

GENERAL NOTES

- G1 These drawings shall be read in conjunction with other consultants' drawings and specifications and with other such written instructions as may be issued during the course of the Contract. Any discrepancy shall be referred to the Engineer before proceeding with the work.
- G2 All dimensions are in millimetres, UNO (unless noted otherwise).
- G3 No dimension shall be obtained by scaling the drawings.
- G4 All levels and setting out dimensions shown on the drawings shall be checked on site prior to the commencement of the work.
- G5 During construction the structure shall be maintained in a stable condition and no part shall be overstressed.
- G6 Waterproofing & sealing details shall be in accordance with Architect's details. All joints in concrete elements shall be suitably sealed or waterproofed.

FOUNDATIONS

- F1 Assumed classification of site: M (Moderately Reactive Site) UNO.
- F2 Footings have been designed for an allowable bearing pressure of 150 kPa UNO. All foundations must be stable and uniform throughout.
- F3 Foundation material shall be inspected and approved for the above site classification and allowable bearing pressure by a Geotechnical Engineer before placing footing reinforcement.
- F4 Footings shall be placed centrally under walls and columns, UNO.

LOADING

- L1 Superimposed floor loads are generally in accordance with AS 1170.1 or as noted in Table L4.
- L2 Wind loads are in accordance with AS/NZS 1170.2 as follows:
Region A2 Regional Wind Velocity, V500 45 m/s Category 3, UNO.
- L3 Earthquake loads are in accordance with AS 1170.4 as follows:
a = 0.08 S = 1.0 I = 1.0, UNO.
- L4 Live loads & additional dead loads (to AS/NZS 1170.1).

Area subject to loading	Live Load		Add Dead Load
	Uniform	Point	
Floors - Internal	1.50 kPa	1.80 kN	0.50 kPa
Floors - External & Garage	3.00 kPa	1.80 kN	1.00 kPa
Roof Areas	0.25 kPa	1.40 kN	0.15 kPa

MASONRY

- M1 All workmanship and materials shall be in accordance with AS 3700.
- M2 Characteristic compressive strength of masonry (f_{uc}) = 24 MPa.

Durability Requirements			
Mortar	Salt Attack Resistance Grade	Built In Component	Min. Cover to Reinforcement & Tendons in Grouted Cavities
M2	Protected	R1 (Galv'd 300 g/m ² each side)	5
M3	General Purpose	R3 (Galv'd 470 g/m ² each side)	15
M4	Exposure	R4 (Stainless)	30

- M3 All masonry walls supporting slabs and beams shall have a pre-greased two layer galvanised steel slip joint between concrete and masonry.
- M4 All masonry walls supporting or supported by concrete floors shall be provided with vertical joints to match any control joints in the concrete.
- M5 Non load bearing walls shall be separated from concrete above by 12 mm thick closed cell polyethylene strip.
- M6 Provide vertical control joints at 8 metres maximum centres, and 4 metres maximum from corners in masonry walls, and between new & existing brickwork.
- M7 Masonry retaining walls are to be backfilled with either of the following material:
- Coarse grained soil with low silt content
- Residual soil containing stones
- Fine silty sand
- Granular materials with low clay content.

REINFORCED CONCRETE

- C1 All workmanship and materials shall be in accordance with AS 3600 current edition, except where varied by the contract documents.
- C2 Concrete quality shall be as follows (subject to note C4 being satisfied):

Element	Slump mm	Max Agg. Size mm	Cement Type	f _c at 28 Days MPa
Footings	80	20	Normal	20
Slabs on Ground	80	20	Portland	25
Suspended Floors	80	20	Type A	32

- C3 Engineer to approve any admixtures used in concrete mix.
- C4 Cover to reinforcement shall be obtained by the use of approved bar chairs. All chairs to be placed at 750 maximum centres.

- C5 Minimum clear concrete cover to reinforcement including ties and stirrups (other than residential slabs on ground or footings) shall be as follows UNO:

Exposure Classification	Minimum Cover (mm)				
	Concrete Strength (f _c)				
	20 MPa	25 MPa	32 MPa	40 MPa	>50 MPa
A1	20	20	20	20	20
A2	(50)	30	25	20	20
B1	-	(60)	40	30	25
B2	-	-	(65)	45	35
C	-	-	-	(70)	50

For bracketed figures refer to AS 3600 current edition table 4.10.3.2.

- C6 Residential slab on ground and footings cover requirements (Minimum concrete grade N20):
- Unprotected ground: 40 mm
- External exposure: 40 mm
- Membrane in contact with ground: 30 mm
- Internal surface: 20 mm
- Strip & pad footing: 40 mm.
- C7 All concrete shall be mechanically vibrated. Vibrators shall not be used to spread concrete.
- C8 Sizes of concrete elements do not include thickness of applied finishes.
- C9 No holes or chases other than those shown on the structural drawings shall be made in concrete members without the prior approval of the Engineer.
- C10 Construction joints where not shown shall be located to the approval of the Engineer.
- C11 Curing of all concrete is to be achieved by keeping surfaces continuously wet for a period of 3 days, and prevention of loss of moisture for a total of 7 days followed by gradual drying out. Approved sprayed on compounds may be used where no floor finishes are proposed. Polythene sheeting or wet hessian may be used if protected from wind and traffic.
- C12 Construction support propping is to be left in place where needed to avoid over-stressing the structure due to construction loading. No masonry or partition walls are to be constructed on suspended levels until all propping is removed and the slab has absorbed its dead load deflection.
- C13 Conduits, pipes, etc. shall only be placed in the middle one third of slab depth and spread at not less than 3 diameters.
- C14 Reinforcement symbols:
N - Denotes deformed grade 500 normal ductility reinforcing bars to AS/NZS 4671.
R - Denotes plain round grade 250 normal ductility reinforcing bars to AS/NZS 4671.
SL - Denotes deformed grade 500 low ductility reinforcing mesh to AS/NZS 4671.
RL - Denotes deformed grade 500 low ductility reinforcing mesh to AS/NZS 4671.
L-TM - Denotes deformed grade 500 low ductility trench mesh to AS/NZS 4671.

- C15 Reinforcement is represented diagrammatically, it is not necessarily shown in true projection.
- C16 Splices in reinforcement shall be made only in positions shown or otherwise approved by the Engineer.
- C17 Fabric reinforcement shall have splices made so that the overlap, measured between the outermost transverse wires of each sheet of fabric, is not less than the spacing of those wires plus 25 mm.
- C18 Welding of reinforcement shall not be permitted unless shown on the structural drawings or approved by the Engineer.

STRUCTURAL STEEL

- S1 All workmanship and materials shall be in accordance with AS 4100, AS 1163, AS 1554.1 and AS/NZS 4600.
- S2 The structural design has been based on the following steel grades, UNO:
Hot rolled universal beams, columns, channels & angles: 300PLUS
Circular, square & rectangular hollow sections: C350/C450LO
Cold formed open DuraGal profiles: C400/C450LO
Cold formed lipped Cee & Zed purlins: G550/G500/G450.
- S3 The structural design has been based on MBPMA nominal size Cee & Zed lipped purlins. All purlin profiles shall be in accordance with the MBPMA specifications. Qualifications of welding procedures and personnel shall conform to Section 4 of AS 1554.1. Non destructive testing of welds shall include 100% visual inspection and additional testing as shown on the drawings.
- S5 All welds shall be 6 mm continuous fillet type SP, UNO. All butt welds shall be complete penetration in accordance with AS 1554.1, UNO.
- S6 Bolt designation:
4.6/S: Commercial bolts to AS 1111, snug tightened.
8.8/S: High strength structural bolts to AS 1562, snug tightened.
8.8/TB: High strength structural bolts to AS 1562, fully tensioned bearing joint to AS 1511.
8.8/TF: High strength structural bolts to AS 1562, fully tensioned friction joint to AS 1511.
All bolts shall be M16 8.8/S, with a minimum of 2 bolts per connection, UNO.

- S7 High strength TF & TB bolts shall be installed using approved load indicator washers, or in accordance with the part turn method nominated in AS 4100.
- S8 Gusset plates shall be 10 mm thick, grade 300PLUS steel, UNO.
- S9 Concrete encased steelwork shall be wrapped with SL41 fabric and shall have a minimum of 50 mm cover, UNO.
- S10 Steelwork not encased shall have the following surface treatment:

Exposure Classification	Steelwork Protection Required
A1 / A2	Power tool clean to AS1627 Class 1 1 Coat Alkyd Primer (Zinc Phosphate)
B1	Abrasive blast to AS1627 Class 2.5 1 Coat Inorganic Zinc Silicate
B2	Hot Dipped Galvanised to AS1650

- S11 Where sealed tube members are hot dip galvanised, the fabricator shall provide drill holes as necessary.
- S12 All transport and erection damage, site welds etc., shall be reinstated to an equivalent finish to adjacent steelwork.

SITE PREPARATION FOR SLABS ON GROUND

- P1 Strip topsoil containing organic matter. Proof roll fill sub grade and remove any soft zones.
- P2 Where additional fill is required to the underside of slabs on ground, non cohesive materials such as sand and gravel dust shall be placed by "controlled" compaction in horizontal layers of 200 mm (loose) maximum depth. This fill shall be compacted to at least 95% of Standard Maximum Dry Density (SMDD).
- P3 For slabs on ground, sand 50 mm approximate thickness is to be spread as a levelling layer and well watered down.
- P4 Waterproof membrane unpunctured and taped at laps, is to be placed over the sand, sufficient membrane being provided at edges to return under brickwork. Where no brickwork, tape membrane to side of footing below ground.

FOUNDATION MAINTENANCE

FOUNDATION SOILS: All soils are affected by water. Silts are weakened by water and some sands can settle if heavily watered, but most problems arise on clay foundations. Clays swell and shrink due to changes in moisture content and the potential amount of the movement is implied in the site classification in Australian Standard AS2870, which is specified as follows:

- A: Stable (Non-reactive)
S: Slightly Reactive
M: Moderately Reactive
H: Highly Reactive
E: Extremely Reactive

CLASS A & S SITES: Sands, silts and clays shall be protected from becoming extremely wet by adequate attention to site drainage and prompt repair of plumbing leaks.

CLASS M, H & E SITES: Sites classified as M, H, or E shall be maintained at essentially stable moisture conditions and extremes of wetting and drying prevented. This will require attention to the following:

Drainage of the site: The site shall be graded or drained so that water cannot pond against or near the house. The ground immediately adjacent to the house shall be graded to a uniform fall of 50 mm minimum away from the house over the first metre. The sub floor space for houses with suspended floors shall be graded or drained to prevent ponding where this may affect the performance of the footing system. The site drainage requirements shall be maintained for the economic life of the building.

Limitations on gardens: The development of the gardens shall not interfere with the drainage requirements or the sub floor ventilation and weep hole drainage systems. Garden beds adjacent to the house should be avoided. Care should be taken to avoid over watering of gardens close to the house footings.

Restrictions on trees and shrubs: Planting of trees should be avoided near the foundation of a house or neighbouring house on reactive sites as they can cause damage due to drying of the clay at substantial distances. To reduce, but not eliminate, the possibility of damage, tree planting should be restricted to a distance from the house of:

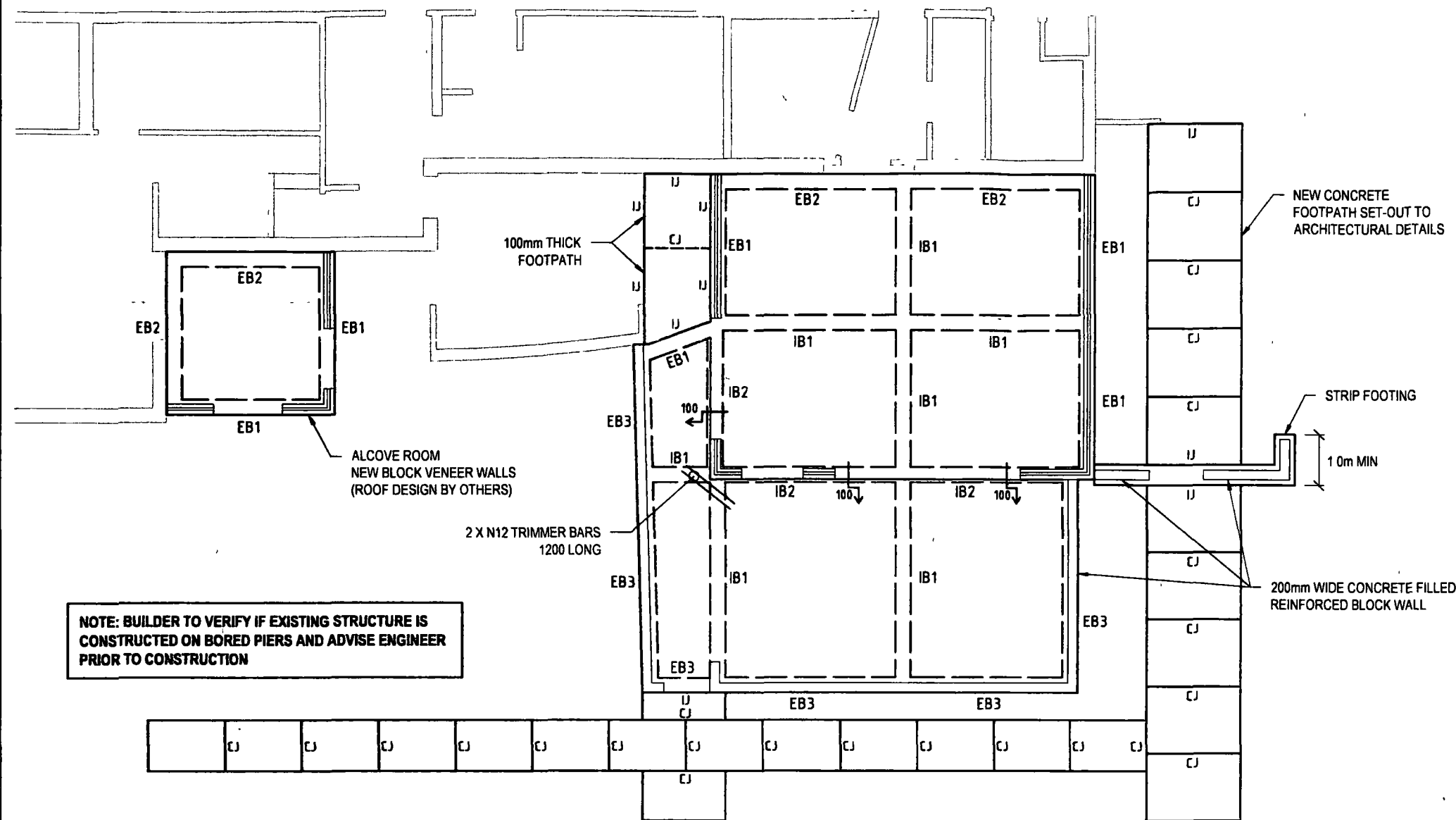
- 1.50 x mature height for Class E sites
1.00 x mature height for Class H sites
0.75 x mature height for Class M sites

Where rows or groups of trees are involved, the distance from the building should be increased. Removal of trees from the site can also cause similar problems.

Repair of leaks: Leaks in plumbing, including storm water and sewerage drainage should be repaired promptly.

The level to which these measures are implemented depends on the reactivity of the site. The measures apply mainly to masonry houses and masonry veneer houses. For frame houses clad with timber or sheeting, lesser precautions may be appropriate.

C B A	05/12/13 29/11/13 22/11/13	FOOTPATH & STRIP FOOTING ADDED. OUTDOOR AREA BLOCK WALL ALTERED. BLOCK WALL ALTERED. OUTDOOR AREA ROOF ALTERED. E83 ADDED. FOR APPROVAL.	JQ JQ JQ	CB CB CB	DM DM DM	Prepared By	Signed	Date	Scale A3	Client. WARRINGAH COUNCIL Site. BELROSE CHILDRENS CENTRE 2202 - 2030 Bambara Rd Belrose NSW	 James Rose Consulting ABN 64 175 064 511 Unit F21, 1-15 Barr Street BALMAIN NSW 2041 PH 02 9555 8588 FAX 02 9555 8599 mail@jamesrose.com.au www.jamesrose.com.au	Project PROPOSED BELROSE CHILDRENS CENTRE ALTERATIONS & ADDITIONS Drawing Title CONSTRUCTION NOTES
						Verified By	Signed	Date				
						Approved By	Signed	Date				
						Horizontal Datum		22/11/13				
REV	DATE	REVISION DETAILS	BY	Var	App	Vertical Datum						
REVISIONS AND ISSUES												
							Status For Approval			Project No 303		
							James Rose Consulting			Drawing No 303 - S - 01		
										Rev C		



FOUNDATION NOTE

THE FOOTINGS SHALL BE FOUNDED ON **STIFF CLAY MATERIAL** WITH A MINIMUM SAFE BEARING CAPACITY OF **150 kPa**

BORED PIER NOTE (ROCK SITE)

IF RAFT SLAB IS FOUNDED PARTLY ON ROCK, THEN BORED PIERS SHALL BE USED IN ACCORDANCE WITH THE FOLLOWING

- FOUNDED OFF ROCK THAT IS UNIFORM & STABLE THROUGHOUT
- MINIMUM SAFE END BEARING OF 500 kPa
- LOCATED AT CORNERS & INTERSECTION POINTS OF BEAMS
- LOCATED UNDER STEEL OR BRICK COLUMNS OVER
- MAXIMUM 1800 SPACING FOR EDGE BEAMS OR STRIP FOOTINGS
- MAXIMUM 2000 SPACING FOR INTERNAL BEAMS

DESIGN CRITERIA

SITE SOIL CLASSIFICATION **ASSUMED CLASS M** (REFER NOTE BELOW)
 SITE WIND CLASSIFICATION **N2**
 EARTHQUAKE DESIGN CATEGORY **H1**
 CONSTRUCTION TYPE **ARTICULATED MASONRY VENEER**
 (MASONRY SHALL BE ARTICULATED IN ACCORDANCE WITH TECHNICAL NOTE 61 FROM THE CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA)
 ROOF FRAMING **MANUFACTURED TRUSSES (INTERNAL WALLS NON LOAD BEARING)**

NOTE THE SUPERINTENDENT SHALL HAVE THE SITE SOIL CLASSIFICATION CONFIRMED (BY INSPECTION OF TEST PIER HOLE 1500 MIN DEEP OR TO AUGER REFUSAL, WHICHEVER IS LESS) BY THE ENGINEER PRIOR TO COMMENCING CONSTRUCTION
 WHERE THE CLAY EXTENDS FOR 1500 OR MORE THE SUPERINTENDENT SHALL HAVE THE SITE CLASSIFICATION CONFIRMED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO COMMENCING CONSTRUCTION

EXPOSURE CLASSIFICATION

CONCRETE
 INTERIOR SURFACES **A1**
 EXTERIOR SURFACES **B1**

MASONRY
 MASONRY DURABILITY REQUIREMENTS **M2**

RAFT SLAB PLAN

1:100

100 THICK SLAB WITH SL82 MESH TOP CONTINUOUS THROUGHOUT

2-N12 (75 SPACING 1200 LONG) TRIMMERS TOP SHALL BE LOCATED 50 FROM ALL RE-ENTRANT CORNERS, TYPICAL
 EXTRA BARS AS NOTED ON PLAN AND SECTIONS

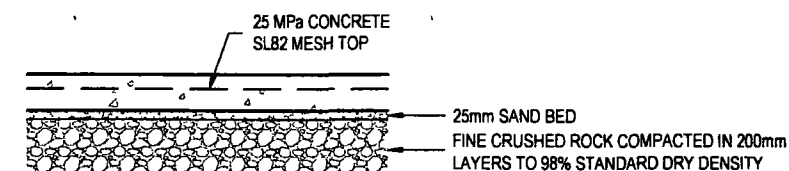
25 MPa MINIMUM CONCRETE STRENGTH, TYPICAL UNLESS NOTED OTHERWISE
 SITE PREPARATION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE GENERAL NOTES & CURRENT EDITION OF AS2870 - RESIDENTIAL SLABS & FOOTING CODE

REINFORCEMENT COVER TO GROUND FLOOR SLAB SHALL BE AS FOLLOWS

- 40mm - TO UNPROTECTED GROUND
- 40mm - EXTERNAL EXPOSURE
- 30mm - TO A MEMBRANE IN CONTACT WITH GROUND
- 30mm - INTERNAL EXPOSURE

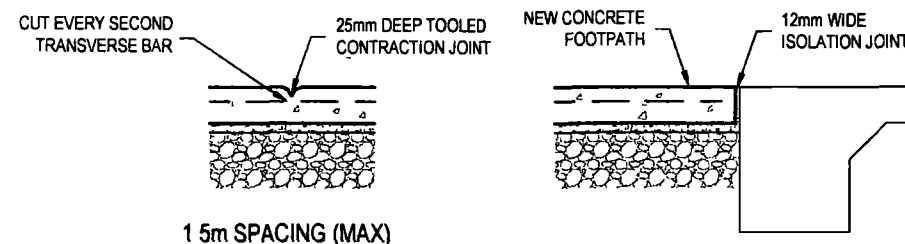
IJ DENOTES ISOLATION JOINT, REFER ISOLATION JOINT DETAIL

CJ DENOTES CONTRACTION JOINT, REFER CONTRACTION JOINT DETAIL



TYPICAL FOOTPATH DETAIL

1:20



1.5m SPACING (MAX)

CONTRACTION JOINT (CJ)

1:20

ISOLATION JOINT (IJ)

1:20

REV	DATE	REVISION DETAILS	BY	Ver	App
D	06/12/13	ALCOVE ROOM SLAB AND BLOCK WALLS ADDED	JQ	CB	CB
C	05/12/13	FOOTPATH & STRIP FOOTING ADDED OUTDOOR AREA BLOCK WALL ALTERED	JQ	CB	DM
B	29/11/13	BLOCK WALL ALTERED OUTDOOR AREA ROOF ALTERED EB3 ADDED	JQ	CB	DM
A	22/11/13	FOR APPROVAL	JQ	CB	DM

Prepared By	Signed	Date	Scale
JQ		22/11/13	1:100
Verified By	Signed	Date	
CB		22/11/13	
Approved By	Signed	Date	
DM		22/11/13	
Horizontal Datum			
Vertical Datum			



Client. **WARRINGAH COUNCIL**
 Site. **BELROSE CHILDRENS CENTRE**
 2202 - 2030 Bambara Rd
 Belrose NSW



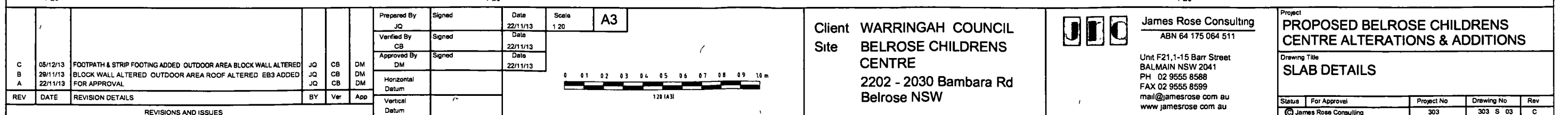
James Rose Consulting
 ABN 64 175 064 511

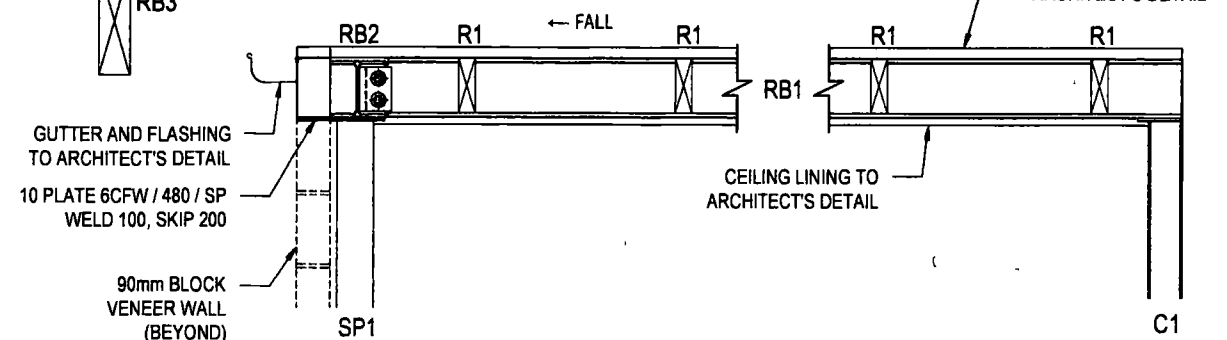
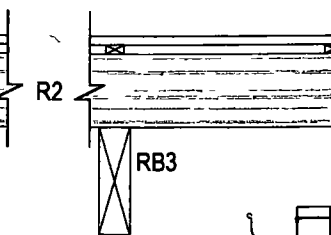
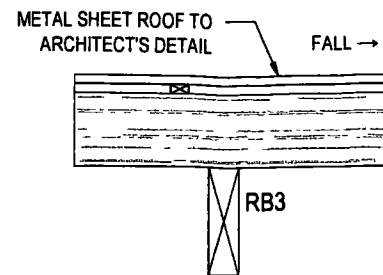
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Project **PROPOSED BELROSE CHILDRENS CENTRE ALTERATIONS & ADDITIONS**

Drawing Title **RAFT SLAB LAYOUT PLAN**

Status	For Approval	Project No	Drawing No	Rev
James Rose Consulting		303	303 - S 02	D





FLASHING TO ARCHITECT'S DETAIL

90mm BLOCK VENEER WALL

DOUBLE TOP PLATE

CEILING LINING TO ARCHITECT'S DETAIL

METAL SHEET ROOF TO ARCHITECT'S DETAIL

WALING PLATE FIXED TO BEAM WITH M12 8 8/S STAGGERED AT 600 CENTRES

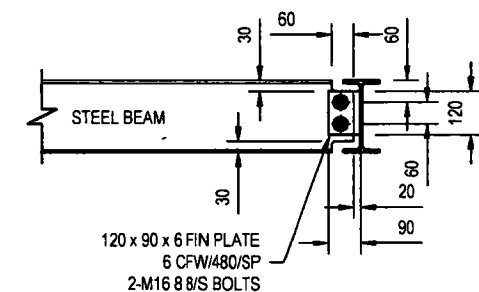
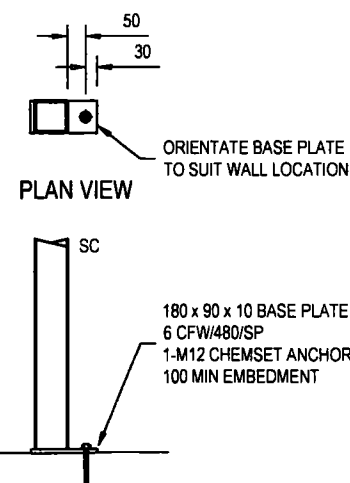
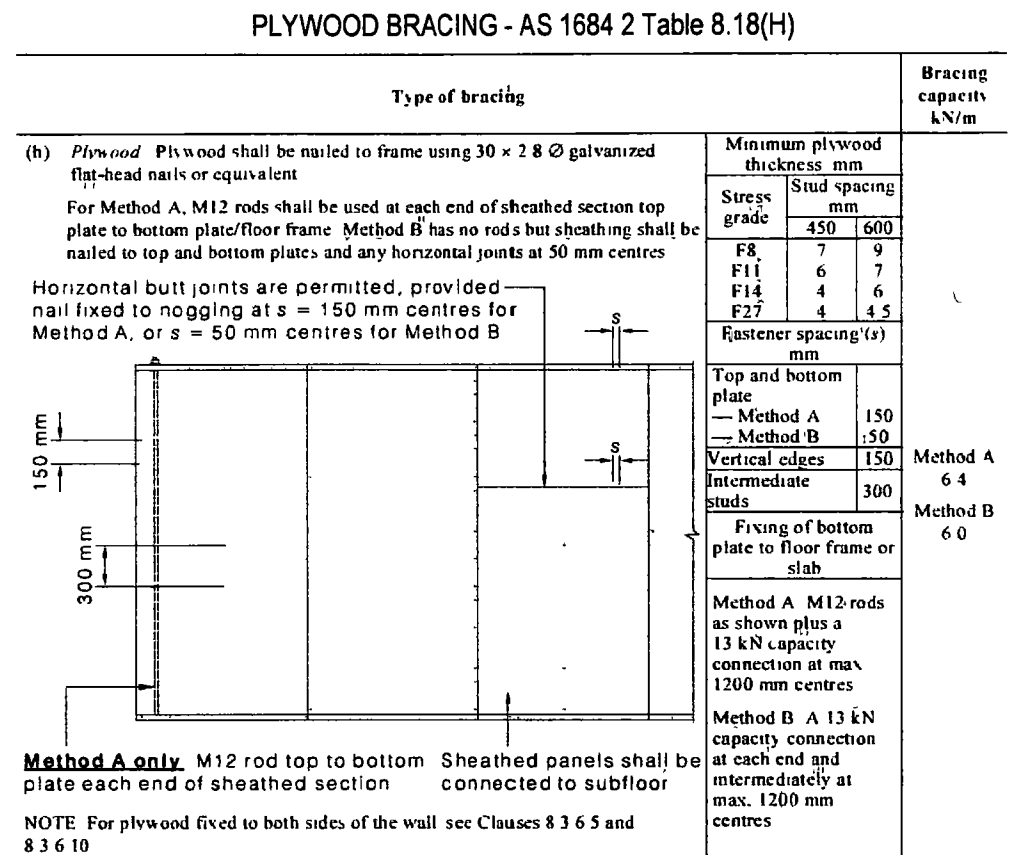
SECTION 2
1 20

ANGLE BRACKET (TOP & MIDDLE) FIXED TO WALL (100 EA, 100 LONG) 12mmØ CHEMSET BOLTS, MIN 160mm EMBEDMENT

ROOF LAYOUT PLAN
1 100

STRUCTURAL MEMBER SCHEDULE			
MARK	DESCRIPTION	SIZE	COMMENTS
C1	COLUMN	89 x 89 x 3.5 SHS	C350L0
C2	COLUMN	125 x 125 HARDWOOD F17 POST ON PRYDA CENTRE POST ANCHOR	TIMBER
RB1	BEAM	150 UC 37.2	GRADE 300PLUS
RB2	BEAM	150 UC 23.4 + 10 PLATE	GRADE 300PLUS
RB3	BEAM	295 x 85 GL17	TIMBER
R1	RAFTER	150 x 45 HYPAN @ 600 C/C	TIMBER
R2	RAFTER	140 x 45 F17 KDHW @ 500 C/C	TIMBER
SP1	STUD POST	2 x 100 x 100 HARDWOOD F17	TIMBER
P1	WALL BRACING	PLYWOOD BRACING TO AS 1684.2 'METHOD A'	TIMBER
P2	WALL BRACING	STRAP BRACING	
BR1	ROOF BRACING	30 x 12 GI STRAP	G250

C B A	05/12/13	FOOTPATH & STRIP FOOTING ADDED. OUTDOOR AREA BLOCK WALL ALTERED.	JQ	CB	DM	Prepared By JQ Signed Date 22/11/13 Scale 1:100 1:20 A3	 0 10 20 30 40 50 m 1:100 (A3)	Client: WARRINGAH COUNCIL Site: BELROSE CHILDRENS CENTRE 2202 - 2030 Bambara Rd Belrose NSW	 James Rose Consulting ABN 64 175 064 511 Unit F21, 1-15 Barr Street BALMAIN NSW 2041 PH 02 9555 8588 FAX 02 9555 8599 mail@jamesrose.com.au www.jamesrose.com.au	Project PROPOSED BELROSE CHILDRENS CENTRE ALTERATIONS & ADDITIONS Drawing Title ROOF LAYOUT PLAN
	29/11/13	BLOCK WALL ALTERED. OUTDOOR AREA ROOF ALTERED. EB3 ADDED.	JQ	CB	DM					
	22/11/13	FOR APPROVAL	JQ	CB	DM					
	REV	DATE	REVISION DETAILS	BY	Ver					
REVISIONS AND ISSUES										

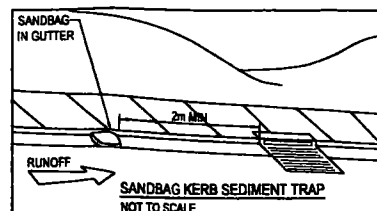
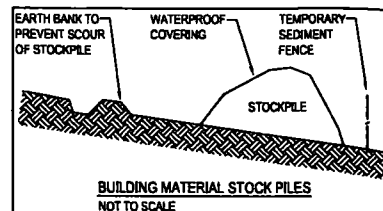


TYPICAL COLUMN SC CAP DETAILS
1 20
BEAMS TO BE LOCATED CENTRALLY OVER COLUMN TYPICAL

TYPICAL COLUMN SC BASE DETAILS

TYPICAL BEAM TO BEAM CONNECTION DETAILS

C	05/12/13	FOOTPATH & STRIP FOOTING ADDED OUTDOOR AREA BLOCK WALL ALTERED	JQ	CB	DM	Prepared By JQ	Signed	22/11/13	Scale 1:20	A3		Client WARRINGAH COUNCIL Site BELROSE CHILDRENS CENTRE 2202 - 2030 Bambara Rd Belrose NSW	 James Rose Consulting ABN 64 175 064 511 Unit F21,1-15 Barr Street BALMAIN NSW 2041 PH 02 9555 8588 FAX 02 9555 8599 mail@jamesrose.com.au www.jamesrose.com.au	Project PROPOSED BELROSE CHILDRENS CENTRE ALTERATIONS & ADDITIONS Drawing Title TYPICAL DETAILS
B	29/11/13	BLOCK WALL ALTERED OUTDOOR AREA ROOF ALTERED EB3 ADDED	JQ	CB	DM	Verified By CB	Signed	22/11/13						
A	22/11/13	FOR APPROVAL	JQ	CB	DM	Approved By DM	Signed	22/11/13						
REV	DATE	REVISION DETAILS	BY	Var	App	Horizontal Datum								
REVISIONS AND ISSUES						Vertical Datum								



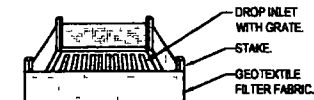
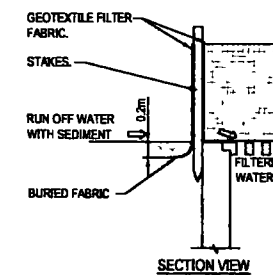
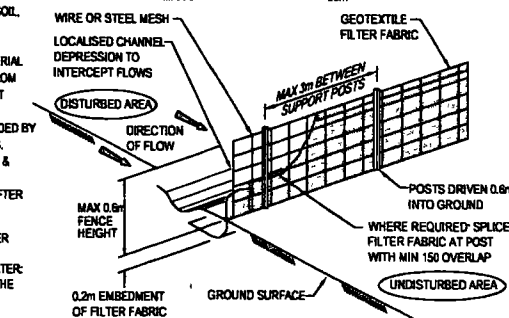
SOIL & WATER MANAGEMENT NOTES

1. REFER TO DETAIL FOR CONSTRUCTION OF TEMPORARY SEDIMENT FENCE.
2. ALL PITS & PIPEWORK ASSOCIATED WITH PROPOSED DRAINAGE SYSTEMS SHALL BE KEPT FREE OF SOIL, WATER & DEBRIS FOR THE DURATION OF THE CONSTRUCTION WORKS.
3. ALL LOOSE IMPORTED FILL & EXCAVATED MATERIAL SHALL BE STOCKPILED AS FAR AS POSSIBLE FROM SEDIMENT FENCES PRIOR TO FINAL PLACEMENT, COMPACTION OR REMOVAL FROM SITE.
4. EXCESSIVE SEDIMENT BUILDUP SHALL BE AVOIDED BY REGULAR MAINTENANCE OF SEDIMENT FENCES.
5. WHERE APPLICABLE, APPROVED LANDSCAPING & REVEGETATION OF DISTURBED AREAS SHALL COMMENCE AT THE EARLIEST OPPORTUNITY AFTER COMPLETION OF EARTHWORKS OPERATIONS.

CONSTRUCTION OF SEDIMENT FENCE & ANY OTHER SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH MANAGING URBAN STORMWATER: SOILS & CONSTRUCTION COMMONLY KNOWN AS THE 'BLUE BOOK' INTERNET REFERENCE:
<http://www.landcom.com.au/publications.aspx>

DESIGN PARAMETERS FOR SEDIMENT FENCE

- MAX DRAINAGE AREA = 0.6000ha
MAX SLOPE GRADIENT = 50%
MAX SLOPE LENGTH = 60m



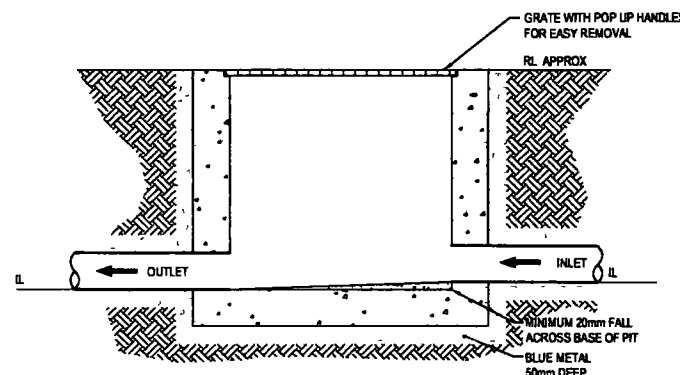
FRONT VIEW

SECTION VIEW

D3 GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP NOT TO SCALE

D2 TEMPORARY SEDIMENT FENCE NOT TO SCALE

D1 STORMWATER PIT NOT TO SCALE



NOTES

1. STORMWATER CONCEPT PLAN FOR DEVELOPMENT APPLICATION ONLY NOT FOR CONSTRUCTION.
2. INVESTIGATE LOCATION OF ALL EXISTING SERVICES AFFECTED BY NEW WORKS & DISUSE, CAP OFF, DIVERT, UPGRADE, RENEW, REINSTATE & RECONNECT SERVICES AS REQUIRED. COORDINATE ALL TEMPORARY SHUTDOWNS WITH SITE SUPERINTENDENT, PROVIDING REASONABLE & ADEQUATE ADVANCE NOTICE.
3. ALL EXISTING UNDERGROUND SERVICES INDICATED ON PLAN ARE BASED ON INFORMATION AVAILABLE AT THE TIME OF DESIGN & ARE SHOWN IN ASSUMED LOCATIONS ONLY. INVESTIGATE & CONFIRM ALL RELEVANT LOCATIONS & CONNECTIONS PRIOR TO INSTALLATION OF NEW PIPES & ADVISE SUPERINTENDENT OF ANY DISCREPANCIES.
4. CONNECT ALL SUBSOIL DRAINAGE AS REQUIRED IN ACCORDANCE WITH STRUCTURAL ENGINEERS & LANDSCAPE ARCHITECTS DOCUMENTATION (PROVIDE MIN 400mm COVER UNLESS NOTED OTHERWISE).
5. PRIOR TO EXCAVATION CONTACT DIAL-BEFORE-YOU-DIG ON 1100 TO AVOID DAMAGE TO EXISTING SERVICES.
6. WHERE DEEMED NECESSARY ERECT ALL SEDIMENT FENCES PRIOR TO EXCAVATION OF EXISTING GROUND SURFACE & REMOVE WHEN NO LONGER NECESSARY.
7. WHERE PIPES PASS THROUGH FOOTING BEAMS PROVIDE 100mm COMPRESSIBLE MATERIAL AROUND PIPEWORK & COORDINATE WITH BUILDER TO AVOID REINFORCEMENT.
8. FINAL DOWNPIPE LOCATIONS & ROOF GUTTER SECTIONS TO BE IN ACCORDANCE WITH ARCHITECTS DOCUMENTATION.
9. FINISHED GROUND SURFACES AROUND BUILDINGS TO BE GENERALLY GRADED AWAY FROM & AROUND BUILDINGS TO AVOID LOW POINTS WHERE WATER CAN ACCUMULATE.

IMPORTANT - FOR PRINCIPAL CONTRACTOR

TO ENABLE THE ISSUE OF STORMWATER CERTIFICATION PERMITTING OCCUPATION IN ALIGNMENT WITH COUNCIL LEGISLATION, SITE INSPECTIONS MUST OCCUR. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL STORMWATER INSPECTIONS. ABSENCE OF INSPECTION WILL PREVENT ISSUE OF STORMWATER CERTIFICATION. SITE INSPECTIONS ARE TO BE COMPLETED BY WHIPPS-WOOD CONSULTING (WWC) AS FOLLOWS:

INSPECTION NO.	STORMWATER INSPECTION REQUIREMENTS	WWC REPRESENTATIVE		INSPECTION DATE	PASS	FAIL
		NAME	SIGNATURE			
1	INSPECTION OF INGROUND STORMWATER DRAINAGE PRIOR TO BACKFILL (MANDATORY)				TICK ✓ OR NO	
2	INSPECTION OF ANY INGROUND STORMWATER DRAINAGE NOT VIEWED AT INSPECTION NO 1 (OPTIONAL)					
3	INSPECTION OF INFILTRATION PIT / TANK / TRENCH PRIOR TO BACKFILL (JOB SPECIFIC)					
4	FINAL INSPECTION ON COMPLETION OF ALL LANDSCAPING & POST COMMISSIONING OF THE STORMWATER SYSTEM (MANDATORY)					

NOTE: THIS DRAWING IS DIAGNOSTIC ONLY AND HAS BEEN PREPARED FOR THE PURPOSE OF INDICATING THE DESIGN INTENT AND SCOPE OF THE HYDRAULIC AND FIRE PROTECTION SERVICES. IT IS NOT TO BE USED FOR CONSTRUCTION. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL STORMWATER INSPECTIONS. ABSENCE OF INSPECTION WILL PREVENT ISSUE OF STORMWATER CERTIFICATION. SITE INSPECTIONS ARE TO BE COMPLETED BY WHIPPS-WOOD CONSULTING (WWC) AS FOLLOWS:

Discipline	Desig. No.	Date	Revisions
ARCHITECTURAL			
STRUCTURAL			
MECHANICAL			
ELECTRICAL			
OTHER			

Architect

Client



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Project
BELROSE CHILDRENS CENTRE
BAMBARA ROAD, BELROSE

Drawing
HYDRAULIC SERVICES
DETAIL SHEET

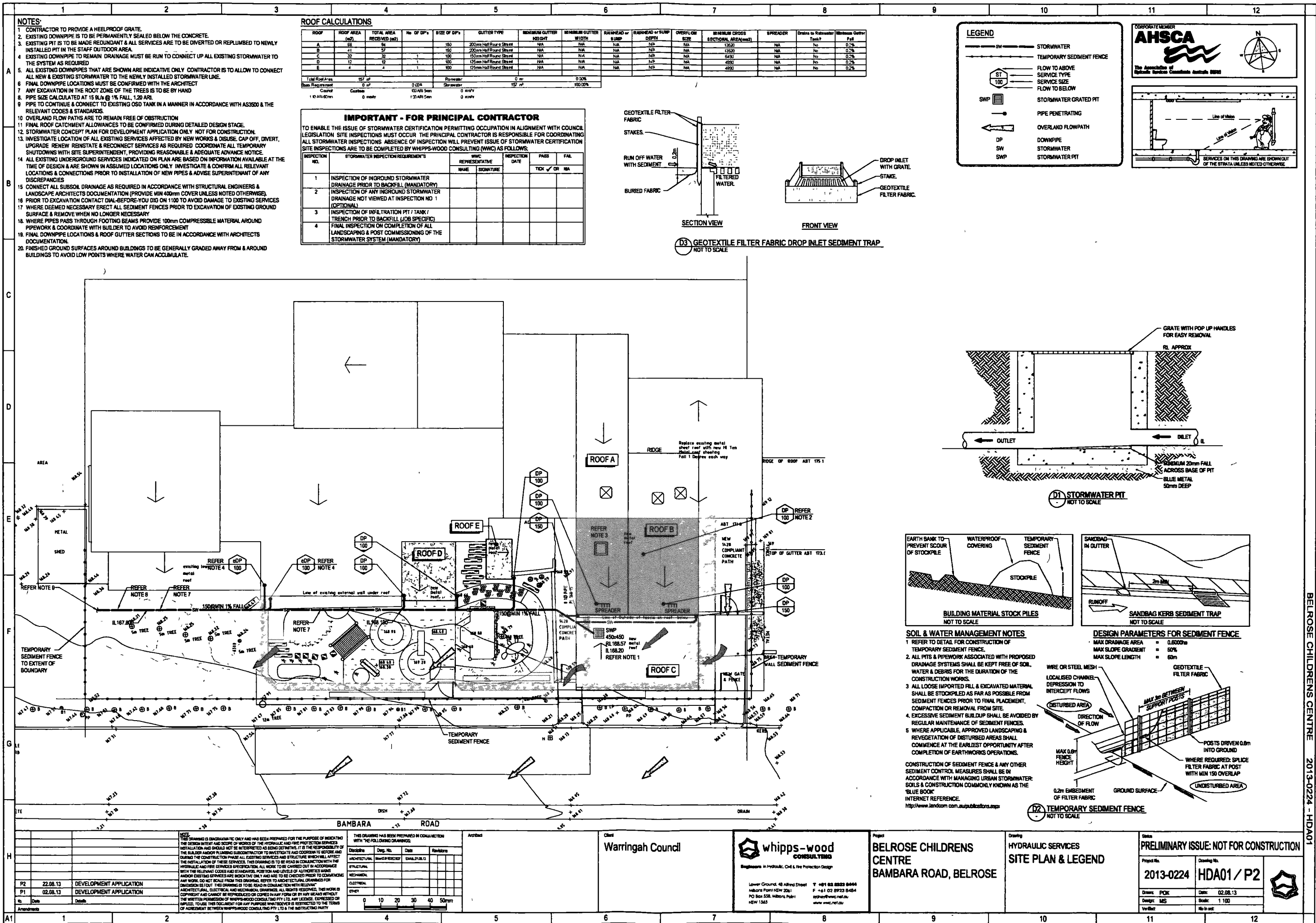
Status
PRELIMINARY ISSUE: NOT FOR CONSTRUCTION

Project No.
2013-0224

Drawing No.
HDA02 / P1

Drawn: POK
Date: 02.06.13
Design: MS
Scale: NTS
Verified: No to scale

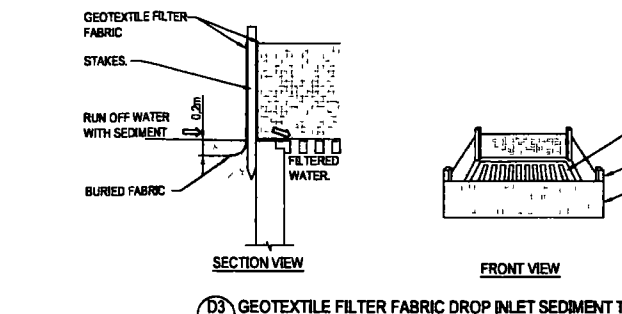




- NOTES:**
- CONTRACTOR TO PROVIDE A FLEETPROOF GRATE.
 - EXISTING PIT IS TO BE PERMANENTLY SEALED BELOW THE CONCRETE.
 - EXISTING PIT IS TO BE MADE REDUNDANT & ALL SERVICES ARE TO BE DIVERTED OR REPLUMED TO NEWLY INSTALLED PIT IN THE STAFF OUTDOOR AREA.
 - EXISTING DOWNPIPE TO REMAIN. DRAINAGE MUST BE RUN TO CONNECT UP ALL EXISTING STORMWATER TO THE SYSTEM AS REQUIRED.
 - ALL EXISTING DOWNPIPES THAT ARE SHOWN ARE INDICATIVE ONLY. CONTRACTOR IS TO ALLOW TO CONNECT ALL NEW & EXISTING STORMWATER TO THE NEWLY INSTALLED STORMWATER LINE.
 - FINAL DOWNPIPE LOCATIONS MUST BE CONFIRMED WITH THE ARCHITECT.
 - ANY EXCAVATION IN THE ROOT ZONE OF THE TREES IS TO BE BY HAND.
 - PIPE SIZE CALCULATED AT 15 ML/A @ 1% FALL, 1.20 ARI.
 - PIPE TO CONTINUE & CONNECT TO EXISTING OSD TANK IN A MANNER IN ACCORDANCE WITH ASS3500 & THE RELEVANT CODES & STANDARDS.
 - OVERLAND FLOW PATHS ARE TO REMAIN FREE OF OBSTRUCTION.
 - FINAL ROOF CATCHMENT ALLOWANCES TO BE CONFIRMED DURING DETAILED DESIGN STAGE.
 - STORMWATER CONCEPT PLAN FOR DEVELOPMENT APPLICATION ONLY. NOT FOR CONSTRUCTION.
 - INVESTIGATE LOCATION OF ALL EXISTING SERVICES AFFECTED BY NEW WORKS & DISUSE, CAP OFF, DIVERT, UPGRADE, RENEW, REINSTATE & RECONNECT SERVICES AS REQUIRED. COORDINATE ALL TEMPORARY SHUTDOWNS WITH SITE SUPERINTENDENT, PROVIDING REASONABLE & ADEQUATE ADVANCE NOTICE.
 - ALL EXISTING UNDERGROUND SERVICES INDICATED ON PLAN ARE BASED ON INFORMATION AVAILABLE AT THE TIME OF DESIGN & ARE SHOWN IN ASSUMED LOCATIONS ONLY. INVESTIGATE & CONFIRM ALL RELEVANT LOCATIONS & CONNECTIONS PRIOR TO INSTALLATION OF NEW PIPES & ADVISE SUPERINTENDANT OF ANY DISCREPANCIES.
 - CONNECT ALL SUBSOIL DRAINAGE AS REQUIRED IN ACCORDANCE WITH STRUCTURAL ENGINEERS & LANDSCAPE ARCHITECTS DOCUMENTATION (PROVIDE MIN 400mm COVER UNLESS NOTED OTHERWISE).
 - PRIOR TO EXCAVATION CONTACT DIA-BEFORE-YOU-DIG ON 1100 TO AVOID DAMAGE TO EXISTING SERVICES.
 - WHERE DEEMED NECESSARY ERECT ALL SEDIMENT FENCES PRIOR TO EXCAVATION OF EXISTING GROUND SURFACE & REMOVE WHEN NO LONGER NECESSARY.
 - WHERE PIPES PASS THROUGH FOOTING BEAMS PROVIDE 100mm COMPRESSIBLE MATERIAL AROUND PIPEWORK & COORDINATE WITH BUILDER TO AVOID REINFORCEMENT.
 - FINAL DOWNPIPE LOCATIONS & ROOF GUTTER SECTIONS TO BE IN ACCORDANCE WITH ARCHITECTS DOCUMENTATION.
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ROOF CALCULATIONS											
ROOF	ROOF AREA (m ²)	TOTAL AREA RECEIVED (m ²)	No OF DP's	SIZE OF DP's	GUTTER TYPE	MINIMUM GUTTER HEIGHT	MINIMUM GUTTER WIDTH	RUNHEAD w/ SUMP	OVERFLOW	MINIMUM CROSS SECTIONAL AREA (mm ²)	SPREADER
A	38	38	1	100	200mm Half Round Sheet	N/A	N/A	N/A	N/A	1250	N/A
B	41	41	1	100	200mm Half Round Sheet	N/A	N/A	N/A	N/A	1250	N/A
C	32	32	1	100	150mm Half Round Sheet	N/A	N/A	N/A	N/A	640	N/A
D	12	12	1	100	150mm Half Round Sheet	N/A	N/A	N/A	N/A	480	N/A
E	4	4	1	100	125mm Half Round Sheet	N/A	N/A	N/A	N/A	480	N/A
Total Roof Area: 127 m ²											
Rain Requirement: 0 m ³											
Catchment: 0 m ³											
10 ARI 60mm: 0 m ³											
10 ARI 150mm: 0 m ³											

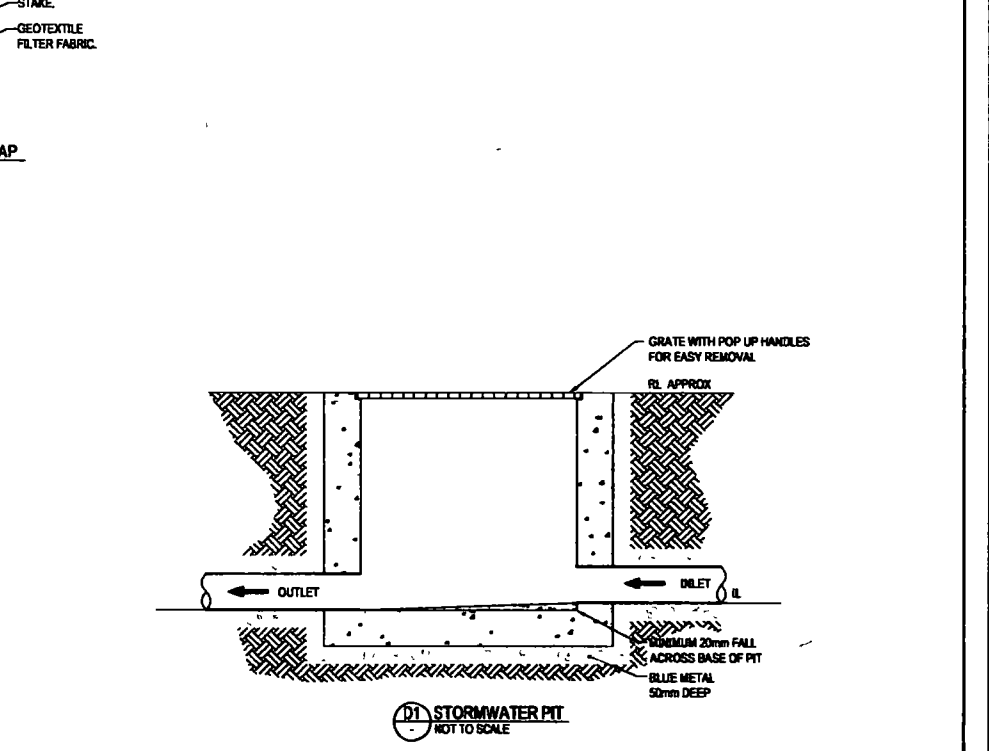
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INSPECTION NO.	STORMWATER INSPECTION REQUIREMENTS	WWC REPRESENTATIVE NAME	INSPECTION DATE	PASS / FAIL
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3	INSPECTION OF INFILTRATION PIT / TANK / TRENCH PRIOR TO BACKFILL (JOB SPECIFIC)			
4	FINAL INSPECTION ON COMPLETION OF ALL LANDSCAPING & POST COMMISSIONING OF THE STORMWATER SYSTEM (MANDATORY)			



LEGEND

- SW STORMWATER
- TEMPORARY SEDIMENT FENCE
- FLOW TO ABOVE SERVICE TYPE
- FLOW TO BELOW SERVICE TYPE
- ST 100 STORMWATER GRATED PIT
- PIPE PENETRATING OVERLAND FLOWPATH
- DP DOWNPIPE
- SW STORMWATER
- SWP STORMWATER PIT

AHSCA
The Association of Hydraulic Services Consultants Australia (AHSCA)



SOIL & WATER MANAGEMENT NOTES

- REFER TO DETAIL FOR CONSTRUCTION OF TEMPORARY SEDIMENT FENCE.
- ALL PITS & PIPEWORK ASSOCIATED WITH PROPOSED DRAINAGE SYSTEMS SHALL BE KEPT FREE OF SOIL, WATER & DEBRIS FOR THE DURATION OF THE CONSTRUCTION WORKS.
- ALL LOOSE IMPORTED FILL & EXCAVATED MATERIAL SHALL BE STOCKPILED AS FAR AS POSSIBLE FROM SEDIMENT FENCES PRIOR TO FINAL PLACEMENT, COMPACTION OR REMOVAL FROM SITE.
- EXCESSIVE SEDIMENT BUILDUP SHALL BE AVOIDED BY REGULAR MAINTENANCE OF SEDIMENT FENCES.
- WHERE APPLICABLE, APPROVED LANDSCAPING & REVEGETATION OF DISTURBED AREAS SHALL COMMENCE AT THE EARLIEST OPPORTUNITY AFTER COMPLETION OF EARTHWORKS OPERATIONS.

CONSTRUCTION OF SEDIMENT FENCE & ANY OTHER SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH MANAGING URBAN STORMWATER: SOILS & CONSTRUCTION COMMONLY KNOWN AS THE 'BLUE BOOK' INTERNET REFERENCE: <http://www.landcom.com.au/publications.aspx>

DESIGN PARAMETERS FOR SEDIMENT FENCE

- MAX DRAINAGE AREA = 0.5000ha
- MAX SLOPE GRADIENT = 50%
- MAX SLOPE LENGTH = 60m

Warragah Council

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BELROSE CHILDRENS CENTRE
BAMBARA ROAD, BELROSE

HYDRAULIC SERVICES
SITE PLAN & LEGEND

PRELIMINARY ISSUE: NOT FOR CONSTRUCTION

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