

MARIBYRNONG RIVER CHILDREN'S CENTRE

6 WESTS RD, MARIBYRNONG

DESIGN DATA	
WIND ACTIONS (MNH):	AS/NZS 1170.2
TERRAIN CATEGORY:	(TO AS/NZS 1170.2)
REGIONAL WIND SPEED	
- V1000:	46m/s
- V20:	37m/s
EARTHQUAKE LOADING	AS/NZS1170.0 & AS1170.4
- SITE FACTOR:	1.0
- ACCELERATION COEFFICIENT:	0.08
- IMPORTANCE LEVEL:	3.0
- PROBABILITY FACTOR Kp:	1.0
- EARTHQUAKE DESIGN CATEGORY:	B
IMPOSED ACTIONS:	AS/NZS1170.1 (UN.O)
- ROOF AREAS (NON-TRAFFICABLE):	18kPa + 0.2D OR 0.25kPa
- ROOF AREAS (TRAFFICABLE):	AS/NZS 1170.0.1
- FLOOR AREAS (GENERAL):	3 kPa
- STAIRS & LANDINGS:	4.0 kPa
- STORAGE:	AS/NZS 1170.0.1
PERMANENT ACTIONS:	AS/NZS1170.1 (UN.O)
- SUPERIMPOSED LOADS (OFFICE):	0.5 kPa
GEOTECHNICAL REPORT:	
THE ENGINEERING DESIGN IS BASED ON THE GEOTECHNICAL REPORT.....	
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION & ADVICE CONTAINED IN THE REPORT, WITH SPECIFIC CONSIDERATION OF THE ADVICE REGARDING EXISTING TREES, PLANTING OF TREES AND TREE/BUILDING REMOVAL.	

GENERAL

1. ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE LATEST EDITIONS OF CURRENT STANDARDS, SPECIFICATIONS AND DRAWINGS AS SPECIFIED.

2. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION, ARCHITECTURAL DRAWINGS, LANDSCAPE DRAWINGS, GEOTECHNICAL REPORT AND OTHER ENGINEERING DRAWINGS WHERE AVAILABLE.

3. CONTRACTOR SHALL BE FAMILIAR WITH, AND UNDERSTAND THE REQUIREMENTS OF THE GEOTECHNICAL REPORT WHERE AVAILABLE.

4. ALL DISCREPANCIES BETWEEN DOCUMENTS SHALL BE REPORTED BY THE CONTRACTOR TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.

5. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE RELEVANT SAA CODES AND THE BUILDING CODE OF AUSTRALIA.

6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

7. THE CONTRACTOR SHALL GIVE AT LEAST 48 HOURS NOTICE PRIOR TO INSPECTION OF ALL STRUCTURAL WORKS.

8. CONTRACTOR SHALL ALLOW FOR ALL ADDITIONAL COST ASSOCIATED WITH THE PROPOSED LOCATION OF CRANES/IS AND RELATED SUPPORT AND TEMPORARY STRUCTURES.

9. SUBSTITUTION SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER. THE APPROVAL OF A SUBSTITUTION BY THE ENGINEER IS NOT AN AUTHORIZATION FOR AN EXTRA. ANY EXTRAS INVOLVED MUST BE APPROVED BY THE ENGINEER BEFORE WORK COMMENCES.

BUILDING MAINTENANCE

BM1. CONTRACTOR SHALL MAKE OUT ALLOWANCE FOR ALL CAST-IN INSERTS, STEEL CONNECTION PLATES, ACCESS HOOKS, SAFETY HARNESS PLATES, STATIC LINE SUPPORTS ETC. REQUIRED AS ASSEMBLING FIXING POINTS TO THE PERIMETER OF THE ROOF, EXTERNAL WALLS AND GROUND SLABS.

BM2. WHERE IT IS PROPOSED TO ALSO USE A SWING-STAGE THE CONTRACTOR SHALL MAKE ADDITIONAL ALLOWANCE FOR DAVIT ARMS, NEEDLES AND ASSOCIATED RESTRAINT SYSTEMS ETC. TO THE PERIMETER OF THE ROOF AND ALSO ANY FIXING POINTS REQUIRED ALONG THE EXTERNAL WALLS AND GROUND SLAB.

BM3. ALL STRUCTURAL FIXING REQUIREMENTS ASSOCIATED WITH BUILDING MAINTENANCE ARE TO BE DESIGNED AND DOCUMENTED BY A SPECIALIST ENGINEER ENGAGED BY THE CONTRACTOR. CONTRACTOR SHALL ALLOW FOR ALL COSTS AND FEES ASSOCIATED WITH THIS ENGINEERING WORK. CONTRACTOR SHALL MAKE THE ABOVE ALLOWANCES FOR ALL BUILDINGS.

STEELWORK GENERAL

SG1. STEELWORK SHALL COMPLY WITH THE SPECIFICATION UNLESS OTHERWISE SHOWN ON THE DRAWINGS. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4300.

SG2. THE STEELWORK SHOWN ON THESE DRAWINGS DOES NOT INCLUDE THE TOTAL EXTENT OF STEELWORK. NON-STRUCTURAL STEELWORK SHOWN ON ARCHITECTURAL DRAWINGS AND SERVICES DRAWING IS NOT PART OF THE STRUCTURAL STEEL PACKAGE.

SG3. ALL STRUCTURAL STEELWORK SHALL BE ONESTeel GRADE 300PLUS UNLESS OTHERWISE NOTED.

- ALL HOT ROLLED STEELWORK SHALL BE IN ACCORDANCE WITH AS3678 AND AS3679 PART 1 GRADE 250 OR 300 (IHPB BASE GRADE FOR EACH MEMBER SHALL BE USED (UN.O).

- WELDED WB AND WC SECTIONS SHALL BE IN ACCORDANCE WITH AS3679 PART 2 GRADE 300 UN.O.

- COLD FORMED SECTIONS SHALL BE IN ACCORDANCE WITH AS4600 UN.O.

- ALL RECTANGULAR AND SQUARE HOLLOW SECTIONS SHALL BE MADE BY COLD FORMING AND COMPLY WITH AS1663 GRADE 350 UN.O.

- ALL CIRCULAR HOLLOW SECTIONS SHALL COMPLY WITH AS1563 GRADE 350 UN.O.

- ALL PLATES GRADE 250 MM TO AS3678

SG4. 14 DAYS PRIOR TO THE FABRICATION OF STEELWORK THE CONTRACTOR SHALL SUBMIT A COPY OF THE SHOP DRAWINGS TO THE ENGINEER. ACCEPTANCE OF THESE DRAWINGS DOES NOT INCLUDE CHECKING OF DIMENSIONS, NOR PRECLUDE THE CONTRACTOR FROM THE RESPONSIBILITY FOR THE CORRECTNESS OF THE WORK.

SG5. PLATE THICKNESS SHOWN ON DRAWINGS ARE MINIMUM PLATE THICKNESS AFTER ANY MILLING HAS BEEN CARRIED OUT TO REMOVE DISTORTION.

SG6. ALL RAFTERS AND BEAMS OVER 4000mm IN LENGTH SHALL BE CAMBERED 5MM FOR EVERY 2000mm OF LENGTH UNLESS NOTED OTHERWISE ON THE DRAWINGS.

SG7. ALL STEEL COLUMNS AND STEEL BEAMS WITHIN OR ADJACENT TO STUD WALLS TO BE FIXED TO THESE WALLS WITH NO.14 TEK SCREWS OR SIMILAR AT 300MM CTS. ALL AROUND, TYPICAL THROUGHOUT FOR NEW AND RENOVATED WORKS.

SG8. ALL Z PURLINS TO BE LAPPED AT RAFTER LOCATIONS AS PER LYSAGHT RECOMMENDATIONS.

SG9. ROOF BRACING TO BE TIED TO PURLINS AT EVERY 2ND PURLIN.

SG10. WHERE ROOF SHEETING RUNS DIAGONAL TO PURLINS PROVIDE 75x75x6.0 EA TO SUPPORT ROOF SHEETING EDGE.

SG11. ALL STEEL MEMBERS SHALL BE MADE FROM SINGLE LENGTHS. SPLICES IN MEMBERS SHALL BE PROVIDED ONLY WHERE SHOWN ON THE DESIGN DRAWINGS. SHOULD ADDITIONAL SPLICES BE REQUIRED THE CONTRACTOR SHALL APPLY FOR APPROVAL TO THE ENGINEER FOR EACH SPLICE NOT SHOWN ON THE DRAWINGS.

SG12. THE CONTRACTOR SHALL PROVIDE ALL CLEATS, FIXINGS AND HOLDS WHETHER OR NOT SHOWN ON THE DRAWINGS INCLUDING ALL FIXINGS OF NON-STRUCTURAL ELEMENTS TO THE STEELWORK.

SG13. STEELWORK BELOW GROUND LEVEL SHALL BE ENCASED IN CONCRETE WITH A MINIMUM COVER OF 75mm ALL AROUND AND STEELWORK TO BE GALVANISED WITH ENCASEMENT TO 150mm ABOVE GROUND.

STEEL SURFACES MUST NOT BE PAINTED/GALVANISED IF MEMBER IS TO BE FIRE SPRAYED OR FRICTION GRIP BOLTED.

SG14. DAMAGE TO STEELWORK ON SITE TO BE MECHANICALLY WIRE BRUSHED AND PRIMED WITH ZINC RICH EPOXY PRIMER.

SG15. ALL STEEL BEAMS AND LINTELS TO HAVE 100mm MIN END BEARING UN.O.

SG17. STEEL BEAMS TO BE FORMED WITH NATURAL CAMBER UP.

STEELWORK STANDARD CONNECTIONS

SC1. UNLESS NOTED OTHERWISE, THE FOLLOWING CONNECTION DETAILS SHALL BE ALLOWED FOR:

- 6mm CW, THICKNESS OF PLATES, NUMBER & SIZE OF BOLTS AS PER TABLE 11.

SC2. THE MINIMUM CONNECTION SHALL BE (UN.O IN TABLE 14)

- 12MM PLATE, 6CW, 2-M24 (8.8/S) BOLTS.

- ALL CLEATS, GUSSETS, END AND STIFFENER PLATES SHALL BE 10mm PLATE (UN.O)

- PURLIN AND GRT CLEATS SHALL BE 8mm PLATE (UN.O)

- FOR HANDRAILS USE M16 (4.6/S) COMMERCIAL BOLTS (UN.O)

- FOR PURLINS AND GRTS USE M16 (4.6/S) COMMERCIAL BOLTS (UN.O)

SC3. REMOVABLE BEAM CONNECTIONS SHALL HAVE 8.8/S BOLTS. ALL STEELWORK CONNECTIONS (INCLUDING REMOVABLE BEAMS) WITH 8.8/S BOLTS SHALL HAVE LOCKNUTS.

SC4. CONNECTIONS BETWEEN STEEL BEAMS TO TIMBER COLUMNS SHALL BE (UN.O):

-125x75x6 UA, 2-M16 COACH BOLTS TO COLUMN, 2-M20 (8.8/S) BOLTS TO STEEL BEAM (STEEL BEAMS TO SIT ON TOP OF COLUMNS).

SC5. ALL BEAM TO BEAM CONNECTIONS SHALL BE (UN.O):

A) END JOINT FOR ALL BEAM BRACING CONNECTIONS

B) WEB SIDE PLATE FOR ALL OTHER BEAMS

SC6. ALL BEAM TO COLUMN CONNECTIONS SHALL BE FULL DEPTH END PLATES.

SC7. CONNECTIONS SHALL BE CONCENTRIC USING CENTRE OF AREA, EXCEPT FOR:

A) BOLTED CHANNELS - USE GAUGE OF CHANNEL.

B) BOLTED BRACING - USE GAUGE LINE

SC8. ALL COLUMNS SHALL BE IN FULL BEARING CONTACT WITH BASEPLATES. THE ENDS OF THE COLUMN SHALL BE COLD SAWN OR MACHINE CUT IN ACCORDANCE WITH AS 4100.

STEELWORK WELDING

SW1. ALL WELDING SHALL BE IN ACCORDANCE WITH AS 1554 "STRUCTURAL STEEL WELDING", THE DESIGN DRAWINGS AND THE FOLLOWING NOTES:

- WELDING SHALL BE PERFORMED BY AN EXPERIENCED OPERATOR IN ACCORDANCE WITH AS1554.

- ALL CUTTING, WELDING PROCEDURES AND SEQUENCE, SHALL BE TO THE APPROVAL OF THE ENGINEER AND SHALL BE IN ACCORDANCE WITH AS 1554.

- ALL MATING SURFACES AND UNDERSIGNEDATED WELODS SHALL BE 6mm CONTINUOUS FILLET WELODS UNLESS NOTED OTHERWISE.

- WELDING ELECTRODE SHALL BE "E 41 XX".

- ALL WELODS SHALL BE "SP" CATEGORY WELODS.

- WELDING CONSUMABLES SHALL BE OF THE "LOW HYDROGEN" TYPE.

- ALL BUTT WELODS TO BE QUALIFIED FULL PENETRATION BUTT WELODS.

- ALL FILLET WELODS TO BE 6mm CONTINUOUS.

- ALL WELODS SHALL BE MADE USING QUALIFIED WELD PROCEDURES IN ACCORDANCE WITH AS 1554.

- ABUTTING EDGES OF BOXED MEMBERS SHALL BE CONNECTED AND SEALED WITH A CONTINUOUS WELD.

- ALL WELODS SHALL BE FULLY VISUALLY INSPECTED IN ACCORDANCE WITH AS 1554.

- PADEYES AND LIFTING POINTS SHALL BE INSPECTED WITH 100 % UT AND 100 % MPI TO AS 1554.

- OTHER STRUCTURAL WELODS SHALL BE TESTED WITH 10 % UT AND 10 % MPI TO AS 1554 UNLESS NOTED OTHERWISE

SW2. UNLESS SHOWN AS A BOLTED CONNECTION, ALL PLATES AND SECTIONS INDICATED IN CONTACT SHALL BE WELDED ALL AROUND.

SW3. ALL TUBULAR SECTIONS SHALL BE FULLY SEALED. SEAL PLATES SHALL BE 5mm THICK WHERE TUBULAR SECTIONS ARE TO BE HOT DIPPED GALVANISED PROVIDE ADEQUATE VENT & DRAINAGE HOLES.

SW4. FIELD REPAIR OF PAINTING AND GALVANIZING SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATIONS.

SW5. GALVANISED STEELWORK THAT IS SITE WELDED OR SUSTAINS ANY OTHER KIND OF SURFACE DAMAGE IS TO BE PREPARED TO AS1827.2 CLASS 3 AND PRIMED WITH 2 COATS OF GALVANITE (MANUFACTURED BY JOTUN) TO MANUFACTURER'S SPECIFICATIONS.

FOUNDATIONS & EARTHWORKS

FF1. FOUNDATIONS AND EARTHWORKS FOR BUILDINGS AND STRUCTURES SHALL COMPLY WITH THE SPECIFICATION, LATEST EDITIONS OF THE RELEVANT SAA CODES AND THE BCA.

FF2. CONTRACTOR SHALL MAKE REFERENCE TO THE GEOTECHNICAL INVESTIGATION REPORT FOR RECOMMENDATIONS AND GUIDANCE INCLUDING BASE ON THE EXISTING GROUND SURFACE REFER TO THE GEOTECHNICAL INVESTIGATION REPORT FOR SITE PREPARATION, TEMPORARY WORKS, DESIGN REQUIREMENTS, ETC.

FF3. ALL EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF REINFORCEMENT OR BLINDING. THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THEY HAVE ACHIEVED THE APPROVED BEARING CAPACITY BEFORE INSPECTIONS. A MINIMUM OF 48 HOURS' NOTICE IS REQUIRED FOR AN INSPECTION.

FF4. ANY OVER EXCAVATION UNDER FOOTINGS SHALL BE FILLED UP TO LEVEL WITH BLINDING CONCRETE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL ALLOW FOR ALL OVER EXCAVATIONS TO FOUNDATIONS DUE TO CONSTRUCTION TECHNIQUES AND FROM ACCESS TO SITE AND WEATHER CONDITIONS.

FF5. EXCAVATIONS SHALL BE CARRIED OUT IN THE DRY. WATER ENTERING AN EXCAVATION SHALL BE REMOVED AND ANY RESULTING SLUDGE SCRAPED FROM THE BASE IN ORDER TO RESTORE A FIRM BEARING SURFACE.

FF6. ALL FOOTINGS, INCLUDING GROUND AND EDGE BEAMS, PAD AND STRIP FOOTINGS, RETAINING WALLS, ETC. SHALL HAVE A MINIMUM OF 50mm BLINDING CONCRETE UNLESS NOTED OTHERWISE.

FF7. ALL WALLS AND COLUMNS SHALL BE CONCENTRIC WITH SUPPORTING FOUNDATIONS UNLESS OTHERWISE NOTED ON DRAWINGS.

FF8. SUBGRADE PREPARATION AND BACKFILLING OF TRENCHES UNDER CONCRETE SLABS ON GROUND AND STIFFENED RAFTS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION. ALL PIPEWORK TRENCHES UNDER GROUND SLABS SHALL BE BACKFILLED WITH 5% STABILISER SANDS UNLESS APPROVED OTHERWISE BY THE ENGINEER. CONTRACTOR TO ALLOW FOR ADDITIONAL REINFORCEMENT TO GROUND SLABS OVER ALL SERVICES TRENCHES (IE. HYDRAULIC, DRAINAGE, MECHANICAL, ELECTRICAL ETC).

FF9. GROUND SLABS SHALL BE POURED ON A 0.2m THICK CONTINUOUS POLYTHENE MEMBRANE UN.O. ALL JOINTS SHALL BE LAPPED AND FULLY TAPED. THE MEMBRANE SHALL BE PLACED ON A 50mm LAYER OF COMPACTED SAND (UN.O) OVERLYING SUBGRADE MATERIAL WITH A MINIMUM SAFE BEARING PRESSURE OF 30kPa. THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM DRY DENSITY RATIO OF 98% OF STANDARD COMPACTION DETERMINED IN ACCORDANCE WITH AS1289 E4.1. ANY OVER EXCAVATION OR FILL AREA SHALL BE BROUGHT UP TO LEVELS IN LAYERS WITH A MAXIMUM LOOSE THICKNESS OF 150mm WITH APPROVED (BY THE ENGINEER) GRANULAR MATERIAL. COMPACTED TO A MINIMUM DRY DENSITY RATIO OF 98% OF STANDARD COMPACTION DETERMINED IN ACCORDANCE WITH AS 1289 E4.1.

FOUNDATIONS & EARTHWORKS

FF10. LOOSE FILL IF REQUIRED FOR SUSPENDED SLABS SHALL BE SUFFICIENT TO SUPPORT CONSTRUCTION OF SLABS IN A STABLE CONDITION AND TO ENSURE THAT NO MOVEMENT WILL OCCUR DURING THE CURING PROCESS.

FF11. ALL RETENTION WORKS ARE TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL INVESTIGATION REPORT. ARCHITECTURAL AND STRUCTURAL DRAWINGS, ANY VARIATION IS TO BE REFERRED TO THE ENGINEER FOR APPROVAL AT THE EXPENSE OF THE CONTRACTOR.

FF12. TESTING

TEST EACH LAYER OF FILLING FOR DRY DENSITY RATIO EXCEPT WHEN FILL DEPTH IS LESS THAN 600MM. THE CONTRACTOR SHALL EMPLOY A NATA REGISTERED LABORATORY TO CARRY OUT ALL TESTING AT THE CONTRACTOR'S EXPENSE.

TESTING FREQUENCY SHALL BE AS FOLLOWS:-

- MINIMUM 3 TESTS PER LAYER OR,

- MINIMUM 1 TEST PER 250 SQUARE METRES OR,

- 3 TESTS PER VISIT.

WHOEVER REQUIRES THE MOST TESTS.

FF13. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STRUCTURES IN A STABLE AND STRUCTURALLY SOUND CONDITION DURING ERECTION/CONSTRUCTION AND EXCAVATIONS.

FF14. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY SITE CLEARANCES AND PERMITS PRIOR TO COMMENCEMENT OF ANY WORKS.

FF15. BACKFILLING SHALL NOT COMMENCE AGAINST WALLS UNTIL 14 DAYS HAVE ELAPSED SINCE COMPLETING THE CONCRETE POUR.

FOUNDATIONS & EARTHWORKS

FF16. LOOSE FILL IF REQUIRED FOR SUSPENDED SLABS SHALL BE SUFFICIENT TO SUPPORT CONSTRUCTION OF SLABS IN A STABLE CONDITION AND TO ENSURE THAT NO MOVEMENT WILL OCCUR DURING THE CURING PROCESS.

FF17. ALL RETENTION WORKS ARE TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL INVESTIGATION REPORT. ARCHITECTURAL AND STRUCTURAL DRAWINGS, ANY VARIATION IS TO BE REFERRED TO THE ENGINEER FOR APPROVAL AT THE EXPENSE OF THE CONTRACTOR.

FF18. TESTING

TEST EACH LAYER OF FILLING FOR DRY DENSITY RATIO EXCEPT WHEN FILL DEPTH IS LESS THAN 600MM. THE CONTRACTOR SHALL EMPLOY A NATA REGISTERED LABORATORY TO CARRY OUT ALL TESTING AT THE CONTRACTOR'S EXPENSE.

TESTING FREQUENCY SHALL BE AS FOLLOWS:-

- MINIMUM 3 TESTS PER LAYER OR,

- MINIMUM 1 TEST PER 250 SQUARE METRES OR,

- 3 TESTS PER VISIT.

WHOEVER REQUIRES THE MOST TESTS.

FF19. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STRUCTURES IN A STABLE AND STRUCTURALLY SOUND CONDITION DURING ERECTION/CONSTRUCTION AND EXCAVATIONS.

FF20. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY SITE CLEARANCES AND PERMITS PRIOR TO COMMENCEMENT OF ANY WORKS.

FF21. BACKFILLING SHALL NOT COMMENCE AGAINST WALLS UNTIL 14 DAYS HAVE ELAPSED SINCE COMPLETING THE CONCRETE POUR.

CONCRETE GENERAL

C1. CONCRETE SHALL COMPLY WITH THE SPECIFICATION UNLESS OTHERWISE NOTED BELOW. CONCRETE SHALL BE ASSESSED FOR COMPLIANCE BY THE "PROJECT ASSESSMENT" METHOD.

C2. UNLESS NOTED OTHERWISE ON DRAWINGS, CONCRETE PROPERTIES SHALL BE AS FOLLOWS:-

GRADE ELEMENT/LOCATION

N32+ PAD FOOTINGS & PEDESTALS

N50+ PRECAST PILES

N45+ BORED PIERS

N25+ STRIP FOOTINGS

N32+ GROUND BEAMS

N32 SLABS ON GROUND

N32 EXTERNAL PAVING SLABS

N40 INSITU COLUMNS

N50 INSITU WALLS

N32 SHOTCRETE WALLS

N40 PRECAST COLUMNS

N32 PRECAST WALLS

N32 SUSPENDED BEAMS

N32 SUSPENDED SLABS

N15 BLINDING CONCRETE

* SPECIAL CONCRETE GRADE MAY BE REQUIRED WITH RESPECT TO SOIL AND GROUND WATER AGGRESSIVENESS TOWARDS CONCRETE. CONTRACTOR SHALL MAKE REFERENCE TO RELEVANT SECTIONS OF GEOTECHNICAL REPORT AND MAKE OWN ASSESSMENT WITH REGARD TO THE ABOVE REQUIREMENTS.

C3. TOLERANCES TO FORMWORK AND CONCRETE SHALL BE IN ACCORDANCE WITH CLAUSE 4.2 OF AS 1099-1974, UNLESS NOTED OTHERWISE.

C4. THE CONTRACTOR SHALL GIVE THE ENGINEER 48 HOURS NOTICE TO INSPECT REINFORCEMENT PRIOR TO PLACEMENT OF CONCRETE.

C5. CONCRETE SHALL BE HANDLED AND PLACED IN ACCORDANCE WITH SECTION 19 OF AS3600.

C6. CONCRETE SIZES SHOWN ON DRAWINGS ARE STRUCTURAL SIZES AND DO NOT INCLUDE APPLIED FINISHES.

C7. THE FOLLOWING CONCRETE EXPOSURE CLASSIFICATIONS FOR DURABILITY WERE USED IN THE DESIGN:-

A2 - IN CONTACT WITH THE GROUND

B1 - EXTERIOR

A1 - INTERIOR

C8. CONCRETE SLUMP AT AN AGREED POINT ON THE CONSTRUCTION SITE SHALL BE BETWEEN 60mm AND 80mm UNLESS NOTED OTHERWISE.

C9. CONCRETE SURFACES SHALL BE PROPERLY CURED BY COVERING WITH AN IMPERMEABLE MEMBRANE SECURED FIRMLY AT THE EDGE FOR AT LEAST 7 DAYS OR AS DETAILED IN THE SPECIFICATION.

C10. CONTRACTOR SHALL ALLOW FOR ADDITIONAL COSTS ASSOCIATED WITH SLAB SET-DOWNS. REFERENCE SHALL BE MADE TO ARCHITECTURAL AND OTHER DRAWINGS FOR EXTENT AND DETAILS OF SLAB SET-DOWNS.

C11. CONSTRUCTION JOINTS SHALL NOT BE CONSTRUCTED IN POSITIONS OTHER THAN THOSE INDICATED ON THE DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER.

C12. ALL EXPOSED CORNERS IN CONCRETE (eg. PEDESTAL AND FOOTING EDGES) SHALL BE PROVIDED WITH A 20mm X 20mm CHAMFER UN.O.

C13. ALL VERTICAL FACES (INCL FOOTINGS) SHALL BE FORMED USING METHODS AND MATERIALS APPROVED BY THE ENGINEER.

CONCRETE REINFORCEMENT

R1. REINFORCEMENT SHALL COMPLY WITH AS 4671.

R2. REINFORCEMENT GRADE AND TYPE IS DENOTED THUS:-

R - PLAIN ROUND BARS (GRADE 250R) TO AS 1092

N - DEFORMED BARS (GRADE D50N) TO AS 4671

R5/SL/RTM - WELDED WIRE FABRIC TO AS 4671

R3. ALL REINFORCEMENT BARS SHALL BE HANDLED ON SITE INCLUDING STORAGE, FIXING AND WELDING STRICTLY IN ACCORDANCE WITH RELEVANT MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS. CONTRACTOR SHALL OBTAIN ALL RELEVANT INFORMATION FROM MANUFACTURERS AND BE FAMILIAR WITH SUCH REQUIREMENTS.

R4. BARS ARE DETAILED ON THE DRAWING IN THE FOLLOWING MANNER:- EXAMPLE: 16N24-300B1

16 NUMBER OF REINFORCING BARS.

N24 BAR GRADE AND DIAMETER.

300 DISTANCE BETWEEN BAR CENTRES.

B1 DESIGNATION OF REINFORCEMENT LAYER.

NOT GENERALLY SPECIFIED (REFER DIAGRAM 1)

R5. ALL FABRIC SHALL HAVE A MINIMUM LAP OF 300mm, UNLESS NOTED OTHERWISE.

R6. SPLICES IN REINFORCING SHALL BE IN THOSE POSITIONS SHOWN ON THE DRAWINGS. IN SLABS AND BEAMS, WITH LONG CONTINUOUS BARS, SLABING SHALL BE STAGGERED IN ADJACENT BARS BY 48 DIAMETERS MINIMUM.

R7. ANY LAP LENGTH OR EMBEDMENT NOT NOTATED SHALL BE AS TABLE 11 AND IN ACCORDANCE WITH AS3600. WHEN LAPPING BARS OF DIFFERENT SIZE THE LAP LENGTH FOR THE SMALLER BAR SHALL APPLY.

R8. WHERE COGS ARE SHOWN ON THE DRAWINGS, THE COG LENGTH SHALL BE AS TABLE 11 UN.O.

R9. ALL REINFORCING BARS SHALL BE STRAIGHT UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

R10. TOP REINFORCEMENT IN EDGE OF SLABS OR BEAMS SHALL HAVE STANDARD COGS IN ACCORDANCE WITH SECTION 13.12.6 OF AS3600.

R11. BOTTOM REINFORCEMENT IN SLABS OR BEAMS SHALL ANCHOR INTO THE SUPPORT IN ACCORDANCE WITH SECTION 13.12.6 OF AS3600.

R12. PROVIDE 3m PER-ENTRANT CORNER BARS X 2000mm LONG TYPICAL AROUND COLUMNS & CORNERS.

R13. DEFORMING OF BARS SHALL BE COLD ROLLED AND ANY HEATING OF BARS IS NOT ALLOWED.

R14. TOP REINFORCEMENT IN SLABS SHALL BE PLACED CENTRALLY OVER BEAMS OR WALLS UNLESS SHOWN OTHERWISE. LENGTH OF REINFORCEMENT SHALL COMPLY WITH CLAUSE 8.18.5 OF AS3600.

R15. DISTRIBUTION REINFORCEMENT SHALL BE N16 BARS AT 300 CENTRES UNLESS NOTED OTHERWISE.

R16. REINFORCEMENT IN THE DIRECTION OF THE SPAN SHALL BE NEARER TO THE ADJACENT SURFACE, UNLESS NOTED OTHERWISE.

R17. TABLE OF MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT SHALL BE AS PER TABLE 12. UNLESS NOTED OTHERWISE.

R18. WHERE PENETRATIONS OR CAST-IN ITEMS DISPLACE REINFORCEMENT, THE ARRANGEMENT OF THE REINFORCEMENT SHALL BE APPROVED BY THE ENGINEER. UNDER NO CIRCUMSTANCES IS THE REINFORCEMENT TO BE DISPLACED INTO THE COVER ZONE.

R19. FOR MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT TO ACHIEVE REQUIRED FIRE RATING REFER TABLE 13.

R20. ALL REINFORCEMENT SHALL BE SUPPORTED IN POSITION BY APPROVED CHAIRS, SPACERS OR TIES. IN SLABS THE BAR CHAIRS SHALL BE AT 800 X 800mm MAXIMUM CENTRES. BAR CHAIRS SHALL BE PROVIDED ALONG EDGES OF ALL CONSTRUCTION JOINTS. STOP ENDS SHALL NOT BE USED TO MAINTAIN COVERS. METAL CHAIRS SHALL NOT BE USED.

R21. FOR ALL EXTERNAL SURFACES PROVIDE FULLY PLASTIC BAR CHAIRS. THE WIRE SHALL NOT BE NAILED TO THE FORMS. REINFORCING BARS SHALL NOT BE USED TO KEEP FORMS APART AND A THROUGH THE SYSTEM SHALL BE USED TO THE FORMS.

R22. REBENDING OF REINFORCING BARS SHALL BE PERFORMED ACCORDING TO CLAUSE 17.2.3 OF AS 3600.

CONCRETE ANCHOR BOLTS

A1. ANCHOR BOLT ROUND BAR MATERIAL SHALL BE MINIMUM GRADE 250 STEEL TO AS 3679.

A2. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE HOT DIP GALVANISED.

A3. PROPOSED CHEMICAL ANCHORS SHALL BE HELTI HVU CAPSULE WITH M20 HAS-E-F (OR APPROVED EQUIVALENT GALVANISED ROD) FOR FIXING TO CONCRETE AND HELTI HIT-HY70 FOIL PACK WITH M20 HIT-V-F (OR APPROVED EQUIVALENT GALVANISED ROD) FOR FIXING TO BRICK/BLOCKWORK. ANCHORS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

A4. ALL ANCHOR BOLTS SHALL HAVE A MINIMUM OF ONE WASHER AND ONE NUT.

A5. DRILLED THREADED ANCHORS AND STARTER BARS IN CONCRETE SHALL BE FIXED WITH HELTI HIT RESO00+ ADHESIVE.

A6. ALL FABRICATED ANCHOR BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION.

CONCRETE REINFORCEMENT

R1. REINFORCEMENT SHALL COMPLY WITH AS 4671.

R2. REINFORCEMENT GRADE AND TYPE IS DENOTED THUS:-

R - PLAIN ROUND BARS (GRADE 250R) TO AS 1092

N - DEFORMED BARS (GRADE D50N) TO AS 4671

R5/SL/RTM - WELDED WIRE FABRIC TO AS 4671

R3. ALL REINFORCEMENT BARS SHALL BE HANDLED ON SITE INCLUDING STORAGE, FIXING AND WELDING STRICTLY IN ACCORDANCE WITH RELEVANT MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS. CONTRACTOR SHALL OBTAIN ALL RELEVANT INFORMATION FROM MANUFACTURERS AND BE FAMILIAR WITH SUCH REQUIREMENTS.

R4. BARS ARE DETAILED ON THE DRAWING IN THE FOLLOWING MANNER:- EXAMPLE: 16N24-300B1

16 NUMBER OF REINFORCING BARS.

N24 BAR GRADE AND DIAMETER.

300 DISTANCE BETWEEN BAR CENTRES.

B1 DESIGNATION OF REINFORCEMENT LAYER.

NOT GENERALLY SPECIFIED (REFER DIAGRAM 1)

R5. ALL FABRIC SHALL HAVE A MINIMUM LAP OF 300mm, UNLESS NOTED OTHERWISE.

R6. SPLICES IN REINFORCING SHALL BE IN THOSE POSITIONS SHOWN ON THE DRAWINGS. IN SLABS AND BEAMS, WITH LONG CONTINUOUS BARS, SLABING SHALL BE STAGGERED IN ADJACENT BARS BY 48 DIAMETERS MINIMUM.

R7. ANY LAP LENGTH OR EMBEDMENT NOT NOTATED SHALL BE AS TABLE 11 AND IN ACCORDANCE WITH AS3600. WHEN LAPPING BARS OF DIFFERENT SIZE THE LAP LENGTH FOR THE SMALLER BAR SHALL APPLY.

R8. WHERE COGS ARE SHOWN ON THE DRAWINGS, THE COG LENGTH SHALL BE AS TABLE 11 UN.O.

R9. ALL REINFORCING BARS SHALL BE STRAIGHT UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

R10. TOP REINFORCEMENT IN EDGE OF SLABS OR BEAMS SHALL HAVE STANDARD COGS IN ACCORDANCE WITH SECTION 13.12.6 OF AS3600.

R11. BOTTOM REINFORCEMENT IN SLABS OR BEAMS SHALL ANCHOR INTO THE SUPPORT IN ACCORDANCE WITH SECTION 13.12.6 OF AS3600.

R12. PROVIDE 3m PER-ENTRANT CORNER BARS X 2000mm LONG TYPICAL AROUND COLUMNS & CORNERS.

R13. DEFORMING OF BARS SHALL BE COLD ROLLED AND ANY HEATING OF BARS IS NOT ALLOWED.

R14. TOP REINFORCEMENT IN SLABS SHALL BE PLACED CENTRALLY OVER BEAMS OR WALLS UNLESS SHOWN OTHERWISE. LENGTH OF REINFORCEMENT SHALL COMPLY WITH CLAUSE 8.18.5 OF AS3600.

R15. DISTRIBUTION REINFORCEMENT SHALL BE N16 BARS AT 300 CENTRES UNLESS NOTED OTHERWISE.

R16. REINFORCEMENT IN THE DIRECTION OF THE SPAN SHALL BE NEARER TO THE ADJACENT SURFACE, UNLESS NOTED OTHERWISE.

R17. TABLE OF MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT SHALL BE AS PER TABLE 12. UNLESS NOTED OTHERWISE.

R18. WHERE PENETRATIONS OR CAST-IN ITEMS DISPLACE REINFORCEMENT, THE ARRANGEMENT OF THE REINFORCEMENT SHALL BE APPROVED BY THE ENGINEER. UNDER NO CIRCUMSTANCES IS THE REINFORCEMENT TO BE DISPLACED INTO THE COVER ZONE.

R19. FOR MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT TO ACHIEVE REQUIRED FIRE RATING REFER TABLE 13.

R20. ALL REINFORCEMENT SHALL BE SUPPORTED IN POSITION BY APPROVED CHAIRS, SPACERS OR TIES. IN SLABS THE BAR CHAIRS SHALL BE AT 800 X 800mm MAXIMUM CENTRES. BAR CHAIRS SHALL BE PROVIDED ALONG EDGES OF ALL CONSTRUCTION JOINTS. STOP ENDS SHALL NOT BE USED TO MAINTAIN COVERS. METAL CHAIRS SHALL NOT BE USED.

R21. FOR ALL EXTERNAL SURFACES PROVIDE FULLY PLASTIC BAR CHAIRS. THE WIRE SHALL NOT BE NAILED TO THE FORMS. REINFORCING BARS SHALL NOT BE USED TO KEEP FORMS APART AND A THROUGH THE SYSTEM SHALL BE USED TO THE FORMS.

R22. REBENDING OF REINFORCING BARS SHALL BE PERFORMED ACCORDING TO CLAUSE 17.2.3 OF AS 3600.

CONCRETE ANCHOR BOLTS

A1. ANCHOR BOLT ROUND BAR MATERIAL SHALL BE MINIMUM GRADE 250 STEEL TO AS 3679.

A2. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE HOT DIP GALVANISED.

A3. PROPOSED CHEMICAL ANCHORS SHALL BE HELTI HVU CAPSULE WITH M20 HAS-E-F (OR APPROVED EQUIVALENT GALVANISED ROD) FOR FIXING TO CONCRETE AND HELTI HIT-HY70 FOIL PACK WITH M20 HIT-V-F (OR APPROVED EQUIVALENT GALVANISED ROD) FOR FIXING TO BRICK/BLOCKWORK. ANCHORS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

A4. ALL ANCHOR BOLTS SHALL HAVE A MINIMUM OF ONE WASHER AND ONE NUT.

A5. DRILLED THREADED ANCHORS AND STARTER BARS IN CONCRETE SHALL BE FIXED WITH HELTI HIT RESO00+ ADHESIVE.

A6. ALL FABRICATED ANCHOR BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION.

CONCRETE ANCHOR BOLTS

A1. ANCHOR BOLT ROUND BAR MATERIAL SHALL BE MINIMUM GRADE 250 STEEL TO AS 3679.

A2. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE HOT DIP GALVANISED.

A3. PROPOSED CHEMICAL ANCHORS SHALL BE HELTI HVU CAPSULE WITH M20 HAS-E-F (OR APPROVED EQUIVALENT GALVANISED ROD) FOR FIXING TO CONCRETE AND HELTI HIT-HY70 FOIL PACK WITH M20 HIT-V-F (OR APPROVED EQUIVALENT GALVANISED ROD) FOR FIXING TO BRICK/BLOCKWORK. ANCHORS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

A4. ALL ANCHOR BOLTS SHALL HAVE A MINIMUM OF ONE WASHER AND ONE NUT.

A5. DRILLED THREADED ANCHORS AND STARTER BARS IN CONCRETE SHALL BE FIXED WITH HELTI HIT RESO00+ ADHESIVE.

A6. ALL FABRICATED ANCHOR BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION.

CAST-IN ITEMS AND PENETRATIONS

P1. PENETRATIONS FOR MECHANICAL, ELECTRICAL, HYDRAULICS AND OTHER SERVICES WHICH ARE NOT SHOWN ON THESE DRAWINGS SHALL BE REFERRED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

P2. ALL FLOOR PENETRATIONS THROUGH SLABS (INCLUDING EXACT LOCATION AND SIZES) TO BE SUBMITTED BY CONTRACTOR TO THE ENGINEER FOR APPROVAL INCLUDING ADDITIONAL SUPPORT STEELWORK REQUIRED. CONTRACTOR SHALL ALLOW IN HIS TENDER FOR COST ASSOCIATED WITH ADDITIONAL SUPPORT STEELWORK TO FLOOR PENETRATIONS THROUGH SLABS.

P3. ALL RELEVANT SERVICES, EMBEDDED ITEMS, BOLTS, HOLES etc. SHALL BE VERIFIED PRIOR TO PLACING CONCRETE BY CONTRACTOR. TEMPLATES ARE TO BE USED FOR LOCATION OF HO BOLTS.

P4. ALL EMBEDDED STEELWORK OTHER THAN REINFORCEMENT SHALL BE GRADE 250 OR 300 AND SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH AS4919 AND PASSIVATED UNLESS NOTED OTHERWISE.

P5. BEFORE PLACING CONCRETE THE CONTRACTOR SHALL VERIFY REQUIREMENTS FOR ALL RELEVANT SERVICES, EMBEDDED ITEMS, BOLTS, HOLES ETC.

P6. NO HOLES, CHASES OR EMBEDMENTS OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN THE CONCRETE WITHOUT APPROVAL OF THE ENGINEER.

P7. ALL SLABS SHALL HAVE FULLY ANCHORED RE-ENTRANT BARS AT ALL RE-ENTRANT CORNERS.

P8. GALVANISED CAST-IN ITEMS SHALL BE ISOLATED FROM REINFORCING.

STEELWORK SURFACE TREATMENT

SW1. UNLESS NOTED OTHERWISE, CORROSION PROTECTION OF STEEL WORK SHALL BE AS FOLLOWS:-

- ALL STEELWORK SHALL BE PAINTED WITH ONE COAT OF APPROVED ZINC PHOSPHATE PRIMER.

- ALL PLATFORM FLOORING, LADDERS, CAGES, STAIR TREADS, PURLINS, GRTS AND GUARD RAILING SHALL BE HOT DIP GALVANIZED TO AS 4680.

- ALL EXPOSED STEELWORK INCLUDING BOLTS AND FIXING SHALL BE HOT DIP GALVANISED TO AS 4680.

- ALL STRUCTURAL STEELWORK BELOW GROUND TO BE ENCASED BY CONCRETE 75MM THICK.

- ALL ROUND AND STEELWORK TO BE GALVANISED WITHIN ENCASEMENT TO 150mm ABOVE GROUND.

- STEEL SURFACES MUST NOT BE PAINTED/GALVANISED IF MEMBER IS TO BE FIRE SPRAYED OR FRICTION GRIP BOLTED.

- DAMAGE TO STEELWORK ON SITE TO BE MECHANICALLY WIRE BRUSHED AND PRIMED WITH ZINC RICH EPOXY PRIMER.

SW2. IN CASE OF COMPOSITE BEAMS WHERE THE SHEAR CONNECTORS ARE INTENDED TO BE AUTOMATICALLY WELDED TO THE BEAMS ON SITE THROUGH METAL FORMWORK, THE EXTERNAL SURFACE OF THE BEAM IN CONTACT WITH THE SHEAR CONNECTORS SHALL NOT BE HOT DIP GALVANISED TO AVOID DIFFICULTIES WITH THE AUTOMATIC WELDING. CONTRACTOR TO SEEK FURTHER ADVICE FROM RELEVANT MANUFACTURER AND/OR SPECIALIST.

SW3. ALL STEELWORK SHALL BE BROUGHT WITHIN FABRICATION TOLERANCE SPECIFIED IN AS 4100 AFTER WELDING AND/OR HOT DIP GALVANIZING.

SW4. FIELD REPAIR OF PAINTING AND GALVANIZING SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATIONS.

SW5. GALVANISED STEELWORK THAT IS SITE WELDED OR SUSTAINS ANY OTHER KIND OF SURFACE DAMAGE IS TO BE PREPARED TO AS1827.2 CLASS 3 AND PRIMED WITH 2 COATS OF GALVANITE (MANUFACTURED BY JOTUN) TO MANUFACTURER'S SPECIFICATIONS.

STEELWORK BOLTING

SB1. UNLESS OTHERWISE SHOWN:-

- ALL BOLTS (INCLUDING ANCHOR BOLTS), NUTS AND WASHERS SHALL BE HOT DIP GALVANISED TO AS 1214.

- ALL GUSSETS AND CLEATS SHALL BE 10MM THICK.

- BOLT HOLE TOLERANCE 2MM.

- HOLDING-DOWN BOLT TOLERANCE 6MM.

- BASE PLATES SHALL NOT BE SLOTTED.

- ALL HOLDING DOWN BOLTS SHALL BE HOT DIP GALVANISED.

- ALL BOLTS TO BE 8.8/S (UN.O).

SB2. THE BOLTING PROCEDURE IS DESIGNATED AS FOLLOWS:

SB2.A 4.6/S REFERS TO COMMERCIAL BOLTS OF STRENGTH GRADE 4.6 TO AS1163. A TIGHTENED USING A STANDARD WRENCH TO A SNUG TIGHT CONDITION TO SECTION 15.2.3 OF AS 4100 UN.O.

SB2.B 8.8/S REFERS TO HIGH STRENGTH BOLTS OF STRENGTH GRADE 8.8 TO AS1252, TIGHTENED USING A STANDARD WRENCH TO A SNUG-TIGHT CONDITION TO SECTION 15.2.3 OF AS 4100 UN.O.

SB2.C 8.8/TF REFERS TO HIGH STRENGTH BOLTS OF STRENGTH GRADE 8.8 TO AS1252, FULLY TENSIONED TO AS1511 "PART TURN METHOD" & DESIGNED AS A FRICTION TYPE JOINT AND SHALL NOT BE RE-TORQUED.

SB2.D 8.8/TF REFERS TO HIGH STRENGTH BOLTS OF STRENGTH GRADE 8.8 TO AS1252, FULLY TENSIONED TO AS1511 "PART TURN METHOD" & DESIGNED AS A BEARING TYPE JOINT AND SHALL NOT BE RE-TORQUED.

SB3. THE PREFIX TO THE BOLTING PROCEDURE DESIGNATED DENOTES THE NUMBER AND DIAMETER OF BOLTS. E.G. 2-M20 4.6/S.

SB4. ALL BOLTS SHALL BE OF SUCH LENGTH THAT AT LEAST ONE FULL THREAD IS EXPOSED BEYOND THE NUT AFTER THE NUT HAS BEEN TIGHTENED.

SB5. MINIMUM ONE WASHER SHALL BE USED UNDER THE NUT IN ALL SITUATIONS. IF TIGHTENING IS CARRIED OUT AT THE HEAD, AN ADDITIONAL WASHER SHALL BE USED UNDER THE HEAD. FOR SLOTTED HOLES USE A HARDENED WASHER UNDER THE NUT AND BOLT HEAD.

SB6. ALL HIGH STRENGTH BOLTS IN PLACES OF VIBRATING, RECIPROCATING OR ROTATING EQUIPMENT SHALL BE TENSIONED TO GRADE 8.8/TF WHEN NOTED ON DRAWINGS.

SB7. REFER MECHANICAL AND VENDOR DRAWINGS FOR EQUIPMENT BOLTING DETAILS.

SB8. ALL BOLT HOLES SHALL BE PUNCHED OR DRILLED. HOLE PUNCHING AND SLOTTED HOLES SHALL BE IN ACCORDANCE WITH AS 4100.

STEELWORK SURFACE TREATMENT

SW1. UNLESS NOTED OTHERWISE, CORROSION PROTECTION OF STEEL WORK SHALL BE AS FOLLOWS:-

- ALL STEELWORK SHALL BE PAINTED WITH ONE COAT OF APPROVED ZINC PHOSPHATE PRIMER.

- ALL PLATFORM FLOORING, LADDERS, CAGES, STAIR TREADS, PURLINS, GRTS AND GUARD RAILING SHALL BE HOT DIP GALVANIZED TO AS 4680.

- ALL EXPOSED STEELWORK INCLUDING BOLTS AND FIXING SHALL BE HOT DIP GALVANISED TO AS 4680.

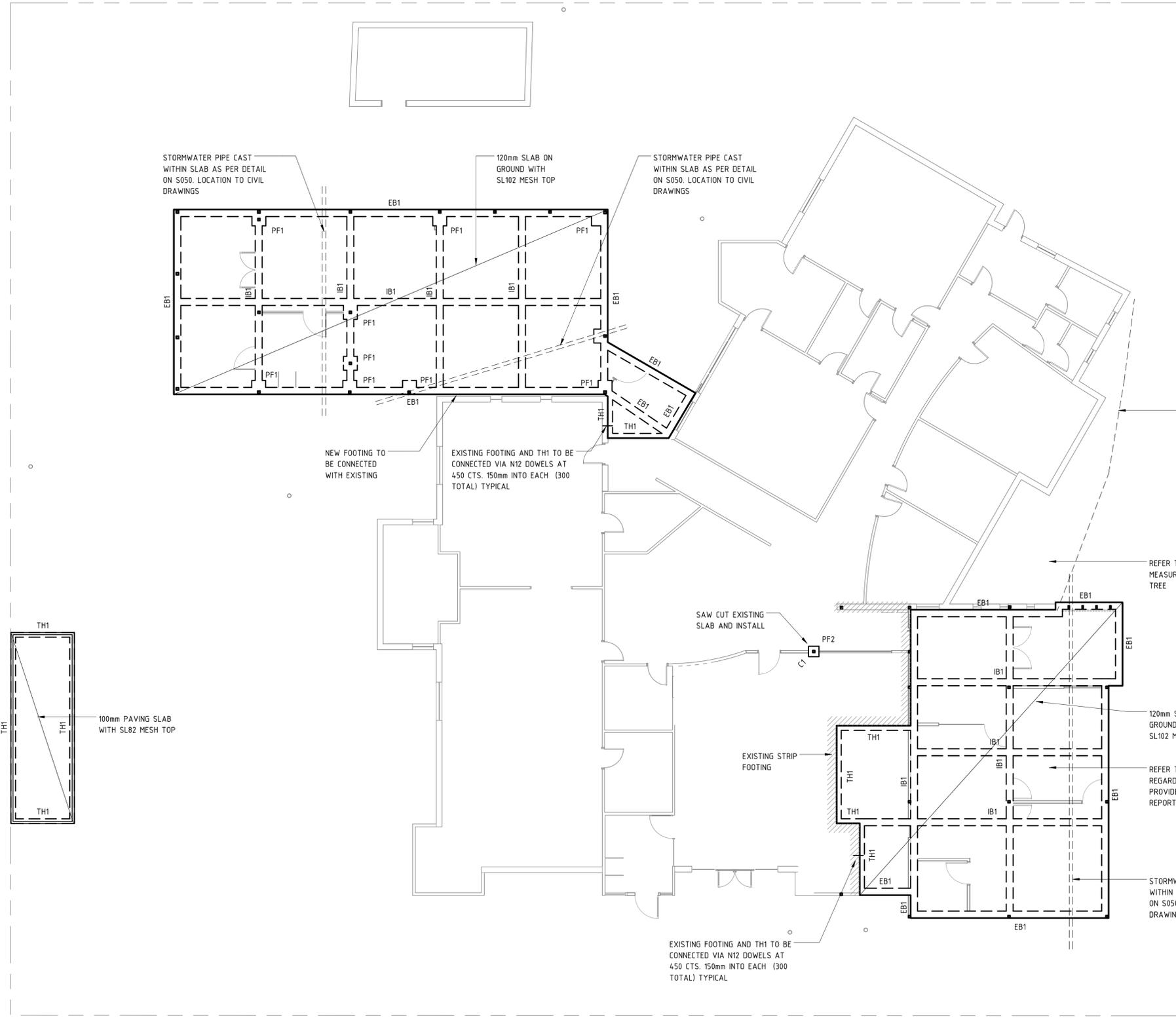
- ALL STRUCTURAL STEELWORK BELOW GROUND TO BE ENCASED BY CONCRETE 75MM THICK.

- ALL ROUND AND STEELWORK TO BE GALVANISED WITHIN ENCASEMENT TO 150mm ABOVE GROUND.

- STEEL SURFACES MUST NOT BE PAINTED/GALVANISED IF MEMBER IS TO BE FIRE SPRAYED OR FRICTION GRIP BOLTED.

- DAMAGE TO STEELWORK ON SITE TO BE MECHANICALLY WIRE BRUSHED AND PRIMED WITH ZINC RICH EPOXY PRIMER.

SW2. IN CASE OF COMPOSITE BEAMS



LEGEND

— S.C.J. —	DENOTES SAW CUT JOINT. REFER DETAIL ON DRAWING S030.
— C.J. —	DENOTES CONSTRUCTION JOINT. REFER DETAIL ON DRAWING S030.
— T.J. —	DENOTES TOOLED JOINT. REFER DETAIL ON DRAWING S030.

MEMBER SCHEDULE - FOOTING

ID	SIZE	REINFORCEMENT	COMMENTS
EB1	700D x 300W	3L12TM BOT & 2N12TM TOP	EDGE BEAM
IB1	700D x 300W	3L12TM BOT & 2N12TM TOP	INTERNAL BEAM
PF1	700D x 600 x 600	SL82 MESH BOTTOM	PAD FOOTING
PF2	700D x 450 x 450	SL82 MESH BOTTOM	THICKENING
TH1	300D x 200W	2L11TM BOT	THICKENING

ALL FOOTINGS TO BE FOUNDED TO A DEPTH MATCHING EXISTING FOOTINGS

WARNING
BEWARE OF UNDERGROUND SERVICES. THE BUILDER IS TO DETERMINE EXACT LOCATIONS OF EXISTING UNDERGROUND SERVICES PRIOR ANY WORKS ON SITE.

NOTE:
INFORMATION REGARDING THE PIPES WITHIN THE PROPERTY EASEMENT WERE NOT SUPPLIED TO THIS OFFICE AT THE TIME OF STRUCTURAL DESIGN. ALL PROPERTY ASSETS ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION. THIS OFFICE IS TO BE CONTACTED FOR FURTHER ADVICE.

NOTE:
FOOTINGS ARE NOT TO BE UNDERMINED DURING CONSTRUCTION. BUILDER TO CONFIRM THAT ALL FOOTINGS (NEIGHBOURING AND PROPOSED) ARE NOT UNDERMINED.

STEPS & SETDOWNS
REFER TO THE ARCHITECT'S DRAWINGS FOR FINISHED FLOOR LEVELS AND SIZE AND EXACT LOCATIONS OF STEPS AND SETDOWNS.

ALL FOOTINGS TO BE FOUNDED INTO NATURAL SOIL AS PER SOIL REPORT. REFER SOIL REPORT FOR FOUNDING DEPTH OF FOOTING.

AT JUNCTION OF PAVING SLAB AND BUILDING LINE, PROVIDE 200W x 200D THICKENING WITH N12-600 DOWELS

GROUND FLOOR FOOTING PLAN
T: 100

Vert Engineering
PO BOX 271BC
HAWTHORN VIC 3122
PHONE: +61 (0)3 8803 4366
FAX: +61 (0)3 9882 7633
ABN: 1815 482 0390

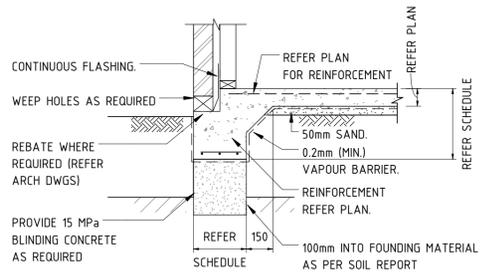
REVISION SCHEDULE			
REV	DESCRIPTION	DATE	APPRO
A	TENDER ISSUE	23.08.2015	

TENDER
NOT FOR CONSTRUCTION

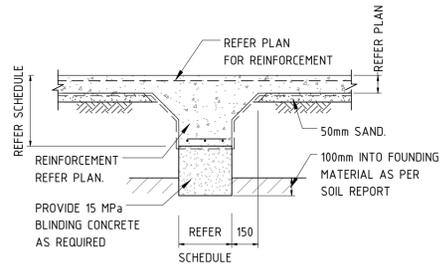
PROJECT: MARIBYRNONG RIVER CHILDREN'S CENTRE
CLIENT: K20 ARCHITECTURE
ADDRESS: 6 WESTS RD, MARIBYRNONG

TITLE: GROUND FLOOR FOOTING PLAN
DESIGN: SU P.L.D.: 5.06.2015
DRAWN: AO SCALE: A1: 1:100
NORTH
CERT.: JOB NO.: VE15085
DWG NO.: S010 REV: A

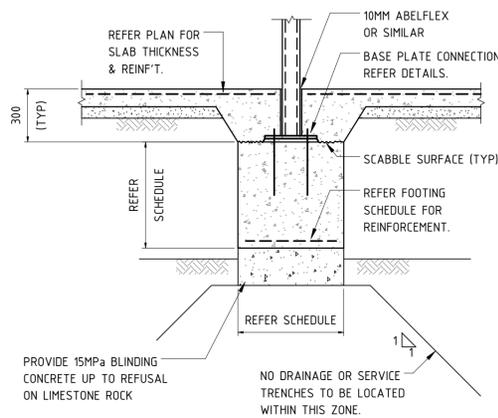
THIS DRAWING IS COPYRIGHT TO VERT ENGINEERING. NO PART OF THIS DRAWING, INCLUDING THE WHOLE OF SAME SHALL BE USED FOR ANY OTHER PURPOSE, NOR BY ANY OTHER THIRD PARTY WITHOUT THE PRIOR WRITTEN CONSENT OF VERT ENGINEERING.



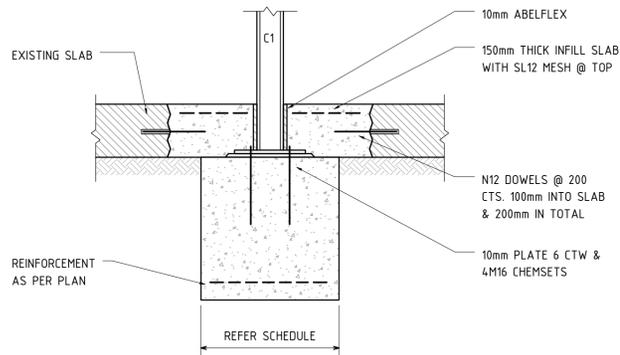
EB1 DETAIL
SCALE: 1:20



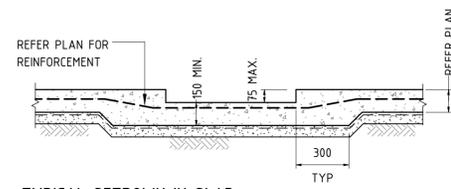
IB1 DETAIL
SCALE: 1:20



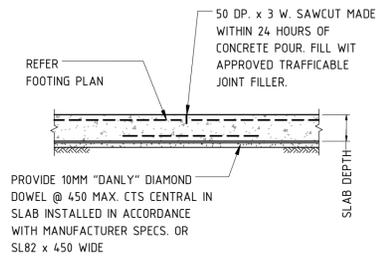
PAD FOOTING 'PF?' DETAIL
SCALE: 1:20



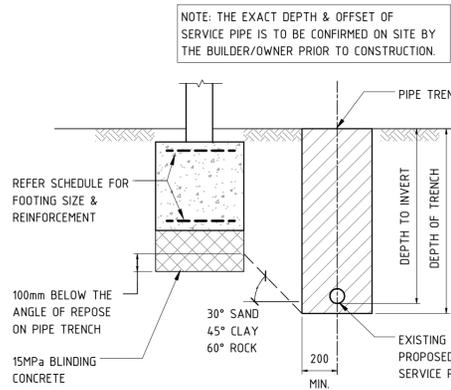
PF2 REPAIR DETAIL
SCALE: 1:20



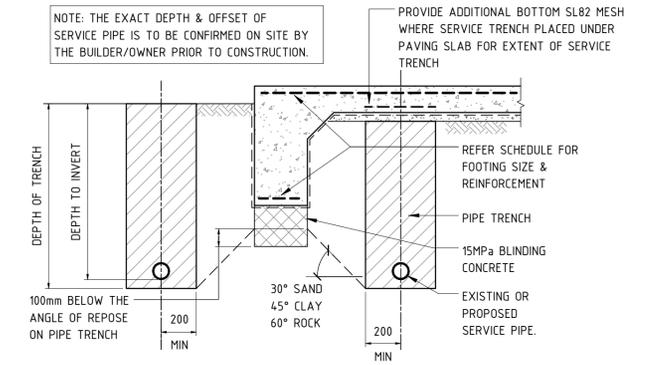
TYPICAL SETDOWN IN SLAB (WHERE REQUIRED)
SCALE: 1:20



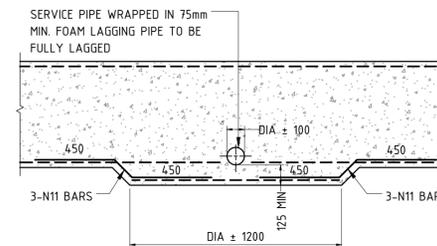
SAW CUT JOINT (S.C.)
SCALE: 1:20



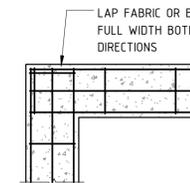
TYPICAL FOOTING ADJACENT TO PIPES
SCALE: 1:20



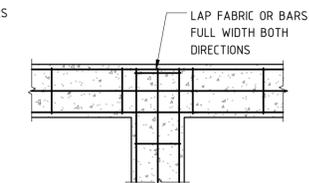
TYPICAL STRIP FOOTING OR SLAB ADJACENT TO PIPES
SCALE: 1:20



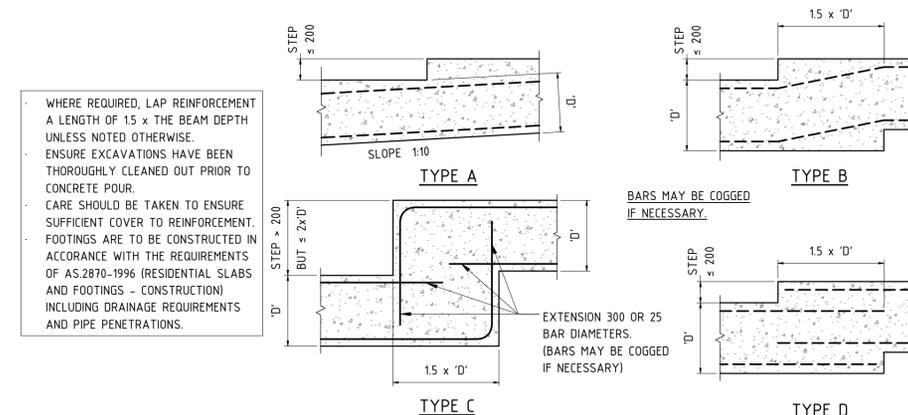
SERVICE PIPE / STORMWATER PIPE THROUGH FOOTING
SCALE: 1:20



TYPICAL FOOTING CORNER DETAIL
SCALE: 1:20

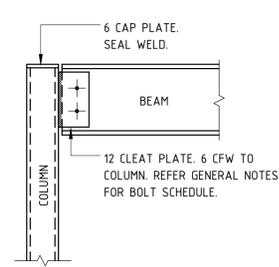


TYPICAL FOOTING INTERSECTION DETAIL
SCALE: 1:20

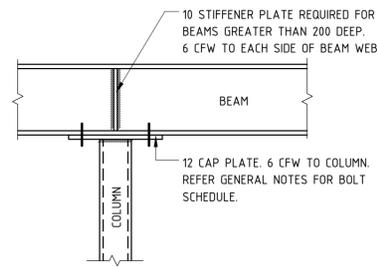


STEPPED FOOTING DETAILS (WHERE REQUIRED)
SCALE: 1:20

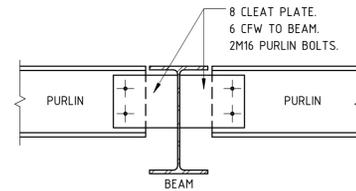
WHERE REQUIRED, LAP REINFORCEMENT A LENGTH OF 1.5 x THE BEAM DEPTH UNLESS NOTED OTHERWISE. ENSURE EXCAVATIONS HAVE BEEN THOROUGHLY CLEANED OUT PRIOR TO CONCRETE POUR. CARE SHOULD BE TAKEN TO ENSURE SUFFICIENT COVER TO REINFORCEMENT. FOOTINGS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF AS.2870-1996 (RESIDENTIAL SLABS AND FOOTINGS - CONSTRUCTION) INCLUDING DRAINAGE REQUIREMENTS AND PIPE PENETRATIONS.



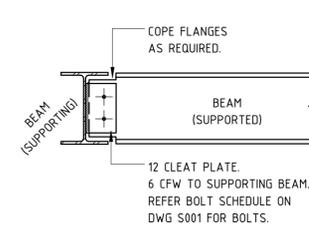
STEEL BEAM TO SIDE OF STEEL COLUMN (TYP.)
SCALE: 1:10 'CLEAT PLATE' CONNECTION



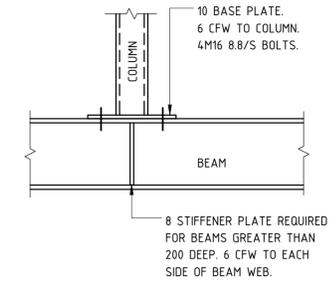
CONTINUOUS STEEL BEAM TO SIDE OF STEEL COLUMN (TYP.)
SCALE: 1:10



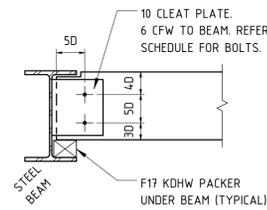
PURLIN TO SIDE OF ROOF BEAM DETAIL (TYP.)
SCALE: 1:10



STEEL BEAM TO STEEL BEAM DETAIL (TYP.)
SCALE: 1:10

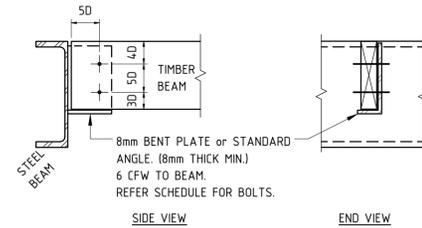


STEEL COLUMN TO TOP OF STEEL BEAM (TYP.)
SCALE: 1:10



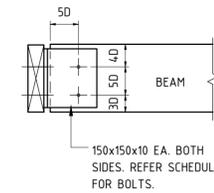
BOLT SCHEDULE	
BEAM DEPTH	BOLTS (D = DIA.)
120	M10 4.6/S
150	M12 4.6/S
200	M16 4.6/S
240+	M16 4.6/S

TIMBER BEAM TO STEEL BEAM CONNECTION DETAIL (TYP.)
BEAM DEPTH = 120mm OR GREATER
SCALE: 1:10 FIXING TO INSIDE OF PFC SIMILAR



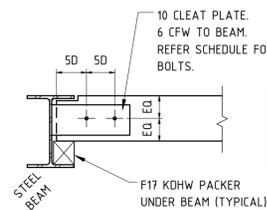
BOLT SCHEDULE	
BEAM DEPTH	BOLTS (D = DIA.)
120	M10 4.6/S
150	M12 4.6/S
200	M16 4.6/S
240+	M16 4.6/S

TIMBER BEAM TO STEEL BEAM (PFC) CONNECTION DETAIL (TYP.)
BEAM DEPTH = 120mm OR GREATER
SCALE: 1:10



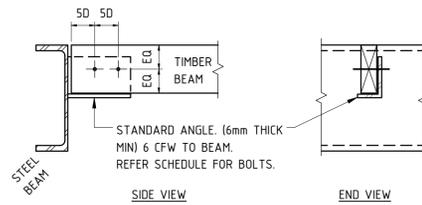
BOLT SCHEDULE	
BEAM DEPTH (D = DIA.)	BOLTS
200 to 239	M16 4.6/S
240+	M20 4.6/S

TIMBER BEAM TO TIMBER BEAM CONNECTION DETAIL (TYP.)
BEAM DEPTH = 200mm OR GREATER
SCALE: 1:10



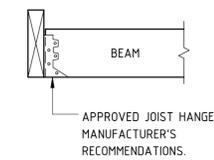
BOLT SCHEDULE	
BEAM DEPTH	BOLTS (D = DIA.)
70 to 90	2M8
100 to 119	2M10

TIMBER BEAM TO STEEL BEAM CONNECTION DETAIL (TYP.)
BEAM DEPTH = 120mm OR LESS
SCALE: 1:10 FIXING TO INSIDE OF PFC SIMILAR



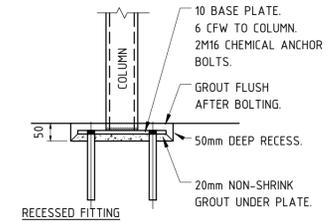
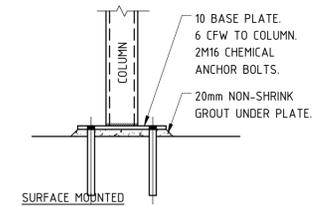
BOLT SCHEDULE	
BEAM DEPTH	BOLTS (D = DIA.)
70 to 90	2M8
100 to 119	2M10

TIMBER BEAM TO STEEL BEAM (PFC) CONNECTION DETAIL (TYP.)
BEAM DEPTH = 120mm OR LESS
SCALE: 1:10



BOLT SCHEDULE	
BEAM DEPTH (D = DIA.)	BOLTS
200 to 239	M16 4.6/S
240+	M20 4.6/S

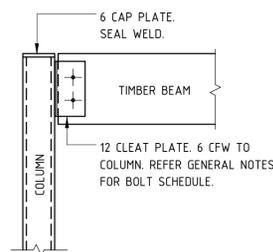
TIMBER BEAM TO TIMBER BEAM CONNECTION DETAIL (TYP.)
BEAM DEPTH = 190mm OR LESS
SCALE: 1:10



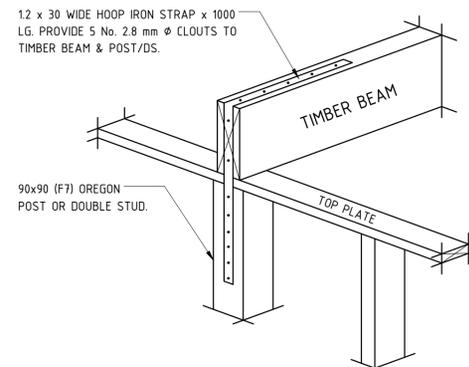
BOLT SCHEDULE		
COLUMN SIZE	BOLTS	EMBEDMENT DEPTH
UP TO 100	M16	100
125 +	M20	100

- NOTE
1. PROVIDE 'RECESSED FITTING' WHERE REQUIRED FOR ARCHITECTURAL FINISHES.
 2. PROVIDE MINIMUM EDGE DISTANCES TO BOLTS (REFER MANUFACTURER'S DETAILS).

STEEL COLUMN BASE PLATE CONNECTIONS (TYP.)
SCALE: 1:10



TIMBER BEAM TO SIDE OF STEEL COLUMN (TYP.)
SCALE: 1:10 'CLEAT PLATE' CONNECTION



TIMBER BEAM TO TIMBER POST CONNECTION DETAIL (TYP.)
SCALE: 1:10

Vert Engineering
PO BOX 271BC
HAWTHORN VIC 3122
PHONE: +61 (0)3 8803 4366
FAX: +61 (0)3 9882 7633
ABN: 1815 482 0390

REVISION SCHEDULE			
REV	DESCRIPTION	DATE	APPD
A	TENDER ISSUE	23.08.2015	

TENDER
NOT FOR CONSTRUCTION

PROJECT: MARIBYRNONG RIVER CHILDREN'S CENTRE
CLIENT: K20 ARCHITECTURE
ADDRESS: 6 WESTS RD, MARIBYRNONG

TITLE: FRAMING DETAILS
DESIGN: SU P.L.D.: 5.06.2015
DRAWN: AO SCALE: A1: 1:10
NORTH CERT.: JOB NO.: VE15085
DWG NO.: S051 REV: A

THIS DRAWING IS COPYRIGHT © VERT ENGINEERING. NO PART OF THIS DRAWING, INCLUDING THE WHOLE OF SAME SHALL BE USED FOR ANY OTHER PURPOSE, NOR BY ANY OTHER THIRD PARTY WITHOUT THE PRIOR WRITTEN CONSENT OF VERT ENGINEERING.

MARIBYRNONG RIVER CHILDREN'S CENTRE 6 WESTS ROAD, MARIBYRNONG LOCALITY PLAN & GENERAL NOTES - CIVIL

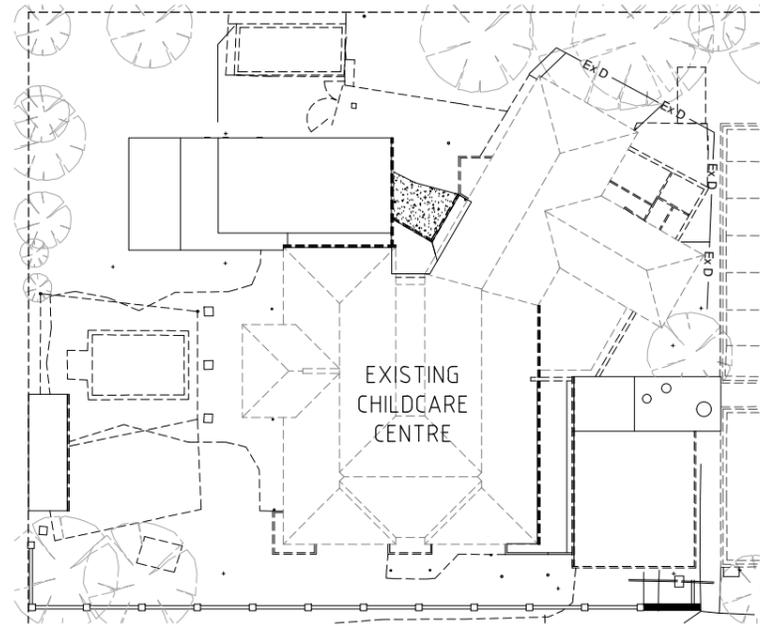
STANDARD NOTES

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, STRUCTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND SUCH OTHER 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.
- MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT STANDARDS AUSTRALIA CODES AND AUTHORITY.
- THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORKS.
- THESE DRAWINGS MUST NOT BE SCALED.
- ALL DIMENSIONS AND REDUCED LEVELS MUST BE VERIFIED ON SITE BEFORE THE COMMENCEMENT OF ANY WORK.
- SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
- ALL LEVELS SHOWN ARE TO THE AUSTRALIAN HEIGHT DATUM.
- SERVICE INFORMATION SHOWN IS BASED ON PLANS SUPPLIED BY AUTHORITIES AND IS APPROXIMATE ONLY. PRIOR TO COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES AND COMPLY WITH ALL REQUIREMENTS OF THOSE AUTHORITIES.
- EXISTING SURFACE CONTOURS, WHERE SHOWN, ARE INTERPOLATED AND MAY NOT BE ACCURATE.
- UNLESS NOTED OTHERWISE, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 150mm UNDER ALL PROPOSED PAVEMENT AND BUILDING AREAS.
- PRIOR TO THE PLACEMENT OF ANY PAVEMENTS, BUILDINGS OR DRAINS THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 98% STANDARD COMPACTION IN ACCORDANCE WITH TEST 'E1' OF A.S. 1289 FOR THE TOP 300mm. ANY SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL TO THE ENGINEER'S APPROVAL AND COMPACTED IN ACCORDANCE WITH THE COMPACTION REQUIREMENTS SET OUT BELOW. ON HIGHLY REACTIVE CLAY AREAS SITE EXCAVATED MATERIAL MAY BE USED WITH THE PRIOR AUTHORISATION OF THE ENGINEER. ALL SUBGRADE PREPARATION MUST BE IN STRICT ACCORDANCE WITH THAT OUTLINED BY THE GEOTECHNICAL ENGINEER.
- ALL FILL AND PAVEMENT MATERIALS SHALL BE COMPACTED IN 200mm MAXIMUM LOOSE THICKNESS LAYERS TO THE DENSITIES SPECIFIED BELOW:

LANDSCAPED AREAS	90% STD.
FILL UNDER ANY FOOTINGS AND FLOOR SLABS FOR ANY STRUCTURE - FINE CRUSHED ROCK	95% MOD.
- OTHER FILL	95% SMDD
FILL UNDER ROAD PAVEMENTS	
- FINE CRUSHED ROCK	95% MOD.
- OTHER FILL	100% SMDD
ROAD PAVEMENT MATERIALS	
- SUB BASE	95% MOD.
- BASE COURSE	98% MOD.

- GRADE EVENLY BETWEEN FINISHED SURFACE SPOT LEVELS. FINISHED SURFACE CONTOURS ARE SHOWN FOR CLARITY. WHERE FINISHED SURFACE LEVELS ARE NOT SHOWN, THE SURFACE SHALL BE GRADED SMOOTHLY SO THAT IT WILL DRAIN AND MATCH ADJACENT SURFACES OR STRUCTURES.
- UNLESS NOTED OTHERWISE, ALL DOWNPIPES & GRATED INLETS SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH UPVC OR EARTHENWARE PIPES OF THE FOLLOWING SIZES LAID AT A MINIMUM GRADE OF 1 IN 100:
 - 100 DIA. FOR DOMESTIC CONSTRUCTION
 - 150 DIA. FOR COMMERCIAL/INDUSTRIAL CONSTRUCTION
 - 100 DIA. FOR BASEMENT GRATED INLETS
 FOR SYPHONIC ROOF DRAINAGE SYSTEMS ALL DOWNPIPES CONNECTION DRAIN SIZES TO BE CONNECTED INTO MAIN STORMWATER DRAINS SHALL BE IN ACCORDANCE WITH HYDRAULIC ENGINEERS DRAWINGS.
- ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING ONE OF THE FOLLOWING TYPES OF PIPES WITH RUBBER RING JOINTS:
 - CLASS 2 RCP IN ACCORDANCE WITH A.S. 4058
 - SEWER CLASS SEH UP V.C. IN ACCORDANCE WITH A.S. 1260
 - CLASS 2 F.R.C. TO A.S. 4139
 ANY OTHER TYPES OF PIPE MUST BE REFERRED TO THE ENGINEER FOR APPROVAL PRIOR TO USE. IF UP.V.C. OR OTHER PIPES ARE TO BE USED APPROVAL MUST BE GIVEN BY THE ENGINEER FOR CLASS, BEDDING AND BACKFILL REQUIREMENTS.
- GENERALLY FOR TRENCHING WORKS THE CONTRACTOR MUST:
 - COMPLY WITH THE GENERAL PROVISIONS OF SECTION 21 OF THE 'OCCUPATIONAL HEALTH AND SAFETY ACT'
 - COMPLY WITH WITH THE 'OCCUPATIONAL HEALTH AND SAFETY CODE OF PRACTISE FOR SAFETY PRECAUTIONS IN TRENCHING OPERATIONS'

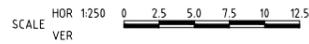
- PRIOR TO THE EXCAVATION OF ANY TRENCH DEEPER THAN 1.5 METRES THE CONTRACTOR MUST:
 - NOTIFY THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY ON THE APPROPRIATE FORM.
 - NOMINATE THE MINE MANAGER FOR THE PROJECT.
 - CARRY OUT ALL EXCAVATION WORKS IN ACCORDANCE WITH THE REQUIREMENTS OF THE 'MINES ACT 1958 REGULATIONS AND STATUTORY RULES'
- ALL DIMENSIONS GIVEN ARE TO FACE OF KERB, CENTRE OF PIPE OR EXTERIOR FACE OF BUILDING UNLESS NOTED OTHERWISE.
- ANY STRUCTURES, PAVEMENTS OR SURFACES DAMAGED, DIRTIED OR MADE UNSERVICABLE DUE TO CONSTRUCTION WORK SHALL BE REINSTATED TO THE SATISFACTION OF THE ENGINEER.
- REFER TO STRUCTURAL DRAWINGS FOR FOOTING AND FOUNDATION DETAILS.
- ANY FILL REQUIRED SHALL BE APPROVED BY THE ENGINEER
- CONTRACTOR IS TO ENSURE THAT ALL EXCAVATIONS ARE MAINTAINED IN A DRY CONDITION WITH NO WATER ALLOWED TO REMAIN IN THE EXCAVATIONS.
- EXISTING SERVICES COVERS AFFECTED BY NEW WORKS TO BE ADJUSTED OR MODIFIED TO SUIT NEW SURFACE LEVELS.



WESTS ROAD

LOCALITY PLAN

SCALE 1:250A(1)



IMPORTANT NOTES

- PRIOR TO THE COMMENCEMENT OF BUILDING WORKS ON SITE, THE CONTRACTOR MUST VERIFY THE FEASIBILITY OF THE OUTFALL STORMWATER DRAINAGE SYSTEM/S TO THE LEGAL POINT OF DISCHARGE AS DOCUMENTED BY:
 - VERIFICATION OF THE INVERT LEVEL OF THE DRAIN FORMING THE LEGAL POINT OF DISCHARGE
 - VERIFICATION THAT THE ROUTE FROM THE SITE TO THE LEGAL POINT/S OF DISCHARGE IS CLEAR OF ALL OTHER AUTHORITY SERVICES
 IF EITHER OF THE ABOVE CANNOT BE VERIFIED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT MANAGER OR CONSULTING CIVIL ENGINEER.
- PRIOR TO THE COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES, NOTIFY THE AUTHORITIES RESPONSIBLE FOR THOSE SERVICES AND COMPLY WITH ALL OF THE REQUIREMENTS OF THOSE AUTHORITIES.



THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR AND AT ALL TIMES PROVIDE A SAFE WORKING ENVIRONMENT IN THE VICINITY OF THE SITE OF WORKS IN FULL COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS.

HEALTH AND SAFETY

- THE OBLIGATION OF VERT ENGINEERING PTY LTD (OR OTHER RELEVANT VERT ENGINEERING ENTITY) (VERT ENGINEERING) AS THE DESIGN ENGINEER IS LIMITED TO ENSURING THAT THOSE PARTS OF THE BUILDING OR STRUCTURE THAT ARE TO BE USED AS A WORKPLACE ARE, AS FAR AS REASONABLY PRACTICABLE, DESIGNED TO BE SAFE AND WITHOUT RISKS TO THE HEALTH OF THOSE PERSONS USING THE BUILDING OR STRUCTURE AS A WORKPLACE FOR THE PURPOSE FOR WHICH IT WAS DESIGNED IN ACCORDANCE WITH SECT. 28 OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004 (VIC).
- VERT ENGINEERING IS NOT RESPONSIBLE FOR THE OCCUPATIONAL HEALTH & SAFETY OF PERSONS AT THE SITE AS THOSE OBLIGATIONS RESIDE WITH THE CONTRACTORS AND/OR SUB-CONTRACTORS WHO OCCUPY OR HAVE CONTROL OF THE SITE IN ACCORDANCE WITH APPLICABLE OCCUPATIONAL HEALTH AND SAFETY LEGISLATION, CODES OR PRACTICE, GUIDANCE NOTES, AUSTRALIAN STANDARDS AND OTHER RELEVANT DOCUMENTATION.
- ANY ADVICE OR GUIDANCE CONCERNING OCCUPATIONAL HEALTH AND SAFETY ISSUES ARISING AT THE SITE SHOULD BE DIRECTED TO THE HEALTH AND SAFETY EXECUTIVE OR OFFICER NOMINATED FOR THE PROJECT.

WARNING

NO DRAINAGE WORKS SHALL COMMENCE UNTIL THE CONTRACTOR CONFIRMS THE I.L. OF ALL EXISTING DRAINS, AND CONFIRMS IN WRITING WITH THE ENGINEERING SUPERVISER.

ALL EXISTING PROPERTY SERVICES' LOCATIONS AND DEPTHS ARE APPROXIMATE AND MUST BE VERIFIED ON SITE. THE CONTRACTOR SHOULD SUPPLY PRECISE LOCATIONS AND DEPTHS TO THE ENGINEER FOR REVIEW PRIOR TO ANY WORKS THAT MAY AFFECT THESE SERVICES.

ATTENTION TO CONTRACTOR

- IN ACCORDANCE WITH CLAUSE 15 OF AS2124-1992, THE CONTRACTOR MUST ENSURE THE SAFETY OF THE CONTRACTOR'S EMPLOYEES AND ALL OTHER PEOPLE WHO ARE ON OR ADJACENT TO THE SITE. THE CONTRACTOR MUST COMPLY WITH THE VICTORIAN OCCUPATIONAL HEALTH AND SAFETY ACT.
- THE CONTRACTOR MUST ENSURE THAT ALL PEOPLE EMPLOYED ON THE SITE WEAR APPROVED SAFETY APPAREL. THIS INCLUDES SAFETY HELMETS, SAFETY BOOTS, EAR AND EYE PROTECTION, WHERE APPROPRIATE.
- THE CONTRACTOR IS NOT PERMITTED TO BREAK-IN TO AN EXISTING LIVE PIPELINE, ENTER A LIVE ACCESS CHAMBER OR REMOVE THE COVER TO A LIVE ACCESS CHAMBER.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EX. SERVICES IN WORKS AFFECTED AREAS PRIOR TO COMMENCING ANY WORKS.

Copyright
This drawing is copyright to Vert Engineering. No part of this drawing, including the whole or any part thereof, shall be used for any other purpose, nor by any other third party, without the prior written consent of Vert Engineering.

Rev	Description	Date	By	App
1	ISSUED FOR TENDER	24.06.15	MG	-



PO Box 2718C
Heatherton VIC 3122
phone: +61 (0)3 8803 4366
fax: +61 (0)3 9862 7633
ABN: 1615 482 0390
www.vertengineering.com

Project Name
**MARIBYRNONG RIVER CHILDREN'S CENTRE
6 WESTS ROAD, MARIBYRNONG**

Drawing Title
LOCALITY PLAN AND GENERAL NOTES

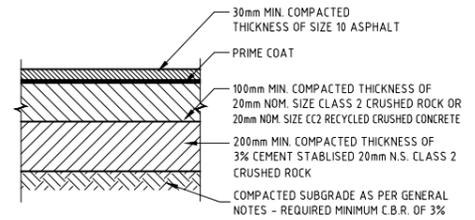
Designed		Project Director Approved		Date	North
Drawn	MG				
Scale	AS NOTED	Project Ref	VE 15085	Drawing No	C001
Date	JUNE 2015	Rev	1		
Sheet	1 OF 2				

LEGEND	
ITEM	DESCRIPTION
156.6	EXISTING SURFACE CONTOURS
156.6	NEW SURFACE CONTOURS
+ 156.60	EXISTING SURFACE SPOT LEVELS
+ 156.600	FINISHED SURFACE SPOT LEVELS
K	PROPOSED CONCRETE KERB
SU	PROPOSED CONCRETE 600mm WIDE SPOON DRAIN
Ex D	EXISTING STORMWATER DRAIN
Ex D	PROPOSED STORMWATER DRAIN
AG	90 DIAMETER UPVC AGRICULTURAL DRAIN
□	EXISTING STORMWATER PIT
□	PROPOSED STORMWATER PIT
□	EXISTING STORMWATER PIT TO BE MODIFIED
Ex S	EXISTING SEWER
Ex G	EXISTING UNDERGROUND GAS PIPE
Ex W	EXISTING WATER PIPE
Ex E	EXISTING ELECTRICITY SUPPLY
Ex OH	EXISTING OVERHEAD ELECTRICITY SUPPLY
Ex T	EXISTING UNDERGROUND TELEGRAPH CABLE
Ex OF	EXISTING OPTIC CABLE
DP	DOWNPIPE (PLAN LOCATION)
ID	INSPECTION OPENING
GI	100# GRATED INLET UNLESS NOTED OTHERWISE
▨	GRATED TRENCH

IMPORTANT NOTE
PIT COVER LEVELS AND DEPTHS HAVE NOT BEEN PROVIDED AS PART OF THIS DOCUMENTATION ISSUE. THESE LEVELS WILL BE DEPENDANT ON THE PROPOSED ARCHITECTURAL SITE LEVELS FOR THE DEVELOPMENT IN CONJUNCTION TO A RECEIVED SITE SURVEY. THIS IS TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS

IMPORTANT NOTE
EXISTING REDUNDANT SITE STORMWATER TO BE DEMOLISHED BY CONTRACTOR ON-SITE. ANY EXISTING DOWNPIPES TO REMAIN MUST BE DIRECTED TO THE PROPOSED STORMWATER NETWORK

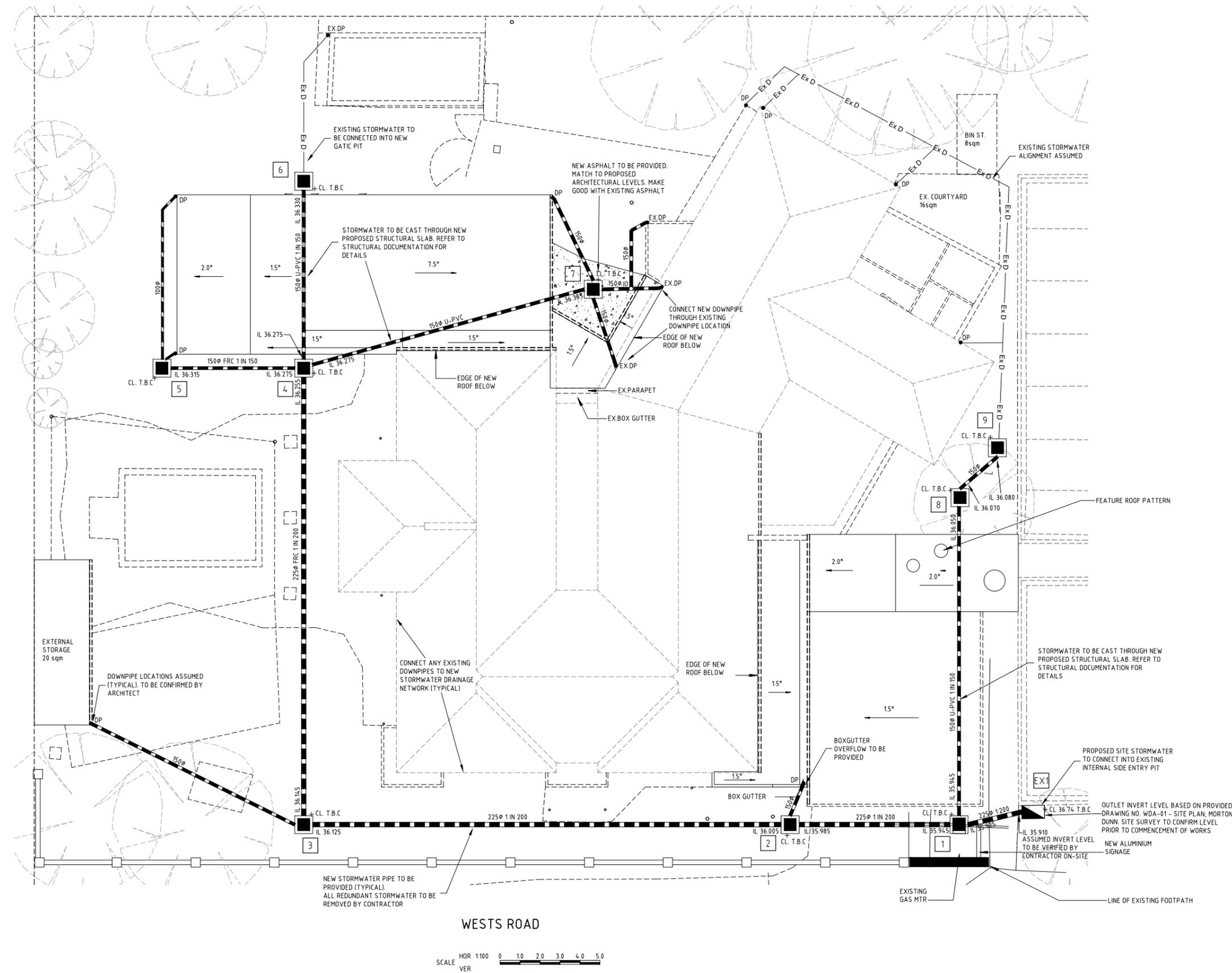
IMPORTANT NOTE
SURROUNDING PAVEMENTS AND LANDSCAPE TO BE MADE GOOD TO PROPOSED ARCHITECTURAL LEVELS



NOTE:
ALL ASPHALT AND CRUSHED ROCK MATERIALS AND CONSTRUCTION PROCEDURES SHALL COMPLY IN ALL RESPECTS WITH THE RELEVANT 'VICROADS' SPECIFICATIONS

ASPHALT INFILL PAVEMENT

N.T.S.
SHOWN THUS ON PLAN



File: \\C:\Client Files\VE\15085 Maribyrnong River Children's Centre\Civil\VE15085-C002.dwg Plotted: 24.06.15 at 3:30 PM By: M. Jough

COPYRIGHT
This drawing is copyright to Vert Engineering. No part of this drawing, including the whole or any part thereof, shall be used for any other purpose, nor by any other third party, without the prior written consent of Vert Engineering.

1	ISSUED FOR TENDER	24.06.15	MG	
Rev	Description	Date	By	App

Vert Engineering

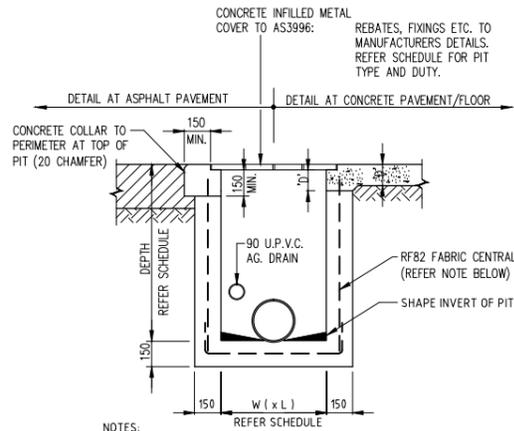
PO Box 2718C
Heathorn VIC 3122
phone: +61 (0)3 8803 4366
fax: +61 (0)3 9882 7633
ABN: 1615 482 0390
www.vertengineering.com

Project Name
MARIBYRNONG RIVER CHILDREN'S CENTRE
6 WESTS ROAD, MARIBYRNONG

Drawing Title
SITE PLAN
STORMWATER DESIGN AND PAVEMENT DETAILS

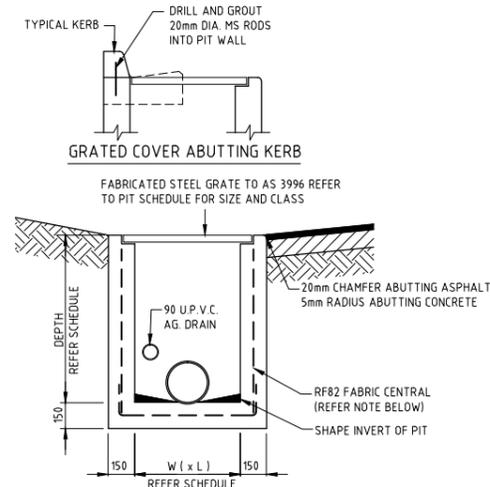
DESIGNED		DRAWN		SCALE		DATE		SHEET	
MG		MG		1:100 @ A1		JUNE 2015		1 OF 2	

PROJECT DIRECTOR APPROVED		DATE		DRAWING NO.		REV	
				VE 15085	C002		1



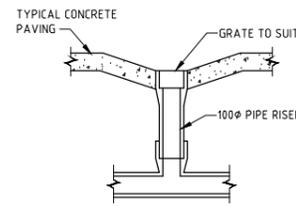
- NOTES:
1. PROVIDE 600mm LENGTH OF 90mm DIA. AGRICULTURAL PIPE CAST THROUGH UPSTREAM WALL OF PIT WITH GEOTEXTILE OR SIMILAR FILTER OVER.
 2. REINFORCEMENT NOT REQUIRED IF DEPTH OF PIT IS LESS THAN 1000mm.
 3. PROVIDE STEP IRONS AT 300mm MAX. CTS. IF DEPTH OF PIT EXCEEDS 1000mm
 4. PRECAST PITS ARE TO GENERALLY COMPLY WITH THESE DETAILS.

JUNCTION PIT (CONCRETE INFILLED METAL COVER)
N.T.S.



- NOTES:
1. PROVIDE 600mm LENGTH OF 90mm DIA. AGRICULTURAL PIPE CAST THROUGH UPSTREAM WALL OF PIT WITH GEOTEXTILE OR SIMILAR FILTER OVER.
 2. REINFORCEMENT NOT REQUIRED IF DEPTH OF PIT IS LESS THAN 1000mm.
 3. PROVIDE STEP IRONS AT 300mm MAX. CTS. IF DEPTH OF PIT EXCEEDS 1000mm
 4. PRECAST PITS ARE TO GENERALLY COMPLY WITH THESE DETAILS.

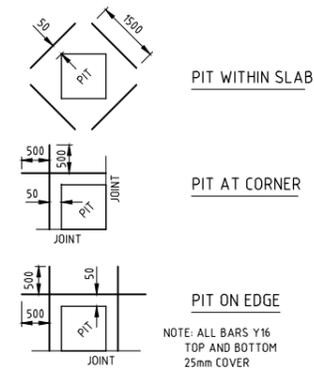
GRADED PIT DETAIL
N.T.S.



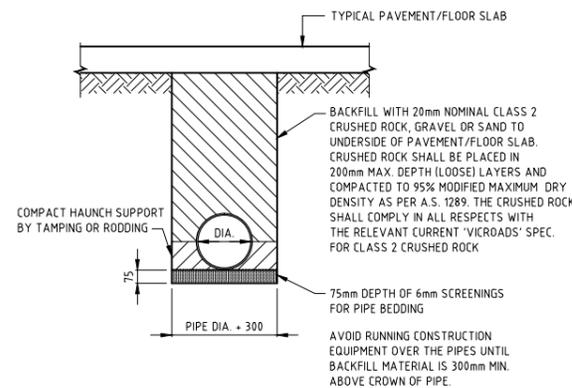
GRADED INLET DETAIL
N.T.S.

STORMWATER PIT SCHEDULE							
Nº	TYPE	INTERNAL DIMNS WxL	R.L TOP	DEPTH	COVER TYPE		REMARKS
					TYPE	CLASS	
EX1	EXISTING	-	36.74 (TBC)	0.83	-	-	CONNECT PROPOSED STORMWATER TO EXISTING PIT
1	JUNCTION	600 x 600	TBC	TBC	CONCRETE INFILL STEEL COVER	C	MATCH TO PROPOSED ARCHITECTURAL LEVELS
2	JUNCTION	600 x 600	TBC	TBC	CONCRETE INFILL STEEL COVER	C	MATCH TO PROPOSED ARCHITECTURAL LEVELS
3	JUNCTION	600 x 600	TBC	TBC	CONCRETE INFILL STEEL COVER	C	MATCH TO PROPOSED ARCHITECTURAL LEVELS
4	JUNCTION	600 x 600	TBC	TBC	CONCRETE INFILL STEEL COVER	C	MATCH TO PROPOSED ARCHITECTURAL LEVELS
5	JUNCTION	600 x 600	TBC	TBC	CONCRETE INFILL STEEL COVER	C	MATCH TO PROPOSED ARCHITECTURAL LEVELS
6	JUNCTION	600 x 600	TBC	TBC	CONCRETE INFILL STEEL COVER	C	MATCH TO PROPOSED ARCHITECTURAL LEVELS
7	GRADED	600 x 600	TBC	TBC	GRATE	B	MATCH TO PROPOSED ARCHITECTURAL LEVELS
8	JUNCTION	600 x 600	TBC	TBC	CONCRETE INFILL STEEL COVER	C	MATCH TO PROPOSED ARCHITECTURAL LEVELS
9	JUNCTION	600 x 600	TBC	TBC	CONCRETE INFILL STEEL COVER	C	MATCH TO PROPOSED ARCHITECTURAL LEVELS

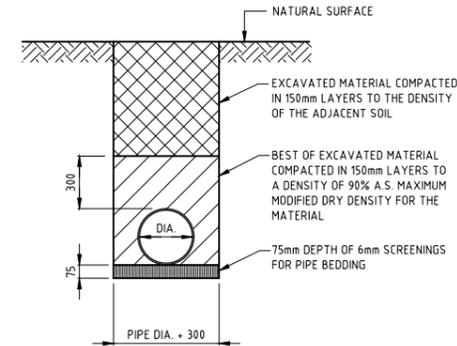
NOTE: PITS TO HAVE BOLT DOWN LIDS OR EQUIVALENT.



DETAIL OF SLAB REINFORCEMENT AT PITS IN CONCRETE PAVEMENT
SCALE: N.T.S.



PIPE LAYING DETAILS (FLEXIBLE PIPES)
UNDER ALL PAVEMENTS/FLOORS
N.T.S.



PIPE LAYING DETAILS (ALL PIPES)
UNDER LANDSCAPED AREAS
N.T.S.

IMPORTANT NOTE
PIT COVER LEVELS AND DEPTHS HAVE NOT BEEN PROVIDED AS PART OF THIS DOCUMENTATION ISSUE. THESE LEVELS WILL BE DEPENDANT ON THE PROPOSED ARCHITECTURAL SITE LEVELS FOR THE DEVELOPMENT IN CONJUNCTION TO A RECEIVED SITE SURVEY. THIS IS TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS

COPYRIGHT
This drawing is copyright to Vert Engineering. No part of this drawing, including the whole of same shall be used for any other purpose, nor by any other third party, without the prior written consent of Vert Engineering.

All rights reserved.

Rev	Description	Date	By	App
1	ISSUED FOR TENDER	24.06.15	MG	-

Vert Engineering

PO Box 2718C
Heathorn VIC 3122
phone: +61 (0)3 8803 4366
fax: +61 (0)3 9882 7633
ABN: 1615 482 0306
www.vertengineering.com

Project Name	MARIBYRNONG RIVER CHILDREN'S CENTRE 6 WESTS ROAD, MARIBYRNONG		
Drawing Title	CIVIL DETAILS AND PIT SCHEDULE		

TENDER			
Designed	MG	Project Director Approved	Date
Drawn	MG		North
Scale	AS NOTED	Project Ref	Drawing No
Date	JUNE 2015	VE 15085	C003
Sheet	1 OF 2		1