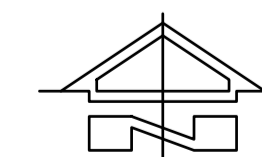


# RYLSTONE CARAVAN PARK LOT 145 DP 755789 CARWELL ST, RYLSONE CIVIL DRAWINGS

## DRAWINGS LIST

- C1.00 COVER SHEET
- C1.01 GENERAL NOTES
  
- C2.00 EXISTING SITE PLAN
  
- C3.00 PROPOSED SITE PLAN
  
- C4.00 PROPOSED SEWER PLAN
- C4.01 SEWER LONG SECTIONS
  
- C5.00 WATER PLAN
- C5.01 WATER DETAILS

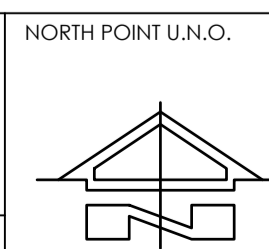


LOCATION PLAN  
N.T.S

ISSUED FOR CONSTRUCTION  
AMENDMENTS

01/10/21	0	J.D.
DATE	ISSUE	BY

**FOR CONSTRUCTION**



ARCHITECT

CLIENT  
MWRC

PROJECT  
RYLSTONE CARAVAN PARK  
CARWELL STREET  
RYLSTONE NSW

DESIGNED	DRAWN	DATE	SIZE	CAD REF
--	--	OCT 21	A1	TX15848.00 C01



**TRIAxIAL**  
CONSULTING  
COMPLEX PROBLEMS  
RESOLVED SIMPLY

██████████  
████████████████████  
TO BE PRINTED IN COLOUR

COVER SHEET

C1.00 0



**GENERAL**

- CG1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH 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.
- CG2 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- CG3 ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER/CONTRACTOR ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT.
- CG4 UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- CG5 ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

**SURVEY**

- SU1 THE EXISTING SITE CONDITIONS SHOWN ON THE DRAWINGS HAVE BEEN INVESTIGATED BY OTHERS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN.
- SU2 THE FOLLOWING ENGINEERING SURVEY SHALL NOT BE TAKEN AS A CADASTRAL OR BOUNDARY IDENTIFICATION SURVEY. BOUNDARY DATA SHALL BE TAKEN AS A GUIDE ONLY UNLESS NOTED OTHERWISE.
- SU3 SHOULD DISCREPANCIES BE FOUND BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA THE CONTRACTOR SHALL NOTIFY TRIAXIAL CONSULTING PRIOR TO COMMENCEMENT OF THE WORKS. THE CONTRACTOR SHALL ACCEPT ALL RESPONSIBILITY FOR ERRORS MADE DURING CONSTRUCTION WHERE SURVEY DISCREPANCIES WERE NOT RELAYED AND RESOLVED BY TRIAXIAL CONSULTING PRIOR TO COMMENCEMENT OF THE WORKS.

**EXCAVATION**

- EX1 REFER TO REPORT ON GEOTECHNICAL STABILITY ASSESSMENT FOR INFORMATION PERTAINING TO EXISTING SITE STABILITY, EXCAVATION AND GEOTECHNICAL ISSUES.
- EX2 ALL SITE EXCAVATION TO BE PERFORMED IN ACCORDANCE WITH ITEMS NOTED IN THE ABOVE LISTED REPORT.
- EX3 THE EARTHWORKS CONTRACTOR IS TO CONTACT OR MEET WITH THE GEOTECHNICAL ENGINEER PRIOR TO COMMENCEMENT OF ANY EXCAVATION TO DETERMINE APPROPRIATE TECHNIQUES AND HOLD POINTS.
- EX4 TEMPORARY BATTER CUT TO ROCK TO BE FORMED AT NO STEEPER THAN 1 V : 1 H. PERMANENT BATTER TO BE CONFIRMED ON SITE IN CONSULTATION WITH THE GEOTECHNICAL ENGINEER.

**EXISTING UNDERGROUND SERVICES**

- EU1 THE EXISTING UNDERGROUND SERVICES INDICATED ON THESE DRAWINGS HAVE BEEN OBTAINED FROM SURVEY AND SERVICE AUTHORITY INFORMATION. THE SERVICES INFORMATION SHOWN ARE THOSE OF KNOWN SERVICES ONLY. THE LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND MAY NOT BE 'AS CONSTRUCTED' OR ACCURATE. THE PRESENCE OR ABSENCE OF SERVICES SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- EU2 THE CONTRACTOR SHALL TAKE ALL DUE CARE WHEN EXCAVATING ON SITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
- EU3 THE CONTRACTOR SHALL CONTACT ALL RELEVANT SERVICE AUTHORITIES PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION WORKS.
- EU4 THE CONTRACTOR SHALL UNDERTAKE A THOROUGH SERVICES SEARCH PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION WORKS. THE RESULTS OF SERVICES SEARCHES SHALL BE RECORDED AND KEPT ON SITE AT ALL TIMES.
- EU5 THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING POT-HOLING TO ESTABLISH AND CONFIRM LOCATIONS AND DEPTHS OF EXISTING UNDERGROUND SERVICES/UTILITIES PRIOR TO COMMENCEMENT OF WORK ON SITE.

**SITE PREPARATION**

- GENERAL
- SP1 ALL EARTHWORKS, SITE PREPARATION AND MATERIALS TO BE IN ACCORDANCE WITH AS3798 AND THE GEOTECHNICAL ENGINEERS REPORT U.N.O.
- SP2 SEDIMENT AND EROSION CONTROL MEASURES AS DOCUMENTED MUST BE IN PLACE PRIOR TO THE COMMENCEMENT OF WORK.
- SUBGRADE
- SP3 STRIP EXISTING AREA AS REQUIRED TO CONSTRUCT NEW WORKS, REMOVE ANY TOP SOIL, ALL ORGANIC & DELETERIOUS MATERIAL FROM SITE WORKS AREA.
- SP4 THE CUT AND FILL SURFACE SHALL BE PROOF ROLLED TO ENSURE THAT THE FILL AND NATURAL GROUND FORMING THE SUBGRADE TO SUB-BASE IS AT A SUITABLE DENSITY AND MOISTURE CONTENT.
- SP5 PRIOR TO THE COMMENCEMENT OF ANY CIVIL OR STRUCTURAL CONSTRUCTION THE RELEVANT SITE AREA IS TO BE COMPACTED AND TESTED IN ACCORDANCE WITH AS1289.5.1.1 OR 5.1.2 - 1993 TO PRODUCE THE FOLLOWING: -98.0% STANDARD COMPACTION AT THE SURFACE AND AT 200MM BELOW SURFACE LEVEL. FREQUENCY OF FIELD DENSITY TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS3798 - 2007 TABLE 8.1 TESTING SHALL BE EVENLY SPACED OVER THE ENTIRE SITE, AND AT RANDOM LOCATIONS. TEST RESULTS SHALL BE FORWARDED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF WORKS.
- SP6 PROOF ROLLING SHALL BE CARRIED OUT UNDER THE DIRECTION OF THE CONTRACTOR. A MINIMUM 10 TONNE STATIC MASS SMOOTH DRUMMED ROLLER SHALL BE USED, WHERE THERE IS MOVEMENT UNDER THE ROLLER INDICATING SOFT, WET OR DISTURBED SUBGRADE, THE AREA OF MOVEMENT SHALL BE IDENTIFIED AND POOR SUBGRADE MATERIAL REMOVED. ANY REPLACEMENT MATERIAL SHALL BE BACKFILLED WITH APPROVED FILL PLACED IN LAYERS NOT EXCEEDING 200mm LOOSE MEASUREMENT AND IN ACCORDANCE WITH FILLING NOTE SP9 TO 98% OF SDD AND WITHIN ±2% OF STANDARD OPTIMUM MOISTURE CONTENT.
- THE
- SP7 WHERE THERE HAS BEEN AN EXTENDED DRY PERIOD THE SUBGRADE SURFACE MAY EXHIBIT DESICCATION CRACKS CONSISTENT WITH NEAR SURFACE DRYING OUT. IF SIGNIFICANT DRYING OUT HAS OCCURRED, MOISTURE CONDITION THE UPPER 200mm OF THE SUBGRADE. THE MATERIAL SHOULD THEN BE COMPACTED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS FOR DENSITY AND MOISTURE CONTENT.

**FILL/SUB-BASE**

- SP8 COMPACTION TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE ALLOWED FOR IN THE TENDER FOR THE PROJECT. THE CONTRACTOR SHALL ALLOW FOR SOIL COMPACTION TESTING TO ALL FILL FORMATIONS WHICH SUPPORT CONCRETE SLAB ON GROUND TYPE FLOORS AND EXTERNAL PAVEMENTS. TESTS SHALL BE CARRIED OUT BY AN INDEPENDENT 'NATA' REGISTERED LABORATORY IN ACCORDANCE WITH THE REQUIREMENTS OF AS1289. SUBMIT TEST REPORTS TO THE ENGINEER FOR REVIEW.
- SP9 IMPORTED FILL IS TO BE WELL GRADED CRUSHED SANDSTONE, RIPPED SHALE OR APPROVED ALTERNATIVE, WITH A MINIMUM CBR OF 30%, PI 8% AND A MAX PARTICLE SIZE OF 75mm.
- SP10 ALL FILL MATERIAL SHALL BE UNIFORMLY PLACED IN LAYERS NOT EXCEEDING 200mm LOOSE MEASUREMENT.
- SP11 ALL FILL SHALL BE COMPACTED TO 98% STANDARD DRY DENSITY DETERMINED BY METHODS IN ACCORDANCE WITH AS1289. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADJUSTED TO WITHIN 5% OF THE OPTIMUM MOISTURE CONTENT DURING COMPACTION TO ENSURE THAT THE SPECIFIED COMPACTION IS OBTAINED.

**STORMWATER DRAINAGE**

- SD1 PIPES UP TO 300mm DIAMETER SHALL BE SEWER GRADE UPVC WITH SOLVENT WELDED JOINTS.
- SD2 ALL "INTERNAL WORKS" WITHIN PROPERTY BOUNDARIES SHALL COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.3 (CURRENT EDITION).
- SD3 ALL STORMWATER PIPES SHALL BE PROVIDED WITH MINIMUM PIPE COVER TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.3 (CURRENT EDITION).
- SD4 INSTALLATION OF ALL BURIED CONCRETE STORMWATER PIPES SHALL COMPLY WITH THE REQUIREMENTS OF AS/NZS 3725 (CURRENT EDITION) DESIGN FOR INSTALLATION OF BURIED CONCRETE PIPES.
- SD5 ENLARGERS, CONNECTORS AND JUNCTIONS SHALL BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300mm DIAMETER.
- SD6 ALL STORMWATER DRAINAGE LINES SHALL HAVE A MINIMUM FALL OF 1% UNLESS NOTED OTHERWISE ON THE DRAWINGS. CARE SHALL BE TAKEN WITH SETTING LEVELS OF STORMWATER DRAINAGE LINES. GRADES SHOWN ON THE DRAWINGS SHALL NOT BE REDUCED WITHOUT THE WRITTEN CONSENT OF TRIAXIAL CONSULTING.
- SD7 GRATES AND COVERS SHALL COMPLY WITH THE REQUIREMENTS OF AS 3996 (CURRENT EDITION).
- SD8 AT ALL TIMES DURING THE CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE DOCUMENTED AND EXECUTED TO MITIGATE THE RISK OF PERSONAL INJURY AS A RESULT OF FALLS INTO PITS.
- SD9 ALL EXISTING STORMWATER LOCATIONS, INCLUDING INVERTS, TO BE CONFIRMED BY THE BUILDER/CONTRACTOR PRIOR TO THE COMMENCEMENT OF CIVIL WORKS ON SITE.
- SD10 ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN SHALL BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDANT/ENGINEER FOR FURTHER DIRECTIONS.

**SITEWORKS**

- SW1 ALL CONNECTIONS WITH EXISTING WORKS SHALL BE MADE SMOOTH.
- SW2 ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO ACHIEVE A DENSITY EQUIVALENT TO THE ADJACENT MATERIAL.
- SW3 ALL SERVICE TRENCHES SHALL BE BACKFILLED WITH SAND TO A LEVEL 300mm ABOVE THE PIPE. WHERE SERVICE TRENCHES ARE CONSTRUCTED UNDER VEHICULAR PAVEMENTS, BACKFILL THE REMAINDER OF THE TRENCH (TO UNDERSIDE OF PAVEMENT) WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN LAYERS NOT EXCEEDING 150mm DEPTH. BACKFILL MATERIAL SHALL BE COMPACTED TO A MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 (CURRENT EDITION) OR A DENSITY INDEX OF NOT LESS THAN 75.
- SW4 PROVIDE A 10mm WIDE EXPANSION JOINT BETWEEN ALL BUILDINGS AND CONCRETE OR UNIT PAVEMENTS.

**SEDIMENT AND EROSION CONTROL**

- SE1 CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION" (2004) (THE BLUE BOOK).
- SE2 DISTURBANCE SHALL BE KEPT TO A MINIMUM AND WITHIN THE LIMITS OF THE CONSTRUCTION SITE.
- SE3 ADDITIONAL CONTROLS SHALL BE INSTALLED AS REQUIRED AND IN ACCORDANCE WITH "THE BLUE BOOK".
- SE4 ALL INSTALLED CONTROLS SHALL BE INSPECTED AT LEAST WEEKLY AND IMMEDIATELY FOLLOWING A RAIN EVENT. MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED.
- SE5 COMPLETED AREAS SHALL BE PROGRESSIVELY VEGETATED.
- SE6 CONTROL DEVICES, AS DETAILED, SHALL BE INSTALLED TO STORMWATER PITS IMMEDIATELY FOLLOWING THEIR CONSTRUCTION.

**CONCRETE**

- C1 ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- C2 READYMIX CONCRETE SUPPLY SHALL COMPLY WITH AS1379.
- C3 CONCRETE QUALITY, ALL THE REQUIREMENTS OF THE ACSE SPECIFICATION DOCUMENT 1 (EDITION 4), SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE. CONCRETE QUALITY SPECIFICATIONS AS SHOWN ON PLAN.
- C4 PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE AS1379.
- C5 NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
- C6 CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE AS PER CONCRETE COVER SCHEDULE UNLESS SHOWN OTHERWISE.
- C7 DURABILITY REQUIREMENTS FOR CONCRETE.
 

EXPOSURE CLASS, TO AS3600:	MINIMUM CEMENT CONTENT:	MAXIMUM W/C RATIO:
A1 & A2	-	0.56
B1	320	0.56
B2	390	0.46
C	450	0.40
- C8 ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT 1m MAX. CENTRES BOTH WAYS U.N.O. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS. USE PLASTIC CHAIRS IN EXPOSURE CONDITION GREATER THAN B1. MINIMUM BAR CHAIR SPACING FOR MESH REINFORCEMENT SHALL BE:
 

SL92, SL102, SL81, RL918:	900 CTS.
SL72, SL82, RL818:	600 CTS.
- C9 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.
- C10 CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.
- C11 ALL CONCRETE SHALL BE COMPACTED WITH MECHANICAL VIBRATORS.
- C12 THE ENGINEER SHALL BE GIVEN 24 HOURS NOTICE FOR REINFORCEMENT INSPECTIONS AND CONCRETE SHALL NOT BE DELIVERED UNTIL ENGINEERS APPROVAL IS OBTAINED.
- C13 WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.
- C14 REINFORCEMENT BARS AND LIGATURES:
  - N\_ HOT ROLLED DEFORMED BAR, GRADE 500 NORMAL DUCTILITY AS4671-DN500N
  - R\_ HOT ROLLED ROUND BAR, GRADE 250 NORMAL DUCTILITY AS4671-R250N
  - W\_ COLD DRAWN ROUND WIRE, GRADE 500 LOW DUCTILITY AS4671-R500L
  - S\_ POOL STEEL HOT ROLLED DEFORMED BAR, GRADE 250 NORMAL DUCTILITY AS4671-D250N

NOTE: THE UNDERSCORE REPRESENTS NOMINAL BAR DIAMETER IN ACCORDANCE WITH AS4671

REINFORCEMENT FABRIC:

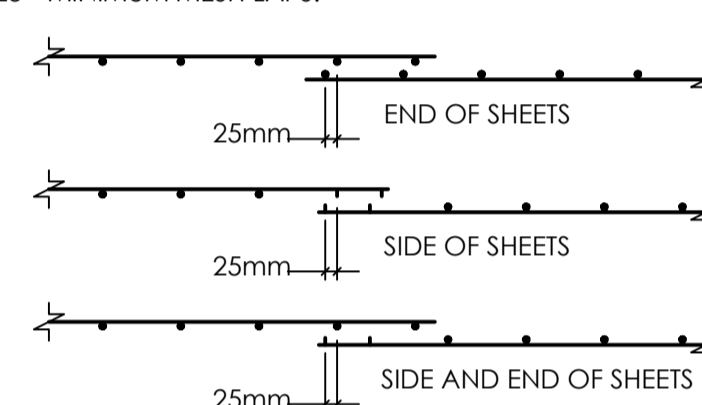
  - SL\_ SQUARE MESH, COLD DRAWN RIBBED WIRE GRADE 500, LOW DUCTILITY AS4671-D500L
  - RL\_ RECTANGULAR MESH, COLD DRAWN RIBBED WIRE GRADE 500, LOW DUCTILITY AS4671-D500L
  - \_L\_TM TRENCH MESH, COLD DRAWN RIBBED WIRE GRADE 500, LOW DUCTILITY AS4671-D500L

NOTE: THE UNDERSCORE REPRESENTS VARYING SPECIFICATIONS IN ACCORDANCE WITH AS4671.
- C15 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
- C16 SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE IN ACCORDANCE WITH AS3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.
- C17 STANDARD LAP AND COG LENGTHS UNLESS NOTED OTHERWISE ON DRAWINGS:

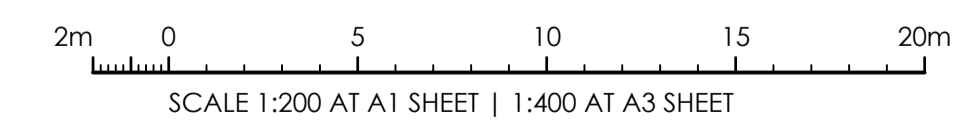
BAR DIA.	MIN LAP LENGTH (mm)	MIN COG LENGTH (mm)
N12	500	180
N16	750	210
N20	1000	260
N24	1375	310
N28	1560	360
N32	1810	400

**CONCRETE (CONTINUED)**

- C18 CONCRETE SIZES DO NOT INCLUDE THICKNESSES OF APPLIED FINISHES.
- C19 DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.
- C20 REFER TO ARCHITECT'S DETAILS, FOR CHAMFERS, DRIP GROOVES, REGLETS, ETC., MAINTAIN COVER TO REINFORCEMENT AT THESE DETAILS.
- C21 USE ALIPHATIC ALCOHOLS SPRAYED OVER THE SURFACE PRIOR TO AND AFTER FINISHING TO REDUCE RATE OF EVAPORATION FROM THE SURFACE AND HELP CONTROL PLASTIC SHRINKAGE CRACKING. NOTE THAT THE USE OF ALIPHATIC ALCOHOLS IS NOT A SUBSTITUTE FOR CURING.
- C22 COMMENCE CURING OPERATIONS PROMPTLY AFTER SURFACE FINISHING IS COMPLETE. CURING COMPOUNDS ARE TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND ARE TO BE CHECKED FOR COMPATIBILITY WITH PROPOSED FLOOR FINISHES. SOME COMPOUNDS MAY REQUIRE REMOVAL FOR GLUED DOWN FLOOR COVERINGS OR WET CURING AS DESCRIBED BELOW.
 

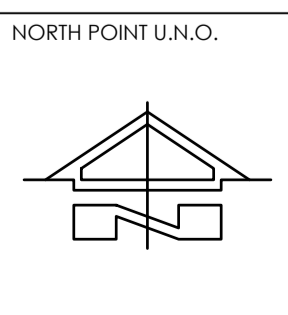
CONCRETE IS TO BE CURED BY KEEPING THE SURFACES CONTINUOUSLY WET FOR A PERIOD OF 3 DAYS, AND PREVENTING THE LOSS OF MOISTURE FOR A FURTHER 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT.
- C23 PROPPING WHICH SUPPORTS CONSTRUCTION OVER IS TO BE LEFT IN PLACE AS REQUIRED TO AVOID OVER STRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING.
- C24 CONDUITS, PIPES ETC. SHALL ONLY BE LOCATED IN THE MIDDLE ONE THIRD OF SLAB DEPTH AND SPACED AT NOT LESS THAN 3 DIAMETERS OF THE CONDUIT, PIPES ETC. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE COVER TO REINFORCEMENT.
- C25 MINIMUM MESH LAPS:
 
- C26 A 0.2mm POLYETHYLENE MEMBRANE SHALL BE CONTINUOUS UNDER SLAB LAPPED 200mm MIN. WHERE REQUIRED AND TAPED AT ALL SERVICE PENETRATIONS, LAPS AND PUNCTURES. THE MEMBRANE IS TO EXTEND UNDER AND TO THE SIDES OF SLABS, BEAMS AND THICKENINGS.

**NOTE:**  
THIS IS A PLANNING DRAWING ONLY. FOR THE PURPOSE OF CONCEPTUAL DESIGN AND/OR PLANNING. FURTHER DETAILED ENGINEERING DESIGN INCLUDING SPECIFICATIONS, SIZING AND STORMWATER INVERTS TO BE PROVIDED PRIOR TO BUILDING RULES ASSESSMENT AND CONSTRUCTION.



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AMENDMENTS DATE ISSUE BY

**FOR CONSTRUCTION**



NORTH POINT U.N.O. ARCHITECT CLIENT MWRC

PROJECT RYLSTONE CARAVAN PARK  
CARWELL STREET RYLSTONE NSW

DESIGNED -- DRAWN -- DATE OCT 21 SIZE A1 CAD REF TX15848.00 C01

**TRIAxIAL CONSULTING**  
COMPLEX PROBLEMS RESOLVED SIMPLY

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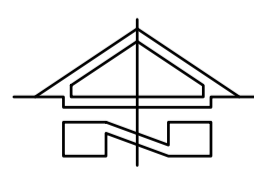
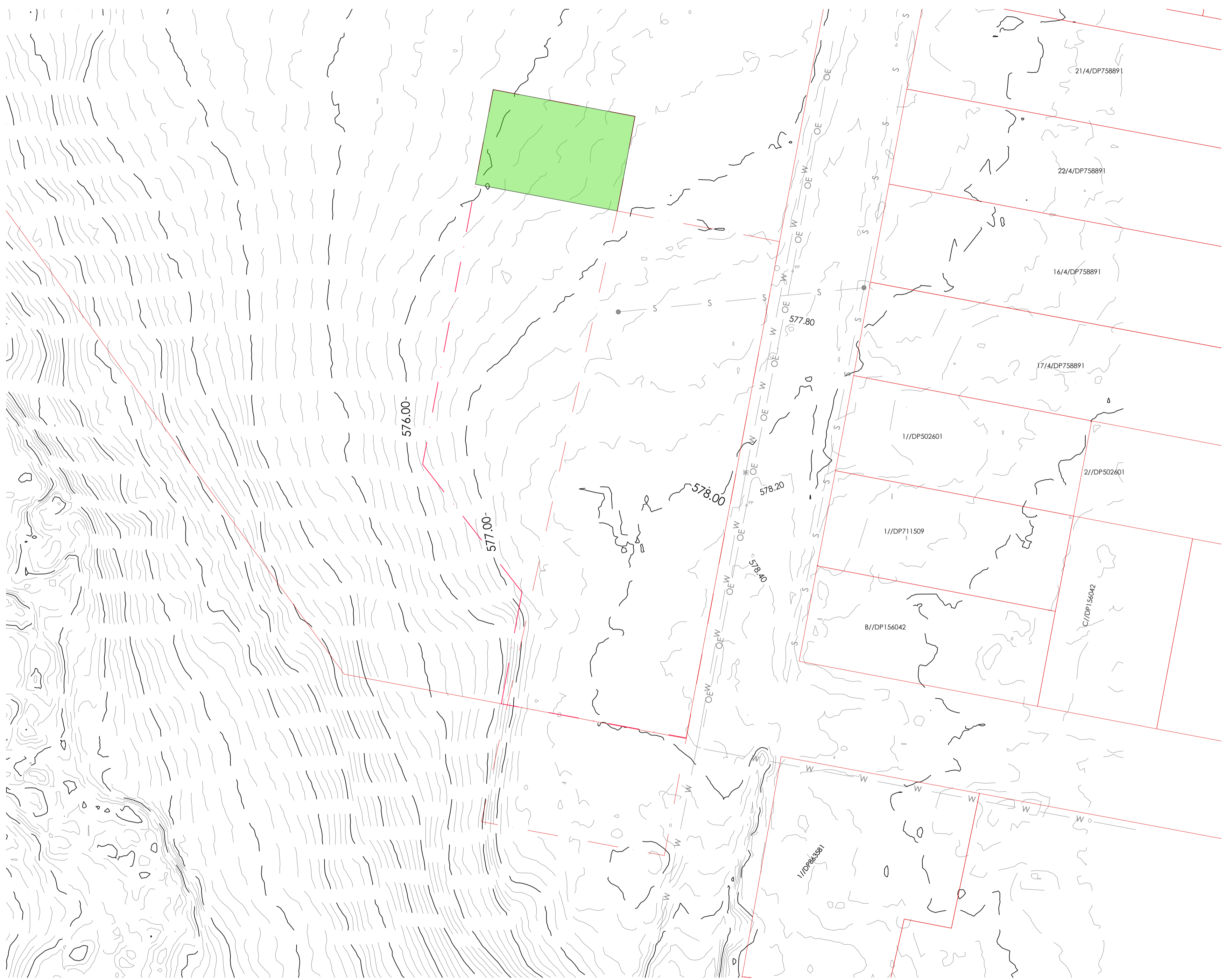
GENERAL NOTES

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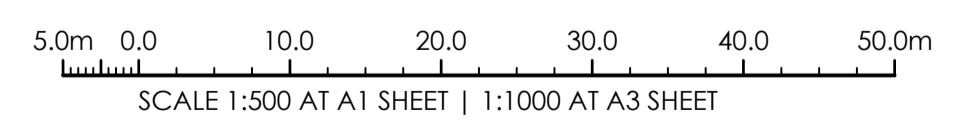


**NOTE:**  
 1. THIS IS AN ENGINEERING SURVEY PLAN AND SHALL NOT BE TAKEN AS A CADASTRAL OR IDENTIFICATION SURVEY. BOUNDARY DATA IF SHOWN, SHOULD BE TAKEN AS A GUIDE ONLY.  
 2. REFER TO THE CERTIFICATE OF TITLE FOR EASEMENT DETAILS (IF ANY).  
 3. NO UNDERGROUND SERVICES HAVE BEEN LOCATED.  
 4. TBM 100.00 - PAINT MARK ON TOP OF CABLE MARKER LID

SYMBOL	DESCRIPTION
	SPOT LEVEL
	CONTOUR MAJOR (Xm)
	CONTOUR MINOR (Xm)
	FENCE
	BOUNDARY
	DRAINAGE LINE
	SEWER LINE
	WATER LINE
	ELECTRICITY UNDERGROUND
	ELECTRICITY OVERHEAD
	TELSTRA LINE
	GAS LINE
	ROAD CENTRELINE
	TREE



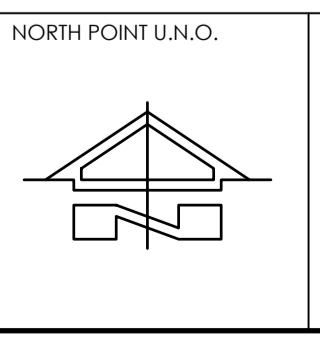
**EXISTING SITE PLAN**  
 SCALE 1:500 AT A1



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PROJECT  
**RYLSTONE CARAVAN PARK**  
 CARWELL STREET  
 RYLSTONE NSW

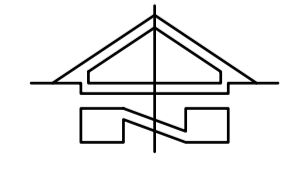
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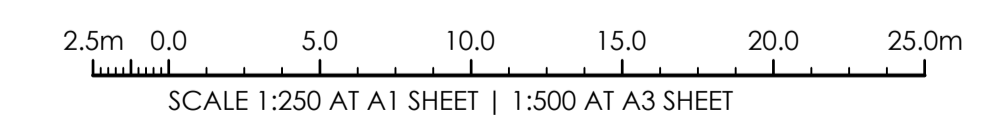
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EXISTING SITE PLAN





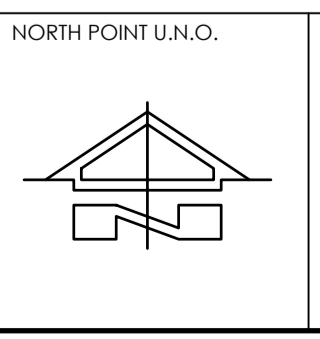
**SITE PLAN**  
SCALE 1:250 AT A1



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CARWELL STREET  
RYLSTONE NSW

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PROPOSED SITE PLAN

TO BE PRINTED IN COLOUR



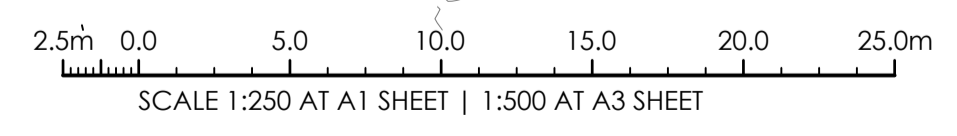
SYMBOL	DESCRIPTION
	EXISTING SPOT LEVEL
	EXISTING CONTOUR
	DESIGN CONTOUR MAJOR (Xm)
	DESIGN CONTOUR MINOR (Xm)
	EXISTING SEWER LINE
	EXISTING SEWER MANHOLE
	EXISTING JUNCTION
	EXISTING SEWER INSPECTION OPENING
	EXISTING DEAD END
	DESIGN SEWER LINE
	DESIGN RISING SEWER MAIN
	DESIGN SEWER MANHOLE
	DESIGN SEWER Ø300mm MAINTENANCE SHAFT
	DESIGN JUNCTION
	DESIGN DEAD END



**WARNING:**  
BEWARE OF UNDERGROUND SERVICES. THE LOCATION OF SERVICES IF SHOWN, ARE INDICATIVE ONLY AND NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES HAVE BEEN DOCUMENTED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING SERVICES WITHIN THE WORKS AFFECTED AREAS PRIOR TO ANY ON-SITE EXCAVATION.

**SERVICES NOTE:**  
1. EXISTING SERVICES SHOWN ARE BASED ON SURVEY DATA RECEIVED BY THIS OFFICE.  
2. ALL EXISTING SERVICES ARE SHOWN DIAGRAMMATIC ONLY. ALL SERVICES ARE TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

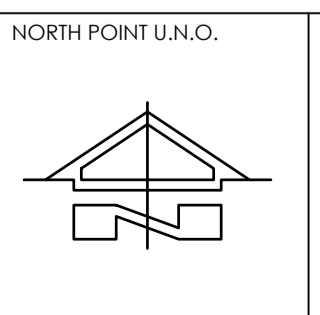
**SEWER PLAN**  
SCALE 1:250 AT A1



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**FOR CONSTRUCTION**



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CARWELL STREET  
RYLSTONE NSW

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**TO BE PRINTED IN COLOUR**

SEWER PLAN  
C4.00 0

A.1 A.2 A.3 A.4 A.5

PIPE DETAILS	1500 PVC			
SLOPE/GRADE	1.0%			
DATUM RL 570.6				
DEPTH TO INVERT	3.212	2.370	1.968	1.336
INVERT LEVEL	574.600	575.072	575.313	575.644
FINISHED SURFACE	577.812	577.362	577.280	576.900
EXISTING SURFACE	577.812	577.362	577.280	576.900
CHAINAGE	0.000	39.187	76.534	90.999

SEWER LONGITUDINAL SECTION FOR LINE A  
 SCALES: HORIZONTAL 1:500 VERTICAL 1:100

A.4 B.1

PIPE DETAILS	1500 PVC	
SLOPE/GRADE	1.0%	
DATUM RL 570.6		
DEPTH TO INVERT	1.256	1.417
INVERT LEVEL	575.644	575.843
FINISHED SURFACE	576.900	577.260
EXISTING SURFACE	576.900	577.260
CHAINAGE	76.534	96.469

SEWER LONGITUDINAL SECTION FOR LINE B  
 SCALES: HORIZONTAL 1:500 VERTICAL 1:100

A.2 C.1 C.2

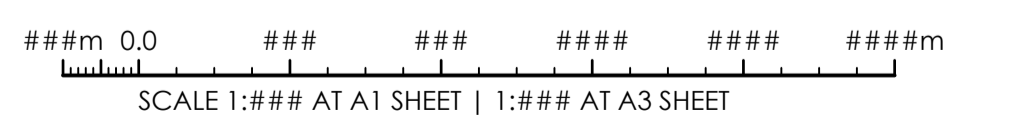
PIPE DETAILS	1500 PVC	
SLOPE/GRADE	1.1%	
DATUM RL 570.6		
DEPTH TO INVERT	1.557	1.543
INVERT LEVEL	575.804	576.408
FINISHED SURFACE	577.362	577.971
EXISTING SURFACE	577.362	577.971
CHAINAGE	39.187	100.083

SEWER LONGITUDINAL SECTION FOR LINE C  
 SCALES: HORIZONTAL 1:500 VERTICAL 1:100

C.1 D.1

PIPE DETAILS	1500 PVC	
SLOPE/GRADE	1.0%	
DATUM RL 570.6		
DEPTH TO INVERT	1.543	1.276
INVERT LEVEL	576.408	576.775
FINISHED SURFACE	577.971	578.051
EXISTING SURFACE	577.971	578.051
CHAINAGE	85.440	122.128

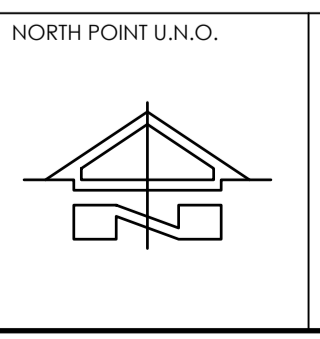
SEWER LONGITUDINAL SECTION FOR LINE D  
 SCALES: HORIZONTAL 1:500 VERTICAL 1:100



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PROJECT  
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 CARWELL STREET  
 RYLSTONE NSW

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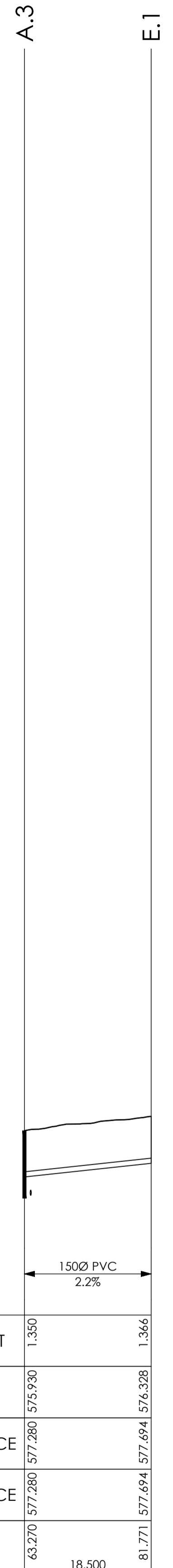


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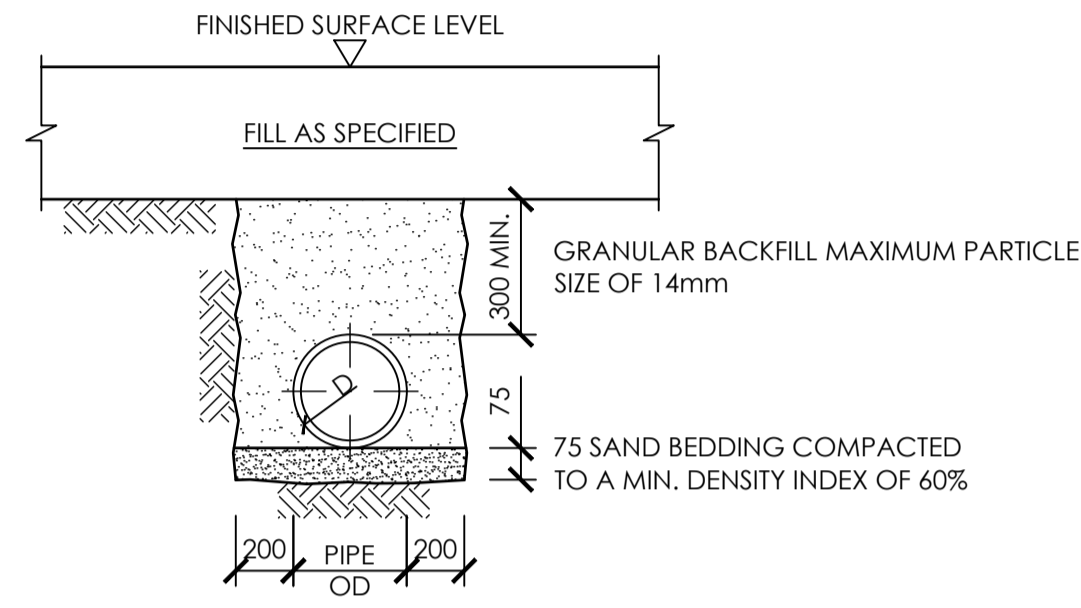
SEWER LONG SECTIONS

C4.01 0





SEWER LONGITUDINAL SECTION FOR LINE E  
 SCALES: HORIZONTAL 1:500 VERTICAL 1:100

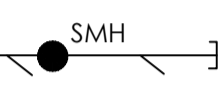


SUPPORT TO UPVC PIPES  
 SCALE 1:20

**MARKING OF JUNCTIONS AND SIDELINES**

1. THE POSITION OF EACH RISER, JUNCTION OR END OF A SIDELINE SHALL BE CLEARLY MARKED BY THE CONTRACTOR ON COMPLETION OF BACKFILLING. THE MARKING SHALL BE MADE BY ONE OF THE FOLLOWING METHODS BUT THE LOCATION OF THE MARK OR PEG SHALL BE TO THE APPROVAL OF THE SUPERINTENDENT.
2. WHERE THE POSITION OF THE RISER, JUNCTION OR THE END OF A SIDELINE IS AT A SUBSTANTIAL BOUNDARY FENCE OR STRUCTURE LOCATED ON THE BOUNDARY, A NEATLY STENCILLED LETTER "J" 50mm HIGH SHALL BE PAINTED THEREON. AN UNDERGROUND IDENTIFICATION TAPE AS SPECIFIED HEREFTER SHALL FINISH FLUSH WITH THE EXISTING GROUND SURFACE AS CLOSE TO THE BOUNDARY FENCE OR STRUCTURE AS POSSIBLE.
3. ELSEWHERE A HARDWOOD PEG 75 X 50 X 125 TO 300mm LONG SHALL BE DRIVEN INTO THE GROUND AT THAT POSITION, AND LEFT FLUSH WITH THE SURFACE OF THE SURROUNDING GROUND. THE LENGTH OF THE PEG REQUIRED WILL DEPEND UPON THE GROUND CONDITION. A LENGTH OF 300mm SHALL BE REQUIRED IN SANDY OR OTHER SOFT GROUND. THE PEG SHALL BE CONNECTED TO AN UNDERGROUND IDENTIFICATION TAPE AS SPECIFIED HEREFTER.
4. THE IDENTIFICATION TAPE SHALL BE TIED TO THE JUNCTION OR END OF SIDELINE AND HELD IN A VERTICAL POSITION DURING BACKFILLING. THE TOP END OF THE TAPE SHALL BE SPIKED BY THE JUNCTION PEG IMMEDIATELY UPON COMPLETION OF BACKFILLING.
5. IDENTIFICATION TAPE SHALL BE 75mm WIDE RED COLOURED POLYETHYLENE TAPE WITH THE INSCRIPTION "CAUTION - BURIED SEWER LINE", PRINTED IN HEAVY BLACK LETTERS EVERY 200mm (IDENTOLINE)

**SEWER**

1. SEWER MAIN TO BE 150Ø UPVC RUBBER RING JOINTED CLASS SN8 AS SHOWN
2. MANHOLES TO BE STANDARD PRE CAST SYSTEM AS SUPPLIED (LIDS TO BE WEB FORGE EQUIVALENT LIGHT IN FOOTPATHS, HEAVY IN ROADS) BY AMATEK OR SIMILAR SYSTEM APPROVED BY THE MANAGER TECHNICAL SERVICES.
3. JUNCTIONS TO BE LOCATED AS SHOWN THUS 
4. JUNCTIONS TO BE MARKED IN ACCORDANCE WITH CLAUSE 8.5 SEC 4 WSA 03 2002 .
5. ALL END JUNCTIONS TO BE CAPPED GLUE ON TYPE PRIOR TO BACKFILLING
6. MORTAR TO BE USED IN MANHOLES FOR BENCHING TO BE TYPE "C" OR "D" (SULPHATE RESISTANT).
7. WHERE DEPTH OF COVER IS LESS THAN 1200mm UNDER ROADS, DICL PIPE OF EQUIVALENT DIAMETER IS TO BE USED FROM SMH TO SMH. ALL FILLING IS TO BE GRADED BACK TO NATURAL SURFACE TO ENSURE THAT NO PONDING OF RAINFALL RUNOFF OCCURS.
8. ALL MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS WSA-03 2002. FLEXIBLE JOINTS SHALL BE FREE OF INFLEXIBLE MATERIAL
9. TRENCH STOPS TO BE USED AT GRADES GREATER THAN 5% AND LESS THAN 15% AT SPACING OF 100/GRADE. FOR GRADES GREATER THAN 15% REFER TO WSA-03 2002 PG98.
10. PIPE EMBEDMENT IN ACCORDANCE WITH WSA-02 2002 AND MANUFACTURERS SPECIFICATIONS.
11. ACCEPTANCE TESTING TO BE CARRIED OUT IN ACCORDANCE WITH ASTM TEST METHOD C1214M.
12. JUNCTION WITH LIVE MAINS BY MID WESTERN REGIONAL COUNCIL
13. PROVIDE STUBS AND TEMPORARY CAPPING FOR EACH STAGE
14. MINIMUM 200 CLEARANCE BETWEEN SEWER AND OTHER SERVICES UNLESS NOTED OTHERWISE
15. ALL MANHOLE DROPS TO BE EXTERNAL IN ACCORDANCE WITH SEWERAGE CODE OF AUSTRALIA DRAWING NO. SEW-1303 MIN DROP 460mm.

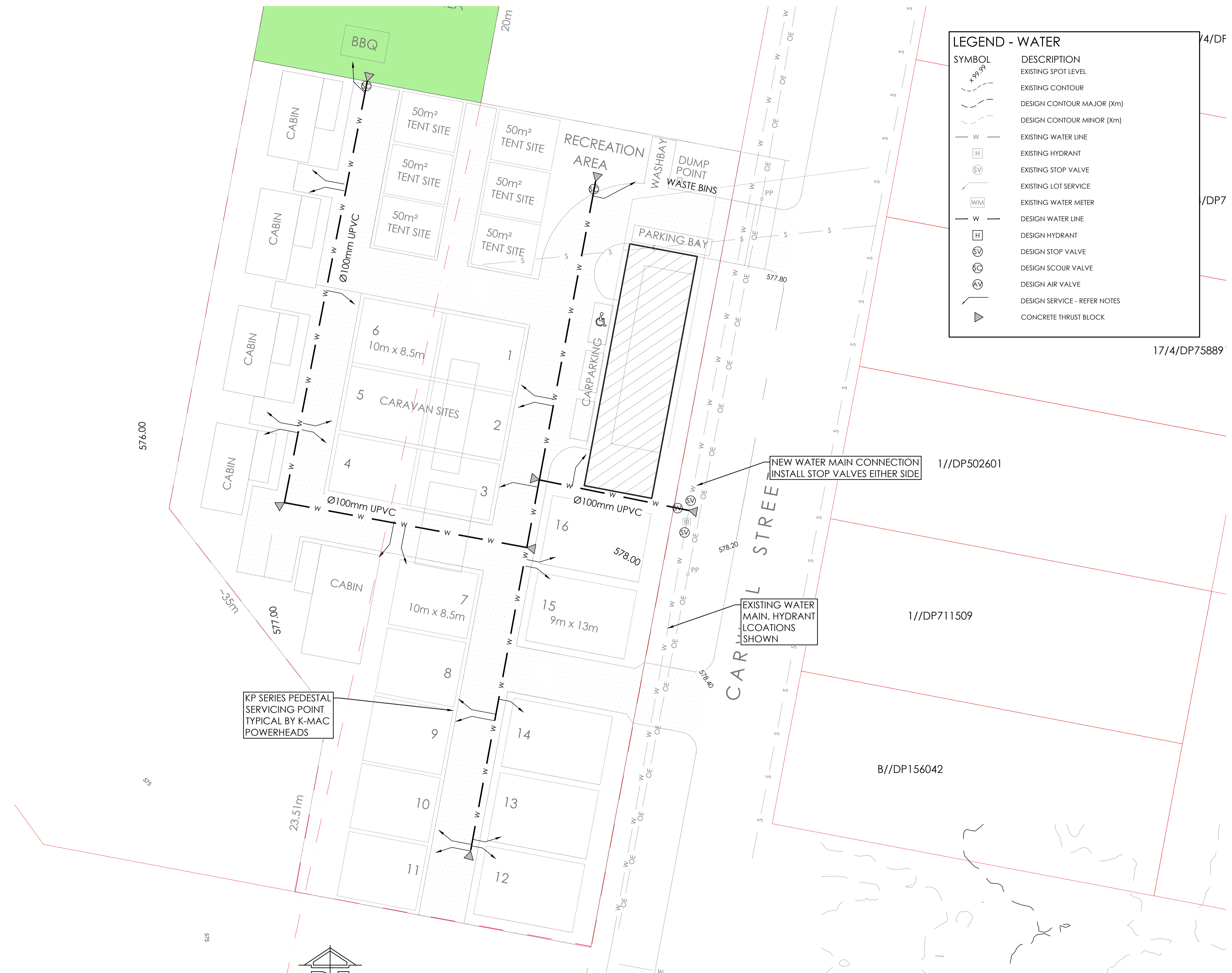
**NOTES:**

- STOP VALVE & SCOUR VALVE CHAMBERS MAY EITHER BE CONSTRUCTED USING PREFABRICATED POLYPROPYLENE UNITS, 375mm DIAM. PVC OR CONCRETE PIPE, INTERLOCKING CONCRETE BLOCKS OR BRICKS WITH SAND/CEMENT MORTAR JOINTS.
- THE BOTTOM OF THE BRICK, INTERLOCKING CONCRETE BLOCK OR PIPE CHAMBERS SHALL NOT REST DIRECTLY ON THE PIPE BUT ON A COURSE OF BRICKS OR A 100mm THICK CONCRETE FOUNDATION.
- MINIMUM COVER OVER PIPELINES (ALL TYPES) SHALL BE 750mm IN AREAS SUBJECT TO VEHICULAR LOADING SUCH AS ROADS & FOOTPATHS AND 600mm ELSEWHERE.
- IN AREAS PAVED WITH BITUMEN SEALING, ASPHALT, CONCRETE OR PAVING BLOCKS THE SURFACE OF VALVE AND HYDRANT COVERS SHALL FINISH FLUSH WITH THE PAVED SURFACE.
- FOR STOP VALVES INSTALLATION, SOCKETS SHALL BE BUTTED UP TO SPIGOTS AND TRENCH WIDTHS SHALL BE KEPT TO A MINIMUM.
- FILL SAND SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm AND COMPACTED TO ACHIEVE A MINIMUM 70 INDEX AND TO THE SATISFACTION OF THE SUPERINTENDENT.
- INDICATOR POSTS SHALL BE WHITE IN COLOUR AND ONE OF THE FOLLOWING TYPES :
  - 100mm x 100mm REINFORCED CONCRETE WITH 20mm CHAMFERS.
  - POWDER COATED METAL SUCH AS "EZIDRIVE" POST OR EQUIVALENT.
  - RECYCLED PLASTIC POST WITH RECESSES FOR MARKER PLATES.
  - OTHER POSTS APPROVED BY COUNCIL.
- DIMENSIONS OF SURFACE BOX COVERS SHOWN ON THIS DRAWING ARE NOMINAL. IF SURFACE BOX COVERS OTHER THAN THOSE SHOWN ARE SUPPLIED, THE DIMENSIONS OF THE CONCRETE SURROUNDS SHALL BE ADJUSTED ACCORDINGLY.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 20 MPa AND COMPLY WITH THE AUS-SPEC SPECIFICATION FOR MINOR CONCRETE WORKS.
- THE DIMENSION BETWEEN THE UNDERSIDE OF THE STOP VALVE SURFACE BOX LID AND THE TOP OF THE VALVE SPINDLE SHALL BE A MINIMUM OF 80mm. THE TOP OF VALVE SPINDLE SHALL BE NO MORE THAN 300mm BELOW TOP SURFACE OF SURFACE BOX LID. IF THIS CANNOT BE ATTAINED, A GALVANIZED OR EPOXY PAINTED VALVE KEY EXTENSION SECURED BY GRUB SCREWS SHALL BE FITTED. IF NECESSARY, TO ENSURE THAT THE KEY EXTENSION IS CENTERED CORRECTLY A SPIDER ASSEMBLY SHALL BE INCORPORATED IN THE EXTENSION.

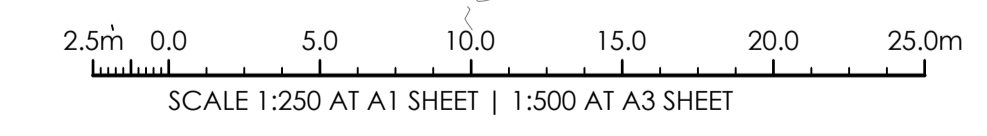
**WARNING:**  
BEWARE OF UNDERGROUND SERVICES. THE LOCATION OF SERVICES IF SHOWN, ARE INDICATIVE ONLY AND NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES HAVE BEEN DOCUMENTED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING SERVICES WITHIN THE WORKS AFFECTED AREAS PRIOR TO ANY ON-SITE EXCAVATION.

**SERVICES NOTE:**  
1. EXISTING SERVICES SHOWN ARE BASED ON SURVEY DATA RECEIVED BY THIS OFFICE.  
2. ALL EXISTING SERVICES ARE SHOWN DIAGRAMMATIC ONLY. ALL SERVICES ARE TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

LEGEND - WATER	
SYMBOL	DESCRIPTION
	EXISTING SPOT LEVEL
	EXISTING CONTOUR
	DESIGN CONTOUR MAJOR (Xm)
	DESIGN CONTOUR MINOR (Xm)
	EXISTING WATER LINE
	EXISTING HYDRANT
	EXISTING STOP VALVE
	EXISTING LOT SERVICE
	EXISTING WATER METER
	DESIGN WATER LINE
	DESIGN HYDRANT
	DESIGN STOP VALVE
	DESIGN SCOUR VALVE
	DESIGN AIR VALVE
	DESIGN SERVICE - REFER NOTES
	CONCRETE THRUST BLOCK



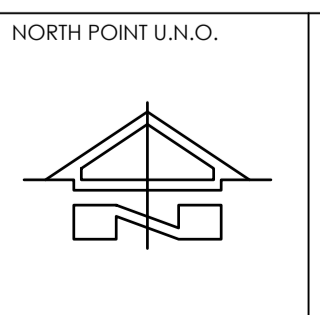
**WATER PLAN**  
SCALE 1:250 AT A1



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CARWELL STREET  
RYLSTONE NSW

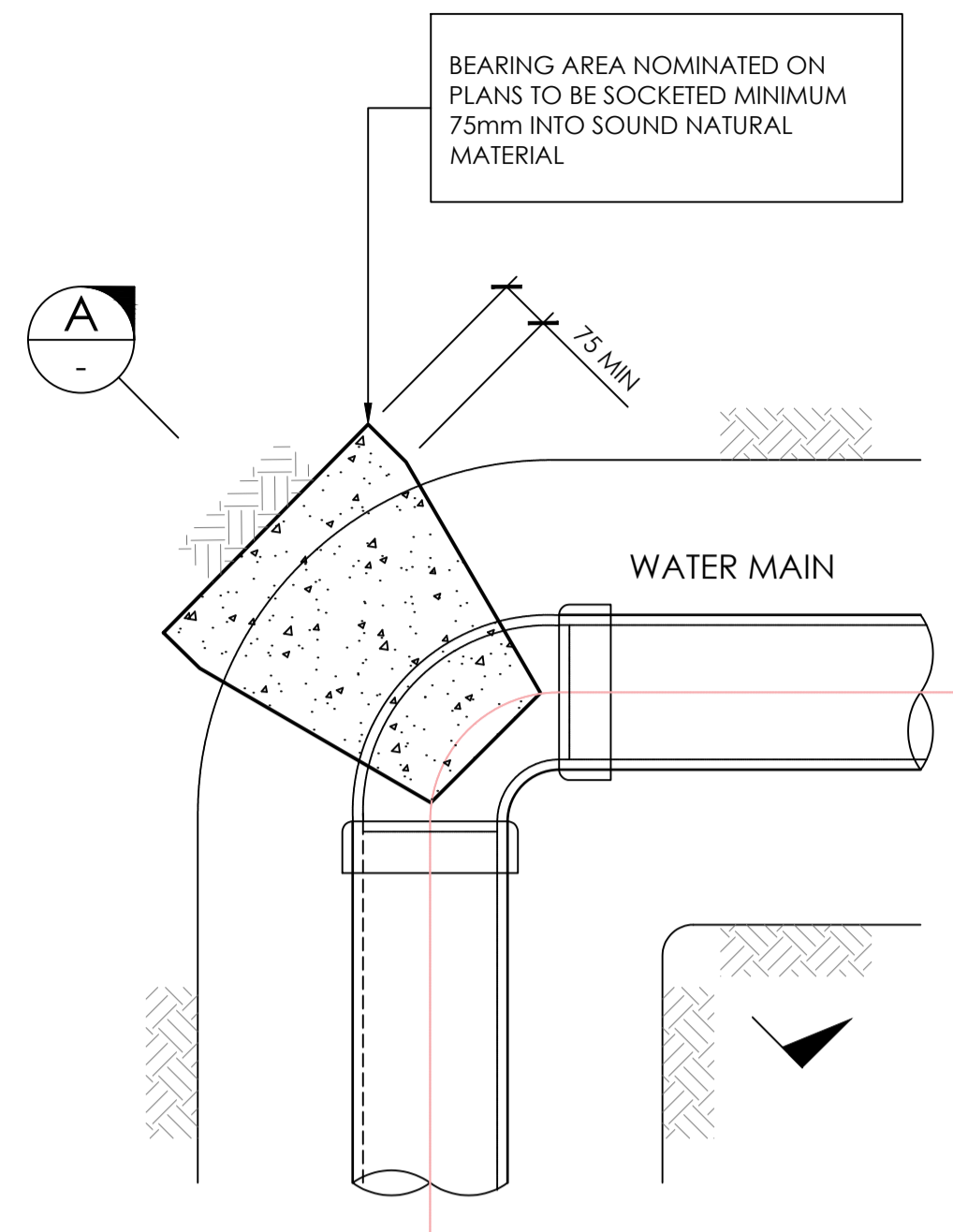
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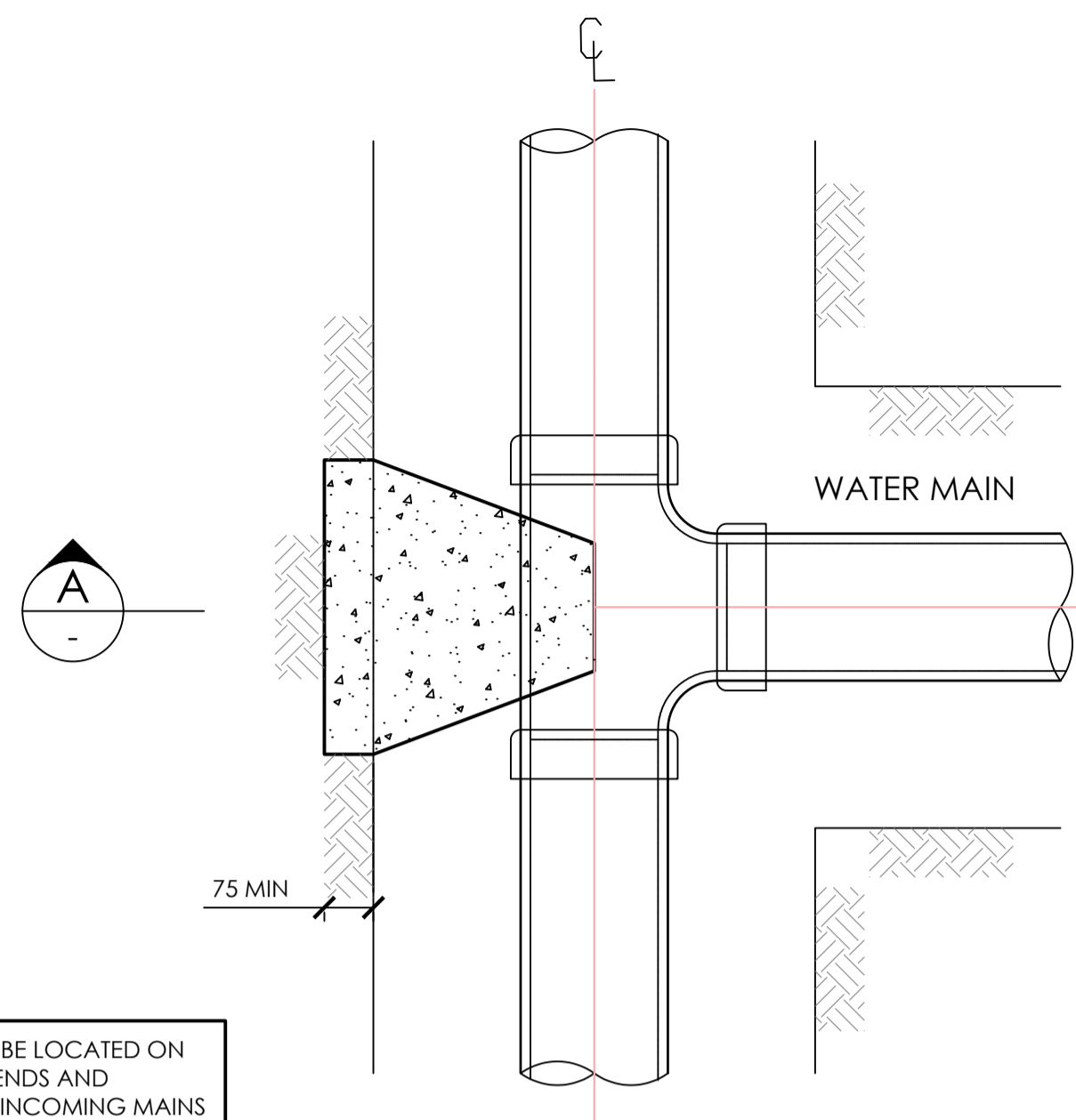
**WATER PLAN**

TO BE PRINTED IN COLOUR

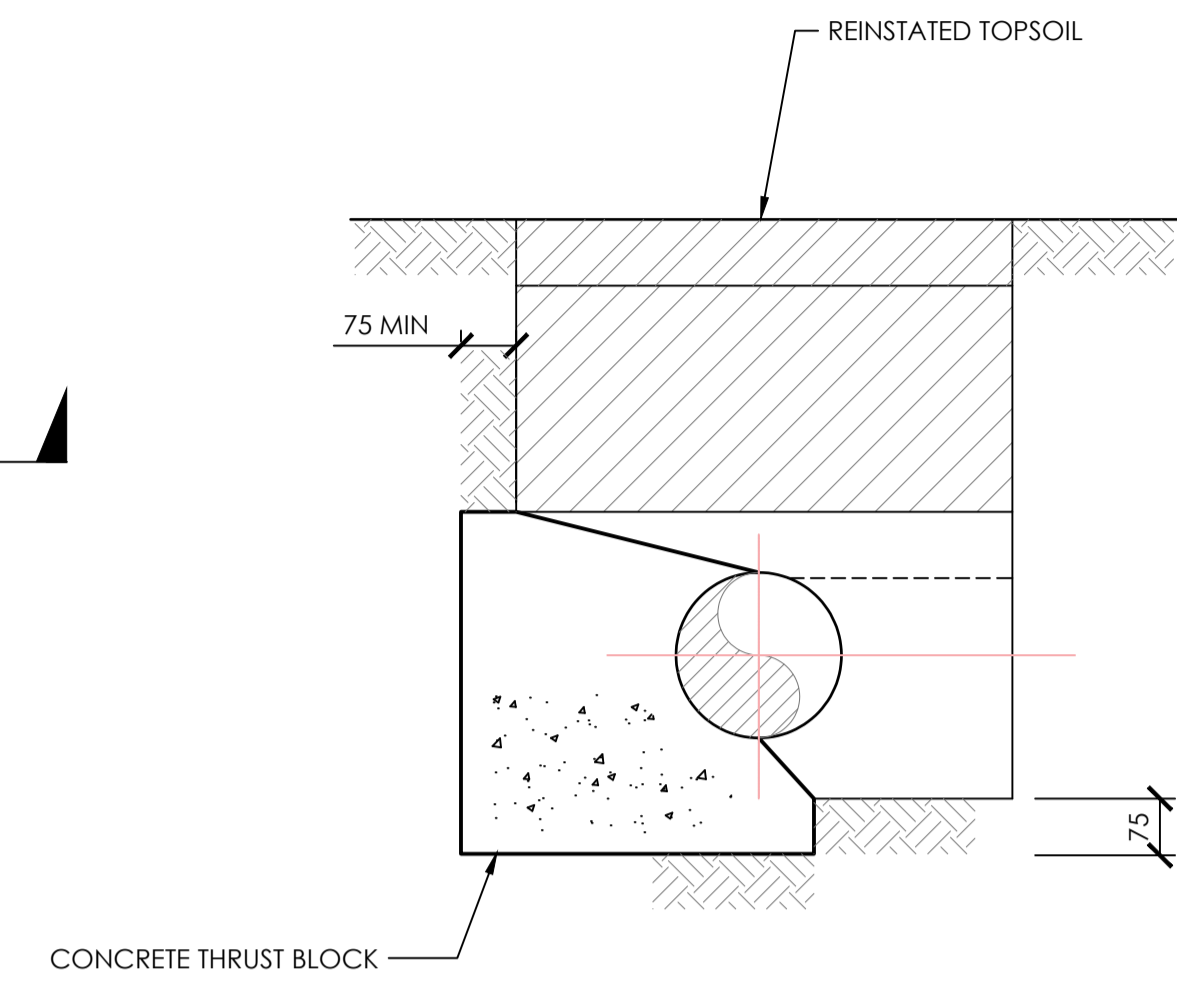




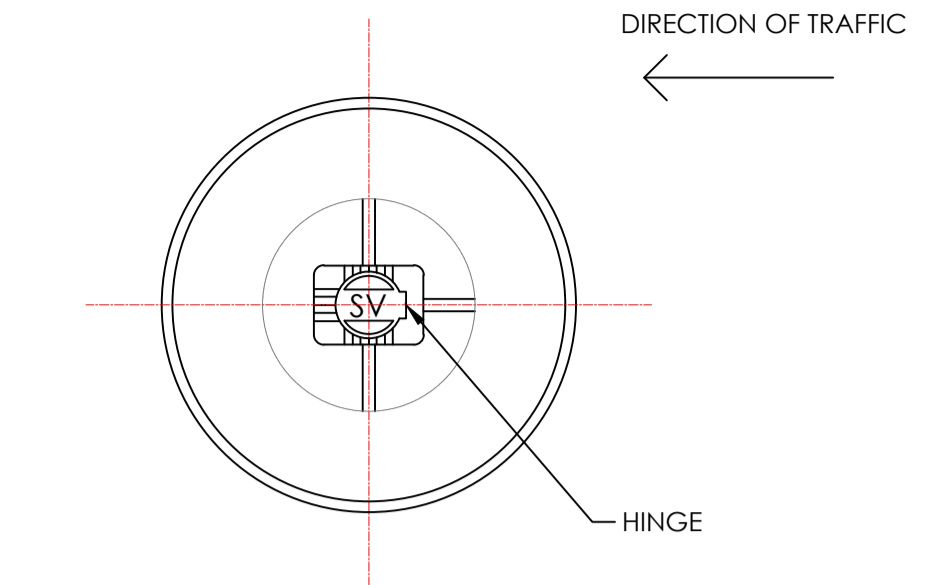
**THRUST BLOCK DETAIL  
TYPICAL BEND**  
N.T.S.



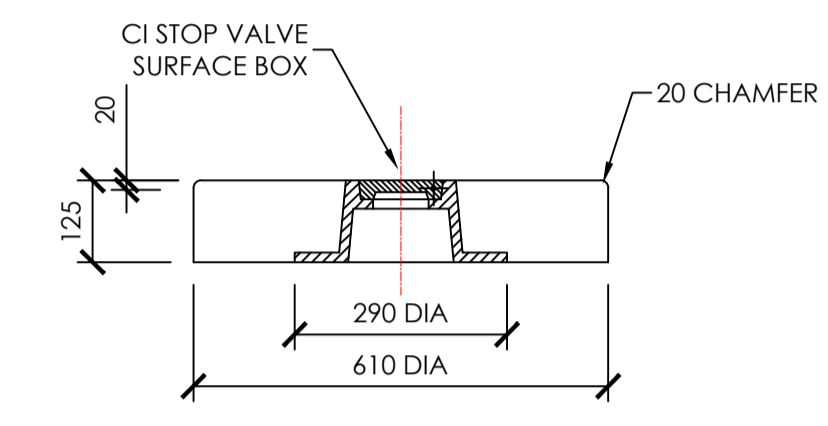
**THRUST BLOCK DETAIL  
TYPICAL TEE**  
N.T.S.



**SECTION** N.T.S. **A**



**STOP VALVE COVER - PLAN**  
N.T.S.



**STOP VALVE COVER - SECTION**  
N.T.S.

MINIMUM THRUST AREA FOR CONCRETE BLOCKS					
WATER MAIN SIZE (mm)	90° & 60° BENDS	45° & 30° BENDS	22.5° BENDS	11.25° BENDS	TEES AND DEAD ENDS
100	N	N	N	N	N
150	0.34	N	N	N	0.34

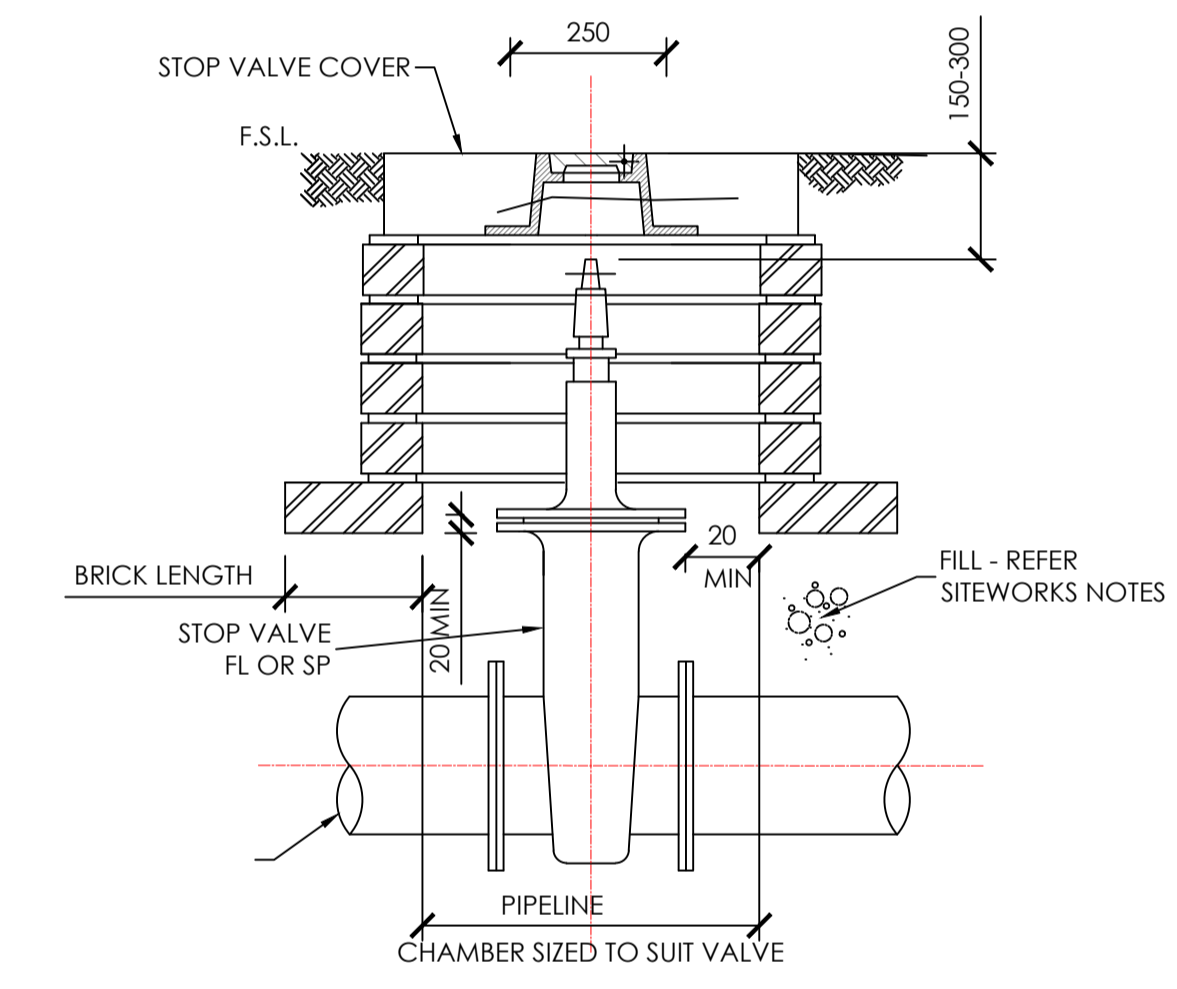
**THRUST BLOCK TYPICAL SIZES**  
TABLE 7.3 WSA 03-2011-3,1 FOR AHBP 100kPa

NOTES: 'N' DENOTES NOMINAL THRUST BLOCK AREA OF BELOW FITTING TO ABOVE FITTING FOR FULL TRENCH WIDTH

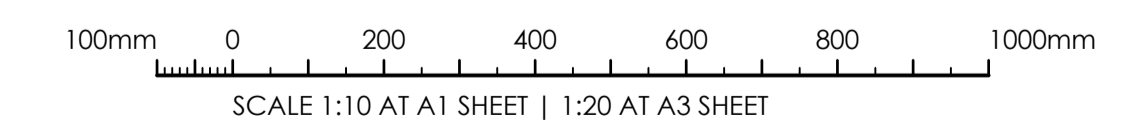
MINIMUM VERTICAL CLEARANCES	
WATER MAIN	150mm
TELECOMMUNICATIONS	150mm
ELECTRICITY CABLES/CONDUIT	225mm
STORMWATER DRAINS	150mm
SEWER LINES	500mm

**CONSTRUCTION NOTES**

1. WATER MAINS TO HAVE MINIMUM 600mm COVER IN FOOTPATH AND 750mm COVER IN ROADWAYS.
2. PIPES TO BE RACKED & BENDS PLACED AS REQUIRED.
3. STOP VALVES TO BE FBE/RILSAN COATED, CLOCKWISE CLOSING AND TABLE C FLANGES.
4. ALL PIPES AND FITTINGS AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS & WSA WATER RETICULATION CODE.
5. MAIN SHALL BE PRESSURE-TESTED TO COUNCIL INSPECTOR'S SATISFACTION, BEFORE THE MAIN WILL BE TAKEN INTO SERVICE. A TEST PRESSURE OF 1 x PIPE CLASS MUST BE APPLIED AND HELD FOR 15 MINUTES MINIMUM WITH NO LEAKS OR MAKEUP PRESSURE REQUIRED. ALL JOINTS MUST BE LEFT UNCOVERED FOR INSPECTIONS DURING THE TEST.
6. ALL MAINS FOR CONNECTION TO THE PUBLIC WATER SUPPLY SYSTEM SHALL BE DISINFECTED TO THE SATISFACTION OF COUNCIL INSPECTOR.
7. ALL CONCRETE SHALL BE 20MPa.
8. WATER MAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH MID WESTERN REGIONAL COUNCILS SPECIFICATIONS.
9. THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL UTILITIES AND SERVICES INTERSECTING THE WORKS AND CONNECTIONS TO THE EXISTING WATER MAINS PRIOR TO COMMENCEMENT OF TRENCH EXCAVATION. PIPES SHALL BE DEFLECTED AT JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS SUCH THAT CLEARANCES ARE MAINTAINED TO MEET UTILITY OR SERVICE OWNERS REQUIREMENTS



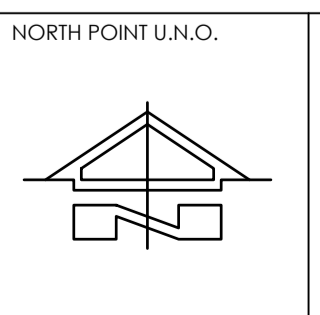
**STOP VALVE INSTALLATION**  
N.T.S.



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WATER DETAILS

C5.01 0