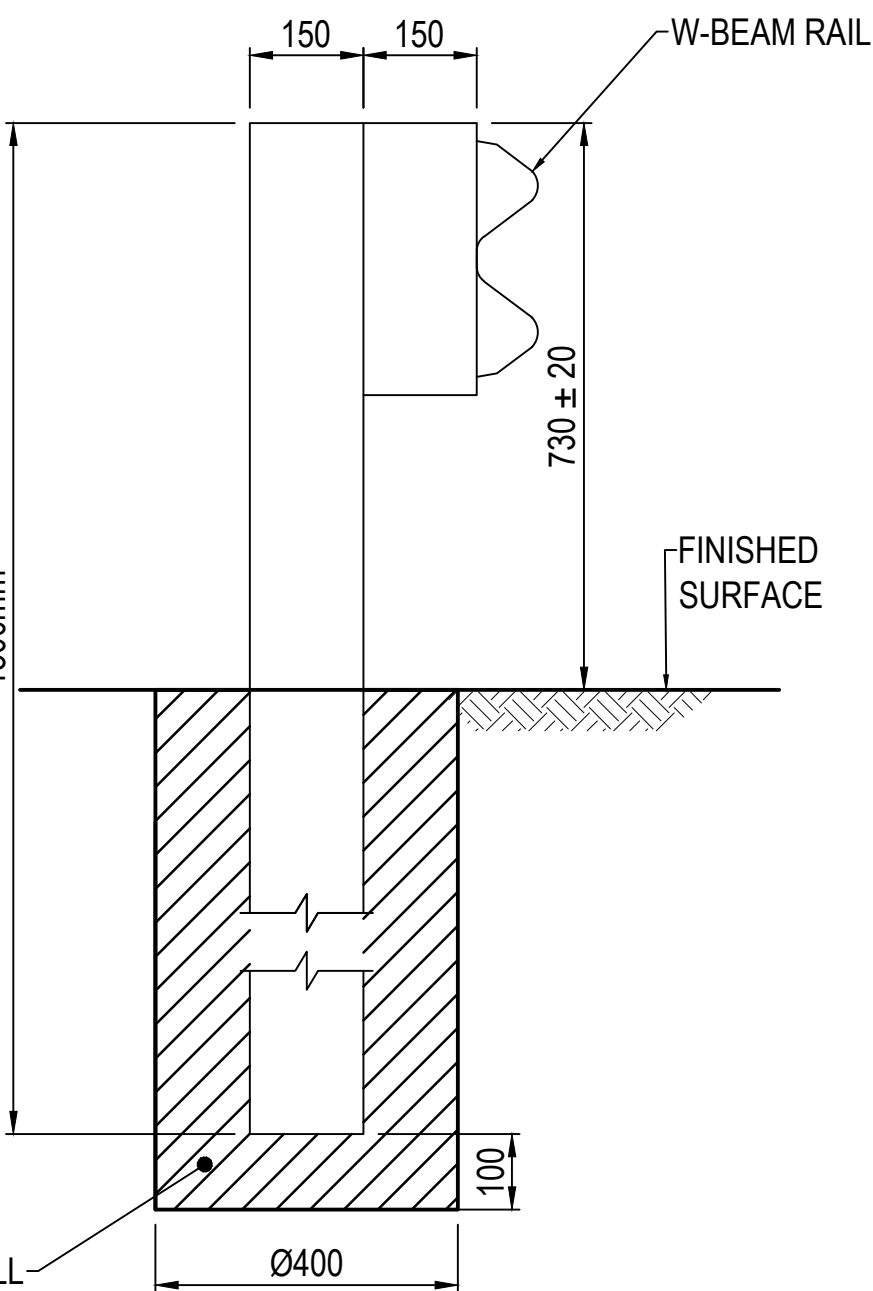
FOR CONSTRUCTION	
APPROVED	
DATE	
31.07.18	
M.SAKIB	
M.SAKIB	

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SECTION AF
1:50
GEN-0012
RSW DETAILED DESIGN (TYP.)

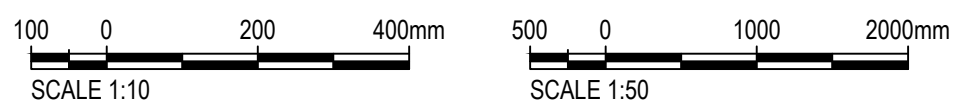
BACKFILL AROUND POST SHALL BE CLEAN, WELL GRADED. BACKFILL TO BE COMPACTED PRIOR TO DRIVING POST



DETAIL 1
1:10
W-BEAM GUARD RAIL DETAIL

NOTES

1. EXPOSURE CLASSIFICATION: B1.
2. DESIGN (BY RSW SUPPLIER) OF RSW TO BE IN ACCORDANCE WITH RMS SPEC 57.
3. FOR WALL ELEVATION, WALL FACING, INTERNAL WALL CONFIGURATION, INTERNAL DRAINAGE, FOOTING AND FOUNDATION TREATMENT DETAILS REFER TO RECO DESIGN DRAWINGS.

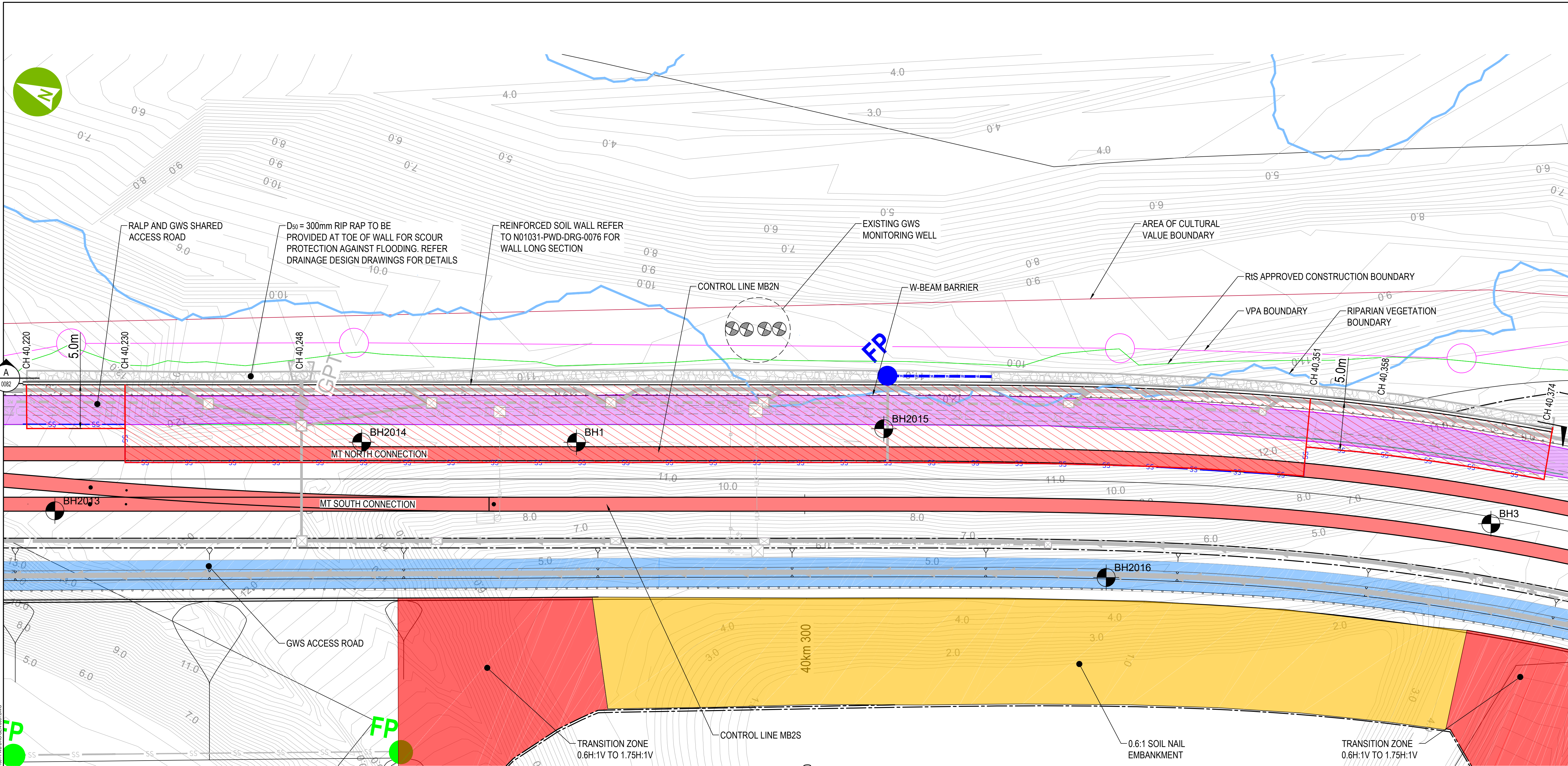


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	
APPROVED	DATE 31.07.18
M.SAKIB	
M.SAKIB	

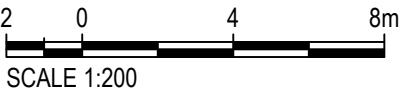
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	BULK EARTHWORKS REINFORCED SOIL WALL - TYPICAL CROSS SECTIONS SHEET 1 OF 1
DRAWING No.	PROJECT No. N01031 - ZONE PWD - TYPE DRG - DISC GEN - NUMBER 0080 - REV 03



LAYOUT PLAN
1:200

LEGEND	
	TRACK ALIGNMENT
	RALP ACCESS ROAD
	GWS ACCESS ROAD
	PROPOSED RALP AND GWS SHARED ACCESS ROAD
	CONTOUR
	CADASTRAL BOUNDARY
	W-BEAM BARRIER
	AREA OF CULTURAL VALUE
	SIMTA BIODIVERSITY OFFSET AREA
	VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY
	RIPARIAN VEGETATION MANAGEMENT
	RIS APPROVED CONSTRUCTION BOUNDARY
	SIMTA RAIL CORRIDOR PERMANENT BOUNDARY
	RETAINING WALL BLOCK WIDTH

- NOTES
1. REFER TO DRAINAGE PACKAGE N01031-PWD-DRG-DRN FOR DRAINAGE PIT DETAILS



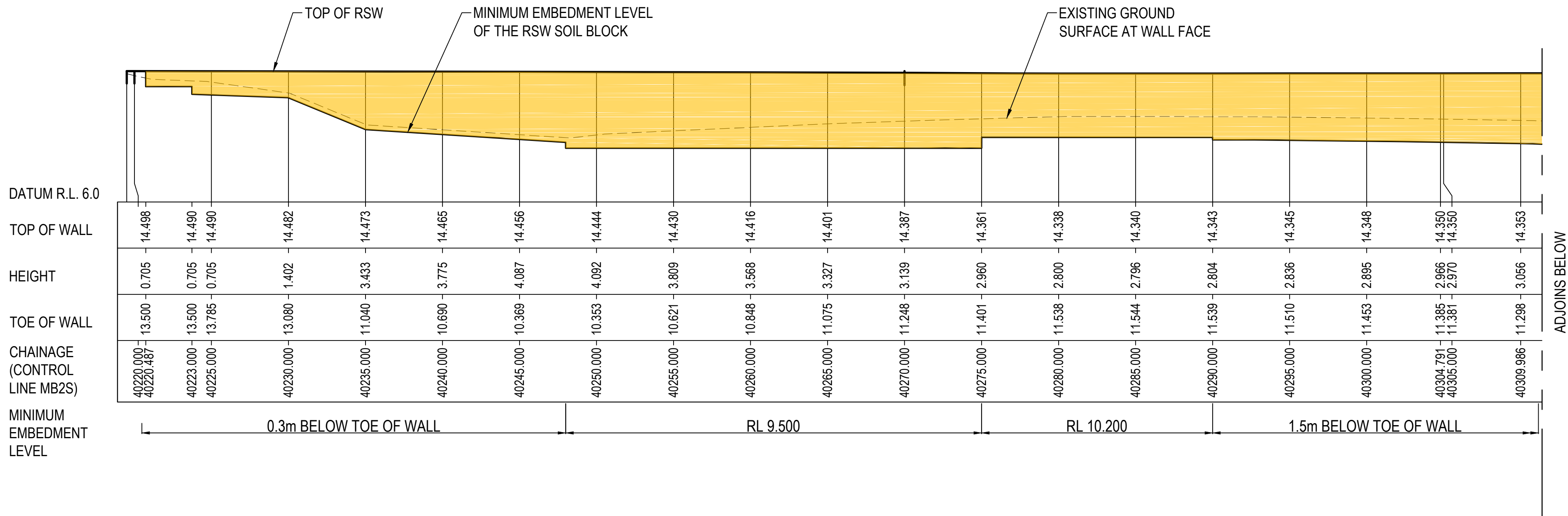
ARTC DRAWING No			EDMS No			EDMS REV				
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
TITLE	BULK EARTHWORKS REINFORCED SOIL WALL - PLAN SHEET 1 OF 1									
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
N01031	-	PWD	-	DRG	-	GEN	-	0081	-	03

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

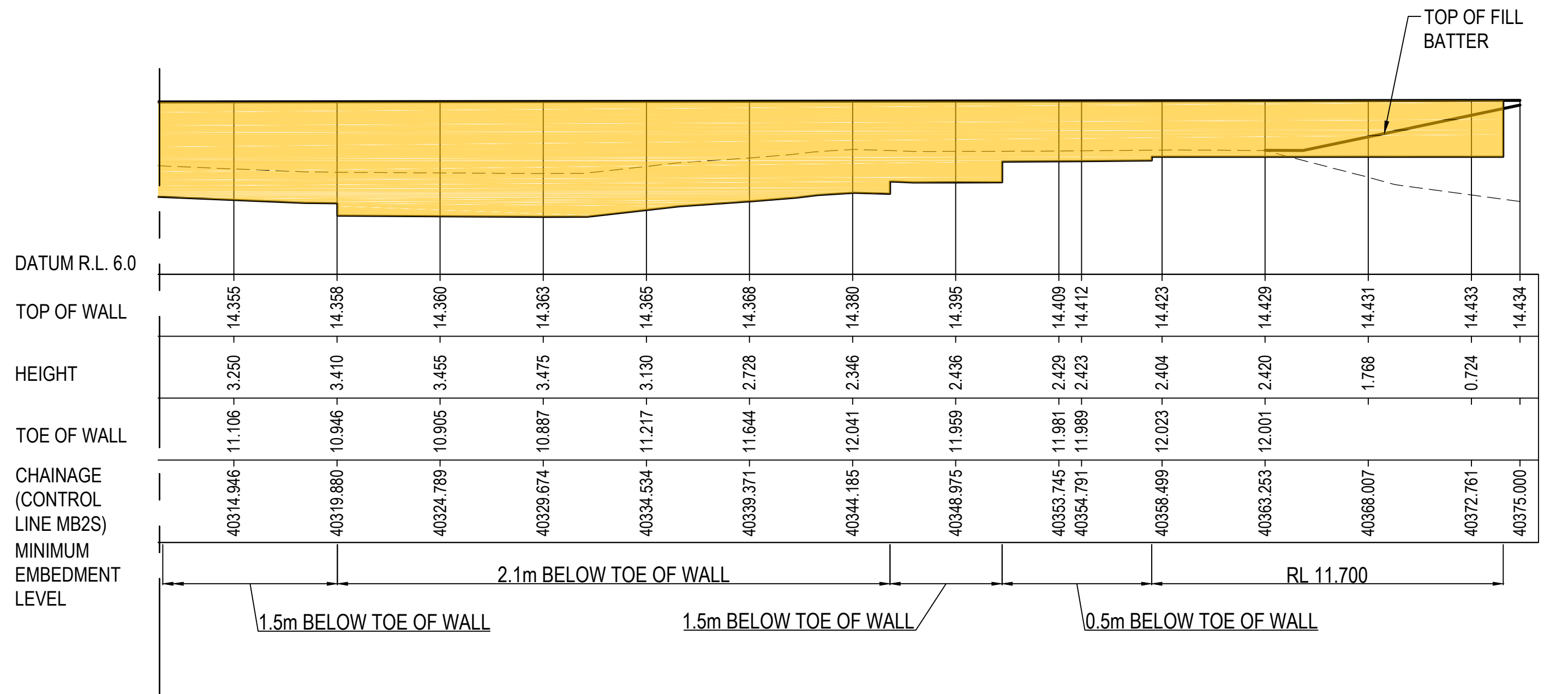
SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

Plot Date: 18/02/2018 4:48:25 PM Office: AUS/01 Filename: C:\PM\WORKSPACE\LEV LITTLEANZ\PROJECTS\2017\MOI\031\PROJ.DWG GEN008.DWG



SECTION A
1:200
GEN-0081



SECTION A
1:200
GEN-0081

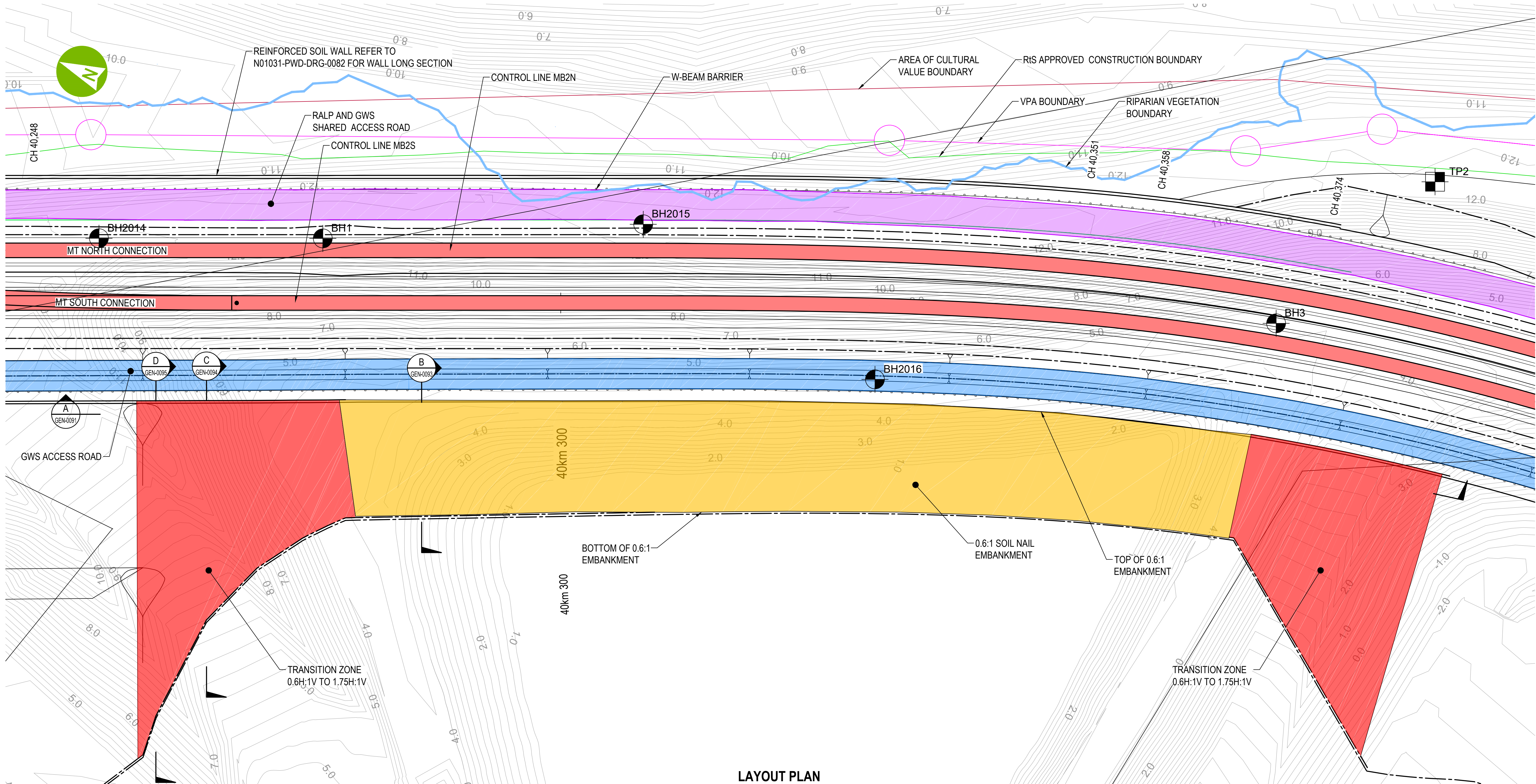


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS REINFORCED SOIL WALL - LONGITUDINAL SECTION SHEET 2 OF 2	
DRAWING No.	PROJECT No.	ZONE
N01031		PWD
	TYPE	DISC
	DRG	GEN
	NUMBER	REV
	0082	03



LAYOUT PLAN
1:200

LEGEND

- | | | | |
|--|---------------------------------|--|---|
| | TRACK ALIGNMENT | | AREA OF CULTURAL VALUE |
| | RALP AND GWS SHARED ACCESS ROAD | | SIMTA BIODIVERSITY OFFSET AREA |
| | GWS ACCESS ROAD | | VOLUNTARY PLANNING AGREEMENT (VPA) BOUNDARY |
| | CONTOUR | | RIPARIAN VEGETATION MANAGEMENT |
| | W-BEAM BARRIER | | RIS APPROVED CONSTRUCTION BOUNDARY |
| | BOREHOLE | | REINFORCED SOIL WALL |
| | | | TRANSITION ZONE |



CLIENT



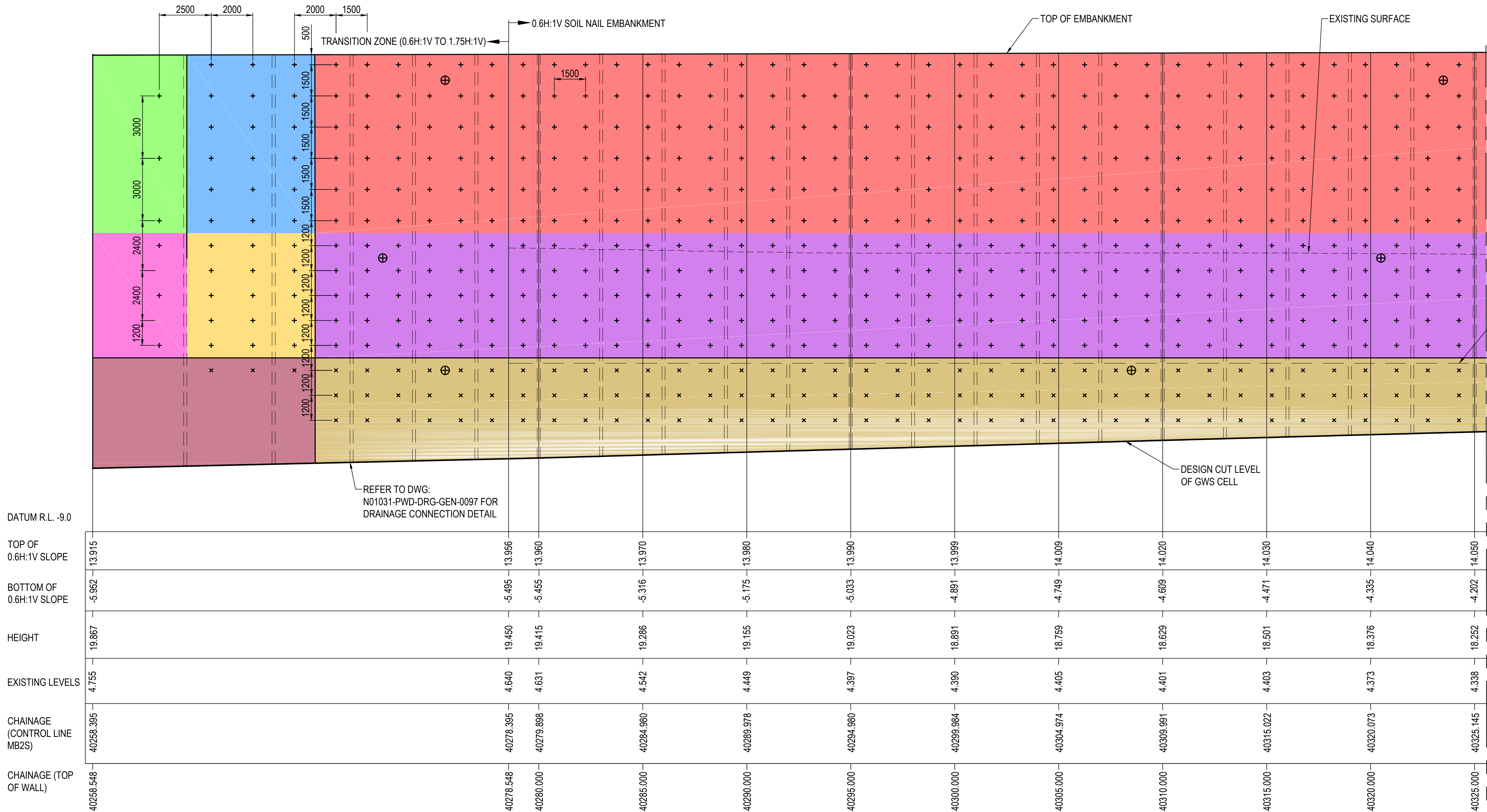
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
03	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	DATE
	31.07.18
M.SAKIB	
M.SAKIB	

ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS SOIL NAIL EMBANKMENT - PLAN SHEET 1 OF 1					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
N01031	-	PWD	-	DRG	-	GEN
					0090	-
						03

Proj Date: 18/02/18 4:48 PM Office: AUS/0 Filename: C:\PH\WORKSPACE\LITTLEBAY\PROJECTS\2017\N01031-PWD-DRG-GEN-0091.DWG



LEGEND:

- SOIL NAIL
- ROCK BOLT
- SACRIFICIAL NAIL FOR SUITABILITY TESTING
- STRIP DRAIN (TO BE INSTALLED BEHIND SHOTCRETE)
- TYPE A SOIL NAIL
- TYPE B SOIL NAIL
- TYPE C SOIL NAIL
- TYPE D SOIL NAIL
- TYPE E SOIL NAIL
- TYPE F SOIL NAIL
- TYPE G ROCK NAIL
- TYPE H ROCK NAIL

SECTION A
1:100
GEN-0090

NOTES:

- INDICATIVE ROCK LEVEL BASED ON BH2016. ROCK LEVEL TO BE VERIFIED ON SITE DURING CONSTRUCTION BY SITE GEOTECHNICAL ENGINEER.
- GEOLOGICAL MAPPING SHALL BE CARRIED OUT DURING CONSTRUCTION AND IMMEDIATELY AFTER EXCAVATION TO IDENTIFY POTENTIAL UNSTABLE ROCK FACES, WHERE NECESSARY, TO ADOPT APPROPRIATE MITIGATION MEASURES.

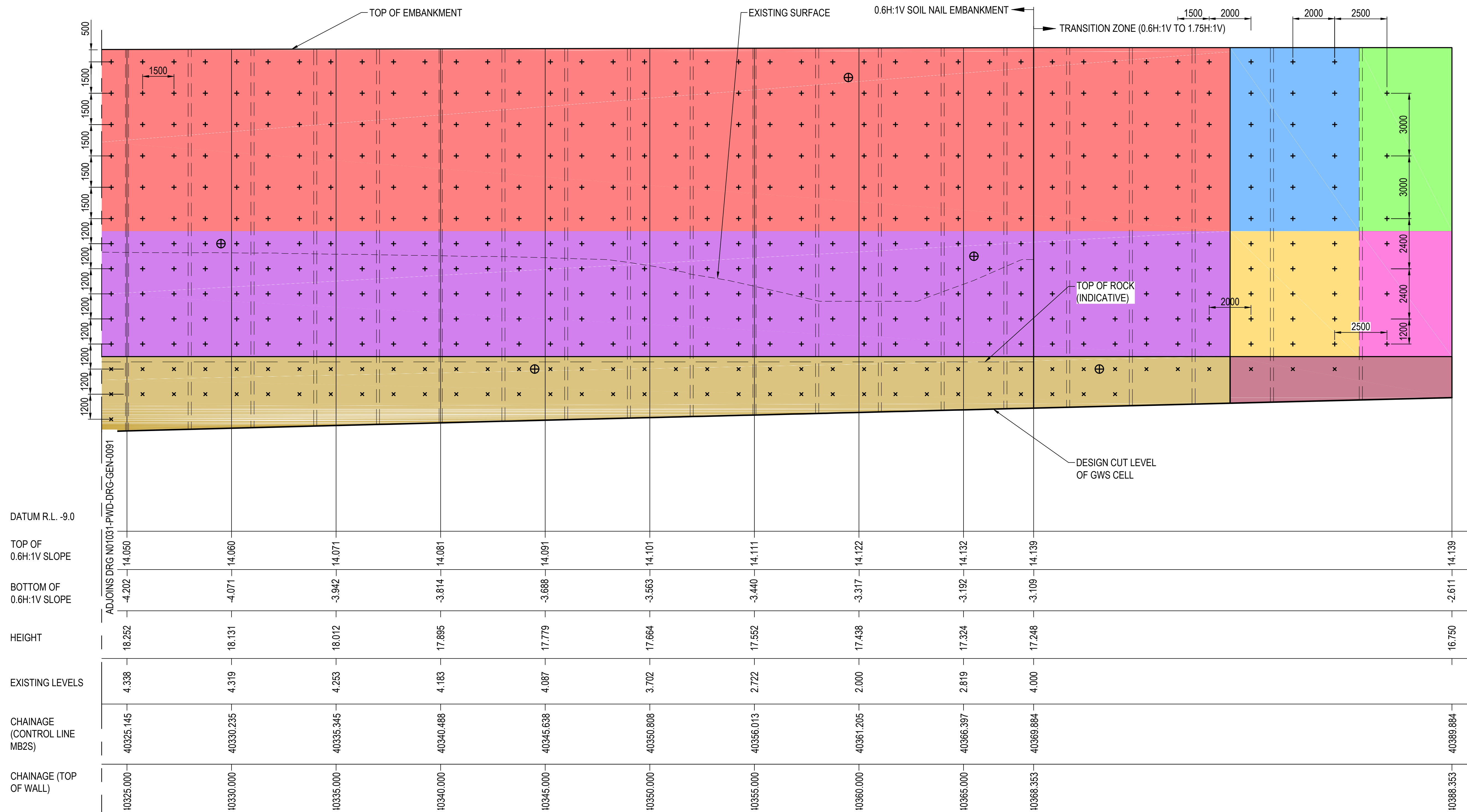
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REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA
03	01.09.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	G. RUSINOL
04	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
05	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS SOIL NAIL EMBANKMENT - LONGITUDINAL SECTION SHEET 1 OF 2	
DRAWING No.	PROJECT No.	ZONE
N01031	N01031	PWD
	TYPE	DISC
	DRG	GEN
	NUMBER	REV
	0091	05



LEGEND:

NOTES:

1. FOR SOIL NAIL AND ROCK BOLT SCHEDULE
REFER TO DRAWING N01031-PWD-DRG-GEN-0096

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	A. O'SHEA
03	01.09.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION	G. RUSINOL
04	02.02.18	90% ARTC DESIGN ISSUE (RESUBMISSION)	M.SAKIB
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
05	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB



CONSTRUCTION SEQUENCE OF THE 0.6H:1V SLOPE

-
- The diagram illustrates a cross-section of a proposed landfill cell. Key features include:
- EXISTING GROUND LINE:** Represented by a dotted line.
 - PROPOSED CELL:** Shaded in light blue, showing a 3m vertical for the 1st excavation and a 5m wide bench.
 - SLOPES:**
 - NO STEEPER THAN 1.5H:1V
 - 0.6H:1V SLOPE FACE
 - RL1 (VARIES)
 - ~RL 5 (VARIES)
 - DIMENSIONS:**
 - 3m VERTICAL FOR THE 1st EXCAVATION
 - 5m WIDE BENCH
 - 5m (horizontal distance)
 - OTHER LABELS:**
 - OVERFILLING
 - REFER TO NOTE 3.
 - EXISTING LEACHATE POND SURFACE
 - RL1 (VARIES)
 - ~RL 5 (VARIES)

REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

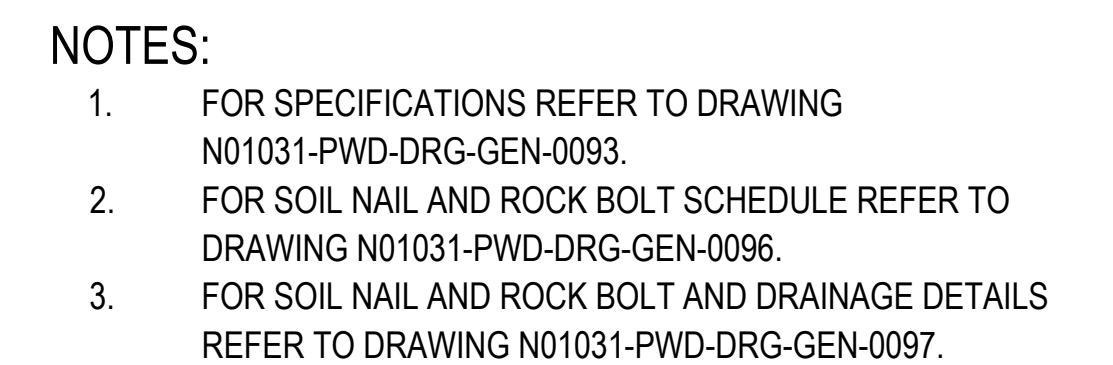
FOR CONSTRUCTION






APPROVED

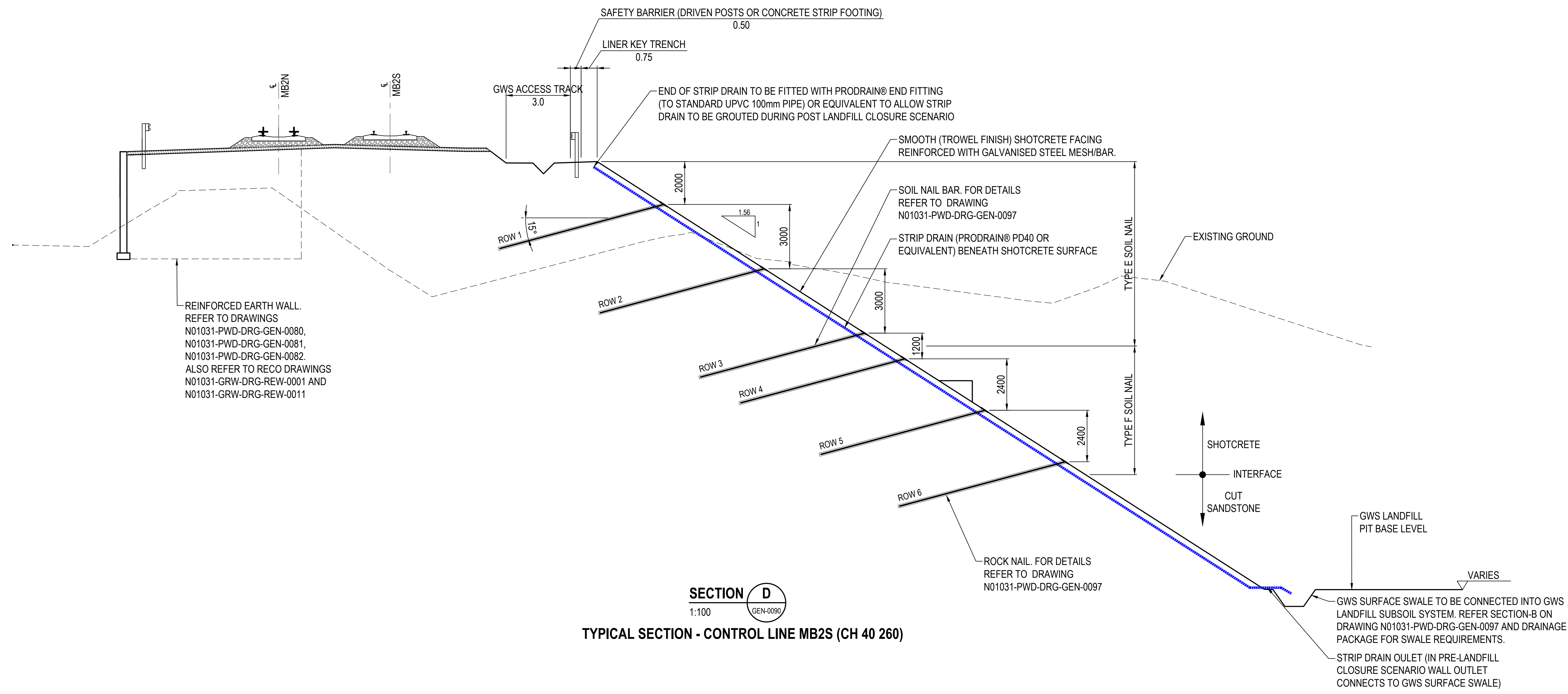
DATE
31.07.18

M.SAKIB

M.SAKIB

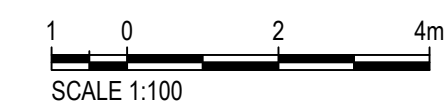


CLIENT		REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	FOR CONSTRUCTION	PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
 	D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)		M.SAKIB	AS SHOWN	A1	<div>APPROVED</div> <div>DATE 31.07.18</div> <div>M.SAKIB</div> <div>M.SAKIB</div>	TITLE	BULK EARTHWORKS SOIL NAIL EMBANKMENT CROSS SECTION SHEET 1 OF 1					
	E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)			DRAWN A.LITTLE									
	01	31.07.18	ACCEPTED FOR CONSTRUCTION			DESIGNED K.GIGGACHER									
						CHECKED W.DENG									



SECTION D
1:100
GEN-0090
TYPICAL SECTION - CONTROL LINE MB2S (CH 40 260)

- NOTES:
1. FOR SPECIFICATIONS REFER TO DRAWING N01031-PWD-DRG-GEN-0093.
 2. FOR SOIL NAIL AND ROCK BOLT SCHEDULE REFER TO DRAWING N01031-PWD-DRG-GEN-0096.
 3. FOR SOIL NAIL AND ROCK BOLT AND DRAINAGE DETAILS REFER TO DRAWING N01031-PWD-DRG-GEN-0097.



ARTC DRAWING No			EDMS No			EDMS REV					
PROJECT									MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1		
TITLE									BULK EARTHWORKS SOIL NAIL EMBANKMENT CROSS SECTION SHEET 1 OF 1		
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV			
			N01031	PWD	DRG	GEN	0095	01			

CLIENT



REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

0.6H:1V BATTER SUPPORT TYPES											SUITABILITY TEST NAILS (1) (2) (3)			
SUPPORT TYPE	CHAINAGE ALONG MB2S	SPACING VERTICAL (m)	SPACING HORIZONTAL (m)	LENGTH (m)	INCLINATION BELOW HORIZONTAL	BOLT / NAIL TYPE	MINIMUM HOLE DIAMETER (mm)	MAXIMUM WORKING LOAD (kN/NAIL) PER NAIL	SOIL / ROCK TYPE	TARGET FAILURE MECHANISM	No. TEST	SOIL/ROCK TYPE AT TEST LOCATION	ULTIMATE BEND STRENGTH (kPa)	ESTIMATED TEST FAILURE LOAD (kN)
TYPE A SOIL NAIL	40269-40378	ROW 1 AT 0.5m FROM SLOPE CREST; ROW 2 TO ROW 6 AT 1.5m VERTICAL SPACING	1.5	12.0	15	N20	150	85	GENERAL FILL (COMPACTION NOT LESS THAN 95% STD)	CIRCULAR FAILURE IN FILL SLOP	3	FILL	50	70
TYPE B SOIL NAIL	40269-40378	ROW 7 AT 1.2m BELOW ROW 6 OF TYPE A SOIL NAIL; 1.2m VERTICAL SPACING BETWEEN ROW 7 AND ROW 11	1.5	12.0	15	N20	150	85	PARTIALLY SATURATED (DUE TO SEEPAGE) MEDIUM DENSE/DENSE SAND	CIRCULAR FAILURE IN FILL SLOP	3	MEDIUM DENSE/ DENSE SAND	50	70
TYPE G – PATTERN ROCK NAIL	40269-40378	ROW 12 AT 1.2m BELOW ROW 11 OF TYPE B SOIL NAIL; 1.2m VERTICAL SPACING BETWEEN ROW 12 AND ROW 14	1.5	6.0 FOR ROW 12; 5.0 FOR ROW 13; 4.0 FOR ROW 14;	25	N28	130	100	EL – L SHALE; M SHALE	CIRCULAR FAILURE IN WEATHERED ROCK; FAILURE IN JOINTED ROCK AND BEDDING PLANES	4	SHALE - L SHALE - M	200	245

TRANSITION ZONE (1.75H:1V TO 0.6H:1V) SUPPORT TYPES										
SUPPORT TYPE	CHAINAGE ALONG MB2S	SPACING VERTICAL (m)	SPACING HORIZONTAL (m)	LENGTH (m)	INCLINATION BELOW HORIZONTAL	BOLT / NAIL TYPE	MINIMUM HOLE DIAMETER (mm)	MAXIMUM WORKING LOAD (kN/NAIL) PER NAIL	SOIL / ROCK TYPE	TARGET FAILURE MECHANISM
TYPE C SOIL NAIL	40263-40269, 40378-40384	ROW 1 AT 0.5m FROM SLOPE CREST; ROW 2 TO ROW 6 AT 1.5m VERTICAL SPACING	2.0	8.0	15	N20	150	85	GENERAL FILL (COMPACTION NOT LESS THAN 95% STD)	CIRCULAR FAILURE IN FILL SLOP
TYPE D SOIL NAIL	40263-40269, 40378-40384	ROW 7 AT 1.2m BELOW ROW 6 OF TYPE C SOIL NAIL; 1.2m VERTICAL SPACING BETWEEN ROW 7 AND ROW 11	2.0	8.0	15	N20	150	85	PARTIALLY SATURATED (DUE TO SEEPAGE) DENSE SAND	CIRCULAR FAILURE IN FILL SLOP
TYPE E SOIL NAIL	40258.5-40263, 40384-40388.3	ROW 1 AT 1.5m FROM SLOPE CREST; ROW 2 AND ROW 3 AT 3m VERTICAL SPACING	2.5	8.0	15	N20	150	85	GENERAL FILL (COMPACTION NOT LESS THAN 95% STD)	CIRCULAR FAILURE IN FILL SLOP
TYPE F SOIL NAIL	40258.5-40263, 40384-40388.3	ROW 4 AT 1.2m BELOW ROW 3 OF TYPE E SOIL NAIL; 2.4m VERTICAL SPACING BETWEEN ROW 4 AND ROW 6	2.5	8.0	15	N20	150	85	GENERAL FILL (COMPACTION NOT LESS THAN 95% STD)	CIRCULAR FAILURE IN FILL SLOP
TYPE H ROCK NAIL	40258.5-40269, 40378-40388.3	ROW 12 AT 1.2m BELOW ROW 11 OF TYPE D SOIL NAIL	2.0	5.0	25	N28	130	100	EL – L SHALE; M SHALE	CIRCULAR FAILURE IN WEATHERED ROCK; FAILURE IN JOINTED ROCK AND BEDDING PLANES

NOTES:

1. SUITABILITY TESTS TO BE CARRIED OUT ON SACRIFICIAL NAILS TO PULL-OUT FAILURE OR TO 200% OF THE DESIGN WORKING LOAD, WHICHEVER IS LOWER. FOR DESIGN WORKING LOAD REFER TO 'ESTIMATED TEST FAILURE LOAD' IN THE TABLE ABOVE. THE TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH RMS SPECIFICATION D&C R64.
2. THE SUITABILITY TEST NAILS SHOULD HAVE A MINIMUM NAIL LENGTH OF 4.5m, OF WHICH A MINIMUM DEBONDED ZONE OF 1 METRE LENGTH IMMEDIATELY BEHIND THE FACING IS CONSIDERED.
3. FOR THE LOCATIONS (INDICATIVE) OF THE SUITABILITY TEST NAILS, REFER TO DRAWING N01031-PWD-DRG-0091 AND 0092. FINAL LOCATIONS OF SUITABILITY TEST NAILS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER AND APPROVED BY GEOTECHNICAL ENGINEER.
4. ACCEPTANCE TESTS TO BE CARRIED OUT ON MINIMUM 3% OF THE PRODUCTION NAILS IN ACCORDANCE WITH RMS SPECIFICATION D&C R64. THE ACCEPTANCE TEST NAILS SHALL BE UNIFORMLY DISTRIBUTED OVER THE HEIGHT & LENGTH OF THE SLOPE TO BE REPRESENTATIVE OF THE RANGE OF SOIL/ROCK CONDITIONS. TEST LOCATIONS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER AND APPROVED BY GEOTECHNICAL ENGINEER.

ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE	BULK EARTHWORKS SOIL NAIL/ROCK BOLT SCHEDULE SHEET 1 OF 1							
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
	N01031	- PWD	- DRG	- GEN	- 0096	- 01		

CLIENT

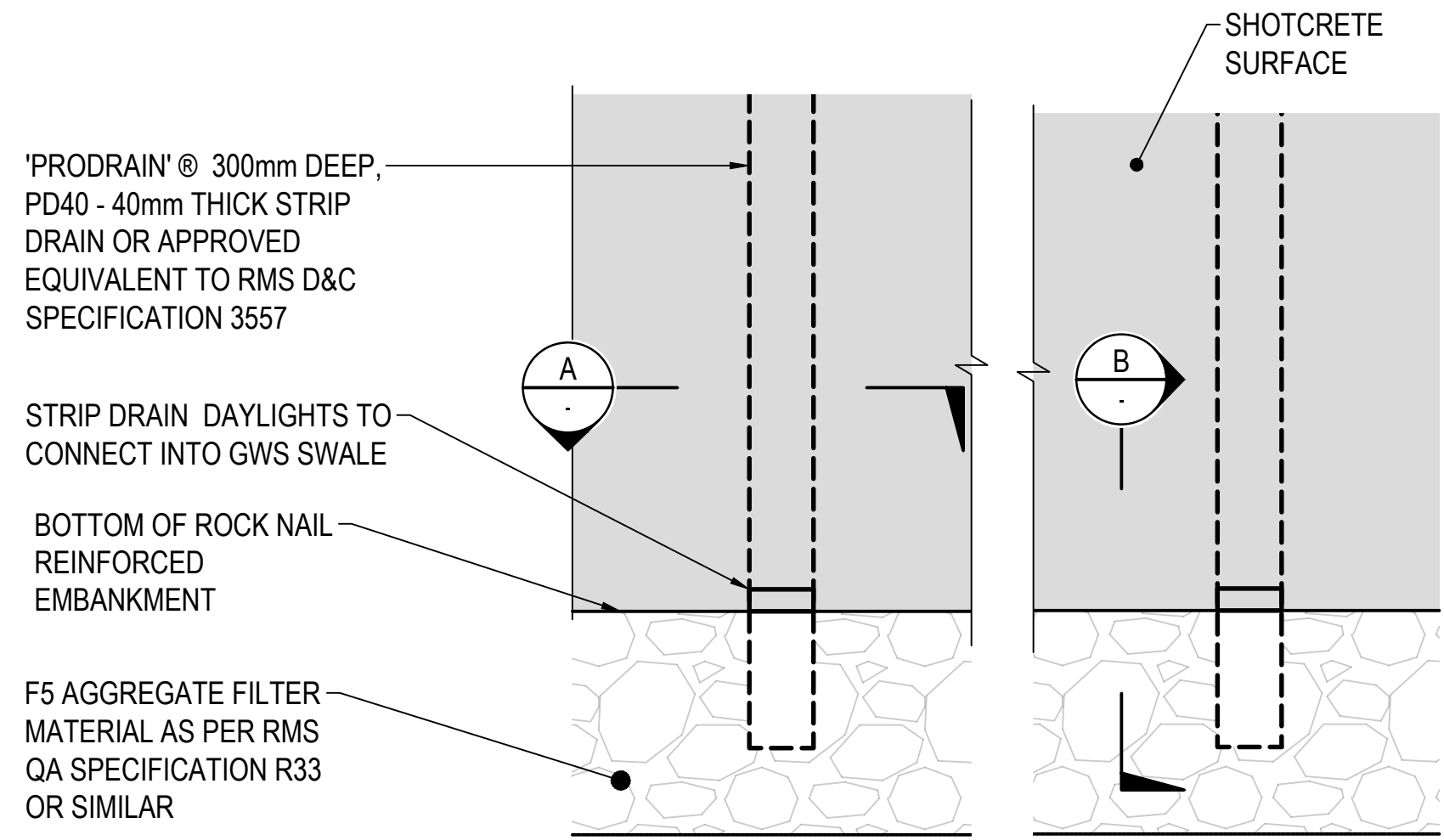
CPB
CONTRACTORS

SIMTA
SYDNEY
INTERMODAL
TERMINAL
ALLIANCE

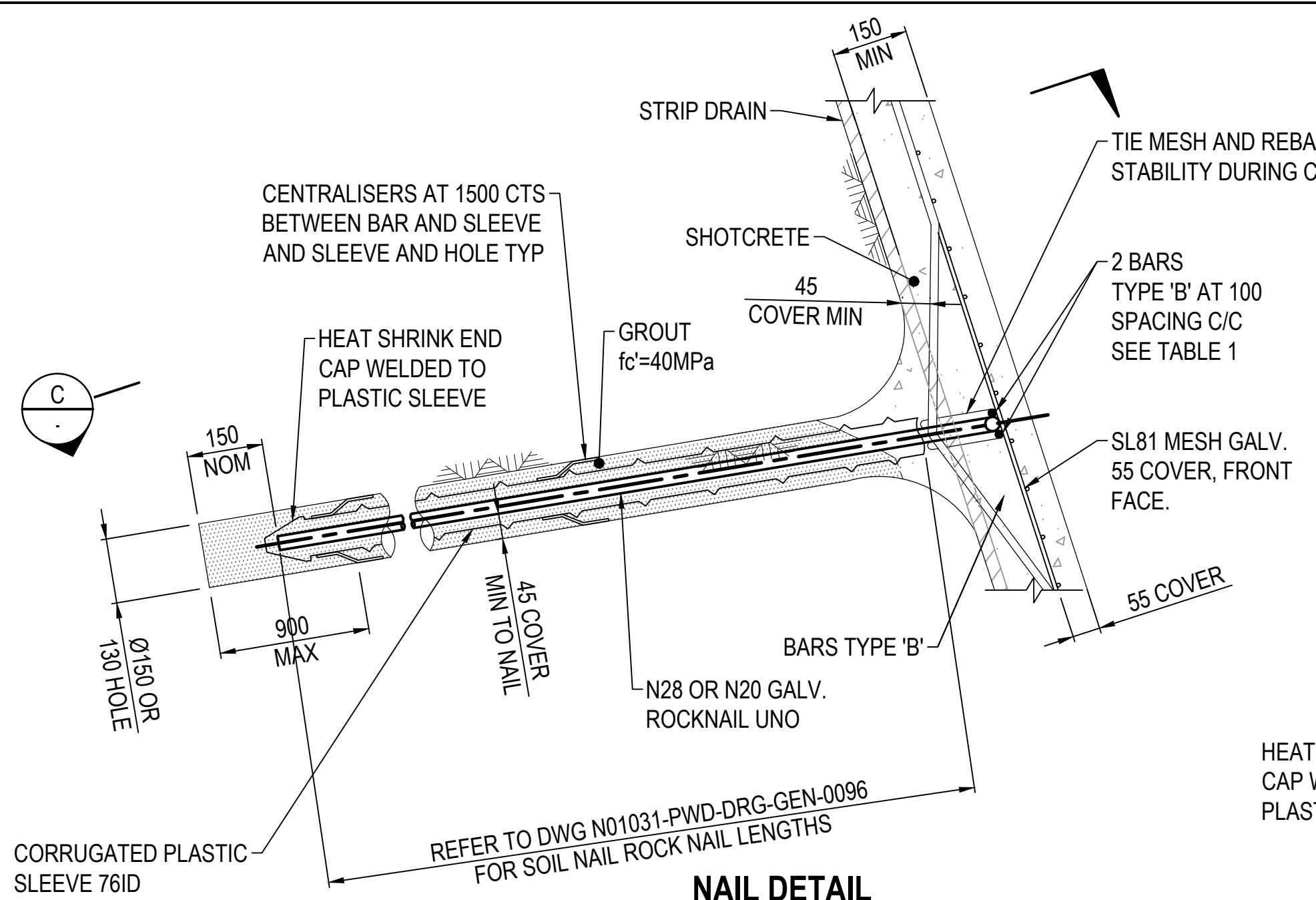
REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
NTS	A1
DRAWN	
A.LITTLE	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

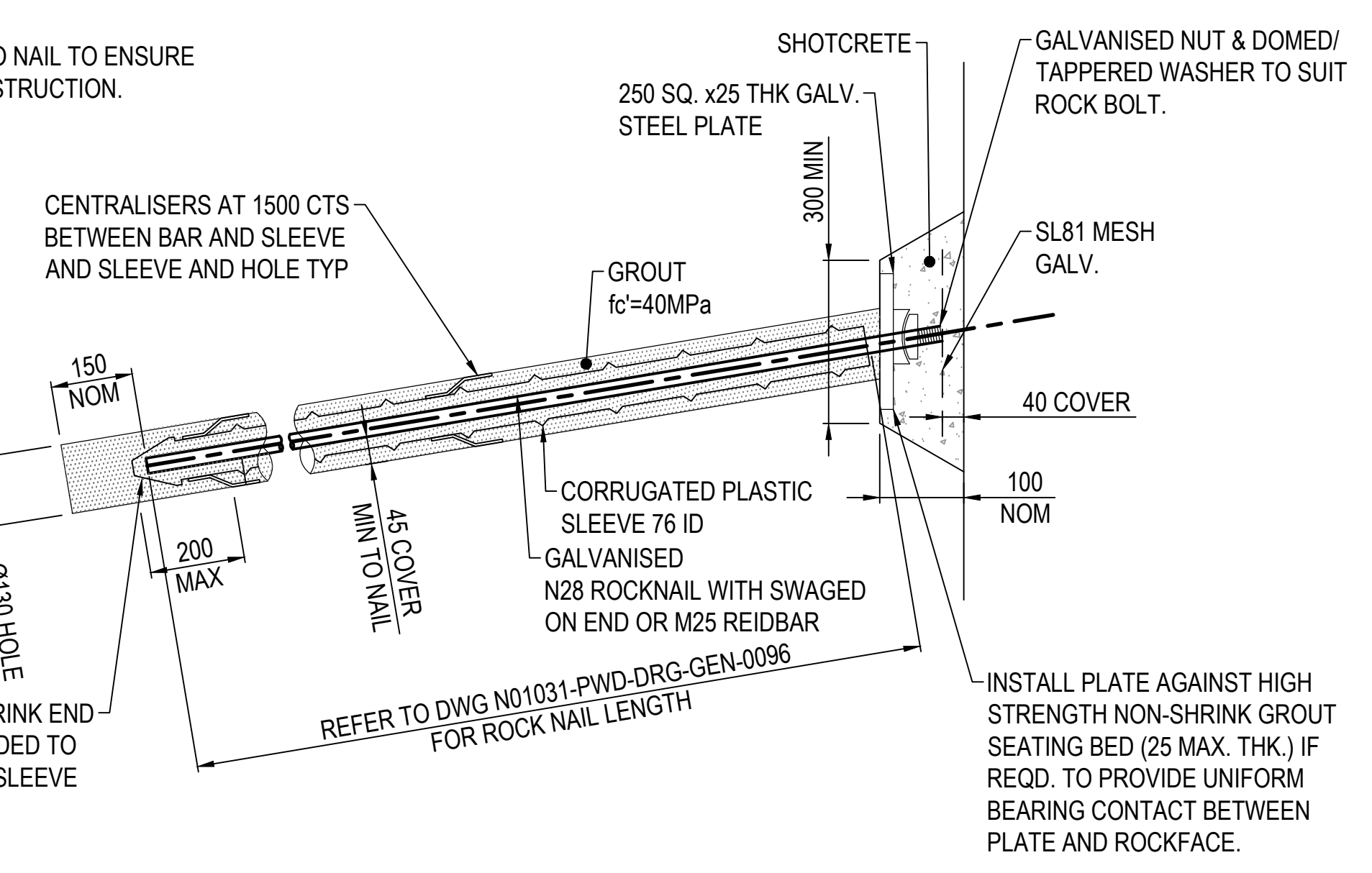
FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	



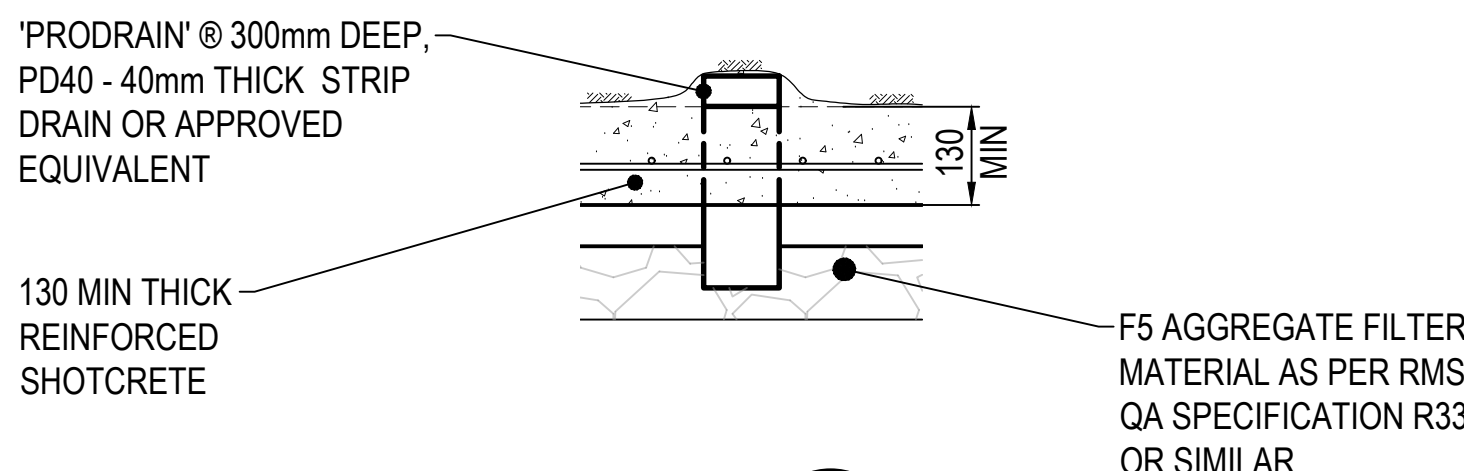
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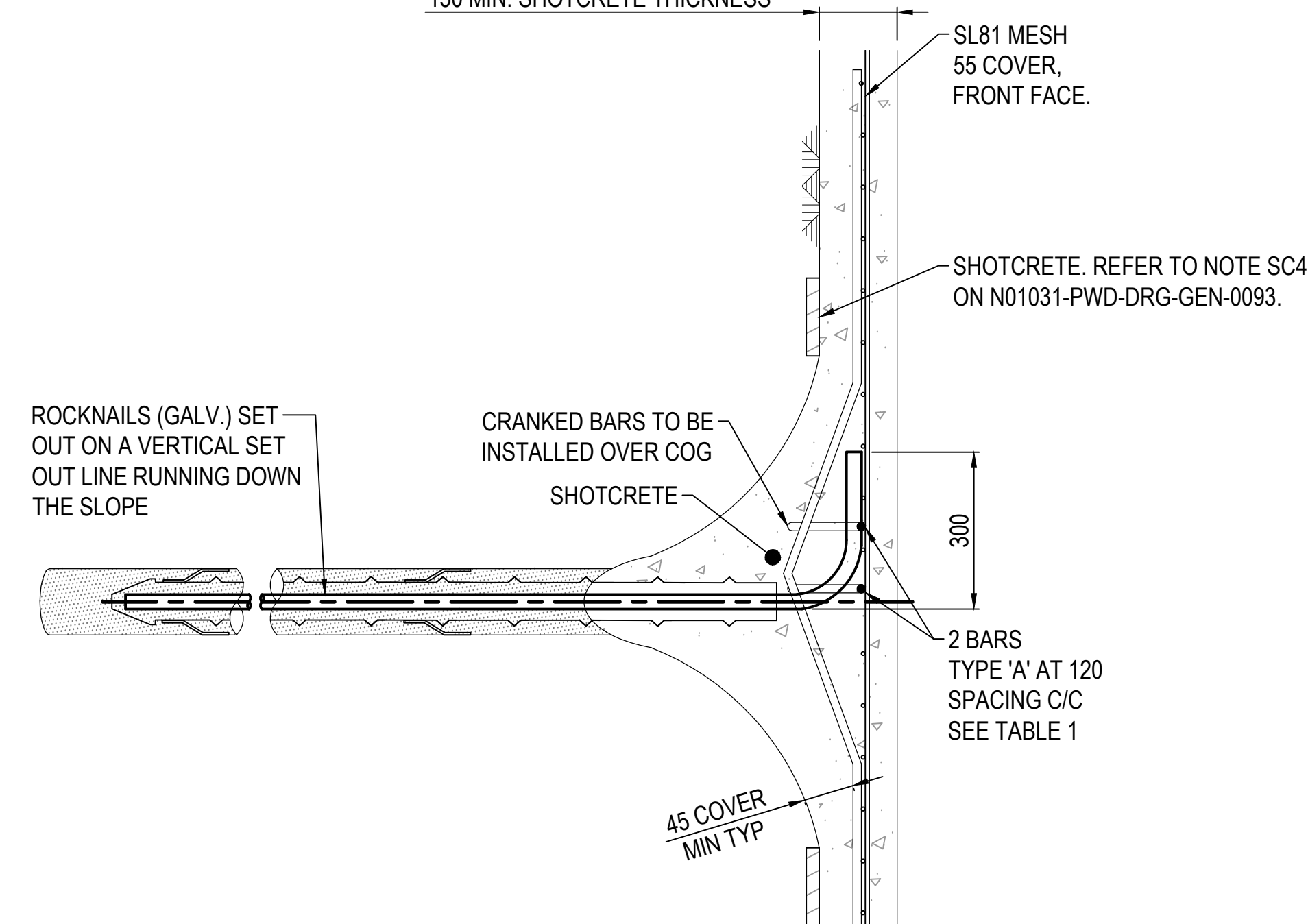
NAIL DETAIL
1:10



ROCK NAIL DETAIL
1:10



SECTION A
N.T.S.

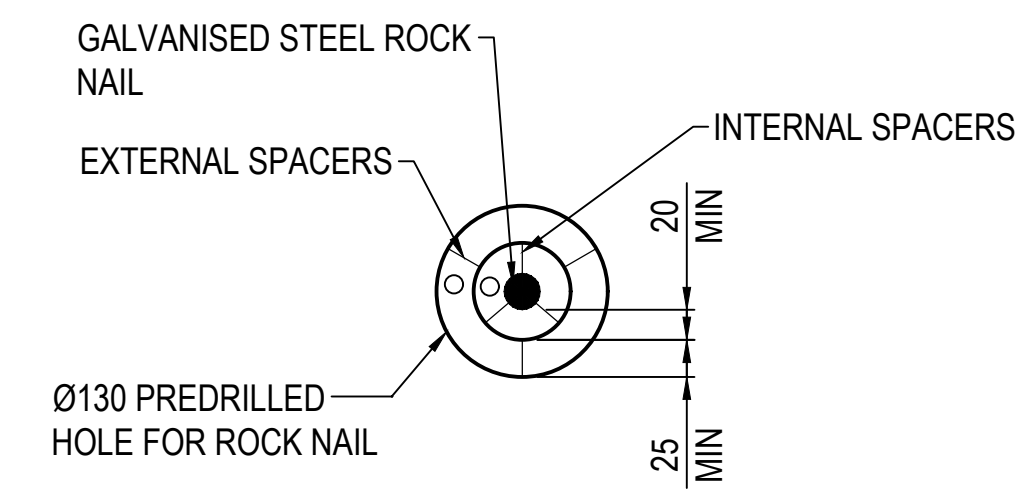
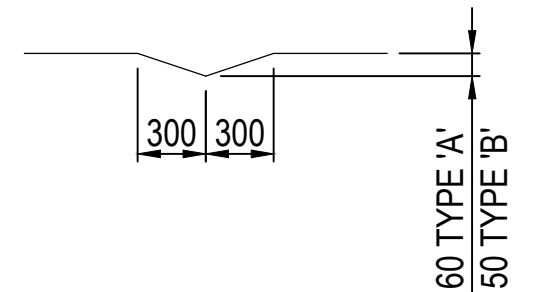


SECTION C
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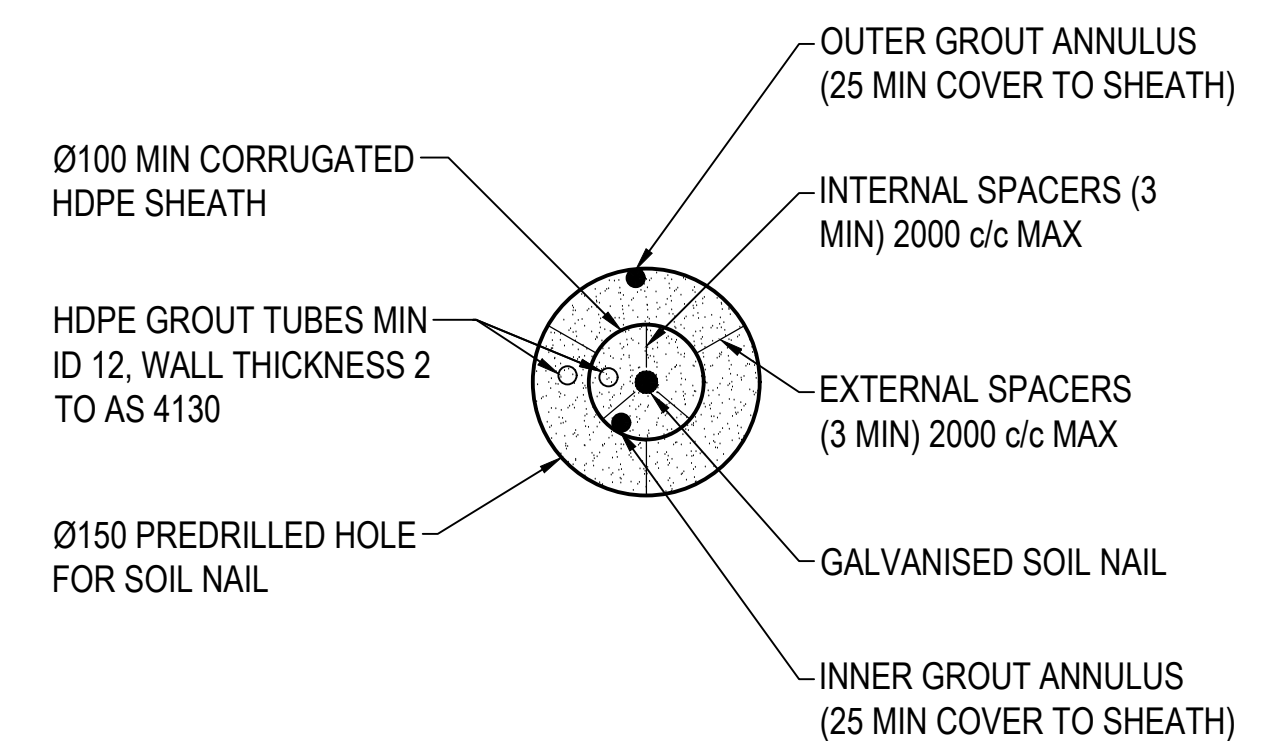
TABLE 1 - ADDITIONAL REINFORCING BAR SCHEDULE

MAX NAIL SPACING (mm)	ADDITIONAL REINFORCEMENT AT EACH NAILHEAD			
	BAR 'A'		BAR 'B'	
	SIZE	LENGTH (mm)	SIZE	LENGTH (mm)
1500	N16 (GALV.)	1500	N16 (GALV.)	1500

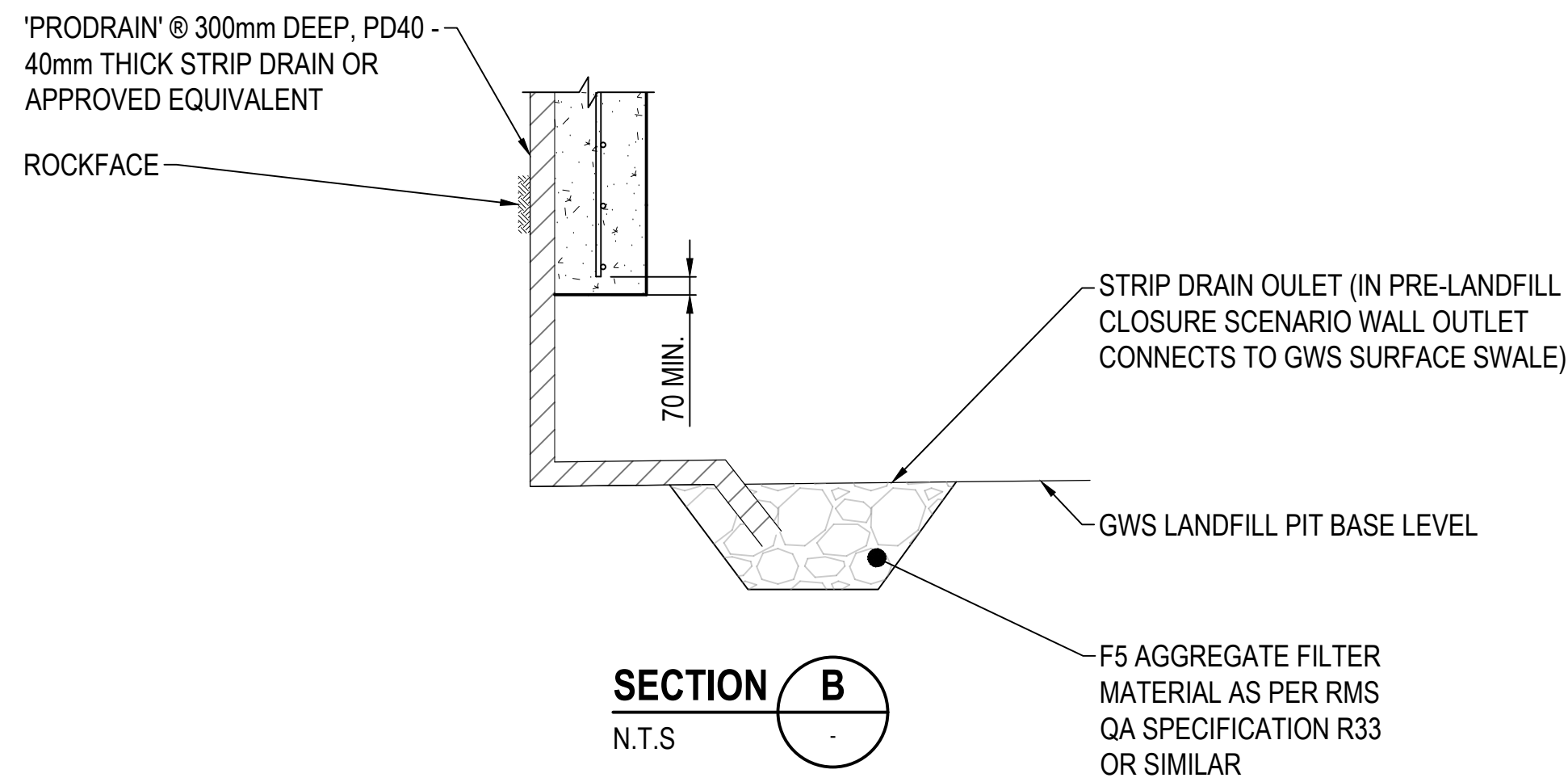
1. BARS TO BE CRANKED WHERE SHOWN
2. HOOK BARS IN PLANE OF WALL ONE END WHERE ADJACENT TO SUBVERTICAL CJ.



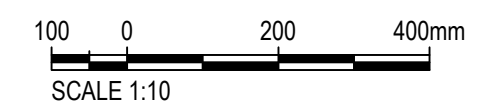
TYPICAL SECTION THROUGH ENCAPSULATED ROCK NAIL
N.T.S.



TYPICAL SECTION THROUGH ENCAPSULATED SOIL NAIL
N.T.S.



SECTION B
N.T.S.

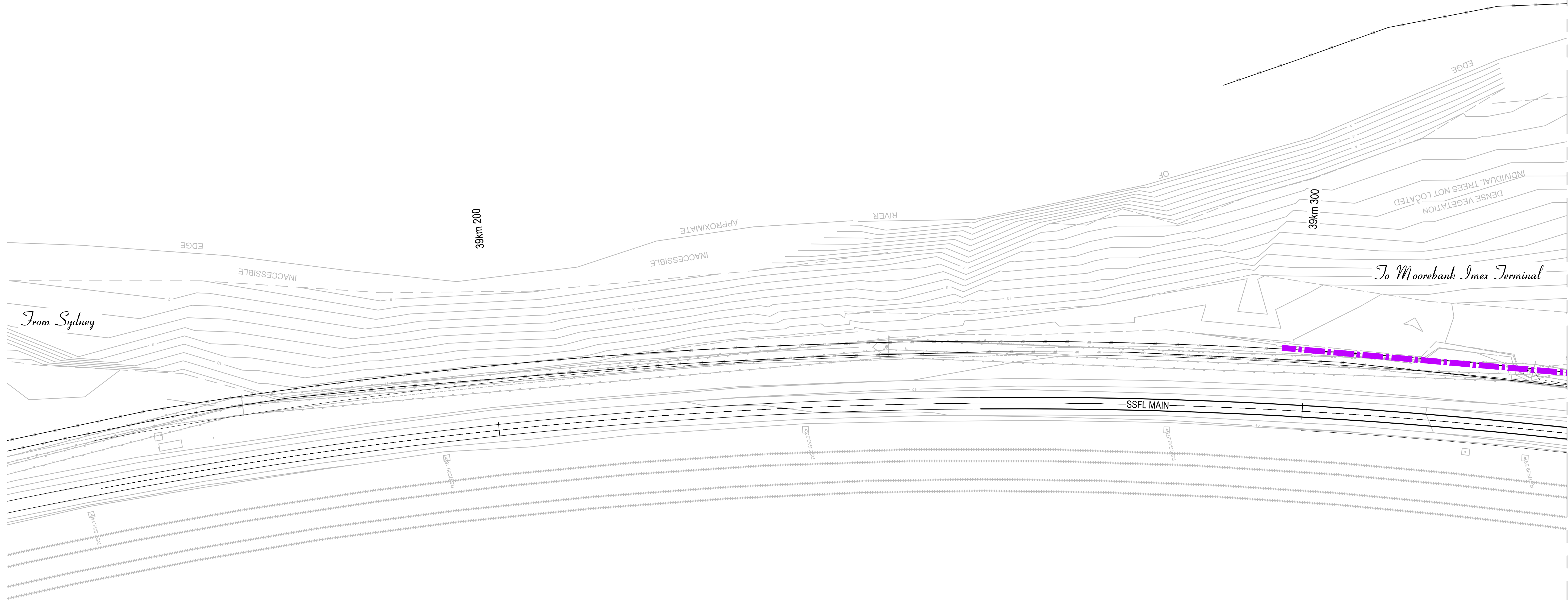
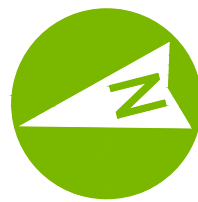


REV	DATE	REVISION DETAILS	APPROVED
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
01	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
A.LITTLE	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

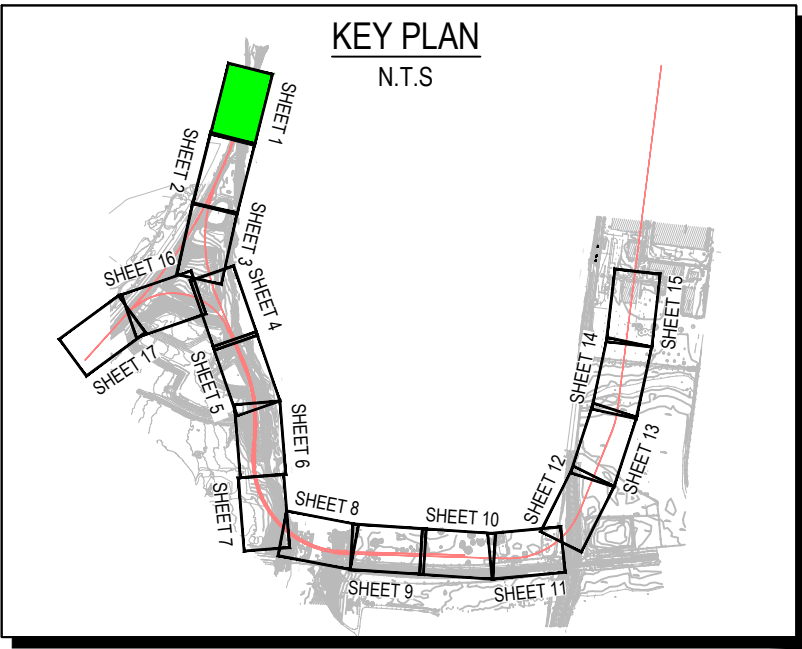
FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS SOIL NAIL EMBANKMENT- DETAILS SHEET 1 OF 1	
DRAWING No.	PROJECT No.	ZONE
N01031		PWD
	TYPE	DISC
	DRG	GEN
	NUMBER	REV
	0097	01

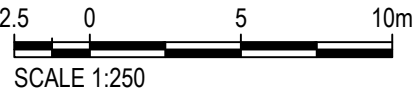


NOTES

- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
- REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
- REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
- C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
- THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.



PLAN
1:250





FOUNDATION TREATMENT LEGEND

EMBANKMENTS

	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

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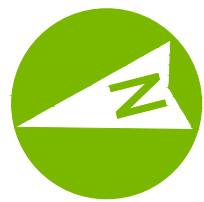


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

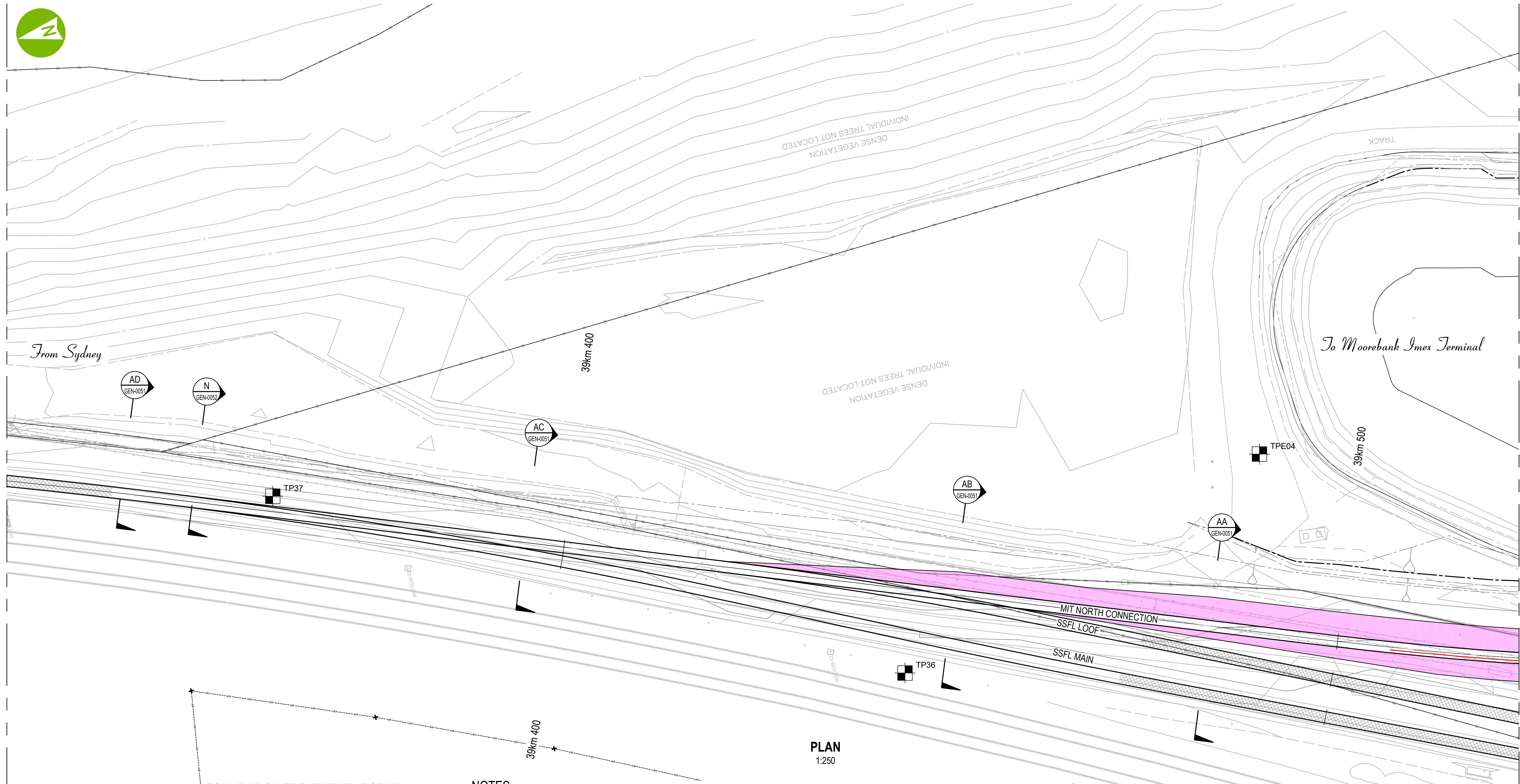
FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 1 OF 17	
DRAWING No.	PROJECT No.	ZONE
N01031	N01031	PWD
TYPE	DISC	NUMBER
DRG	GEN	0110
REV		01



ADJOINS DRG N01031-PWD-DRG-GEN-000110

ADJOINS DRG N01031-PWD-DRG-GEN-000112



FOUNDATION TREATMENT LEGEND

EMBANKMENTS

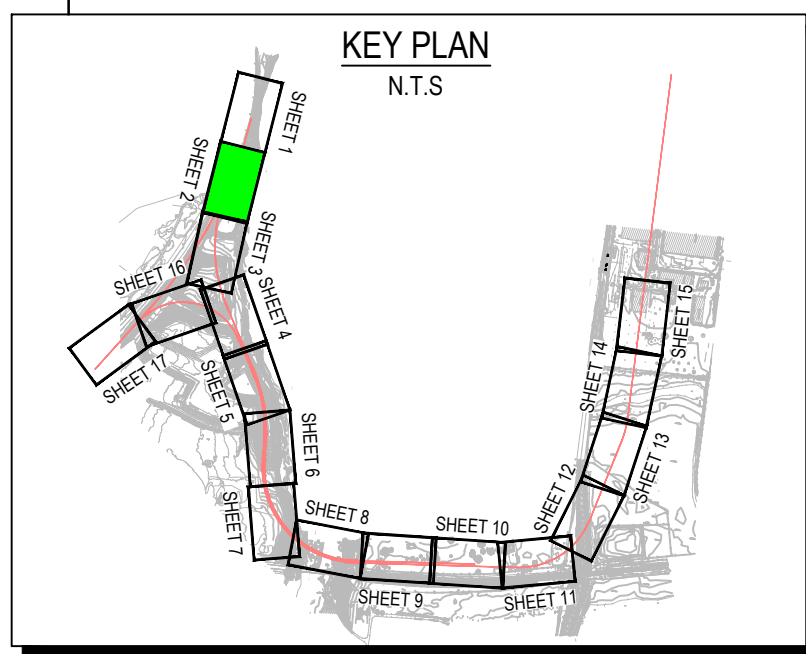
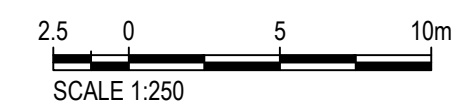
	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

NOTES

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
2. REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3. REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
5. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
8. THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.

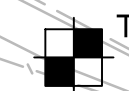
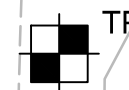
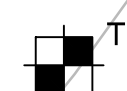
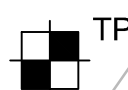
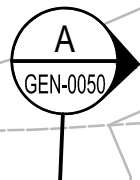
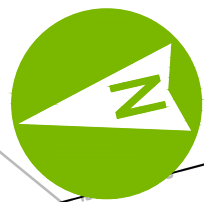


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

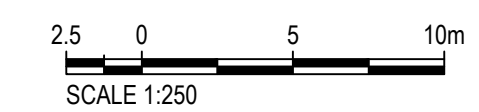
SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION
APPROVED
M.SAKIB
DATE 31.07.18

ARTC DRAWING No		EDMS No		EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 2 OF 17					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0111	- 02



PLAN
1:250



NOTE
REFER DRG N01031-PWD-DRG-GEN-0111 FOR NOTES

FOUNDATION TREATMENT LEGEND

EMBANKMENTS

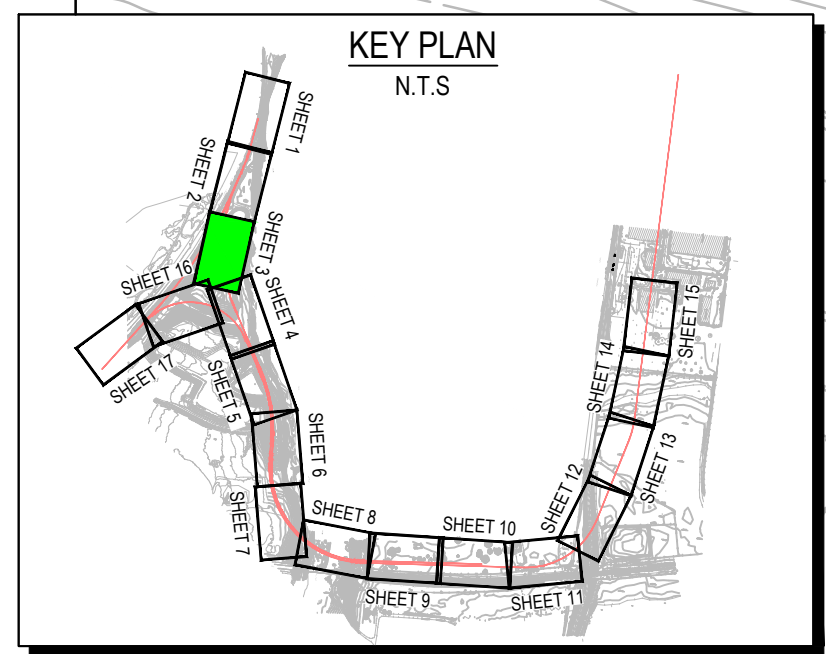
	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

ADJOINS DRG N01031-PWD-DRG-GEN-000111

ADJOINS DRG N01031-PWD-DRG-GEN-00113

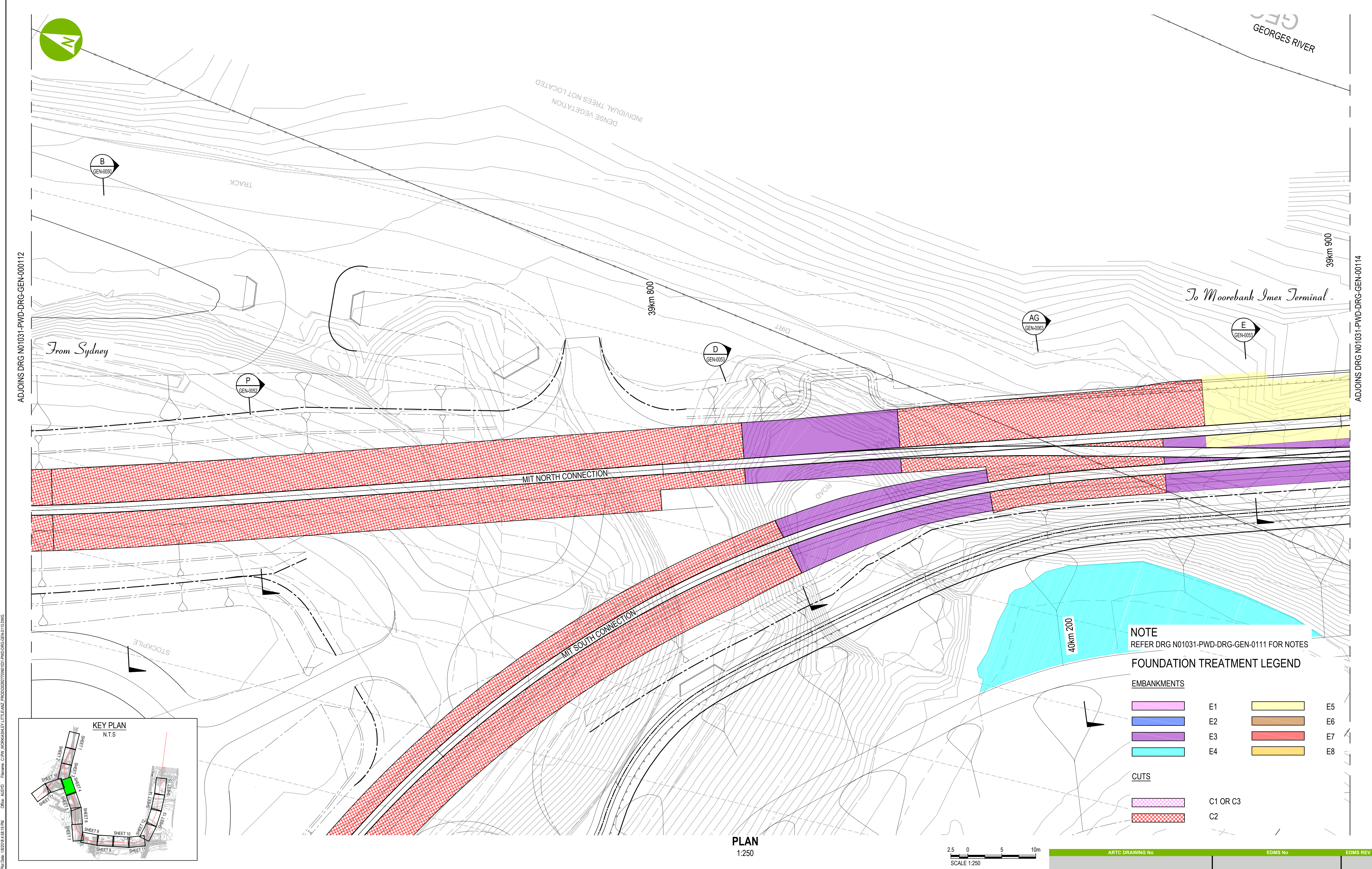


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

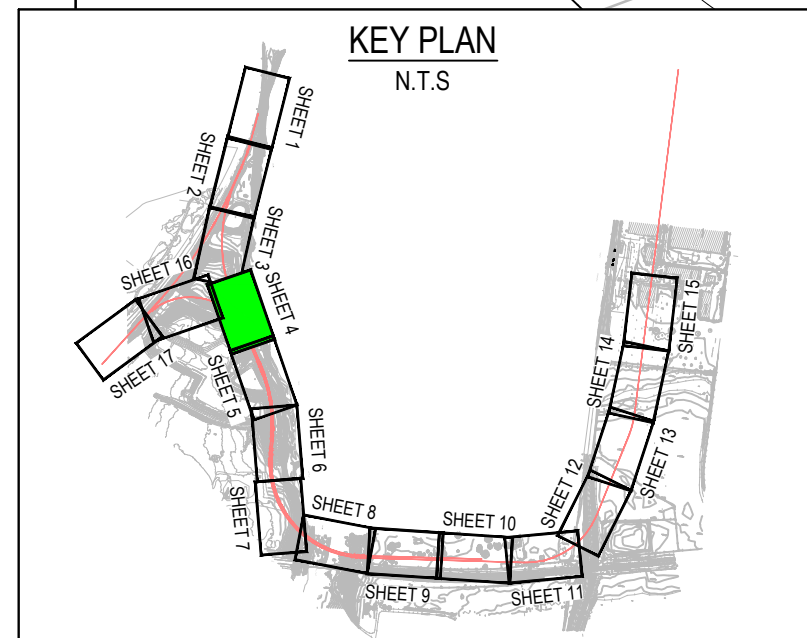
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AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	DATE
	31.07.18
M.SAKIB	
M.SAKIB	

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1											
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 3 OF 17											
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV						
	N01031	- PWD	- DRG	- GEN	- 0112	- 02						



Plot Date: 18/07/18 4:58:19 PM C:\p\ WORKSPACE\ LITTLEANZ\ PWD\02\07\01\031-PWD-DRG-GEN\13.DWG



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CLIENT

CPB
CONTRACTORS

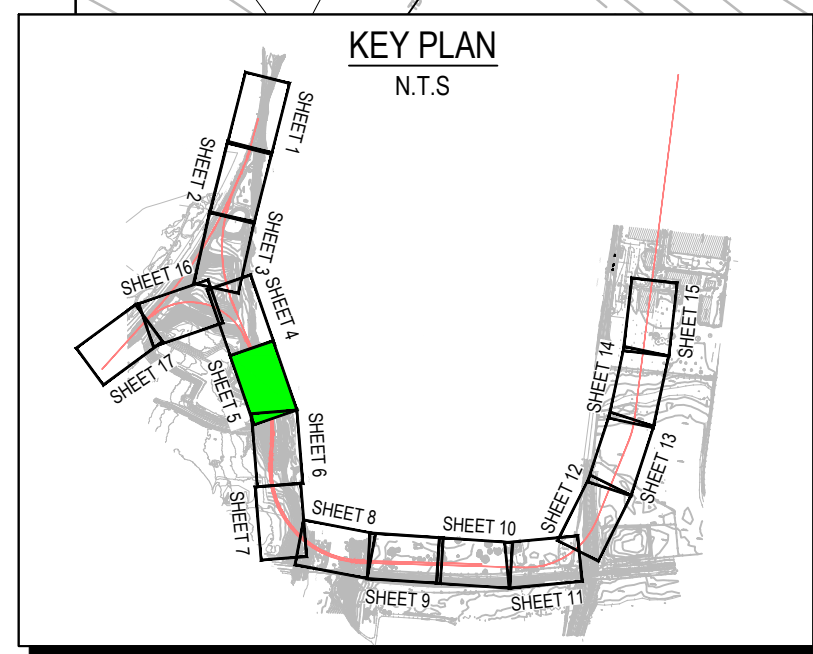
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TERMINAL
ALLIANCE

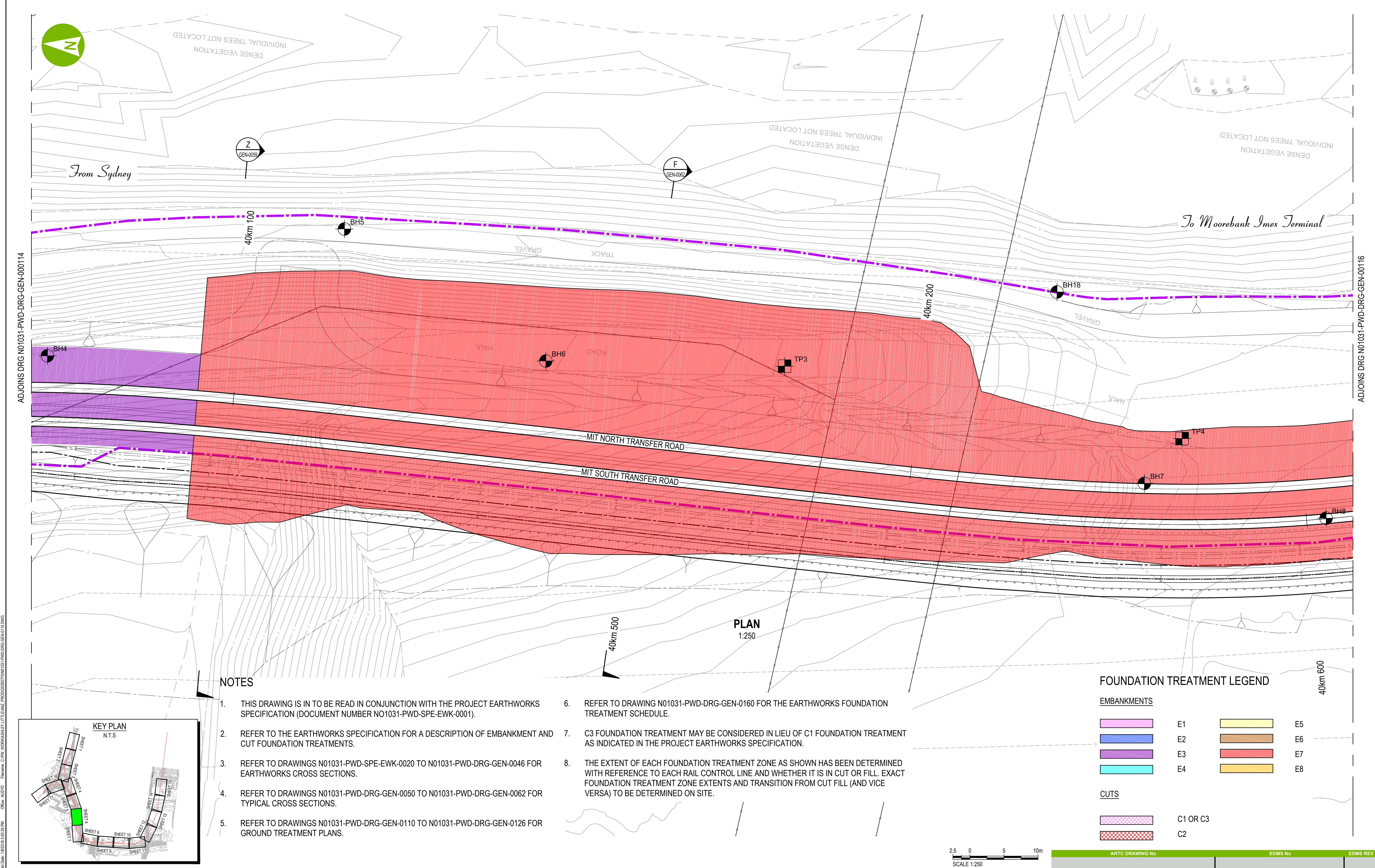
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
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DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

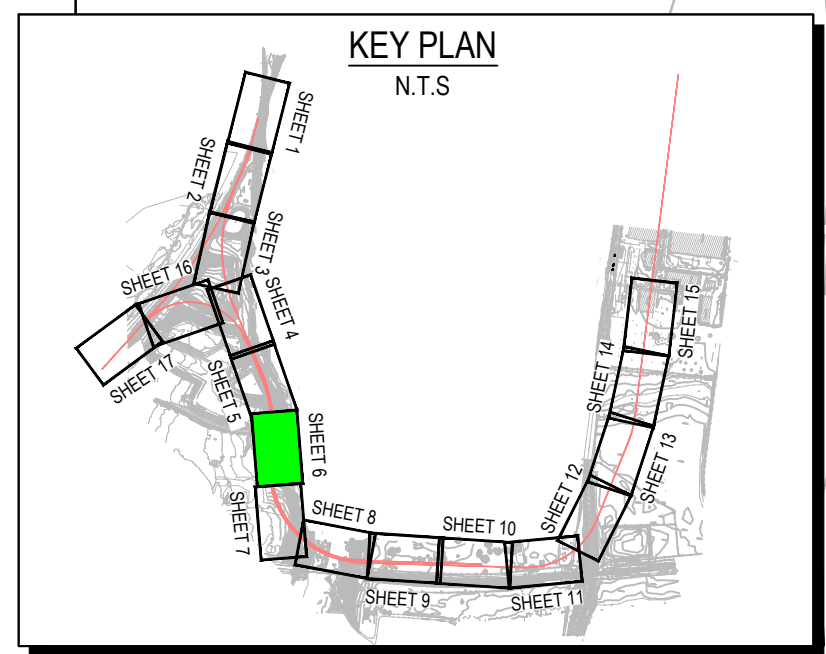
FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 4 OF 17					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0113	02





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NOTES

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
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4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
5. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
8. THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.

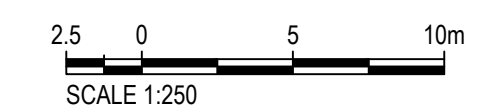
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

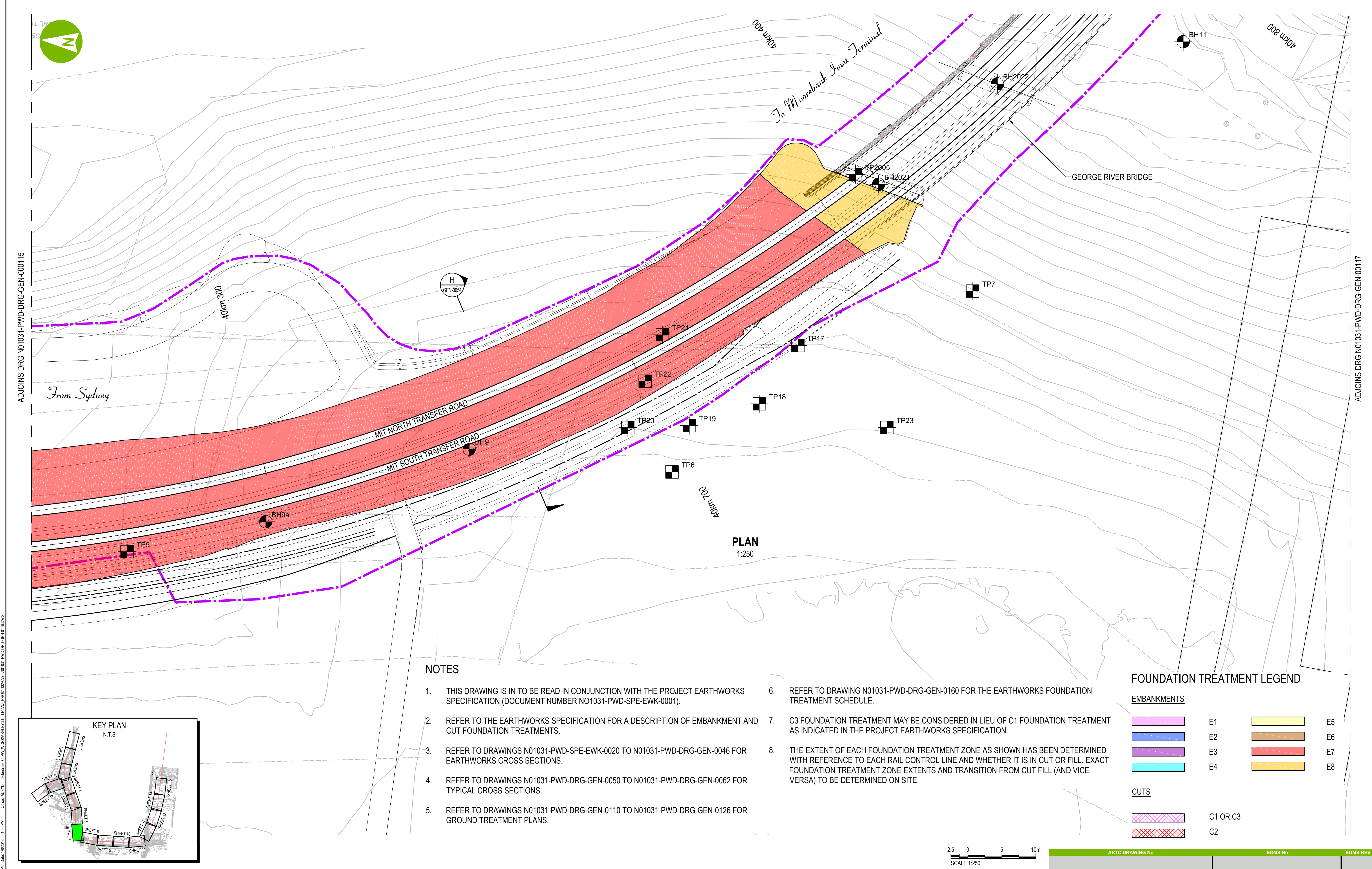


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17

ARTC DRAWING No			EDMS No			EDMS REV			
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE			BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 6 OF 17						
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER		REV
N01031			- PWD	- DRG	- GEN	0115		- 01	



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17



NOTES

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
2. REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3. REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
5. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
8. THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.

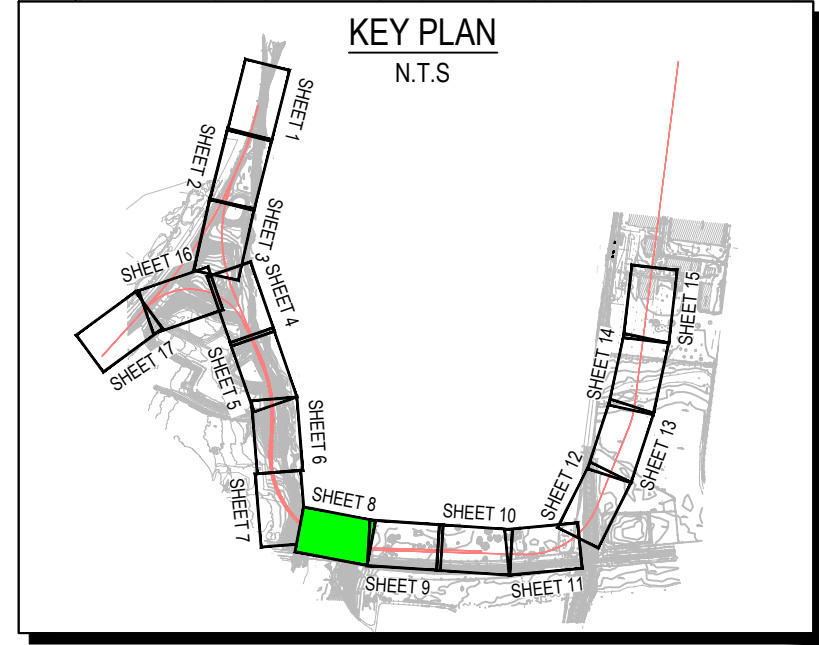
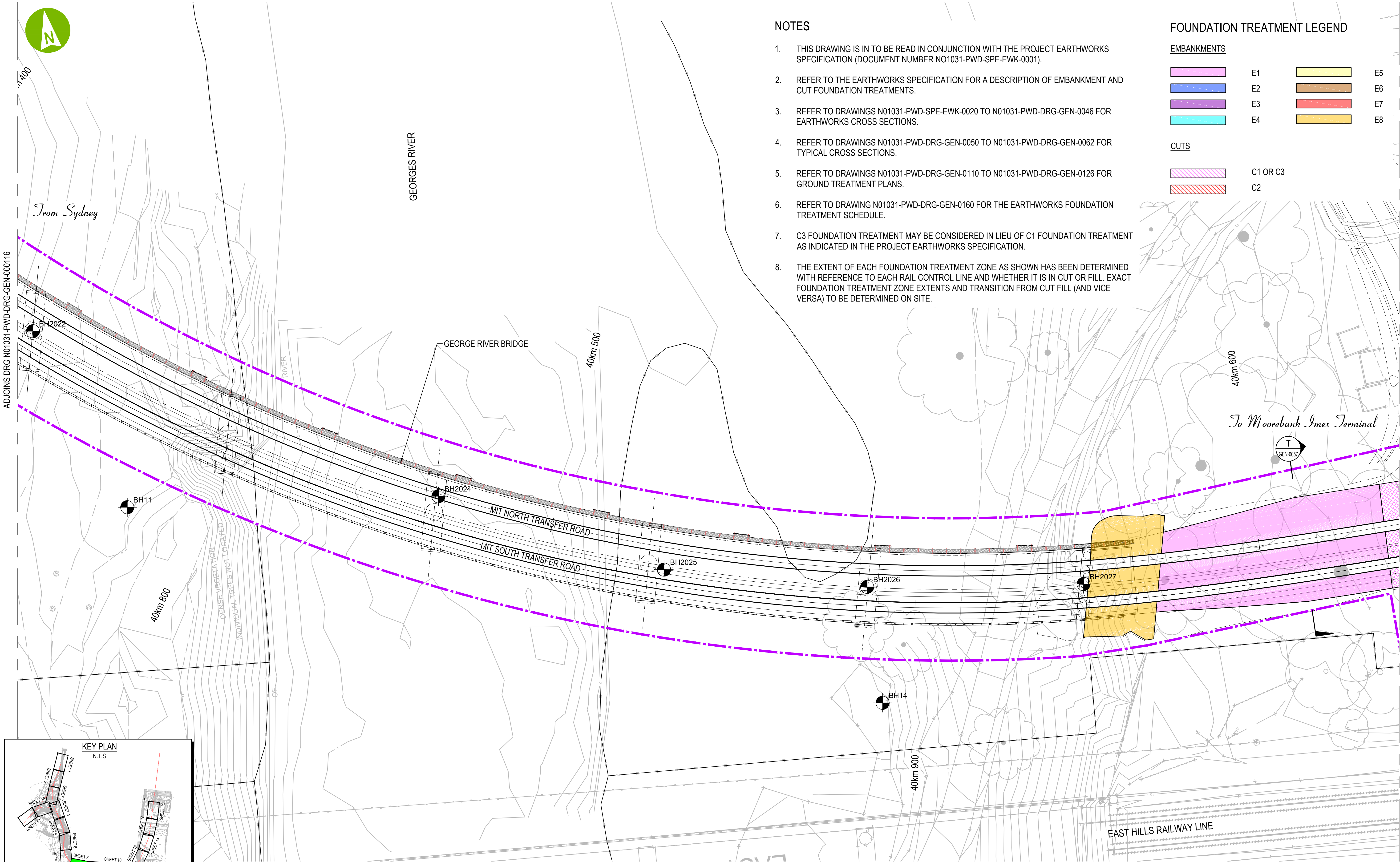
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

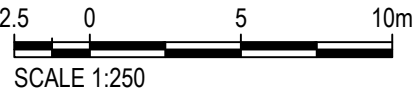
	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2



PLAN
1:250



ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE			BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 8 OF 17					
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
			N01031	- PWD	- DRG	- GEN	- 0117	- 01

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEERONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	
APPROVED	
A. O'SHEA	
DATE 20.01.17	



NOTES

1.

THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
2.

REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3.

REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
4.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
5.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6.

REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7.

C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
8.

THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.

ADJOINS DRG N01031-PWD-DRG-GEN-000117

ADJOINS DRG N01031-PWD-DRG-GEN-00119

From Sydney

To Moorebank Imex Terminal

40km 700

40km 800

MIT WEST TERMINAL LINE

MIT EAST TERMINAL LINE

TP12

41km 000

41km 100

FOUNDATION TREATMENT LEGEND

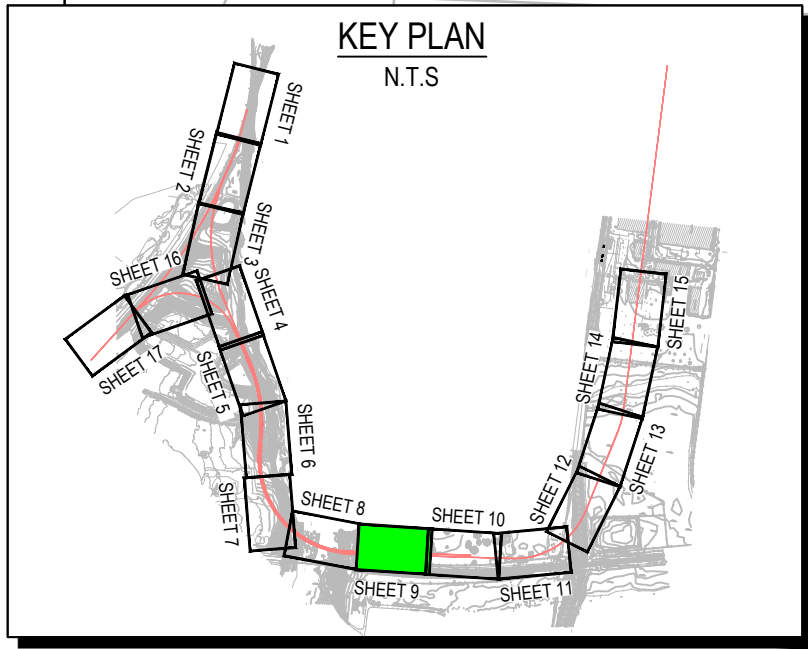
EMBANKMENTS

	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

PLAN
1:250



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REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17

ARTC DRAWING No			EDMS No			EDMS REV					
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1										
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 9 OF 17										
DRAWING No.	PROJECT No.	-	ZONE	-	TYPE	-	DISC	-	NUMBER	-	REV
N01031		-	PWD	-	DRG	-	GEN	-	0118	-	01

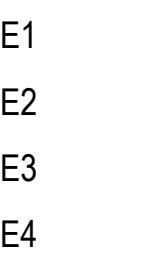
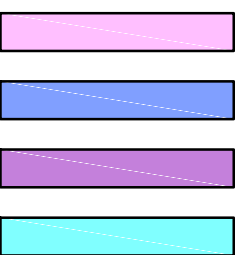


NOTES

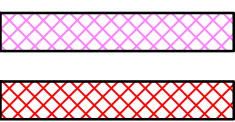
1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
2. REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3. REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
5. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
8. THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.

FOUNDATION TREATMENT LEGEND

EMBANKMENTS



CUTS



ADJOINS DRG N01031-PWD-DRG-GEN-000118

40km 800

From Sydney

MIT WEST TERMINAL LINE

MIT EAST TERMINAL LINE

BALLAST ARRESTOR

To Moorebank Imex Terminal

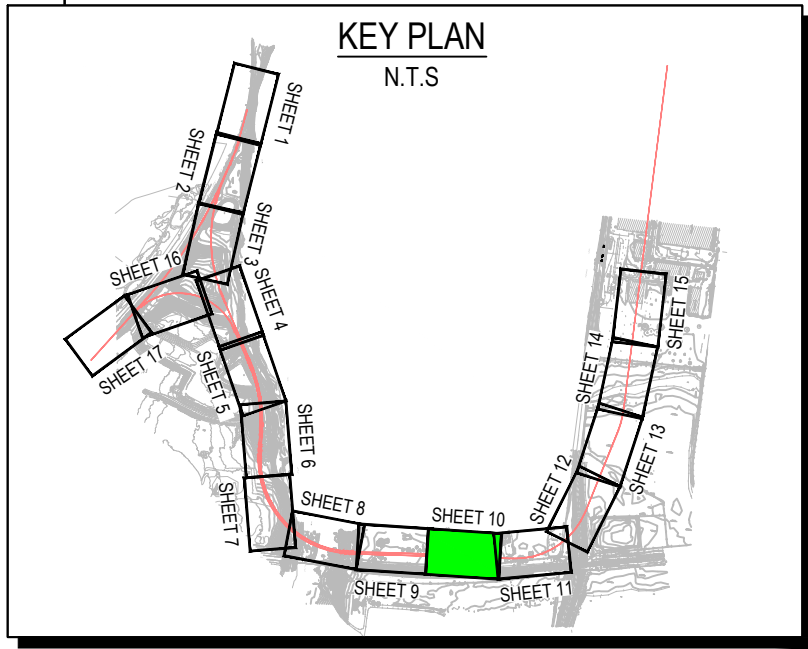
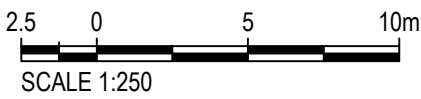
TP13

41km 200

41km 300

EAST HILLS RAILWAY LINE

PLAN
1:250



ADJOINS DRG N01031-PWD-DRG-GEN-00120

Proj Date: 18/01/2018 5:55:10 PM Client: AUS/01 Filename: C:\P\WORKSPACE\PROJECTS\N01031-PWD-DRG-GEN\19.DWG

aurecon
www.aurecongroup.com



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEERONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17
A. O'SHEA

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 10 OF 17	
DRAWING No.	PROJECT No.	ZONE
	N01031	PWD
		DRG
		GEN
		NUMBER
		0119
		REV
		01



NOTES

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).

2. REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.

3. REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.

4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
5. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.

6. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.

7. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.

8. THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.

ADJOINS DRG N01031-PWD-DRG-GEN-000119

From Sydney

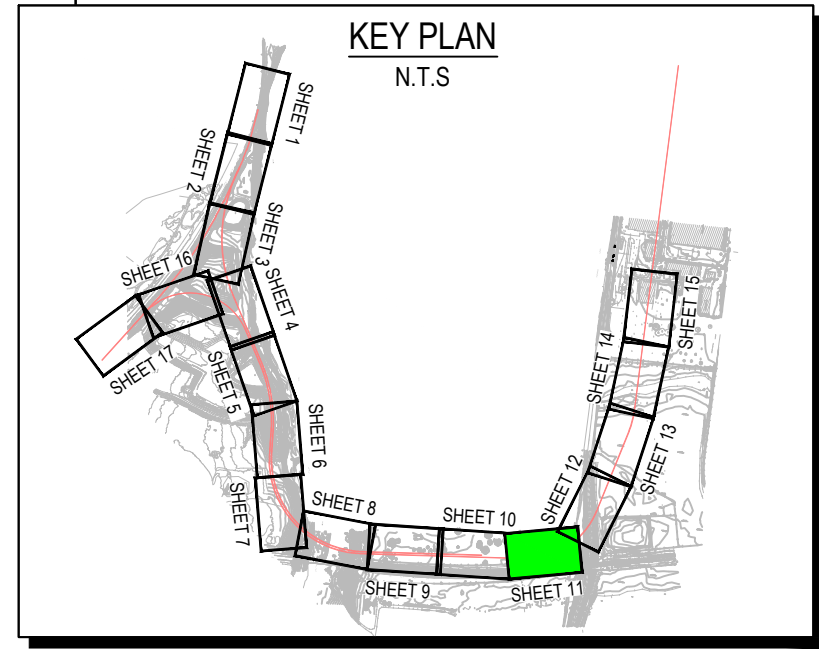
BALLAST ARRESTOR

MIT EAST TERMINAL LINE

To Moorebank Inter Terminal

ADJOINS DRG N01031-PWD-DRG-GEN-000121

41km 400



PLAN
1:250



FOUNDATION TREATMENT LEGEND

EMBANKMENTS

	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

CLIENT



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	APPROVED	DATE
	A. O'SHEA	20.01.17
	A. O'SHEA	

ARTC DRAWING No		EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 11 OF 17					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	- 0120	- 01



ADJOINS DRG N01031-PWD-DRG-GEN-000120

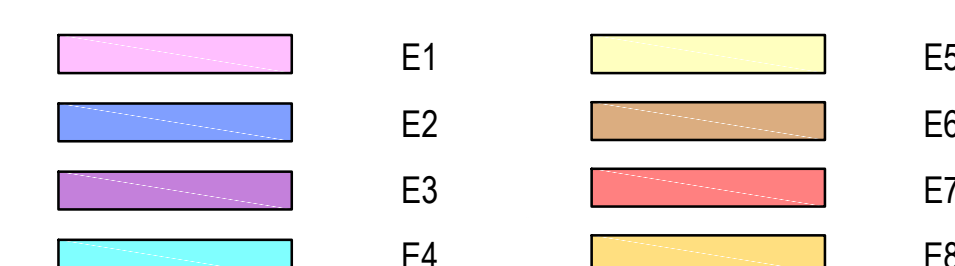
AD JOINS DBC N01031 DW/D DBC CEN 00103



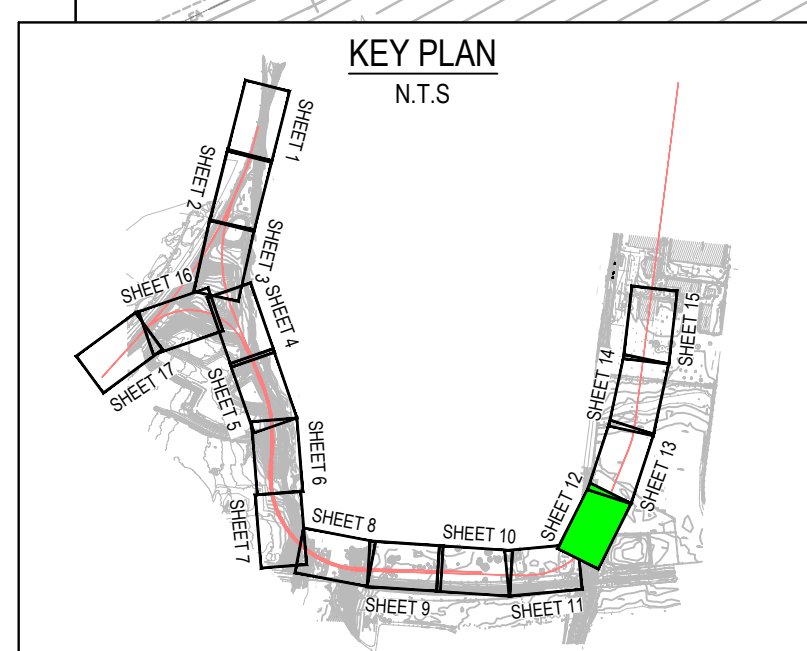
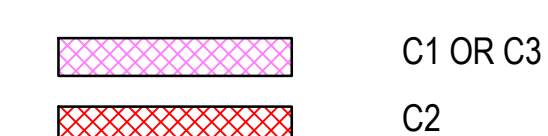
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|----|---|----|--|
| 1. | THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER NO1031-PWD-SPE-EWK-0001). | 5. | REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS. |
| 2. | REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS. | 6. | REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE. |
| 3. | REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS. | 7. | C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION. |
| 4. | REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS. | 8. | THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE. |

FOUNDATION TREATMENT LEGEND

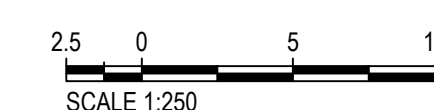
EMBANKMENTS



CUTS



PLAN
1:250

[illegible]

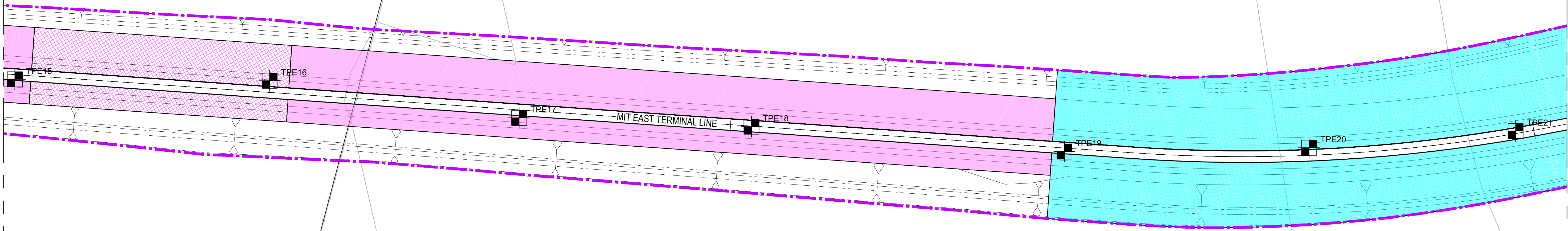


ADJOINS DRG N01031-PWD-DRG-GEN-000121

From Sydney

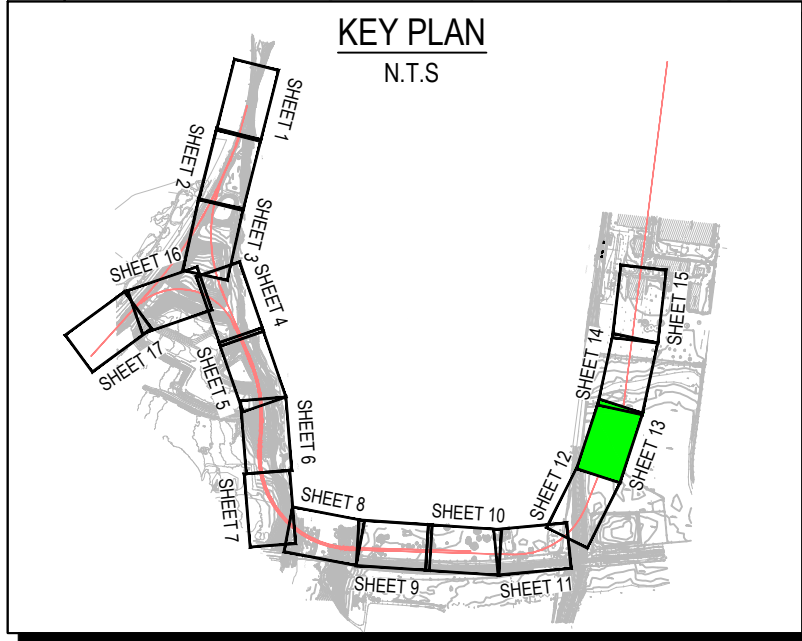
To Moorebank Imex Terminal

ADJOINS DRG N01031-PWD-DRG-GEN-000123

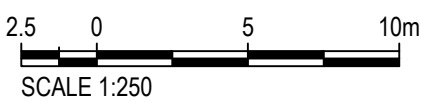


- NOTES**
1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
 2. REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
 3. REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
 4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
 5. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
 6. REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
 7. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
 8. THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.

41km 800



PLAN
1:250



FOUNDATION TREATMENT LEGEND

EMBANKMENTS

	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 13 OF 17	
DRAWING No.	PROJECT No.	ZONE
N01031	N01031	PWD
		TYPE
		DRG
		DISC
		GEN
		NUMBER
		0122
		REV
		01



ADJOINS DRG N01031-PWD-DRG-GEN-000122

From Sydney

ANZAC CULVERT

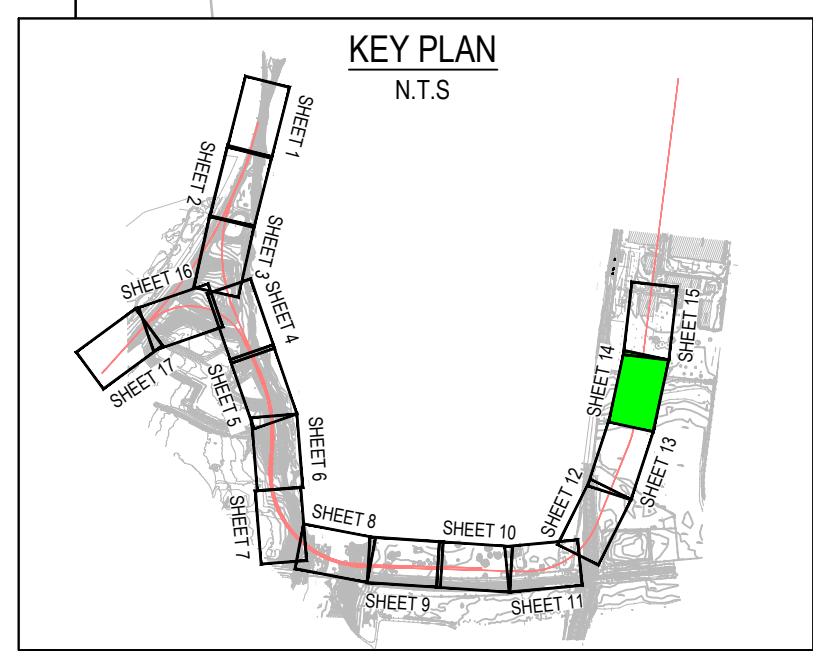
MIT EAST TERMINAL LINE

To Moorebank Imex Terminal

ADJOINS DRG N01031-PWD-DRG-GEN-000124

NOTES

- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
- REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
- REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
- C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
- THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.



PLAN
1:250

2.5 0 5 10m
SCALE 1:250

FOUNDATION TREATMENT LEGEND

EMBANKMENTS

	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

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www.aurecongroup.com



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEERONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
DATE 20.01.17
A. O'SHEA

PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 14 OF 17
DRAWING No.	N01031
PROJECT No.	N01031
ZONE	PWD
TYPE	DRG
DISC	GEN
NUMBER	0123
REV	01



From Sydney

To Moorebank Imex Terminal

ADJOINS DRG N01031-PWD-DRG-GEN-000123

ADJOINS DRG N01031-PWD-DRG-GEN-000125

42km 100

42km 200

NOTES

- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001).
- REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
- REFER TO DRAWINGS N01031-PWD-SPE-EWK-0020 TO N01031-PWD-DRG-GEN-0046 FOR EARTHWORKS CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0062 FOR TYPICAL CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
- C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.
- THE EXTENT OF EACH FOUNDATION TREATMENT ZONE AS SHOWN HAS BEEN DETERMINED WITH REFERENCE TO EACH RAIL CONTROL LINE AND WHETHER IT IS IN CUT OR FILL. EXACT FOUNDATION TREATMENT ZONE EXTENTS AND TRANSITION FROM CUT FILL (AND VICE VERSA) TO BE DETERMINED ON SITE.

FOUNDATION TREATMENT LEGEND

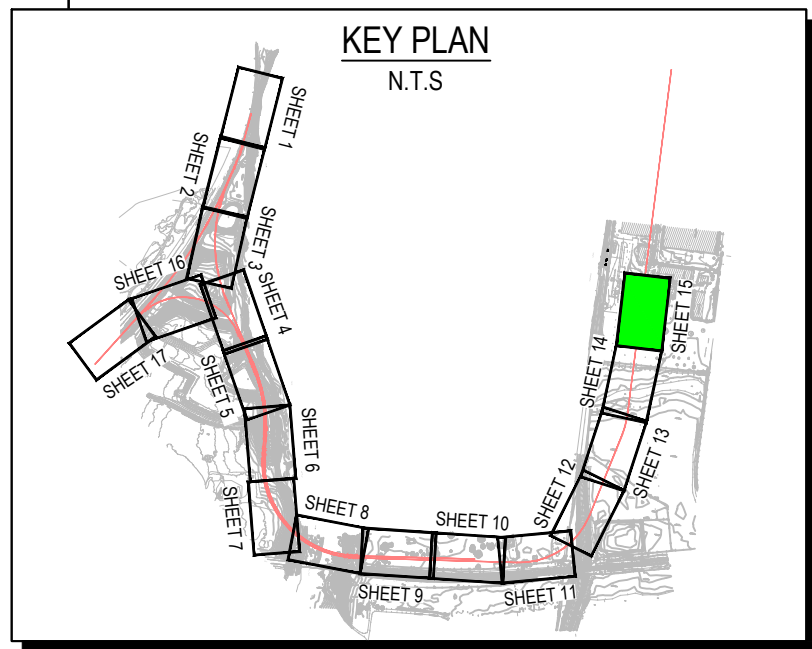
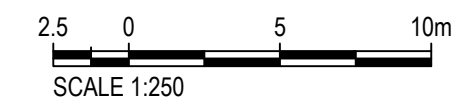
EMBANKMENTS

	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

PLAN
1:250



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www.aurecongroup.com

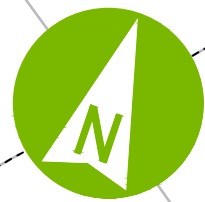


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17

ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1							
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 15 OF 17							
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
N01031	-	PWD	-	DRG	-	0124	-	01



MAIN SOUTHERN RAILWAY LINE

MIT SOUTH CONNECTION

To Moorebank Inex Terminal

From Glenfield

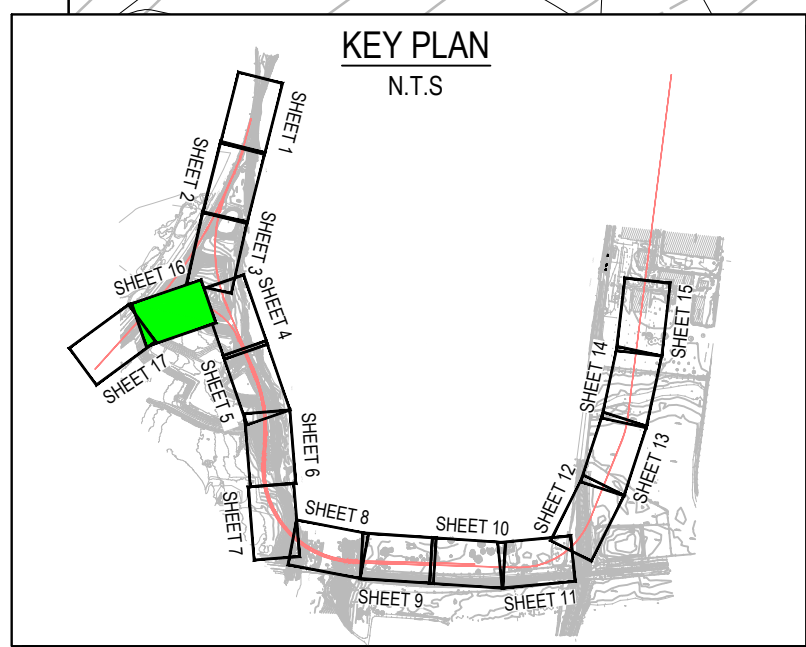
GENERAL NOTES

- SCALE AS SHOWN.
- CONCRETE EXPOSURE CLASSIFICATION: B1
- MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 40MPa.
- EDGE SHALL BE CHAMFERED 20 x 20 AND RE-ENTRANT ANGLES FILLETED 20 x 20 UNLESS SPECIFIED OTHERWISE.
- NOMINAL COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE 40mm, UNLESS SPECIFIED OTHERWISE.
- UNLESS OTHERWISE SPECIFIED THE MINIMUM DEVELOPMENT LENGTHS AND LENGTHS OF LAPS SHALL BE:

BAR SIZE:	N12	N16	N20	N24	N28	N36
a. HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	500	650	850	1000	1150	1800
b. OTHER BARS:	400	550	650	800	950	1450

CLEAR DISTANCE BETWEEN LAPPED BARS SHALL NOT EXCEED 3 x THE BAR DIAMETER.
REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR PRECAST LIFTING LUGS.

EF DENOTES EACH FACE
FF DENOTES FAR FACE
NF DENOTES NEAR FACE
x DENOTES LENGTH VARIES
▲ DENOTES CONCRETE DIMENSION TO BE CHECKED AND ADJUSTED IF NECESSARY TO SUIT ACTUAL PRECAST CROWN UNITS.



PLAN
1:250

2.5 0 5 10m
SCALE 1:250

NOTE
REFER DRG N01031-PWD-DRG-GEN-0111 FOR NOTES
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

	E1		E5
	E2		E6
	E3		E7
	E4		E8

CUTS

	C1 OR C3
	C2

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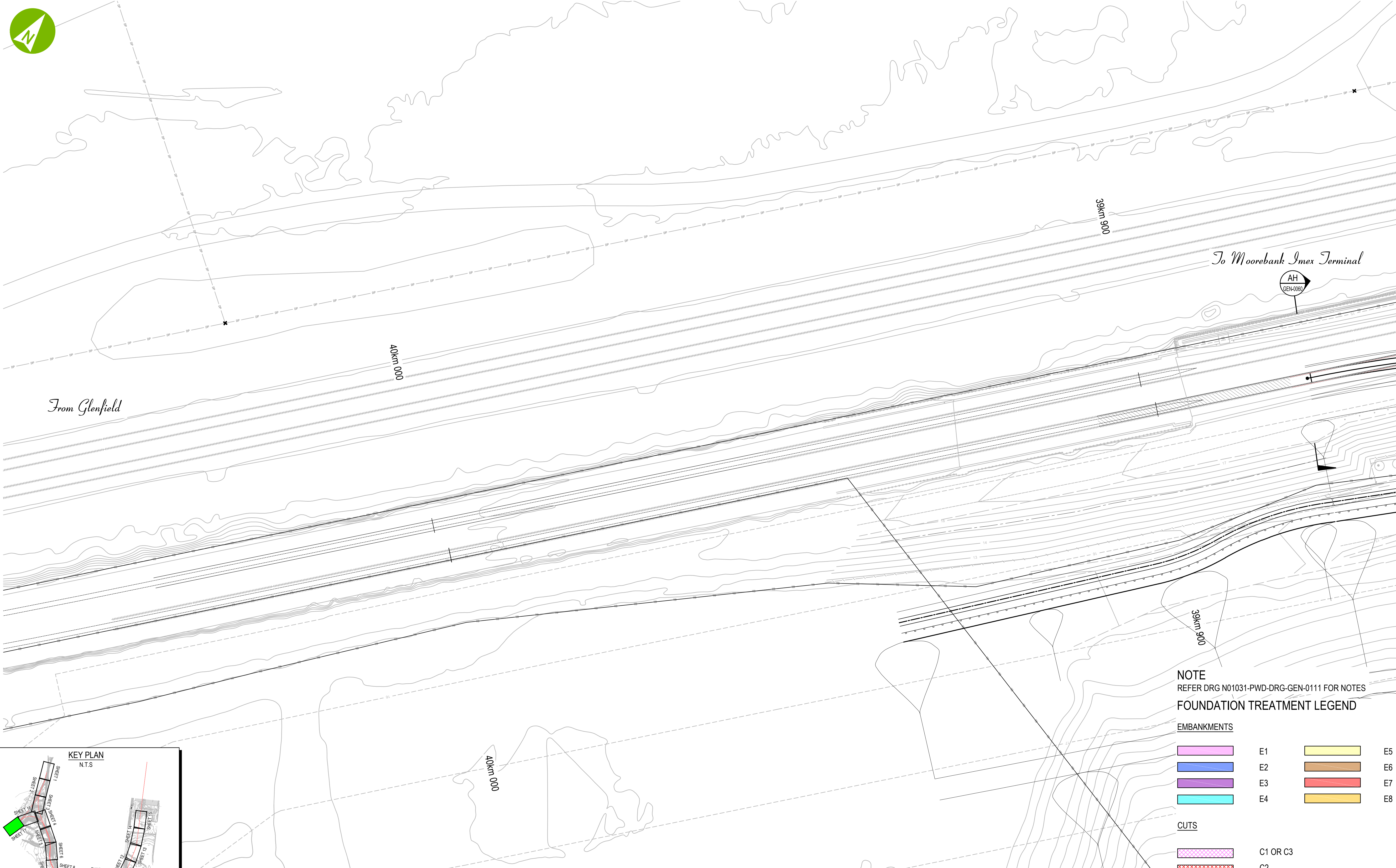


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	M.SAKIB
02	31.07.18	ACCEPTED FOR CONSTRUCTION	

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	APPROVED	DATE
	M.SAKIB	31.07.18
	M.SAKIB	











ARTC DRAWING No		EDMS No		EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 16 OF 17					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0125	- 02



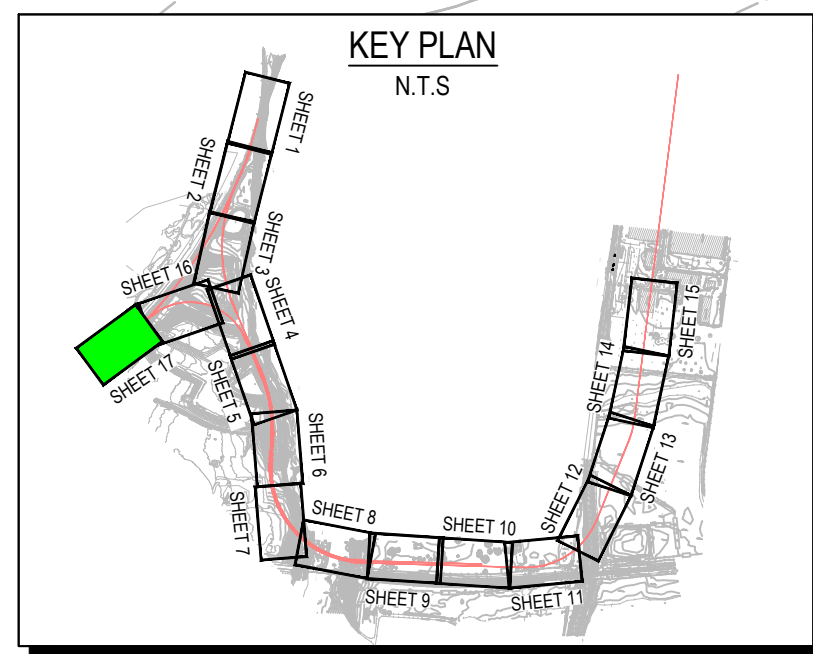
ADJOINS DRG N01031-PWD-DRG-GEN-00125

NOTE
REFER DRG N01031-PWD-DRG-GEN-0111 FOR NOTES

FOUNDATION TREATMENT LEGEND

EMBANKMENTS			
	E1		E5
	E2		E6
	E3		E7
	E4		E8
CUTS			
	C1 OR C3		
	C2		

PLAN
1:250



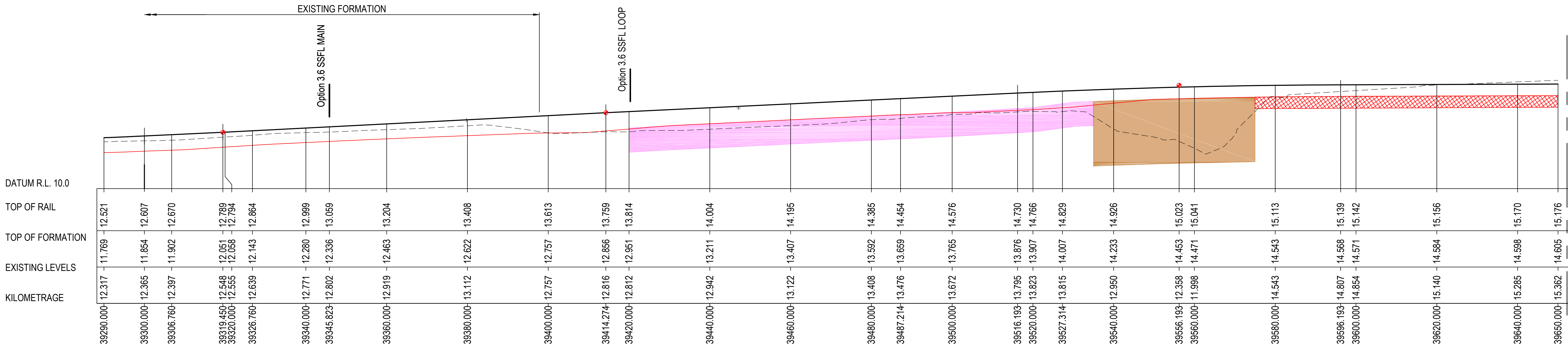
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	
M.SAKIB	DATE 31.07.18
M.SAKIB	

ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE			BULK EARTHWORKS GROUND TREATMENT PLAN SHEET 17 OF 17					
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
			N01031	PWD	DRG	GEN	0126	02

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LONGITUDINAL SECTION ALONG - MB2N

SCALE 1:500 H
SCALE 1:100 V

GENERAL NOTES

- THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001[A3]).
- REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
- REFER TO DRAWINGS N01031-PWD-SPE-EWK-0025 TO N01031-PWD-DRG-GEN-0039 FOR EARTHWORKS CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0054 FOR TYPICAL CROSS SECTIONS.
- REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
- REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
- C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.

LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

FOUNDATION TREATMENT LEGEND

EMBANKMENTS

- E1
- E2
- E3
- E4
- E5
- E6
- E7
- E8

CUTS

- C1 OR C3
- C2



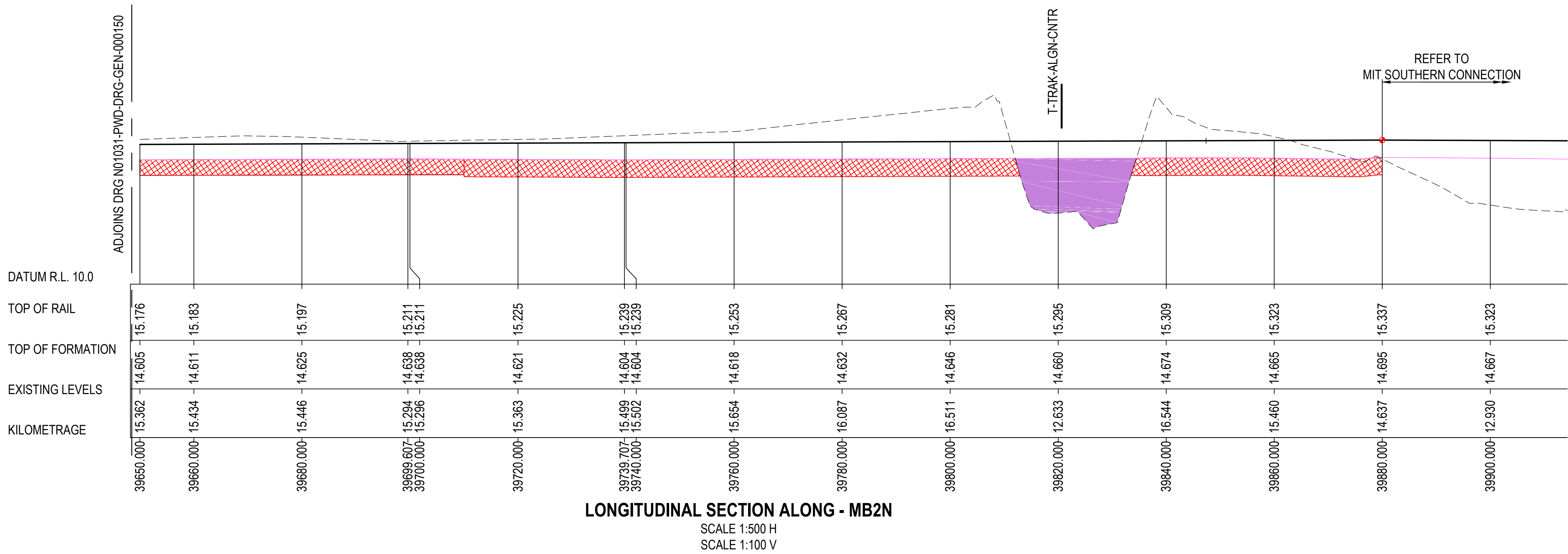
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

ARTC DRAWING No			EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE	BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 1 OF 9						
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
	N01031	- PWD	- DRG	- GEN	- 0150	- 02	

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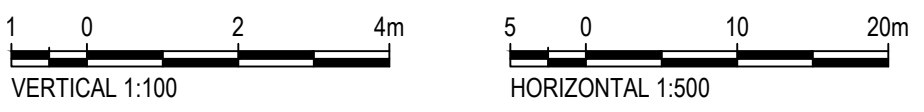
LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

NOTE
REFER DRG N01031-PWD-DRG-GEN-0150 FOR NOTES

FOUNDATION TREATMENT LEGEND

- EMBANKMENTS
- E1
 - E2
 - E3
 - E4
 - E5
 - E6
 - E7
 - E8
- CUTS
- C1 OR C3
 - C2



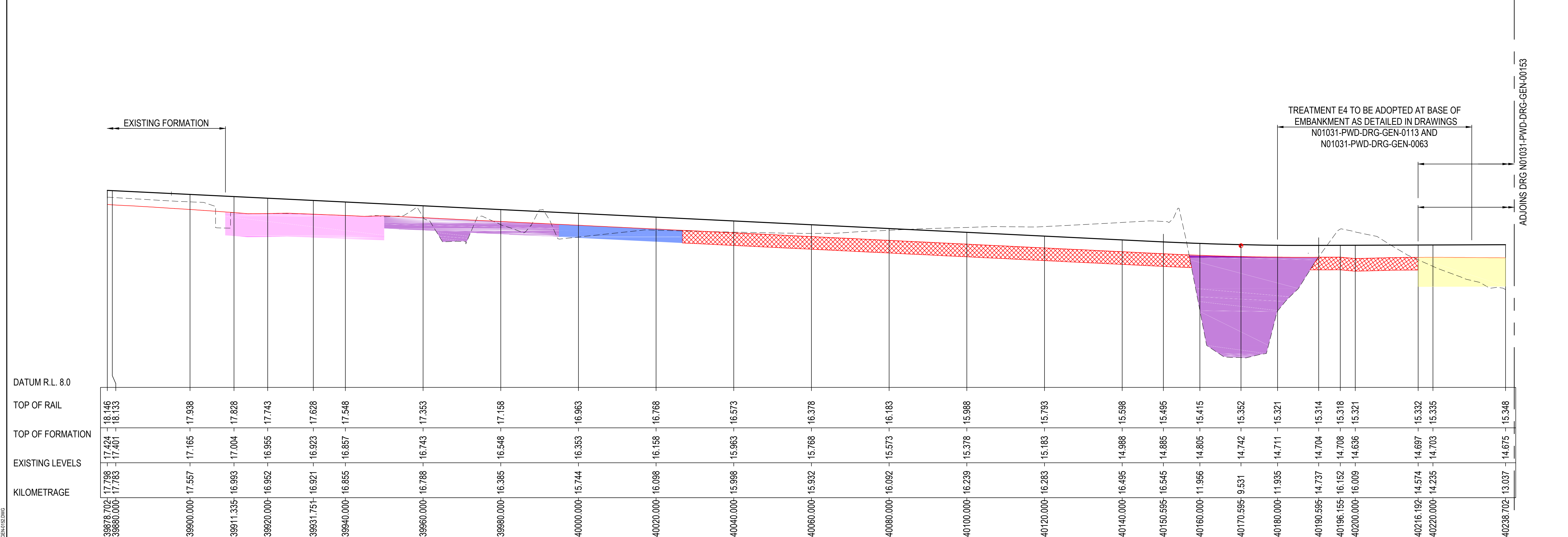
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
M.SAKIB	31.07.18
M.SAKIB	

ARTC DRAWING No			EDMS No			EDMS REV		
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE			BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 2 OF 9					
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
			N01031	PWD	DRG	GEN	0151	02

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LONGITUDINAL SECTION ALONG - MB2S
SCALE 1:500 H
SCALE 1:100 V

LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

NOTE
REFER DRG N01031-PWD-DRG-GEN-0150 FOR NOTES

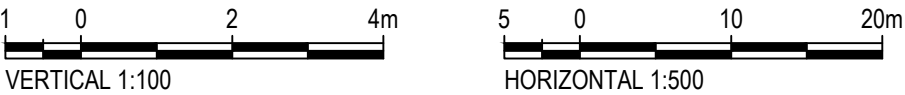
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

- E1
- E2
- E3
- E4
- E5
- E6
- E7
- E8

CUTS

- C1 OR C3
- C2



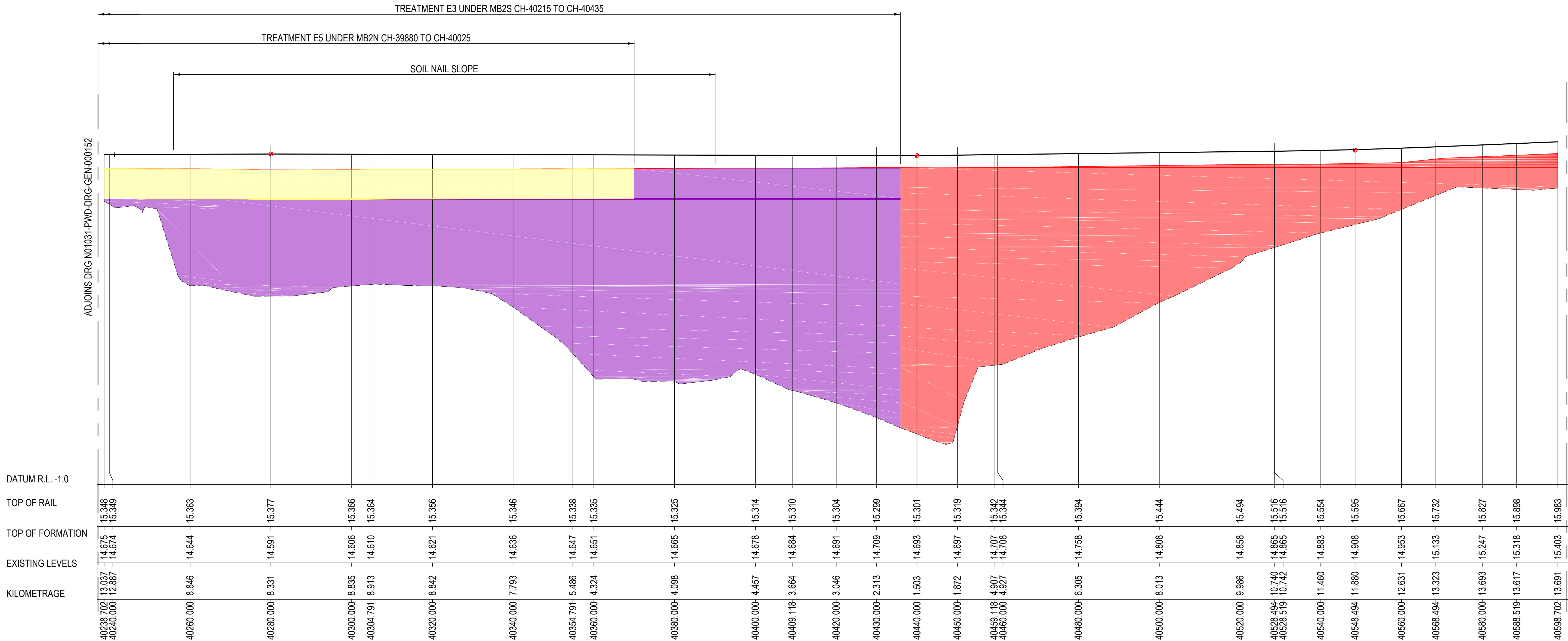
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	M.SAKIB
02	31.07.18	ACCEPTED FOR CONSTRUCTION	

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION
APPROVED
M.SAKIB
DATE
31.07.18

ARTC DRAWING No		EDMS No		EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 3 OF 9					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	- 0152	- 02

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LONGITUDINAL SECTION ALONG - MB2S
SCALE 1:500 H
SCALE 1:100 V

LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

NOTE
REFER DRG NO1031-PWD-DRG-GEN-0150 FOR NOTES

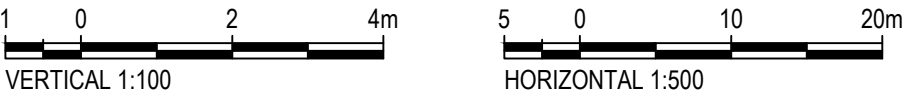
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

- E1
- E2
- E3
- E4
- E5
- E6
- E7
- E8

CUTS

- C1 OR C3
- C2



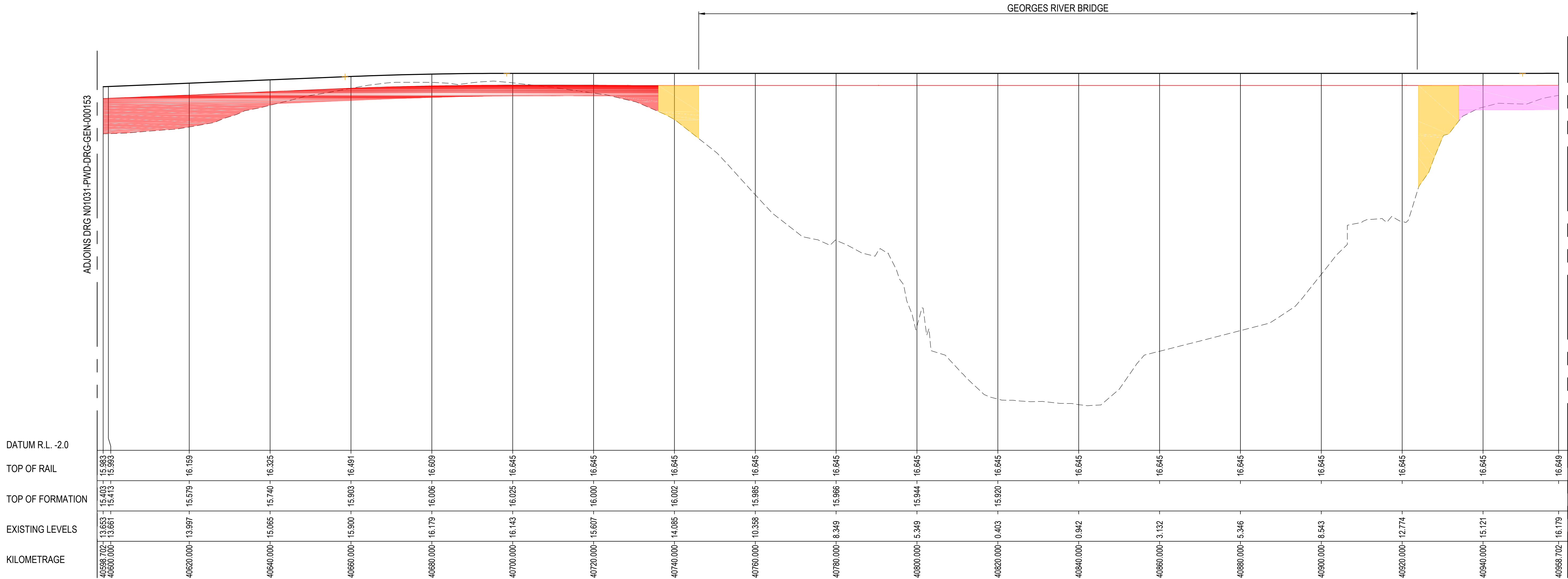
ARTC DRAWING No			EDMS No			EDMS REV						
PROJECT			MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
TITLE			BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 4 OF 9									
DRAWING No.			PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV				
N01031			-	PWD	-	DRG	-	GEN	-	0153	-	02

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA
D1	18.05.18	GWS RE-DESIGN - 35% DEVELOPED DESIGN (INTERNAL)	
E1	27.06.18	GWS RE-DESIGN - 100% FINAL DESIGN (SIMTA SUBMISSION)	
02	31.07.18	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	
DATE	
31.07.18	
M.SAKIB	
M.SAKIB	

Plot Date: 18/02/18 5:17:12 PM Office: AUS/30 Filename: C:\P\ WORKSPACE\LEVELING\PROJECTS\2017\N01031-PWD-DRG-GEN\154.DWG



LONGITUDINAL SECTION ALONG - MB2S

SCALE 1:500 H
SCALE 1:100 V

GENERAL NOTES

1.

THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001[A3]).
2.

REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3.

REFER TO DRAWINGS N01031-PWD-SPE-EWK-0025 TO N01031-PWD-DRG-GEN-0039 FOR EARTHWORKS CROSS SECTIONS.
4.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0054 FOR TYPICAL CROSS SECTIONS.
5.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6.

REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7.

C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.

LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

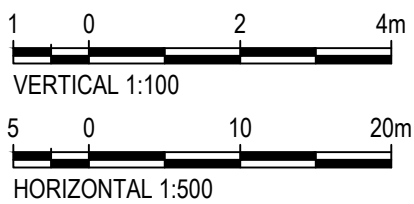
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

- E1
- E2
- E3
- E4
- E5
- E6
- E7
- E8

CUTS

- C1 OR C3
- C2



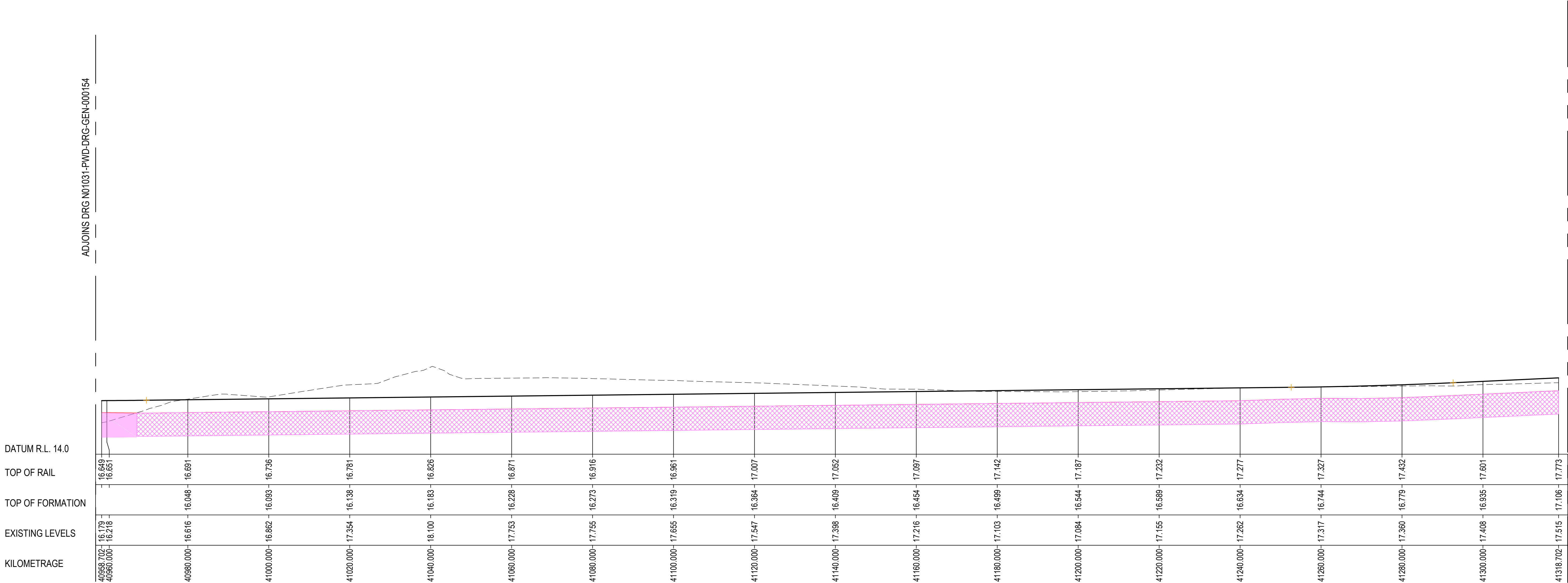
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE
20.01.17

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 5 OF 9	
DRAWING No.	PROJECT No.	ZONE
N01031	-	PWD
TYPE	DISC	NUMBER
DRG	-	0154
GEN	-	REV
-	-	01

Plot Date: 18/01/18 5:17:38 PM Office: AUS/30 Filename: C:\P\ WORKSPACE\LEVEL\LEARN\PROJECTS\2017\N01031-PWD-DRG-GEN\15.DWG



LONGITUDINAL SECTION ALONG - MB2S

SCALE 1:500 H
SCALE 1:100 V

GENERAL NOTES

1.

THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001[A3]).
2.

REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3.

REFER TO DRAWINGS N01031-PWD-SPE-EWK-0025 TO N01031-PWD-DRG-GEN-0039 FOR EARTHWORKS CROSS SECTIONS.
4.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0054 FOR TYPICAL CROSS SECTIONS.
5.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6.

REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7.

C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.

LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

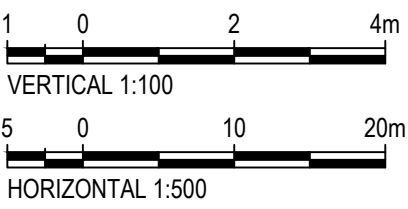
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

- E1
- E2
- E3
- E4
- E5
- E6
- E7
- E8

CUTS

- C1 OR C3
- C2



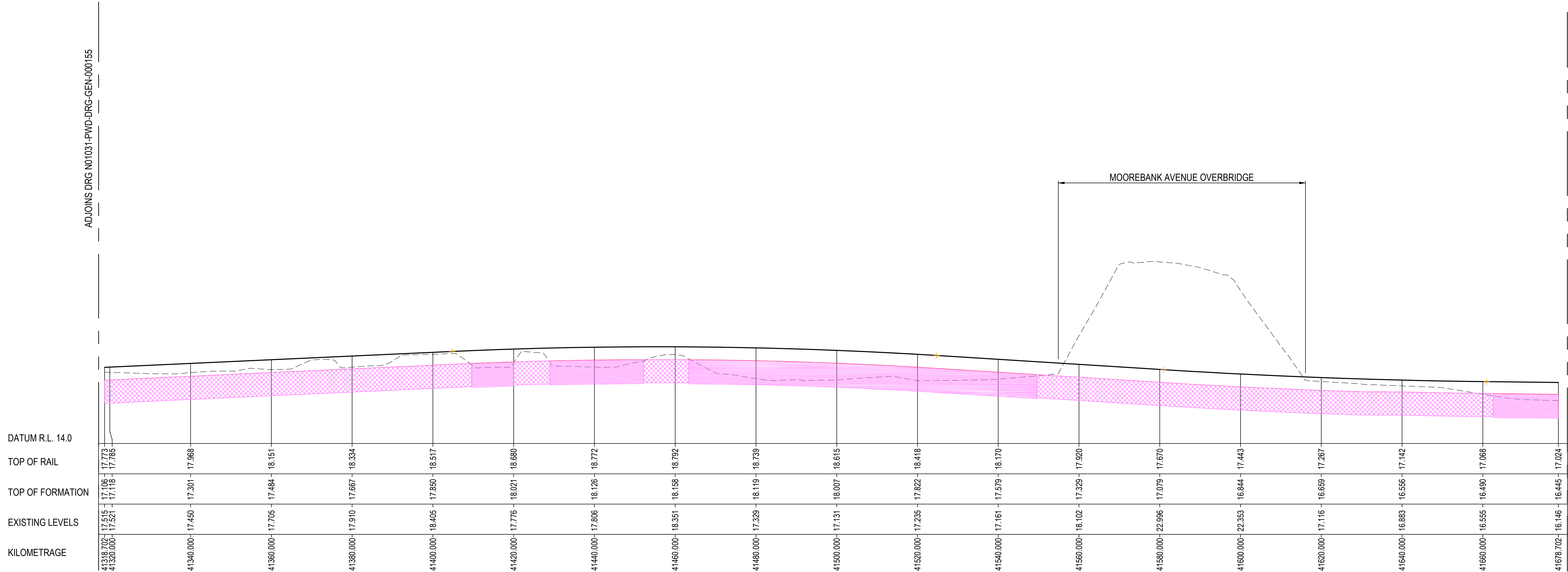
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE
20.01.17

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 6 OF 9	
DRAWING No.	PROJECT No.	ZONE
N01031	-	PWD
	TYPE	DISC
	-	DRG
	NUMBER	REV
	0155	- 01

Plot Date: 18/01/18 5:18:21 PM Office: AUS/30 Filename: C:\P\ WORKSPACE\LEVEL\LEARN\PROJECTS\2017\N01031-PWD-DRG-GEN\16.DWG



GENERAL NOTES

1.

THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001[A3]).
2.

REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3.

REFER TO DRAWINGS N01031-PWD-SPE-EWK-0025 TO N01031-PWD-DRG-GEN-0039 FOR EARTHWORKS CROSS SECTIONS.
4.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0054 FOR TYPICAL CROSS SECTIONS.
5.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6.

REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7.

C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.

LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

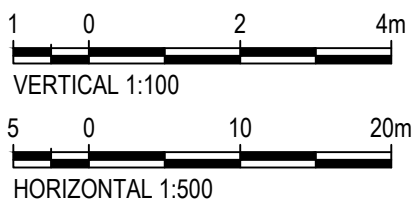
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

- E1
- E2
- E3
- E4
- E5
- E6
- E7
- E8

CUTS

- C1 OR C3
- C2



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	J.RASAMEEMANEEPONG
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

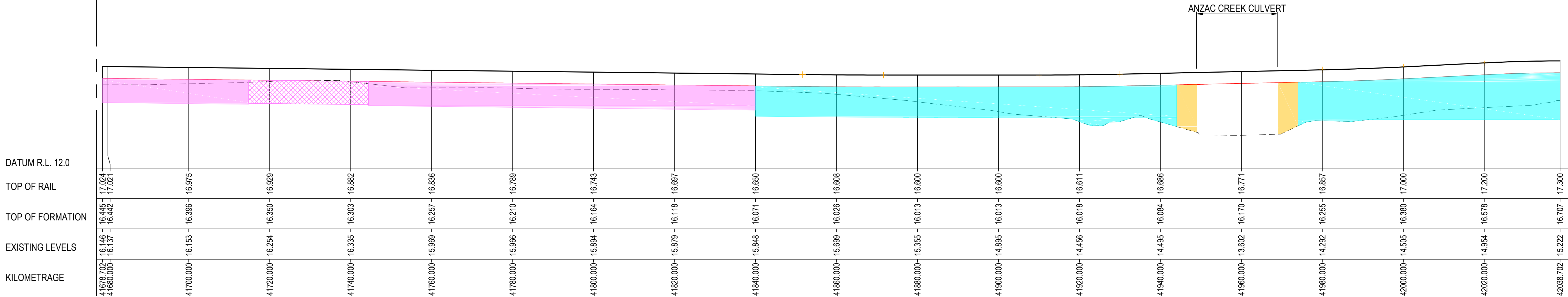
FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE 20.01.17

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 7 OF 9	
DRAWING No.	PROJECT No.	ZONE
N01031	-	PWD
DRG	-	GEN
NUMBER	REV	
0156	-	01

Plot Date: 18/01/2018 5:19:16 PM Office: AUS/30 Filename: C:\P\ WORKSPACE\LEVEL\ANZAC\PROJ\002027\0N01031-PWD-DRG-GEN\151.DWG

ADJOINS DRG N01031-PWD-DRG-GEN-000156

ADJOINS DRG N01031-PWD-DRG-GEN-00158



LONGITUDINAL SECTION ALONG - MB2S

SCALE 1:500 H
SCALE 1:100 V

GENERAL NOTES

1.

THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER N01031-PWD-SPE-EWK-0001[A3]).
2.

REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3.

REFER TO DRAWINGS N01031-PWD-SPE-EWK-0025 TO N01031-PWD-DRG-GEN-0039 FOR EARTHWORKS CROSS SECTIONS.
4.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0054 FOR TYPICAL CROSS SECTIONS.
5.

REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6.

REFER TO DRAWING N01031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7.

C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.

LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

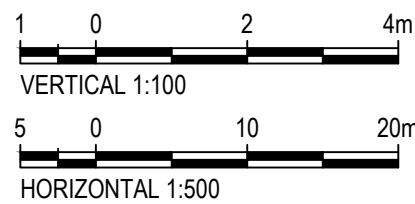
FOUNDATION TREATMENT LEGEND

EMBANKMENTS

- E1
- E2
- E3
- E4
- E5
- E6
- E7
- E8

CUTS

- C1 OR C3
- C2



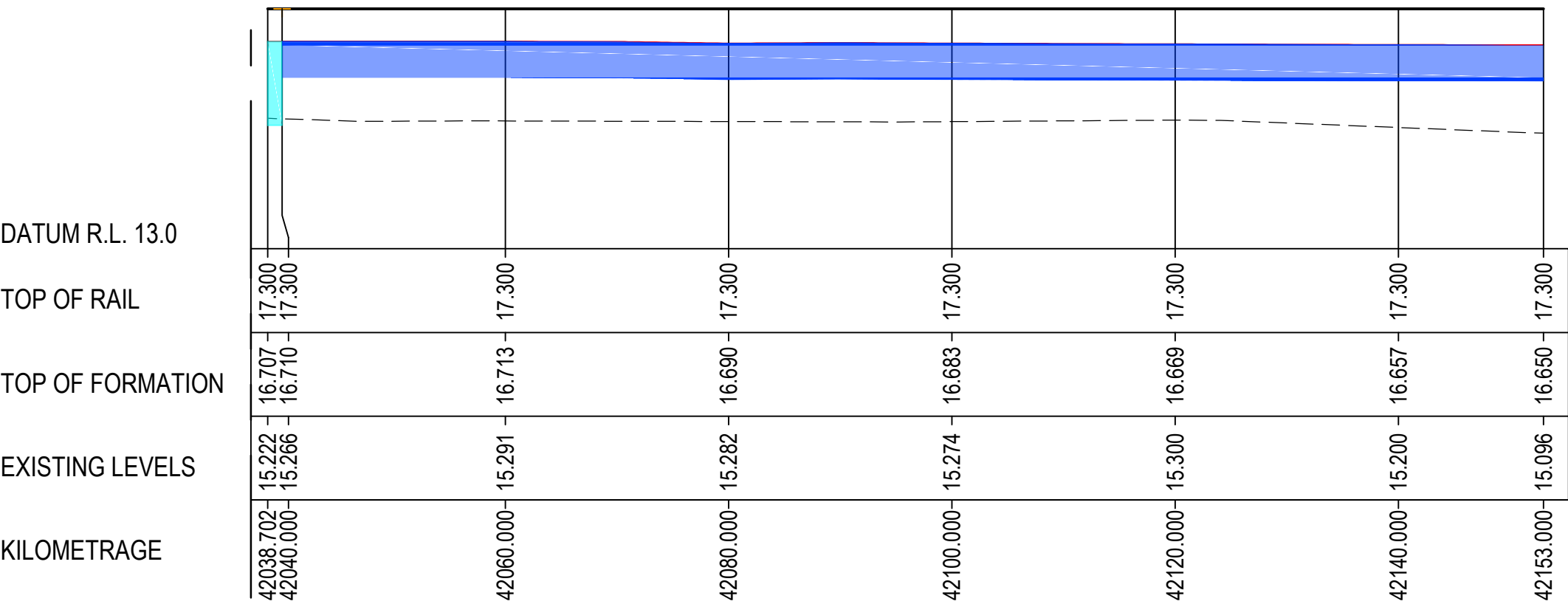
REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE
20.01.17

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 8 OF 9	
DRAWING No.	PROJECT No.	ZONE
N01031	-	PWD
TYPE	DISC	NUMBER
DRG	- GEN	0157
REV	- 01	

ADJOINS DRG NO1031-PWD-DRG-GEN-000157



LONGITUDINAL SECTION ALONG - MB2S

SCALE 1:500 H
SCALE 1:100 V

GENERAL NOTES

1.

THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER NO1031-PWD-SPE-EWK-0001[A3]).
2.

REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3.

REFER TO DRAWINGS NO1031-PWD-SPE-EWK-0025 TO NO1031-PWD-DRG-GEN-0039 FOR EARTHWORKS CROSS SECTIONS.
4.

REFER TO DRAWINGS NO1031-PWD-DRG-GEN-0050 TO NO1031-PWD-DRG-GEN-0054 FOR TYPICAL CROSS SECTIONS.
5.

REFER TO DRAWINGS NO1031-PWD-DRG-GEN-0110 TO NO1031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6.

REFER TO DRAWING NO1031-PWD-DRG-GEN-0160 FOR THE EARTHWORKS FOUNDATION TREATMENT SCHEDULE.
7.

C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.

LEGEND

- TOP OF RAIL
- TOP OF FORMATION
- EXISTING SURFACE

FOUNDATION TREATMENT LEGEND

- EMBANKMENTS

E1

E2

E3

E4

E5

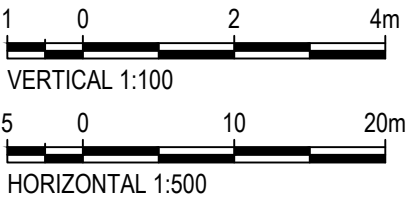
E6

E7

E8
- CUTS

C1 OR C3

C2



REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A. O'SHEA

SCALE	SIZE
AS SHOWN	A1
DRAWN	
J.RASAMEEMANEEPONG	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

FOR CONSTRUCTION
APPROVED
A. O'SHEA
DATE
20.01.17

ARTC DRAWING No			EDMS No			EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1						
TITLE	BULK EARTHWORKS GROUND TREATMENT LONGSECTION SHEET 9 OF 9						
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV	
	N01031	- PWD	- DRG	- GEN	0158	- 01	

EARTHWORKS SCHEDULE FOR PROPOSED NEW RAIL LINE

[illegible]

NOTES

1. PROPOSED TREATMENT TYPES ARE AS PER THE PROJECT SPECIFICATION DESCRIPTIONS.
2. STRUCTURAL ZONE FILL THICKNESS WILL VARY DEPENDING ON THE QUALITY OF MATERIAL ADOPTED. THICKNESS HAS BEEN PROVIDED FOR CBR > 8% AND CBR > 20%..
3. WHERE CONSTRAINTS APPLY A STRUCTURAL ZONE FILL COMPRISING DGB20 & DGS20 WITH A GEOFABRIC SEPARATOR MAY BE ADOPTED. THICKNESS AND LOCATIONS TO BE CONFIRMED BY THE GEOTECHNICAL ENGINEER. AS IT WILL NEED TO BE CONFIRMED USING MECHANISTIC DESIGN OF THE RAIL PAVEMENT.

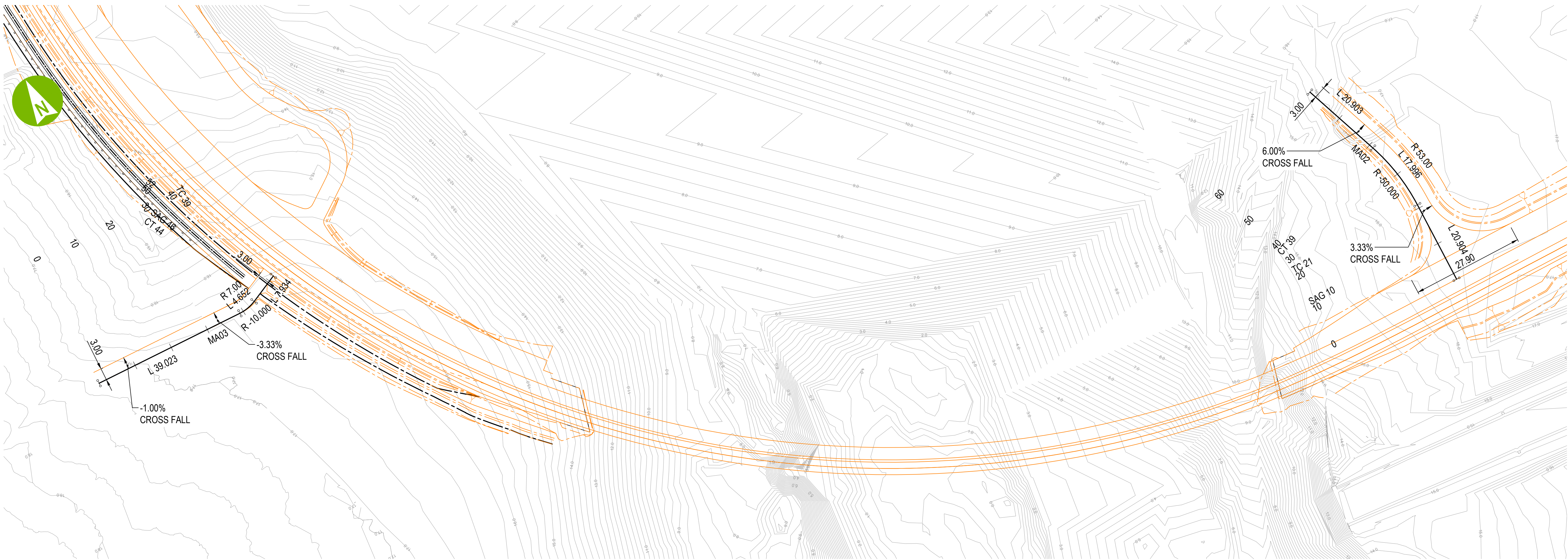
NOTES FOR EARTHWORKS SCHEDULE

1. THIS DRAWING IS IN TO BE READ IN CONJUNCTION WITH THE PROJECT EARTHWORKS SPECIFICATION (DOCUMENT NUMBER NO1031-PWD-SPE-EWK-0001[A3]).
2. REFER TO THE EARTHWORKS SPECIFICATION FOR A DESCRIPTION OF EMBANKMENT AND CUT FOUNDATION TREATMENTS.
3. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0025 TO N01031-PWD-DRG-GEN-0039 FOR EARTHWORKS CROSS SECTIONS.
4. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0050 TO N01031-PWD-DRG-GEN-0057 FOR TYPICAL CROSS SECTIONS.
5. REFER TO DRAWINGS N01031-PWD-DRG-GEN-0110 TO N01031-PWD-DRG-GEN-0126 FOR GROUND TREATMENT PLANS.
6. REFER TO DRAWING N01031-PWD-DRG-GEN-0150 TO N01031-PWD-DRG-GEN-0158 FOR FOUNDATION TREATMENT LONG SECTIONS.
7. FOUNDATION TREATMENT TYPES TO BE CONFIRMED BY GEOTECHNICAL ENGINEER ON SITE BASED ON OBSERVED GROUND CONDITIONS.
8. C3 FOUNDATION TREATMENT MAY BE CONSIDERED IN LIEU OF C1 FOUNDATION TREATMENT AS INDICATED IN THE PROJECT EARTHWORKS SPECIFICATION.

EARTHWORKS SCHEDULE FOR PROPOSED NEW RAIL LINE

Rail Line	Kilometrage Start (km)	Kilometrage End (km)	Length (m)	Cut / Fill / Grade / Structure	Maximum Cut / Fill Height (m)	Formation Level (RL m AHD)	Indicative In-situ CBR (%)	Required Capping Material Thickness (mm)	Required Structural Zone Fill (with CBR = 8%) Thickness (mm)	Required Structural Zone Fill (with CBR = 20%) Thickness (mm)	Required Minimum Drainage Blanket Thickness (mm)	Foundation Treatment Type
SOUTH	39.878	39.911	33	EXISTING FORMATION	-	-	-	-	-	-	-	-
SOUTH	39.911	39.950	39	FILL	1.2	17.2 - 16.9	>1 AND <3%	150	1000	600	-	E1
SOUTH	39.950	39.995	45	FILL	2.5	16.9 - 16.3	>3%	150	500	300		E3
SOUTH	39.995	40.027	32	FILL	1.0	16.3 - 16.1	>3%	150	500	300	-	E2
SOUTH	40.027	40.157	130	CUT	2.0	16.1 - 14.7	>3%	150	500	300	-	C2
SOUTH	40.157	40.191	34	FILL	5.0	14.7 - 14.6	>3%	150	500	300	-	E3
SOUTH	40.191	40.217	26	CUT	1.8	14.6 - 14.6	>3%	150	500	300	-	C2
SOUTH	40.217	40.258	63	FILL	8.5	14.7 - 14.7	>3%	150	500	300	-	E3
SOUTH	40.258	40.390	90	SOIL NAIL SLOPE	10.5	14.7-14.7	>3%	150	500	300	-	E3
SOUTH	40.370	40.436	10	FILL	13.0	14.8 - 14.8	>3%	150	500	300*	-	E3
SOUTH	40.436	40.736	300	FILL	5.0	14.8 - 16.0	>3% (AFTER GROUND TREATMENT)	150	500		-	E7
SOUTH	40.736	40.746	10	FILL	1.0	16.0 - 16.0	>3%	150	500	300*	-	E8
SOUTH	40.746	40.924	178	GEORGES RIVER BRIDGE	-	-	-	-	-	-	-	-
SOUTH	40.924	40.934	10	FILL	1.2000	16.0 - 16.0	>3%	150	500	300*	-	E8
SOUTH	40.934	40.967	33	FILL	1.2	16.0 - 16.0	>1 AND <3%	150	1000	600	-	E1
SOUTH	40.967	41.410	443	CUT	2.2	16.0 - 17.8	>1 AND <3%	150	1000	600	-	C1 or C3
SOUTH	41.410	41.420	10	FILL	0.5	17.8 - 17.9	>1 AND <3%	150	1000	600	-	E1
SOUTH	41.420	41.429	9	CUT	0.6	17.9 - 18.0	>1 AND <3%	150	1000	600	-	C1 or C3
SOUTH	41.429	41.452	23	FILL	0.5	18.0 - 18.1	>1 AND <3%	150	1000	600	-	E1
SOUTH	41.452	41.465	13	CUT	0.5000	18.1 - 18.1	>1 AND <3%	150	1000	600	-	C1 or C3
SOUTH	41.465	41.550	85	FILL	1.0	18.1 - 17.3	>1 AND <3%	150	1000	600	-	E1
SOUTH	41.550	41.565	15	CUT	UP TO 4m FOR BRIDGE	17.3 - 17.2	>1 AND <3%	150	1000	600	-	C1 or C3
SOUTH	41.565	41.606	41	MOOREBANK AVENUE BRIDGE	UP TO 6m FOR BRIDGE	17.2 - 16.8	>1 AND <3%	150	1000	600	-	C1 or C3
SOUTH	41.606	41.663	57	CUT	UP TO 4m FOR BRIDGE	16.8 - 16.4	>1 AND <3%	150	1000	600	-	C1 or C3
SOUTH	41.663	41.713	50	FILL	0.3000	16.4 - 16.3	>1 AND <3%	150	1000	600	-	E1
SOUTH	41.713	41.745	32	CUT	0.3000	16.3 - 16.2	>1 AND <3%	150	1000	600	-	C1 or C3
SOUTH	41.745	41.840	95	FILL	0.3000	16.2 - 16.0	>1 AND <3%	150	1000	600	-	E1
SOUTH	41.840	41.944	104	FILL	2.0	16.0 - 15.9	>3%	150	500	300	300	E4
SOUTH	41.944	41.949	5	FILL	2.0	15.9 - 15.9	>3%	150	500	300*	300	E8
SOUTH	41.949	41.969	20	ANZAC CREEK CULVERT	-	-	-	-	-	-	-	-
SOUTH	41.969	41.974	5	FILL	2.0	15.9 - 15.9	>3%	150	500	300*	300	E8
SOUTH	41.974	42.040	66	FILL	2.0	15.9 - 15.9	>3%	150	500	300	300	E4
SOUTH	42.040	42.138	98	FILL	0.7000	15.9 - 15.9	>3%	150	500	300	-	E2
SOUTH	42.153	42.153	15	EXISTING FORMATION	-	-	-	-	-	-	-	-

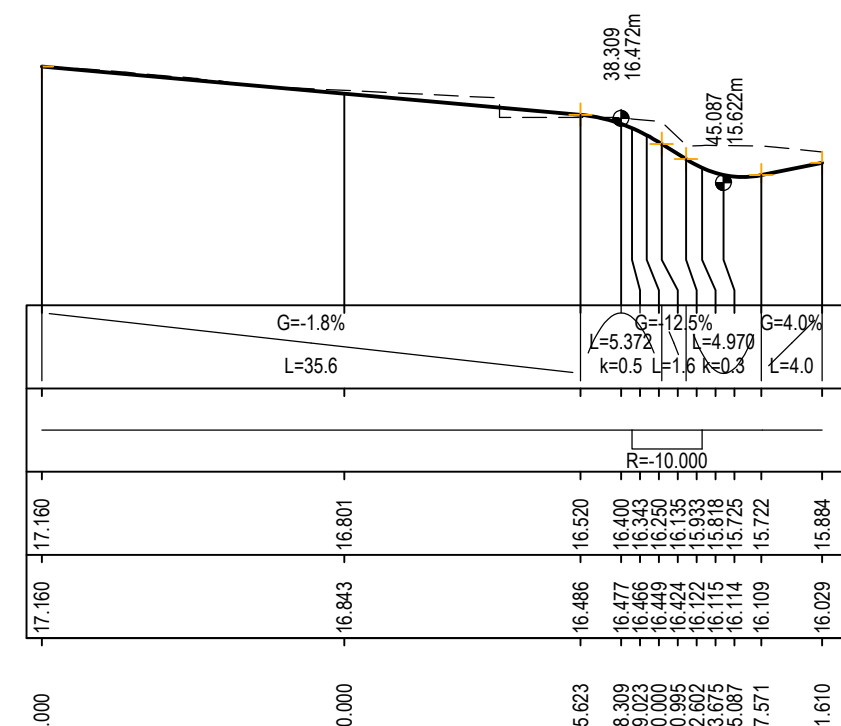
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PROJECT MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1									
TITLE BULK EARTHWORKS GROUND TREATMENT SCHEDULE SHEET 1 OF 1									
DRAWING No.		PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV		
		N01031	PWD	DRG	GEN	0160	02		



- LEGEND**
- CONTROL LINE
 - PROPOSED DESIGN
 - EXISTING CONTOURS

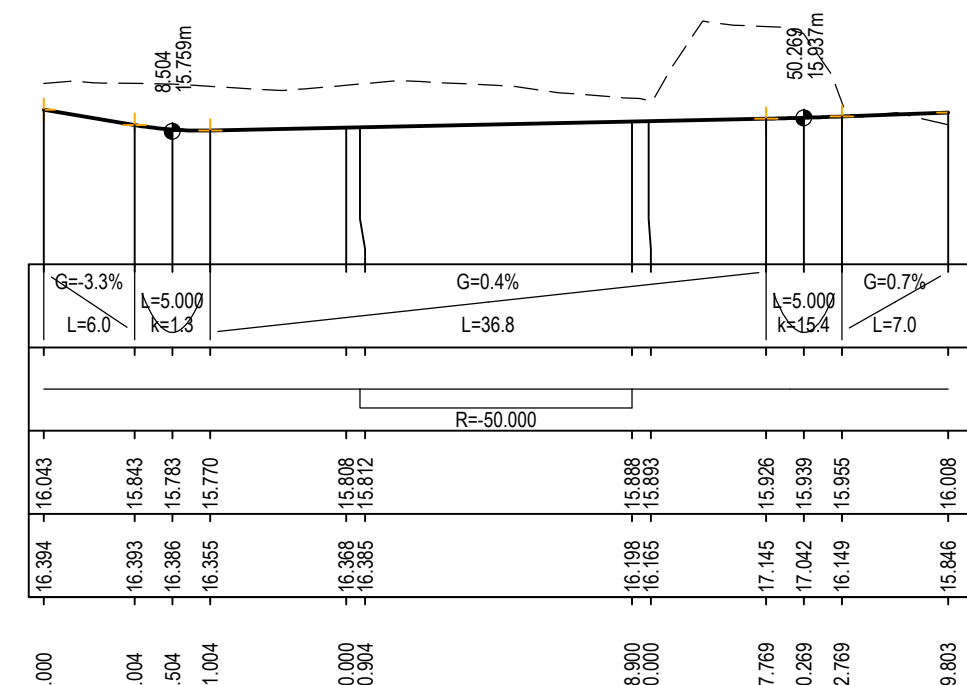
PLAN
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DATUM R.L. 14.0
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HORIZONTAL ALIGNMENT
DESIGN LEVELS
EXISTING LEVELS
STATION

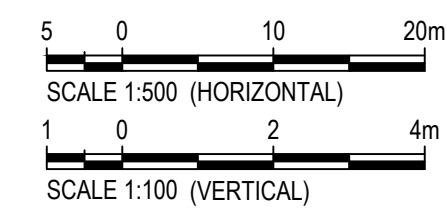


LONGITUDINAL SECTION ALONG - MA03
SCALE 1:500 H
SCALE 1:1000 V

DATUM R.L. 14.0
VERTICAL ALIGNMENT
HORIZONTAL ALIGNMENT
DESIGN LEVELS
EXISTING LEVELS
STATION



LONGITUDINAL SECTION ALONG - MA02
SCALE 1:500 H
SCALE 1:1000 V

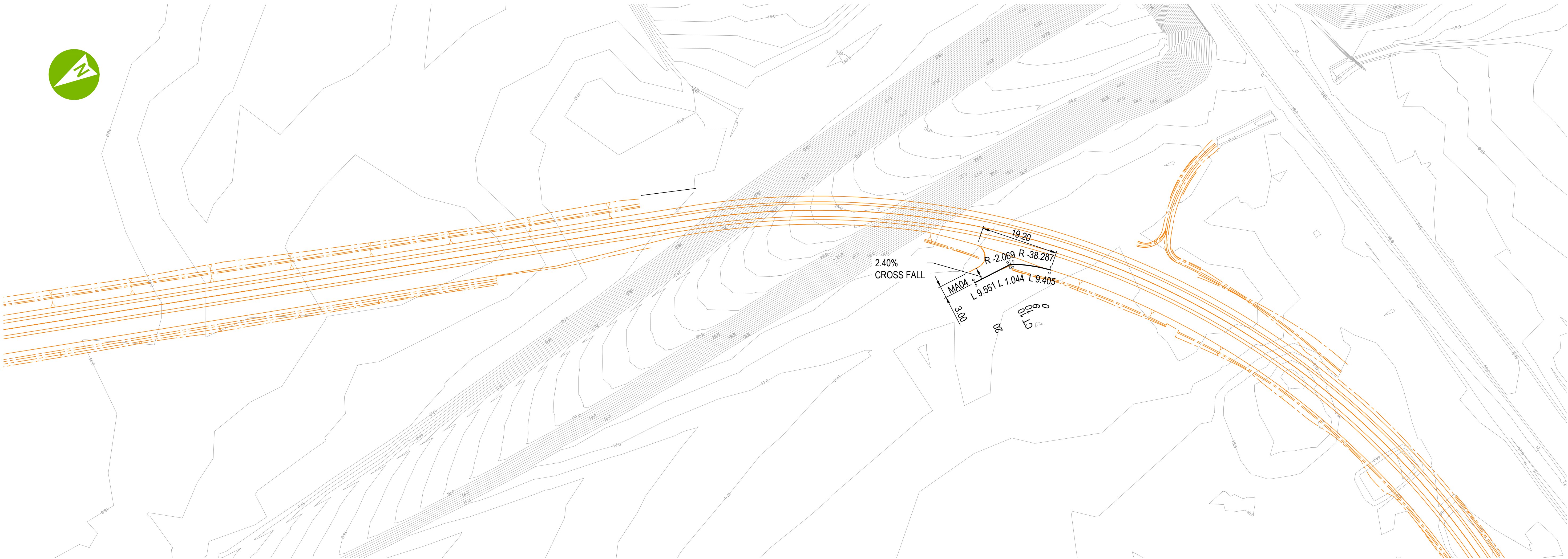


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	14.07.17	90% ARTC DESIGN ISSUE	A.O'SHEA

SCALE	SIZE
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DRAWN	
P.KHAIPRAPHA	
DESIGNED	
K.GIGGACHER	
CHECKED	
W.DENG	

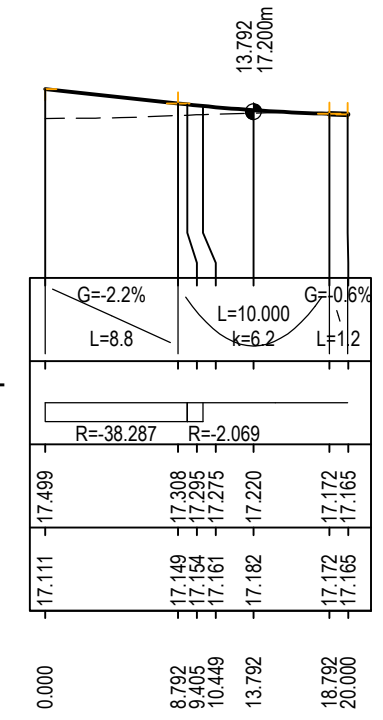
FOR CONSTRUCTION
APPROVED
A.O'SHEA
DATE
20.01.17

ARTC DRAWING No		EDMS No		EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS ACCESS ROAD PLAN & LONG SECTION SHEET 03 OF 08					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	- 0202	- 02

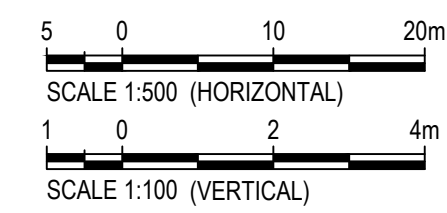


- LEGEND**
- CONTROL LINE
 - PROPOSED DESIGN
 - EXISTING CONTOURS

DATUM R.L. 15.0
VERTICAL ALIGNMENT
HORIZONTAL ALIGNMENT
DESIGN LEVELS
EXISTING LEVELS
STATION



LONGITUDINAL SECTION ALONG - MA04
SCALE 1:500 H
SCALE 1:1000 V

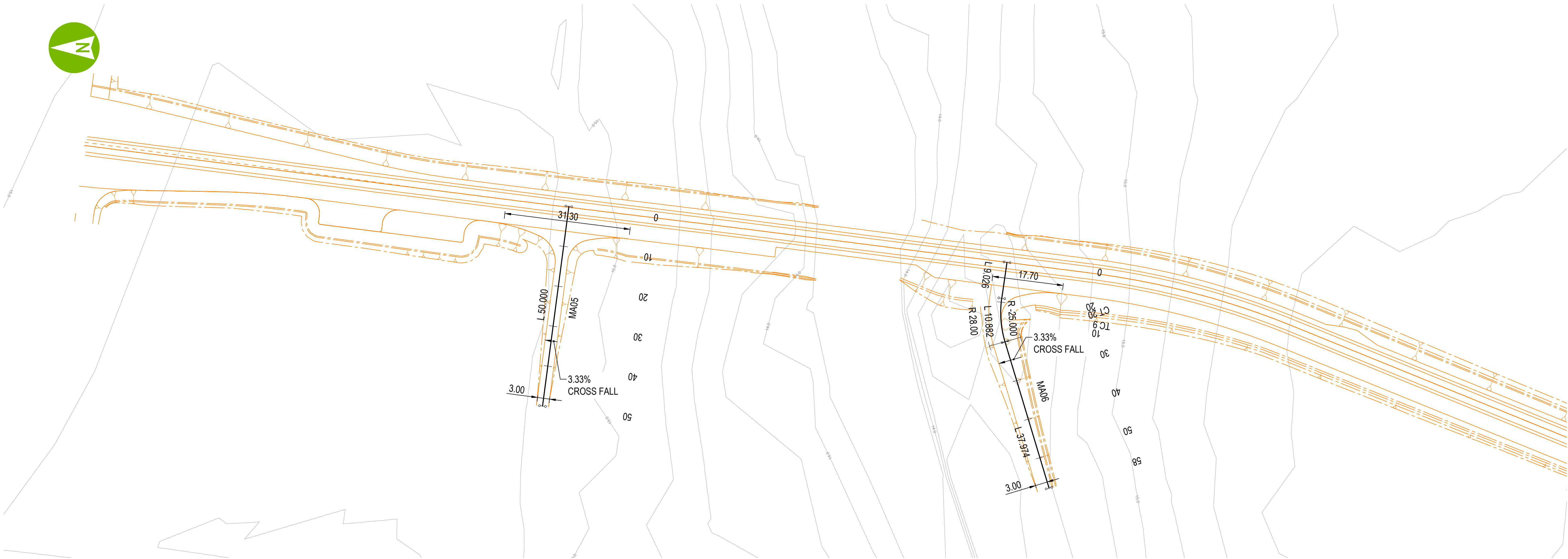
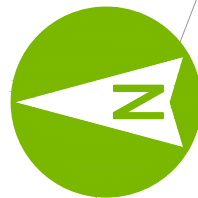


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA

SCALE	SIZE
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DRAWN	P.KHAIPRAPHA
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

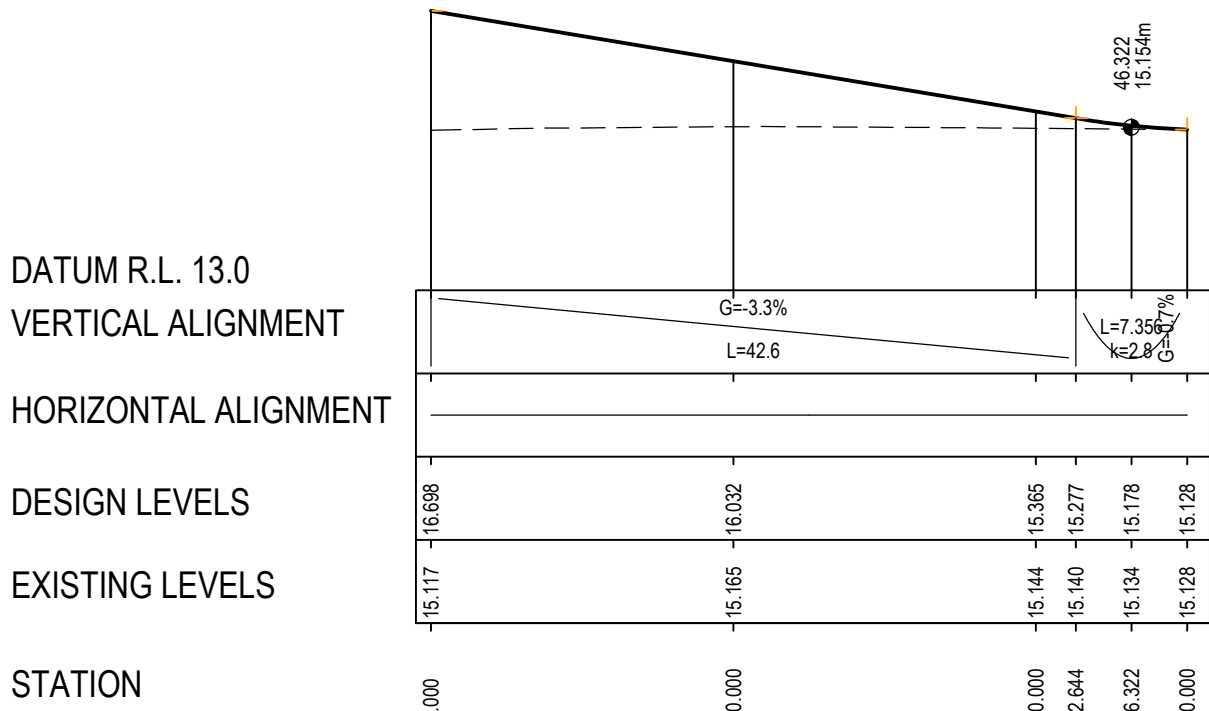
FOR CONSTRUCTION
APPROVED
A.O'SHEA
DATE
20.01.17

ARTC DRAWING No	EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS ACCESS ROAD PLAN & LONG SECTION SHEET 04 OF 08	
DRAWING No.	PROJECT No.	ZONE
N01031	PWD	DRG
TYPE	DISC	NUMBER
GEN	0203	REV
01		

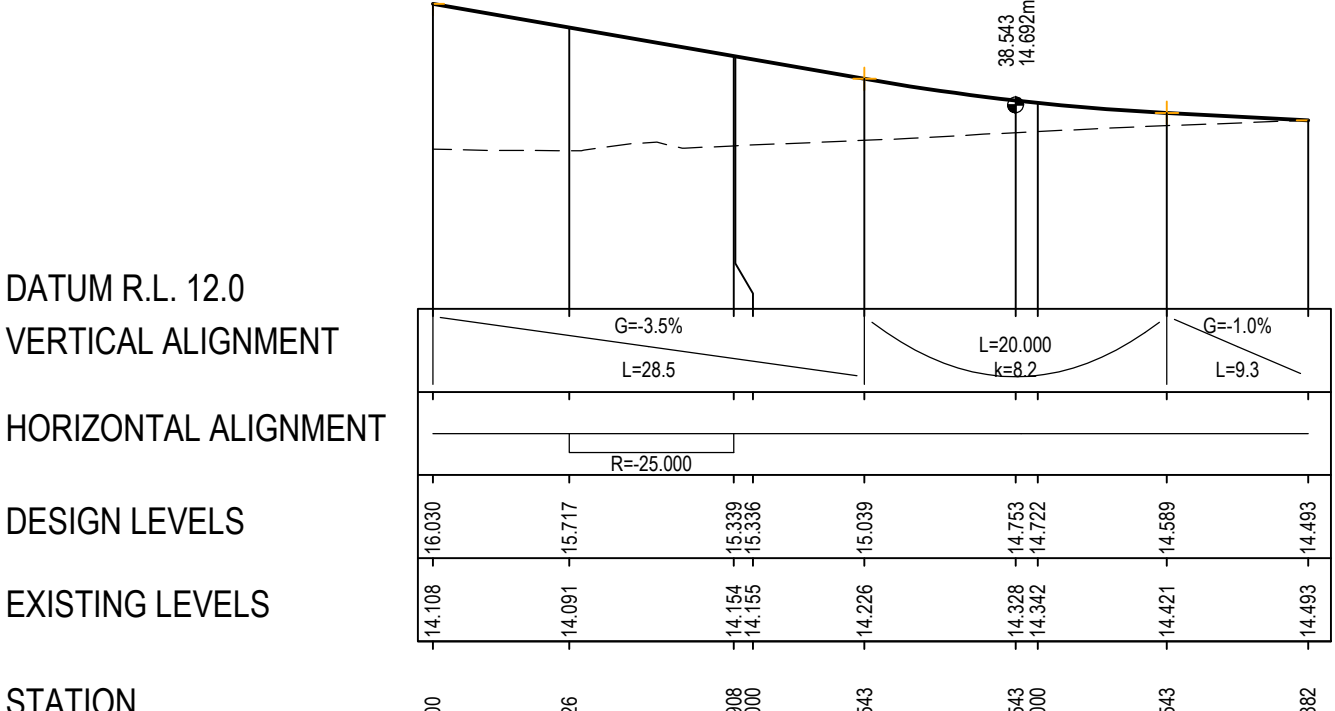


PLAN
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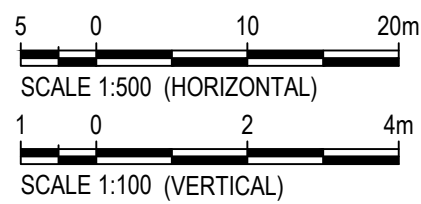
- LEGEND
- CONTROL LINE
 - PROPOSED DESIGN
 - EXISTING CONTOURS



LONGITUDINAL SECTION ALONG - MA05
SCALE 1:500 H



LONGITUDINAL SECTION ALONG - MA06
SCALE 1:500 H



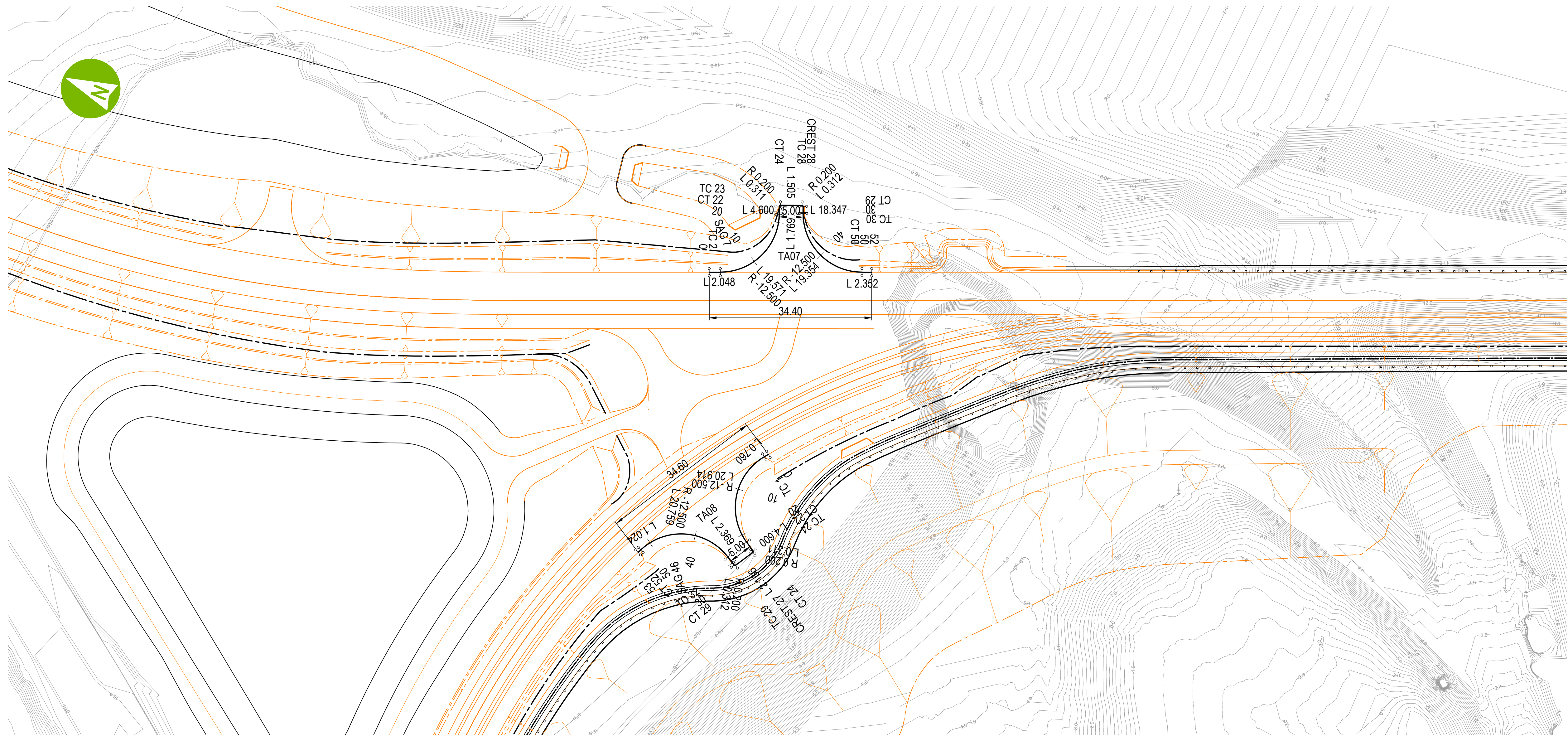
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REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA

SCALE	SIZE
1:500	A1
DRAWN	P.KHAIPRAPHAH
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	APPROVED
	DATE 20.01.17
	A.O'SHEA

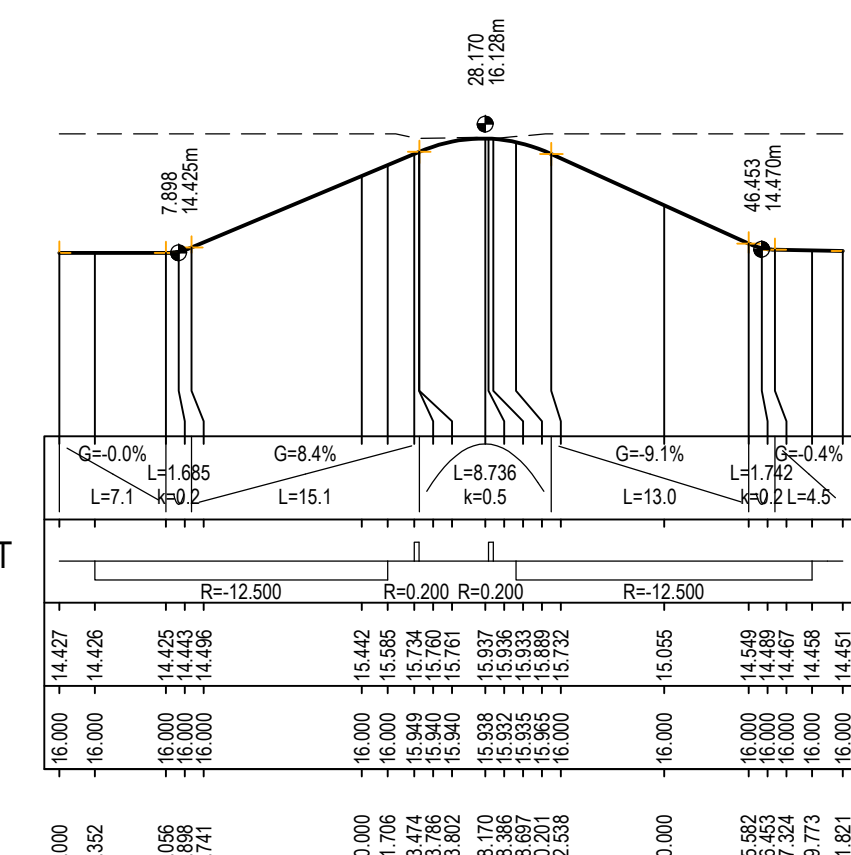
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PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1	
TITLE	BULK EARTHWORKS ACCESS ROAD PLAN & LONG SECTION SHEET 05 OF 08	
DRAWING No.	PROJECT No.	ZONE
N01031	PWD	DRG
	TYPE	DISC
	GEN	
	NUMBER	REV
	0204	01



PLAN
1:500

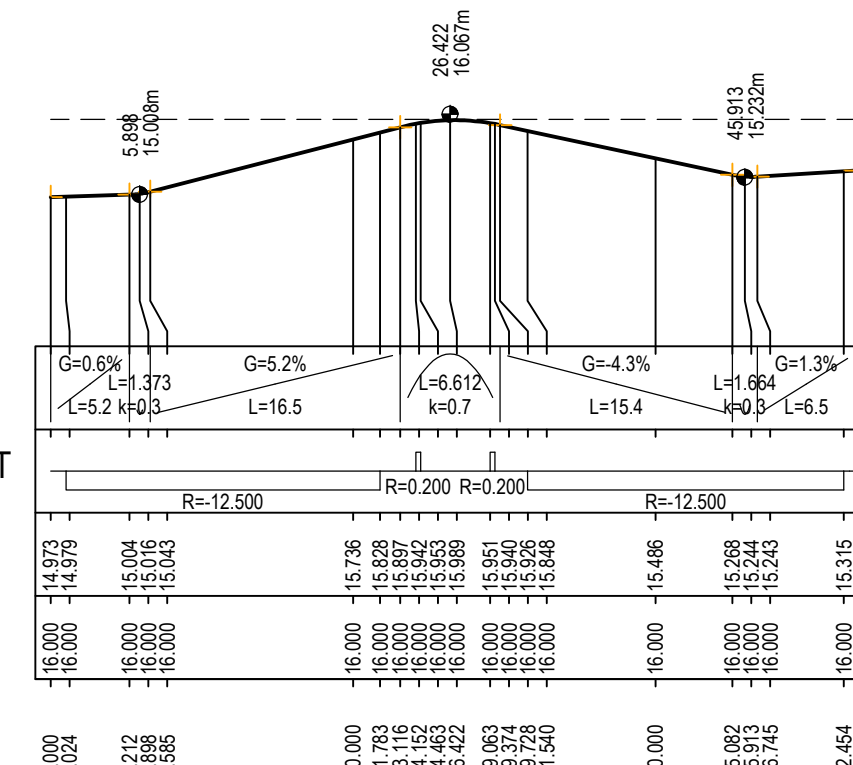
- LEGEND
- CONTROL LINE
 - PROPOSED DESIGN
 - EXISTING CONTOURS

DATUM R.L. 12.0
VERTICAL ALIGNMENT
HORIZONTAL ALIGNMENT
DESIGN LEVELS
EXISTING LEVELS
STATION

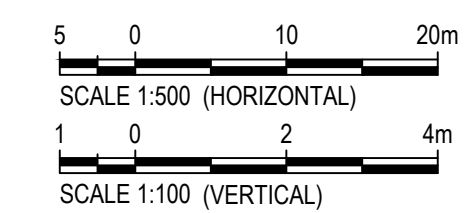


LONGITUDINAL SECTION ALONG - TA07
SCALE 1:500 H

DATUM R.L. 13.0
VERTICAL ALIGNMENT
HORIZONTAL ALIGNMENT
DESIGN LEVELS
EXISTING LEVELS
STATION



LONGITUDINAL SECTION ALONG - TA08
SCALE 1:500 H

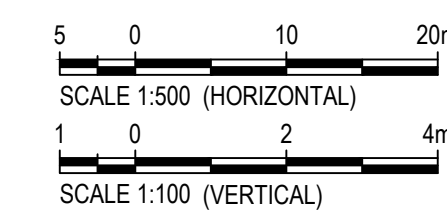
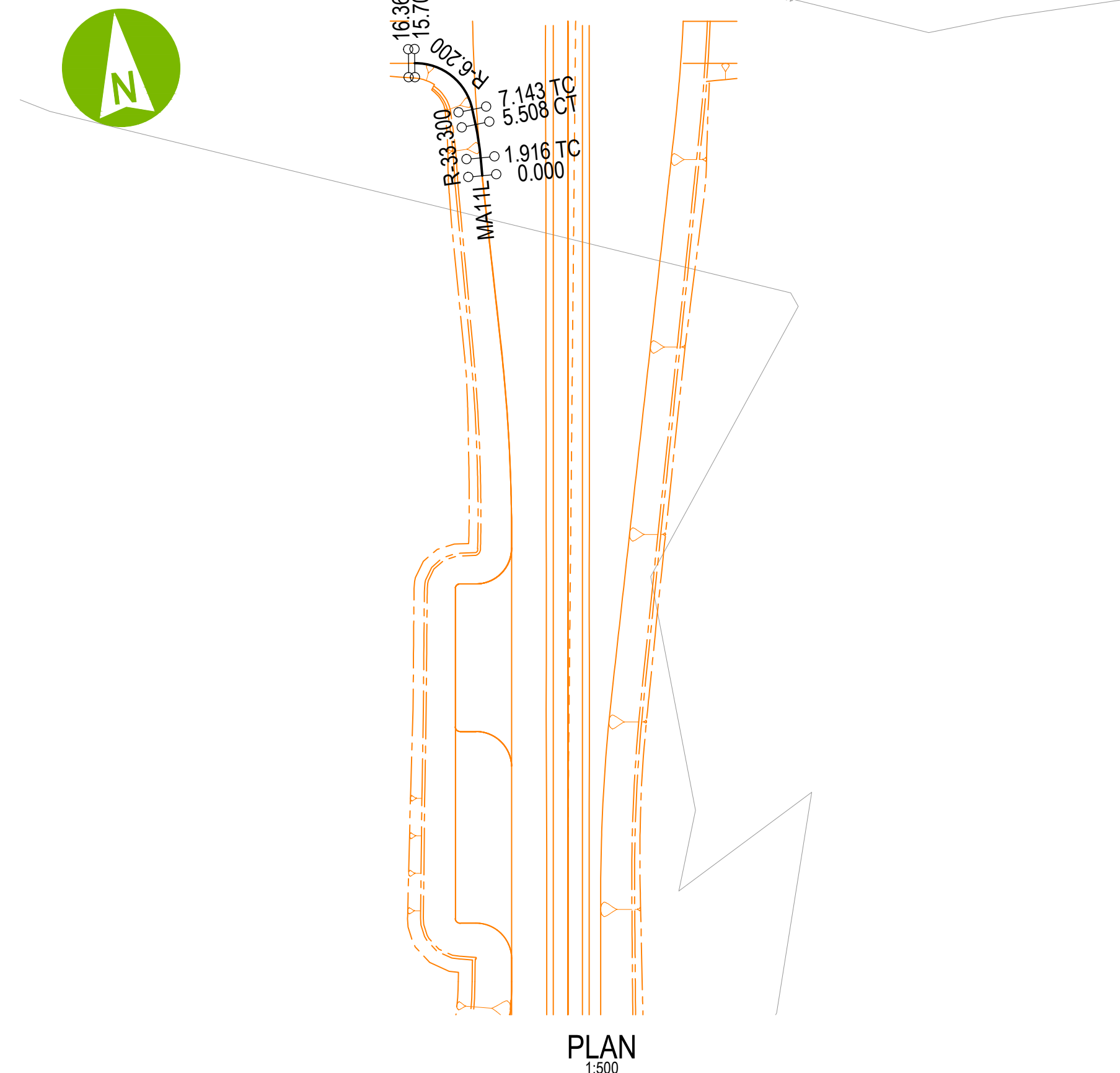
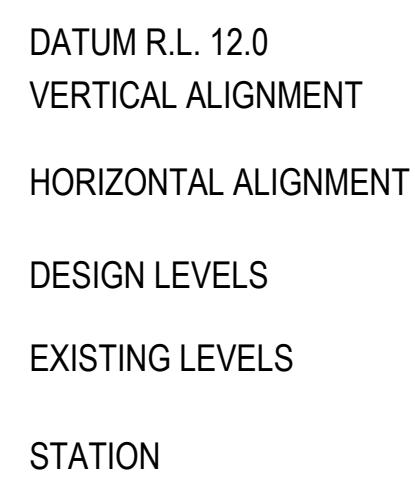
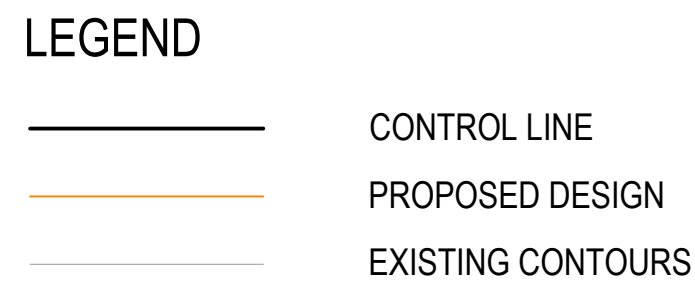


REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	14.07.17	90% ARTC DESIGN ISSUE	A.O'SHEA

SCALE	SIZE
1:500	A1
DRAWN	P.KHAIRAPHAH
DESIGNED	K.GIGGACHER
CHECKED	W.DENG

FOR CONSTRUCTION	DATE 20.01.17
APPROVED	A.O'SHEA

ARTC DRAWING No		EDMS No		EDMS REV		
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
TITLE	BULK EARTHWORKS ACCESS ROAD PLAN & LONG SECTION SHEET 06 OF 08					
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER	REV
	N01031	- PWD	- DRG	- GEN	0205	- 02

[illegible]

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	307332.248	6239779.778	16.043	1°50'00.00"			
TC	20.904	307332.917	6239800.671	15.812	1°49'60.00"			
	25.000	307332.880	6239804.766	15.829	357°08'21.17"			
IP 2	29.902	307333.208	6239809.763	15.850		R = -50.000	17.996	20°37'19.06"
CT	38.900	307330.278	6239818.375	15.888	341°12'40.94"			
	50.000	307326.703	6239828.884	15.937	341°12'40.94"			
IP 3	59.803	307323.546	6239838.164	16.008	341°12'40.94"			

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	307026.541	6239923.688	17.160	93°09'19.53"			
	25.000	307051.503	6239922.312	16.711	93°09'19.53"			
TC	39.023	307065.506	6239921.540	16.343	93°09'19.53"			
IP 2	41.349	307067.871	6239921.410	16.090		R = -10.000	4.652	26°39'15.23"
CT	43.675	307070.043	6239922.354	15.818	66°30'04.30"			
	50.000	307075.843	6239924.876	15.820	66°30'04.30"			
IP 3	51.610	307077.320	6239925.518	15.884	66°30'04.30"			

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	307868.050	6239817.053	17.499	46°58'48.69"			
IP 2	4.702	307871.506	6239820.277	17.397		R = -38.287	9.405	14°04'25.70"
IP 3	9.405	307874.073	6239824.245	17.295				
IP 4	9.927	307874.363	6239824.693	17.285		R = -2.069	1.044	28°55'15.31"
CT	10.449	307874.400	6239825.225	17.275	3°59'06.74"			
IP 5	20.000	307875.064	6239834.753	17.165	3°59'06.74"			

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	308041.192	6240280.415	16.698	277°31'42.18"
IP 2	49.799	307991.823	6240286.939	15.128	277°31'42.18"

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	308027.508	6240171.673	16.030	278°13'08.84"			
TC	9.026	308018.574	6240172.963	15.717	278°13'08.84"			
IP 2	14.467	308013.103	6240173.753	15.528		R = -25.000	10.882	24°56'20.37"
CT	19.908	308007.808	6240172.163	15.339	253°16'48.47"			
	25.000	308002.931	6240170.698	15.162	253°16'48.47"			
	50.000	307978.988	6240163.506	14.574	253°16'48.47"			
IP 3	57.882	307971.439	6240161.238	14.493	253°16'48.47"			

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ALIGN TURN AROUND->TA01 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	306918.171	6240602.834	14.648	359°20'46.59"			
TC	4.304	306918.122	6240607.138	14.647	359°20'46.59"			
	10.000	306916.784	6240612.624	14.654	333°14'18.74"			
IP 2	13.797	306917.986	6240619.004	14.660		R = -12.500	18.985	87°01'20.21"
	20.000	306909.361	6240618.923	14.671	287°24'06.90"			
IP 3	23.289	306906.130	6240619.485	14.677				
IP 4	23.290	306906.129	6240619.485	14.677				
IP 5	24.573	306904.848	6240619.537	14.679				
IP 6	24.573	306904.848	6240619.537	14.679				
	30.000	306899.546	6240618.592	14.688	247°26'44.24"			
IP 7	30.859	306897.977	6240619.816	14.690		R = -12.500	12.573	57°37'44.66"
CT	37.145	306894.063	6240614.162	14.759	214°41'37.83"			
	40.000	306892.438	6240611.815	14.793	214°41'37.83"			
IP 8	44.904	306889.647	6240607.783	14.851	214°41'37.83"			

ALIGN TURN AROUND->TA04 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	306934.651	6240559.342	14.277	168°57'11.72"			
TC	2.047	306935.043	6240557.333	14.279	168°57'11.72"			
	10.000	306938.867	6240550.512	14.359	132°29'53.96"			
IP 2	12.125	306937.540	6240544.542	14.491		R = -12.500	20.157	92°23'27.76"
	20.000	306948.039	6240547.249	15.516	86°39'42.11"			
CT	22.203	306950.216	6240547.570	15.784	76°33'43.97"			
TC	23.973	306951.938	6240547.982	15.922	76°33'43.97"			
IP 3	24.130	306952.132	6240548.028	15.931		R = 0.200	0.314	90°00'01.75"
CT	24.288	306952.179	6240547.834	15.940	166°33'45.72"			
TC	28.887	306953.248	6240543.360	15.945	166°33'45.72"			
IP 4	29.045	306953.294	6240543.165	15.937		R = 0.200	0.314	89°59'57.40"
CT	29.202	306953.100	6240543.119	15.928	256°33'43.12"			
	30.000	306952.323	6240542.933	15.877	256°33'43.12"			
TC	30.524	306951.814	6240542.811	15.835	256°33'43.12"			
	40.000	306944.250	6240537.485	14.598	213°07'33.35"			
IP 5	40.761	306938.811	6240539.705	14.531		R = -12.500	20.474	93°50'40.28"
	50.000	306942.525	6240527.903	14.300	167°17'21.51"			
CT	50.997	306942.783	6240526.940	14.300	162°43'02.84"			
IP 6	51.807	306943.024	6240526.167	14.301	162°43'02.84"			

ARTC DRAWING No

EDMS No

EDMS REV

PROJECT

MOOREBANK INTERMODAL TERMINAL DEVELOPMENT
PACKAGE 1- RALP No.1

TITLE

BULK EARTHWORKS
SETOUT TABLE
SHEET 02 OF 04

DRAWING No.

PROJECT No.

ZONE

TYPE

DISC

NUMBER

REV

N01031

-

PWD

-

DRG

-

GEN

-

0221

-

02

CLIENT

CPB
CONTRACTORS

SIMTA

SYDNEY
INTERMODAL
TERMINAL
ALLIANCE

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	14.07.17	90% ARTC DESIGN ISSUE	A.O'SHEA

SCALE

NTS

SIZE

A1

FOR CONSTRUCTION

APPROVED

DATE

20.01.17

DRAWN

P.KHAIPRAPHA

DESIGNED

M.SAKIB

CHECKED

W.DENG

A.O'SHEA

A.O'SHEA

aurecon

www.aurecongroup.com

Plot Date: 18/01/18 5:27:13 PM Office: AUS/01 Filename: C:\PIU\WORKSPACE\LEV\LITTLEANZ\PROJECTS\020717\N01031\FWD\DRG-GEN\0222.DWG

ALIGN TURN AROUND->TA07 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	306971.657	6240455.140	14.427	157°02'59.69"			
TC	2.352	306972.574	6240452.975	14.426	157°02'59.69"			
	10.000	306977.462	6240447.247	14.601	121°59'30.71"			
IP 2	12.029	306977.340	6240441.720	14.772		R = -12.500	19.354	88°42'44.37"
	20.000	306987.076	6240445.712	15.442	76°09'18.86"			
CT	21.706	306988.699	6240446.232	15.585	68°20'15.32"			
TC	23.474	306990.342	6240446.884	15.734	68°20'15.32"			
IP 3	23.630	306990.526	6240446.957	15.747		R = 0.200	0.312	89°14'51.32"
CT	23.786	306990.601	6240446.775	15.760	157°35'06.64"			
TC	28.386	306992.355	6240442.522	15.936	157°35'06.64"			
IP 4	28.541	306992.430	6240442.340	15.935		R = 0.200	0.311	89°10'12.86"
CT	28.697	306992.249	6240442.262	15.933	246°45'19.50"			
	30.000	306991.052	6240441.748	15.898	246°45'19.50"			
TC	30.201	306990.867	6240441.669	15.889	246°45'19.50"			
IP 5	39.987	306979.440	6240436.760	15.056		R = -12.500	19.571	89°42'31.04"
	40.000	306984.197	6240434.834	15.055	201°50'32.02"			
CT	49.773	306984.290	6240425.308	14.458	157°02'48.45"			
	50.000	306984.378	6240425.099	14.457	157°02'48.45"			
IP 6	51.821	306985.088	6240423.423	14.451	157°02'48.45"			

ALIGN TURN AROUND->TA08 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	306940.968	6240428.534	14.973	306°21'32.86"			
TC	1.024	306940.143	6240429.141	14.979	306°21'32.86"			
	10.000	306931.690	6240431.531	15.220	265°12'59.88"			
IP 2	11.403	306929.128	6240437.250	15.292		R = -12.500	20.759	95°09'00.12"
	20.000	306923.070	6240427.006	15.736	219°22'48.03"			
CT	21.783	306922.041	6240425.552	15.828	211°12'32.74"			
TC	24.152	306920.814	6240423.526	15.942	211°12'32.74"			
IP 3	24.307	306920.711	6240423.357	15.948		R = 0.200	0.312	89°14'53.44"
CT	24.463	306920.541	6240423.457	15.953	300°27'26.18"			
TC	29.063	306916.576	6240425.789	15.951	300°27'26.18"			
IP 4	29.219	306916.406	6240425.889	15.946		R = 0.200	0.311	89°09'59.95"
CT	29.374	306916.504	6240426.060	15.940	29°37'26.13"			
	30.000	306916.813	6240426.604	15.914	29°37'26.13"			
TC	31.540	306917.574	6240427.943	15.848	29°37'26.13"			
	40.000	306919.049	6240436.110	15.486	350°50'51.58"			
IP 5	41.997	306924.420	6240439.982	15.400		R = -12.500	20.914	95°51'39.32"
	50.000	306913.880	6240444.360	15.284	305°00'39.74"			
CT	52.454	306911.745	6240445.562	15.315	293°45'46.81"			
IP 6	53.214	306911.049	6240445.868	15.324	293°45'46.81"			

ARTC DRAWING No		EDMS No		EDMS REV	
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1				
TITLE	BULK EARTHWORKS SETOUT TABLE SHEET 03 OF 04				
DRAWING No.	PROJECT No.	ZONE	TYPE	DISC	NUMBER
	N01031	- PWD	- DRG	- GEN	0222
					REV
					02

REV	DATE	REVISION DETAILS	APPROVED
01	20.01.17	ACCEPTED FOR CONSTRUCTION	A.O'SHEA
02	14.07.17	90% ARTC DESIGN ISSUE	A.O'SHEA

SCALE	SIZE
NTS	A1
DRAWN	
P.KHAIPRAPHAJ	
DESIGNED	
M.SAKIB	
CHECKED	
W.DENG	

FOR CONSTRUCTION	
APPROVED	DATE
	20.01.17
A.O'SHEA	
A.O'SHEA	

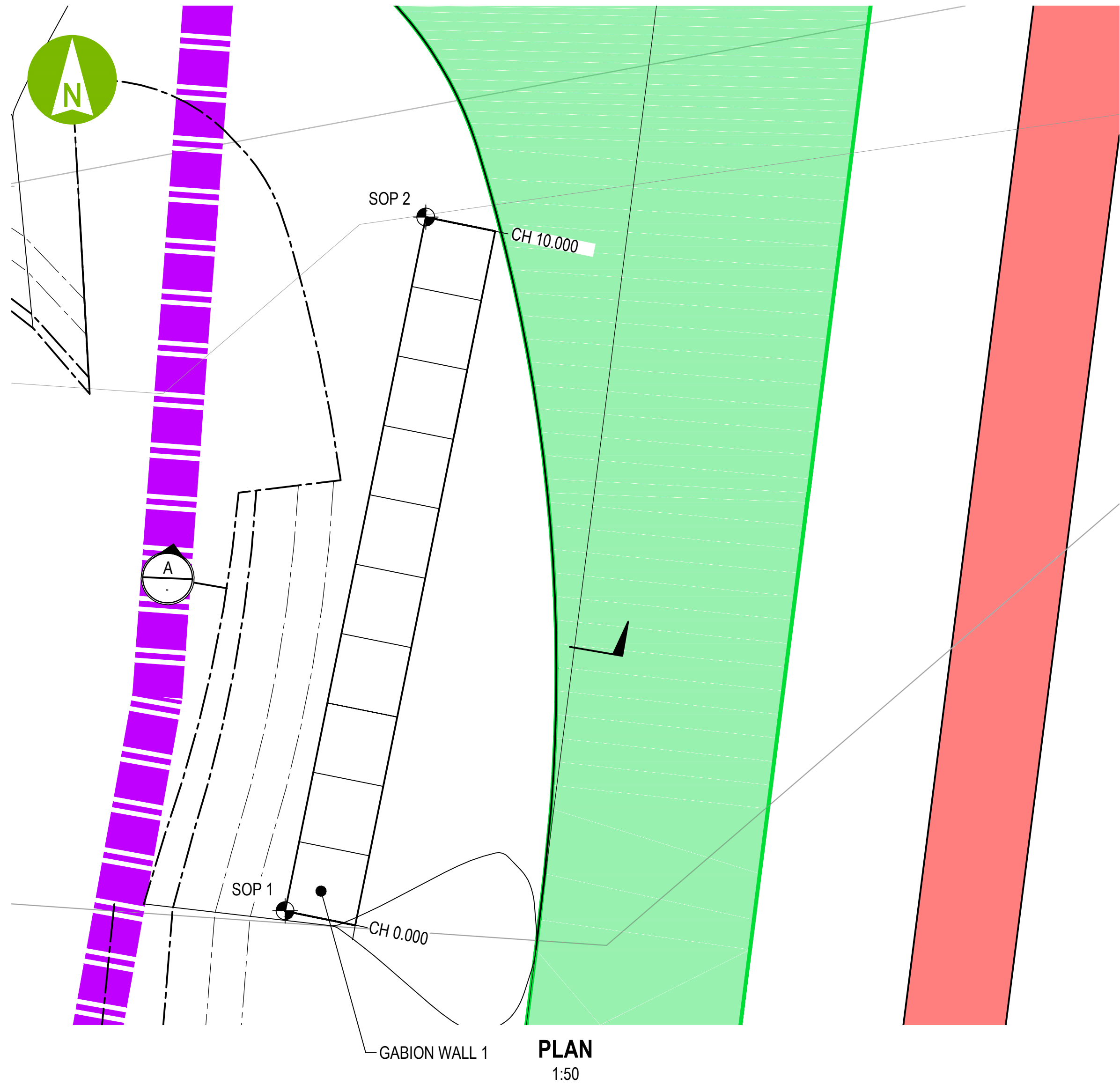
ALIGN RAIL XML->MB2N HORIZONTAL SEGMENTS

	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	39878.702	306725.696	6240407.767	18.146	51°58'12.00"	ARC	190.000	32.632
CS	39911.335	306749.552	6240429.974	17.828	51°58'12.00"	TRANSITION		20.416
SC	39931.751	306766.321	6240441.598	17.628	58°45'46.80"	ARC	160.000	264.405
CS	40196.155	306992.416	6240376.320	15.318	153°26'45.60"	TRANSITION		20.037
ST	40216.192	307000.613	6240358.040	15.332	157°02'56.40"	LINE		88.599
TS	40304.791	307035.162	6240276.455	15.364	157°02'56.40"	TRANSITION		50.000
SC	40354.791	307053.040	6240229.786	15.338	163°00'00.00"	ARC	243.500	54.327
CS	40409.118	307063.021	6240176.498	15.310	175°46'58.80"	TRANSITION		50.000
ST	40459.118	307063.245	6240126.523	15.342	181°43'58.80"	LINE		69.400
TS	40528.519	307061.146	6240057.154	15.516	181°43'58.80"	TRANSITION		60.000
SC	40588.519	307062.002	6239997.208	15.898	174°07'04.80"	ARC	-230.000	23.459
CS	40611.978	307065.591	6239974.035	16.093	168°16'26.40"	TRANSITION		20.016
SC	40631.993	307070.487	6239954.634	16.259	163°28'01.20"	ARC	-250.000	287.383
CS	40919.376	307277.072	6239777.975	16.645	97°36'10.80"	TRANSITION		50.784
ST	40970.160	307327.727	6239774.712	16.668	91°43'04.80"	LINE		406.070
TC	41376.230	307733.615	6239762.537	18.300	91°43'04.80"	ARC	-200.000	242.968
CT	41619.199	307924.900	6239887.161	17.273	22°06'46.80"	LINE		230.718
TC	41849.917	308011.750	6240100.908	16.627	22°06'46.80"	ARC	-200.000	51.784
CT	41901.701	308024.849	6240150.858	16.600	7°16'40.80"	LINE		81.076
TC	41982.777	308035.120	6240231.281	16.870	7°16'40.80"	ARC	-3800.000	20.000
CT	42002.777	308037.602	6240251.127	17.028	6°58'33.60"	LINE		22.344
TC	42025.121	308040.315	6240273.305	17.245	6°58'33.60"	ARC	3800.000	20.000
CT	42045.121	308042.797	6240293.151	17.300	7°16'40.80"	LINE		780.241
E	42825.362	308141.638	6241067.106		7°16'40.80"			

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	DEP.SEG	DEP.RAD	DEP.LEN
S	39088.195	307044.747	6241110.958		177°52'01.94"	ARC	615.000	218.566
CS	39306.760	307014.306	6240895.682	12.670	198°13'46.66"	TRANSITION		20.000
SC	39326.760	307007.765	6240876.782	12.864	199°52'42.17"	ARC	800.000	19.063
CT	39345.823	307001.070	6240858.934	13.059	201°14'37.16"	LINE		141.391
TS	39487.214	306949.840	6240727.151	14.454	201°14'37.16"	TRANSITION		40.100
SC	39527.314	306936.230	6240689.441	14.829	197°03'08.22"	ARC	-275.652	172.293
CS	39699.607	306938.756	6240519.958	15.211	161°14'24.71"	TRANSITION		40.100
ST	39739.707	306953.483	6240482.670	15.239	157°02'55.78"	LINE		214.807
TS	39954.514	307037.246	6240284.868	15.334	157°02'55.78"	TRANSITION		60.000
SC	40014.514	307058.447	6240228.778	15.376	163°45'26.73"	ARC	260.000	56.319
CS	40070.833	307068.244	6240173.429	15.415	176°10'06.18"	TRANSITION		50.000
ST	40120.833	307068.354	6240123.450	15.450	181°44'00.13"	LINE		66.561
TS	40187.394	307066.341	6240056.920	15.497	181°44'00.13"	TRANSITION		60.000
SC	40247.394	307067.262	6239996.977	15.695	173°56'03.04"	ARC	-224.800	22.509
DIS	40269.903	307070.757	6239974.750	15.886	168°11'49.67"	ARC		19.994
DIS	40289.897	307075.693	6239955.375	16.056	165°42'25.08"	ARC	-244.800	280.360
CS	40570.257	307277.488	6239783.166	16.540	97°40'03.70"	TRANSITION		50.258
ST	40620.515	307327.616	6239779.917	16.605	91°43'05.28"	LINE		293.843
E	40914.358	307621.328	6239771.107	17.331	91°43'05.28"			

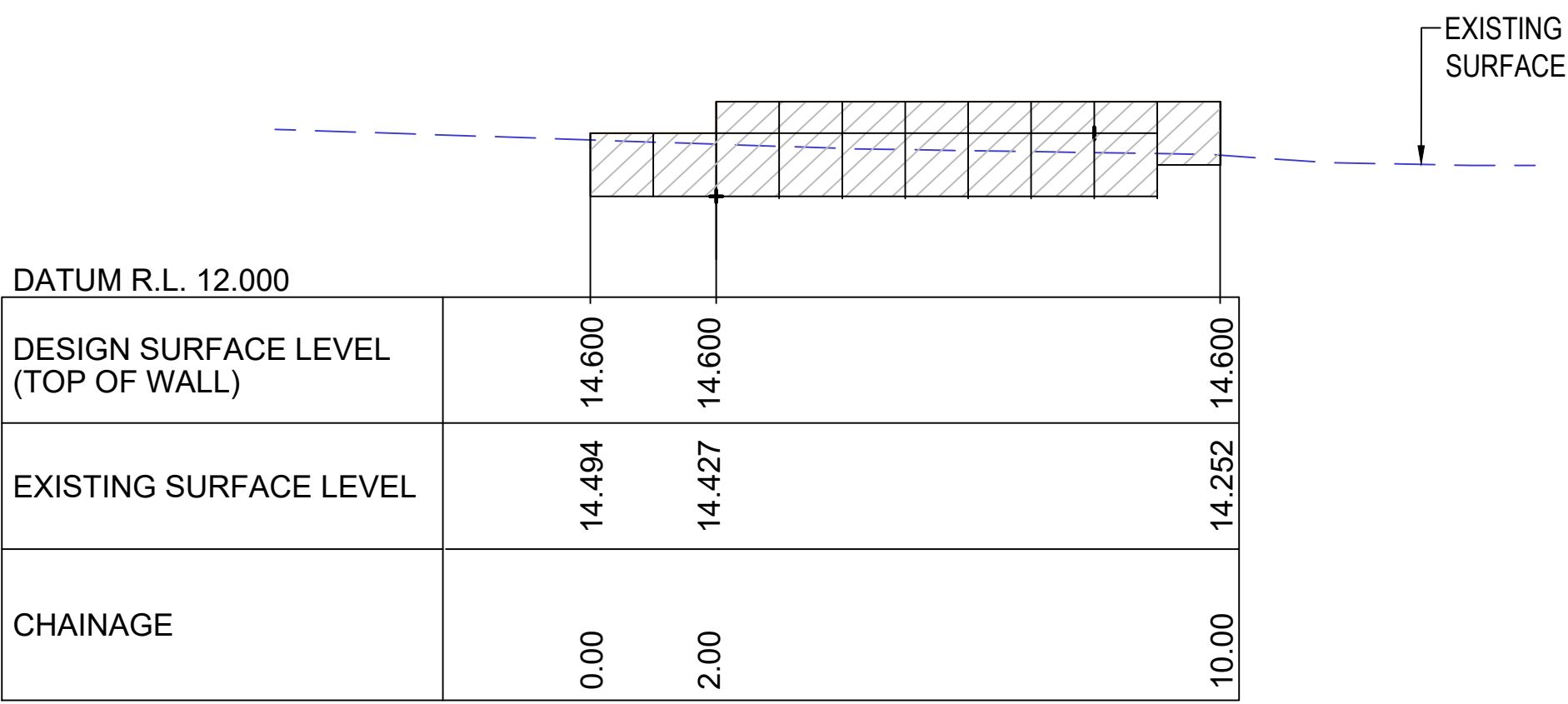
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	308045.376	6240385.426	16.352	1°45'31.77"			
TC	1.916	308045.435	6240387.341	16.338	1°45'31.77"			
IP 2	3.712	308045.490	6240389.138	16.313		R = -33.300	3.592	6°10'49.33"
CT	5.508	308045.352	6240390.930	16.277	355°34'42.44"			
TC	7.143	308045.225	6240392.560	16.234	355°34'42.44"			
IP 3	11.423	308044.831	6240397.666	16.097		R = -6.200	8.560	79°06'26.59"
CT	15.703	308039.743	6240398.243	15.955	276°28'15.85"			
IP 4	16.361	308039.089	6240398.317	15.933	276°28'15.85"			

							ARTC DRAWING No			EDMS No			EDMS REV				
REV	DATE	REVISION DETAILS			APPROVED	SCALE	SIZE	FOR CONSTRUCTION			PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1					
01	20.01.17	ACCEPTED FOR CONSTRUCTION			A.O'SHEA	NTS	A1				TITLE	BULK EARTHWORKS SETOUT TABLE SHEET 04 OF 04					
02	09.06.17	ACCEPTED FOR CONSTRUCTION RE-SUBMISSION			A. O'SHEA	DRAWN P.KHAIPRAPHAI		APPROVED DATE 20.01.17 A. O'SHEA			DRAWING No. PROJECT No. ZONE TYPE DISC NUMBER REV N01031 - 0000 - DRG - GEN - 0223 - 02						
						DESIGNED M.SAKIB											
						CHECKED W.DENG											

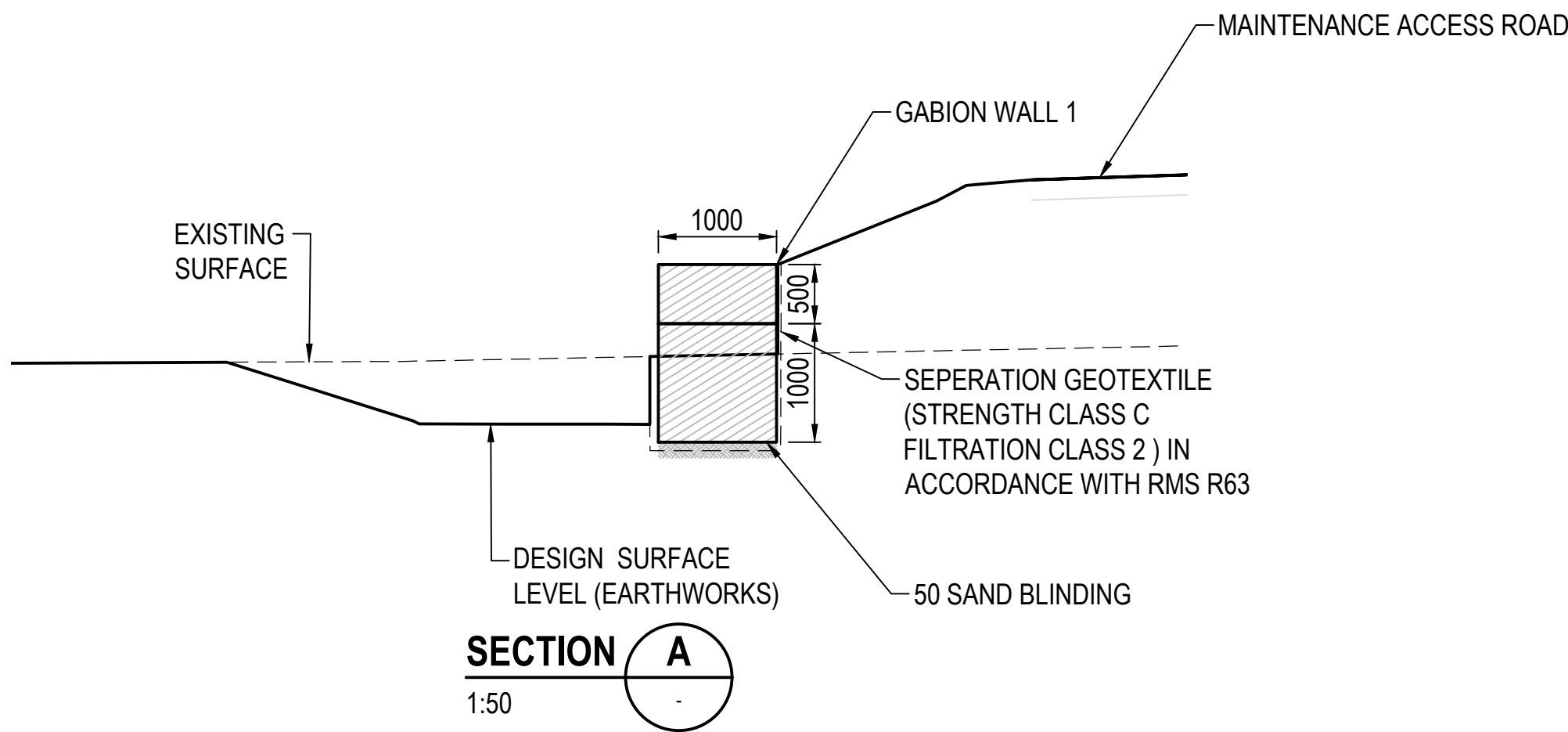


PLAN
1:50

SETOUT POINTS	
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SOP 2	E 308018.156 N 6240168.330



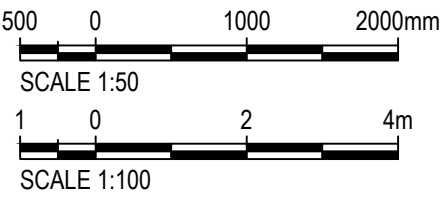
LONGITUDINAL SECTION ALONG GABION WALL 1
1:100



SECTION A
1:50

NOTES:

- FILL MATERIALS SHALL BE IN ACCORDANCE WITH EARTHWORKS SPECIFICATION.
- BASE PREPARATION FOR THE RETAINING WALL SHALL BE CONFIRMED BY THE GEOTECHNICAL ENGINEER ON SITE TO ACHIEVE A FOUNDATION ALLOWABLE BEARING CAPACITY OF 200KPa.
- SUPPLY AND INSTALLATION OF GABIONS SHALL BE AS PER RMS SPECIFICATION R55 AND IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.



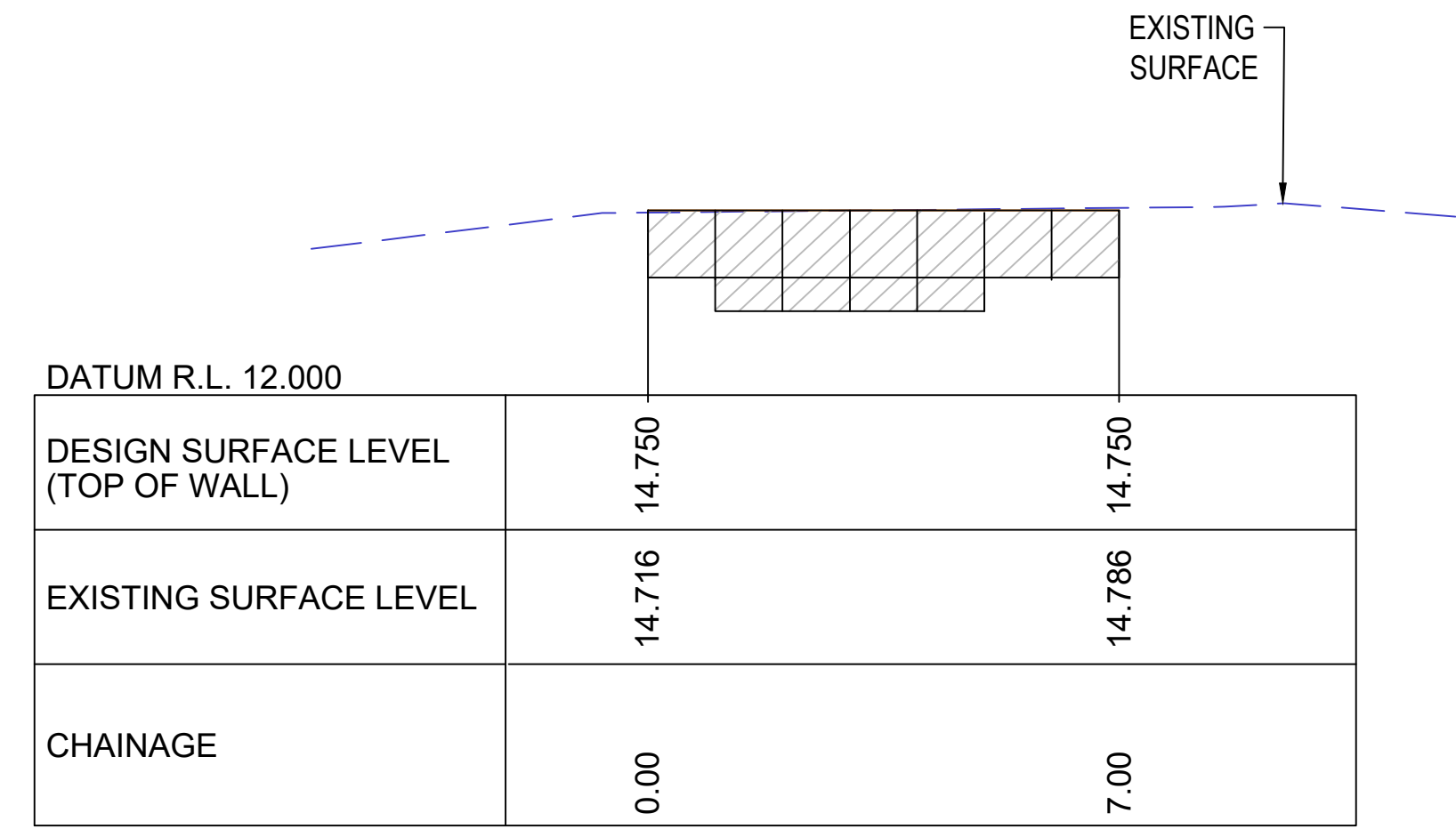
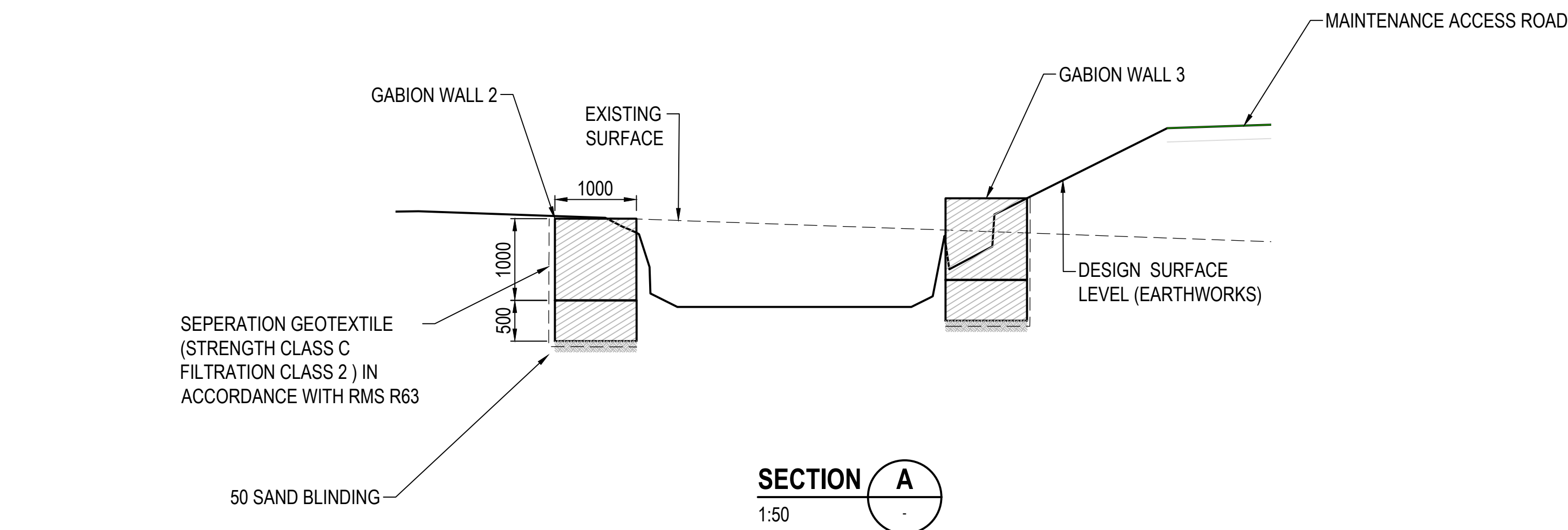
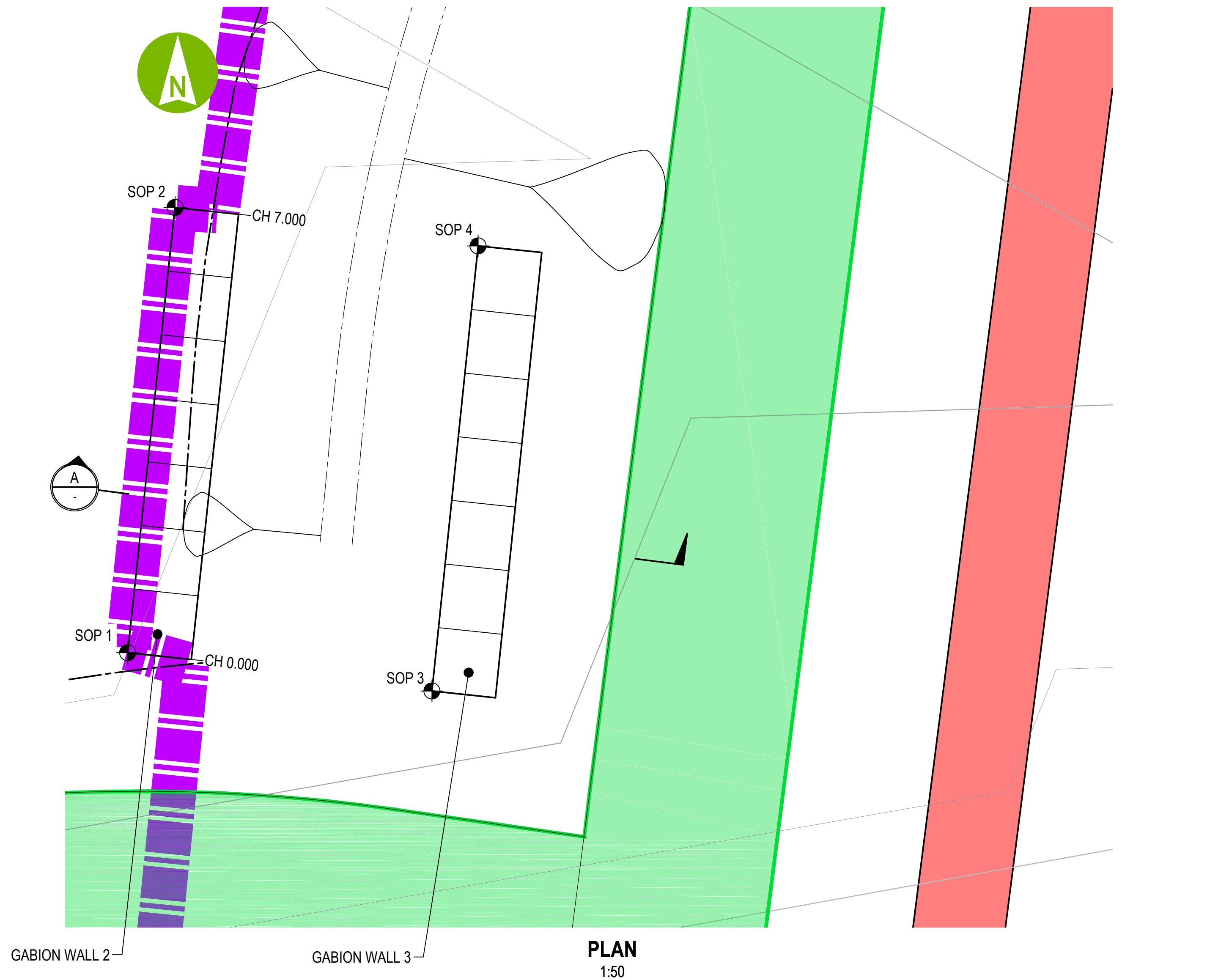
REV	DATE	REVISION DETAILS	APPROVED
01	18.12.17	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN A.LITTLE	
DESIGNED M.SAKIB	
CHECKED W.DENG	

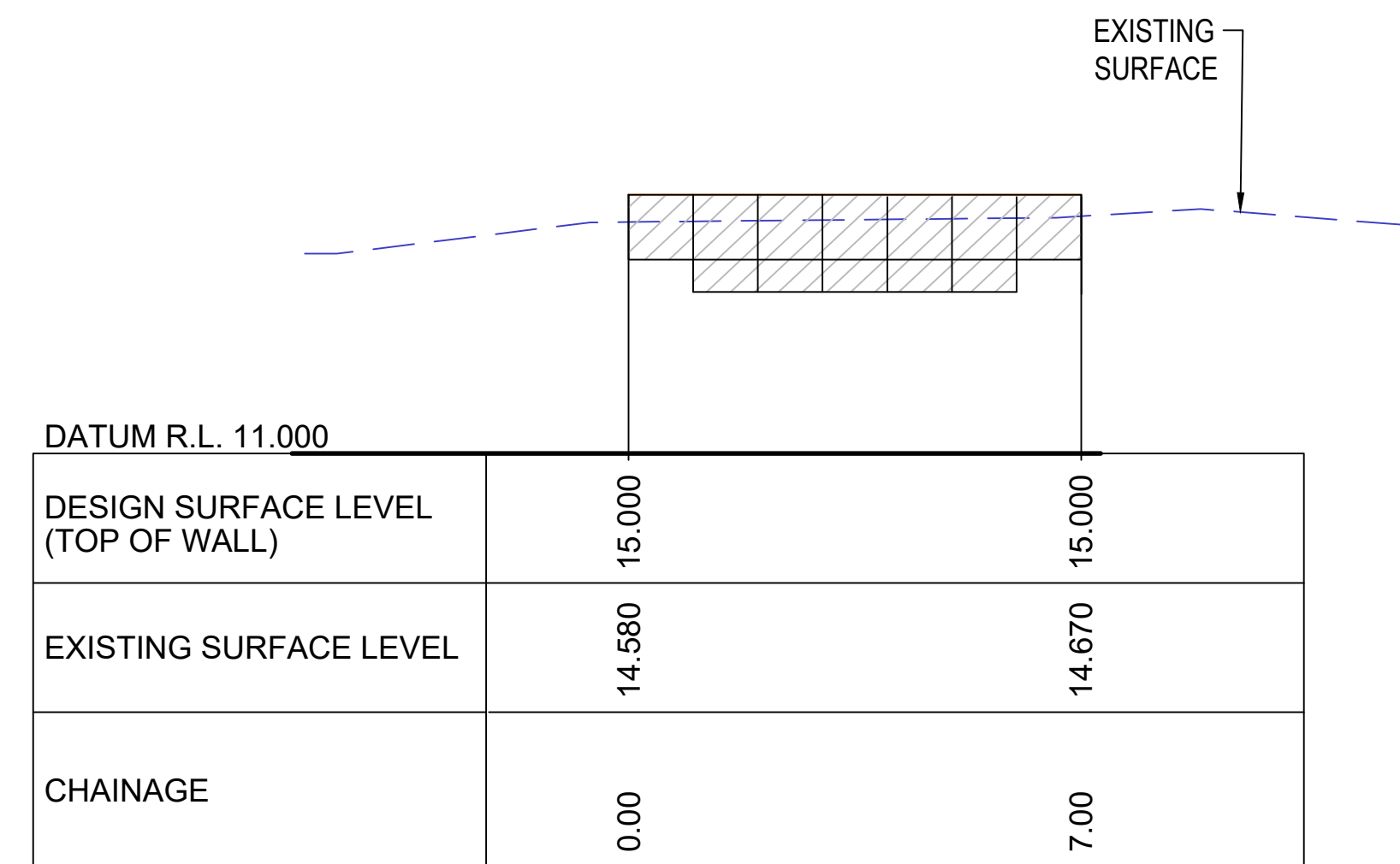
FOR CONSTRUCTION
APPROVED
M.SAKIB
DATE 18.12.17

ARTC DRAWING No		EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1		
TITLE	BULK EARTHWORKS GABION WALL 1 - DETAILS SHEET 01 OF 04		
DRAWING No.	PROJECT No.	ZONE	TYPE
N01031	-	PWD	- DRG - GEN -
NUMBER	REV		
0250	- 01		

Plot Date: 18/02/18 3:12 PM Office: AUS/0 Filename: C:\P\WORKSPACE\LEV\LITTLEANZ\PROJECTS\2017\MOI\031\PWD\DRG\GEN\025.DWG



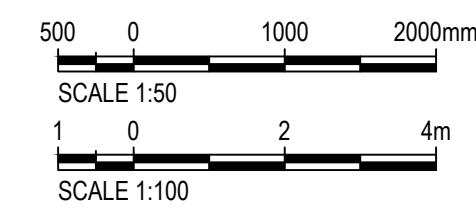
LONGITUDINAL SECTION ALONG GABION WALL 2
1:100



LONGITUDINAL SECTION ALONG GABION WALL 3
1:100

SETOUT POINTS	
SOP 1	E 308014.814 N 6240178.385
SOP 2	E 308015.554 N 6240185.346
SOP 3	E 308019.571 N 6240177.783
SOP 4	E 308020.298 N 6240184.745

- NOTES:
- FILL MATERIALS SHALL BE IN ACCORDANCE WITH EARTHWORKS SPECIFICATION.
 - BASE PREPARATION FOR THE RETAINING WALL SHALL BE CONFIRMED BY THE GEOTECHNICAL ENGINEER ON SITE TO ACHIEVE A FOUNDATION ALLOWABLE BEARING CAPACITY OF 200KPa.
 - SUPPLY AND INSTALLATION OF GABIONS SHALL BE AS PER RMS SPECIFICATION R55 AND IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.



REV	DATE	REVISION DETAILS	APPROVED
01	18.12.17	ACCEPTED FOR CONSTRUCTION	M.SAKIB

SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

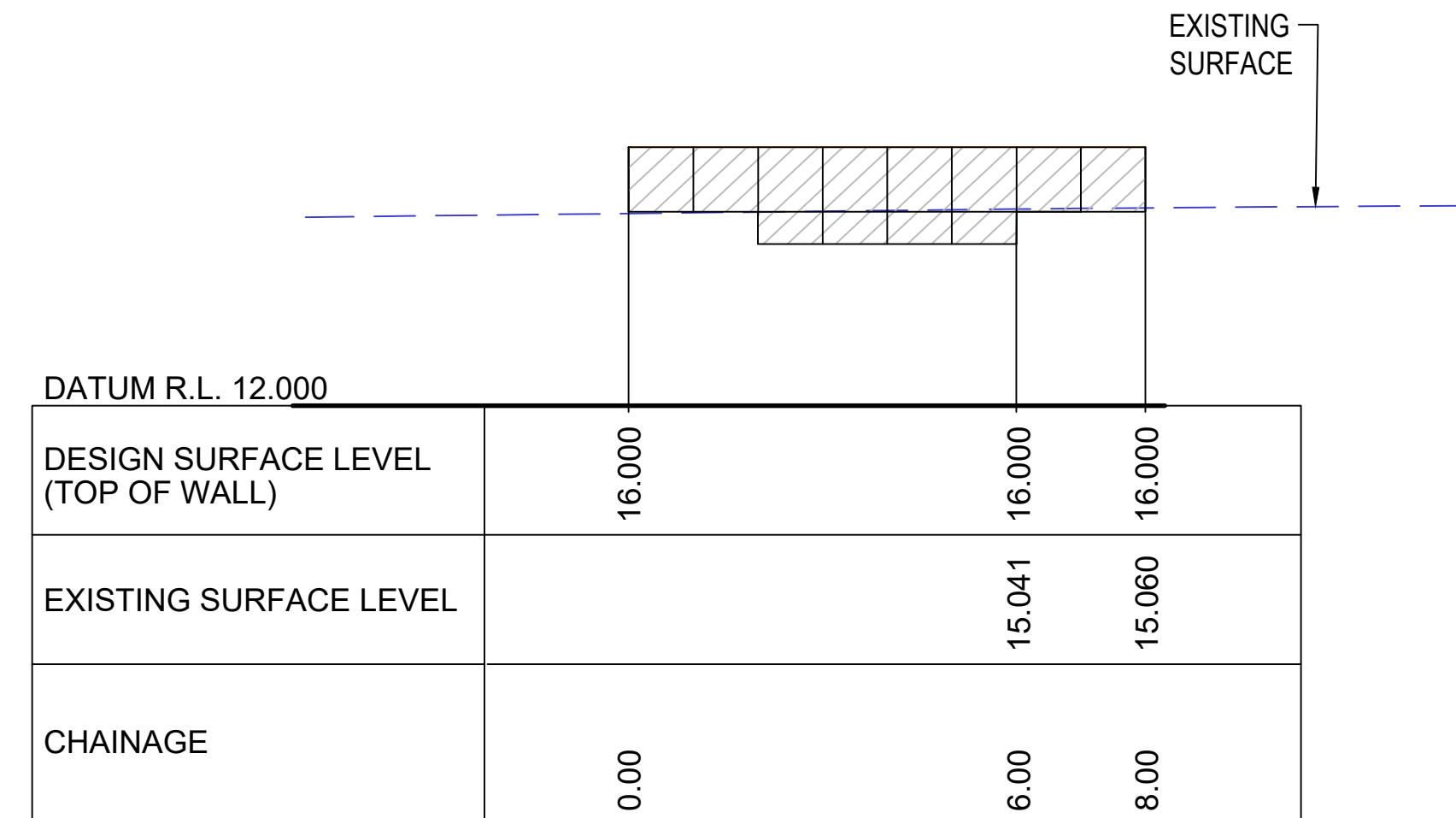
FOR CONSTRUCTION
APPROVED
DATE 18.12.17
M.SAKIB

ARTC DRAWING No		EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1		
TITLE	BULK EARTHWORKS GABION WALL 2 & 3 - DETAILS SHEET 02 OF 04		
DRAWING No.	PROJECT No.	ZONE	TYPE
N01031	-	PWD	- DRG - GEN -
NUMBER	REV	0251 - 01	

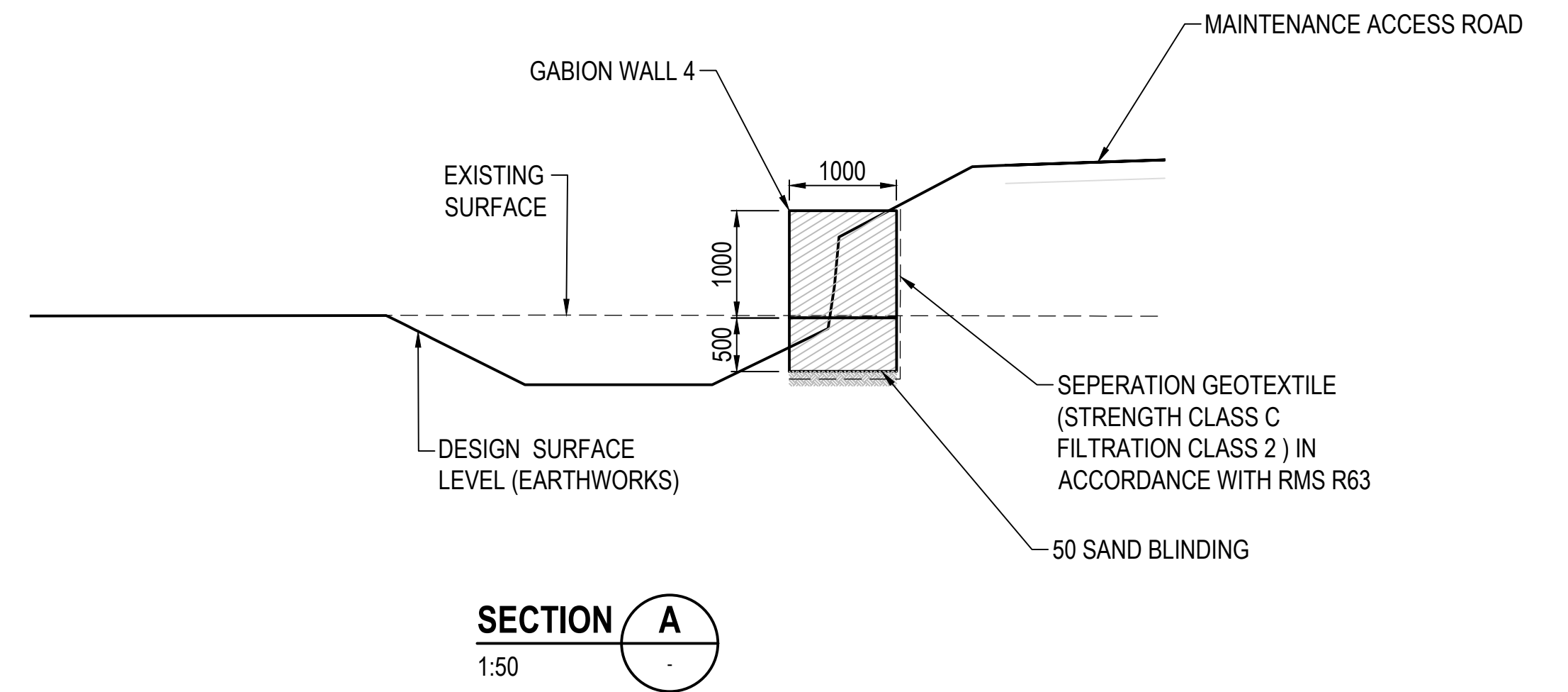


PLAN
1:50

SETOUT POINTS	
SOP 1	E 308031.315
	N 6240266.037
SOP 2	E 308032.088
	N 6240271.987
SOP 3	E 308031.284
	N 6240273.818



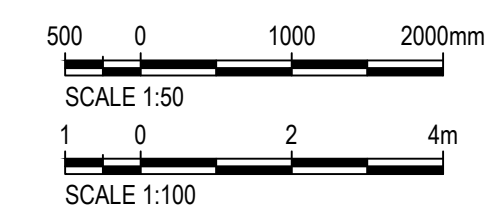
LONGITUDINAL SECTION ALONG GABION WALL 4
1:100



SECTION A
1:50

NOTES:

- FILL MATERIALS SHALL BE IN ACCORDANCE WITH EARTHWORKS SPECIFICATION.
- BASE PREPARATION FOR THE RETAINING WALL SHALL BE CONFIRMED BY THE GEOTECHNICAL ENGINEER ON SITE TO ACHIEVE A FOUNDATION ALLOWABLE BEARING CAPACITY OF 200KPa.
- SUPPLY AND INSTALLATION OF GABIONS SHALL BE AS PER RMS SPECIFICATION R55 AND IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.



REV	DATE	REVISION DETAILS	APPROVED
01	18.12.17	ACCEPTED FOR CONSTRUCTION	M.SAKIB

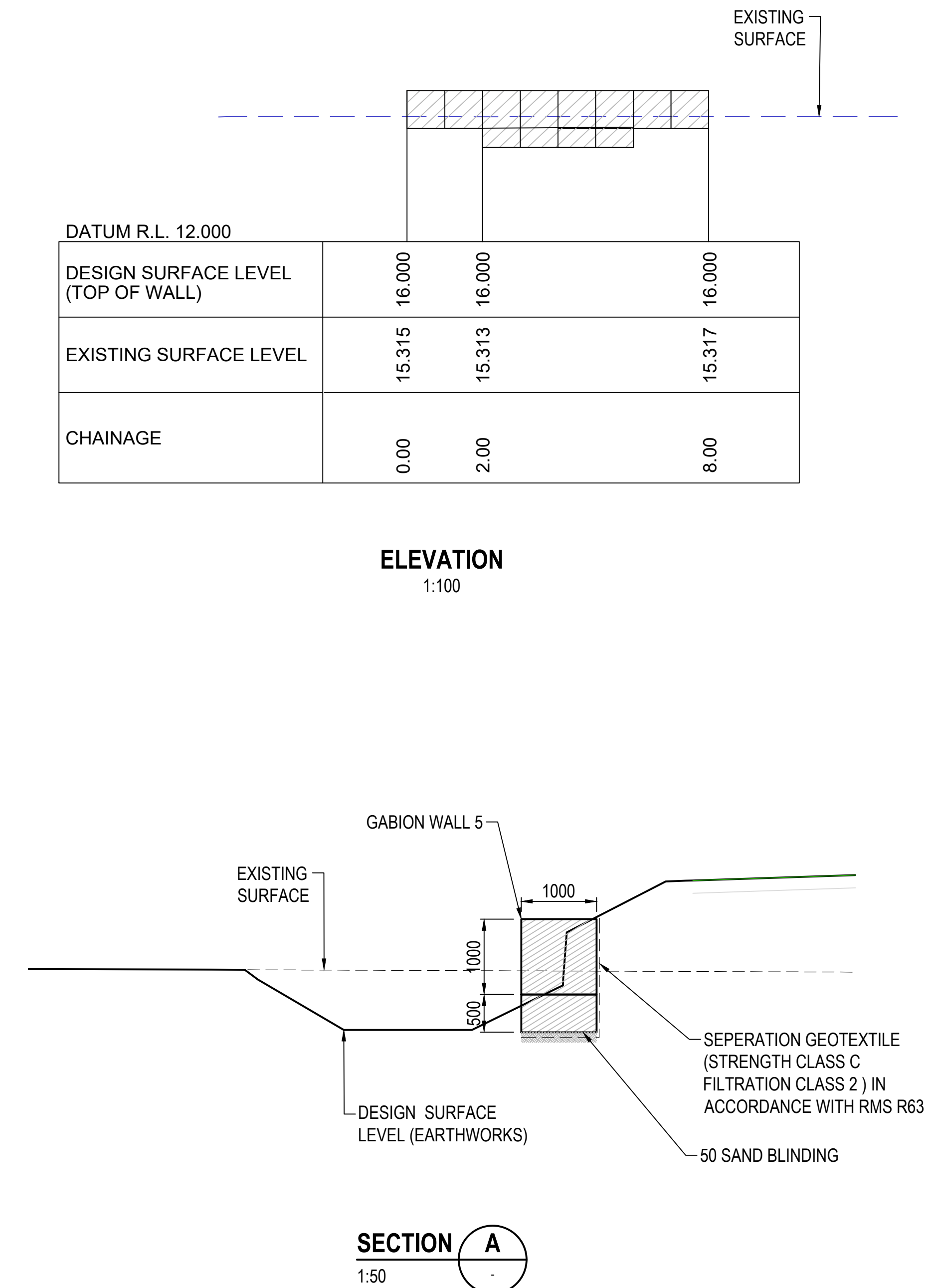
SCALE	SIZE
AS SHOWN	A1
DRAWN	A.LITTLE
DESIGNED	M.SAKIB
CHECKED	W.DENG

FOR CONSTRUCTION
APPROVED
M.SAKIB
DATE 18.12.17

ARTC DRAWING No		EDMS No	EDMS REV
PROJECT	MOOREBANK INTERMODAL TERMINAL DEVELOPMENT PACKAGE 1- RALP No.1		
TITLE	BULK EARTHWORKS GABION WALL 4 - DETAILS SHEET 03 OF 04		
DRAWING No.	PROJECT No.	ZONE	TYPE
N01031	-	PWD	- DRG - GEN -
NUMBER	REV		
0252	- 01		



SETOUT POINTS	
SOP 1	E 308033.226
	N 6240291.026
SOP 2	E 308034.386
	N 6240292.655
SOP 3	E 308035.160
	N 6240298.605



- NOTES:**
1. FILL MATERIALS SHALL BE IN ACCORDANCE WITH EARTHWORKS SPECIFICATION.
 2. BASE PREPARATION FOR THE RETAINING WALL SHALL BE CONFIRMED BY THE GEOTECHNICAL ENGINEER ON SITE TO ACHIEVE A FOUNDATION ALLOWABLE BEARING CAPACITY OF 200KPa.
 3. SUPPLY AND INSTALLATION OF GABIONS SHALL BE AS PER RMS SPECIFICATION R55 AND IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

