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<a href="#">WS45.pdf</a>	2010069.040	WATER NETWORK STANDARD CAST IRON VALVE BOX AND LID
<a href="#">WS48.pdf</a>	2010069.043	WATER NETWORK STANDARD AIR VENT COWLING VERTICAL STEEL PIPE FABRICATION DETAIL AND CONCRETE FOOTING

**Grass**

Sow with grass seed mix  
15% Chewings Fescue  
7.5% Brown Top  
7.5% Crested Dogstail  
70% Perennial Ryegrass  
( by weight )  
Clean topsoil compacted  
depth 100mm

**Concrete Footpaths**

75mm of 17mpa concrete  
on 25mm of AP20  
metal.

**Concrete**

150mm of 17.5mpa concrete  
on 50mm of TNZ M/4 AP20  
metal. Minimum width of  
surface reinstatement 1m.

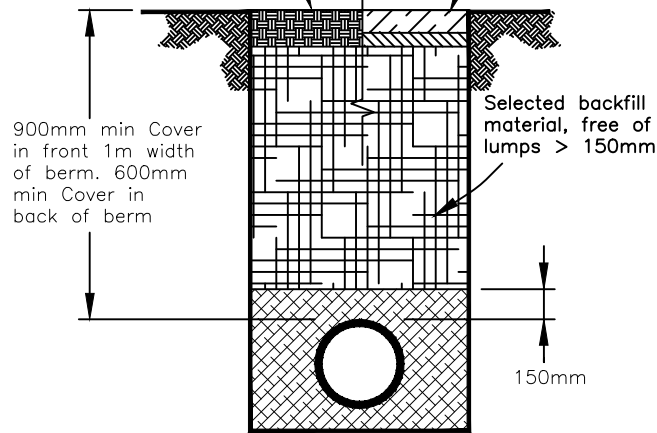
**Hotmix**

25mm of mix10 AC on  
125mm of AP40 basecourse.

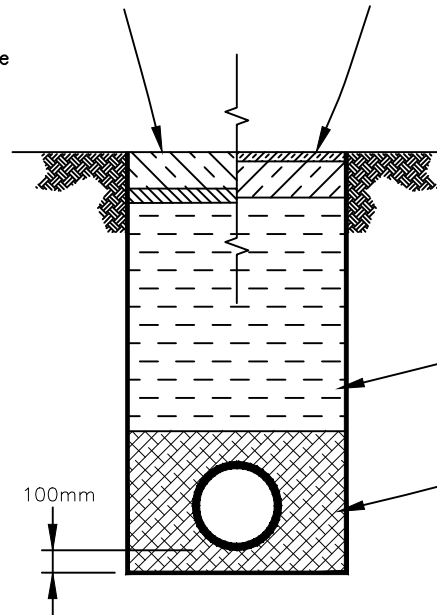
**Hotmix – Footpaths**

For existing red chip footpaths  
dress with 4.75mm Red Chip  
footpath aggregate if required  
by Council

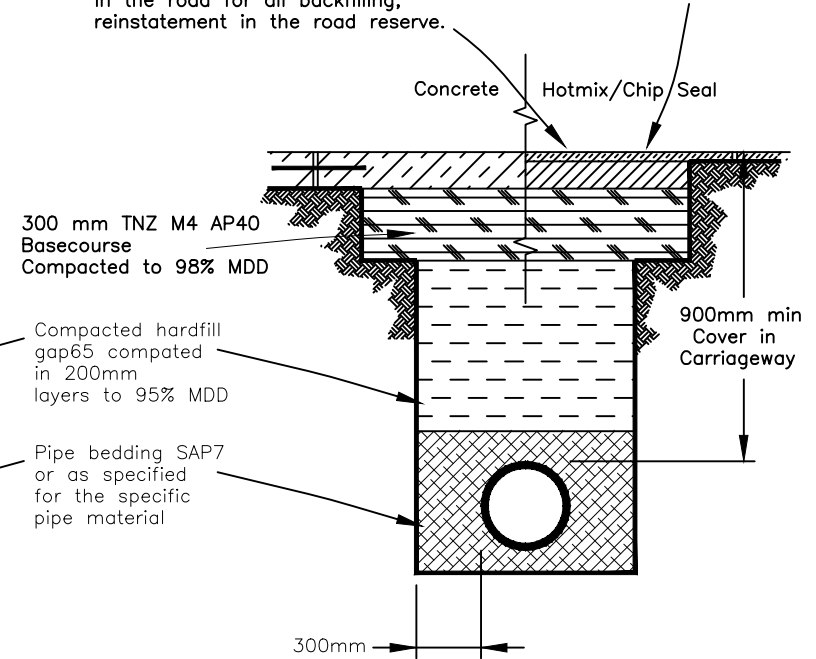
Refer Auckland Transport –  
Code of Practice for working  
in the road for all backfilling,  
reinstatement in the road reserve.



GRASS AREA & FOOTPATH (not  
in Road reserve)  
REINSTATEMENT



DRIVEWAY REINSTATEMENT  
(Not in Road Reserve)



FOOTPATH/VEHICLE CROSSING,  
CARRIAGEWAY REINSTATEMENT

**NOTES**

- All trench reinstatement within the road reserve shall comply with the Auckland Transport "Code of Practice for Working in the Road" These are typical expectations for reinstatements. Contractors need to confirm with Auckland Transport.
- All backfill is to be compacted in 200mm, layers to obtain maximum density, as per standard specifications.
- Where concrete or other stabilized layers exist in the roadway, the trench shall be reinstated with similar material or as directed by the roading engineer.
- Minimum cover in carriageway for water mains 900mm. 900mm cover in front 1m of berm and Minimum 600mm in the back of berm.
- Fill shall be clean, Non-contaminated material. Recycled material is not acceptable.
- Pipe bedding shall be compacted to AS/NZS 2566.2 clause 5.6.3 for compaction control.
- Alternative embedment details by specific design for pipe at steep grades, inadequate trench foundation and erosion is not covered by this drawing.

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TYPICAL TRENCH REINSTATEMENT  
AND BEDDING DETAILS  
FOR WATER SUPPLY

SCALE:	N.T.S.
ISSUE DATE:	14-04-2015
DWG No.	2010069.001B
REFERENCE No.	WS 2

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# GENERAL CONSTRUCTION NOTES

## STANDARDS RELATING TO WORKS

All works are to be carried out to the requirements of the Health & Safety Act 1992

All works is to be carried out will be of the highest tradesman like standard.

## MANUFACTURERS SPECIFICATIONS

All materials to be used and installed as per Manufacturers Specifications.

## CONCRETE

All on-site concrete to be 17.5 Mpa unless otherwise stated.

## WELDING & FIXINGS

All steelwork to be workshop fabricated , No on-site welding.

All steelwork to be Hot-Dip Galvanised to AS/NZS 46809

All metal nuts , bolts & washers to be Stainless steel 316 unless otherwise stated. A Nickel anti-seize free of copper , lead , sulphides , chlorides and carbons ( graphite ) shall be used on bolts.

## REINFORCING STEEL

All steel to be ' deformed ' mild steel unless otherwise specified.

All steel to be placed central with minimum 60mm minimum cover for principal steel and 50mm elsewhere.

All radius required to be cold formed.

## WORKS REQUIRING EPOXY

Any Stainless Steel fixings that are epoxied in place are required to be supplied from the manufacturer ' NOT OILED '.

All Metal fixings and or Stainless Steel to be epoxied will use EPCON C6 epoxy or similar , to Engineers recommendations.

## PROTECTIVE WRAPPING

All fittings & valves ( Non Plastic ) to be wrapped with Denso Petrolatum system, as per the suppliers instructions ; Primer ; Densyl mastic for profiling ; Tape & protective membrane ( Polythene ).

For PE pipe application, a Butyl System shall be used ; ( Densolen System ) without primer on the PE surface. Alternatively Polyken 930 may be used.

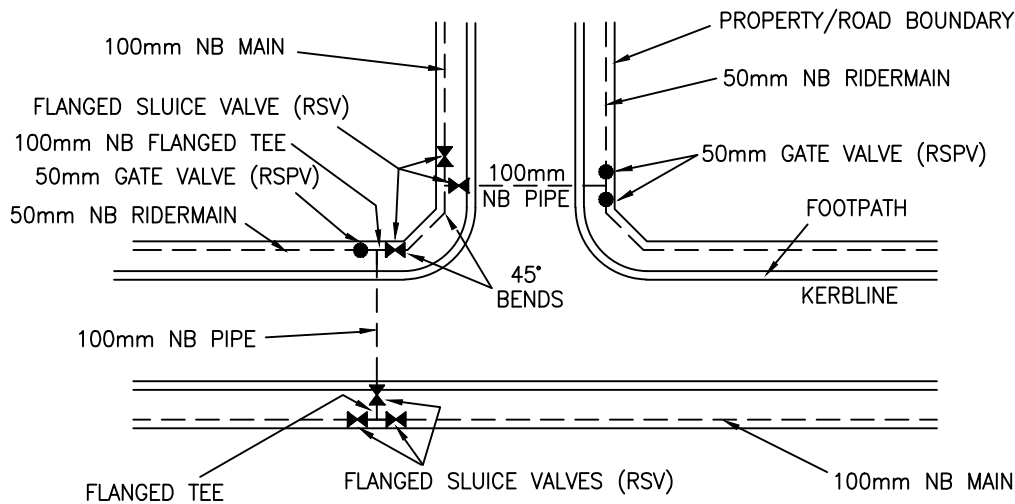
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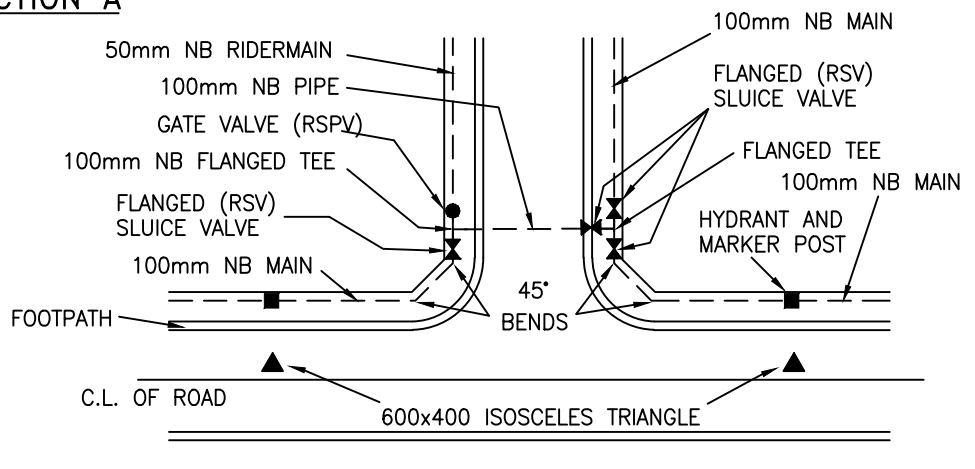
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## GENERAL CONSTRUCTION NOTES

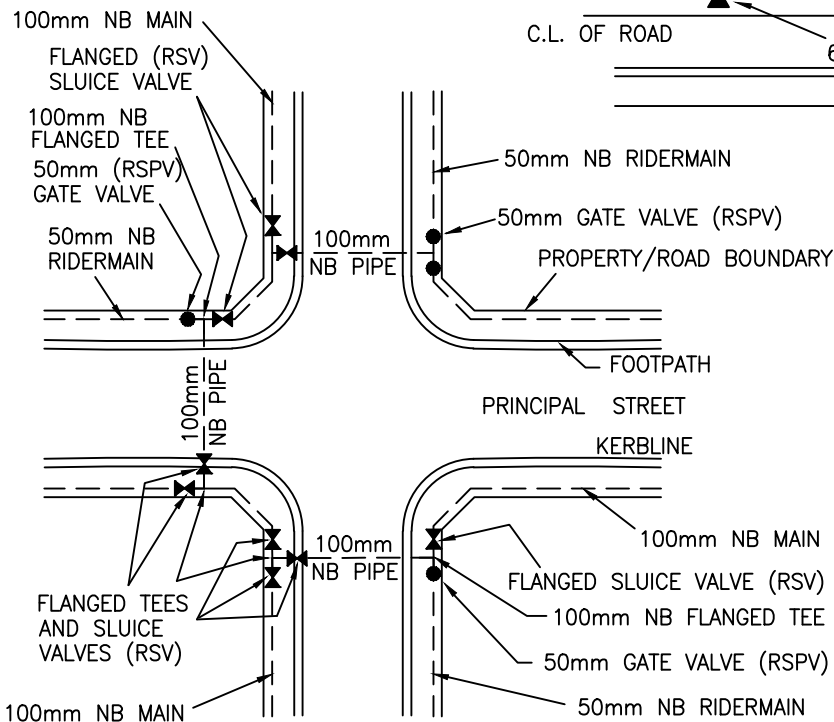
SCALE:	N.T.S.
ISSUE DATE:	14-04-2015
DWG No.	2010069.002B
REFERENCE No.	WS 3



**TEE INTERSECTION A**



**TEE INTERSECTION B**



**CROSS INTERSECTION**

**NOTES**

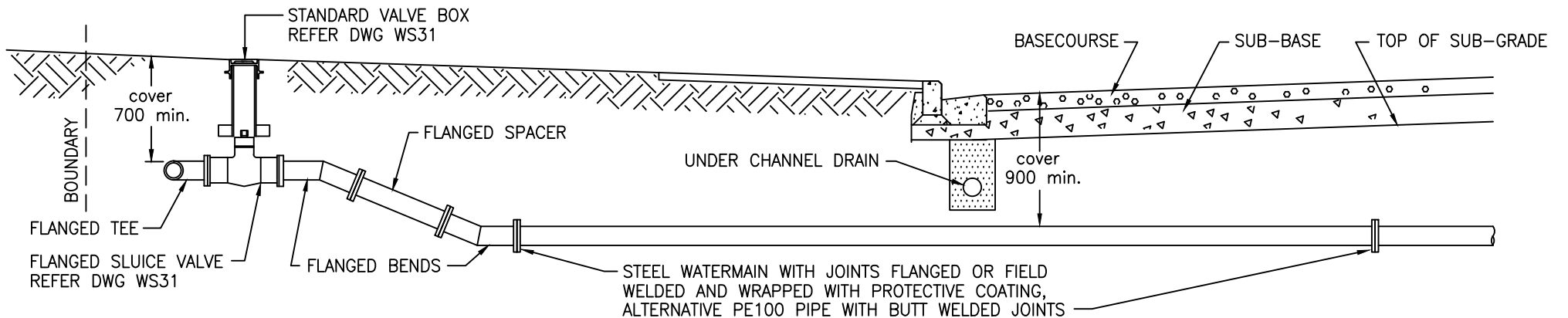
1. ALL PIPES SHALL BE LAID WITHIN 1400mm OF BOUNDARY WHERE PRACTICABLE.
2. ALL PRINCIPAL MAIN ROAD CROSSINGS SHALL BE 100mm DIA. (OR LARGER) DI, STEEL OR PE80, PIPES EXTENDING FROM MAIN TO MAIN.
3. BENDS ARE TO BE LONG RADIUS BENDS OR FLANGED BENDS.
4. ALL JOINTS UNDER ROADS TO BE EITHER FIELD WELDED OR FLANGED JOINTS (WRAPPED IN APPROVED WRAPPING SYSTEM).
5. THESE DETAILS APPLY TO 100mm NB AND 150mm NB PRINCIPAL MAINS. LARGER DIAMETER MAINS SHALL GENERALLY PASS STRAIGHT THROUGH INTERSECTIONS.
6. ALL 50 mm VALVES AND LARGER SHALL BE RESILIENT SEAT TYPE
7. GENERALLY, THERE SHALL BE A MINIMUM OF 5 VALVES ASSOCIATED WITH EACH ROAD CROSSING.



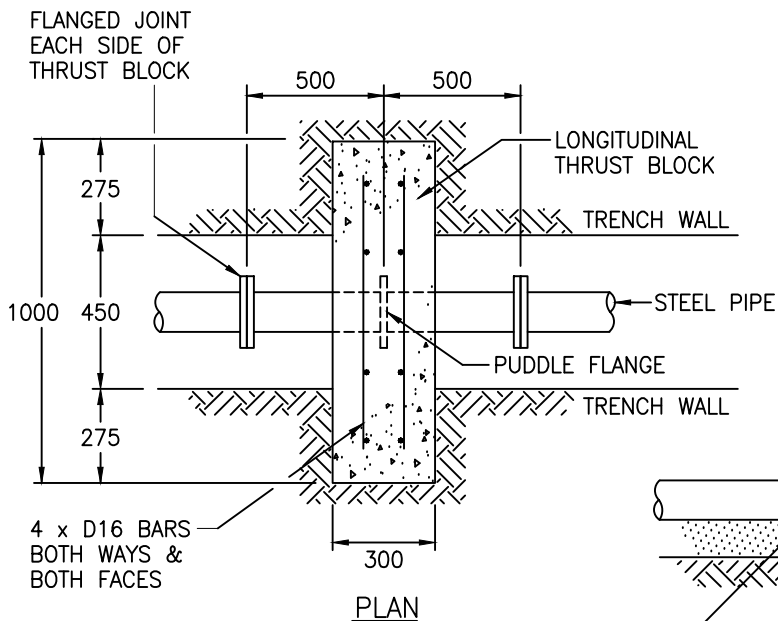
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**TYPICAL WATERMAIN INTERSECTION DETAILS**

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.003A
REFERENCE No.	WS 5



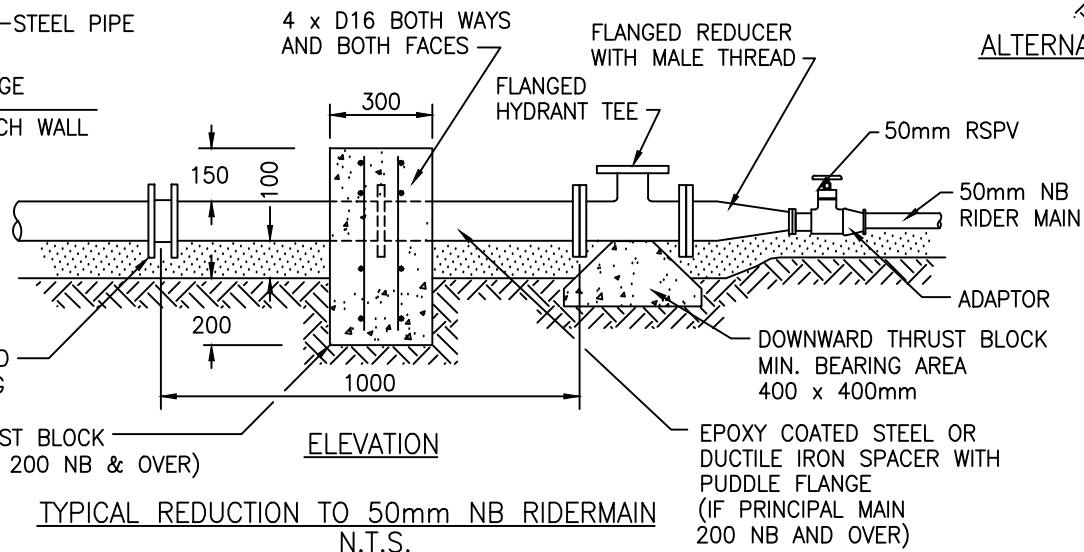
TYPICAL PRINCIPAL MAIN CROSSING UNDER ROAD  
N.T.S.



PLAN

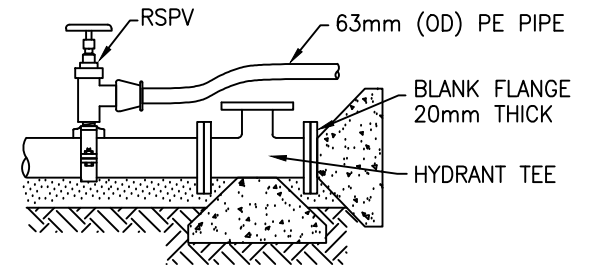
NOTE: SPECIAL DESIGN IF NOMINAL DIAMETER OF MAIN PIPE >150mm NB.

LONGITUDINAL THRUST BLOCK (IF PRINCIPAL MAIN 200 NB & OVER)



ELEVATION

TYPICAL REDUCTION TO 50mm NB RIDER MAIN  
N.T.S.



ALTERNATIVE TO FLANGED REDUCER  
N.T.S.

**NOTES**

1. IF USING CONCRETE LINED STEEL, PIPE WALL THICKNESS SHALL BE 4.80mm UNDER CARRIAGEWAYS.
2. PIPE AND BENDS TO BE WRAPPED AS SPECIFIED.
3. ALL SPECIAL FITTINGS INCLUDING TEES AND BENDS TO BE FLANGED DUCTILE IRON.
4. ALL FLANGED SPACERS OR SPOOLS TO BE DUCTILE IRON OR EPOXY COATED STEEL.

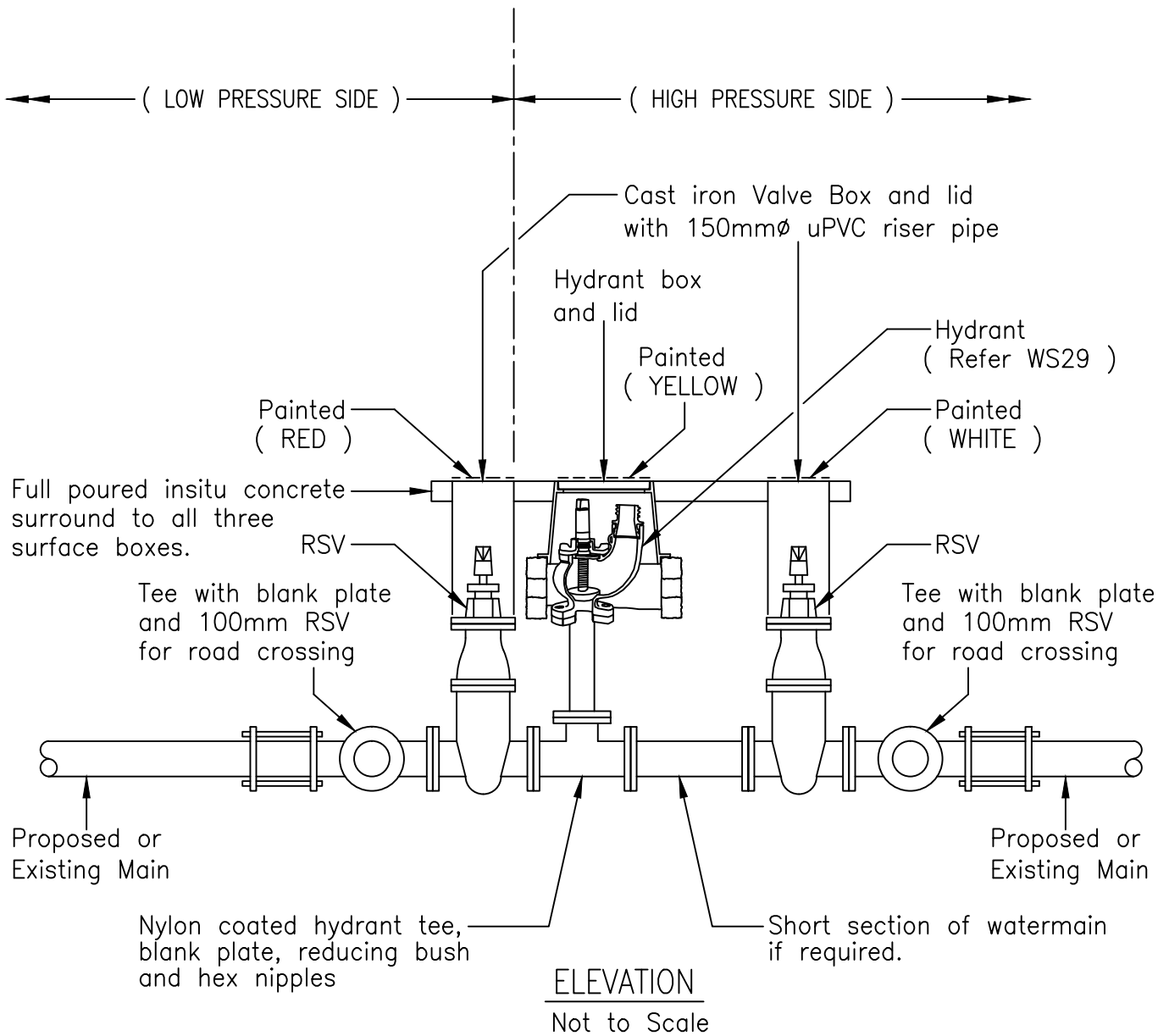
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ROAD CROSSING DETAILS AND PRINCIPAL MAIN  
TO RIDER MAIN CONNECTIONS

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.004A
REFERENCE No.	WS 6

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NOTES :

1. All surface boxes and marker posts to be painted in accordance with the color code specified on drawing number WS 8.
2. The RSV gate valve on the high pressure side is to remain in the open position and the valve box lid to be painted ( WHITE ).
3. The RSV gate valve on the low pressure side is to remain in the closed position and the valve box lids to be painted ( RED ).
4. The Hydrant box lid to be painted ( YELLOW ).

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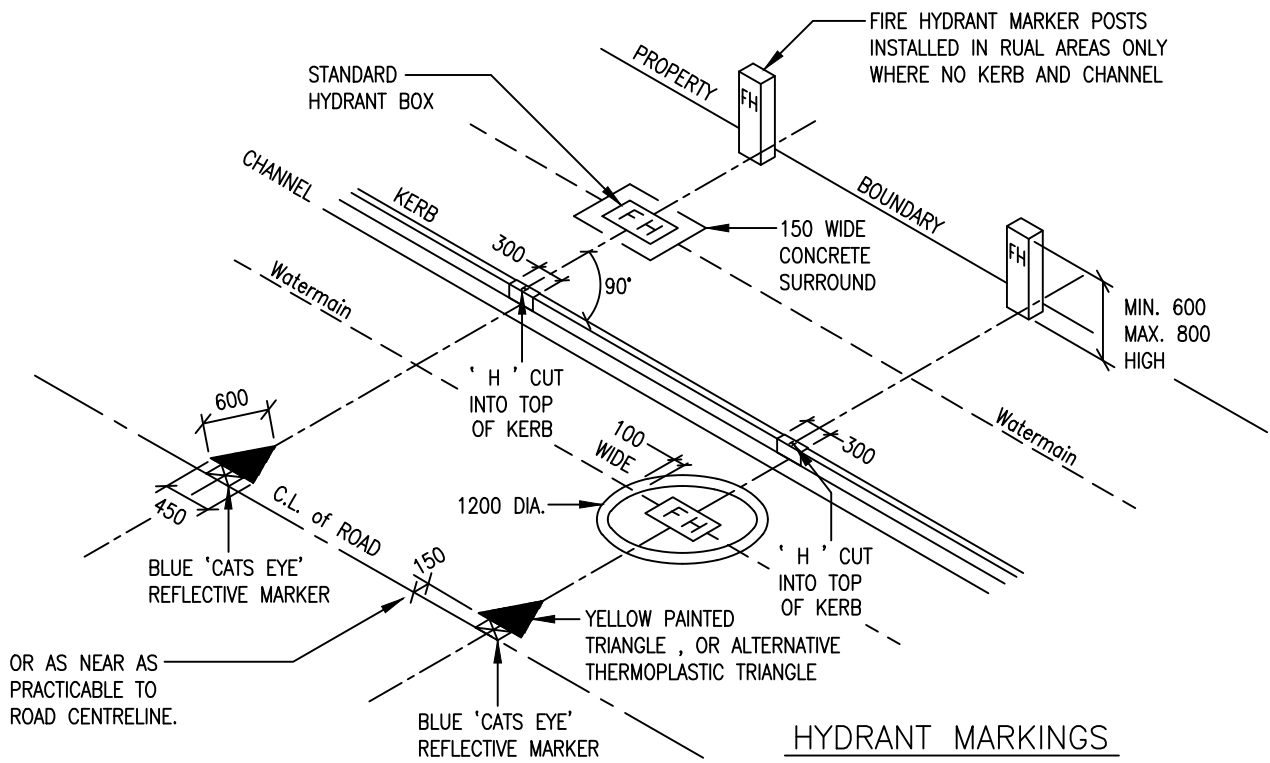


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BOUNDARY ZONE DETAIL

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.005A
REFERENCE No.	WS 7

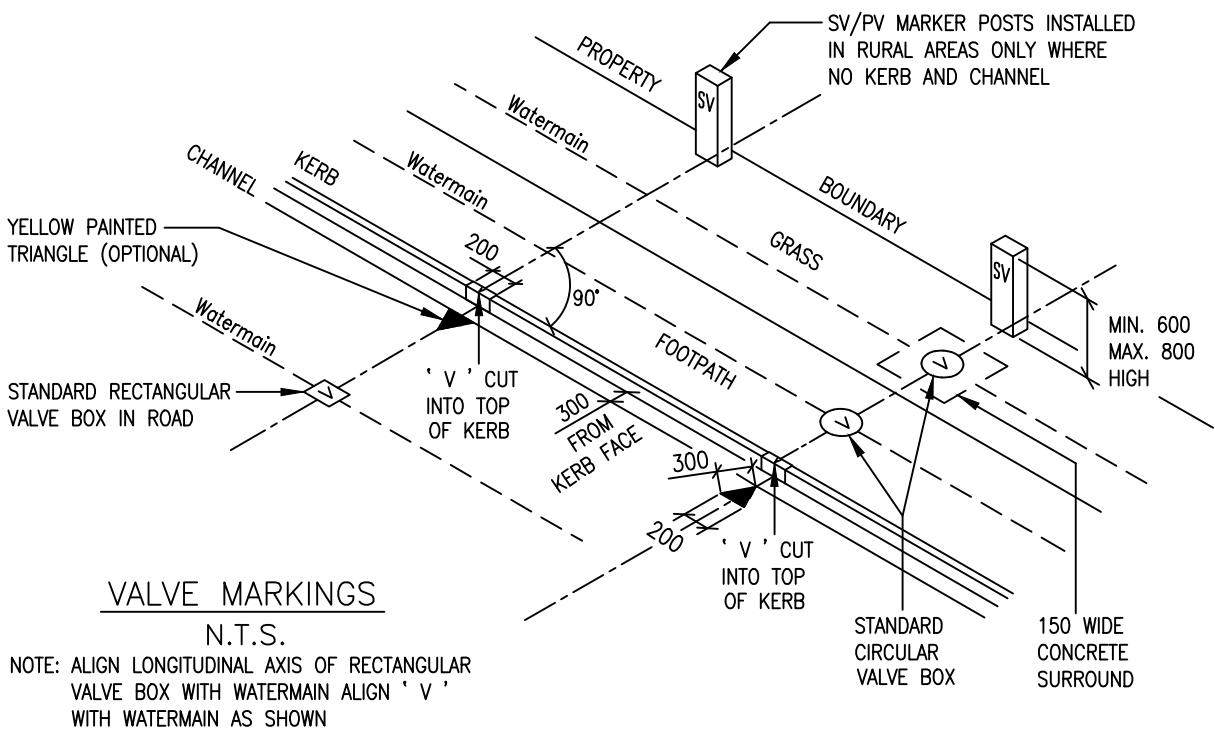




**HYDRANT MARKINGS**  
N.T.S.

NOTE: ALIGN LONGITUDINAL AXIS OF HYDRANT BOX WITH WATERMAIN

**NOTES**  
PAINT USED FOR ALL MARKINGS AND CI/DI LIDS SHALL BE TRANSIT "ROAD MARKING PAINT" AS FOLLOWS:-  
HYDRANTS - YELLOW  
PROTECTIVE PAINTS LTD.- IJAY CODE: 880-403  
OR - RESENE M7-W ;  
( ALTERNATIVE OPTION THERMOPLASTIC TRIANGLE )  
VALVES (PV, SV, AV's) - WHITE  
SPECIAL CONTROL VALVES (SHUT) - RED  
RESENE RED OXIDE - VINYL ETCH  
ADHESION PRIMER



**VALVE MARKINGS**

N.T.S.

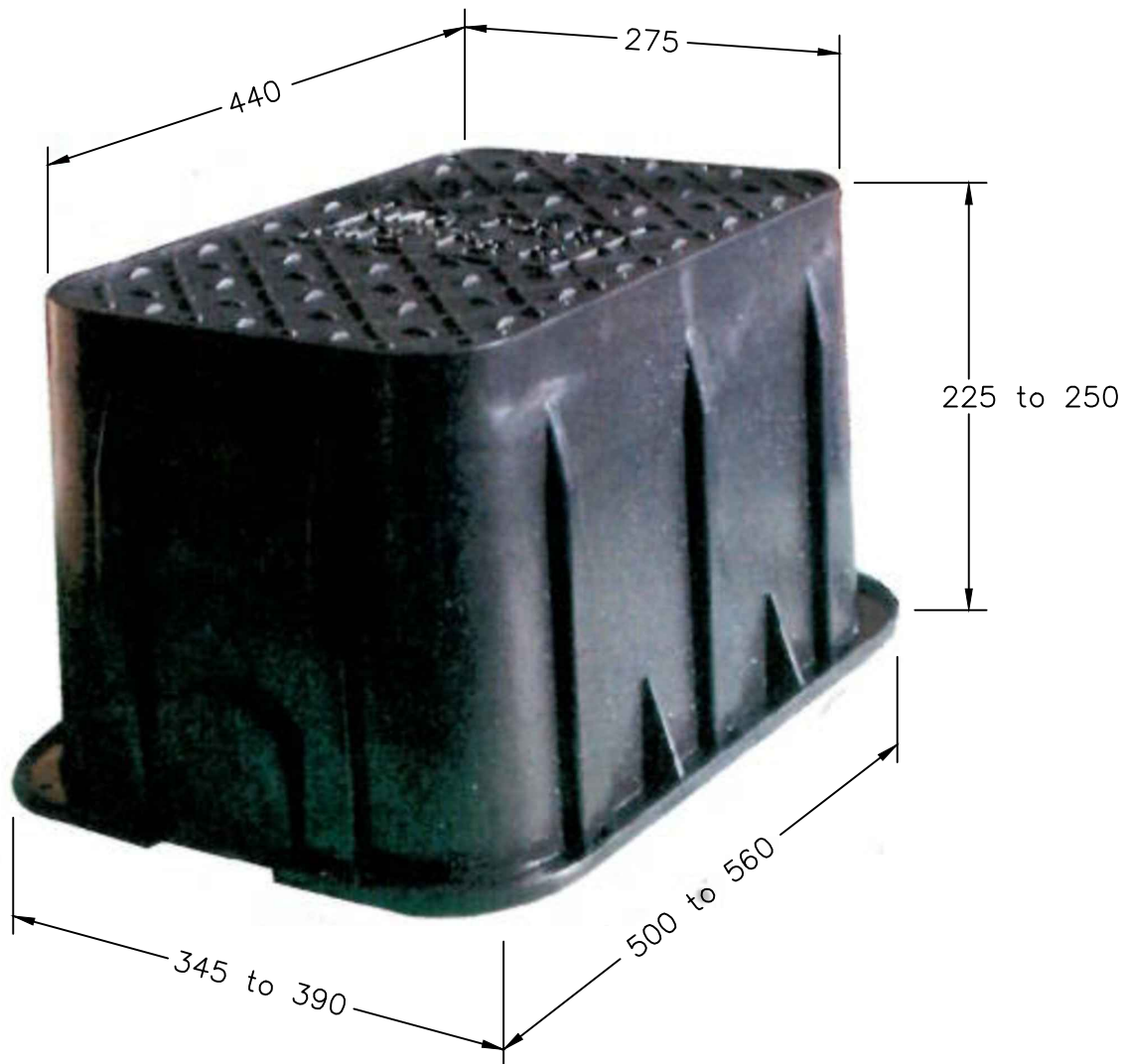
NOTE: ALIGN LONGITUDINAL AXIS OF RECTANGULAR VALVE BOX WITH WATERMAIN ALIGN ' V ' WITH WATERMAIN AS SHOWN



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**VALVE AND HYDRANT MARKINGS**

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.006A
REFERENCE No.	WS 8



Water Meter Box

Notes:-

1. Water meter box to be marked "WATER METER" on a black cover.
2. Cover to comply with slip resistance standard AS/NZS 3661.1.
3. Cover to be secured to box with stainless steel flexible wire or galvanised chain with stainless steel nuts & bolts.
4. All boxes to be indelibly marked with manufacturer's name/brand on underside of cover.
5. Box to have metal detection strips/rods.

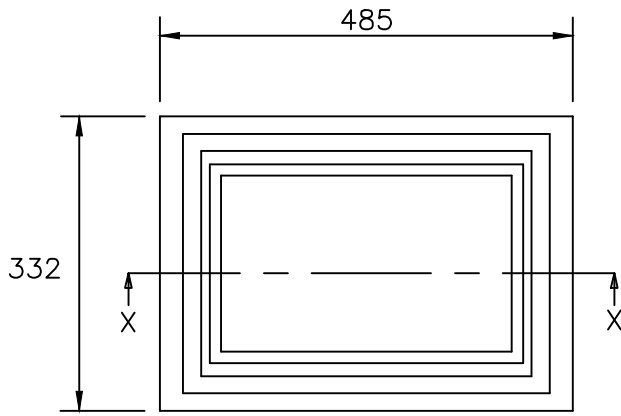
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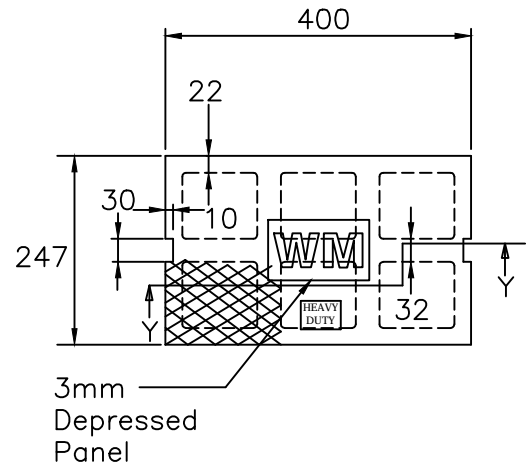
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HDPE WATER METER BOX & LID

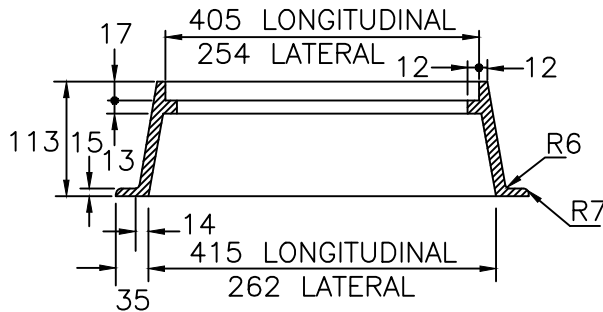
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ISSUE DATE:	25-11-2014
DWG No.	2010069.007A
REFERENCE No.	WS 9



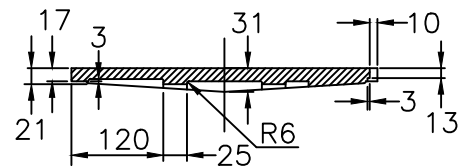
FRAME PLAN



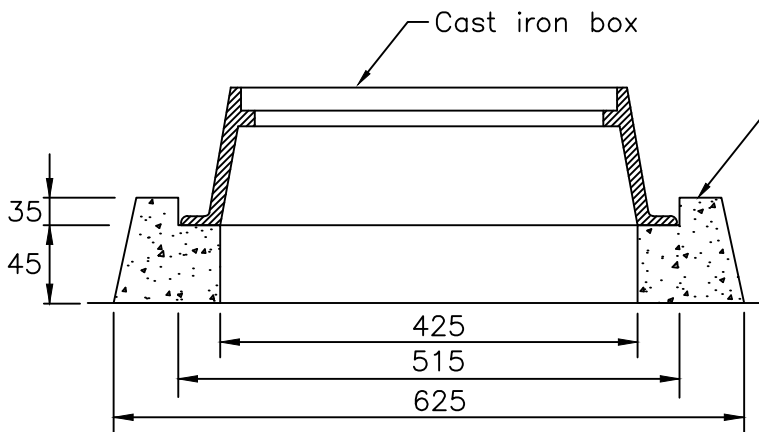
LID PLAN



SECTION X-X



SECTION Y-Y



INSTALLATION DETAIL

Notes:

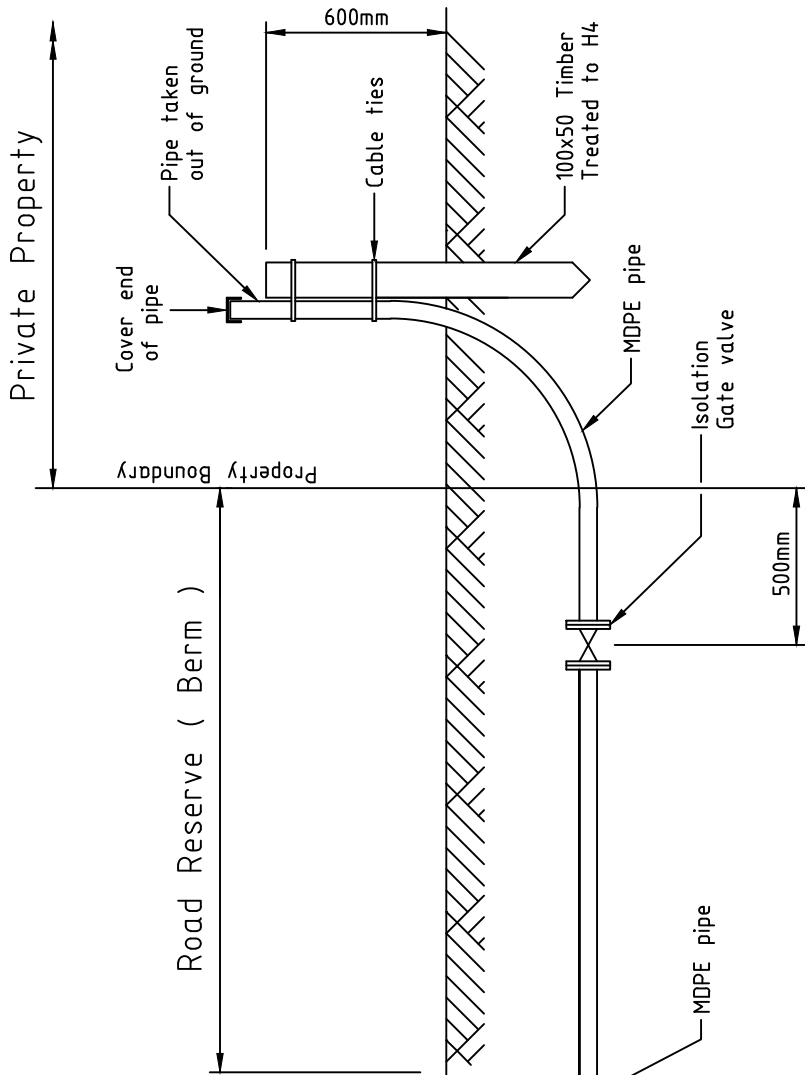
1. All cast iron to be made to AS 1830 grade H229 with finish of black bituminous paint.
2. Lid to show in depressed panel the letters 'WM' in raised lettering as shown.



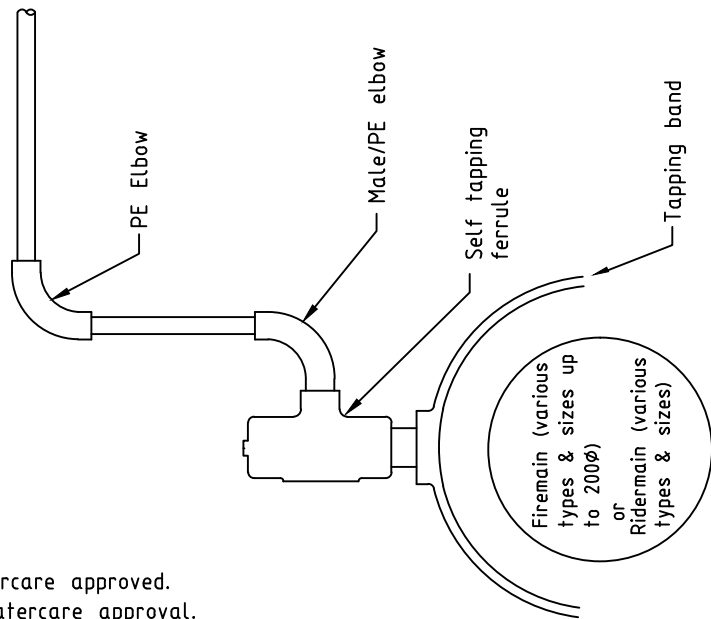
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CAST IRON WATER METER BOX & LID  
(TO BE USED IN CONCRETE AND PAVED AREAS ONLY)

SCALE:	N.T.S.
ISSUE DATE:	20-9-2013
DWG No.	2010069.008
REFERENCE No.	WS 10

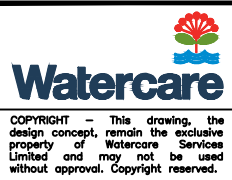


Size of Meter	15mm	20mm	25mm
Male/ PE elbow OD	25	25	32
PE elbow OD	25	25	32
MDPE pipe & PE fittings OD	25	25	32



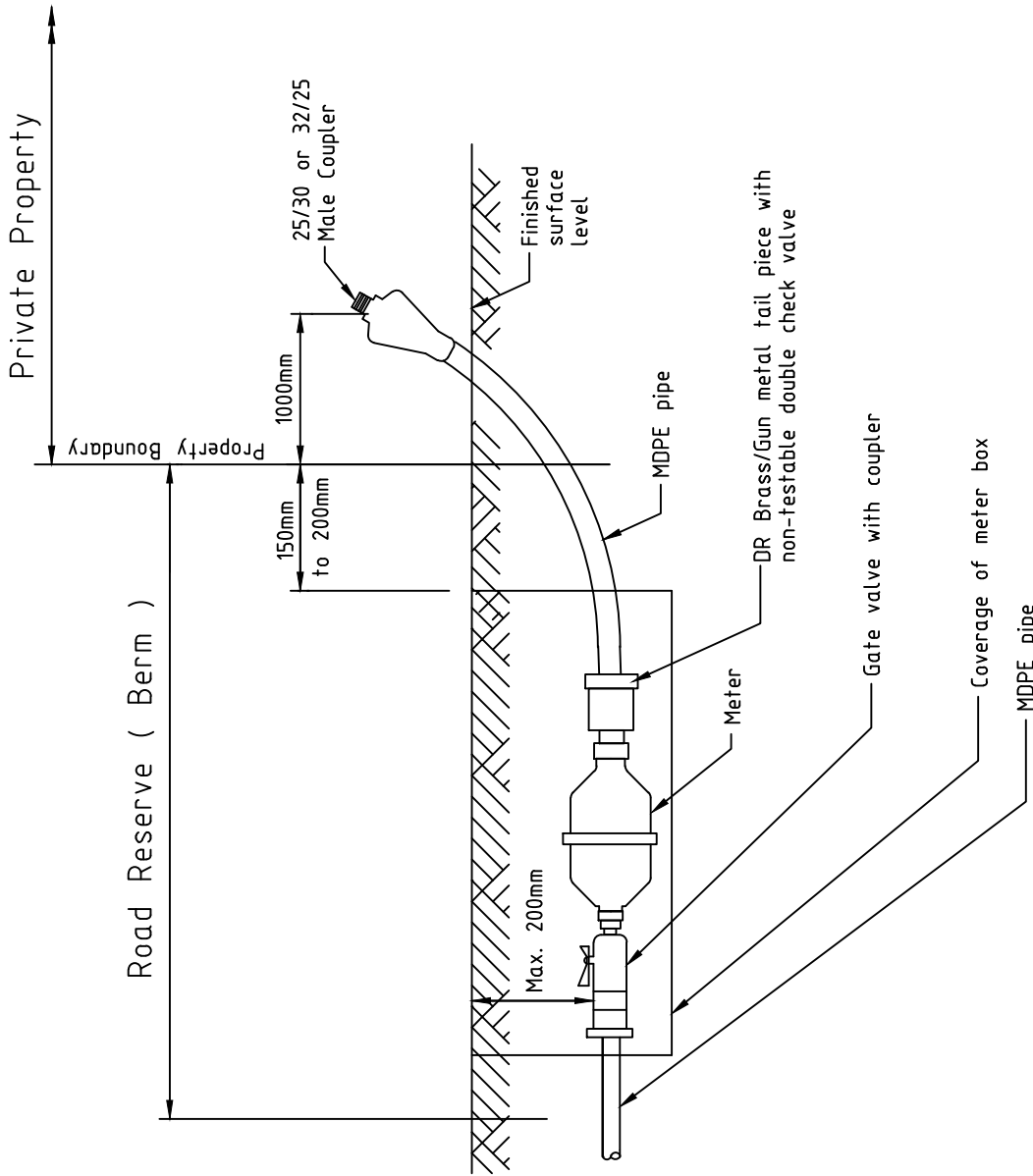
**Note**

1. All components to be Watercare approved.
2. Meters are installed on Watercare approval. See drawing WW14

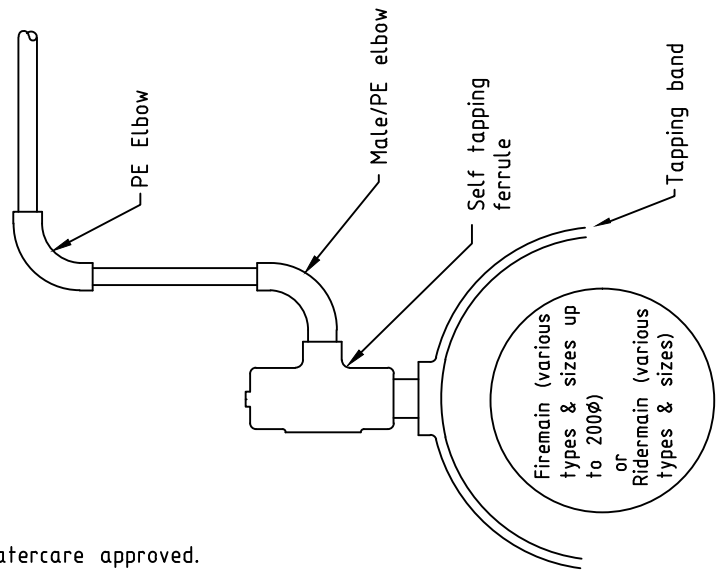


LOT SERVICE CONNECTION DETAIL

SCALE:	N.T.S.
ISSUE DATE:	14-04-2015
DWG No.	2010069.011B
REFERENCE No.	WS 13



Size of Meter	15mm	20mm	25mm
Male/ PE elbow OD	25	25	32
PE elbow OD	25	25	32
MDPE pipe & PE fittings OD	25	25	32



Note

1. All components to be Watercare approved.



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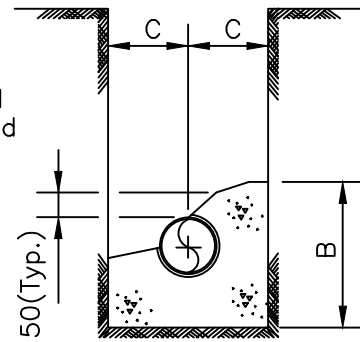
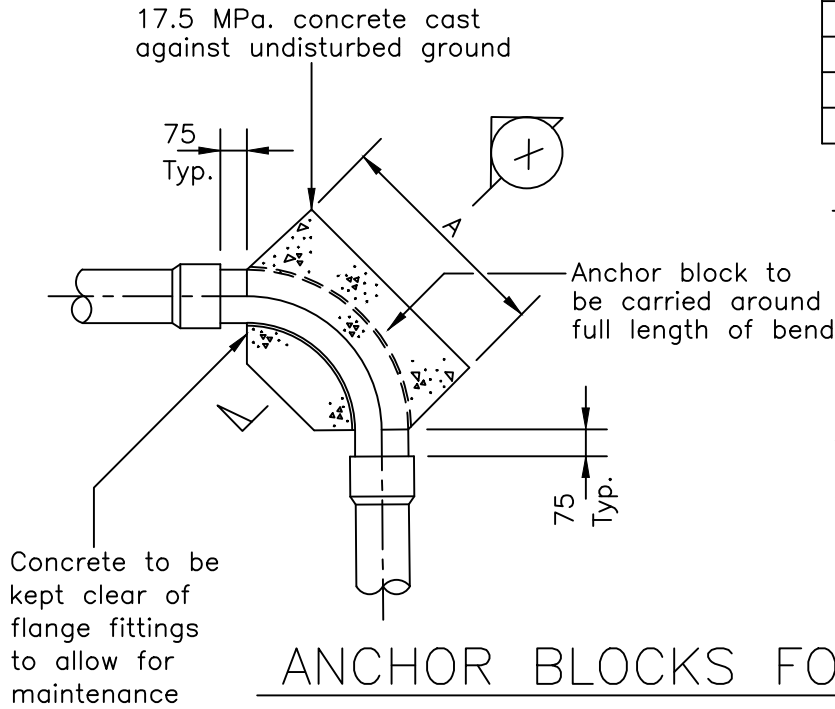
**WATER METER CONNECTION DETAIL**  
 15mm. 20mm & 25mm DIAMETER  
 ( BY WATERCARE CONTRACTOR ONLY )

SCALE:	N.T.S.
ISSUE DATE:	14-04-2015
DWG No.	2010069.012A
REFERENCE No.	WS 14

Notes :

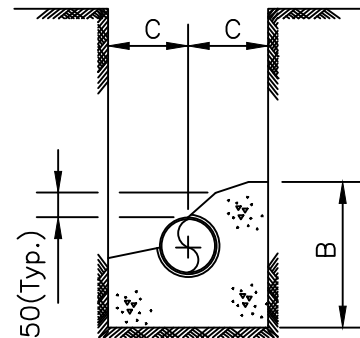
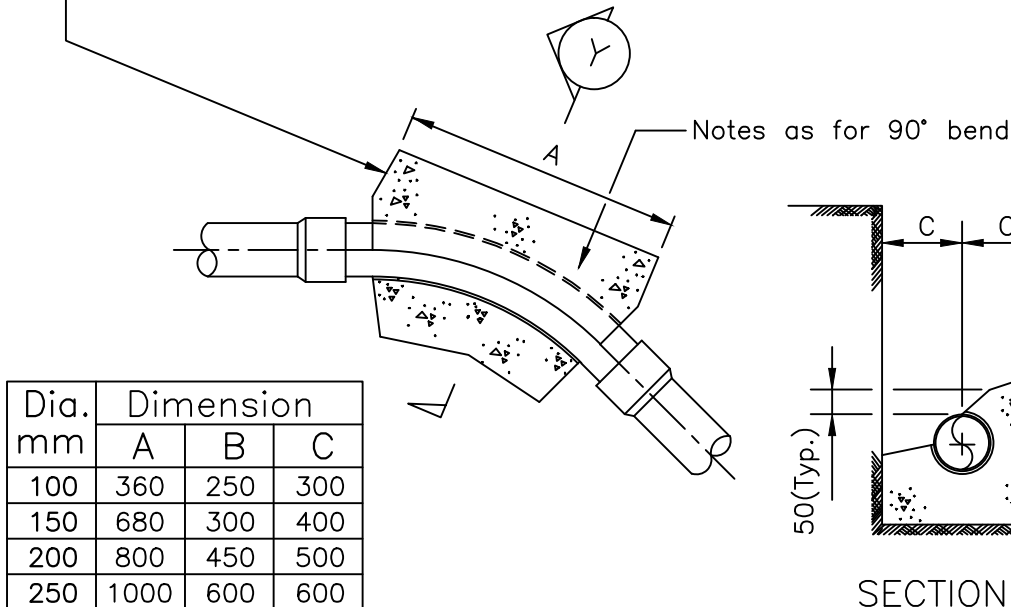
1. Thrust block dimensions for firm soil conditions.
2. The dimensions to be increased or decreased for variation in soil conditions.
3. Allowable bearing stress used – 100KPa.
4. Internal pipe test pressure up to 1400KPa.
5. As built locations to be obtained prior to backfill.
6. Protective membrane ( Polythene ) between concrete & pipe.
7. 75mm clearance between fittings/flanges and concrete casting.
8. All fittings to be Denso wrapped to the product specification.  
( Butyl system for Plastic pipes )

Dia. mm	Dimension		
	A	B	C
100	670	250	450
150	1250	300	450
200	1500	450	550
250	1750	600	600



SECTION X

ANCHOR BLOCKS FOR 90° BENDS



SECTION Y

ANCHOR BLOCKS FOR 45° BENDS

Dia. mm	Dimension		
	A	B	C
100	360	250	300
150	680	300	400
200	800	450	500
250	1000	600	600

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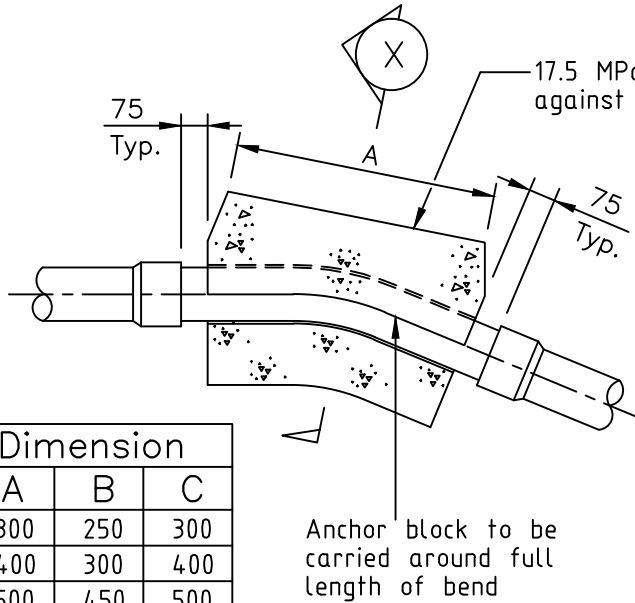
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ANCHOR BLOCK DETAILS  
FOR 90° & 45° BENDS

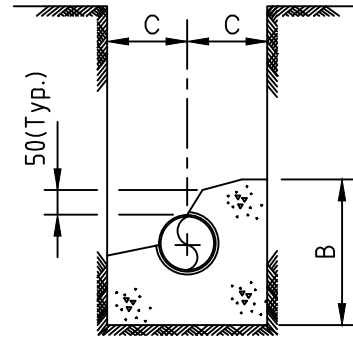
SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.013A
REFERENCE No.	WS 15

Notes :

1. Thrust block dimensions for firm soil conditions.
2. The dimensions to be increased or decreased for variation in soil conditions.
3. Allowable bearing stress used - 100KPa.
4. Internal pipe test pressure up to 1400KPa.
5. As built locations to be obtained prior to backfill.
6. Protective membrane ( Polythene ) between concrete & pipe.
7. 75mm clearance between fittings/flanges and concrete casting.
8. All fittings to be Denso wrapped to the product specification.  
( Butyl system for Plastic pipes )

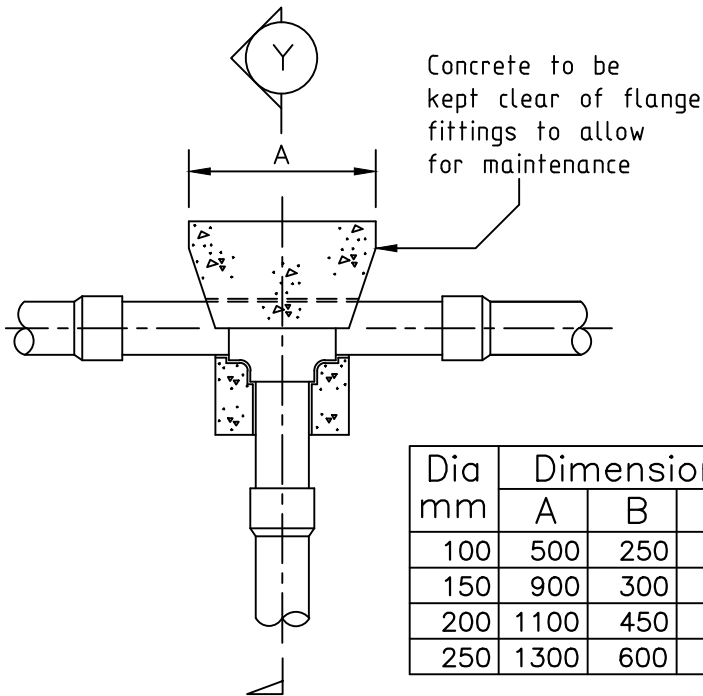


Dia mm	Dimension		
	A	B	C
100	300	250	300
150	400	300	400
200	500	450	500
250	600	600	600

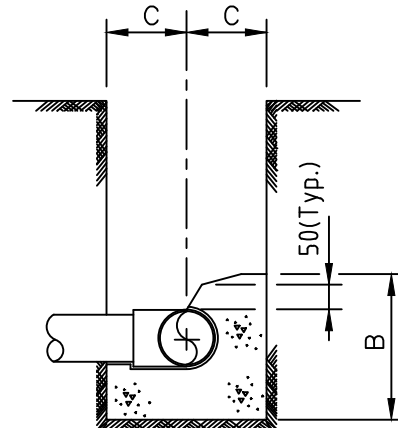


SECTION X

ANCHOR BLOCKS FOR 22½° & 11¼° BENDS



Dia mm	Dimension		
	A	B	C
100	500	250	450
150	900	300	450
200	1100	450	550
250	1300	600	600



SECTION Y

ANCHOR BLOCKS TEE JUNCTION & END CAPS

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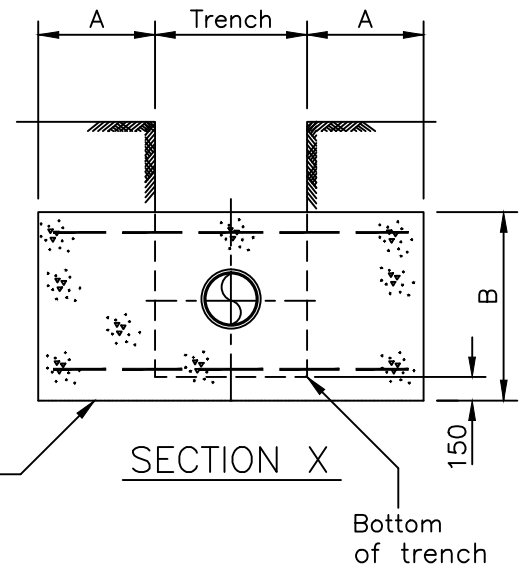
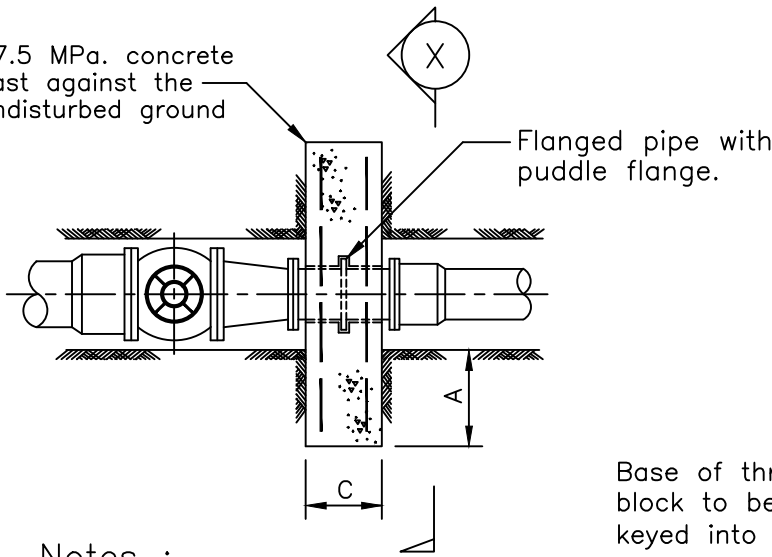


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ANCHOR BLOCK DETAILS  
FOR 22½° & 11¼° BENDS  
AND TEE JUNCTION

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.014A
REFERENCE No.	WS 16

17.5 MPa. concrete cast against the undisturbed ground



Base of thrust block to be keyed into base of trench.

Notes :

1. Concrete thrust block dimensions for firm soil conditions.
2. The dimensions to be increased or decreased for variation in soil conditions.
3. Allowable bearing stress used - 100KPa.
4. Internal pipe test pressure up to 1400KPa.
5. As built locations to be obtained prior to backfill.
6. Protective membrane ( Polythene ) between concrete and pipe.
7. 75mm clearance between fittings/flanges and concrete casting.
8. All fittings to be Denso wrapped to the product specification.  
( Butyl system for Plastic pipes )

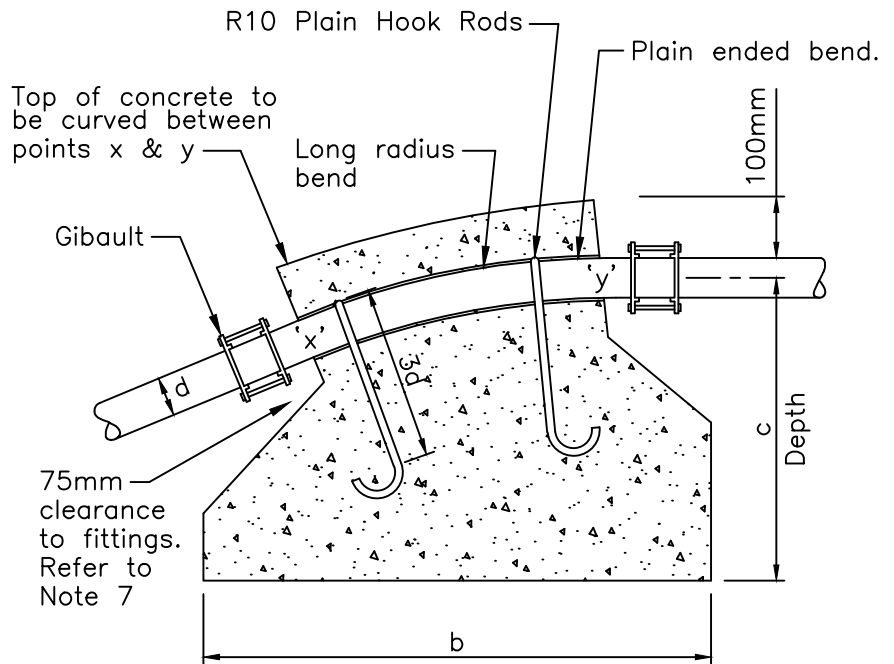
Reducer mm	Reducers		
	A	B	C
100-150	250	350	300
100-200	500	350	300
150-200	250	500	300
150-250	500	500	300
200-250	250	600	300
200-300	400	700	300

ANCHOR BLOCKS AT REDUCERS

Pipe Dia	Vertical Bends-45°		
	a	b	c
100mm	600	800	700
150mm	800	1000	800
200mm	1000	1200	800
250mm	1000	1600	1000

Pipe Dia	Vertical Bends-22.5°		
	a	b	c
100mm	500	500	500
150mm	500	800	800
200mm	700	1000	800
250mm	800	1200	900

Pipe Dia	Vertical Bends-11.25°		
	a	b	c
100mm	400	500	500
150mm	500	600	600
200mm	500	800	800
250mm	700	1000	800



a = Width of Anchor Block

VERTICAL SECTION

ANCHOR BLOCKS AT BENDS IN VERTICAL PLANE

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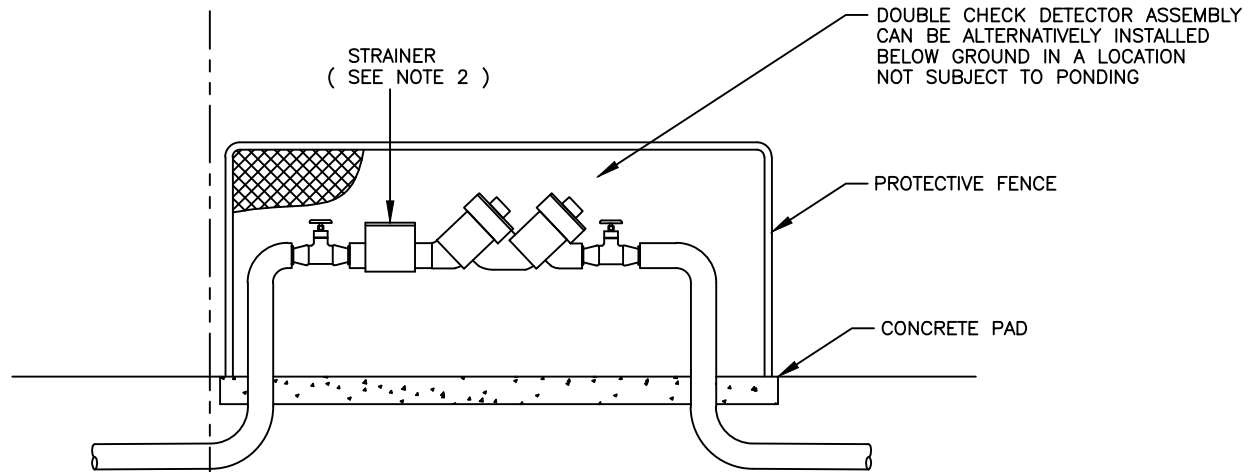
ANCHOR BLOCK DETAILS  
REDUCERS AND VERTICAL BENDS

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.015A
REFERENCE No.	WS 17

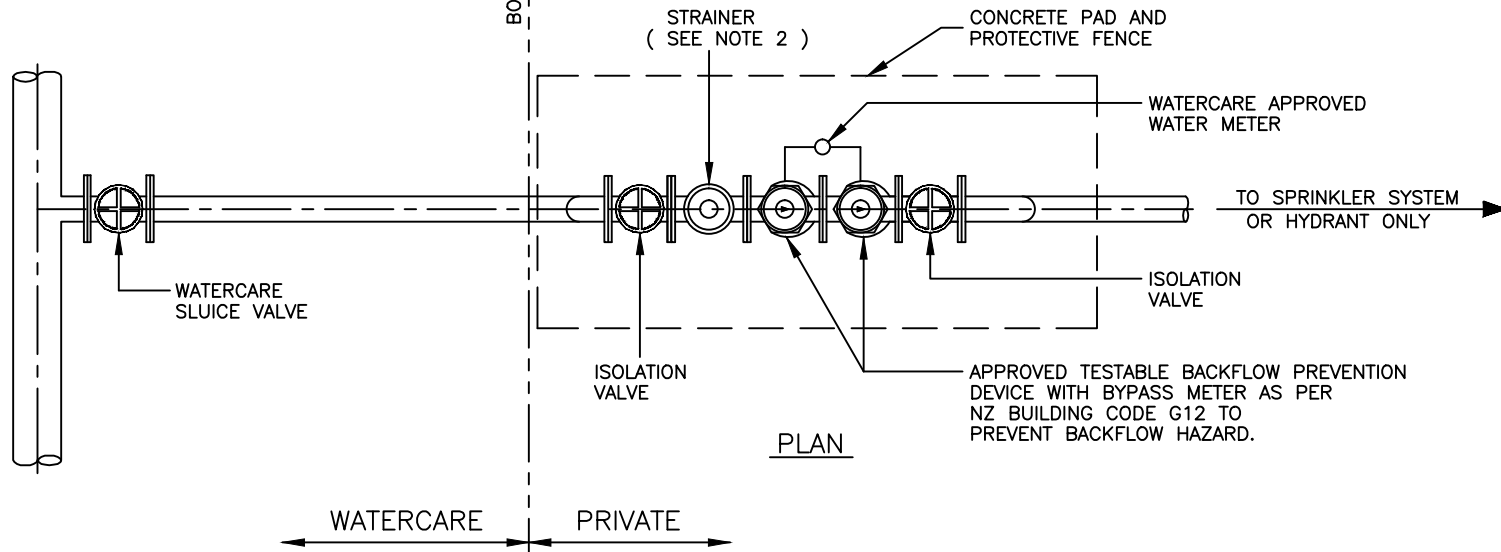


NOTE:

1. FIRE HOSE REELS TO BE CONNECTED TO THE METERED SUPPLY ONLY. REFER TO WS21 FOR FIRE SYSTEM WITH STANDARD APPROVED METER.
2. STRAINER TO BE INSTALLED IF REQUIRED FOR FIRE SPRINKLER DESIGN.
3. 50mm FIRE CONNECTION PIPE MATERIAL SHALL BE STAINLESS STEEL GRADE 316
4. >50mm LINE CONNECTION PIPE MATERIAL MAY BE COATED DUCTILE IRON OR STAINLESS STEEL GRADE 316
5. FOR FIRE LINES WITH ANTI-FREEZE OR HAZARDOUS CHEMICALS A REDUCED PRESSURE ZONE DETECTOR CHECK ASSEMBLY MAY BE REQUIRED.



ELEVATION



PLAN

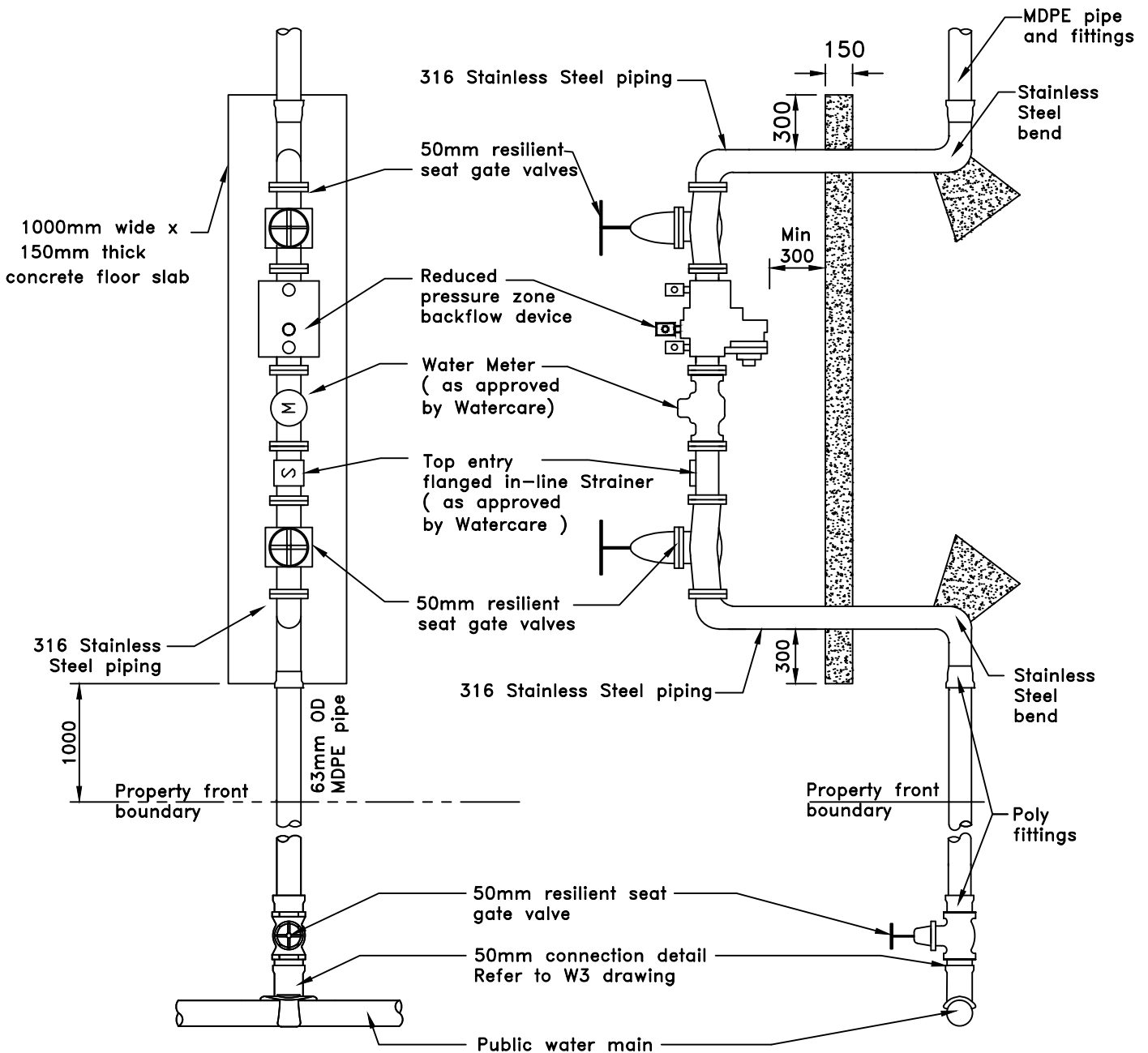
L:\---\ EDCADP \ 2015 \ WATER & WASTEWATER NETWORK STD DWGS \ 2010069.016B.DWG



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UNMETERED FIRE SYSTEM CONNECTION ONLY

SCALE:	N.T.S.
ISSUE DATE:	14-04-2015
DWG No.	2010069.016B
REFERENCE No.	WS 18



### Notes:

1. All components to be Watercare approved.
2. Water Meter to be Supplied and installed by Watercare meter installation contractor only.
3. Backflow prevention device shall be installed by Watercare meter installation contractor or a Registered Plumber.
4. All components to be flanged connections.
5. Valves to be chained with a padlock or assembly to be housed in a lockable protective cage.
6. Water meter pipe length clearances as specified by Supplier.

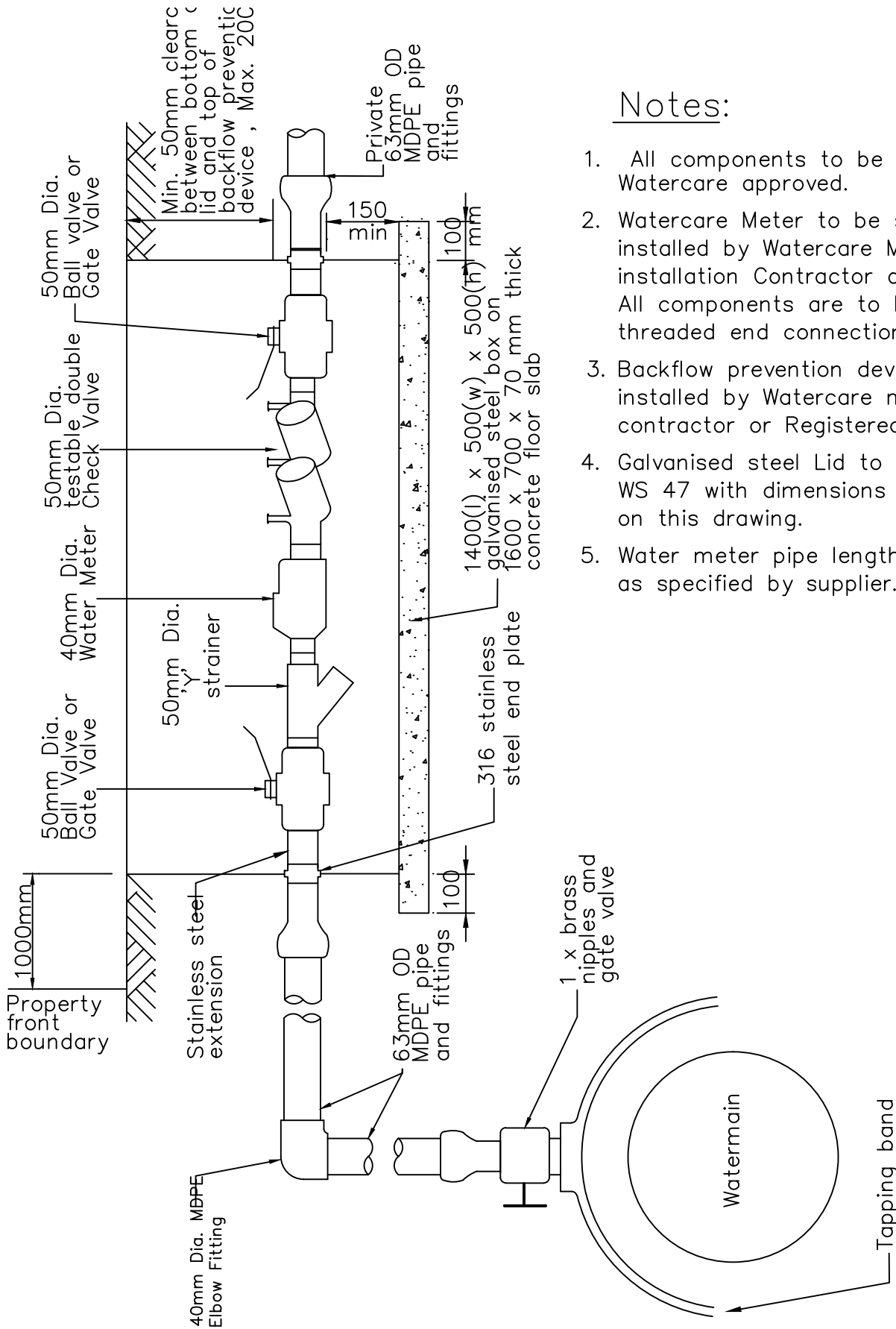
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## WATER METER WITH BACKFLOW PREVENTION DEVICE ( HIGH HAZARD ) 50mm RPZ

SCALE:	N.T.S.
ISSUE DATE:	14-04-2014
DWG No.	2010069.017A
REFERENCE No.	WS 19



Notes:

1. All components to be Watercare approved.
2. Watercare Meter to be supplied and installed by Watercare Meter installation Contractor only. All components are to be threaded end connections.
3. Backflow prevention device shall be installed by Watercare meter installation contractor or Registered Plumber.
4. Galvanised steel Lid to conform to WS 47 with dimensions as shown on this drawing.
5. Water meter pipe length clearance: as specified by supplier.

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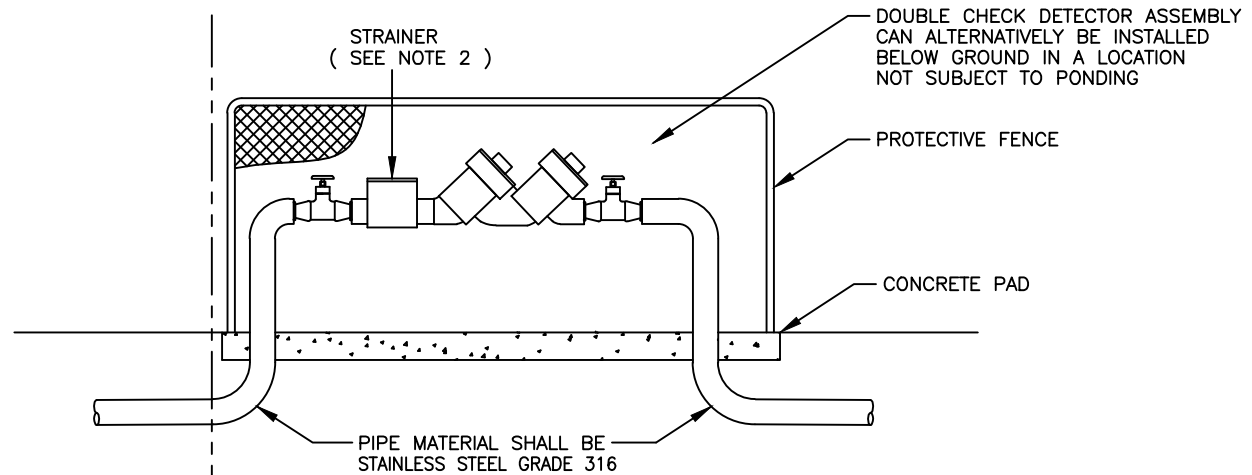
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**WATER METER WITH BACKFLOW PREVENTION DEVICE ( LOW TO MEDIUM HAZARD )**  
**40mm TO 50mm DIAMETER**

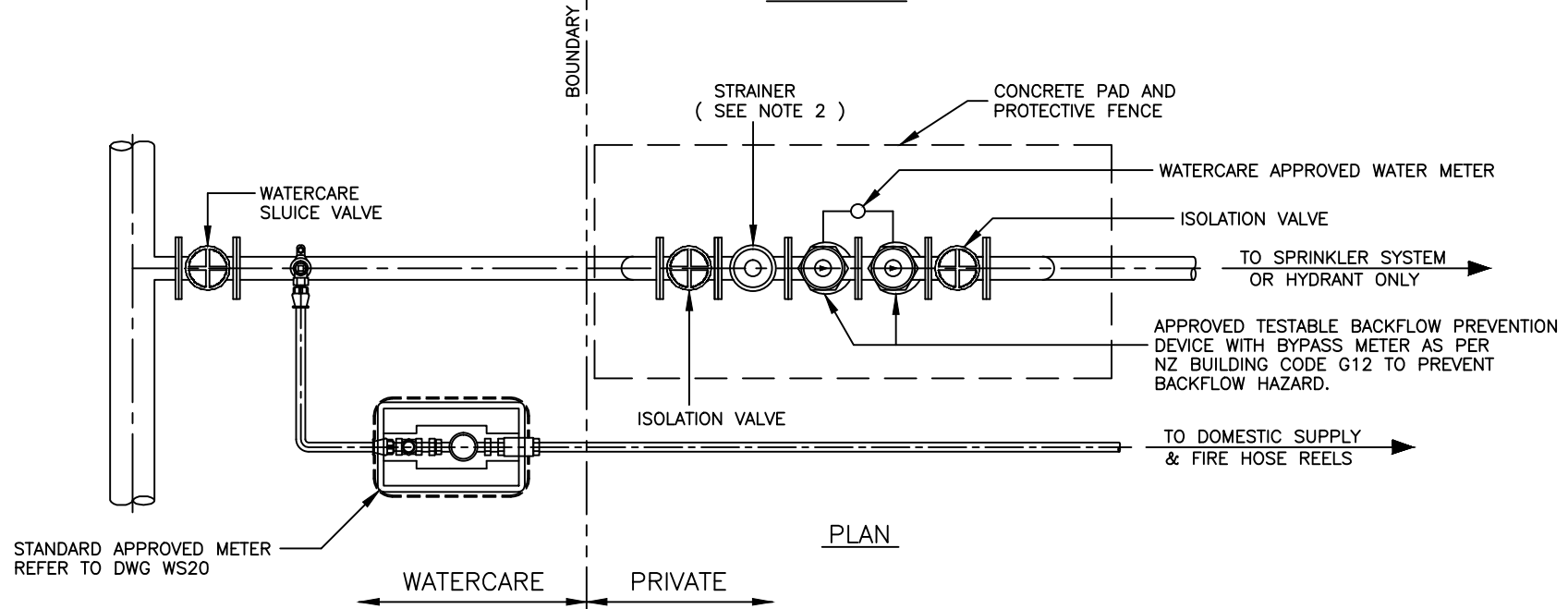
SCALE:	N.T.S.
ISSUE DATE:	14-04-2015
DWG No.	2010069.018A
REFERENCE No.	WS 20

NOTE:

1. FIRE HOSE REELS TO BE CONNECTED TO THE METERED SUPPLY.
2. STRAINER TO BE INSTALLED IF REQUIRED FOR FIRE SPRINKLER DESIGN.
3. 50mm FIRE CONNECTION PIPE MATERIAL SHALL BE STAINLESS STEEL GRADE 316
4. >50mm LINE CONNECTION PIPE MATERIAL MAY BE COATED DUCTILE IRON OR STAINLESS STEEL GRADE 316



ELEVATION



PLAN

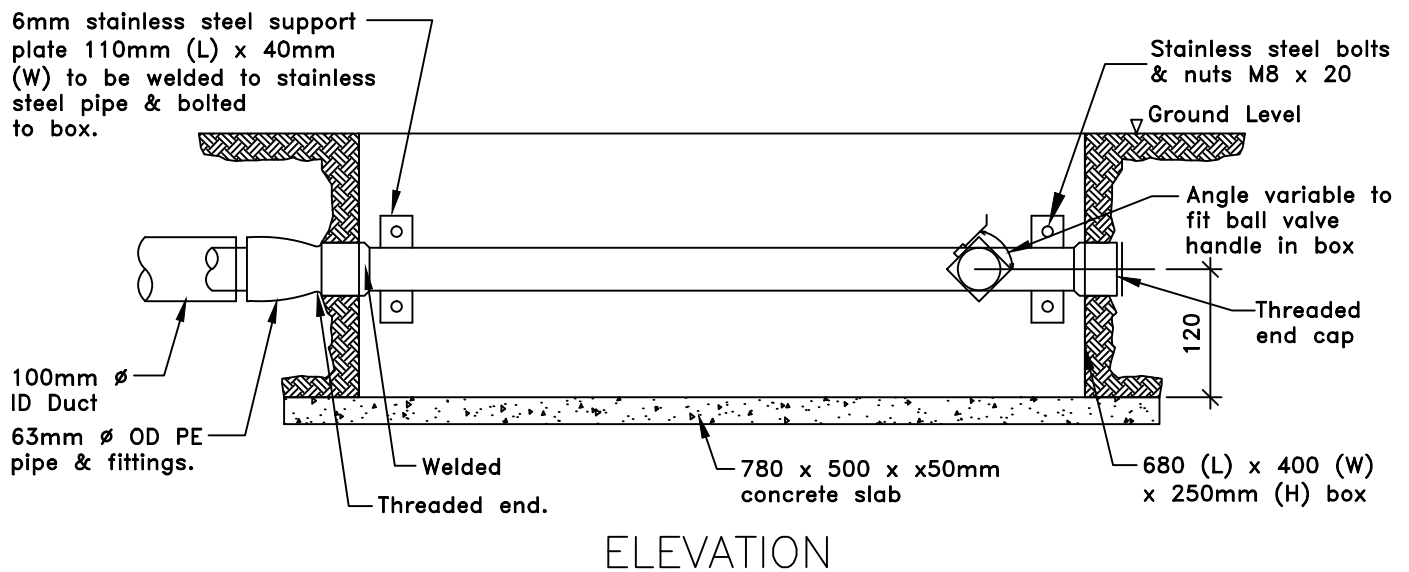
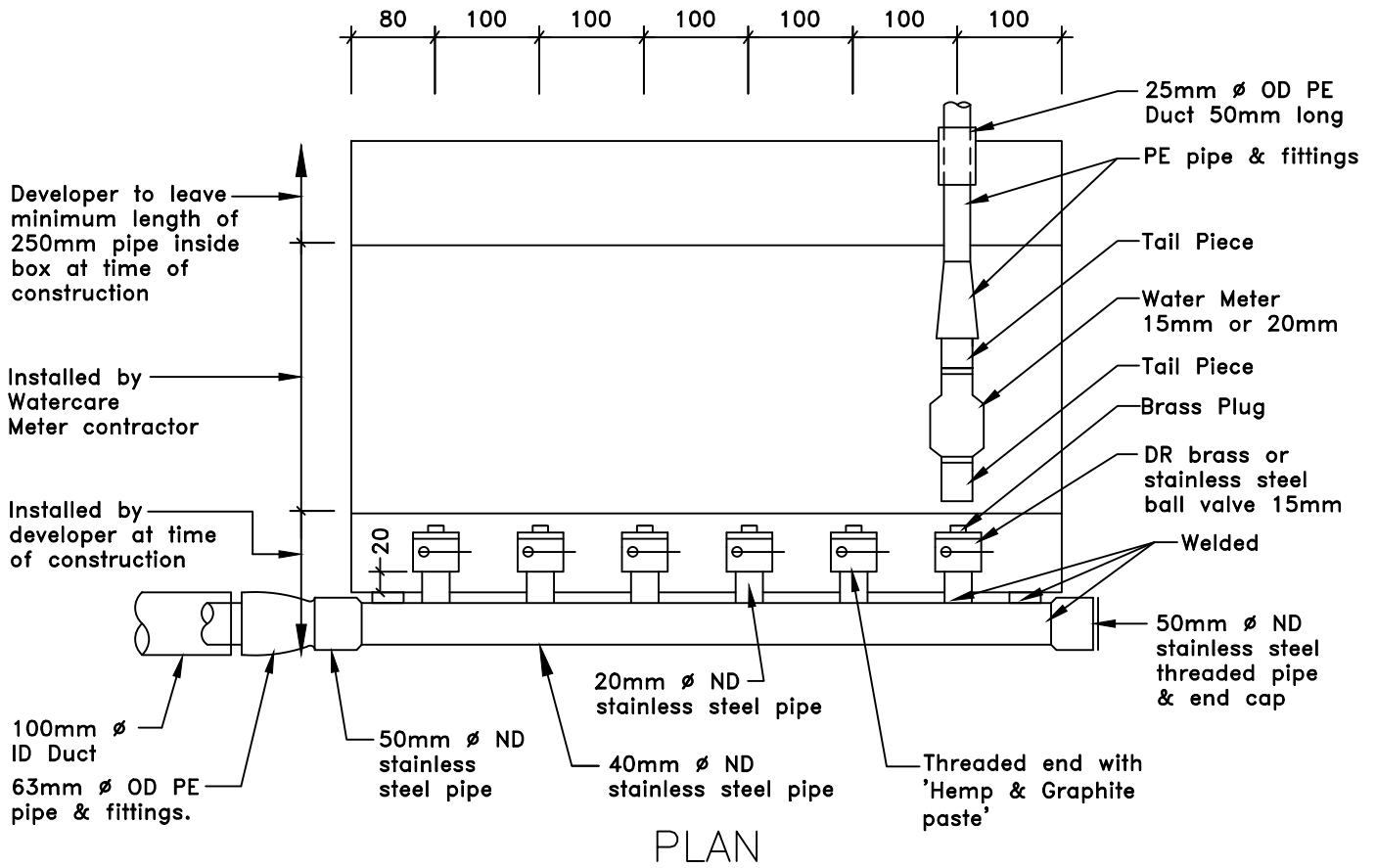
L:\- EDUCAP \ 2015 \ WATER & WASTEWATER NETWORK STD DWGS \ 2010069.019B.DWG



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## FIRE SYSTEM CONNECTION AND WATER METER < 50mmø

SCALE:	N.T.S.
ISSUE DATE:	14-04-2015
DWG No.	2010069.019B
REFERENCE No.	WS 21



**Notes:**

1. All fittings to be to Watercare Services Limited engineering Standards.
2. Each meter bank to have minimum of 6 meters. Box length is variable depending on the number of meters – 680mm for 6 meters, 780mm for 7 meters and so forth, whereas box width and height are unchanged.
3. The width of box may be modified to accommodate pressure reducing valves if required.
4. The numbered tags to be provided on each connection starting with unit 1 (or the lowest unit number) from one side. The tags shall be clearly marked firmly attached.

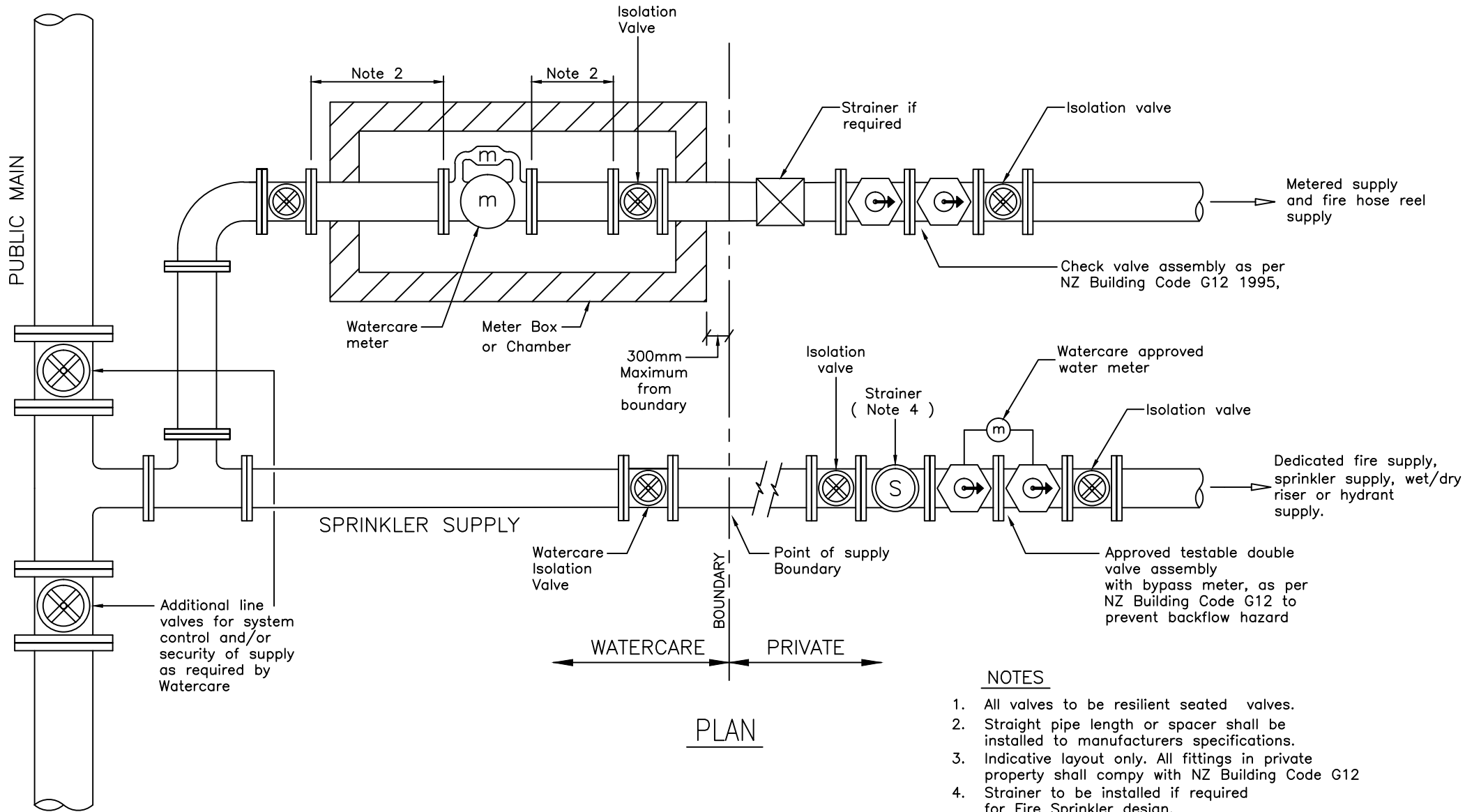
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**WATER METER BANK**

SCALE:	N.T.S.
ISSUE DATE:	20-9-2013
DWG No.	2010069.021
REFERENCE No.	WS 23



**NOTES**

1. All valves to be resilient seated valves.
2. Straight pipe length or spacer shall be installed to manufacturers specifications.
3. Indicative layout only. All fittings in private property shall comply with NZ Building Code G12
4. Strainer to be installed if required for Fire Sprinkler design.
5. Pipe material may be coated Ductile Iron or Stainless Steel Grade 316 or similar approved.

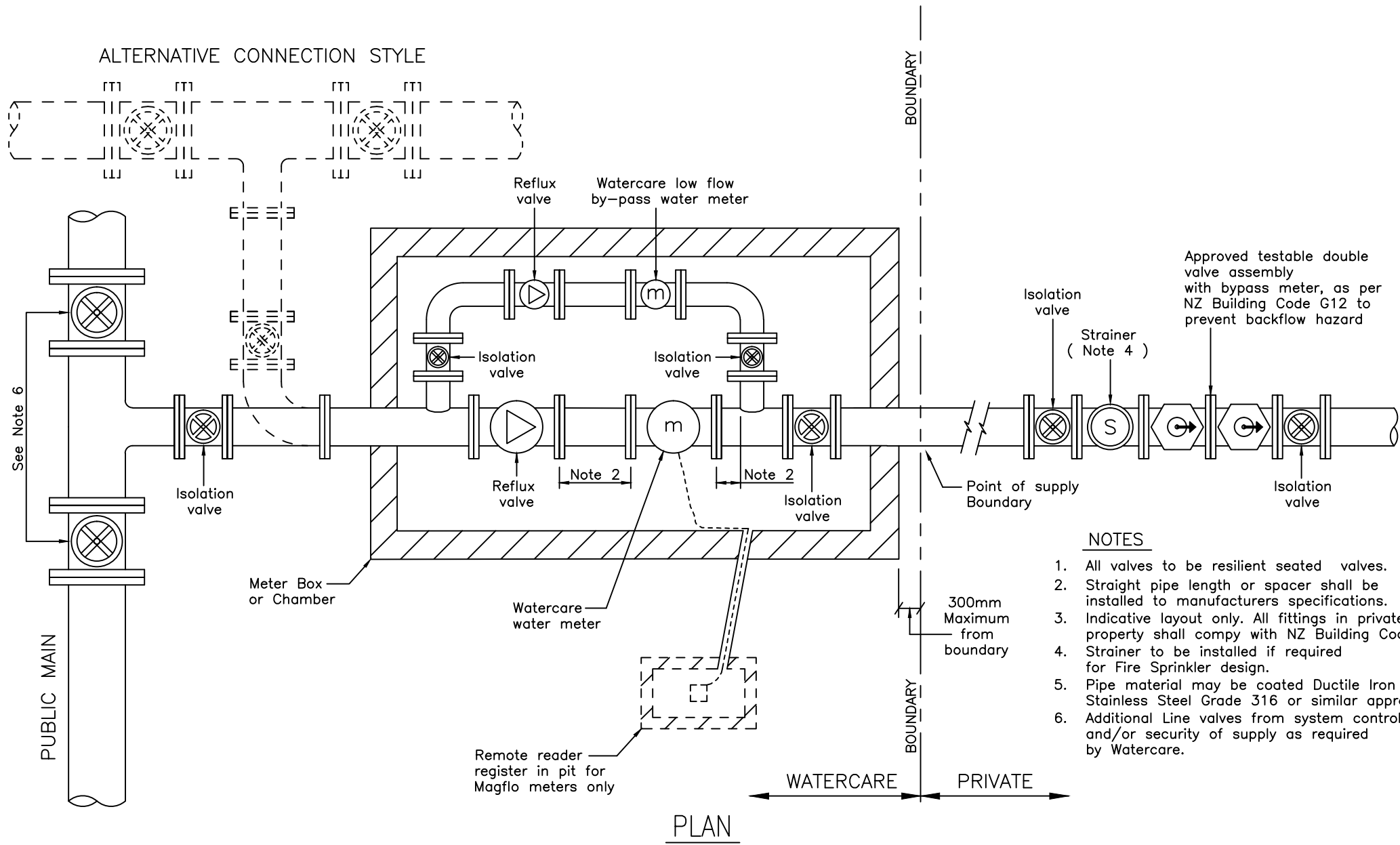
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## FIRE SYSTEM CONNECTION AND WATER METER 50mmØ AND ABOVE

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.022A
REFERENCE No.	WS 24



**NOTES**

1. All valves to be resilient seated valves.
2. Straight pipe length or spacer shall be installed to manufacturers specifications.
3. Indicative layout only. All fittings in private property shall comply with NZ Building Code G12
4. Strainer to be installed if required for Fire Sprinkler design.
5. Pipe material may be approved Ductile Iron or Stainless Steel Grade 316 or similar approved.
6. Additional Line valves from system control and/or security of supply as required by Watercare.

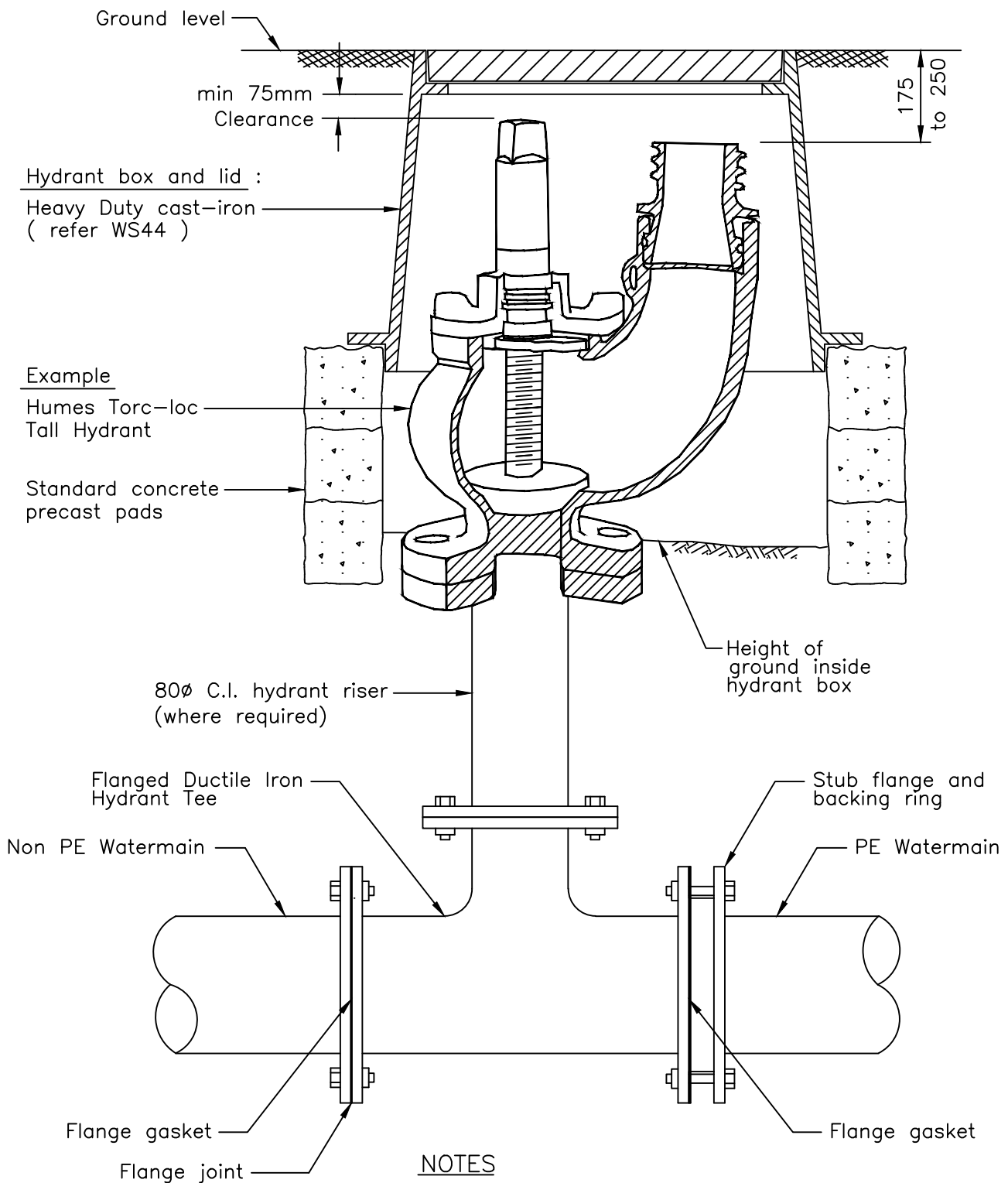


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COMBINED FIRE SYSTEM  
AND WATER METER 50mm $\phi$  AND ABOVE  
( WITH LOW FLOW BY-PASS WATER METER )

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SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.023A
REFERENCE No.	WS 25



#### NOTES

1. Clearance to outlet of hydrant essential so that automatic pressure recorder can also be fitted.
2. Hydrant tee, riser, fire hydrant shall be fully polymeric coated.
3. All flanges and fittings shall be Denso wrapped and taped to manufacturers specifications.
4. All nuts & bolts to be Denso-Taped and Molybond coated and shall be grade 316 stainless steel.

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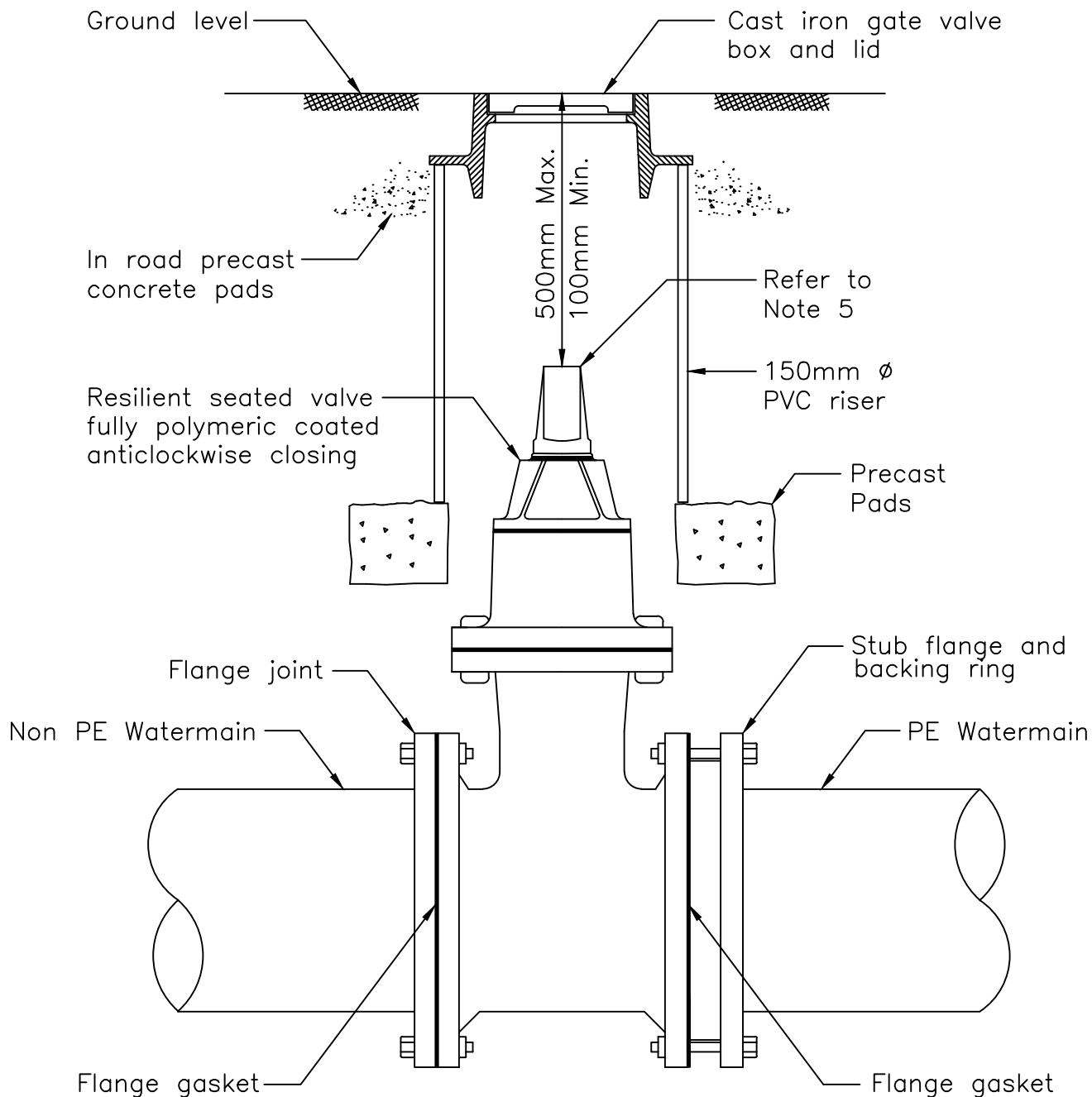


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## HYDRANT DETAIL

SCALE:	N.T.S.
ISSUE DATE:	20-9-2013
DWG No.	2010069.027
REFERENCE No.	WS 29





NOTES

1. Plastic valve covers/boxes not permitted.
2. C.I. gate valve boxes to be used on existing valves only. Square C.I. valve boxes on all new mains.
3. Flanges are to be 'Greensleeved' Polyethylene or Denso wrapped and taped.
4. All nuts and bolts to be Denso-taped and Molybond coated and shall be grade 316 stainless steel.
5. An extension spindle shall be incorporated as required to ensure the top of the spindle is no more than 350mm below the finished surface level.

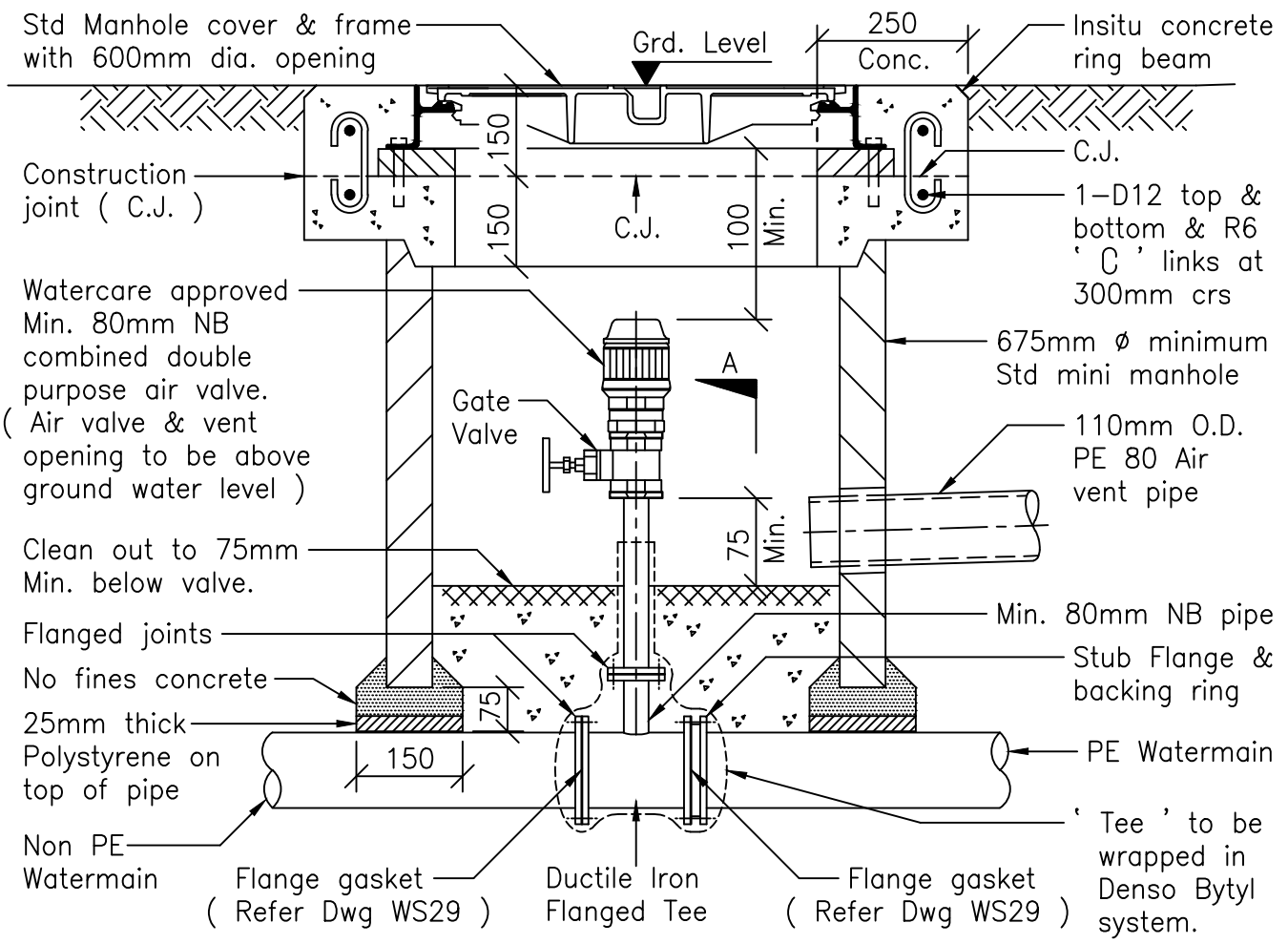
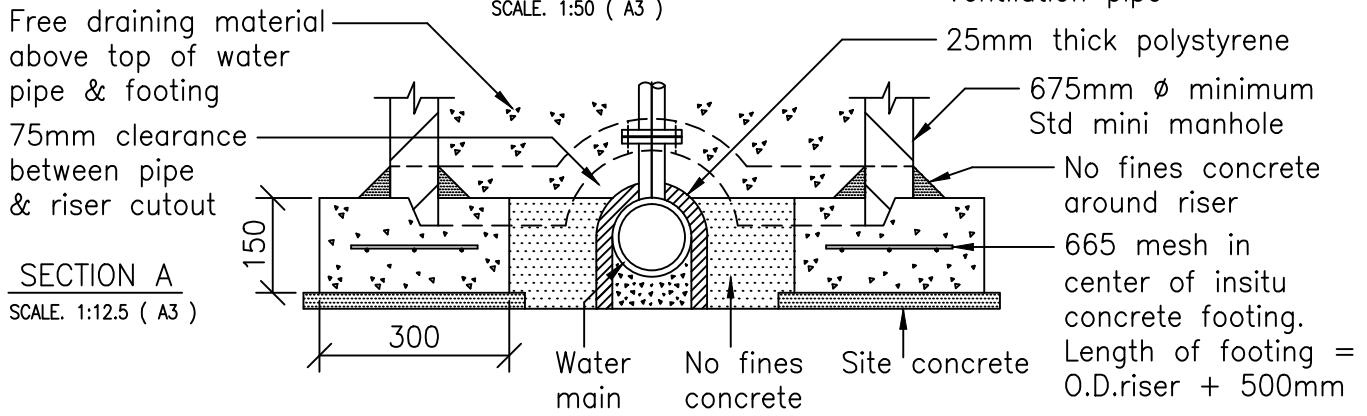
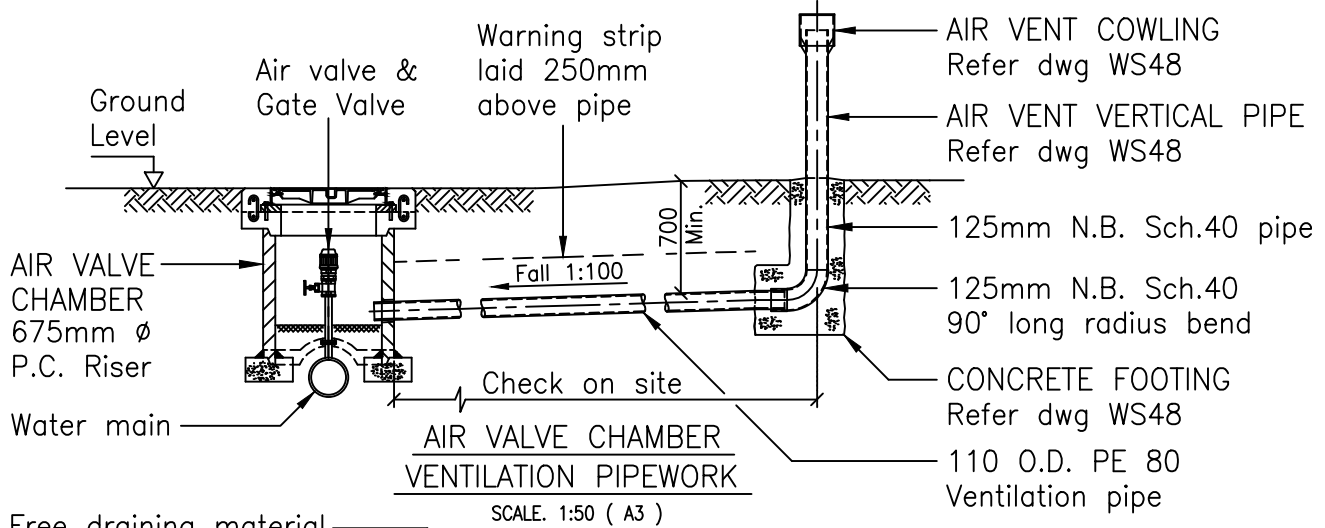
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FLANGED SLUICE VALVE DETAIL

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.029A
REFERENCE No.	WS 31



STANDARD AIR RELEASE VALVE & VALVE CHAMBER DETAIL

SCALE: 1:12.5 ( A3 )

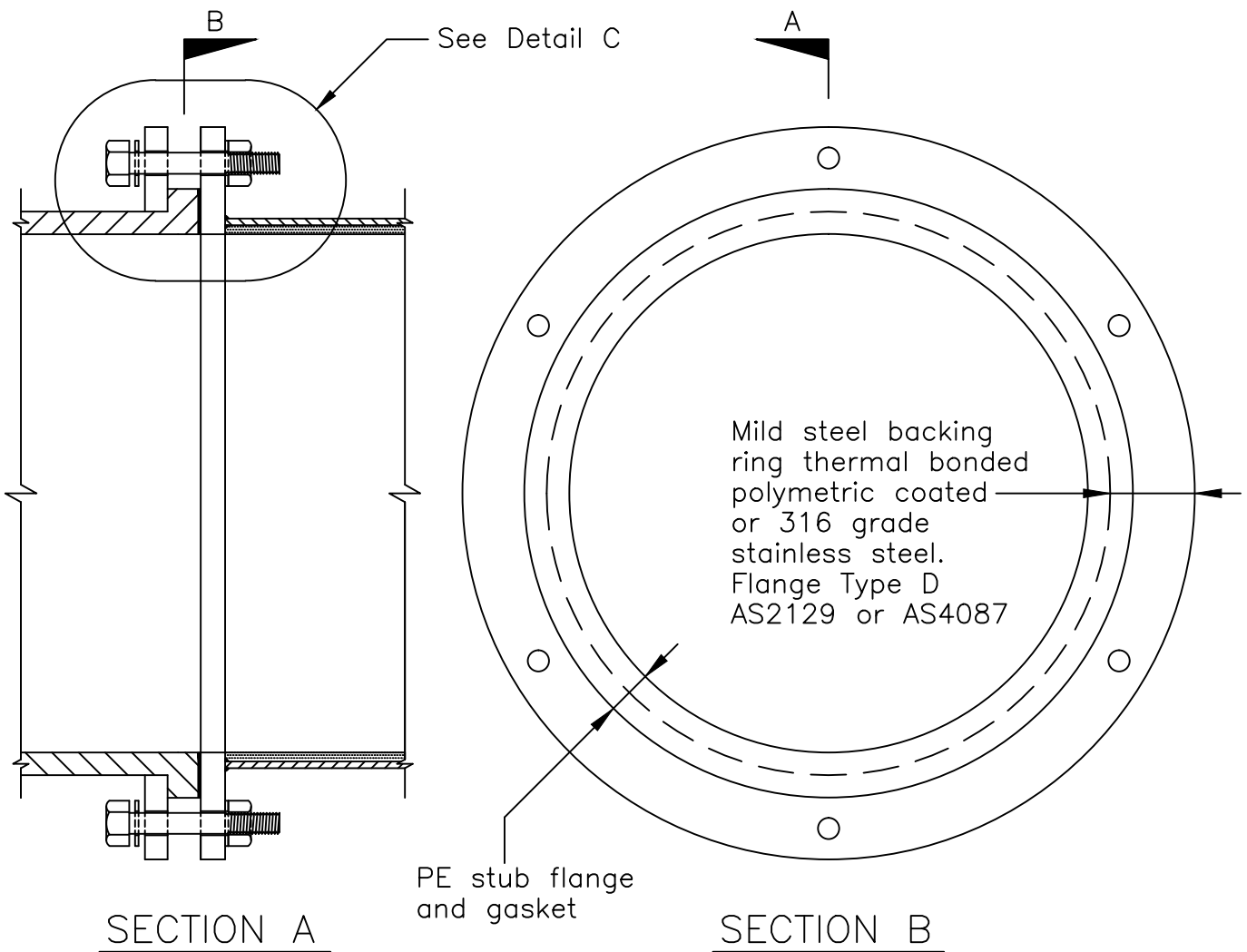
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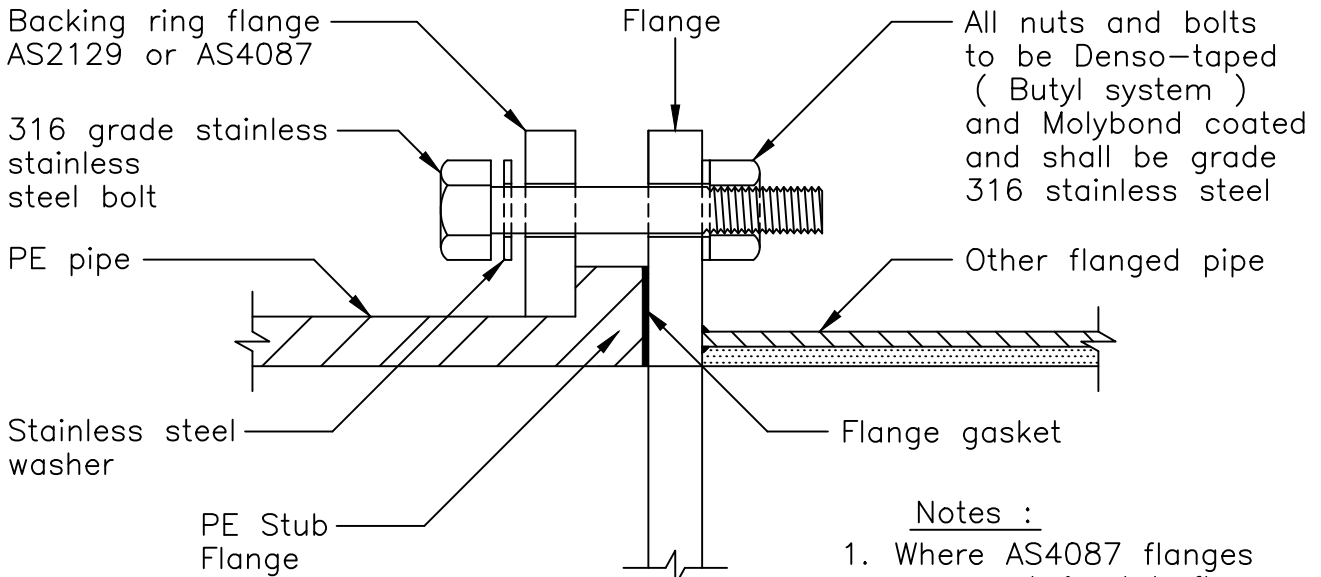
AIR RELEASE VALVE AND CHAMBER DETAIL

SCALE:	N.T.S.
ISSUE DATE:	04-12-2014
DWG No.	2010069.031A
REFERENCE No.	WS 33



SECTION A

SECTION B



DETAIL C

Notes :

1. Where AS4087 flanges are used & stub flange reduced to fit, calculations should show Max. allowable operating pressure is met.
2. Use BSEN1092 flanges where connections are to transmission mains. ( Typical )

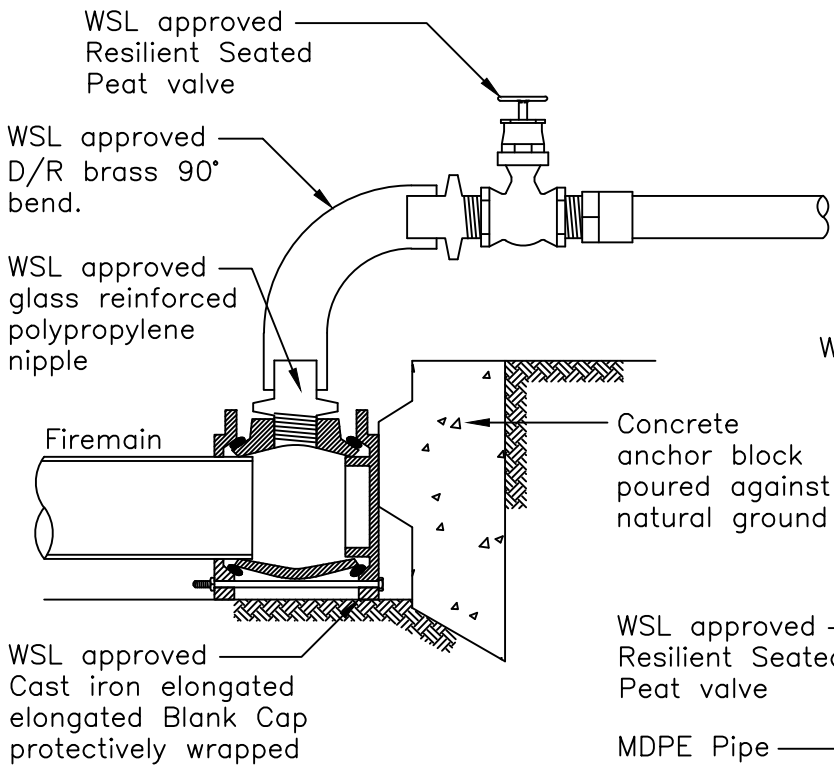
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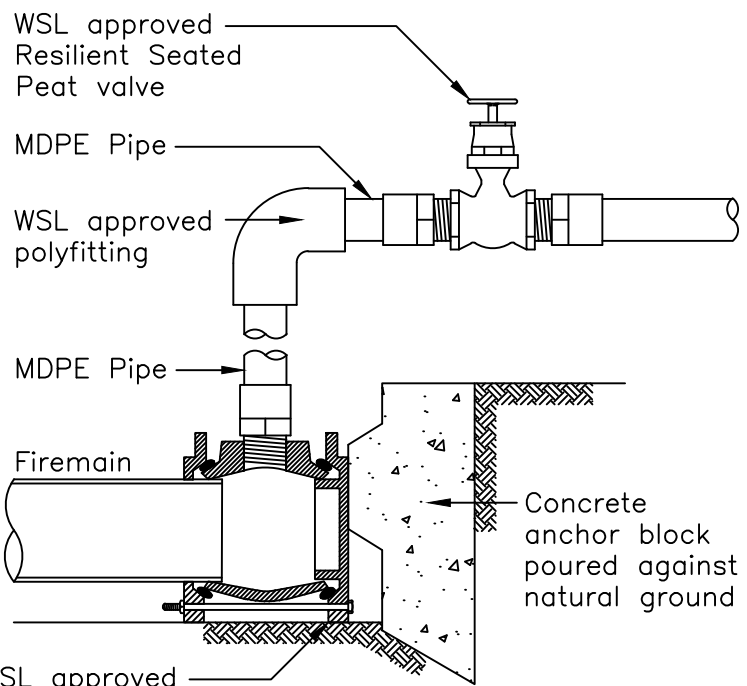
FLANGE CONNECTION DETAIL  
PE MAIN TO OTHER

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.034A
REFERENCE No.	WS37

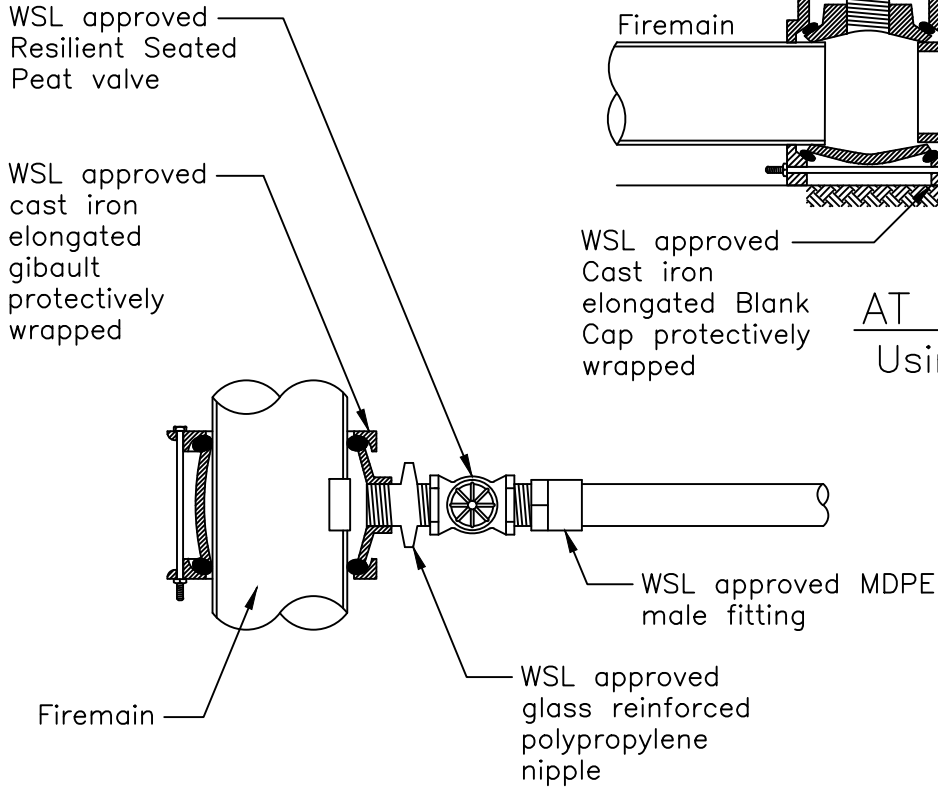


Notation  
WSL = Watercare Services Ltd

AT END OF MAIN  
Using Brass 90° Bend

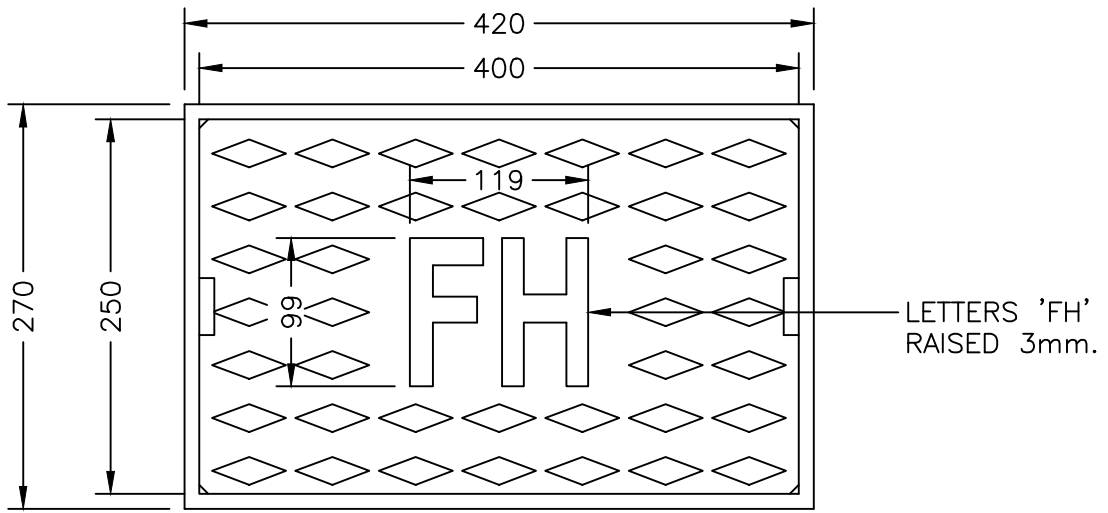


AT END OF MAIN  
Using MDPE elbow



AT TEE JUNCTION

SCALE:	N.T.S.
ISSUE DATE:	25-11-2014
DWG No.	2010069.036A
REFERENCE No.	WS 39

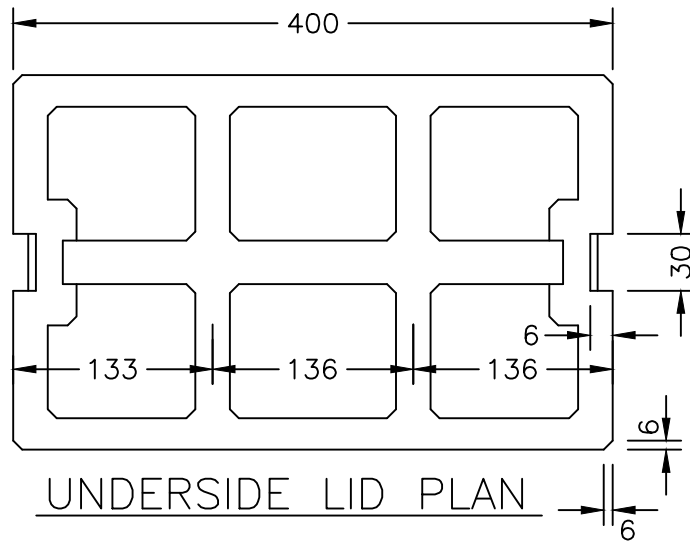


LID PLAN

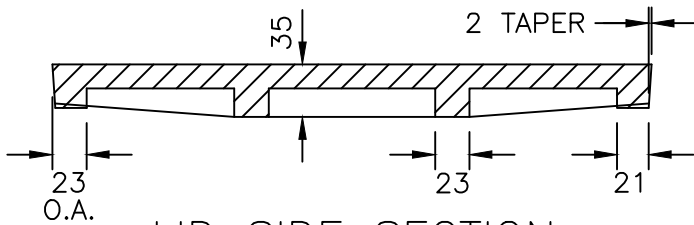
LETTERS 'FH'  
RAISED 3mm.

Note:

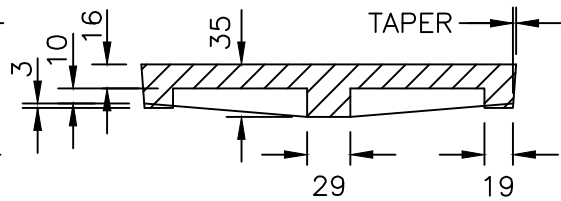
All castings to  
be made to  
BS 4622:1983



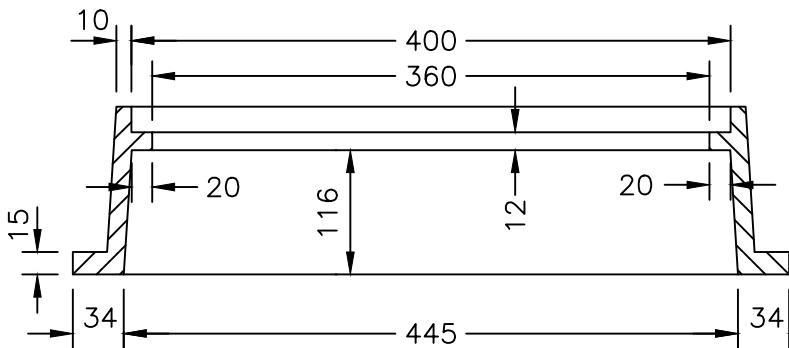
UNDERSIDE LID PLAN



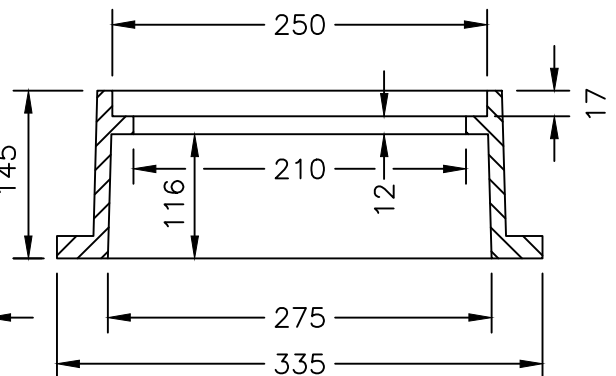
LID SIDE SECTION



LID END SECTION



BOX SIDE SECTION



BOX END SECTION

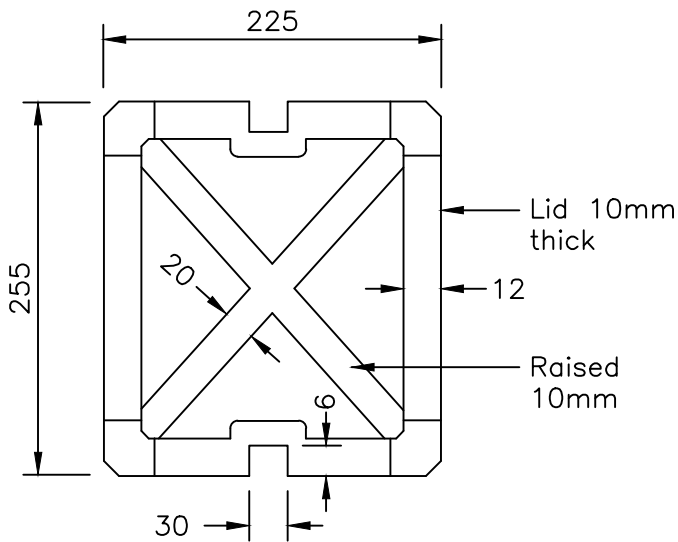
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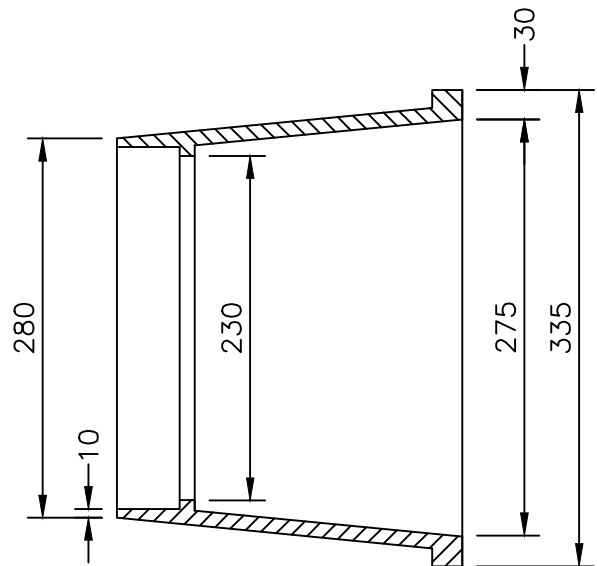
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CAST IRON HYDRANT BOX & LID

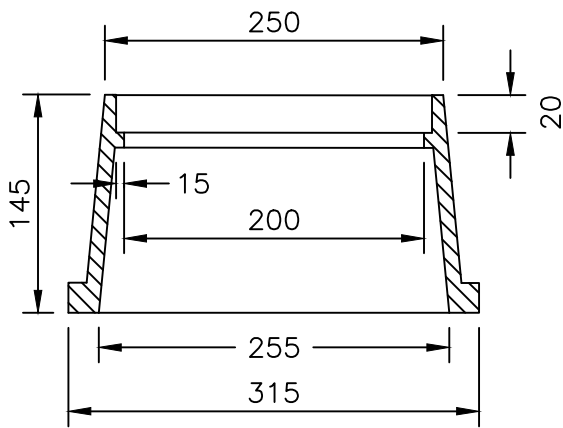
SCALE:	N.T.S.
ISSUE DATE:	20-9-2013
DWG No.	2010069.039
REFERENCE No.	WS 44



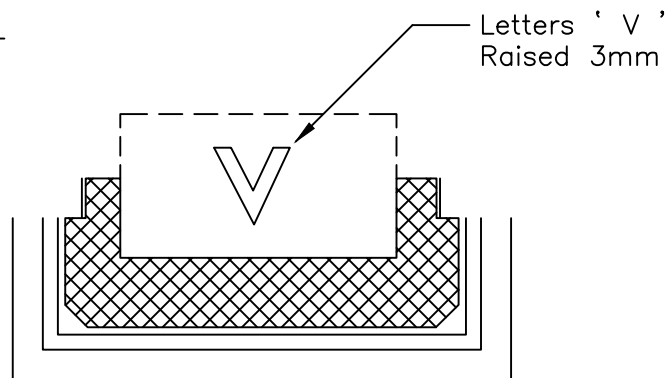
UNDERSIDE LID PLAN



BOX SIDE UP



BOX END SECTION



HALF PLAN

Note:

All castings to be made  
to BS 4622:1983

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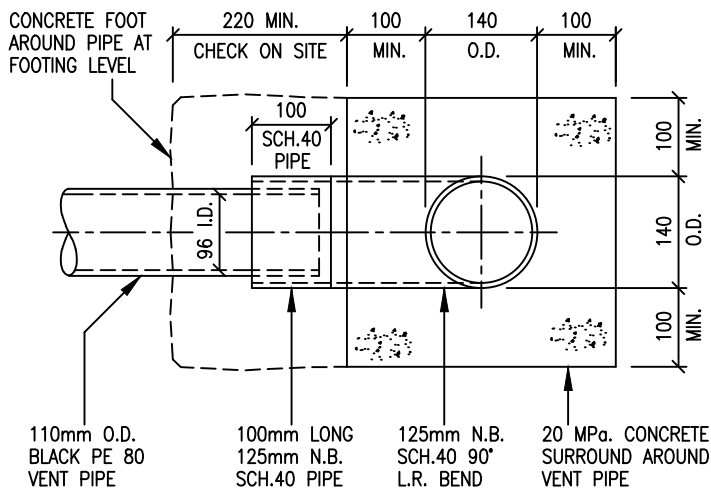
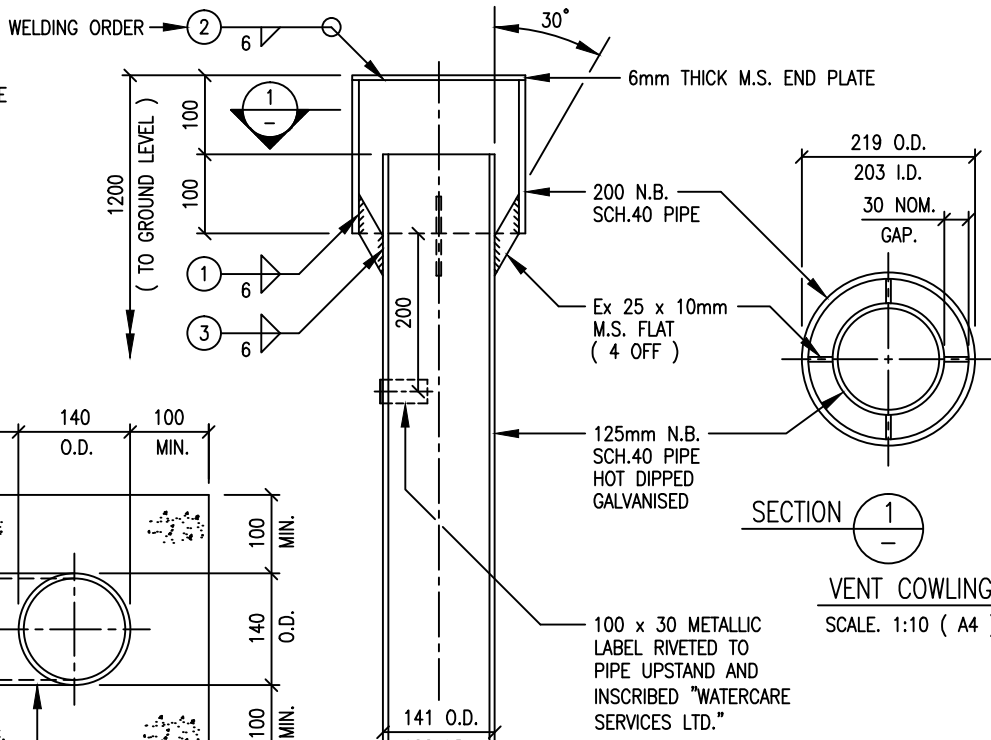
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CAST IRON VALVE BOX & LID

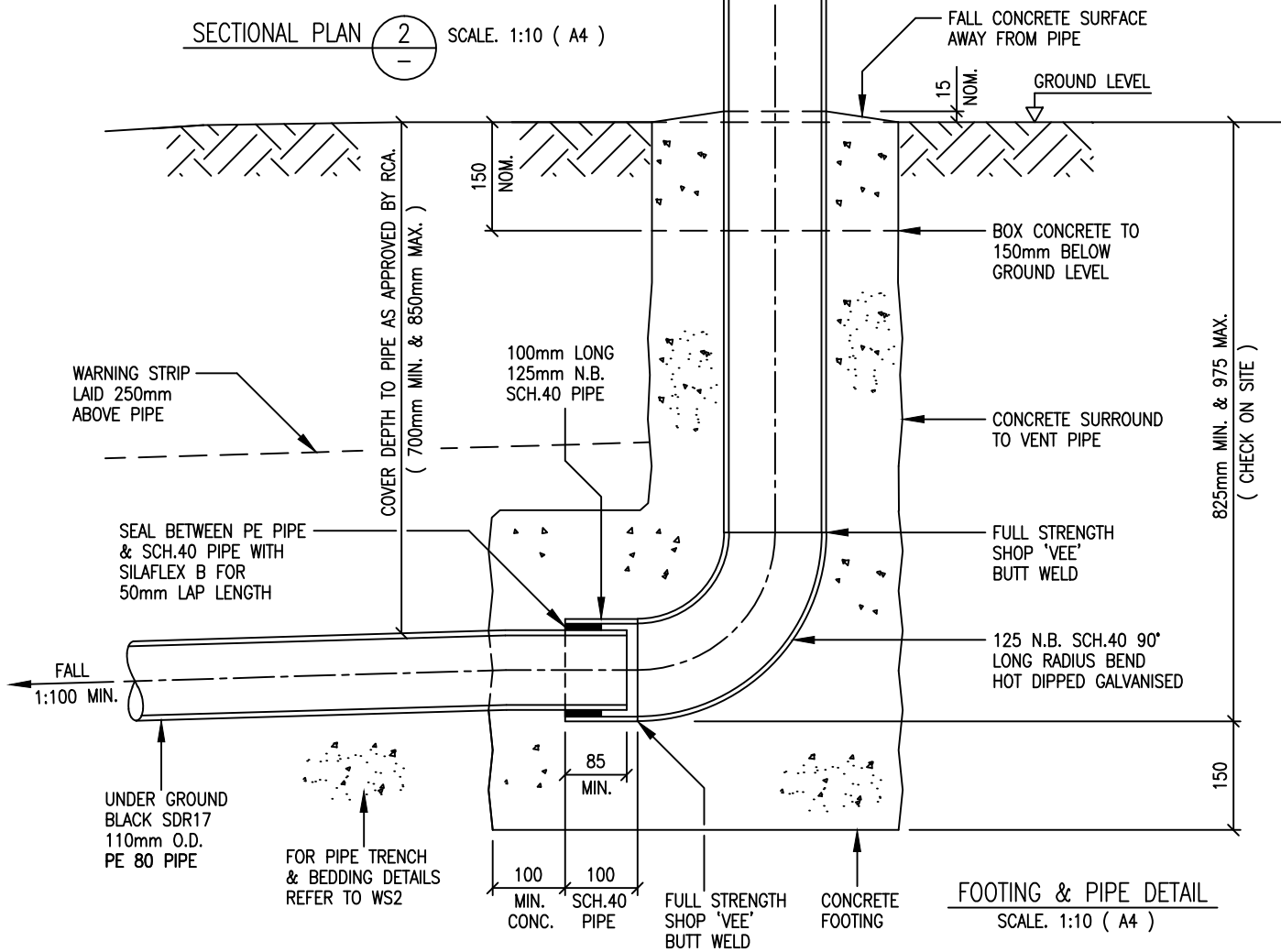
SCALE:	N.T.S.
ISSUE DATE:	20-9-2013
DWG No.	2010069.040
REFERENCE No.	WS 45

**NOTES**

- FOR AIR RELEASE VALVE CHAMBER REFER DWG WS 33
- PLACE EPOXY MORTAR AROUND VENT PIPE AT AIR VALVE CHAMBER CONCRETE WALL
- NOTATION:  
C.O.S. = CHECK ON SITE  
N.T.S. = NOT TO SCALE  
O.D. = OVERALL DIAMETER
- ALL STEEL PIPEWORK & VENT COWLING TO BE HOT DIP GALVANISED AFTER FABRICATION IS COMPLETE

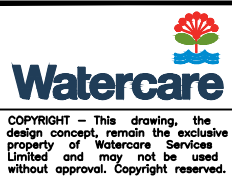


SECTIONAL PLAN 2 SCALE: 1:10 ( A4 )



FOOTING & PIPE DETAIL SCALE: 1:10 ( A4 )

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AIR VENT COWLING, VERTICAL STEEL PIPE FABRICATION DETAIL & CONCRETE FOOTING

SCALE:	1:10 ( A4 )
ISSUE DATE:	10-12-2014
DWG No.	2010069.043
REFERENCE No.	WS 48

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