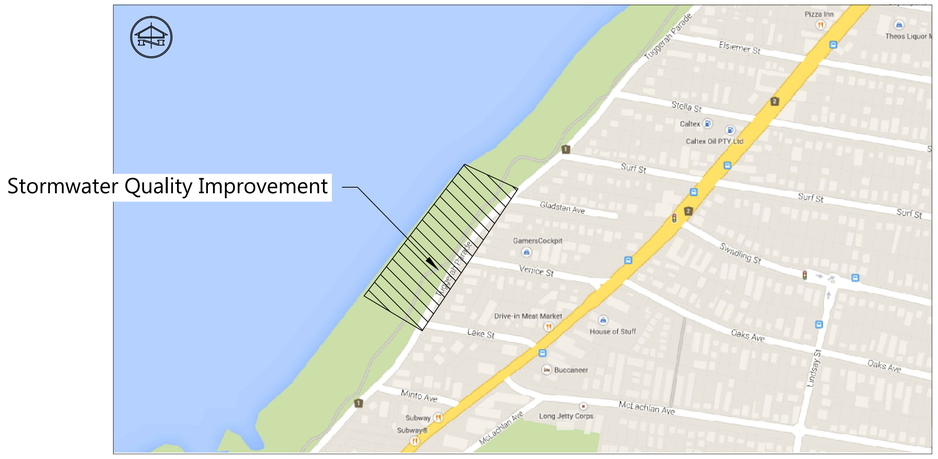
1648_C001

STORMWATER QUALITY IMPROVEMENT
LONG JETTY, NSW 2261

Wyong Shire Council

DETAILED DESIGN



LOCALITY PLAN
NOT TO SCALE

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Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

Designed: DH | Authorised: RW
Checked: SMT | Approved: 13.02.15

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CLIENT:
WYONG SHIRE COUNCIL
2 HELY STREET
WYONG, NSW 2259
02 4350 5555

Wyong Shire Council

Stormwater Quality Improvement

TUGGERAH PARADE
LONG JETTY, NSW 2261

COVER PAGE

Date 17.02.2015 Drawing No. 1648_C001 Sheet 01 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648_GA02

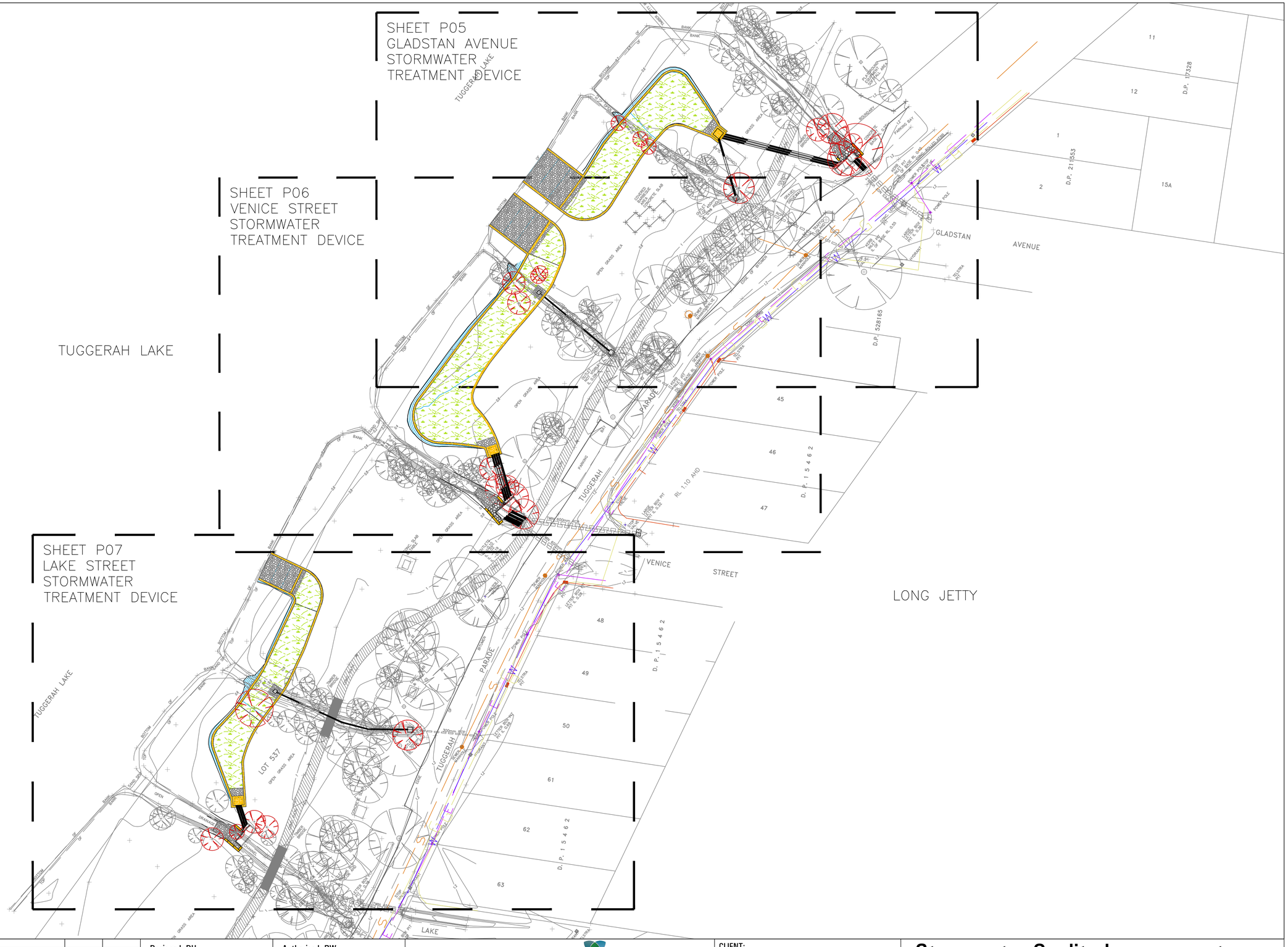
SHEET P05
GLADSTAN AVENUE
STORMWATER
TREATMENT DEVICE

SHEET P06
VENICE STREET
STORMWATER
TREATMENT DEVICE

SHEET P07
LAKE STREET
STORMWATER
TREATMENT DEVICE

TUGGERAH LAKE

LONG JETTY



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Original sheet size A1

North

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P 02 9499 4333
P 03 9208 0111

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WYONG SHIRE COUNCIL
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02 4350 5555

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GENERAL ARRANGEMENT PLAN

Date 17.02.2015 Drawing No. 1648_GA02 Sheet 02 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648_ESC03

LEGEND:

- SEDIMENT FENCE
- STRAW BALES
- ROCK FILTER DAM

Rev.	Revision Description	Designed	Date
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Original sheet size A1

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WYONG SHIRE COUNCIL
2 HELY STREET
WYONG, NSW 2259
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EROSION AND SEDIMENT CONTROL PLAN

Date 17.02.2015 Drawing No. 1648_ESC03 Sheet 03 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648 ESC04

GENERAL REQUIREMENTS

THE FOLLOWING SOIL AND WATER MANAGEMENT PLAN (SWMP) HAS BEEN DEVELOPED IN GENERAL ACCORDANCE WITH LANDCOM (2004) – MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION, OTHERWISE KNOWN AS "THE BLUE BOOK". THE CONTRACTOR SHALL BE AT ALL TIMES RESPONSIBLE FOR TAILORING THE SOIL AND WATER MANAGEMENT PLAN TO SUIT SITE CONDITIONS. AS CONSTRUCTION PROGRESSES THE CONTRACTOR SHALL AMEND THE SOIL AND WATER MANAGEMENT PLAN ACCORDINGLY. IT IS THE CONTRACTOR'S RESPONSIBILITY ALL TIMES TO ENSURE THAT THE SOIL AND WATER MANAGEMENT MEASURES COMPLY WITH THE REQUIREMENTS OF THE BLUE BOOK.

SITE ESTABLISHMENT

PRIOR TO THE COMMENCEMENT OF EARTHWORKS ON THE SITE THE FOLLOWING SHALL BE UNDERTAKEN AS A MINIMUM:

1. ERECT SAFETY FENCING WITH SIGNAGE CLEARLY INDICATING THAT THE SITE IS A CONSTRUCTION ZONE AND ACCESS IS RESTRICTED AS DEEMED NECESSARY.
2. ERECT CLEARLY VISIBLE BARRIER FENCING AT LOCATIONS SHOWN OR IF NOT SHOWN AT THE DISCRETION OF THE SITE SUPERINTENDENT TO ENSURE TRAFFIC IS CONTROLLED AND TO PROHIBIT UNNECESSARY SITE DISTURBANCE.
3. INSTALL STABILISED SITE ACCESS IN ACCORDANCE WITH DRAWING SD6–14 AT EACH SITE ACCESS POINT TO PREVENT CONSTRUCTION EQUIPMENT FROM CARRYING SEDIMENT OFF THE SITE ONTO SURROUNDING ROADS.
4. INSTALL SEDIMENT AND EROSION CONTROL DEVICES IN ACCORDANCE WITH THE CONSTRUCTION DETAILS SPECIFIED IN THIS DRAWING SET AND/OR THE REQUIREMENTS OF THE 'BLUE BOOK'.

CONSTRUCTION

5. TOPSOIL, FROM ALL AREAS TO BE DISTURBED, SHALL BE STRIPPED PRIOR TO CONSTRUCTION OF ANY WORKS AND STOCKPILED AND LATER RESPREAD TO AID REVEGETATION IN LOCATIONS WHERE SHOWN ON THIS DRAWING. TOPSOIL SHALL BE STOCKPILED IN WINDROWS OUTSIDE OF MAJOR FLOW AREAS.
6. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
7. ALL TAIL–OUT DRAINS SHALL BE GRASSED AND TRAPEZOIDAL IN SECTION. HAY BALES SHALL BE PLACED AS A SEDIMENTATION CONTROL DEVICE WHERE REQUIRED.
8. ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED. TOPSOIL SHALL BE AMELIORATED AND COMPOSTED TO LANDSCAPE ARCHITECTS SPECIFICATIONS.
9. INLET FILTERS WILL BE INSTALLED WHERE SHOWN TO PREVENT WATER FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE. IF THE LOCATION OF INLET FILTERS ARE NOT SHOWN ON THE PLAN THEIR LOCATION SHALL BE AT THE DISCRETION OF THE SUPERINTENDENT.

STOCKPILES

10. SPOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED NO CLOSER THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
11. IF STOCKPILES ARE TO BE IN PLACE FOR LONGER THAN 10 DAYS THEN THEY SHALL BE STABILISED BY COVERING WITH MULCH OR WITH TEMPORARY VEGETATION.
12. STOCKPILES SHALL BE IN WINDROWS NO HIGHER THAN 2m HIGH AND SHALL HAVE BATTER SLOPES NO STEEPER THAN 1 IN 2. AN EARTH BANK SHALL BE INSTALLED ON THE UPSLOPE SIDE AND SEDIMENT FENCING SHALL BE INSTALLED ALONG THE LENGTH OF THE DOWNSLOPE SIDE ON ANY STOCKPILE.

MAINTENANCE

13. ALL SEDIMENT BASINS AND TRAPS SHALL BE CLEANED WHEN THE STRUCTURES ARE A MAXIMUM OF 60% FULL OF SOLID MATERIALS (INCLUDING DURING THE MAINTENANCE PERIOD) AND DISPOSED OF IN A MANNER THAT PREVENTS FURTHER POLLUTION OF THE SITE.
14. TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES WILL BE RETAINED UNTIL AFTER THE LANDS THEY ARE PROTECTING, ARE COMPLETELY REHABILITATED.
15. THE CONTRACTOR WILL INSPECT THE SITE AT LEAST WEEKLY OR AFTER ANY STORM EVENT AND WILL:
    - ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS;
    - REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS (E.G. LANDS CLOSER THAN FIVE METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY DRAINS, WATERWAYS AND PAVED AREAS);
    - REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE;
    - ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS APPROPRIATE;
    - CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS REQUIRED;
    - MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED; AND
    - REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.
16. A SELF–AUDITING PROGRAM WILL BE ESTABLISHED BASED ON A CHECK SHEET. A SITE INSPECTION USING THE CHECK SHEET WILL BE MADE BY THE CONTRACTOR:
    - AT LEAST WEEKLY;
    - IMMEDIATELY BEFORE SITE CLOSURE;
    - IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL.
    - ENTRIES WILL INCLUDE (BUT ARE NOT LIMITED TO):
        i) THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS;
        ii) THE CONDITION AND MAINTENANCE OF ANY SOIL AND WATER MANAGEMENT PLAN WORKS;
        iii) THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE;
        iv) THE NEED FOR DUST PREVENTION STRATEGIES; AND
        v) ANY REMEDIAL WORKS TO BE UNDERTAKEN.
    - A SIGNED DUPLICATE OF THE CHECK SHEET SHOULD BE FORWARDED TO THE PROJECT MANAGER WEEKLY FOR THEIR INFORMATION. ALL CHECK SHEETS SHOULD BE COLLATED, KEPT ON–SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON ON REQUEST.

SEQUENCE OF WORKS:

1. INSTALL SOIL AND WATER MANAGEMENT MEASURES AS DETAILED.
2. CONSTRUCT EARTHWORKS
3. CONSTRUCT DRAINAGE STRUCTURES
4. REHABILITATE SITE AND REMOVE MANAGEMENT DEVICES.

REVEGETATION

TOPSOIL SHALL BE RESPREAD TO A MINIMUM DEPTH OF 75mm TO THE NOMINATED AREAS IN ACCORDANCE WITH SD4–2

ALL DISTURBED AREAS OUTSIDE THOSE AREAS REQUIRING SPECIFIC LANDSCAPE TREATMENTS (I.E WETLANDS, WATERCOURSES, PLANTING BEDS ETC) SHALL BE REVEGETATED WITH THE FOLLOWING GRASS SEED MIX AT THE NOMINATED APPLICATION RATES:–

AUTUMN/WINTER	kg/Ha
RYE, CORN OR OATS	15
WIMMERA RYEGRASS	10
WHITE CLOVER	5
RED CLOVER	5

SPRING/SUMMER	kg/Ha
JAPANSE MILLET	24
WIMMERA RYEGRASS	8
RED CLOVER	5
WHITE CLOVER	5
COUCH	8

IF THE AREAS ARE SOWN IN THE AUTUMN/WINTER PERIOD, IT MAY BE NECESSARY TO OVERSOW IN THE SPRING/SUMMER PERIOD WITH THAT MIXTURE CONTAINING A PERENNIAL GRASS MIXTURE (eg. COUCH). ALSO AT SOWING AN APPROPRIATE FERTILISER SHALL BE APPLIED EVENLY AT A RATE OF 250kg/ha HAVING AN AN ANALYSIS OF 10 : 3.9 : 6.2 NITROGEN, PHOSPHORIC ACID, POTASH COMPOUND.

THE CONTRACTOR SHALL MAINTAIN GRASS COVER UNTIL ALL WORKS HAVE BEEN COMPLETED INCLUDING THE MAINTENANCE PERIOD, BY FREQUENT WATERING AND MOWING WHERE REQUIRED.

A TURF FILTER STRIP SHALL BE PLACED ALONG ALL FOOTPATHS ADJACENT TO THE KERB IN ACCORDANCE WITH SD6–13.

STRAW BALE CONSTRUCTION NOTES

1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAW BALES ARE TO BE PLACED PARALLEL TO THE GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2m STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1.0m TO 2.0m DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED. THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

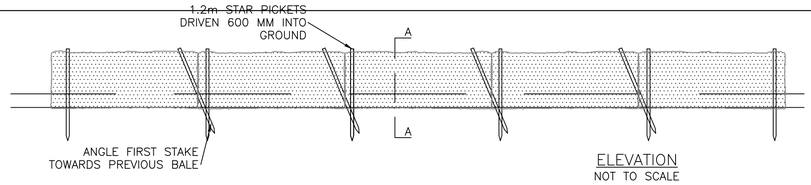
EARTH BANK CONSTRUCTION NOTES

1. CONSTRUCT AT A GRADIENT BETWEEN 1 AND 5%
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE – WORK AROUND THEM
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V–SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITH 10 DAYS OF CONSTRUCTION.
7. WHERE DISCHARGING TO ERODIBLE LANDS, ENSURE THEY OUTLET THROUGH A PROPERLY CONSTRUCTED LEVEL SPREADER.
8. CONSTRUCT LEVEL SPREADER AT A GRADIENT OF LESS THAN 1%
9. WHERE POSSIBLE, ENSURE THEY DISCHARGE WATERS ONTO EITHER STABILISED OR UNDISTURBED DISPOSAL SITES WITH THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED. APPROVAL MIGHT BE REQUIRED TO DISCHARGE INTO OTHER SUBCATCHMENTS.

SEDIMENT FENCE CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10YR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5m LONG STAR PICKETS INTO THE GROUND AT 2.5m INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF–SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

LAND USE	LIMITATIONS	COMMENTS
CONSTRUCTION AREAS	DISTURBANCE TO BE NO FURTHER THAN FIVE (5) AND PREFERABLE TWO (2) METRES FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON THE PLAN	ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS
ACCESS AREAS	LIMITED TO A MAXIMUM WIDTH OF TEN (10) METRES	THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ONSITE. ALL SITE WORKERS WILL CLEARLY RECOGNISE THEIR BOUNDARIES THAT, WHERE APPROPRIATE, ARE MARKED WITH BARRIER MESH, SEDIMENT FENCING, OR SIMILAR MATERIALS.



ELEVATION
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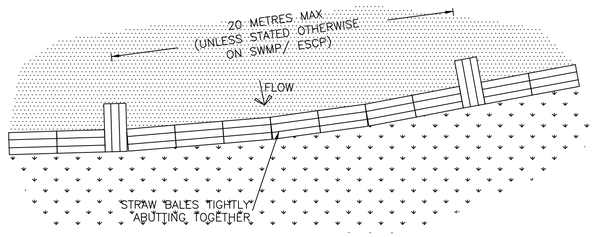

PLAN
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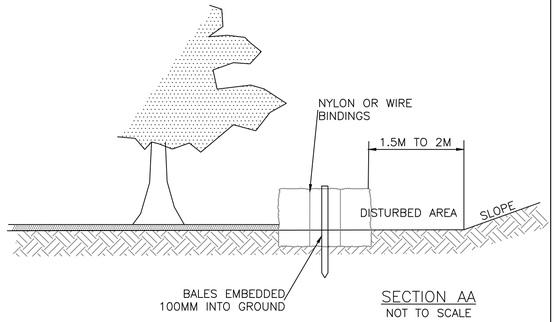


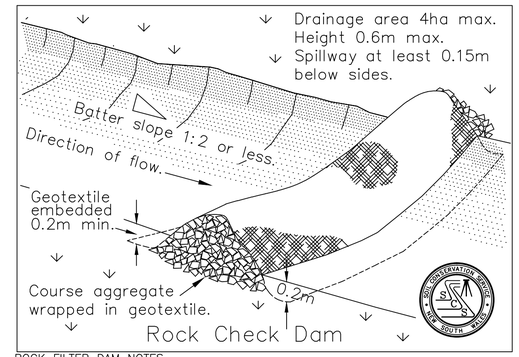
SECTION AA
NOT TO SCALE

STRAW BALE FILTER

NTS

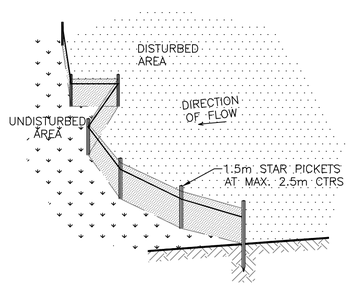
STRAW BALE CONSTRUCTION NOTES

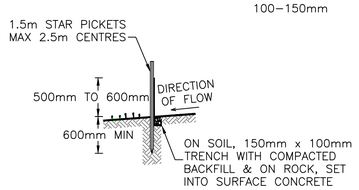
1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAW BALES ARE TO BE PLACED PARALLEL TO THE GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2m STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE A STRAW BALE FILER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1.0m TO 2.0m DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED. THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.



ROCK FILTER DAM NOTES

1. PLACE ROCK CHECK DAM ACROSS CHANNEL DURING WORKS TO CAPTURE SEDIMENT GEOTEXTILE A64 OR APPROVED EQUIVALENT TO WRAPPE ROCK SPALLS D50 SIZE: 100–150mm





SEDIMENT CONTROL FENCE DETAIL

NTS

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EROSION AND SEDIMENTATION CONTROL SPECIFICATION

Date 17.02.2015 Drawing No. 1648_ESC04 Sheet 04 of 18

1648 P05

TERRESTRIAL CONNECTING BATTER
FROM TOP OF SANDSTONE LOG TO EXISTING
TERRAIN LEVEL
SLOPE 1(V)IN4(H)
TO BE COVERED WITH COIR MESH
REFER SPECIFICATION

EXISTING SALTMARH
EXCLUSION ZONE
APPROXIMATELY 10M FROM TOP OF LAKE BANK
NO ACCESS PERMITTED AT ALL TIMES

EXISTING SWALE
TO REMAIN OPEN IN THE LOWER
SECTION TO MAINTAIN FISH HABITAT

SWALE EDGING
ROCK TYPE 2
REFER TO TYPICAL EDGE TREATMENT SECTION SHEET D08

EXISTING SALTMARH
EXCLUSION ZONE
APPROXIMATELY 10M FROM TOP OF LAKE BANK
NO ACCESS PERMITTED AT ALL TIMES

SPILLWAY
ROCK WORK TYPE 1
REFER TYPICAL ROCK TREATMENT SHEET D13
7M WIDTH, 400MM DEEP, LONGITUDINAL GRADE 2.55%
REFER TYPICAL SECTION WEIR AND SPILLWAY SECTION SHEET D08

SPILLWAY
ROCK WORK TYPE 1
REFER ROCK WORK DETAIL SHEET D13
7M WIDTH, 400MM DEEP, LONGITUDINAL
GRADE 2.45%
REFER TYPICAL SECTION WEIR AND SPILLWAY
SECTION SHEET D08

EXISTING SWALE
TO REMAIN OPEN IN THE LOWER
SECTION TO MAINTAIN FISH HABITAT

SWALE EDGING
ROCK TYPE 2
REFER TO TYPICAL EDGE
TREATMENT SECTION SHEET D08

EXISTING SALTMARH
EXCLUSION ZONE
APPROXIMATELY 10M FROM TOP
OF LAKE BANK
NO ACCESS PERMITTED AT ALL
TIMES

BATTER
ISTING
LEVEL
N4(H)
MESH
CATION

SCOUR PROTECTION
1M WIDTH ACROSS FULL WEIR LENGTH

WEIR RL0.3
ROCK TYPE 2
"SANDSTONE LOGS"

WEIR RL0.3
ROCK TYPE 2
"SANDSTONE LOGS"

SCOUR PROTECTION
1M WIDTH ACROSS FULL WEIR LENGTH

SUPPLY AND INSTALL DISCHARGE
BUBBLER PIT 900*900 WITH HINGED
GALVANISED SURCHARGE GRATE
REFER TYPICAL DETAILS D3 SHEET
D13

SWALE TREATMENT ZONE
400MM DEEP, MINIMUM WIDTH 10M, LONGITUDINAL
SLOPE APPROXIMATELY 0.21%
TO BE PLANTED WITH NOMINATED SPECIES AT
SPECIFIED LOCATION AS SHOWN ON THE PLANTING
SCHEDULE AND PLAN SHEET V15

SWALE TREATMENT ZONE
400MM DEEP, MINIMUM WIDTH 10M, LONGITUDINAL
SLOPE APPROXIMATELY 0.28%
TO BE PLANTED WITH NOMINATED SPECIES AT
SPECIFIED LOCATION AS SHOWN ON THE PLANTING
SCHEDULE AND PLAN SHEET V14

SCOUR PROTECTION
ROCK WORK TYPE 1
REFER SHEET D13

SWALE INLET STRUCTURE
REFER TYPICAL SECTIONS
SHEET D08

3 x ø375mm uPVC PIPES
APPROXIMATELY 31M LENGTH EACH
OFFTAKE IL. 0.00M
SWALE IL. 0.00M

450mmø UPVC PIPE

SUPPLY AND INSTALL 1200*1200 PIT
REFER SUMP PIT DETAIL 01 SHEET D13

SUPPLY AND INSTALL 1200*1200 PIT
REFER SUMP PIT DETAIL 01 SHEET D13

EXISTING CHANNEL TO BE BACKFILLED
TO TOP OF BANK LEVEL
MAKE SMOOTH JUNCTION WITH
EXISTING TERRAIN

EXISTING CHANNEL TO BE BACKFILLED
TO TOP OF BANK LEVEL
MAKE SMOOTH JUNCTION WITH
EXISTING TERRAIN

EXISTING CONCRETE PATH

EXISTING CONCRETE PATH

EXISTING TIMBER BRIDGE

SCOUR PROTECTION
ROCK TYPE 1
REFER SHEET D13

SCOUR PROTECTION
ROCK TYPE 3
REFER SHEET D13

4.0m WEIR TO OVERFLOW
INTO EXISTING CHANNEL
DOWNSTREAM

PIPE EXTENSION
TO FIT EXISTING PIPE
DIAMETER

2.0m WEIR TO OVERFLOW
INTO DIVERSION CHAMBER

FLOW SPLITTING DEVICE
REFER TO VIEW PLAN
SHEET D09, SECTIONS
SHEET D10 AND DETAILS
2A AND 2B SHEET D13

TUGGERAH LAKE

GLADSTAN AVENUE

GLADSTAN

LEGEND:

- EXISTING CONTOURS SURVEY
- EXISTING CONTOURS SURVEY
- TREATMENT ZONE
- ROCK PLACEMENT 1, ROCK CAPPING
- ROCK PLACEMENT 2, QUARRY LOGS
- ROCK PLACEMENT 3, BOULDERS
- PROPOSED STORMWATER PIPE
- EXISTING STORMWATER PIPE
- EXISTING TREE TO BE KEPT
- TREE TO BE REMOVED
- OVERHEAD ELECTRICITY WIRES
- COUNCIL SEWER MAIN
- COUNCIL WATER MAIN
- TELECOMMUNICATIONS MAIN APPROXIMATE LOCATION
- TELSTRA OPTUS UNDERGROUND CONDUITS
- PIT
- HYDRANT

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B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15
Rev.	Revision Description	Designed	Date

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4 2 0 4 8 1:200 North

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Stormwater Quality Improvement

TUGGERAH PARADE
LONG JETTY, NSW 2261

GLADSTAN ST SWALE DESIGN, VIEW PLAN

Date 17.02.2015 Drawing No. 1648_P05 Sheet 05 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648 P06

LEGEND:

- EXISTING CONTOURS SURVEY
- EXISTING CONTOURS SURVEY
- TREATMENT ZONE
- ROCK PLACEMENT 1, ROCK CAPPING
- ROCK PLACEMENT 2, QUARRY LOGS
- ROCK PLACEMENT 3, BOULDERS
- PROPOSED STORMWATER PIPE
- EXISTING STORMWATER PIPE
- EXISTING TREE TO BE KEPT
- TREE TO BE REMOVED
- OVERHEAD ELECTRICITY WIRES
- COUNCIL SEWER MAIN
- COUNCIL WATER MAIN
- TELECOMMUNICATIONS MAIN APPROXIMATE LOCATION
- TELSTRA OPTUS UNDERGROUND CONDUITS
- PIT
- HYDRANT

SPILLWAY
ROCK WORK TYPE 1
REFER ROCK WORK DETAIL SHEET D13
7M WIDTH, 400MM DEEP, LONGITUDINAL GRADE 2.45%
REFER TYPICAL SECTION WEIR AND SPILLWAY SECTION SHEET D08

EXISTING SWALE
TO REMAIN OPEN IN THE LOWER SECTION TO MAINTAIN FISH HABITAT

SWALE EDGING
ROCK TYPE 2
REFER TO TYPICAL EDGE TREATMENT SECTION SHEET D08

EXISTING SALTMARH EXCLUSION ZONE
APPROXIMATELY 10M FROM TOP OF LAKE BANK
NO ACCESS PERMITTED AT ALL TIMES

TERRESTRIAL CONNECTING BATTER
FROM TOP OF SANDSTONE LOG TO EXISTING TERRAIN LEVEL
SLOPE 1(V)IN4(H)
TO BE COVERED WITH COIR MESH
REFER SPECIFICATION

EXISTING SWALE
TO BE KEPT

EXISTING SALTMARH EXCLUSION ZONE
APPROXIMATELY 10M FROM TOP OF LAKE BANK
NO ACCESS PERMITTED AT ALL TIMES

SCOUR PROTECTION
ROCK WORK TYPE 1
REFER SHEET D13

SWALE INLET STRUCTURE
REFER TYPICAL SECTIONS SHEET D08

4 x ø375mm uPVC PIPES
APPR. 12M LENGTH EACH
OFFTAKE IL. 0.00M
SWALE IL. 0.00M

SCOUR PROTECTION
ROCK TYPE 1
REFER SHEET D13

SCOUR PROTECTION
ROCK TYPE 3
REFER SHEET D13

5.0m WEIR TO OVERFLOW
INTO EXISTING CHANNEL
DOWNSTREAM

WEIR RL0.3
ROCK TYPE 2
"SANDSTONE LOGS"

SCOUR PROTECTION
1M WIDTH ACROSS FULL WEIR LENGTH

WEIR RL0.3
ROCK TYPE 2
"SANDSTONE LOGS"

SCOUR PROTECTION
1M WIDTH ACROSS FULL WEIR LENGTH

SUPPLY AND INSTALL DISCHARGE BUBBLER PIT 900*900 WITH HINGED GALVANISED SURCHARGE GRATE
REFER TYPICAL DETAILS D3 SHEET D13

uPVC PIPE 375mm TBC

SWALE TREATMENT ZONE
400MM DEEP, MINIMUM WIDTH 10M, LONGITUDINAL SLOPE APPROXIMATELY 0.21%
TO BE PLANTED WITH NOMINATED SPECIES AT SPECIFIED LOCATION AS SHOWN ON THE PLANTING SCHEDULE AND PLAN SHEET V15

FLOW SPLITTING DEVICE
REFER TO VIEW PLAN SHEET D09, SECTIONS SHEET D11 AND DETAILS 2A AND 2B SHEET D13

2.5m WEIR TO OVERFLOW
INTO DIVERSION CHAMBER

PIPE EXTENSION
ø600MM

EXISTING CHANNEL TO BE BACKFILLED
TO TOP OF BANK LEVEL
MAKE SMOOTH JUNCTION WITH EXISTING TERRAIN

EXISTING CHANNEL TO BE BACKFILLED
TO TOP OF BANK LEVEL
MAKE SMOOTH JUNCTION WITH EXISTING TERRAIN

SUPPLY AND INSTALL 1200*1200 PIT
REFER SUMP PIT DETAIL 01 SHEET D13

SUPPLY AND INSTALL 1200*1200 PIT
REFER SUMP PIT DETAIL 01 SHEET D13

EXISTING CONCRETE PATH

TUGGERAH PARADE

VENICE STREET

RL 1.10 AHD

D. P. 1 5 4 6 2

45

46

47

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				Checked: SMT	Approved: 13.02.15
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LONG JETTY, NSW 2261

VENICE ST SWALE DESIGN, VIEW PLAN

Date 17.02.2015 Drawing No. 1648_P06 Sheet 06 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648 P07

SPILLWAY
ROCK WORK TYPE 1
REFER ROCK WORK DETAIL SHEET D13
7M WIDTH, 400MM DEEP, LONGITUDINAL
GRADE 3.15%
REFER TYPICAL SECTION WEIR AND SPILLWAY
SECTION SHEET D08

WEIR RL0.3
ROCK TYPE 2
"SANDSTONE LOGS"

SCOUR PROTECTION
ROCK TYPE 1
REFER SHEET D13
1.00M WIDTH ACROSS FULL WEIR LENGTH

EXISTING SALTMARH
EXCLUSION ZONE
APPROXIMATELY 10M FROM TOP OF LAKE
BANK
NO ACCESS PERMITTED AT ALL TIMES

EXISTING SWALE
TO REMAIN OPEN IN THE LOWER
SECTION TO MAINTAIN FISH HABITAT

SWALE TREATMENT ZONE
400MM DEEP, MINIMUM WIDTH 7M, LONGITUDINAL
SLOPE APPROXIMATELY 0.32%
TO BE PLANTED WITH NOMINATED SPECIES AT
SPECIFIED LOCATION AS SHOWN ON THE PLANTING
SCHEDULE AND PLAN SHEET V16

SUPPLY AND INSTALL DISCHARGE
BUBBLER PIT 900*900 WITH HINGED
GALVANISED SURCHARGE GRATE
REFER TYPICAL DETAILS D3 SHEET
D13

TERRESTRIAL CONNECTING BATTER
FROM TOP OF SANDSTONE LOG TO EXISTING
TERRAIN LEVEL
SLOPE 1(V)IN4(H)
TO BE COVERED WITH COIR MESH
REFER SPECIFICATION

SCOUR PROTECTION
ROCK WORK TYPE 1
REFER SHEET D13

EXISTING CONCRETE PATH

EXISTING TIMBER BRIDGE

EXISTING SALTMARH
EXCLUSION ZONE
APPROXIMATELY 10M FROM TOP OF LAKE
BANK
NO ACCESS PERMITTED AT ALL TIMES

SUPPLY AND INSTALL 1200*1200 PIT
REFER SUMP PIT DETAIL 01 SHEET D13

FILL IN EXISTING
DRAINAGE CHANNEL

300mmø UPVC PIPE

SWALE EDGING
ROCK TYPE 2
REFER TO TYPICAL EDGE TREATMENT
SECTION SHEET D08

EXISTING SWALE
TO BE KEPT

SCOUR PROTECTION
ROCK WORK TYPE 1
REFER SHEET D13

SWALE INLET STRUCTURE
REFER TYPICAL SECTIONS
SHEET D08

EXISTING SALTMARH
EXCLUSION ZONE
APPROXIMATELY 10M FROM TOP OF LAKE
BANK
NO ACCESS PERMITTED AT ALL TIMES

SCOUR PROTECTION
ROCK TYPE 1
REFER SHEET D13

3 x ø375mm uPVC PIPES
APPROX. 6M LENGTH EACH
OFFTAKE IL. 0.00M
SWALE IL. 0.00M

2.0m WEIR TO OVERFLOW
INTO DIVERSION CHAMBER

FLOW SPLITTING DEVICE
REFER TO VIEW PLAN
SHEET D09, SECTIONS
SHEET D12 AND DETAILS
2A AND 2B SHEET D13

SCOUR PROTECTION
ROCK TYPE 3
REFER SHEET D13

4.0m WEIR TO OVERFLOW
INTO EXISTING CHANNEL
DOWNSTREAM

WALL OPENING TO BE
TRAPEZOIDAL WITH 1.5M BASE
WIDTH REFER SHEET 12

TWO COURSES OF SANDSTONE LOGS
TOP OF SANDSTONE TO BE 50mm ABOVE
GROUND LEVEL TO FOR A MOWING EDGE

SEDIMENT FOREBAY/BASIN WITH OFFTAKE
CHAMBER TO DIVERT FLOWS TOWARDS
THE TREATMENT SWALE

EXISTING TIMBER BRIDGE

TUGGERAH LAKE

LOT 537

VENICE STREET

PARADE

LAKE STREET

TUGGERAH

48

49

50

63

LEGEND:

- EXISTING CONTOURS SURVEY
- EXISTING CONTOURS SURVEY
- TREATMENT ZONE
- ROCK PLACEMENT 1, ROCK CAPPING
- ROCK PLACEMENT 2, QUARRY LOGS
- ROCK PLACEMENT 3, BOULDERS
- PROPOSED STORMWATER PIPE
- EXISTING STORMWATER PIPE
- EXISTING TREE TO BE KEPT
- TREE TO BE REMOVED
- OVERHEAD ELECTRICITY WIRES
- COUNCIL SEWER MAIN
- COUNCIL WATER MAIN
- TELECOMMUNICATIONS MAIN APPROXIMATE LOCATION
  TELSTRA OPTUS UNDERGROUND CONDUITS
- PIT
- HYDRANT

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C	100% DRAWING SET	DH/CP	19/02/15
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10 5 0 10 20 1:500
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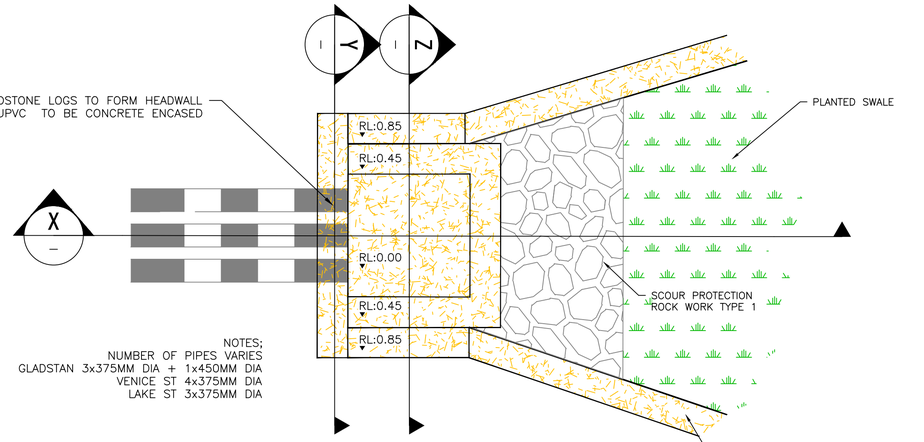
LAKE ST SWALE DESIGN, VIEW PLAN

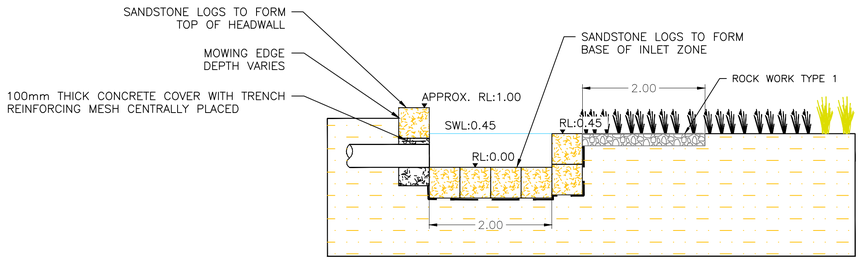
Date 17.02.2015 Drawing No. 1648_P07 Sheet 07 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

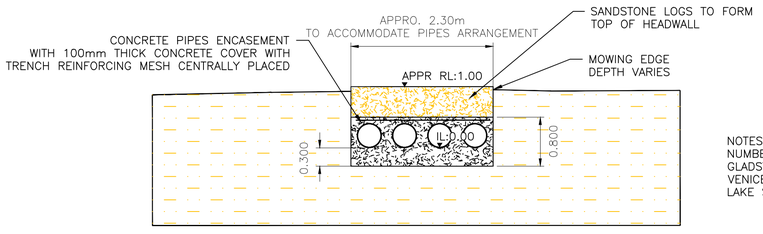
1648_D08



SWALE INLET, TYPICAL ARRANGEMENT, VIEW PLAN - 1/50@A1

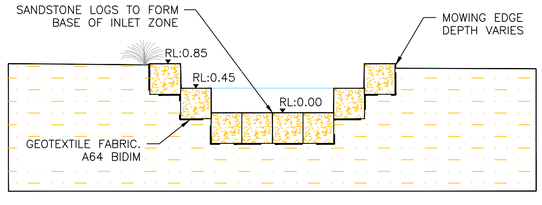


DETAIL SECTION XX: SWALE INLET ZONE - 1/50@A1

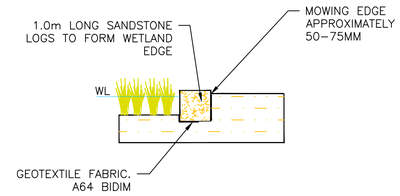


NOTES;
NUMBER OF PIPES VARIES
GLADSTAN 3x375MM DIA + 1x450MM DIA
VENICE ST 4x375MM DIA
LAKE ST 3x375MM DIA

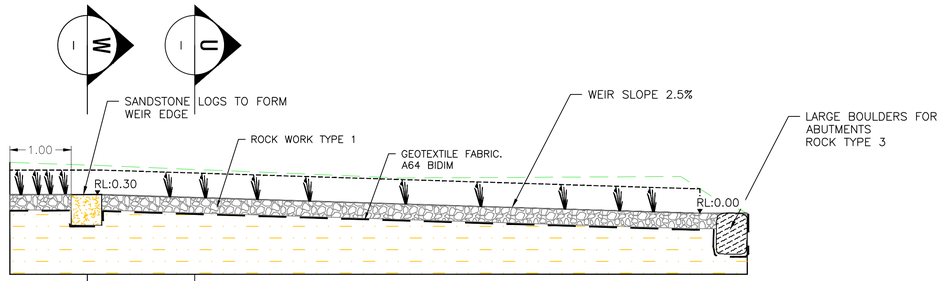
DETAIL SECTION YY : SWALE INLET ZONE - 1/50@A1



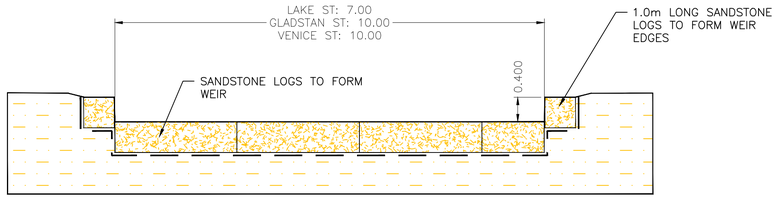
DETAIL SECTION ZZ : SWALE INLET ZONE - 1/50@A1



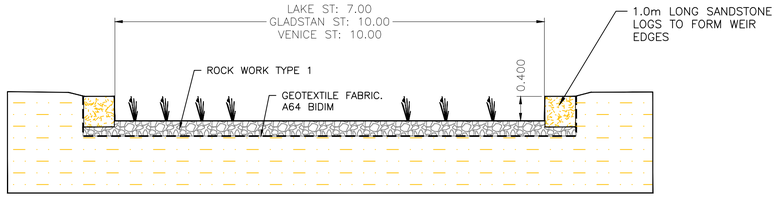
TYPICAL SECTION : WETLAND EDGE TREATMENT - 1/50@A1



TYPICAL LONGITUDINAL SECTION : WEIR AND SPILLWAY - 1/50@A1



TYPICAL CROSS SECTION W : WEIR - 1/50@A1



TYPICAL CROSS SECTION U : SPILLWAY - 1/50@A1

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B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

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TUGGERAH PARADE
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TYPICAL DETAILS, SHEET 1 OF 6

Date 17.02.2015 Drawing No. 1648_D08 Sheet 08 of 18

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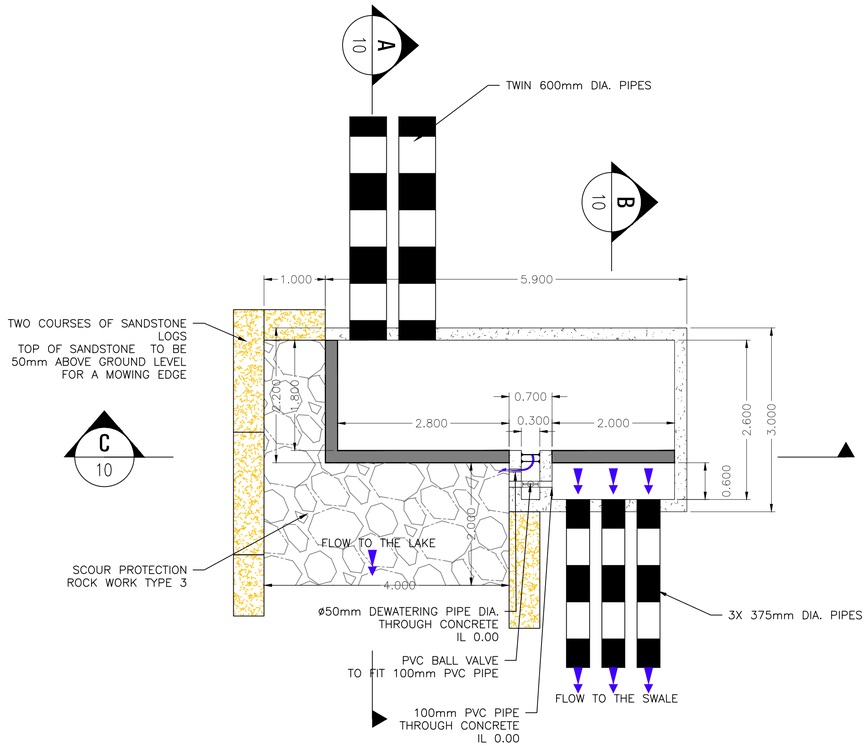
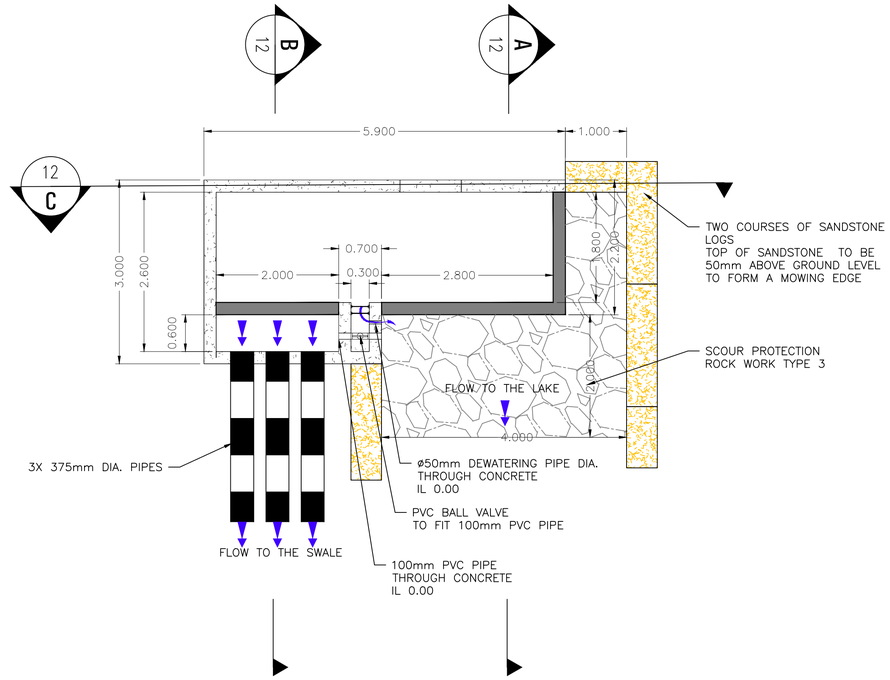
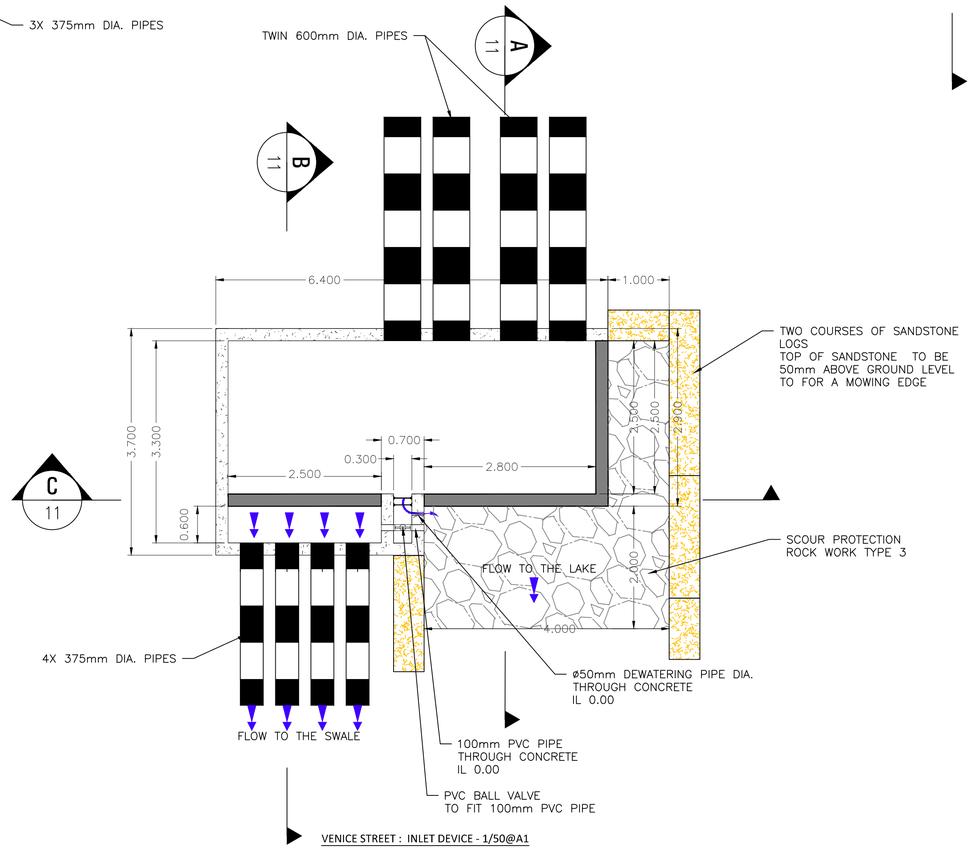
1648_D09



GLADSTAN AVENUE : INLET DEVICE - 1/50@A1



LAKE STREET : INLET DEVICE - 1/50@A1



VENICE STREET : INLET DEVICE - 1/50@A1

Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

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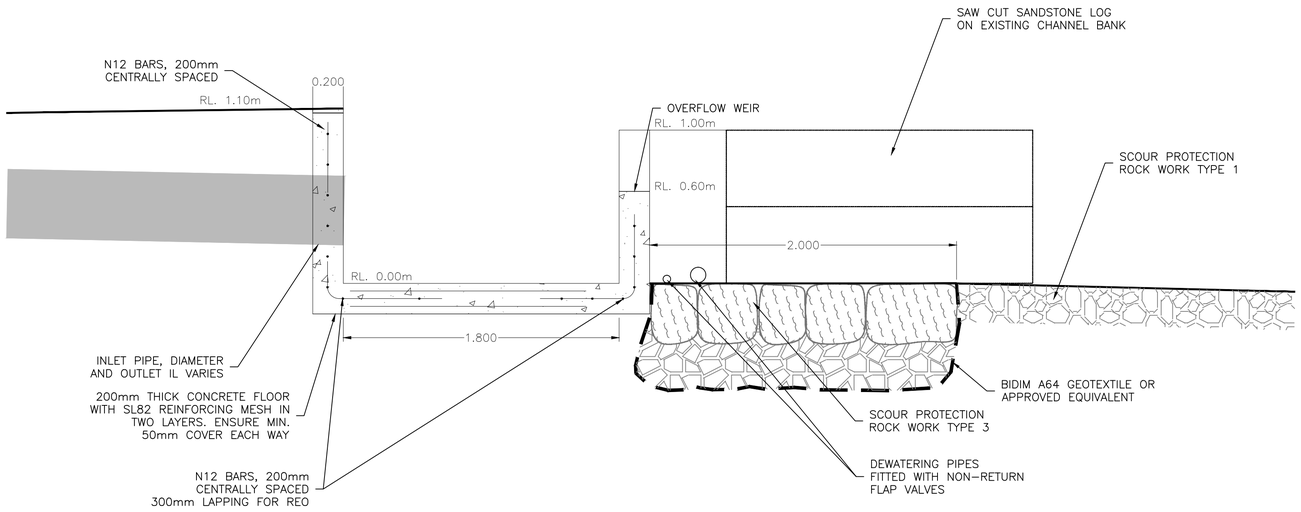
TYPICAL DETAILS, SHEET 2 OF 6

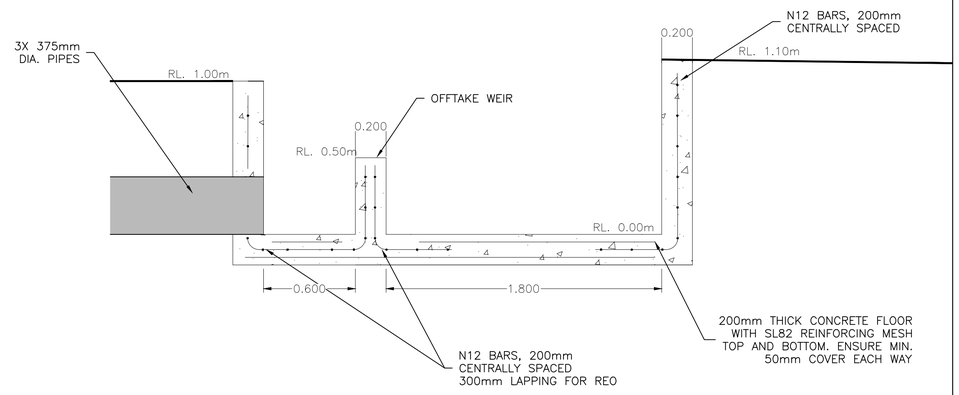
Date 17.02.2015 Drawing No. 1648_D09 Sheet 09 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

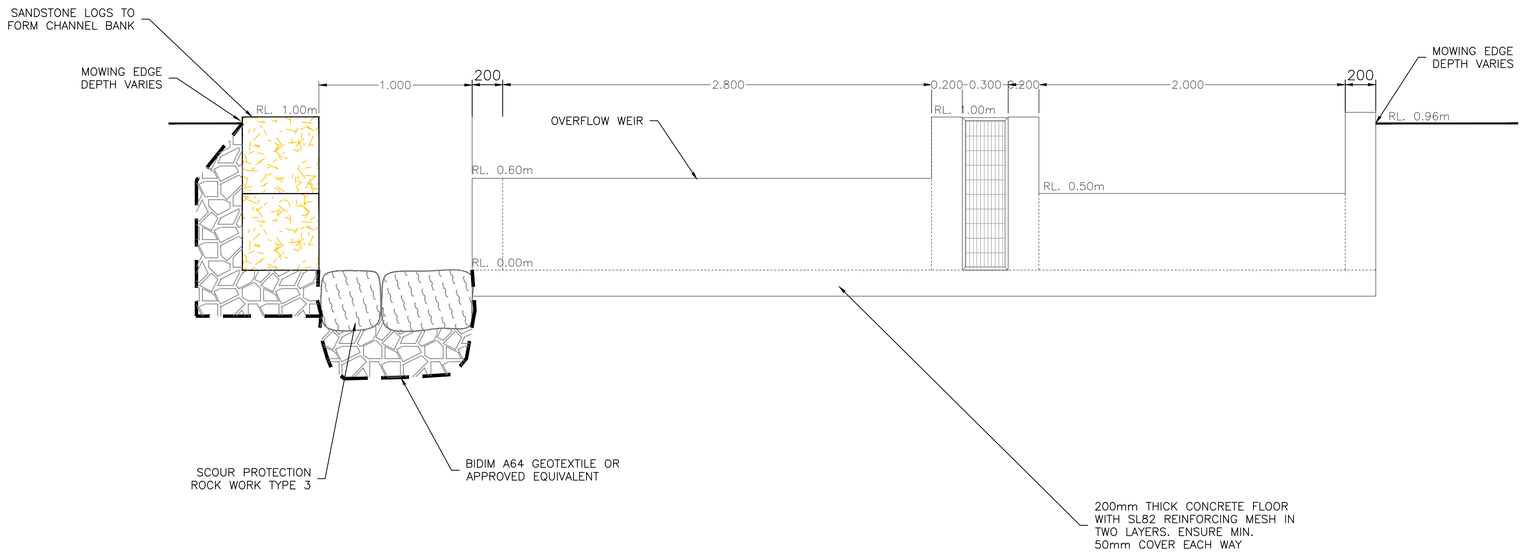
1648 D10



GLADSTAN AVENUE : INLET DEVICE SECTION A-A - 1/20@A1



GLADSTAN AVENUE : INLET DEVICE SECTION B-B - 1/20@A1



Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

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0.4 0.2 0 0.4 0.8 1:20

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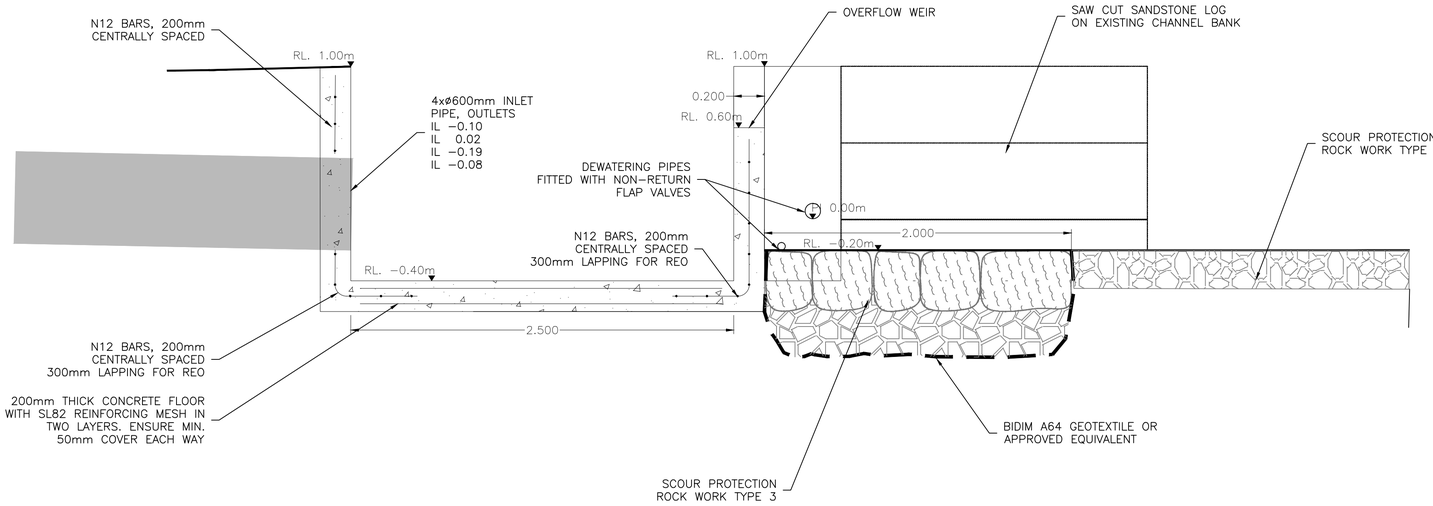
TYPICAL DETAILS, SHEET 3 OF 6

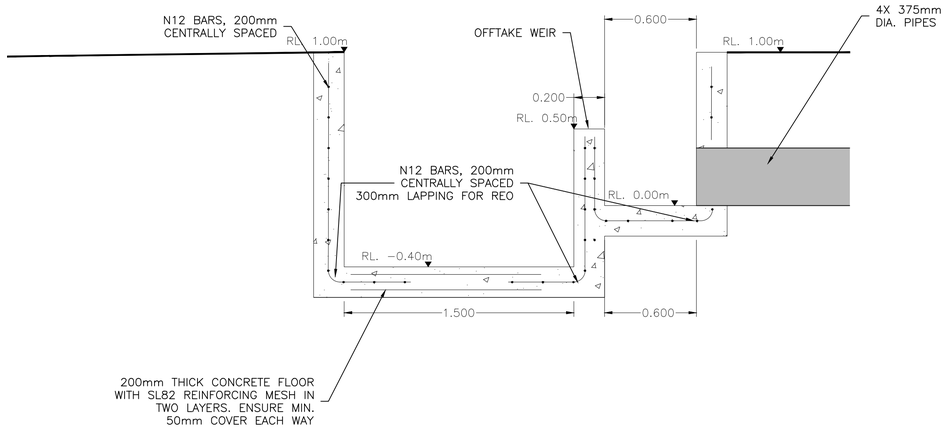
Date 17.02.2015 Drawing No. 1648_D10 Sheet 10 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

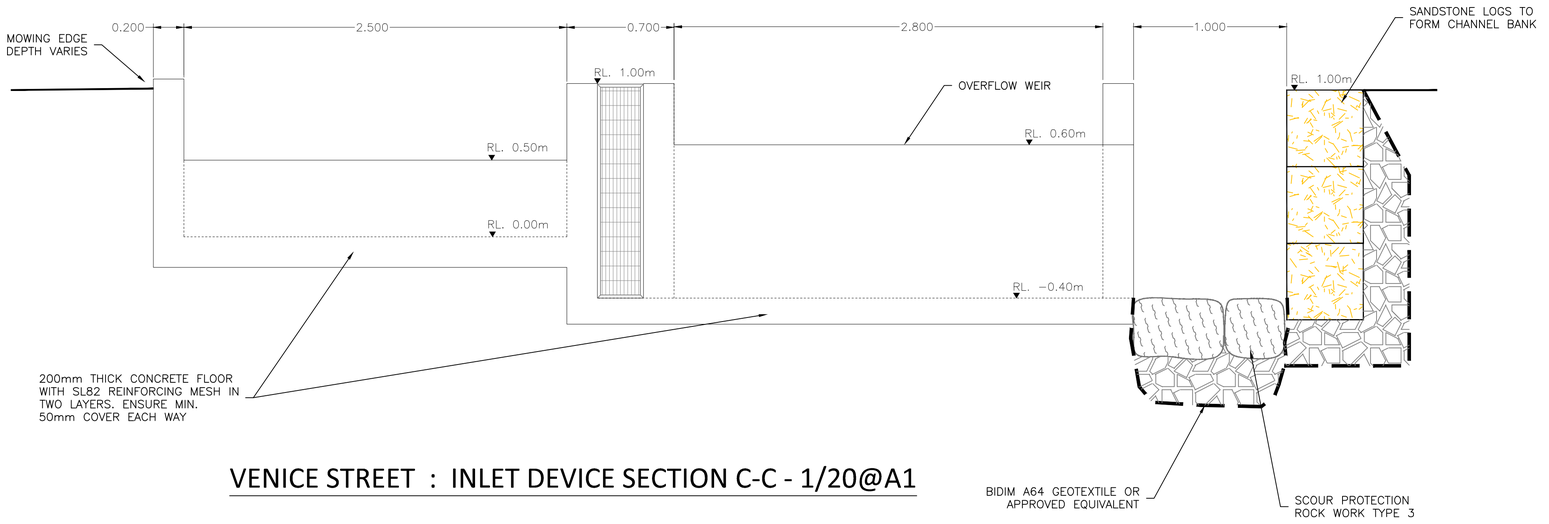
1648_D11



VENICE STREET : INLET DEVICE SECTION A-A - 1/20@A1



VENICE STREET : INLET DEVICE SECTION B-B - 1/20@A1



VENICE STREET : INLET DEVICE SECTION C-C - 1/20@A1

Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

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0.4 0.2 0 0.4 0.8 1:20

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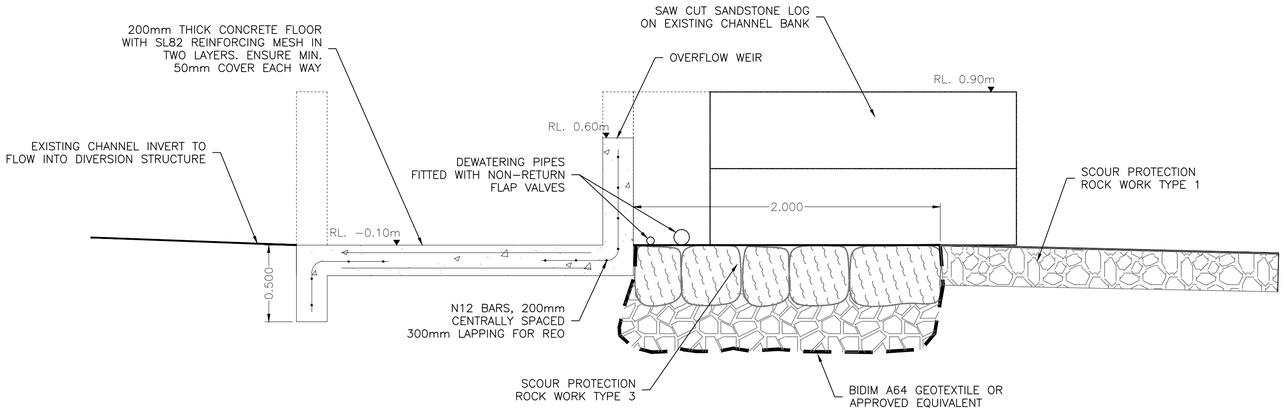
TUGGERAH PARADE
LONG JETTY, NSW 2261

TYPICAL DETAILS, SHEET 4 OF 6

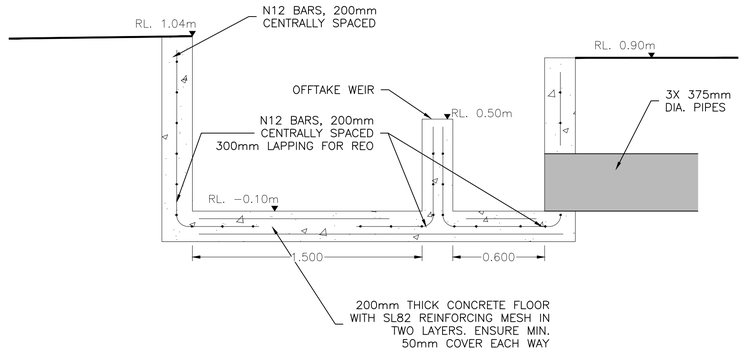
Date 17.02.2015 Drawing No. 1648_D11 Sheet 11 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648_D12



LAKE STREET : INLET DEVICE SECTION A-A - 1/20@A1



LAKE STREET : INLET DEVICE SECTION B-B - 1/20@A1

LAKE STREET : INLET DEVICE SECTION C-C - 1/20@A1

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Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

Designed: DH | Authorised: RW

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0.4 0.2 0 0.4 0.8 1:20

Original sheet size A1

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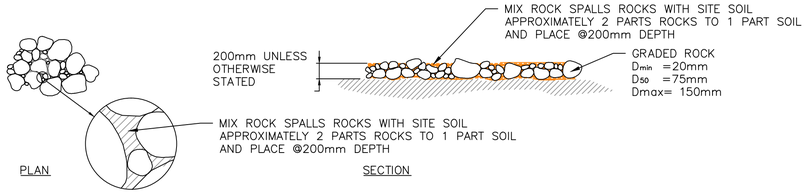
TYPICAL DETAILS, SHEET 5 OF 6

Date 17.02.2015 Drawing No. 1648_D12 Sheet 12 of 18

1648 D13



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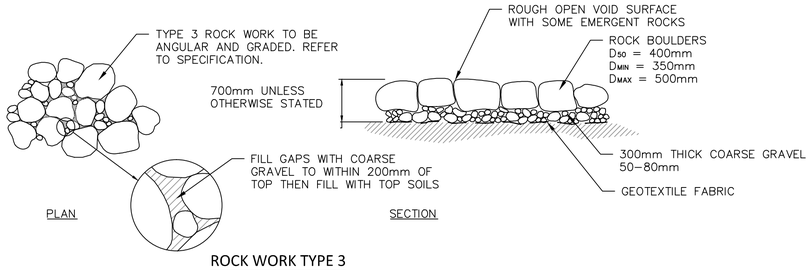

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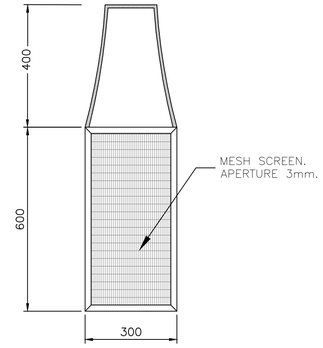
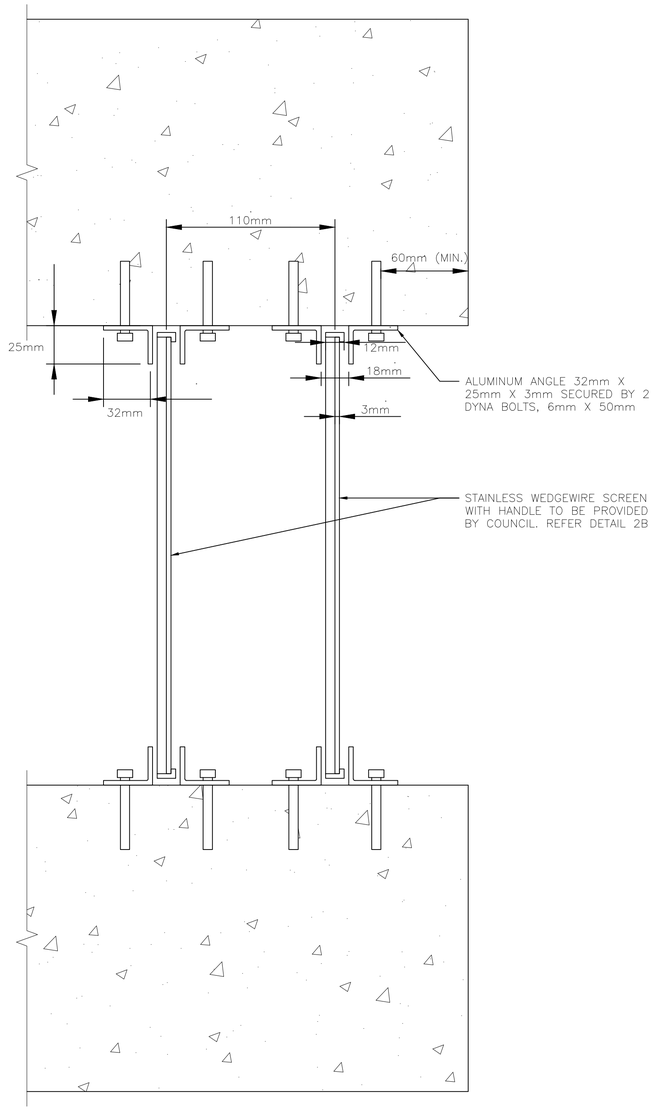
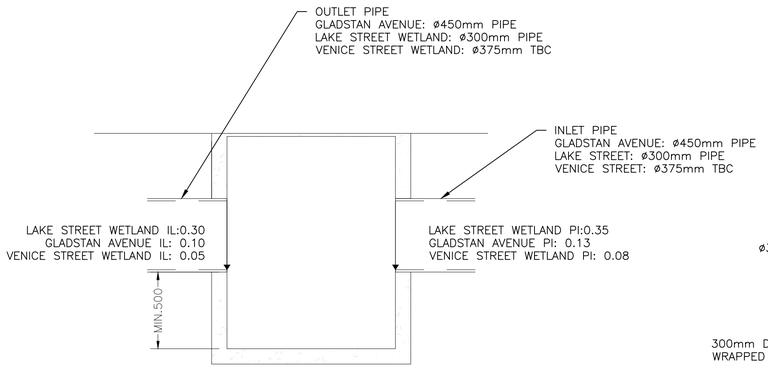


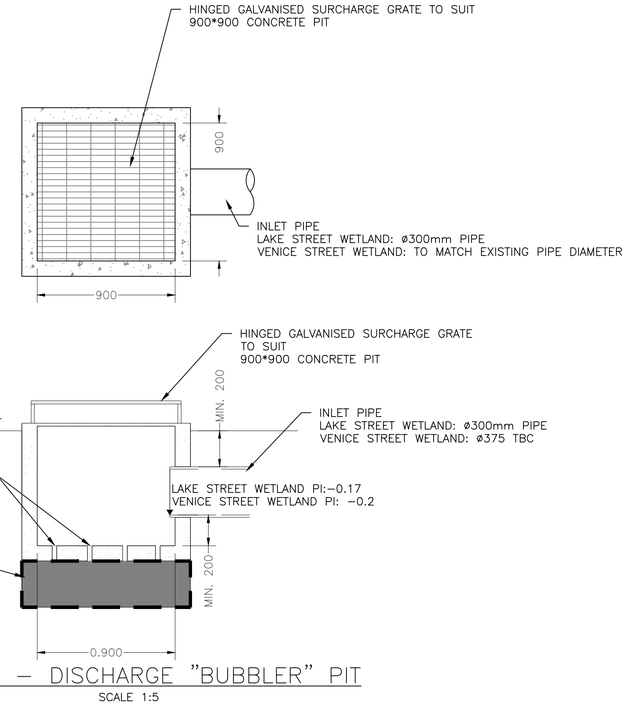
DETAIL 2B – MESH SCREEN
SCALE 1:10



DETAIL 2A – MESH SCREENS
SCALE 1:2



DETAIL 1 – SUMP PIT
SCALE 1:20



DETAIL 3 – DISCHARGE "BUBBLER" PIT
SCALE 1:5

Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

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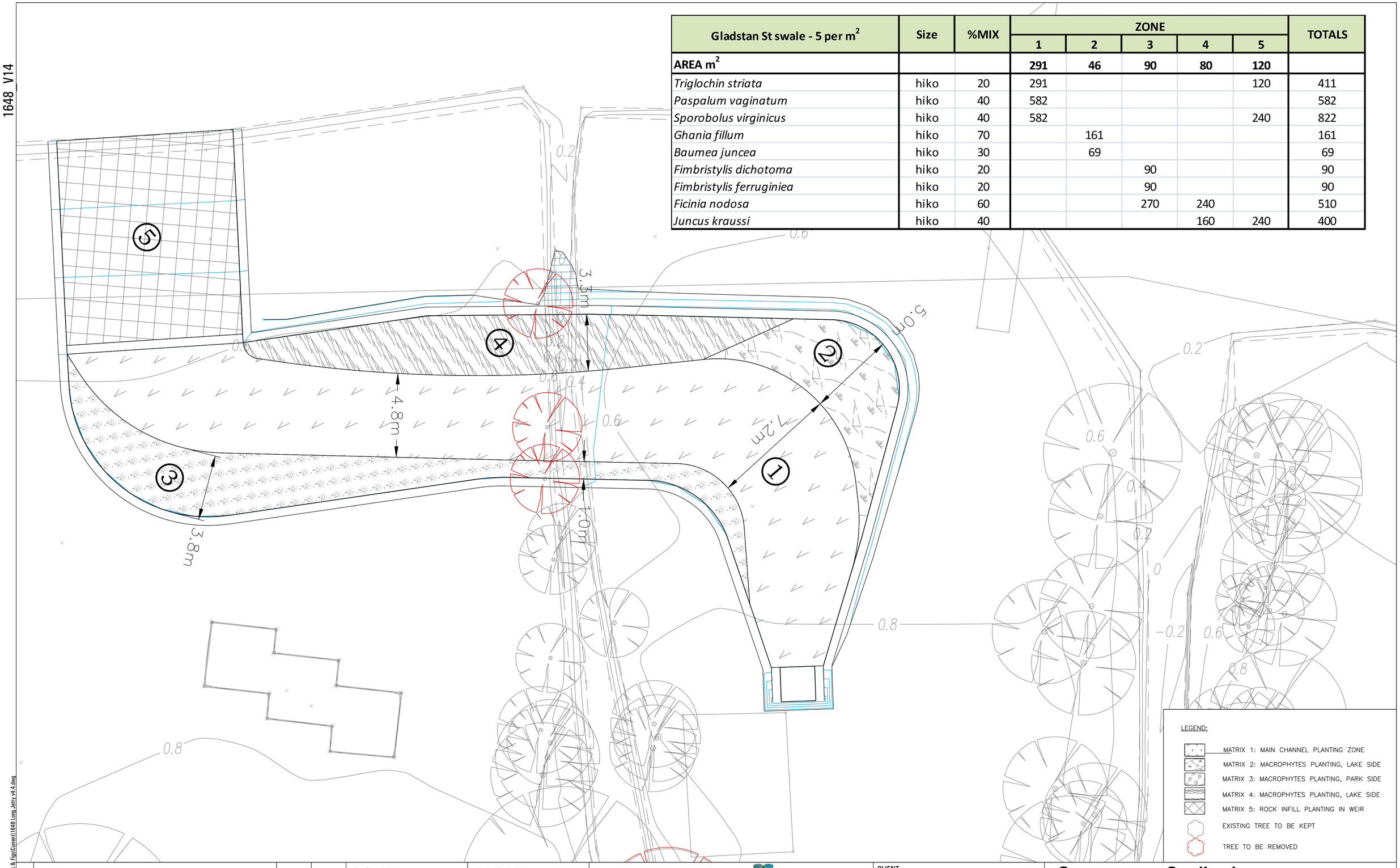
TYPICAL DETAILS, SHEET 6 OF 6

Date 17.02.2015 Drawing No. 1648_D13 Sheet 13 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648_V14

Gladstan St swale - 5 per m²	Size	%MIX	ZONE					TOTALS
			1	2	3	4	5	
AREA m²			**291**	**46**	**90**	**80**	**120**	
Triglochin striata	hiko	20	291				120	411
Paspalum vaginatum	hiko	40	582					582
Sporobolus virginicus	hiko	40	582				240	822
Ghania fillum	hiko	70		161				161
Baumea juncea	hiko	30		69				69
Fimbristylis dichotoma	hiko	20			90			90
Fimbristylis ferruginiea	hiko	20			90			90
Ficinia nodosa	hiko	60			270	240		510
Juncus kraussi	hiko	40				160	240	400



LEGEND:

- MATRIX 1: MAIN CHANNEL PLANTING ZONE
- MATRIX 2: MACROPHYTES PLANTING, LAKE SIDE
- MATRIX 3: MACROPHYTES PLANTING, PARK SIDE
- MATRIX 4: MACROPHYTES PLANTING, LAKE SIDE
- MATRIX 5: ROCK INFILL PLANTING IN WEIR
- EXISTING TREE TO BE KEPT
- TREE TO BE REMOVED

Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

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2 1 0 2 4 1:100

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GLADSTAN AVENUE PLANTING PLAN

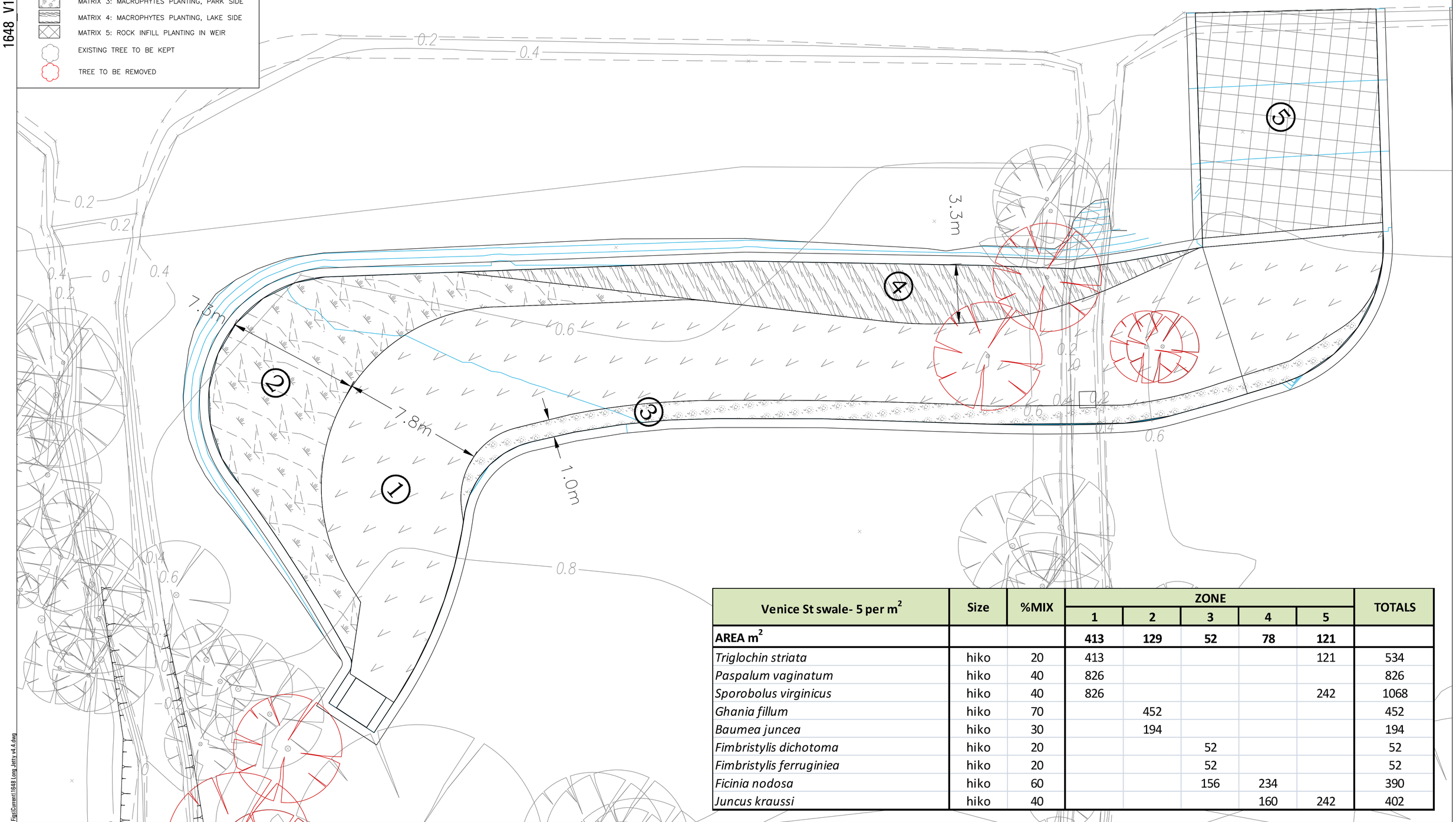
Date 17.02.2015 Drawing No. 1648_V14 Sheet 14 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648_V15

LEGEND:

- MATRIX 1: MAIN CHANNEL PLANTING ZONE
- MATRIX 2: MACROPHYTES PLANTING, LAKE SIDE
- MATRIX 3: MACROPHYTES PLANTING, PARK SIDE
- MATRIX 4: MACROPHYTES PLANTING, LAKE SIDE
- MATRIX 5: ROCK INFILL PLANTING IN WEIR
- EXISTING TREE TO BE KEPT
- TREE TO BE REMOVED



Venice St swale- 5 per m^2	Size	%MIX	ZONE					TOTALS
			1	2	3	4	5	
AREA m^2			**413**	**129**	**52**	**78**	**121**	
Triglochin striata	hiko	20	413				121	534
Paspalum vaginatum	hiko	40	826					826
Sporobolus virginicus	hiko	40	826				242	1068
Ghania fillum	hiko	70		452				452
Baumea juncea	hiko	30		194				194
Fimbristylis dichotoma	hiko	20			52			52
Fimbristylis ferruginiea	hiko	20			52			52
Ficinia nodosa	hiko	60			156	234		390
Juncus kraussi	hiko	40				160	242	402

Rev.	Revision Description	Designed	Date
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A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

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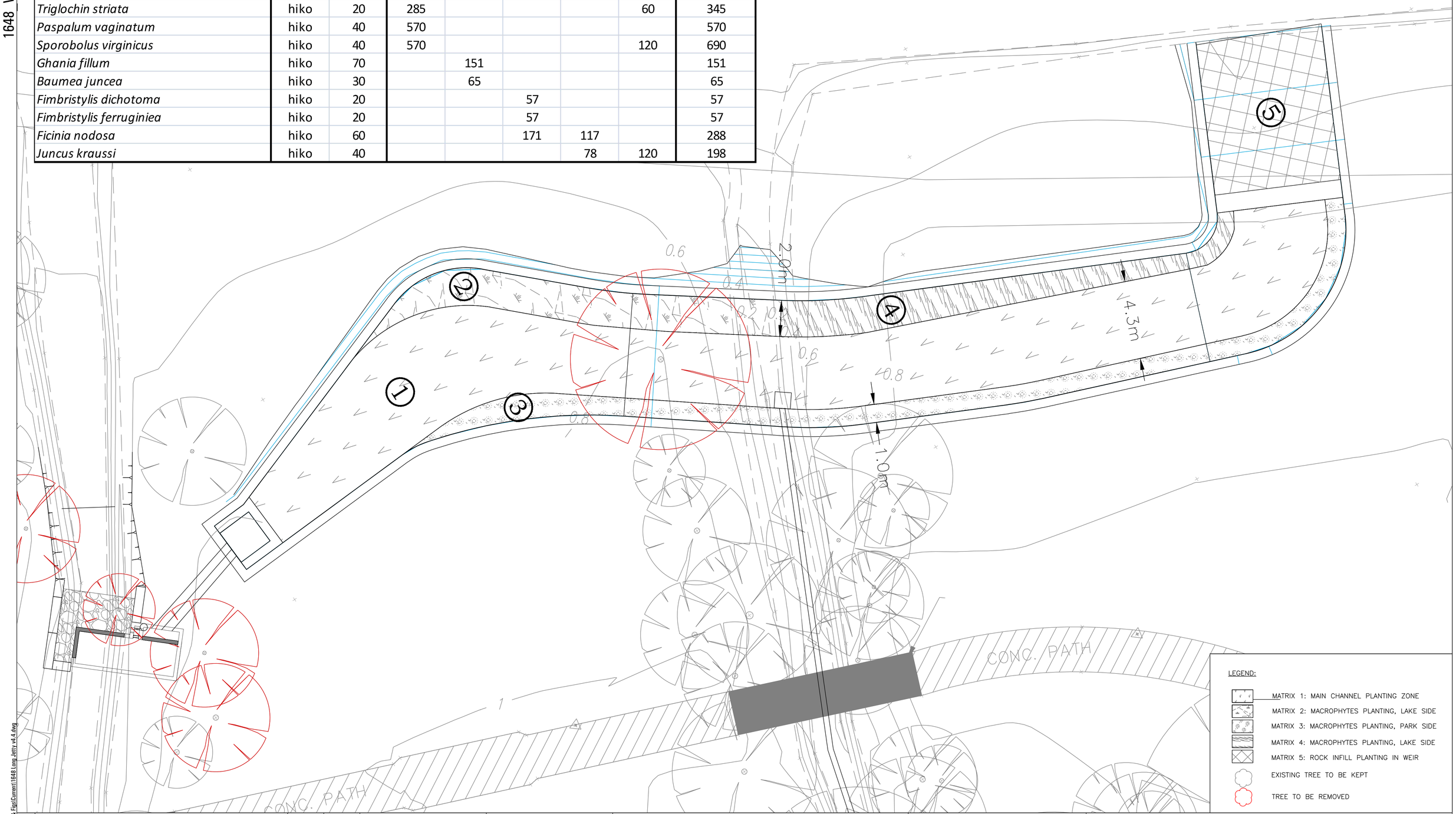
VENICE STREET PLANTING PLAN

Date 17.02.2015 Drawing No. 1648_V15 Sheet 15 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

Lake St swale - 5 per m^2	Size	%MIX	ZONE					TOTALS
			1	2	3	4	5	
AREA m^2			**285**	**43**	**57**	**39**	**60**	
Triglochin striata	hiko	20	285				60	345
Paspalum vaginatum	hiko	40	570					570
Sporobolus virginicus	hiko	40	570				120	690
Ghania fillum	hiko	70		151				151
Baumea juncea	hiko	30		65				65
Fimbristylis dichotoma	hiko	20			57			57
Fimbristylis ferruginiea	hiko	20			57			57
Ficinia nodosa	hiko	60			171	117		288
Juncus kraussi	hiko	40				78	120	198

1648_V16



Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

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LAKE STREET PLANTING PLAN

Date 17.02.2015 Drawing No. 1648_V16 Sheet 16 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

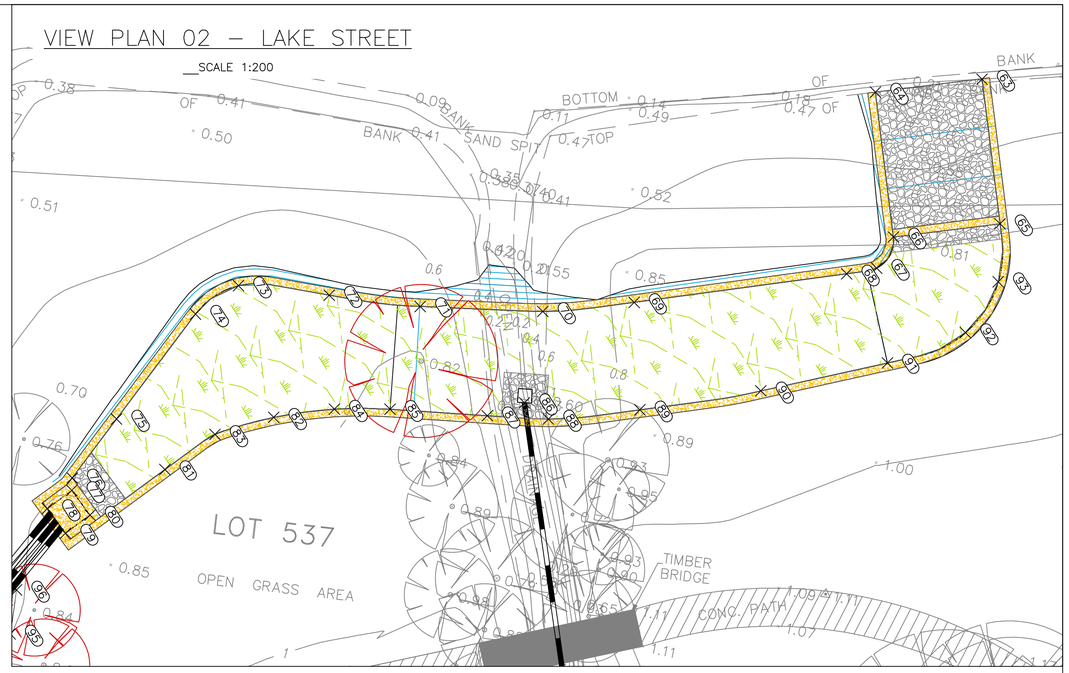
1648_SE17

POINT SETOUT TABLE			
Point #	Eastings	Northings	Levels
10	358469.17	6307666.19	0.45
11	358470.42	6307667.76	0.45
12	358464.05	6307678.19	0.44
13	358462.11	6307681.00	0.43
14	358460.08	6307682.53	0.43
15	358456.31	6307681.85	0.42
16	358450.95	6307675.91	0.41
17	358440.59	6307663.76	0.35
18	358434.93	6307654.68	0.30
19	358428.89	6307646.52	0.30
20	358430.34	6307645.42	0.31
21	358437.32	6307644.11	0.33
22	358441.95	6307647.58	0.34
23	358446.23	6307654.44	0.37
24	358449.64	6307659.89	0.38
25	358456.05	6307667.36	0.41
26	358459.29	6307669.00	0.42
27	358461.66	6307668.66	0.43
28	358466.44	6307666.77	0.44
29	358469.28	6307670.36	0.45
30	358471.98	6307666.53	0.45
31	358470.74	6307664.96	0.45
32	358425.41	6307661.99	0.01
33	358419.36	6307653.82	0.01
34	358416.59	6307650.15	0.01
35	358411.01	6307641.83	0.02
36	358420.59	6307634.61	0.30
37	358426.17	6307642.93	0.30
38	358429.18	6307633.26	0.32
39	358425.46	6307625.12	0.34
40	358423.52	6307624.08	0.34
41	358415.47	6307613.06	0.40
42	358408.08	6307603.41	0.40
43	358406.75	6307601.09	0.41
44	358405.69	6307598.92	0.41
45	358405.22	6307597.30	0.42
46	358405.83	6307594.36	0.42
47	358407.09	6307592.81	0.43
48	358410.48	6307587.88	0.44
49	358411.66	6307583.76	0.45
50	358409.76	6307583.14	0.45
51	358410.38	6307581.25	0.45
52	358412.28	6307581.87	0.45
53	358408.65	6307583.59	0.45
54	358397.46	6307584.82	0.43
55	358391.00	6307588.43	0.41
56	358391.60	6307595.97	0.40
57	358401.16	6307608.80	0.36
58	358409.82	6307619.80	0.34
59	358416.29	6307627.42	0.32

POINT SETOUT TABLE			
Point #	Eastings	Northings	Levels
60	358390.18	6307592.29	0.40
61	358393.79	6307585.65	0.42
62	358403.44	6307584.36	0.44
63	358352.19	6307555.21	0.00
64	358349.12	6307548.91	0.00
65	358360.75	6307551.09	0.30
66	358357.71	6307544.78	0.30
67	358358.83	6307542.75	0.30
68	358358.09	6307540.91	0.30
69	358352.14	6307528.23	0.35
70	358349.41	6307522.89	0.37
71	358344.81	6307516.35	0.40
72	358340.97	6307511.75	0.41
73	358337.24	6307507.11	0.42
74	358337.28	6307503.74	0.43
75	358340.25	6307495.70	0.44
76	358341.92	6307491.19	0.45
77	358342.58	6307490.73	0.45
78	358342.71	6307488.74	0.45
79	358344.71	6307488.86	0.45
80	358344.58	6307490.86	0.45
81	358344.73	6307496.57	0.43
82	358345.71	6307504.39	0.42
83	358344.57	6307500.56	0.43
84	358347.40	6307508.01	0.41
85	358349.38	6307511.06	0.40
86	358353.77	6307518.66	0.38
87	358353.17	6307516.17	0.38
88	358355.51	6307519.41	0.37
89	358358.23	6307524.75	0.35
90	358361.47	6307532.06	0.33
91	358364.41	6307539.99	0.30
92	358365.50	6307545.35	0.30
93	358363.87	6307548.94	0.30
94	358344.45	6307477.81	0.90
95	358348.28	6307482.27	0.90
96	358346.09	6307484.18	0.90
97	358413.46	6307564.06	0.90
98	358418.27	6307568.28	0.90
99	358415.90	6307570.99	0.90
100	358507.74	6307660.14	1.00
101	358502.81	6307655.30	1.00
102	358500.78	6307657.38	1.00

VIEW PLAN 01 – GLADSTAN SETOUT

SCALE 1:200

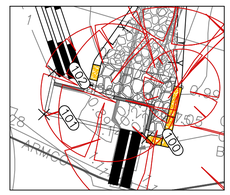


VIEW PLAN 02 – LAKE STREET

SCALE 1:200

VIEW PLAN 03 – VENICE STREET SETOUT

SCALE 1:200

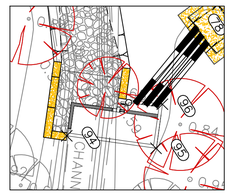


VIEW PLAN 04 SPLITTER GLADSTAN AVENUE SETOUT

SCALE 1:200

VIEW PLAN 05 SPLITTER VENICE STREET SETOUT

SCALE 1:200



VIEW PLAN 06 SPLITTER LAKE STREET SETOUT

SCALE 1:200

Rev.	Revision Description	Designed	Date
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B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

Designed: DH | Authorised: RW

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SETOUT PLAN

Date 17.02.2015 Drawing No. 1648_SE17 Sheet 17 of 18

CAD FILE: X:\1648 Venice St Long Jetty\Dwgs & Figs\Current\1648 Long Jetty v4.4.dwg

1648_S18

ROCK WORKS

1. ROCK SUPPLY:
ROCK SIZES ARE SPECIFIED ACCORDING TO THEIR POSITION AND RESISTANCE TO HYDRAULIC FORCES. THE ROCK HAS BEEN SHOWN SCHEMATICALLY IN THE DRAWINGS AS ALL ROCKS WILL HAVE VARYING DIMENSION AS PER BELOW:

- ROCK TYPE 1: D50= 75mm Dmax= 150mm; Dmin= 20mm SANDSTONE SPALLS
- ROCK TYPE 2: SAW CUT SANDSTONE LOG 500*500*1m
- ROCK TYPE 3: D50 = 400mm; Dmin = 350mm; Dmax = 500mm SANDSTONE BOULDERS
- COARSE GRAVEL = 50–80mm

- ROCK SUPPLIED FOR ROCK WORK TYPE 1 AND 3 MUST BE HARD, DURABLE SANDSTONE OR SIMILAR SPECIFIC GRAVITY MATERIAL. ROCK IN THE FORM OF BLOCKS WITH ANGULAR EDGES IS REQUIRED TO ENSURE CONSISTENT INTERLOCKING DURING PLACEMENT.
- ROCK IS TO BE IN THE NATURAL FORM AND NOT CUT OR SHAPED. ROCKS OBTAINED FROM BULK EXCAVATIONS IS GENERALLY SUITABLE SUBJECT TO INSPECTION.
- ROCK IMPORTED TO SITE IS TO BE INSPECTED AND APPROVED BY THE SUPERINTENDENT BOTH PRIOR TO USE ON SITE. THIS CONSTITUTES A HOLD POINT.
- ON SELECTION OF A ROCK SUPPLY, TESTING OR CERTIFICATION OF THE ROCK TO BE SUPPLIED MUST BE PROVIDED TO ENSURE COMPLIANCE WITH THE FOLLOWING REQUIREMENTS (UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT)

RELEVANT TESTING REQUIREMENTS FOR ROCK SUPPLY:

TEST	REFERENCE	REQUIREMENTS
PARTICLE DENSITY	AS 1141.6	NOT LESS THAN 2.6
SULPHATE SOUNDNESS	AS 1141.24	NOT LESS THAN 85%
LOS ANGELES ABRASION	AS 1141.23	LESS THAN 35% LOSS OF WEIGHT AFTER 500 REVOLUTIONS
WATER ABSORPTION	AS 1141.6	LESS THAN 2%
TEN PERCENT FINES	BS 812: PART 111:1990	NOT LESS THAN 80 KN

2. ROCK WORK TO BE GRADED IN ACCORDANCE WITH SECTION 1 ABOVE. D50 IS THE MEDIAN (50TH PERCENTILE) ROCK PARTICLE SIZE. W50 IS THE MEDIAN (50TH PERCENTILE) ROCK PARTICLE WEIGHT. THE D50 AND THE W50 HAVE BEEN SHOWN ON THE DRAWINGS AND MAY VARY FROM LOCATION TO LOCATION. ROCKS SHALL BE REASONABLY WELL GRADED THROUGHOUT THE LAYER THICKNESS (AS INDICATED ON SHEET D13) AND TO THE GRADATION LIMITS SHOWN IN THE TABLES BELOW.
3. EACH LOAD OF ROCKS SHALL BE REASONABLY WELL GRADED FROM THE SMALLEST TO THE MAXIMUM SIZE SPECIFIED. STONES SMALLER THAN THE SPECIFIED 5 OR 10 PERCENT SIZE SHALL NOT BE PERMITTED IN AN AMOUNT EXCEEDING 20 PERCENT BY WEIGHT OF EACH LOAD.
4. THE FIRST ROCK SUPPLY LOAD SHALL BE VISUALLY INSPECTED FOR GRADATION BY LAYING OUT 10 REPRESENTATIVE ROCKS FROM SMALLEST TO LARGEST AND CHECKING AGAINST THE SPECIFICATIONS LISTED IN THIS DOCUMENT (SIZE, WEIGHT AND DIMENSION). A VISUAL INSPECTION SHALL BE UNDERTAKEN FOR EVERY 30T (OR EVERY 3 LOADS) SUPPLIED.

5. ROCK PLACEMENT:

5.2. ROCK TYPES 1 AND 3 SHOULD BE PLACED FROM AN EXCAVATOR BUCKET, NOT DUMPED FROM A TRUCK. TO ENSURE A CONSISTENT GRADATION AND SUITABLE INTERLOCKING OF ROCK, PLACEMENT SHOULD BE NO MORE THAN HALF A BUCKET AT A TIME. EACH HALF BUCKET SHOULD BE RELEASED AT, OR CLOSE TO ITS FINAL POSITION AND NOT ALLOWED TO ROLL DOWN THE SLOPE. ROCK SHOULD BE RELEASED CLOSE TO THE SURFACE AND NOT RELEASED FROM A HEIGHT.
5.3. SAW CUT SANDSTONE MUST BE PLACED ONTO A SUITABLY PREPARED FOUNDATION CONSISTING OF COMPACTED EARTH OR BEDROCK AND A MINIMUM 300MM LAYER OF COARSE GRAVEL AS SHOWN ON THE DESIGN DRAWINGS COMPACTED TO 95% STANDARD COMPACTIVE EFFORT . THE FOUNDATION IS TO BE APPROVED FOR A SAFE BEARING CAPACITY OF 200KPA PRIOR TO PLACEMENT OF ROCK BOULDERS.
5.4. ROCKS MAY BE LAID WITH A ROCK GRAB FITTED TO AN EXCAVATOR AND THEN POSITIONED BY HAND TO ACHIEVE APPROPRIATE
5.5. HAND PLACEMENT SHOULD BE USED AROUND THE INTERFACE WITH THE EXISTING EARTH EMBANKMENT TO ACHIEVE A SMOOTH INTERLOCKED FINISH WITH MINIMAL GAPS.
5.6. SURFACES SHOULD BE ADEQUATELY PREPARED PRIOR TO PLACEMENT OF GEOTEXTILE AND ROCK; ALL SURFACES SHOULD BE FIRM AND FREE OF PLANT ROOTS AND DEBRIS. THE FOUNDATION OF ROCK WALLS MUST BE FIRM PRIOR TO PLACEMENT OF ROCKS.
5.7. ROCKWORK SHOULD ALIGN WITH THE DESIGN SURFACE LEVEL AS SHOWN IN THE DRAWINGS.

6. GEOTEXTILE:
SYNTHETIC GEOTEXTILE SHOULD BE HEAVY DUTY A44 BIDIM OR APPROVED EQUIVALENT. LAY MATERIAL ON A SMOOTH SURFACE FREE OF IRREGULARITIES, VEGETATION AND STONES WITH EDGES FOLDED UNDER SURFACE MATERIAL AS SHOWN ON THESE DRAWINGS. OVERLAP OF MINIMUM 0.3M IS REQUIRED BETWEEN SHEETS. LAP THE UPSLOPE SHEET OVER THAT OF THE DOWNSLOPE SHEET. NO ROCK IS TO BE LAID UNDERNEATH GEOTEXTILE EXCEPT WHERE SHOWN SPECIFICALLY ON THE DRAWINGS. IF IRREGULARITIES EXIST IN THE FOUNDATION, LAY GEOTEXTILE UNDERNEATH GRAVEL AND/OR ROCK SPALLS TO PREPARE FOR ROCK PLACEMENT. CARE SHALL BE TAKEN DURING THE INSTALLATION TO ENSURE THAT THE GEOTEXTILE IS NOT DAMAGED.

7. SUPERVISION:
THE SUPERINTENDENT OR A REPRESENTATIVE IS TO BE PRESENT DURING PLACEMENT OF ALL ROCK STRUCTURES TO ENSURE THAT THE CONFIGURATION AND LEVEL VARIATIONS ARE MET.

EARTHWORKS

1. ACID SULPHATE SOILS
THE SOILS ENCOUNTERED IN THE REGION OF THE PROPOSED WORKS ARE LIKELY TO BE POTENTIALLY ACID SULPHATE SOILS. THE WORK SHOULD BE MANAGED UNDER A SITE SPECIFIC ACID SULPHATE SOILS MANAGEMENT PLAN.
2. CLEARING AND GRUBBING
TREES AND WEEDS IDENTIFIED FOR REMOVAL MUST BE MANAGED ACCORDING TO COUNCIL GUIDELINES. CLEARING AND GRUBBING SHALL BE RESTRICTED TO THE IMMEDIATE WORKS AREA REQUIRED TO ALLOW CONSTRUCTION OF THE PROJECT FEATURES, UNLESS DIRECTED OR APPROVED BY THE SUPERINTENDENT.
THE PRESCRIBED MATERIALS, BEING FENCES, CONCRETE AND/OR BRICK FOUNDATIONS, STRUCTURES OF ALL DESCRIPTIONS, TREES, SHRUBS, SCRUB, STUMPS, LOGS, BOULDERS AND ROOTS – EXCEPT THOSE FENCES, STRUCTURES, TREES, SHRUBS AND/OR ITEMS WHICH THE SUPERINTENDENT MAY DIRECT TO BE RETAINED – SHALL BE CLEARED AND/OR WHOLLY GRUBBED, AND TOGETHER WITH ALL LYING AND FALLEN TIMBER, RUBBISH AND DEBRIS OF EVERY DESCRIPTION, SHALL BE CLASSIFIED AND TRANSPORTED TO THE APPROPRIATE WASTE MANAGEMENT OR LANDFILL FACILITY.
3. REMOVAL OF TOPSOIL
3.1. SCOPE
DEFINITION:
TOPSOIL IS SURFACE SOIL WHICH IS REASONABLY FREE FROM SUBSOIL, REFUSE, CLAY LUMPS AND STONES.
PREREQUISITES:
REMOVAL OF TOPSOIL FROM ANY SECTION OF THE WORKS SHALL ONLY COMMENCE AFTER EROSION AND SEDIMENTATION CONTROLS HAVE BEEN IMPLEMENTED.
EXTENT OF WORK:
TOPSOIL THROUGHOUT THE AREAS TO BE CUT AND FILL, SHALL BE REMOVED AND STOCKPILED SEPARATELY CLEAR OF THE WORK WITH CARE TAKEN TO AVOID CONTAMINATION BY OTHER MATERIALS.
4. EXCAVATION
4.1. EXTENT
EXCAVATE OVER THE SITE TO GIVE CORRECT LEVELS AND PROFILES AS THE BASIS FOR STRUCTURES, FILLING AND LANDSCAPING. EXCAVATE FOR PITS AND PIPE TRENCHES TO THE REQUIRED SIZES AND DEPTHS. CONFIRM THAT BEARING CAPACITY IS ADEQUATE AND PROVIDE ALLOWANCE FOR COMPACTION AND SETTLEMENT.
5. PLACING FILL
GENERAL: PLACE FILL IN NEAR–HORIZONTAL LAYERS OF UNIFORM THICKNESS, DEPOSITED SYSTEMATICALLY ACROSS THE FILL AREA.
EXTENT: PLACE AND COMPACT FILL TO THE DESIGNATED DIMENSIONS, LEVELS, GRADES AND CROSS SECTIONS SO THE SURFACE IS ALWAYS SELF DRAINING.
EDGED: AT JUNCTIONS OF FILL AND EXISTING SURFACES, SO NOT FEATHER THE EDGES.
MIX: PLACE FILL IN A UNIFORM MIXTURE
PREVIOUS FILL: BEFORE PLACING SUBSEQUENT FILL LAYERS, ENSURE THAT PREVIOUSLY ACCEPTED LAYERS STILL CONFORM TO REQUIREMENTS, INCLUDING MOISTURE CONTENT.
PROTECTION: PROTECT THE WORKS FROM DAMAGE DUE TO COMPACTION OPERATIONS. WHERE NECESSARY, LIMIT THE SIZE OF COMPACTION EQUIPMENT OR COMPACT BY HAND. COMMENCE COMPACTING EACH LAYER AT THE STRUCTURE AND PROCEED AWAY FROM IT.
PROTECTIVE COVERING: DO NOT DISTURB OR DAMAGE THE PROTECTIVE COVERING OF MEMBRANES DURING BACKFILLING.
PLACING AT STRUCTURES
GENERAL: PLACE AND COMPACT FILL IN LAYERS SIMULTANEOUSLY ON BOTH SIDES OF STRUCTURES AND ROCK WORKS TO AVOID DIFFERENTIAL LOADING. CAREFULLY PLACE FIRST LAYERS OF FILL OVER THE TOP OF STRUCTURES.
6. PLACEMENT OF SOIL COVER
ALL AREAS WHERE TOPSOIL IS REMOVED DURING THE WORKS SHALL HAVE SOIL COVER REINSTATED.
CULTIVATE AND AMELIORATE TOP SOIL WITH COMPOST IF THE TOP SOIL QUALITY DEEMED UNSATISFACTORY BY THE SITE SUPERINTENDENT. ANY STOCKPILED TOPSOIL SHALL BE RE–USED IN THE WORKS UNLESS DEEMED UNSATISFACTORY BY THE SUPERINTENDENT.
THE SOIL COVER SHALL BE PLACED ON THE PREPARED SUBGRADE SURFACE TO A MINIMUM DEPTH OF 100mm IN A MANNER THAT WILL NOT CREATE EXCESSIVE COMPACTION (I.E TO ALLOW FOR VIGOROUS PLANT GROWTH).
SOIL COVER SHALL BE UNDERTAKEN PRIOR TO THE INSTALLATION OF JUTE MESH AND NATIVE SEEDLINGS.

CONCRETE SPECIFICATION

1. ALL CONCRETE SHALL BE SUPPLIED, PLACED AND TESTED IN ACCORDANCE WITH AS3600–2001 'CONCRETE STRUCTURES CODE'.
2. CONCRETE SHALL BE RESISTANT TO SALINE ENVIRONMENT AND TO BE SUPPLIED BY AN APPROVED PRE–MIX ORGANISATION.
3. CONCRETE QUALITIES SHALL BE:
3.1. MINIMUM COMPRESSIVE STRENGTH F'c – 32 MPa
3.2. AT MINIMUM STRENGTH DEVELOPMENT TIME (DAYS) – 28
3.3. WATER CEMENT RATIO (MAXIMUM) – 0.55
3.4. SLUMP (MAXIMUM) – 80mm
3.5. AGGREGATE SIZE (MAXIMUM) – 20mm
3.6. CEMENT SHALL BE SULPHATE RESISTANT CEMENT, WATER TO BE CLEAN AND POTABLE
3.7. AGGREGATE TO BE SHARP, CLEAN AND CONTINUOUSLY GRADED. ALTERNATIVELY AN APPROVED WATER REDUCING AGENT MAY BE USED AND THE SLUMP INCREASED TO 120mm. HOWEVER THE CEMENT CONTENT SHALL NOT BE REDUCED.
4. ADDITIVES SHALL NOT BE USED WITHOUT WRITTEN APPROVAL FROM THE SUPERINTENDENT.
5. ALL CONCRETE SHALL BE THOROUGHLY COMPACTED. ALL SURFACE TREATMENT OF CONCRETE SHALL BE A SMOOTH TROWELLED FINISH.
6. ALL CONCRETE SHALL BE CURED BY KEEPING MOIST FOR A MINIMUM PERIOD OF SEVEN (7) DAYS AFTER PLACING OR BY APPLICATION OF AN APPROVED CURING COMPOUND. IMMEDIATELY AFTER SURFACE HARDENING APPLY WATER TO THE SURFACE AND THEN COVER THE WHOLE SURFACE WITH P.V.C SHEETING. EXTEND THE SHEETING BEYOND THE EDGES OF THE NEW CONCRETE AND SEAL THE P.V.C. TO THE OLD CONCRETE AND ALONG THE EDGES AND ALL JOINTS IN THE P.V.C. TO PREVENT ANY LOSS OF MOISTURE.
7. REINFORCING BARS TO BE SUPPLIED, PLACED, FIXED AND SUPPORTED IN ACCORDANCE WITH AS3600–2001 CONCRETE STRUCTURES CODE AND THE SPECIFICATION WITH SUPPORTS AT 600mm CENTRES UNLESS SPECIFIED OTHERWISE WITHIN THE DRAWINGS.
8. COVER TO REINFORCING SHALL BE MINIMUM 50mm TOP AND BOTTOM. ALL SPLICES IN REINFORCEMENT SHALL BE LAPPED TO DEVELOP FULL TENSILE STRENGTH IN ACCORDANCE WITH AS3600–2001 CONCRETE STRUCTURES CODE.
9. FORM UP CONTRACTION AND EXPANSION JOINTS TO ALLOW JOINTS TO THOROUGHLY DRY OUT AND SEAL USING AN APPROVED JOINT SEALANT AS SHOWN IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
10. ALL EXPOSED STEEL SECTIONS CAST INTO CONCRETE SHALL BE HOT DIP GALVANISED.
11. ALL EXPOSED CONCRETE CORNERS TO HAVE 25mm CHAMFER.
12. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY SCABBLED AND CLEANED BEFORE CONCRETE PLACEMENT AND IN ACCORDANCE WITH SPECIFICATION.
13. STEEL NOT TO BE ALLOWED TO CONTACT ACID SULPHATE SOILS (ASS) AND SALT WATER

PLANTING NOTES

1. PRE–ORDERING OF PLANT MATERIALS
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL PLANT MATERIAL IS AVAILABLE TO SIZES AND SPECIES TYPE NOMINATED IN THE PLANT SCHEDULES. FOR SPECIMENS IN LARGE QUANTITIES THIS WILL REQUIRE THE PRE–ORDERING AND GROWING ON OF SPECIES BY A SELECTED NURSERY FOR AN EXTENSIVE PERIOD OF TIME PRIOR TO THEIR INSTALLATION. PROPOSED PRE ORDERED SPECIMENS ARE TO BE SOURCED AND APPROVED IN CONSULTATION WITH THE PROJECT SUPERINTENDENT. NO SUBSTITUTION OF SPECIES OR SIZES WILL BE ACCEPTED UNLESS GIVEN IN WRITING BY THE SITE SUPERINTENDENT.
2. PLANTS
LARGE HEALTHY ROOT SYSTEMS, WITH NO EVIDENCE OF ROOT CURL, RESTRICTION OR DAMAGE. PLANTS SHOULD BE VIGOROUS, WELL ESTABLISHED, AND FREE FROM DISEASE AND PESTS, OF GOOD FORM CONSISTENT WITH THE SPECIES OR VARIETY. BEFORE PLANTING, PLANTS SHOULD BE HARDENED OFF, NOT SOFT OR FORCED, AND SUITABLE FOR PLANTING IN THE NATURAL CLIMATIC CONDITIONS PREVAILING AT THE SITE.
3. GENERAL CONSIDERATIONS
REPLACE DAMAGED OR FAILED PLANTS WITH PLANTS OF THE SAME TYPE AND SIZE. SUPPLY PLANTS IN WEED–FREE CONTAINERS OF THE REQUIRED SIZE. LABEL AT LEAST ONE PLANT OF EACH SPECIES OR VARIETY IN A BATCH WITH A DURABLE, READABLE TAG.
DELIVER PLANT MATERIAL TO THE SITE ON A DAY TO DAY BASIS, AND PLANT IMMEDIATELY AFTER DELIVERY. GIVE NOTICE OF PROPOSED CHANGES TO PLANT LOCATIONS AND SPACING, FOR EXAMPLE, TO AVOID SERVICE LINES, OR TO COVER THE AREA UNIFORMLY. DO NOT PLANT IN UNSUITABLE WEATHER CONDITIONS SUCH AS EXTREME HEAT, COLD, WIND OR RAIN. IN OTHER THAN SANDY SOILS, SUSPEND EXCAVATION WHEN THE SOIL IS WET, OR DURING FROST PERIODS.
4. PLACEMENT
PLANTS ARE TO BE PLANTED AS INDICATED IN THE DRAWINGS. ADJACENT PLANTINGS OF GRASSES AND GROUND COVERS ARE TO BE BLENDED WITH A 0.5M MINIMUM OVERLAP INTO ADJACENT PLANTINGS SO AS TO BLUR / SOFTEN THE EDGES. PLANT SEDGES AND GRASSES IN AREAS NO SMALLER THAN 10M2 GROUPINGS OR AS INDICATED ON DRAWINGS. WHEREVER POSSIBLE, DIFFERENT SPECIES SHOULD BE PLACED ADJACENT TO EACH OTHER.
TREES AND SHRUBS ARE TO BE ALTERNATELY PLANTED SO AS TO MAXIMISE THE DIVERSITY OF THE UPPER CANOPY AS MUCH AS POSSIBLE.
REMOVE THE PLANT FROM THE CONTAINER WITH MINIMUM DISTURBANCE TO THE ROOT BALL, ENSURE THAT THE ROOT BALL IS MOIST AND PLACE IT IN ITS FINAL POSITION, IN THE CENTRE OF THE HOLE AND PLUMB, AND WITH THE TOP SOIL LEVEL OF THE PLANT ROOT BALL LEVEL WITH THE FINISHED SURFACE OF THE SURROUNDING SOIL.
5. BACKFILLING
BACKFILL HOLES AFTER PLANTING USING TOPSOIL MIXTURE. LIGHTLY TAMP AND WATER TO ELIMINATE AIR POCKETS. ENSURE THAT TOPSOIL IS NOT PLACED OVER THE TOP OF THE ROOT BALL, SO THAT THE PLANT STEM REMAINS THE SAME HEIGHT ABOVE GROUND AS IT WAS IN THE CONTAINER.
6. FERTILISING AND WATER CRYSTALS
SLOW RELEASE FERTILISER: IN PLANTING BEDS AND INDIVIDUAL PLANTINGS, PLACE FERTILISER PELLETS INTO THE PLANT HOLE AT THE TIME OF PLANTING. INSTALL WATER CRYSTALS WITH THE FERTILISER AS PER MANUFACTURER'S RECOMMENDATION.
APPLICATION RATE (KG/HA): AS RECOMMENDED BY MANUFACTURER.
7. MULCH
MULCH SHALL BE FREE FROM SOIL, WEED GROWTH, AND OTHER GREEN MATERIAL OR DELETERIOUS MATTER.
IMPORTED MULCH SHALL BE 'FOREST BLEND' AS SUPPLIED BY AUSTRALIAN NATIVE LANDSCAPES (PH.9450 1444) OR APPROVED EQUIVALENT. MULCH SHALL COMPLY WITH AS 4454–2003.
PROVIDE A ONE (1) KG SAMPLE FOR APPROVAL PRIOR TO THE DELIVERY OF ANY COMPOST TO THE SITE. NO MULCH SHALL BE DELIVERED TO SITE PRIOR TO APPROVAL OF THE SAMPLE PROVIDED.
SPREAD MULCH TO ALL PLANTING AREAS TO 100MM DEPTH, EXCEPT OVER JUTE MAT. TAPER MULCH AT EDGES TO FINISH LEVEL WITH ADJACENT SURFACES.
ENSURE THAT NO MULCH IS CONTACT WITH PLANT STEMS AND IS DISHED TO CREATE A WATER CATCHING BASIN AROUND EACH PLANT.

8. TREE STAKES AND TIES
FOR ALL TREES AND SHRUBS INSTALL BAMBOO STAKES AND BAGS. THIS WILL ALSO REDUCE PREDATION BY GRAZING WILDLIFE.

9. JUTE/COIR MESH
900GSM MINIMUM JUTE MESH SHOULD BE INSTALLED
OVERLAP ADJACENT SECTIONS OF JUTE BY 200MM MIN AND FIX USING 4MM X 200MM LONG PINS AT 4 PER M2. TRENCH THE EDGES OF JUTE INTO

Rev.	Revision Description	Designed	Date
C	100% DRAWING SET	DH/CP	19/02/15
B	95% DRAWING SET	DH/CP	10/02/15
A	DRAFT 50% DRAWING SET	DH/CP	23/01/15

Designed: DH | Authorised: RW
Checked: SMT | Approved: 13.02.15

For Tender

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www.stormconsulting.com.au
SYDNEY SUITE 18, 12 TRYON RD, LINDFIELD, NSW 2070 P 02 9499 4333
MELBOURNE UNIT 7, 84 CHURCH ST, RICHMOND VIC 3121 P 03 9208 0111

CLIENT:
WYONG SHIRE COUNCIL
2 HELY STREET
WYONG, NSW 2259
02 4350 5555

Stormwater Quality Improvement

TUGGERAH PARADE
LONG JETTY, NSW 2261

CONSTRUCTION SPECIFICATION

Date 17.02.2015 Drawing No. 1648_S18 Sheet 18 of 18

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