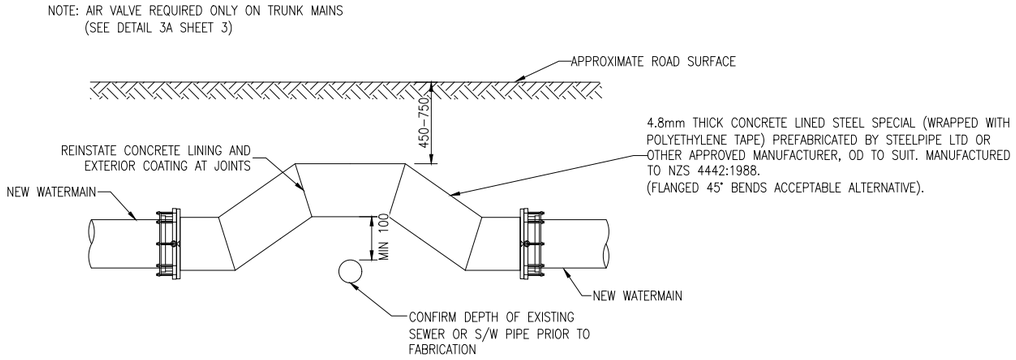
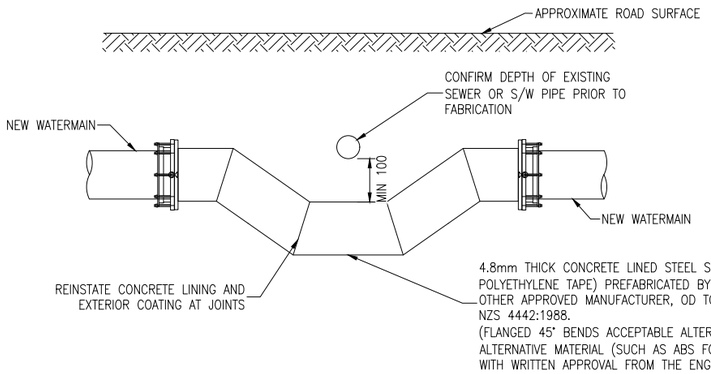
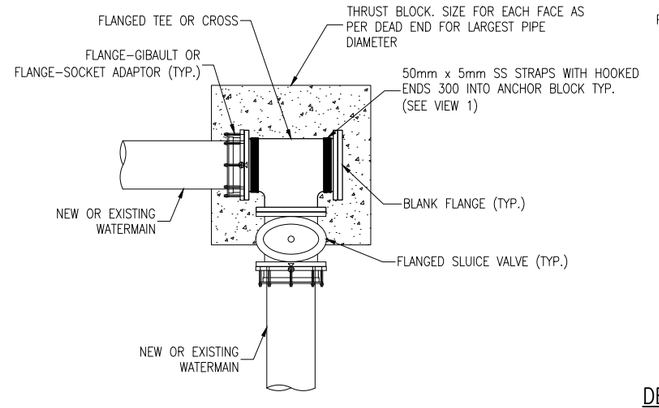


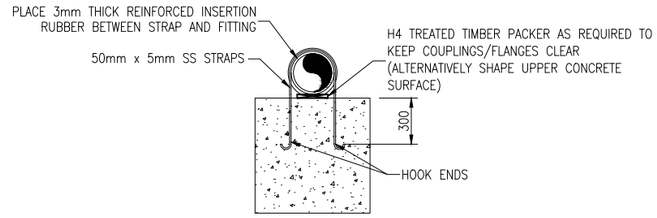
DETAIL 1A
DEVIATION FOR NEW PVC–U WATERMAIN OVER EXISTING SEWER OR STORMWATER FOR DN 150 – DN 300 WHERE COVER IS < 750mm IN ROAD
(ONLY TO BE USED WHEN DIRECTED BY THE ENGINEER.)



DETAIL 1B
DEVIATION FOR NEW PVC–U WATERMAIN UNDER EXISTING SEWER OR STORMWATER FOR > DN 100
(ONLY TO BE USED WHEN DIRECTED BY THE ENGINEER.)

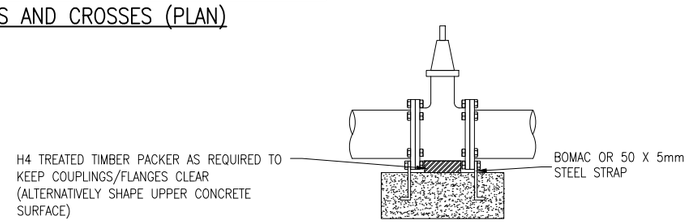


PLAN

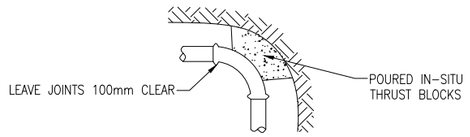


ELEVATION

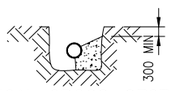
DETAIL 1C
TYPICAL THRUST BLOCK FOR VALVES BOLTED TO TEES AND CROSSES (PLAN)



DETAIL 1F
ALTERNATIVE: BOLTED BOMAC STRAP TO FLANGE
NTS



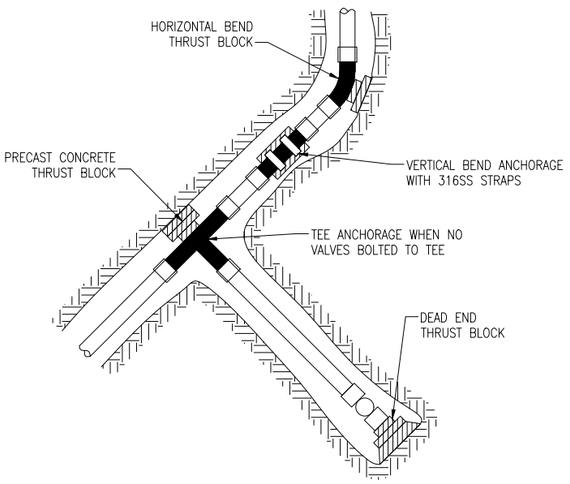
TYPICAL PLAN



TYPICAL CROSS–SECTION

THRUST BLOCK NOTES:

1. EITHER MASS CONCRETE OR PRECAST CONCRETE SLABS MAY BE USED.
2. IF PRECAST SLABS ARE USED THEY SHALL BE WELL BACKFILLED AND COMPACTED AND HAVE EPOXY MORTAR FILLER BETWEEN THE SLAB AND THE FITTING.
3. WHERE SPECIFIC SIZES ARE SHOWN ON THE DRAWINGS THESE TAKE PRECEDENCE.
4. REFER TO TDC DRAINAGE AND WATER SPECIFICATION FOR STANDARD TEST PRESSURE REQUIREMENT WHEN DESIGNING THRUST BLOCKS AND DENSO PROTECTION SYSTEM.



DETAIL 1D
TYPICAL THRUST BLOCKS
(PLAN)

No.	REVISION	BY	CHK.	APP.	DATE
G	CHANGES TO WATER SUPPLY SERVICE CONNECTION DETAIL	S.C			03/22
F	CHANGE TO THRUST BLOCK NOTES & REMOVAL OF DETAIL 1E	S.C			06/21
E	CHANGES TO MANHOLE DETAIL	S.C			12/15
D	THRUST BLOCK DETAIL	L.S			08/15
C	TANK AIR GAP DETAIL	G.G			10/13
B	RURAL TANK DETAIL	G.C			02/13
1	DRAFT ISSUE	BMC			05/11

SURVEY FILE:
DATA SOURCE:
LEVEL DATUM.....

	INITIAL	DATE
WATER		
DRAINAGE		
ROADING		
PARKS		
ELEC.PWR		
TELECOM		
PLANNING		

	NAME	DATE
SURVEYED	-	-
DESIGNED	RRP	04/09
DESIGN CHECK	ANW	04/09
DRAWN	RRP	04/09
DRG CHECK	AD	04/09
APPROVED		

ORIGINAL SCALE (A1): 1:20
REDUCED SCALE (A3): 1:40
PRODUCED BY:
FOR:

TIMARU DISTRICT COUNCIL
Te Kaunihera ā-Rohe o Te Tihi o Maru
TIMARU DISTRICT COUNCIL
2 King George Place
P.O. Box 522
Timaru 7940
Telephone: 03 687 7200
Website: www.timaru.govt.nz

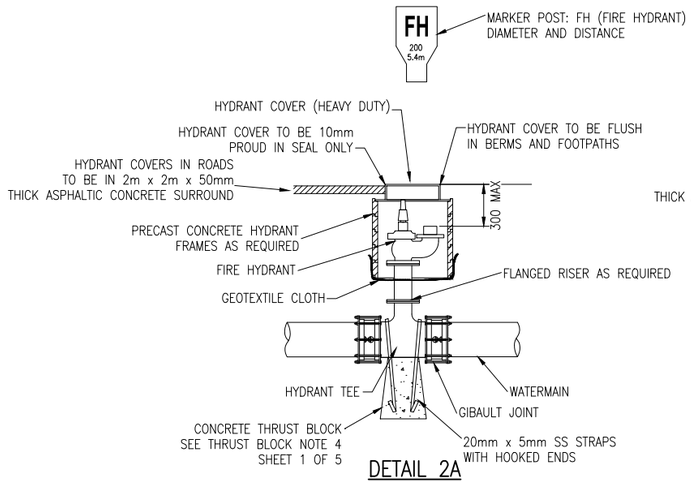
PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS

TITLE: WATER SUPPLY DEVIATIONS, ANCHORAGE, THRUST BLOCKS & JOINT WRAPPING DETAILS

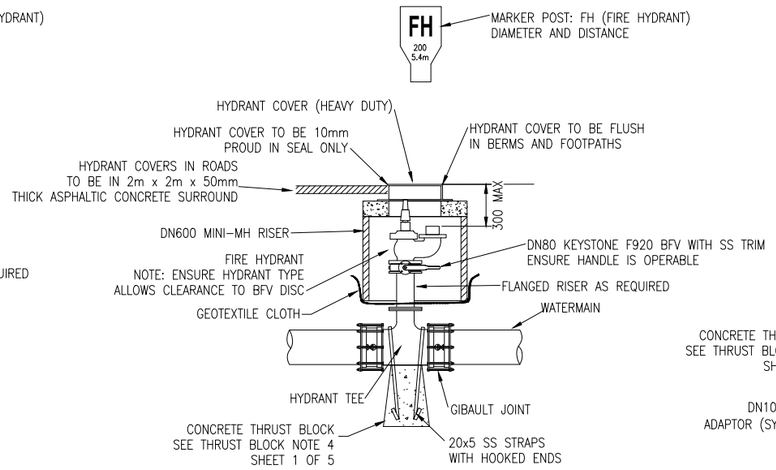
CONTRACT NUMBER:
DRAWING NUMBER: 5304
REVISION: G
SHEET: 1 OF: 5

Original Sheet Size A1 (841 x 594) N:\Standard Plans\02_Drainage and Water Standards\5304 Revision F.dwg

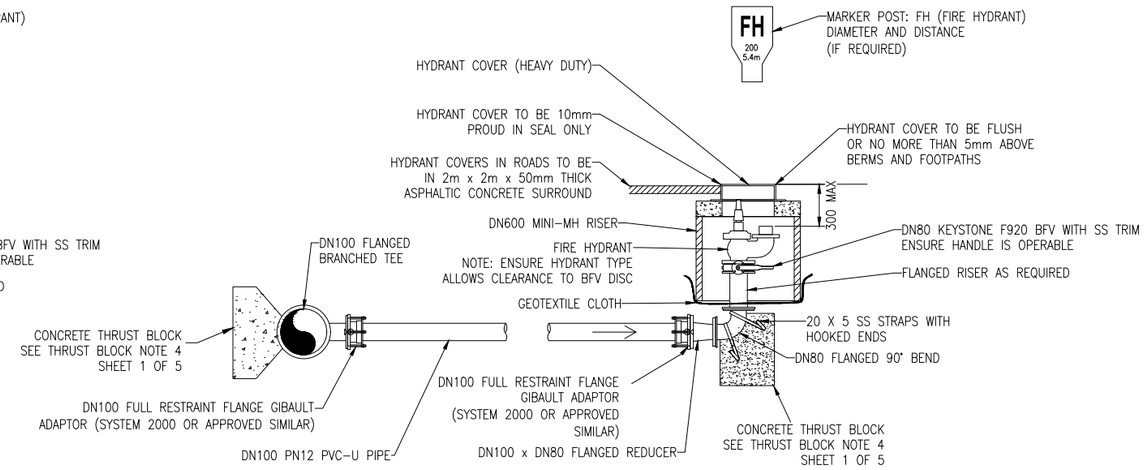
DO NOT SCALE - IF IN DOUBT ASK



DETAIL 2A
FIRE HYDRANT INSTALLATION
(RETICULATION MAIN ≤ DN200)
NTS



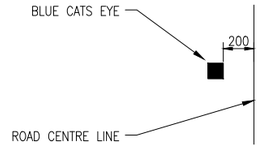
DETAIL 2B
FIRE HYDRANT INSTALLATION
(TRUNK MAIN DN200 – DN375)
NTS

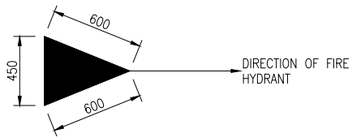


DETAIL 2C
FIRE HYDRANT OFFSET INSTALLATION
NTS

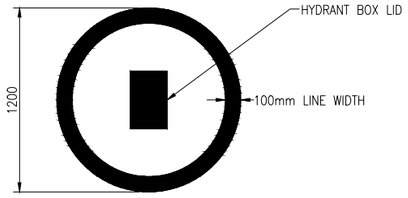
FIRE HYDRANT MARKING NOTES:

1. THE RELEVANT STANDARD FOR FIRE HYDRANT MARKINGS IS NZS 4501:1972.
2. UNDERGROUND FIRE HYDRANTS LOCATED ON OR ADJACENT TO SEALED ROADS MUST BE IDENTIFIED BY:
   - THE LID OF THE FIRE HYDRANT BOX PAINTED WITH YELLOW PAINT; AND
   - AN ISOSCELES TRIANGLE OF SOLID COLOUR AS SHOWN, PAINTED YELLOW, ON OR NEAR THE CENTRE OF THE CARRIAGEWAY, WITH THE APEX POINTING TOWARDS THE UNDERGROUND FIRE HYDRANT; AND
   - A BLUE RAISED REFLECTIVE PAVEMENT MARKER SHALL BE LOCATED CLOSE TO, AND ON THE FIRE HYDRANT SIDE OF, THE CENTRE OF THE ROADWAY AT OR NEAR THE BASE OF ANY YELLOW TRIANGLE MARKED ON THE SURFACE, AND
   - A CIRCLE AS SHOWN, PAINTED YELLOW AS CONCENTRICALLY AS POSSIBLE AROUND THE UNDERGROUND FIRE HYDRANT, WHERE, IN THE OPINION OF TIMARU DISTRICT COUNCIL, ACCESS TO THE FIRE HYDRANT MAY BE OBSTRUCTED BY PARKED VEHICLES.
3. UNDERGROUND FIRE HYDRANTS LOCATED ON OR ADJACENT TO UNSEALED ROADS MUST BE IDENTIFIED BY:
   - THE LID OF THE FIRE HYDRANT BOX PAINTED WITH YELLOW PAINT
   - A MARKER POST IN ACCORDANCE WITH NOTE 4.
4. WHERE THE FIRE HYDRANT LOCATION MAY BE DIFFICULT TO IDENTIFY, OR WHERE IT MAY BE OBSCURED BY SNOW OR VEGETATION, A MARKER POST SHALL BE USED. THE CONTRACTOR IS TO CONFIRM WITH THE ENGINEER WHETHER MARKER POSTS ARE REQUIRED FOR EACH INDIVIDUAL HYDRANT.





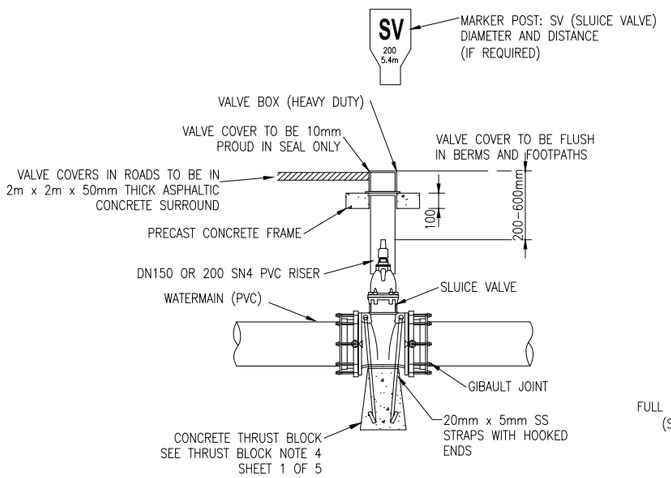
DETAIL 2D
TRIANGLE AND CATS EYE MARKING FOR FIRE HYDRANTS
NTS



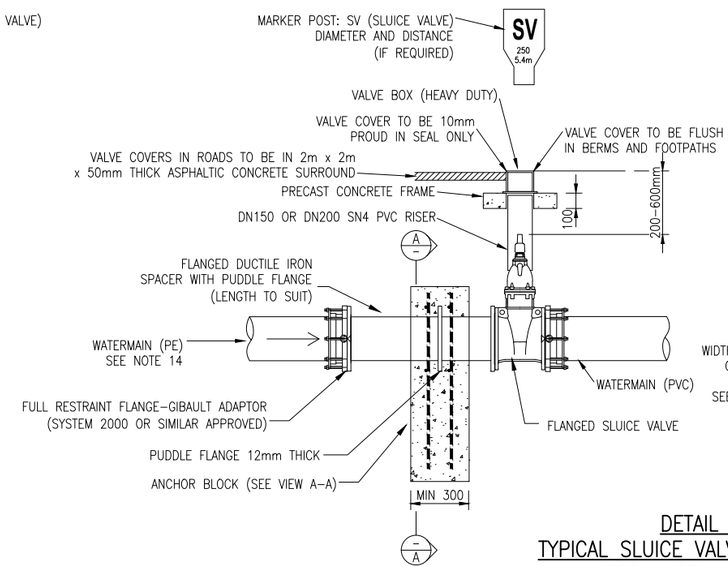
DETAIL 2E
CIRCLE MARKING FOR FIRE HYDRANTS
NTS

GENERAL NOTES:

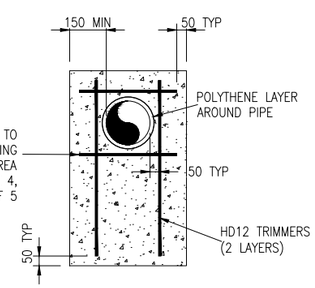
1. ALL GIBAULTS, SLUICE VALVES, FIRE HYDRANTS AND DUCTILE IRON FITTINGS TO BE SUPPLIED WITH FACTORY APPLIED THERMALLY BONDED PROTECTIVE COATING TO AS/NZS 4158, RILSAN NYLON II OR SIMILAR APPROVED BY ENGINEER, UNLESS OTHERWISE SPECIFIED.
2. JOINT WRAPPING IS REQUIRED ON ALL JOINTS.
3. GEOTEXTILE CLOTH TO BE BIDIM A19 OR SIMILAR APPROVED. MINIMUM OVERLAP 300mm. TEXTILE TO EXTEND 300mm UP SIDES OF CHAMBERS UNLESS OTHERWISE SPECIFIED.
4. FLANGED RISERS AND HYDRANT TEES TO BE DUCTILE IRON (MIN 16 BAR) TO AS/NZS 2280 OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED.
5. ALL SLUICE VALVES ARE TO BE RESILIENT SEATED (MIN 16 BAR) TO NZS/AS 2638.2 OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED. DN50 SLUICE VALVES HAVE TYPICALLY BEEN SPECIFIED FOR CONNECTIONS TO RIDER MAINS.
6. AIR VALVES TO BE DUAL PURPOSE BERMAD/ARI OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED.
7. FIRE HYDRANTS TO BE TALL PATTERN TO NZS/BS 750 UNLESS OTHERWISE SPECIFIED.
8. PRECAST CONCRETE HYDRANT RISERS AS SUPPLIED BY HUMES OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED.
9. HYDRANT, AIR VALVE AND SLUICE VALVE COVERS ARE HEAVY DUTY OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED.
10. MARKER POSTS ARE REQUIRED OUTSIDE TOWN LIMITS WHERE THE LOCATION MAY BE DIFFICULT TO IDENTIFY, OR WHERE IT MAY BE OBSCURED BY SNOW OR VEGETATION. CONTRACTOR TO CONFIRM WITH ENGINEER WHERE MARKER POSTS ARE REQUIRED.
11. AN ACCEPTABLE ALTERNATIVE FOR A HYDRANT TEE IS A NORTITE TEE (COMPATIBLE WITH SERIES 1 PVC) WITH FLANGED BRANCH.
12. TRAFFICABLE BOXES SHALL HAVE AN OPENING OF 225mm x 175mm.
13. ALL VALVE BOX COVERS TO BE ORIENTED SO THE LONGEST SIDE IS PARALLEL TO THE LINE OF THE WATERMAIN THE VALVE IS ATTACHED TO.
14. PE WATERMAINS, AT SV, HYDRANTS ETC. THE PE PIPELINE REQUIRES ANCHORING. SEE DETAIL 2G FOR TYPICAL DETAIL.



DETAIL 2F
TYPICAL SLUICE VALVE INSTALLATION
NTS



DETAIL 2G
TYPICAL SLUICE VALVE INSTALLATION
FOR A PE WATERMAIN
NTS



CROSS SECTION A-A

No.	REVISION	BY	CHK	APP.	DATE
G	CHANGES TO WATER SUPPLY SERVICE CONNECTION DETAIL	S.C			03/22
F	CHANGE TO THRUST BLOCK NOTES & REMOVAL OF DETAIL 1E	S.C			06/21
E	CHANGES TO MANHOLE DETAIL	S.C			12/15
D	THRUST BLOCK DETAIL	L.S			08/15
C	TANK AIR GAP DETAIL	G.C			10/13
B	RURAL TANK DETAIL	G.C			02/13
1	DRAFT ISSUE	BMC			05/11

SURVEY FILE:
DATA SOURCE:
LEVEL DATUM.....

	INITIAL	DATE
WATER		
DRAINAGE		
ROADING		
PARKS		
ELEC.PWR		
TELECOM		
PLANNING		

	NAME	DATE
SURVEYED	-	-
DESIGNED	RRP	04/09
DESIGN CHECK	ANW	04/09
DRAWN	RRP	04/09
DRG CHECK	AD	04/09
APPROVED		

ORIGINAL SCALE (A1): AS SHOWN
REDUCED SCALE (A3):
PRODUCED BY:
FOR:

TIMARU DISTRICT COUNCIL
Te Kaunihera a-Rohe o Te Tihi o Maru
TIMARU DISTRICT COUNCIL
2 King George Place
P.O. Box 522
Timaru 7940
Telephone: 03 687 7200
Website: www.timaru.govt.nz

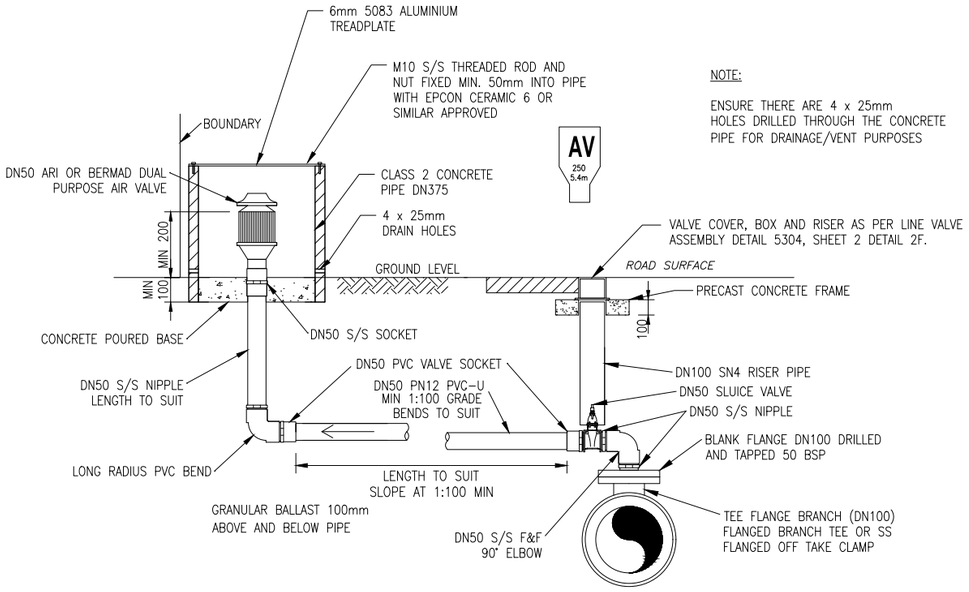
PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS

TITLE: WATER SUPPLY HYDRANT & LINE VALVE INSTALLATION DETAILS

CONTRACT NUMBER:
DRAWING NUMBER: 5304
REVISION: G
SHEET: 2 OF: 5

Original Sheet Size A1 (841 x 594) N:\Standard Plans\02_Drainage and Water Standards\5304 Revision F.dwg

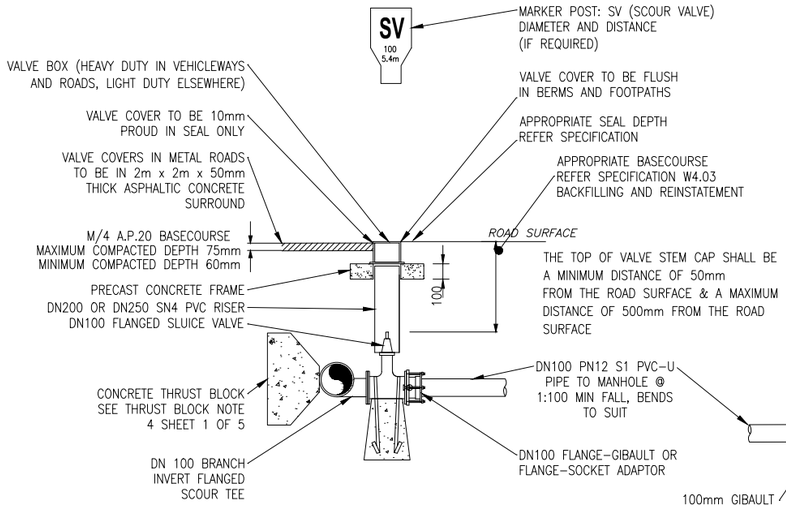
DO NOT SCALE - IF IN DOUBT ASK



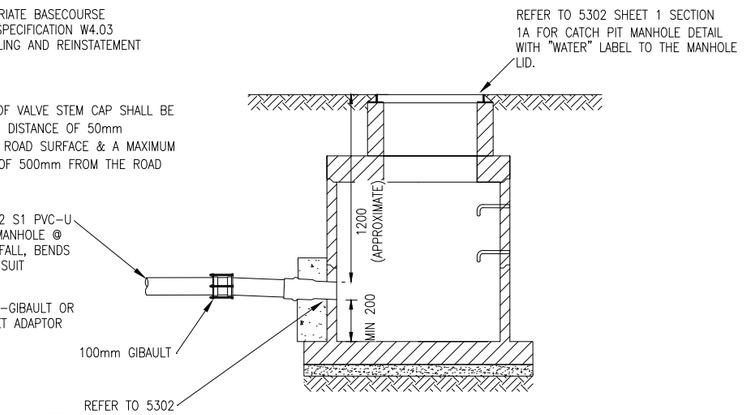
NOTE:

ENSURE THERE ARE 4 x 25mm HOLES DRILLED THROUGH THE CONCRETE PIPE FOR DRAINAGE/VENT PURPOSES

DETAIL 3A
TYPICAL OFFSET AIR VALVE INSTALLATION
(RETICULATION MAIN DN100 – DN200)
SCALE 1:10



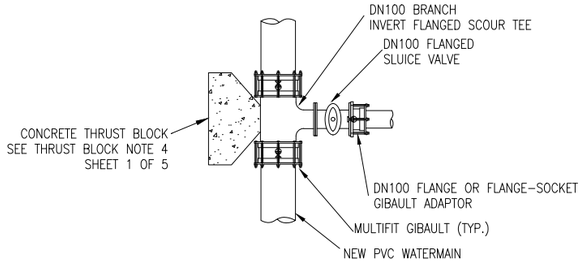
SCOUR VALVE ASSEMBLY
(IN ROAD CARRIAGEWAY)
SCALE 1:20

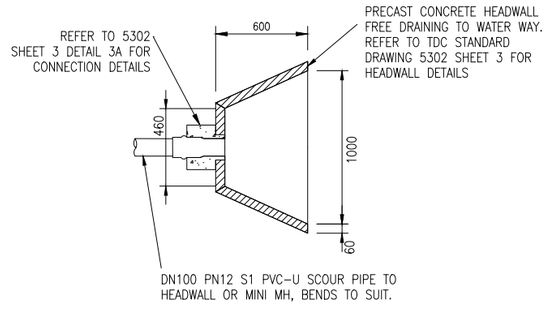


ELEVATION (PUMP-OUT CHAMBER)
SCALE 1:20

GENERAL NOTES:

1. ALL GIBAULTS, SLUICE VALVES, FIRE HYDRANTS AND DUCTILE IRON FITTINGS TO BE SUPPLIED WITH FACTORY APPLIED THERMALLY BONDED PROTECTIVE COATING TO AS/NZS 4158, RILSAN NYLON II OR SIMILAR APPROVED BY ENGINEER, UNLESS OTHERWISE SPECIFIED.
2. JOINT WRAPPING IS REQUIRED ON ALL JOINTS.
3. GEOTEXTILE CLOTH TO BE BIDIM A19 OR SIMILAR APPROVED. MINIMUM OVERLAP 300mm. TEXTILE TO EXTEND 300mm UP SIDES OF CHAMBERS UNLESS OTHERWISE SPECIFIED.
4. FLANGED RISERS AND HYDRANT TEES TO BE DUCTILE IRON (MIN 16 BAR) TO AS/NZS 2280 OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED.
5. ALL SLUICE VALVES ARE TO BE RESILIENT SEAL (MIN 16 BAR) TO NZS/AS 2638.2 OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED. DN50 SLUICE VALVES HAVE TYPICALLY BEEN SPECIFIED FOR CONNECTIONS TO RIDER MAINS.
6. AIR VALVES TO BE DUAL PURPOSE BERMAD/ARI OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED.
7. FIRE HYDRANTS TO BE TALL PATTERN TO NZS/BS 750 UNLESS OTHERWISE SPECIFIED.
8. PRECAST CONCRETE HYDRANT RISERS AS SUPPLIED BY HUMES OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED.
9. HYDRANT, AIR VALVE AND LINE VALVE COVERS ARE HEAVY DUTY OR SIMILAR APPROVED UNLESS OTHERWISE SPECIFIED.
10. MARKER POSTS ARE REQUIRED OUTSIDE TOWN LIMITS WHERE THE LOCATION MAY BE DIFFICULT TO IDENTIFY, OR WHERE IT MAY BE OBSCURED BY SNOW OR VEGETATION. CONTRACTOR TO CONFIRM WITH ENGINEER WHERE MARKER POSTS ARE REQUIRED.
11. AN ACCEPTABLE ALTERNATIVE FOR A HYDRANT TEE IS A NORTITE TEE (COMPATIBLE WITH SERIES 1 PVC) WITH FLANGED BRANCH.
12. TRAFFICABLE BOXES SHALL HAVE AN OPENING OF 225mm x 175mm.
13. ALL VALVE BOX COVERS TO BE ORIENTED SO THE LONGEST SIDE IS PARALLEL TO THE LINE OF THE WATERMAIN THE VALVE IS ATTACHED TO.





PLAN (HEADWALL)

DETAIL 3B TYPICAL SCOUR VALVE DETAILS
SCALE 1:20

No.	REVISION	BY	CHK.	APP.	DATE
G	CHANGES TO WATER SUPPLY SERVICE CONNECTION DETAIL	S.C			03/22
F	CHANGE TO THRUST BLOCK NOTES & REMOVAL OF DETAIL 1E	S.C			06/21
E	CHANGES TO MANHOLE DETAIL	S.C			12/15
D	THRUST BLOCK DETAIL	L.S			08/15
C	TANK AIR GAP DETAIL	G.C			10/13
B	RURAL TANK DETAIL	G.C			02/13
1	DRAFT ISSUE	BMC			05/11

SURVEY FILE:
DATA SOURCE:
LEVEL DATUM.....

	INITIAL	DATE
WATER		
DRAINAGE		
ROADING		
PARKS		
ELEC.PWR		
TELECOM		
PLANNING		

	NAME	DATE
SURVEYED	-	-
DESIGNED	RRP	04/09
DESIGN CHECK	ANW	04/09
DRAWN	RRP	04/09
DRG CHECK	AD	04/09
APPROVED		

ORIGINAL SCALE (A1): AS SHOWN
REDUCED SCALE (A3):
PRODUCED BY:
FOR:

TIMARU DISTRICT COUNCIL
Te Kaunihera ā-Rohe o Te Tihi 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: WATER SUPPLY SCOUR & AIR VALVE INSTALLATION DETAILS

CONTRACT NUMBER:

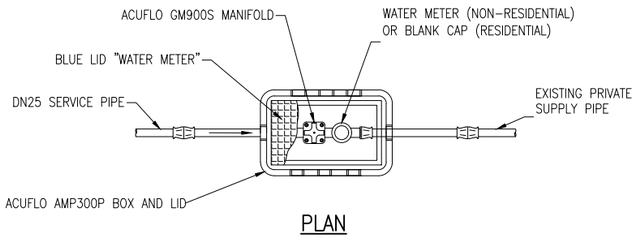
DRAWING NUMBER: 5304

REVISION: G

SHEET: 3 OF: 5

Original Sheet Size A1 (841 x 594) N:\Standard Plans\02_Drainage and Water Standards\5304 Revision F.dwg

DO NOT SCALE - IF IN DOUBT ASK



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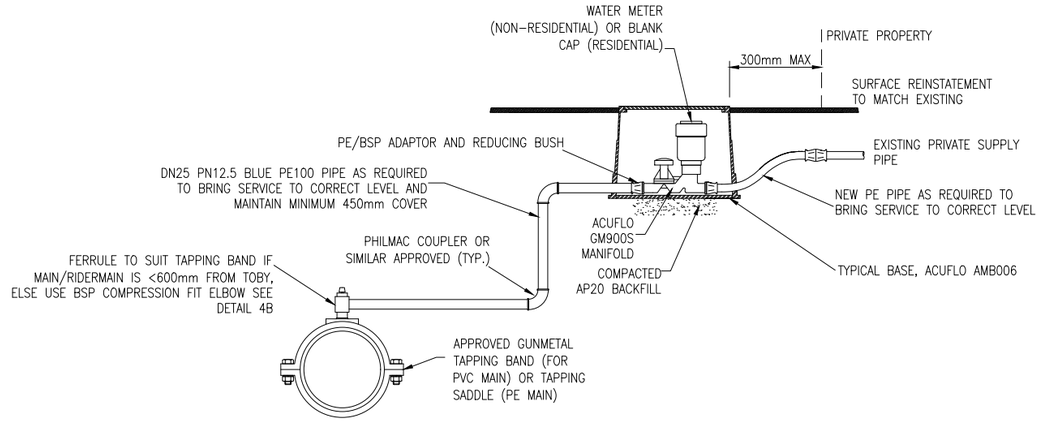
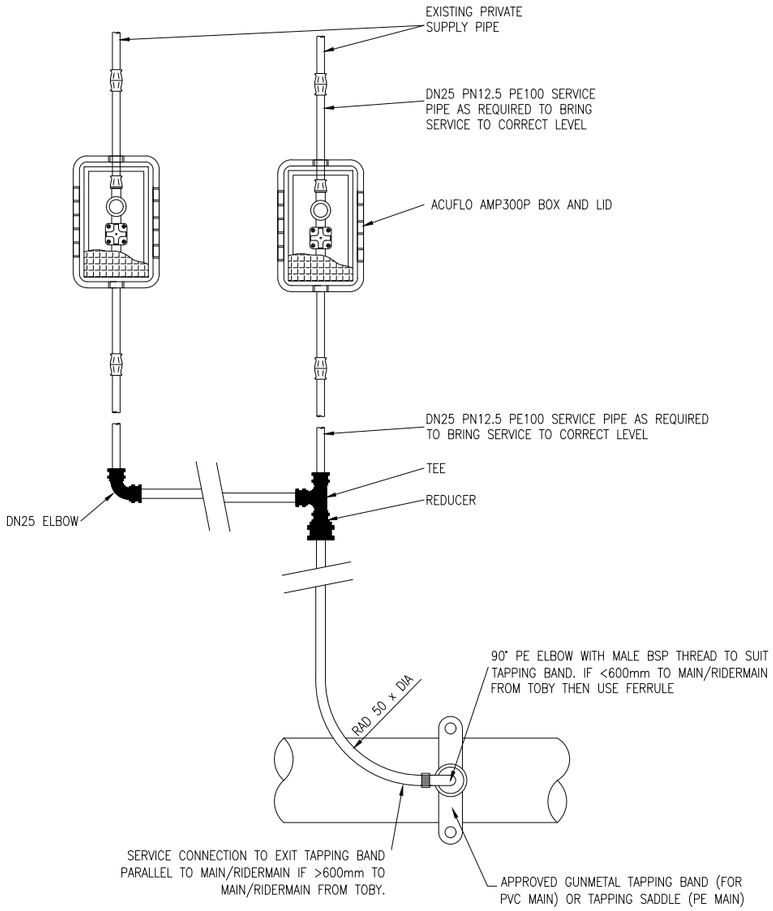


SIDE ELEVATION

DETAIL 4A
TYPICAL SERVICE INSTALLATION
N.T.S.

GENERAL NOTES:

1. USE 90° PE ELBOWS (PHILMAC OR SIMILAR APPROVED) AS REQUIRED TO BRING SERVICE TO CORRECT LEVEL AND MAINTAIN MINIMUM 450mm COVER UNDER FOOTPATHS.
2. TOBYS ARE TO BE INSTALLED OUTSIDE PRIVATE PROPERTY, BUT WITHIN 300mm OF THE PROPERTY BOUNDARY.
3. WHERE A METER IS REQUIRED, CONTRACTOR TO CONFIRM SIZE OF CONNECTION AND CONFIRM SIZE OF METER WITH ENGINEER.
4. DETAILS SHOWN ARE ACCEPTABLE SOLUTIONS. FUNCTIONALLY EQUIVALENT SOLUTIONS MAY BE PERMITTED SUBJECT TO ENGINEER'S WRITTEN APPROVAL.



NOTE:
SERVICE CONNECTION TO EXIT TAPPING BAND PERPENDICULAR TO MAIN/RIDERMAIN IF <600mm TO MAIN/RIDERMAIN FROM TOBY.

PLAN

DETAIL 4B
TYPICAL DUAL SERVICE INSTALLATION
N.T.S.

No.	REVISION	BY	CHK	APP.	DATE
G	CHANGES TO WATER SUPPLY SERVICE CONNECTION DETAIL	S.C			03/22
F	CHANGE TO THRUST BLOCK NOTES & REMOVAL OF DETAIL 1E	S.C			06/21
E	CHANGES TO MANHOLE DETAIL	S.C			12/15
D	THRUST BLOCK DETAIL	L.S			08/15
C	TANK AIR GAP DETAIL	G.C			10/13
B	RURAL TANK DETAIL	G.C			02/13
1	DRAFT ISSUE	BMC			05/11

SURVEY FILE:
DATA SOURCE:
LEVEL DATUM.....

	INITIAL	DATE
WATER		
DRAINAGE		
ROADING		
PARKS		
ELEC.PWR		
TELECOM		
PLANNING		

	NAME	DATE
SURVEYED	-	-
DESIGNED	RRP	04/09
DESIGN CHECK	ANW	04/09
DRAWN	RRP	04/09
DRG CHECK	AD	04/09
APPROVED		

ORIGINAL SCALE (A1): AS SHOWN
REDUCED SCALE (A3):
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FOR:

TIMARU DISTRICT COUNCIL
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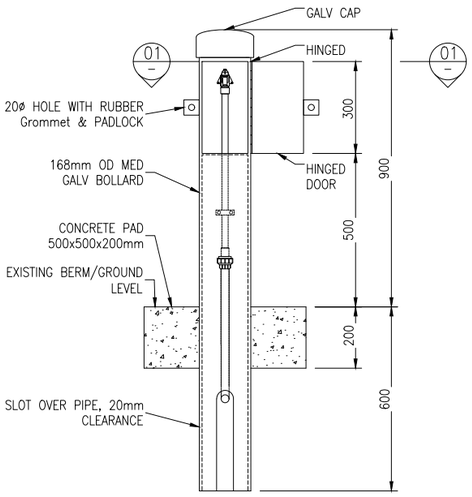
Website: www.timaru.govt.nz

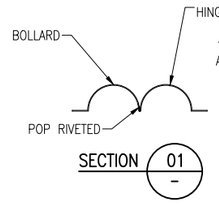
PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS

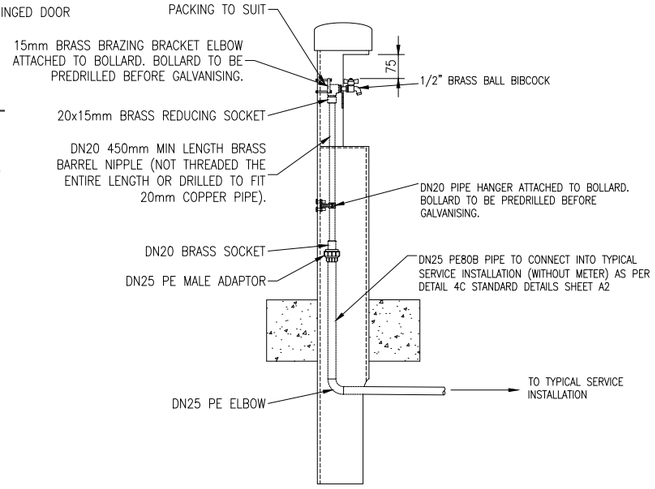
TITLE: WATER SUPPLY SERVICE CONNECTION DETAILS

CONTRACT NUMBER:
DRAWING NUMBER: 5304
REVISION: G
SHEET: 4 OF: 5



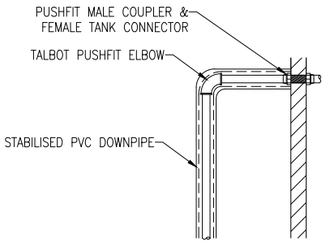
FRONT VIEW



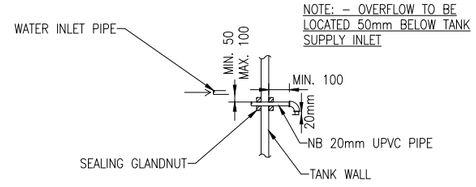


SIDE VIEW

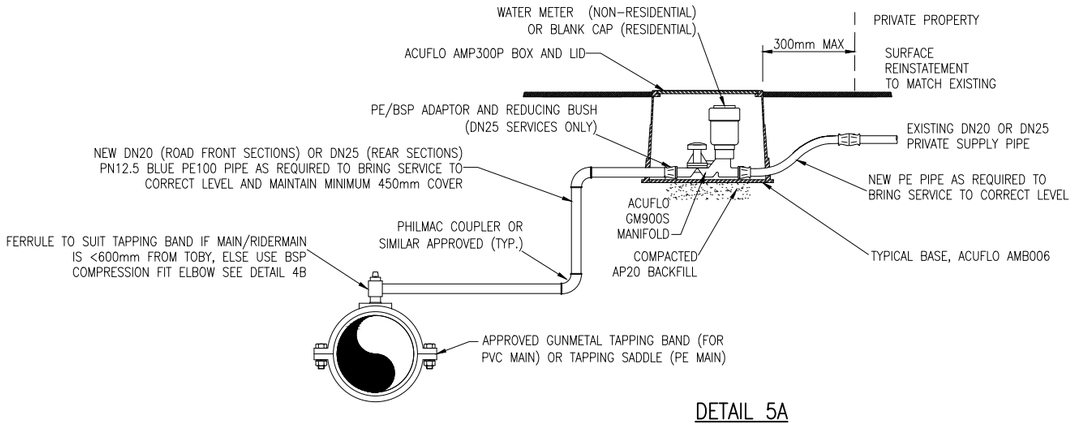
DETAIL 5B
TYPICAL RETICULATION SAMPLE TAP
SCALE 1:10



DETAIL 5E
TANK WALL DETAIL
SCALE 1:10



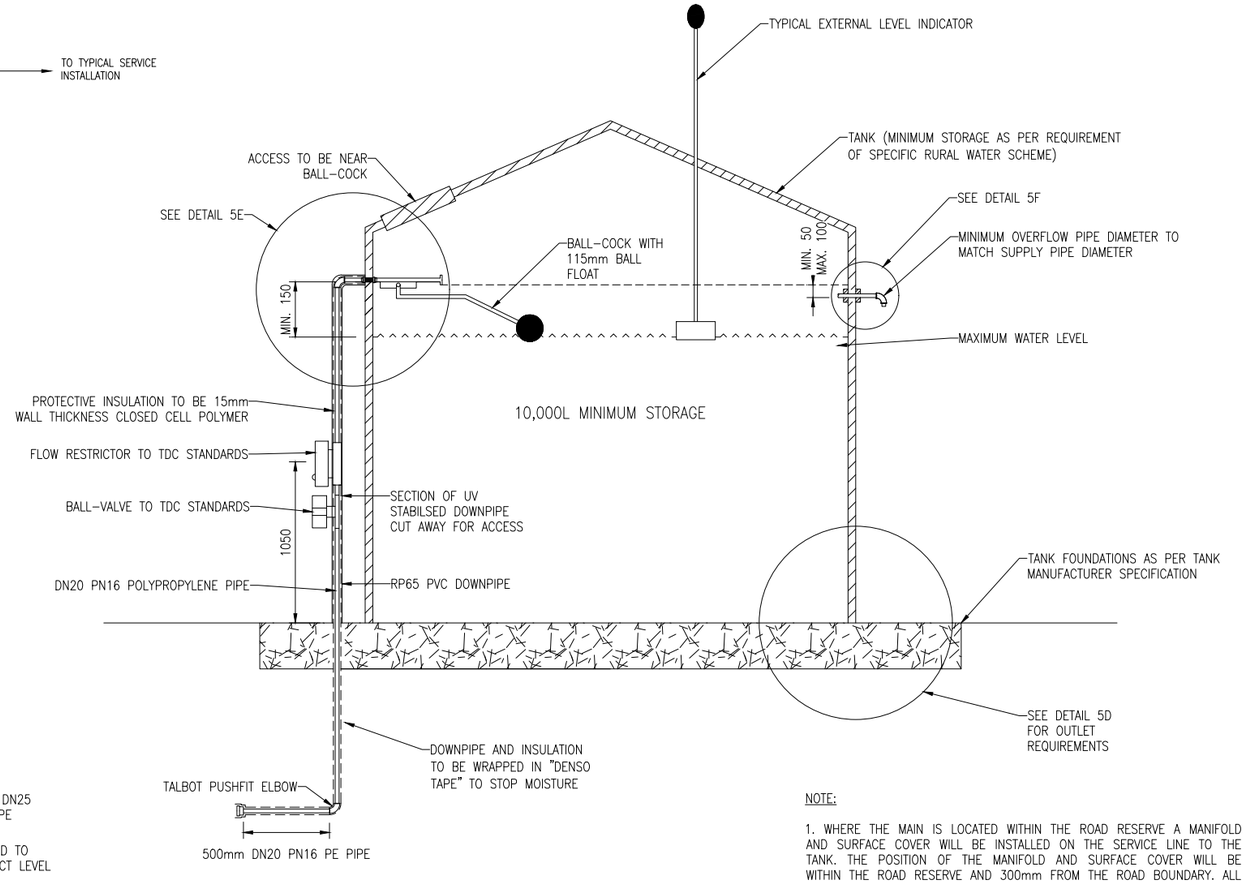
DETAIL 5F
RURAL TANK OVER FLOW OUTLET
SCALE 1:10



DETAIL 5A
WATER TANK CONNECTION
SCALE 1:10

NOTE:

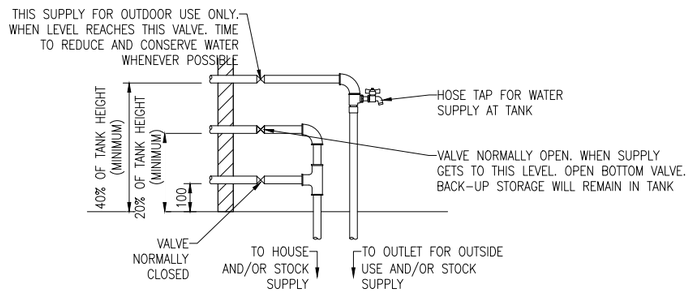
NO VALVE HAS BEEN PROVIDED AT THE CONNECTION TO THE MAIN AS THE LIKELIHOOD THE VALVE SHALL BE REQUIRED IS VERY LOW, AND IF IT IS REQUIRED IT MAY BE TOO DIFFICULT TO LOCATE AND WILL NOT BE USED.



DETAIL 5C
WATER TANK DETAIL
SCALE 1:20

NOTE:

1. WHERE THE MAIN IS LOCATED WITHIN THE ROAD RESERVE A MANIFOLD AND SURFACE COVER WILL BE INSTALLED ON THE SERVICE LINE TO THE TANK. THE POSITION OF THE MANIFOLD AND SURFACE COVER WILL BE WITHIN THE ROAD RESERVE AND 300mm FROM THE ROAD BOUNDARY. ALL MATERIAL AND FITTINGS TO COMPLY WITH AS/NZS 4020: 2002.
2. TIMARU DISTRICT COUNCIL OPERATE AND MAINTAIN UPTO AND INCLUDING THE BALL–COCK. THE TANK IS TO BE SUPPLIED AND INSTALLED BY THE LAND OWNER.



DETAIL 5D
WATER TANK DETAIL
SCALE 1:10

G	CHANGES TO WATER SUPPLY SERVICE CONNECTION DETAIL	S.C			03/22	SURVEY FILE:		INITIAL	DATE		NAME	DATE	ORIGINAL SCALE (A1): AS SHOWN
F	CHANGE TO THRUST BLOCK NOTES & REMOVAL OF DETAIL 1E	S.C			06/21	DATA SOURCE:	WATER			SURVEYED	-	-	REDUCED SCALE (A3):
E	CHANGES TO MANHOLE DETAIL	S.C			12/15	LEVEL DATUM.....	DRAINAGE			DESIGNED	RRP	04/09	PRODUCED BY:
D	THRUST BLOCK DETAIL	L.S			08/15		ROADING			DESIGN CHECK	ANW	04/09	FOR:
C	TANK AIR GAP DETAIL	G.C			10/13		PARKS			DRAWN	RRP	04/09	
B	RURAL TANK DETAIL	G.C			02/13		ELEC.PWR			DRG CHECK	AD	04/09	THIS DOCUMENT IS THE PROPERTY OF THE TIMARU DISTRICT COUNCIL. IT IS NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF THE TIMARU DISTRICT COUNCIL
1	DRAFT ISSUE	BMC			05/11		TELECOM			APPROVED			
No.	REVISION	BY	CHK	APP.	DATE		PLANNING						

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PROJECT: DRAINAGE AND WATER CODE OF PRACTICE STANDARD DETAILS

TITLE: WATER SUPPLY - RURAL WATER CONNECTION / TANK DETAILS & RETICULATION SAMPLING TAP DETAIL

CONTRACT NUMBER:

DRAWING NUMBER: 5304

REVISION: G

SHEET: 5 OF: 5

Original Sheet Size A1 (841 x 594) N:\Standard Plans\02_Drainage and Water Standards\5304 Revision F.dwg

DO NOT SCALE - IF IN DOUBT ASK