BIRDMARKERS

STRUCTURAL DRAWING NOTES

GENERAL

G1 NOTATED BASEPLATE FORCES ACT PARALLEL OR PERPENDICULAR TO THE UC POST AXES

G2 DESIGN IS FOR FRESHWATER LAKE

G3 WIND LOADS:

REGION	A2
ULTIMATE WIND VELOCITY	39 m/s
SERVICEABILITY WIND VELOCITY	35 m/s
TERRAIN CATEGORY	2
IMPORTANCE LEVEL	1

G4 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE FOLLOWING CODES EXCEPT WHERE VARIED BY THE SPECIFICATION AND / OR DRAWINGS.

AS.1664	ALUMINIUM STRUCTURES CODE
AS.1665	WELDING OF ALUMINIUM STRUCTURES CODE
AS.4100	STEEL STRUCTURES

G5 DIMENSIONS NOT TO BE SCALED.
SET OUT DIMENSIONS ARE TO BE VERIFIED WITH ARCHITECT.

G6 ALL FABRICATION SHOP DRAWINGS TO BE PROVIDED TO BLIGH TANNER FOR REVIEW & COMMENT IN HARDCOPY A4 OR A3 FORMAT.

G7 REFER TO SKM ENGINEERING DRAWINGS FOR CONSTRUCTION DETAILS OF THE FOOTING DESIGN FOR THE ULTIMATE LOADS ON BLIGH TANNER DRAWING S10

STAINLESS STEEL

SS1 STAINLESS STEEL MATERIAL SHALL BE WRAPPED AND IS NOT TO BE STORED WITH CARBON STEEL

SS2 TOOLS USED FOR CARBON STEEL SHALL NOT BE USED TO FABRICATE OR ASSEMBLE STAINLESS STEEL COMPONENTS.

SS3 WELDING SHALL BE IN ACCORDANCE WITH AS1554.6

SS4 ALL WELDS SHALL BE 6 MM CONTINUOUS FILLET WELDS

SS5 LIMIT THE INPUT OF HEAT INTO THE WELD. THE WELD SHALL NOT BE PREHEATED, POST-HEATED OR STRESS RELIEVED.

SS6 ALL STAINLESS STEEL COMPONENTS SHALL HAVE A Ra < 0.7 m AND BE PASSIVATED USING A 20% TO 25% NITRIC ACID SOLUTION FOR AT LEAST 30 MINUTES AT 40°C TO 60°C IN ACCORDANCE WITH ASTM A380.

SS7 ALL BOLTS SHALL BE GRADE 316 (UNS S31600) A4-70 AS THE LAKE IS ASSUMED TO BE FRESHWATER.

SS8 NUTS SHALL BE DUPLEX 2205 GRADE (UNS S31803).

SS9 WASHERS SHALL BE 316 (UNS S31600), ELECTROPOLISHED OR PASSIVATED IN A 20 % TO 25 % NITRIC ACID SOLUTION FOR AT LEAST 30 MINUTES AT 40°C TO 60°C IN ACCORDANCE WITH ASTM.A380.

SS10 NUTS AND BOLTS SHALL COMPLY WITH ISO 3506 IDENTIFICATIONS OR, IF NOT SO MARKED, SHALL BE PROVIDED WITH MILL OR NATA CERTIFIED TEST RESULTS CONFIRMING GRADE AND STRENGTH.

SS11 BOLTS SHALL HAVE ROLLED THREADS. THE NUTS AND WASHERS SHALL BE ELECTROPOLISHED OR PASSIVATED IN A 20% TO 25% NITRIC ACID SOLUTION FOR AT LEAST 30 MINUTES AT 40°C TO 60°C IN ACCORDANCE WITH ASTM.A380.

SS12 BOLTS SHALL BE TIGHTENED TO THE MANUFACTURER'S RECOMMENDED TORQUE USING A TORQUE WRENCH.

STEELWORK

S1 STEELWORK GRADES TO BE :

HOT ROLLED SECTIONS	GRADE 300
RHS AND SHS	GRADE 350 AND GRADE 450
CHS	GRADE 250 AND GRADE 350
RODS AND PLATES	GRADE 250
COLD FORMED SECTION	GRADE 450

S2 SHOP DRAWINGS SHALL BE SUBMITTED TO THE PRINCIPAL FOR APPROVAL PRIOR TO THE COMMENCEMENT OF FABRICATION.

S3 PROVIDE BEAM CAMBER AS NOTED.

S4 ENDS OF HOLLOW SECTIONS TO BE CAPPED WITH WELDED NOMINAL THICKNESS PLATE WITH VENT HOLES.

S5 UNLESS NOTED OTHERWISE :
-PLATES, CLEATS, ETC. TO BE 10mm
-PURLIN CLEATS
< 300 HIGH TO BE 8 PLATE
< 600 HIGH TO BE 65 x 65 x 5.0 EA.
-NUTS, BOLTS, WASHERS, ETC.

GENERAL	HOT DIPPED GALVANIZED
SALT AIR	STAINLESS STEEL

-BOLTS
M16 8.8/S FOR SECTION DEPTH < 250mm
M20 8.8/S FOR SECTION DEPTH => 250mm
-FOR SLOTTED HOLES PROVIDE WASHER OF MINIMUM 8mm THICK TO COMPLETELY COVER SLOT.
-WELDS SHALL BE 6mm SP CONTINUOUS FILLET WELD UNO:
SP DENOTES STRUCTURAL PURPOSE IN ACCORDANCE WITH AS.1554 USING ELECTRODES TYPE E48XX OR W50XX MINIMUM.
GP DENOTES GENERAL PURPOSE IN ACCORDANCE WITH AS.1554 USING ELECTRODES TYPE E48XX OR W50XX MINIMUM.

S6 CORROSION PROTECTION TO BE

INTERNAL	ABRASIVE BLAST AS1627.4 CLASS 2.5 HIGH BUILD ZP PRIMER 75 MICRONS DRY FILM THICKNESS
EXTERNAL	ABRASIVE BLAST AS1627.4 CLASS 2.5 3 PART 'HIGH BUILD' MICACEOUS IRON OXIDE PAINT TO DULUX SPECIFICATION AND ARTIST COLUR SPECIFICATION
COLD FORMED	Z 350 GALVANISED.

S7 CONCRETE ENCASED, FIRE SPRAYED AND FRICTION BOLTED CONNECTIONS SHALL NOT BE PAINTED.

S8 BOLT HOLES SHALL NOT BE ENLARGED DURING ERECTION.

S9 STEELWORK EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANISED. DAMAGED GALVANISING IS TO BE REPAIRED WITH HIGH ORGANIC ZINC CONTENT EPOXY TREATMENT WATTYL GALVIT OR SIMILAR.

S10 PROVIDE ALL MISCELLANEOUS STEELWORK TO SUPPORT NON STRUCTURAL ELEMENTS.

S11 ALL BOLTS, NUTS AND WASHERS ARE TO BE GRADE 8.8 STRUCTURAL STEEL UNLESS NOTED OTHERWISE AND COMPLY FULLY WITH AS1252:1996

S12 AS1252:1996 COMPLIANCE CERTIFICATES ARE TO BE PROVIDED TO THE SUPERINTENDENT FOR ALL STRUCTURAL STEEL BOLTS.

S13 ALL STRUCTURAL STEEL HOT ROLLED BARS AND SECTIONS MUST CONFORM WITH AS/NZS3679.1 : 2010 : "STRUCTURAL STEEL HOT ROLLED BARS AND SECTIONS".
ALL STRUCTURAL STEEL WELDED SECTIONS MUST CONFORM WITH AS/NZS3679.2 : 2010 : "STRUCTURAL STEEL - WELDED I SECTIONS".
ALL STRUCTURAL STEEL HOLLOW SECTIONS MUST CONFORM WITH AS/NZS1163 : 2009 : "COLD FORMED STEEL HOLLOW SECTIONS".

S14 THE STRUCTURAL STEEL FABRICATOR IS TO PROVIDE TO THE SUPERINTENDENT, AUSTRALIAN STANDARD COMPLIANCE CERTIFICATES FOR ALL STRUCTURAL STEELWORK PRIOR TO COMMENCING FABRICATION.

S15 OVERSEAS SOURCED STRUCTURAL STEEL IS NOT PERMITTED UNLESS THE STRUCTURAL STEEL MATERIAL SUPPLIER IS CERTIFIED BY ACRS (AUSTRALIAN STANDARDS CERTIFICATION & VERIFICATION OF REINFORCING, PRESTRESSING & STRUCTURAL STEELS) FOR THE SUPPLY OF STRUCTURAL STEEL. CURRENT ACRS CERTIFICATES ARE TO BE SUBMITTED TO BLIGH TANNER. REFER www.steelcertification.com FOR CURRENT CERTIFICATE HOLDERS.

S16 PROVIDE TA8525G GALVANISED TEXTOR ANGLE TRIMMERS TO SUPPORT SHEETING TO ALL HIPS, VALLEYS, GABLES, CORNERS AND THE LIKE. SCREW FIX / WELD AS REQUIRED.

ALUMINIUM

A1 ALUMINIUM GRADES TO BE UNLESS OTHERWISE APPROVED:
PLATE - GRADE 6063. MILL CERTIFICATES TO BE FORWARED TO ENGINEER.

A2 WELDS TO BE MINIMUM 6mm CONTINUOUS FILLET WELD.

A3 ENDS OF HOLLOW SECTIONS TO BE CAPPED WITH WELDED NOMINAL THICKNESS PLATE.

A4 ALUMINIUM PAINT FINISHES TO BE

- DULUX RED 19959 ALPHATEC TO INSIDE FACE OF PANELS
- PORTERS LIQUID IRON AND INSTANT RUST FINISH TO EXTERIOR FACE OF PANELS AND BIRD 'LEGS'

CONTROL SAMPLES OF BOTH PAINT FINISHES TO BE SUPPLIED TO THE ARTIST.

A5 WATERCUTTING OF ALUMINIUM

- BIRD DESIGN FILES SUPPLIED BY ARTIST UPON REQUEST

BLIGH TANNER
CONSULTING ENGINEERS

LEVEL 9, 269 WICKHAM STREET, PO BOX 612
FORTITUDE VALLEY QLD 4006 AUSTRALIA
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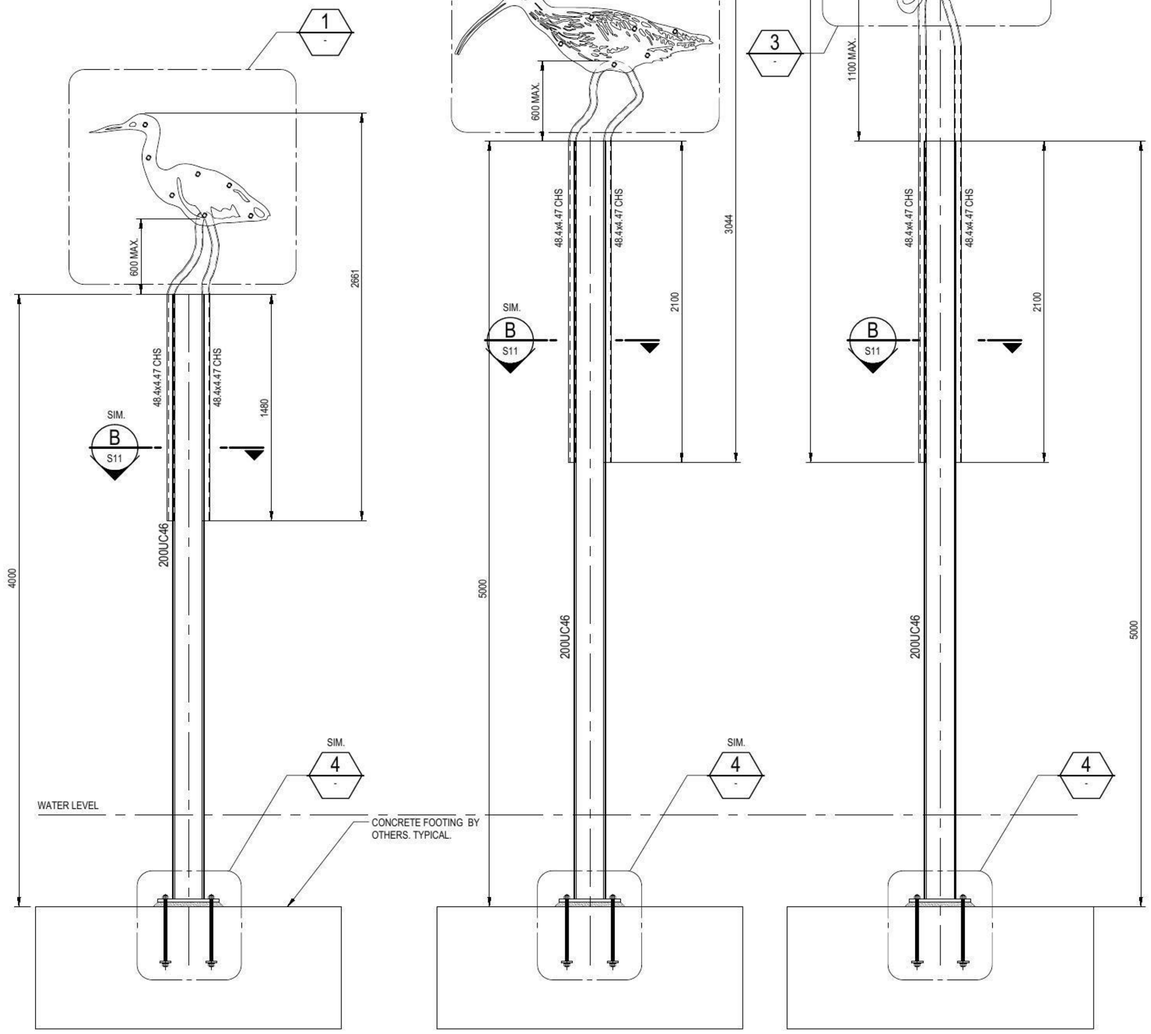
REV	DATE	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED	RPEQ No.
P1	10.05.2013	ISSUED FOR COORDINATION	PE	SAB			
P2	17.05.2013	ISSUED FOR APPROVAL	PE	SAB			
P3	24.05.2013	RE-ISSUED FOR APPROVAL	PE	SAB			

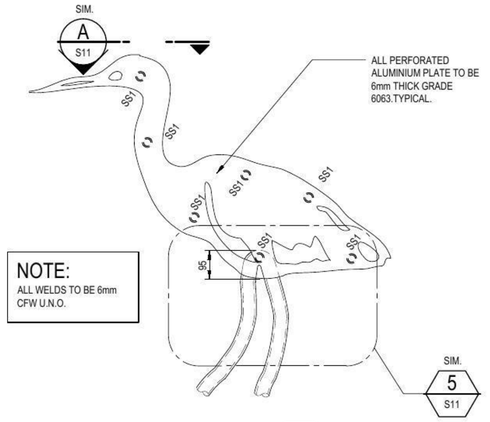
PROJECT	BIRD MARKERS
LOCATION	JORDAN SPRINGS LAKE
CLIENT	LEND LEASE
DRAWING TITLE	COVER SHEET
ASSOCIATE CONSULTANT	artists MILNE STONEHOUSE
SCALES	
JOB NO	2012.432.300
DRAWING NO	**S00**
REVISION	**P3**



BIRD TYPE 1
SCALE: 1:20

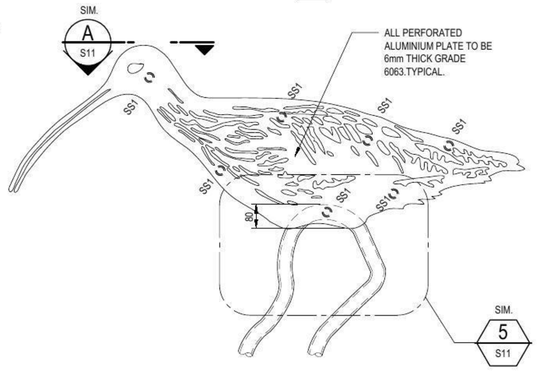
BIRD TYPE 2
SCALE: 1:20

BIRD TYPE 3
SCALE: 1:20

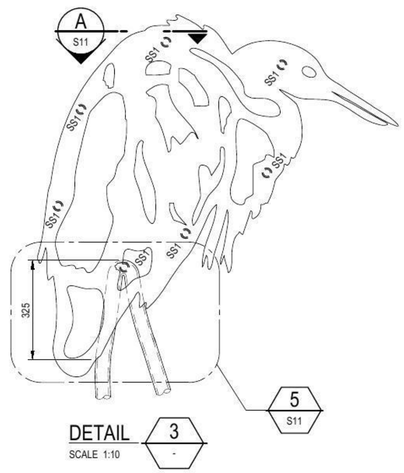


NOTE:
ALL WELDS TO BE 6mm CFW U.N.O.

DETAIL 1
SCALE 1:10



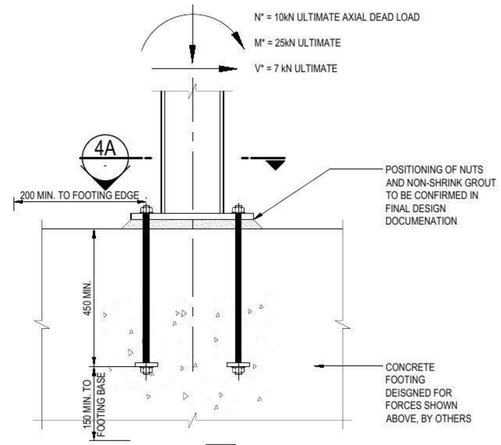
DETAIL 2
SCALE 1:10



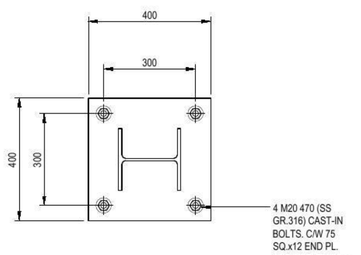
DETAIL 3
SCALE 1:10

LEGEND

SS1 ..... 31.7x3.1 (GRADE 6063) ALUMINIUM CHS SPACER STRUT
MINIMUM 7 SPACER STRUTS PLACED AT MAX 0.5m CRS. REFER SECTION A. TYPICAL.



DETAIL 4
SCALE 1:10



SECTION 4A
SCALE 1:10

1:10 100mm 0 100 200 300 400

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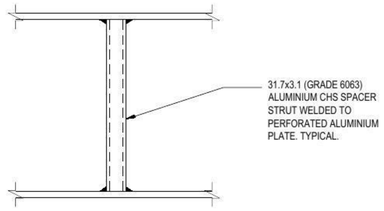
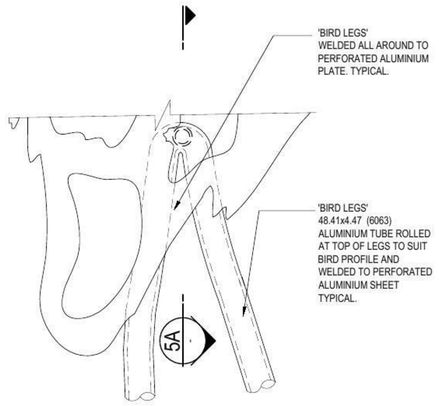
P3	24.05.2013	RE-ISSUED FOR APPROVAL	PE	SAB			

PROJECT: BIRD MARKERS
LOCATION: JORDAN SPRINGS LAKE
CLIENT: LEND LEASE
DRAWING TITLE: SECTIONS AND DETAILS - SHEET 1
ASSOCIATE CONSULTANT: artists MILNE STONEHOUSE
SCALES: 1:20 200mm 0 200 400 600 800
JOB NO: 2012.432.300
DRAWING NO: S10
REVISION: P3

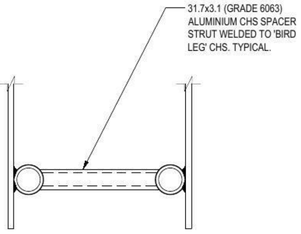
NOTE:
ALL WELDS TO BE 6mm
CFW U.N.O.



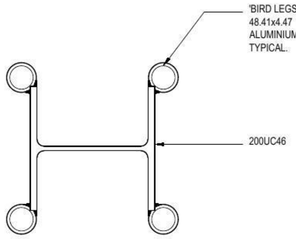
SECTION A
SCALE 1:5 S10



DETAIL 5
SCALE 1:10 -



SECTION 5A
SCALE 1:5 -



SECTION B
SCALE 1:10 -

BLIGH TANNER
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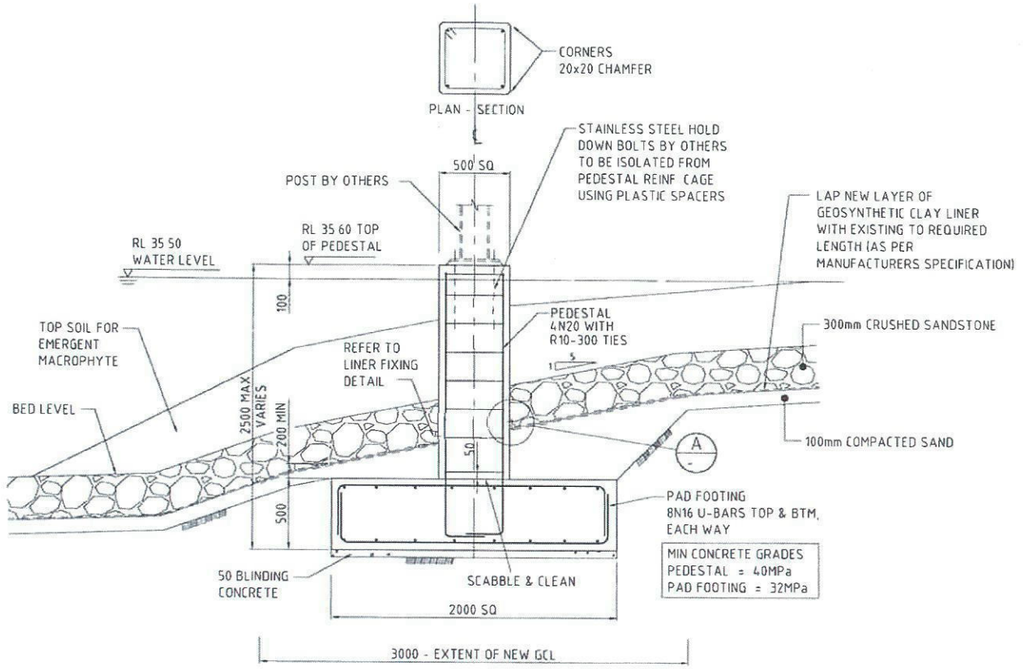
P3	24.05.2013	RE-ISSUED FOR APPROVAL	PE	SAB			

PROJECT: BIRD MARKERS
LOCATION: JORDAN SPRINGS LAKE
CLIENT: LEND LEASE

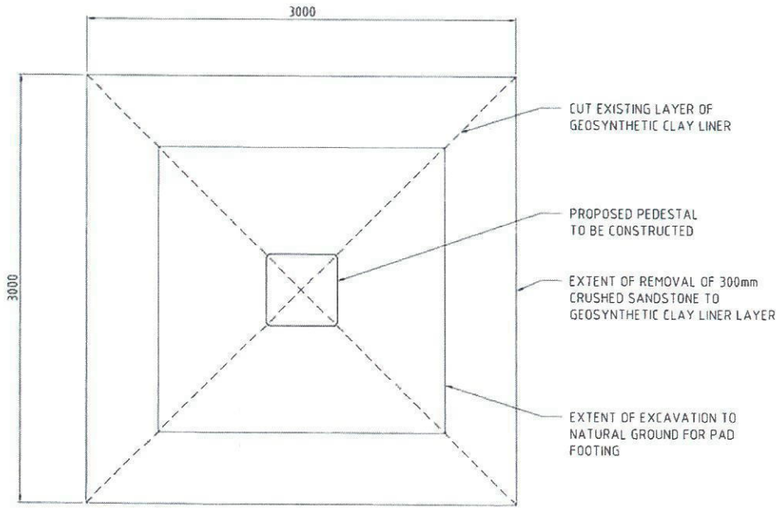
DRAWING TITLE: SECTIONS AND DETAILS - SHEET 2
ASSOCIATE CONSULTANT: artists MILNE STONEHOUSE

SCALES: 50mm 0 50 100 150 200 at 1:5
JOB NO: 2012.432.300
DRAWING NO: S11
REVISION: P3



PEDESTAL SECTION

SCALE 1 20

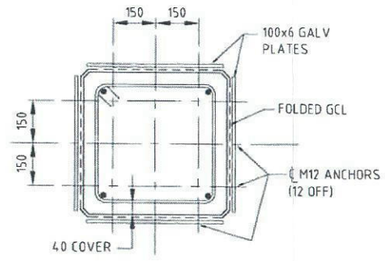


PLAN SHOWING EXTENT OF WORKS

SCALE 1:20

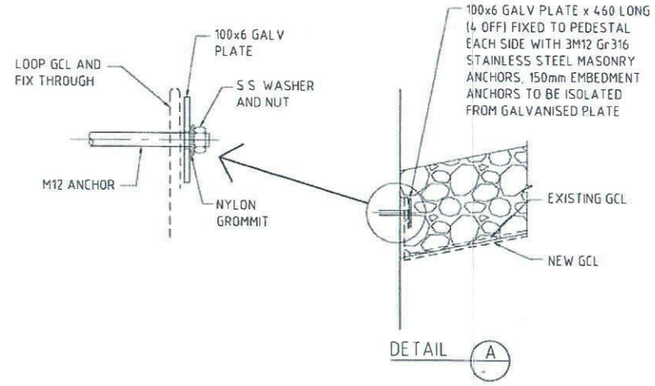
NOTE

1 FOR GENERAL AND CONCRETE NOTES REFER TO DWG No ENO2754C-102
2 FOUNDATION DESIGNED FOR THE FOLLOWING ULTIMATE LOADS AT BASE OF 200 UC DESIGNED BY OTHERS
  N* = 10 kN (ULT)
  M* = 25 kN (ULT)
  V* = 7kN (ULT)
3 FOUNDATION DESIGN SUITABLE FOR 'BIRD MARKER' COLUMNS IN MACROPHYTES REGION OF MAXIUMUM 15 GRADE



PLAN - GCL LINER FIXING TO PEDESTAL DETAIL

SCALE 1 10



GCL LINER FIXING TO PEDESTAL DETAIL

SCALE 1 10

CONSTRUCTION SEQUENCE

1 REMOVE 3000 SQUARE AREA OF CRUSHED SANDSTONE AND/OR TOP SOIL TO GCL LEVEL, TAKING CARE NOT TO DAMAGE UNDERLYING GEOSYNTHETIC CLAY LINER (GCL)
2 FOLD BACK GCL LAYER AFTER CUTTING AS SHOWN ON PLAN
3 EXCAVATE 2000 SQUARE AREA TO NATURAL GROUND THOROUGHLY CLEAN BASE PRIOR TO PLACEMENT OF BLINDING CONCRETE AND PAD FOOTING CONCRETE FORM AND POUR NEW PAD FOOTING
4 BACKFILL COMPACTED SAND TO PROFILE SHOWN AND LAY NEW GCL
5 RE-ESTABLISH EXISTING GCL AND LAP WITH NEW TO MANUFACTURERS SPECIFICATION (MIN 500mm LAP)
6 FIX NEW GCL TO PEDESTAL ALL AROUND AS PER DETAIL PROVIDED
7 BACKFILL AND COMPACT 300mm CRUSHED SANDSTONE
8 RE-ESTABLISH TOP SOIL FOR EMERGENT MACROPHYTES

SCALE 1:10 (A1) SCALE 1:20 (A3) 0.1 0 0.1 0.2 0.3 0.4 0.5

No	DATE	DRAFTING CHECK	DESIGN REVIEW	REV'D P MGR	APP'D P DIR	AMENDMENT
A	18.12.12	CB	DD	JC	JW	ISSUED FOR CLIENTS APPROVAL

Lend Lease

SKM A.C.N. 001 024 098
Sinclair Knight Merz Pty. Ltd
100 Christie Street
St Leonards
NSW 2065 Australia
Telephone: 02 9928 2100
Facsimile: 02 9928 2500

CLIENT: LEND LEASE
PROJECT: JORDAN SPRINGS LAKE

DRAFTER	DRAFTING CHECK	REVIEWED PROJECT MANAGER	APPROVED PROJECT DIRECTOR
LH	CB	JC	JW
DESIGNED	DESIGN REVIEW		
DD	RK		

TITLE: MISCELLANEOUS STRUCTURAL BIRD MARKER FOOTING DETAILS

SCALE	SKM PROJECT No	DRAWING No	AMDT
AS SHOWN	EN02754	EN02754-C-156	A

Plot Date 20 Dec 2012 @ 13:12:48 Login Name L.Hilder Cad File I:\ENVR\Projects\EN02754\Deliverables\Drawings\Civil\Dwg\EN02754C-156.dwg