

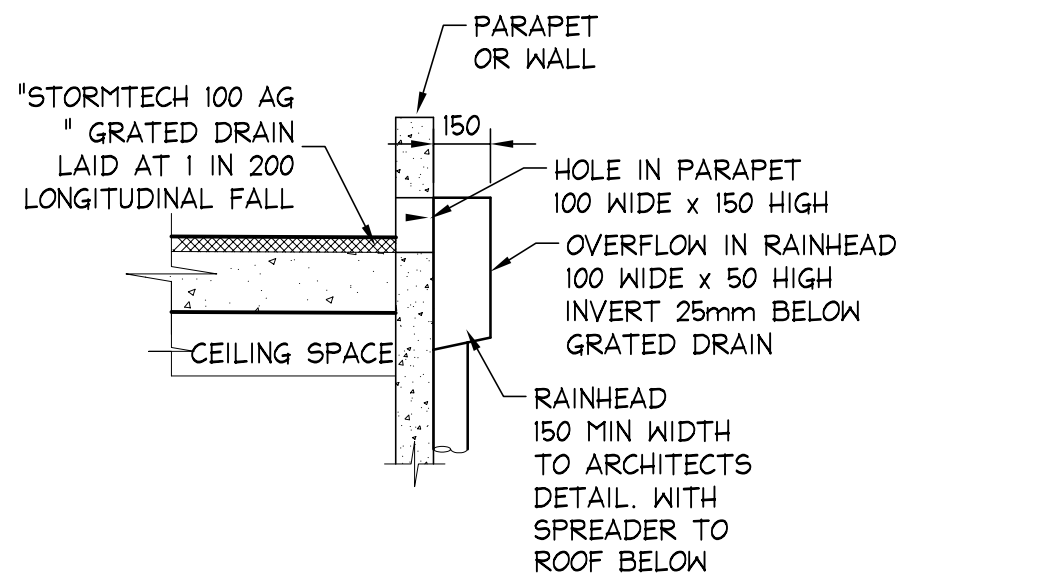
### CONCEPT STORMWATER MANAGEMENT PLAN

SCALE = 1 : 100

LEVELS TAKEN FROM SURVEY BY STUTCHBURY JAGUES SURVEYORS P/L, REF:10985, DATED 21-10-2020  
ALL DRAINAGE LOCATIONS ARE INDICATIVE ONLY. LOCATION MAY VARY TO SUIT SITE CONSTRAINTS.  
EXISTING PIPE LINES CAN BE REUSED IF FOUND TO BE SUITABLE AND TO MEET AS3500 BY THE PLUMBER.

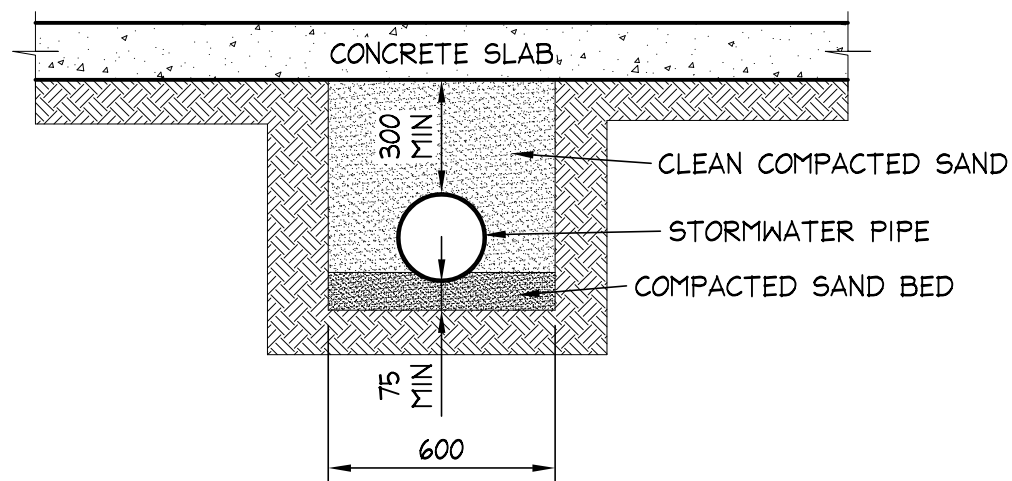
#### STORMWATER NOTES:

- 1 - ALL PIPES TO BE 100mm  $\phi$  SEWER GRADE uPVC UNLESS NOTED OTHERWISE.
- 2 - ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
- 3 - ALL PIPES TO BE LAID AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
- 4 - ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.  
( NO COMPACTION REQUIRED BELOW LANDSCAPING )  
COVER TO SURFACE FROM TOP OF PIPE TO BE AS PER AS3500.  
BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
- 5 - DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT WITH WORK.
- 6 - PROVIDE CLEANING EYES AT ALL DOWNPIPES.
- 7 - ALL PITS TO BE PRECAST, PREFORMED OR HDPE, IN ACCORDANCE WITH LOCAL COUNCIL SPECIFICATIONS.
- 8 - ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
- 9 - ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
- 10 - PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO EPA GUIDELINES AND COUNCIL SPECIFICATIONS. ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
- 11 - ALL LEVELS SHOWN ARE TO AHD
- 12 - ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
- 13 - ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
- 14 - ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2015 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.  
AND ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2012 NATIONAL PLUMBING DRAINAGE CODE PART 5 - HOUSING INSTALLATIONS.



### BALCONY DRAINAGE DETAIL

SCALE = 1 : 20

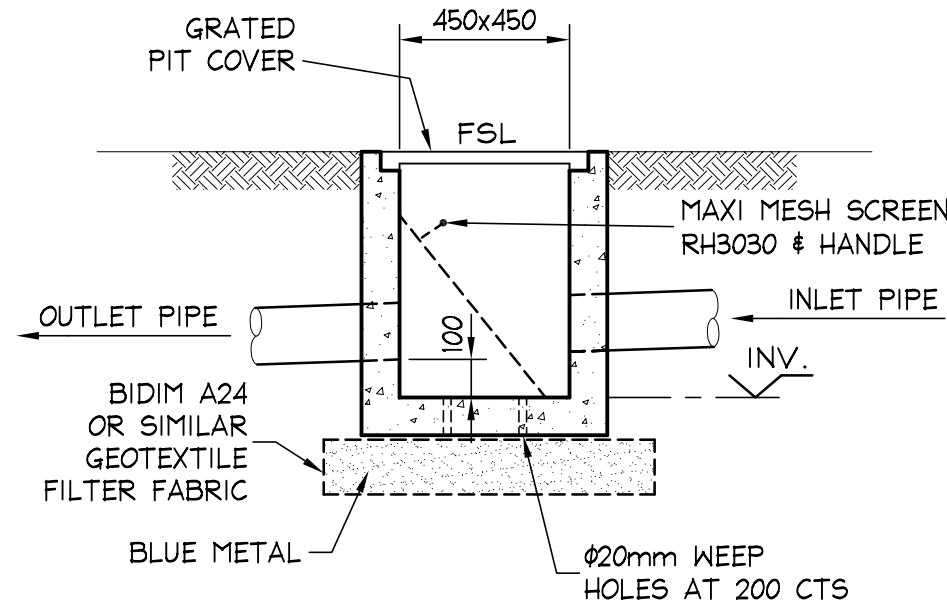


### TYPICAL TRENCHING DETAIL

SCALE = 1 : 20

### ONSITE DETENTION SYSTEM - SUMMARY NOTES NORTHERN BEACHES [MANLY] COUNCIL [REGION 3]

REFER COUNCIL "WATER MANAGEMENT FOR DEVELOPMENT POLICY" FOR REGION 3  
SECTION 9.3.3.2 # SECTION 5.1 APPLIES  
STORMWATER CONTROL ZONE  
TOTAL SITE AREA 396.8 m<sup>2</sup>  
PRE DEVELOPMENT IMPERVIOUS AREA 287.9 m<sup>2</sup> (72.5% IMP)  
POST DEVELOPMENT IMPERVIOUS AREA 254.7 m<sup>2</sup> (64.0% IMP)  
(DECKS WITHOUT ROOFS ARE TREATED AS PERVIOUS SURFACES AS THEY CANT COLLECT WATER)  
INCREASE (DECREASE) IN IMPERVIOUS AREA - [33.2] m<sup>2</sup>  
REFER 9.3.3 "ON SITE STORMWATER DISPOSAL FOR REGION 3"  
SINCE THERE IS A MARKED DECREASE IN IMPERVIOUS AREA & THE SITE DRAINS TO THE STREET KERB & GUTTER, IT IS CONSIDERED THAT THERE WILL BE NO DETRIMENTAL EFFECTS ON DOWNSTREAM PROPERTIES BY MAINTAINING THE CURRENT STORMWATER DISPOSAL REGIME.  
APPROPRIATE POLLUTION CONTROL PROTECTION (BOUNDARY PIT) WILL BE INSTALLED.



### PRECAST OR HDPE PIT REFER STORMWATER NOTES 450x450 PIT DETAIL

SCALE = 1 : 20

#### Northern Beaches [Manly] Council

#### On Site Detention Assumptions

#### Alterations & Additions at

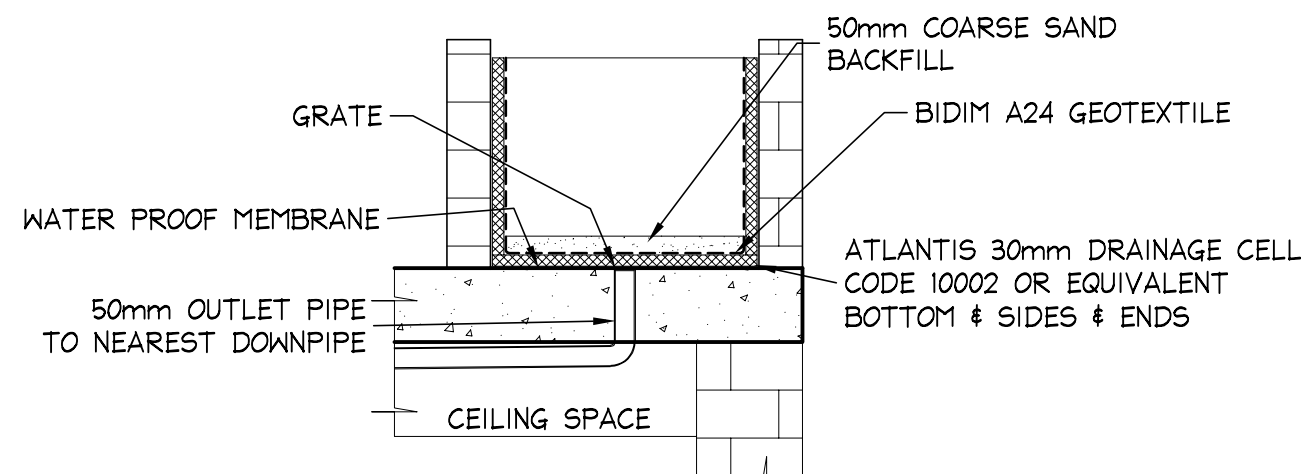
#### 11 Hilltop Crescent Fairlight

As property is in Region 3 - Section 9.3.3.2 & Section 5.1 applies

Area Calculation - Existing	m <sup>2</sup>	Area Calculation -Proposed	m <sup>2</sup>
Block	396.8		
Roofs	195	New Roof	216.5
Driveway & Deck	37.6	Driveway & Balcony	38.7
NE Paving	19.6	NE Timber Deck - 50% Impervious	7.4
Timber Deck Roof Area	9.5	SE Timber Deck - 50% Impervious	8.3
South Paving	12.2		
SW Paving	14		
All Impervious	287.9	All Impervious	270.9
Pervious	108.9	Pervious	125.9
Percent Impervious Existing	72.6	Percent Impervious Proposed	68.3
Reduction in Impervious Area	17.0		

As Property has a significant reduction in Impervious Area, and all runoff flows to street, there will be a reduction in runoff due to the development, therefore OSD is not required

### ON SITE DETENTION ASSUMPTIONS



### PLANTER BOX CROSS SECTION

NOT TO SCALE

#### Gutter Calculations -20 yr ARI Storm

#### Northern Beaches [Manly] Council

#### Alterations & Additions to Residence at

#### 11 Hilltop Crescent Fairlight

to AS 3500 - 2015 & AS 3500.5 2012 & BCA 2016

	Horizontal	Slope	Area A <sub>c</sub>	Gutter	<sup>20</sup> I <sub>5</sub>	From	Downpipe
Eaves	Area A <sub>h</sub>	Factor		Slope	from	Figure 3.5a	From
Gutters		From		steeper	Appendix A1	gutter	Table 5.6.4.7.1
		Fig 5.6.3.2		than	Page 25	area reqd	size reqd
	m <sup>2</sup>		m <sup>2</sup>	1 in	mm/hr	mm <sup>2</sup>	mm
DP1	36.1	1.15	41.5	500	207	8200	100x75 or 100dia
DP2	36.1	1.15	41.5	500	207	8200	100x75 or 100dia
DP3	36.1	1.15	41.5	500	207	8200	100x75 or 100dia
DP4	36.1	1.15	41.5	500	207	8200	100x75 or 100dia
DP5	36.1	1.15	41.5	500	207	8200	100x75 or 100dia
DP6	36.1	1.15	41.5	500	207	8200	100x75 or 100dia
total	216.6					9200	mm <sup>2</sup>
New Gutters to be - Half Round 150 -Area							
Replace Existing Downpipes with new to size as shown in table above as necessary							
All Spreader Downpipes to be 100x50 or 90 dia							

### GUTTER CALCULATIONS

#### NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: S01.



#### DOCUMENT CERTIFICATION

Date : DEC 2020

Bruce Lewis

(Principal : Peninsula Consulting Engineers)

BE(Civil), CPEng, MIEAust., NPER

Institute of Engineers Membership No. 879131

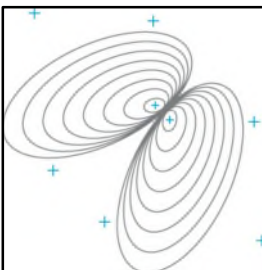
18-12-2020 A FOR COUNCIL SUBMISSION

15-12-2020 PI DRAFT

Date: Rev: Amendment:

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Project:

PROPOSED WORKS  
at: 11 HILLTOP CRESCENT  
FAIRLIGHT  
for: MR & MRS McENCROE

Drawing Title:

CONCEPT STORMWATER  
MANAGEMENT PLAN & DETAILS

Job No:

20-1203

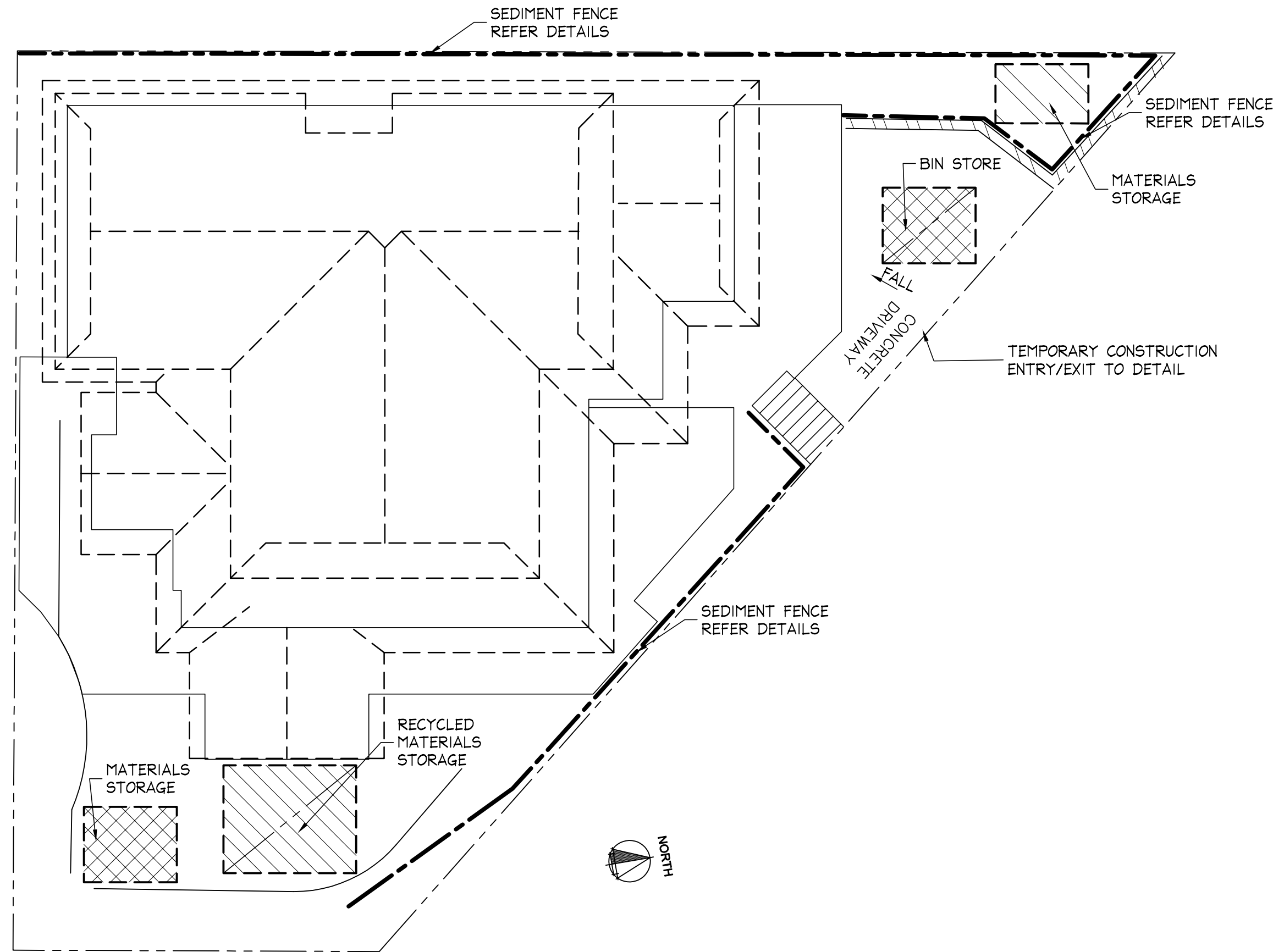
Drawing No:

H01

Rev:

A



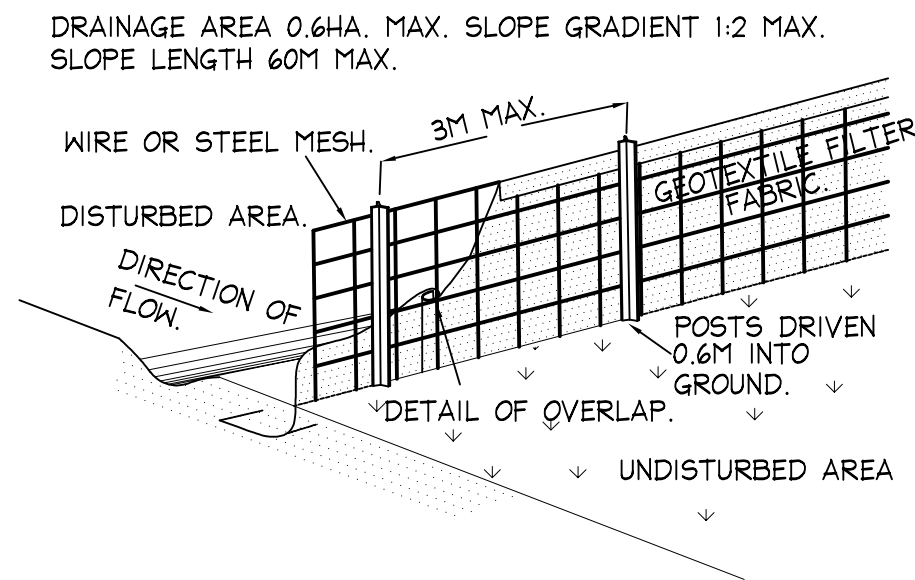


**SEDIMENT & EROSION CONTROL PLAN**

SCALE = 1 : 100

**INCLUDES WASTE MANAGEMENT PLAN**

PROVIDE SIGNAGE FOR WASTE MANAGEMENT OF BINS PROVIDED DURING CONSTRUCTION



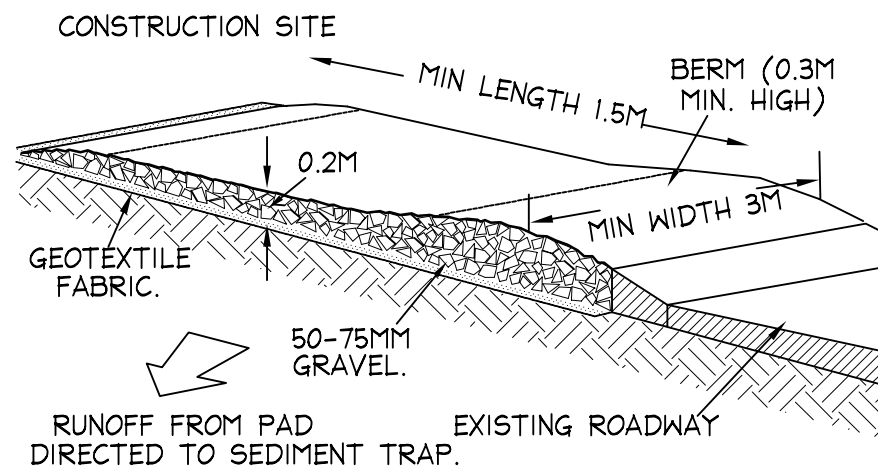
**SEDIMENT FENCE**

**CONSTRUCTION NOTES:**

- CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
- DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND, 3 METRES APART. DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED. BACKFILL TRENCH OVER BASE OF FABRIC.
- FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES or AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
- JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.

**SEDIMENT CONTROL:**

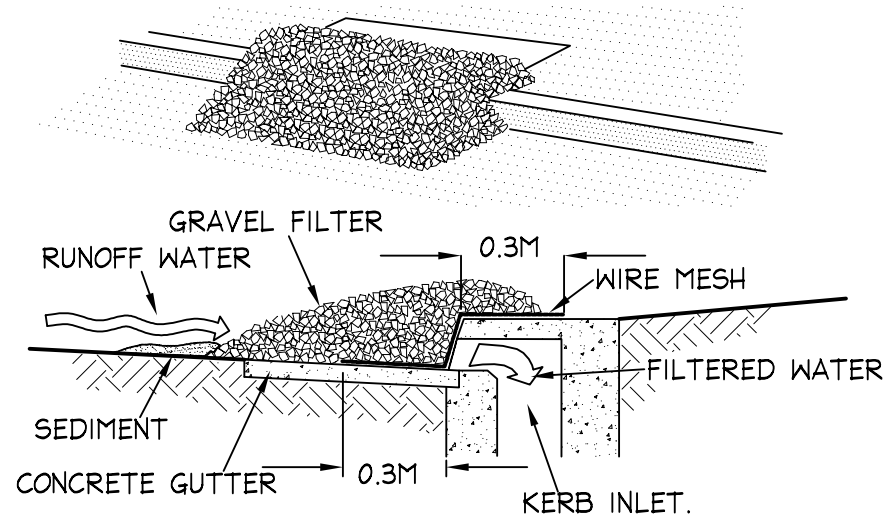
- INSTALL SEDIMENT CONTROL STRUCTURES IN LOCATIONS INDICATED ON DRAWINGS AND AS OTHERWISE REQUIRED TO CONTROL SEDIMENT DURING ALL EXCAVATIONS AND WHILST AREAS OF THE SITE ARE EXPOSED TO EROSION.
- CONTROL STRUCTURES TO BE AS DETAILED OR AS OTHERWISE REQUIRED BY CERTIFYING AUTHORITY.
- REVIEW CONTROL MEASURES AND MAINTAIN STRUCTURES DURING CONSTRUCTION.
- IF ADDITIONAL MEASURES ARE REQUIRED FOR EROSION CONTROL OR BY COUNCIL REQUIREMENTS REFER TO "URBAN EROSION AND SEDIMENT CONTROL" GUIDELINES PREPARED BY THE DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT.



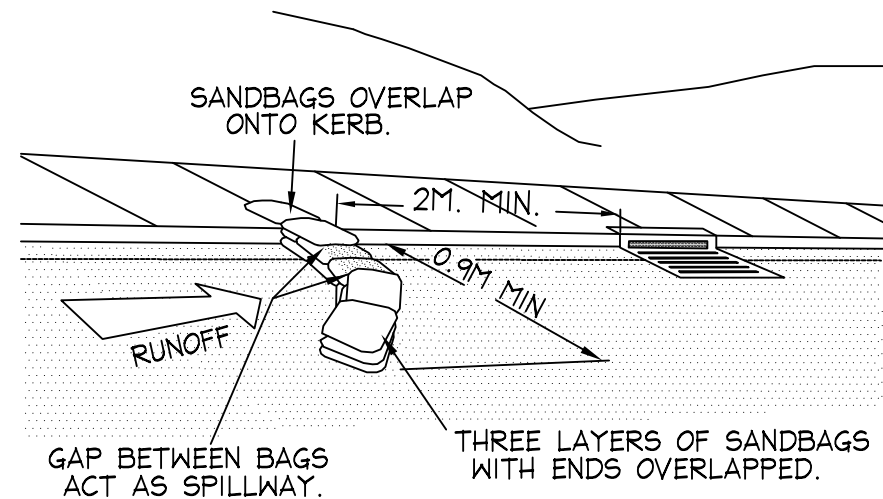
**TYPICAL TEMPORARY CONSTRUCTION ENTRY/EXIT DETAIL**

**CONSTRUCTION NOTES:**

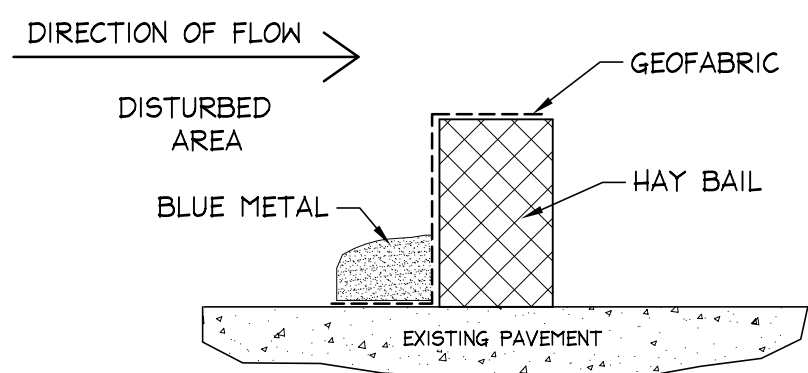
- STRIP TOPSOIL AND LEVEL SITE.
- COMPACT SUBGRADE.
- COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
- CONSTRUCT 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE or 30mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES.
- CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE or OTHER SEDIMENT TRAP.



**GRAVEL KERB INLET SEDIMENT TRAP**

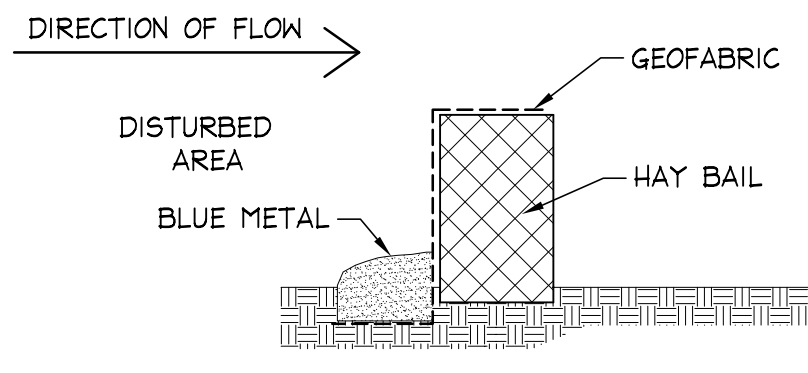


**SANDBAG KERB INLET SEDIMENT TRAP**



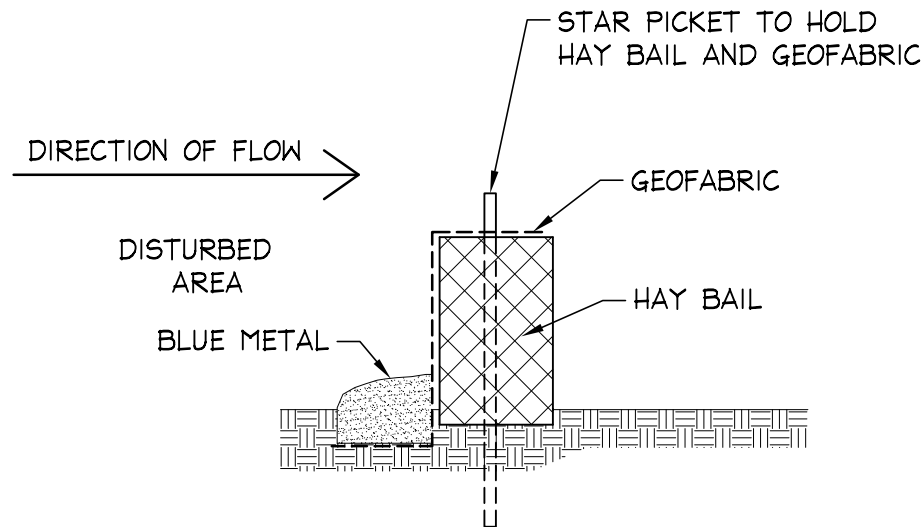
**REMOVABLE HAY BAIL DETAIL**

SCALE = N.T.S.



**REMOVABLE HAY BAIL DETAIL**

SCALE = N.T.S.



**SILT FENCE DETAIL - OPTION 2**

SCALE = N.T.S.

**NOTES:**

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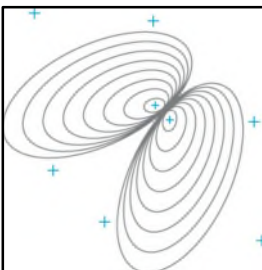
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Date:	Rev:	Amendment:

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**for: MR & MRS McENCROE**

Drawing Title:

**SEDIMENT & EROSION CONTROL**  
**& WASTE MANAGEMENT PLANS**

Job No:

**20-1203**

Drawing No:

**H02**

Rev:

**A**