

PEOPLE WHO BUILD



CONSTRUCTION SOIL AND WATER SUB- MANAGEMENT PLAN

PROJECT NAME

**TWEED VALLEY HOSPITAL PROJECT -
MULTIDECK CARPARK (TVHP MDCP)**

PROJECT NO.

**CLIENT - HI21195
ADCO - 3548**

CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN



VERSION CONTROL

Rev. No.	Issue Date	Approved By	Position	Details
1	22/10/2021	[REDACTED]	Project Manager	Issued for Review

ADCO PROJECT PERSONNEL CONSULTATION AND SIGN OFF

[REDACTED SIGNATURE AREA]

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1.0 INTRODUCTION

PURPOSE

ADCO Constructions implement an integrated safety and environmental management system on all projects. Our Construction Soil and Water Management Plan (CSWMP) has been developed to support the Environmental Management Plan (EMP) and address the management of construction soils and water during construction in a method that complies with local laws EPA legislation and where relevant, the Development Consent issued under the SSD.

SCOPE OF WORKS

The multi-deck carpark project will be constructed within the main hospital precinct. The proposed site has been under Lendlease's control and as such the proposed site for the MDCP is addressed under the Construction Soil and Water Management Plan (CSWMP) for the main hospital project.

The carpark project will comprise of a two-level basement with an additional 5 levels above ground providing a total of 1074 carparking spaces for LHD staff and visitors. The facility will tie into the overall precinct scheme connected by covered walkways and landscape areas, providing a level of architectural continuity.

MANAGEMENT SYSTEM AND DOCUMENTATION

System documents which are referenced in this Plan or any associated Plan or Risk Register can be sourced by accessing the ADCO Constructions Intranet. (ADCO personnel only). Additional information can be obtained from the HSE Manager in each State.

ADCO PERSONNEL SIGN OFF

ADCO project personnel will be inducted into the requirements of this Plan and any associated Plan or Risk Register by the relevant Project Manager. Evidence of induction and discussion will be recorded within section '*ADCO Project Personnel Consultation and Sign off*'.

INFORMATION SUPPLY TO SUBCONTRACTORS

This Plan and any associated Plan or Risk Register (including any future revisions) will be supplied to subcontractors for review through the Aconex portal or another approved format.

PLAN REVIEW

This document will be reviewed on a periodic basis, not exceeding 6-monthly, to ensure its compliance to legislative and operational requirements of the project. Review and updates to this plan will initiate a change to the plan revision number and be recorded in the "Version Control" section of the document. Superseded Plans will be marked as such and will be located within the Management Plan Folder located in the Site Office.

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SITE FILING

A hard copy of this Plan and any associated Plan or Risk Register (including any future revisions) will be held on site.

PLAN ARCHIVING

Copies of this and superseded Project Management Plans and associated Risk Registers will also be maintained (archived) by ADCO for a period of at least 24 months following an update completion.

2.0 PRINCIPAL CONTRACTORS DETAILS

Name	State	Address	ABN
ADCO Constructions Pty Ltd	Address	Level 5, 7 Bay Street	46 001 044 391
	Suburb	Southport	
	State	Queensland	
	Phone	(07) 5577 0900	

3.0 PROJECT INFORMATION

Project Description	Carparking facility for the new Tweed Valley Hospital. The carpark will comprise of a 2-level basement with 5-levels above ground level and a future proofed structure for an additional 2 levels (Level 6 and 7)
Project Address	771 Cudgen Road, Kingscliff, NSW, 2487
Working Hours	Monday – Friday: 07:00 am – 06:00 pm (<i>application for early start possible via approval with HI / DPIE</i>) Saturday – 08:00am – 01:00pm Sunday / Public Holiday – Closed
24hr Emergency Contact	██████████ (Site Manager) – ██████████

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SITE VIEW



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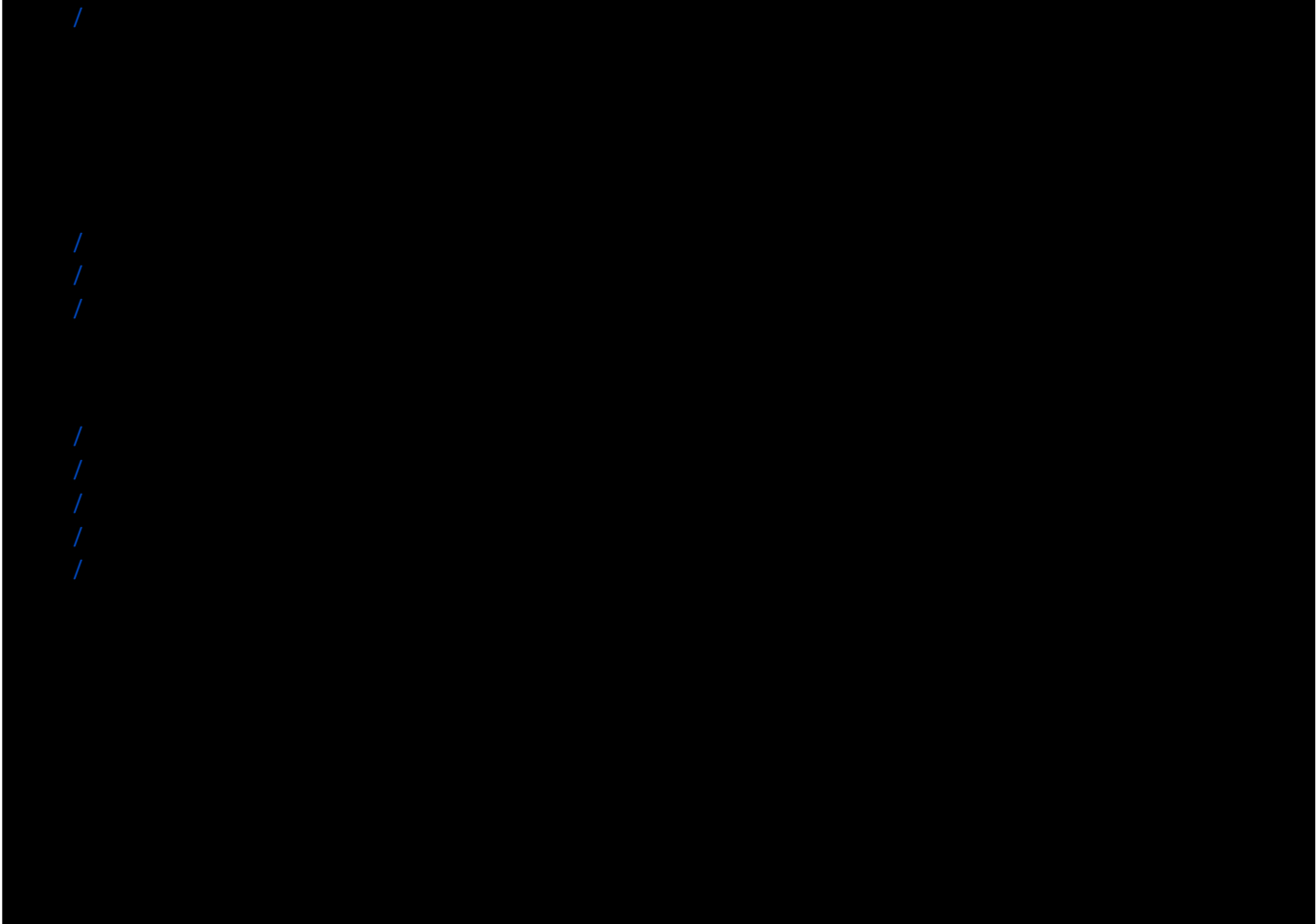


4.0 SITE EROSION AND SEDIMENT CONTROL

SEDIMENT CONTROL AND WATER QUALITY

To control the risk of erosion or sediment impacting on the natural environment, ADCO will:

- / Install erosion and sediment control devices (in accordance with the below) to mitigate and manage the impact of excess soils on nearby roads, surface water quality, air quality, fauna and flora.
- / Erosion and sedimentation controls to be progressively installed in accordance with the design plans.
- / Erosion and sediment controls will be maintained and monitored on a weekly basis or immediately following a rainfall event. Ensure that the handling and placement of excavated material is in accordance with WMS, and EPA requirements etc.
- / Complete daily inspections of stockpiles, excavated areas and control methods for erosion and sediment management.



MITIGATION STRATEGIES

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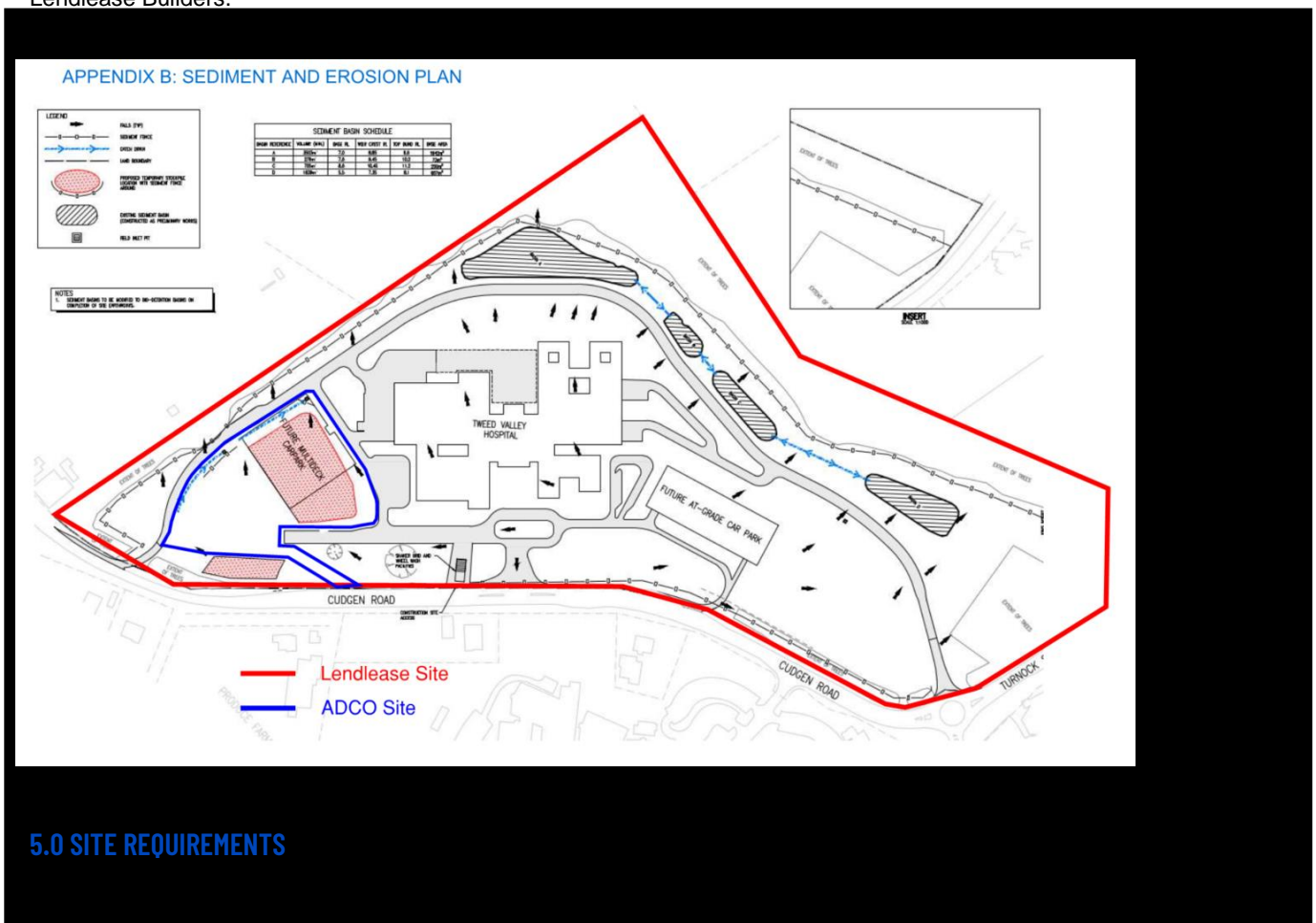
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Upon weather events warnings, the Site Manager shall complete an inspection on sediment and erosion controls around the site to ensure proper establishment prior to event. Should any areas require adjustment, the Site Manager will immediately co-ordinate with the incumbent civil contractor and complete any adjustments or future proofing. Plant and equipment shall be appropriately stored to ensure ease of access following conclusion of such events with internal access roads and walkways graded with CBR material to ensure access is available during inclement weather.

ADCO have a site establishment and sediment / erosion control strategy that addresses the confines of the ADCO site only. Lendlease Builders remain responsible for site wide management and monitoring as defined under Tweed Valley Hospital – Stage 2 Management Plan – Soil and Water 11/08/2020, Revision No:3.3.

Inset below identifies the location of the Multideck Carpark (ADCO) and the extent of the main Hospital project (LLB). As depicted, ADCO's site remains internal to the main Hospital project site which is under control of Lendlease Builders.



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Environmental Management On all projects, ADCO will manage construction activities and operations conducted in a manner which, so far as is practicable, minimises any impact upon natural or heritage protected environments. In general, construction activities will seek to:

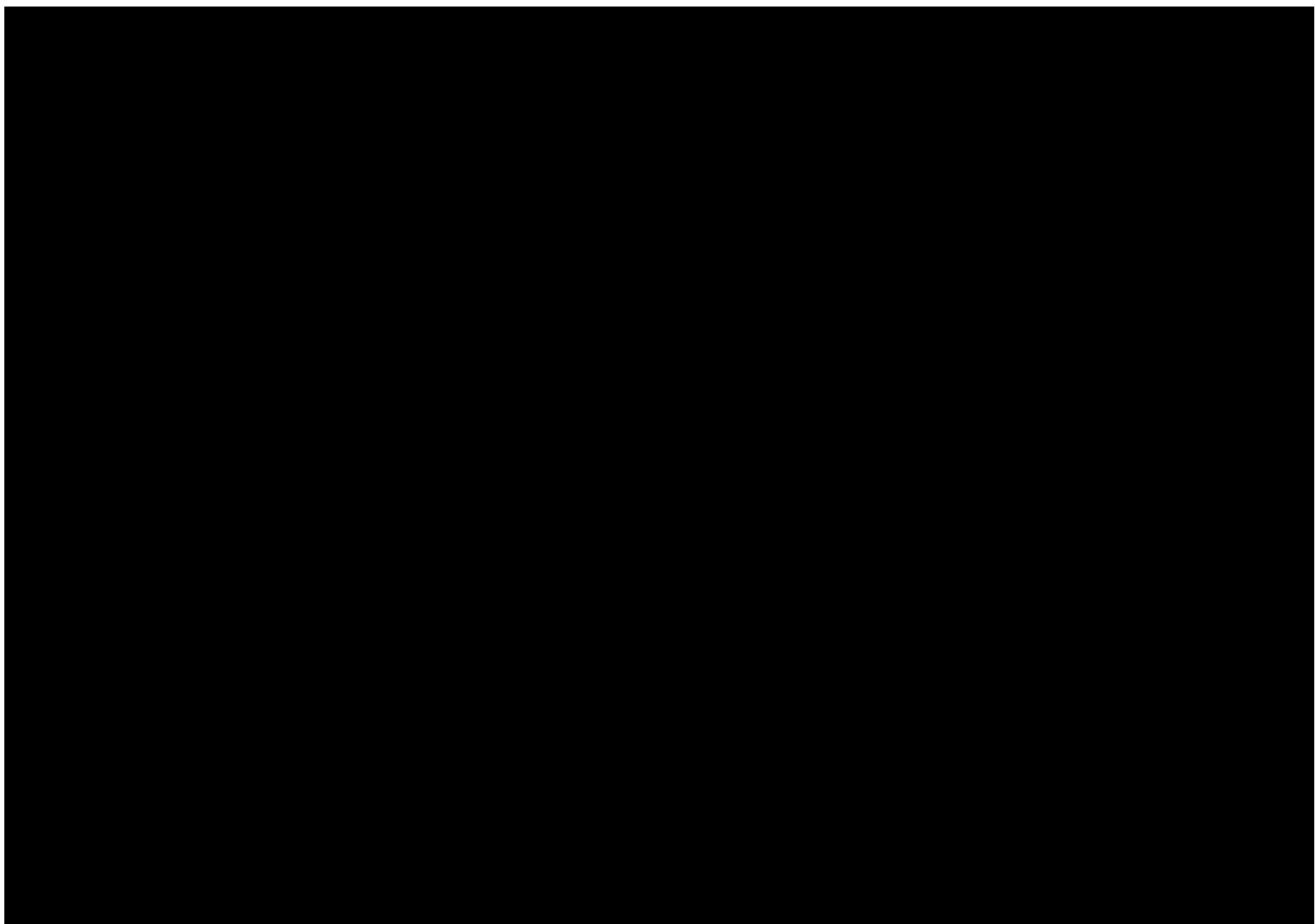
Minimise land disturbance.

Where required (e.g. DA conditions), restore the area to pre-disturbed conditions.

Protect flora and fauna ecosystems.

Implement controls to prevent the pollution of surface and ground water quality.

Implement air quality control measures (e.g. dust suppression, contained work area).



Work activities are monitored for compliance through the Weekly Site Inspection.

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Fauna and
Flora
Management

Where fauna and flora minimisation is a requirement of project compliance, work activities are completed with consideration and protection of the same.

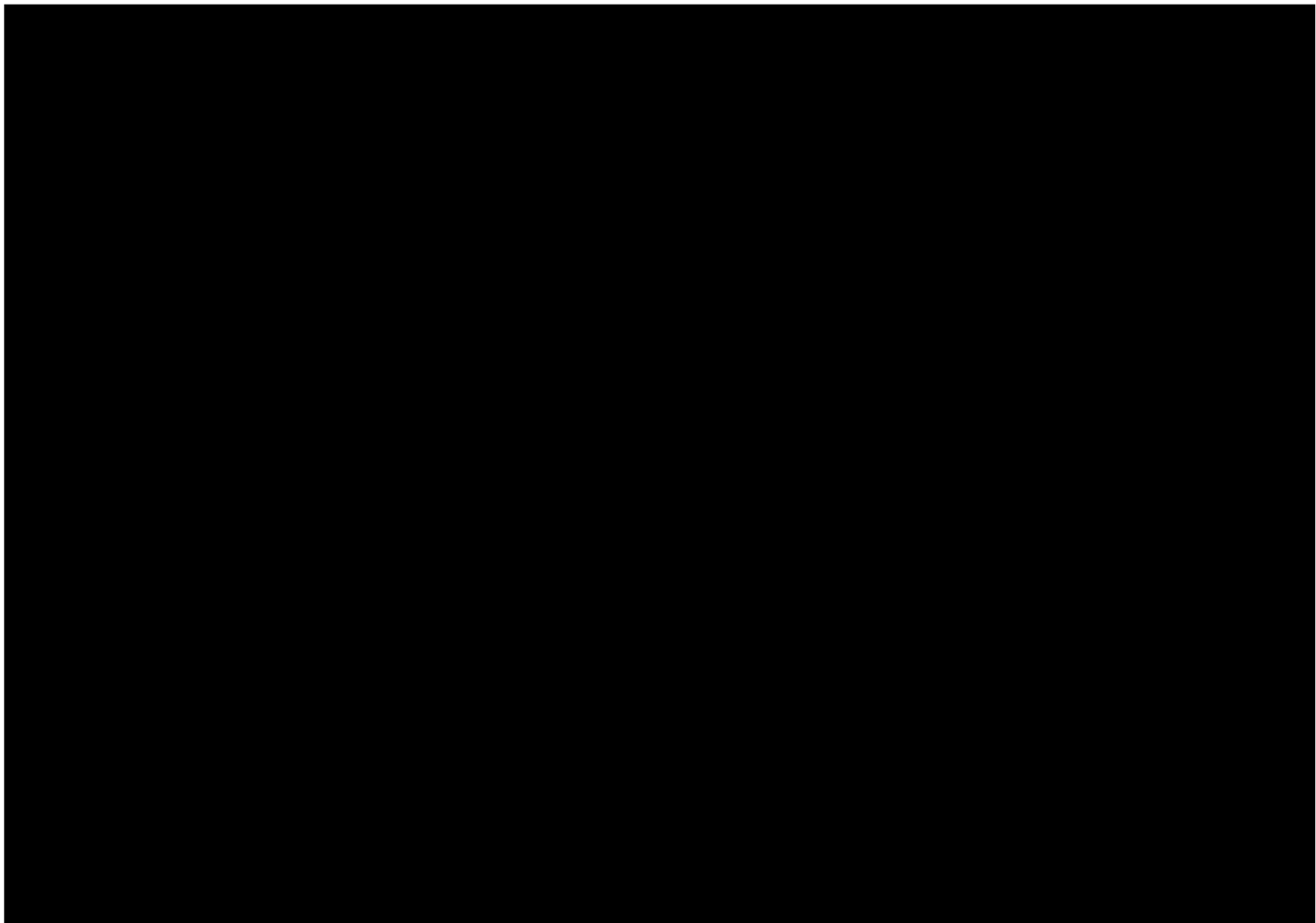
Management requirements are included in the site induction program.

Work activities are monitored for compliance through the Weekly Site Inspection.

Air / Water
and Vibration
Management

Work activities are completed with nil to minimal impact on air and water quality in and around the site.

Mitigation strategies (e.g. dust suppression, nominated trade waste wash off areas and refuelling locations) are identified for the project and per work activity (i.e. SWMS).



System has been identified to carry out the works

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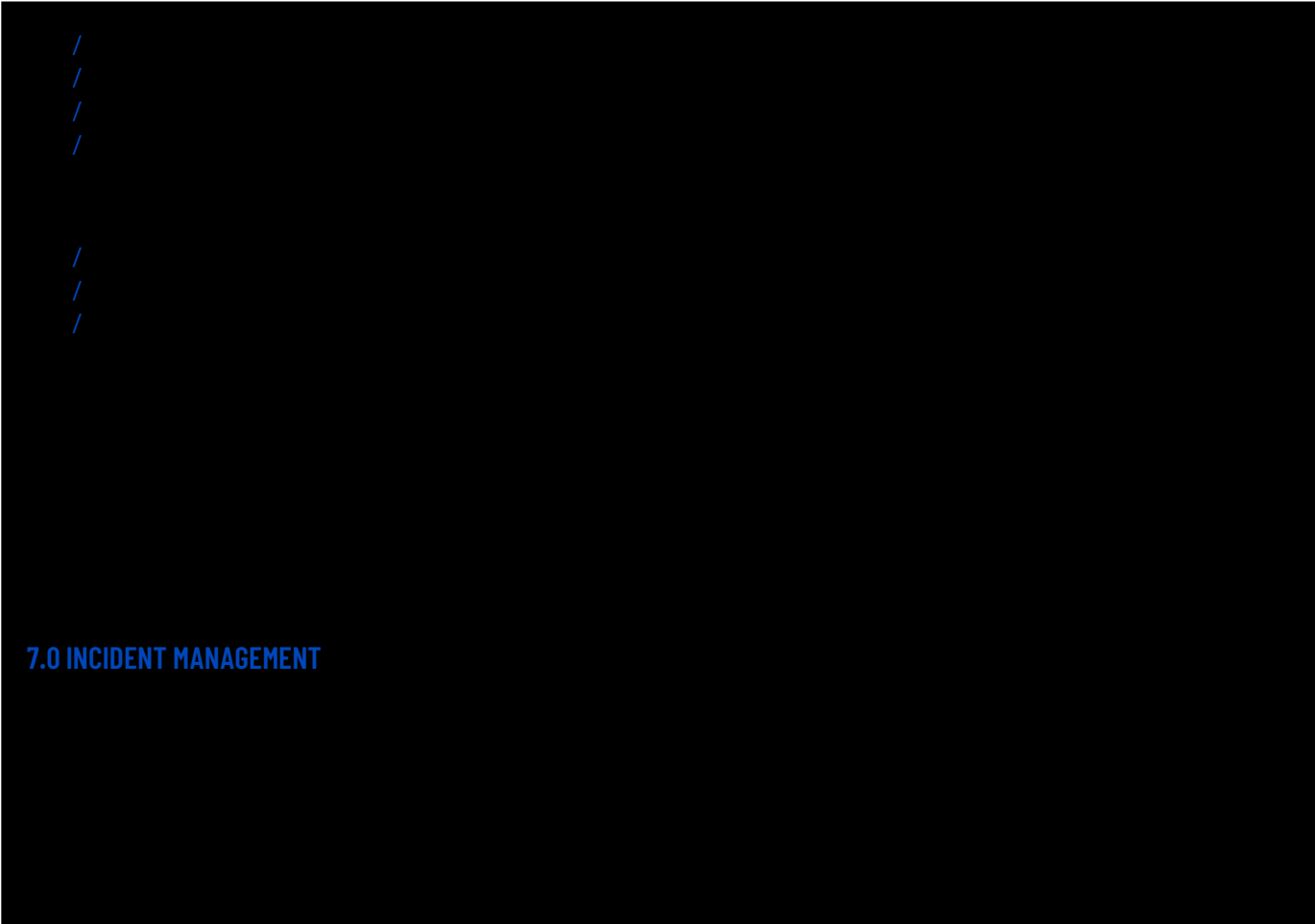
6.0 LEGAL AND OTHER REQUIREMENTS

COMPLIANCE

Risks, hazards and controls on this project will be implemented in accordance with legislation, Codes of Practice and Standards applicable in this State. Legislation, Codes of Practice and Standards which will be applied to this project are noted in the Environmental Risk Register.

IDENTIFICATION

The identification and assessment of environmental risks (aspects and impacts) that could eventuate during construction of the project will be completed by ADCO at all the following project stages:



7.0 INCIDENT MANAGEMENT

ADCO shall notify TSA immediately following any site incidents and advise upon corrective actions taken. Whatapp to be used as requested by HI.

MANAGEMENT

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All incidents will be recorded by the Site Manager or HSE Adviser.

- / Environmental incidents will be recorded in the Incident Report located on HammerTech.

INVESTIGATION

Incidents recorded in an Incident Report must be investigated by the Site Manager and HSE Adviser. The investigation is intended to:

- / Collate information / documentation associated with the incident.
- / Identify non-conformances leading to the incident.
- / Identify corrective and preventative action to mitigate recurrence of the incident.
- / The extent to which additional positions (e.g. Project Manager, HSE Manager, Construction Manager) are involved in the investigation of an incident is dependent on the severity and complexity of the

8.0 MONITORING AND REVIEW

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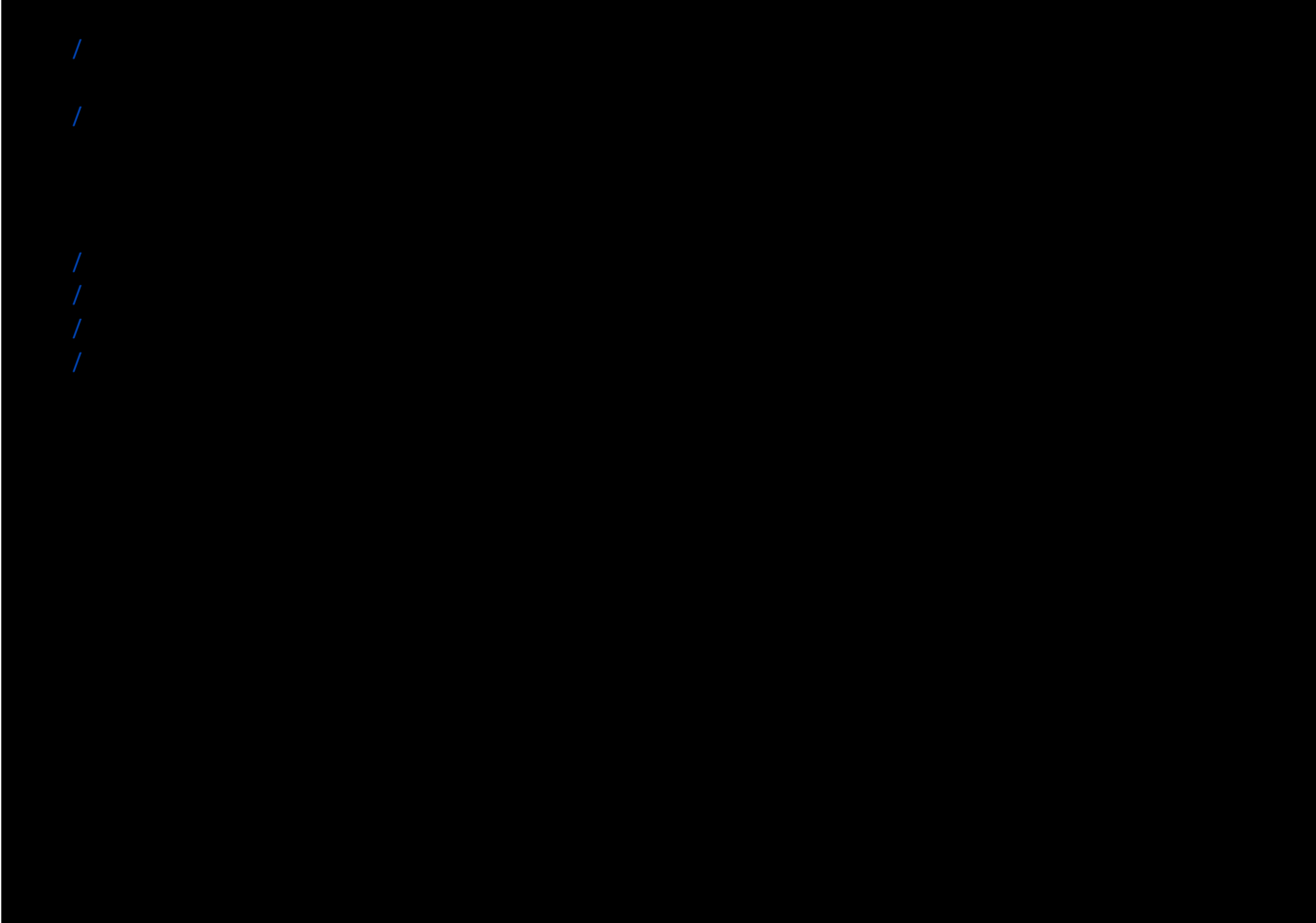
REVIEW

Confirmation of achievement of project targets is reviewed through:

- / Project audits.
- / Other internal or external [redacted] client, FSC).
- / HammerTech Reporting
- / A reduction in incident and non-conformances across the State and nationally.

INSPECTIONS

ADCO will complete daily and weekly workplace inspections to review and confirm compliance to approved work practices and controls.

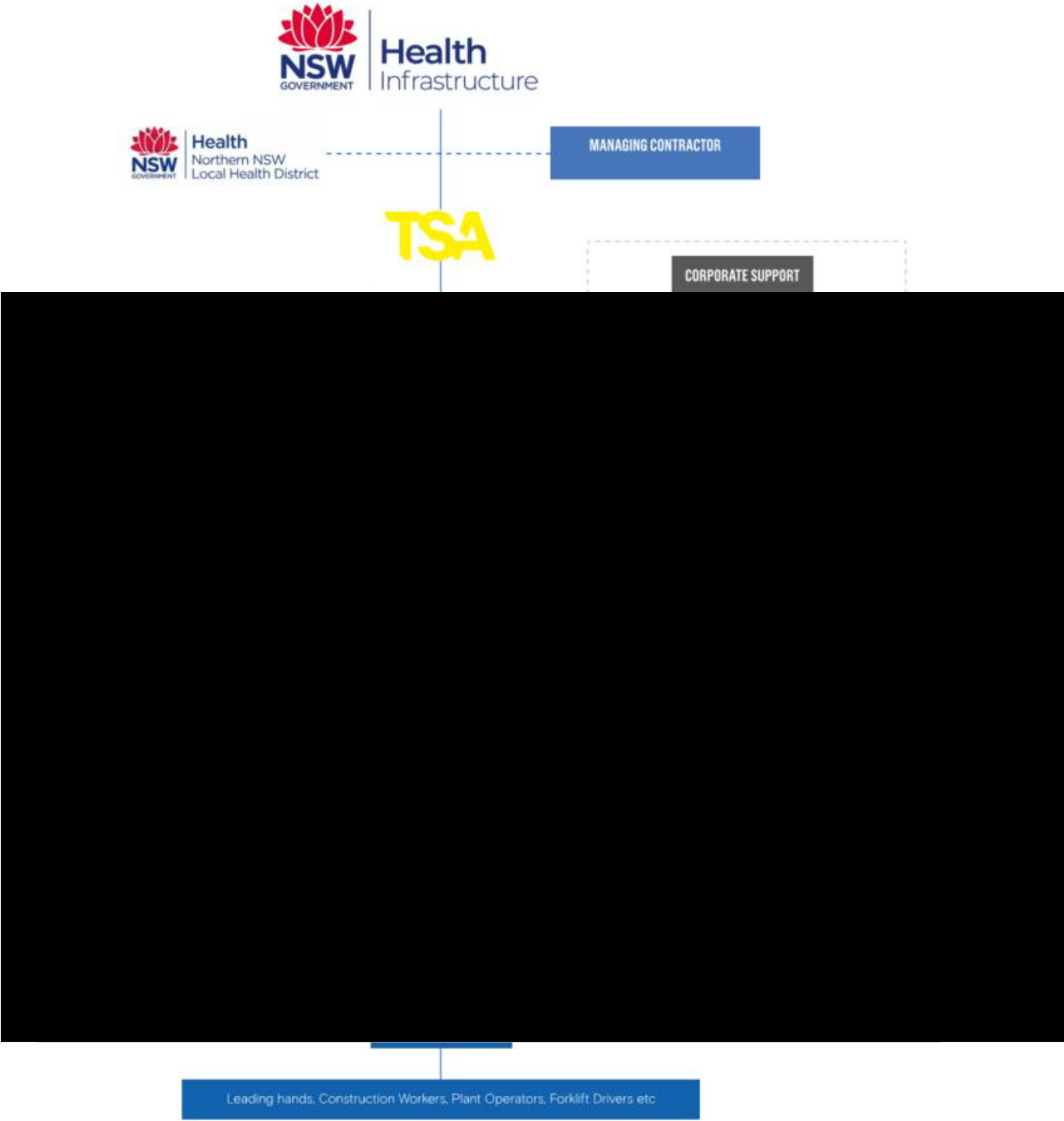


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9.0 PROJECT MANAGEMENT STRUCTURE



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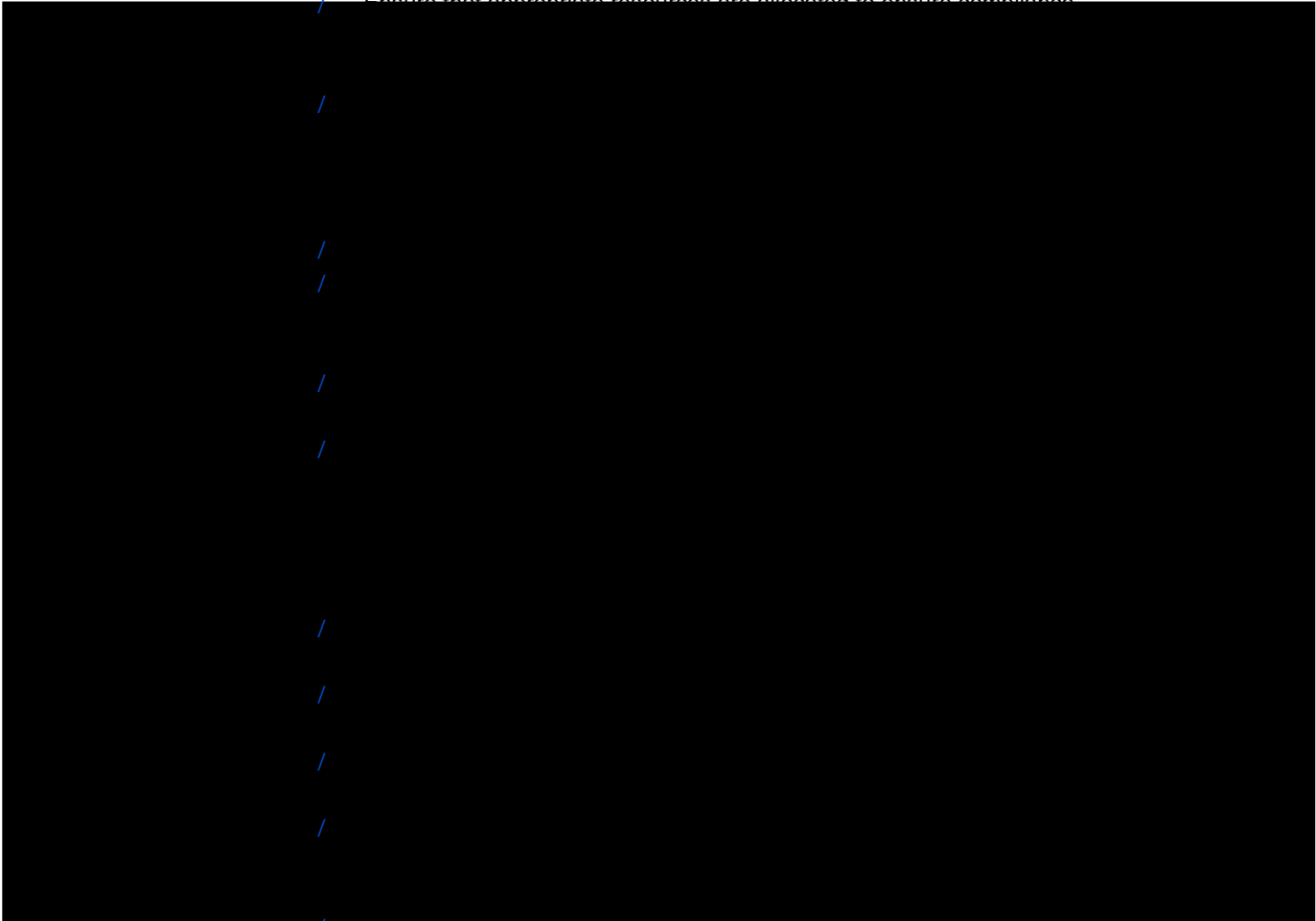
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10.0 POSITION DESCRIPTION

Chief Executive Officer Provide commitment, leadership and direction in the development, implementation and management of the Corporate Management Systems, including but not limited to:

- / Development of a corporate strategic plan incorporating safety, environment, quality and health management risks and controls.
- / An assessment of the effectiveness of the Corporate Management Systems. (e.g. review of incidents and non-conformances to identify non-conformance trends and areas of improvement to the Corporate Management Systems.)
- / Full management obligations including continual improvement of the Corporate Safety, Environment and Quality Management Systems.
- / Ensure that appropriate resources are allocated to ensure compliance



- / Project team personnel have received training to fulfil their duties and responsibilities with the Corporate Management Systems.
- / A review of the safety, environment, quality and health management performance of the State is completed regularly to identify non-conformances, trends and areas of improvement.

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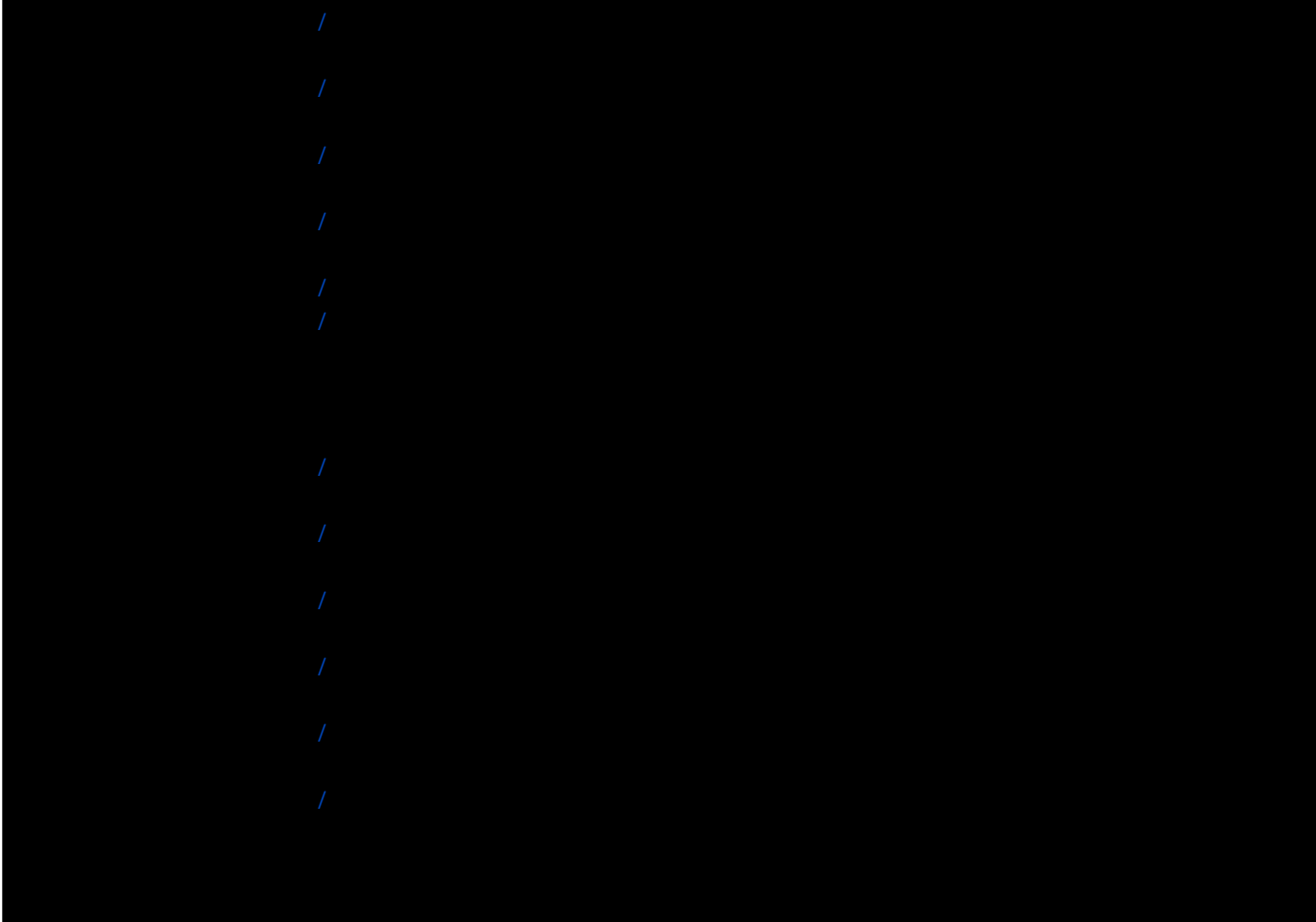
Health, Safety & Environment (HSE) Manager or Senior HSE Adviser

Ensure that:

- / Legislative requirements for HSE management are implemented and maintained on project sites.
- / The requirements of the Corporate HSE Management System are implemented on project sites.
- / Where required, project HSE requirements and risks are identified during project tender and/or trade tender processes and incorporated into project management plans.
- / Reviews of HSE performance are completed on all projects to ensure compliance with legislative and corporate requirements.

Project Manager

Ensure that:



- / HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

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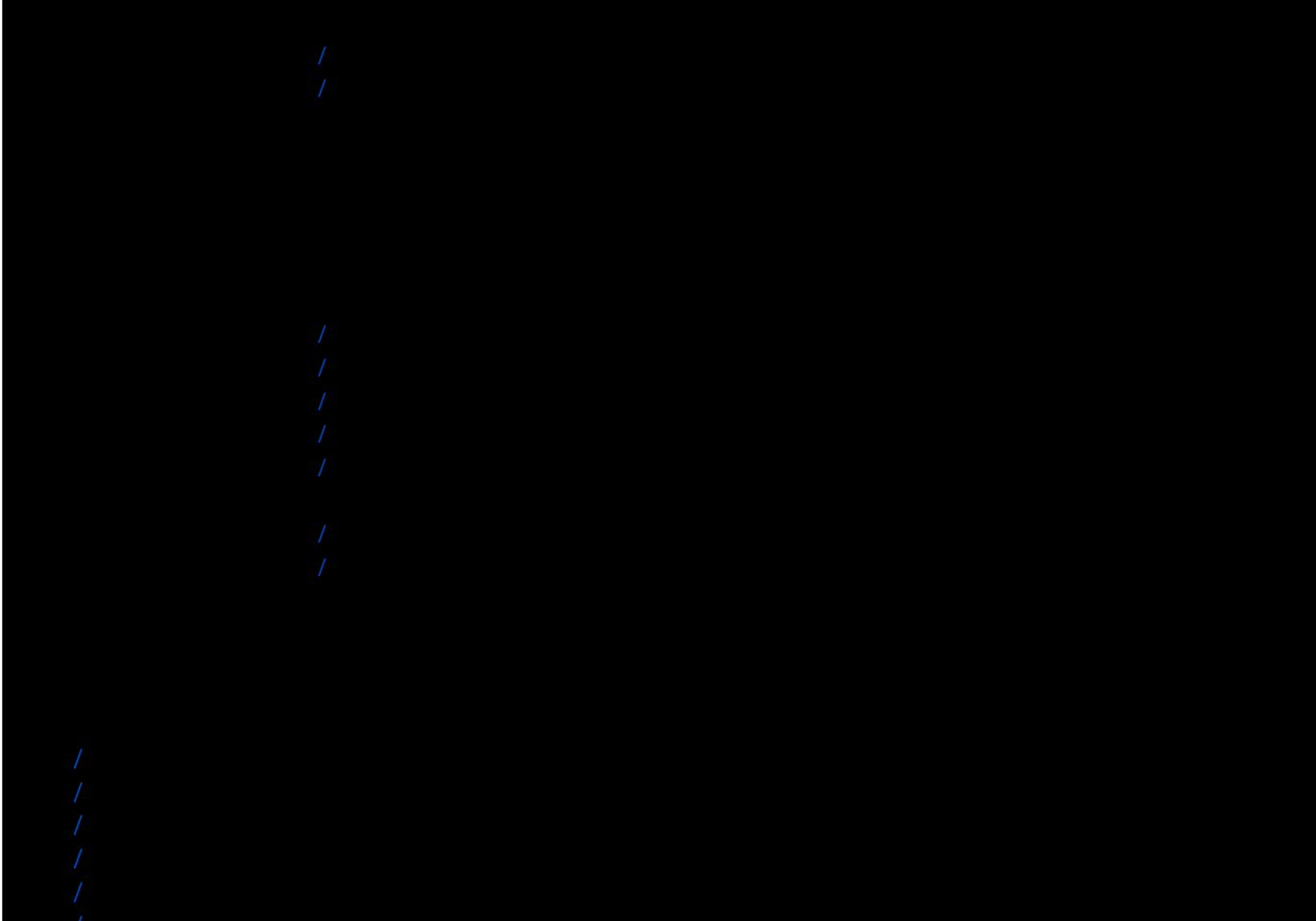


HSE Adviser Ensure that:

- / Legislative requirements for HSE management are implemented and maintained on project sites.
- / The requirements of the Corporate Management Systems are implemented on project sites.
- / HSE performance on the project is reviewed and non-compliant activities by employees and subcontractors are addressed.

Health and Safety Representative (HSR) In general:

- / Participate in risk and hazard identification and control.
- / Participate in incident investigations and management.
- / Participate in workplace inspections (e.g. with the Committee, with the



- / Environmental Protection Regulation 1987
- / Environmental Protection (Noise) Regulations 1997
- / Contaminated Sites Act 2003
- / Contaminated Sites Regulations 2006

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Policy

- / Environmental Protection (Waste Management) Regulation 2000
- / Environmental Protection (Air) Policy 2008
- / Environmental Protection (Waste Management) Policy 2000
- / Plant Protection Regula[REDACTED]
- / Environmental Protection (Noise) Policy 2008
- / Nature Conservation Act 1992
- / Environmental Protection (Water) Policy 2009

Cultural Heritage

- / The Native Title Act 1993 (Cth)
- / Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)
- / [REDACTED]

11.0 REFERENCE DOCUMENTS

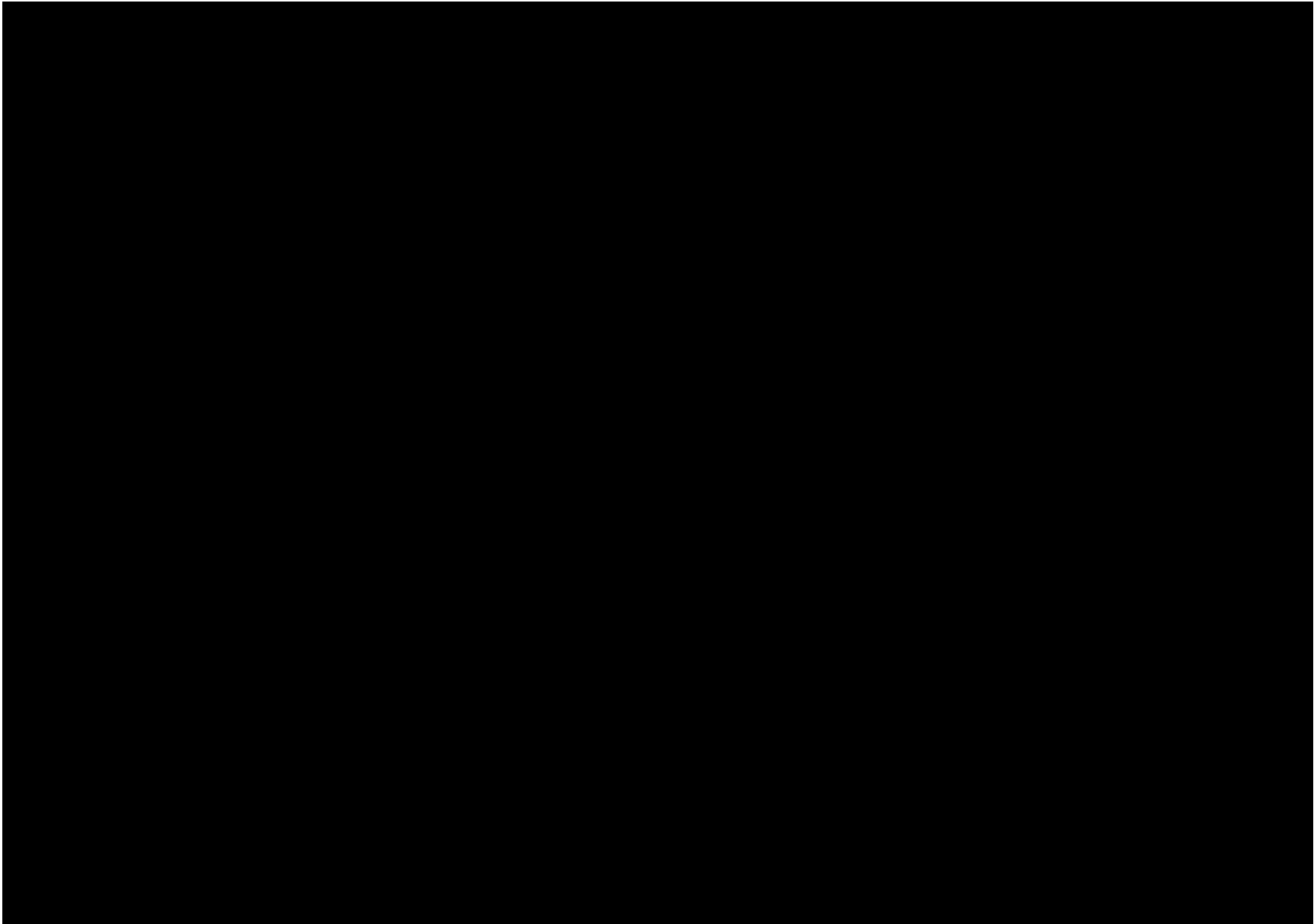
As the ADCO site is contained within the main hospital precinct, conditions of the approved Lendlease Builders Construction Soil and Water Management Plan remains relevant and must be adopted for all subject works on site.

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12.0 ANNEXURE A – EROSION AND SEDIMENT CONTROL PLANS



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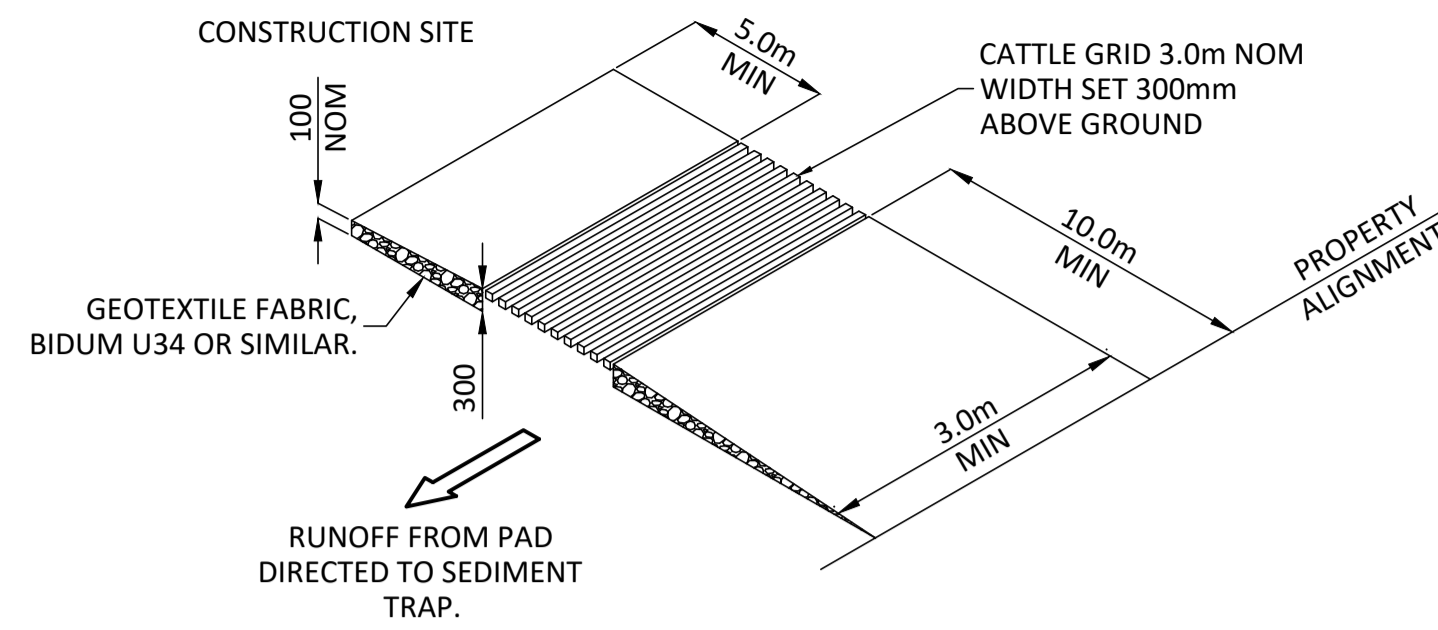
EROSION & SEDIMENTATION CONTROL NOTES

1. GENERAL
- 1.0. REFER IECA (AUST) VOLUME 2 FOR TYPICAL CONSTRUCTION PHASE CONTROLS
2. TOPSOIL
- 2.0. STRIP & STOCKPILE AVAILABLE TOPSOIL (ASSUMED AVERAGE DEPTH 150mm) FROM DISTURBED AREAS PRIOR TO BULK EARTHWORKS. GRADE BULK EARTHWORKS SURFACE LEVEL EVENLY TO ENSURE SITE IS FREE DRAINING.
- 2.1. MINIMUM SLOPE ACROSS SITE TO BE 0.5%.
- 2.2. ALL FOOTPATHS, BATTERS & EARTHWORKS AFFECTED AREAS ARE TO BE TOPSOILED TO A MINIMUM DEPTH OF 100mm (LIGHTLY COMPACTED) & TURFED WHERE SPECIFIED.
- 2.3. SEDIMENT FENCES TO BE PLACED AS SHOWN. SEDIMENT FENCES TO BE REPAIRED & EXCESSIVE SEDIMENT DEPOSITS SHALL BE REMOVED ONCE CAPACITY FALLS BELOW 75%
3. SEDIMENT FENCES
- 3.1. SEDIMENT FENCES TO BE REPAIRED AS REQUIRED & EXCESSIVE SEDIMENT DEPOSITS SHOULD BE REMOVED.
- 3.2. IN THE EVENT OF WET WEATHER, INSTALL KERB INLETS FILTER WITH GRAVEL RANGING FROM 50mm TO 75mm IN SIZE. IF THE GRAVEL FILTER BECOMES CLOGGED WITH SEDIMENT DURING ITS USE, THE GRAVEL MUST BE PULLED AWAY FROM THE MESH & CLEANED OR REPLACED.
- 3.3. REGULAR WEEKLY CHECKS OF SILT FENCES IS TO BE MADE ALONG WITH A CHECK AFTER ANY SIGNIFICANT STORM EVENT TO ENSURE INTEGRITY & PERFORMANCE.
4. TURFING
- 4.1. PROVIDE TURFING TO ENTIRE WIDTH OF ALL SWALES, FOOTPATHS & 1 in 4 CUT & FILL BATTERS.
- 4.2. FOOTPATH BATTERS ARE TO BE STABILISED WITH TOPSOIL (& TURFED) AS SOON AS PRACTICAL AFTER THE BATTERS HAVE BEEN COMPLETED. REMAINING EXPOSED AREAS ON LOTS ARE TO BE SEEDED & MULCHED (EG. HYDROMULCH).
5. DURING CONSTRUCTION SEQUENCE
- 5.1. TOPSOIL STOCKPILE SITE TO HAVE A SEDIMENTATION FENCE CONSTRUCTED ON DOWNSTREAM SIDE.
- 5.2. SEDIMENTATION FENCES TO BE PLACED AS SHOWN.
- 5.3. REGULARLY INSPECT BANKS & REPAIR ANY SLUMPS, WHEEL TRACK DAMAGE OR LOSS OF FREEBOARD
- 5.4. REMOVE SEDIMENT TO AVOID PONDING FROM CATCH DRAINS
- 5.5. REMOVE EXCESSIVE SEDIMENT FROM UPSTREAM OF CHECK DAM.
- 5.6. ROAD RESERVE TO BE USED AS HAUL ROAD
- 5.7. A CATCH DRAIN BANK IS TO BE PROVIDED ON THE TOP SIDE OF ALL CUTS & DISCHARGED EITHER TO UNDISTURBED GRASS LANDS OR TO THE CROSS ROAD DRAINAGE
- 5.8. SUPPLEMENTARY EROSION & SEDIMENT CONTROL DEVICE MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER
- 5.9. CONSTRUCTION EXIT SHALL BE AT ONLY ONE NOMINATED POINT ON THE EASTERN CIRCULATION ROAD. REFER TYPICAL DETAIL
- 5.10. WATER QUALITY SAMPLES MUST BE TAKEN & ANALYSED PRIOR TO RELEASE OF ANY WATER FROM THE SEDIMENT POND. WATER QUALITY MUST SATISFY THE FOLLOWING CRITERIA: TSS<50MG/L PH BETWEEN 6.5 & 8.5. IF WATER QUALITY FAILS THE CRITERIA THEN THE USE OF A GYPSUM FLOCCULENT IS TO BE APPLIED AS DIRECTED BY THE MANAGING CONTRACTOR OR CONSULTING ENGINEER.
- 5.11. ALL WATER QUALITY DATA INCLUDING DATES OF RAINFALL, TESTING & WATER RELEASE MUST BE MAINTAINED IN AN ON-SITE REGISTER. THIS REGISTER IS TO BE MAINTAINED FOR THE DURATION OF THE APPROVED WORKS & BE AVAILABLE ON SITE FOR INSPECTION ON REQUEST.
- 5.12. GRASS SEEDING IS TO ACHIEVE 70% COVER WITHIN 30 DAYS OF COMPLETION OF EARTHWORKS.
6. FOLLOWING CONSTRUCTION
- 6.1. SEDIMENTATION FENCES TO BE MAINTAINED UNTIL TURFING IS COMPLETED & GRASS IS 80% ESTABLISHED.
- 6.2. SEDIMENT BASINS TO BE CHECKED & DE-SILTED AFTER EVERY SIGNIFICANT STORM EVENT OR IN THE CASE OF NO SIGNIFICANT STORM EVENT, EVERY 12 WEEKS.

NOTE:
NOT WITHSTANDING THE DETAILS ON THESE DRAWINGS THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL WITHIN THE SITE. THE CONTRACTOR SHALL COMPLETE ALL DESIGN MEASURES AND MORE AS ANY ADDITIONAL MEASURES AND MAINTENANCE REQUIRED TO SUIT THEIR CONSTRUCTION STAGING. ALL COSTS IN RELATION TO EROSION AND SEDIMENT CONTROL ARE TO BE INCLUDED IN THE LUMP SUM.

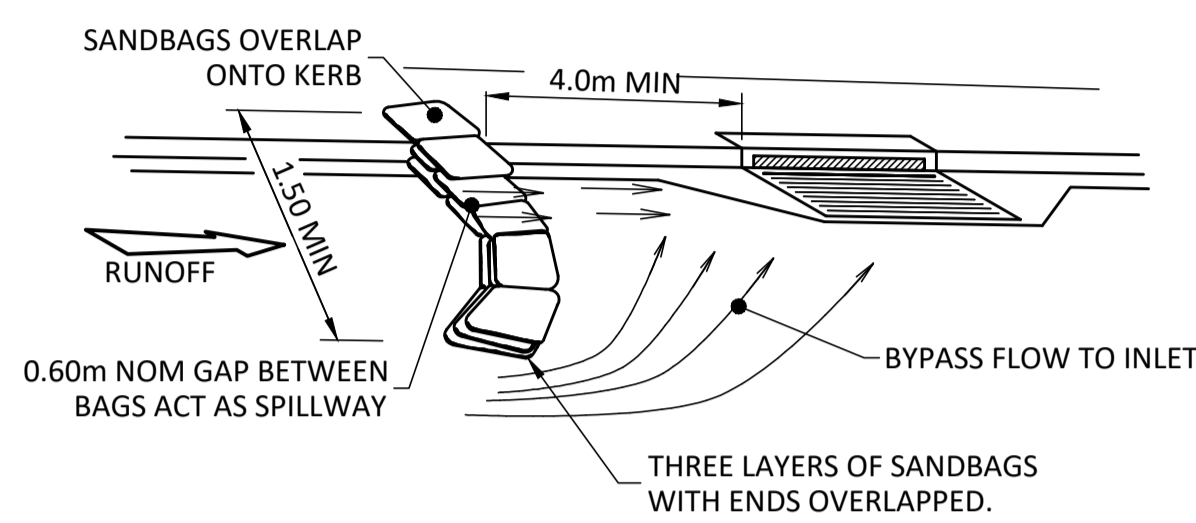
MANAGEMENT OF DUST, EROSION AND SEDIMENT IS THE RESPONSIBILITY OF THE EARTHWORKS CONTRACTOR. THEY ARE TO PREPARE PHASE SPECIFIC EROSION CONTROL PLANS AND SUBMIT TO THE MANAGING CONTRACTOR PRIOR TO BEGINNING WORK ON THE RELEVANT PHASE.

THIS DRAWING IS BEST VIEWED IN COLOUR AND ON AN ELECTRONIC DEVICE

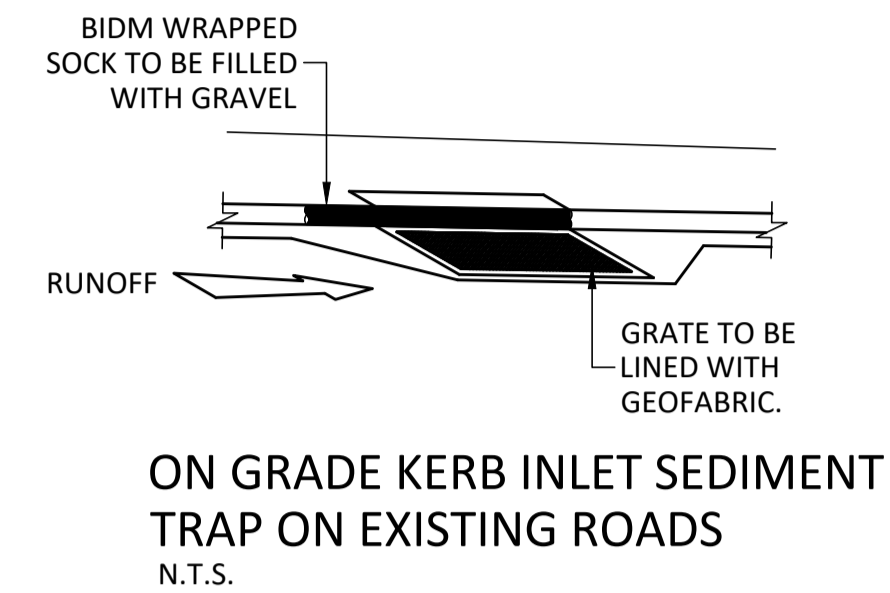


NOTE 1: UNBOUND PAVEMENT MATERIAL (GRAVEL) TO GRADING B, TABLE 9 OF TMR SPECIFICATION MRS11.05, EXCLUDE MATERIAL FINER THAN AS SIEVE 2.36mm.

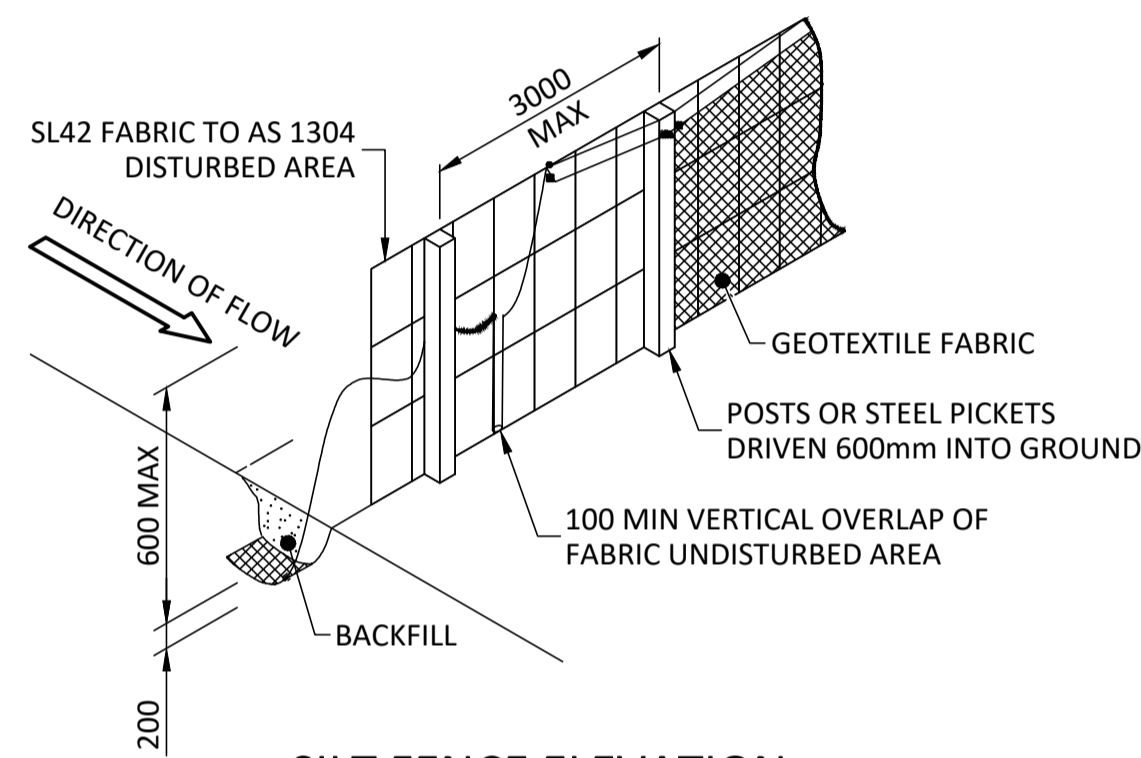
TEMPORARY CONSTRUCTION ENTRY / EXIT SEDIMENT TRAP
N.T.S.



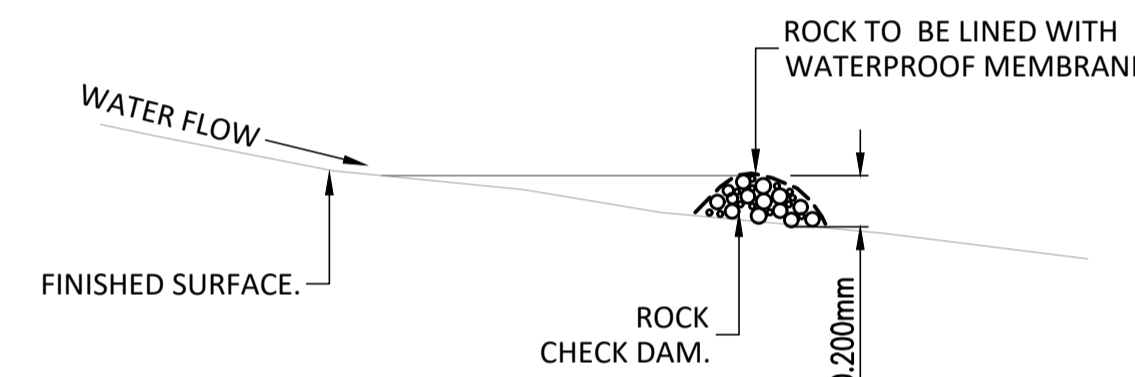
ON GRADE KERB INLET SEDIMENT TRAP
N.T.S.



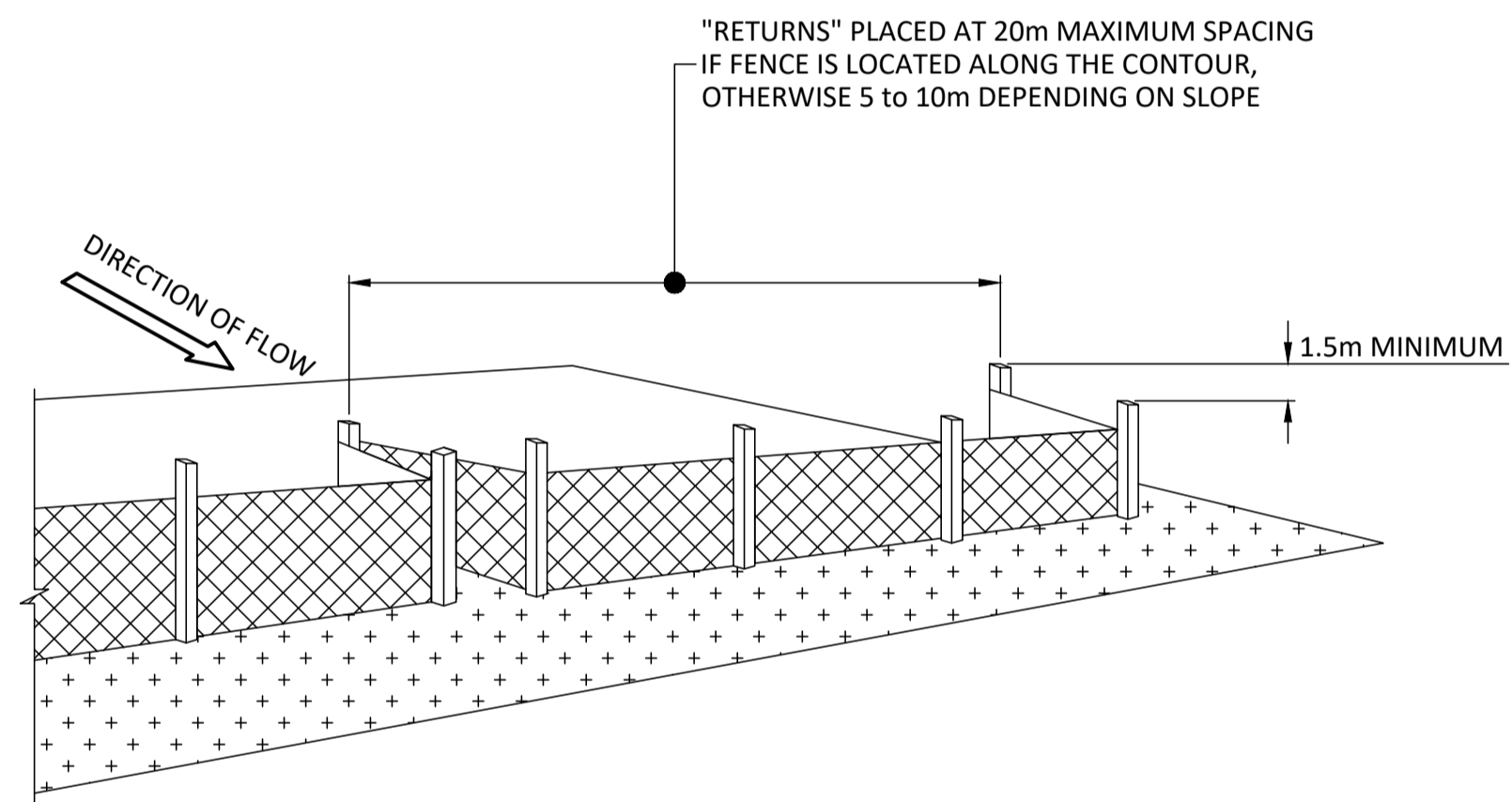
ON GRADE KERB INLET SEDIMENT TRAP ON EXISTING ROADS
N.T.S.



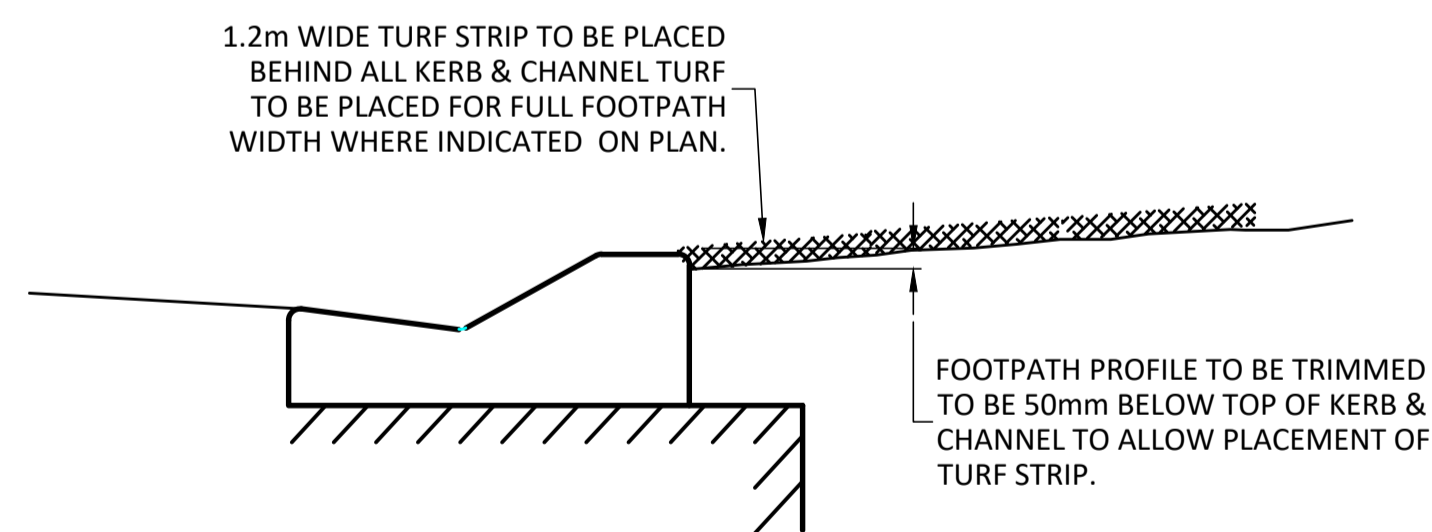
SILT FENCE ELEVATION
N.T.S.



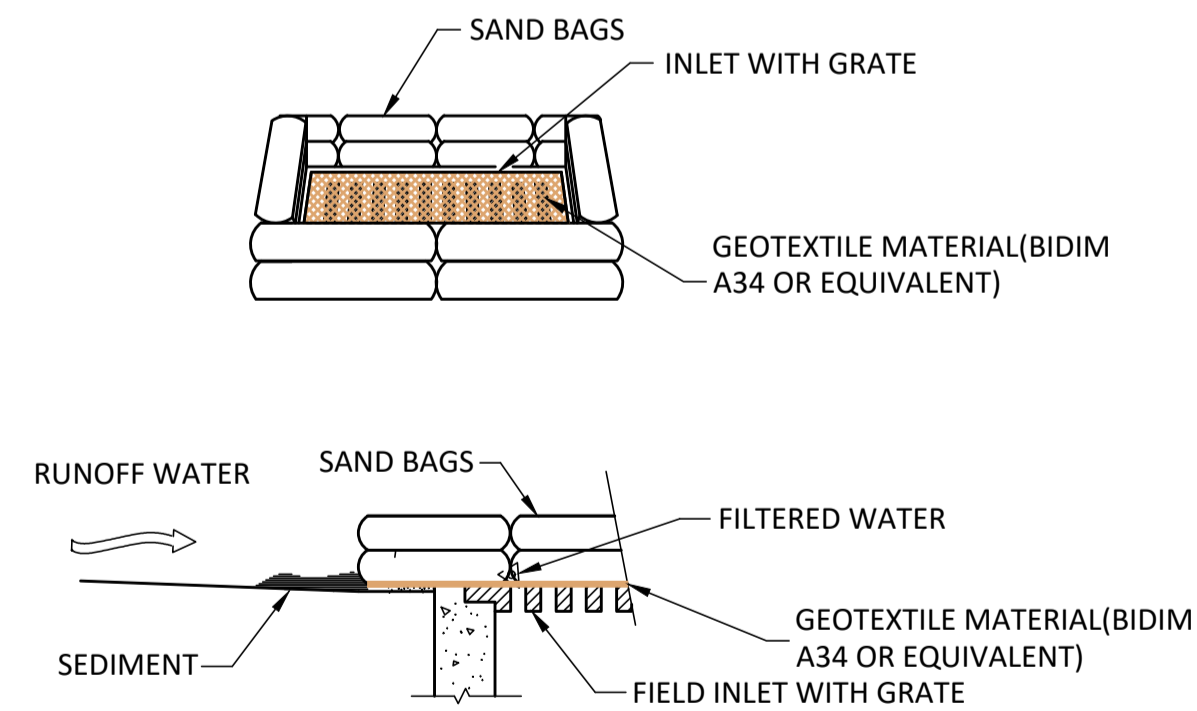
CUT OFF DRAIN END DETAIL
N.T.S.



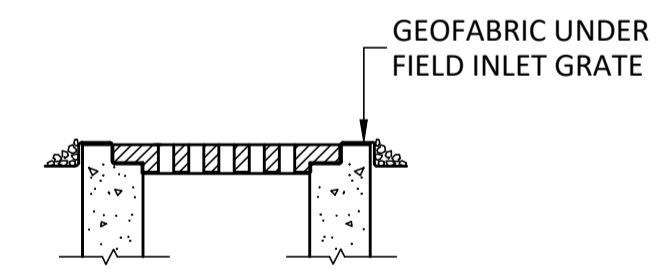
SILT FENCE RETURNS
N.T.S.



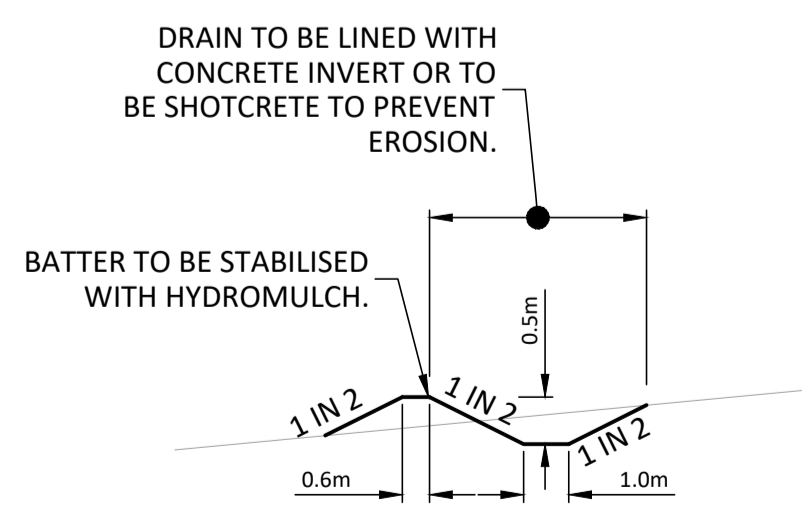
EROSION CONTROL AT KERB
N.T.S.



FIELD INLET SEDIMENT TRAP
N.T.S.



FIELD INLET SEDIMENT TRAP: GEOFABRIC
N.T.S.



DIVERSION CHANNEL
N.T.S.

Erosion Risk Assessment	
Location / Catchment	
Annual Loss = R.K.Ls.C.P	Appendix E : IECA 2008
R	5119 Table E1 Lismore
K	0.025 Table E4 Silty Clay
Ls	0.6 Table E3
C	1 Table E9 Construction Site
P	1.3 Table E11 Nil Cover
Annual Soil Loss	100 t / ha / year
Risk Assessment:	Very Low Table 4.4.3
Site Area	Approx 9300m2 >2500 m2
Controls Required	Type 3 Table 4.5.1

SCAN QR CODE TO CONFIRM CURRENT DRAWING REVISION



REV	DATE	DESCRIPTION	DESIGNED	CHECKED	APP
04	28.01.22	ISSUED FOR TENDER	AR	AL	
03	17.01.22	ISSUED FOR CC1	AR	AL	
02	13.01.22	ISSUED FOR TENDER	AR	AL	
01	13.12.21	PRELIMINARY	AR	AL	

PROJECT NORTH

STATUS **TENDER**



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CIVIL AND STRUCTURAL ENGINEERS



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PROJECT MANAGER



CLIENT
NSW Health Infrastructure | Health Northern NSW Local Health District

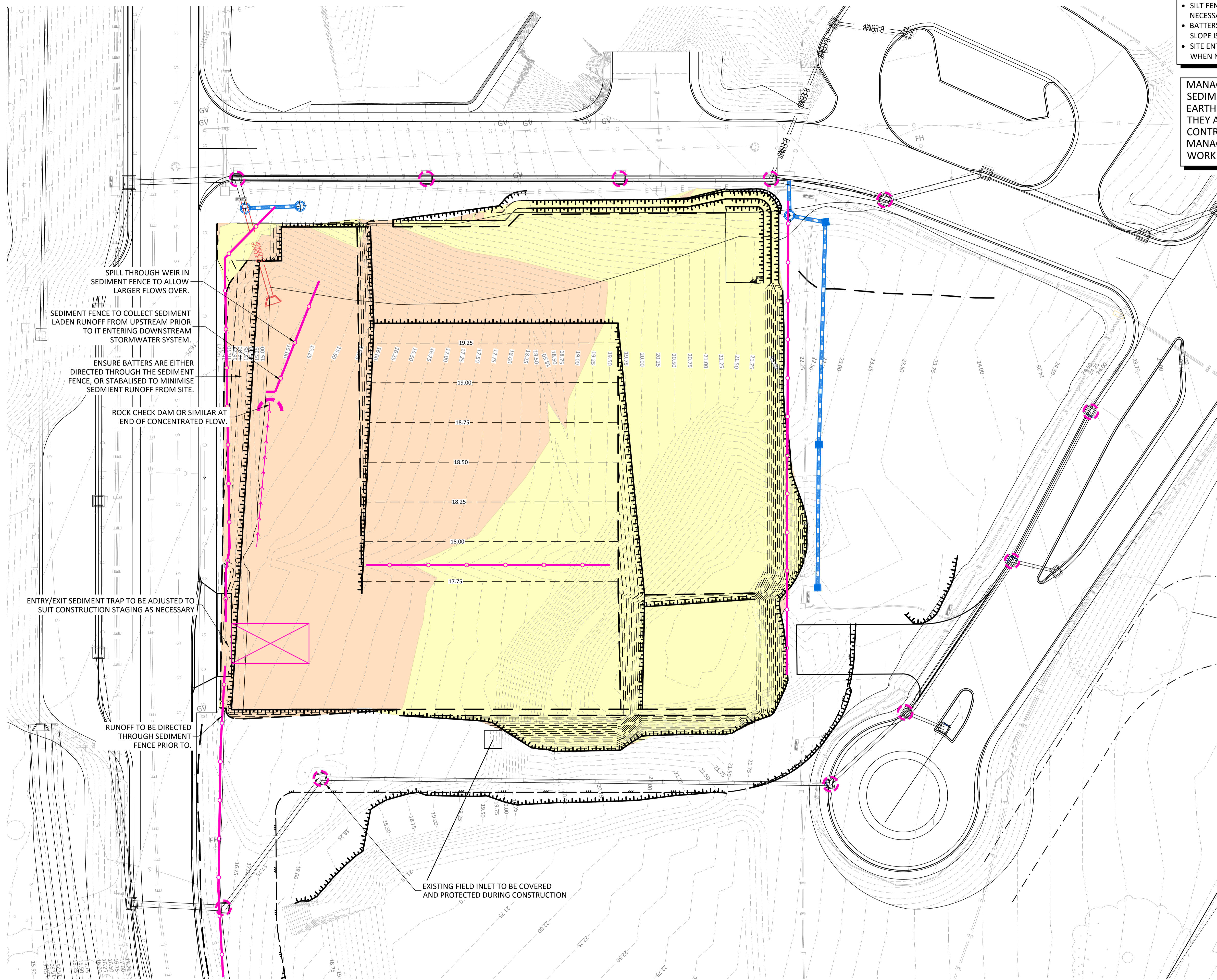
PROJECT
TWEED VALLEY HOSPITAL MULTI DECK CARPARK

DRAWING TITLE
EROSION & SEDIMENT CONTROL NOTES AND DETAILS

PROJECT No
21098

DRAWING No
TTW-CV-DWG-MCP-0000200

REVISION
04



PHASE 2 - BULK EARTHWORKS

- SILT FENCES TO BE INSTALLED, EXTENDED AND MOVED AS NECESSARY TO PROTECT THE WATER WAY.
- BATTERS TO BE TURFED AS SOON AS POSSIBLE ONCE FINAL SLOPE IS CUT AND TOPSOILED.
- SITE ENTRIES/EXITS TO BE INSTALLED, ROADS TO BE SWEEPED WHEN NECESSARY TO MAINTAIN A CLEAN ROAD SURFACE.

MANAGEMENT OF DUST, EROSION AND SEDIMENT IS THE RESPONSIBILITY OF THE EARTHWORKS CONTRACTOR. THEY ARE TO PREPARE PHASE SPECIFIC EROSION CONTROL PLANS AND SUBMIT TO THE MANAGING CONTRACTOR PRIOR TO BEGINNING WORK ON THE RELEVANT PHASE.

SCAN QR CODE TO CONFIRM CURRENT DRAWING REVISION
<http://docs.bornhorstward.com.au/revision/>

REV	DATE	DESCRIPTION	DRAWN	CHECK	APP
04	28.01.22	ISSUED FOR TENDER	AR	AL	
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01	13.12.21	PRELIMINARY	AR	AL	

SPILL THROUGH WEIR IN SEDIMENT FENCE TO ALLOW LARGER FLOWS OVER.

SEDIMENT FENCE TO COLLECT SEDIMENT LADEN RUNOFF FROM UPSTREAM PRIOR TO IT ENTERING DOWNSIDE STORMWATER SYSTEM.

ENSURE BATTERS ARE EITHER DIRECTED THROUGH THE SEDIMENT FENCE, OR STABILISED TO MINIMISE SEDIMENT RUNOFF FROM SITE.

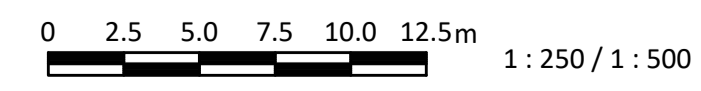
ROCK CHECK DAM OR SIMILAR AT END OF CONCENTRATED FLOW.

ENTRY/EXIT SEDIMENT TRAP TO BE ADJUSTED TO SUIT CONSTRUCTION STAGING AS NECESSARY

RUNOFF TO BE DIRECTED THROUGH SEDIMENT FENCE PRIOR TO.

EXISTING FIELD INLET TO BE COVERED AND PROTECTED DURING CONSTRUCTION

PLAN
SCALE 1:250



PROJECT NORTH

STATUS **TENDER**

ADCO

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PROJECT MANAGER

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CLIENT
NSW Health Northern NSW Infrastructure Local Health District

PROJECT
TWEED VALLEY HOSPITAL MULTI DECK CARPARK

DRAWING TITLE
EROSION & SEDIMENT CONTROL LAYOUT

PROJECT No
21098

DRAWING No
TTW-CV-DWG-MCP-0000210

DATE
28/01/2022 12:54:22 PM

REVISION
04

ORIGINAL SIZE A0