300mm
200mm
100
50
10mm
0

Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

PROJECT ADDRESS:
5-9 COWAN RD-ST IVES, NSW 2075

DRAWING INDEX & COVER SHEET: CIVIL

DWG No.	DWG TITLES	REVISION
C000	INDEX SHEET	00
C001	STANDARD NOTES	00
C100	EXISTING PIPE NETWORK PLAN	00
C101	EXISTING PIPE NETWORK LONG-SECTION SHEET 1 OF 2	00
C102	EXISTING PIPE NETWORK LONG-SECTION SHEET 2 OF 2	00
C103	PROPOSED PIPE NETWORK PLAN	00
C104	PROPOSED PIPE NETWORK LONG-SECTION SHEET 1 OF 2	00
C105	PROPOSED PIPE NETWORK LONG-SECTION SHEET 2 OF 2	00
C106	STANDARD DETAILS	00

SATELLITE MAP (SOURCE: SIX MAPS)

FOR SUBMISSION

Revision	Amendment	Issued By	Revision Date
00	ISSUE FOR SUBMISSION	HR	19.12.25

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Architect

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Project	5-9 COWAN RD,ST IVES, NSW 2075		
Title	INDEX SHEET		
Drawn	**Designed**	**Approved**	
HM	SA	HR	
Project No.	S10751	**Scale**	at A1. N.T.S
Drawing No.	C000	**Revision**	00
Issued By	**Checked By**	**Date**	
HR	HR	19.12.25	

STANDARD NOTES

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AND SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

2. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT CODES AND AUTHORITY. THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORKS.

3. ALL DIMENSIONS SHALL BE VERIFIED ON-SITE. ALL DIMENSIONS NOTED ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. ENGINEERS' DRAWINGS MUST NOT BE SCALED.

4. ALL DIMENSIONS AND REDUCED LEVELS MUST BE VERIFIED ON-SITE BEFORE THE COMMENCEMENT OF ANY WORK. SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER. ALL LEVELS ARE FROM THE AUSTRALIAN HEIGHT DATUM.

5. SERVICE INFORMATION SHOWN IS BASED ON PLANS GIVEN BY AUTHORITIES AND IS APPROXIMATE ONLY. BEFORE COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES AND COMPLY WITH ALL REQUIREMENTS OF THOSE AUTHORITIES.

6. EXISTING SURFACE CONTOURS, WHERE SHOWN, ARE INTERPOLATED AND MAY NOT BE ACCURATE.

7. UNLESS NOTED OTHERWISE, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 150mm UNDER ALL PROPOSED PAVEMENT AND BUILDING AREAS.

8. BEFORE THE PLACEMENT OF ANY PAVEMENTS, BUILDINGS, OR DRAINS THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 100% STANDARD COMPACTION IN ACCORDANCE WITH TEST 'E1.1' OF A.S. 1289 FOR THE TOP 300mm. ANY SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL TO THE ENGINEER'S APPROVAL AND COMPACTED IN ACCORDANCE WITH THE COMPACTION REQUIREMENTS SET OUT BELOW. ON HIGHLY REACTIVE CLAY AREAS SITE EXCAVATED MATERIAL MAY BE USED WITH THE PRIOR AUTHORIZATION OF THE ENGINEER.

9. ALL FILL AND PAVEMENT MATERIALS SHALL BE COMPACTED IN 200mm MAXIMUM LOOSE THICKNESS LAYERS TO THE DENSITIES SPECIFIED BELOW:

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

10. GRADE EVENLY BETWEEN FINISHED SURFACE SPOT LEVELS. FINISHED SURFACE CONTOURS ARE SHOWN FOR CLARITY. WHERE FINISHED SURFACE LEVELS ARE NOT SHOWN, THE SURFACE SHALL BE GRADED SMOOTHLY SO THAT IT WILL DRAIN AND MATCH ADJACENT SURFACES OR STRUCTURES.

11. UNLESS NOTED OTHERWISE ON HYDRAULIC CONSULTANT'S DESIGN DRAWINGS, ALL DOWNPIPES AND GRATED INLETS SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH U.P.V.C OR EARTHENWARE PIPES OF THE FOLLOWING SIZES LAID AT A MINIMUM GRADE OF 1 IN 100:
    A. 100 DIA. FOR DOMESTIC CONSTRUCTION
    B. 150 DIA. FOR COMMERCIAL/ INDUSTRIAL CONSTRUCTION
    C. 100 DIA. FOR BASEMENT GRATED INLETS

    FOR SIPHONIC ROOF DRAINAGE SYSTEMS ALL DOWNPIPE CONNECTION DRAIN SIZES TO BE CONNECTED TO MAIN STORMWATER DRAINS SHALL BE IN ACCORDANCE WITH THE HYDRAULIC ENGINEER'S DRAWINGS.

12. ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING ONE OF THE FOLLOWING TYPES OF PIPES WITH RUBBER RING JOINTS:

    A. CLASS 2 RCP IN ACCORDANCE WITH AS 4058
    B. SEWER CLASS PVC IN ACCORDANCE WITH AS 1260
    C. CLASS 2 FRC TO AS 4139

    ANY OTHER TYPES OF PIPE MUST BE REFERRED TO THE ENGINEER FOR APPROVAL PRIOR TO USE. IF UPVC OR OTHER PIPES ARE TO BE USED APPROVAL MUST BE GIVEN BY THE ENGINEER FOR CLASS, BEDDING, AND BACKFILL REQUIREMENTS.

13. GENERALLY FOR TRENCHING WORKS THE CONTRACTOR MUST:

    A. COMPLY WITH THE GENERAL PROVISIONS OF SECTION 21 OF THE 'OCCUPATIONAL HEALTH AND SAFETY ACT'
    B. COMPLY WITH WITH THE 'OCCUPATIONAL HEALTH AND SAFETY CODE OF PRACTICE FOR SAFETY PRECAUTIONS IN TRENCHING OPERATIONS'

STANDARD NOTES

14. PRIOR TO THE EXCAVATION OF ANY TRENCH DEEPER THAN 1.5 METERS THE CONTRACTOR MUST:

    F. NOTIFY THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY OF THE APPROPRIATE FORM.
    G. NOMINATE THE MINE MANAGER FOR THE PROJECT.
    H. CARRY OUT ALL EXCAVATION WORKS IN ACCORDANCE WITH THE REQUIREMENTS OF THE 'MINES ACT 1958 REGULATIONS AND STATUTORY RULES'.

15. ALL DIMENSIONS GIVEN ARE TO THE FACE OF THE KERB, CENTER OF PIPE, OR EXTERIOR FACE OF THE BUILDING UNLESS NOTED OTHERWISE.

16. ANY STRUCTURES, PAVEMENTS, OR SURFACES DAMAGED, DIRTIED, OR MADE UNSERVICEABLE DUE TO CONSTRUCTION WORK SHALL BE REINSTATED TO THE SATISFACTION OF THE ENGINEER.

17. REFER TO STRUCTURAL DRAWINGS FOR FOOTING AND FOUNDATION DETAILS.

18. ANY FILL REQUIRED SHALL BE APPROVED BY THE ENGINEER.

19. THE CONTRACTOR IS TO ENSURE THAT ALL EXCAVATIONS ARE MAINTAINED IN A DRY CONDITION WITH NO WATER ALLOWED TO REMAIN IN THE EXCAVATIONS.

20. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE BUILDING CODE OF AUSTRALIA AND THE RELEVANT CURRENT AUSTRALIAN STANDARDS.

21. ANY DISCREPANCIES, OMISSIONS OR ERRORS SHALL BE REPORTED TO THE SUPERINTENDENT/ ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

22. IF ANY DISCREPANCY OCCURS IN THE ENGINEER DRAWING OR BETWEEN DRAWINGS AND SPECIFICATION, THE CONTRACTOR SHALL DURING TENDER ASSUME THE GREATER/LARGER.

23. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE BUILDING CODE OF AUSTRALIA AND THE RELEVANT CURRENT AUSTRALIAN STANDARDS. WHERE A STANDARD DOES NOT EXIST SHALL BEAR THE "WATER MARK" APPROVAL. WHERE AN AUSTRALIAN STANDARD EXISTS, NO SUBSTITUTION IS PERMITTED.

24. ALL EXISTING PROPERTY SERVICES' LOCATIONS AND DEPTHS ARE APPROXIMATE AND MUST BE VERIFIED ON-SITE.

25. THE CONTRACTOR SHOULD SUPPLY PRECISE LOCATIONS AND DEPTHS TO THE ENGINEER FOR REVIEW BEFORE ANY WORKS THAT MAY AFFECT THESE SERVICES.

26. BEFORE THE COMMENCEMENT OF BUILDING WORKS ON SITE, THE CONTRACTOR MUST VERIFY THE FEASIBILITY OF THE OUTFALL STORMWATER DRAINAGE SYSTEM/S TO THE LEGAL POINT OF DISCHARGE AS DOCUMENTED BY:

    A. VERIFICATION OF THE INVERT LEVEL OF THE DRAIN FORMING THE LEGAL POINT OF DISCHARGE.
    B. VERIFICATION THAT THE ROUTE FROM THE SITE TO THE LEGAL POINT/S OF DISCHARGE IS CLEAR OF ALL OTHER AUTHORITY SERVICES

    C. IF EITHER OF THE ABOVE CANNOT BE VERIFIED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT MANAGER OR CONSULTING CIVIL ENGINEER.

27. BEFORE THE COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES, NOTIFY THE AUTHORITIES RESPONSIBLE FOR THOSE SERVICES AND COMPLY WITH ALL OF THE REQUIREMENTS OF THOSE AUTHORITIES.

28. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVER-STRESSED.

29. SUBSTITUTION MUST BE APPROVED BY THE ENGINEER AND INCLUDED IN ANY TENDER.

30. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.

31. REFER TO ARCHITECTURAL DRAWINGS FOR THE LOCATION OF FIXTURES AND THE BUILDING LAYOUT AND DIMENSIONS WHERE DRAWINGS SHOWING SPECIFIC SERVICES ARE SUPERIMPOSED ON BUILDING PLANS. USE THEM ONLY FOR HYDRAULIC SERVICE PURPOSES. IF THE ULTIMATE CONDITIONS OF THE BUILDING NECESSITATE ANY ALTERATIONS IN ARRANGEMENT OBTAIN APPROVAL OF THE ENGINEER BEFORE PROCEEDING.

32. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS ISSUED FOR THE DURATION OF THE CONTRACT.

33. SAFETY ISSUES MUST BE CONSIDERED AT ALL TIMES, INCORPORATE TRAFFIC CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT.

SITEWORKS NOTES

1. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE BEFORE COMMENCEMENT OF WORK, AND REPORT ANY DISCREPANCIES TO THE SUPERINTENDENT.

2. MAKE SMOOTH CONNECTIONS WITH EXISTING WORKS.

3. ALL EXISTING SERVICES (INCLUDING ANY NOT SHOWN ON THE PLANS) MUST BE ACCURATELY LOCATED IN POSITION AND LEVEL BEFORE ANY EXCAVATION. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. MINIMUM SERVICE CLEARANCES SHALL BE MAINTAINED FROM THE RELEVANT SERVICE AUTHORITY.

4. THE CONTRACTOR SHALL ARRANGE FOR ALL SETTING OUT BY A REGISTERED SURVEYOR.

5. THE CONTRACTOR SHALL OBTAIN ALL REGULATORY AUTHORITY APPROVALS AT THEIR OWN EXPENSE.

6. WHERE NEW WORKS BUT EXISTING, THE CONTRACTOR MUST ENSURE THAT A SMOOTH AND EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.

7. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UNLESS SPECIFIED OTHERWISE.

8. EXCAVATED TRENCHES SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT NATURAL MATERIAL. ANY SUBSIDIES DURING THE PERIOD TO BE RECTIFIED AS DIRECTED BY THE SUPERINTENDENT.

9. ANY EXISTING TREES THAT FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE LANDSCAPE ARCHITECT'S DETAILS AND/OR BY PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE, ENSURING THAT NOTHING IS NAILED TO THEM, PROHIBITING PAVING, GRADING, SEDIMENT WASH, OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS -

    A. ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5m OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICHEVER IS THE GREATER,

    B. A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (e.g. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300mm, CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

11. RECEPTORS FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHTWEIGHT WASTE MATERIALS, AND LITTER ARE TO BE EMPTIED AS NECESSARY. DISPOSAL OF WASTE SHALL BE IN A MANNER APPROVED BY THE SUPERINTENDENT OR AS SPECIFIED IN THE WORKS CONTRACT.

12. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).

13. ALL BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF BASE COURSE MATERIAL PLACED.

14. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF SUB-BASE COURSE MATERIAL PLACED.

15. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH RMS FORM 3051 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF EIA.

16. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.

17. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE INDICATED.

18. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (LIKE ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THESE WORKS.

EXISTING SERVICE NOTES

1. EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES BEFORE THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT.

2. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION, AND REMOVAL IF REQUIRED OF ALL REDUNDANT EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA, AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT.

3. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.

4. IF REQUIRED, THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT SERVICE AUTHORITY.

5. INTERRUPTION TO THE SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL. THE CONTRACTOR IS TO GAIN APPROVAL FROM THE SUPERINTENDENT FOR TIMES OF INTERRUPTION - THE CONTRACTOR IS RESPONSIBLE FOR ALL LIAISON.

6. ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN Ø80mm U.P.V.C SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND THE EDGE OF PAVING.

7. CLEARANCE AND COVER REQUIREMENTS SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY BEFORE THE COMMENCEMENT OF WORKS AND SHALL BE ADHERED TO AT ALL TIMES.

8. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS ONLY.

TELSTRA - DUTY OF CARE NOTES

TELSTRA'S PLANS SHOW ONLY THE PRESENCE OF CABLES AND PLANT. THEY ONLY SHOW THEIR POSITION RELATIVE TO ROAD BOUNDARIES, PROPERTY FENCES ETC. AT THE TIME OF INSTALLATION TELSTRA DOES NOT WARRANT OR HOLD OUT THAT SUCH PLANS ARE ACCURATE THEREAFTER DUE TO CHANGES THAT MAY OCCUR OVER TIME. DO NOT ASSUME THE DEPTH OR ALIGNMENT OF CABLES OR PLANTS AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR TELSTRA CABLES AND PLANTS. BEFORE USING MACHINE EXCAVATORS TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY IT'S LOCATION TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO IT'S PROPERTY AND LOSSES CAUSED TO TELSTRA AND IT'S CUSTOMERS.

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE. EI CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY BEFORE THE COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, BEFORE COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON-SITE AT ALL TIMES.

BEFORE YOU DIG
www.byda.com.au
Zero Damage - Zero Harm

DISCLAIMER :

THESE NOTES ARE DOCUMENTED FOR GENERAL CONDITION. SOME NOTES MAY NOT BE APPLICABLE REFER TO DRAWINGS FOR SITE SPECIFIC NOTES.

TEMPORARY SITE CONTROL FOR ENTRY/EXIT AREAS

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC ROADS.

2. PERIODIC TOP DRESSING WITH ADDITIONAL AGGREGATE MAY BE REQUIRED TO KEEP THE SITE CONTROL IN A 'USEABLE STATE'.

3. ALL SEDIMENT SPILLED, DROPPED, OR WASHED ONTO PUBLIC ROADS MUST BE REMOVED IMMEDIATELY AND CHECKED DAILY.

4. REMOVAL AND CLEANING OF PUBLIC ROADS BY BROOMS AND SHOVELS ETC. WASHING DOWN ROADS IS NOT PERMITTED.

NOTES

1. WHERE POSSIBLE LAY PIPES TO AVOID EXISTING AND PROPOSED TREE.

2. FINISH GROUND SURFACES AROUND BUILDINGS TO BE GENERALLY GRADED AWAY FROM AND AROUND BUILDING TO AVOID LOW POINTS WHERE WATER CAN ACCUMULATE

3. BUILDER TO CARRY OUT A DIAL BEFORE YOU DIG BEFORE WORKS COMMENCING

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00	ISSUE FOR SUBMISSION	HR	19.12.25

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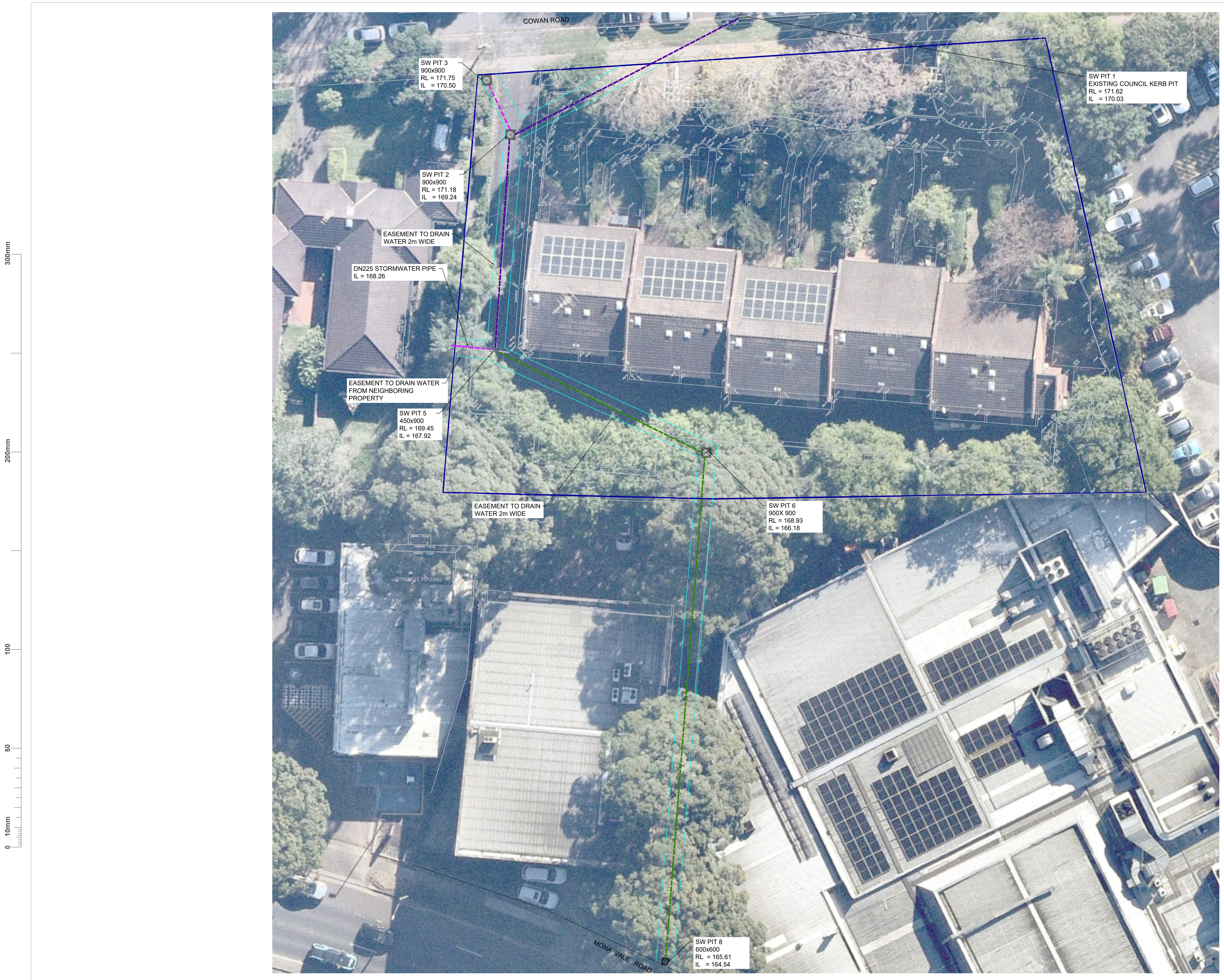
5-9 COWAN RD,ST IVES, NSW 2075	HM	SA	HR
	Project No.	**Scale**	
	S10751	at A1. N.T.S	
Title	**Drawing No.**		**Revision**
STANDARD NOTES	C001		00
	Issued By	**Checked By**	**Date**
	HR	HR	19.12.25



LEGEND

SWD	225mm DRAINAGE PIPE
SWD	375mm DRAINAGE PIPE
SWD	450mm DRAINAGE PIPE

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Project
5-9 COWAN RD,ST IVES, NSW 2075

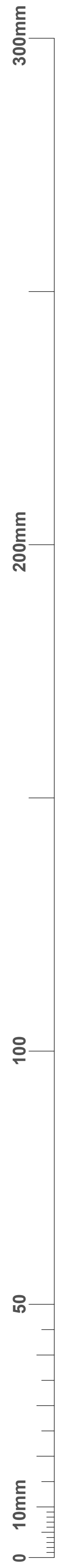
Title
EXISTING PIPE NETWORK PLAN

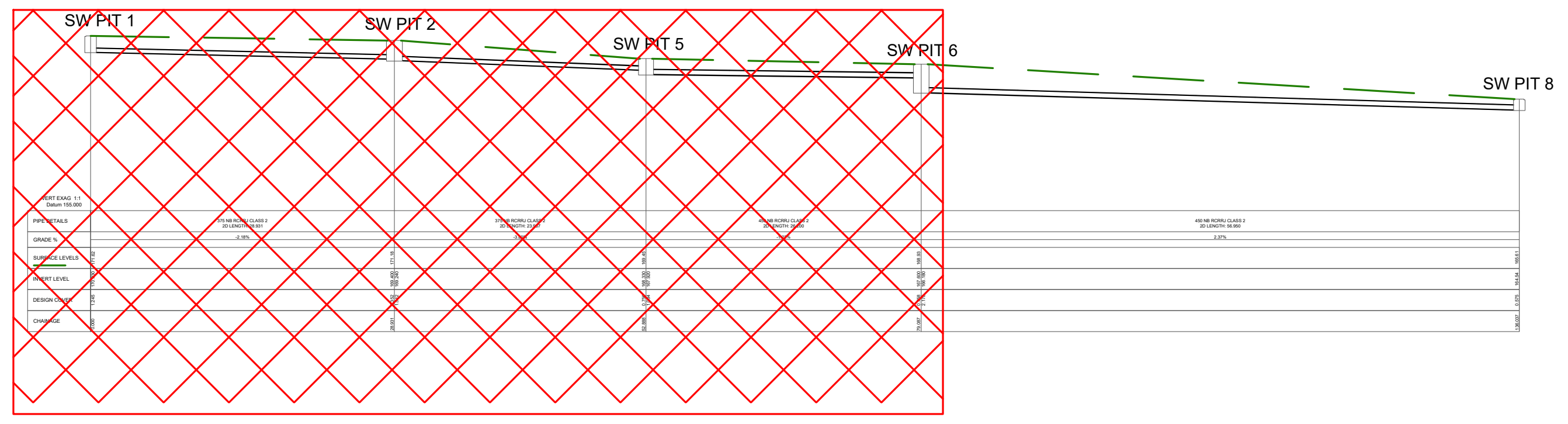
Drawn	Designed	Approved
HM	SA	HR

Project No.	Scale
S10751	at A1. 220

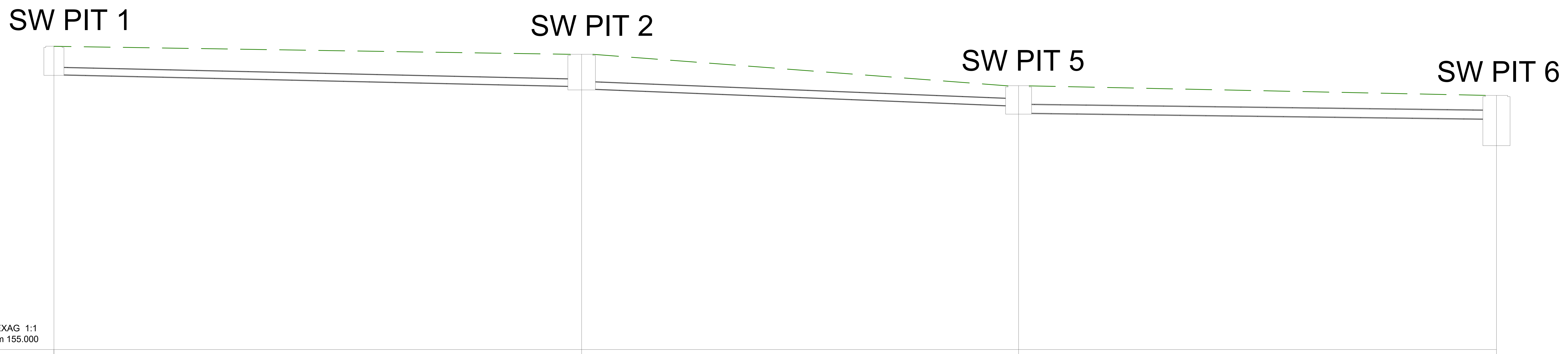
Drawing No.	Revision
C100	00

Issued By	Checked By	Date
HR	HR	19.12.25





KEY PLAN



VERT EXAG 1:1
Datum 155.000

PIPE DETAILS	375 NB RCRRJ CLASS 2 2D LENGTH: 28.931		375 NB RCRRJ CLASS 2 2D LENGTH: 23.957		450 NB RCRRJ CLASS 2 2D LENGTH: 26.200	
GRADE %	-2.18%		-3.80%		-1.22%	
SURFACE LEVELS	171.62	171.18		169.45		168.93
INVERT LEVEL	170.030	169.400 169.240		168.330 167.920		167.600
DESIGN COVER	1.245	1.352 1.512		0.756 1.084		0.758
CHAINAGE	0.000	28.931		52.888		79.087

EXISTING PIPE NETWORK LONG-SECTION
SCALE = 1:150

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5-9 COWAN RD,ST IVES, NSW 2075

Title
EXISTING PIPE NETWORK LONG-SECTION

Drawn	Designed	Approved
HM	SA	HR

Project No.	Scale
S10751	at A1. 150

Drawing No.	Revision
C101	00

Issued By	Checked By	Date
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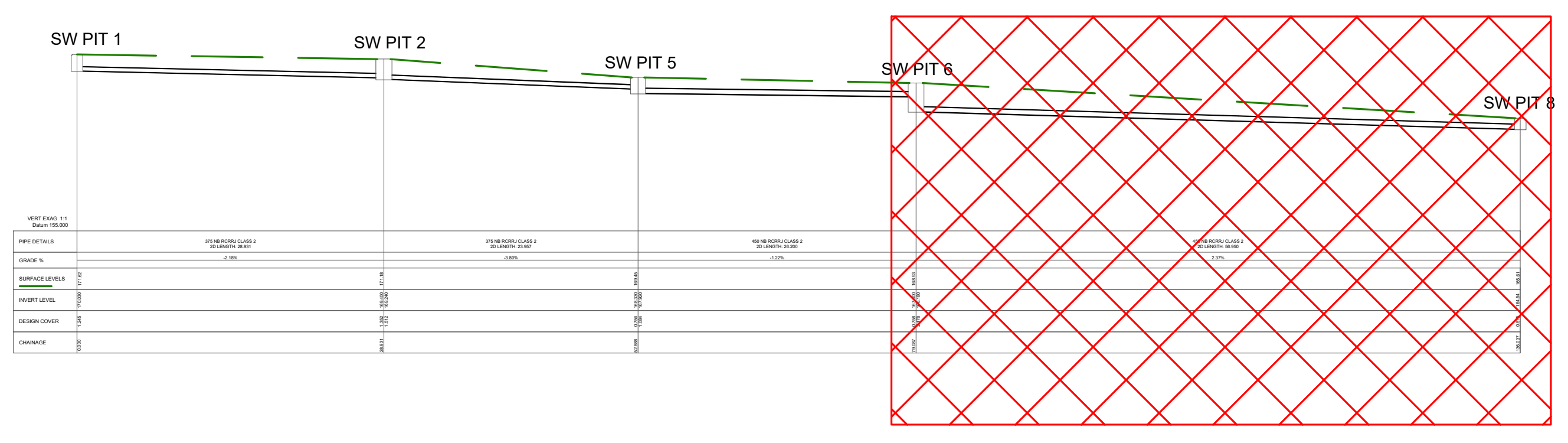
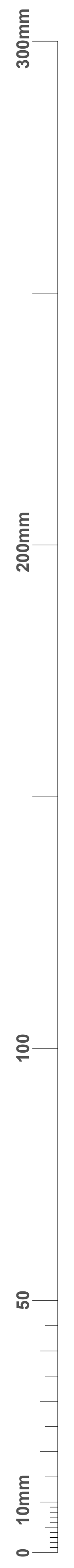
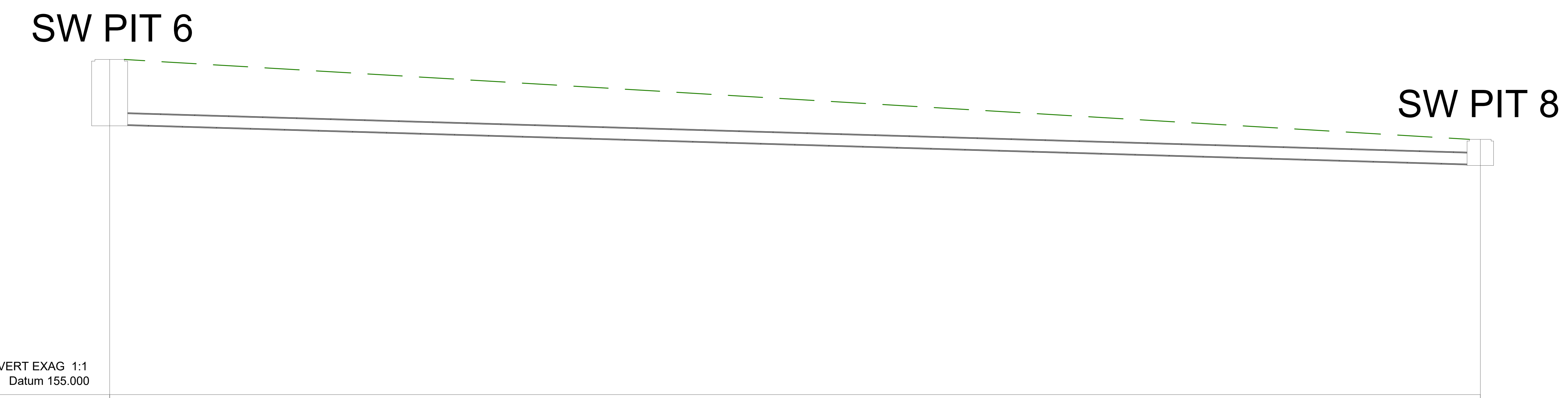


KEY PLAN





VERT EXAG 1:1
Datum 155.000

PIPE DETAILS	450 NB RCRRJ CLASS 2 2D LENGTH: 56.950	
GRADE %	2.37%	
SURFACE LEVELS	168.93	165.61
INVERT LEVEL	166.180	164.54
DESIGN COVER	2.178	0.575
CHAINAGE	79.087	136.037

EXISTING PIPE NETWORK LONG-SECTION
SCALE = 1:150

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00	ISSUE FOR SUBMISSION	HR	19.12.25

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Architect

Client

Engineer

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Project
5-9 COWAN RD,ST IVES, NSW 2075

Title
EXISTING PIPE NETWORK LONG-SECTION-1

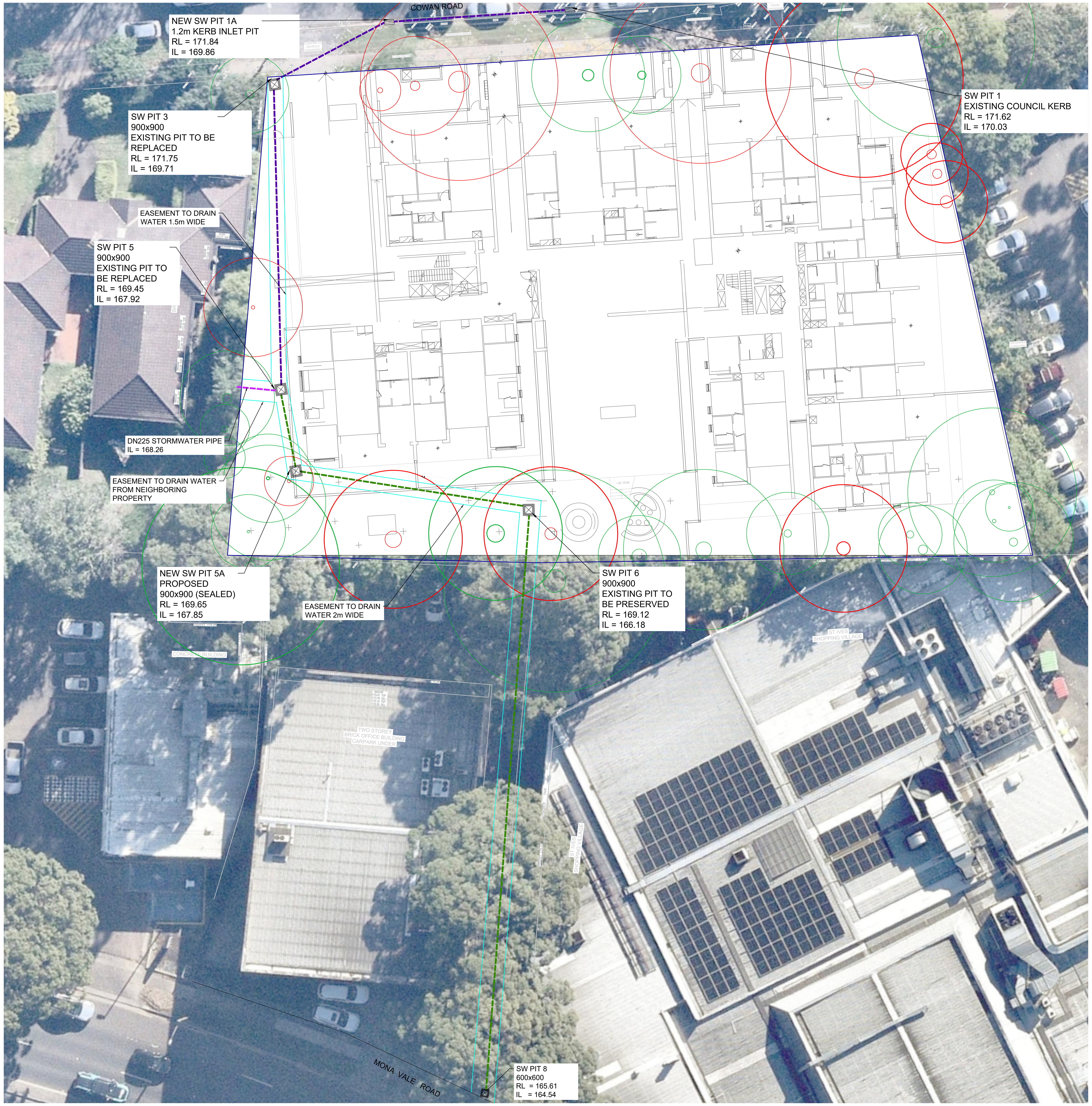
Drawn	Designed	Approved
HM	SA	HR

Project No.	Scale
S10751	at A1. 150

Drawing No.	Revision
C102	00

Issued By	Checked By	Date
HR	HR	19.12.25

300mm
200mm
100
50
10mm
0



LEGEND

SWD	225mm DRAINAGE PIPE
SWD	375mm DRAINAGE PIPE
SWD	450mm DRAINAGE PIPE
○	TREE TO BE REMOVED REFER TO ARBORIST REPORT
○	TREE TO BE PRTECTED REFER TO ARBORIST REPORT

DOWNSTREAM DRAINAGE EVALUATION NOTES

1. DIGITAL SURVEY SOLUTION HAS UNDERTAKEN A CCTV INVESTIGATION OF THE DOWNSTREAM STORMWATER DRAINAGE NETWORK AND PREPARED A REPORT IN CONJUNCTION WITH THE CCTV FOOTAGE.

2. THE EIC TEAM HAS EVALUATED THE CCTV FOOTAGE AND REPORT, AND HAS ADVISED THE CLIENT THAT A BLOCKAGE WAS OBSERVED IN THE STORMWATER LINE BETWEEN PIT 7 AND PIT 8, CLOSE TO PIT 8 AT THE DOWNSTREAM. THE BLOCKAGE IS MAINLY COMPRISED BY TREE LEAVES AND DEBRIS. EIC RECOMMENDS JET CLEANING FOR DEBRIS REMOVAL.

3. AN EARTHEN PIPE CONNECTION CAN BE SEEN IN THE DOWNSTREAM NETWORK, HOWEVER, IT CONNECTS TO THE NETWORK AT A HIGH ELEVATION. THEREFORE, NO IMPACTS TO THE FUNCTIONALITY OF THE STORMWATER NETWORK DUE TO THE EARTHEN PIPE ARE ANTICIPATED.

4. SOME CRACKING AND SMALL DISPLACEMENTS WERE OBSERVED IN THE CCTV FOOTAGE AND A SUMMARY OF THESE CRACKS IS DOCUMENTED FOR REFERENCE AND RECORD IN A MARKUP PREPARED BY EIC ON THE CCTV SURVEY

.

5. ASIDE FROM THESE OBSERVATIONS, THE PIPE BETWEEN PIT 7 AND PIT 8 GENERALLY APPEARS TO BE IN FUNCTIONAL ORDER.

6. REFER TO THE EIC INPUT, ALONG WITH CCTV FOOTAGE AND ASSOCIATED REPORT PROVIDED FOR COUNCIL ASSESSMENT AND ADVICE.

FOR SUBMISSION

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Project
5-9 COWAN RD,ST IVES, NSW 2075

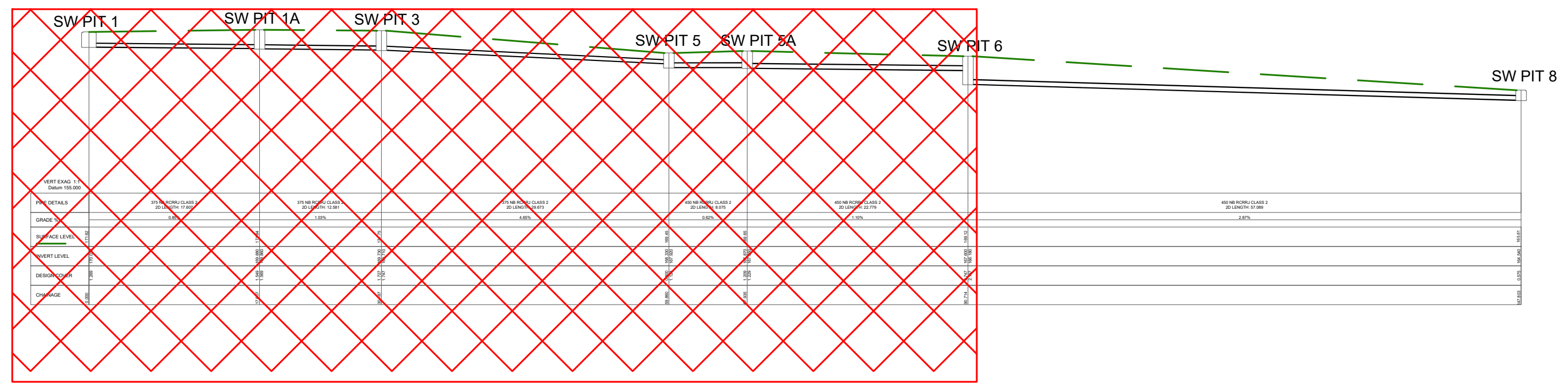
Title
PROPOSED PIPE NETWORK PLAN

Drawn	Designed	Approved
HM	SA	HR

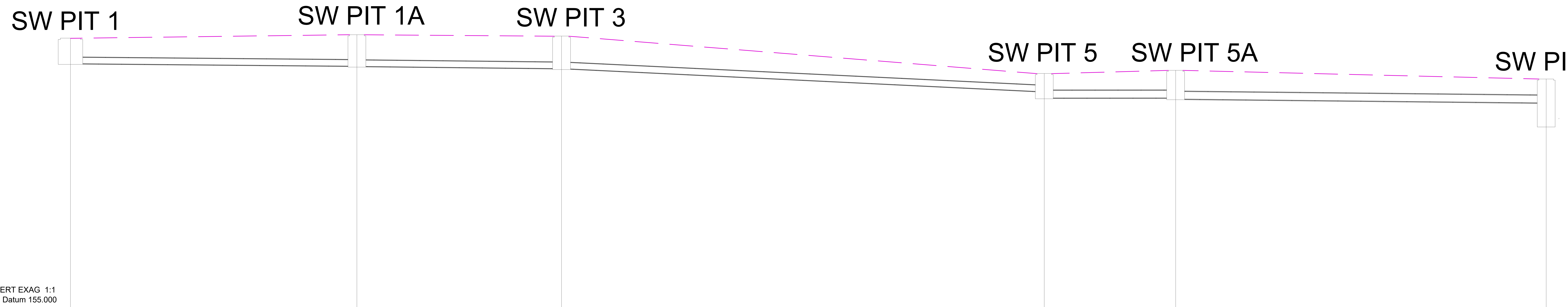
Project No.	Scale
S10751	at A1. 220

Drawing No.	Revision
C103	00

Issued By	Checked By	Date
HR	HR	19.12.25



KEY PLAN



VERT EXAG 1:1
Datum 155.000

PIPE DETAILS		375 NB RCRRJ CLASS 2 2D LENGTH: 17.607		375 NB RCRRJ CLASS 2 2D LENGTH: 12.581		375 NB RCRRJ CLASS 2 2D LENGTH: 29.673		450 NB RCRRJ CLASS 2 2D LENGTH: 8.075		450 NB RCRRJ CLASS 2 2D LENGTH: 22.779	
GRADE %		0.85%		1.03%		4.65%		0.62%		1.10%	
SURFACE LEVEL	171.62		171.84		171.75		169.45		169.65		169.12
INVERT LEVEL	170.030		169.880 169.860		169.730 169.710		168.330 167.920		167.870 167.850		167.600
DESIGN COVER	1.269		1.549 1.569		1.727 1.747		0.800 1.128		1.209 1.229		0.747
CHAINAGE	0.000		17.607		30.187		59.860		67.935		90.714

PROPOSED PIPE NETWORK LONG-SECTION
SCALE = 1:150

FOR SUBMISSION

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Project
5-9 COWAN RD,ST IVES, NSW 2075

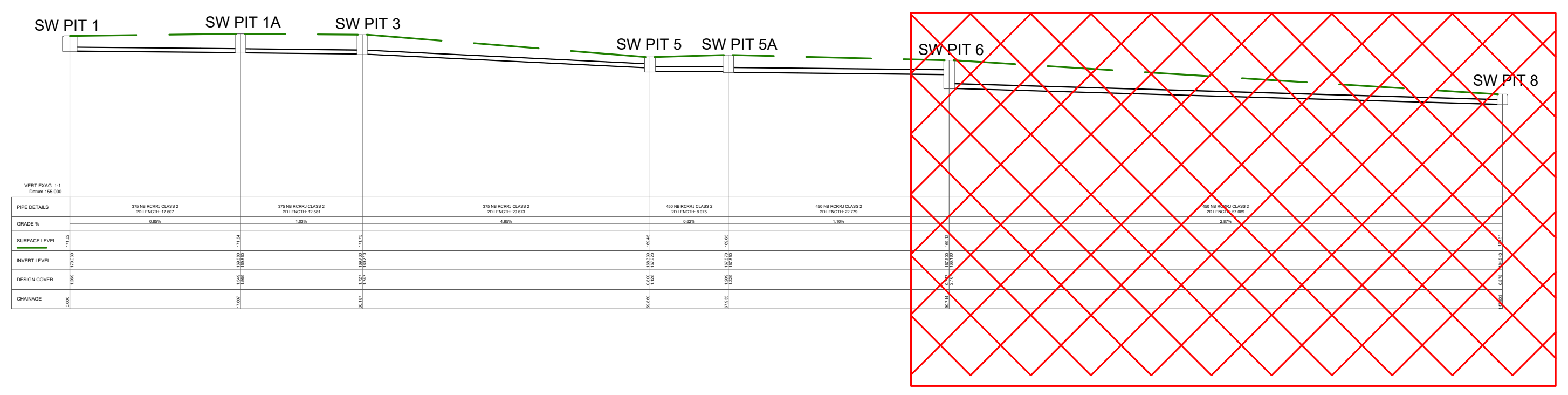
Title
PROPOSED PIPE NETWORK LONG-SECTION

Drawn	Designed	Approved
HM	SA	HR

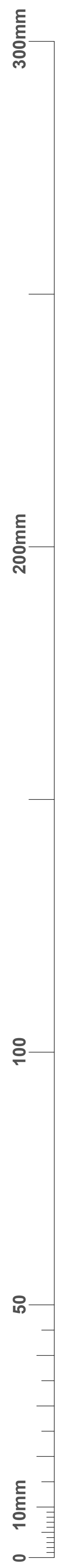
Project No.	Scale
S10751	at A1. 150

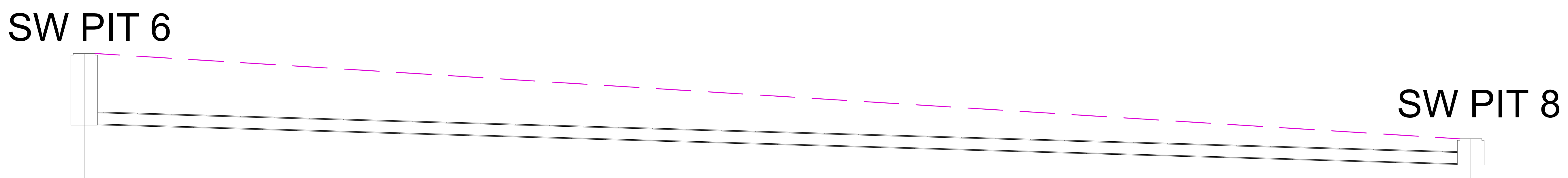
Drawing No.	Revision
C104	00

Issued By	Checked By	Date
HR	HR	19.12.25



KEY PLAN





VERT EXAG 1:1
Datum 155.000

	SW PIT 6		SW PIT 8
PIPE DETAILS		450 NB RCRRJ CLASS 2 2D LENGTH: 57.089	
GRADE %		2.87%	
SURFACE LEVEL	169.12		165.61
INVERT LEVEL	166.180		164.540
DESIGN COVER	2.167		0.575
CHAINAGE	90.714		147.803

PROPOSED PIPE NETWORK LONG-SECTION

SCALE = 1:150

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Project
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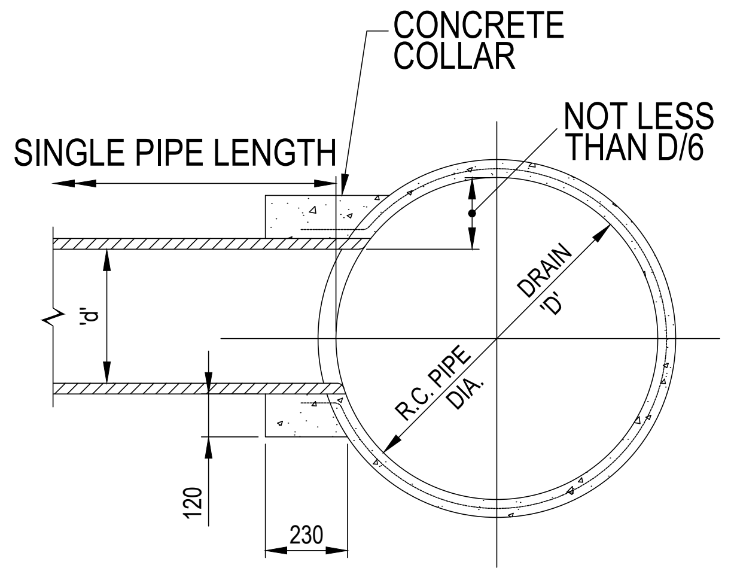
Title
PROPOSED PIPE NETWORK LONG-SECTION-1

Drawn	Designed	Approved
HM	SA	HR

Project No.	Scale
S10751	at A1. 150

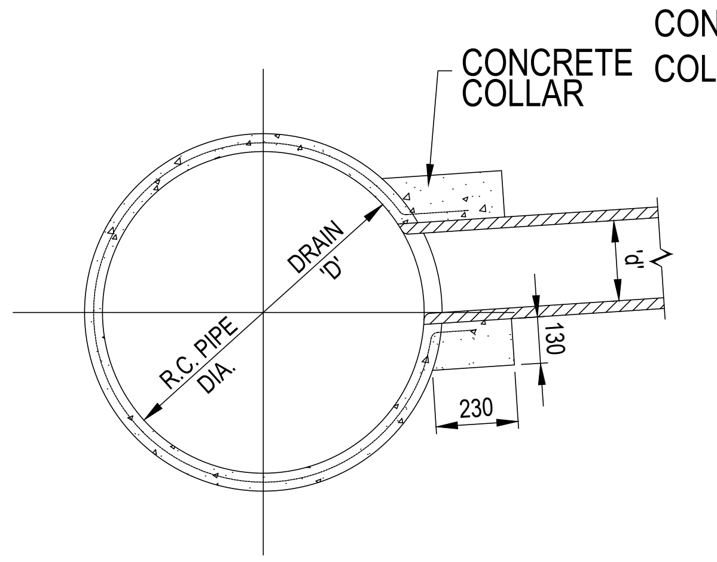
Drawing No.	Revision
C105	00

Issued By	Checked By	Date
HR	HR	19.12.25



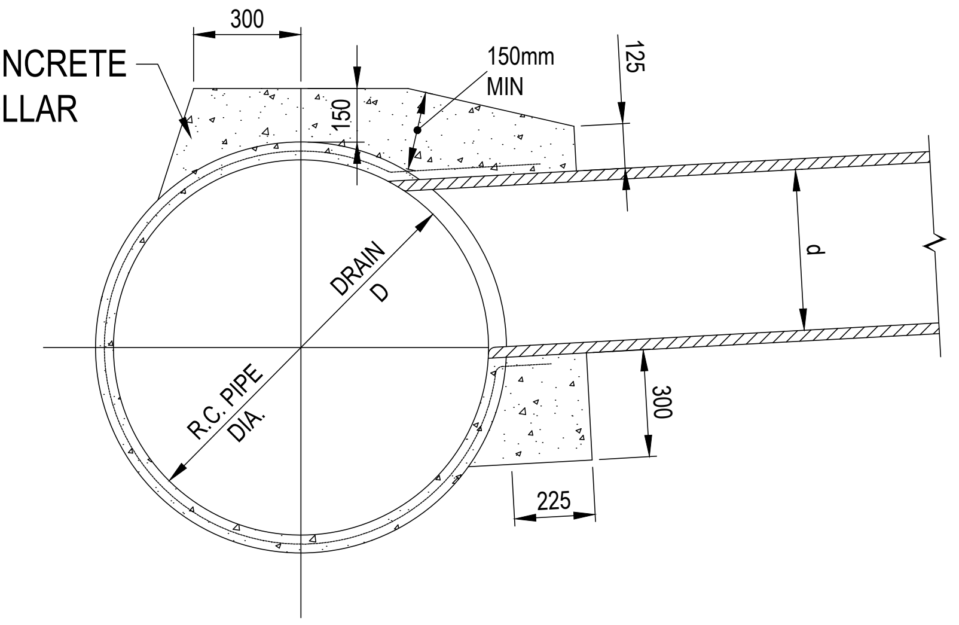
TO BE USED WHERE DIAMETER ON INLET IS GREATER THAN 1/3 DIAMETER OF DRAIN WHEREVER SHOWN ON THE DRAWINGS.

TYPE 1



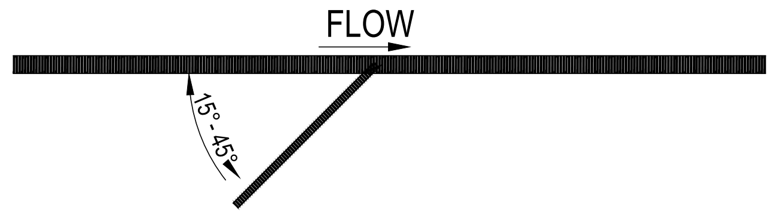
TYPE 2

TYPICAL CONNECTION FOR BRANCH PIPE UP TO AND INCLUDING 375Ø PROVIDED 'd' IS LESS THAN D/3



TYPICAL CONNECTION FOR BRANCH PIPE 450mm DIA AND LARGER PROVIDED 'd' IS LESS THAN D/3

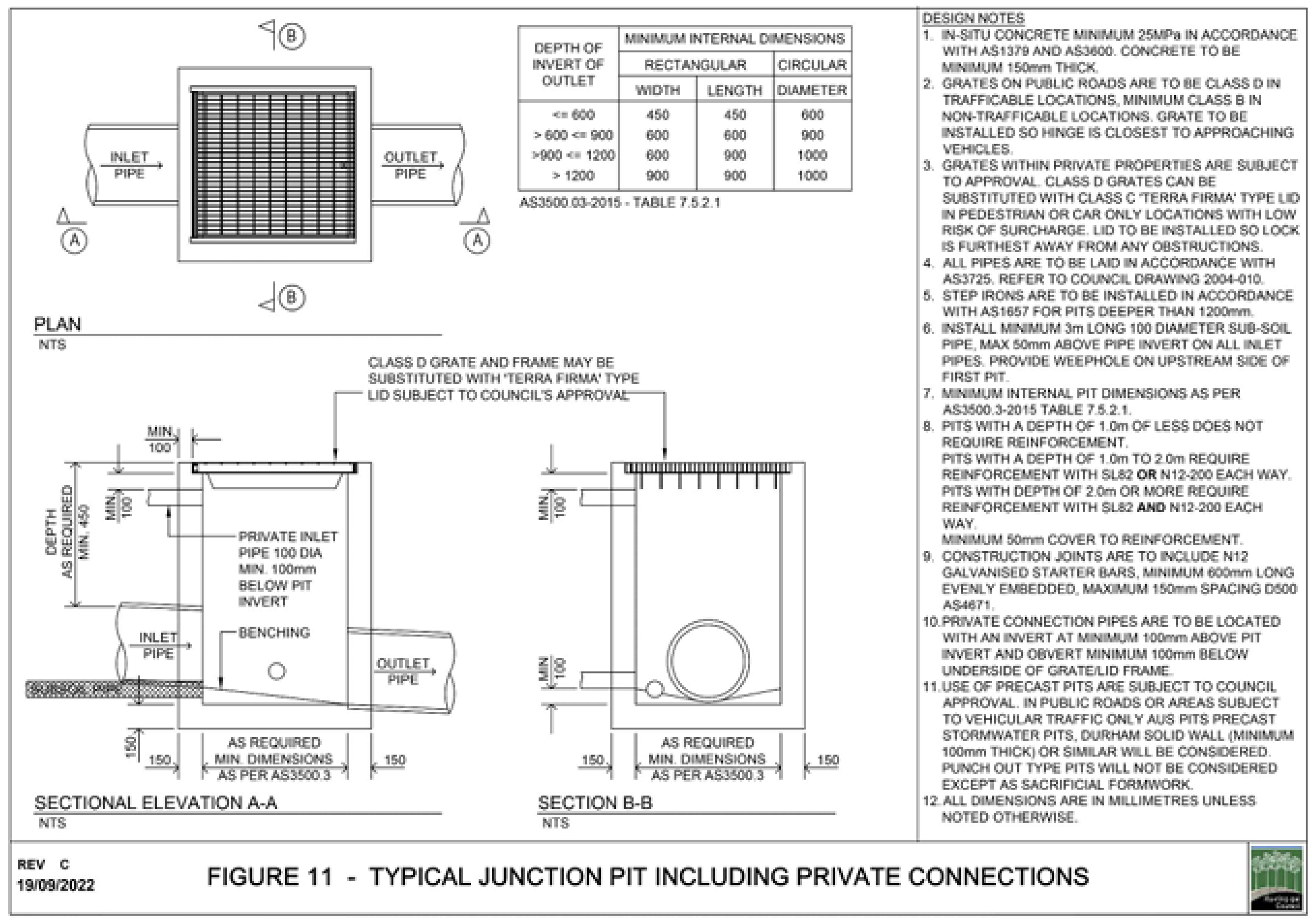
TYPE 3



PREFERENCE SHOULD BE GIVEN TO ANGLING CONNECTION DOWNSTREAM

1. REINFORCEMENT IN PIPE TO BE CUT AND FORMED INTO COLLAR. ALL CARE SHALL BE TAKEN TO PREVENT DAMAGE TO THE PIPE.
2. CEMENT MORTAR JOINTING TO BE NEATLY RENDERED ON THE INSIDE OF THE DRAIN.
3. WHERE CONNECTION CANNOT BE RENDERED FROM INSIDE MAIN PIPE. CONNECTION TO CONSIST OF 300mm. MAXIMUM LENGTH INCOMING PIPE TO ALLOW RENDERING FROM OUTSIDE.

CONNECTION TO MAIN DRAIN



DEPTH OF INVERT OF OUTLET	MINIMUM INTERNAL DIMENSIONS		
	RECTANGULAR		CIRCULAR
	WIDTH	LENGTH	DIAMETER
<= 600	450	450	600
> 600 <= 900	600	600	900
>900 <= 1200	600	900	1000
> 1200	900	900	1000

AS3500.03-2015 - TABLE 7.5.2.1

DESIGN NOTES

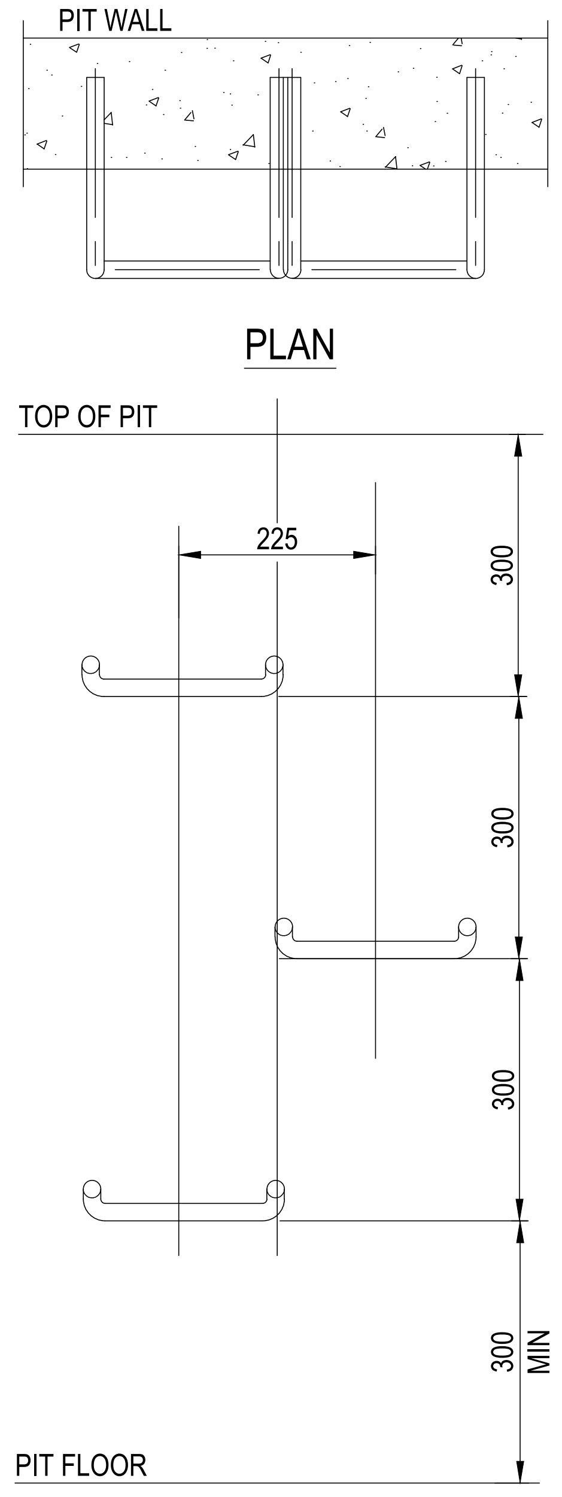
1. IN-SITU CONCRETE MINIMUM 25MPa IN ACCORDANCE WITH AS1379 AND AS3600. CONCRETE TO BE MINIMUM 150mm THICK.
2. GRATES ON PUBLIC ROADS ARE TO BE CLASS D IN TRAFFICABLE LOCATIONS, MINIMUM CLASS B IN NON-TRAFFICABLE LOCATIONS. GRATE TO BE INSTALLED SO HINGE IS CLOSEST TO APPROACHING VEHICLES.
3. GRATES WITHIN PRIVATE PROPERTIES ARE SUBJECT TO APPROVAL. CLASS D GRATES CAN BE SUBSTITUTED WITH CLASS C 'TERRA FIRMA' TYPE LID IN PEDESTRIAN OR CAR ONLY LOCATIONS WITH LOW RISK OF SURCHARGE. LID TO BE INSTALLED SO LOCK IS FURTHEST AWAY FROM ANY OBSTRUCTIONS.
4. ALL PIPES ARE TO BE LAID IN ACCORDANCE WITH AS3725. REFER TO COUNCIL DRAWING 2004-010.
5. STEP IRONS ARE TO BE INSTALLED IN ACCORDANCE WITH AS1657 FOR PITS DEEPER THAN 1200mm.
6. INSTALL MINIMUM 3m LONG 100 DIAMETER SUB-SOIL PIPE, MAX 50mm ABOVE PIPE INVERT ON ALL INLET PIPES. PROVIDE WEEPHOLE ON UPSTREAM SIDE OF FIRST PIT.
7. MINIMUM INTERNAL PIT DIMENSIONS AS PER AS3500.3-2015 TABLE 7.5.2.1.
8. PITS WITH A DEPTH OF 1.0m OF LESS DOES NOT REQUIRE REINFORCEMENT.
   PITS WITH A DEPTH OF 1.0m TO 2.0m REQUIRE REINFORCEMENT WITH SL82 **OR** N12-200 EACH WAY.
   PITS WITH DEPTH OF 2.0m OR MORE REQUIRE REINFORCEMENT WITH SL82 **AND** N12-200 EACH WAY.
   MINIMUM 50mm COVER TO REINFORCEMENT.
9. CONSTRUCTION JOINTS ARE TO INCLUDE N12 GALVANISED STARTER BARS, MINIMUM 600mm LONG EVENLY EMBEDDED, MAXIMUM 150mm SPACING D500 AS4671.
10. PRIVATE CONNECTION PIPES ARE TO BE LOCATED WITH AN INVERT AT MINIMUM 100mm ABOVE PIT INVERT AND OBVERT MINIMUM 100mm BELOW UNDERSIDE OF GRATE/LID FRAME.
11. USE OF PRECAST PITS ARE SUBJECT TO COUNCIL APPROVAL. IN PUBLIC ROADS OR AREAS SUBJECT TO VEHICULAR TRAFFIC ONLY AUS PITS PRECAST STORMWATER PITS, DURHAM SOLID WALL (MINIMUM 100mm THICK) OR SIMILAR WILL BE CONSIDERED. PUNCH OUT TYPE PITS WILL NOT BE CONSIDERED EXCEPT AS SACRIFICIAL FORMWORK.
12. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

REV C
19/09/2022

FIGURE 11 - TYPICAL JUNCTION PIT INCLUDING PRIVATE CONNECTIONS

(SOURCE: KU-RING-GAI COUNCIL TECHNICAL GUIDELINE FOR WATER MANAGEMENT)

NOTES: THESE DETAILS HAVE BEEN SHOWN FOR INFORMATION ONLY USING COUNCIL STANDARD DETAILS

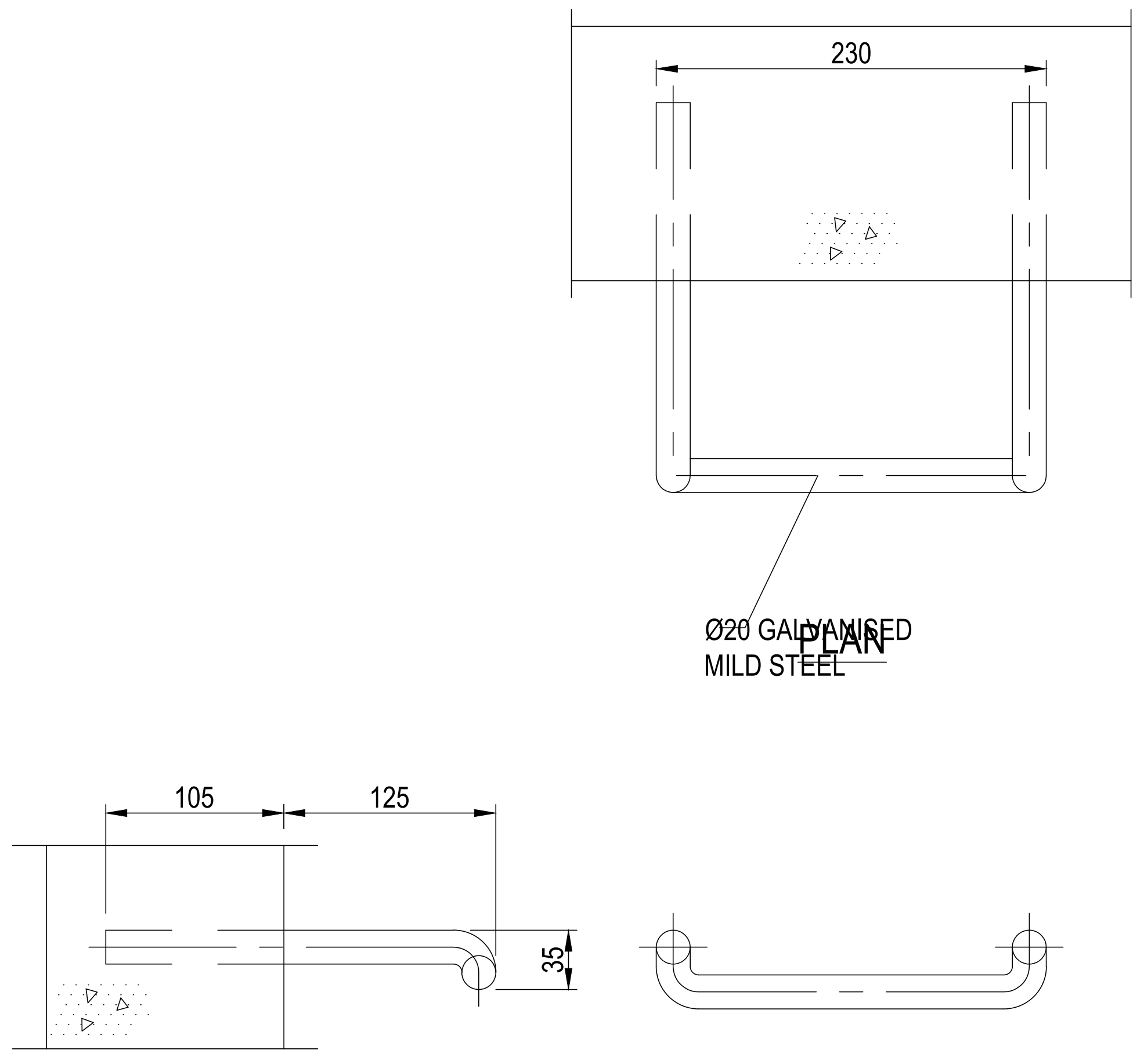


PLAN

ELEVATION

STEP IRON PLACEMENT TO PIT WALL

NTS

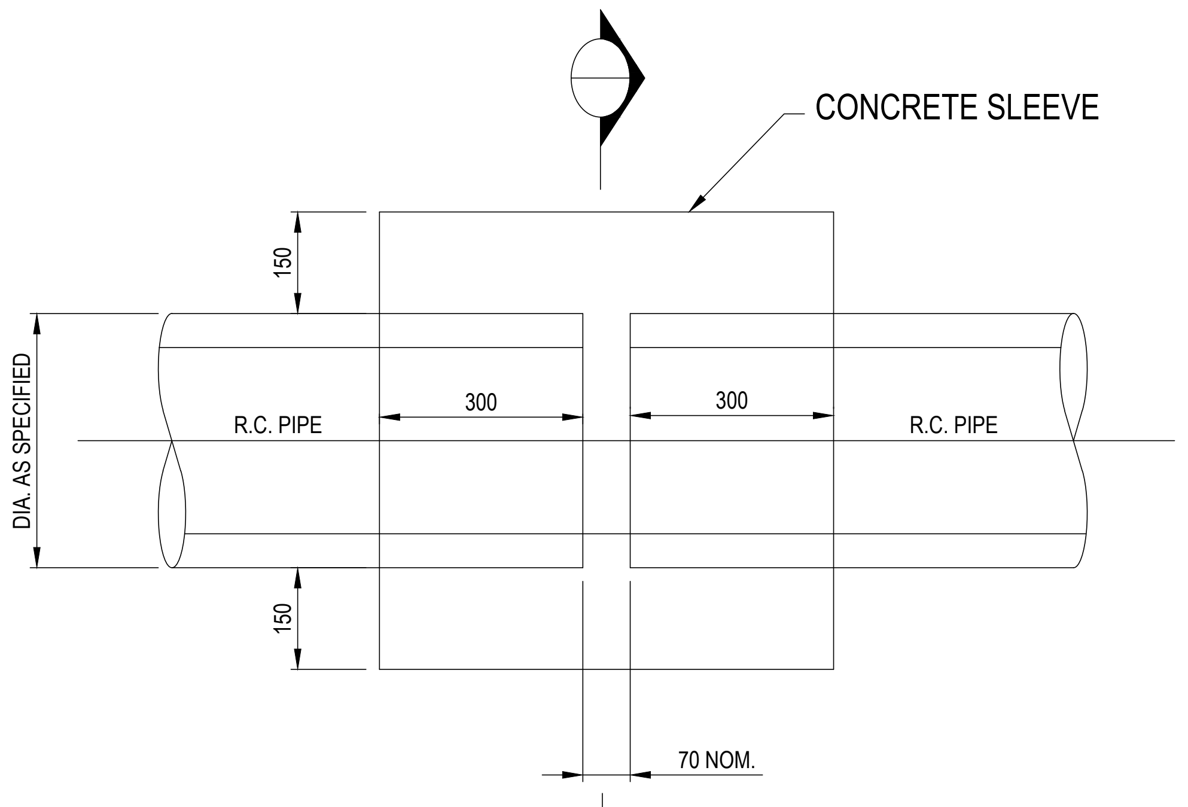


SIDE ELEVATION

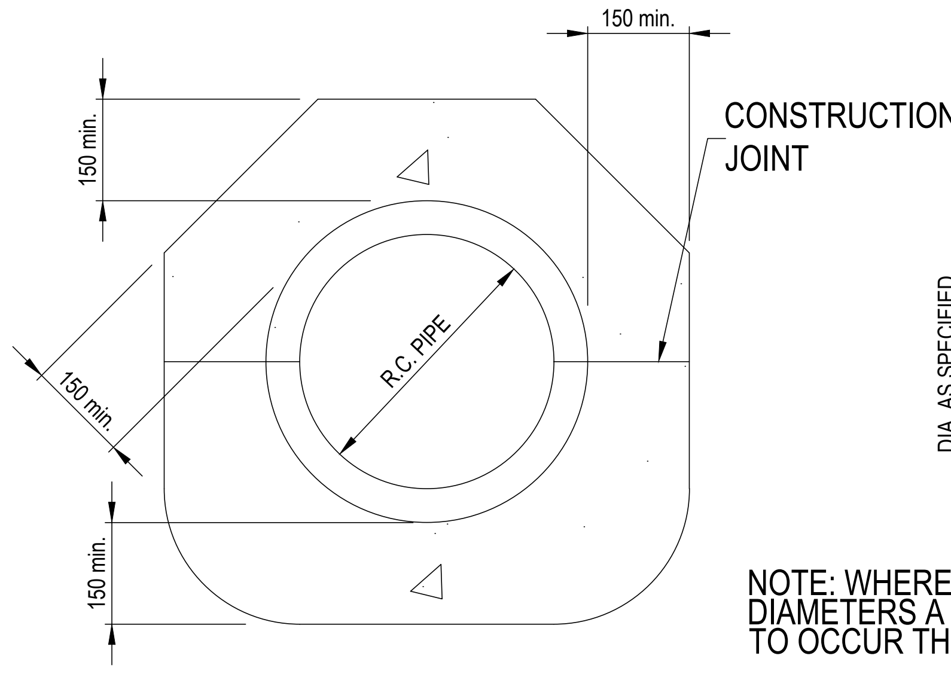
FRONT ELEVATION

STEP IRON DETAIL

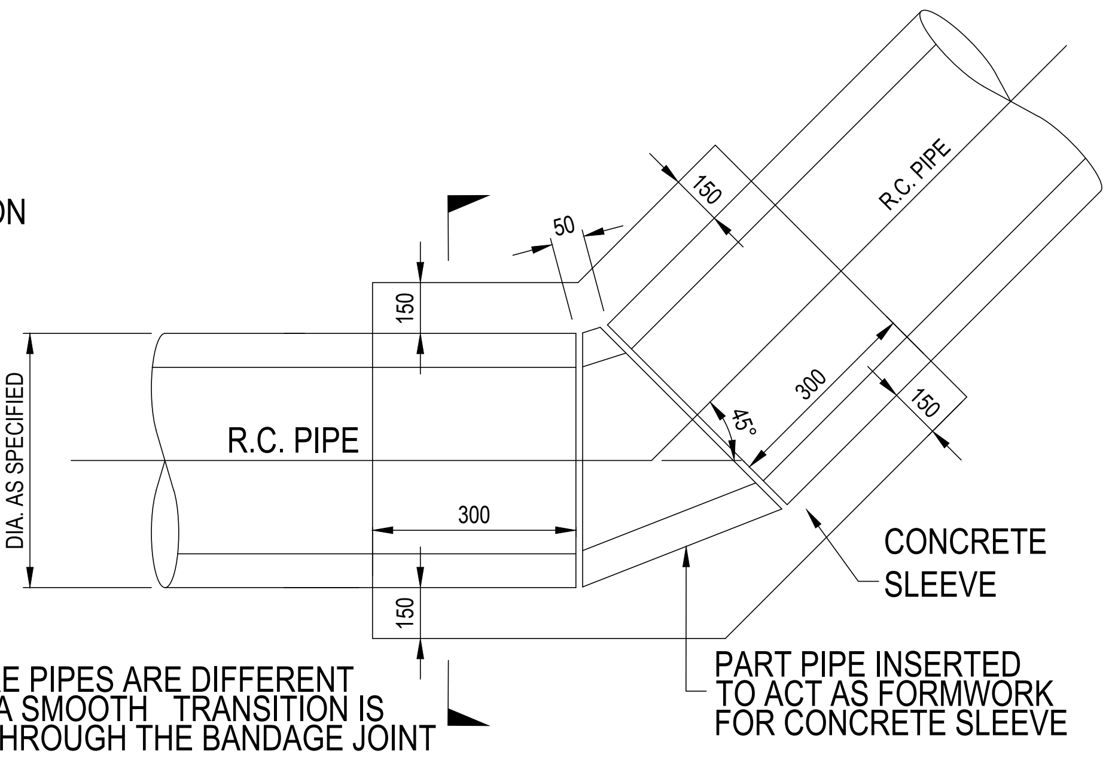
NTS



PIPE TO PIPE CONNECTION DETAIL



SECTION



NOTE: WHERE PIPES ARE DIFFERENT DIAMETERS A SMOOTH TRANSITION IS TO OCCUR THROUGH THE BANDAGE JOINT

PIPE TO PIPE CONNECTION DETAIL

FOR SUBMISSION

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Project
5-9 COWAN RD,ST IVES, NSW 2075

Title
STANDARD DETAILS

Drawn	Designed	Approved
HM	SA	HR

Project No.	Scale
S10751	at A1. N.T.S

Drawing No.	Revision
C106	00

Issued By	Checked By	Date
HR	HR	19.12.25

DRAINTECH SOLUTIONS
PIT1A <- PIT1
225mm Concrete unreinforced
Breaking, one or more pieces of conduit are missing, length of break: 100mm from 11 o'clock to 1 o'clock
0.4% 04.11.25 07:56:02 7.47m

PIT1 -
PIT1A_e6bdb58a-4c05-431b-ba26-3dd7b0a6b748_20251104_075853_752.jpg, 00:09:46, 7.47
Breaking, one or more pieces of conduit are missing, length of break: 100mm from 11 o'clock to 1 o'clock

DRAINTECH SOLUTIONS
PIT1A <- PIT1
225mm Concrete unreinforced
Joint displaced angular at 10 o'clock
04.11.25 07:58:13 7.83m

PIT1 -
PIT1A_7b6cde27-8eb1-4947-863c-50e0f7da7522_20251104_080103_893.jpg, 00:11:24, 7.83
Joint displaced angular at 10 o'clock

Draintech Solutions Group Pty Limited
PO Box 489, Camden NSW 2570
mat@draintechsolutions.com.au

Section Pictures - 4/11/2025 - PIT6 - PIT5

Suburb	Address/Location	Date of inspection	Pipe Asset ID	Job ID
ST IVES	**5-9 COWAN RD**	**4/11/2025**	**PIT6 - PIT5**	**8587**

DRAINTECH SOLUTIONS
PIT5 <- PIT6
375mm Concrete reinforced
Start node, maintenance chamber, Nodename:, PIT6
04.11.25 09:49:16 0.00m

PIT6 -
PIT5_027ad0d0-a5c8-4486-872c-b6e6a0ed4747_20251104_095208_004.jpg, 00:00:00, 0.00
Start node, maintenance chamber, Nodename:, PIT6

DRAINTECH SOLUTIONS
PIT5 <- PIT6
375mm Concrete reinforced
Water flow at constant depth, clear water, <5%
04.11.25 09:49:36 0.00m

PIT6 -
PIT5_66ec8693-e1fa-4273-a40d-475777ccc5d4_20251104_095227_960.jpg, 00:00:43, 0.00
Water flow at constant depth, clear water, <5%

Draintech Solutions Group Pty Limited
PO Box 489, Camden NSW 2570
mat@draintechsolutions.com.au

Section Pictures - 4/11/2025 - PIT6 - PIT8

Suburb	Address/Location	Date of inspection	Pipe Asset ID	Job ID
ST IVES	**5-9 COWAN RD**	**4/11/2025**	**PIT6 - PIT8**	**8587**

DRAINTECH SOLUTIONS
PIT6 -> PIT8
450mm Concrete reinforced
3.2% 04.11.25 11:34:12 10.52m

PIT6 -
PIT8_9a111a52-b1f1-4899-8bb7-5d809ae58c43_20251104_113703_962.jpg, 00:05:13, 11.24
Surface damage concrete, reinforcement is exposed and corroded from 10 o'clock to 12 o'clock

DRAINTECH SOLUTIONS
PIT6 -> PIT8
450mm Concrete reinforced
Circumferential cracking, width: 0.1mm from 11 o'clock to 12 o'clock
3.4% 04.11.25 11:33:57 11.24m

PIT6 -
PIT8_4bd061ef-269c-47a9-85e9-4a209cdb49b6_20251104_113648_976.jpg, 00:05:24, 11.24
Circumferential cracking, width: 0.1mm from 11 o'clock to 12 o'clock

DRAINTECH SOLUTIONS
PIT6 -> PIT8
450mm Concrete reinforced
Circumferential cracking, width: 10mm from 12 o'clock to 12 o'clock
04.11.25 11:39:20 20.40m

PIT6 -
PIT8_6088310a-51d3-457c-8384-70338eff51b4_20251104_114211_877.jpg, 00:09:57, 20.40
Circumferential cracking, width: 10mm from 12 o'clock to 12 o'clock

DRAINTECH SOLUTIONS
PIT6 -> PIT8
450mm Concrete reinforced
2.3% 04.11.25 11:41:20 23.58m

PIT6 -
PIT8_e095bd6a-9a1c-4fc5-b4b4-dc5019883dda_20251104_114412_111.jpg, 00:11:40, 24.25
Joint displaced longitudinaly, 50mm

DRAINTECH SOLUTIONS
PIT6 -> PIT8
450mm Concrete reinforced
Circumferential cracking, width: 10mm from 12 o'clock to 12 o'clock
04.11.25 11:42:08 26.12m

PIT6 -
PIT8_54024235-1ead-4951-b130-6d2533c0479c_20251104_114459_912.jpg, 00:12:31, 26.12
Circumferential cracking, width: 10mm from 12 o'clock to 12 o'clock

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UTILITY ASSETS LEGEND

ELECTRICITY	—EU—EU—
ELECTRICITY - DIGITISED	—EZ— —EZ—
COMMS TELEPHONE LINE	—T—T—
COMMS LINE - DIGITISED	—TZ—TZ—
COMMS OPTICAL FIBRE	—OU—OU—
OPTIC FIBRE - DIGITSED	—OZ—OZ—
COMMS HOUSE CONNECTION	—TH—TH—
WATER MAIN	—W—W—
WATER MAIN - DIGITISED	—WZ— —WZ—
WATER HOUSE CONNECTION	—WH—WH—
FIRE HYDRANT CONNECTION	━━━━
HIGH PRESSURE GAS	—HG—HG—
LOW PRESSURE GAS	—LG—LG—
GAS MAIN - DIGITISED	—GZ—GZ—
GAS HOUSE CONNECTION	—GH—GH—
SEWER MAIN	—S—S—
SEWER MAIN - DIGITISED	—SZ— —SZ—
STORMWATER PIPE	—SW—SW—SW—
STORMWATER - DIGITISED	—DZ— —DZ—
OVERHEAD ELECTRICITY	—OHP—OHP—OHP—
UNIDENTIFIED PIPELINE	—?P—?P—

UTILITY MAPPING NOTES:

1. Subsurface utility investigation was undertaken by Astrea Pty Ltd, the plan is to be read in conjunction with the subsurface utility investigation report.
2. Positions are based on Astrea Class A & B point surface indicator(s) located during field survey. Confirmation of the exact position should be made to the relevant authorities prior to any excavation work. Other services may still exist.
3. This plan shows a representation of the dwg model. This model should be viewed in a CADD environment to interpret this information.
4. This utility plan is valid for 28 days starting from the date of the issue, as underground utility works are often updated.
5. Electricity cables are not necessarily enclosed in conduits and are not necessarily covered with markers, tape or other indicators of their presence.
6. Services have been electronically traced in the field and are shown here for diagrammatic purposes only. Depths shown are approximate only and should be verified prior to works.
7. This plan includes information describing the location of subterranean features, which were purported to exist at the time of the survey. This information was compiled from a combination of field techniques and available data from cooperating utility authorities. Whilst all care has been taken in the preparation of this plan of survey, we cannot guarantee that the plan is without flaw of any kind.

SUBSURFACE UTILITY INFORMATION (SUI) AS5488 LOCATION CLASS

Labelling utility information by a classification code allows the user of this information to understand clearly how the information was collected and then place an appropriate amount of reliance on it. Project risks related to underground utilities can then be managed.

CLASS A: Information is the highest possible level of accuracy and is obtained by exposing the underground utility using a non-destructive excavation (pot holing) technique The vertical information for this locating method is to the top or shallowest part of the located service.

CLASS B: Information is collected by designating the horizontal and vertical location of underground utilities by using electromagnetic pipe and cable locators, sondes or flexi-trace. This is the most common form of utility locating and although an X, Y and Z axis can be established it is not always entirely accurate due to differing electromagnetic ields, soil conditions and multiple banks of cables affecting the locating signal.

CLASS C: Information is collected by correlating the survey of visible utility surface features such as marker plates or water hydrants and acquired Dial-Before-You-Dig plans to "draw" a string which shows the approximate position of services. This method does not usually show multiple banks of cables and does not always show three dimensional information. Electronically traced locate marks with poor scratchy signals are represented as QL-C.

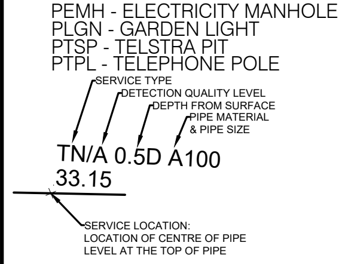
CLASS D: Information is the most basic level of utility locations using only information based on existing Dial-Before-You-Dig plans and by measuring boundary offsets etc. This method of utility locations should always be treated as an indication of the presence of a service only and should not be used for design. GPR scans are also represented as QL-D as the GPR image cannot be confirmed to it's origin point. Depths on GPR scan must be treated as indicative only.

GENERAL SURVEY LEGEND:

DP - DRAINAGE PIT
PDJM - DRAINAGE JUNCTION MANHOLE
IP/PGUL - GULLY PIT
PSMH - SEWER MANHOLE
PSLH - SEWER LAMPHOLE
PSVP - SEWER VENT PIPE
PWHY - HYDRANT
PWSV - STOP VALVE
PWTP - WATER TAP
PWMR - WATER METER
PWFB - FIRE BOOSTER
PGTP - GAS TEST POINT
PPPL - POWER POLE
PLPL - LIGHT POLE
PPOL - POLE UNKNOWN
PEJB - ELECTRICITY JUNCTION BOX
PEMH - ELECTRICITY MANHOLE
PLGN - GARDEN LIGHT
PTSP - TELSTRA PIT
PTPL - TELEPHONE POLE

UP - UNKNOWN PIPELINE
FH - FIRE SERVICE LINE
UTO - UNABLE TO OPEN
FOW - FULL OF WATER
FOD - FULL OF DIRT
EOT - END OF TRACE
UTT - UNABLE TO TRACE

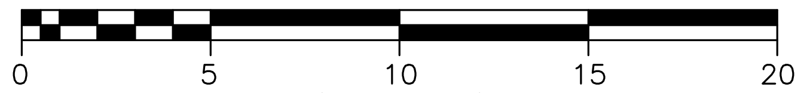
TK/KB - TOP OF KERB
BK - BACK OF KERB
PC - PRAM RAMP
FP - FOOTPATH
FC - FENCE
OM - MISCELLANEOUS STRUCTURE
LP - LIP LINE
FI - KERB FLOW LINE
DW - DRIVEWAY
PSIN - SIGN
BW - BOTTOM OF WALL



BEFORE YOU DIG
www.byda.com.au

GENERAL SURVEY NOTES :
* THIS TITLEBLOCK IS AN INTEGRAL PART OF THIS DWG AND SHOULD NOT BE REMOVED
* COORDINATE SYSTEM MGA 2020
* LEVEL DATUM IS AHD
* IT IS THE RESPONSIBILITY OF ANY USER OF THIS DATA TO ENSURE ANY OTHER DATA BEING INTEGRATED IS ON THE SAME COORDINATE SYSTEM
* REFER TO THE FACE OF THE PLAN FOR TITLE NOTATIONS
* BOUNDARIES HAVE NOT BEEN DEFINED BY SURVEY.
* CONTOURS ARE INDICATIVE OF LAND FORM. SPOT LEVELS TAKE PRECEDENCE.

SCALE 1:200



GDA 2020

ORIGIN	SS 126519 E 329261.337 N 6266322.309
ORIENTATION	SS 126519 - PM 2486
AHD ORIGIN	SS 126519 RL172.58

CLIENT : GROWTHBUILT

PLAN IN RELATION TO :
5-9 COWAN ROAD, ST IVES

SHOWING : DRAINAGE INVESTIGATION
IN ACCORDANCE WITH AS5488.1-2019

PURPOSE: ENGINEERING DESIGN

SHEET 01 0F 01

DIGITAL SURVEY SOLUTIONS
UTILITY MAPPING
SUITE 6.01, TRINITI II, TRINITI BUSINESS PARK
39 DELHI ROAD, NORTH RYDE 2113
SCOTT DEVERIDGE 0425 285 270
www.astrea.com.au

Astrea

JOB REFERENCE : A6155
DWG No. A6155 ST IVES–REV A
SURVEYOR: SD
DATE OF SURVEY: JUN 2025
UTILITY LOCATOR:

I/D
7453

SCOTT DEVERIDGE
REGISTERED LAND SURVEYOR
UNDER THE SURVEYING AND
SPATIAL INFORMATION ACT, 2002

REV	AMENDMENTS	DATE
A	DROP IN PIPE ADDED	13–11–2025