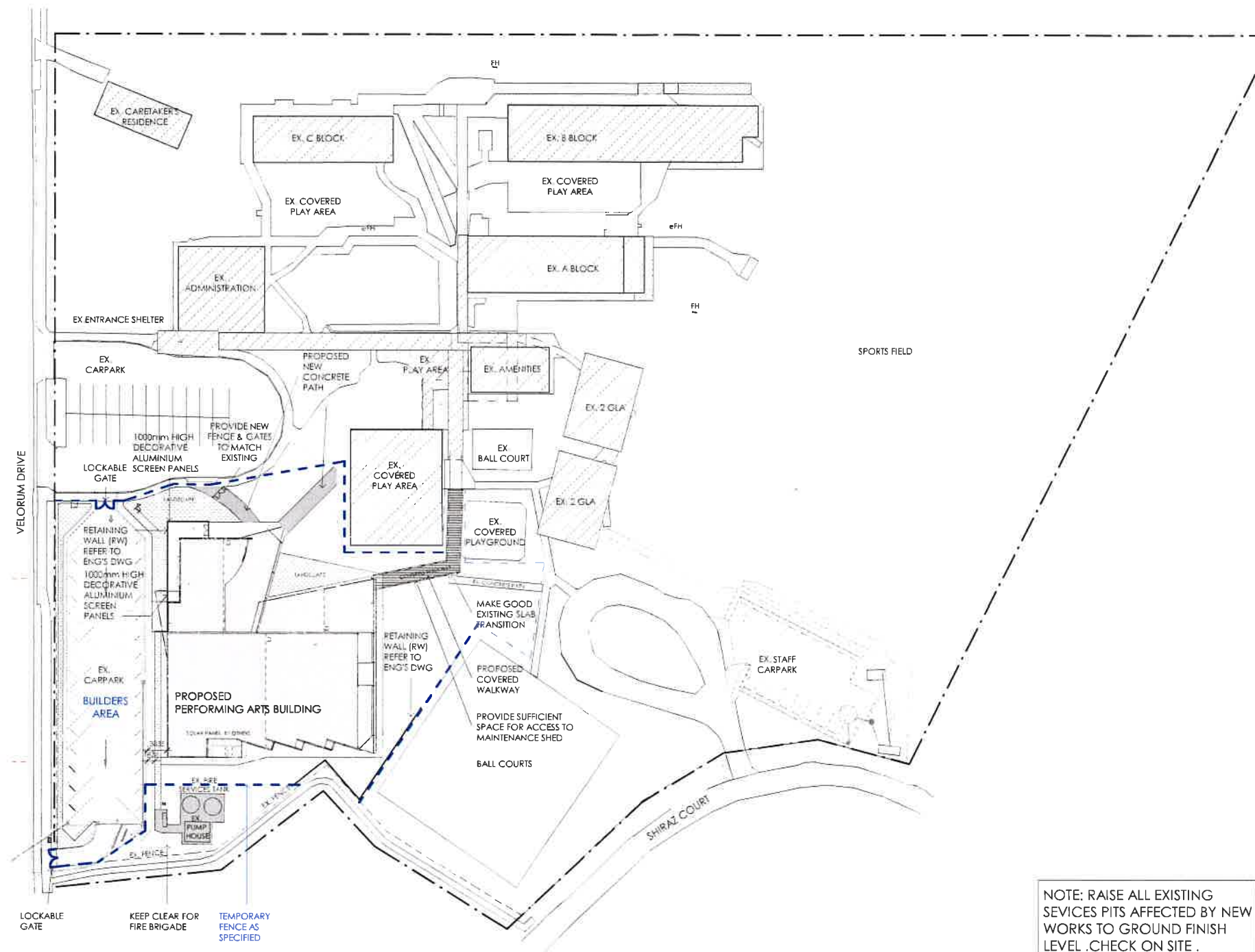




REV	DATE	REVISION	BY	CHECK
B	11/11/20	CONSTRUCTION	UA	BA
A	10/08/20	ISSUED	OC	BA
AP	10/01/20	CONSTRUCTION ISSUE	OC	BA
PA	10/01/20	CONSTRUCTION ISSUE	OC	BA
P1	10/01/20	PRELIMINARY ISSUE	OC	BA
P2	10/01/20	PRELIMINARY ISSUE	OC	BA
P3	10/01/20	PRELIMINARY ISSUE	OC	BA

PROPOSED PERFORMING ARTS BUILDING

CLIENT
GROVES CHRISTIAN COLLEGE
CAMPUS 2

SITE ADDRESS
12 VELORUM DR. KINGSTON QLD 4114

DRAWING TITLE
SITE PLAN

DRAWN BY
Author

CHECKED BY
Checker

SCALE: SHEET SIZE
1 : 500 @ A1

PROJECT NO

GRO.24

DRAWING NO

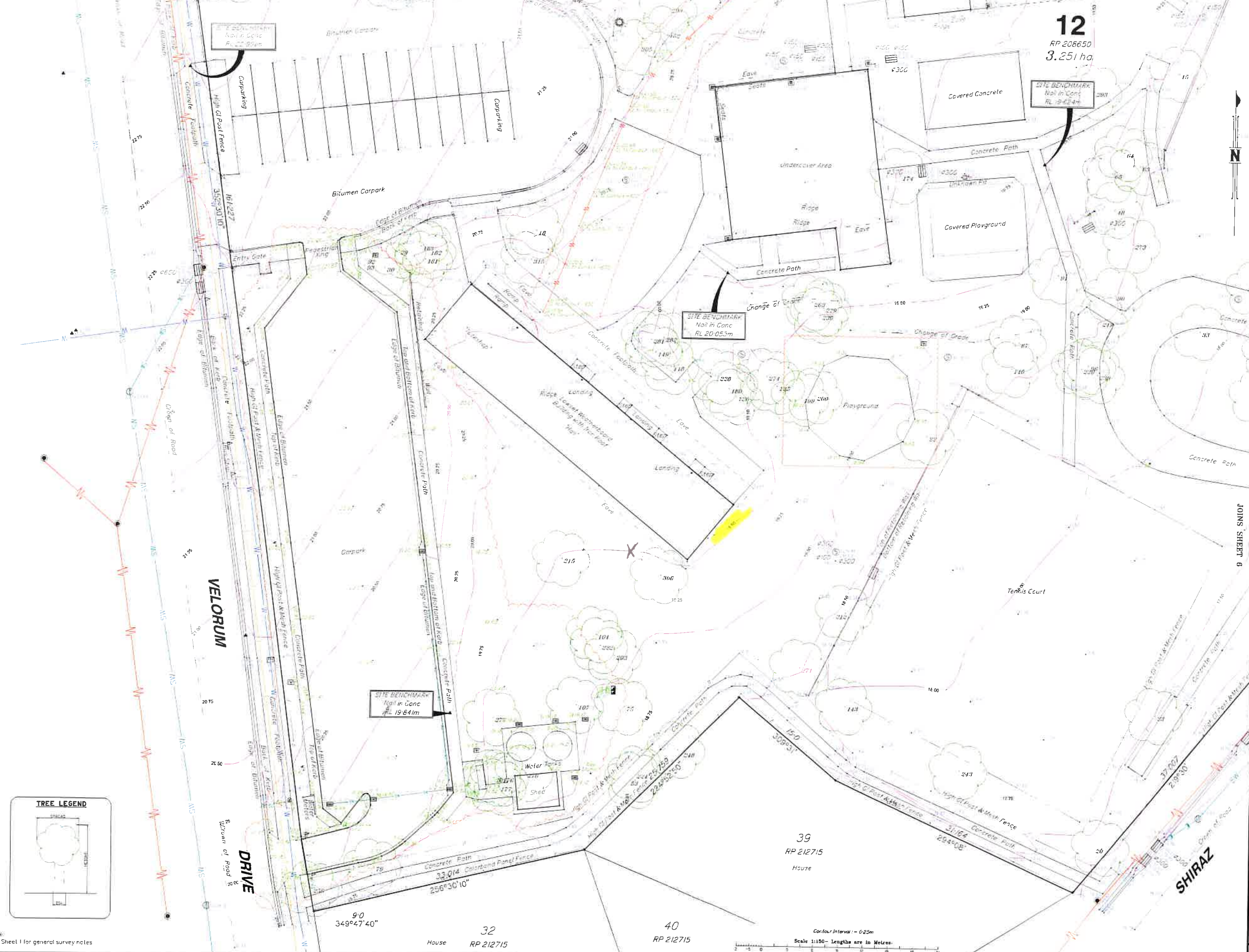
WD-A01

REVISION

B

ALPHA
architects

FOR CONSTRUCTION



- LEGEND
- TREE
SHRUB OR SMALL BUSH
TREE PLANT
TREETOP (CROWN OF TREE)
WATER (WATER)
ELECTRICITY
ELECTRICITY POLE
ELECTRICITY PEG
ELECTRICITY POLE (TRANSFORMER)
ELECTRICITY STAP/POST
TELECOM POLE
HOLLOW POST
STORMWATER MANHOLE
SEPTIC TANK
GULLY
FIELD MARK
BOUNDARY CORNER
FIRE HYDRANT
VALVE
GAS METER
WATER METER
STREET SIGN
CURB/VALEIN
WATER TAP
CONCRETE CULVERT
TABLE
CHAIR
POSTBOX
BARREL/CULVERT
LIGHT POLE
WATER MAIN
FENCE
ELECTRICITY
SEWERAGE
STORMWATER
DRAIN
GAS
AREAS AROUND
CIRCUMFERENTIAL SURVEY LEVEL
PIPE LOCATOR DEPTH
SLICE TO CONDUIT

Notes

This plan is prepared for the purpose of designing new construction on the land and should not be used for any other purpose.

Underground services shown herein have been located by field survey where possible. Prior to any Sewer, Gas, Water, or Excavation on the site, the relevant Authority should be contacted for the possible location of further underground services.

The Field Property Boundaries have not been defined by this survey and have been compared from RP2006020 & RP1547372. Exact Boundaries, Dimensions and Areas are subject to a Geospatial Survey. Check title for any Easements.

Cadastral Surveyor Date 15/01/2023
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Client

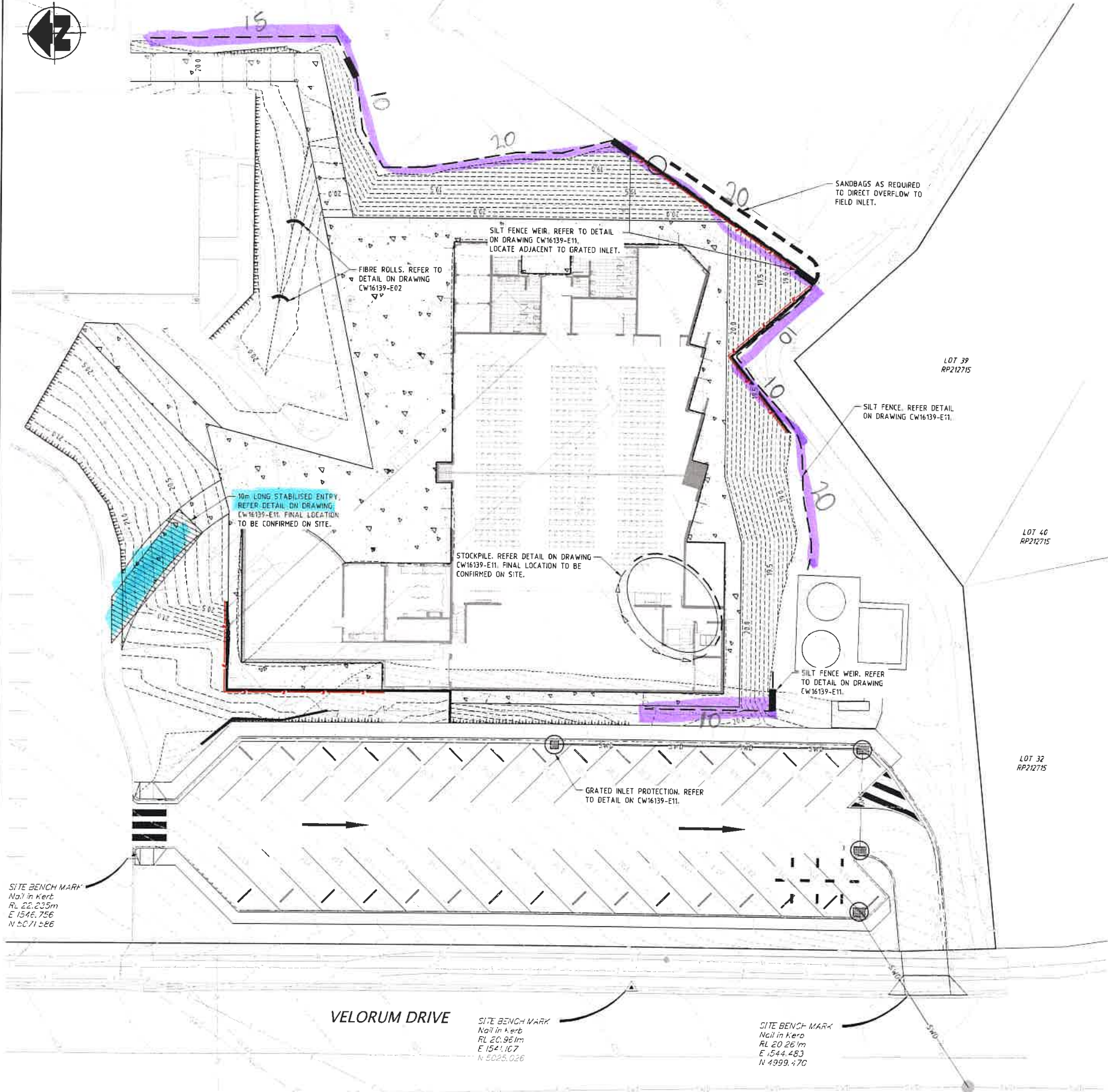
Christian Community Ministries

Project: Groves Christian
College Campus 2
Plan of Contour Detail Survey
Over Lot 12 on RP 208650
0-24 Velorum Drive
KINGSTON
Parish of MACKENZIE
County of STANLEY
Logan City Council

VELOCITY	440 Ser	LE	-
PSM No. 76070		FE	-
RL: 2' 88lm		SCALE	1:150
File	IS-CI-2020		AT A0
Surveyed	BR/JC	Civil/Cad Drawing Ref:	5740-330-JWD-09012020
Drawn	BKC		
Checked	ARM	Reduced:	BR/JD



Statewide
survey group
404 77 026 374 829
CONSULTING SURVEYORS
AND TOWN PLANNERS
P.123 Link Road Victoria Point, Q.D. 4165
Phone 1300 362 094 Fax 1300 766 094
Email: comin@statewidesurvey.com.au
FEE REFERENCE No. 5740-00
LAN NO. 5740-301-05

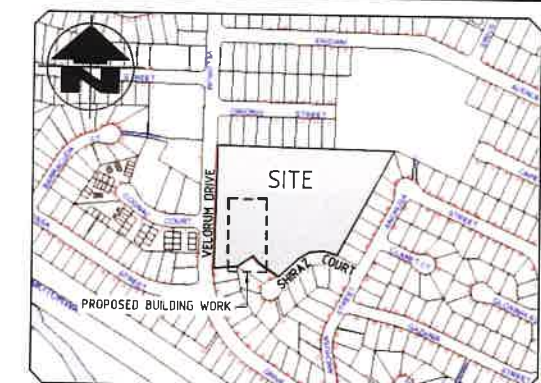


SITE BENCHMARK
Nail in Kerb
RL 22.235m
E 1546.756
N 5071.286

SITE BENCHMARK
Nail in Kerb
RL 20.961m
E 1541.167
N 5025.026

SITE BENCHMARK
Nail in Kerb
RL 20.261m
E 1544.483
N 4999.470

PLAN
SCALE 1:200



LOCALITY PLAN
SCALE 1:5000

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE.		
ISSUE	AMENDMENT	DATE
C	GIW APPLICATION	02.04.20
D	FENCING ADDED	23.04.20
E	COORDINATION ISSUE	06.05.20
F	REVISED RETAINING WALL	10.05.20
G	FOOTPATH ADDED	03.06.20
H	FOOTPATH ADDED	18.06.20

- LEGEND**
- SILT FENCE
 - STABILISED ENTRY/EXIT
 - FIELD INLET PROTECTION
 - DIVERSION BUND
 - SAFETY BARRIER/FENCING

ASSOCIATED CONSULTANT

PROJECT
10-24 VELORUM DRIVE
KINGSTON

CLIENT
CHRISTIAN COMMUNITY
MINISTRIES LTD

TITLE
PERFORMING ARTS BUILDING
EROSION AND SEDIMENT
CONTROL PLAN



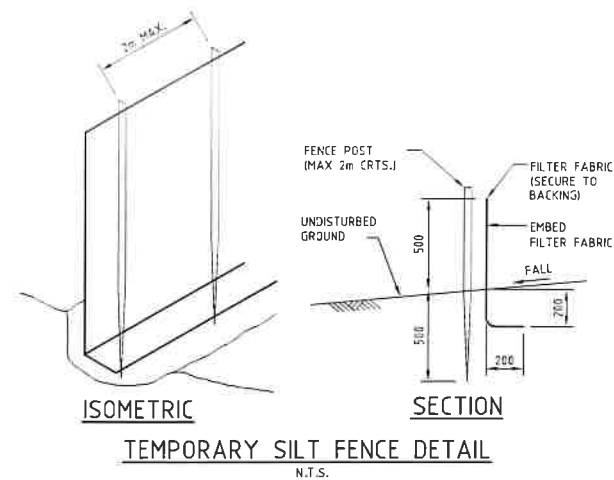
176 Boniface Street, Archerfield, QLD 4108
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W www.civilworks.com.au

EARTHWORKS EROSION CONTROL
GROUND COVERAGE OF 80% ON ALL DISTURBED AREAS IS REQUIRED WITHIN 30 CALENDAR DAYS FROM COMPLETION OF ANY WORKS. SHOULD CONSTRUCTION OF BUILDING WORKS COMMENCE MORE THAN 30 CALENDAR DAYS FROM THE COMPLETION OF CIVIL WORKS, TEMPORARY GROUND COVER (EQUIVALENT OF 80% GRASS COVER) SHALL BE PROVIDED TO ALL DISTURBED AREAS.



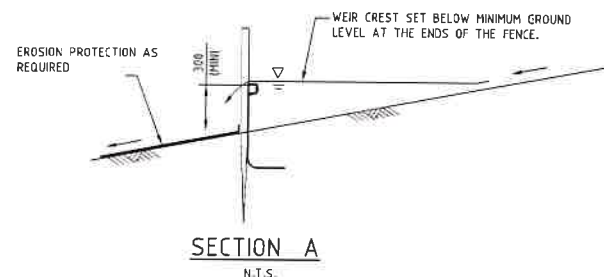
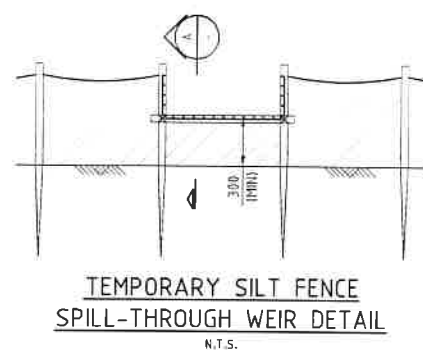
REAL PROPERTY DESCRIPTION		
LOT No.	12	
PLAN No.	RP 208650	

Designed	Drawn	Date
HR	HR	16.12.19
Approved	Scale	
	AS SHOWN	
Drawing No.		Rev.
CW16139-E10		H



SILT FENCE MAINTENANCE

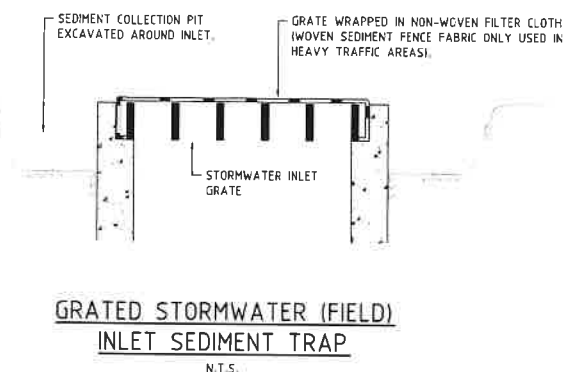
- REGULAR INSPECTIONS AND MAINTENANCE ARE REQUIRED TO REPAIR DAMAGE CAUSED BY ON-SITE VEHICLES OR THE MOVEMENT OF STOCKPILE MATERIALS.
- INSPECT AT THE END OF EACH DAYS WORK DUE TO THE POSSIBILITY OF OVERNIGHT RAIN AND IMMEDIATELY PRIOR TO AND AFTER EACH STORM EVENT.
- REMOVE EXCESSIVE SEDIMENT DEPOSITS.
- INVESTIGATE THE SOURCE OF EXCESSIVE SEDIMENT.
- IF THE FENCE IS REGULARLY DAMAGED, INSTALL A SECOND FENCE AT LEAST 1 METRE DOWN SLOPE OF THE EXISTING FENCE.



MATERIALS

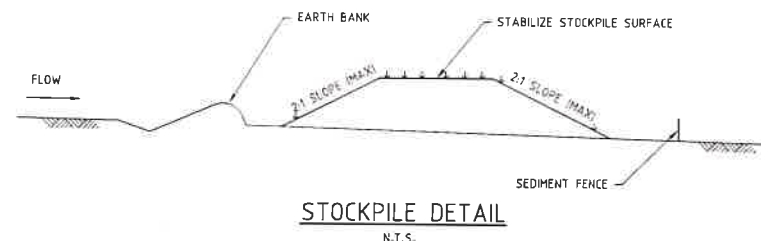
FABRIC (LIGHT TRAFFIC AREAS)
HEAVY-DUTY, NEEDLE-PUNCHED, NON-WOVEN FILTER CLOTH (BIDIM A34 OR EQUIVALENT).

FABRIC (HEAVY TRAFFIC AREAS)
POLY-PROPYLENE POLYAMIDES NYLON POLYESTER OR POLYETHYLENE WOVEN OR NON-WOVEN REINFORCED FABRIC. THE FABRIC WIDTH SHOULD BE AT LEAST 700mm, WITH A MINIMUM UNIT. FABRICS SHOULD CONTAIN ULTRAVIOLET INHIBITORS AND STABILISERS TO 7 WEIGHT OF 100g/m PROVIDE A MINIMUM OF 6 MONTHS OF USEABLE CONSTRUCTION LIFE ULTRAVIOLET STABILITY EXCEEDING 70%.



STOCKPILE - CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW FLAT ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS ON THE UP SLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWN SLOPE.



WATER TREATMENT NOTE

1. GYPSUM SOLUTION TO BE APPLIED TO SEDIMENT SUMP AT THE RATE OF 32KG PER 100m³ OF STORED VOLUME WITHIN 24 HOURS OF THE CONCLUSION OF EACH MAJOR STORM EVENT.
2. IF HIGH INTENSITY STORMS ARE FORECAST IT IS RECOMMENDED GYPSUM DOSAGE RATES TO BE INCREASED TO 70KG PER 100m³.
3. SPREADING GYPSUM EVENLY OVER THE POND SURFACE IS ESSENTIAL HAND SPREADING OF SOLID GYPSUM WILL NOT RESULT IN FLOCCULATION. THE FOLLOWING PROCEDURE SHOULD BE APPLIED:
 - 3.1. PLACE REQUIRED GYPSUM QUANTITY IN AN APPROXIMATELY 50L DRUM PERFORATED WITH 25mm HOLES AT 150mm SPACING.
 - 3.2. SUSPEND THE SCREENED, RE-CIRCULATING PUMP INTAKE INTO THE DRUM.
 - 3.3. LIFT THE DRUM INTO THE BASIN SUCH THAT BASIN WATER CAN ENTER AND CIRCULATE THROUGH THE DRUM.
 - 3.4. USING THE PUMP, SPRAY THE GYPSUM-RICH SOLUTION EVENLY OVER THE SURFACE OF THE BASIN UNTIL THE GYPSUM IS FULLY REMOVED FROM THE DRUM. THE PUMP OUTLET MUST SPRAY THE MIXTURE OVER A WIDE AREA RATHER THAN JUST DISCHARGING AS A CONFINED 'JET'.
4. ALLOW 24 HOURS TO ACHIEVE FLOCCULATION AND PUMP TO SEDIMENT STORAGE LEVEL TO ENSURE FULL CAPACITY OF SETTLING AREA WITHIN TWO DAY FROM THE CONCLUSION OF EACH MAJOR STORM EVENT.
5. WATER QUALITY TEST TO BE DONE BY A NATA ACCREDITED COMPANY PRIOR TO PUMPING THE WATER INTO THE EXISTING STORMWATER SYSTEM.
6. MINIMUM PARAMETERS SHOULD BE ARCHIVED AS PER BELOW:

pH	4.5 - 8.5
Turbidity (NTU)	75
SS (mg/L)	50
7. SAMPLE SHOULD BE COLLECTED FROM THE BASE OF THE SETTLING ZONE AND NOT AT THE SURFACE.
8. CONTRACTOR TO KEEP RECORD OF THE TEST RESULTS ON SITE DURING THE CONSTRUCTION WORKS.

EROSION AND SEDIMENT CONTROL NOTES - TRENCHING

THE CONTRACTOR SHALL FOLLOW THE PROCEDURES BELOW TO MINIMISE SCOURING OF TRENCHES DURING RAINFALL EVENTS THAT OCCUR THROUGH THE CONSTRUCTION PHASE.

1. OPEN ONLY AS MUCH GROUND AS REQUIRED TO UNDERTAKE THE WORK AT HAND.
2. WHEREVER POSSIBLE CONSTRUCT LINES FROM UPSTREAM TO DOWNSTREAM.
3. PLACE BEDDING MATERIAL AS SOON AS PRACTICAL AFTER OPENING TRENCH.
4. CLOSE TRENCH AS SOON AS PRACTICABLE AFTER LAYING PIPE.
5. INSTALL SAND BAGS IN TRENCHES AT 10m CENTRES WHENEVER TRENCHES ARE PROPOSED TO BE LEFT OPEN AND UNATTENDED e.g. OVERNIGHT.

DEMOLITION NOTES

1. ALL DEMOLITION WORKS, INCLUDING THE PROCUREMENT OF ANY STATUTORY APPROVALS, IS THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR. ALL DEMOLITION WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CURRENT LEGISLATION.
2. THE ENTITY RESPONSIBLE FOR THE DEMOLITION WORKS SHALL ENSURE THAT ALL VEHICLES LEAVING THE SITE CARRYING DEMOLITION MATERIALS HAVE THEIR LOADS COVERED AND DO NOT TRACK SOIL OR WASTE MATERIALS ONTO THE ROAD.

PEDESTRIAN SAFETY NOTE

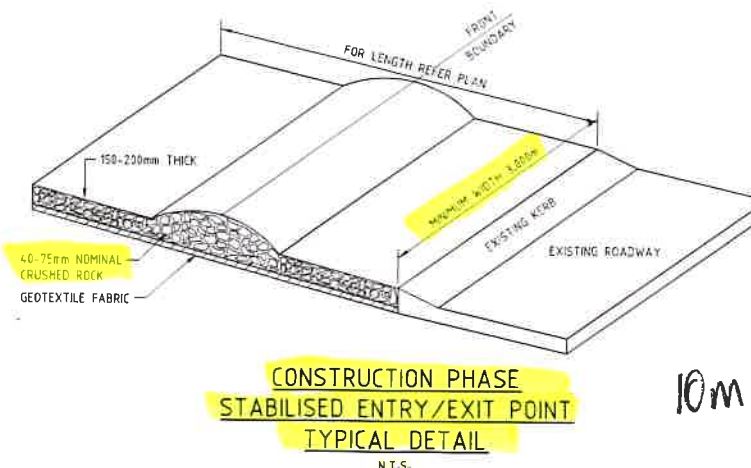
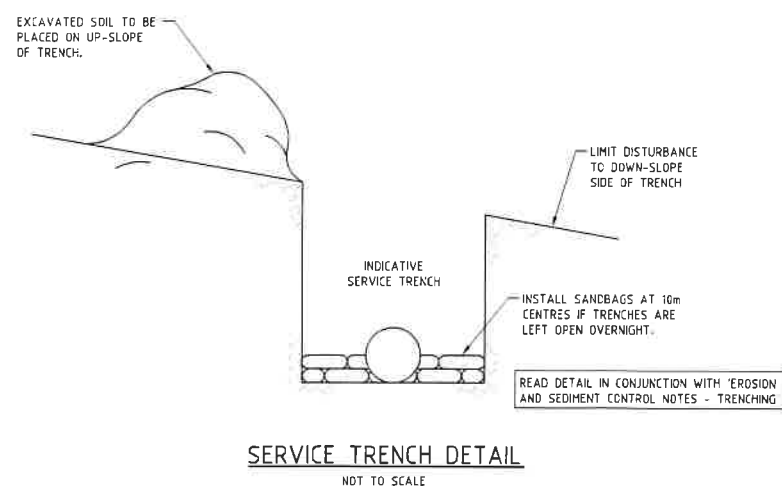
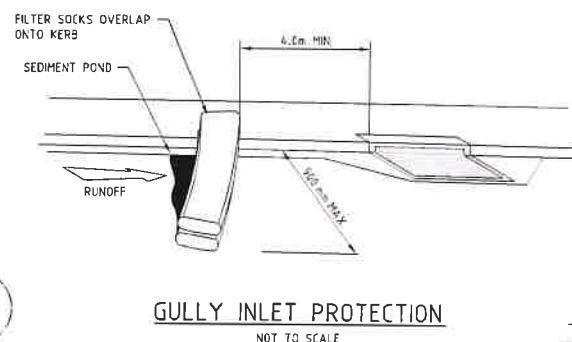
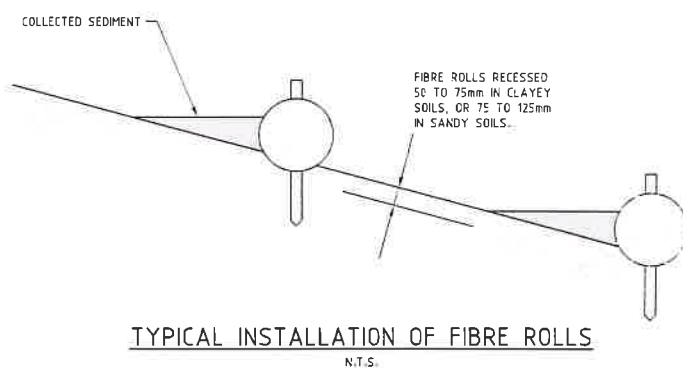
CONTRACTOR TO CLOSE FOOTPATH AND BARRICADE STABILISED ENTRY/EXIT. PROVIDE SAFE PEDESTRIAN ACCESS IN ACCORDANCE WITH THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES.

EXISTING SERVICES NOTE

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING TO VERIFY THE DESIGN.

ASBESTOS NOTE

SHOULD ASBESTOS BE PRESENT, ITS REMOVAL SHALL BE CARRIED OUT IN ACCORDANCE WITH THE NATIONAL OH&S COMMITTEE - CODE OF PRACTICE FOR SAFE REMOVAL OF ASBESTOS AND ITS CODE OF PRACTICE FOR THE MANAGEMENT AND CONTROL OF ASBESTOS IN THE WORKPLACE.



$$10m \times 5m \times 2 = 10m^3$$

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. Copyright

ISSUE	AMENDMENT	DATE
A	PRELIMINARY ISSUE	16.12.19
B	GIW APPLICATION	24.03.20
C	COORDINATION ISSUE	07.06.20

ASSOCIATED CONSULTANT

PROJECT
10-24 VELORUM DRIVE
KINGSTON

CLIENT
CHRISTIAN COMMUNITY
MINISTRIES LTD

TITLE
PERFORMING ARTS BUILDING
EROSION AND SEDIMENT
CONTROL NOTES AND
DETAILS

CIVILWORKS
ENGINEERS

Property Development Solutions

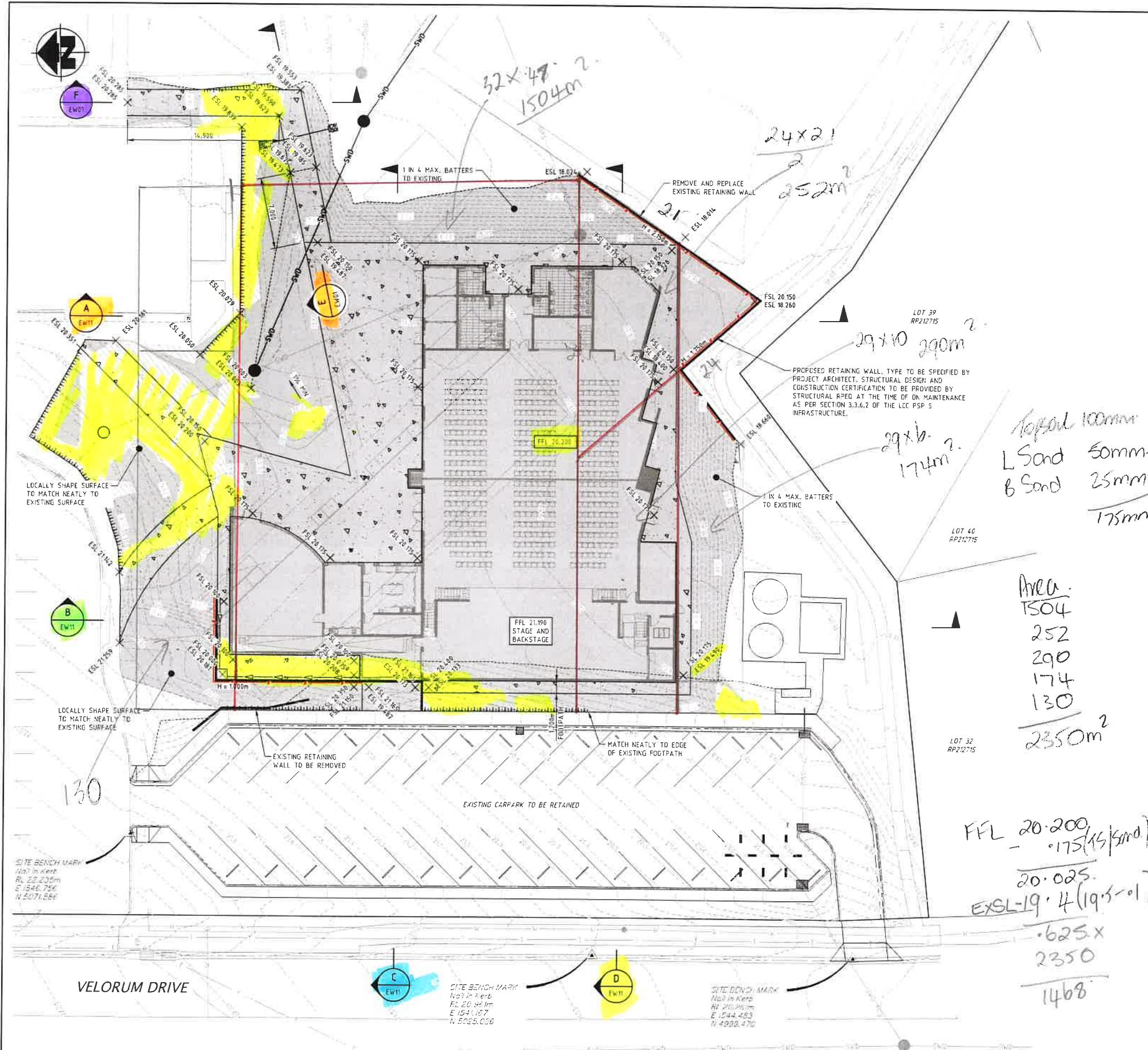
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E info@civilworks.com.au
W www.civilworks.com.au

Designed	HR	Drawn	HR	Date	16.12.19
Approved		Scale			AS SHOWN

Drawing No. CW16139-E11 Rev. C

REAL PROPERTY DESCRIPTION

LOT No. 12
PLAN No. RP 208650



- EARTHWORKS NOTES**
1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK. ALL EXISTING SERVICES AND STRUCTURES ARE TO BE MAINTAINED IN GOOD ORDER FOR THE DURATION OF THE CONTRACT. ANY COSTS ASSOCIATED WITH REPAIRING DAMAGE TO EXISTING SERVICES SHALL BE PAID FOR BY THE CONTRACTOR.
 2. THE CONTRACTOR SHALL VERIFY BENCH MARK LEVELS AND ADVISE THE SUPERINTENDENT OF ANY DISCREPANCY BEFORE COMMENCEMENT OF CONSTRUCTION.
 3. ALL LEVELS ARE TO A.M.D.
 4. THE ENTIRE SITE SHALL BE CLEARED OF ALL UNDESIRABLE MATTER, THIS SHALL INCLUDE DEAD TIMBER, GRASS, OLD FOUNDATIONS, CONCRETE, REDUNDANT MASONRY REMAINS, GARBAGE, DEBRIS, AND ALL OTHER OBSTRUCTIONS TO THE WORKS UNLESS NOTED OTHERWISE. HOLES LEFT BY THE REMOVAL OF ANY OF THE ABOVE SHALL BE FILLED WITH APPROVED COMPACTED MATERIAL WITH PROPERTIES AT LEAST SIMILAR TO INSITU SOILS.
 5. CLEARED MATERIAL AND EARTHWORKS SPOIL SHALL BE REMOVED FROM THE SITE.
 6. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY ALL EARTHWORKS AND CLEARING OPERATIONS.
 7. SITE EARTHWORKS GENERALLY, SHALL BE CARRIED OUT IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 3758 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS, UNLESS NOTED OTHERWISE.
 8. TOPSOIL WHERE ENCOUNTERED SHALL BE STRIPPED AND STOCKPILED PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS OPERATION, THE LOCATION OF THE STOCKPILE ON SITE SHALL BE AS DIRECTED BY THE SUPERINTENDENT.
 9. IF DURING EARTHWORKS OPERATIONS UNSUITABLE SUBGRADE MATERIAL IS ENCOUNTERED THEN PRIOR TO ANY FILLING OPERATION, THIS MATERIAL SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE SUPERINTENDENT WITH AN APPROVED SUITABLE MATERIAL.
 10. FILL MATERIAL SHALL BE COMPACTED TO THE FOLLOWING STANDARD, WHERE DRY DENSITY RATIO IS DETERMINED IN ACCORDANCE WITH AS 1269 USING STANDARD COMPACTION METHODS:
 - 100% DRY DENSITY RATIO IN COHESIVE MATERIAL OR 80% IN COHESIONLESS MATERIAL FOR ROAD SUBGRADE.
 - 95% DRY DENSITY RATIO IN COHESIVE MATERIAL OR 65% IN COHESIONLESS MATERIAL FOR ALL AREAS OTHER THAN THE ROADWAY AND BUILDING PADS.
 - 98% DRY DENSITY RATIO IN COHESIVE MATERIAL OR 70% IN COHESIONLESS MATERIAL FOR BUILDING PADS.
 11. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO CONFIRM WITH THE STRUCTURAL ENGINEER THE MAXIMUM MACHINERY LOAD TO BE USED WHEN BACKFILLING BEHIND RETAINING WALLS. CONTRACTOR TO ENSURE A MINIMUM 1.5m HEIGHT OF WALL (in) CLEARANCE IS MAINTAINED FROM TOP OF RETAINING WALL FOR ALL MACHINERY EXCEEDING THE DESIGNED LOAD. FILL ON TOP OF FOOTING AND DIRECTLY BEHIND WALL TO BE COMPACTED USING WHACKER PACKER OR SIMILAR.
 12. THROUGHOUT THE EARTHWORKS OPERATION THE CONTRACTOR IS TO ENSURE THAT THE SITE IS SELF DRAINING, DAMAGE RESULTING FROM THE EXPOSURE SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
 13. ALL EARTHWORKS TO BE CARRIED OUT UNDER LEVEL 1 SUPERVISION IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 3758 UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT.

EXISTING SERVICES NOTE

THIS DESIGN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLEING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLEING TO VERIFY THE DESIGN.

EARTHWORKS LEVELS NOTE

FINISHED SURFACE AND FINISHED FLOOR LEVELS ARE SHOWN ON THIS PLAN. EARTHWORKS LEVELS SHALL BE DERIVED BASED ON THE FOLLOWING INDICATIVE THICKNESS

- FFL TO EARTHWORKS PAD LEVEL = 150mm
- CONCRETE FOOTPATH = 175mm (125mm CONCRETE BASE & 50mm SUB-BASE)
- TOPSOIL DEPTH = 100mm

EARTHWORKS EROSION CONTROL

PROVIDE TURF OR HEAVY MULCHING ALONG BATTERS WITHIN 7 CALENDAR DAYS OF BATTERS BEING CONSTRUCTED TO PROVIDE IMPROVED EROSION CONTROL IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIA) BEST PRACTICES AND SEDIMENT CONTROL GUIDELINES 2008.

ISSUE	AMENDMENT	DATE
F	REVISED RETAINING WALL	15.05.20
G	FOOTPATH ADDED	03.06.20
H	FOOTPATH ADDED	18.06.20
I	SECTION ADDED	25.06.20
J	EARTHWORKS PAD EXTENDED	31.07.20
K	ISSUE FOR CONSTRUCTION	05.11.20

- LEGEND**
- EXISTING SURFACE CONTOURS
 - PROPOSED SURFACE CONTOURS
 - PROPOSED STORMWATER
 - EXISTING STORMWATER
 - EXISTING WATER MAIN
 - EXISTING TELSTRA
 - EXISTING ENERGEX
 - FILL AREA
 - CUT AREA
 - EXISTING SURFACE LEVEL
 - FINISHED SURFACE LEVEL
 - RETAINING WALL (HEIGHT SHOWN ON HIGH SIDE)
 - TOP OF BATTER
 - BOTTOM OF BATTER
 - SAFETY BARRIER/FENCING

ASSOCIATED CONSULTANT

PROJECT
10-24 VELORUM DRIVE
KINGSTON

CLIENT
CHRISTIAN COMMUNITY
MINISTRIES LTD

TITLE
PERFORMING ARTS BUILDING
EARTHWORKS PLAN

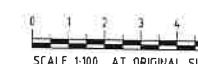
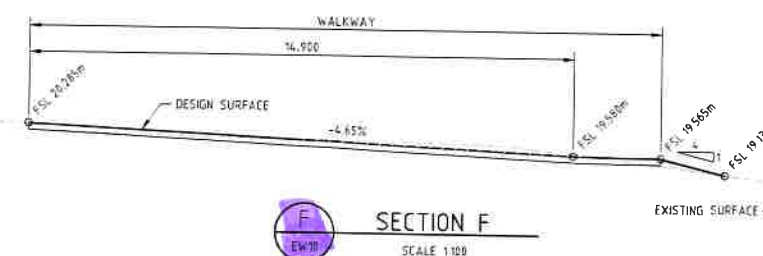
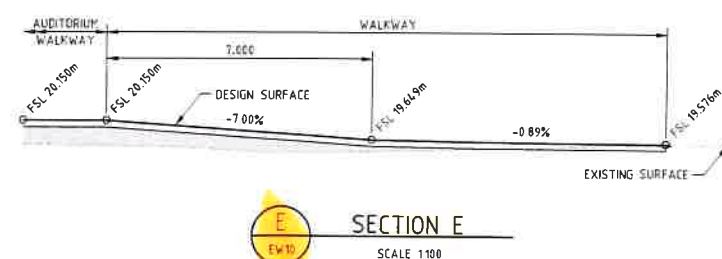
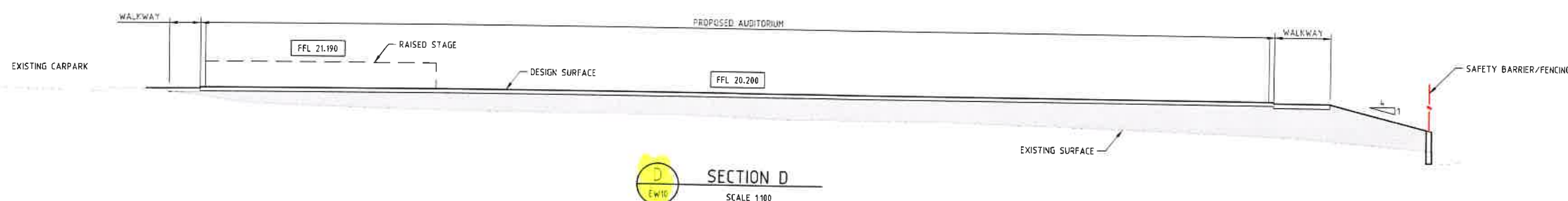
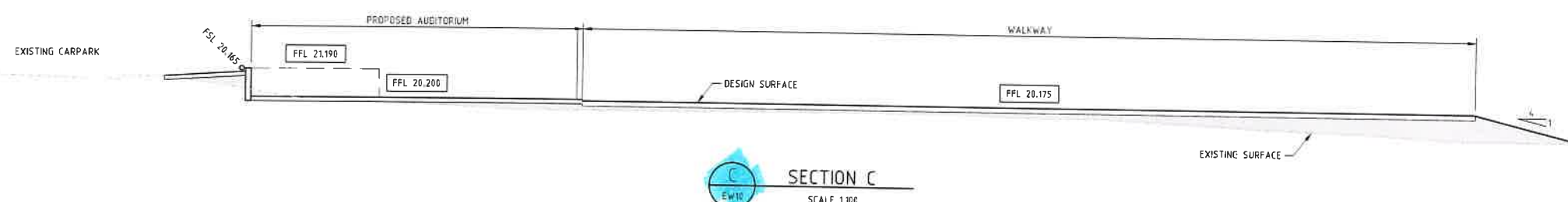
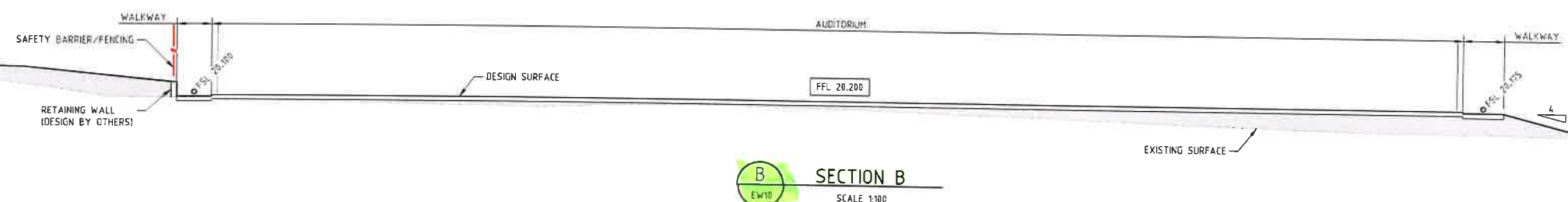
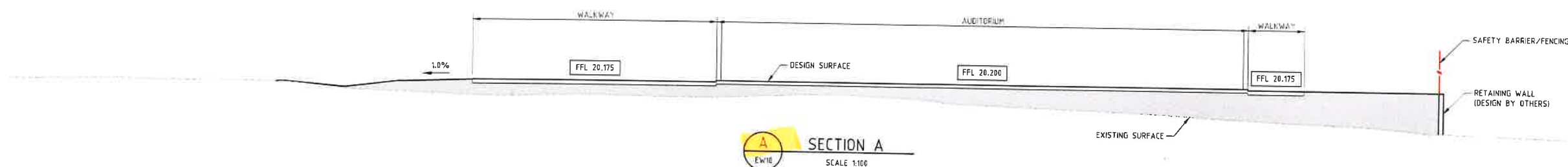
CIVILWORKS ENGINEERS
Property Development Solutions

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Design: HR
Drawn: HR
Date: 16.12.19
Approved: 20.11.2019
Scale: AS SHOWN
Drawing No.: CW16139-EW10
Rev.: 0

REAL PROPERTY DESCRIPTION	
LOT No.	12
PLAN No.	RP 26650

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE.		
ISSUE	AMENDMENT	DATE
D	FENCING ADDED	21.04.20
E	COORDINATION ISSUE	06.05.20
F	REVISED RETAINING WALL	15.05.20
G	FOOTPATH ADDED	03.06.20
H	SECTIONS ADDED	25.06.20
I	SECTIONS AMENDED	15.08.20



REAL PROPERTY DESCRIPTION			
LOT No.	12	RP	208650

ASSOCIATED CONSULTANT

PROJECT
10-24 VELORUM DRIVE
KINGSTON

CLIENT
CHRISTIAN COMMUNITY
MINISTRIES LTD

TITLE
PERFORMING ARTS BUILDING
EARTHWORKS SECTIONS

CIVILWORKS
ENGINEERS

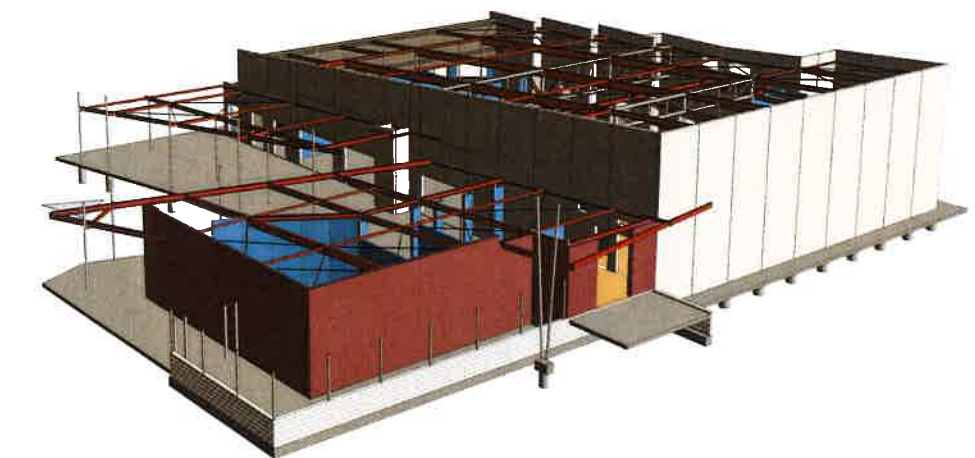
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Designed	HR	Drawn	HR	Date	16.12.19
Approved		Scale	AS SHOWN		
Drawing No.	CW16139-EW11	Rev.	1		

PERFORMING ARTS BUILDING

12 VELORUM DR, KINGSTON, QLD



DRAWING LIST	
SHEET	DESCRIPTION
S10	TITLE PAGE AND GENERAL NOTES
S20	GROUND - GENERAL ARRANGEMENT PLAN - SHEET 1
S21	FOOTING DETAILS - SHEET 1
S22	FOOTING DETAILS - SHEET 2
S23	SITE BLOCK RETAINING WALL PLAN AND DETAILS
S30	PANEL PLANS AND SCHEMATICS
S31	PANEL ELEVATIONS
S32	PANEL CONNECTION DETAILS - SHEET 1
S33	PANEL CONNECTION DETAILS - SHEET 2
S40	FLOOR FRAMING PLANS
S41	FLOOR FRAMING CONNECTION DETAILS
S50	UPPER LEVEL ROOF FRAMING PLAN
S51	UPPER LEVEL ROOF FRAMING PLAN - STAGE RIGGING BEAMS
S52	MID LEVEL ROOF FRAMING PLAN
S53	LOWER LEVEL ROOF FRAMING PLAN

DRAWING LIST	
SHEET	DESCRIPTION
S54	UPPER LEVEL ROOF PURLIN PLAN
S55	MID LEVEL ROOF PURLIN PLAN
S56	LOWER LEVEL ROOF PURLIN PLAN
S57	FRAMING ELEVATIONS - SHEET 1
S58	FRAMING ELEVATIONS - SHEET 2
S60	STANDARD FRAMING CONNECTION DETAILS
S61	FRAMING CONNECTION DETAILS - SHEET 1
S62	FRAMING CONNECTION DETAILS - SHEET 2
S63	FRAMING CONNECTION DETAILS - SHEET 3
S64	FRAMING CONNECTION DETAILS - SHEET 4
S65	FRAMING CONNECTION DETAILS - SHEET 5
S66	FRAMING CONNECTION DETAILS - SHEET 6
S70	COVERED WALKWAY PLANS
S71	COVERED WALKWAY FRAMING PLAN AND DETAILS

GENERAL NOTES:

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS, SPECIFICATIONS, AND WITH SUCH FURTHER DETAILS, AND INSTRUCTIONS WHICH MAY BE ISSUED. REFER ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH WORK
- UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES
- ALL DIMENSIONS SHALL BE CHECKED ON SITE AND VERIFIED BEFORE COMMENCING CONSTRUCTION. DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONS
- ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH CURRENT EDITIONS OF RELEVANT S.A.A. CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
- DURING CONSTRUCTION SUFFICIENT TEMPORARY BRACING SHALL BE USED TO ENSURE THAT THE STRUCTURE AND EXCAVATIONS ARE MAINTAINED IN A STABLE CONDITION AND NO PART WILL BE OVERSTRESSED.
- SUBSTITUTIONS FOR THE SPECIFIED ITEMS, MATERIALS ETC MUST BE APPROVED BY THE ENGINEER PRIOR TO USE
- THE ENGINEER MAY REQUEST CALCULATIONS AND/OR CERTIFICATIONS OF ELEMENTS DESIGNED BY SUPPLIERS OR MANUFACTURERS. THESE MUST BE SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION

DESIGN CRITERIA:

- THE STRUCTURAL COMPONENTS DETAILED ON THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH CURRENT EDITIONS OF RELEVANT S.A.A. CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY FOR THE FOLLOWING LOADINGS.

FLOOR USAGE	LIVE LOAD (kPa)	SUPERIMPOSED DEAD LOAD (kPa)
SLAB ON GROUND - RESIDENTIAL	1.5	0.5
SLAB ON GROUND - CARPARK	2.5	0.5
SUSPENDED SLAB - BALCONIES	2.0	0.5
SUSPENDED SLAB - COMMUNAL	4.0	0.5
SUSPENDED SLAB - STAIRS	4.0	0.5
ROOF	0.25	0.5

- WIND LOADING HAS BEEN DETERMINED IN ACCORDANCE WITH AS/NZS1170.2
ULTIMATE GUST WIND SPEED
REGION - B V₉₀, b = 55 m/s
TERRAIN CATEGORY - 3
SHIELDING MULTIPLIER - 1.0
TOPOGRAPHIC MULTIPLIER - 1.0
INTERNAL PRESSURE COEFFICIENTS - VARIES

FOUNDATIONS:

- STRIP AND REMOVE FROM SITE, ALL VEGETATION, TOP SOIL AND DELETERIOUS MATERIAL
- EXCAVATIONS FOR ALL FOOTINGS SHALL BE TAKEN TO DEPTHS SHOWN, OR TO A FOUNDATION STRATA CAPABLE OF SAFELY SUSTAINING A BEARING PRESSURE OF 250 kPa, WHICHEVER IS THE DEEPER. ALL EXCAVATIONS SHALL BE FREE FROM LOOSE MATERIAL, MUD AND WATER. THE CONTRACTOR IS TO ENSURE STABILITY OF ALL EXCAVATIONS AND EXISTING STRUCTURES DURING CONSTRUCTION
- THE UNDERSIDE OF ALL FOOTINGS SHALL EXTEND A MINIMUM OF 300mm BELOW NATURAL GROUND LEVEL OR INTO MATERIAL WITH AN ALLOWABLE BEARING CAPACITY OF 400 kPa
- EXCAVATIONS FOR BORED PIERS SHALL BE DONE BY MECHANICAL AUGER OR OTHER APPROVED MEANS. THE SIDES OF ALL HOLES SHALL BE VERTICAL AND THE SIDES AND BOTTOM SHALL BE FREE FROM LOOSE MATERIAL. CONCRETE SHALL BE PLACED IN EACH HOLE WITHIN 12 HOURS OF EXCAVATION
- THE CONTRACTOR SHALL OBTAIN APPROVAL OF THE FOUNDATION MATERIAL BEFORE PLACING CONCRETE.
- SELECT FILL MATERIAL UNDER FOUNDATIONS SHALL BE COMPACTED IN 200mm LAYERS TO 98% STD. COMPACTION
- FILL MATERIAL UNDER SLABS AND BUILDING ELEMENTS TO BE MADE UP FROM SELECT FILL (CBR 15 OR GREATER AND P₁ LESS THAN 12%)

EXISTING SERVICES:

NOT WITHSTANDING THAT EXISTING SERVICES MAY OR MAY NOT BE SHOWN ON THESE DRAWINGS, NO RESPONSIBILITY IS TAKEN BY THE ENGINEER OR THE PRINCIPAL FOR THIS INFORMATION WHICH HAS BEEN SUPPLIED BY OTHERS. THE DETAILS ARE PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE POSITION OF ALL UNDER GROUND SERVICES PRIOR TO EXCAVATION AND SHALL BE RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGES CAUSED AS A RESULT OF THE WORKS.

CONCRETE NOTES:

- ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH AS1379, AS3600 AND AS3610
- ALL CONCRETE SUPPLY COMPLY WITH AS1379
- CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

ELEMENT	AS3600 F _{ck}	SLUMP (mm)	AGG. SIZE (mm)	AD MIXTURE	COVER (mm) TOP BTM SIDE	QUALITY OF SURFACE
PIER CAPS AND PIERS	N25	80	20	NIL	50 50 50	-
SLAB ON GROUND (INT.)	N25	80	20	NIL	30 - 30	S2
SLAB ON GROUND (EXT.)	N25	80	20	NIL	40 40 40	S2
TILT PANELS	N32	80	20	NIL	40 40 40	S2
MASONRY (CORE FILL)	S25	250	20	NIL	REF. SECTION	-

UNLESS OTHERWISE NOTED, CONCRETE COVER TO REINFORCEMENT SHALL BE AS NOTED ABOVE FOLLOWS (FOR NEAR COASTAL, TEMPERATE, NON INDUSTRIAL ZONES, 1 HOUR MIN. FIRE RATING)

- PROJECT ASSESSMENT OF STRENGTH IN ACCORDANCE WITH AS3600 SHALL BE ADOPTED FOR SAMPLING AND TESTING. CONTRACTOR SHALL PAY ALL COSTS.
- SIZE OF ELEMENTS IS EXCLUSIVE OF APPLIED FINISHES. BEAMS DEPTHS INCLUDE SLAB THICKNESS AND ARE THE FIRST DIMENSION SPECIFIED, FOLLOWED BY WIDTH.
- CONSTRUCTION JOINTS SHALL BE MADE ONLY AT APPROVED LOCATIONS, AND, IN BEAMS AND SLABS SHALL BE CONSTRUCTED WITH A SHEAR KEY TO ENGINEER'S DETAIL. SURFACES OF CONCRETE AT ALL JOINTS SHALL BE THOROUGHLY SCABBLED
- PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER
- ALL STEEL WIRE FABRIC SHALL BE SUPPLIED IN FLAT SHEETS.
- CONCRETE CURING AND STRIPPING SHALL BE IN ACCORDANCE WITH THE RELEVANT SAA CODES. CONCRETE ALL BE CURED A MINIMUM OF 7 DAYS AFTER POURING.

- ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED, PLASTIC OR CONCRETE CHAIRS. AT NO LESS THAN 800 CENTRES IN BOTH DIRECTIONS. BARS SHALL BE TIED AT ALTERNATIVE INTERSECTIONS. USE PLASTIC CHAIRS IN EXPOSURE CONDITION GREATER THAN B1
- NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER
- CONSTRUCTION JOINTS WHERE NOT SHOWN, SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER
- ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED WITH MECHANICAL VIBRATORS
- THE ENGINEER SHALL BE GIVEN 24 HOURS NOTICE FOR REINFORCEMENT INSPECTIONS AND CONCRETE SHALL NOT BE DELIVERED UNTIL THE ENGINEER'S APPROVAL IS OBTAINED.
- REINFORCEMENT IS SHOWN DIAGMATICALLY AND NOT NECESSARILY SHOWN IN TRUE PROJECTION
- SLAB REINFORCEMENT SHALL EXTEND AT LEAST 65mm ONTO MASONRY SUPPORT WALLS AND 50 PERCENT OF THE BOTTOM REINFORCEMENT SHALL BE COGGED TO ACHIEVE ANCHORAGE AT SIMPLY SUPPORTED ENDS
- SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.
- EXACT SIZE AND LOCATION OF PENETRATIONS ARE TO BE OBTAINED FROM WORKSHOP DRAWINGS PRIOR TO SCHEDULING OF REINFORCEMENT, AND ARE NOT TO EXCEED DIMENSIONS WHERE SHOWN ON STRUCTURAL DRAWINGS.
- CONDUITS CAST INTO CONCRETE MEMBERS SHALL BE SPACED AT MAXIMUM DISTANCE POSSIBLE AND UNDER NO CIRCUMSTANCES CLOSER THAN A CLEAR SPACING OF TWICE THE LARGER CONDUIT DIAMETER FROM PARALLEL REINFORCEMENT OR ANY OTHER CONDUIT
- ALL OPENINGS AND RE-ENTRANT ANGLES IN THE CONCRETE SHALL HAVE 2/N16 x 1500 LONG TIED TO UNDERSIDE OF SLAB TOP REINFORCEMENT.
- WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER
- WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12 BARS AT 400 CENTRES SPLICED WHERE NECESSARY AND LAPPED 400mm WITH MAIN BARS
- CONCRETE CURING SHALL BE AS FOLLOWS UNLESS OTHERWISE APPROVED - APPLICATION OF MBT MASTERKURE 111CF, CONFIRM EVAPORATION RESTRAINT ON THE SURFACE DIRECTLY AFTER SCREEDING - APPLICATION OF MBT MASTERKURE 100WB, WAX EMULSION COMPOUND ON THE SURFACE DIRECTLY AFTER TROWELLING - CONTINUOUS WATER SPRAY FOR A PERIOD OF 3 DAYS
- REINFORCEMENT SYMBOLS:
BAR DESIGNATION IS INDICATED AS - 10/N20-200
- NO. OF BARS -> 10
- BAR DIAMETER -> N20 - 20mm DIAMETER BAR
- N - DENOTES GRADE 500N HOT ROLLED DEFORMED BAR TO AS4671 (DRAFT)
- S - DENOTES GRADE 250S HOT ROLLED DEFORMED BAR TO AS1302
- Y - DENOTES GRADE 400Y HOT ROLLED DEFORMED BAR TO AS1302
- R - DENOTES 250R HOT ROLLED PLAIN BAR TO AS1303
- W - DENOTES HARD-DRAWN PLAIN WIRE TO AS1303
- RF - DENOTES HARD-DRAWN RIBBED WIRE FABRIC TO AS1304
- BAR SPACING -> 200 - DENOTES 200 MAX CENTRES

REINFORCEMENT LAPS SHALL BE (UNO) :

BAR DIAMETER	VERTICAL BARS	HORIZONTAL BARS
N12	600	600
N16	750	750
N20	950	950
N24	1050	1050
N28	1125	1125
N32	1250	1250
N36	1500	1500

KEY NOTATION:

- F.F. - DENOTES FAR FACE
N.F. - DENOTES NEAR FACE
E.F. - DENOTES EACH FACE
TYP. - DENOTES TYPICAL
N.S.O.P. - DENOTES NOT SHOWN ON PLAN
UNO - DENOTES UNLESS NOTED OTHERWISE

- MESH LAPS SHALL BE :
SUSPENDED SLABS
420mm (3 CROSS WIRES + 20mm)
SLAB ON GROUND
220mm (2 CROSS WIRES + 20mm)

STRUCTURAL STEEL NOTES:

- MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH S.A.A. CODES, PARTICULARLY AS4100, AS1554 - 1 AND 2, AND AS1511
- UNLESS OTHERWISE SHOWN, STEEL QUALITY SHALL CONFORM WITH THE FOLLOWING AUSTRALIAN STANDARDS:
STEEL PLATES AND SECTIONS - AS 3679 GRADE 300
RECTANGULAR HOLLOW SECTIONS - AS 1163 GRADE C350L0
CIRCULAR HOLLOW SECTIONS - AS 1163 GRADE C350L0
SQUARE HOLLOW SECTIONS - AS 1163 GRADE C350L0
- BOLT DESIGNATION IS INDICATED AS - 4/M20-8.8/S
- NUMBER OF BOLTS 4
- BOLT DIAMETER M20 - 20mm DIAMETER
- GRADE 8.8 - HIGH STRENGTH
- TIGHTENING S - SNUG TIGHTENED
TF - FULLY TENSIONED FICTION GRIP JOINTS
TB - FULLY TENSIONED ACTING IN BEARING
- UNLESS OTHERWISE SHOWN, ALL GUSSET PLATES SHALL BE 10mm THICK, ALL END PLATES SHALL BE 10mm THICK AND ALL CONNECTIONS TO HAVE A MINIMUM OF 2/M12-8.8/S BOLTS
- PROVIDE 8mm SEAL PLATES TO THE ENDS OF ALL HOLLOW SECTIONS, WITH BREATHER HOLES IF THE MEMBERS ARE TO BE GALVANISED.
- WELDS SHALL BE 6mm CONTINUOUS FILLET SP CATEGORY UNLESS NOTED OTHERWISE. BUTT WELDS SHALL BE COMPLETE PENETRATION BUTT WELDS. THE ENGINEER MAY ORDER NON-DESTRUCTIVE TESTING OF SELECTED WELDS. WELDS PROVED TO BE BELOW THE SPECIFIED QUALITY SHALL BE CUT OUT, RE-WELDED AND RE-TESTED AT CONTRACTOR'S EXPENSE.
- STEEL SHALL BE CLEANED OF GREASE, LOOSE RUST, SCALE ETC. ALL SHARP EDGED AND BURRS TO BE REMOVED FROM STEELWORK. STEELWORK NOT ENCASED IN CONCRETE SHALL BE PREPARED AND PAINTED AS SPECIFIED.

- INTERNAL STRUCTURAL STEELWORK SHALL BE SANDBLASTED TO CLASS '2.5' SURFACE PREPARATION AND COATED WITH A SINGLE COAT OF INORGANIC ZINC SILICATE
- ALL EXTERNAL OR PARTIALLY EXTERNAL STEELWORK SHALL BE HOT DIP GALVANISED AFTER FABRICATION
- THE CONTRACTOR SHALL UNLESS SPECIFIED ELSEWHERE
PROVIDE ALL PACKS, CLEATS, BOLTS (INCL. H.D. BOLTS) ETC. REQUIRED FOR TEMPORARY AND PERMANENT ERECTION OF STEELWORK WHETHER OR NOT SHOWN. PROVIDE ALL CLEATS, HOLES ETC. FOR ATTACHMENT OF NON-STRUCTURAL ELEMENTS WHETHER OR NOT SHOWN.
SUBMIT TWO (2) COPIES OF WORKSHOP DRAWINGS TO THE ENGINEER FOR INSPECTION. FABRICATION SHALL NOT COMMENCE WITHOUT WRITTEN RESPONSE FROM THE ENGINEER
- HIGH STRENGTH BOLTED JOINTS SHALL BE FABRICATED AND ASSEMBLED TO THE REQUIREMENTS OF AS 1511. CONTACT SURFACES SHALL BE CLEAN "AS ROLLED" AND NOT PAINTED. TENSION BOLTS BY THE "PART TURN METHOD OF TIGHTENING", OR BY LOAD INDICATING WASHERS.
- ALL COLD ROLLED PURLINS AND GIRTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS COMPLETE WITH ALL BRIDGING, BRACING ETC.
- UNLESS NOTED OTHERWISE, ALL ANCHOR BOLTS BUILT INTO CONCRETE SHALL BE GALVANISED COMMERCIAL GRADE 4.6 CONFORMING TO AS 1101. ALL OTHER BOLTS SHALL BE GALVANISED HIGH STRENGTH STRUCTURAL GRADE 8.8 CONFORMING TO AS 1252. ALL BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH AS 1511.

STEEL WALL FRAMING NOTES:

GENERAL NOTES:

MINIMAL WALL THICKNESS PROVIDE. WALL THICKNESS CAN BE INCREASE. REFER ARCHITECT'S DRAWINGS FOR VARIES WALL THICKNESS.

ALL STEELWORK, BOLTS, NUTS, WASHERS AND OTHER FITMENTS INCLUDING NAILING PLATES, STEEL STRAPPING AND FRAMING PLATES SHALL BE HOT DIPPED GALVANISED OR MANUFACTURED FROM GALVANISED STEEL SHEET IN THE CASE OF PLATES AND STRAPPING.

ALL INTERNAL PARTITION WALLS SHALL BE A DESIGN AND CONSTRUCT BY THE PARTITION WALL SUB-CONTRACTOR AND COMPLY WITH AS1170.4 SEISMIC LOADING DESIGN CRITERIA.

DESIGN LOADING:

ALL FRAMING MEMBER SIZES, TIE-DOWN BRACING, AND FIXING DETAILS SHALL COMPLY WITH AUSTRALIAN STANDARD CONSTRUCTION CODES AS1170.1-4 DESIGN CRITERIA UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
FIX ROOF SHEETING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION FOR WIND CLASSIFICATION 'N2'
INTERNAL PRESSURE COEFFICIENT +0.2, -0.3
DESIGN ROOF LIVE LOAD 0.25 kPa

WALL FRAMING:

WALL SYSTEMS - TO ARCHITECT'S SPECIFICATION

STUD: - 92mm 0.75mm BMT STUDS AT 450 CENTRES.

BOTTOM PLATE: - 92mm 0.75mm BMT 'C' SECTION

TOP PLATE: - 92mm 0.75mm BMT 'C' SECTION

NOGGINGS: - 1 ROW OF NOGGINGS AT MID SPAN OF WALL

SILL: - 2/92mm 0.75 BMT 'C' SECTION

LINTEL: - LINTEL DESIGNED BY WALL SYSTEM'S MANUFACTURER

OPENINGS: - 3 STUDS EACH SIDE OF OPENINGS

TIE DOWN:

WALL FRAMING TO SLAB

- PROVIDE 1 TITACON MASONRY ANCHOR OR EQUIVALENT WITH 32x2.5mm WASHER AT EVERY SECOND STUD
- PROVIDE M12 CHEMSET, 65 MIN. EMBEDMENT AT EACH END OF BRACING WALL PANELS. REFER DETAILS

WALL FRAMING TO UNDERSIDE OF HEADER BEAM

- PROVIDE 1 TEK SCREW OR EQUIVALENT AT EVERY SECOND STUD TO UNDERSIDE OF HEADER BEAM
- PROVIDE M12 BOLT AT EACH END OF BRACING PANEL

WALL FRAMING ON HEADER BEAM

- PROVIDE 1 TEK SCREW OR EQUIVALENT AT EVERY SECOND STUD TO TOP OF HEADER BEAM
- PROVIDE M12 BOLT AT EACH END OF BRACING PANEL

WALL FRAMING PURLINS

- PROVIDE 1 TEK SCREW OR EQUIVALENT AT EVERY SECOND STUD TO ROOF PURLIN

IF WALL IS LOCATED BETWEEN PURLINS - PROVIDE C100-12 ROOF NOGGINGS AT EVERY SECOND STUD. ROOF NOGGINGS TO PURLIN - 6 ANGLE WITH 2 TEK SCREWS. WALL FRAMING TO NOGGINGS - 1 TEK SCREW.

BRACING WALLS AND TIE-DOWN:

ALL BRACING WALLS TO BE CONNECTED TO LEVEL 1 SLAB AND ROOF FRAME TO ACHIEVE THE REQUIRED DESIGN RESISTANCE, REFER TO AS1684.2-1999 FOR CONNECTION DETAILS UNO.
BRACING WALLS LESS THAN 900mm TO HAVE FULL HEIGHT M12 H.D. RODS

BRACING:

PROVIDE SPEEDBRACE AS SHOWN FIXED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATION. PROVIDE BRACING WALLS AS SHOWN ON THE DRAWINGS. THE WALLS SHALL BE PLY SHEETED IN ACCORDANCE WITH THE PAA PLYWOOD ASSOCIATION DESIGN MANUAL TO ACHIEVE 6kN/m RESISTANCE. REFER TO DETAIL.

ISSUED FOR
CONSTRUCTION



REFER TO SECTION-A B.E.D.W FOR
DETAILED SCREEN COLUMN TO
WALL DETAILS. REFER ARCHITECT
AND SCREEN MANUFACTURER FOR
SETOUT AND QUANTITY REQ'D

CAST 'C' GATE
COLUMNS 400 MIN INTO
FOOTING BEAM

REFER TO DWG 191028-S7.1 FOR
COVERED WALKWAY SLAB PLAN

- RW2 - 1200mm High
- RW1 - 1200mm High
- RW3 - 1200mm High

SLAB AND FOOTING PLAN

SCALE 1:100
PA1 x2

NOTES

- REFER TO ARCHITECTURAL DRAWINGS FOR ALL FLOOR FINISHES AND DETAIL
TO ALL REBATES, SETDOWNS, STEPS AND FALLS ETC
- FOOTING PLAN TO BE READ IN CONJUNCTION WITH THE GEOTECHNICAL
REPORT BY GEOTEST TESTING SERVICES, G075/17186, DATED 16/04/2017
- SLAB ON GROUND TO BE CAST ONTO A 200 MICRON VAPOUR BARRIER AND
50mm BEDDING SAND LAYER. VAPOUR BARRIER JOINTS TO BE LAPPED AND
TAPED TO ARCHITECTS DETAILS
- REINFORCE ALL SLAB ON GROUND WITH 1 LAYER OF SLB2 MESH (30 TOP
COVER). LAP MESH 300 AS REQUIRED AND PROVIDE 1/12 TRIMMER TO ALL
SLAB EDGES 550 LAP WHERE REQUIRED. TYPICAL UNO

LEGEND

- SF1 DENOTES STRIP FOOTING TYPE. REFER DWG 191028-S2.1
PC1 DENOTES PIER CAP TYPE. REFER DWG 191028-S2.1
BP1 DENOTES BORED PIER TYPE. REFER DWG 191028-S2.1
BW1 DENOTES MASONRY BLOCK WALL. REFER DWG 191028-S2.1
RW1 DENOTES MASONRY BLOCK RETAINING WALL. REFER
DWG 191028-S2.1 TO S2.3
ET1 DENOTES EDGE THICKENING TYPE. REFER DWG 191028-S2.2
SJ DENOTES SAW CUT JOINT. REFER DWG 191028-S2.2
DJ1 DENOTES DOWEL JOINT TYPE. REFER DWG 191028-S2.2
IJ DENOTES ISOLATION JOINT WITH 10mm COMPRESSIBLE FILLER
BOARD AND APPROVES SEALANT
- ST1 DENOTES LOCAL SLAB THICKENING. REFER DWG 191028-S2.2
STEP DENOTES SLAB STEP / SET DOWN LOCATION AND DIRECTION
STEP VAPOR DENOTES VARYING DEPTH SLAB STEP / SET DOWN
LOCATION AND DIRECTION
- /// DENOTES 2/M12 TRIMMER BARS 1500 LONG. SPACED 100
FROM CORNER WHERE SHOWN
- ==== DENOTES 190 SERIES BLOCKWORK. REFER SECTIONS
- ==== DENOTES PRECAST CONCRETE PANEL. REFER ELEVATIONS
- ==== DENOTES STEEL STUD WALL FRAMING

COLUMN SCHEDULE

MARK	DESCRIPTION
C1	125x125x5.0 SHS COLUMN - GROUND TO UPPER ROOF (FULL HEIGHT)
C2	89x89x5.0 SHS COLUMN - GROUND TO UPPER ROOF (FULL HEIGHT)
C3	75x75x4.0 SHS COLUMN - GROUND TO ROOF
C4	75x75x4.0 SHS COLUMN - GROUND TO FLOOR FRAMING
C5	811x3x4.8 CHS COLUMN - GROUND TO ROOF - HEIGHT OFFSET
C6	811x3x4.8 CHS COLUMN - GROUND TO ROOF
C7	811x3x4.8 CHS SLANTED COLUMN - GROUND TO ROOF
C8	100x100x5.0 SHS COLUMN - SCREEN ENCLOSURE (CAST IN 900)
C9	75x75x4.0 SHS COLUMN - GROUND TO ROOF (ROLLER DOOR)
C10	75x75x4.0 SHS COLUMN - SCREEN COLUMN
C11	75x75x4.0 SHS COLUMN - COVERED WALKWAY
EC	EXISTING WALKWAY COLUMN
HR1	75x75x4.0 SHS HANGER - RAFTER TO RIDGING BEAM

EXISTING SERVICES

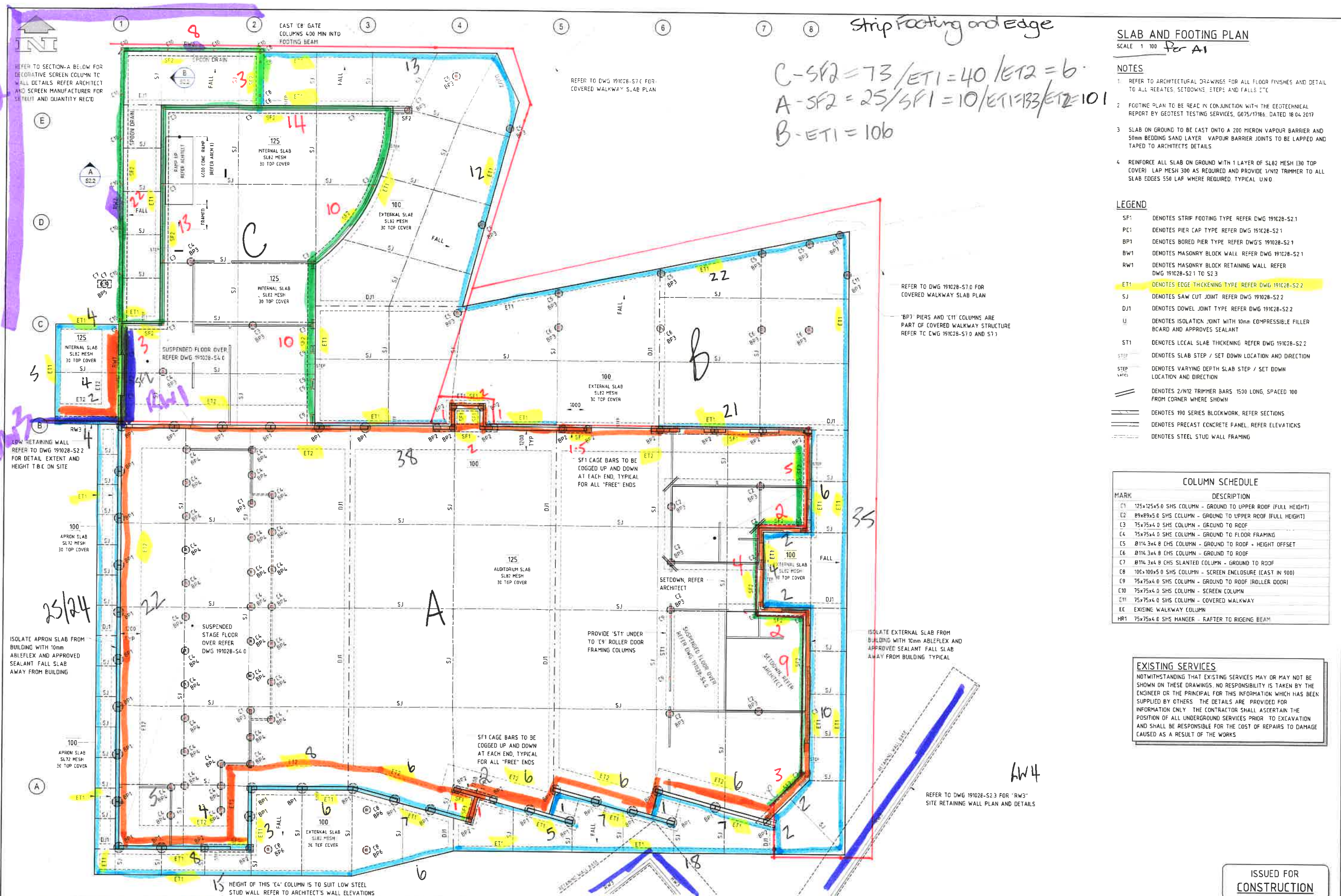
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ENGINEER OR THE PRINCIPAL FOR THIS INFORMATION WHICH HAS BEEN
SUPPLIED BY OTHERS. THE DETAILS ARE PROVIDED FOR
INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE
POSITION OF ALL UNDERGROUND SERVICES PRIOR TO EXCAVATION
AND SHALL BE RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGE
CAUSED AS A RESULT OF THE WORKS

Levelling Sand 50mm

$$26 + 48 + 280 + 1312 + 26 + 22 = 1715m^2$$

$$131.7T \cdot 1m^3 = 16T$$

ISSUED FOR
CONSTRUCTION



SLAB AND FOOTING PLAN
SCALE 1:100 Per A1

NOTES

1. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FLOOR FINISHES AND DETAIL TO ALL REBATES, SETDOWNS, STEPS AND FALLS ETC
2. FOOTING PLAN TO BE READ IN CONJUNCTION WITH THE GEOTECHNICAL REPORT BY GEOTEST TESTING SERVICES, G075/17166, DATED 18.04.2017
3. SLAB ON GROUND TO BE CAST ONTO A 200 MICRON VAPOUR BARRIER AND 50mm BEDDING SAND LAYER. VAPOUR BARRIER JOINTS TO BE LAPPED AND TAPED TO ARCHITECTS DETAILS
4. REINFORCE ALL SLAB ON GROUND WITH 1 LAYER OF SL62 MESH (30 TOP COVER). LAP MESH 300 AS REQUIRED AND PROVIDE 1/12 TRIMMER TO ALL SLAB EDGES 550 LAP WHERE REQUIRED, TYPICAL UNO

LEGEND

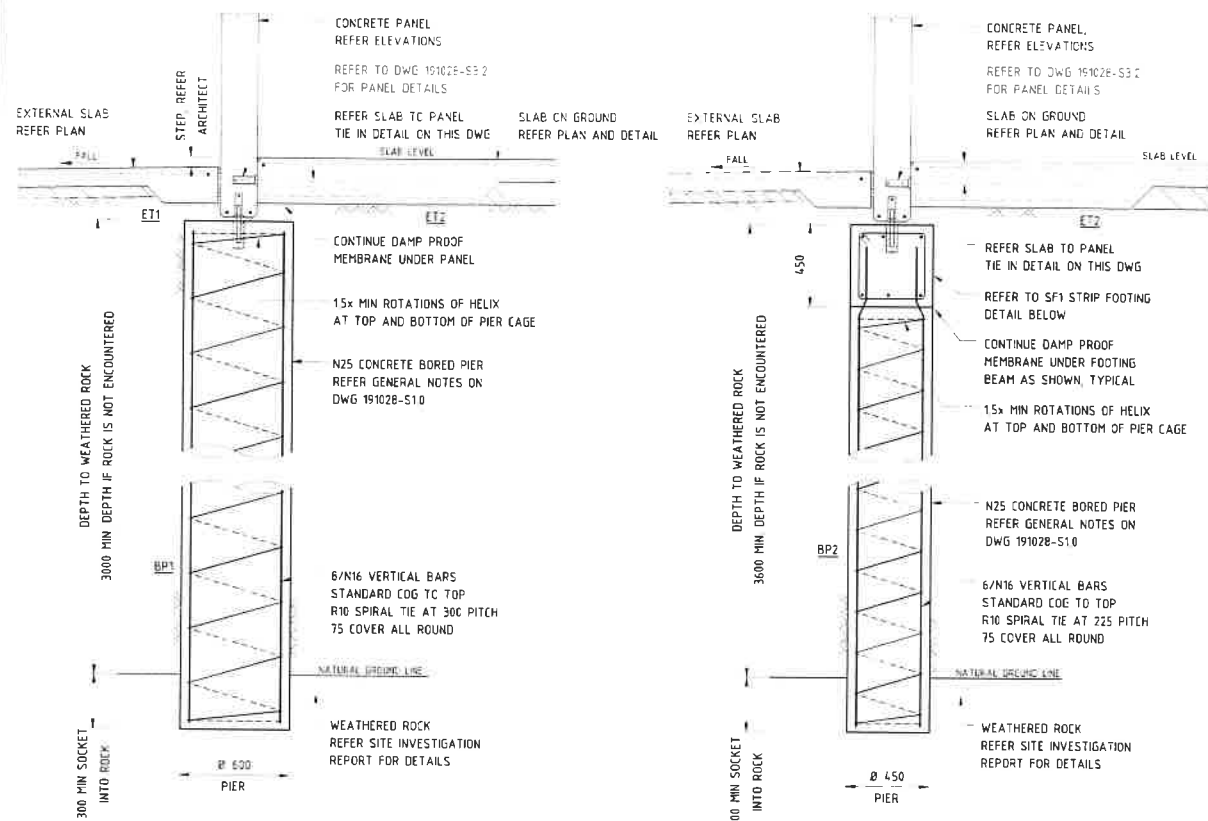
SF1 DENOTES STRIP FOOTING TYPE REFER DWG 191028-S2.1
PC1 DENOTES PIER CAP TYPE REFER DWG 191028-S2.1
BP1 DENOTES BORED PIER TYPE REFER DWG'S 191028-S2.1
BW1 DENOTES MASONRY BLOCK WALL REFER DWG 191028-S2.1
RW1 DENOTES MASONRY BLOCK RETAINING WALL REFER DWG 191028-S2.1 TO S2.3
ET1 DENOTES EDGE THICKENING TYPE REFER DWG 191028-S2.2
SJ DENOTES SAW CUT JOINT REFER DWG 191028-S2.2
DJ1 DENOTES DOWEL JOINT TYPE REFER DWG 191028-S2.2
U DENOTES ISOLATION JOINT WITH 10mm COMPRESSIBLE FILLER BOARD AND APPROVED SEALANT
ST1 DENOTES LOCAL SLAB THICKENING REFER DWG 191028-S2.2
STEP DENOTES SLAB STEP / SET DOWN LOCATION AND DIRECTION
STEP LINES DENOTES VARYING DEPTH SLAB STEP / SET DOWN LOCATION AND DIRECTION
// DENOTES 2/12 TRIMMER BARS 1500 LONG, SPACED 100 FROM CORNER WHERE SHOWN
--- DENOTES 190 SERIES BLOCKWORK, REFER SECTIONS
--- DENOTES PRECAST CONCRETE PANEL, REFER ELEVATIONS
--- DENOTES STEEL STUD WALL FRAMING

COLUMN SCHEDULE	
MARK	DESCRIPTION
C1	125x125x5.0 SHS COLUMN - GROUND TO UPPER ROOF (FULL HEIGHT)
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C3	75x75x4.0 SHS COLUMN - GROUND TO ROOF
C4	75x75x4.0 SHS COLUMN - GROUND TO FLOOR FRAMING
C5	811x3x4.8 CHS COLUMN - GROUND TO ROOF + HEIGHT OFFSET
C6	811x3x4.8 CHS COLUMN - GROUND TO ROOF
C7	811x3x4.8 CHS SLANTED COLUMN - GROUND TO ROOF
C8	106x106x5.0 SHS COLUMN - SCREEN ENCLOSURE (CAST IN 900)
C9	75x75x4.0 SHS COLUMN - GROUND TO ROOF (ROLLER DOOR)
C10	75x75x4.0 SHS COLUMN - SCREEN COLUMN
ET1	75x75x4.0 SHS COLUMN - COVERED WALKWAY
EC	EXISTING WALKWAY COLUMN
HR1	75x75x4.0 SHS HANGER - RAFTER TO RIGGING BEAM

EXISTING SERVICES

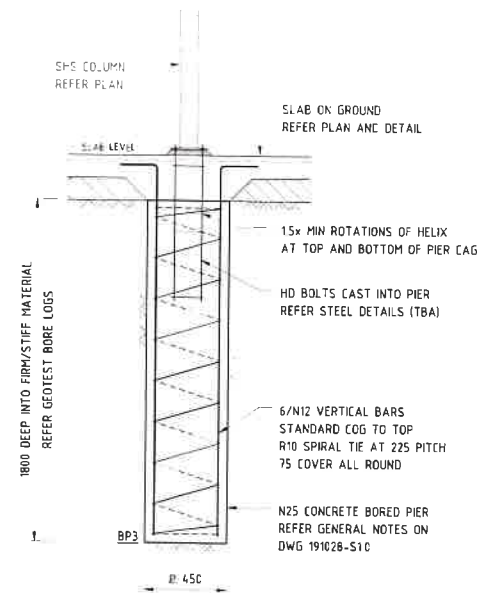
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ISSUED FOR CONSTRUCTION

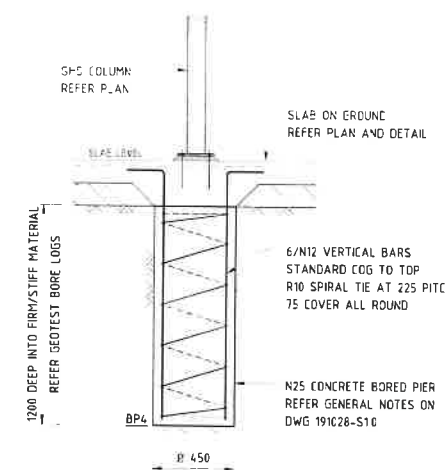


BORED PIER 'BP1' DETAIL
SCALE 1:20

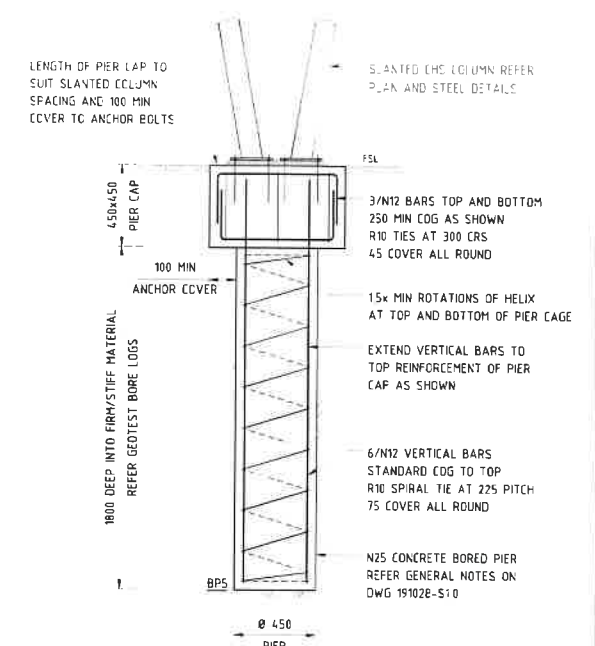
BORED PIER 'BP2' DETAIL
SCALE 1:20



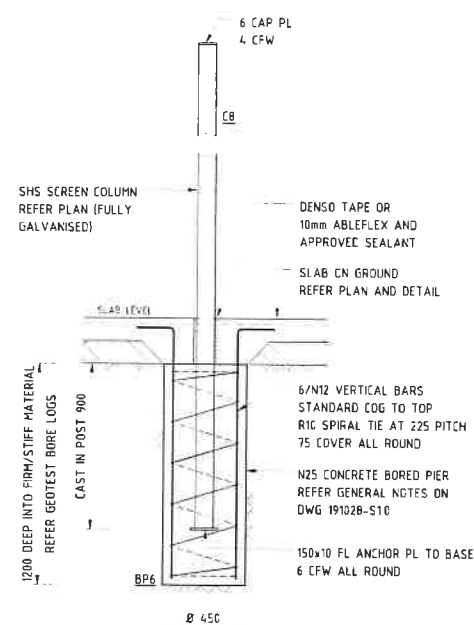
BORED PIER 'BP3' DETAIL
SCALE 1:20



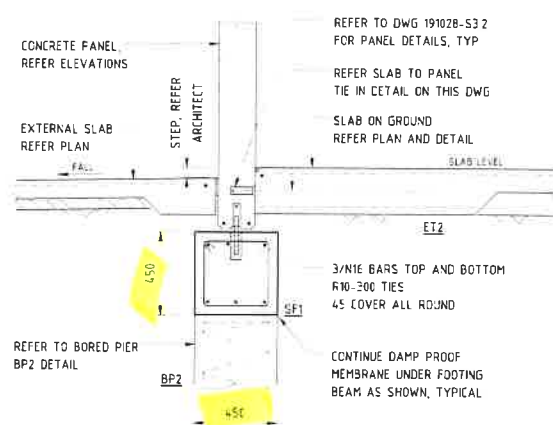
BORED PIER 'BP4' DETAIL
SCALE 1:20



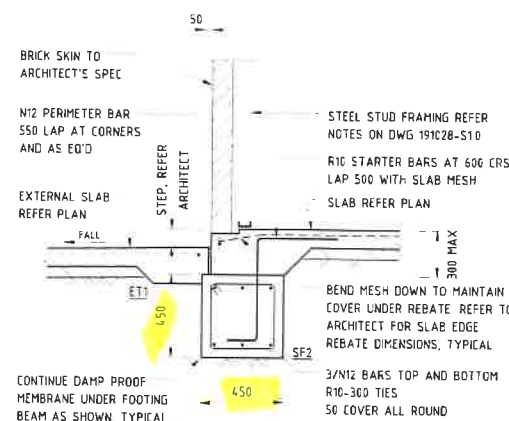
BORED PIER 'BP5' DETAIL
SCALE 1:20



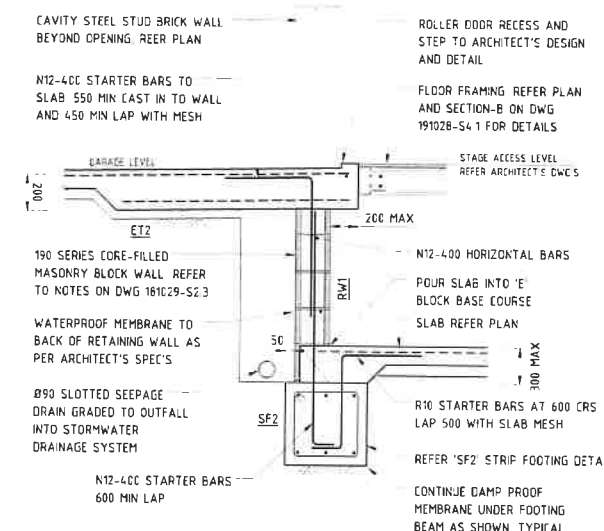
BORED PIER 'BP6' DETAIL
SCALE 1:20



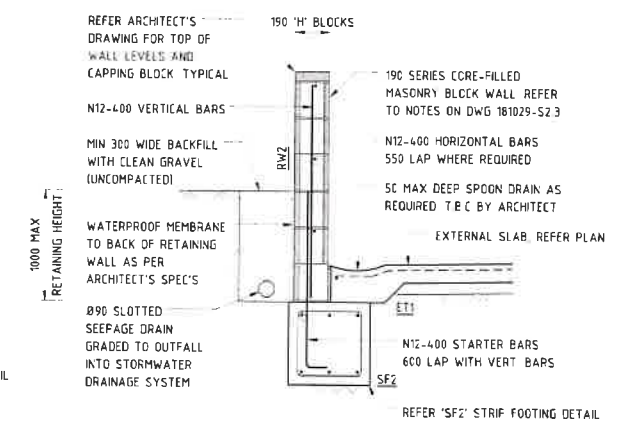
STRIP FOOTING 'SF1' DETAIL
SCALE 1:20



STRIP FOOTING 'SF2' DETAIL
SCALE 1:20

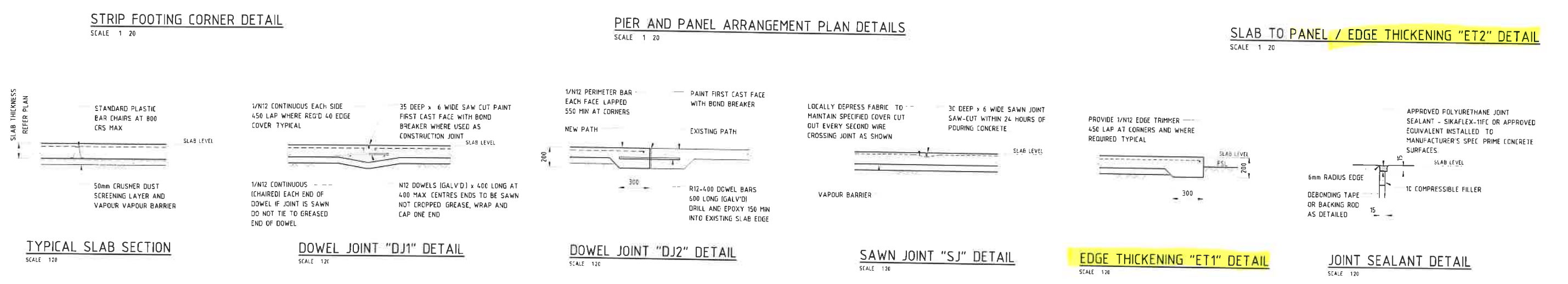
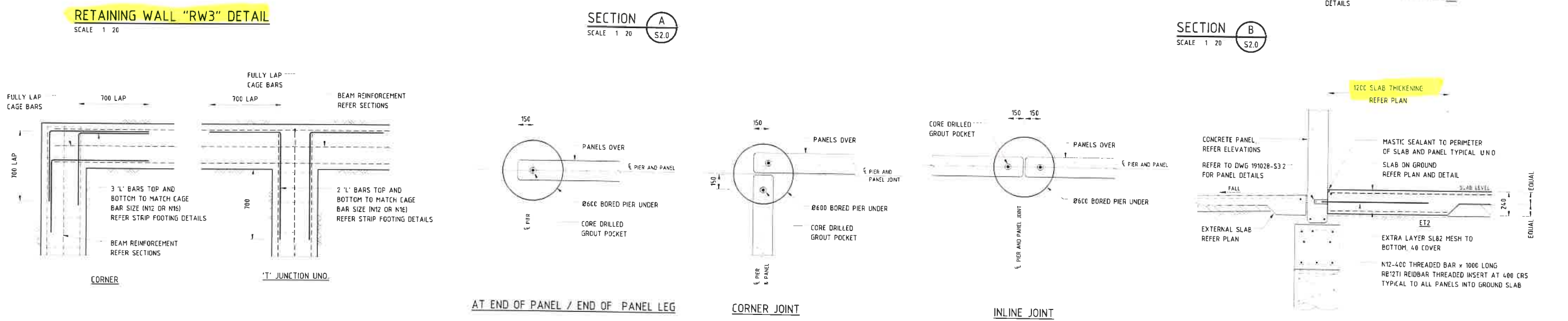
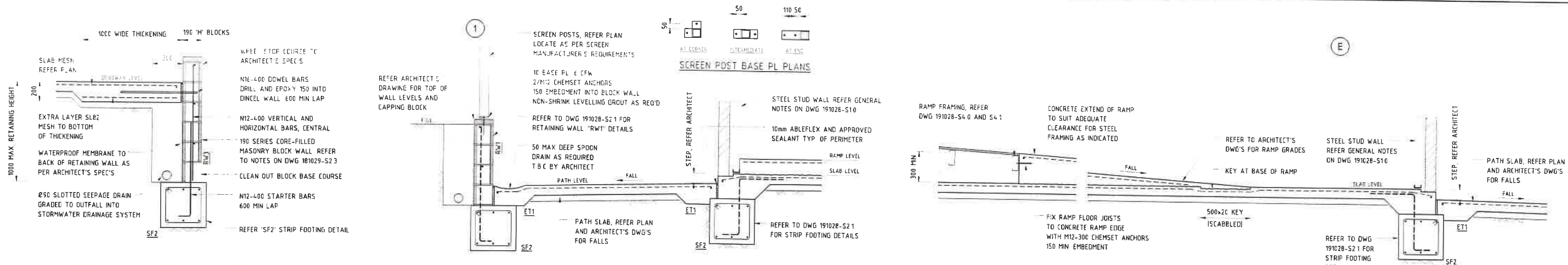


RETAINING WALL 'RW1' DETAIL
SCALE 1:20



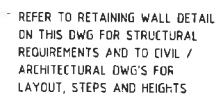
RETAINING WALL 'RW2' DETAIL
SCALE 1:20

ISSUED FOR
CONSTRUCTION





(A)



Ø90 SLOTTED SEEPAGE DRAIN
GRADED TO OUTFALL INTO
STORMWATER DRAINAGE SYSTEM

1/N12 LONGITUDINAL BAR

250

REFER SCHEDULE BELOW

600x600 'L' BARS
TO MATCH HORIZ
REINFORCEMENT

CONTROL JOINT
BLOCKS TYPICAL

150 MIN

1/2 EACH SIDE
OF JOINT TYP

JOINTS AT 8m MAX CRS

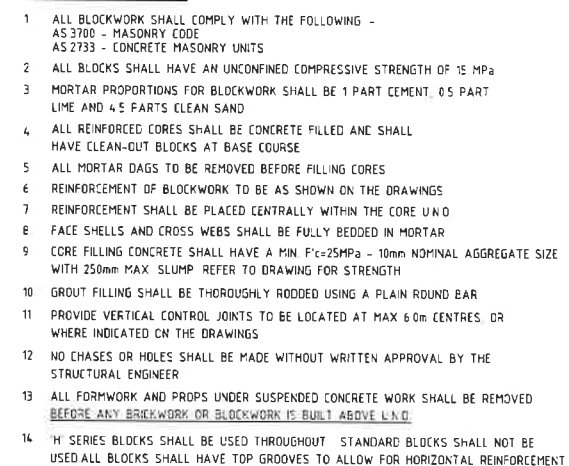
600x600 'L' BARS
TO MATCH HORIZ
REINFORCEMENT

'T' JUNCTION

CONTROL JOINT

CORNER

WALL HEIGHT	BASE WIDTH	WALL THICKNESS	KEY DEPTH	'V' BARS	'K' BARS	HEIGHT OF 30° SERIES
'H' (mm)	'B' (mm)	(mm)	'D' (mm)			
1200	800	200	150	N12-400	-	-
1400	900	200	200	N16-400	-	-
1600	1100	200	200	N16-400	-	-
1800	1100	200	250	N16-400	-	-
2000	1200	200	250	N20-400	-	-
2200	1400	200 & 300	450	N16-400	N16-400	800
2400	1500	200 & 300	450	N16-400	N16-400	800
2600	1700	200 & 300	550	N20-400	N20-400	1000
2800	1800	200 & 300	550	N16-200	N16-200	1000
3000	2000	200 & 300	650	N16-200	N16-200	1000
3200	2100	200 & 300	750	N20-200	N20-200	1200



- 1 ALL EXTERNAL ANCHORS SHALL BE STAINLESS STEEL ANCHORS
- 2 ALL ANCHORS TO BE OF CHEMICAL INJECTION SYSTEM UNO

MASONRY ANCHOR SCHEDULE:

MASONRY ANCHOR SCHEDULE:						MINIMUM ULTIMATE LOAD (k)			
ANCHOR SIZE	MINIMUM EMBEDMENT DEPTH (mm)	MIN EDGE DISTANCE (mm)		MIN ANCHOR SPACING (mm)		CONCRETE FILLED BLOCK 20MPa		REINFORCED CONCRETE 32MPa	
		TENSION	SHEAR	TENSION	SHEAR	TENSION	SHEAR	TENSION	SHEAR
M10	90	4.0	100	60	175	8.6C	9.70	10.50	11.80
M12	110	50	125	75	200	12.30	14.10	15.00	17.30
M16	125	75	200	100	200	18.00	27.60	22.00	33.00
M20	150	80	250	125	325	28.00	42.90	35.10	52.00

A	ISSUED FOR CONSTRUCTION
4	RETAINING WALL EXTENT AMENDED
3	ISSUED FOR TENDER/PRICING
2	PRE-TENDER COORDINATION ISSUE
1	PRELIMINARY ISSUE FOR COORDINATION

06.11.2020
23.06.2020
18.05.2020
01.05.2020
27.02.2020
DATE

Client	GROVES CHRISTIAN COLLEGE - CAMPUS 2
Address	PERFORMING ARTS BUILDING 12 VELORUM DR, KINGSTON, QLD
Title	SITE BLOCK RETAINING WALL PLAN AND DETAILS

Drawn by	T.M.W
Date	JAN 2020

Drawing No.	191028 - S2.3	Rev	A
Scale	As indicated	Sheet Size	A1



REFER TO SECTION-A BELOW FOR
DECORATIVE SCREEN COLUMN TO
WALL DETAILS. REFER ARCHITECT
AND SCREEN MANUFACTURER FOR
SETOUT AND QUANTITY REQUIREMENTS.

E

D

C

B

A

1

2

3

4

5

6

7

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23

CAST 'C' GATE
COLUMNS 400 MIN INTO
FOOTING BEAM

REFER TO DWG 191028-S7C FOR
COVERED WALKWAY SLAB PLAN

Bored Piers

A BP1=30/BP2=17/BP4=32/BP6=3/BP3=8
B BP3=8/BP7=2+
C BP3=8/BP5=1

SLAB AND FOOTING PLAN

SCALE 1:100

NOTES

1. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FLOOR FINISHES AND DETAIL TO ALL REGATES, SETDOWNS, STEPS AND FALLS ETC.
2. FOOTING PLAN TO BE READ IN CONJUNCTION WITH THE GEOTECHNICAL REPORT BY GEOTECH TESTING SERVICES, 6075/17186, DATED 16/04/2017.
3. SLAB ON GROUND TO BE CAST ONTO A 200 MICRON VAPOUR BARRIER AND 50mm BEDDING SAND LAYER. VAPOUR BARRIER JOINTS TO BE LAPPED AND TAPED TO ARCHITECT'S DETAILS.
4. REINFORCE ALL SLAB ON GROUND WITH 1 LAYER OF S182 MESH (30 TOP COVER). LAP MESH 300 AS REQUIRED AND PROVIDE 1/12 TRIMMER TO ALL SLAB EDGES 550 LAP WHERE REQUIRED. TYPICAL UNO.

LEGEND

- SF1 DENOTES STRIP FOOTING TYPE. REFER DWG 191028-S2.1
PC1 DENOTES PIER CAP TYPE. REFER DWG 191028-S2.1
BP1 DENOTES BORED PIER TYPE. REFER DWG'S 191028-S2.1
BW1 DENOTES MASONRY BLOCK WALL. REFER DWG 191028-S2.1
RW1 DENOTES MASONRY BLOCK RETAINING WALL. REFER DWG 191028-S2.1 TO S2.3
ET1 DENOTES EDGE THICKENING TYPE. REFER DWG 191028-S2.2
SJ DENOTES SAW CUT JOINT. REFER DWG 191028-S2.2
DJ1 DENOTES DOWEL JOINT TYPE. REFER DWG 191028-S2.2
IJ DENOTES ISOLATION JOINT WITH 10mm COMPRESSIBLE FILLER BEAD AND APPROVED SEALANT.
ST1 DENOTES LOCAL SLAB THICKENING. REFER DWG 191028-S2.2
STEP DENOTES SLAB STEP / SET DOWN LOCATION AND DIRECTION.
STEP VARIATION DENOTES VARYING DEPTH SLAB STEP / SET DOWN LOCATION AND DIRECTION.
2/12 TRIMMER BARS 1500 LONG SPACED 100 FROM CORNER WHERE SHOWN.
190 SERIES BLOCKWORK. REFER SECTIONS.
PRECAST CONCRETE PANEL. REFER ELEVATIONS.
STEEL STUD WALL FRAMING.

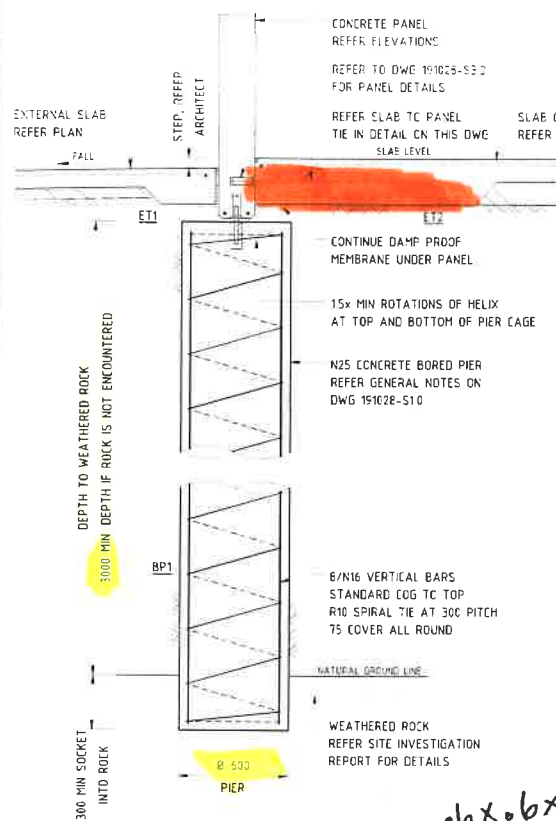
COLUMN SCHEDULE

MARK	DESCRIPTION
C1	125x125x5.0 SHS COLUMN - GROUND TO UPPER ROOF (FULL HEIGHT)
C2	89x89x5.0 SHS COLUMN - GROUND TO UPPER ROOF (FULL HEIGHT)
C3	75x75x4.0 SHS COLUMN - GROUND TO ROOF
C4	75x75x4.0 SHS COLUMN - GROUND TO FLOOR FRAMING
C5	811x3x4.8 CHS COLUMN - GROUND TO ROOF - HEIGHT OFFSET
C6	811x3x4.8 CHS COLUMN - GROUND TO ROOF
C7	811x3x4.8 CHS SLANTED COLUMN - GROUND TO ROOF
C8	100x100x5.0 SHS COLUMN - SCREEN ENCLOSURE (CAST IN 900)
C9	75x75x4.0 SHS COLUMN - GROUND TO ROOF (ROLLER DOOR)
C10	75x75x4.0 SHS COLUMN - SCREEN COLUMN
C11	75x75x4.0 SHS COLUMN - COVERED WALKWAY
EL	EXISTING WALKWAY COLUMN
HRT	75x75x4.0 SHS HANGER - RAFTER TO HINGING BEAM

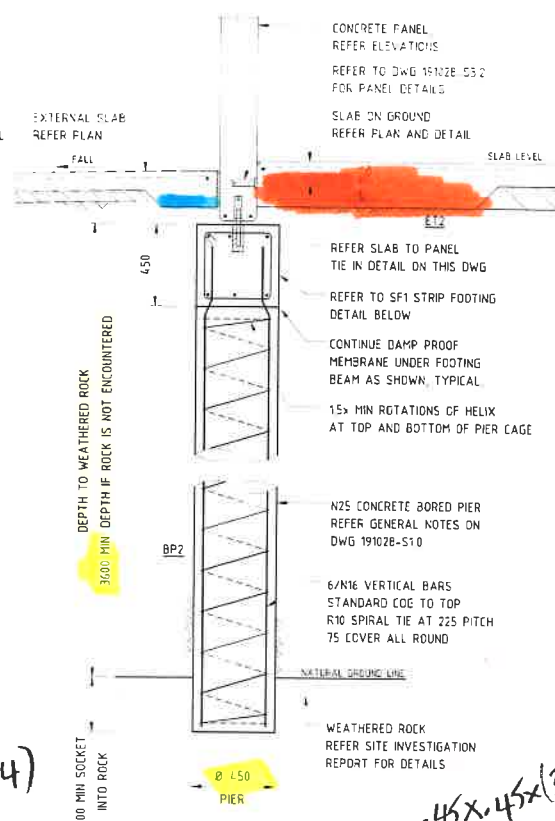
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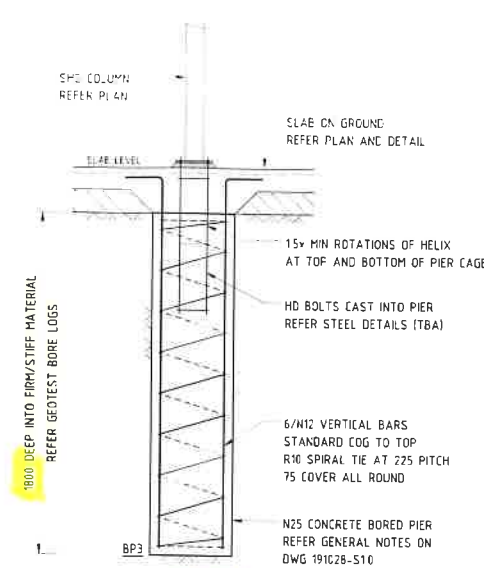
ISSUED FOR
CONSTRUCTION



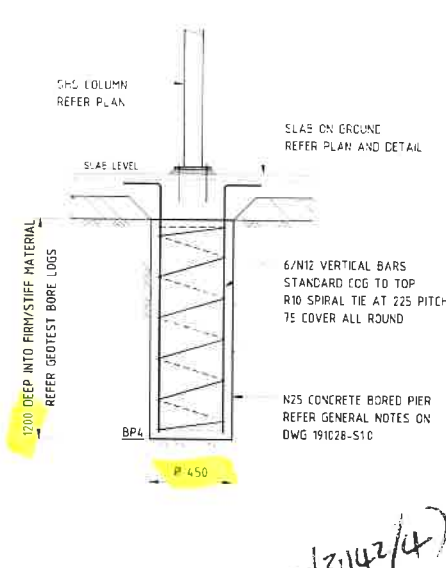
BORED PIER 'BP1' DETAIL
SCALE 1:20



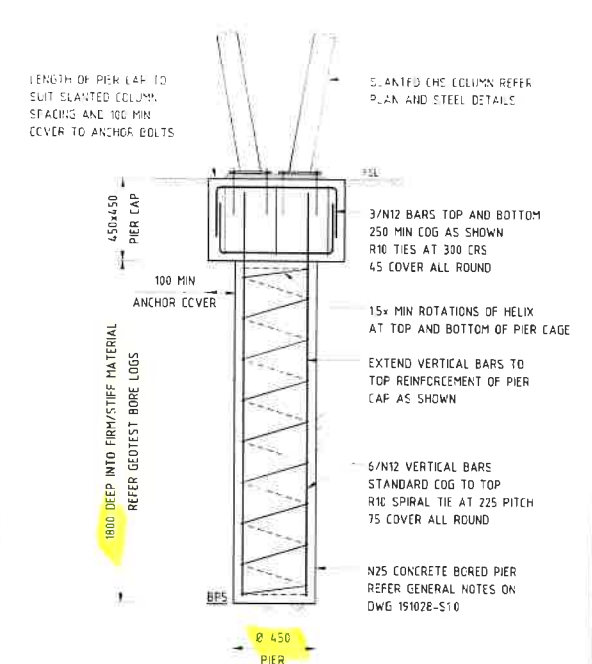
BORED PIER 'BP2' DETAIL
SCALE 1:20



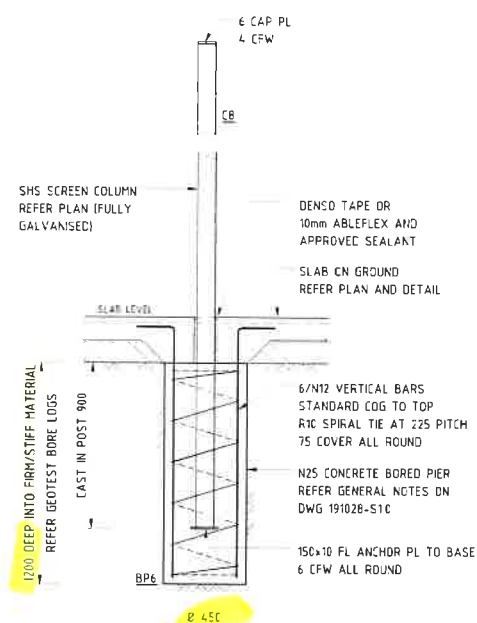
BORED PIER 'BP3' DETAIL
SCALE 1:20



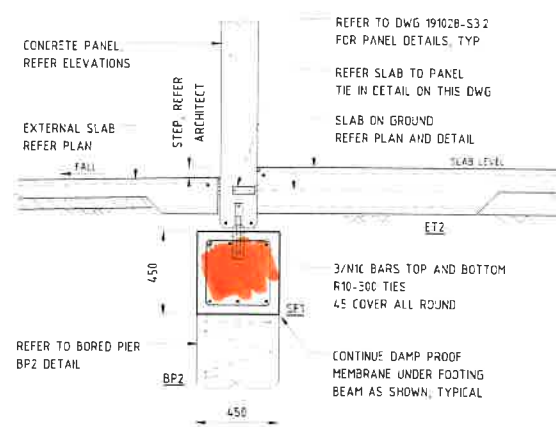
BORED PIER 'BP4' DETAIL
SCALE 1:20



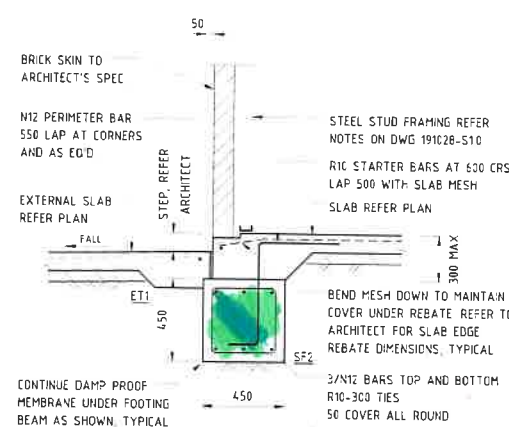
BORED PIER 'BP5' DETAIL
SCALE 1:20



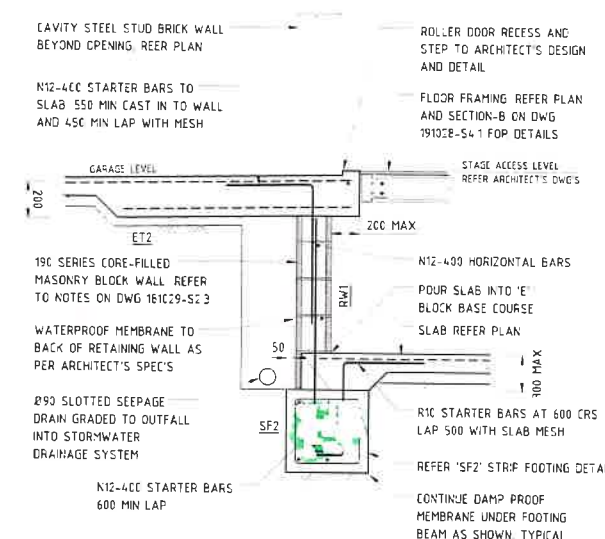
BORED PIER 'BP6' DETAIL
SCALE 1:20



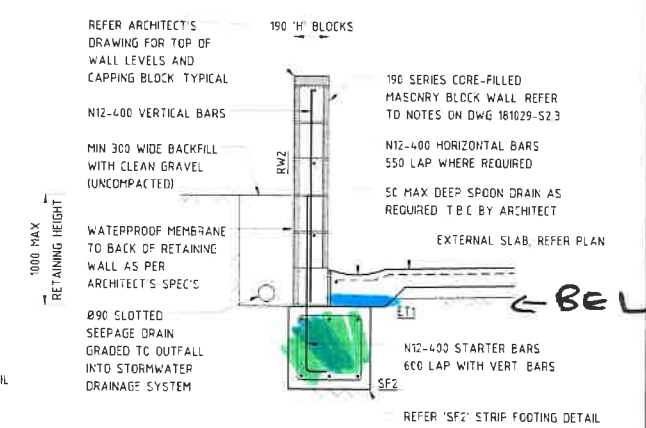
STRIP FOOTING 'SF1' DETAIL
SCALE 1:20



STRIP FOOTING 'SF2' DETAIL
SCALE 1:20



RETAINING WALL 'RW1' DETAIL
SCALE 1:20



RETAINING WALL 'RW2' DETAIL
SCALE 1:20

SLAB AND FOOTING PLAN

SCALE 1:100

NOTES

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LEGEND

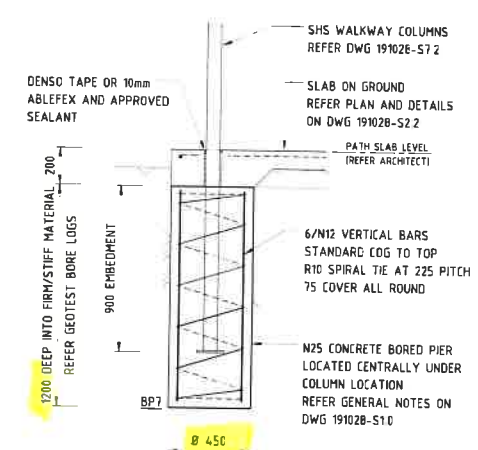
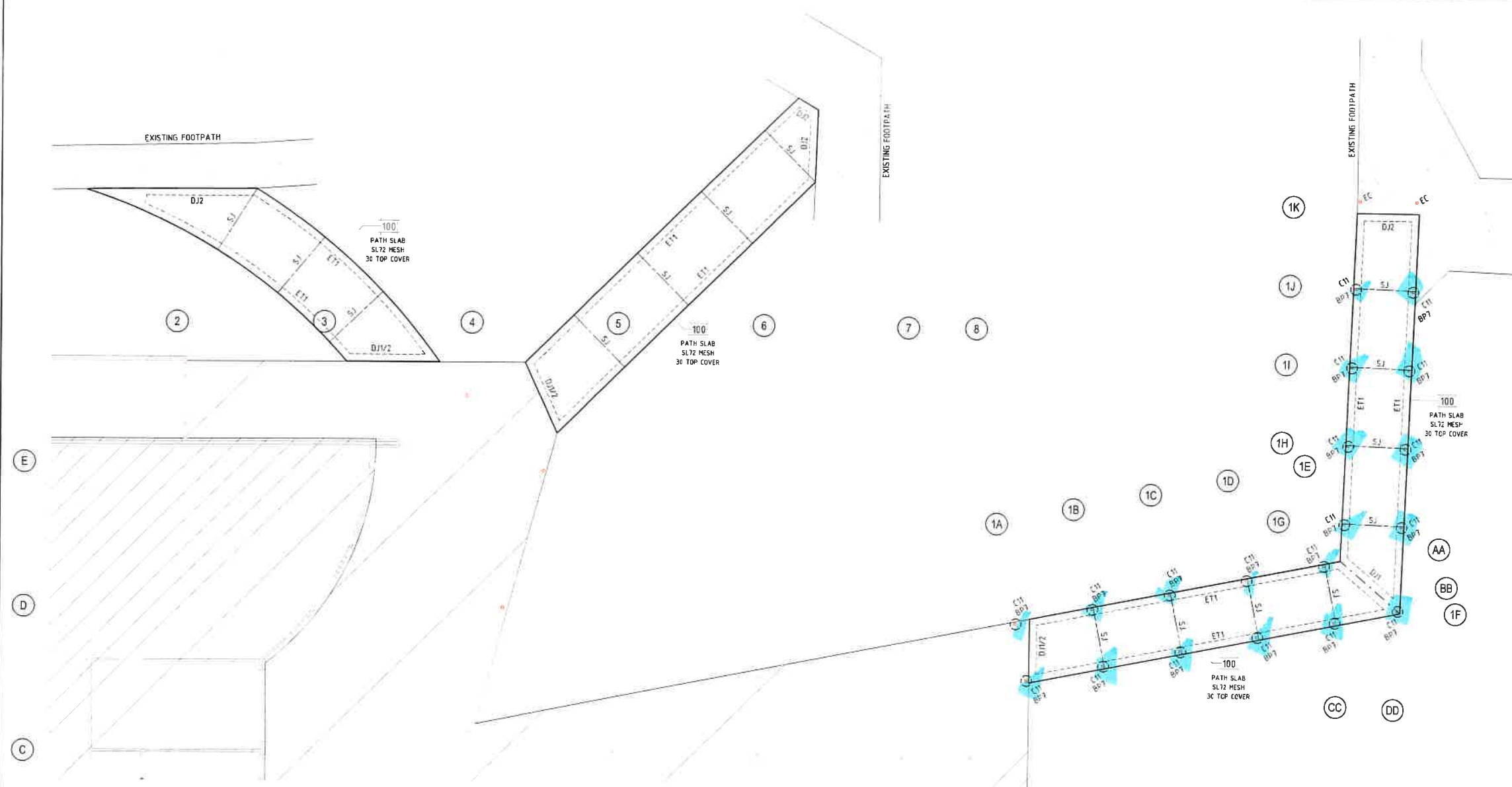
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 RW1 DENOTES MASONRY BLOCK RETAINING WALL REFER DWG 191028-S2.1 TO S2.3
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 SJ DENOTES SAW CUT JOINT REFER DWG 191028-S2.2
 DJ1 DENOTES DOWEL JOINT TYPE REFER DWG 191028-S2.2
 IJ DENOTES ISOLATION JOINT WITH 10mm COMPRESSIBLE FILLER BOARD AND APPROVES SEALANT
 ST1 DENOTES LOCAL SLAB THICKENING REFER DWG 191028-S2.2
 STEP DENOTES SLAB STEP / SET DOWN LOCATION AND DIRECTION
 STEP VARIES DENOTES VARYING DEPTH SLAB STEP / SET DOWN LOCATION AND DIRECTION
 DENOTES 2/12 TRIMMER BARS 1500 LONG, SPACED 100 FROM CORNER WHERE SHOWN
 DENOTES 190 SERIES BLOCKWORK, REFER SECTIONS
 DENOTES PRECAST CONCRETE PANEL, REFER ELEVATIONS
 DENOTES STEEL STUD WALL FRAMING

COLUMN SCHEDULE

MARK	DESCRIPTION
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C2	89x89x5.0 SHS COLUMN - GROUND TO UPPER ROOF (FULL HEIGHT)
C3	75x75x4.0 SHS COLUMN - GROUND TO ROOF
C4	75x75x4.0 SHS COLUMN - GROUND TO FLOOR FRAMING
C5	Ø114.3x4.8 CHS COLUMN - GROUND TO ROOF + HEIGHT OFFSET
C6	Ø114.3x4.8 CHS COLUMN - GROUND TO ROOF
C7	Ø114.3x4.8 CHS SLANTED COLUMN - GROUND TO ROOF
C8	100x100x5.0 SHS COLUMN - SCREEN ENCLOSURE (CAST IN 900)
C9	75x75x4.0 SHS COLUMN - GROUND TO ROOF (ROLLER DOOR)
C10	75x75x4.0 SHS COLUMN - SCREEN COLUMN
C11	75x75x4.0 SHS COLUMN - COVERED WALKWAY
EC	EXISTING WALKWAY COLUMN
HR1	75x75x4.0 SHS HANGER - RAFTER TO RIGGING BEAM

EXISTING SERVICES

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BORED PIER 'BP7' DETAIL

SCALE 1:20

0.45x0.45x(3.142/4)
x1.2

Groves CC - Kingston - Bill of Quantities - Rev 1					
	Item Description	Quantity	Unit	Unit Rate (Ex GST)	Amount (Ex GST)
1	P&G				
1.1	Site Establishment & Dis-establishment		Lump Sum	N/A	\$2,800.00
1.2	Additional Site Establishment & Dis-establishment's -should it be sequenced as such		Lump Sum	N/A	excl
1.3	Supply HSQE documentation / program / insurances and any other necessary documentation - does not necessarily include the use of 3rd party online HSQE system - unless agreed		Lump Sum	N/A	\$1,500.00
	Survey Costs - use lower value if not using our Stormwater Pricing below!!				
1.4	Survey setout - excl S/W		Lump Sum	\$1,400.00	\$1,400.00
	Survey Asbuilt - excl S/W - by Registered Surveyor		Lump Sum	N/A	n/a
	Traffic control - excluded by builder		Lump Sum	N/A	by builder
	Pothole for Existing Services - 3T & Spotter		hrly	\$195.00	hrly rate
	Sub Total				\$5,700.00
2	Environmental Control				
2.1	Silt Fence Erection	105	m	\$7.50	\$787.50
2.2	Temporary entrance shake down's - excl steel grids	1	No	\$2,100.00	\$2,100.00
2.3	e/o- incl steel grids for job duration	1	No	\$1,900.00	by Warrell
2.4	Sediment Protection to various Pits - during construction - existing		No	\$125.00	by plumber
2.5	Sediment Protection to various Pits - during construction - proposed		No	\$125.00	by plumber
2.6	Sandbags - undefined - allowance	1	LS	\$250.00	\$250.00
2.7	Dust Suppression - earthwork / pavement rates inclusive of onsite water-cart				incl
2.8	Road Sweeping - in the event material tracked onto roads - otherwise POA for daily / weekly undertaking				incl
2.9	Wash-down Bay				POA
2.10	Temporary / Permenant - Sediment Basin				n/a
2.11	BioRetention Basin				n/a
	Sub Total				\$3,137.50
3	Demolition & Earthworks				
3.1	Demolition				
3.2	Building Removal		LS		by demo contractor
3.3	Hardstands and man-made surfacing		LS		by demo contractor
3.4	Tree Removal incl Root Structure		LS		by demo contractor
3.5	Fauna Spotter		LS		by demo contractor
3.6	Earthworks				
3.7	Remove 100mm topsoil / grass covering to waste - Approx 2350m2	235	m3	\$28.00	\$6,580.00
3.8	Remove 100mm topsoil / grass covering to stockpile for re-use in Landscape Zones		m2	\$10.00	rate only
3.9	Cut to Waste		m3	\$25.00	rate only
3.10	etra over for non rippable rock with 24T Excavator - rate only		m3	\$90.00	rate only
3.11	Final Trim & Proof Roll Subgrade	2350	m2	\$1.00	\$2,350.00
3.12	Remove & Replace soft spots - import - cohesive soil - CBR10+ - rate only		m3	\$65.00	rate only
3.13	Remove & Replace soft spots - import - granular - CBR15 - rate only		m3	\$75.00	rate only
3.14	Cut to Fill - Select best materials from Spoil - no allowance lime / cement stabilisation to cut to fill material	23	m3	\$23.00	\$529.00
3.15	Import to Fill, Spread & Compact -CBR15+ / PI less than 12	1396	m3	\$25.50	\$35,598.00
3.16	e/o Stockpile incoming select fill	15	hrs	\$145.00	\$2,175.00
3.17	e/o - granular - CBR15		m3	\$15.00	rate only
3.18	50mm levelling sand to beneath dpc / concrete placed by others - 1715m2	1715	m2	\$6.00	\$10,290.00
3.19	Detention Tank - Benched Excavation - deeper than 1.5m (no allowance shoring)				
3.20	Cut to Waste - 5No x 12KL	75	m3	\$35.00	by plumber
3.21	Cut to Stockpile and backfill after installation of Tanks - extra benched material	50	m3	\$75.00	by plumber
3.22	Base Sand - 25mm	1	LS	\$600.00	by plumber
3.23	Spoil removal - loose truck measure		m3	\$16.50	rate only
3.24	Supply / Installation Of Tanks - by builder				
3.25	Geotechnical				
3.26	Geotech Supervision - Level 1 incl N/D testing - but excluding RPEQ certification	1	LS	\$3,000.00	\$3,000.00
	Sub Total				\$64,047.00
	Stormwater				
	Drainage - trench, supply, bed, lay, cap, joint and backfill concrete RCRRJ pipe incl CCTV				
	Sub Total				\$0.00
	Sewer - By Plumber				
	Sub Total				\$0.00
	Water - By Plumber				
	Sub Total				\$0.00
	Site Services - excl by Electrical - Price availaible upon request				
	Sub Total				\$0.00
4	Pavements - Optional				
	Supply, lay, grade, compact and compaction test				
	Internal Only				
	Flexible Pavment				
	Rigid Pavment				
	CBR45 x		m3	\$75.00	rate only
	Trim CBR45 - pre mesh		m2	\$5.00	rate only
	Concrete Supply & Placement				by concretor
	Concrete Paths				
	CBR15 x		m3	\$80.00	rate only
	Concrete Supply & Placement				by concretor

Refer Earthworks Tab

Refer Earthworks Tab

Refer Earthworks Tab

Refer Earthworks Tab

20T Exc hire rate

drawing 191028 - S2.0 Rev A

Item Description		Quantity	Unit	Unit Rate (Ex GST)	Amount (Ex GST)
	Kerbing				n/a
	Road Marking				n/a
	Signage				n/a
	External Only				
	Vehicle Crossing				n/a
	Sub Total				\$0.00
5	Detailed Excavations / Bored Piers				
	Excavate for				
5.1	Detailed Excavations				
	A				
5.2	SF1 - .45*.45*10	2.0	m3	\$125.00	\$253.13 ← based on market rates
5.3	SF2 - .45*.45*25	5.1	m3	\$125.00	\$632.81
5.4	ET1- .40*.10*133	5.3	m3	\$125.00	\$665.00
5.5	ET2- 1.2*.10*101	12.1	m3	\$125.00	\$1,515.00
	B				
5.6	ET1- .40*.10*106	4.2	m3	\$125.00	\$530.00
	C				\$0.00
5.7	SF2 - .45*.45*73	14.8	m3	\$125.00	\$1,847.81
5.8	ET1- .40*.10*40	1.6	m3	\$125.00	\$200.00
5.9	ET2- 1.2*.10*6	0.7	m3	\$125.00	\$90.00
5.10	Retaining Wall - Type 4 - 45m x 2.1m high (45x.3x.45) + (45x.25x1.4)	21.8	m3	\$110.00	\$2,400.75 ← based on market rates
5.11	Retaining Wall - Type's 1, 2 & 3 - captured in Bulk or SF's		m3	\$110.00	incl
5.12	Bored piers				
	A				
5.13	BP1 - (.6*.6*3.142/4)*3*30	25.5	m3	\$185.00	\$4,708.29 ← based on market rates
5.14	BP2 - (.45*.45*3.142/4)*3.6*17	9.7	m3	\$185.00	\$1,800.92
5.15	BP3 - (.45*.45*3.142/4)*1.8*8	2.3	m3	\$185.00	\$423.75
5.16	BP4 - (.45*.45*3.142/4)*1.2*32	6.1	m3	\$185.00	\$1,129.99
5.17	BP6 - (.45*.45*3.142/4)*1.2*3	0.6	m3	\$185.00	\$105.94
	B				
5.18	BP3 - (.45*.45*3.142/4)*1.8*8	2.3	m3	\$185.00	\$423.75
5.19	BP7 - (.45*.45*3.142/4)*1.2*19	3.6	m3	\$185.00	\$670.93
	C				
5.20	BP3 - (.45*.45*3.142/4)*1.8*8	2.3	m3	\$185.00	\$423.75
5.21	BP5 - (.45*.45*3.142/4)*1.8*1	0.3	m3	\$185.00	\$52.97
	Sub Total				\$17,874.77
6	Retaining Walls				
	Backfill to				
6.1	Bidum Cloth		m2	\$7.00	rate only
6.2	Agi Drains - (point of discharge by plumber if stormwater not part of scope)	90	m	\$6.00	by others
6.3	Connection to existing GP / Field PIT	2	No	\$1,100.00	by others
6.4	Free Draining Agg -(RW1/2/3 - 1.2*.45*34)+(RW4 - 2.1*.5*45)	65.6	m3	\$65.00	\$4,264.65 ← Refer Detailed Exc Tab
	Sub Total				\$4,264.65
				TOTALCOST (excl GST)	\$95,023.92
				GST	\$ 9,502.39
				TOTALCOST (incl GST)	\$ 104,526.31

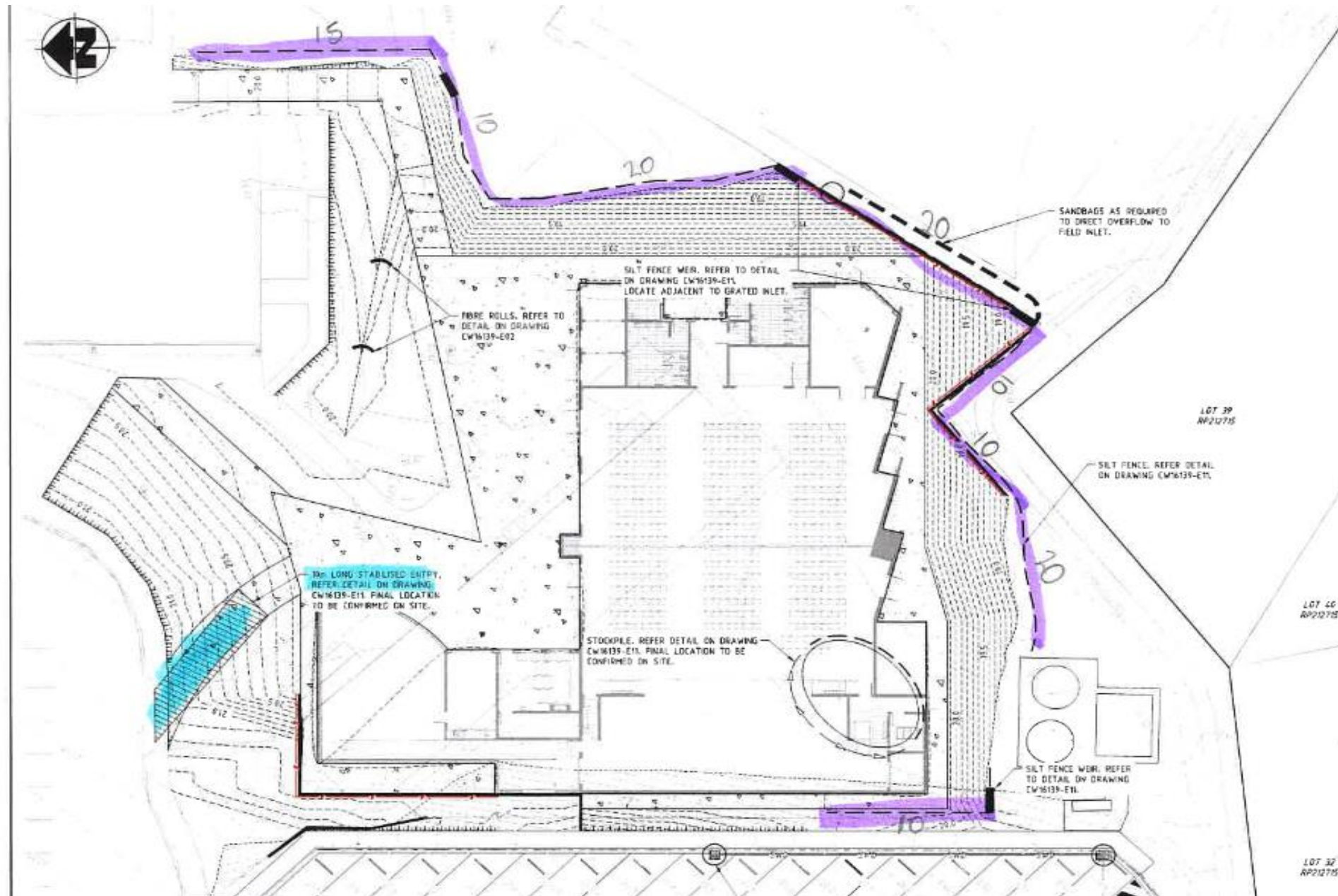
	WEEKLY PROGRAMME - CIVIL WORKS		MONTH - SEPTEMBER 2021			
Day/Date	MONDAY 06/09/2021	TUESDAY 07/09/2021	WEDNESDAY 08/09/2021	THURSDAY 09/09/2021	FRIDAY 10/09/2021	SATURDAY 11/09/2021
Job Site	Kingston	Kingston	Kingston	Kingston	Kingston	Kingston
Activity/Task	Strip Topsoil 3.7	Trim/Proof Roll 3.11	Footing for retaining wall 5.10	Import Fill Place Material 3.15	Import fill/Stockpile 3.15/ 3.16	Import Fill Place Material 3.15
	Site Establishment 1.1	Import fill/Stockpile 3.15/ 3.16	Material stock pile 3.10	Geotech 3.26	Survey 1.4	
	Silt Fencing 2.1	Survey 1.4	Remove Topsoil 3.7			
		Geotech 3.26				
Resources	20T Excavator 3.7	20T Excavator 3.15/3.16	20T Exccavator 3.7/3.10	20T Excavator 3.15	20T Excavator 3.15/3.16	Drott 3.15
	Labour - Supervision	Labour - Supervision	Labour - Supervision	Labour - Supervision	Drott 3.15	Labour - Supervision
	Labourer	Drott 3.11	Pink 3.7	Flexihire 18T Padfoot 3.15	Flexihire 18T Padfoot 3.16	
	Vidgil silt fence 2.1	Watercart 3.11	8T Excavator 5.10	Watercart 3.15	Watercart 3.16	
		Vision Survey 1.4		Construction Sciences 3.26	Labour - Supervision	
		Labourer		Drott 3.15	Labourer/Roller Driver	
		Pink Material 3.15		Labourer/Roller Driver	Vision Survey 1.4	
		Construction Sciences 3.26				
Day/Date	MONDAY 13/09/2021	TUESDAY 14/09/2021	WEDNESDAY 15/09/2021	THURSDAY 16/09/2021	FRIDAY 17/09/2021	SATURDAY 18/09/2021
Job Site	Kingston	Kingston	Kingston	Kingston	Kingston	Kingston
Activity/Task	Import Fill 3.15	Cut to Fill 3.14	VAR001 Excess Spoil/Concrete	Detailed Excavations 5.2 - 5.20	Detailed Excavations 5.2 - 5.20	Detailed Excavations 5.2 - 5.20
	Drainage Agg 6.4					
Resources	Labour - Supervision	Labour - Supervision	Labour - Supervision	Labour - Supervision	Labour - Supervision	Labour - Supervision
	Drott 3.15/6.4	15T Excavator	Posi	15T Excavator	15T Excavator	15T Excavator
	Conplant 13T Smoothdrum 3.15	Posi	20m3 Truck & Dog	5T Combo w/borer	5T Combo w/borer	5T Combo w/borer
	Labourer/Roller Driver	Drott				
	8T Excavator 6.4	Watercart				
	Watercart 3.15					
	20mm Agg/Body Truck 6.4					
Day/Date	MONDAY 20/09/2021	TUESDAY 21/09/2021	WEDNESDAY 22/09/2021	THURSDAY 23/09/2021	FRIDAY 24/09/2021	SATURDAY 25/09/2021
Job Site	Kingston	Kingston	Kingston	Kingston	Kingston	Kingston
Activity/Task	Detailed Exc Remove Pier Spoil 5.13 - 5.20	Drainage Agg 6.4	Detailed Excavations 5.2 - 5.20	Detailed Excavations 5.2 - 5.20	Detailed Excavations 5.2 - 5.20	Sand Prep 3.18
Resources	Labour - Supervision	Labour - Supervision	Labour - Supervision	Labour - Supervision	Labour - Supervision	Labour - Supervision
	8T Excavator	5T Combo	5T Combo w/rock borer	5T Combo w/rock borer	5T Combo w/rock borer	5T Combo
	EPH Trucks	20mm Agg/Body Truck				Body Trucks/Crusher Dust

Day/Date	MONDAY 27/09/2021	TUESDAY 28/09/2021	WEDNESDAY 29/09/2021	THURSDAY 30/09/2021	FRIDAY 01/10/2021	SATURDAY 02/10/2021
Job Site	Kingston	Kingston	Kingston	Kingston	Kingston	Kingston
Activity/Task	Sand Prep 3.18					
Resources	Labour - Supervision					
	5T Combo					
	Body Trucks/Crusher Dust					

Silt Fence

Refer Drawing CW16139-E10 Rev H

=15 + 10 + 20 + 20 + 10 + 10 + 10 + 10 105m



Detailed Excavation		Refer Drawing 191028 S2.0, S2.1, S2.2 and S2.3	
Section	A		m3
	SF1	.45 x .45 x 10	2.0
	SF2	.45 x .45 x 25	5.1
	ET1	.40 x .10 x 133	5.3
	ET2	1.2 x .10 x 101	12.1
Section	B		
	ET1	.40 x .10 x 106	4.2
Section	C		
	SF2	.45 x .45 x 73	14.8
	ET1	.40 x .10 x 40	1.6
	ET2	1.2 x .10 x 6	0.7
Retaining Walls		Refer Drawing 191028 S2.3	
Retaining Walls 1/2/3		=1.2 x .45 x 34	18.36
Retaining Wall - Type 4 - 45m x 2.1m high		= 2.1 x .5 x 45	47.25
			65.61 m3
	20mm Agg Supply and Place		
Production Rate	11.00		
Unit	m3		
Plant			
8T	\$122.00		
Drott / Grader			
Body Truck	\$98.00		
Combo	\$122.00		
Spotter	\$65.00		
Grader			
Sheepsfoot / Smooth Drum			
Water Cart			
Hrly Rate	\$407.00		
Volume - m3	66		
Production Rate - m3/hr	11		
Hrs Required	5.96		
	6		
Rate per hr	\$407.00		
Cost	\$2,427.20		
Volume	65.60		
Rate per m3	\$37.00		
Tender rate per m3	\$37.00		
Fill Delivered per m3			
Tender rate per m3			
Dumping Fees	\$18.50	Qld Recycling rate per tonne	
Margin	\$9.71		
Cost & Margin	\$65.21		
Rounding	\$65		

Admin & OH Costs

Admin/AP - Produce SWMS/ITPS/Site Folder	48 1.5hrs @ \$32
Estimating Dept Hrs	118 2hrs @ \$59
Insurances	
Workcover	165
Public Liability	593
Contract Works	404
	1328
Margin 12.5%	166
	1494

Insurance costs worked out as a % project turnover * premium

Workcover = $105,000/5000,000 * \$94,691/12$ duration of project 1 month

Public Liability = $105,000/5000,000 * \$28,209$

Contract Works = $105,000/5000,000 * \$19,239$

Bored Piers**Refer Drawing 191028 S2.0, S2.1 and S7.0**

Section	A		m3
	BP1 -	$= (.6 \times .6 \times 3.142/4) \times 3 \times 30$	25.5
	BP2 -	$= (.45 \times .45 \times 3.142/4) \times 3.6 \times 17$	9.7
	BP3 -	$= (.45 \times .45 \times 3.142/4) \times 1.8 \times 8$	2.3
	BP4 -	$= (.45 \times .45 \times 3.142/4) \times 1.2 \times 32$	6.1
	BP6 -	$= (.45 \times .45 \times 3.142/4) \times 1.2 \times 3$	0.6
Section	B		
	BP3 -	$= (.45 \times .45 \times 3.142/4) \times 1.8 \times 8$	2.3
	BP7 -	$= (.45 \times .45 \times 3.142/4) \times 1.2 \times 19$	3.6
Section	C		
	BP3 -	$= (.45 \times .45 \times 3.142/4) \times 1.8 \times 8$	2.3
	BP5 -	$= (.45 \times .45 \times 3.142/4) \times 1.8 \times 1$	0.3

Earthworks									
CALCULATIONS	Topoil	Notes	Bulk	Notes	Subgrade	Bulk		Bulk	Sand
	Strip to W		Cut to W		Trim & Proof	Cut to Fill		Import 15	Import Crusher Dust
Task	30		45		Roll	30		60	50
Production Rate	m3		m3		m2	m3		m3	m2
Plant									
Exc 20T = 145/hr	\$145.00		\$145.00			\$145.00			
Exc12-15T = 120/hr									
Exc 8-15T = 110/hr									
Exc3-8T = 100/hr									
Drott - \$170/hr					\$170.00	\$170.00		\$170.00	
Grader - \$190/hr									
5t Combo - \$122/hr									\$122.00
Spotter - \$65	\$65.00		\$65.00		\$65.00	\$65.00		\$65.00	\$65.00
Body Truck - \$90/hr			\$90.00			\$90.00			
Semi / Moxy - \$125									
Roller - 7T+ \$120/hr								\$120.00	
Roller - 7T- \$100/hr									
Water Cart - \$110/hr	\$110.00		\$110.00		\$110.00	\$110.00			
Hrly Rate	\$320.00		\$410.00		\$345.00	\$580.00		\$355.00	\$187.00
Volume - m3	235		1168		2350	300		1396	86
Production Rate - m3/hr	30		45		400	30		60	50
Hrs Required	7.83		25.96		5.88	10.00		23.27	1.72
	8		26		6	10		23	2
Rate per hr	\$320.00		\$410.00		\$345.00	\$580.00		\$355.00	\$187.00
Cost	\$2,506.67		\$10,641.78		\$2,026.88	\$5,800.00		\$8,259.67	\$320.71
Volume	235.00		1,168.00		2,350.00	300.00		1,396.00	85.75
Rate per m3	\$10.67		\$9.11		\$0.86	\$19.33		\$5.92	\$3.74
Tender rate per m3	\$10.67		\$9.11		\$0.86	\$19.33		\$5.92	\$3.74
Fill Delivered per m3								\$15.75	\$1.62
Tender rate per m3									
Dumping Fees	\$12.80	= Pink rate of \$8/m3 x 1.6 (loose m)	\$12.35	= Pink rate of \$6.50/m3 x 1.9(loose m)					
Margin	\$4.11		\$3.76		\$0.15	\$3.38		\$3.79	\$0.94
Cost & Margin	\$27.57		\$25.22		\$1.01	\$22.72		\$25.46	\$6.30
Rounding	\$28		\$25		\$1.0	\$23		\$25.50	\$6
Remove topsoil m2	= 1504 + 252 + 290 +174 + 130								
	= 2350m2								
	=235m3								
Import to Fill Qty									
from civil engineer (refer email)	1395.6m3								
Cut to fill Qty									
from civil engineer (refer email)	23m3								
50mm Levelling sand	86m3								
1715m2 x .05									
86m3 x 1.54 = 132.44T (1m3 = 1.54T)									

Temp Entrance

= 10m x 5m x .2

10m3 40/75mm

1 load = 15T
10m3

1m3 = 1.54T

Install	40-75mm gravel	1 load @	\$495	\$	495.00
	Geofab	1 roll		\$	280.00
	20T Exc to place	2.5 hrs @	\$145/hr	\$	362.50
				\$	<u>1,137.50</u>

Removal	10m3 Tipper	2 hrs @ \$98	\$	196.00
	20T Exc	1 hr @ \$145/hr	\$	145.00
	Dump Fees		\$	350.00
			\$	<u>691.00</u>

Margin 12.5%

\$ 1,828.50

\$ 228.56

\$ 2,057.06

\$ 2,100.00

Site Establishment Kingston

Plant Float to site and return

	quote	per	cost
20T Exc with 2 buckets	590	2	1180
13T Roller	265	2	530
18T Roller	385	2	770

Total			\$ 2,480.00
	+ margin 12.5%		\$ 310.00
			\$ 2,790.00

Site Register 2021

Project: Groves CC Kingston

Personnel	Task/Equipment	Company General (✓ or ✖)	Carsburg H&S Manual (✓ or ✖)	MSDS Risk Assessment (✓ or ✖)	Operator Assessment (✓ or ✖)	Date	Signature	Hours Required
Rodney Carsburg	Supervision							171
Kidd Moors	Tipper/Truck & Dog							10
Kevin Woodbury	Watercart							40
Lawrie Knight	Tipper/Truck & Dog							20
Bruce Treacy	5T Combo							10
Sean McDonnell	5T Combo							60
Craig Davis	5T Combo							10
Troy Devine	5T Combo							10
Sean Bruyn	Drott							50
Dave Reeve	15T Excavator							30
Paul Newick	Labourer/Roller Driver							50
Josh Flaherty	Tipper/Truck & Dog							10
Dan Griep	20T Excavator							55
Ash Turnbull	Posi							10
Robbie Rose	8T Excavator							20
Equipment								
20T Excavator								55
8T Excavator								20
15T Excavator								30
18T Padfoot Roller								20
13T Smoothdrum Roller								20
Watercart								27
Drott								50
5T Combo								90
Truck & Dogs								10
10m3 Tippers								50
Large Posi								10

Virginia Hemsley

From: Justin Kernick <justin.kernick@pinkphh.com.au>
Sent: Thursday, 5 August 2021 12:52 PM
To: Carsburg Estimator; Virginia Hemsley
Subject: FW: RFQ - Cartage - Groves CC - Kingston
Attachments: Groves Campus 2 Soil Test.pdf

G'day Darren,

Topsoil removal if clean \$8.00 PLUS GSTM3.
Clean fill removal \$6.50 PLUS GST M3.
CBR15 Untested \$2.00 PLUS GSTM3.
CBR15 tested \$15 per tonne PLUS GST.
Prices may vary depending on start time of job.

Please let me know if you require anything else have a great day.

Kind Regards

Justin Kernick
Field Services Representative
M 0499 010 772 P 1300 PINK PHH
E justin.kernick@pinkphh.com.au
125 Axis Place, Larapinta QLD 4110
PO Box 318, Browns Plains QLD 4118
Disclaimer



From: Carsburg Estimator <estimator@carsburgearthmoving.com.au>
Sent: Thursday, 6 August 2021 12:39 PM
To: Justin Kernick <justin.kernick@pinkphh.com.au>; Virginia Hemsley
Subject: FW: RFQ- Cartage - Groves CC- Kingston

Can I get some rates for this one ASAP



Regards,

Darren McKay

Estimator

'Earthmoving Excellence'

207 Elliot Road, Banyo QLD 4014

M: 0429 112 536

Estimator@carsburgearthmoving.com.au

www.carsburgearthmoving.com.au

MACHINE & TRUCK HIRE- SAND & GRAVEL SUPPLY- PROJECT SOLUTIONS

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**Vision Surveys (QLD) Pty Ltd**

ABN: 84 128 752 947

PO Box 3206, Hendra

Queensland, 4011

(07) 3638 0259

brisbane@visionsurveysqld.com.au

Carsburg Civil Pty Ltd

207 Elliott Rd, Banyo Qld 4014

Attn: Virginia Hemsley

accounts@carsburgearthmoving.com.au

QUOTE**0020265****Date:**

15 Aug 2021

Project No :

20763

PO Number:

A-15235

QUOTE FOR PROFESSIONAL FEES**Groves Christian College****SURVEYING SERVICES**

Download and review plans, correspondence	1.00	hrs at	125.00	\$125.00
Calc architectural plans for setout	1.00	hrs at	125.00	\$125.00
Travel to and from site, setup control, stakeout approx. building corners	5.00	hrs at	125.00	\$625.00
Produce Setout Sketch	0.75	hrs at	125.00	\$93.75
Review design data and Generate Rover files	1.00	hrs at	125.00	\$125.00

Subtotal: \$1093.75**GST:** \$109.38**Total:** **\$1203.13**Westpac
BSB: 034-181
ACC: 220760
Ref: 0020265

Credit Card payments: call accounts 07 4948 3781 with card details (1.5% card fee applies).





Quote

Vidgil Pty Ltd
Po Box 63
Samford QLD 4520
Phone: 07 3289 6480
Fax: 07 3289 3778
A.C.N 119 823 139 A.B.N 11 235 836 963
VIDGIL PTY LTD AS TRUSTEE FOR THE
DICKSON FAMILY TRUST TRADING UNDER
VIDGIL PTY LTD

Quote

Carsburg Civil Pty Ltd
PO Box 8
BANYO QLD 4014

Quote #: **00026513**

Date: **1/05/2021**

DESCRIPTION	EX AMOUNT	GST	TOTAL
Supply and install approx 105L/M Sediment Containment Barrier at \$5.00 per L/M Site:- Groves Christian College	\$540.00	\$54.00	\$594.00

DIRECT DEPOSIT DETAILS
BSB 014-203 ANZ
Account No - 4935 26018
The Dickson Family Trust

Balance Due Inc GST

This quote remains valid for 30 days

Our reference:

Carsburg Civil Pty Ltd
PO Box 8
BANYO QLD 4014

Vidgil Pty Ltd
Po Box 63
Samford QLD 4520

Quote

\$594.00

We appreciate your business.

Darren McKay

From: Peter Warrell <peter@warrellconstructions.com.au>
Sent: Thursday, 8 July 2021 2:16 PM
To: Carsburg Estimator; Virginia Hemsley
Subject: RE: Groves C.C. - Performing Arts Building

Hi Darren,

I have spoken to the client and this was only an option to try to save money early on. The detention tanks will remain as per our set of drawings Rev I (i)

Please note that the civil engineers cut to fill quantities are outlined below;

The volumes excluding bulking factors are as per below:

22.8m3
1395.6m

Should you have any queries, please do not hesitate to contact our office

Peter Warrell
Director



o:(07)32778810
m : 0418564111
e : peter@warrellconstructions.com.au
w : www.warrellconstructions.com.au
p : PO Box 3110 Tarragindi QLD 4121

Variation Charge Sheet



PROJECT	Groves Chrstian College	DATE	16/09/2021
INITIATED BY	Kym	Instruction No.	Not Supplied upon request email
AUTHORISED BY	Carl	CV No.	VW01
CHARGED TO	Warrell Construction	IV NO	
DESCRIPTION	Excess Spoil and Concrete Removal		

O/ N/ SI	Materials / Labour / Trades	Unit	Quantity	Rate	\$
13-Sep	Excess Spoil Removal from Plumbing and electrician excavations	m3	104	\$ 17.00	\$ 1,768.00
	Concrete removal	m3	10	\$ 55.00	\$ 550.00
					\$ -
					\$ -
					\$ -
					\$ -
					\$ -
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					\$ -
					\$ -
					\$ -
Is this claim subject to time extension? If so provide details:			Sub Total		\$ 2,318.00
			Overhead & Margin	10.0%	\$ 231.80
TOTAL SUBMITTED (Ex GST)					\$ 2,549.80

Darren McKay

From: Carl Tyson <carl@warrellconstructions.com.au>
Sent: Friday, 16 July 2021 2:49 PM
To: Carsburg Estimator; Virginia Hemsley
Cc: Neil Carsburg
Subject: RE: Groves Staging - Rev 5A & 5B

Hi Darren,

Sorry should have sent this initially, quants below;

Strip Footings (SF1 & SF2) = 111lm

Retaining Wall Footings (RW1,2,3) = 34lm

Retaining Wall Footings (RW4) = 45lm

Bored Piers

PILE	PILE DIAMETER (mm)	No.	MAX. PILE LENGTH (m)	NOMINAL REINFORCING STEEL
BP1	600	30	3.3	8N16 R10 Spiral @300
BP2	450	17	3.9	6N16 R10 Spiral @225
BP3	450 (16)	24	1.8	6N12 R10 Spiral @225
BP4	450	32	1.2	6N12 R10 Spiral @225
BP5	450	1	1.8	6N12 R10 Spiral @225
BP6	450	3	1.2	6N12 R10 Spiral @225
BP7	450	19	1.2	6N12 R10 Spiral @225

Carl Tyson
Construction Manager

