

LGID: 'Western Grandstand'

ANNEXURE 5 - STORMWATER MANAGEMENT PLAN

Ipswich City Council

North Ipswich Sports and Entertainment Precinct Western Grandstand

Site Based Stormwater Management Plan

April 2026

Public



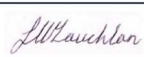
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North Ipswich Sports and Entertainment Precinct
Western Grandstand
Site Based Stormwater Management Plan
Ipswich City Council

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Rev	Date	Details
B	April 2026	Updated for Public Issue and Update Lots in Section 2.1
C	April 2026	Updated Site Plan in Section 2.1 to include additional Lot A

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We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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1 Introduction

1.1 Project Background

WSP Australia Pty Ltd have prepared this Site Based Stormwater Management Plan on behalf of Mewing Planning Consultants (**the Entity**) for submission to Ipswich City Council (**Council**) in its capacity as a Designator under the *Planning Act 2016* (**Planning Act**) to support the making of a Local Government Infrastructure Designation (**LGID**) to guide the delivery of the North Ipswich Sports and Entertainment Precinct (**NISEP**) Western Grandstand (**the Project**). The proposed LGID designation applies to land at 43 – 54 The Terrace and 1A Pine Street, North Ipswich. These lots are formally described as Lot 246 on SL8089, Lot 221 SL4494, Lot 100 on SL12562 and Lot A on AP22241 (**the site**).

An LGID is a statutory planning mechanism under the Planning Act to give statutory effect to the Project, allowing for the efficient and timely supply of community infrastructure for the site.

The site is known as the North Ipswich Reserve, which is a sporting precinct that comprises the North Ipswich Reserve Sports Fields, Len Johnson Oval, and the Ipswich Jets Rugby League fields, grandstand and associated facilities. Funding has recently been secured from the Commonwealth and State Government to upgrade the NISEP Western Grandstand and associated facilities and all stakeholders are committed to redeveloping the grandstand to support future major sporting events.

The purpose of the Infrastructure Designation is to facilitate construction of a Major Sport, Recreation and Entertainment Facility¹, substantively comprising the new grandstand (“Western Grandstand”). The Major Sport, Recreation and Entertainment Facility is a defined term in the Ipswich City Plan, and falls within the designation of Sporting Facilities under Schedule 5 of the *Planning Regulation 2017*.

The new grandstand will be located centrally within the site, broadly sited in the footprint of the recently demolished grandstand structure. The grandstand is to be located to the west of the main playing field, located on Lot 246 SL8089. The proposed scope of works involve an increase to the maximum capacity of spectators within the grandstand to approximately 2199, however it is important to note that the capacity of spectators on the site will continue to be a maximum of 5,000 persons. The Project will also provide for improved facilities for guests, players and staff at the facility, such as new change rooms, amenities, function spaces (associated with spectating games) and media facilities.

The proposed works aim to enhance the amenity of North Ipswich Reserve in a way that aligns with the facility’s current operational capacity. The upgrades are designed with consideration for building functionality and connectivity with both existing structures and planned future facilities. All existing on-site activities will continue unchanged under the proposed scope, with key operational elements summarised below:

- Event attendees (Regular – approx. 50 per year): less than 150 persons;
- Event attendees (In all other circumstances – approx. 30 per year): total attendees more than 150 persons, of which approximately 15 events are ‘game days’ with 500 to 1,500 attendees;
- Maximum capacity: 5,000 persons, for limited events;
- Training (on-site): daily, comprising approximately 40 attendees; and
- Hours of operation: 8:00am to 11:00pm daily, depending on activities and/or events.

¹ Schedule 24 of the Planning Regulation 2017 (Planning Regulation) defines a Major Sport, Recreation and Entertainment Facility as “the use of premises for large-scale events, including, for example, major sporting, recreation, conference or entertainment events”.

This report is prepared to support the LGID. In doing so, it provides an assessment of the Western Grandstand (as a Major Sport, Recreation and Entertainment Facility) against the relevant aspect of the Ipswich City Plan and the relevant State Development Assessment Provisions.

1.2 Purpose of the Report

This Site-Based Stormwater Management Plan (SBSMP) has been prepared to:

- Assess the impact of the development on stormwater quantity and quality
 - The extents of this assessment have been focused on the carpark and grandstand area where proposed works are to occur on site
 - All other areas of the site are not assessed for stormwater quality, although the combined impact of the field discharge with the new work has been included in the stormwater quantity calculations
 - The western training fields and the northern and southern bypass catchments surrounding the main field have been excluded in the stormwater assessments
 - Demonstrate compliance with Ipswich City Council (ICC) planning requirements
 - Outline proposed stormwater infrastructure diversion, the removal of the previously proposed detention tank and the new Humeceptor ST3 Gross Pollutant Trap (GPT) treatment device and the compliance with the codes
 - Detail erosion and sediment control measures for construction
-

1.3 Previous Reporting

Previous reports informing this SBSMP include:

- Douglas Partners Geotechnical Investigation (Oct 2024) – soil characteristics, permeability, CBR, erosion risk, groundwater conditions.
 - Mott MacDonald Engineering Concept Design (Nov 2024) – civil, structural, mechanical, electrical, stormwater layouts.
 - Existing ICC stormwater infrastructure models (as-built drawings) and supplied survey files.
 - WSP Civil Memo PS212527-WSP-BNE-CIV-MEM-001 RevB (February 2026)
 - WSP North Ipswich Sport and Entertainment Precinct Flood Study (March 2026)
 - WSP North Ipswich Sport and Entertainment Precinct Flood Emergency Management Plan (March 2026)
-

1.4 Planning and Water Quality Requirements

Applicable guidelines include:

- Ipswich City Council – City Plan 2025
- State Planning Policy 2017 – Appendix 2: Water Quality Objectives
- SEQ Water Sensitive Urban Design (WSUD) Guidelines
- Queensland Urban Drainage Manual (QUDM)

These documents generally require that the redevelopment must not worsen peak discharge or cause adverse flood impacts.

2 Site Characteristics

2.1 Site Location and Site Grading

The Western Grandstand is located on 43-54 The Terrace North Ipswich QLD 4305 – Lot 246 on Plan SL8089 and Lot 100 on Plan SL12562. The western field referred to as Len Johnson Oval protrudes onto 1A Pine Street North Ipswich QLD 4305 – Lot 221 on Plan SL4494. Lot 221 is also known as Pine Street Reserve. The Western Grandstand falls within Ipswich City Council local government boundaries. Refer to Figure 2.1 below.



Source: Nearmap Imagery 2026

Figure 2.1 North Ipswich Sports and Entertainment Precinct – Western Grandstand Location

A summary of the Lots is provided below in Table 2.1.

Table 2.1 Lot Summary

Address		Lot/Plan	Size (ha)
43 The Terrace	Ipswich Jets Rugby League Football Ground	Lot 246 SL8089	3.3948
54 The Terrace	Len Johnson Oval/Park	Lot 100 SL12562	3.0805
1A Pine Street	Pine Street Reserve	Lot 221 SL4494	0.9501
The Terrace	North Ipswich	Lot A AP22241	0.016

Source: Google Maps, Ipswich City Plan 2025, Nearmap Imagery 2026

The topography of the site is RL 22.4m (north-west) sloping to RL 15m near Bremer River. There is a small sub-catchment of approximately 0.15 ha which is graded to the north of the site.

2.2 Existing Flood Risk

The site is flood-affected and has been flooded during historical flood events in 1974 and 2011. The Flood Study and Flood Emergency Management Plan Reports by WSP outline the existing flood risk to the site for the 1% AEP event with climate change.

2.3 Existing Stormwater Management

2.3.1 *Existing Stormwater Quality Infrastructure*

There are four (4) bioretention basins present within the existing carpark.

The approximate sizes of the existing basins are as follows:

- Basin 1: 25m²
- Basin 2: 17m²
- Basin 3: 25m²
- Basin 4: 40m²

2.3.2 *Existing Stormwater Quantity Infrastructure*

There are existing stormwater pit and pipe networks within the site which manages the discharge of the carpark and the field.

3 Proposed Development

3.1 Proposed Site Grading

The proposed development generally maintains the existing grading. The site slopes to the south towards Bremer River with a small sub-catchment graded to the north of the site.

3.2 Lawful Point of Discharge

The existing primary lawful point of discharge for the main field and proposed western grandstand is south of the site to the Bremer River via two outfalls – one from the carpark and one from the field.

There is a small sub-catchment of approximately 0.15 ha which is graded to the north of the site. This sub-catchment bypasses the internal stormwater network and discharges to The Terrace to an existing stormwater network located in the road. The northern bypass is the secondary point of discharge of the site and is excluded from this work.

The proposed works will maintain the existing lawful points of discharge.

4 Engineering

4.1 Stormwater Quantity

4.1.1 Proposed Stormwater Quantity Management

The proposed stormwater quantity management for the site consists of the same diversion of the existing stormwater pit and pipe networks to suit the footprint of the new western grandstand. The pre-development and post-development scenarios have been analysed via a simple node analysis on DRAINS until further detailed survey of the existing site is provided.

4.1.2 Pre-Development Catchments

The site currently drains south to Bremer River, which is the primary lawful point of discharge.

4.1.3 Post-Development Catchments

There is an increased imperviousness from pre-development to post-development of approximately 2-3% due to new grandstand, concourse, and expanded hardstands. Refer to Appendix B for catchment plan.

4.1.4 DRAINS Outputs – Pre vs Post-Development

The pre-development and post-development scenarios have been analysed as a single node analysis on DRAINS until further detailed survey of the existing site is provided. The DRAINS model has been included in Appendix D. The model has adopted the following inputs detailed below in Table 4.1.

Table 4.1 Drains Node Inputs

Catchment Node	Total Catchment Area (Ha)	Impervious Percentage of Area (%)	Impervious Time of Concentration (mins)	Pervious Percentage of Area (%)	Pervious Time of Concentration (min)
Pre-Development	3.721	24.19	5	75.81	25
Post-Development	3.721	26.34	5	73.66	25

The result of the DRAINS assessment is detailed in Table 4.2.

Table 4.2 Stormwater Peak Flows - DRAINS Results

AEP Storm Event	Pre-development peak flow (m ³ /s)	Post-development peak flow (m ³ /s)
1%	1.280	1.290
2%	1.120	1.130
5%	0.879	0.888
10%	0.739	0.747
20%	0.582	0.597
50%	0.341	0.354

The preliminary DRAINS results have shown that the post-developed peak flows are more than the pre-developed flows. The analysis has been run without the concepted detention tank. The intent is that the minor increase in volume during

some events would be held in the main field during major rainfall events, this would present as a few millimetres across the field and be contained in the fringes of the field. The intent is to avoid material worsening of peak discharge at the Bremer River confluence.

The estimated volume of stormwater over the main field for each rainfall event is estimated in Table 4.3 below.

Table 4.3 Additional Stormwater Volume on Main Field during Storm Events

AEP Storm Event	Stormwater Volume (m ³)	Stormwater depth (mm)
1%	18.898	1.7
2%	4.415	0.4
5%	3.853	0.3
10%	3.580	0.3
20%	14.522	1.3
50%	8.832	0.8

4.1.5 Overland Flow Strategy

The existing overland flow path has been maintained.

4.2 Stormwater Quality

4.2.1 Proposed Stormwater Quality Management

The proposed stormwater quality management consists of treating the stormwater runoff from the carpark and grandstand through bioretention basins and a new DN1800 Humeceptor ST3 Gross Pollutant Trap (GPT) device. The bioretention basins are in the vegetated islands of the carpark. There are three existing bioretention gardens that can be retained and reused. One existing bioretention garden is to be relocated and reinstated to the new carpark alignment. The GPT device is proposed to be installed at the end of the existing stormwater line before ultimate discharge to the Bremer River.

4.2.2 Stormwater Quality Requirements

The stormwater quality pollutant reduction objectives of Ipswich City Council City Plan 2025 have been adopted for the stormwater quality management analysis performed on MUSIC. The MUSIC model has been included in Appendix C. The pollutant reduction objectives are included in Table 4.4 below.

Table 4.4 Stormwater Quality Pollutant Reduction Objectives

Stormwater Pollutant	Reduction Target (%)
Total Suspended Solids	85
Total Phosphorus	65
Total Nitrogen	45
Total Gross Pollutants	95

Source: Ipswich City Council City Plan 2025

The stormwater pollutant reduction objectives have been achieved using the proposed treatment train.

4.2.3 Treatment Train Effectiveness

The stormwater pollutant reduction objectives have been achieved using the existing bioretention gardens, comprising of two (2) retained and two (2) relocated and reinstated, as well as one (1) DN1800 Humeceptor ST3 GPT device installed at the end of the stormwater line of the carpark.

The treatment train effectiveness has been included below in Table 4.5. It is noted in Table 4.5 that the pollutant reduction targets have been achieved.

Table 4.5 Stormwater Quality Pollutant Reduction MUSIC Results

Stormwater Pollutant	Achieved Stormwater Pollutant Reduction (%)
Total Suspended Solids	97.2
Total Phosphorus	72.2
Total Nitrogen	55.9
Total Gross Pollutants	96.1

4.2.4 Stormwater Quality Treatment Devices

4.2.4.1 Bioretention Gardens

The bioretention gardens are listed below in Table 4.6 with their design parameters. These have been designed in accordance with the Bioretention Technical Design Guidelines (Water by design, 2014, *Bioretention Technical Design Guidelines*, V1.1).

Table 4.6 Bioretention Garden Parameters

Basin No.	Size (m ²)	Extended Detention Depth (m)	Filter Depth (m)	Comments
1	25	0.30	0.50	Existing and to be retained
2	17	0.30	0.50	Existing and to be retained
3	25	0.30	0.50	Existing basin to be demolished and reinstated
4	40	0.30	0.50	Existing and to be retained

4.2.4.2 Proprietary Treatment Products – Humeceptor

To achieve the desired results, the outfalls were modelled using a DN1800 Humeceptor ST3 GPT. Refer to Figure 4.1 below.



Figure 4.1 Humeceptor system

Source: Humes – Humeceptor System Technical Manual: Issue 5

The Humeceptor system removal efficiency is included in Table 4.7.

Table 4.7 Humeceptor System Performance Summary

Pollutant	Average Removal Efficiency (%)	Details
Total Suspended Solids	80	Laboratory and field results, stable, hardstands, roads, commercial and industrial sites
Total Nitrogen	37	Field results
Total Phosphorus	53	Field results
Chromium	44	Field results
Copper	29	Field results
Total Petroleum Hydrocarbon	65	<10 ppm inflow concentration
	95	10 ppm – 50 ppm inflow concentration (typical stormwater)
	99	>500 ppm inflow concentration (emergency spills)

Source: Humes – Humeceptor System Technical Manual: Issue 5

5 Erosion and Sediment Control

5.1 General ESC Principles

All erosion and sediment control measures are required to be installed and functional prior to works commencing. The following implementation sequence shall be adopted where practicable with the construction program. Plans shall be updated, and measures moved and reinstated to reflect the progression of the works.

A site-based Erosion and Sediment Control Management Plan (ESCP) will be required and implemented under the direct supervision of a Registered Professional Engineer of Queensland. Indicative ESC measures will be required on the detailed design drawings and a final ESCMP shall be prepared by the Contractor as part of the Construction Management Plan for the information of the relevant parties prior to the Pre-start Meeting. The ESCMP to be generally in accordance with Best Practice Erosion & Sediment Control Document published by International Erosion Control Association (Australasia) 2008.

In addition to the general environmental duty which applies to all persons, it is the contractor's responsibility to implement and maintain all erosion and sediment control measures on site, until all disturbed areas are reinstated.

The contractor is, at all times, responsible for the establishment, management and maintenance of the erosion and sediment control measures, to ensure minimal environmental harm and to comply with Council's standards.

As the site is stripped, the contractor will need to ensure that sediment is not washed into drains and that the loose dense silty sand and clays are not eroded away and bypass the site. Sediment fencing around the area of works and to direct the flows will be required.

5.1.1 Phase 1 – Prior to Works Commencing – Stripping and Bulk Earthworks

- Prior to any stripping or bulk earthworks on site, all erosion and sediment control measures should be installed and operational.
- Provide a stabilised site access, either wash down area or shake down the device at the construction site entrance to minimise the amount of sediment being tracked off site. Only a single site access point is to be provided unless specific circumstances warrant an additional access point, which is to be approved by local authority.
- Sediment fences (or appropriate barrier fencing) are to be installed adjacent to the access point to confine ingress to and egress from the site to the established stabilised point.
- The wash down area/shake down device is to be drained to a suitable sediment capture device such as a sediment fence installed downstream of the construction entry.
- Inlet protection is to be provided to all gully pits, field or kerb inlets on all adjoining roads.
- All 'clean' upstream water is to be diverted from disturbed areas and stockpiles to minimise the amount of water flowing through the site, the amount of sediment mobilised and the amount of water requiring treatment.
- 'No-go' (restricted access) zones are to be established around areas of native vegetation to be retained and any areas which do not require disturbance, to limit the area of exposed soil.
- Earth banks are to be installed at intervals < 80 metres along slope contours to limit slope lengths.
- Sediment fences are to be installed 2-5 metres downstream of all works areas, including along the downstream property boundaries, downstream of batters and stockpiles, prior to stripping and throughout earthworks operations. All sediment fences are to be monitored and maintained throughout the duration of works.
- All nominated sediment basins and sediment traps are to be constructed with appropriately stabilised diversion structures and emergency spillways.

5.1.2 Phase 2 – Duration of Works

- Works are to be staged to keep disturbed areas to workable sizes and are exposed for a short a period as practicable.
- All disturbed areas and clearings are to extend no more than 5 metres (preferable 2 metres) from essential works areas to minimise amount of exposed surface. Land outside the essential works areas should remain undisturbed and in its natural condition, ensuring topsoil remains in place. These areas are to be protected by barrier fencing.
- Topsoil is to be stripped and stockpiled for later use on site. Sediment fences should be established downstream of all topsoil stockpiles.
- Any stockpiles remaining on site for more than 10 days must be stabilised. Additionally, all disturbed areas are to be progressively grass seeded and stabilised using mulch, hydroseeding or hardstand to achieve 70% ground coverage within 20 days of inactivity or completion of works (even if works may continue later) for protection against both wind and water erosion.
- During windy and dry weather any unprotected areas are to have sufficient dust control measures implemented including watering, roughening or wind barrier fencing.
- All vehicles departing site shall ensure no sediment is carried or transported off site. Regular inspection of public roads adjacent to the site are to be conducted and any sediment deposits are to be manually removed (not washed down).
- Any vehicle or equipment washing and/or refuelling conducted on site should be conducted in specific bunded areas, away from concentrated flow paths and the stormwater system.

5.1.3 Phase 3 – Finishing Works & Defects Liability Period

- All erosion and sediment control measures, including sediment fences and inlet traps, are to be maintained until completion of surface finishes including landscaping and turfing and only removed once the site is stabilised.
- At construction completion, all temporary earth structures, including soil stockpiles, are to be track rolled and seeded to achieve 70% strike rate within 20 days.
- Final site landscaping is to be conducted as soon as possible.

All erosion and sediment control devices, implemented onsite, should represent current Best Management Practices and all practical measures applicable to the site. These Best Management Practices must be applied to all stages of the project including installation, operation and management of the control measures, including maintenance and monitoring of the devices.

5.2 Environmental Duty

In accordance with the Environmental Protection Act (EPA) 1994, all personnel must comply with the general environmental controls under Sections 319 and 320.

Per Section 319 of the EPA, all persons involved in the project, from design to construction, have a responsibility to comply with the ‘general environmental duty’. This requires all reasonable and practicable measures to be adopted to prevent or minimise environmental harm. Consequently, any erosion and sediment control devices proposed or implemented on site must represent current best management practices and all practical measures applicable to the site.

Furthermore, under Section 320 of the EPA, all personnel have a legally binding duty to notify their employer, their Local Regulatory Authority and the Environmental Protection Agency (QLD) should they become aware of a potential or actual incident of environmental harm. As such, it is the principal contractor’s responsibility to ensure all site contractors and site personnel are aware of and understand their environmental duties.

6 Conclusion

This SBSMP demonstrates that the proposed redevelopment of the Western Grandstand:

- Maintains the lawful point of discharge
- Incorporates best-practice WSUD and QUDM-compliant drainage
- Achieves required water quality objectives
- Manages flood risk and peak flow impacts
- Integrates effectively with ongoing precinct development plans

The stormwater strategy is compliant with ICC, SPP 2017, and QUDM requirements and will allow a compliant detailed design to be supplied.

7 Limitations

7.1 Permitted Purpose

This Report is provided by WSP for the purpose described in the Agreement and no responsibility is accepted by WSP for the use of the Report in whole or in part, for any other purpose (*Permitted Purpose*).

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Appendix A

Civil Engineering Drawings



GENERAL

1. ORIGINAL SITE SURVEY PREPARED BY:
XXXXXX
CONTOUR INTERVAL: XXm
DATUM:
VERTICAL: PMXXXX, RLX.XXX AHD
HORIZONTAL: XXXX
REAL PROPERTY DESCRIPTION:
LOT 246 ON SL8089 AND PART OF LOT 100 SL12562
IPSWICH CITY COUNCIL

2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT GEOTECHNICAL REPORT BY DOUGLAS PARTNERS PTY LTD DATED 24 OCTOBER 2024

3. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.

4. EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT.

5. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT BY A LICENSED LAND SURVEYOR. CONFIRM SETOUT WITH ARCHITECT.

6. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH APPROVED FILL MATERIAL AND COMPACTED TO 100% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 E1.1.

7. ON COMPLETION OF SERVICES INSTALLATION, ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AREAS, GRASSED AREAS AND ROAD PAVEMENTS.

8. WHERE NEW WORK ABUTS EXISTING, THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE FREE FROM ABRUPT CHANGES, IS OBTAINED.

9. CARE TO BE TAKEN WHEN EXCAVATING ENERGEX, TELSTRA AND ORIGIN GAS SERVICES. NO MECHANICAL EXCAVATION TO BE UNDERTAKEN OVER ENERGEX, TELSTRA AND ORIGIN GAS; HAND EXCAVATE IN THESE AREAS. LIAISE WITH RELEVANT AUTHORITY.

10. ALL WORKS SHALL BE IN ACCORDANCE WITH RELEVANT COUNCIL STANDARDS, DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATION AND THE DIRECTIONS OF THE ARCHITECT.

11. THE CONTRACTOR SHALL NOT DISTURB ANY EXISTING SURVEY BENCH MARKS OR REFERENCE MARKS (UNLESS INDICATED FOR REMOVAL) WITHOUT DEPT. OF NATURAL RESOURCES APPROVAL IN WRITING.

12. THE CONTRACTOR SHALL OBTAIN ALL RELEVANT AUTHORITIES APPROVALS. (PRIOR TO COMMENCEMENT AND UPON COMPLETION).

13. WORK ON EXISTING EXTERNAL STORMWATER SERVICES BY CONTRACTOR ARE SUBJECT TO INSPECTION AND APPROVAL BY COUNCIL.

14. THE CONTRACTOR SHALL LOCATE AND CONFIRM LEVELS OF ALL EXISTING SERVICE CONNECTIONS PRIOR TO COMMENCING WORK.

15. THE CONTRACTOR SHALL REFER TO LANDSCAPE DRAWINGS FOR DETAILS OF TREATMENT OF BATTERS, SWALE DRAINS AND ANY OTHER AREAS DISTURBED AS PART OF CIVIL WORKS.

16. ROAD OPENINGS:
THE CONTRACTOR'S ATTENTION IS DRAWN TO THE REQUIREMENTS OF COUNCIL. WHERE THE WORK IS LOCATED IN A ROAD RESERVE OR CROSSES THE PAVEMENT OF A PUBLIC ROADWAY OR FOOTWAY, OBTAIN A CONSENT COVERING THE NECESSARY OPENINGS AND COMPLY WITH ALL THE CONDITIONS COVERING THE ISSUE OF SUCH A CONSENT. A CHARGE IS MADE FOR PERMITS ISSUED IN RESPECT OF PAVEMENT OPENINGS. CONTRACTOR TO OBTAIN DETAILS FROM COUNCIL, MEET ALL REQUIREMENTS AND PAYMENTS, AND CARRY OUT ALL LIAISON AT NO EXTRA COST. ALL PAVEMENT SURFACING IS TO BE UNDERTAKEN BY THE CONTRACTOR. ALL PAVEMENT REINSTATEMENT TO BE UNDERTAKEN BY THE CONTRACTOR.

17. REFER ALSO TO HYDRAULIC, LANDSCAPING, MECHANICAL AND ELECTRICAL CONSULTANTS' DRAWINGS FOR ADDITIONAL SITE SERVICES TO BE CO-ORDINATED FOR CONSTRUCTION UNDER PROPOSED CARPARK AND ROAD PAVEMENTS.

18. A GEOTECHNICAL INVESTIGATION FOR THE ORIGINAL SITE HAS BEEN PREPARED, REFER TO THE PROJECT GEOTECHNICAL REPORT. THE CONTRACTOR SHALL ENSURE THAT THEY ARE FAMILIAR WITH THE CONTENTS OF THIS REPORT AND THE REPORT DOES FORM PART OF THE CONTRACT.

19. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT SO THAT AT ANY TIME ADJOINING PROPERTY OWNERS ARE NOT DEPRIVED OF AN ALL-WEATHER ACCESS OR SUBJECTED TO ADDITIONAL STORM WATER RUN-OFF DURING THE PERIOD OF CONSTRUCTION.

20. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGE TO COUNCIL'S INFRASTRUCTURE. SUCH REPAIR OR REINSTATEMENT TO BE CARRIED OUT IMMEDIATELY TO THE SATISFACTION OF THE SUBDIVISION AND DEVELOPMENT MANAGER OF COUNCIL.

21. SITE INSPECTIONS REQUIRED AS SPECIFIED.

22. FOR CIVIL SETOUT INFORMATION CONTACT WSP (PH 3854 6200) AND AN AUTOCAD DRAWING FILE WILL BE ISSUED FOR SITE SETOUT SUBJECT TO CONDITIONS.

23. CONTRACTOR IS TO ALLOW TO INCLUDE ANY REQUIRED COUNCIL INSPECTION AND COMPLIANCE FEES IN THE CONTRACT.

EARTHWORKS

1. FOLLOWING DEMOLITION OF EXISTING STRUCTURES, ALL VEGETATION, SOILS CONTAINING ORGANIC AND DELETERIOUS MATERIAL, CONCRETE SLABS, CONCRETE BUILDING FOOTINGS AND PAVEMENT AREAS SHALL BE STRIPPED AND REMOVED FROM SITE.

2. ALL EXISTING TREE STUMPS AND ROOTS SHALL BE GRUBBED OUT TO A MINIMUM DEPTH OF 750mm.

3. DEPRESSIONS FORMED BY REMOVAL OF UNDERGROUND ELEMENTS AND OR WEAKENED AREAS SHOULD BE CLEARED OUT AND FILLED WITH COMPACTED IMPORTED FILL MATERIAL.

4. EXPOSED CONSTRUCTION AREAS SHALL BE PROOF ROLLED USING A VEHICLE WITH A LOADING OF AT LEAST 5 TONNES PER AXLE IN THE PRESENCE OF THE NOMINATED GEOTECHNICAL TESTING AUTHORITY AND A REPRESENTATIVE OF WSP. AREAS DEMONSTRATING EXCESSIVE MOVEMENT SHALL BE TREATED IF POSSIBLE, OR REMOVED TO COMPETENT MATERIAL AND REPLACED WITH COMPACTED IMPORTED FILL MATERIAL. CONTRACTOR TO ALLOW A PROVISIONAL SUM FOR REMOVAL OF UNSUITABLE MATERIAL AND REPLACEMENT WITH COMPACTED IMPORTED FILL MATERIAL. ALLOW A PROVISIONAL QUANTITY OF XXXm³.

5. ALL SOFT, WET OR UNSUITABLE MATERIAL IS TO BE REMOVED AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW FOR IMPORTED FILL MATERIAL.

6. PLACE IMPORTED FILL MATERIALS SATISFYING THE REQUIREMENTS LISTED BELOW TO NOMINATED BULK EARTHWORKS LEVELS ON BULK EARTHWORKS PLAN.

7. ALL IMPORTED FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SUPERINTENDENT AND SHALL COMPLY WITH THE FOLLOWING:
a) FREE FROM ORGANIC AND PERISHABLE MATTER
b) MAXIMUM PARTICLE SIZE 100mm
c) PLASTICITY INDEX MAXIMUM 15%
d) LIQUID LIMIT, MAX OF 45%
e) PASSING 19mm SIEVE, MAX 80%
f) MINIMUM CBR 10%
g) SHRINK/SWELL INDEX, MAX OF 1.0%

8. CONTRACTOR TO PROVIDE CERTIFICATION TO THE SUPERINTENDENT FROM NATA REGISTERED LAB THAT THE FILL MATERIAL IS FREE OF ACTUAL OR POTENTIAL ACID SULFATE SOILS AND MEETS CURRENT DPI REGULATIONS FOR THE CONTROL OF RED IMPORTED FIRE ANTS (RIFA).

9. ALL ENGINEERED FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE THE FOLLOWING MINIMUM COMPACTION VALUES:

LOCATION	COHESIVE SOILS	COHESIONLESS SOILS
BUILDING AREAS		
• FOUNDATION SUPPORT	98%	80%
• FLOOR SLABS	98%	80%
PAVEMENT AREAS		
• TOP 300mm BELOW SUBGRADE LEVEL	98%	80%
• BELOW THE TOP 300mm	95%	75%
LANDSCAPE AREAS	95%	75%

WHERE THE ABOVE VALUES ARE DETERMINED IN ACCORDANCE WITH AS 1289.5.1.1 (STANDARD COMPACTION) FOR COHESIVE SOILS AND AS 1289.5.6.1 (STANDARD METHOD) FOR COHESIONLESS SOILS.

10. ALL EARTHWORKS OPERATIONS SHALL BE CARRIED OUT WITH 'LEVEL 1' ENGINEERING SUPERVISION IN ACCORDANCE WITH APPENDIX B OF AS 3798. THE GEOTECHNICAL TESTING AUTHORITY SHALL BE FROM THE NOMINATED PANEL OF PROVIDERS WITHIN THE CIVIL SPECIFICATION. THE NOMINATED GEOTECHNICAL TESTING AUTHORITY SHALL PROVIDE CERTIFICATION AS NOTED IN THE GEOTECHNICAL REPORT THAT ALL GENERAL EARTHWORKS OPERATIONS HAVE BEEN CARRIED OUT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AND THE CONTROLLED FILL IS SUITABLE FOR PURPOSE WITH A MINIMUM 150 KPa BEARING CAPACITY UNDER THE BUILDING. ALL CERTIFICATIONS RECOMMENDED IN THE PROJECT GEOTECHNICAL REPORT ARE TO BE PROVIDED BY THE CONTRACTOR.

11. THE CONTRACTOR SHALL PROGRAMME THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED BY THE CONTRACTOR AT THEIR COST. CONTRACTOR IS TO ALSO NOTE THAT THE EXISTING SOILS INCLUDING NATURAL SILTY SAND AND HIGH PLASTICITY CLAYS ARE LIKELY TO BE SUSCEPTIBLE TO SOFTENING WHEN WET, TO THE POINT WHERE THE SITE MAY BECOME UNTRAFFICABLE. THE CONTRACTOR IS TO PROVIDE TEMPORARY HAUL ROADS WHERE NECESSARY TO ALLOW ACCESS TO THE WORKS AREAS.

12. TESTING OF THE SUBGRADE SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 3798 BY AN APPROVED NATA REGISTERED LABORATORY AT THE CONTRACTOR'S EXPENSE.

13. ALL BASE AND SUB-BASE MATERIALS SHALL BE PLACED IN MAXIMUM 150mm THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT OF (+ OR - 2%) TO ACHIEVE A DRY DENSITY IN ACCORDANCE WITH AS 1289.5.2.1 OF NOT LESS THAN THE FOLLOWING:

LAYER	MODIFIED DRY DENSITY
BASE COURSE	98% MODIFIED (AS 1289.5.2.1)
SUB-BASE COURSE	95% MODIFIED (AS 1289.5.2.1)

14. CONTRACTOR TO ENSURE VIA THE APPROPRIATE SELECTION OF FILL MATERIAL AND EARTHWORKS THAT, UPON COMPLETION OF THE EARTHWORKS, THAT THE BUILDING PLATFORM HAS A CLASS 'M' CLASSIFICATION IN ACCORDANCE WITH AS 2870.

15. ANY SURPLUS EXCAVATED MATERIAL SHALL BE DISPOSED OF OFF SITE AT AN APPROVED TIP SITE. CONTRACTOR TO ALLOW TO COMPLY WITH CURRENT DPI REGULATIONS FOR THE CONTROL OF RED IMPORTED FIRE ANTS.

16. ANY CONTAMINATED MATERIAL SHALL BE MANAGED AND DISPOSED OF ACCORDING TO THE CURRENT LOCAL COUNCIL AND EPA REQUIREMENTS INCLUDING CERTIFICATION.

17. THE USE OF POTABLE WATER IS NOT PERMITTED IN ACTIVITIES ASSOCIATED WITH ROAD AND PAVEMENT CONSTRUCTION. THE COMPACTION OF FILL MATERIAL OR DUST SUPPRESSION CONTRACTOR TO UTILISE RECYCLED OR SUITABLE NON POTABLE WATER FOR THESE ACTIVITIES WITHIN THE CONTRACT. USE OF RECYCLED WATER MUST BE IN ACCORDANCE WITH THE REQUIREMENTS OF COUNCIL.

EXISTING SERVICES AND FEATURES

1. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS WITHIN THE CONTRACT AREA, AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT. ALL TO REGULATORY AUTHORITY STANDARDS AND APPROVAL.

2. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.

3. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL OBTAIN THE SUPERINTENDENT'S APPROVAL FOR THEIR PROGRAMME FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.

4. EXISTING BUILDINGS, EXTERNAL STRUCTURES, AND TREES SHOWN ON THESE DRAWINGS ARE FEATURES EXISTING PRIOR TO ANY SEPARATE AND PRECEDING DEMOLITION WORKS.

5. CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.

6. INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE ADJACENT RESIDENCES. CONTRACTOR TO GAIN APPROVAL OF THE SUPERINTENDENT FOR TIME OF INTERRUPTION.

STORMWATER

1. ALL 300 DIA. DRAINAGE PIPES AND LARGER SHALL BE CLASS '3' APPROVED SPIGOT AND SOCKET RCP PIPES WITH RUBBER RING JOINTS, (U.N.O.). ALL DRAINAGE PIPES UP TO AND INCLUDING 225 DIA. SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS, (U.N.O.). EQUIVALENT STRENGTH FRC PIPES MAY BE USED.

2. ALL PIPE JUNCTIONS UP TO AND INCLUDING 450 DIA. AND ALL TAPERS SHALL BE VIA PURPOSE MADE FITTINGS.

3. MINIMUM GRADE TO STORMWATER LINES TO BE 1% (U.N.O.).

5. CONTRACTOR TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION TO DISSIMILAR PIPEWORK.

6. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH. THE CONTRACTOR IS TO REPLACE DOWNSTREAM RECEIVING STORMWATER STRUCTURES, SHOULD THE STRUCTURE BE DAMAGED DURING INSTALLATION.

7. WHERE SUBSOIL DRAINAGE LINES PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS UNSLOTTED uPVC SEWER GRADE PIPE SHALL BE USED.

8. PROVIDE 3.0m LENGTH OF 100 DIA. SUBSOIL DRAINAGE PIPE WRAPPED IN FABRIC SOCK, AT UPSTREAM END OF EACH STORMWATER STRUCTURE (UNO).

9. BEDDING SHALL BE TYPE H (U.N.O.) IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARDS.

10. AT CONNECTION TO PITS, INVERT OF SUBSOIL DRAINS TO BE ABOVE MAIN STORMWATER PIPE INVERT.

11. EQUIVALENT STRENGTH PRECAST STORMWATER PITS AND MANHOLES MAY BE USED.

12. PROVIDE CCTV INSPECTION AND REPORT OF ALL INSTALLED STORMWATER PIPES AT COMPLETION OF WORKS.

13. ALL PIPES TO BE INSTALLED IN ACCORDANCE WITH THE LOCAL AUTHORITY STANDARDS AND METHODS.

14. BLACKMAX PIPEWORK OF EQUIVALENT SIZE SHALL BE USED AS A SUBSTITUTION FOR RCP OR FRC PIPEWORK

ASPHALTIC CONCRETE

GENERAL

1. ASPHALTIC CONCRETE MIX DESIGN, MANUFACTURE, PLACING AND COMPACTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND AS2150 - 2005 ASPHALT - A GUIDE TO GOOD PRACTICE.

PAVEMENT PREPARATION

2. THE EXISTING SURFACE TO BE SEALED SHALL BE DRY AND BROOMED BEFORE COMMENCEMENT OF WORK TO ENSURE COMPLETE REMOVAL OF ALL SUPERFICIAL FOREIGN MATTER.

3. ALL DEPRESSIONS OR UNEVEN AREAS ARE TO BE TACK-COATED AND BROUGHT UP TO GENERAL LEVEL OF PAVEMENT WITH ASPHALTIC CONCRETE BEFORE LAYING OF MAIN COURSE.

TACK COAT

4. THE WHOLE OF THE AREA TO BE SHEETED WITH ASPHALTIC CONCRETE SHALL BE LIGHTLY AND EVENLY COATED WITH RAPID SETTING BITUMEN.

JOINTS

5. THE NUMBER OF JOINTS BOTH LONGITUDINAL AND TRANSVERSE SHALL BE KEPT TO A MINIMUM.

6. THE DENSITY AND SURFACE FINISH AT JOINTS SHALL BE SIMILAR TO THOSE OF THE REMAINDER OF THE LAYER.

COMPACTION

7. ALL COMPACTION SHALL BE UNDERTAKEN USING SELF PROPELLED ROLLERS.

8. INITIAL ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 105°C.

9. SECONDARY ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 60°C.

FINISHED PAVEMENT PROPERTIES

10. FINISHED SURFACES SHALL BE SMOOTH, DENSE AND TRUE TO SHAPE AND SHALL NOT VARY MORE THAN THE SPECIFIED TOLERANCES.

REINFORCED CONCRETE

GENERAL

1. CARRY OUT ALL CONCRETE WORK IN ACCORDANCE WITH AS 3600 AND THE SPECIFICATION. KEEP A COPY OF THE DOCUMENTS ON SITE.

2. VERIFY ALL SETTING OUT DIMENSIONS WITH THE SUPERINTENDANT AND/OR THE SURVEYOR.

3. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS.

CONCRETE

4. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH AS 3600 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

5. CONCRETE CHARACTERISTICS:

ELEMENT	COMPRESSIVE STRENGTH F _c - 28 DAYS (MPa)	SLUMP (mm)	MAX AGG SIZE (mm)
ALL KERBS, PITS ETC	32	80	20
FOOTPATH	32	80	20
CARPARK PAVEMENT	32	65	20
OSD TANK BASE AND LID	40	80	20

6. NO 'BRECCIA' TYPE AGGREGATE IS TO BE USED.

7. CEMENT TO BE TYPE SL TO AS 3972 U.N.O. MAX CONCRETE SHRINKAGE TO BE 600 MICRON TO AS1012.

8. NO ADMIXTURES ARE TO BE USED WITHOUT THE APPROVAL OF THE ENGINEERS.

9. A VIBRATOR IS TO BE USED FOR THE COMPACTION OF ALL CONCRETE.

10. ALL CONCRETE PLACEMENT TO UTILISE ALIPHATIC ALCOHOL APPLIED TO THE CONCRETE AFTER THE INITIAL SCREED. CONCRETE SHALL BE CURED IN ACCORDANCE WITH AS 3600 FOR A MINIMUM OF 7 DAYS AFTER POURING. UTILISING AN APPROVED, NON-OIL BASED CURING COMPOUND OR THE COVERING OF THE ENTIRE SLAB WITH A CLEAR PLASTIC SHEET.

11. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEERS.

12. ALL CONCRETE SHALL BE SUBJECT TO PROJECT CONTROL SAMPLE AND TESTING TO AS 3600.

13. THE CONTRACTOR MAY ADD AN APPROVED SUPERPLASTICISING ADMIXTURE TO INCREASE SLUMP OF PAVEMENT CONCRETE TO NOT MORE THAN 100mm. QUALITY AND MIXING PROCEDURE TO BE IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS.

FINISHING

14. THE CONCRETE SHALL BE SCREEDED TO THE REQUIRED CROSS SECTION PROFILE, FREE OF DEPRESSIONS AND HIGH AREAS TO SATISFY THE REQUIREMENTS OF AN INITIAL FINISH.

15. FINAL FINISHING SHALL COMMENCE ONLY AS SOON AS THE WATER SHEEN HAS LEFT THE PAVEMENT SURFACE AND NOT IN ANY AREA WHERE THERE IS FREE SURFACE WATER. REFER ARCHITECTURAL SPECIFICATIONS FOR FINISHES TO SURFACES.

REINFORCEMENT

16. COVER TO REINFORCEMENT FOR CORROSION PROTECTION SHALL BE AS DETAILLED OR AS A MINIMUM 40mm TO TOP REINFORCEMENT, 50mm TO BOTTOM REINFORCEMENT.

17. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE COVER TO REINFORCEMENT.

18. REINFORCEMENT QUALITY

19.1 BAR REINFORCEMENT

SYMBOL	BAR SHAPE	STRENGTH GRADE (MPa)	DUCTILITY CLASS	TO COMPLY WITH AUST. STANDARD
N	DEFORMED RIBBED BAR	500	NORMAL	AS 4671
R	PLAIN ROUND BAR	250	NORMAL	AS 4671

ALL BARS TO BE "N" UNLESS NOTED OTHERWISE THE NUMBER FOLLOWING THE SYMBOL IS THE NOMINAL BAR SIZE IN mm. FOR EXAMPLE, N16 DENOTES A DEFORMED RIBBED BAR, OF GRADE 500MPa NORMAL DUCTILE STEEL, WITH A NOMINAL 16mm DIAMETER.
*NOTE: Y BARS MAY BE REPLACED WITH N BARS OF SAME SIZE.

19.2 MESH REINFORCEMENT

SYMBOL	DENOTES	STRENGTH GRADE (MPa)	DUCTILITY CLASS	TO COMPLY WITH AUST. STANDARD
RL	RECTANGULAR MESH OF DEFORMED RIBBED BARS	500	LOW	AS 4671
SL	SQUARE MESH OF DEFORMED RIBBED BARS	500	LOW	AS 4671

THE NUMBERS FOLLOWING THE SYMBOL DENOTE THE PRODUCT CODE. FOR EXAMPLE, SL92 DENOTES A SQUARE MESH OF 9mm (NOMINAL DIAMETER) DEFORMED RIBBED BARS AT 200mm CENTRES, OF GRADE 500MPa LOW DUCTILITY STEEL.

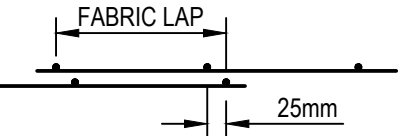
19. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY; IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.

20. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPlice.

21. WELDING OF REINFORCEMENT WILL BE PERMITTED ONLY AFTER APPROVAL BY THE ENGINEER.

22. SITE BENDING OF N BARS SHALL BE DONE COLD WITH POWER OR MECHANICAL BENDING TOOLS.

23. FABRIC LAPS



24. FABRIC TO EXTEND 70 WITH A CROSSWIRE ONTO WALLS UNLESS NOTED OTHERWISE.

25. ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED IN CORRECT POSITION DURING CONCRETING BY APPROVED PLASTIC BAR CHAIRS UNO. MAXIMUM CENTERS OF SUPPORTING CHAIRS SHALL BE 600mm FOR FABRIC, 600mm FOR BARS UP TO 12mm DIAMETER AND 900mm FOR BARS 16mm AND GREATER.

PI	30/01/2026	SP	PRELIMINARY				FM	JC			
REV	DATE	BY	DESCRIPTION				CHK	APP			
DRAWING STATUS:											
DESIGN DEVELOPMENT											



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CLIENT:

BUILDCORP

ARCHITECT:

BLIGHT RAYNER

PROJECT:

NORTH IPSWICH SPORT AND ENTERTAINMENT PRECINT

TITLE:

GENERAL NOTES

SCALE @ A1:	CHECKED:	APPROVED:
NTS	FM	JC
PROJECT NUMBER:	DRAWN:	DATE:
PS212527	SP	30/01/2026
DRAWING No:		REV:
C002		P1
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EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS, LANDSCAPING PLANS AND WRITTEN INSTRUCTIONS RELATING TO THE SUBJECT DEVELOPMENT.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION AND DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD.
- THE EXTENT AND POSITION OF THE EROSION AND SEDIMENT CONTROL MEASURES TO BE DETERMINED ON SITE BY THE CONTRACTOR TO SUIT THE CONSTRUCTION PROGRAM.
- THESE PLANS PRESENT CONCEPTS ONLY AND THE MEASURES SHOWN ON THIS DRAWING(S) ARE MINIMUM REQUIREMENTS ONLY.
- THE CONTRACTOR SHALL AT ALL TIMES BE RESPONSIBLE FOR THE ESTABLISHMENT, MANAGEMENT AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES TO MEET COUNCIL STANDARDS.
- LARGE OPEN AREAS OR STEEP BATTERS SHOULD NOT BE LEFT EXPOSED/UNSTABILISED FOR MORE THAN 10 DAYS OR IF WET WEATHER IS FORECAST.
- EXPOSED AREAS INCLUDING BATTERS WHICH REMAIN UN-WORKED FOR MORE THAN 10 DAYS SHOULD BE STABILISED USING TEMPORARY HYDROMULCHING, HYDROSEEDING OR MULCHING, EVEN IF AREAS WILL BE WORKED AT A LATER TIME.
- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST VERSION OF THE INSTITUTION OF ENGINEERS AUSTRALIA, 'SOIL EROSION AND SEDIMENT CONTROL - ENGINEERING GUIDELINES FOR QUEENSLAND CONSTRUCTION SITES'.
- THE CONTRACTOR SHALL BE AWARE OF ITS RESPONSIBILITIES FOR PROTECTING THE DOWNSTREAM ENVIRONMENT AND RECEIVING WATER FROM POLLUTION AND ENVIRONMENTAL HARM, UNDER THE ENVIRONMENTAL PROTECTION ACT, 1994.
- ADDITIONALLY THE CONTRACTOR SHALL BE AWARE OF ITS DUTY TO NOTIFY THE LOCAL AUTHORITY AND THE ENVIRONMENTAL PROTECTION AGENCY (QLD) OF A POTENTIAL OR ACTUAL INCIDENT OF ENVIRONMENTAL HARM, UNDER THE ENVIRONMENTAL PROTECTION ACT, 1994.

RECOMMENDED IMPLEMENTATION SEQUENCE:

- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO WORKS COMMENCING AND IN THE FOLLOWING SEQUENCE:
 - CONSTRUCT TEMPORARY STABILISED SITE ACCESS, ENSURING ADJACENT STORMWATER RUN OFF IS DIVERTED AWAY FROM ACCESS
 - INSTALL SEDIMENT FENCING AND/OR BARRIER FENCING TO CONFINE INGRESS TO AND EGRESS FROM THE SITE TO STABILISED ACCESS POINT(S) ONLY.
 - PROVIDE INLET PROTECTION TO STORMWATER INLETS AND GULLIES ON ALL ROADS ADJOINING THE SITE.
 - CONSTRUCT BARRIER FENCING AROUND RESTRICTED 'NO-GO' ZONES OF RETAINED VEGETATION, AREAS NOT TO BE DISTURBED AND AREAS WHICH WILL REMAIN UN-WORKED.
 - CONSTRUCT UPSTREAM DIVERSION CHANNELS TO DIVERT CLEAN WATER AROUND WORKSITE, AND INSTALL APPROPRIATE CHANNEL STABILISATION.
 - CONSTRUCT LOW FLOW EARTH BANKS AS CATCH DRAINS PARALLEL TO CONTOURS TO LIMIT LARGE SLOPE LENGTHS (SLOPES SHOULD BE LESS THEN 80% IN LENGTH).
 - INSTALL ALL TEMPORARY SEDIMENT FENCES.
 - CONSTRUCT ANY NOMINATED SEDIMENT BASINS AND SEDIMENT TRAPS.
 - STABILISE ALL DISTURBED AREAS ASAP AND PROGRESSIVELY AS WORKS ARE COMPLETED. TEMPORARY STABILISATION TO BE DONE USING MULCHING, HYDROMULCHING, HYDROSEEDING OR DIRECT SEEDING TO GIVE A 70% COVERAGE OF GROUND SURFACE WITHIN 14 DAYS OF WORKS COMPLETING (EVEN IF WORKS MAY CONTINUE LATER).
- UNDERTAKE SITE DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO MINIMUM WORKABLE AREAS.
- DISTURBED AREAS TO EXTEND NO MORE THAN 5 METRES (PREFERABLY 2 METRES) FROM ESSENTIAL WORKS AREAS.
- WORK AREAS TO BE DELINEATED BY BARRIER FENCING AND DIVERSION CHANNEL UPSLOPE AND SEDIMENT FENCING DOWNSLOPE.
- THE CONTRACTOR SHALL ENSURE THAT THE EXISTING VEGETATION AND GROUND COVER IS RETAINED AS MUCH AS POSSIBLE.
- TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER USE IN LANDSCAPING, STABILISATION AND/OR SITE REHABILITATION WORKS.
- AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT ANY DOWNSTREAM CONSTRUCTION AND RECEIVING ENVIRONMENTS.
- EROSION AND SEDIMENT CONTROL PROTECTION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONTRACT.
- PLANS AND CONTROL MEASURES FOR LARGE SITES WILL NEED TO BE REVISED AND UPDATED TO REFLECT THE SITE STAGES AND PROGRESSION OF WORKS.
- MEASURES INCLUDING SEDIMENT FENCES SHOULD BE MOVED AND REINSTATED AS WORKS PROGRESS.
- FOOT AND VEHICULAR TRAFFIC TO BE RESTRICTED IN RECENTLY STABILISED AREAS INCLUDING THOSE HYDROSEEDED, TURFED OR SEEDED.

CONTROL MEASURES

- FINAL SITE LANDSCAPING SHALL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS OF CONSTRUCTION COMPLETION
- SEDIMENT LADEN WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM BY USING INLET PROTECTION.
- ALL PERIMETER BANKS AND CHANNEL DRAINS SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED ONCE SITE IS STABILISED AND UPSTREAM WORKS HAVE BEEN COMPLETED.
- AT CONSTRUCTION COMPLETION ALL TEMPORARY EARTH STRUCTURES, INCLUDING SOIL STOCKPILES ARE TO BE TRACK ROLLED AND SEEDED. THE CONTRACTOR IS TO ENSURE A 70% COVERAGE WITHIN 14 DAYS.

DUST CONTROL

- DURING WINDY AND DRY WEATHER ANY UNPROTECTED AREAS SHALL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. WHERE WATER IS NOT AVAILABLE IN SUFFICIENT QUANTITIES, SOIL BINDERS OR DUST RETARDANTS TO BE USED FOR DUST SUPPRESSION.
- EXPOSED SURFACES INCLUDING BATTERS SHOULD BE LEFT ROUGH TO REDUCE WIND SPEEDS AND POTENTIAL FOR WIND EROSION.
- USE OPEN WEAVE BARRIER FENCING ON WINDWARD SIDE OF SITE IF REQUIRED (REFER DETAIL). FENCING IS GENERALLY REQUIRED WHERE AREA OF DISTURBANCE IS >5000m².

OTHER MATTERS

- ACCEPTABLE RECEPTORS AND DISPOSAL PRACTICES WILL BE USED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHERS, LITTER AND GENERAL WASTE MATERIALS.
- ANY EXISTING TREES WHICH ARE NOT REQUIRED OR APPROVED TO BE CLEARED FOR THE WORKS AND/OR FORM PART OF THE FINAL LANDSCAPING PLAN SHOULD BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - PROTECTING THEM WITH BARRIER FENCING OR MARKERS.
 - ENSURING NOTHING IS NAILED TO THEM
 - PROHIBITING PAVING, GRADING OR PLACING OF STOCKPILES WITHIN DRIP LINE.
- ALL VEHICLE AND EQUIPMENT WASHING SHOULD BE CONTAINED IN SPECIFIC BUNDED AREAS, DISCONNECTED FROM CONCENTRATED FLOW PATHS AND THE STORMWATER SYSTEM.
- ANY NECESSARY VEHICLE OR EQUIPMENT REFUELING SHOULD BE UNDERTAKEN AWAY FROM CONCENTRATED FLOW PATHS AND PREFERABLY WITHIN A BUNDED AREA.
- ANY ONSITE FUEL STORAGE AREAS SHOULD BE COVERED AND BUNDED.

MAINTENANCE OF PUBLIC ROADS

- ALL CONSTRUCTION VEHICLES DEPARTING FROM THE SITE SHALL HAVE THEIR TYRES WASHED DOWN OR SEDIMENT REMOVED BY A STABILISED SITE ACCESS DEVICE.
- THE STABILISED SITE ACCESS AREAS SHALL BE LOCATED SUCH THAT SILTED WATER IS FILTERED THROUGH A SUITABLE SEDIMENT TRAP (SUCH AS A SEDIMENT FENCE) INSTALLED DOWNSTREAM OF ACCESS.
- THE CONTRACTOR SHALL INSPECT THE PUBLIC ROADS ADJACENT TO THE SITE DAILY AND MANUALLY REMOVE ANY SEDIMENT DEPOSITS (BY SWEEPING NOT WASH DOWN).

SITE INSPECTION AND MAINTENANCE

- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED REGULARLY, IMMEDIATELY BEFORE SITE CLOSURE, PRIOR TO PREDICTED LARGE STORM EVENTS AND AFTER EVERY SIGNIFICANT (> 5MM) RAINFALL EVENT OR AT LEAST ON A WEEKLY BASIS.
- THE CONTRACTOR WILL AS A MINIMUM CONDUCT EACH INSPECTION IN LINE WITH THE FOLLOWING:
 - RECORD TYPE OF DEVICE/CONTROL MEASURE BEING INSPECTED AND ITS LOCATION.
 - RECORD THE CONDITION OF EVERY CONTROL MEASURE.
 - RECORD MAINTENANCE REQUIREMENTS FOR EVERY CONTROL DEVICE.
 - RECORD SEDIMENT VOLUMES REMOVED FROM SEDIMENT TRAPPING DEVICES.
 - RECORD DETAILS OF SEDIMENT BASIN TREATMENT, FLOCCULANT DOSAGE AND CLEANOUT.
 - RECORD SEDIMENT DISPOSAL PROCEDURES AND LOCATION.
- REPAIRS AND MAINTENANCE OF ALL DEVICES AND MEASURES INCLUDING DIVERSION CHANNELS SHALL BE UNDERTAKEN AS REQUIRED, ENSURING ALL MEASURES ARE FULLY FUNCTIONAL AT ALL TIMES.
- ENSURE SEDIMENT LADEN WATER HAS NOT BEEN DIVERTED AROUND DEVICES.
- REPAIR SCOUR DAMAGE TO SEDIMENT CONTROL MEASURES AFTER RAINFALL EVENTS AND REINSTATE DEVICES AS NECESSARY.
- SEDIMENT FENCES WILL REQUIRE CLEANING WHEN SEDIMENT REACHES 300MM DEPTH OR ONE-HALF THE HEIGHT OF THE FILTER FABRIC AND ALL OTHER SEDIMENT TRAPS WILL REQUIRE CLEANING OUT WHEN 30% OF DESIGN CAPACITY IS REACHED.
- ALL INLET AND GULLY TRAPS TO BE CLEANED NOT HOSED AFTER EVERY RAINFALL EVENT, (1<5mm) OR AT LEAST ON A WEEKLY BASIS.
- SEDIMENT REMOVED FROM ANY TRAPPING DEVICE TO BE RELOCATED, ENSURING FURTHER POLLUTION TO DOWNSTREAM ENVIRONMENTS WILL NOT OCCUR.
- ALL SEEDING, HYDROSEEDING AND TURFING REQUIRES REGULAR WATERING, UNTIL EFFECTIVE COVER ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. WATERING SHOULD VARY DEPENDING ON WEATHER AND SOIL CONDITIONS.
- WATERING SHOULD START IMMEDIATELY AFTER PLANTING AND SHOULD COMPLY WITH THE FOLLOWING AS A MINIMUM:

WEEK 1	3 WATERINGS/WEEK
WEEK 2-6	2 WATERINGS/WEEK
WEEK 7-12	1 WATERING/WEEK
- EXCESSIVE VEGETATION GROWTH WILL BE CONTROLLED THROUGH MOWING OR SLASHING.
- IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE INSPECTION, MAINTENANCE AND TESTING OF DEVICES IS UNDERTAKEN ON SITE.
- THE CONTRACTOR TO KEEP DETAILED AND LEGIBLE RECORDS OF ALL INSPECTION AND MAINTENANCE UNDERTAKEN ON THE EROSION AND SEDIMENT CONTROL DEVICES.
- ALL SITE WASTE INCLUDING GENERAL RUBBISH TO BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) POLICY 2000 AND ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) REGULATION 2000.
- THE CONTRACTOR SHALL CONSTRUCT AND IMPLEMENT ADDITIONAL MEASURES AS NECESSARY TO ENSURE PROTECTION OF DOWNSTREAM ENVIRONMENTS.

SEDIMENT BASIN MAINTENANCE

- THE CONTRACTOR SHALL KEEP DETAILED AND ACCURATE RECORDS OF THE MONITORING, TREATMENT, TESTING AND MAINTENANCE OF THE SEDIMENT BASIN INCLUDING RECORDED RAINFALL VOLUME, FLOCCULATING AGENTS USED AND TEST RESULTS PRIOR TO DEWATERING.
- THE STORMWATER RUNOFF COLLECTED IN THE SEDIMENT BASIN SHALL BE MONITORED, TREATED AND TESTED PRIOR TO DISCHARGE, INCLUDING WATER TO BE REUSED ON SITE.
- WATER TESTING TO BE UNDERTAKEN BY A SUITABLY QUALIFIED PERSON.
- ALL LABORATORY TESTING TO BE UNDERTAKEN BY A NATA ACCREDITED LABORATORY.
- ALL WATER PUMPED FROM THE SEDIMENT BASIN SHALL BE TESTED FOR ENVIRONMENTAL COMPLIANCE AGAINST THE RELEASE CRITERIA IN THE TABLE BELOW (AS A MINIMUM), UNLESS ALTERNATIVE (MORE STRINGENT) STANDARDS ARE SPECIFIED BY THE LOCAL AUTHORITY PRIOR TO RELEASE.

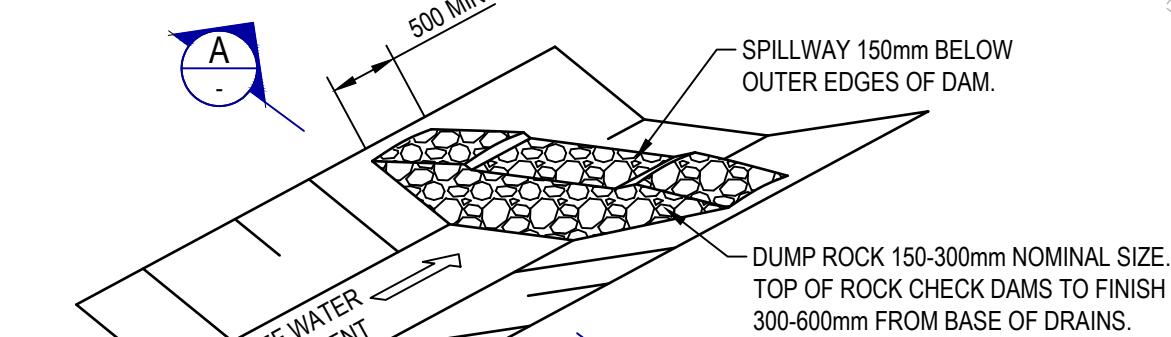
PARAMETER	RELEASE CRITERIA
SUSPENDED SOLIDS	50mg/l MAX
pH	WITHIN RANGE 6.5-8.5
VISUAL AMENITY	NO VISUAL PLUME

- WATER TESTING TO BE UNDERTAKEN USING EITHER A HANDHELD PH/TURBIDITY METER OR SAMPLES COLLECTED FOR LABORATORY TESTING PRIOR TO BASIN DEWATERING.
- THE SEDIMENT BASIN SHALL BE TREATED BY FLOCCULATION AFTER ALL RAINFALL EVENTS (> 5MM) USING GYPSUM OR ALUM. MANUAL DOSAGE OF BASIN SHALL BE UNDERTAKEN USING A MINIMUM RATE OF 32kg/100m³ FOR GYPSUM AND 1.5-8kg/100m³ FOR ALUM. HIGHER DOSAGE MAY BE REQUIRED DEPENDING ON SOIL TYPE AND APPLICATION TECHNIQUE.
- THE CHOSEN FLOCCULENT SHALL BE SPREAD EVENLY OVER THE BASIN SURFACE AREA. THE BASIN WILL REQUIRE A PUMP SYSTEM TO SPRAY SLURRY OF FLOCCULANTS OVER SURFACE AT AN ANGLE OF 10 - 20 DEGREES.
- THE TREATED BASIN SHALL BE DEWATERED WITH A PUMP SYSTEM WITH A FLOATING INLET TO ENSURE SETTLED SEDIMENT IS NOT ENTRAINED AND DISCHARGED.
- BASIN DEWATERING SHALL OCCUR WITHIN 5 DAYS FROM CONCLUSION OF RAINFALL EVENT.
- SEDIMENT BASINS WILL REQUIRE DEWATERING AND SEDIMENT CLEANOUT ONCE STORAGE CAPACITY REACHES 70%.
- CAPTURED SEDIMENT WILL BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER AS TO NOT CAUSE FURTHER CONTAMINATION OR DOWNSTREAM POLLUTION. SEDIMENT SHOULD NOT BE DISPOSED OF IN CONCENTRATED FLOWS, WHERE IT CAN BE RE-ENTRAINED OR WHERE THE RECEIVING WATER HAS A PH OF < 5.5.
- THE BASIN AND ALL OTHER CONTROL DEVICES WILL BE MAINTAINED IN AN OPERATIONAL STATE UNTIL SITE STABILISED.
- REPAIR ANY SCOUR DAMAGE TO THE SEDIMENT BASIN BATTERS AND EMERGENCY SPILLWAY FOLLOWING RAINFALL EVENTS.
- SEDIMENT BASIN SHOULD NOT BE CONSTRUCTED WITH SMOOTH INTERNAL SLOPES AND BASIN BATTERS SHOULD NOT BE STEEPER THEN 3(H):1(V).
- BASINS SHOULD BE APPROPRIATELY FENCED AND MARKED BY WARNING SIGNS IF UNSUPERVISED PUBLIC ACCESS IS LIKELY AND PUBLIC SAFETY IS AT RISK.

NOTE: ALL NOTES ON THIS PAGE ARE MINIMUM REQUIREMENTS AND ARE TO BE CONFIRMED BY THE CERTIFYING CPESC OR RPEQ ENGINEER

SPACING OF CHECK DAMS TO ENSURE TOE OF UPSTREAM DAM IS LEVEL WITH THE SPILLWAY OF THE NEXT DOWNSTREAM DAM.

LONG SECTION



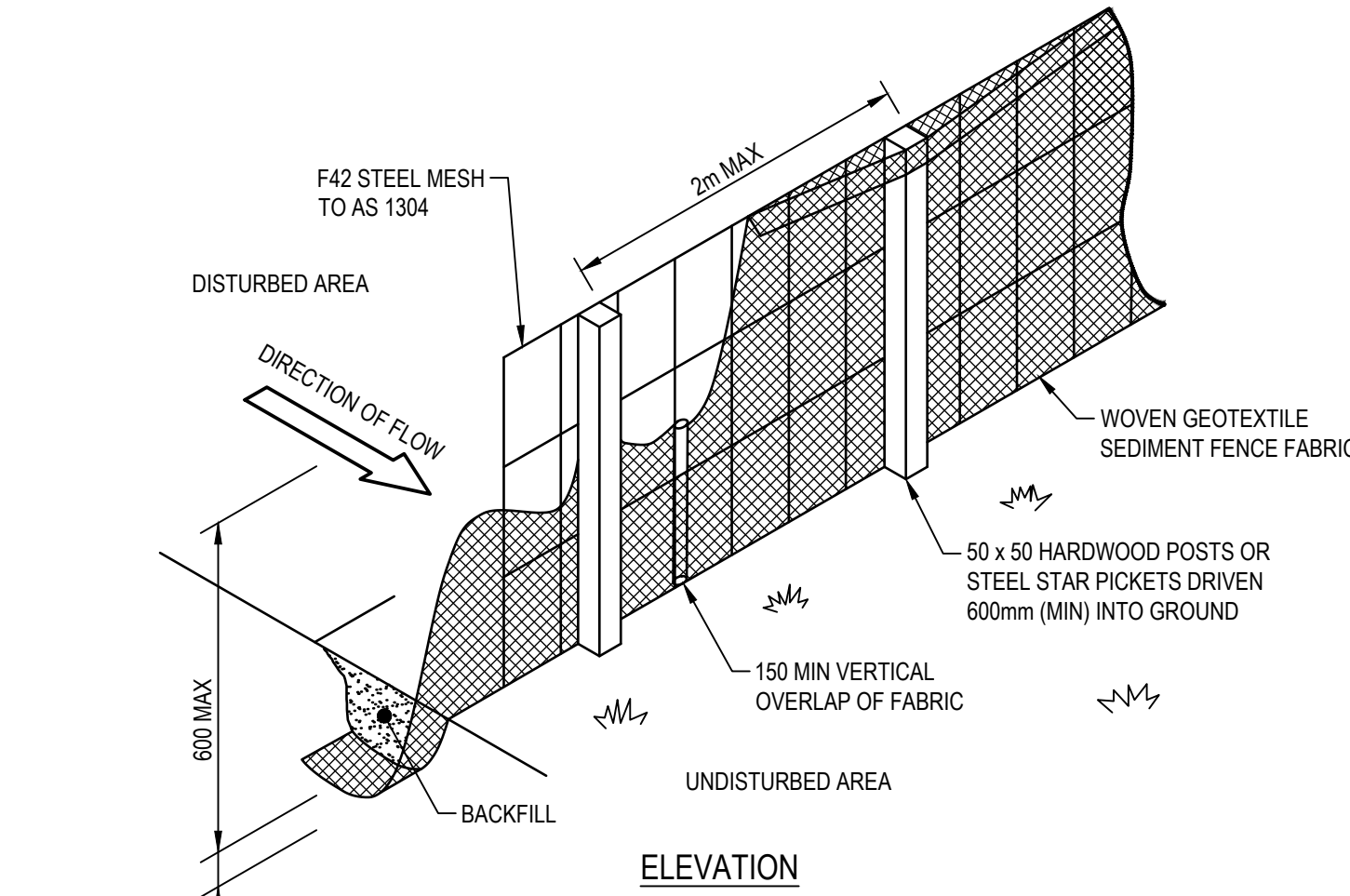
ELEVATION

ROCK CHECK DAM DETAIL

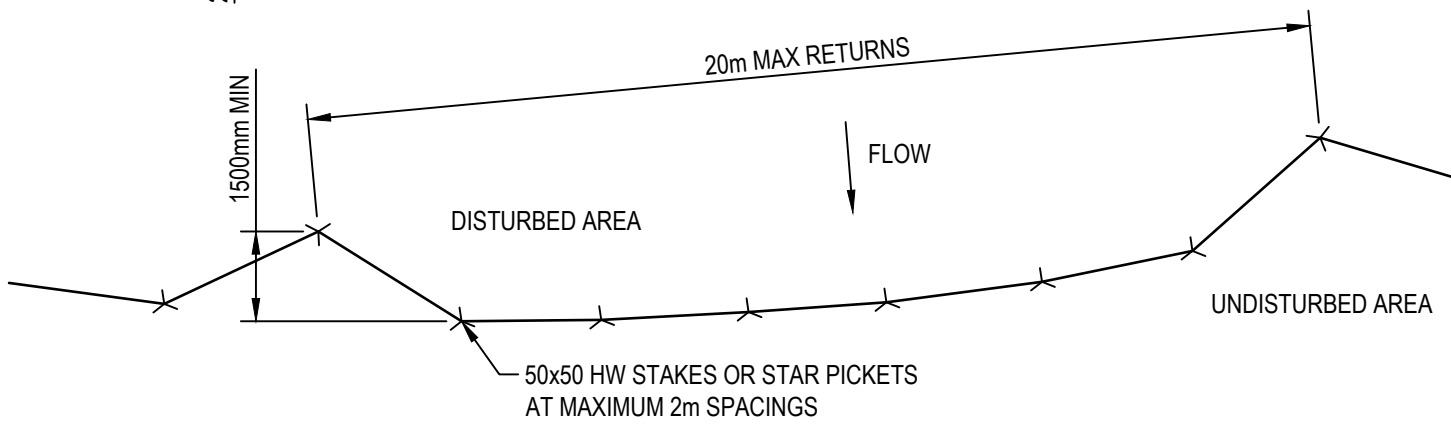
NTS

NOTES

- INSPECT DAMS REGULARLY FOR SIGNS OF SCOUR, UNDERCUTTING AND SEDIMENT BUILD-UP.
- MAINTAIN THE DAM SO THAT RUNOFF WILL FLOW THOUGH WASHED ROCK OR OVER SPILLWAY AND NOT ERODE STREAM BANKS.
- REMOVE SEDIMENT ACCUMULATED BEHIND DAM WHEN NOTED.



ELEVATION



PLAN

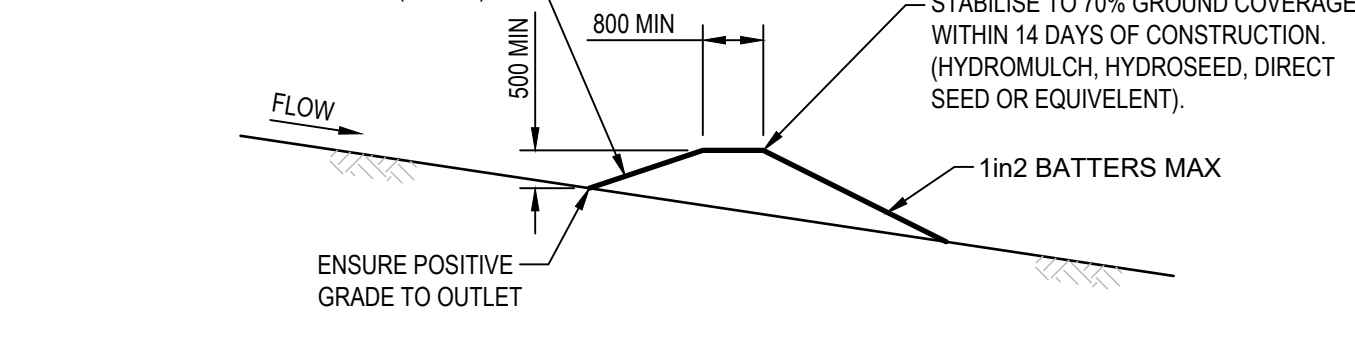
SEDIMENT FENCE DETAIL

NTS

NOTES

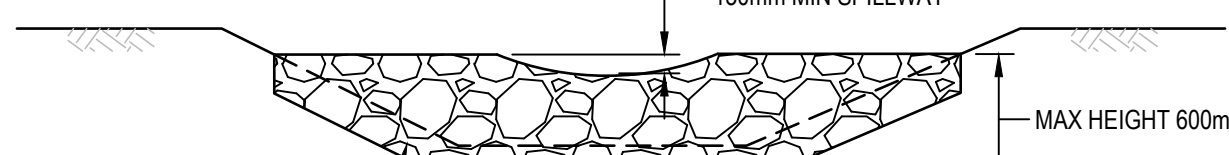
- HORIZONTAL BAR STEEL MESH TO BE FLUSH WITH TOP OF GEOTEXTILE FABRIC WITH NO VERTICAL BARS PROTRUDING PAST TOP OF SEDIMENT FENCE.
- NO SHADE CLOTH TO BE USED FOR SEDIMENT FENCING.
- CATCHMENT DRAINING TO SEDIMENT FENCE SHOULD BE MAX 0.6ha.
- UPSTREAM SLOPE TO BE 1:2 MAX AND SLOPE LENGTH 60m MAX.
- SEDIMENT FENCES ARE TO BE INSTALLED PARALLEL TO CONTOURS WHERE POSSIBLE AND HAVE RETURNS EVERY 20m, TO LIMIT CONTRIBUTING CATCHMENT AND ENCOURAGE PONDING.
- SEDIMENT FENCES TO BE INSTALLED NO MORE THAN 5m FROM DISTURBED AREAS OR STOCKPILES.

MOUND MATERIAL SHALL BE COMPACTED TO 95% STANDARD COMPACTION. BUILD UP IN LAYERS NOT EXCEEDING 200mm (LOOSE)



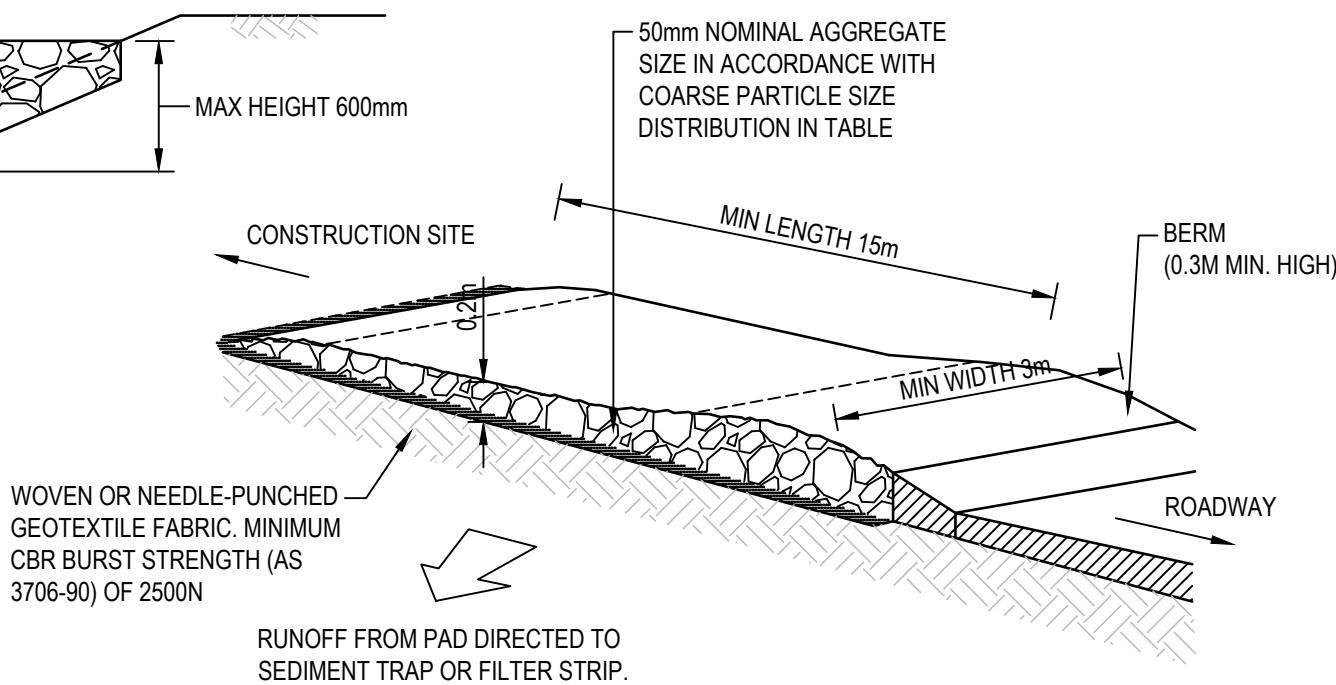
DIVERSION MOUND / BUNDWALL DETAIL

NTS



SECTION A-A

NTS



TEMPORARY STABILISED SITE ENTRY/EXIT (ROCK)

NTS

NOTES

- STABILISED ACCESS SHOULD BE CLEANED AND MAINTAINED AFTER EVERY RAINFALL EVENT (>5mm) AND WHEN SEDIMENT ACCUMULATION IS NOTED.
- FINE ACCUMULATED SEDIMENTS SHOULD BE REMOVED FROM AGGREGATE REGULARLY.

DO NOT SCALE

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REV	DATE	BY	DESCRIPTION	CHK	APP
DRAWING STATUS: DESIGN DEVELOPMENT					

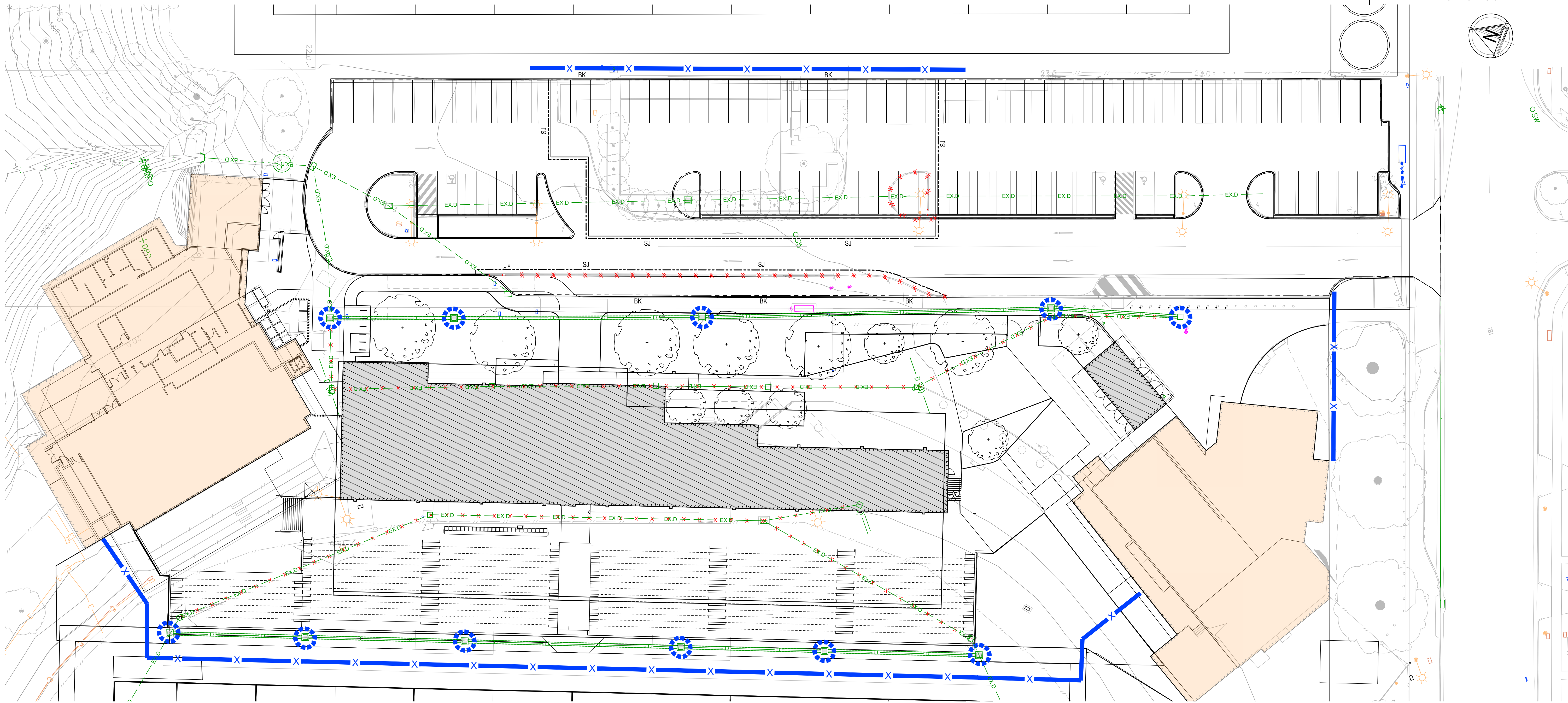


CLIENT:	BUILD CORP
ARCHITECT:	BLIGHT RAYNER

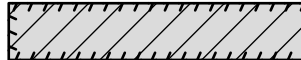
PROJECT:	NORTH IPSWICH SPORT AND ENTERTAINMENT PRECINT
TITLE:	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

SCALE @ A1: AS ABOVE	CHECKED: FM	APPROVED: JC
PROJECT NUMBER: PS212527	DRAWN: SP	DATE: 30/01/2026
DRAWING No: C004		REV: P1
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DO NOT SCALE



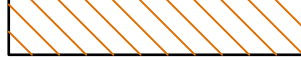
LEGEND



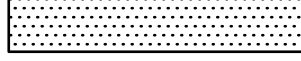
PROPOSED BUILDING AREA



EXISTING BUILDING AREA



PROPOSED STABILISED SITE ENTRY/EXIT
LOCATION TO BE DETERMINED BY CONTRACTOR



PROPOSED 100mm TOPSOIL AND HYDROSEED
WITH SHORT AND LONG TERM SEEDING



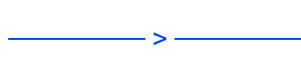
OVERLAND FLOW PATH



PROPOSED SEDIMENT FENCE



PROPOSED INLET SEDIMENT TRAP



PROPOSED ROCK CHECK DAM



PROPOSED TEMPORARY DIVERSION DRAIN



PROPOSED SWALE DRAIN



ITEMS / SERVICES TO BE REMOVED



REFER NOTE 1 FOR DETAILS

NOTES

1. SEDIMENT AND CONTROL MEASURES SHOWN ON THIS PLAN ARE PREPARED AS A GUIDE FOR CONSTRUCTION APPROVAL BY COUNCIL. IT DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PLAN AND IMPLEMENT ENVIRONMENTAL PROTECTION MEASURES AS REQUIRED BY LAW, THE COUNCIL AND THE CONTRACT THROUGHOUT THE WORKS.

2. NO WATER TO LEAVE SITE UNTIL THE SITE HAS 80% (MIN) COVERAGE/STABILISATION.

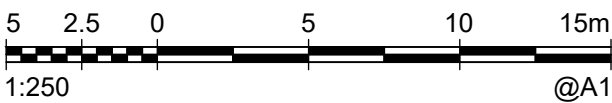
3. EROSION AND SEDIMENT CONTROL PLAN TO BE PREPARED BY CPESC OR RPEQ.

4. ITS THE CONTRACTORS RESPONSIBILITY TO ENGAGE A CPESC OR RPEQ ENGINEER EXPERIENCED IN EROSION AND SEDIMENT CONTROL TO PREPARE AN EROSION AND SEDIMENT CONTROL PLAN TO MATCH THE CONTRACTORS CONSTRUCTION METHODOLOGY AND STAGING OF WORKS THROUGHOUT CONSTRUCTION.

5. RUSLE CALCULATION TO BE USED TO DETERMINE THE TYPE OF CONTROLS TO BE IMPLEMENTED.

6. USE DETENTION TANK EXCAVATION AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION.

7. FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS REFER DWG C004.



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REV	DATE	BY	DESCRIPTION	CHK	APP
DRAWING STATUS:			DESIGN DEVELOPMENT		



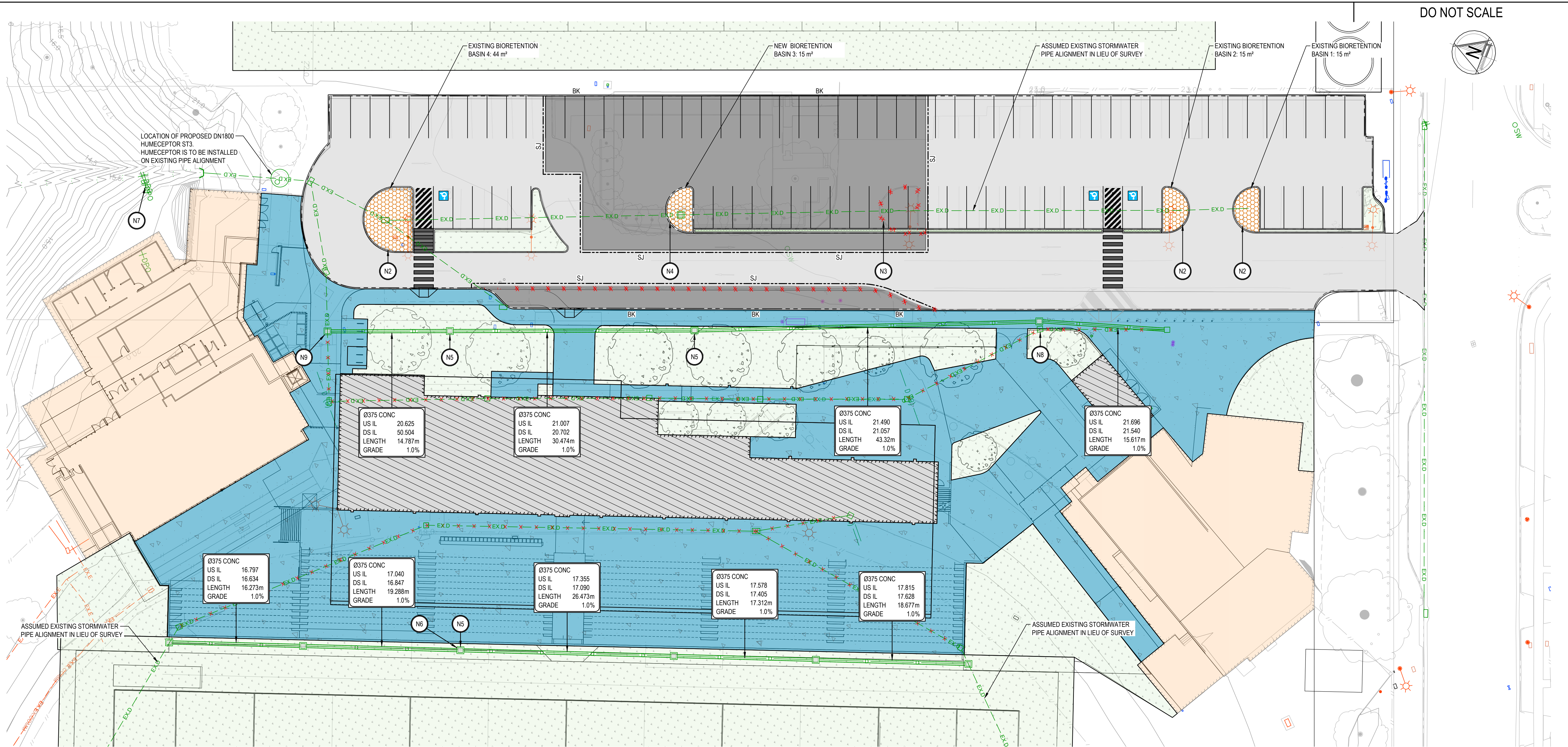
<http://www.wsp.com>

CLIENT:	BUILD CORP
ARCHITECT:	BLIGHT RAYNER

PROJECT:	NORTH IPSWICH SPORT AND ENTERTAINMENT PRECINT
TITLE:	EROSION AND SEDIMENT CONTROL LAYOUT PLAN

SCALE @ A1:	1:250	CHECKED:	FM	APPROVED:	JC
PROJECT NUMBER:	PS212527	DRAWN:	SP	DATE:	30/01/2026
DRAWING No:	C005	REV:	P1	© WSP Australia Pty Ltd	

DO NOT SCALE



LEGEND

	PROPOSED BUILDING AREA		STORMWATER DRAINAGE STRUCTURE IDENTIFIER
	EXISTING BUILDING AREA		STORMWATER DRAINAGE PIPE INFORMATION
	BARRIER KERB		EXISTING STORMWATER DRAINAGE
	PROPOSED DESIGN CONTOURS		EXISTING ELECTRICAL
	EXISTING CONTOURS		EXISTING COMMUNICATIONS
	PROPOSED STORMWATER PIPE WITH GRATED PIT		EXISTING GAS
	ITEMS / SERVICES TO BE REMOVED		EXISTING WATERMAIN
	PROPOSED HUMECEPTOR		EXISTING SEWER MAIN
	REFER NOTE 1 FOR DETAILS		EXISTING FENCING

NOTES

1. ALL EXISTING STORMWATER INFRASTRUCTURE IS TO BE SURVEYED TO INSPECT THE CURRENT CONDITION AND TO INFORM EXISTING INVERT LEVELS, SIZES, LENGTHS AND SLOPES FOR NEW INFRASTRUCTURE TO TIE IN. ALL NEW STORMWATER DRAINAGE PIPE INFORMATION IS INDICATIVE ONLY AND WILL BE REVIEWED AND UPDATED ONCE DETAILED SURVEY IS PROVIDED.
2. BIORETENTION GARDENS TO BE RETAINED.
3. BIORETENTION GARDENS ARE TO BE DEMOLISHED, EXISTING PIT TO BE CUT DOWN AND EITHER MADE BLIND OR ARE TO BE REPLACED WITH TRAFFICABLE CLASS D COVER WITH FRAME ADDED.
4. BIORETENTION GARDENS ARE TO BE RECONSTRUCTED WITH NEW PIT TO THE NEW CARPARK ALIGNMENT IN THE VEGETATED ISLAND. GRATED PIT TO BE LOCATED CENTRALLY AND CONNECTED TO EXISTING 225mm RCP.
5. PROPOSED GRATED PIT, TO BE PROVIDED WITH STUBS FOR BUILDINGS HYDRAULICS DISCHARGE. CONNECTIONS FOR FIELD OF PLAY DRAINAGE TO BE CONFIRMED.
6. EXISTING OUTLET ARRANGEMENT TO BE RETAINED AND UPGRADED AS NECESSARY.
7. NEW PIPE TO BE INSTALLED AT EXISTING PIT. ALLOW UPGRADE TO PIT CHAMBER.
8. NEW PIT CHAMBER TO BE INSTALLED ON EXISTING PIPE ALIGNMENT.

5 2.5 0 5 10 15m
1:250 @A1

P1	30/01/2026	SP	PRELIMINARY	FM	JC
REV	DATE	BY	DESCRIPTION	CHK	APP
DRAWING STATUS:			DESIGN DEVELOPMENT		



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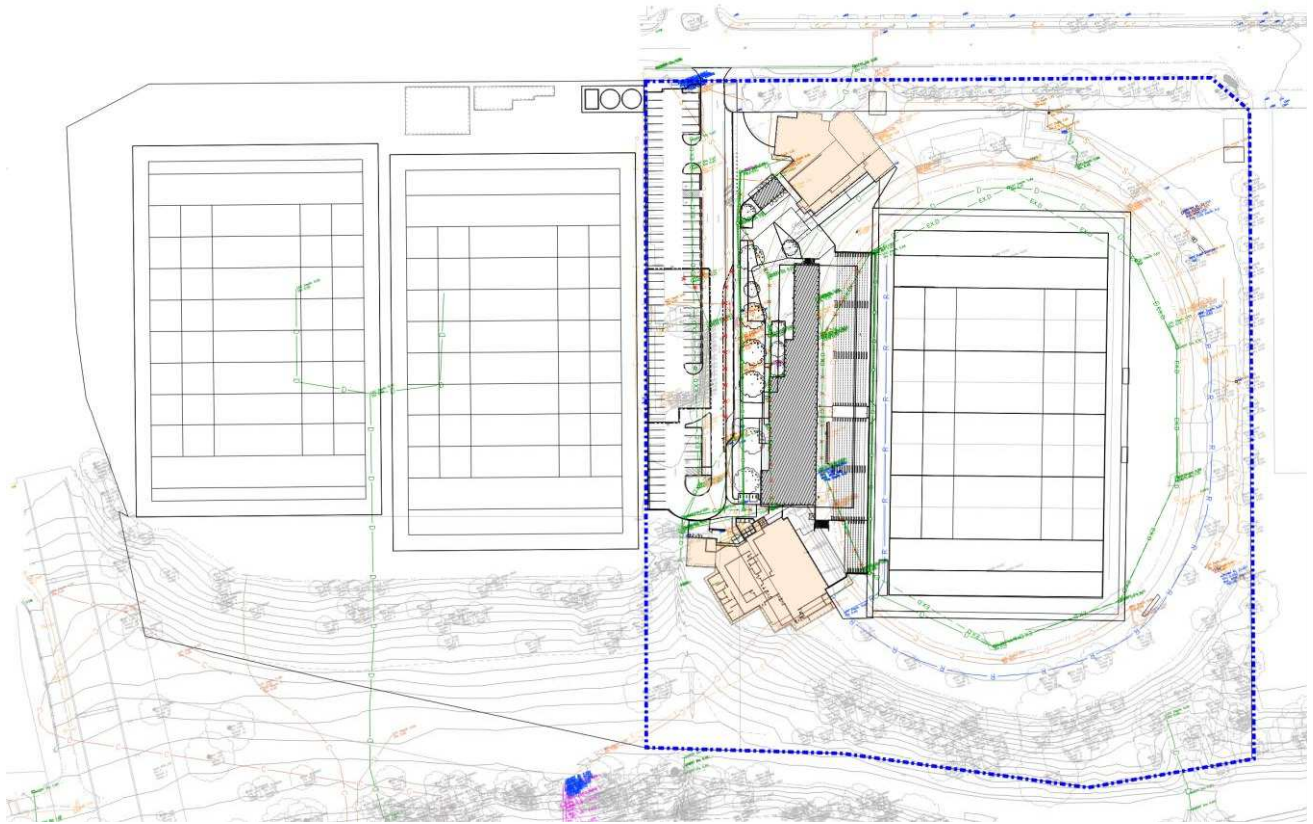
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		© WSP Australia Pty Ltd		
ARCHITECT: BLIGHT RAYNER	TITLE: STORMWATER DRAINAGE LAYOUT PLAN	DRAWING No: C030		REV: P1

Appendix B

Catchment Plan



B1 Catchment Plan

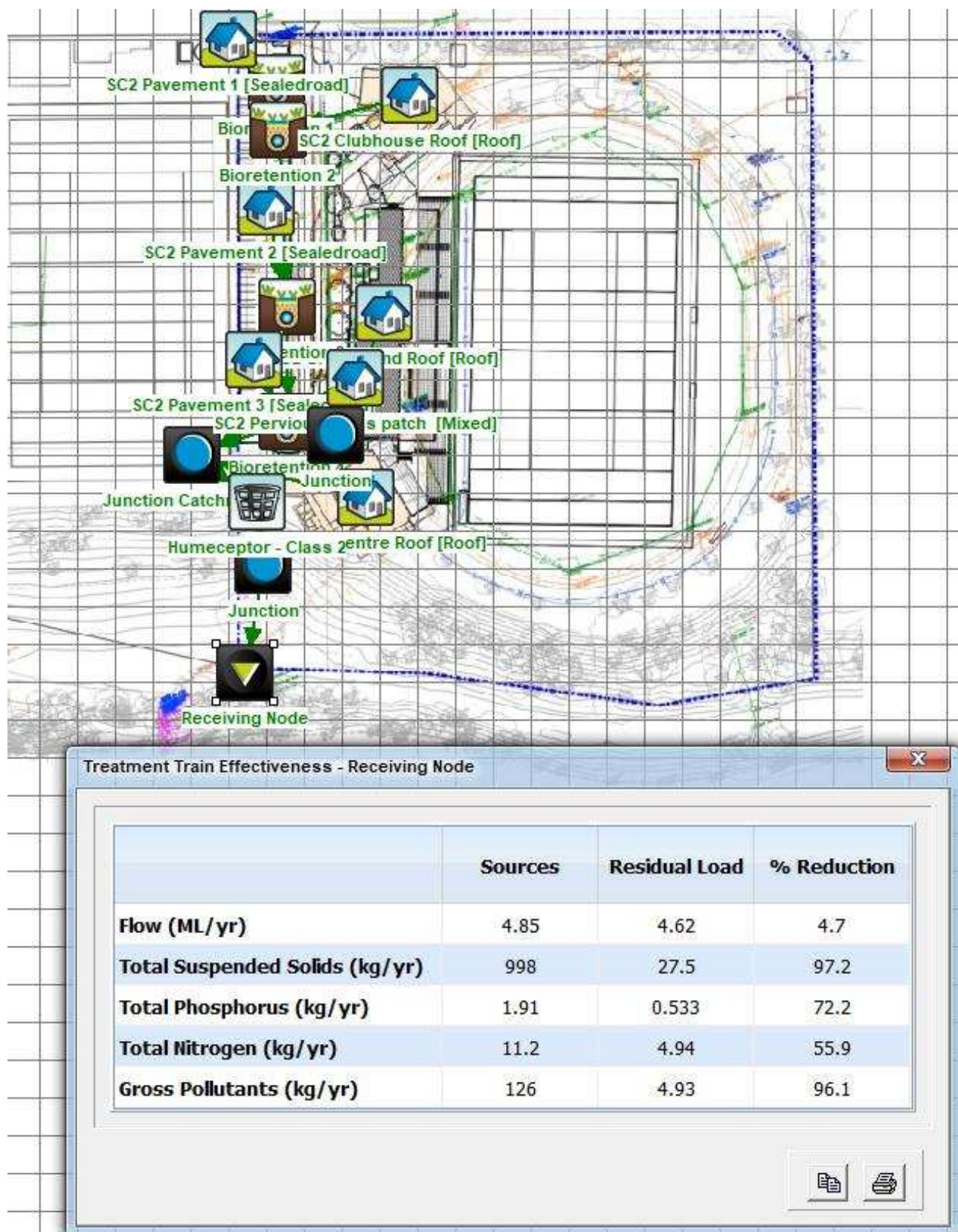


Appendix C

MUSIC Model



C1 MUSIC Model



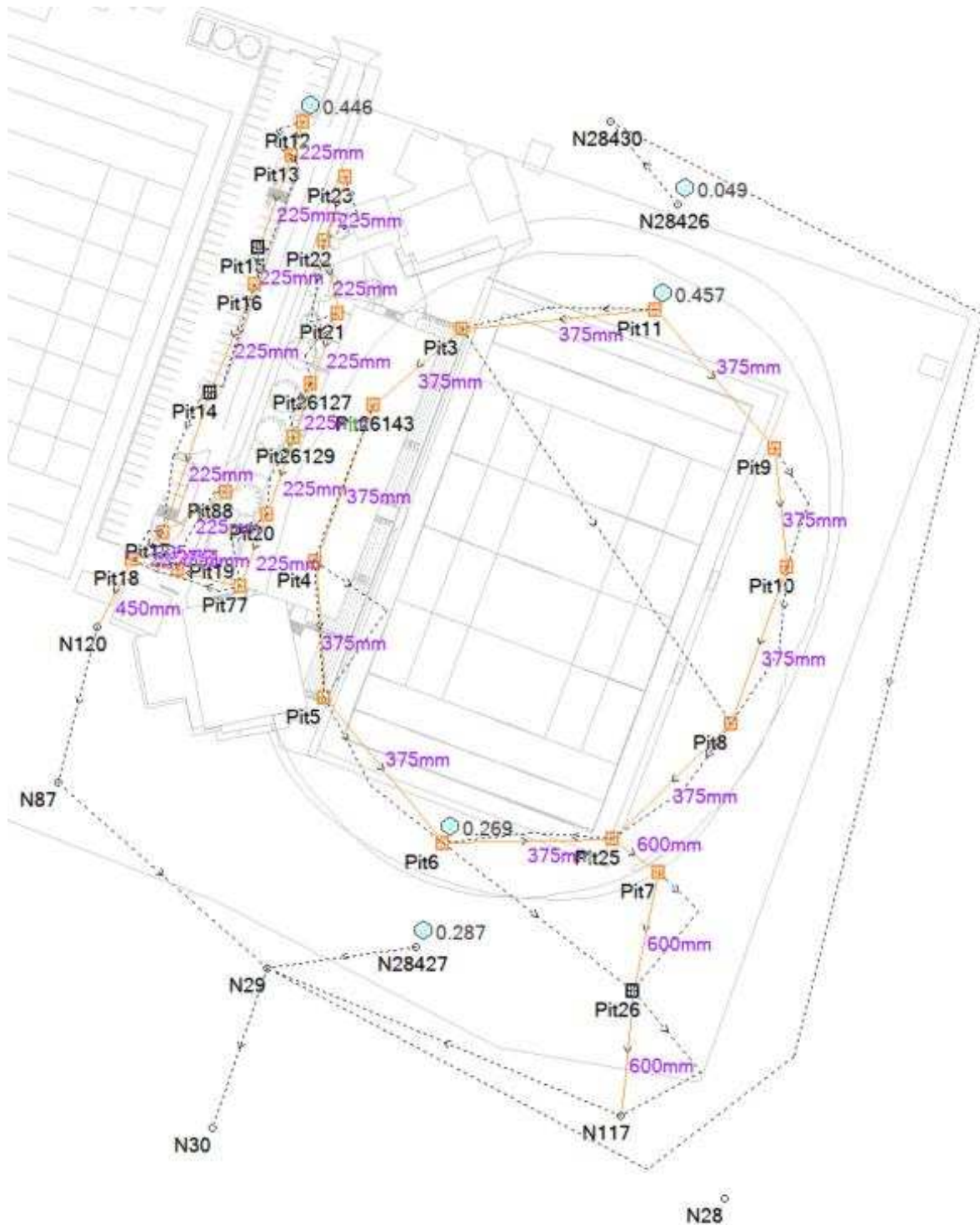
Appendix D

DRAINS Model



D1 DRAINS Model – Existing / Pre-Development

Q100 Storm Event



D2 DRAINS Model – Proposed / Post-Development

Q100 Storm Event

