

Construction Soil and Water Management Plan

Loreto Normanhurst P3A, P1A and Through Site Link

Prepared for CTPG / 17 November 2021

201435 CAAA

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1.0 Background

The proposed works extent includes construction of car parking, a through site road, tennis courts and landscaping works. Further detail on the staging of works is provided in Section 2.0.

The report has been prepared to satisfy Consent Condition C18 as follows:

The Applicant must prepare a Construction Soil and Water Management Plan (CSWPSM) and the plan must address, but not be limited to the following:

- a) *Be prepared by a suitably qualified expert, in consultation with Council;*
- b) *Describe all erosion and sediment controls to be implemented during construction, as a minimum, in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book',*
- c) *Provide a plan of how all construction works will be managed in a wet-weather event (i.e. storage of equipment, stabilisation of the Site);*
- d) *Detail all off-site flows from the site; and*
- e) *Describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to, 1 in 5 year ARI.*

2.0 Construction Staging

The works will be staged in three substages:

Substage 1:

- Reconfigure P3A Osborn Road carpark
- Hard and soft landscaping

Substage 2:

- Construct through site road
- Hard and soft landscaping

Substage 3:

- Reconfigure P2 Admin/Chapel and Pennant Hills Road Carparks
- Demolish existing tennis courts and sheds
- Construct P1A Tennis Court carpark
- Hard and soft landscaping

3.0 Access Locations and Traffic Movements within the Worksite

Access to the worksite throughout the works is anticipated to be from Osborn Road for both the P3A car park and works to the administration car park, and from Mount Pleasant Avenue for the P1A car park. Refer to the attached Construction Management Plans prepared by Cowyn in Appendix A for further details on access.

All vehicles will enter and exit the site in a forward direction, with direction of travel shown on the Construction Management Plans.

4.0 Site Storage and Stockpile Locations

Material storage areas are located within the site as detailed on the Construction Management Plans within Appendix A.

5.0 Stormwater Flows

The location of off site stormwater flows are detailed within the Erosion and Sediment Control Plans in Appendix B.

Substage 1:

The P3A carpark surface levels convey stormwater into existing pit and pipe drainage that will be maintained during the works. This pit and pipe system conveys stormwater into Council's system along Osborn Road.

Substage 2:

Stormwater within the works extent for substage 2 will drain into existing site drainage that is conveyed to existing stormwater within Pennant Hills Road and Mount Pleasant Avenue.

Substage 3:

Stormwater within substage 3 will drain into the stormwater network constructed during substage 2 along the through site link which ultimately will be conveyed to Mount Pleasant Avenue.

6.0 Erosion and Sediment Control

Erosion and sediment control plans have been prepared for each substage of the site to prevent sediment laden stormwater from flowing into adjoining properties or receiving water bodies. Stormwater controls are detailed in the attached erosion and sediment control plans in Appendix B. These have been prepared with reference to Hornsby Shire Council's Development Control Plan and Landcom NSW's Managing Urban Stormwater, Soils and Construction.

The disturbed area of works for each substage is such that a sediment basin is not required in accordance with Landcom NSW's Managing Urban Stormwater, Soils and Construction. The measures to be implemented to manage stormwater during minor and larger storm events include catch drains, hay bale sediment filters, geotextile pit filters, and sandbag sediment traps.

Cowyn has advised that additional siltation fencing will be provided around the perimeter of each storage zone to assist in sediment capture during storm events.

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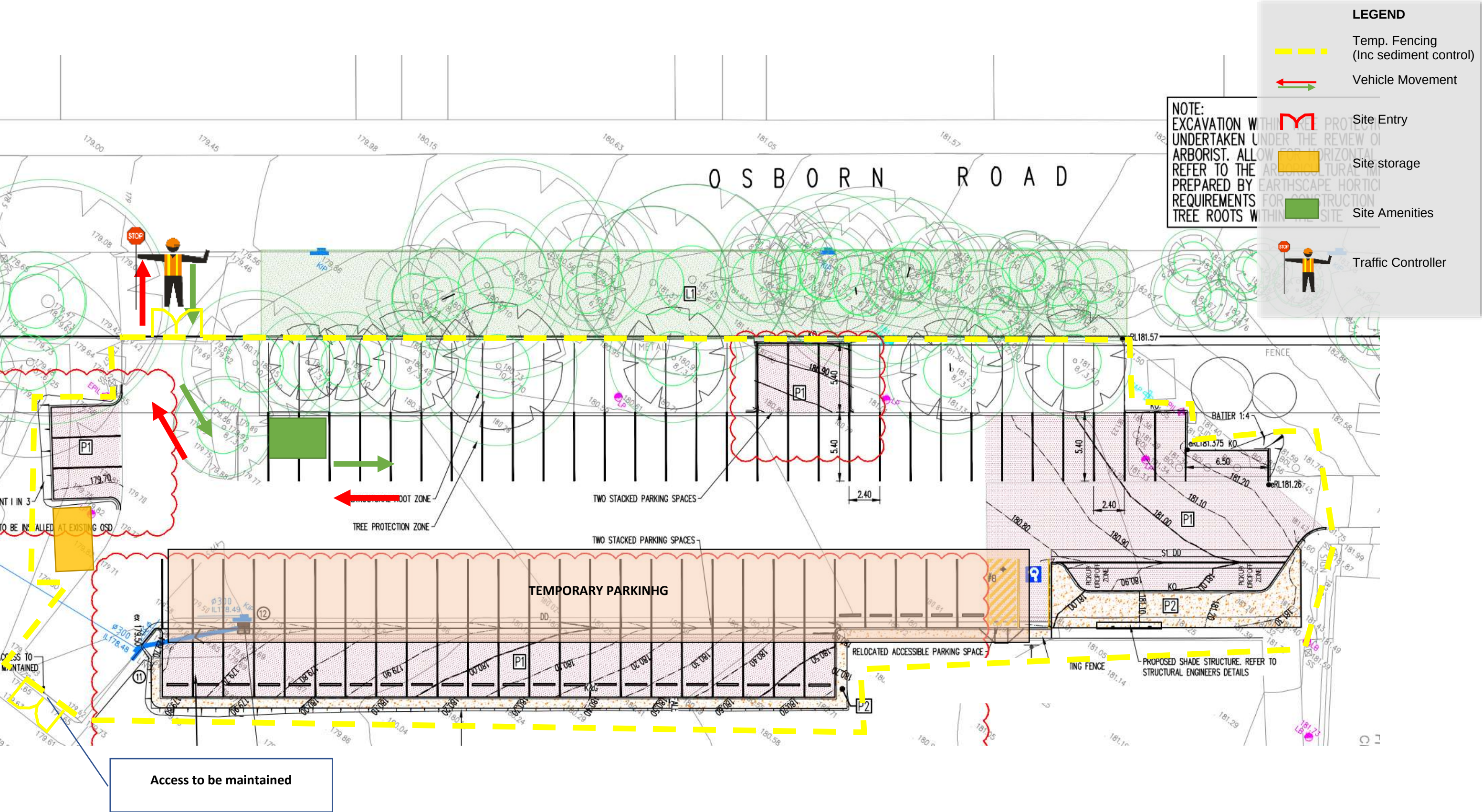


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Associate

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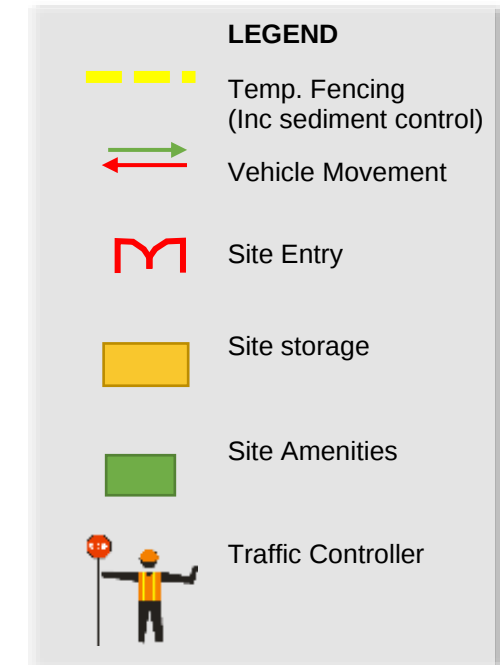
Appendix A

Construction Management Plan prepared by Cowyn

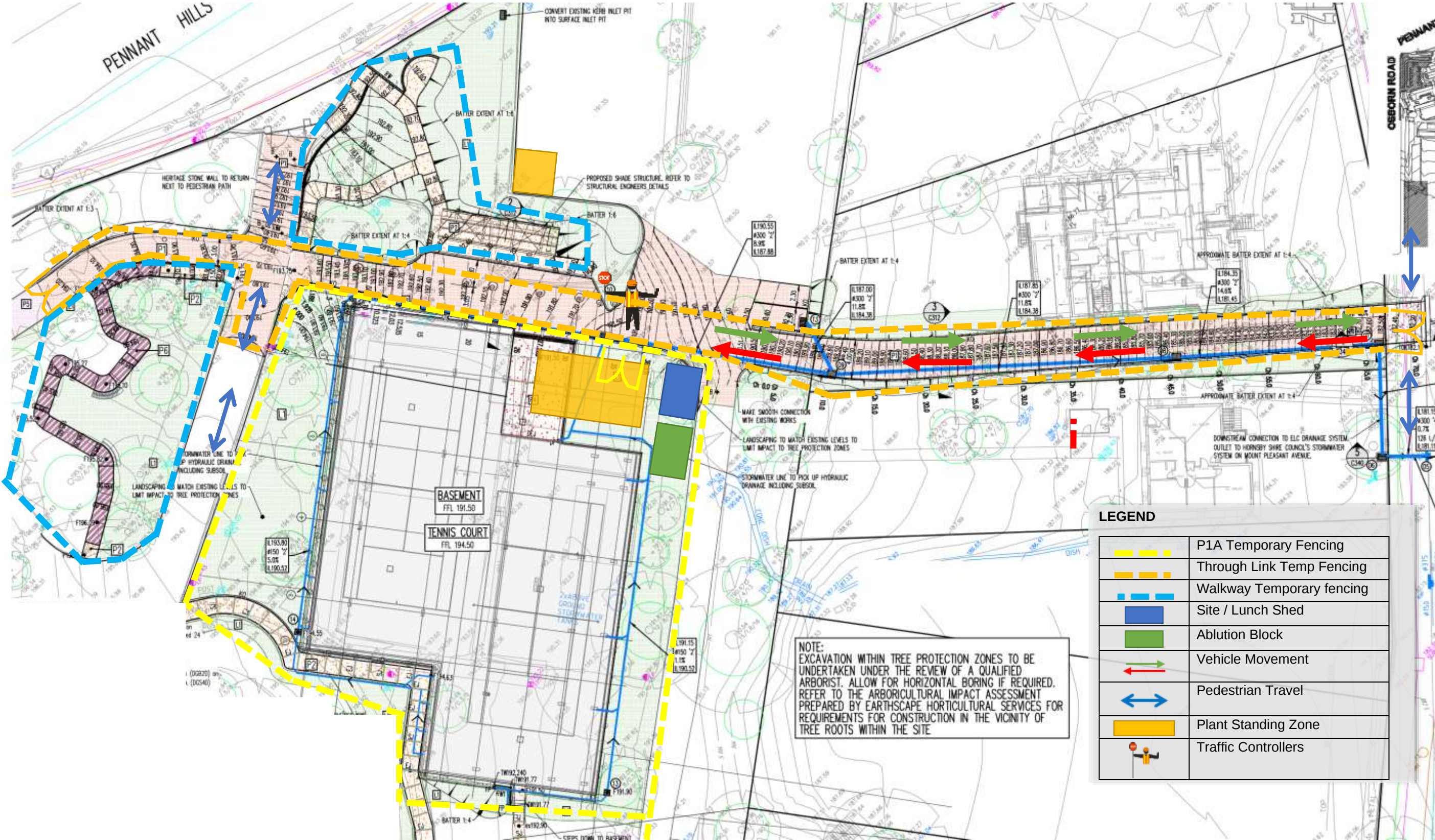


CONSTRUCTION MANAGEMENT PLAN

- FINAL TPMP & CEMP to be developed prior to commencement
- Sediment control measures to be installed as detailed
- Site Amenities to be provided
- Pedestrian footpath at front of site to be maintained at all times



- FINAL TPMP & CEMP to be developed prior to commencement
- Sediment control measures to be installed as detailed
- Staff carpark link road ramp construction to be completed during school holidays



CONSTRUCTION MANAGEMENT PLAN

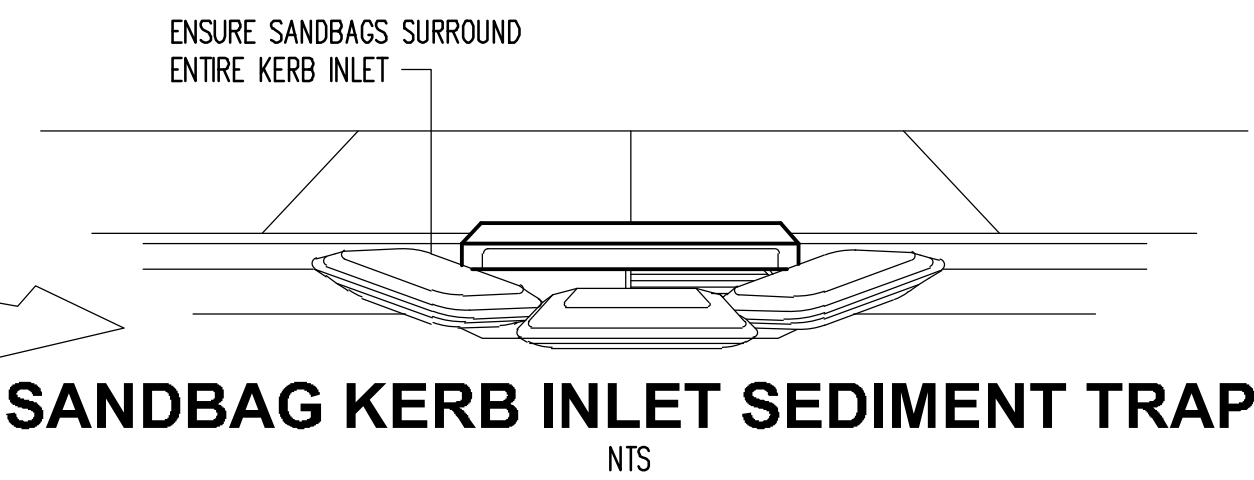
- FINAL TPMP & CEMP to be developed prior to commencement
- Sediment control measures to be installed as detailed
- Staff carpark link road reconstruction and throughlink connection to be completed during school holidays

Appendix B

Erosion and Sediment Control Plans



TYPICAL SECTION THROUGH CATCH DRAIN



PROVIDE WASH WATER FOR TRUCKS EXITING SITE

CONSTRUCTION SITE

RUNOFF FROM PAD DIRECTED TO SEDIMENT TRAP

15000 MIN

3000 MIN

200

BERM 300 HIGH MIN

EXISTING ROADWAY

GEOTEXTILE FABRIC

50-75mm GRAVEL

TEMPORARY CONSTRUCTION EXIT

NTS

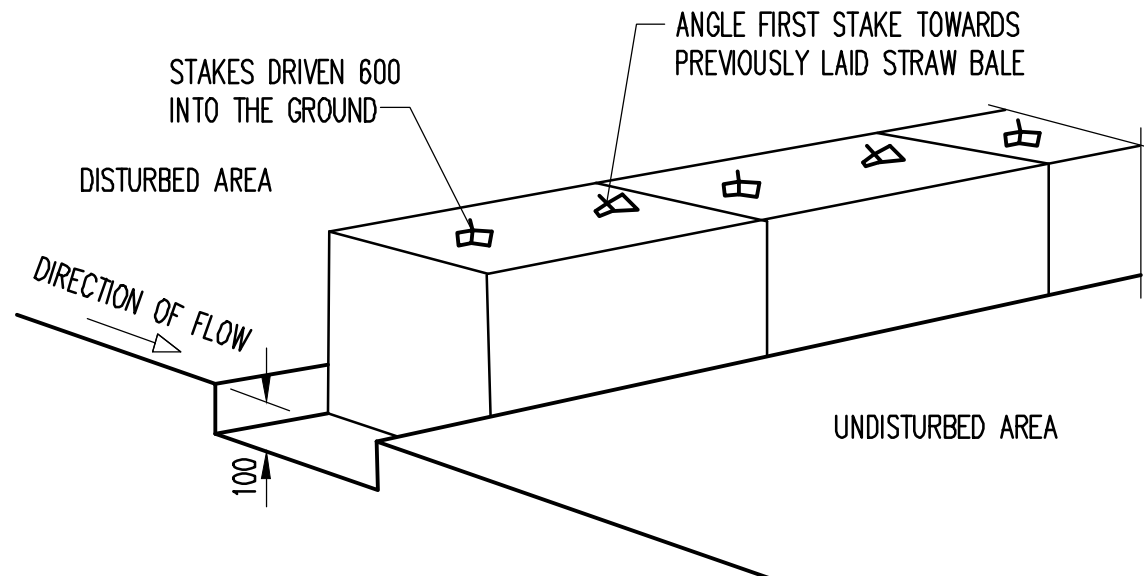
TEMPORARY CONSTRUCTION EXIT



A perspective diagram showing a series of four rectangular straw bales stacked in a line across a channel. The channel is divided into a 'DISTURBED AREA' upstream and an 'UNDISTURBED AREA' downstream. A 'DIRECTION OF FLOW' arrow points from the disturbed area towards the bales. A dimension line indicates a distance of '100' from the start of the bales to a point in the disturbed area. Labels with leader lines specify: 'STAKES DRIVEN 600 INTO THE GROUND' pointing to a stake in the ground between the first and second bales; and 'ANGLE FIRST STAKE TOWARDS PREVIOUSLY LAID STRAW BALE' pointing to the first stake driven into the ground between the second and third bales.

HAY BALE SEDIMENT FILTER

NOTE: STAKE TO BE EITHER TAR COATED
STAR OR 50 x 50 HARDWOOD



Sheet Subject

**EROSION & SEDIMENT
CONTROL PLAN SHEET 1
AND DETAILS**

Sequence Of Works

1. Prior to commencement of excavation the following soil management devices must be installed.
- 1.1. Construct silt fences below the site and across all potential runoff sites.
- 1.2. Construct temporary construction entry/exit and divert runoff to suitable control systems.
- 1.3. Construct measures to divert upstream flows into existing stormwater system.
- 1.4. Construct sedimentation traps/basin including outlet control and overflow.
- 1.5. Construct turf lined swales.
- 1.6. Provide sandbag sediment traps upstream of existing pits.
2. Construct geotextile filter pit surround around all proposed pits as they are constructed.
3. On completion of pavement provide sand bag kerb inlet sediment traps around pits.
4. Provide and maintain a strip of turf on both sides of all roads after the construction of kerbs.

Prior to discharge of site stormwater, groundwater and seepage water into council's stormwater system, contractors must undertake water quality tests in conjunction with a suitably qualified environment consultant outlining the following:

- Compliance with the criteria of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)
- If required subject to the environmental consultants advice, provide remedial measures to improve the quality of water that is to be discharged into Councils storm water drainage system. This should include comments from a suitably qualified environmental consultant confirming the suitability of these remedial measures to manage the water discharged from the site into Councils storm water drainage system. Outlining the proposed, ongoing monitoring, contingency plans and validation program that will be in place to continually monitor the quality of water discharged from this site. This should outline the frequency of water quality testing that will be undertaken by a suitably qualified environmental consultant.

D	ISSUE FOR DRAFT CONSTRUCTION CERTIFICATE	GC	LW	12.11.21
C	ISSUE FOR TENDER	GC	LW	16.09.21
B	ISSUE FOR TENDER	GC	LW	13.08.21

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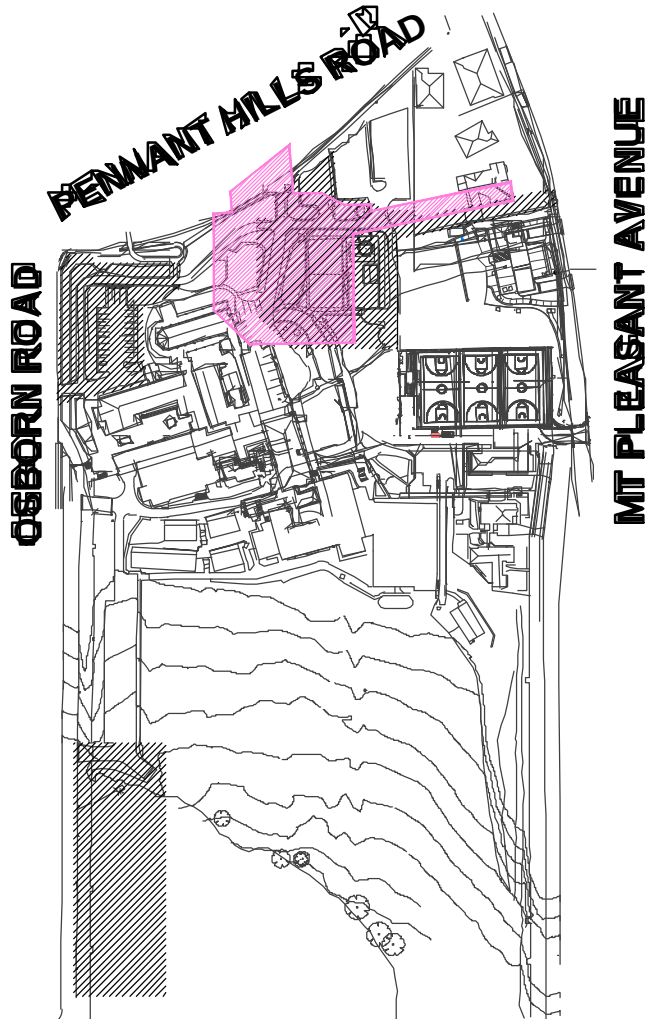
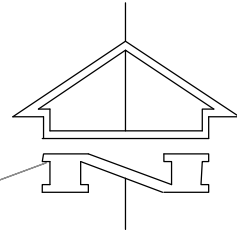
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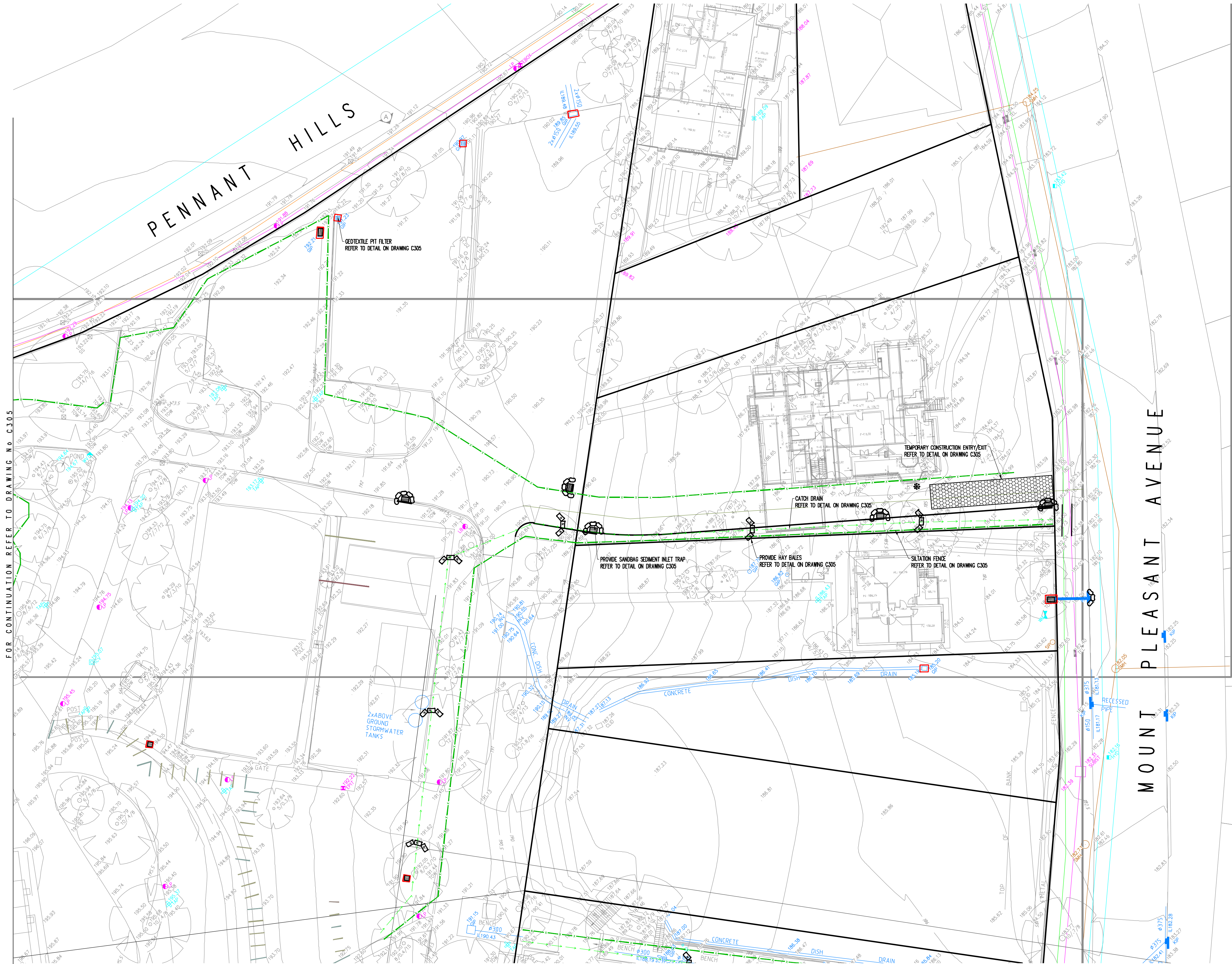
Project

LORETO NORMANHURST
P1A, P3A AND THROUGH
SITE LINK

Sheet Subject	Scale : A1	Drawn	Authorised
EROSION & SEDIMENT CONTROL PLAN SHEET 1 AND DETAILS	1:250 U.N.O	JH	SB
	Job No	Drawing No	Revision
	201435	C305	D
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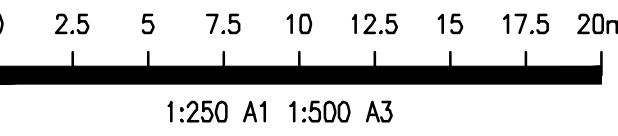
KEY PLAN



PLAN
SCALE 1: 250

EROSION AND SEDIMENT CONTROL LEGEND

- Batter
- Siltation fence
- Stormwater pit with Geotextile filter surround
- Sandbag sediment trap
- Hay bale barriers
- Catch drain



CONSTRUCTION CERTIFICATE

Filename: C306.dwg USER: jwh - Pld File Created: Nov 12, 2021 - 11:36am

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P5	ISSUE FOR INFORMATION	QC	LW	23.06.21					
P4	ISSUE FOR INFORMATION	QC	LW	02.06.21	D	ISSUE FOR DRAFT CONSTRUCTION CERTIFICATE	QC	LW	12.11.21
P3	ISSUE FOR SSDA	QC	JH	17.12.20	C	ISSUE FOR TENDER	QC	LW	16.09.21
P2	ISSUE FOR DRAFT SSDA	QC	LW	30.11.20	B	ISSUE FOR TENDER	QC	LW	13.08.21
P1	ISSUE FOR DRAFT SSDA	QC	LW	30.10.20	A	ISSUE FOR TENDER	QC	LW	23.07.21
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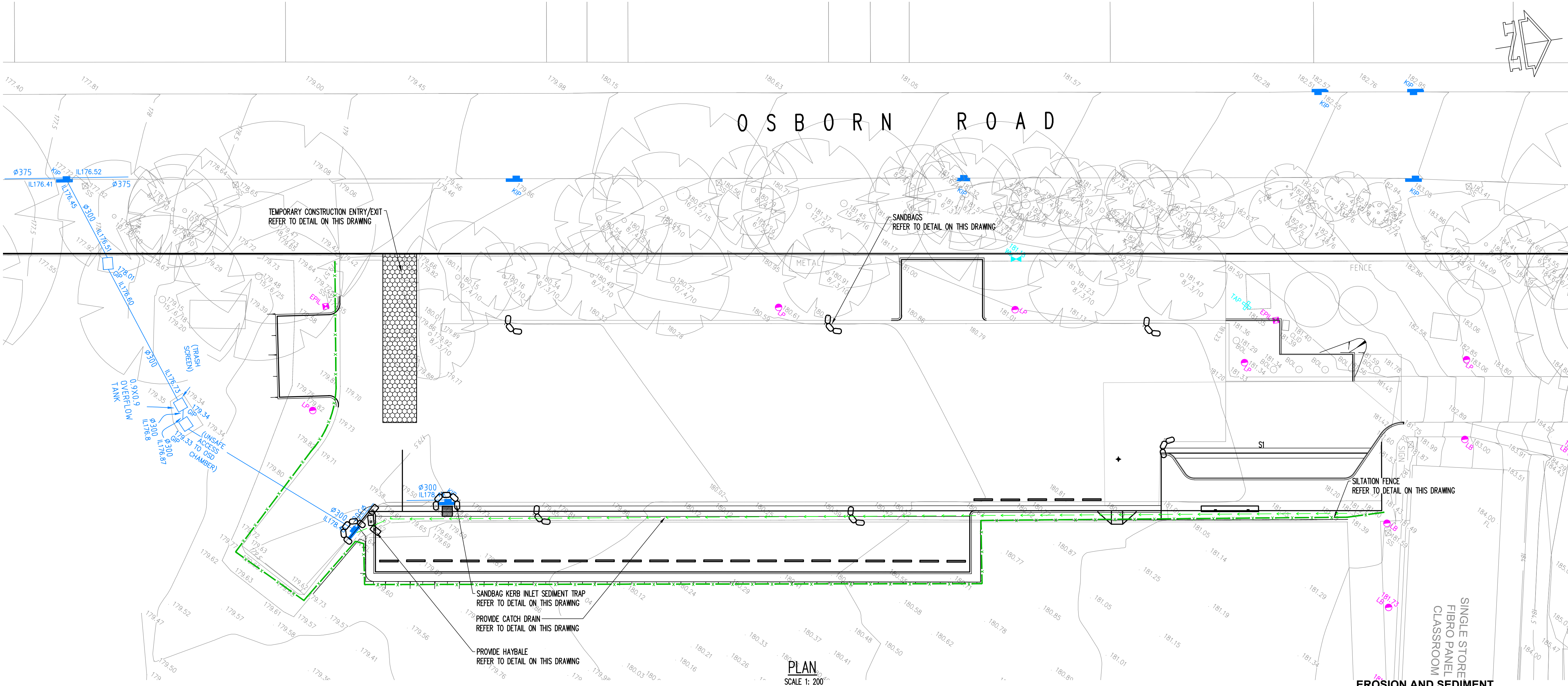
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P1A, P3A AND THROUGH
SITE LINK

Sheet Subject
EROSION & SEDIMENT
CONTROL PLAN SHEET 2

Scale : A1 1:250	Drawn JH	Authorised SB
Job No 201435	Drawing No C306	Revision D
Plot File Created: Nov 12, 2021 - 11:36am		



KEY PLAN

EROSION AND SEDIMENT CONTROL NOTES

- All work shall be generally carried out in accordance with
(A) Local authority requirements,
(B) EPA – Pollution control manual for urban stormwater,
(C) LANDCOM NSW – Managing Urban Stormwater: Soils and Construction (Blue Book).
- Erosion and sediment control **drawings and notes** are provided for the whole of the works. Should the Contractor stage these works then the design may be required to be modified. Variation to these details may require approval by the relevant authorities. The erosion and sediment control **plan** shall be implemented and adapted to meet the varying situations as work on site progresses.
- Maintain all erosion and sediment control devices to the satisfaction of the superintendent and the local authority.
- When stormwater pits are constructed prevent site runoff entering the pits unless silt fences are erected around pits.
- Minimise the area of site being disturbed at any one time.
- Protect all stockpiles of materials from scour and erosion. Do not stockpile loose material in roadways, near drainage pits or in watercourses.
- All soil and water control measures are to be put back in place at the end of each working day, and modified to best suit site conditions.
- Control water from upstream of the site such that it does not enter the disturbed site.
- All construction vehicles shall enter and exit the site via the temporary construction entry/exit.
- All vehicles leaving the site shall be cleaned and inspected before leaving.
- Maintain all stormwater pipes and pits clear of debris and sediment. Inspect stormwater system and clean out after each storm event.
- Clean out all erosion and sediment control devices after each storm event.

Sequence Of Works

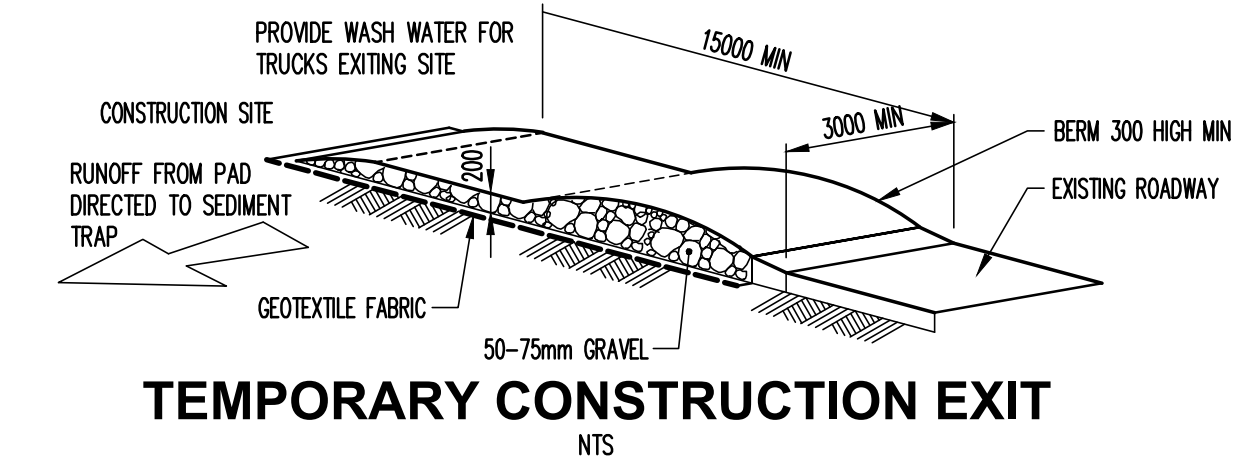
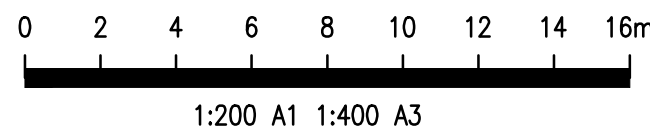
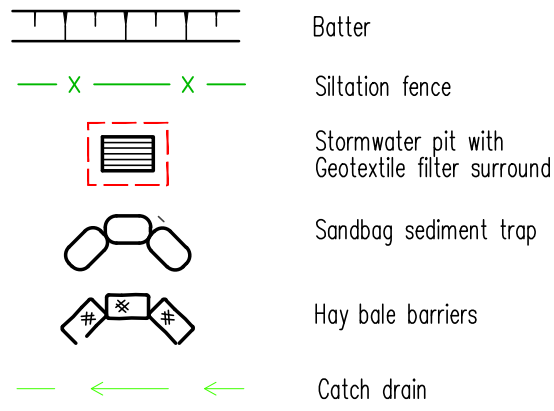
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WATER QUALITY TESTING REQUIREMENTS

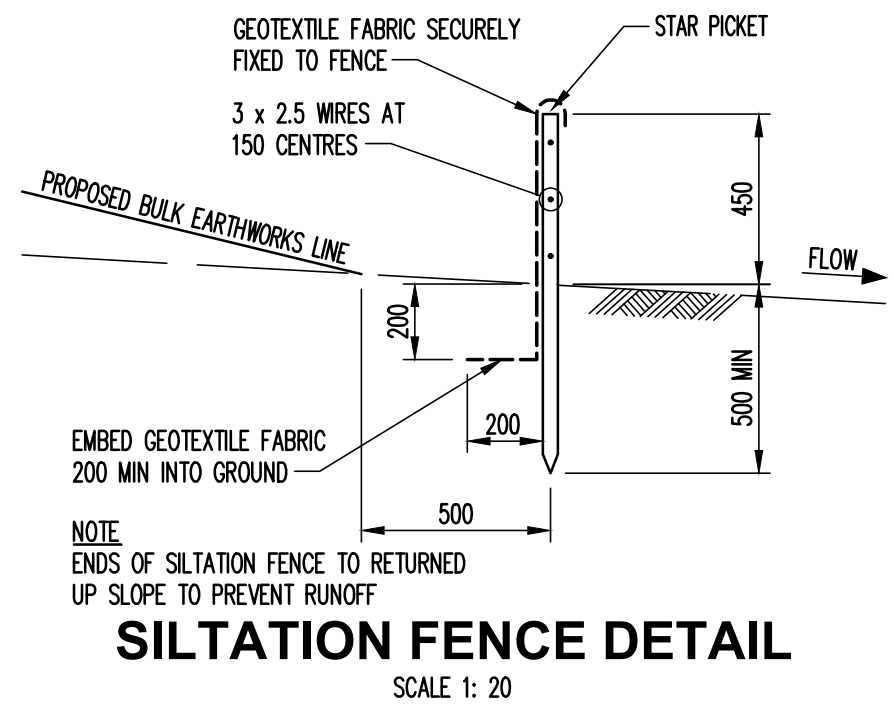
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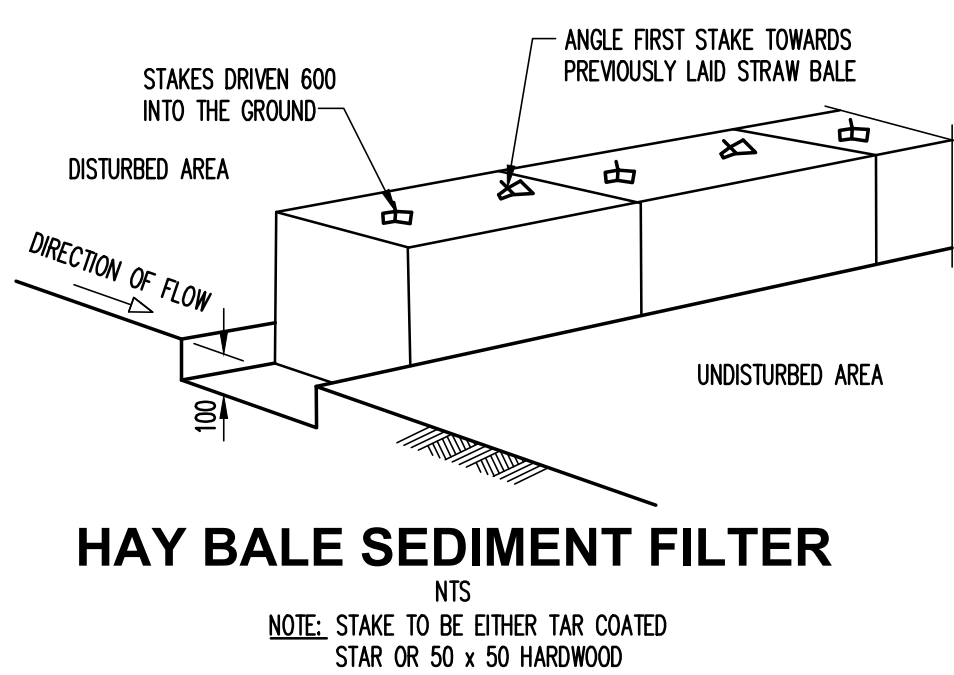
EROSION AND SEDIMENT CONTROL LEGEND



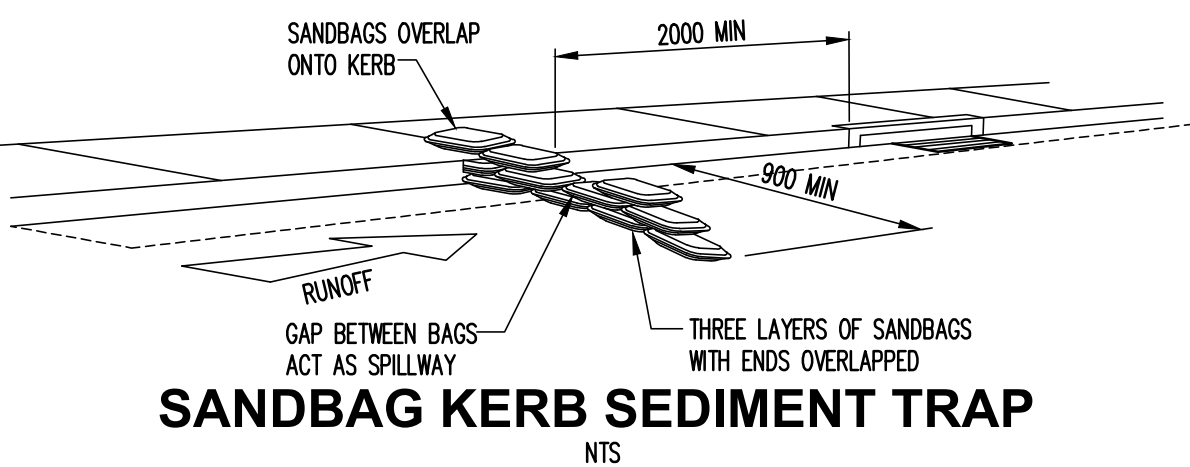
TYPICAL SECTION THROUGH CATCH DRAIN
SCALE 1: 20



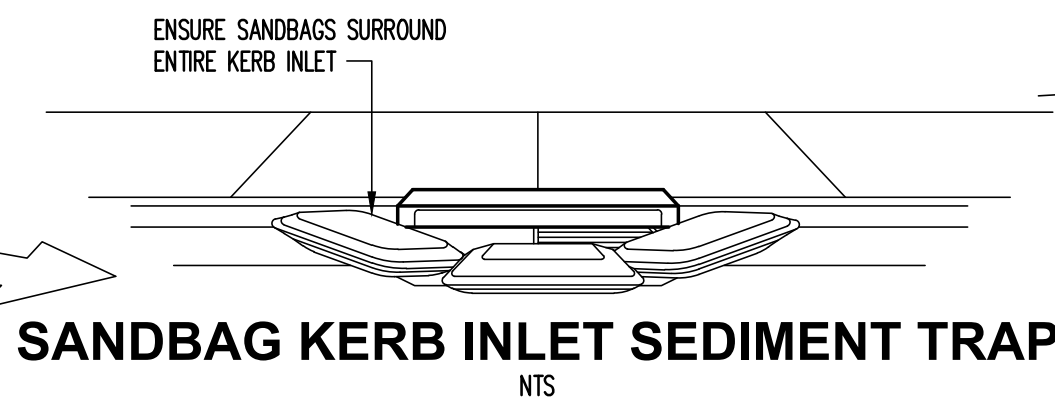
SILTATION FENCE DETAIL
SCALE 1: 20



HAY BALE SEDIMENT FILTER
NTS



SANDBAG KERB SEDIMENT TRAP
NTS



SANDBAG KERB INLET SEDIMENT TRAP
NTS

A1		2	1	2	3	4	5	6	7	8	9	10
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A	ISSUE FOR TENDER	GC	LW	23.07.21										
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P1A, P3A AND THROUGH
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Sheet Subject
EROSION & SEDIMENT
CONTROL PLAN AND DETAILS

Scale : A1
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Job No
201435
Plot File Created: Nov 12, 2021 - 11:50am
Drawn
JH
Drawing No
C405
Authorised
SB
Revision
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CONSTRUCTION CERTIFICATE