

RESIDENTIAL DEVELOPMENT

146 BOWDEN STREET, MEADOWBANK, NSW.

CIVIL ENGINEERING WORKS

1.0 GENERAL STORMWATER NOTES:

- 101 MAIN STORMWATER DRAINS SHALL FALL AS NOTED. HOWEVER, ALL OTHER BRANCH DRAINS SHALL HAVE A MINIMUM GRADE OF 1%.
- 102 STORMWATER DRAINS SHALL BE RUBBER RING JOINTED FRC (CLASS 4) OR RCP OF EQUIVALENT CLASS. PIPES OF SIZE LESS THAN 300mm SHALL BE DWV GRADE PVC WITH SOLVENT CEMENT JOINTS.
- 103 PITS LOCATED IN TRAFFICABLE AREAS SHALL BE EQUAL TO C1 & D CAST IRON GRATES AND FRAMES - TYPE D.
- 104 STORMWATER PITS TO LANDSCAPED AND PEDESTRIAN AREAS SHALL BE EQUAL TO C1 & D CAST IRON GRATES AND FRAMES - TYPE A.
- 105 ALL WORKS SHALL BE CARRIED OUT TO THE REQUIREMENTS OF THE RELEVANT COUNCIL / AUTHORITY, AS 3500.3, AS 2032, AS 3996 AND AS 3725.
- 106 AT THE COMPLETION OF THE WORKS PROVIDE A "WORK AS EXECUTED" PLAN OF THE STORMWATER DRAINAGE AND DETENTION SYSTEM. THE PLAN SHALL BE PREPARED AND CERTIFIED BY THE REGISTERED SURVEYOR AND SHOW ALL PIPE SIZES, INVERTS, PIT COVER AND BASE LEVELS AND ALL DETENTION TANK DIMENSIONS, SURFACE LEVELS AND THE ORIFICE PLATE SIZE.
- 107 PITS SHALL BE C1 & D PRECAST CONCRETE OR APPROVED EQUAL WITH EXTENSION RISERS AS REQUIRED. PITS SHALL BE BEDDED ON A 50mm LAYER OF 4:1 CEMENT MORTAR AND BACKFILLED WITH EXCAVATED MATERIAL IN 200mm THICK COMPACTED LAYERS TO FINISHED SURFACE LEVEL.
- 108 COVERS TO PITS LOCATED WITHIN PAVED AREAS SHALL BE CAST IN WITH THE CONCRETE POUR. ALL OTHER PIT COVERS SHALL BE PROVIDED WITH A 150mm CONCRETE SURROUND.
- 109 PROVIDE TO EACH STORMWATER PIT A 1m LONG SECTION OF SUB-SOIL DRAINAGE, LAID WITHIN THE UPSTREAM TRENCH.
- 110 PROVIDE 25mm DIAMETER GALVANIZED STEP-IRONS AT INTERVALS OF 300mm WHERE THE INTERNAL DEPTH OF THE PIT EXCEEDS 1200mm.
- 111 ALL PIPE BEDDING TO BE HS2 U.N.O.
- 112 ALL PIPES TO HAVE MINIMUM 300mm COVER

2.0 SEDIMENT AND EROSION CONTROL NOTES:

- SITE WORKS:
- 2.01 ALL WORK SHALL BE CARRIED OUT TO THE COMPLETE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION OVER THE WORKS. MAKE ALL APPLICATIONS AND PAY ALL FEES.
- 2.02 CO-ORDINATE AND CONFIRM ALL DIMENSIONS, EXISTING LEVELS, EXISTING SERVICES AND STRUCTURE ON SITE PRIOR TO COMMENCEMENT OF WORKS.
- 2.03 MAKE APPLICATION (DIAL BEFORE YOU DIG) TO ALL AUTHORITIES FOR THE LOCATION OF THEIR EXISTING SERVICES IN THE AREA PRIOR TO COMMENCEMENT OF WORKS.
- 2.04 THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, CIVIL AND ANY OTHER PLANS AND SPECIFICATIONS THAT MAY BE RELATED TO THIS PROJECT.
- 2.05 WATER THAT IS PUMPED FROM THE SITE AND DOES NOT COMPLY WITH THESE DOCUMENTS WILL REQUIRE A TRADE WASTE PERMIT FROM AUTHORITIES.
- 2.06 LOCATE ALL STOCKPILES AWAY FROM CONCENTRATED WATER FLOWS, ROADS AND HAZARD AREAS. AN EARTH BANK SHALL BE CONSTRUCTED ON THE UPSIDE OF ALL STOCKPILES.
- 2.07 STOCKPILES MAY REQUIRE TO BE COVERED TO REDUCE EROSION - DEPENDING ON WEATHER CONDITIONS.
- MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES:
- 2.08 THE BUILDER AND / OR CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF ALL DEVICES AND MEASURE INSTALLED IN ACCORDANCE WITH THE COUNCILS REQUIREMENTS AND THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- 2.09 ALL DEVICES AND MEASURES ARE TO BE MAINTAINED IN OPTIMUM OPERATION CONDITION IN ORDER TO ACHIEVE THEIR DESIGN FUNCTION.
- 2.10 THE BUILDER AND / OR CONTRACTOR SHALL, AT EVERY STAGE OF THE WORKS, MAKE AN ASSESSMENT AS TO WHETHER ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED, AND WHERE NECESSARY, INSTALL SUCH ADDITIONAL CONTROLS AND MEASURES, TO ACHIEVE THE OBJECTIVES OF COUNCILS SPECIFICATION.
- 2.11 ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND NOT REMOVED, UNTIL THE CONTRIBUTING CATCHMENT HAS BEEN STABILIZED TO THE WRITTEN SATISFACTION OF COUNCIL.
- 2.12 AT MINIMUM, MAINTENANCE PROCEDURES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING:
- WEEKLY
- a) ALL DEVICES AND MEASURES SHALL BE CHECKED TO ENSURE THAT THEY ARE IN OPTIMUM OPERATING CONDITION.
- b) SILT FENCES, SEDIMENT TRAPS ARE TO BE CLEANED OF ACCUMULATED SEDIMENT WHERE THE CAPACITY OF THE DEVICE HAS BEEN REDUCED BY 30% OR MORE.
- c) SILT FENCE FILTERS SHALL BE CHECKED FOR CLOGGING OR DAMAGE, AND CLEANED, REPAIRED OR REPLACED AS NECESSARY.

3.0 BULK EARTHWORKS

- 3.01 ALL EXCAVATION WORK TO BE CARRIED OUT TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT INCLUDING INSPECTION OF STRIPPING, APPROVAL OF FILL MATERIAL AND APPROVAL OF COMPACTION.
- 3.02 REFER TO THE GEOTECHNICAL REPORT FOR EXCAVATION CONDITIONS, INCLUDING NATURAL WATER LEVELS, GROUND CONDITIONS AND MINIMUM BATTER SLOPES.
- 3.03 REFER TO SURVEY DRAWINGS FOR EXISTING SERVICES AND LEVELS.
- 3.04 ALL LEVELS SHOWN ARE TO AUSTRALIAN HEIGHT DATUM.
- 3.05 OVERBURDEN OCCURRING ABOVE ROCK SHALL BE BATTERED BACK AT 2:1 AS REQUIRED.
- 3.06 SITE SURFACE CONTOURS SHOWN ARE INDICATIVE ONLY. FOR TRUE SURFACE LEVELS REFER SURVEY DRAWINGS.

4.0 KERBING

- 5.01 CONCRETE WILL BE CLASS N20 AND WILL HAVE A MAXIMUM AGGREGATE SIZE OF BETWEEN 6.7mm AND 19mm AND A SLUMP NOT EXCEEDING 100mm.
- 5.02 IMMEDIATELY AFTER PLACING THE KERBING, CONTRACTION JOINTS WILL BE FORMED BY GROOVING THE EXPOSED FACES OF THE KERBS. CONTRACTION JOINTS WILL BE FORMED AT SPACINGS NOT EXCEEDING 4m.
- 5.03 NOT LESS THAN 24 HOURS NOR MORE THAN 72 HOURS AFTER PLACING OF CONCRETE, EXPANSION JOINTS WILL BE CONSTRUCTED AT THE MID POINT BETWEEN CONTRACTION JOINTS BY SAWING A 6mm WIDE GAP THROUGH THE FULL CROSS SECTION OF THE KERB. KERB CUTTING WILL BE CARRIED OUT WITH WATER TO MINIMISE DUST IN THE SAWING PROCESS.
- 5.04 AN APPROVED JOINT FILLER WILL THEN BE FORCED INTO THE SAWN JOINT SUCH THAT A 12mm DEEP SPACE REMAINS TO THE CONCRETE SURFACE. THIS SPACE WILL BE COMPLETELY FILLED WITH AN APPROVED JOINT SEALANT SUCH AS SKAFLEX CONSTRUCTION POLYURETHANE JOINT SEALANT OR EQUIVALENT APPROVED BY THE DESIGNERS AND USED AS PER MANUFACTURER'S INSTRUCTIONS.
- 5.05 TRAFFIC ISLAND INFILL SLABS, AND OTHER AREAS OF MEDIANS AND TRAFFIC ISLANDS AS SHOWN IN THE DRAWINGS WILL BE CONSTRUCTED OF INSITU CONCRETE.
- 5.06 AN EXPANSION JOINT 10mm WIDE WILL BE CONSTRUCTED BETWEEN THE EXTRUDED KERBING AND THE CONCRETE INFILL. APPROVED JOINT FILLER WILL BE FORCED INTO THE JOINT SUCH THAT A 12mm DEEP GROOVE

5.0 SITEWORKS NOTES

- 6.01 ALL BASECOURSE MATERIAL TO COMPLY WITH RTA SPECIFICATION No. 3051 AND COMPACTED TO MINIMUM 98% MODIFIED STANDARD DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1.
- 6.02 ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- 6.03 ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH AN APPROVED SELECT MATERIAL AND COMPACTED TO A MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.1.1

6.0 EXISTING SERVICES & FEATURES

- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA OR AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT.
- THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF HIS PROGRAM FOR THE RELOCATION/ CONSTRUCTION OF TEMPORARY SERVICES.
- CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN SUPPLY TO EXISTING 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.
- INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL CONTRACTOR TO GAIN APPROVAL FROM THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
- EXISTING SERVICES, BUILDINGS, EXTERNAL STRUCTURES AND TREES SHOWN ON THESE DRAWINGS ARE EXISTING FEATURES PRIOR TO ANY DEMOLITION WORKS.
- EXISTING SERVICES UNLESS SHOWN ON SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE A 'DIAL BEFORE YOU DIG' SEARCH AND TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.



DRAWING INDEX

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C001	LOCALITY PLAN, NOTES AND DRAWING INDEX
C002	DETAILS SHEET
C100	CIVIL LAYOUT GENERAL ARRANGEMENT PLAN
C101	ROAD PLAN, LONGSECTION. PAVEMENT DETAILS AND TYPICAL SECTION
C102	ROAD CROSS SECTIONS SHEET 1 OF 2
C103	ROAD CROSS SECTIONS SHEET 2 OF 2
C500	PIT SCHEDULE AND DRAINAGE LONGSECTIONS SHEET 1 OF 2
C501	DRAINAGE LONGSECTIONS SHEET 2 OF 2
C900	SEDIMENT AND EROSION CONTROL PLAN
C901	SEDIMENT AND EROSION CONTROL DETAILS

7.0 RIGID CONCRETE PAVEMENT NOTES

GENERAL:

- CARRY OUT ALL CONCRETE WORK IN ACCORDANCE WITH AS3600-1994 AND THE SPECIFICATION. KEEP A COPY OF THESE DOCUMENTS ON SITE.
- VERIFY ALL SETTING OUT DIMENSIONS WITH THE ARCHITECT AND OR THE SURVEYOR.
- DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS.
- IN CASE OF DOUBT - ASK.

CONCRETE:

- PLACE CONCRETE OF THE FOLLOWING CHARACTERISTIC COMPRESSIVE STRENGTH F'C AS DEFINED IN AS3600-1994 OR RTA FORM 609. ADD WATER REDUCING ADMIXTURE EQUAL TO WRDA.

	AS3600 F'C MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
ALL KERBS, PITS ETC.	25	80	20
VEHICULAR PAYING	REFER TO CONCRETE PAVEMENT NOTES BELOW		

- USE TYPE GP CEMENT IN ACCORDANCE WITH AS3972.
- ALL CONCRETE SHALL BE SUBJECT TO PROJECT CONTROL SAMPLE AND TESTING TO AS3600-1994.
- CONSOLIDATE BY VIBRATION. CURE SURFACES BY COVERING WITH PLASTIC AND KEEPING SURFACE MOIST FOR MIN 7 DAYS.

REINFORCEMENT:

- FIX REINFORCEMENT AS SHOWN ON DRAWINGS. THE TYPE AND GRADE IS INDICATED BY A SYMBOL AS SHOWN BELOW.
 - N. HOT ROLLED DEFORMED BAR. GRADE 500
 - R. PLAIN ROUND BAR. GRADE 250
 - SL OR RL. HARD DRAWN WIRE FABRIC SQUARE OR RECTANGULAR
- PROVIDE BAR SUPPORTS OR SPACERS TO GIVE THE FOLLOWING CONCRETE COVER TO ALL REINFORCEMENT UNLESS NOTED OTHERWISE.
 - FOOTINGS: 75 BOTTOM, 65 TOP AND SIDES 40
 - SLABS: 40 WHEN EXPOSED TO WEATHER.
 - DRAINAGE STRUCTURES: 30 WHEN CAST IN FORMS BUT LATER EXPOSED TO WEATHER OR GROUND. 65 WHEN CAST DIRECTLY IN CONTACT WITH GROUND.
- FOR ALL PITS LOCATED IN CONCRETE PROVIDE 2N16 TRIMMER BARS AROUND 1200mm LONG AROUND ALL CORNERS OF PITS UNLESS SHOWN OTHERWISE.

CONCRETE VEHICULAR PAVEMENT NOTES:

- CONCRETE MIX PARAMETERS:
 - MAXIMUM AGGREGATE SIZE 20mm
 - FLEXURAL STRENGTH AT 28 DAYS = 3.5 MPa (F'C=32MPa)
 - FLEXURAL STRENGTH AT 90 DAYS = 3.85 MPa
 - MAXIMUM WATER / CEMENT RATIO =0.45
 - MAXIMUM SHRINKAGE LIMIT = 600 MICROSTRAINS (AS1012.13) AFTER 8 WEEKS OF DRYING
 - MINIMUM CEMENT CONTENT = 300kg/m³
 - CEMENT TO BE TYPE GP (NORMAL CEMENT) TO AS 3972
 - SLUMP = 50mm
- SAWN JOINTS ARE TO BE CUT BETWEEN 2-4 HOURS AFTER CONCRETE POUR USING SOFF CUT SAW TO AVOID DAMAGING THE SURFACE DURING SAWCUT.
- FOR EXPANSION JOINTS, PRIOR TO THE PLACEMENT OF CONCRETE IN THE ADJACENT SLAB. SELF EXPANDING CORK FILLER SHALL BE ADHERED TO THE ALREADY CAST AND CLEANED CONCRETE FACE USING AN APPROVED WATERPROOF ADHESIVE. ADHESIVE SHALL BE LIBERALLY APPLIED TO THE FULL FACE OF THE CONCRETE SLAB TO BE COVERED BY THE FILLER. AND ON THE FULL FACE OF THE FILLER TO BE ADHERED. THE BUILDER SHALL PROVIDE CONSTANT SUPERVISION OF CONCRETE POURS EXECUTED BY SUB-CONTRACTORS TO ENSURE:
 - REINFORCEMENT DISPLACED OFF CHAIRS ARE REPLACED PRIOR TO CONCRETE PLACEMENT.
 - NO SITE WATER IS ADDED TO CONCRETE OR CONCRETE IN WAITING TRUCKS. (REQUIRED SLUMP FOR PLACEMENT SHALL BE ACHIEVED USING SUPER PLASTICISER).
 - ALL CONCRETE IS FULLY COMPACTED USING A POKER VIBRATOR.
 - NO POURS ARE EXECUTED WHEN THE AMBIENT TEMPERATURE EQUALS OR EXCEEDS 35°C.
 - POURS ARE PROTECTED FROM ANY HOT DRYING WINDS.
- REFER TO COMPACTION NOTES FOR PREPARATION OF SUB-BASE AND SUB-GRADE.
- CURING: THE FINISHED CONCRETE SHALL BE CURED FOR A MINIMUM OF SEVEN DAYS USING AT LEAST ONE OF THE FOLLOWING METHODS:
 - PONDING OR CONTINUOUS SPRINKLING WITH WATER.
 - THE USE OF AN ABSORBENT COVER KEPT CONSTANTLY WET. (WHEN THE AMBIENT TEMPERATURE EXCEEDS 32°C CURING MAY ONLY BE ACHIEVED USING ABOVE 2 METHODS.
 - THE USE OF AN IMPERMEABLE SHEET MEMBRANE OVER A MOISTENED SURFACE. (THE MEMBRANE SHALL BE FIXED AND LAPPED SO THAT NO AIR CIRCULATION CAN OCCUR AT THE CONCRETE SURFACE).
 - THE USE OF A CURING COMPOUND COMPLYING WITH AS3799, APPLIED UNIFORMLY IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, AND WHEN DRY THE COAT SHOULD BE CONTINUOUS, FLEXIBLE AND WITHOUT VISIBLE BREAKS OR PIN HOLES FOR SEVEN DAYS.
- BROOM CONCRETE FINISH UNLESS SPECIFIED OTHERWISE TO ARCHITECTS REQUIREMENTS.

B	06/05/2010	ISSUED FOR TENDER		RH					
A	15/12/2009	ISSUED FOR CONSTRUCTION CERTIFICATE		RH					
REV	DATE	DESCRIPTION		RVD	REV	DATE	DESCRIPTION		RVD
REVISIONS					REVISIONS				

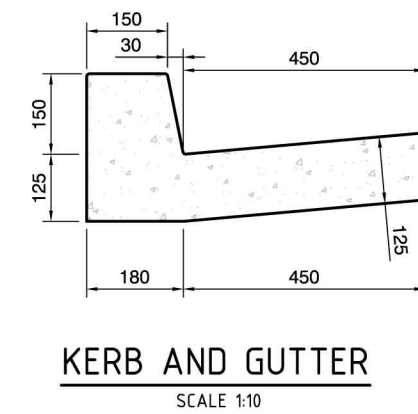
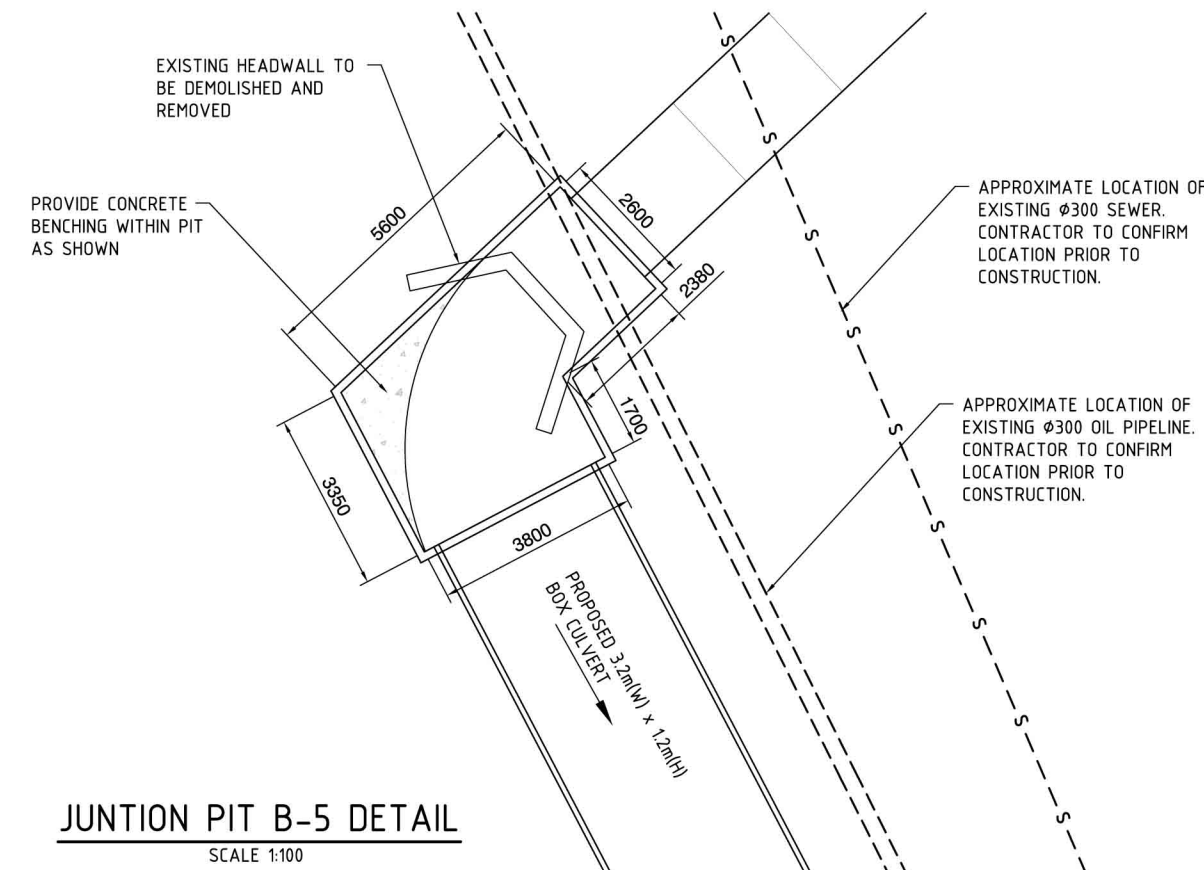
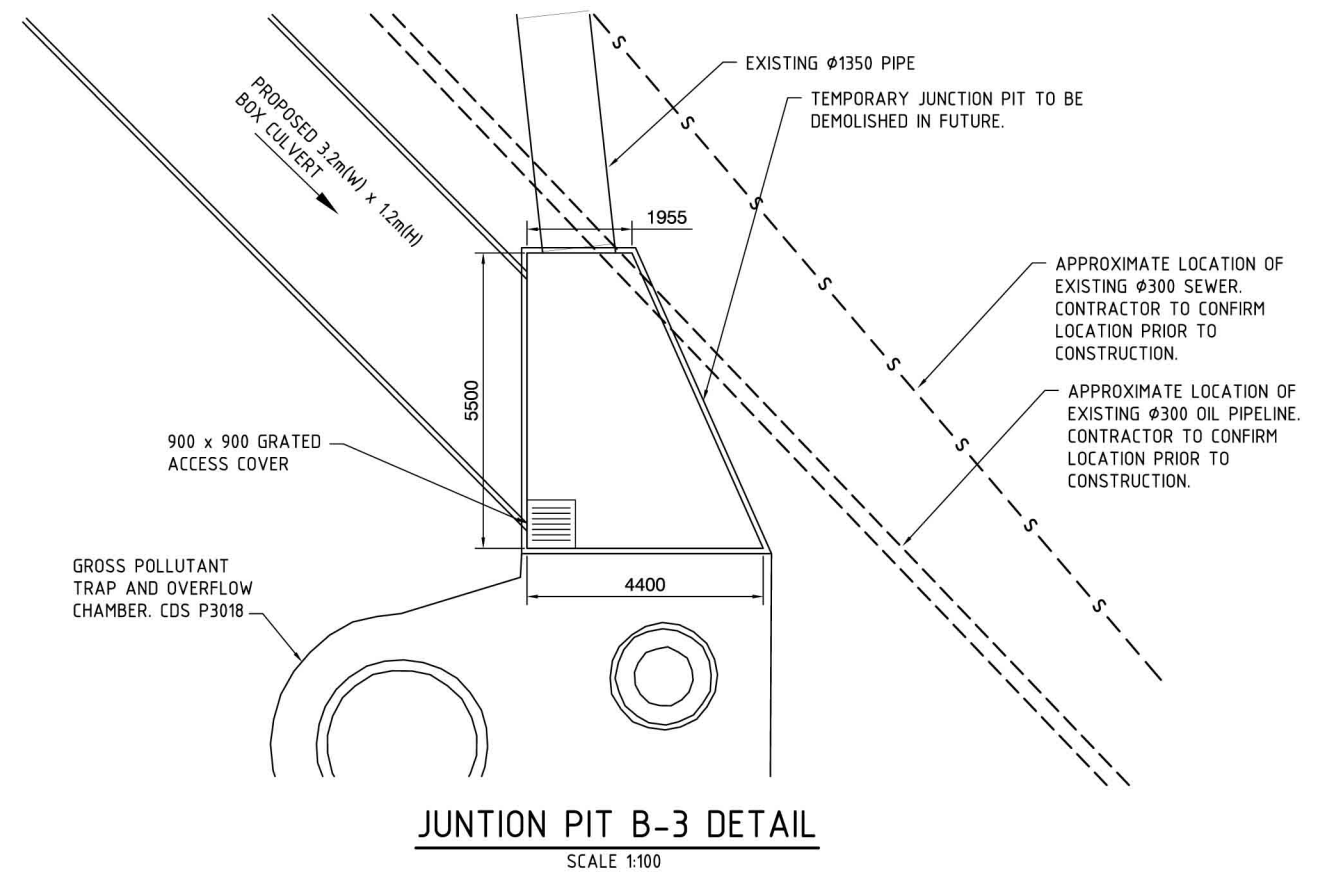
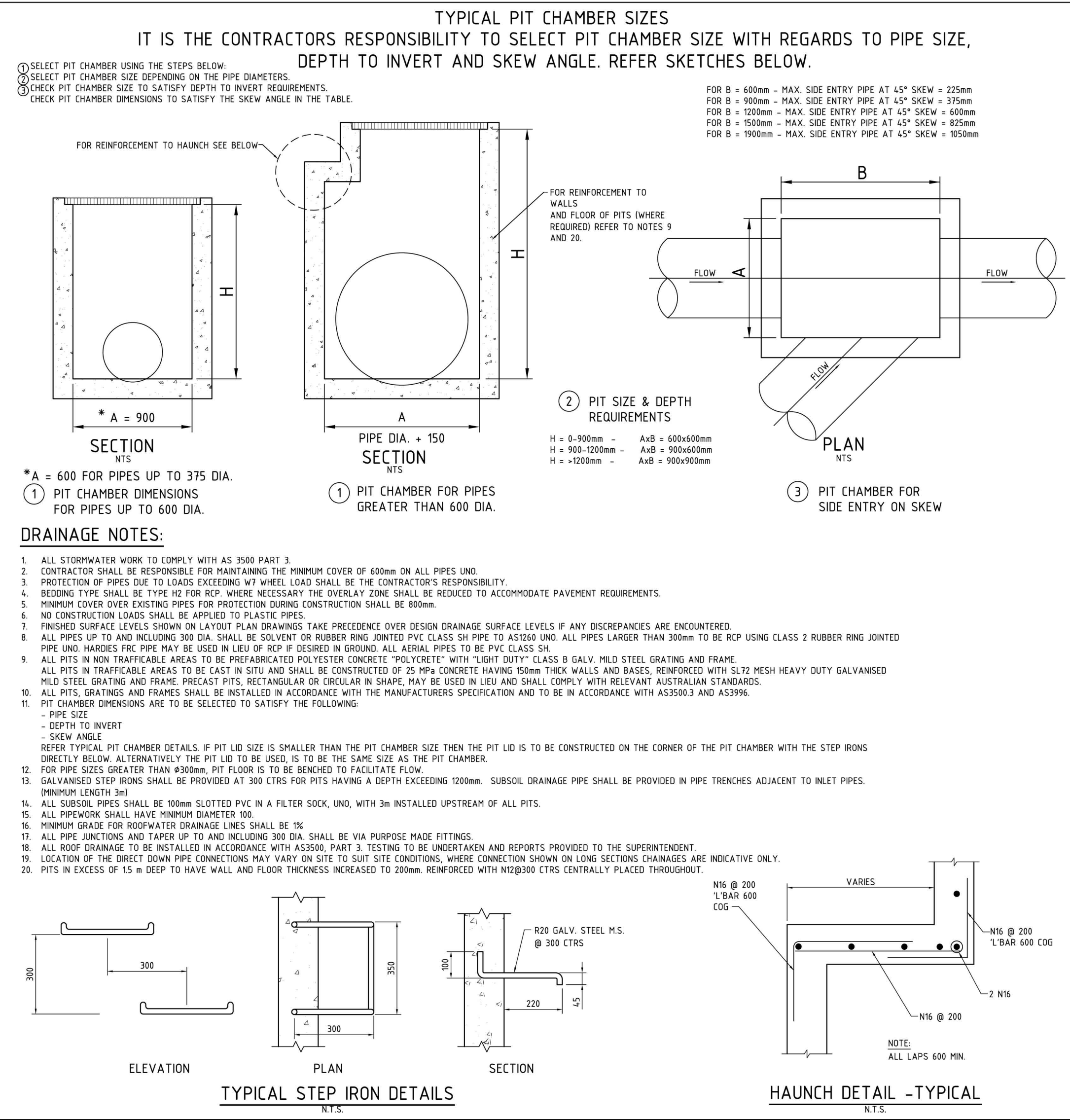
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PROJECT
146 BOWDEN STREET,
MEADOWBANK

STATUS ISSUED FOR TENDER NOT TO BE USED FOR CONSTRUCTION				TITLE LOCALITY PLAN, NOTES AND DRAWING INDEX		
DRAWN	DESIGNED	CHECKED	APPROVED			
R.H	R.H	T.H	T.H			
DATUM	GRID	SCALE		PROJECT No.	DRAWING No.	REV.
AHD	-	NTS		S09053	C001	B



B	06/05/2010	ISSUED FOR TENDER	RH
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REV	DATE	DESCRIPTION	RVD
REVISIONS		REVISIONS	

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PROJECT
146 BOWDEN STREET,
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STATUS
ISSUED FOR TENDER
NOT TO BE USED FOR CONSTRUCTION

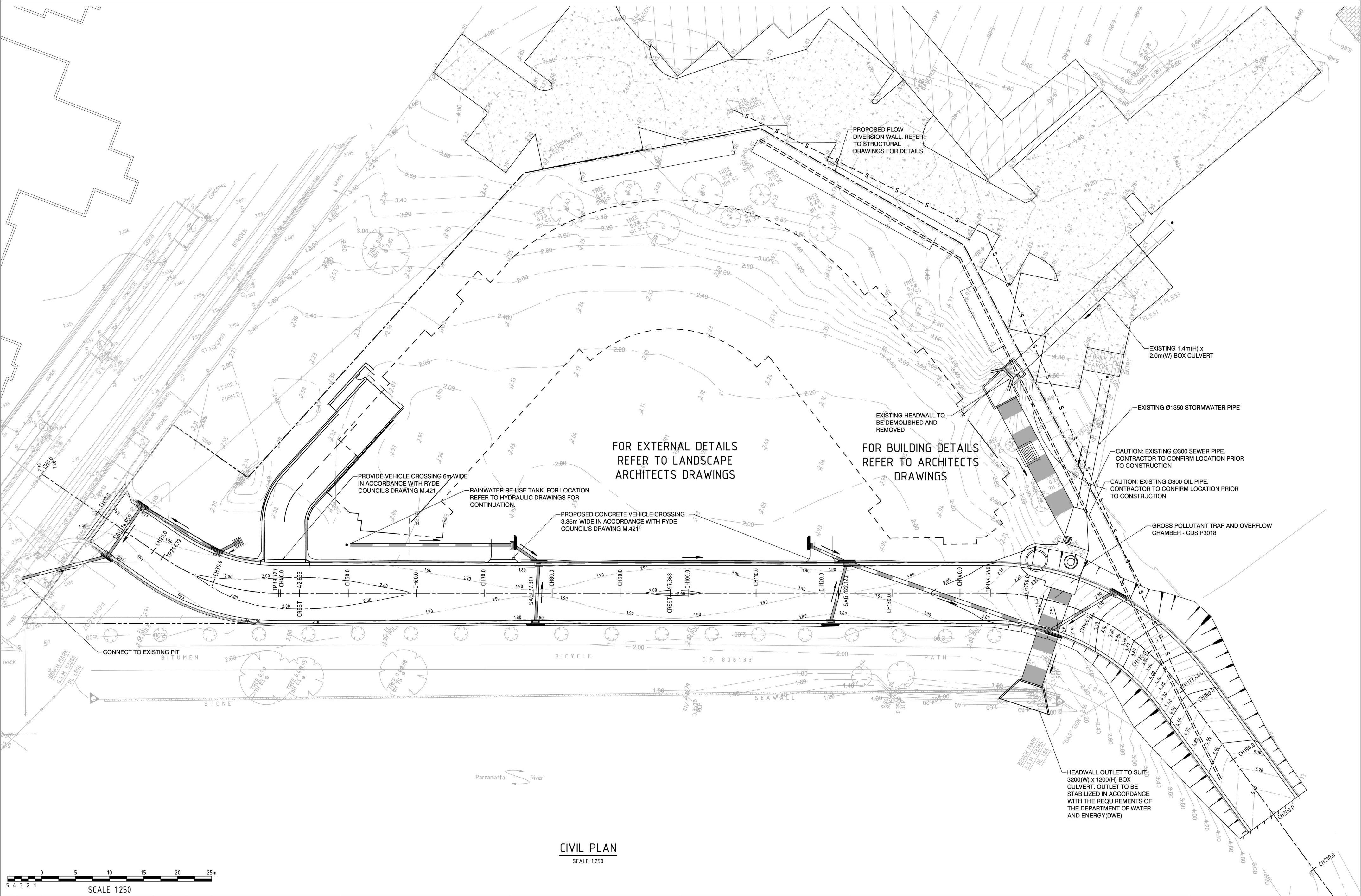
DRAWN	DESIGNED	CHECKED	APPROVED
R.H	R.H	T.H	T.H
DATUM	GRID	SCALE	AT A1 SIZE
AHD	-	AS SHOWN	

TITLE
DETAILS SHEET

PROJECT No.
S09053

DRAWING No.
C002

REV.
B



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B	06/05/2010	ISSUED FOR TENDER	RH	DESIGNED				CHECKED				APPROVED				PROJECT No.			
A	15/12/2009	ISSUED FOR CONSTRUCTION CERTIFICATE	RH	R.H				T.H				T.H				DRAWING No.			
REV	DATE	DESCRIPTION	RVD	D.A				SCALE				AT A1 SIZE				PROJECT No.			
REVISIONS				REVISIONS				1:250				S09053				C100			
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