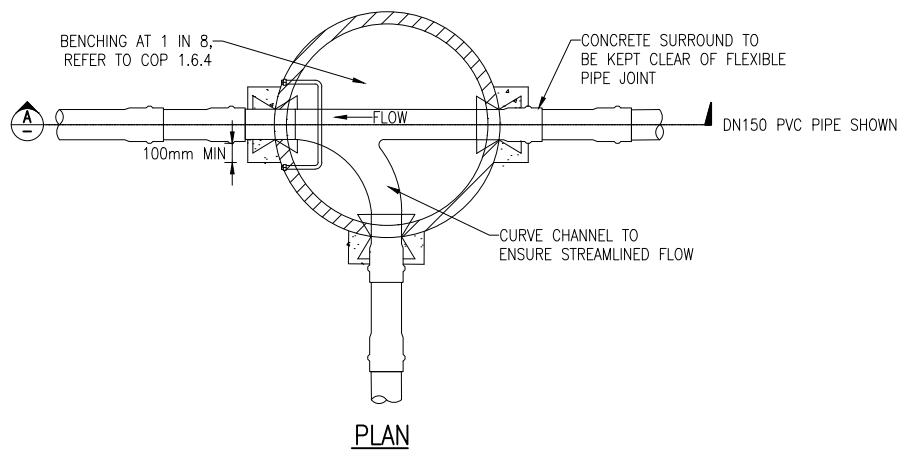


SECTION A

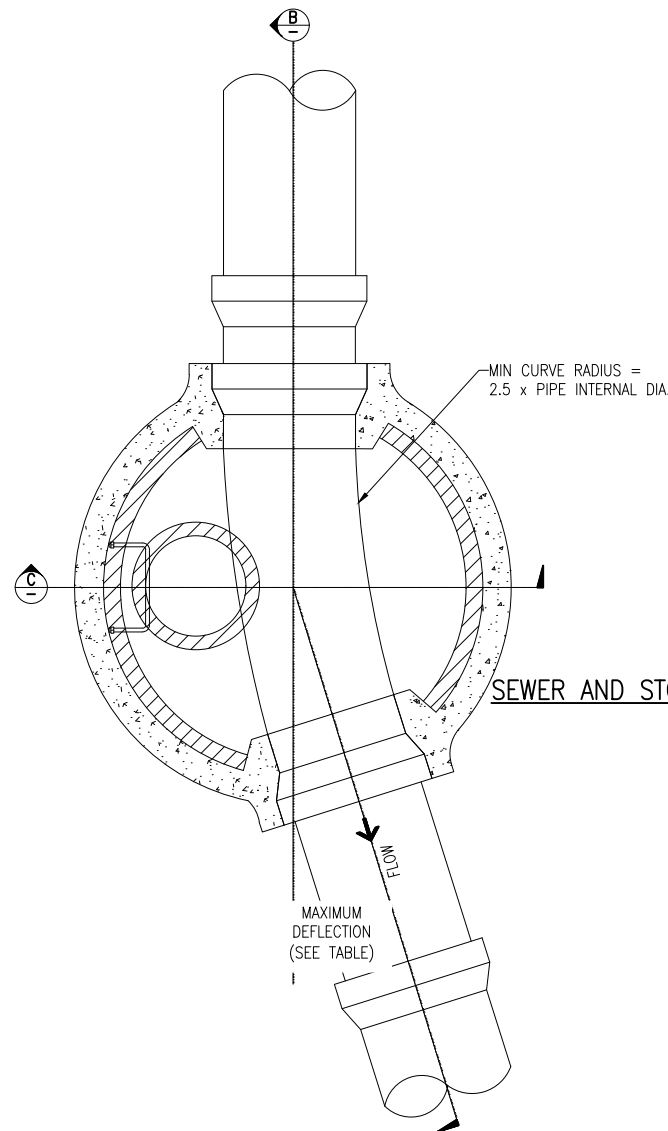


PLAN

**DETAIL 1A PLAN
SEWER AND STORMWATER MANHOLE FOR < DN 375**

DETAIL 1 NOTES:

- ALL DIMENSIONS IN MILLIMETRES.
- INSIDE SURFACE OF MH AND UNDERSIDE OF ROOF TO HAVE EPOXY COATING, PVC LINING OR PE LINING TO TDC REQUIREMENTS WHERE DIRECTED BY THE ENGINEER.
- DESIGNER TO ENSURE NATIVE SOIL HAS ACCEPTABLE GROUND BEARING CAPACITY.
- REFER TO TDC CODE OF PRACTICE REGARDING FLOATATION/SINKAGE DESIGN CRITERIA.
- ALL KORUM LIDS OR APPROVED SIMILAR. ALL LIDS TO HAVE UTILITY NAME

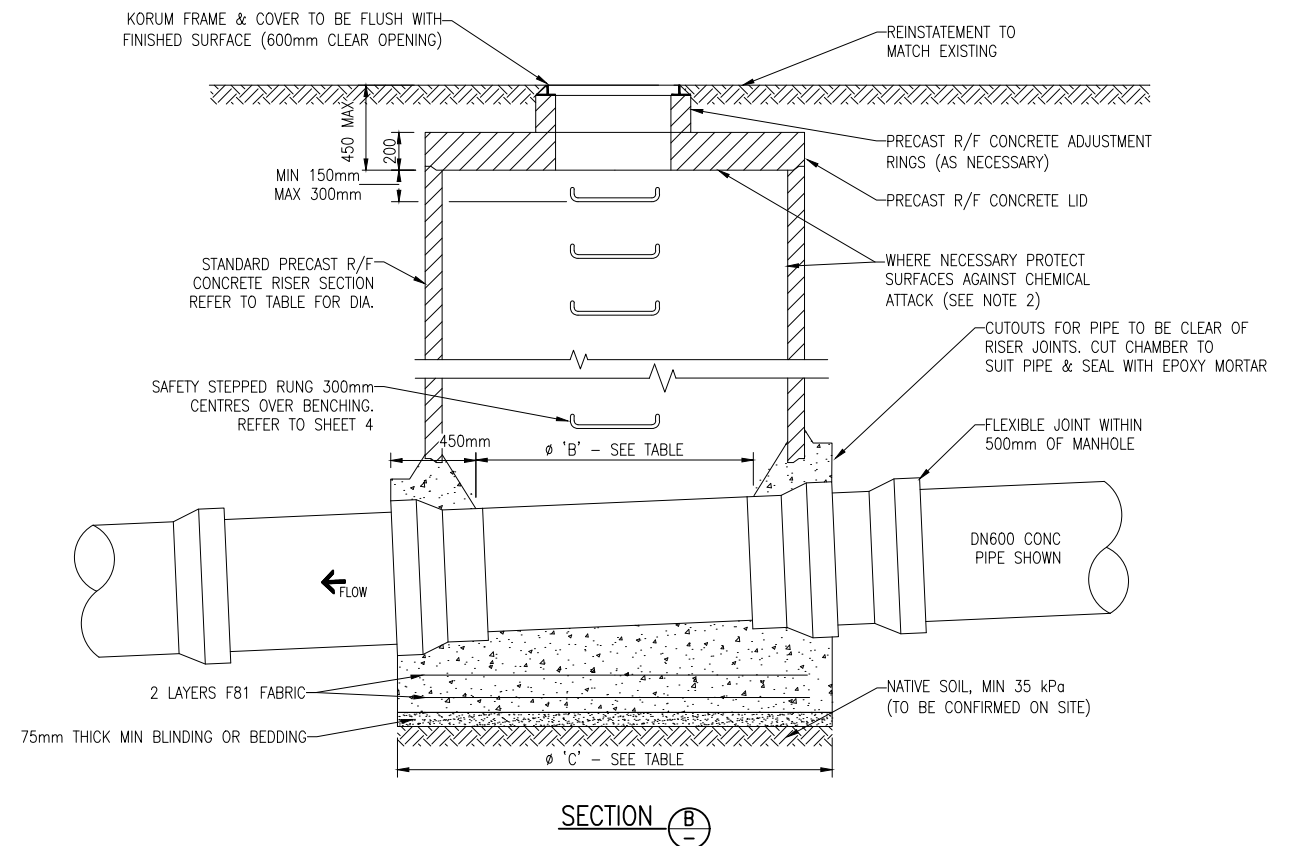


PLAN

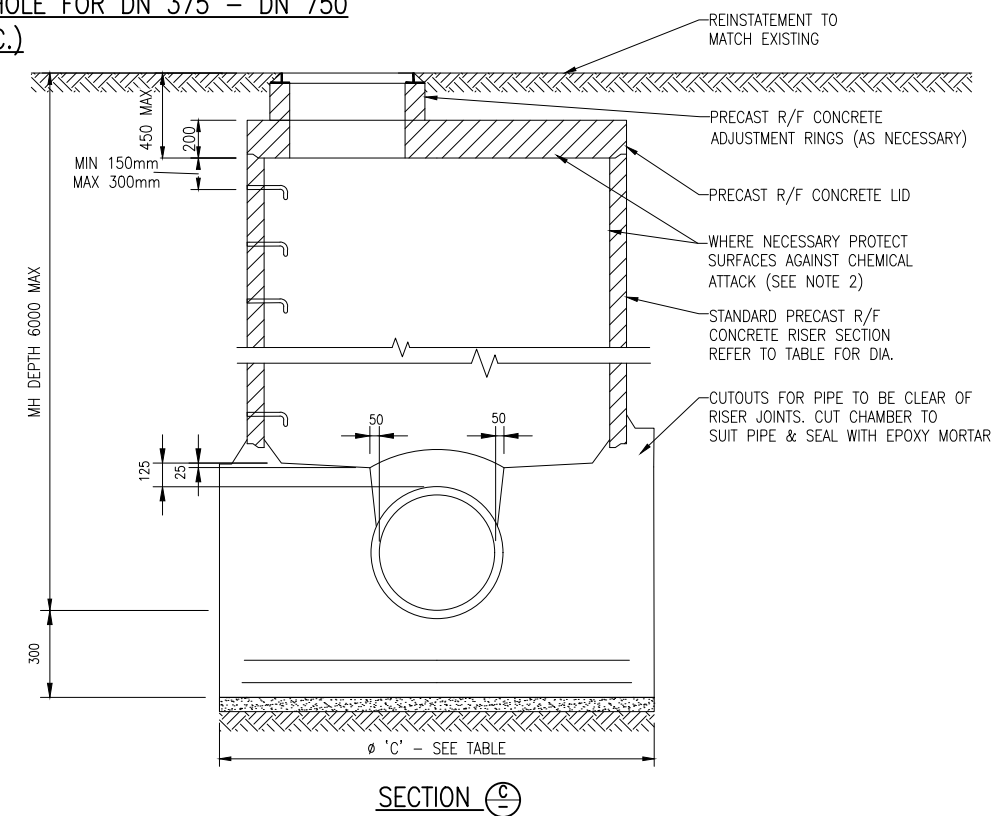
**DETAIL 1B
SEWER AND STORMWATER MANHOLE FOR DN 375 – DN 750
(INC.)**

| PIPE SIZE | MAXIMUM HORIZONTAL DEFLECTION AT CHAMBER* | NOMINAL MH DIAMETER | ø 'B' | ø 'C' |
|---------------|---|---------------------|-------|-------|
| DN 375 TO 450 | 45° | DN 1200 | 800 | 1700 |
| DN 500 | 45° | DN 1800 | 1400 | 2300 |
| DN 750 | 40° | DN 1800 | 1400 | 2300 |

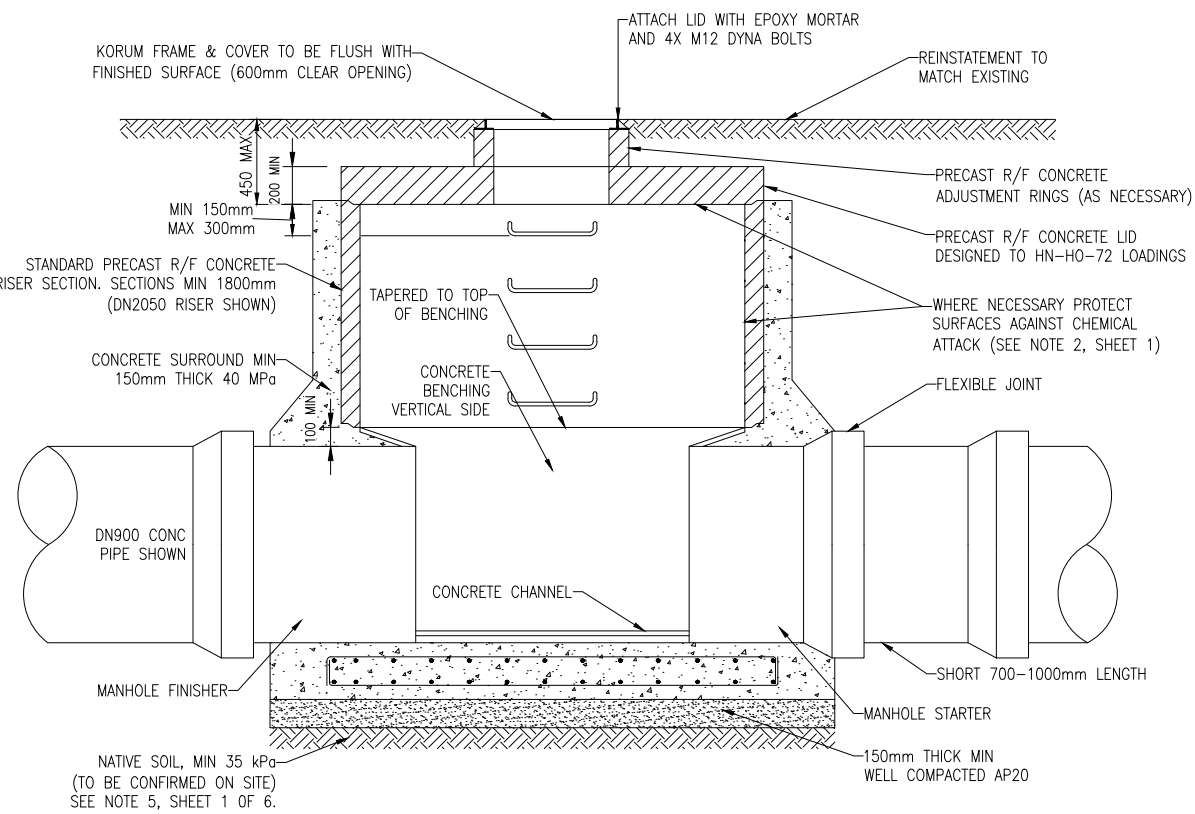
* SHOULD HORIZONTAL DEFLECTION BE GREATER THAN THE MAXIMUM, SPECIALISED DESIGN IS REQUIRED. THIS IS TO BE SUBMITTED TO TDC FOR CONSIDERATION.



SECTION B



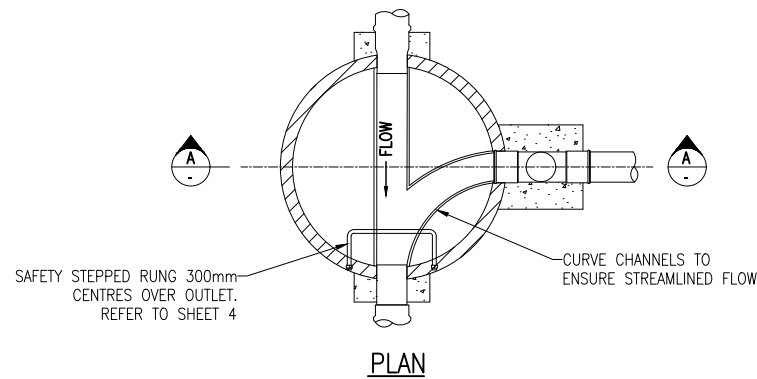
SECTION C



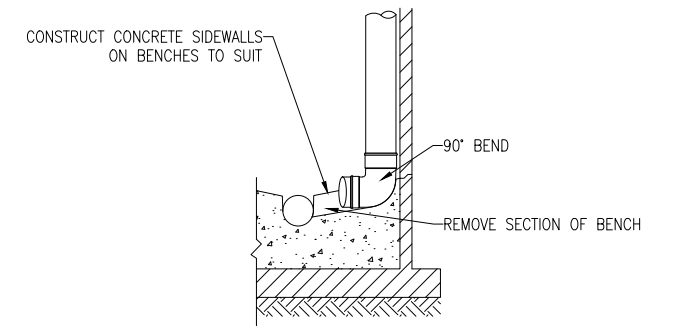
DETAIL 1C
SEWER & STORMWATER MANHOLE FOR > DN 750

NOTES:

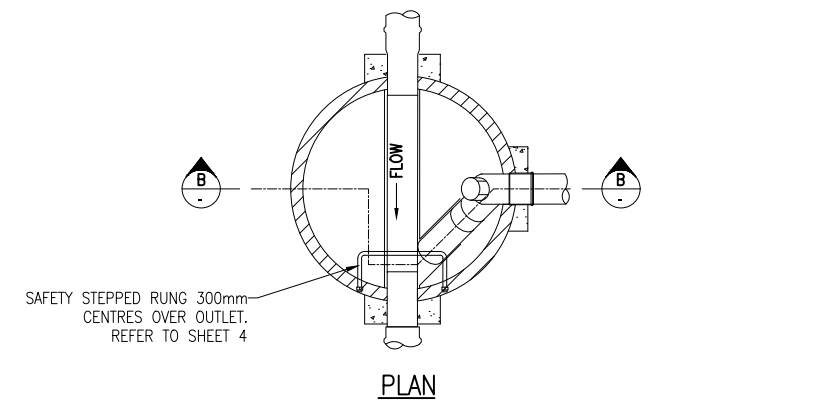
1. DRAWING BASED ON NZS 4404:2004. WHERE DRAWING DIFFERS FROM STANDARD THIS DRAWING TAKES PRECEDENCE.
2. DIMENSION IN MILLIMETRES.
3. ALL STEEL FITTINGS (INCLUDING BOLTS) TO BE GRADE 316 STAINLESS STEEL.
4. DN1200 MH TO BE USED WHERE DROP PIPE > DN150 OR MORE THAN ONE DN150 INTERNAL DROP IS USED.
5. INTERNAL DROP ONLY TO BE USED WHEN DIRECTED BY ENGINEER.
6. HAUNCHING OF INTERSECTION PIPES TO PROVIDE CURVED CHANNELS TO ENSURE STREAMLINED FLOW.
7. STANDARD PRECAST MANHOLE COMPONENTS TO BE USED UNLESS APPROVED OTHERWISE.
8. NO INFILTRATION PERMITTED - WATER OR AIR TEST MAY BE REQUIRED.
9. DETAIL 1C ONLY - DESIGNER TO CONFIRM NATIVE SOIL BEARING CAPACITY & ENSURE FOUNDATION IS SUITABLE TO SUPPORT MANHOLE.
10. ALL KORUM LIDS OR APPROVED SIMILAR. ALL LIDS TO HAVE UTILITY NAME



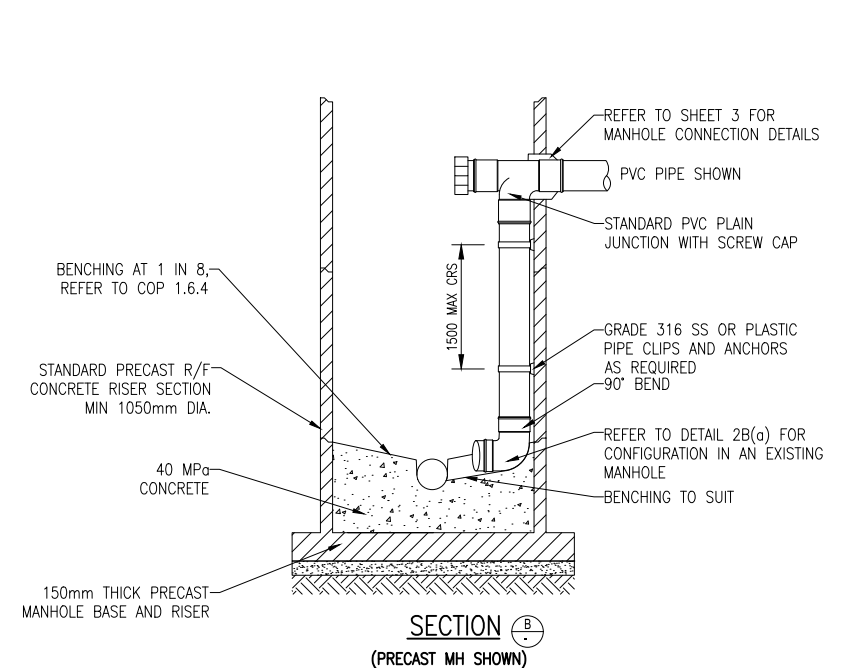
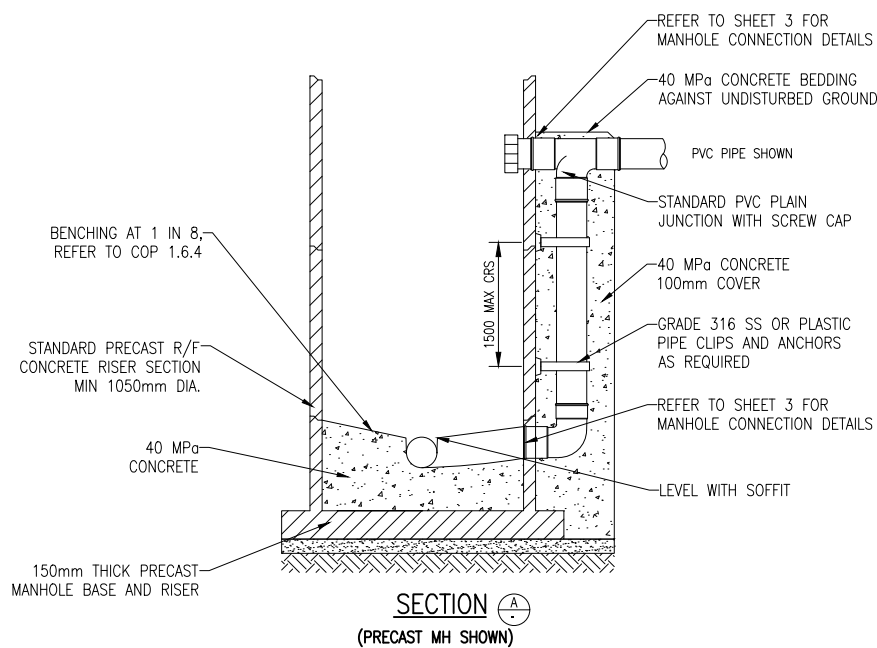
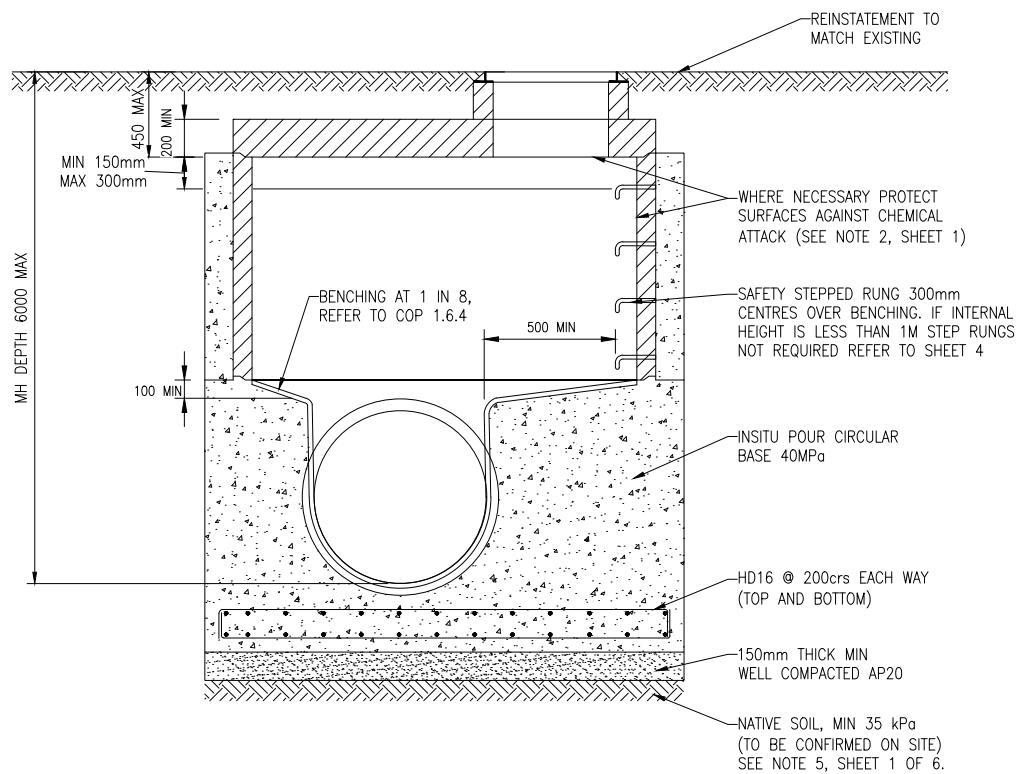
DETAIL 2A
TYPICAL EXTERNAL DROP MANHOLE
SUITABLE FOR INSITU AND PRECAST MH
(ONLY TO BE USED WHEN DIRECTED BY ENGINEER)



DETAIL 2B(a)
TYPICAL INTERNAL DROP MANHOLE - POST CONSTRUCTION
INSTALLATION DETAIL
(ONLY TO BE USED WHEN DIRECTED BY ENGINEER)

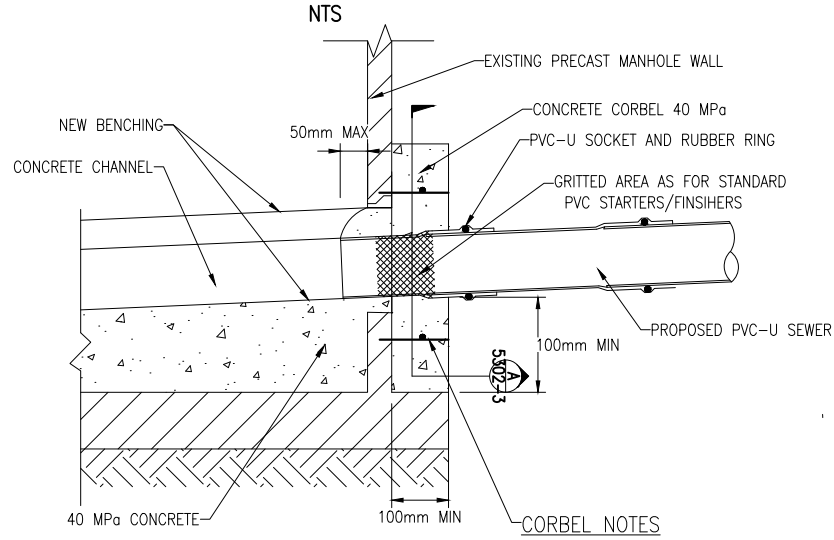


DETAIL 2B
TYPICAL INTERNAL DROP MANHOLE
SUITABLE FOR IN-SITU AND PRECAST MH
(ONLY TO BE USED WHEN DIRECTED BY ENGINEER)



| SURVEY FILE: | | | | AS SHOWN | | | | TIMARU DISTRICT COUNCIL | | PROJECT: | | TITLE: | | CONTRACT NUMBER: | |
|--------------|---|----|-----|----------|----------------|------|------|-------------------------|---------------------|--------------|-------|--------------------|---------------------------|------------------|-----------|
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | 3/24 | DATE | NAME | DATE | ORIGINAL SCALE (A1): | REDUCED SCALE (A3): | PRODUCED BY: | FOR: | DRAINAGE AND WATER | TYPICAL | DRAWING NUMBER: | REVISION: |
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | 3/24 | DATE | NAME | DATE | ORIGINAL SCALE (A1): | REDUCED SCALE (A3): | PRODUCED BY: | FOR: | DRAINAGE AND WATER | TYPICAL | DRAWING NUMBER: | REVISION: |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | MCB | 7/21 | DESIGNED (A3): | GS | 2/16 | SCALE (A3): | | LTU | D & W | CODE OF PRACTICE | PRECAST CONCRETE MANHOLE | 5302 | J |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | WC | | 1/20 | DESIGN CHECK | GC | 2/16 | | | | | STANDARD DETAILS | DETAILS & DROP STRUCTURES | 2 | 13 |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | 4/19 | DRAWN | WC | 2/16 | | | | | | | | |
| F | CHANGES TO CORBEL DETAIL | WC | | 2/16 | DRG CHECK | GC | 2/16 | | | | | | | | |
| E | | WC | | 2/16 | APPROVED | GH | 2/16 | | | | | | | | |
| D | | WC | | 2/16 | | | | | | | | | | | |
| C | | WC | | 2/16 | | | | | | | | | | | |
| B | | WC | | 2/16 | | | | | | | | | | | |
| A | | WC | | 2/16 | | | | | | | | | | | |

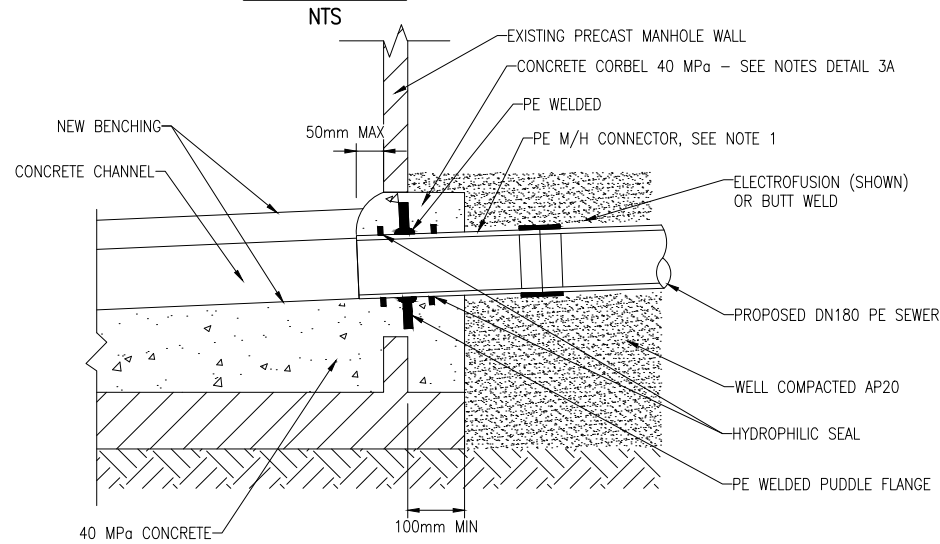
DETAIL 3A
PVC-U SEWER MAIN CONNECTION INTO CONCRETE MANHOLE
- UP TO DN300



PVC-U SOCKET METHOD
*** SEE TABLE BELOW**

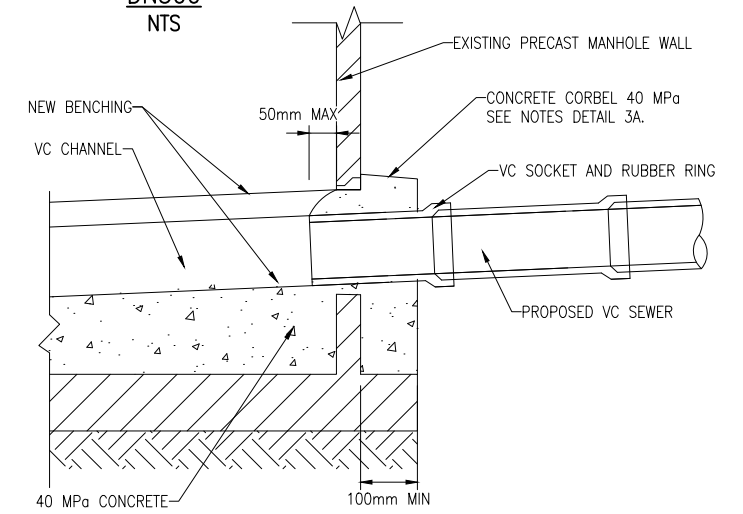
- D10 STARTERS AND D10 CAGE FOR ALL MANHOLES AND CONNECTORS
- STARTERS TO BE CHEMSET INTO MANHOLE WALL
 - 50MM OVERLAP OF STEEL CAGE
 - 50MM COVER ON ALL STEEL REINFORCING
 - HOLE TO BE CORE DRILLED OR CUT 50mm MAX OVER SIZE OF THE PIPE DIAMETER
 - HUMES BOND SEAL AROUND GRITTED STARTER BETWEEN WALL AND PIPE.

DETAIL 3B
RESTRAINED PE SEWER MAIN CONNECTION INTO CONCRETE MANHOLE-
UP TO DN300



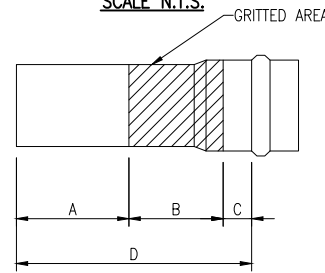
DETAIL 3B NOTES:
 1. PE M/H CONNECTOR TO BE FABRICATED OFF-SITE.

DETAIL 3C
VC SEWER MAIN CONNECTION INTO CONCRETE MANHOLE- UP TO
DN300



GRITTED AREA TABLES

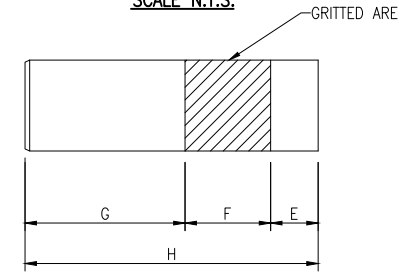
MANHOLE STARTERS
SCALE N.T.S.



| PIPE DN | A* | B | C | D |
|---------|-----|-----|----|-----|
| 100 | 144 | 150 | 50 | 344 |
| 150 | 129 | 150 | 50 | 329 |
| 175 | 113 | 150 | 50 | 313 |
| 225 | 95 | 150 | 50 | 295 |
| 300 | 82 | 150 | 50 | 282 |

* SEE NOTE 3

MANHOLE FINISHERS
SCALE N.T.S.



| PIPE DN | E | F | G* | H |
|---------|----|-----|-----|-----|
| 100 | 80 | 150 | 265 | 495 |
| 150 | 80 | 150 | 268 | 498 |
| 175 | 80 | 150 | 272 | 502 |
| 225 | 80 | 150 | 276 | 506 |
| 300 | 80 | 150 | 290 | 520 |

* SEE NOTE 3

FOR STRAIGHT THROUGH, 90° AND CIRCULAR MANHOLES

FOR ANGLE MANHOLES

| PIPE DN | A* | B | C | D |
|---------|-----|-----|-----|-----|
| 100 | 130 | 200 | 150 | 430 |
| 150 | 130 | 200 | 150 | 430 |
| 175 | 100 | 200 | 150 | 450 |
| 225 | 130 | 200 | 150 | 480 |
| 300 | 170 | 200 | 150 | 520 |

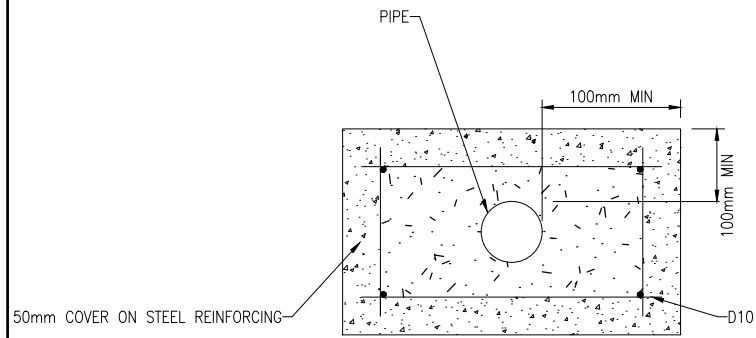
* SEE NOTE 3

| PIPE DN | E | F | G* | H |
|---------|-----|-----|-----|-----|
| 100 | 110 | 250 | 230 | 590 |
| 150 | 120 | 250 | 230 | 600 |
| 175 | 140 | 250 | 260 | 650 |
| 225 | 120 | 250 | 280 | 700 |
| 300 | 150 | 250 | 310 | 770 |

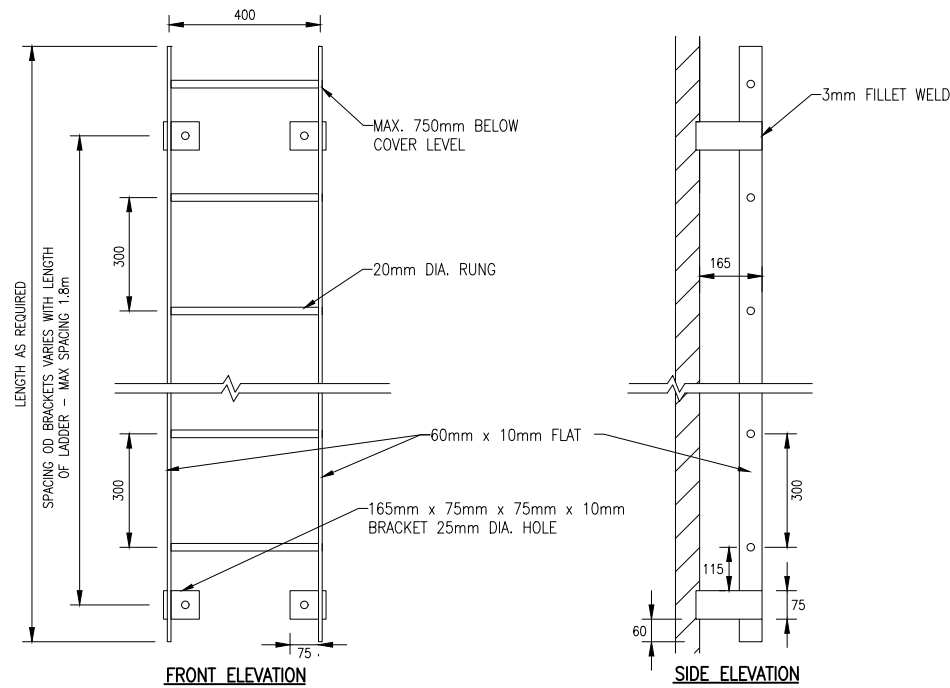
* SEE NOTE 3

GRITTED AREA NOTES

- PIPE SIZES EXCEEDING DN300 - SEE ENGINEER FOR APPROVED DETAIL
- PVC-U SOCKETS WITH GRITTED AREAS ARE TO BE PURCHASED FROM AN APPROVED SUPPLIER. GRITTED AREAS ARE NOT TO BE MADE ONSITE.
- DIMENSIONS A & G MAY BE CUT TO SUIT WITH WRITTEN APPROVAL FROM THE ENGINEER

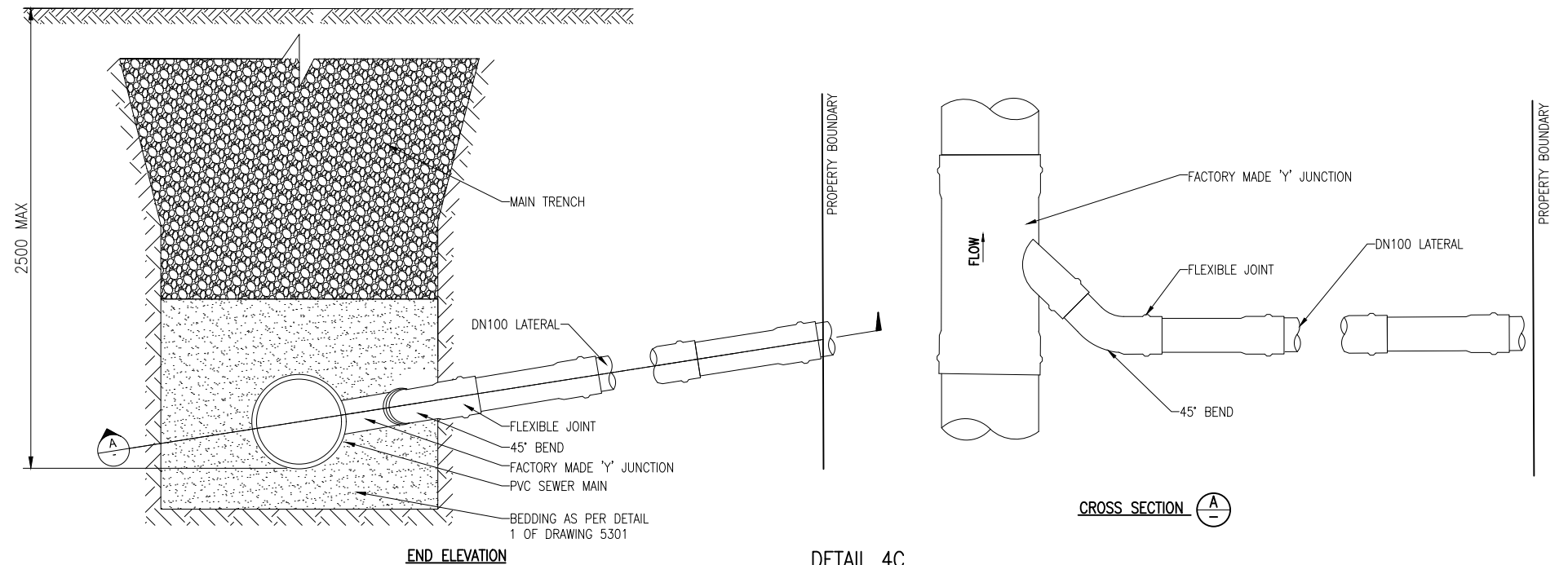


DETAIL A
TYPICAL CORBEL DETAIL

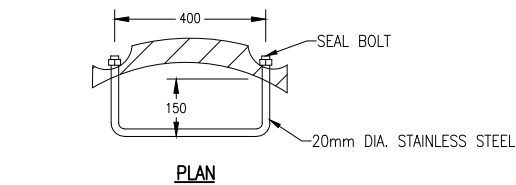


DETAIL 4A
MANHOLE LADDER
SCALE 1:10

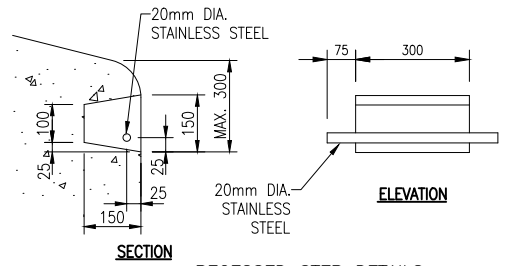
- NOTE:
1. MANHOLE LADDER TO BE USED WHERE MANHOLE EXCEEDS 3m IN DEPTH.
 2. MANHOLE LADDERS TO BE 316 STAINLESS STEEL



DETAIL 4C
STANDARD CONNECTION FOR SEWER AND STORMWATER
WITH A DEPTH TO INVERT < 2.50m
SCALE 1:10



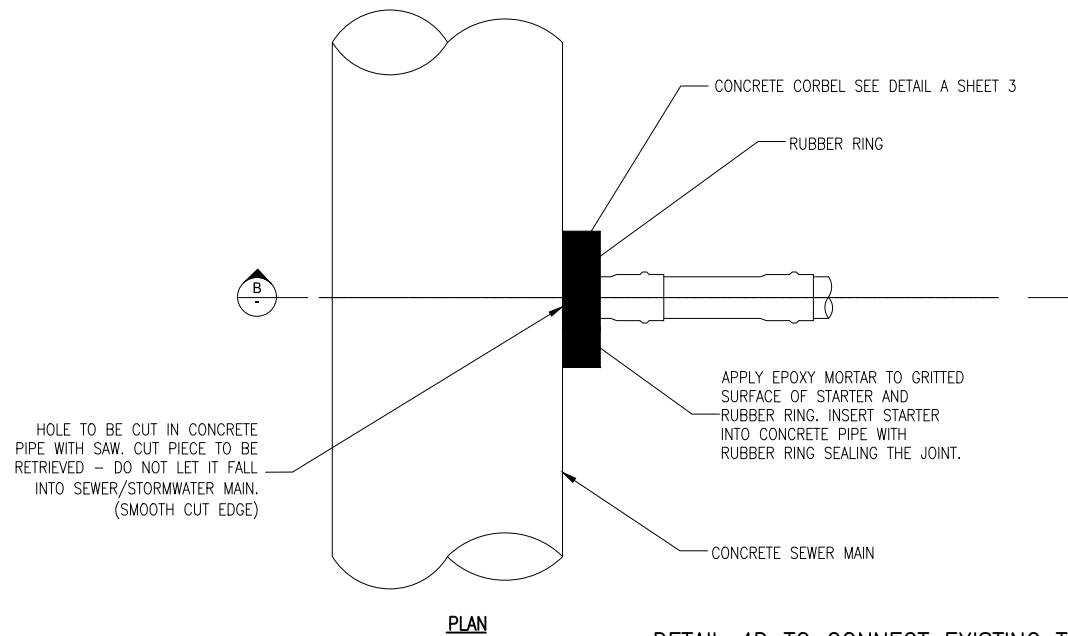
DETAILS OF STEPPED RUNG



RECESSED STEP DETAILS

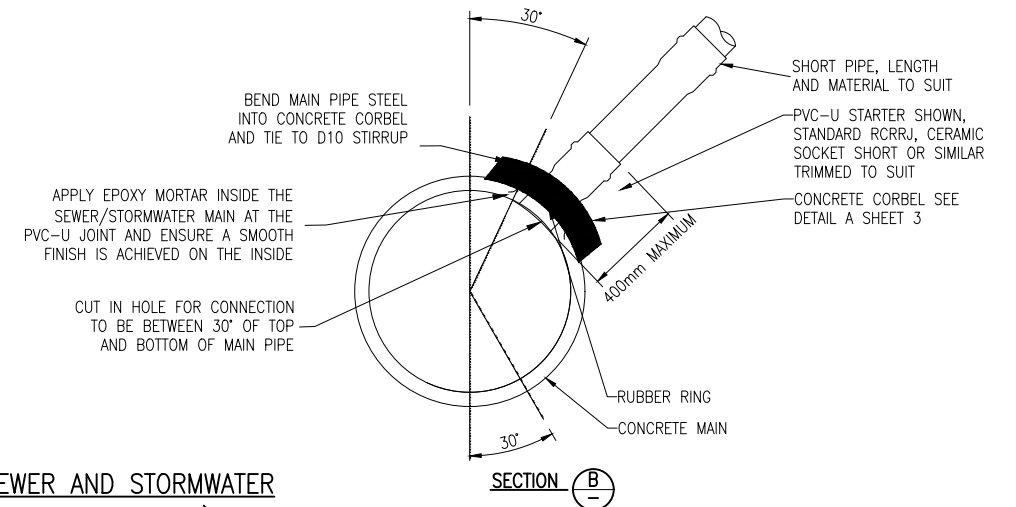
DETAIL 4B
MANHOLE STEPS
SCALE 1:10

- NOTE:
1. STEP RUNGS TO BE 316 STAINLESS STEEL OR AN APPROVED ALTERNATIVE



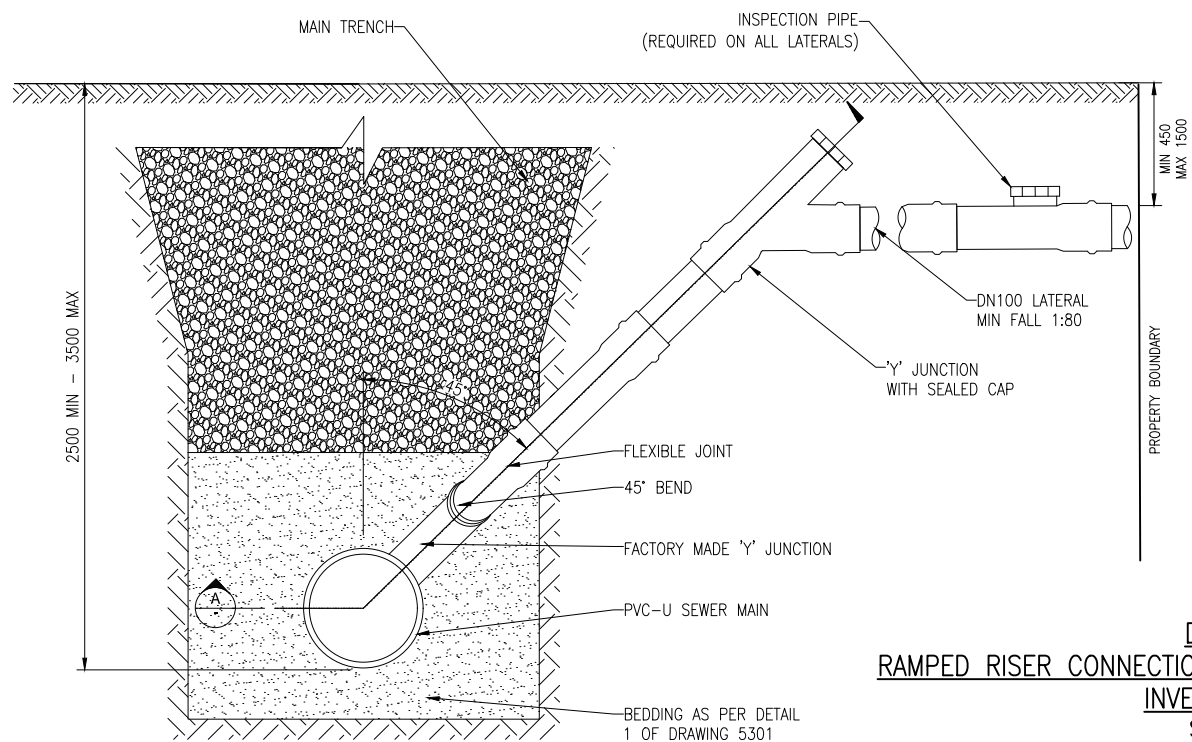
DETAIL 4D TO CONNECT EXISTING TRUNK SEWER AND STORMWATER
(ONLY TO BE USED WHEN DIRECTED BY THE ENGINEER)
SCALE 1:20

- NOTES:
1. DRAWING BASED ON NZS 4404:2004. WHERE DRAWING DIFFERS FROM STANDARD THIS DRAWING TAKES PRECEDENCE
 2. MINIMUM LATERAL GRADIENT 1:80. MAXIMUM GRADIENT DESIRABLE 1:1. STEEPER GRADIENT WILL BE PERMITTED TO MAINTAIN BUILDING AREA. PIPE TO BE SUPPORTED BY NATURAL GROUND WHERE POSSIBLE.
 3. ALL LATERALS (FROM THE SEWER MAIN OR MANHOLES) TO BE FITTED WITH AN INSPECTION PIPE AT THE PROPERTY BOUNDARY.
 4. DN1050 SEWER MAIN AND DN300 CONNECTION SHOWN
 5. THE DEFINITION OF A TRUNK SEWER IS DETAILED IN THE TDC COP SECTION 1, CLAUSE 1.3

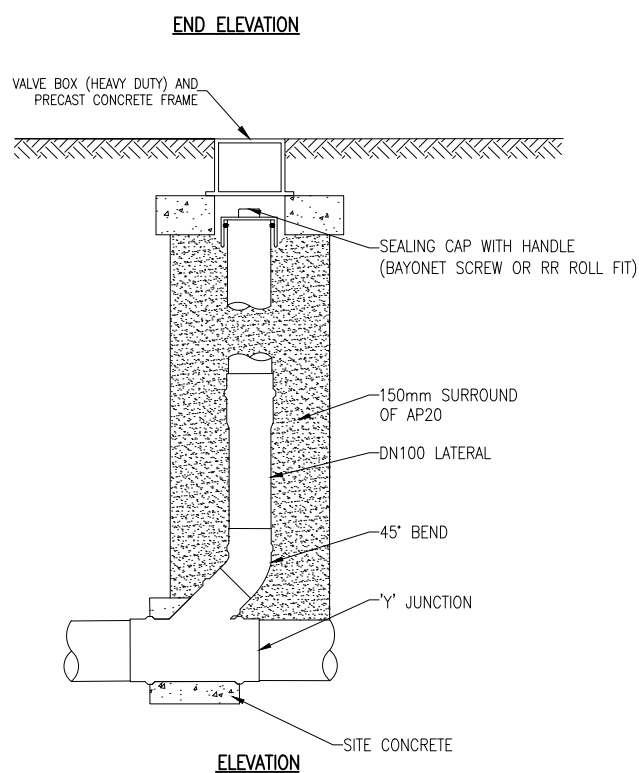
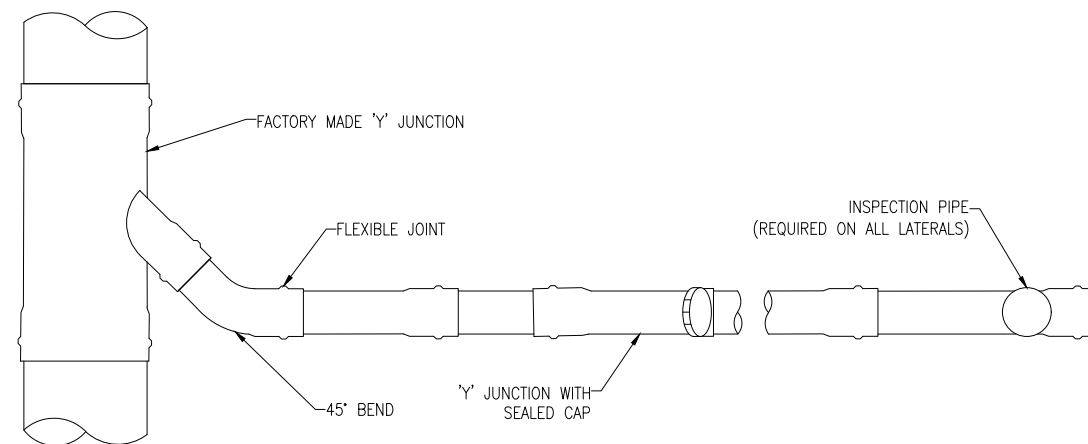


| | | | | | | | | | | | | |
|--------------|---|---------|------|------|------|----------------------|----------|---|---|--|------------------|------|
| SURVEY FILE: | | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): | AS SHOWN | TIMARU DISTRICT COUNCIL 2 King George Place P.O. Box 522 Timaru 7940 Telephone: 03 687 7200 Website: www.timaru.govt.nz | PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS | TITLE: MANHOLE LADDER, STEP RUNG & LATERAL CONNECTIONS | CONTRACT NUMBER: | |
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | 3/24 | | REDUCED SCALE (A3): | | | | | DRAWING NUMBER: | 5302 |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | 7/21 | | PRODUCED BY: | LTU | THIS DOCUMENT IS THE PROPERTY OF THE TIMARU DISTRICT COUNCIL. IT IS NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF THE TIMARU DISTRICT COUNCIL. | SHEET: | 4 | OF | 13 |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | 1/20 | | FOR: | D & W | | | | | |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | 4/19 | | | | | | | | |
| F | CHANGES TO CORBEL DETAIL | WC | | 2/16 | | | | | | | | |
| No. | REVISION | BY | CHK | APP | DATE | | | | | | | |

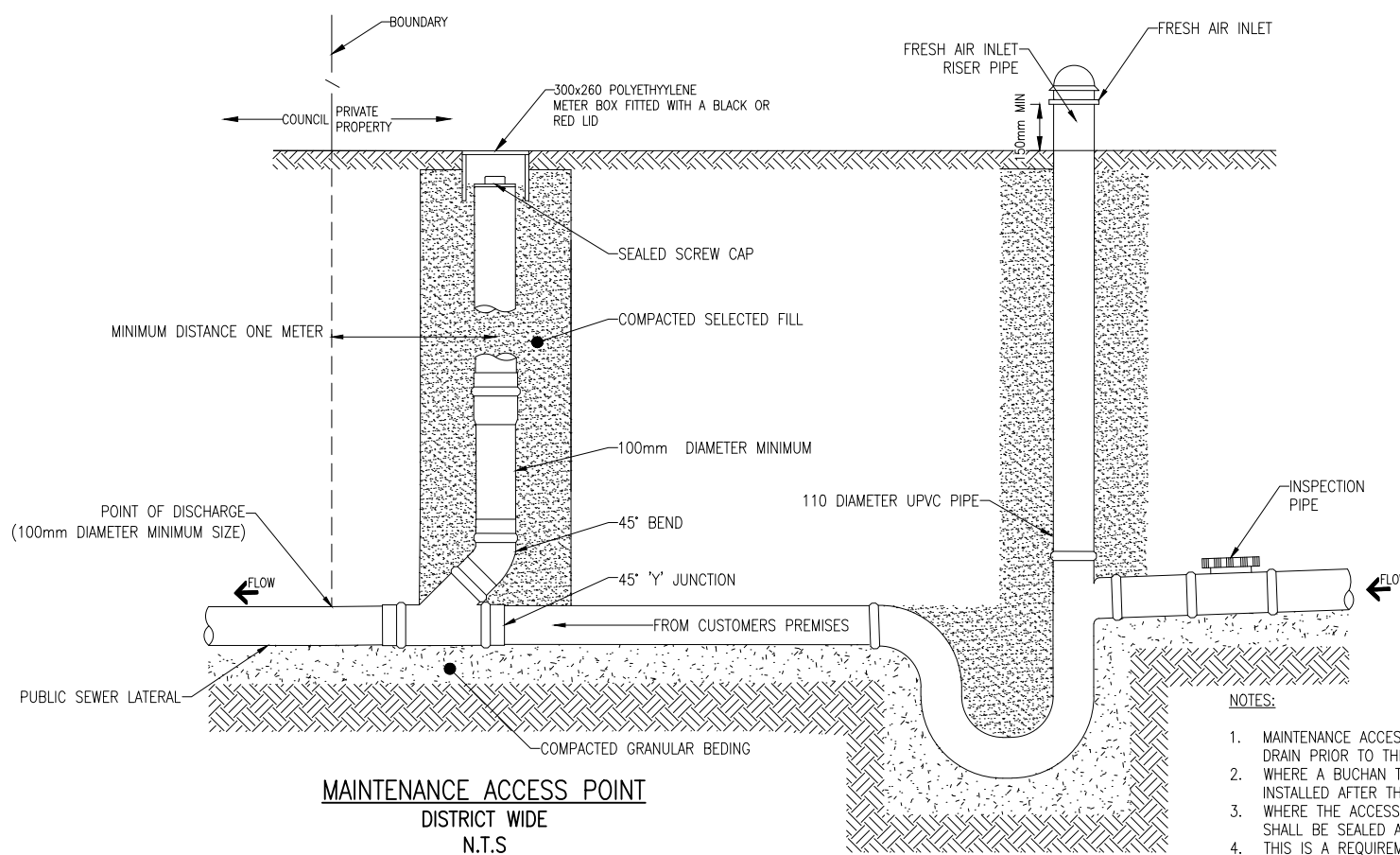
NOTE:
TOP OF RAMP RISER TO BE
CLEARLY IDENTIFIED ON
AS-BUILT PLANS



DETAIL 5A
RAMPED RISER CONNECTION FOR SEWERS WITH A DEPTH TO
INVERT > 2.50m
SCALE 1:10



DETAIL 5B
CLEANING EYE
SCALE 1:10



MAINTENANCE ACCESS POINT
DISTRICT WIDE
N.T.S

PRIVATE ASSET

BOUNDARY TRAP / BUCHAN TRAP
TIMARU ONLY
N.T.S

- NOTES:
1. MAINTENANCE ACCESS POINT TO BE INSTALLED ON THE PRIVATE SEWER DRAIN PRIOR TO THE BOUNDARY
 2. WHERE A BUCHAN TRAP IS INSTALLED THE ACCESS POINT IS TO BE INSTALLED AFTER THE BUCHAN AND PRIOR TO THE BOUNDARY
 3. WHERE THE ACCESS POINT IS LOCATED INSIDE A BUILDING THE COVER SHALL BE SEALED AT FLOOR LEVEL
 4. THIS IS A REQUIREMENT FOR CONNECTION AND DISCHARGE TO COUNCILS SEWER NETWORK INFRASTRUCTURE AS PER TDC BY LAW CHAPTER 15
 5. OTHER METHODS OF BUCHAN INSTALLATION MAY BE USED PROVIDED A WATER SEAL CAN BE ACHIEVED
 6. WHERE A BUCHAN TRAP IS TO BE INSTALLED IN A BUILDING THE FAI ACCESS POINT IS TO BE SEALED USING A SCREW CAP AND THE FAI DIRECTED EXTERNALLY

| NO. | REVISION | BY | CHK | APP | DATE |
|-----|---|-----|-----|-----|------|
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | | 3/24 |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | | 7/21 |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | | 1/20 |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | | 4/19 |
| F | CHANGES TO CORBEL DETAIL | WC | | | 2/16 |

| SURVEY FILE: | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): | AS SHOWN |
|--------------|----------|------|--------------|------|----------------------|----------|
| DATA SOURCE: | WATER | | SURVEYED | - | - | - |
| LEVEL DATUM: | DRAINAGE | | DESIGNED | GS | 2/16 | - |
| | ROADING | | DESIGN CHECK | GC | 2/16 | LTU |
| | PARKS | | DRAWN | WC | 2/16 | D & W |
| | ELEC.PWR | | DRG CHECK | GC | 2/16 | |
| | TELECOM | | APPROVED | GH | 2/16 | |
| | PLANNING | | | | | |

TIMARU DISTRICT COUNCIL
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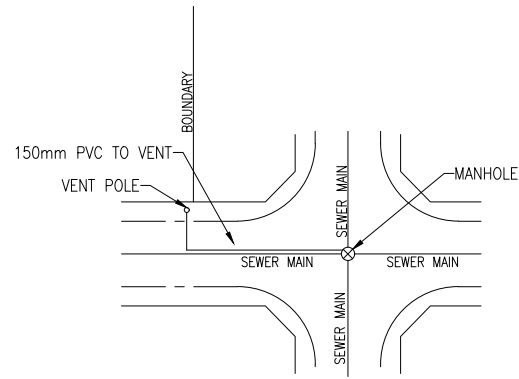
PROJECT: **DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS**

TITLE: **SERVICE LATERAL / CLEANING EYE / RAMPED RISER**

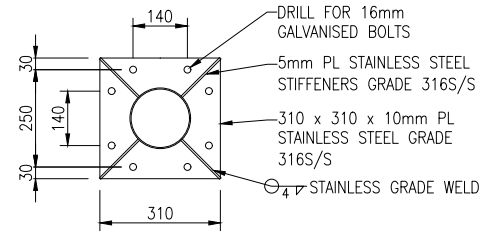
CONTRACT NUMBER: **5302**

DRAWING NUMBER: **5** OF **13**

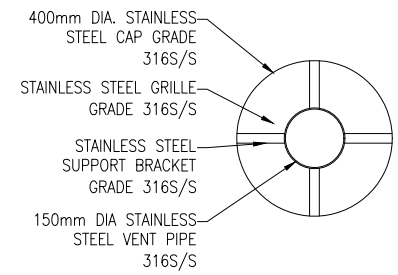
REVISION: **J**



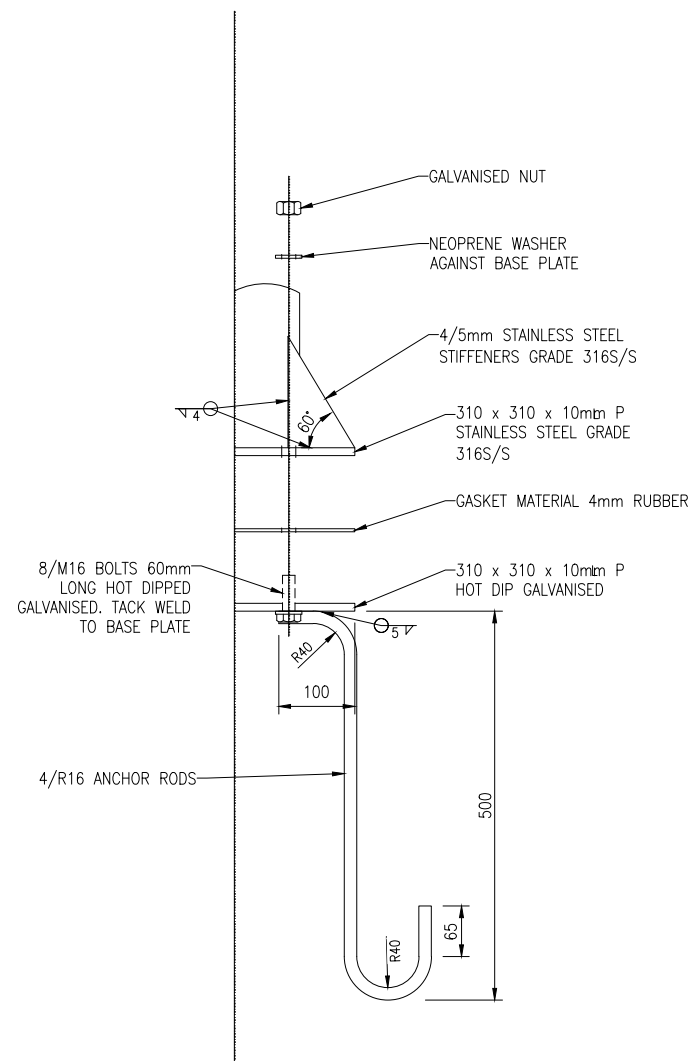
TYPICAL POSITION OF POLE VENT
NTS



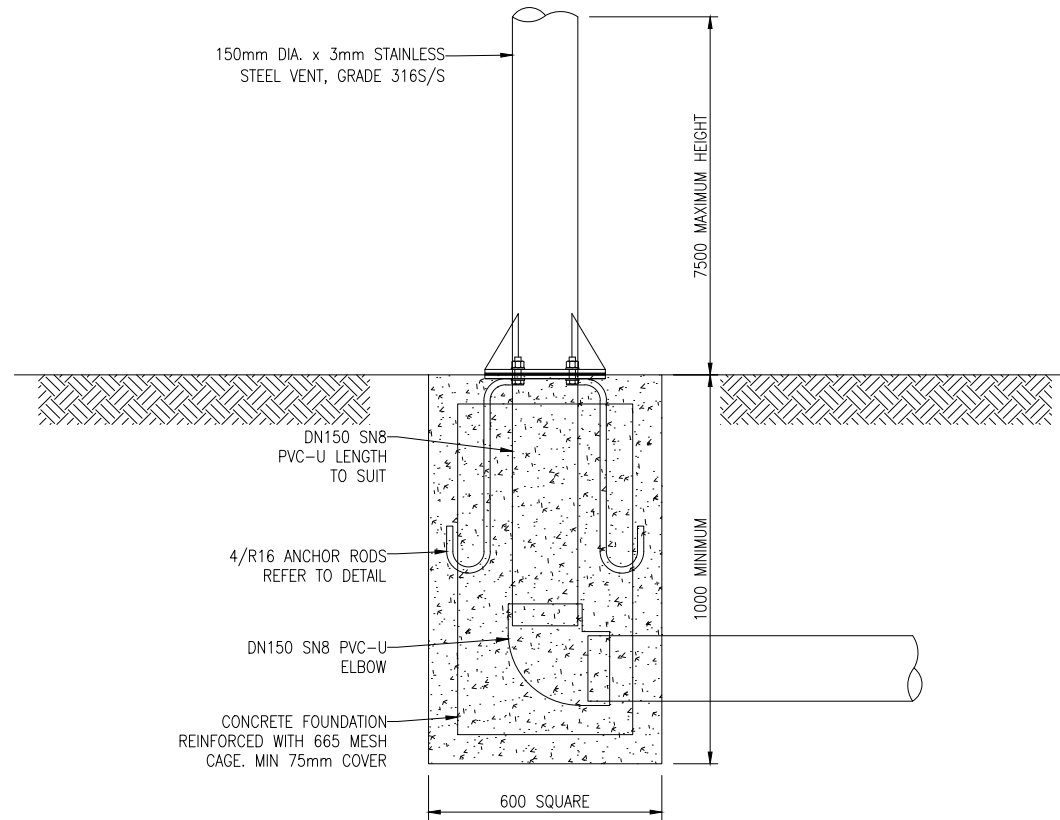
BASE PLATE PLAN
SCALE 1:10



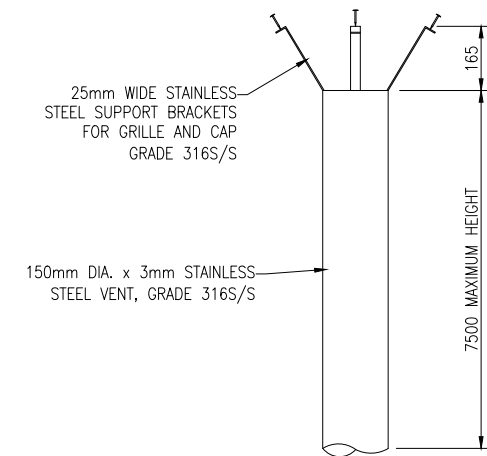
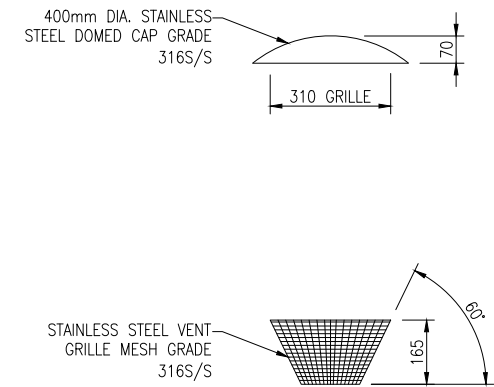
PLAN
SCALE 1:10



ANCHOR ROD DETAIL
SCALE 1:5



BASE AND POST DETAIL
SCALE 1:10



POST AND CAP DETAIL
SCALE 1:10

| No. | REVISION | BY | CHK | APP | DATE |
|-----|---|-----|-----|-----|------|
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | | 3/24 |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | | 7/21 |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | | 1/20 |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | | 4/19 |
| F | CHANGES TO CORBEL DETAIL | WC | | | 2/16 |

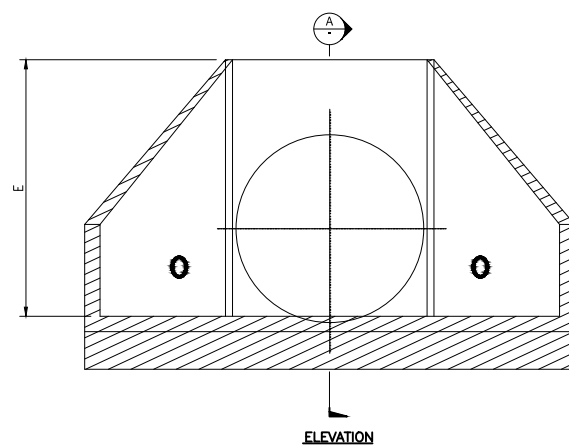
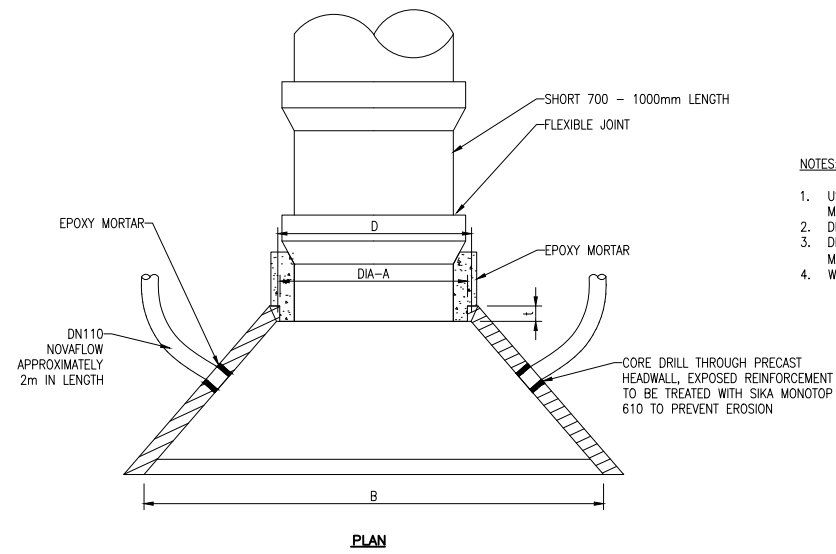
| SURVEY FILE: | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): | AS SHOWN |
|--------------|----------|------|--------------|------|----------------------|----------|
| DATA SOURCE: | WATER | | SURVEYED | - | | |
| LEVEL DATUM: | DRAINAGE | | DESIGNED | GS | 2/16 | |
| | ROADING | | DESIGN CHECK | GC | 2/16 | |
| | PARKS | | DRAWN | WC | 2/16 | |
| | ELEC.PWR | | DRG CHECK | GC | 2/16 | |
| | TELECOM | | APPROVED | GH | 2/16 | |
| | PLANNING | | | | | |

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PROJECT: **DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS**

TITLE: **POLE VENT DETAILS**

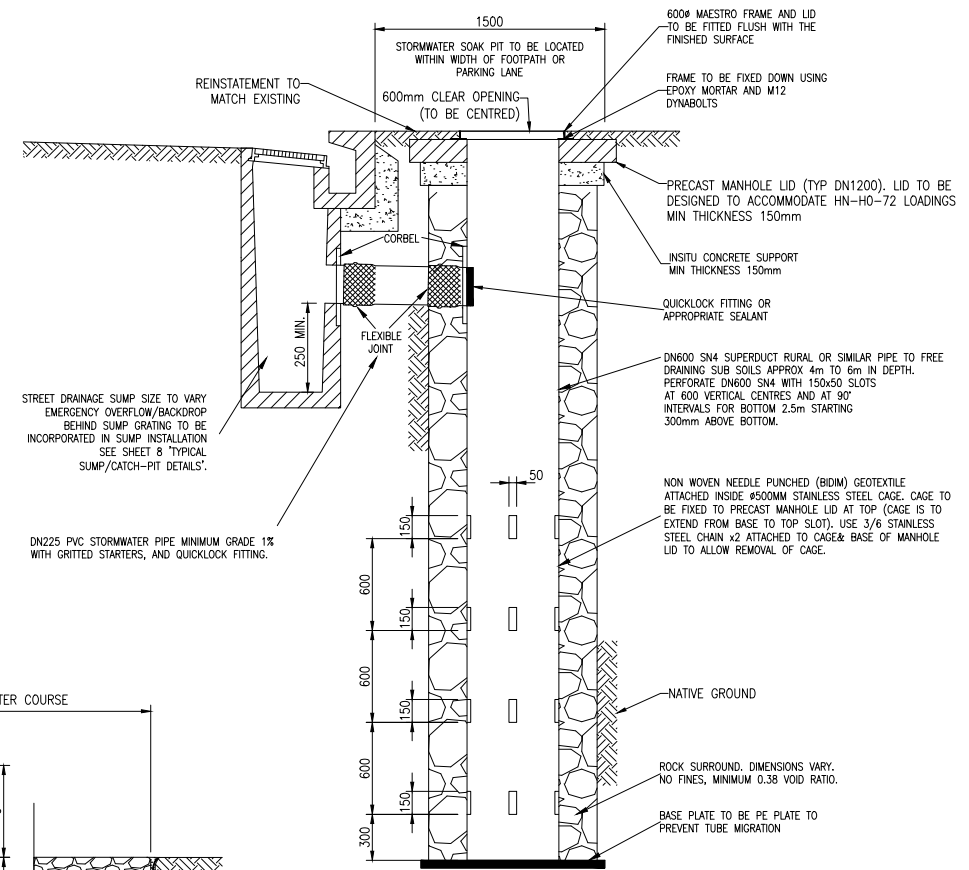
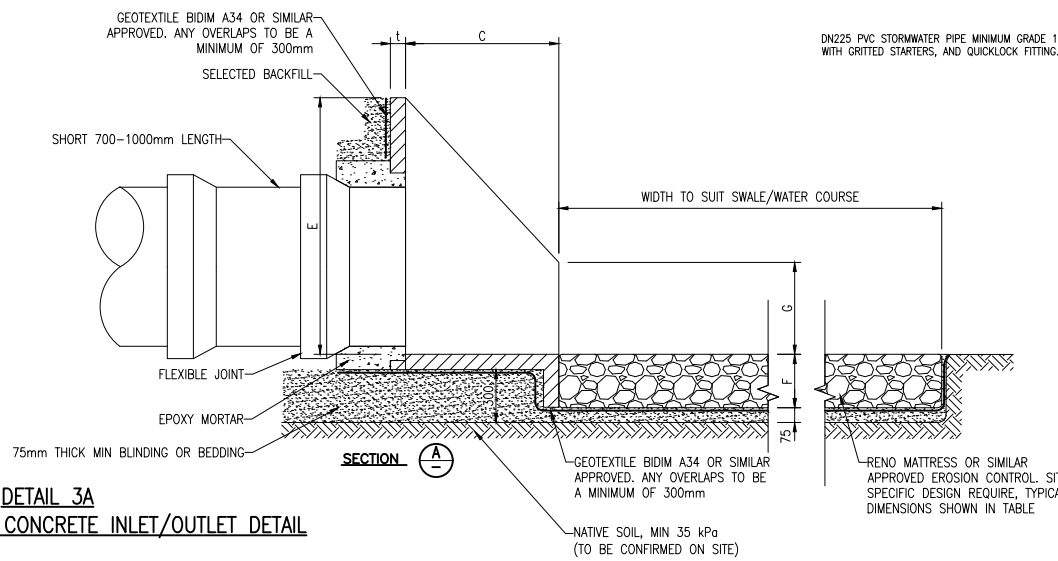
CONTRACT NUMBER:
 DRAWING NUMBER: **5302**
 SHEET: 6 OF 13
 REVISION: **J**



DETAIL 3A
PRECAST REINFORCED CONCRETE INLET/OUTLET DETAIL

NOTES:

1. USE HYNDS PRECAST UNITS (OR SIMILAR APPROVED) IN CONJUNCTION WITH MANUFACTURERS INSTRUCTIONS
2. DIMENSIONS IN MILLIMETRES
3. DESIGNER TO PROVIDE ADEQUATE SCOUR PROTECTION USING GABION MATTRESSES (OR SIMILAR APPROVED)
4. WW1050 WITH DN900 CONC PIPE SHOWN



DETAIL 3B
STORMWATER SOAKAGE PIT

| PRODUCT CODE | NOMINAL PIPE DIAMETER | WINGWALL TYPE | A | B | C | D | E | F | G | t | WEIGHT |
|--------------|-----------------------|---------------|-----------|------|------|------|------|-----|-----|-----|--------|
| WW0300 | 100 to 300 | STANDARD | 190/390 | 1000 | 600 | 460 | 520 | 200 | 160 | 60 | 205kg |
| WW0600 | 300 to 675 | STANDARD | 390/790 | 2150 | 745 | 810 | 1000 | 250 | 390 | 90 | 755kg |
| WW0600L | 300 to 600 | LONG THROAT | 370/700 | 1950 | 1100 | 750 | 900 | 280 | 500 | 80 | 925kg |
| WW1050 | 600 to 1050 | STANDARD | 720/1225 | 3000 | 1000 | 1270 | 1675 | 345 | 600 | 100 | 1800kg |
| WW1350 | 1200 to 1350 | STANDARD | 1380/1540 | 4100 | 2400 | 1600 | 1975 | 425 | 750 | 125 | 5610kg |
| WW1800 | 1600 to 1800 | STANDARD | 1727/2040 | 4900 | 2400 | 2150 | 2265 | 450 | 750 | 135 | 7700kg |
| | 2050 and above | SPECIAL | | | | | | | | | |

| STANDARD RENO MATTRESS SIZES | | |
|------------------------------|-------|--------|
| LENGTH | WIDTH | HEIGHT |
| 6000 | 2000 | 170 |
| 6000 | 2000 | 230 |
| 6000 | 2000 | 300 |

| NO. | REVISION | BY | CHK | APP | DATE |
|-----|---|-----|-----|-----|------|
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | | 3/24 |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | | 7/21 |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | | 1/20 |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | | 4/19 |
| F | CHANGES TO CORBEL DETAIL | WC | | | 2/16 |

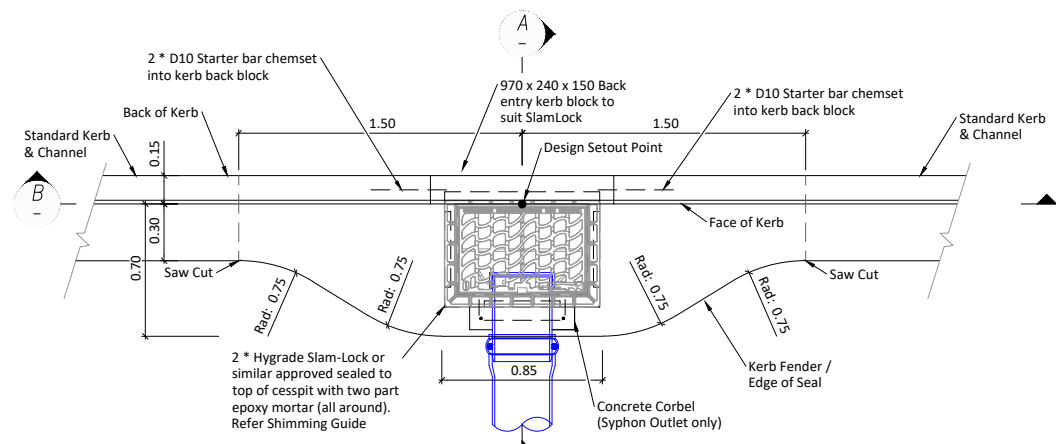
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|--------------|----------|------|--------------|------|----------------------|-------|
| DATA SOURCE: | WATER | | SURVEYED | - | REDUCED SCALE (A3): | 1:40 |
| LEVEL DATUM: | DRAINAGE | | DESIGNED | GS | PRODUCED BY: | LTU |
| | ROADING | | DESIGN CHECK | GC | FOR: | D & W |
| | PARKS | | DRAWN | WC | | |
| | ELEC.PWR | | DRG CHECK | GC | | |
| | TELECOM | | APPROVED | GH | | |
| | PLANNING | | | | | |

TIMARU DISTRICT COUNCIL
2 King George Place
P.O. Box 522
Timaru 7940
Telephone: 03 687 7200
Website: www.timaru.govt.nz

DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS

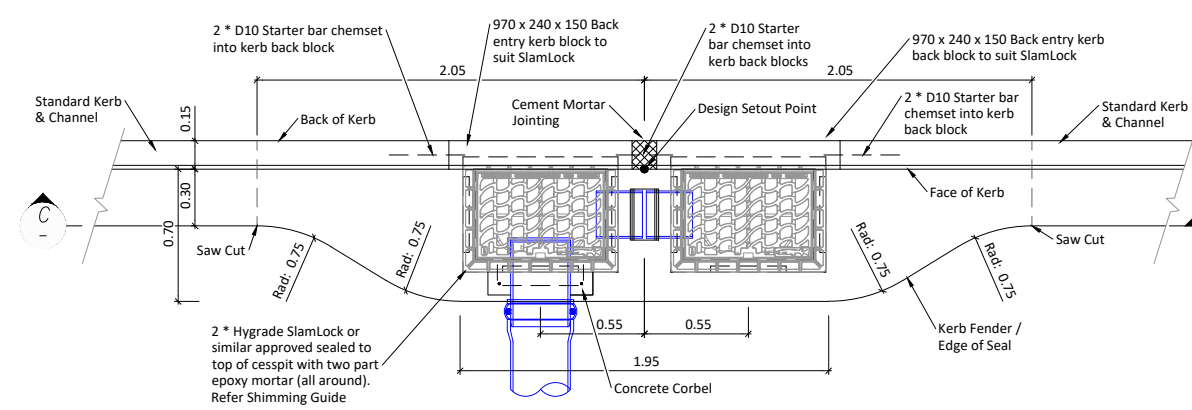
INLET / OUTLET DETAILS AND SOAKAGE PIT

CONTRACT NUMBER:
DRAWING NUMBER:
5302
SHEET 7 OF 13
REVISION:
J



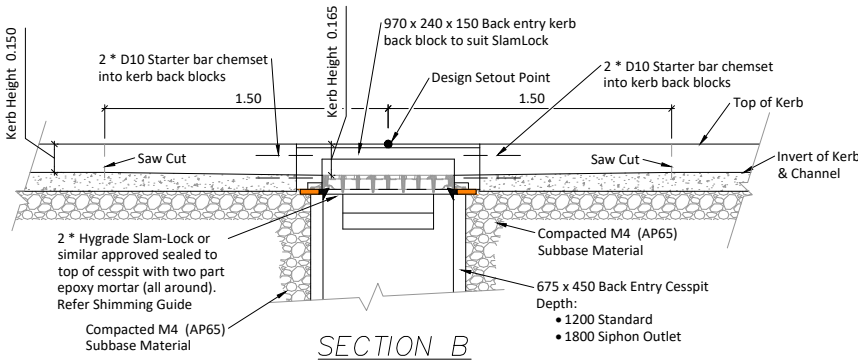
TYPICAL SINGLE SUMP - PLAN

Scale 1:20 @ A1



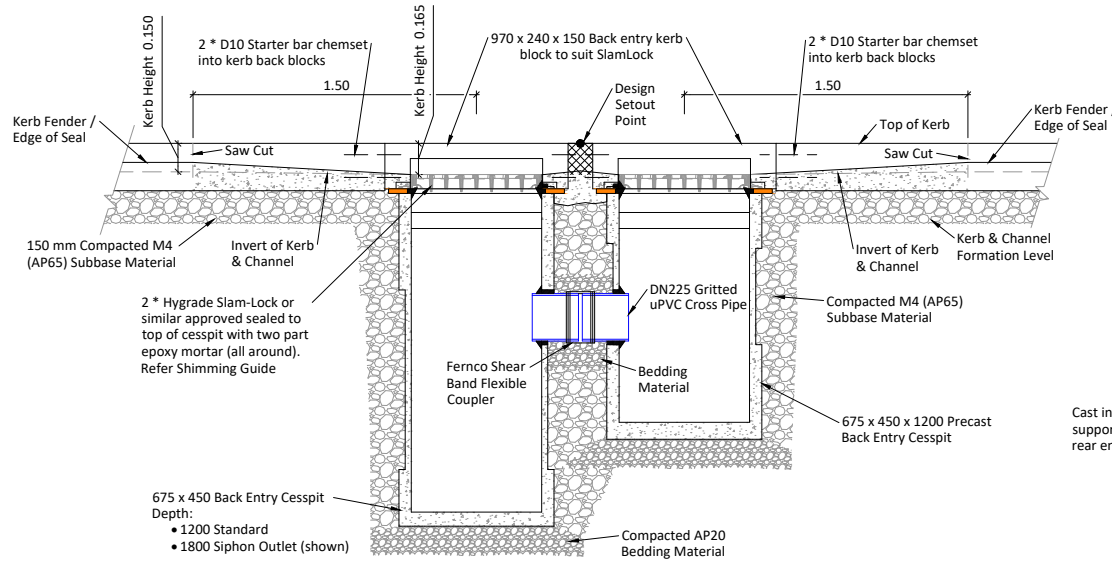
TYPICAL DOUBLE SUMP - PLAN

Scale 1:20 @ A1



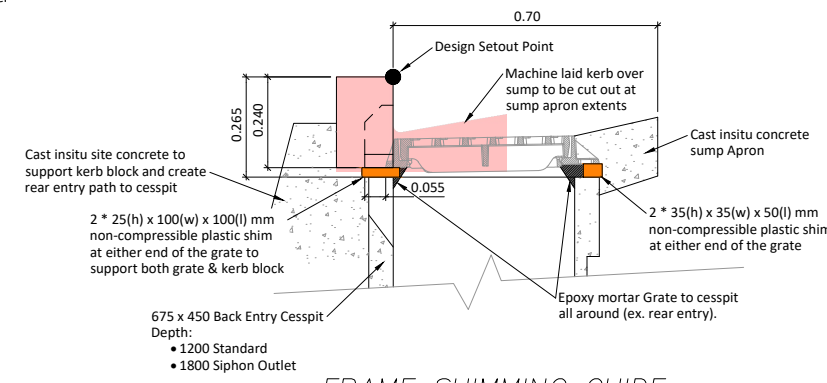
SECTION B

Scale 1:20 @ A1



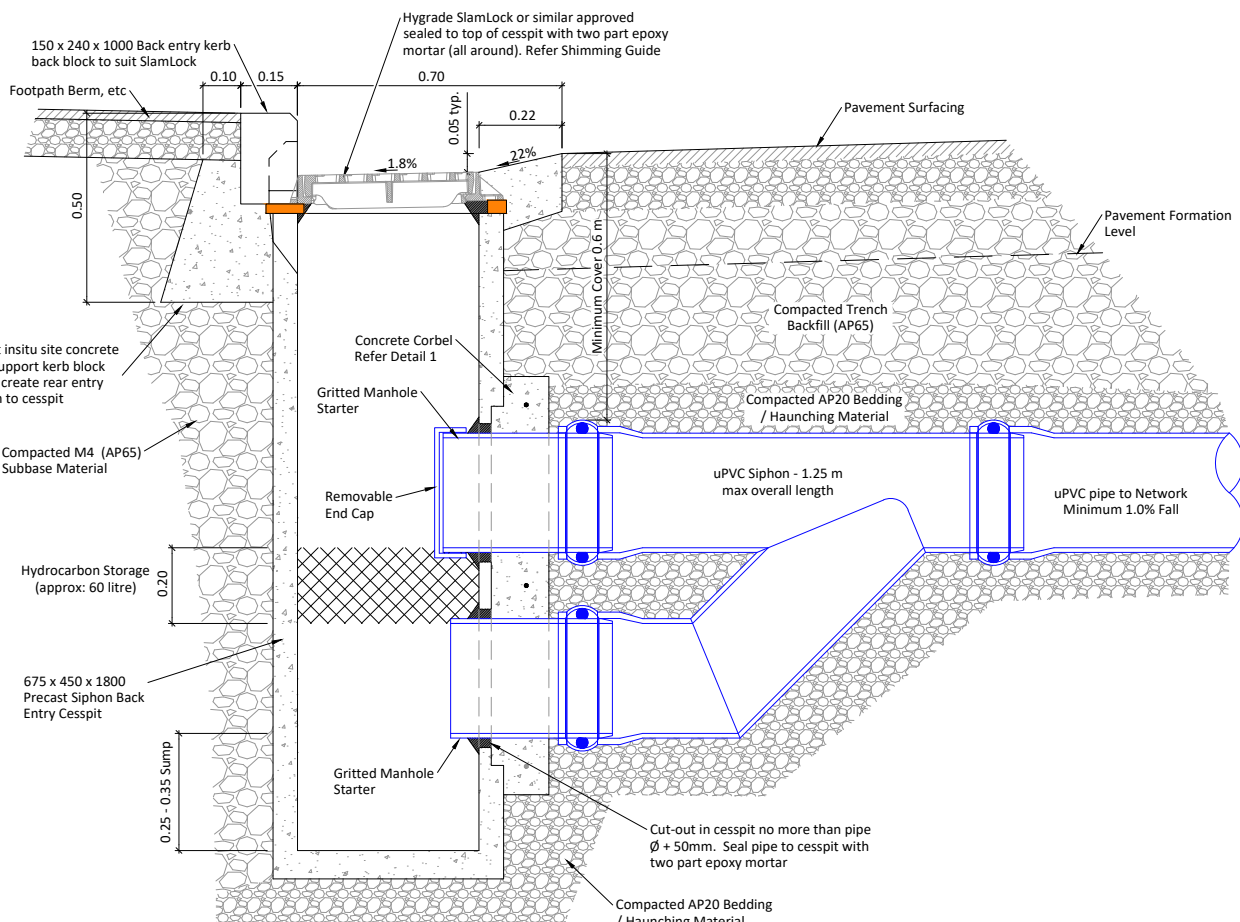
SECTION C

Scale 1:20 @ A1



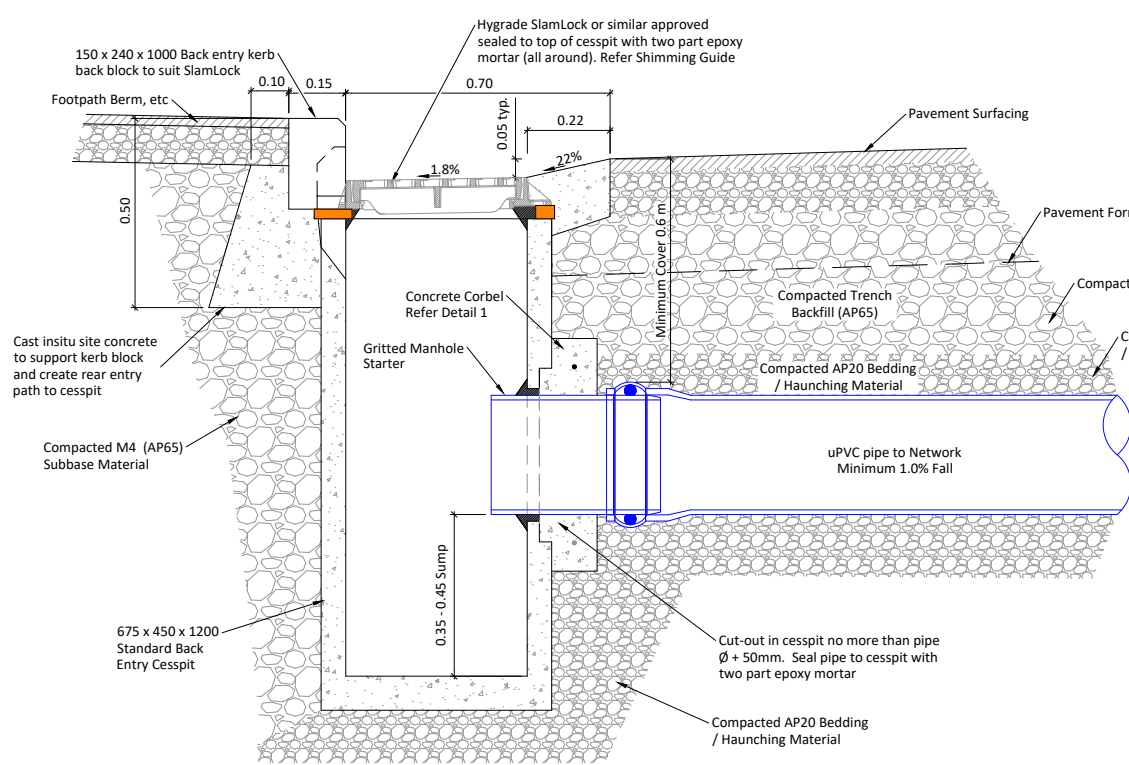
FRAME SHIMMING GUIDE

Scale 1:7.5 @ A1



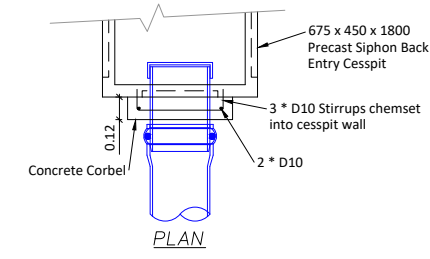
SECTION A - WITH SIPHON

Scale 1:10 @ A1

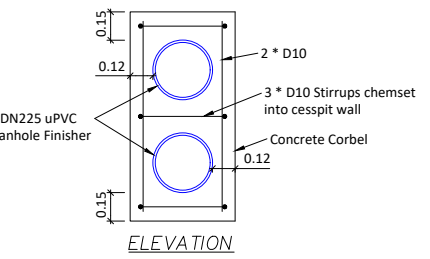


SECTION A - STANDARD

Scale 1:10 @ A1



PLAN



ELEVATION

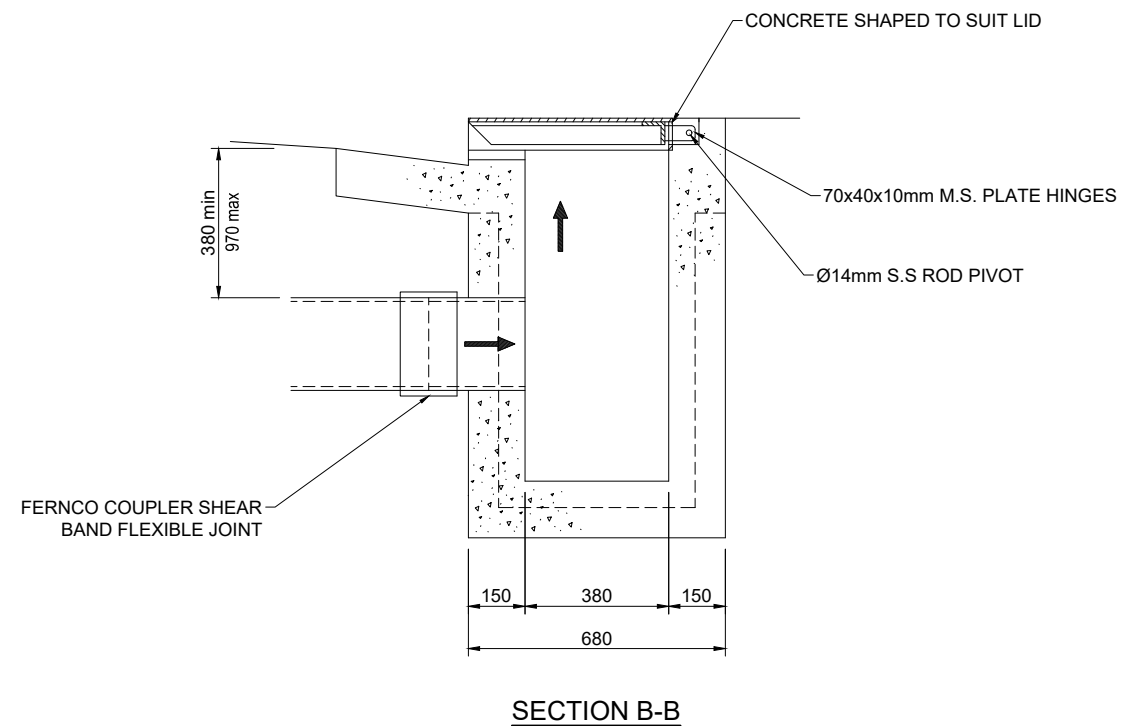
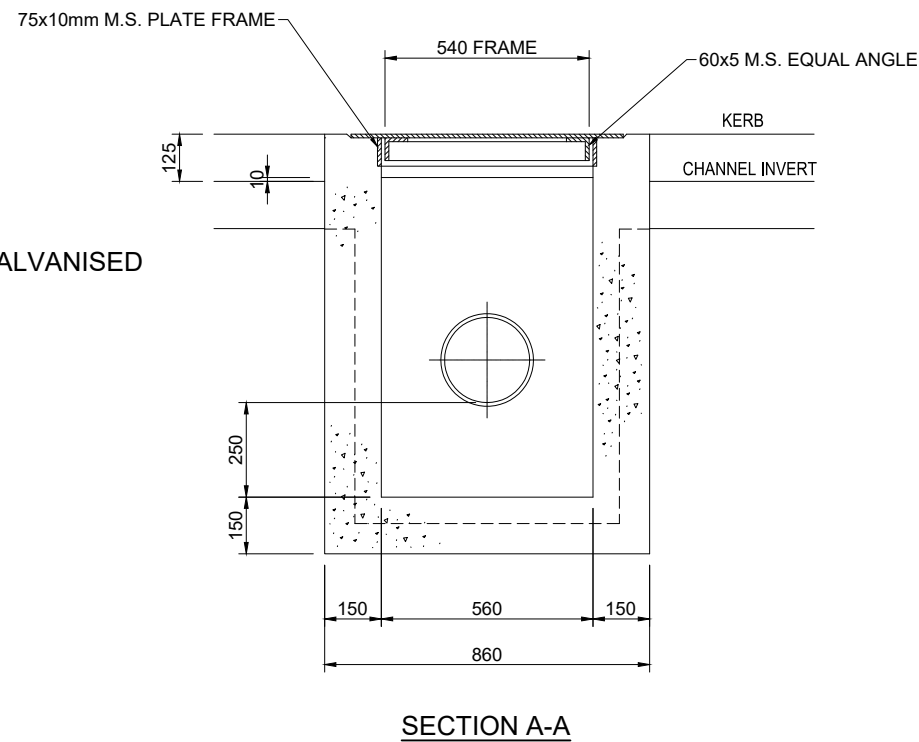
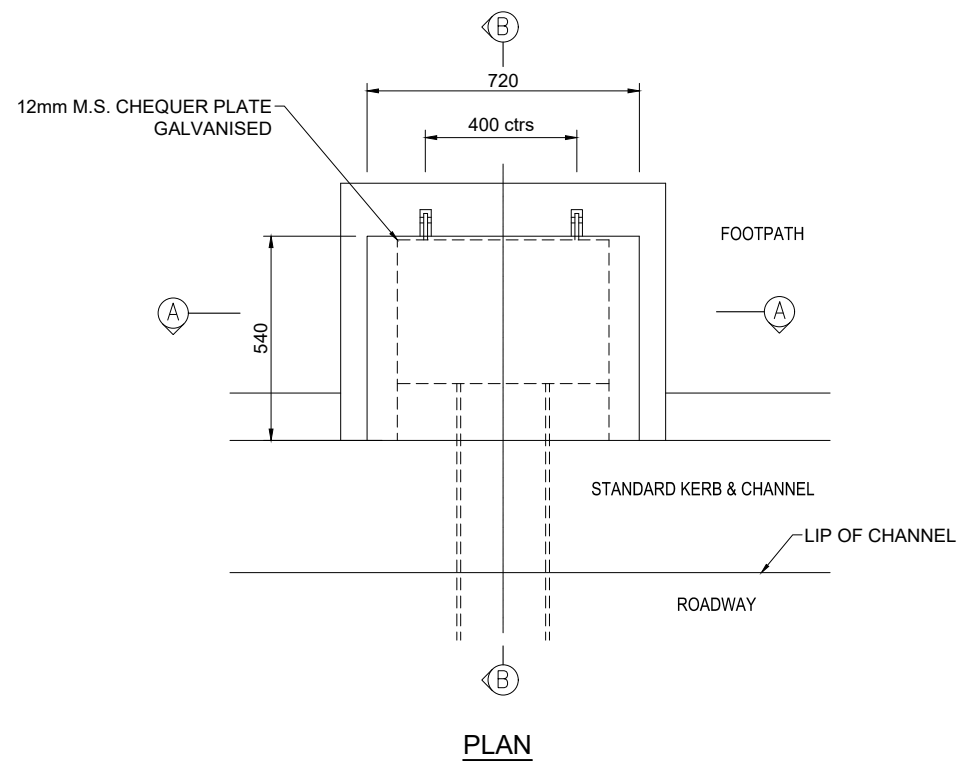
DETAIL 1 - CORBEL

Scale 1:20 @ A1

- Notes:
- All dimensions in metres unless shown otherwise;
 - All materials and pipework to comply with TDC Contract Water & Drainage Standard Specification
 - Syphon option is to be used on State Highways and on streets classified as arterial and above, or as directed by TDC;
 - All insitu concrete to have minimum compressive strength of 25 MPa;
 - Reinforcement to minimum 50 mm cover;
 - Joining of / to precast blocks to be neatly pointed with minimum 10 mm cement mortar;
 - Saw cuts to be 30 mm deep max;
 - Stormwater laterals from sumps to have minimum grade of -1.0 %;
 - Frame & grate to be Hygrade SlamLock or other product approved by Timaru District Council;
 - In high traffic areas (collector roads) the frame and grate shall be attached to the concrete cesspit with threaded rod, nuts and washers drilled and chemset into top of cesspit;
 - Precast units shown are Hynds standard products - other units may be used subject to Timaru District Council approvals provided frame and grate requirements are met;
 - Precast rear entry kerb blocks must be included;
 - Kerb height transitions from 150 mm to 165 mm;
 - All work in road reserve shall have an approved Corridor Access Request (CAR) and Works Approval Permit (WAP) prior to commencement.
 - Sump location selection to be designed to receive the intended catchments flows as required by the TDC Infrastructure Design Standard (IDS)

| | | | | | | | | | | | | | |
|--------------|---|---------|------|----------|------|----------------------|----------|--|--|--|--|--------------------------|--------------------|
| SURVEY FILE: | | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): | 1:20 | <p>TIMARU DISTRICT COUNCIL 2 King George Place P.O. Box 522 Timaru 7940 Telephone: 03 687 7200 Website: www.timaru.govt.nz</p> | <p>PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS</p> | <p>TITLE: TYPICAL SUMP / CATCH-PIT DETAILS</p> | <p>CONTRACT NUMBER: 5302</p> | <p>DRAWING NUMBER: 8</p> | <p>REVISION: J</p> |
| DATA SOURCE: | | WATER | | SURVEYED | - | REDUCED SCALE (A3): | 1:40 | | | | | | |
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | 3/24 | | DESIGNED (A3): | GS | 2/16 | <p>PRODUCED BY: LTU</p> | <p>FOR: D & W</p> | <p>THIS DOCUMENT IS THE PROPERTY OF THE TIMARU DISTRICT COUNCIL. IT IS NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF THE TIMARU DISTRICT COUNCIL.</p> | <p>8 OF 13</p> | <p>711696</p> |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | 1/20 | | DESIGN CHECK | GC | 2/16 | | | | | |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | 4/19 | | DRAWN | WC | 2/16 | | | | | |
| F | CHANGES TO CORBEL DETAIL | WC | | 2/16 | | DRG CHECK | GC | 2/16 | | | | | |
| REVISION | | BY | CHK | APP | DATE | PLANNING | APPROVED | GH | 2/16 | | | | |

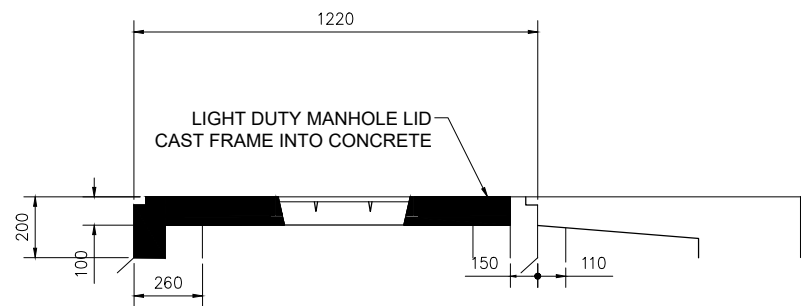
DO NOT SCALE - IF IN DOUBT ASK



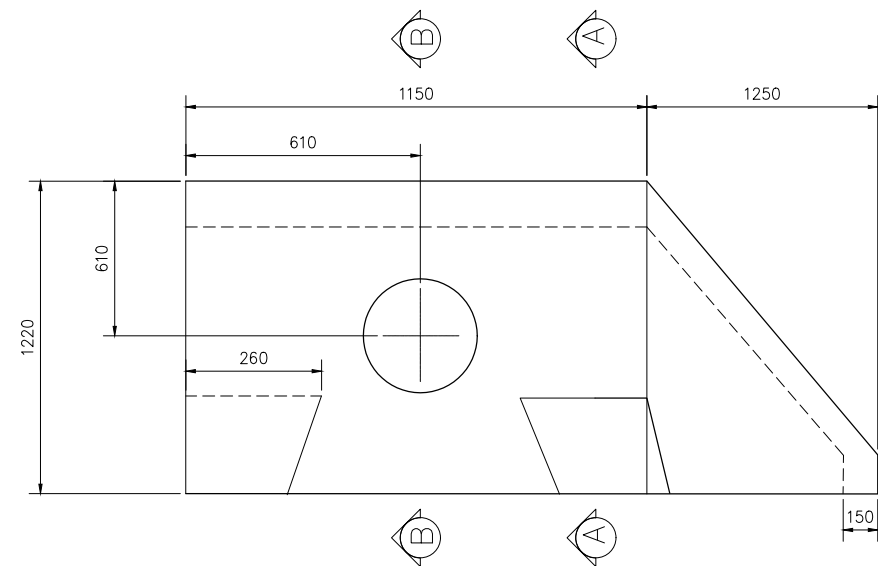
NOTE: ALL STEEL TO BE HOT DIPPED GALVANISED

| | | | | | | | | | | | | |
|--------------|---|---------|------|------|------|----------------------|-------|---|---|---|------------------|-----------|
| SURVEY FILE: | | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): | 1:20 | TIMARU DISTRICT COUNCIL 2 King George Place P.O. Box 522 Timaru 7940 Telephone: 03 687 7200 Website: www.timaru.govt.nz | PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS | TITLE: DRAINAGE SYPHON KERB EXIT DETAILS | CONTRACT NUMBER: | |
| DATA SOURCE: | | | | | | REDUCED SCALE (A3): | 1:40 | | | | DRAWING NUMBER: | REVISION: |
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | 3/24 | | PRODUCED BY: | LTU | THIS DOCUMENT IS THE PROPERTY OF THE TIMARU DISTRICT COUNCIL. IT IS NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF THE TIMARU DISTRICT COUNCIL. | SHEET: 9 OF 13 | 5302 J | | |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | 7/21 | | FOR: | D & W | | | | | |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | 1/20 | | | | | | | | |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | 4/19 | | | | | | | | |
| F | CHANGES TO CORBEL DETAIL | WC | | 2/16 | | | | | | | | |
| REVISION | | BY | CHK | APP | DATE | | | | | | | |

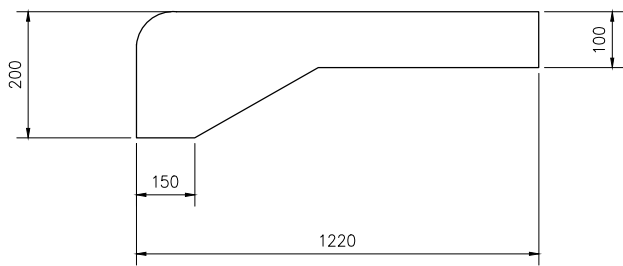
DO NOT SCALE - IF IN DOUBT ASK



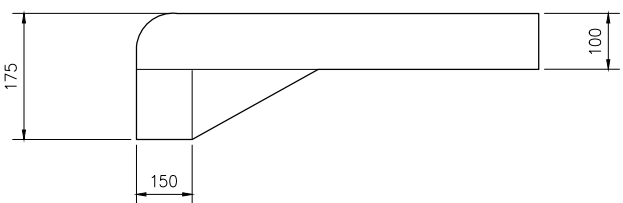
LID FRONT ELEVATION



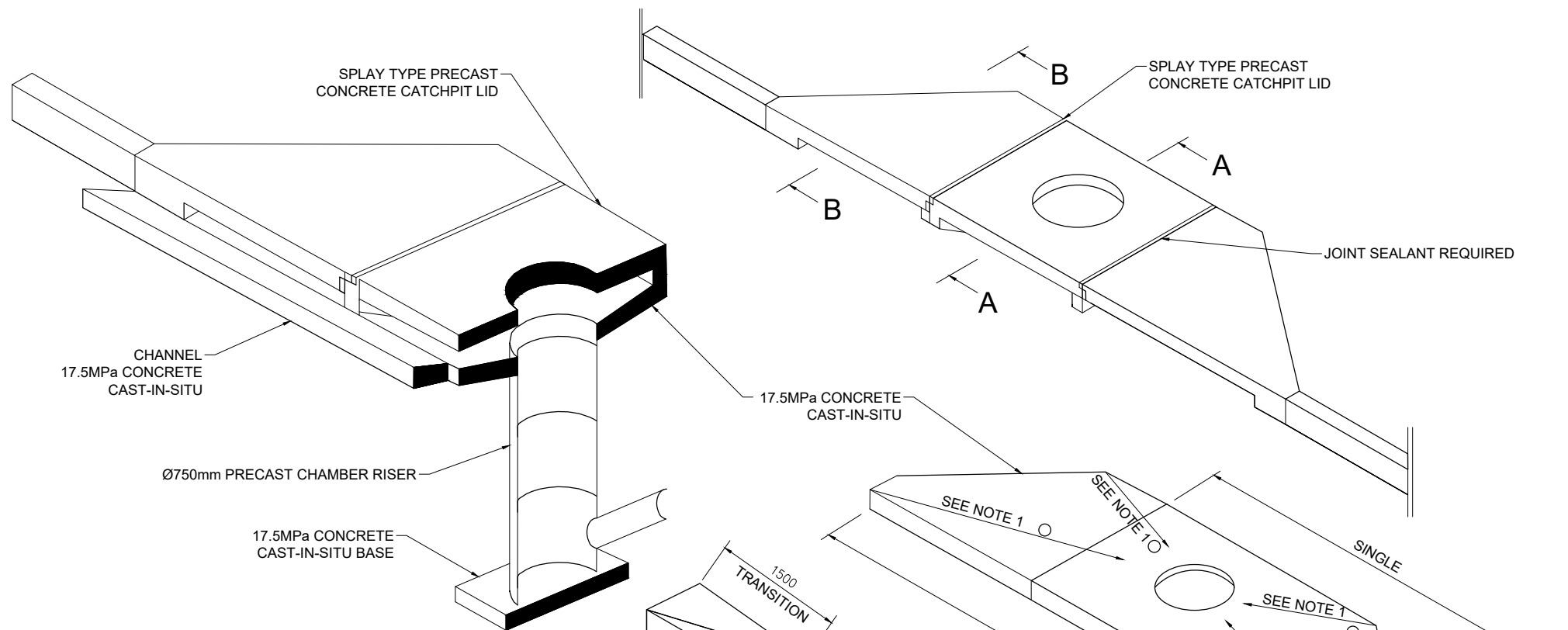
PLAN - CATCHPIT LID SINGLE SPLAY



SECTION A-A

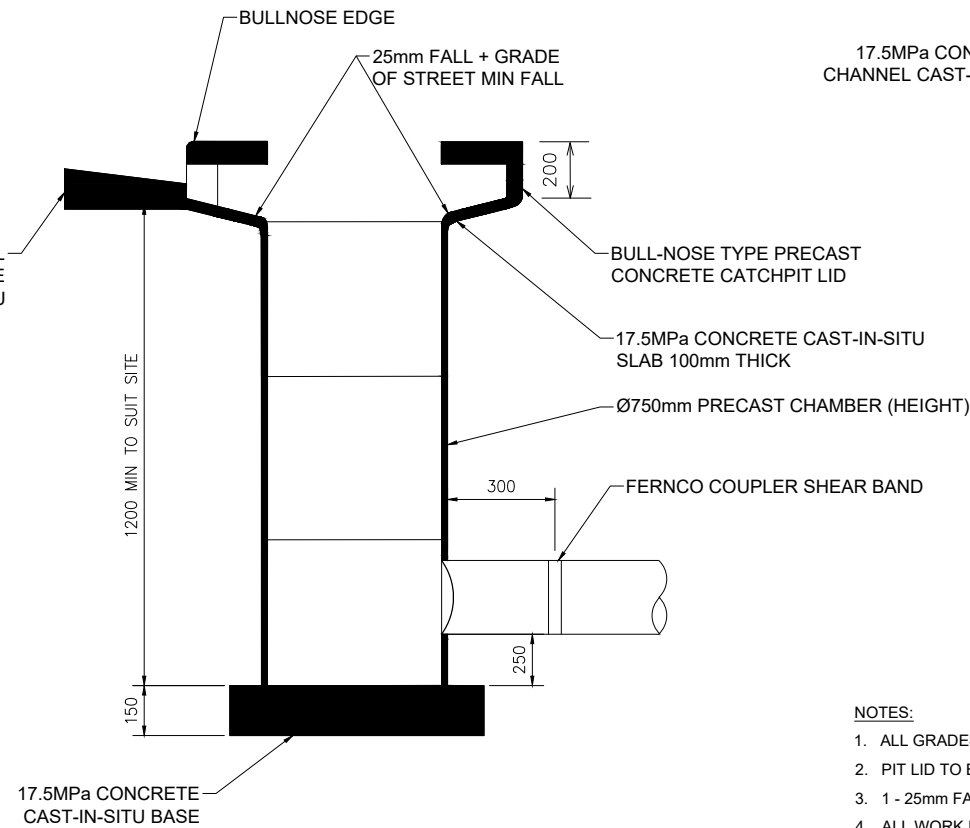


SECTION B-B

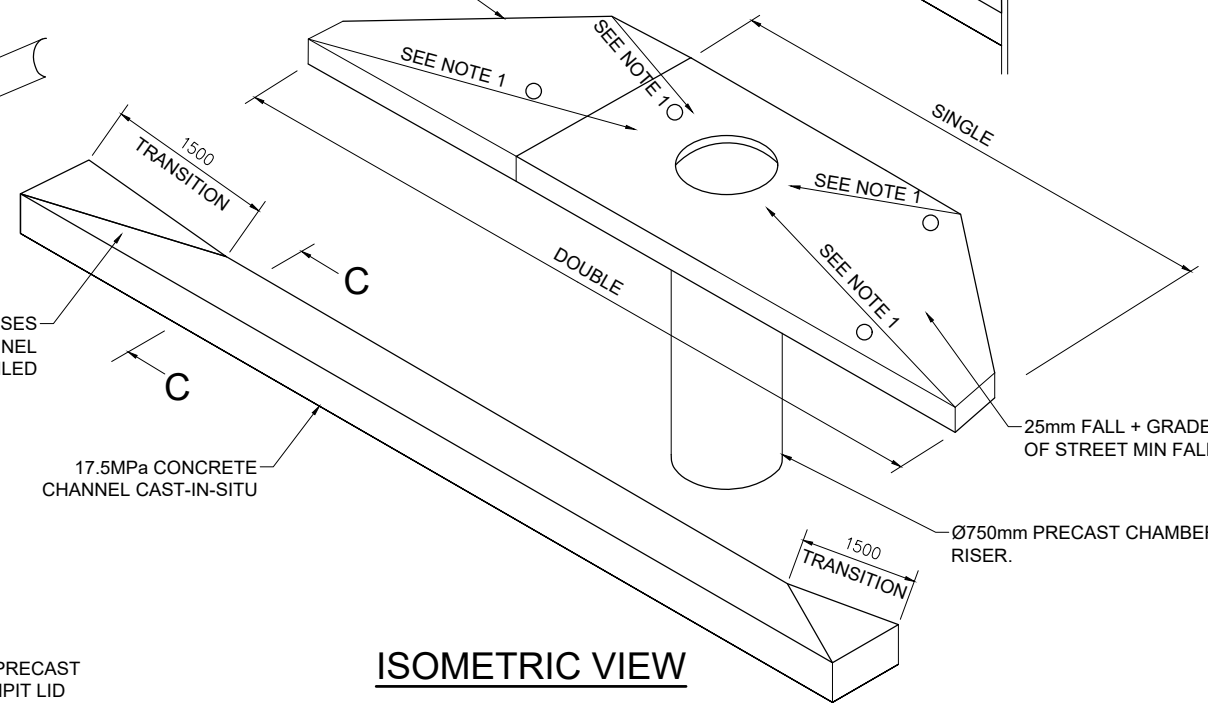


SECTION A-A ISOMETRIC VIEW

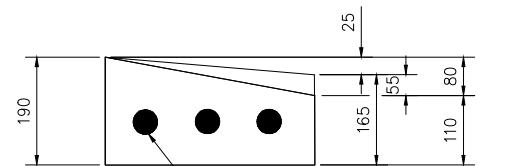
FORM RECESSES AND SHAPE CHANNEL AS DETAILED



SECTION A-A SIDE ELEVATION



ISOMETRIC VIEW



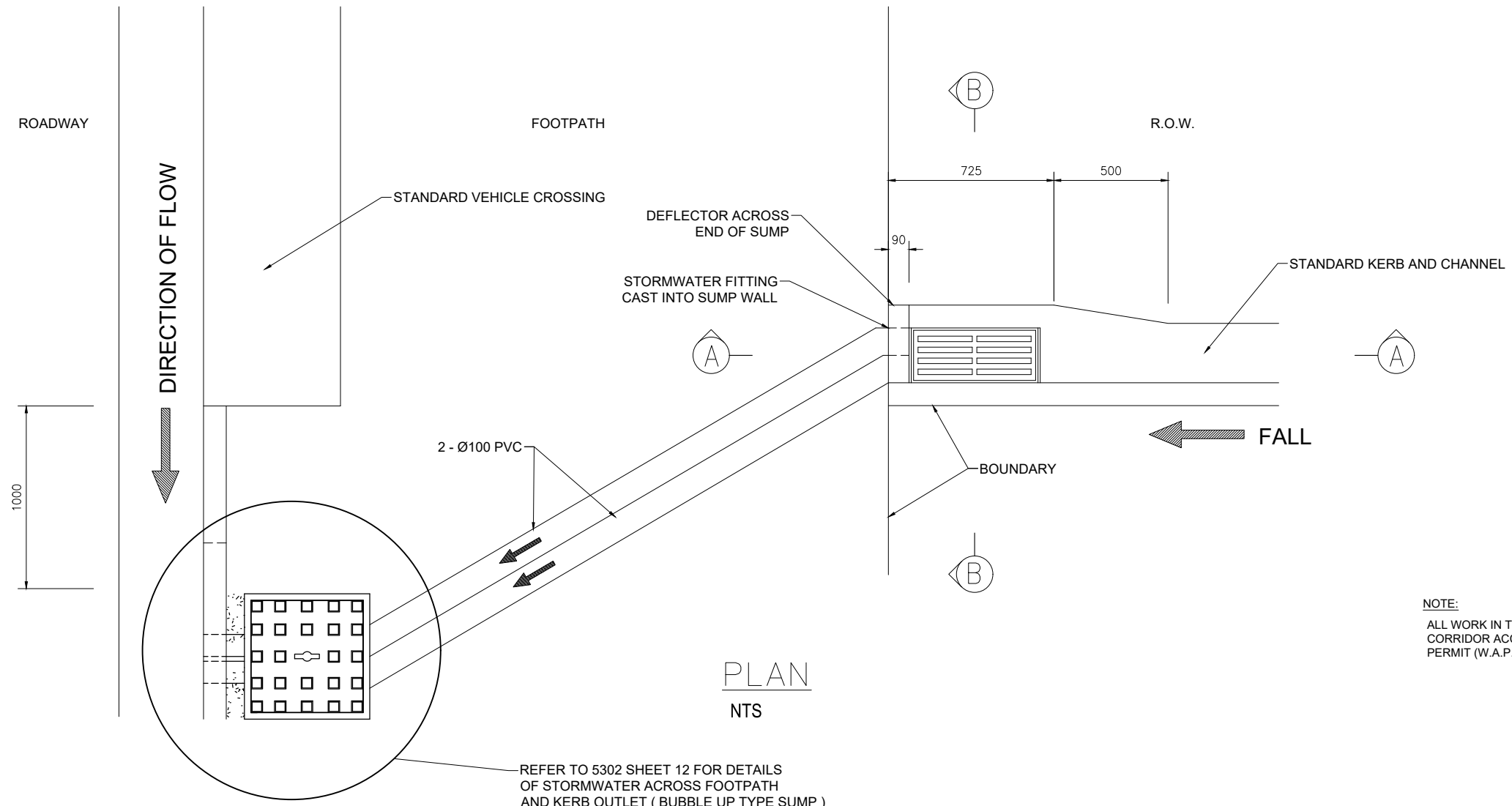
REINFORCE WITH 3 x 12mm BARS LENGTH OF NEW PIT CHANNEL

SECTION C-C

NOTES:

1. ALL GRADES AND FALL INDICATED ARE CRITICAL
2. PIT LID TO BE FLUSH WITH SURROUNDING SURFACES
3. 1 - 25mm FALL + GRADE OF STREET MIN. FALL.
4. ALL WORK IN THE ROAD RESERVE SHALL HAVE AN APPROVED CORRIDOR ACCESS REQUEST (C.A.R.) AND WORKS APPROVAL PERMIT (W.A.P.) PRIOR TO COMMENCEMENT OF WORK.

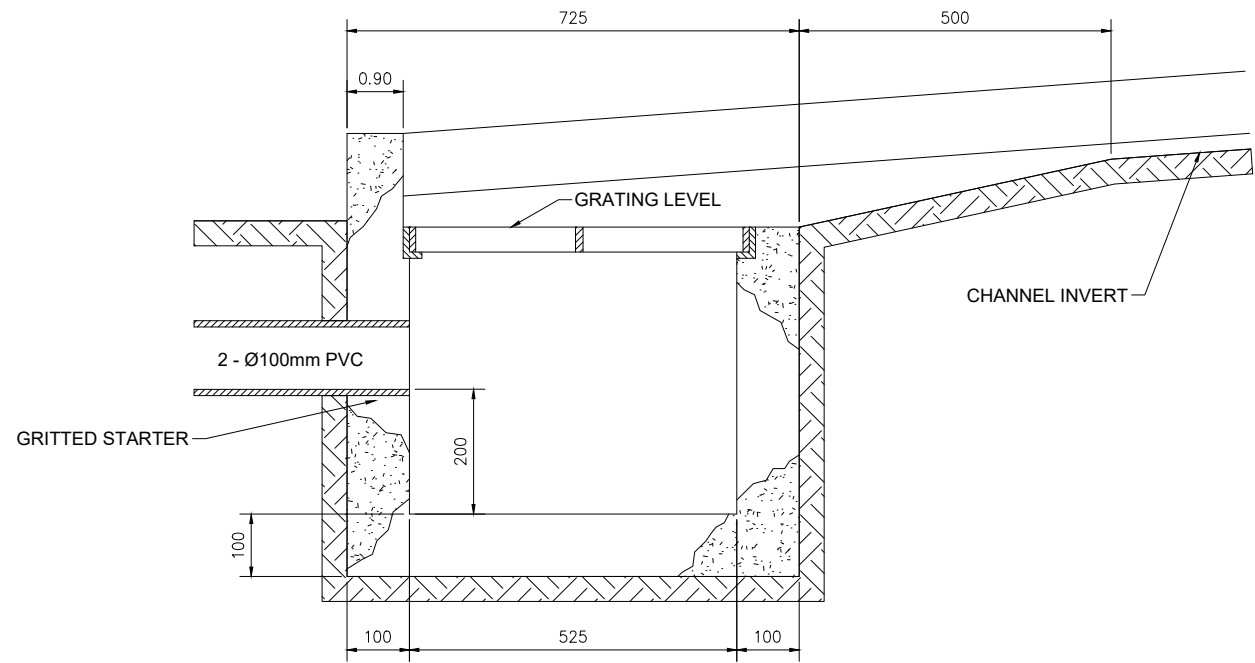
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|--------------|---|---------|------|------|------|----------------------|------|--|---|---|------------------|-----------|
| SURVEY FILE: | | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): | 1:20 | TIMARU DISTRICT COUNCIL 2 King George Place P.O. Box 522 Timaru 7940 Telephone: 03 687 7200 Website: www.timaru.govt.nz | PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS | TITLE: SINGLE & DOUBLE STORMWATER SPLAY PIT | CONTRACT NUMBER: | |
| DATA SOURCE: | | | | | | REDUCED SCALE (A3): | 1:40 | | | | DRAWING NUMBER: | REVISION: |
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | 3/24 | | | | | | | 5302 | J |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | 7/21 | | | | | | | | |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | 1/20 | | | | | | | | |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | 4/19 | | | | | | | | |
| F | CHANGES TO CORBEL DETAIL | WC | | 2/16 | | | | | | | | |
| REVISION | | BY | CHK | APP | DATE | | | | | | | |



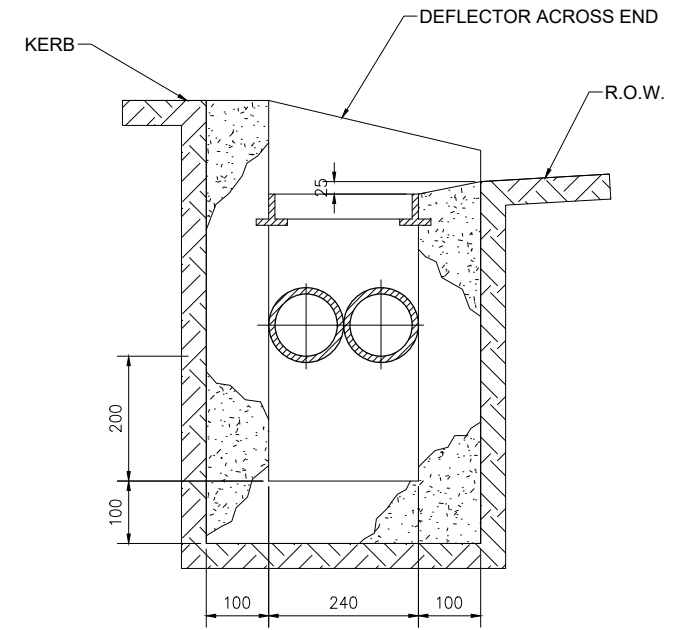
PLAN
NTS

REFER TO 5302 SHEET 12 FOR DETAILS OF STORMWATER ACROSS FOOTPATH AND KERB OUTLET (BUBBLE UP TYPE SUMP)

NOTE:
ALL WORK IN THE ROAD RESERVE SHALL HAVE AN APPROVED CORRIDOR ACCESS REQUEST (C.A.R.) AND WORKS APPROVAL PERMIT (W.A.P.) PRIOR TO COMMENCEMENT OF WORK.



SECTION A-A
Scale 1:10



SECTION B-B
Scale 1:10

| No. | REVISION | BY | CHK | APP | DATE |
|-----|---|-----|-----|-----|------|
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | | 3/24 |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | | 7/21 |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | | 1/20 |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | | 4/19 |
| F | CHANGES TO CORBEL DETAIL | WC | | | 2/16 |

| SURVEY FILE: | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): | 1:20 |
|--------------|----------|------|--------------|------|----------------------|-------|
| DATA SOURCE: | WATER | | SURVEYED | - | REDUCED SCALE (A3): | 1:40 |
| LEVEL DATUM: | DRAINAGE | | DESIGNED | GS | PRODUCED BY: | LTU |
| | ROADWAY | | DESIGN CHECK | GC | FOR: | D & W |
| | PARKS | | DRAWN | WC | | |
| | ELEC.PWR | | DRG CHECK | GC | | |
| | TELECOM | | APPROVED | GH | | |
| | PLANNING | | | | | |

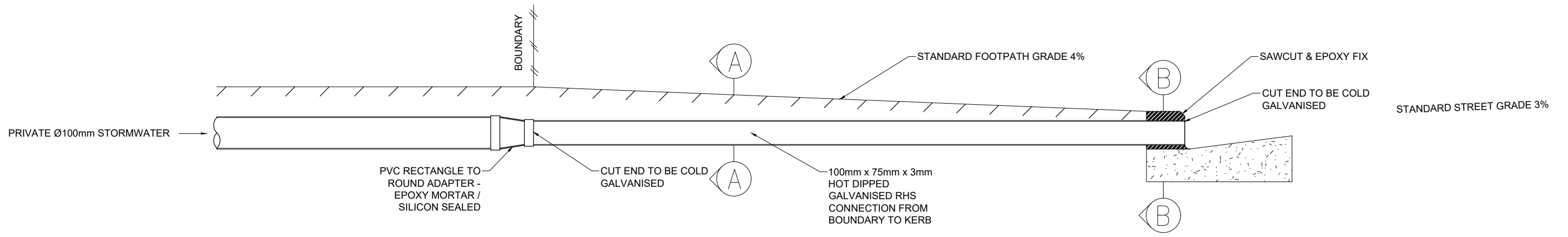
TIMARU DISTRICT COUNCIL
 Te Kaitiaki & Rauke
 Te Teihiri o Maru

TIMARU DISTRICT COUNCIL
 2 King George Place
 P.O. Box 522
 Timaru 7940
 Telephone: 03 687 7200
 Website: www.timaru.govt.nz

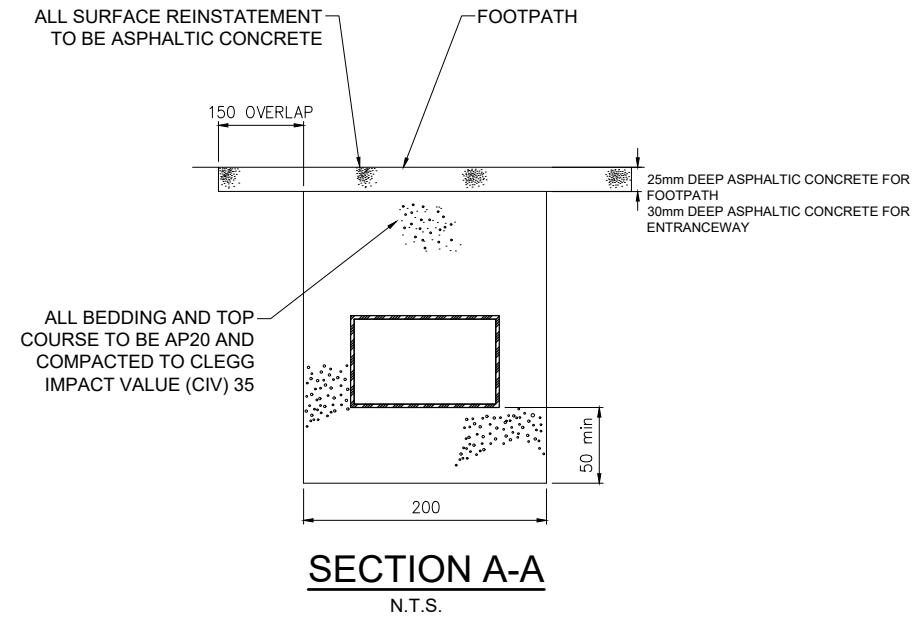
PROJECT: DRAINAGE AND WATER
 CODE OF PRACTICE
 STANDARD DETAILS

TITLE: ACCESS OR RIGHT OF WAY SUMP

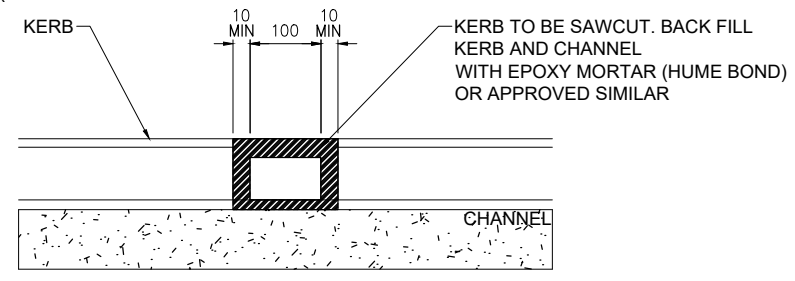
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|------------------|----------|
| CONTRACT NUMBER: | |
| DRAWING NUMBER: | 5302 |
| REVISION: | J |
| SHEET: | 11 OF 13 |



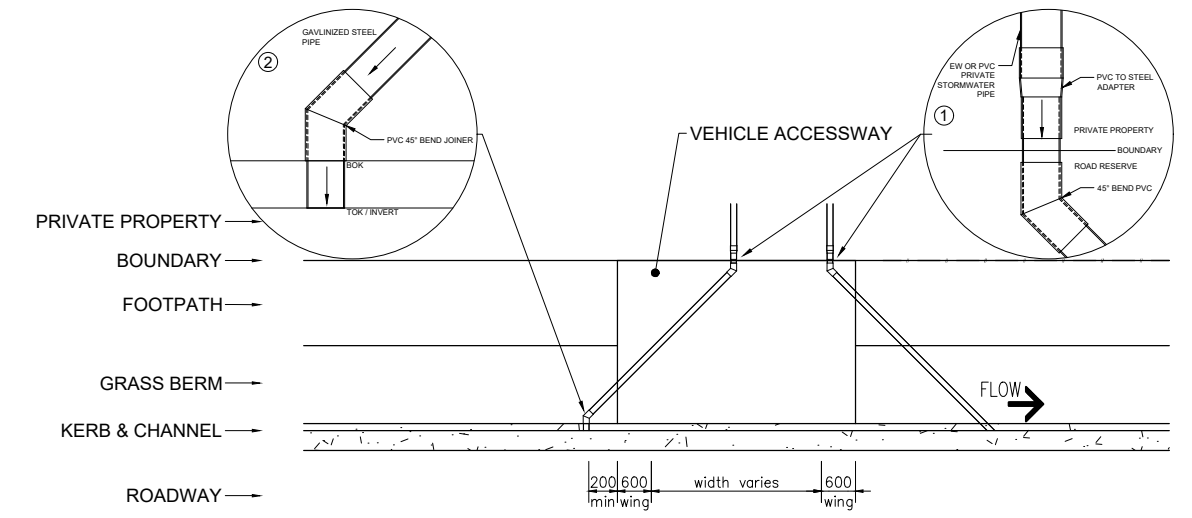
TYPICAL STORMWATER ACROSS FOOTPATH
N.T.S.



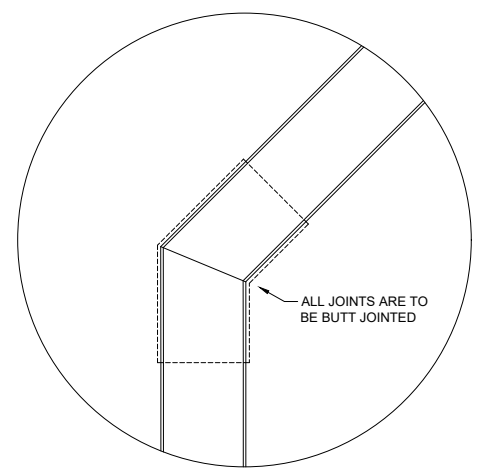
SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



PLAN OF CROSSING DETAIL

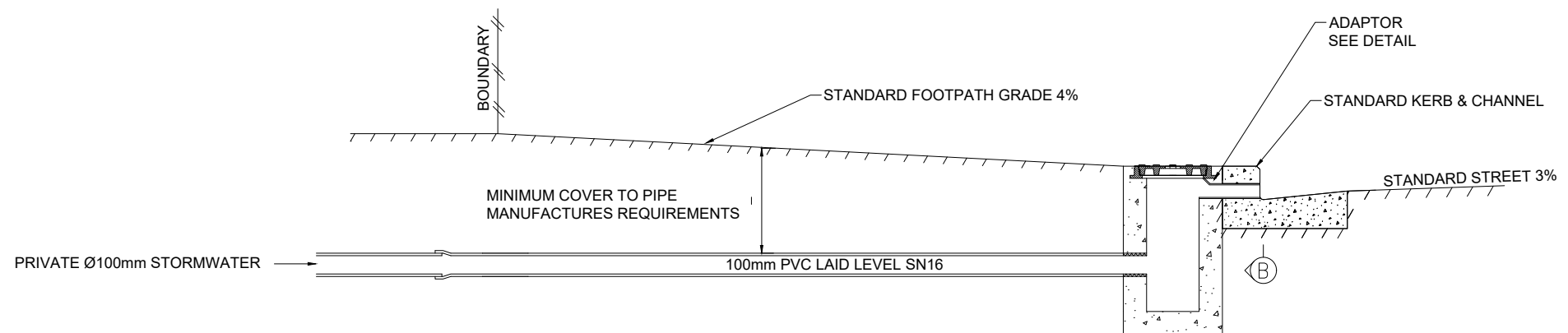


JOINT DETAIL

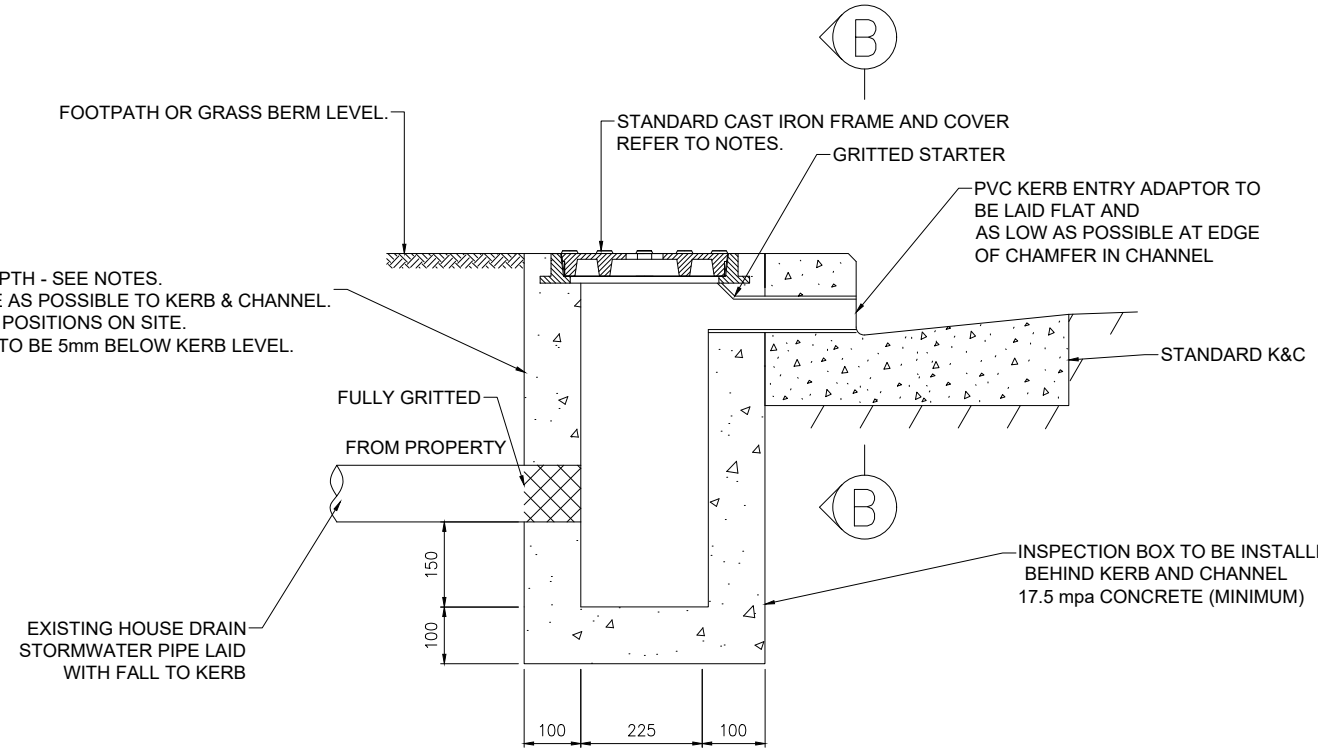
- ① PREFERRED SOLUTION - ONE COMPLETE SECTION OF GALVANISED STEEL PIPE FROM BOUNDARY TO KERB AND CHANNEL.
- ② ACCEPTABLE SOLUTION USING PVC 45° BEND/JOINER IF OPTION 1 IS NOT ACHIEVABLE
- 45° PVC BEND CAN BE USED TO NEGOTIATE OBSTACLES IN THE FOOTPATH.
- IT IS PREFERRED THAT ADAPTER AND CHANGE OF DIRECTIONS ARE COMPLETED OUTSIDE THE FOOTPATH BOUNDARY.
- ALL JOINTS ARE TO BE BUTT JOINTED.
- ALL JOINTS TO BE SEALED USING SILICONE SEALANT

- NOTES:**
- ALL WORK IN THE ROAD RESERVE SHALL HAVE AN APPROVED CORRIDOR ACCESS REQUEST (C.A.R.) AND WORKS APPROVAL PERMIT (W.A.P.) PRIOR TO COMMENCEMENT OF WORK.
 - STORMWATER OUTLETS ARE TO BE PLACED AT LEAST 0.2m FROM THE WING OF VEHICLE CROSSING
 - OPTION 1 IS THE PREFERRED INSTALLATION OPTION

| | | | | | | | | | | | | | |
|--------------|---|---------|------|------|--------------|----------------------|------|---|---|---|------------------|--------------------------------|-----------------------|
| SURVEY FILE: | | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): | 1:20 | TIMARU DISTRICT COUNCIL 2 King George Place P.O. Box 522 Timaru 7940 Telephone: 03 687 7200 Website: www.timaru.govt.nz | PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS | TITLE: PIPED STORMWATER FOOTPATH CROSSING DETAIL OPTION 1 | CONTRACT NUMBER: | DRAWING NUMBER: 5302 | REVISION: J |
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | 3/24 | DESIGNED | GS | 2/16 | | | | | | |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | 7/21 | DESIGNED | GS | 2/16 | THIS DOCUMENT IS THE PROPERTY OF THE TIMARU DISTRICT COUNCIL. IT IS NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF THE TIMARU DISTRICT COUNCIL. | | | | | |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | 1/20 | DESIGN CHECK | GC | 2/16 | | SHEET 12 OF 13 | | | | |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | 4/19 | DRAWN | WC | 2/16 | DO NOT SCALE - IF IN DOUBT ASK | | | | | |
| F | CHANGES TO CORBEL DETAIL | WC | | 2/16 | DRG CHECK | GC | 2/16 | | | | | | |
| REVISION | | BY | CHK | APP | DATE | | | | | | | | |

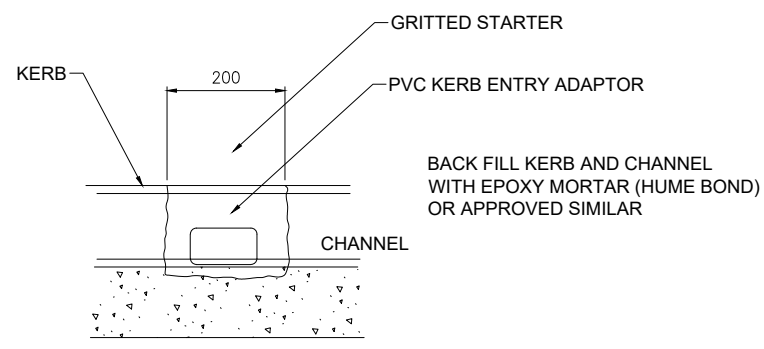


TYPICAL STORMWATER ACROSS FOOTPATH (REQUIRING LOCAL AUTHORITY APPROVAL)
N.T.S.



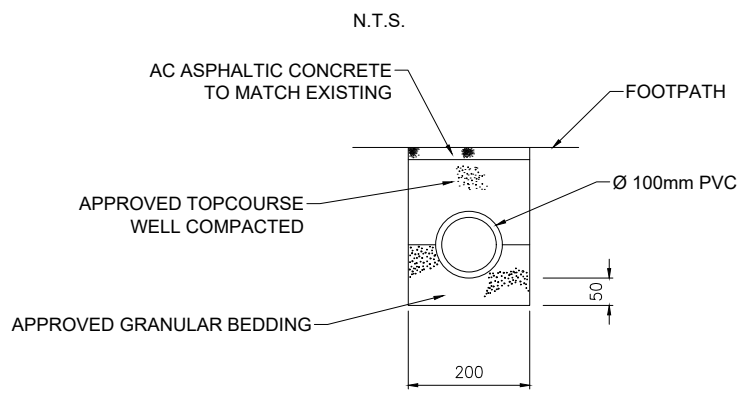
INSPECTION BOX

- SIZE DEPENDING ON DEPTH - SEE NOTES.
- TO BE SITTED AS CLOSE AS POSSIBLE TO KERB & CHANNEL.
- ENGINEER TO CONFIRM POSITIONS ON SITE.
- IN BERM AREAS FRAME TO BE 5mm BELOW KERB LEVEL.

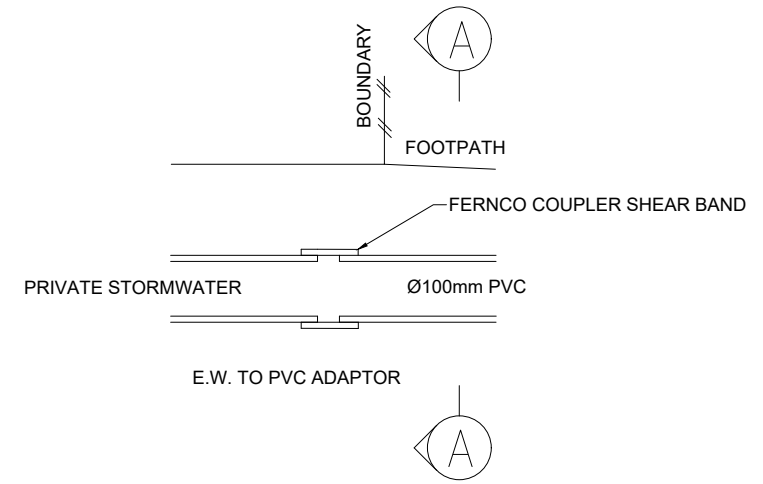


SECTION B-B

DETAILS FOR STORMWATER INSPECTION BOX ACROSS FOOTPATH
N.T.S.



SECTION A-A



NOTES:

- ALL WORK IN THE ROAD RESERVE SHALL HAVE AN APPROVED CORRIDOR ACCESS REQUEST (C.A.R.) AND WORKS APPROVAL PERMIT (W.A.P.) PRIOR TO COMMENCEMENT OF WORK.
- USE 225mm x 175mm INSPECTION BOX UP TO 300 DEPTH TO INVERT (LOWEST PIPE)
- BASED ON CHRISTCHURCH CITY COUNCIL "TRAFFICABLE HOUSE DRAIN SUMP FRAMES AND COVERS" STANDARD DRAWING
- BASED ON CHRISTCHURCH CITY COUNCIL "TRAFFICABLE HOUSE DRAIN INSPECTION BOX" STANDARD DRAWING
- OPTION 2 REQUIRES ENGINEERING APPROVAL

| NO. | REVISION | BY | CHK | APP | DATE |
|-----|---|-----|-----|-----|------|
| J | STORMWATER SOAKAGE PIT UPDATE | WC | GC | | 3/24 |
| I | SUMP/CATCH PIT UPDATE & PAGE 9 REINSTATED | WC | | | 7/21 |
| H | TYPICAL POSITION OF POLE VENT DETAIL AND SHEET 9 SS | MCB | | | 1/20 |
| G | CHANGES TO DETAIL 3B - ENGINEERS APPROVAL ADDED | WC | | | 4/19 |
| F | CHANGES TO CORBEL DETAIL | WC | | | 2/16 |

| SURVEY FILE: | INITIAL | DATE | NAME | DATE | ORIGINAL SCALE (A1): |
|--------------|----------|------|--------------|-------|----------------------|
| DATA SOURCE: | WATER | | SURVEYED | - | 1:20 |
| LEVEL DATUM: | DRAINAGE | | DESIGNED | GS | 1:40 |
| | ROADING | | DESIGN CHECK | GC | 2/16 |
| | PARKS | | PRODUCED BY: | LTU | |
| | ELEC.PWR | | FOR: | D & W | |
| | TELECOM | | DRG CHECK | GC | 2/16 |
| | PLANNING | | APPROVED | GH | 2/16 |

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DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS

PIPED STORMWATER FOOTPATH CROSSING DETAILS OPTION 2

CONTRACT NUMBER: 5302
DRAWING NUMBER: 13 OF 13
REVISION: J