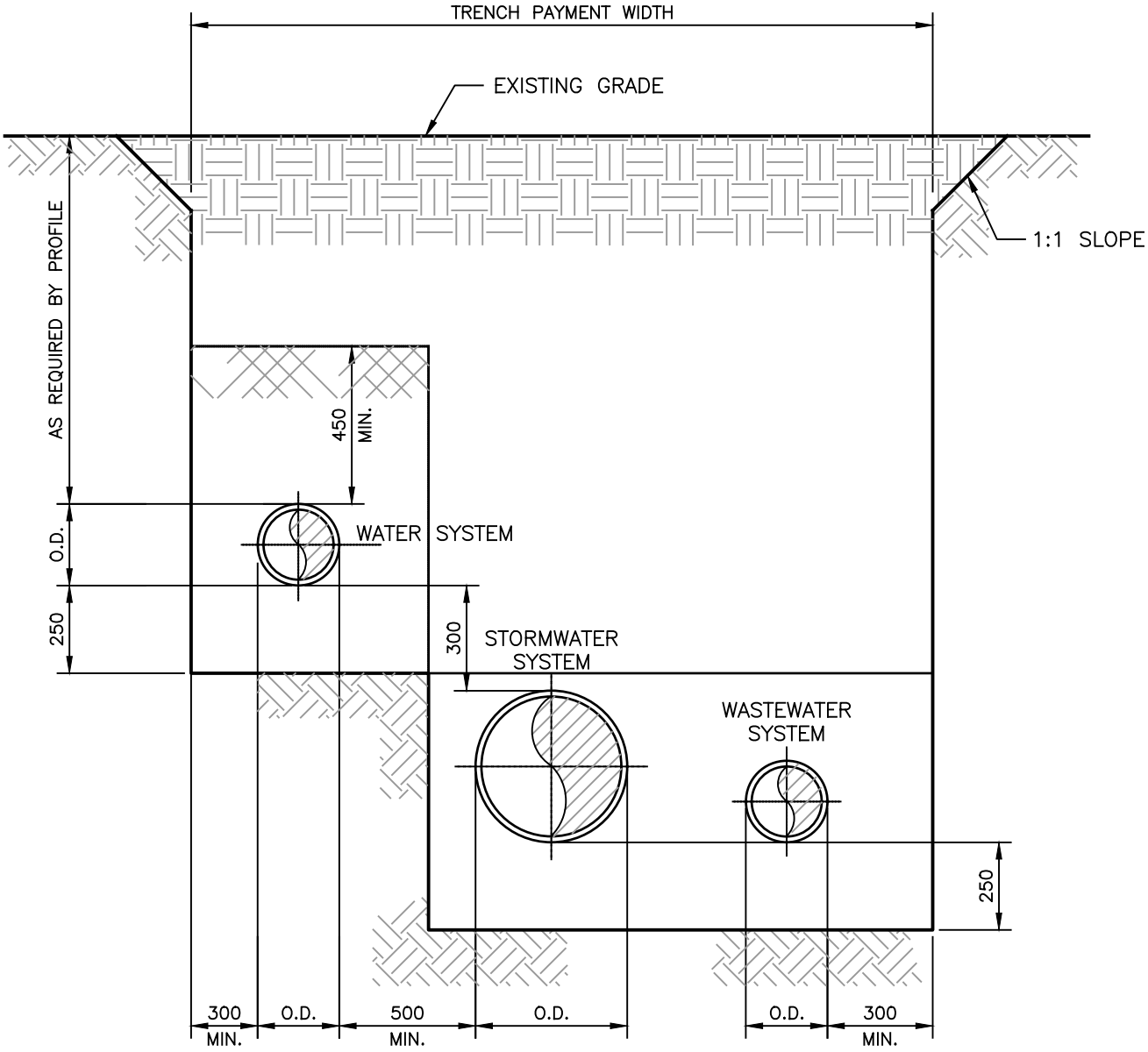


REFER TO STANDARD DRAWING HWSD – 1440 FOR TRENCH DETAILS

No.	DESCRIPTION	DATE	BY	CHKD
11	GENERAL REVISIONS FOR 2019	19|04|29	ST	
10	GENERAL REVISIONS FOR 2016	16|03|01	SS	
9	ADDED TRENCH STABILITY CUTS	12|12|05	JW	
8	GENERAL REVISIONS FOR 2010	10|05|17	ML	
7	GENERAL REVISIONS FOR 2009	09|06|08	ML	
6	BACKFILL TYPE REVISED	04|04|01	BC	
5	TITLE BLOCK CLEANUP	03|04|08	BC	
4	HORIZONTAL SEPARATION REVISED	02|04|04	PSP	
3	BEDDING TYPE REVISED	00|03|20	MC	
2	BEDDING TYPE ADDED	99|12|20	RJ	

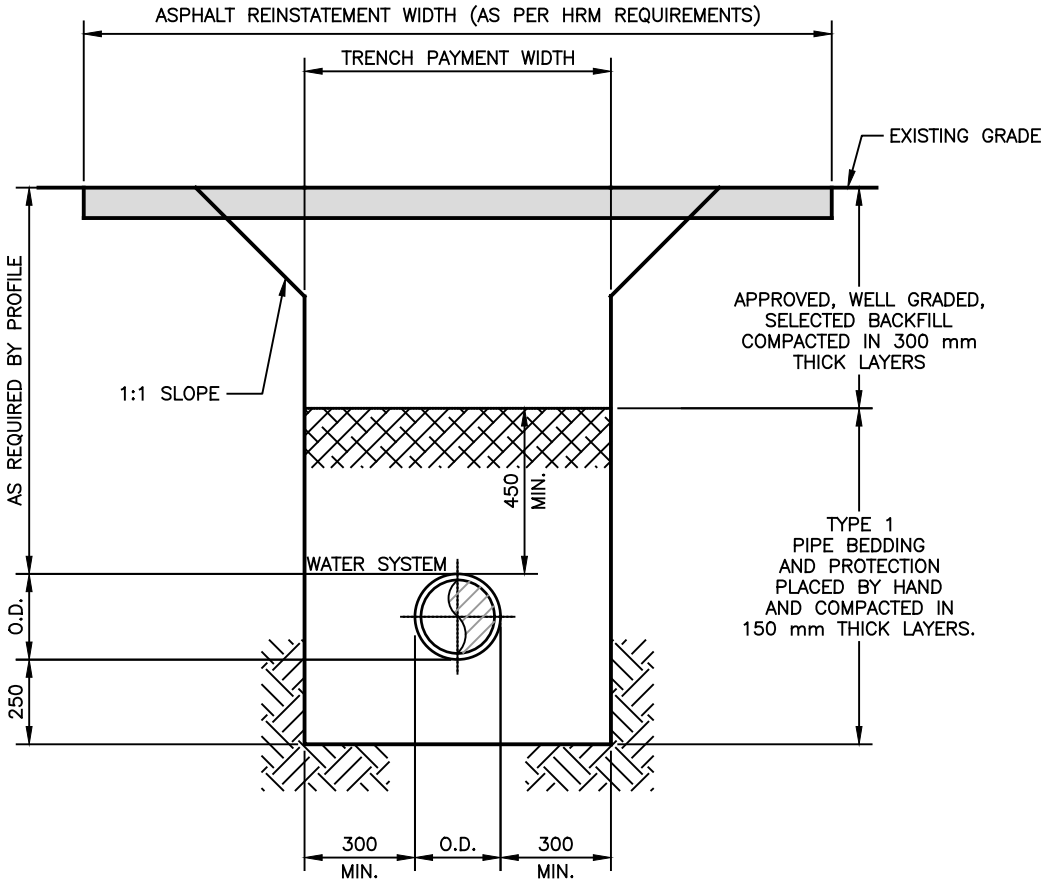
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

TYPICAL TRENCH PAYMENT WIDTH (WATER, WASTEWATER AND STORMWATER SYSTEMS)

DRAWN	J.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1000 (2019)		



No.	DESCRIPTION	DATE	BY	CHKD
8	GENERAL REVISIONS FOR 2016	16|03|01	SS	
7	REMOVED HRM REQUIREMENTS TEXT	12|02|14	JW	
6	ADDED TRENCH STABILITY CUTS	12|12|11	JW	
5	GENERAL REVISIONS FOR 2009	09|06|08	ML	
5	BACKFILL TYPE REVISED	04|04|01	BC	
4	TITLE BLOCK CLEANUP	03|04|08	BC	
3	BEDDING TYPE REVISED	00|03|20	MC	
2	BEDDING TYPE ADDED	99|12|20	RJ	
1	NEW DETAIL DRAWING FOR 1999 SPEC	99|02|10	MC	

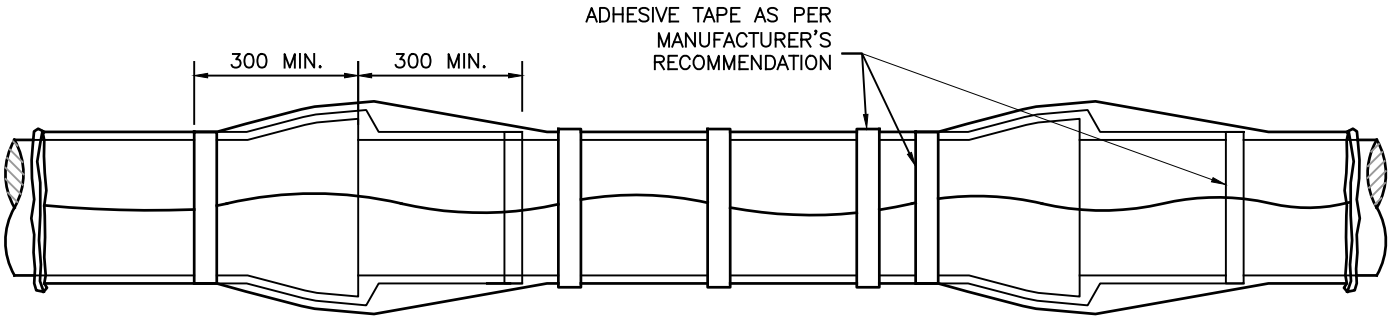
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

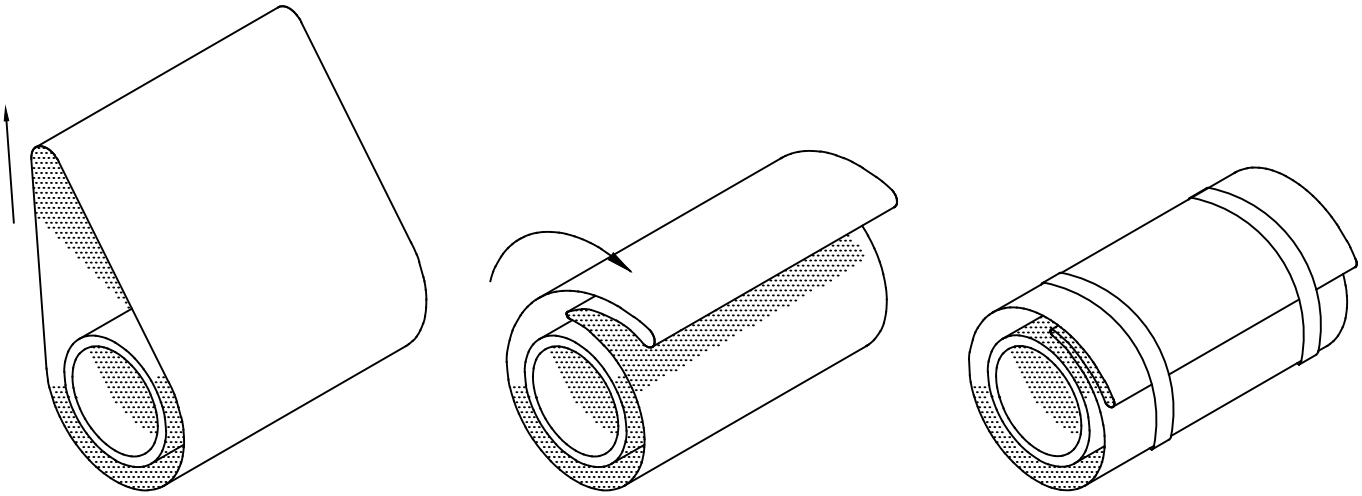
PROJECT

TYPICAL TRENCH DETAIL WATER SYSTEM INSTALLATION (WATER ONLY)

DRAWN JW	SCALE (PLAN) NTS
CHECKED JD	SCALE (PROFILE)
APPROVED KG	DATE 17/02/15
PROJECT No.	
DWG. No. HWSD – 1010	



ONE_LENGTH OF V–BIO ENHANCED POLYETHYLENE (OR APPROVED EQUIVALENT) FOR EACH LENGTH OF PIPE, OVERLAPPED 300 mm AT JOINT.
SECURE EACH END OF TUBE WITH ADHESIVE TAPE AS PER MANUFACTURER'S RECOMMENDATION.



TAKE UP SLACK IN TUBE TO MAKE A SNUG, BUT NOT TIGHT, FIT. FOLD EXCESS BACK OVER TOP OF PIPE, SECURING THE FOLD AT QUARTER POINTS ALONG THE LENGTH OF THE PIPE.

NOTES:

1. DUCTILE PIPE AND FITTINGS TO BE ENCASED IN V–BIO ENHANCED POLYETHYLENE (OR APPROVED EQUIVALENT). TUBE OR SHEET SECURED AT QUARTERS WITH ADHESIVE TAPE AS PER MANUFACTURER'S RECOMMENDATION.
2. DURING INCLEMENT WEATHER OR WET TRENCH CONDITIONS, USE PLASTIC STRIP TIES TO SECURE POLYETHYLENE.
3. FOR EACH TAP, PLACE 150 mm LONG BAND OF 50 mm WIDE TAPE AROUND AREA TO BE TAPPED. MAINTAIN INTEGRITY OF POLYWRAP AROUND PIPE.
4. REFER TO SECTION 33 11 00, PART 2.2 FOR PRODUCT REQUIREMENTS.

No.	DESCRIPTION	DATE	BY	CHKD
8	GENERAL REVISIONS FOR 2025	25/03/25	ST	
7	GENERAL REVISIONS FOR 2024	24|04|24	ST	
6	NEW DETAIL FOR 2019	06|06|19	ST	
5	REVISED NOTES	15|02|17	JW	
4	GENERAL REVISIONS FOR 2009	09|06|08	ML	
3	REVISED NOTE #3	07|04|27	BC	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	REVISED LAPPING DETAIL	98|01|09	MC	

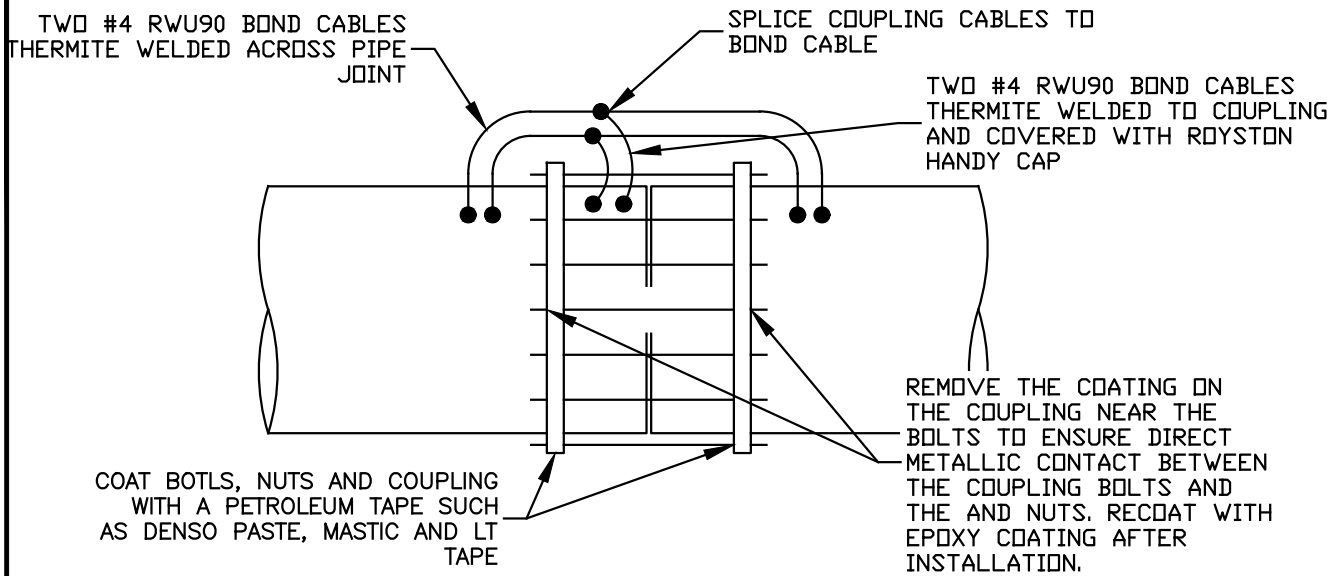
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

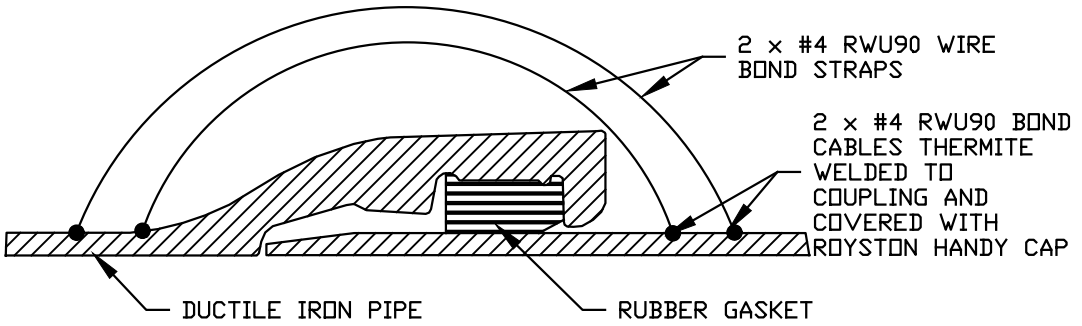
PROJECT

POLYETHYLENE ENCASEMENT ON DUCTILE IRON WATER MAINS

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1020		



TYPICAL BOND STRAPS AT COUPLING
NTS



WIRE BOND STRAPS AT JOINTS
NTS

No.	DESCRIPTION	DATE	BY	CHKD
6	–			
5	–			
4	–			
3	–			
2	GENERAL REVISION FOR 2025	12/30/24	S.T.	
1	NEW DRAWING	05/21/24	S.T.	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

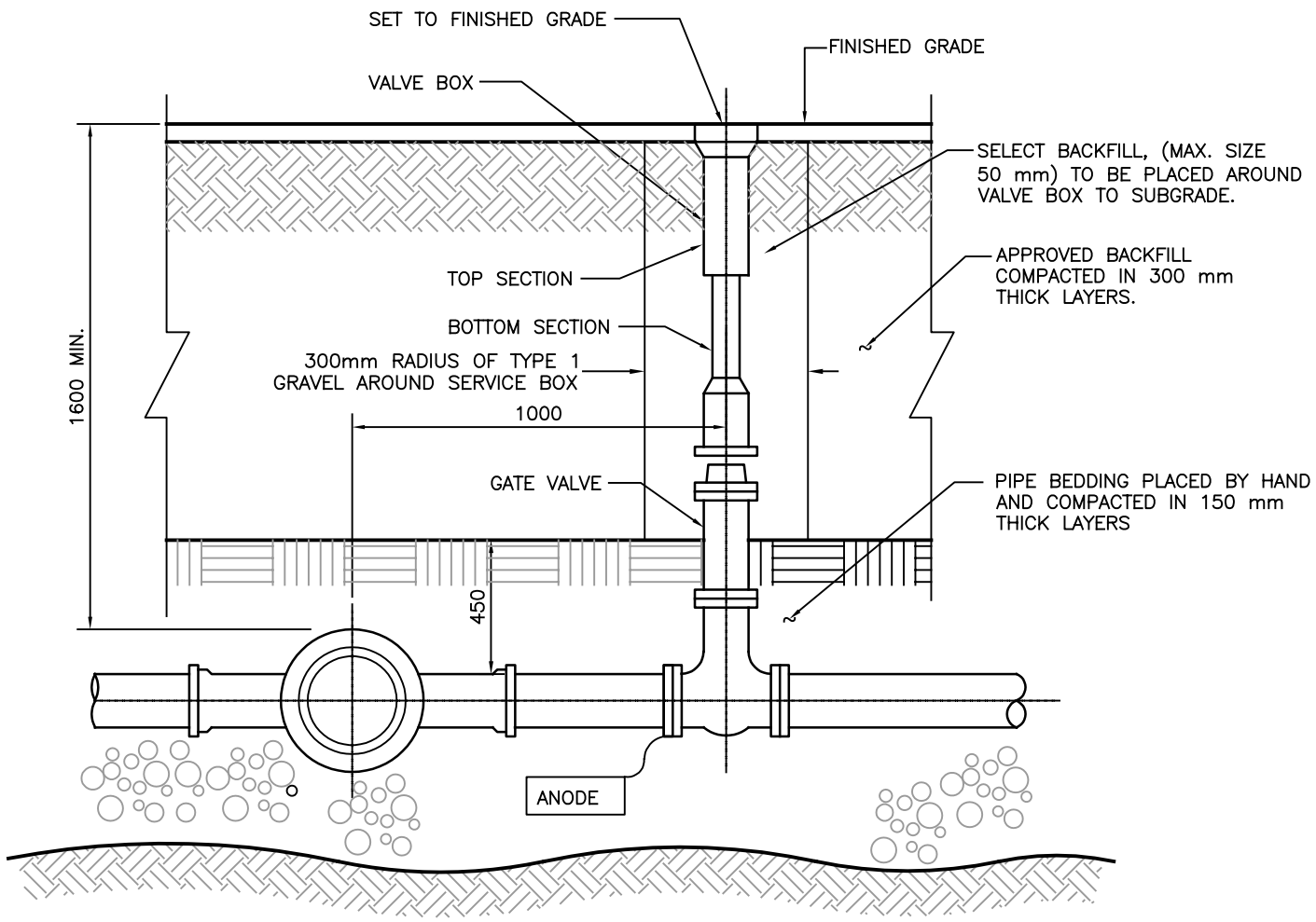
Halifax Water

PROJECT
WIRE BOND STRAPS
JUMPER

DRAWN	S.T.	SCALE (PLAN)	NTS
CHECKED	S.H.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	05/21/24

PROJECT No.

DWG. No. HWSD – 1022



NOTES:

1. ANODE TO BE ZINC 24–48 TYPE INSTALLED PER DETAIL ON DWG. HWSD – 1040

2. ANODE CONNECTION TO GATE VALVE BY DOUBLE NUTTING ON ACCESSIBLE STUD.

No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2023	23/04/20	ST	JC
4	GENERAL REVISIONS FOR 2009	09|06|08	ML	
3	TITLE BLOCK CLEANUP	03|04|08	BC	
2	ANODE RELOCATED	00|03|20	MC	
1	GENERAL REVISION	99|12|20	RJ	

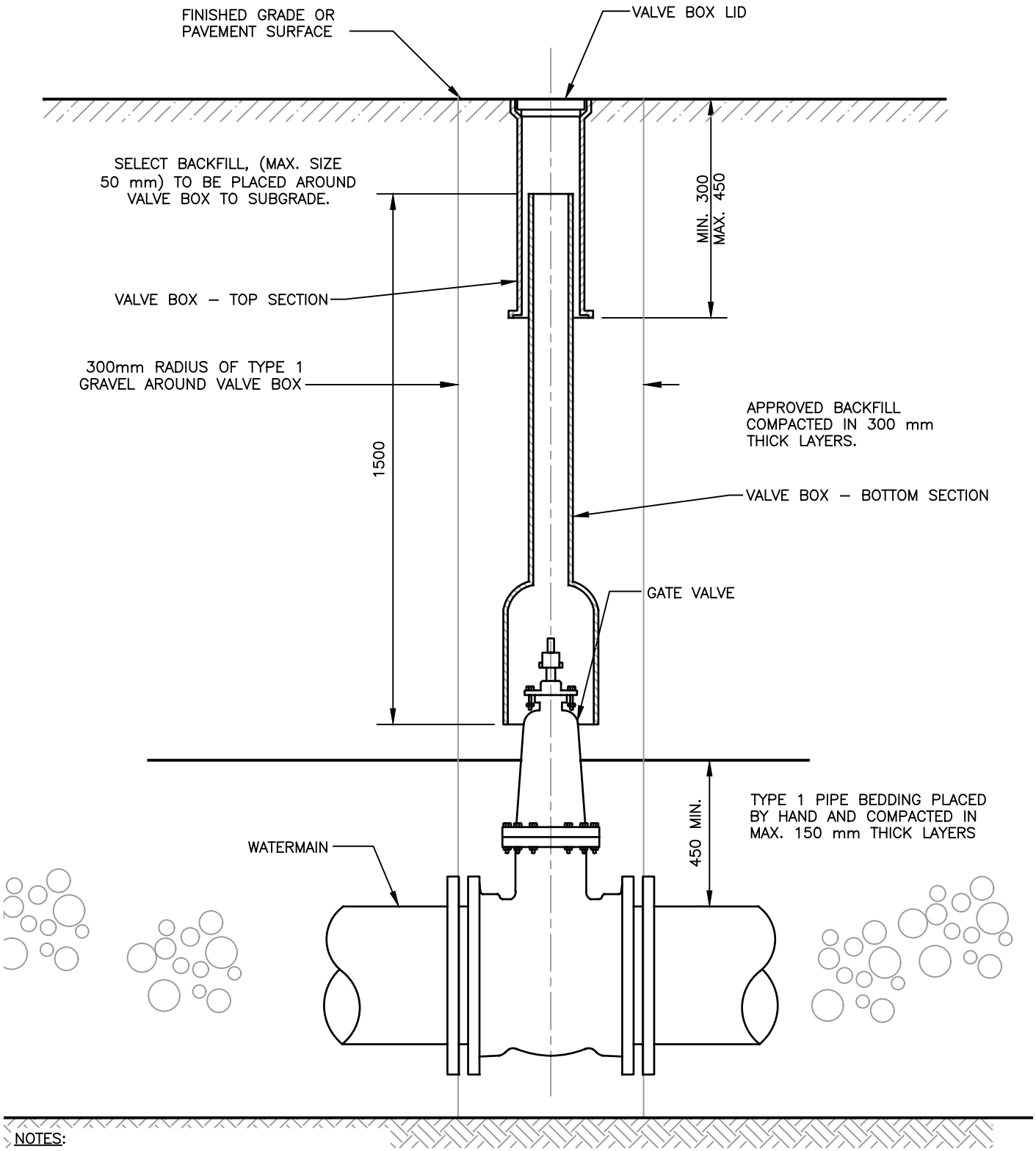
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

WATER MAIN VALVE

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1030		



NOTES:

1. ANODE TO BE ZINC 24–48 TYPE INSTALLED PER DETAIL ON DWG. HWSD – 1040
2. ANODE CONNECTION TO GATE VALVE BY DOUBLE NUTTING ON ACCESSIBLE STUD.

No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2025	23/03/25	ST	
2	GENERAL REVISIONS FOR 2023	20/04/23	ST	JC
1	NEW DRAWING	13|02|14	SS	

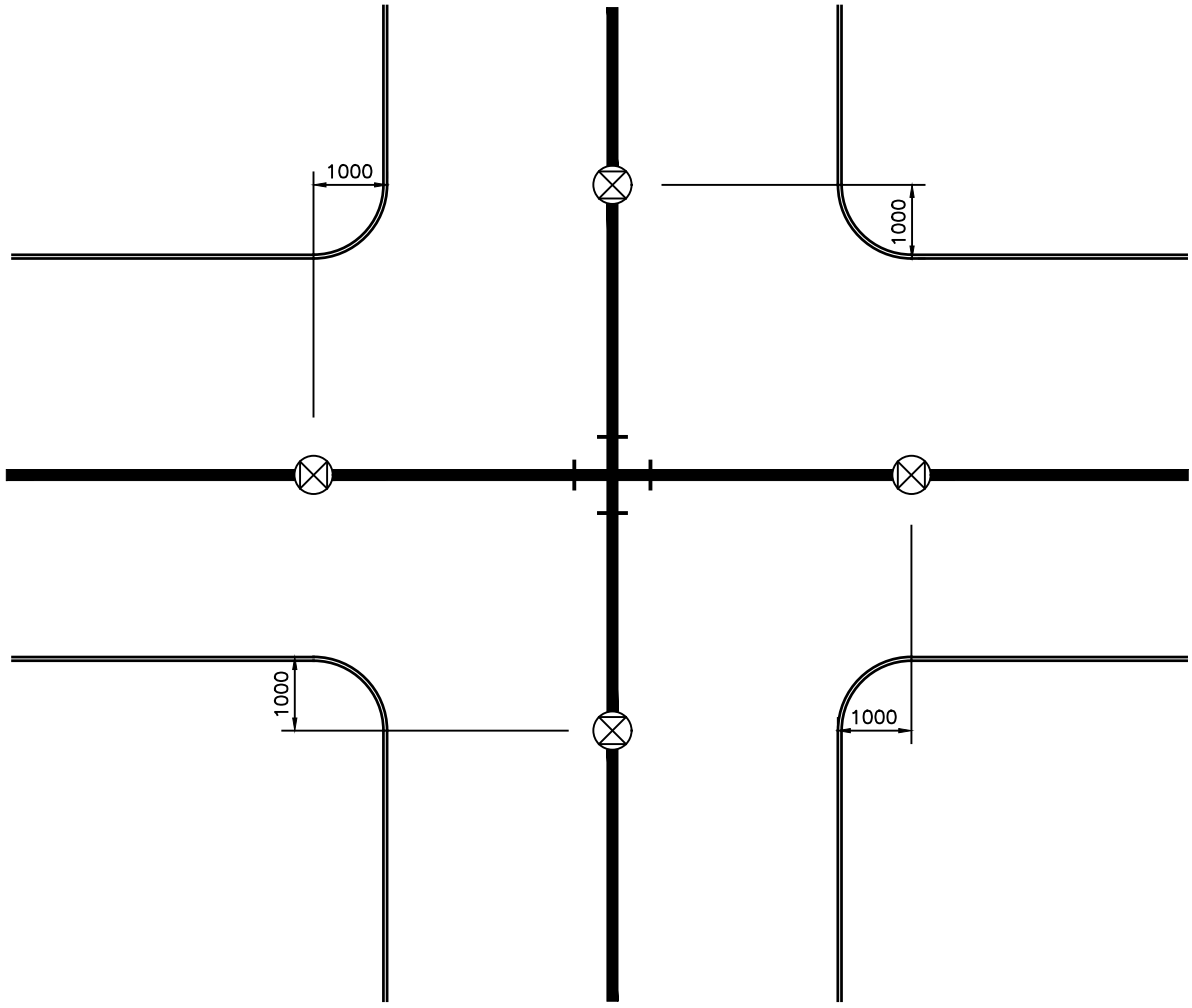
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

STANDARD SLIDING TYPE VALVE BOX

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1032		



NOTE:

VALVES ARE TO BE LOCATED 1000 mm FROM FACE OF CURB.

No.	DESCRIPTION	DATE	BY	CHKD
1	NEW DRAWING	13|02|14	SS	
1	REVISION DETAILS	YY|MM|DD	XX	

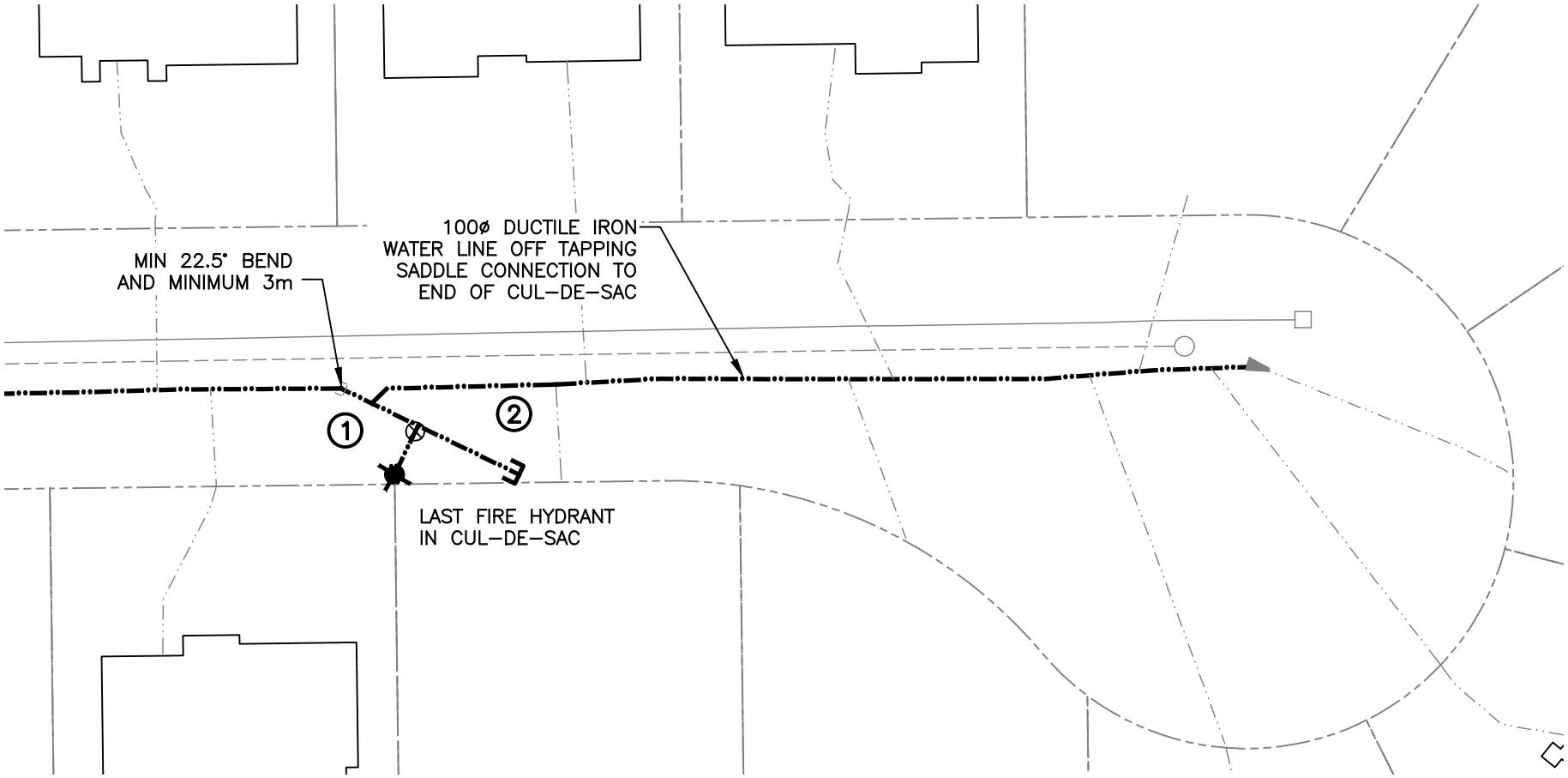
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
STANDARD WATER VALVE LOCATION

NEW CONSTRUCTION

DRAWN	J.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1034		



① TAPPING SADDLE CONNECTION

② MJ CAP C/W THRUSTBLOCK

NOTE: REDUCTION MAY NOT BE REQUIRED IF THE ENGINEER HAS DETERMINED SUPPLY REDUNDANCY IS REQUIRED.

No.	DESCRIPTION	DATE	BY	CHKD
6	–			
5	–			
4	REVISED FOR 2025	03/24/25	S.T.	
3	REVISED FOR 2024	05/21/24	S.T.	
2	REVISED FOR 2023	05/09/23	S.T.	
1	NEW DRAWING	03/10/22	S.T.	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

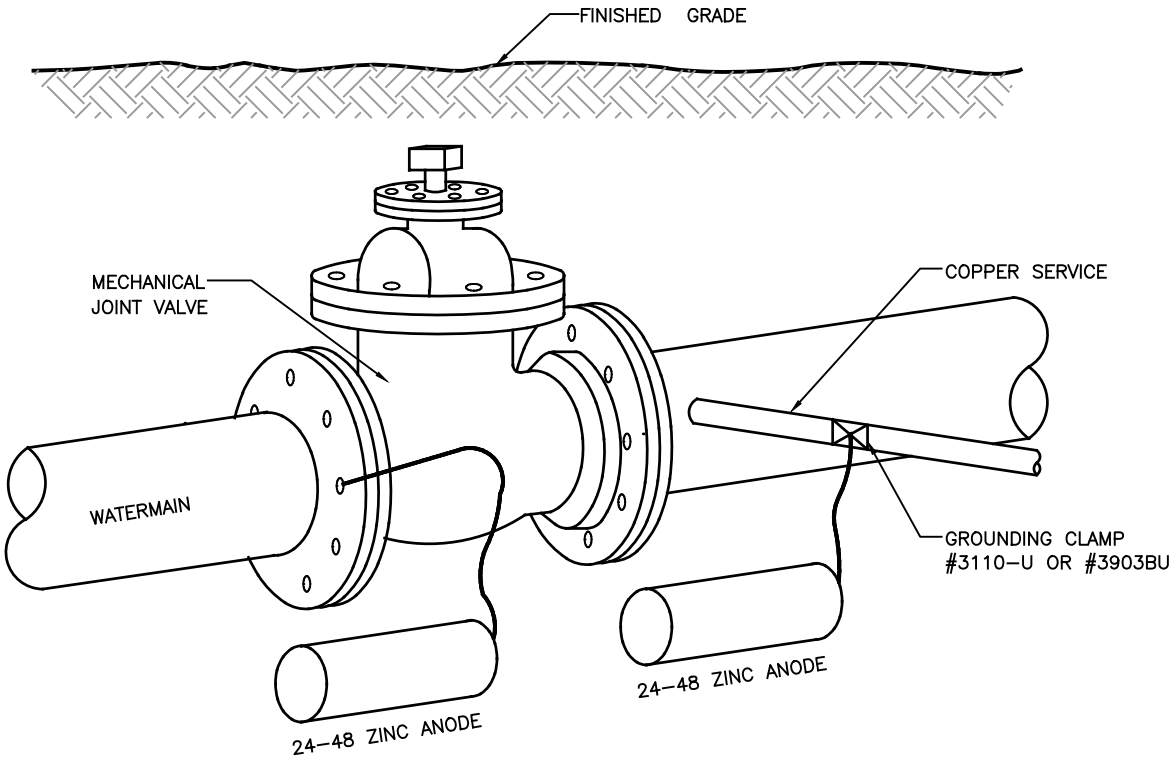
PROJECT

CUL–DE–SAC WATER MAIN REDUCTION

DRAWN	S.T.	SCALE (PLAN)	NTS
CHECKED	J.C.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	03/10/22

PROJECT No.

DWG. No. HWSD – 1036



NOTES:

1. SEPARATE ANODE AND VALVE / SERVICE USING 50 mm THICK RIGID INSULATION IF ANODE IS INSTALLED WITHIN 600 mm OF VALVE / SERVICE.
2. WRAP ANODE WIRE AROUND A BOLT SEVERAL TIMES AND WRAP WITH NEOPRENE TAPE WHEN ANODES ARE ATTACHED TO MECHANICAL JOINT VALVES. SECURE WIRE TO BOLT BY USING A SECOND NUT.
3. IF ANODE WIRE CANNOT BE ATTACHED AS INDICATED, ANODE WIRE MUST BE ATTACHED TO VALVE WITH SLU–70 WIRE CONNECTOR OR CADWELD. APPLY BITUMINOUS COATING TO SLU–70 WIRE CONNECTOR OR CADWELD.
4. GROUNDING CLAMP TO BE #3110–U FOR 19 mm TO 25 mm DIAMETER SERVICES OR #3903BU FOR 32mm TO 50mm DIAMETER SERVICES.

No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2009	09|06|09	ML	
3	TITLE BLOCK CLEANUP	03|04|08	BC	
2	NOTE 3 REVISED	99|02|10	M.C.	
1	SECURING ANODE WIRE	98|01|15	M.C.	

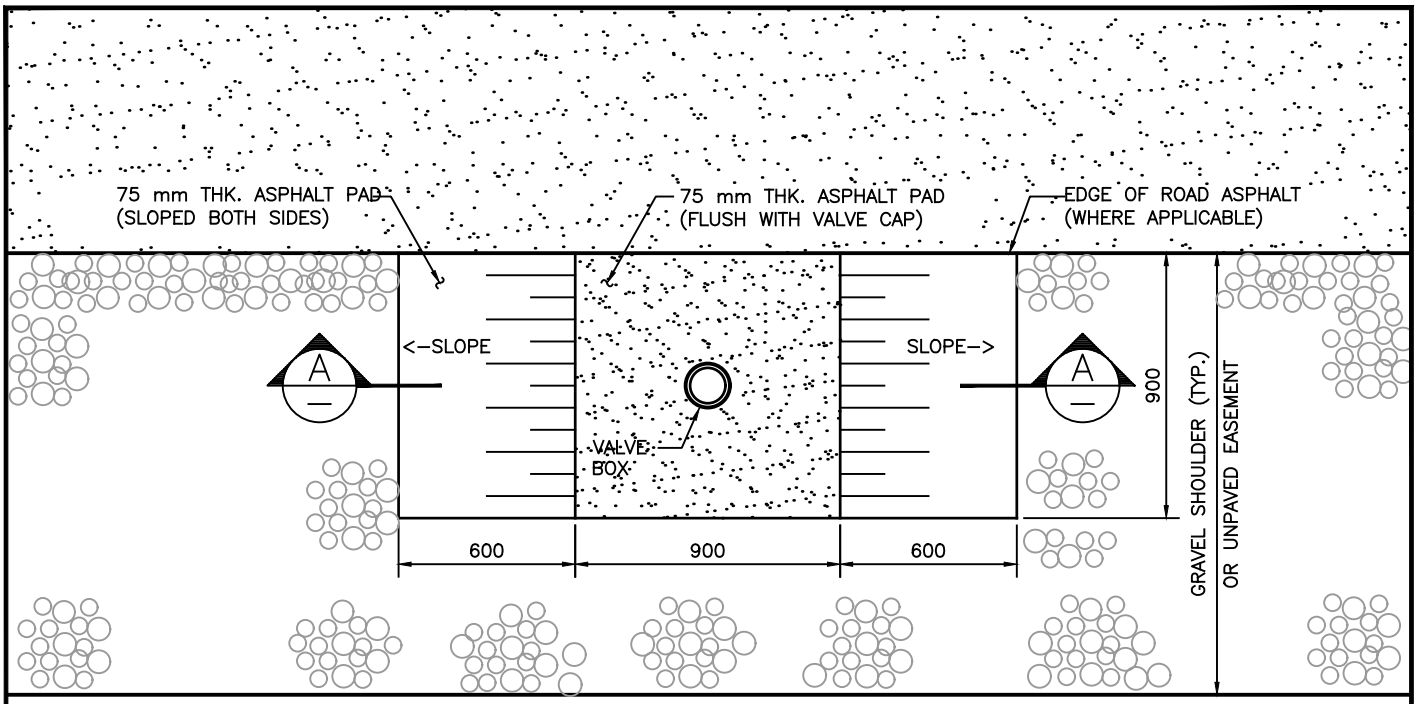
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

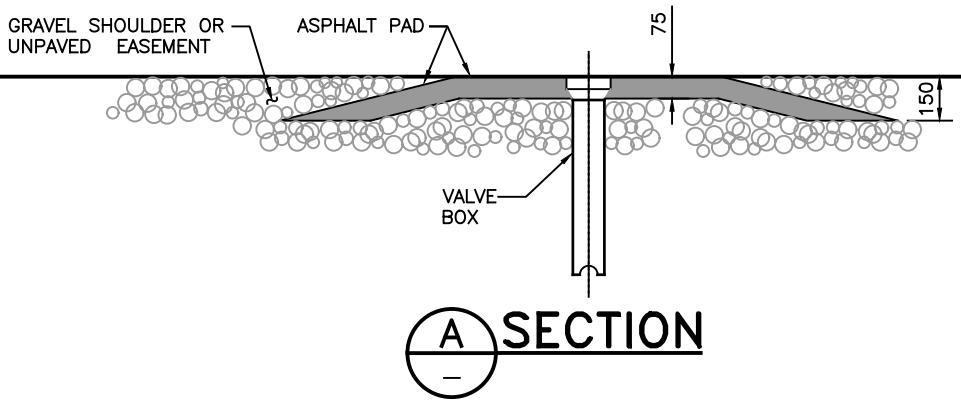
PROJECT

ZINC ANODE FOR VALVES AND COPPER SERVICE CONNECTIONS

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1040		



PLAN



A SECTION

No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2009	09|06|09	ML	
3	TITLE BLOCK CLEANUP	03|04|08	BC	
2	NOTES REVISED	01|01|10	MC	
1	NEW DETAIL FOR 2000 SPEC.	00|03|31	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

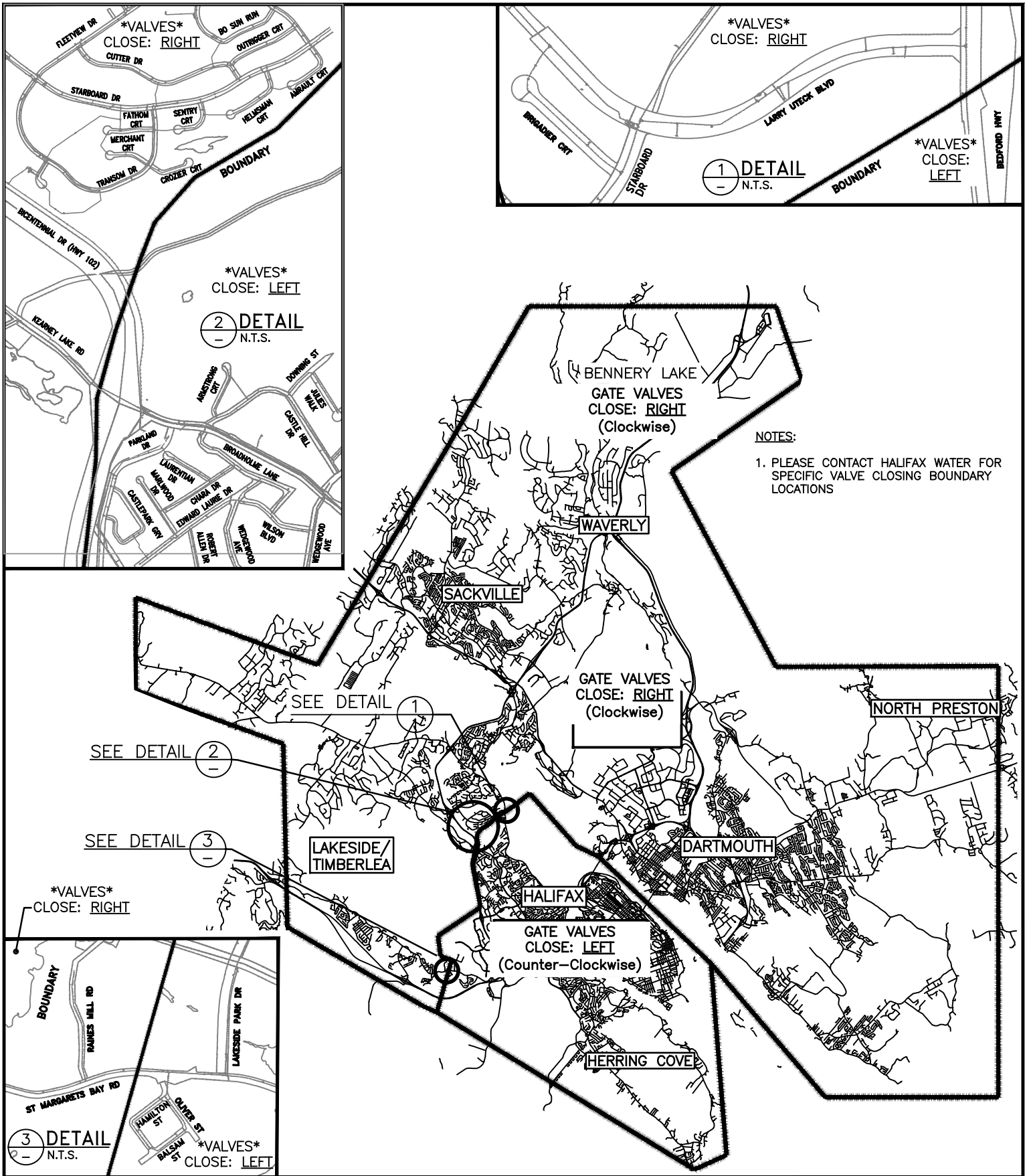
PROJECT

ASPHALT APRON DETAIL

DRAWN	J.W.	SCALE (PLAN)	1:25
CHECKED	J.D.	SCALE (PROFILE)	N/A
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1050



No.	DESCRIPTION	DATE	BY	CHKD
8	REVISED STREETS	22|02|11	ST	
7	REVISED STREETS	19|02|06	ST	
6	REVISED BOUNDARY	18|04|27	ST	
5	ADDED BENNERY LAKE	14|02|21	SS	
4	REVISE BOUNDARY LINE	12|11|30	SS	
3	GENERAL REVISIONS FOR 2009	09|06|09	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	BOUNDARY DETAIL ADDED	99|09|10	PSP	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

VALVE CLOSING DIRECTION BY REGION

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1060 (2022)		

MINIMUM CONTACT AREAS FOR HORIZONTAL CONCRETE THRUST BLOCKS

PIPE DIAMETER	AREA M^2 FOR SOIL SUPPORTING CAPACITY OF 100 kPa					
mm	CAP/PLUG	TEE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
100	0.25	0.25	0.32	0.20	0.16	0.16
150	0.48	0.48	0.64	0.40	0.24	0.16
200	0.80	0.80	1.12	0.64	0.32	0.16
250	1.28	1.28	1.76	0.96	0.48	0.24
300	1.76	1.76	2.56	1.44	0.72	0.40

MINIMUM DISTANCE FROM FITTING TO UNDISTURBED GROUND

PIPE DIAMETER mm	mm
100	450
150	450
200	450
250	600
300	750

VERTICAL THRUST BLOCKS THRUST COMPENSATED FOR BY MASS OF CONCRETE (m^3)

PIPE DIAMETER mm	45° BEND	22.5° BEND	11.25 BEND
100	0.40	0.20	0.20
150	0.80	0.40	0.40
200	1.40	0.70	0.70
250	2.10	1.10	1.10
300	3.00	1.50	1.50

NOTES:

1. SEE HWSD–1080 FOR THRUST BLOCK CONFIGURATIONS
2. THESE TABLES ARE BASED ON SOIL SUPPORTING CAPACITIES OF 100kPa AND AN INTERNAL PIPE PRESSURE OF 1035kPa. WHERE DIFFERENT SUPPORTING CAPACITIES OR INTERNAL PRESSURES ARE ENCOUNTERED, CONTACT AREAS SHOULD BE CALCULATED. ACCORDINGLY. SAFE SUPPORTING CAPACITY SHOULD BE DETERMINED BY THE DESIGN ENGINEER, AND SHOULD INCLUDE AN APPROPRIATE FACTOR OF SAFETY.
3. FOR PIPE SIZES GREATER THAN 300 mm – THE DESIGNER SHALL CALCULATE THE REQUIRED THRUST BLOCK SIZES BASED ON LOCAL SOIL CONDITIONS. THIS INFORMATION SHALL BE IDENTIFIED ON THE DRAWINGS.

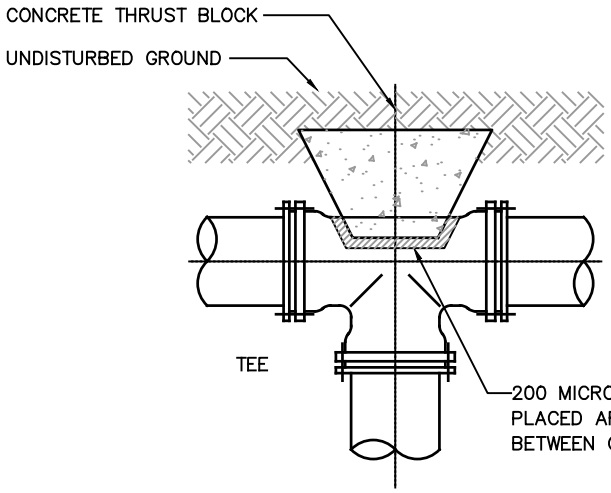
No.	DESCRIPTION	DATE	BY	CHKD
2	ADDED NOTE 3.	10|05|11	ML	
2	GENERAL REVISIONS FOR 2009	09|06|08	ML	
1	TITLE BLOCK CLEANUP	03|04|08	BC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

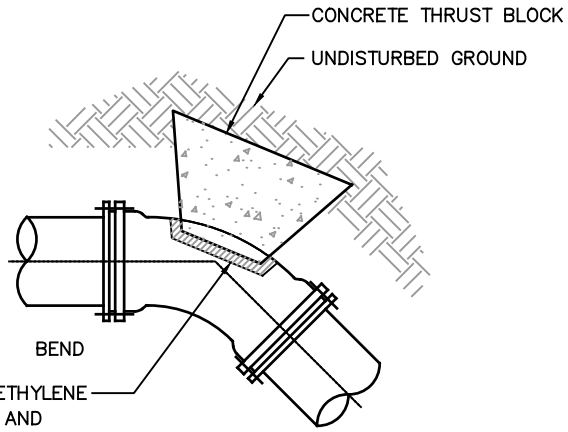
Halifax Water

PROJECT
THRUST BLOCK REQUIREMENTS

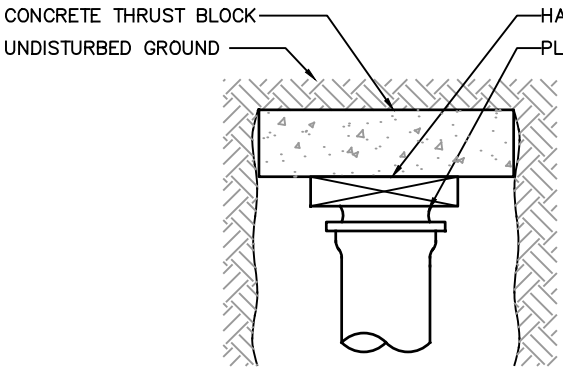
DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1070		



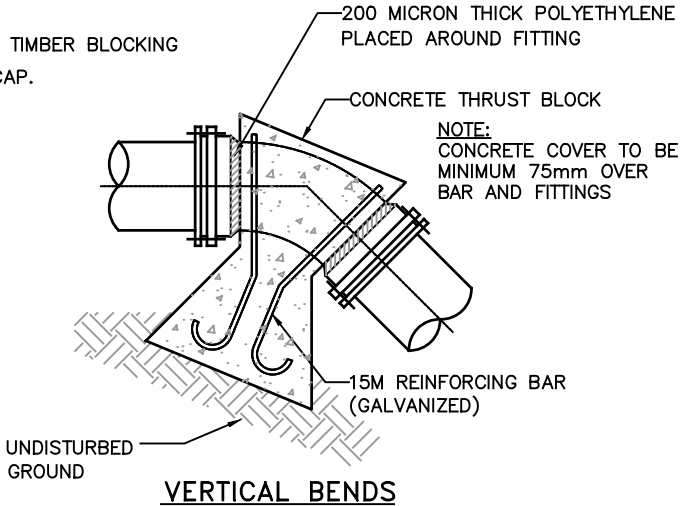
TEE



HORIZONTAL BENDS



TEMPORARY BLANK END



VERTICAL BENDS

NOTES:

1. ALL CONCRETE 25 MPa.
2. REINFORCING BARS ARE TO BE PRESHAPED PRIOR TO INSTALLATION.
3. GALVANIZED COATING TO BE COMPLETE PRIOR TO USE. REPAIR DAMAGED COATING AS NECESSARY ON SITE PRIOR TO USE.

No.	DESCRIPTION	DATE	BY	CHKD
5	ADDED NOTES 2 AND 3	16|01|28	SS	
4	ADDED GALVANIZED TO REBAR NOTE	12|12|05	JW	
3	GENERAL REVISIONS FOR 2009	09|06|08	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	BLANK END NOTED AS "TEMPORARY"	00|03|20	MC	

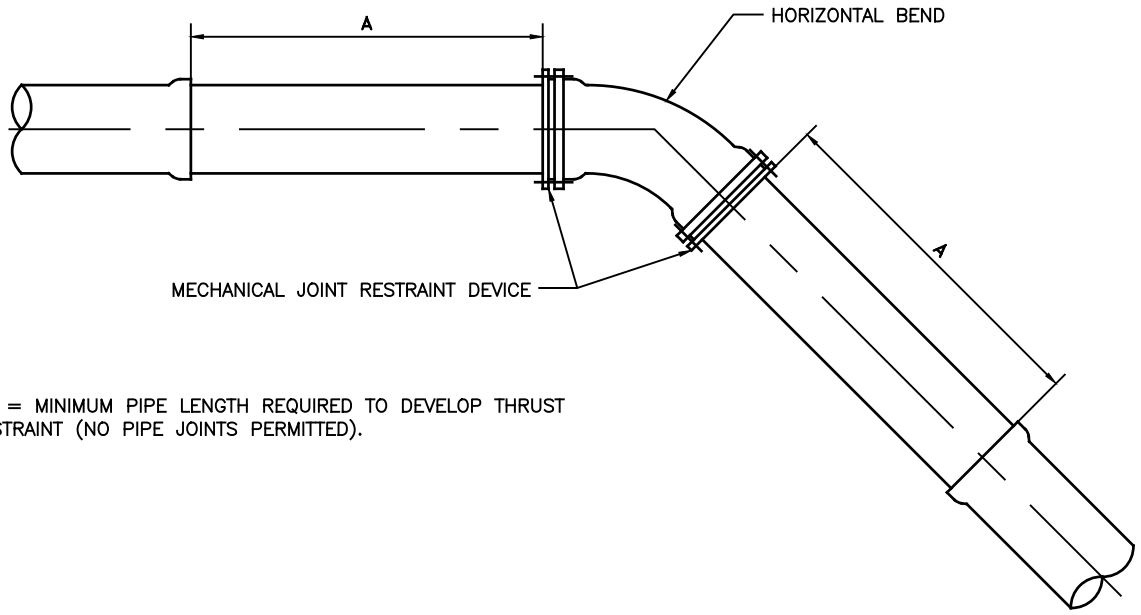
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

CONCRETE THRUST BLOCK

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N.T.S.
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1080		



"A" = MINIMUM PIPE LENGTH REQUIRED TO DEVELOP THRUST RESTRAINT (NO PIPE JOINTS PERMITTED).

PIPE DIAMETER	BEND	MINIMUM PIPE LENGTH REQUIRED TO DEVELOP THRUST RESTRAINT*
200	11.25° 22.5° 45°	600 1200 2400
250	11.25° 22.5° 45°	600 1500 2700
300	11.25° 22.5° 45°	984 1500 3300

*BASED ON HRWC SPECIFIED BURY AND BEDDING CONDITIONS. MAXIMUM TEST PRESSURE 1035kPa. WHERE CONDITIONS VARY "A" SHALL BE CALCULATED BY THE DESIGN ENGINEER.

No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2009	09|06|09	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	FOOT–NOTE MODIFIED	01|01|10	MC	SS

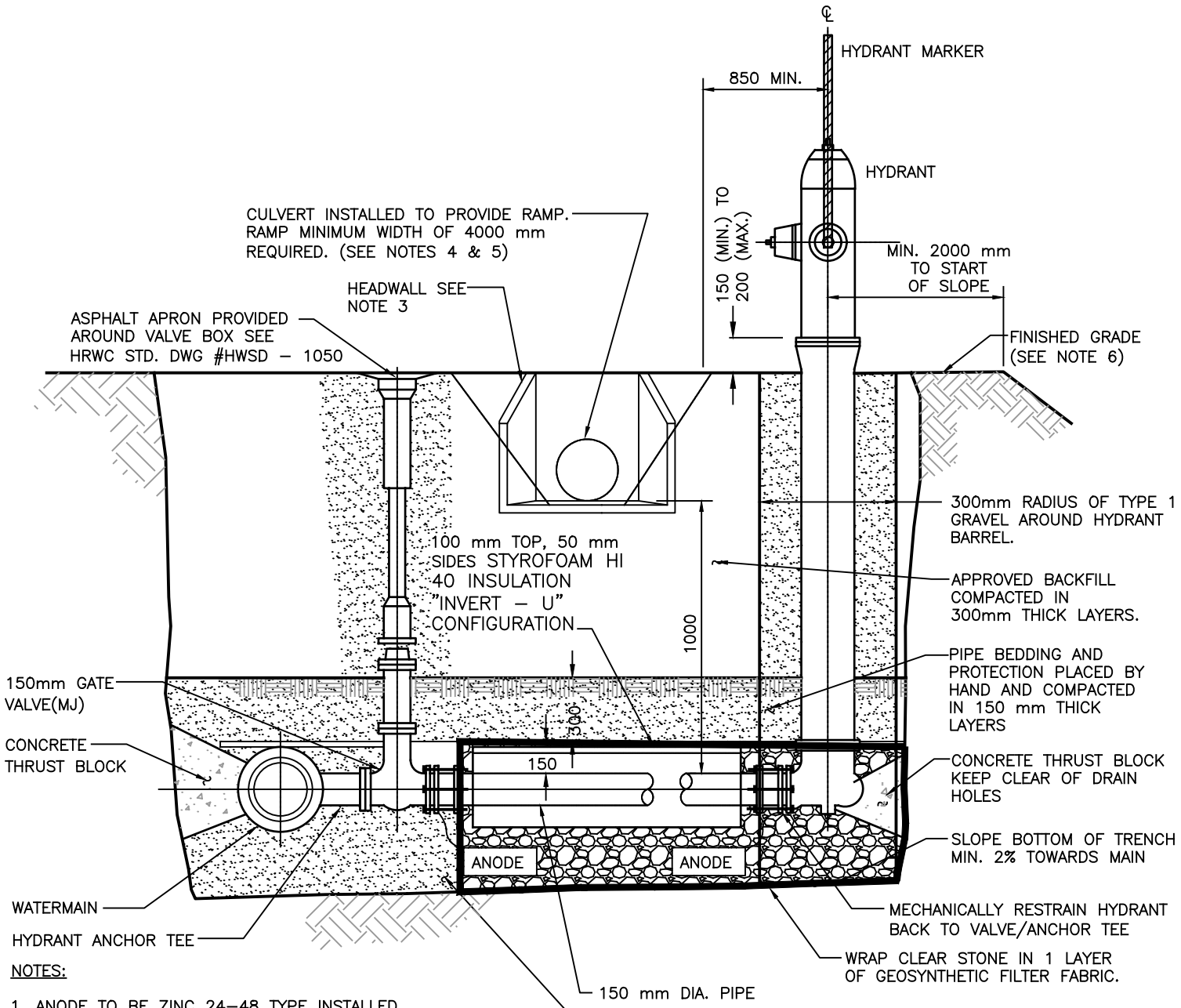
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

MECHANICAL JOINT RESTRAINT REQUIREMENTS

DRAWN	J.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1090		



NOTES:

1. ANODE TO BE ZINC 24–48 TYPE INSTALLED BY USE OF DOUBLE NUT PER DETAIL ON DWG. HWSD – 1040
2. SEE STANDARD SPEC DETAIL HWSD – 1080 FOR THRUST BLOCK DETAILS.
3. BOTH ENDS OF CULVERT REQUIRE PRE–CAST CONCRETE HEADWALL. SPACE AROUND PIPE OPENING IN HEADWALL TO BE GROUTED & PARGED TO ELIMINATE VOIDS.
4. CULVERT PIPE MATERIAL TO BE IN ACCORDANCE WITH HRWC STANDARD SPECIFICATION.
5. CULVERT TO BE SIZED IN ACCORDANCE WITH HRWC REQUIREMENTS.
6. ALL SURFACES WITHIN 2000 mm OF HYDRANT MUST BE STABILIZED USING GRASS, CLEAR STONE, ARMOUR STONE, OR ASPHALT.
7. FINISHED GRADE FROM SHOULDER TO HYDRANT AREA TO BE IN ACCORDANCE WITH HALIFAX REGIONAL MUNICIPALITY DESIGN GUIDELINES.
8. USE ONLY HRWC APPROVED PRODUCTS FOR MECHANICAL RESTRAINT.
9. HYDRANT MARKER AS PER HRWC SSS 33 11 00

No.	DESCRIPTION	DATE	BY	CHKD
15	GENERAL REVISIONS FOR 2025	25|03|25	ST	
14	GENERAL REVISIONS FOR 2024	24|04|24	ST	
13	GENERAL REVISIONS FOR 2019	06|06|19	ST	
12	GENERAL REVISIONS FOR 2018	18|05|07	ST	
11	GENERAL REVISIONS FOR 2009	09|06|08	ML	
10	REVISED NOTE #4	07|05|08	BC	
9	ADDED NOTE #7	07|04|27	BC	
8	ADD MECH RESTRAINTS & REVISE HEADWALL	06|03|21	BC	
7	TITLE BLOCK CLEANUP	03|04|08	BC	
6	HYDRANT FLANGE/FINISHED GRADE REVISED	02|04|04	PSP	
5	GENERAL REV – NOTE 7 REMOVED	02|03|13	PSP	

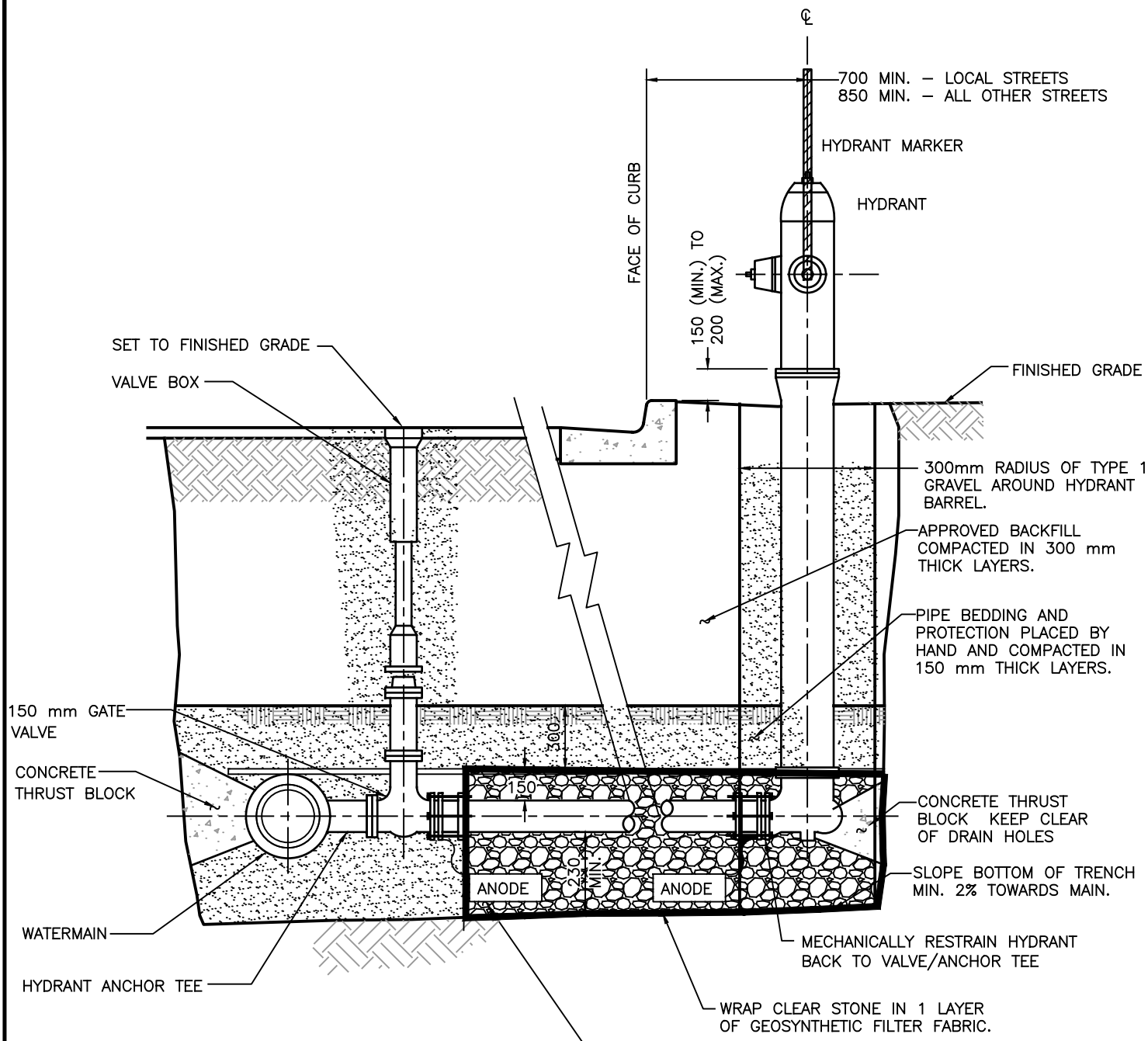
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

HYDRANT INSTALLATION RURAL STREET

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1100		



NOTES:

1. ANODE TO BE ZINC 24–48 TYPE INSTALLED BY USE OF DOUBLE NUT PER DETAIL ON DWG. HWSD – 1040
2. USE ONLY HRWC APPROVED PRODUCTS FOR MECHANICAL RESTRAINT.
3. HYDRANT MARKER AS PER HRWC SSS 33 11 00

No.	DESCRIPTION	DATE	BY	CHKD
10	GENERAL REVISIONS FOR 2025	25|03|25	ST	
9	GENERAL REVISIONS FOR 2024	24|04|24	ST	
8	GENERAL REVISIONS FOR 2018	18|05|07	ST	
7	GENERAL REVISIONS FOR 2009	09|06|08	ML	
6	ADDED NOTE #2	07|04|27	BC	
5	MECH. RESTRAINT ADDED	06|03|22	BC	
4	TITLE BLOCK CLEANUP	03|04|08	BC	
3	HYDRANT FLANGE/FINISHED GRADE REVISED	02|03|13	PSP	
2	HYDRANT/CURB DIMENSION REVISED	00|03|20	MC	
1	ANODES RELOCATED	00|03|20	MC	

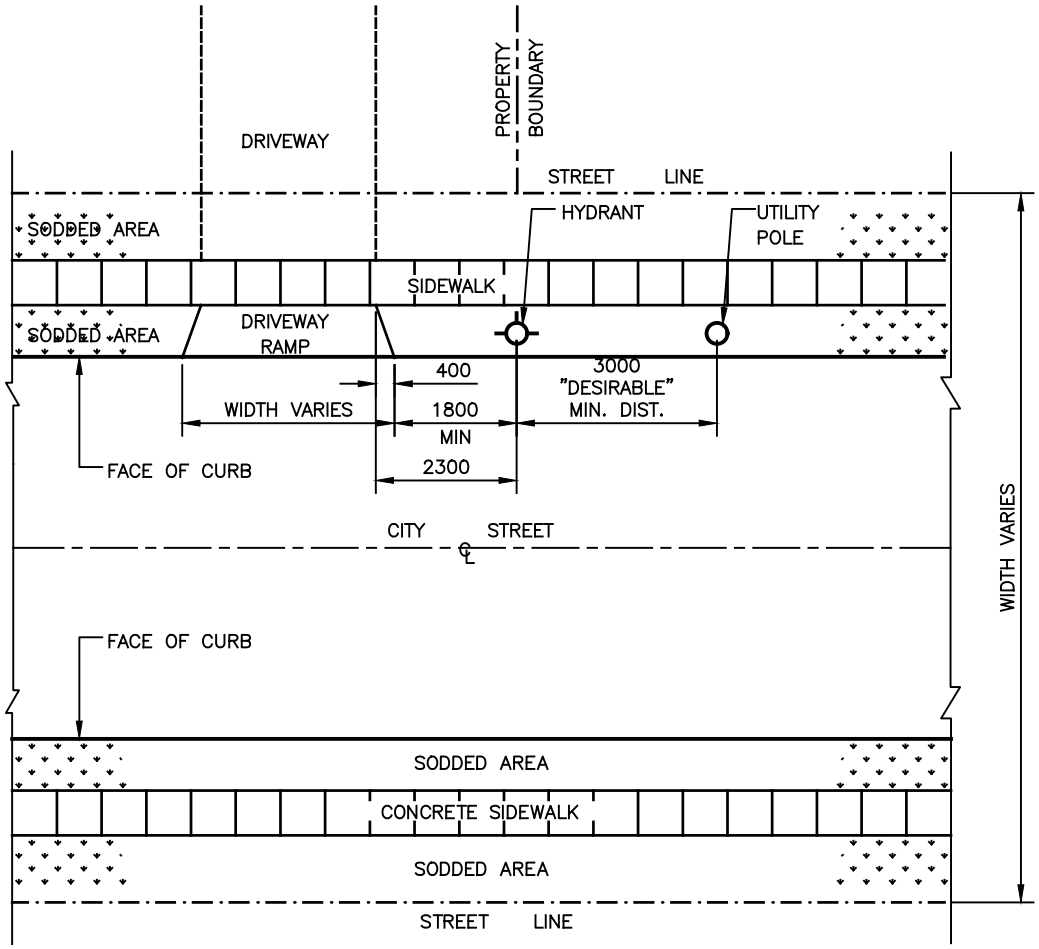
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

HYDRANT INSTALLATION URBAN STREET

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1110		



NOTES:

1. IN THE CASE OF SINGLE UNIT DWELLING LOT; HYDRANT STRUCTURES TO BE LOCATED ADJACENT TO SIDE PROPERTY BOUNDARY LINE WITH DRIVEWAY STRUCTURE LOCATED AT OPPOSITE SIDE OF PROPERTY BOUNDARY LINE.

2. IN THE CASE OF TOWNHOUSE UNIT LOT; HYDRANTS TO BE LOCATED MID-LOT WHEN DRIVEWAYS ARE LOCATED ADJACENT TO BOTH SIDE PROPERTY BOUNDARY LINES.

3. IN THE CASE OF HIGH DENSITY RESIDENTIAL STRUCTURES, COMMERCIAL OR "GENERAL USE" LOT AREAS; LOCATION OF HYDRANT STRUCTURES ETC. WILL DEPEND UPON THE APPROVED LOT LAYOUT DEVELOPMENT AND DRIVEWAY LOCATION PLAN.

4. FOR MINIMUM DISTANCE BETWEEN FACE OF CURB AND HYDRANT LOCATION SEE STANDARD DRAWING HWSD – 1110

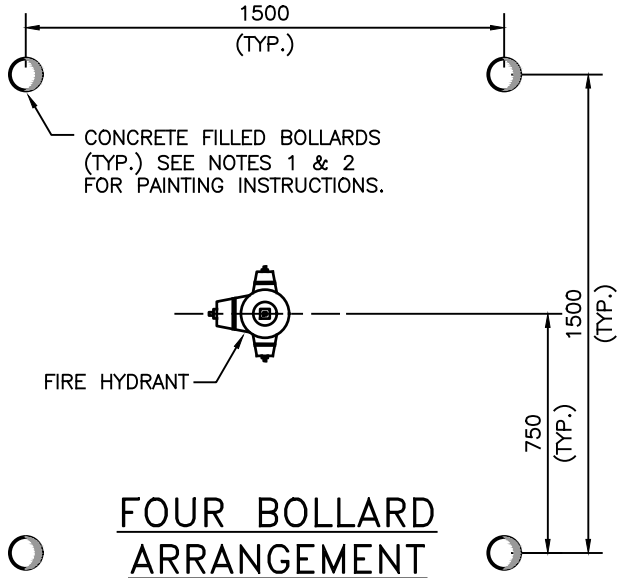
No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2009	09|06|08	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	GENERAL REVISION	99|12|20	RJ	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

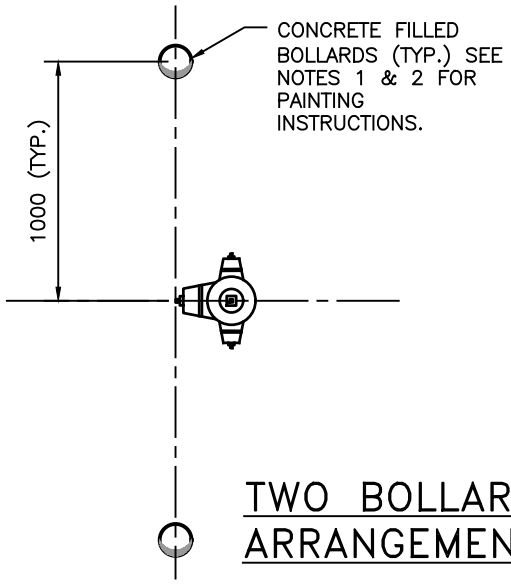
Halifax Water

PROJECT
HYDRANT LOCATION IN RELATION TO DRIVEWAYS & OTHER UTILITY STRUCTURES

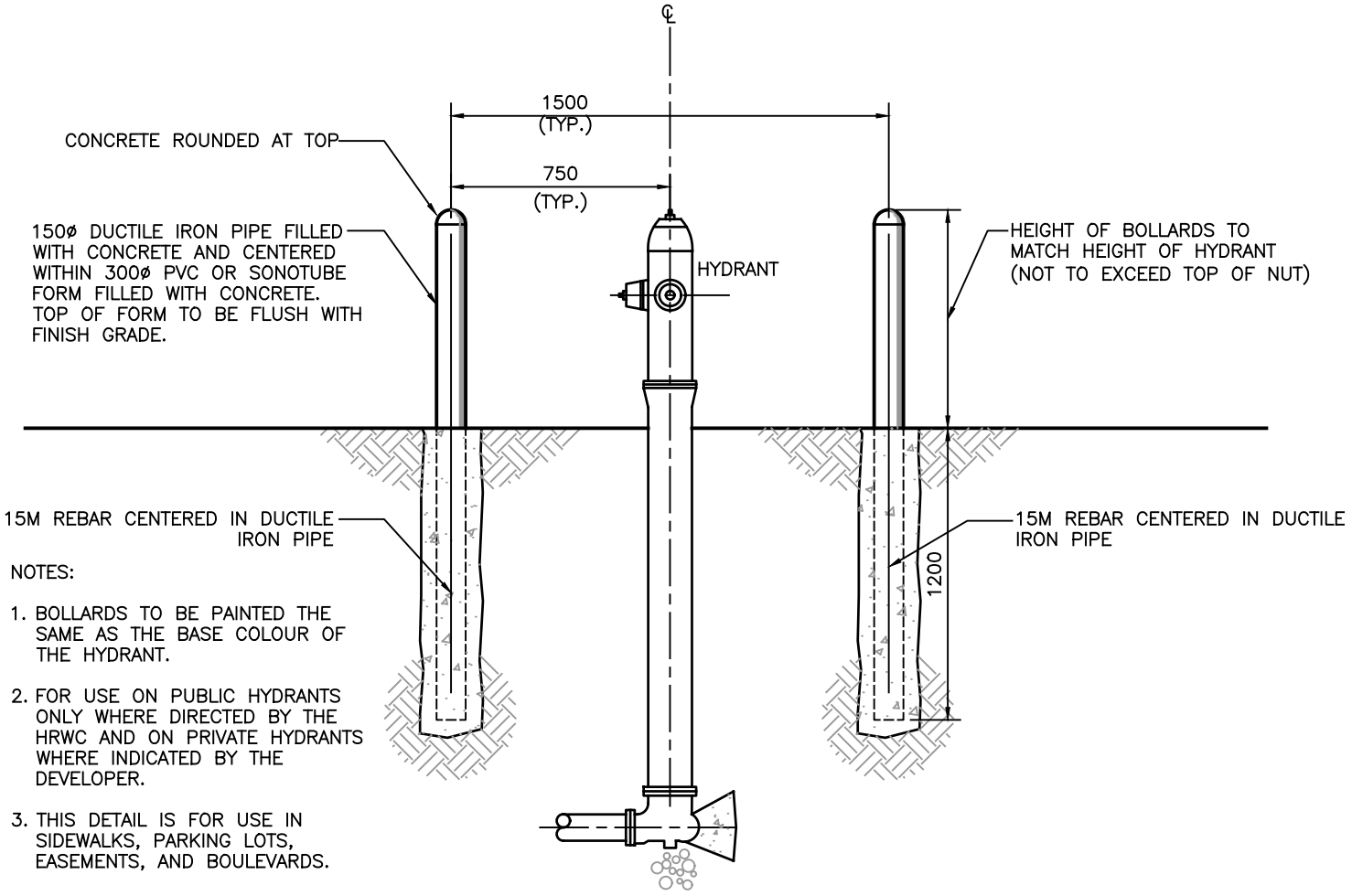
DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1120		



FOUR BOLLARD ARRANGEMENT



TWO BOLLARD ARRANGEMENT



NOTES:

1. BOLLARDS TO BE PAINTED THE SAME AS THE BASE COLOUR OF THE HYDRANT.
2. FOR USE ON PUBLIC HYDRANTS ONLY WHERE DIRECTED BY THE HRWC AND ON PRIVATE HYDRANTS WHERE INDICATED BY THE DEVELOPER.
3. THIS DETAIL IS FOR USE IN SIDEWALKS, PARKING LOTS, EASEMENTS, AND BOULEVARDS.
4. NUMBER OF BOLLARDS TO BE DETERMINED BY LOCATION OF HYDRANT

ELEVATION

No.	DESCRIPTION	DATE	BY	CHKD
5	GENERAL REVISIONS FOR 2019	19|04|29	ST	
4	GENERAL REVISIONS FOR 2018	18|05|07	ST	
3	GENERAL REVISIONS FOR 2009	09|06|09	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	NEW DETAIL FOR 2001 SPEC.	01|01|10	MC	SS

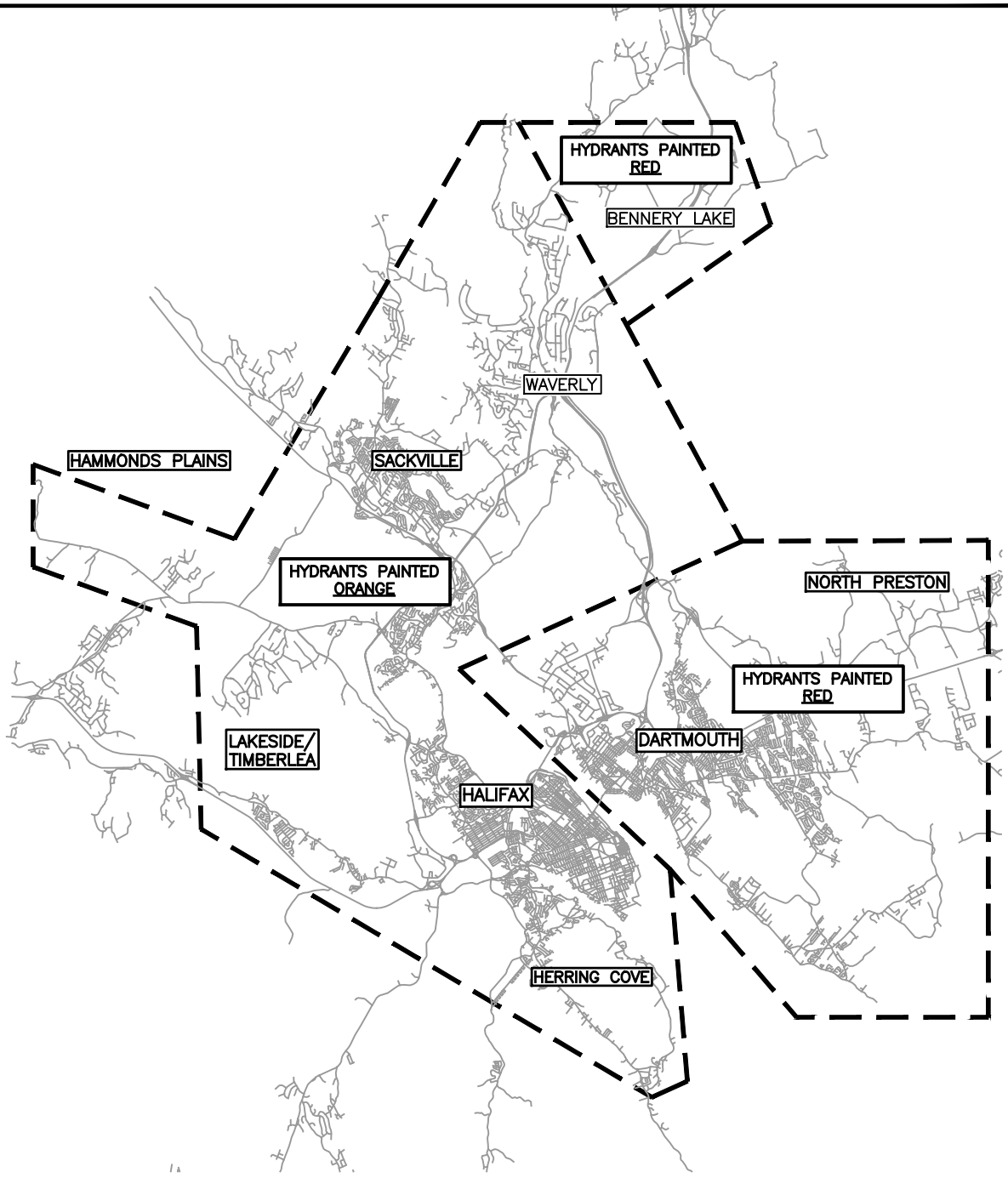
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

BOLLARD INSTALLATION DETAIL

DRAWN	J.W.	SCALE (PLAN)	1:25
CHECKED	J.D.	SCALE (PROFILE)	1:25
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1130 (2019)		



NOTES:
1. HYDRANTS TO BE PAINTED ORANGE IN THE FOLLOWING COMMUNITIES: HALIFAX, SACKVILLE, WAVERLEY, BEDFORD, HAMMONDS PLAINS, LAKESIDE AND TIMBERLEA.

2. HYDRANTS TO BE PAINTED RED IN THE FOLLOWING COMMUNITIES: DARTMOUTH, COLE HARBOUR, EASTERN PASSAGE, NORTH PRESTON & BENNERY LAKE SYSTEM.

3. HYDRANT MARKER AS PER HRWC SSS 33 11 00

No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2018	18|05|07	ST	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	BOUNDARY DETAIL ADDED	99|09|10	PSP	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

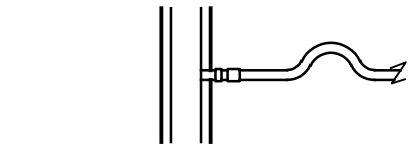
Halifax Water

PROJECT
HYDRANT PAINTING

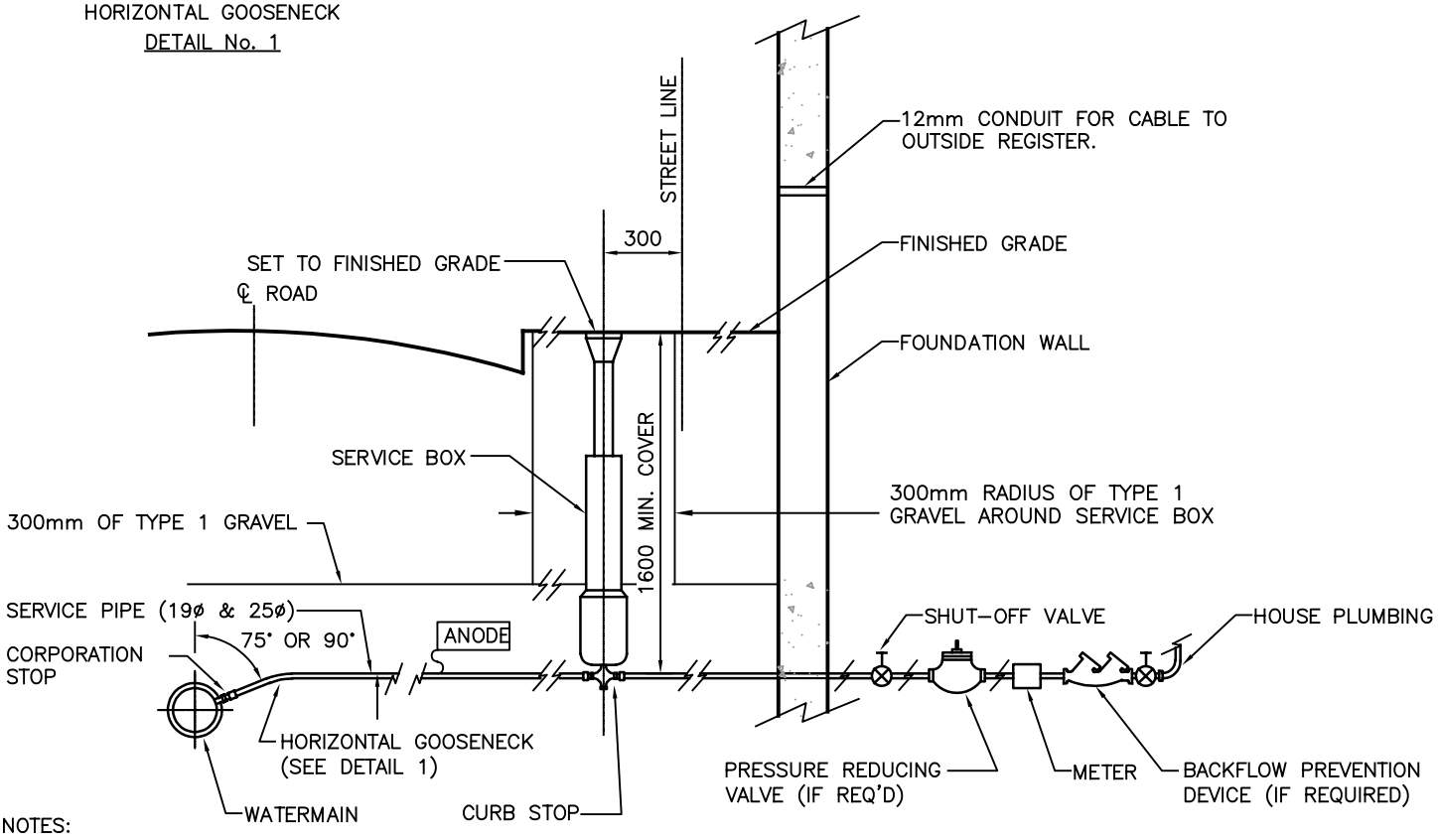
DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1140 (2018)



HORIZONTAL GOOSENECK
DETAIL No. 1



NOTES:

1. ANODE CONNECTED TO SERVICES PIPE FROM MAIN WITH GROUNDING CLAMP (#3110–U OR #3903–BU)
2. MINIMUM 300mm VERTICAL AND HORIZONTAL SEPARATION TO BE MAINTAINED BETWEEN WATER AND WASTEWATER / STORMWATER PIPES.
3. SEE HWSD – 1180 FOR STANDARD SERVICE 38 DIA. AND LARGER.
4. SERVICES BOXES TO HAVE S.S. OPERATING RODS AND COTTER PINS.
5. PLACE SELECT BACKFILL MATERIAL, MAX. 50 mm AROUND SERVICE BOX TO SUB GRADE.
6. TAPE POLYWRAPPING AT TAP LOCATION.
7. BACKFILLING OF SERVICE TRENCH TO BE IN ACCORDANCE WITH SECTION 33 11 00 (3.2.1.1)
8. AN ANODE IS NOT REQUIRED IF CROSSLINKED POLYETHYLENE (PEXa) SERVICE PIPE IS USED.
9. MINIMUM SERVICE SIZE OF MUNICIPEX SERVICE PIPE IS 25 mm.
10. REFER TO HWSD – 1390 (TRACE WIRE DETAIL) FOR MUNICIPEX INSTALLATIONS

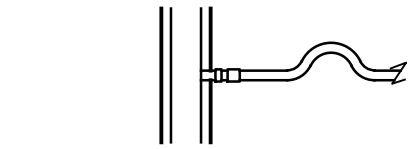
No.	DESCRIPTION	DATE	BY	CHKD
10	GENERAL REVISIONS FOR 2023	23|04|21	ST	
9	GENERAL REVISIONS FOR 2016	16|03|01	SS	
8	GENERAL REVISIONS FOR 2009	09|06|08	ML	
7	NOTES 7 & 8 ADDED	04|04|01	BC	
6	TITLE BLOCK CLEANUP	03|04|08	BC	
5	NOTES REVISED	00|03|20	MC	
4	BEDDING REVISED	00|03|20	MC	
3	BEDDING REVISED	99|12|20	RJ	
2	NOTE REVISIONS	99|01|01	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

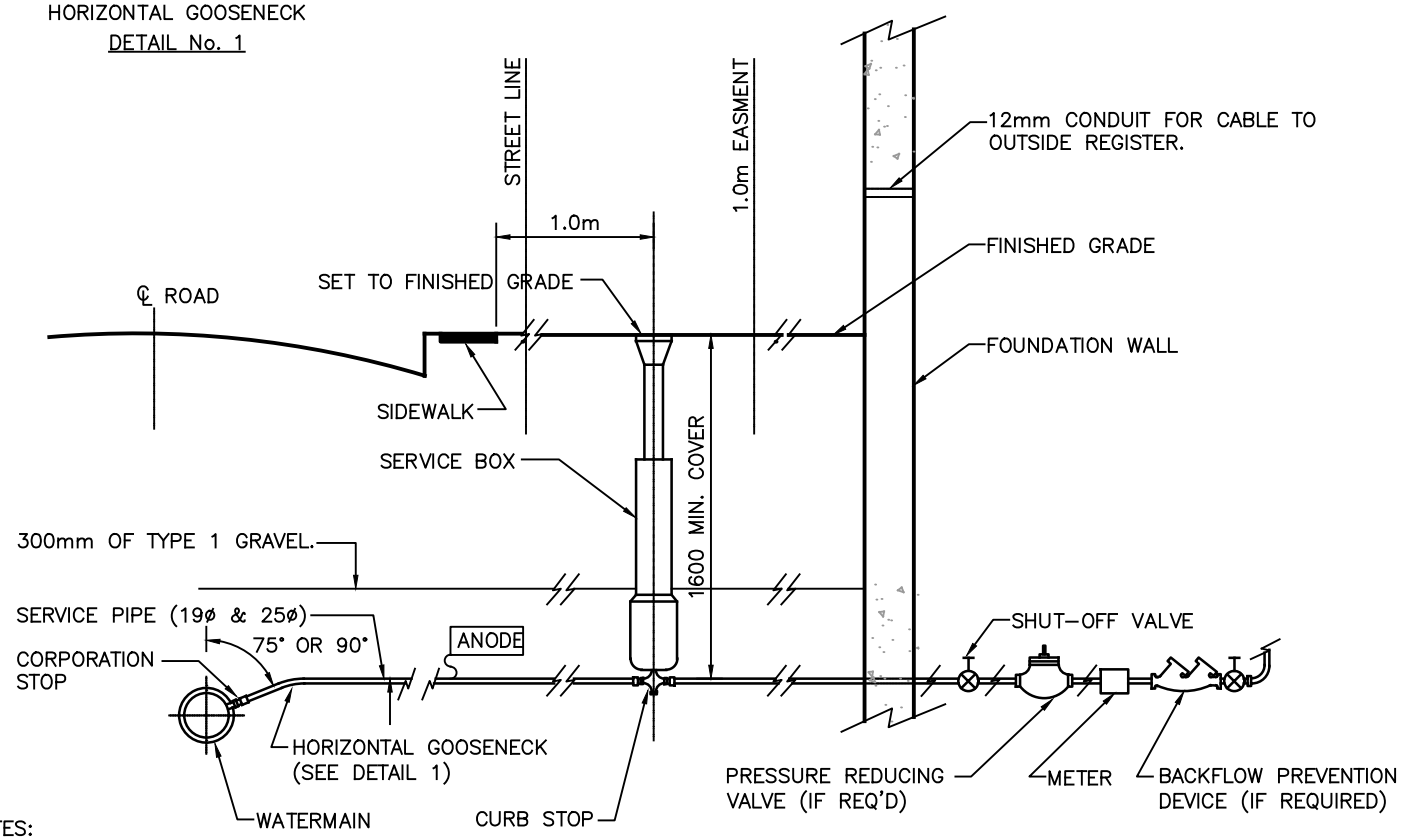
Halifax Water

PROJECT
STANDARD SERVICE CONNECTION FROM WATERMAIN TO HOUSE PLUMBING URBAN STREET (NO SIDEWALK)

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1150		

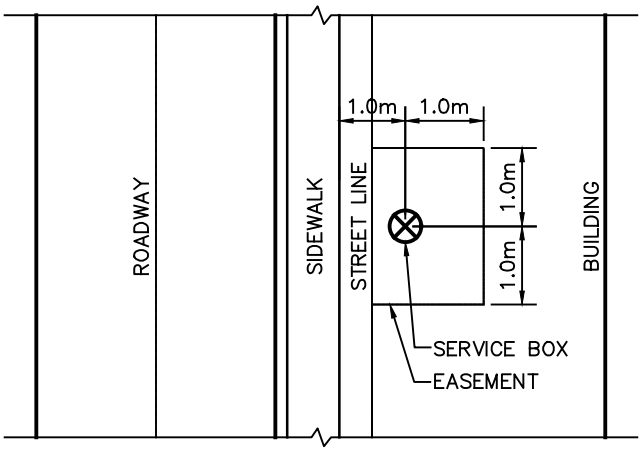


HORIZONTAL GOOSENECK
DETAIL No. 1



NOTES:

1. ANODE CONNECTED TO SERVICES PIPE FROM MAIN WITH GROUNDING CLAMP (#3110–U OR #3903–BU)
2. MINIMUM 300mm VERTICAL AND HORIZONTAL SEPARATION TO BE MAINTAINED BETWEEN WATER AND WASTEWATER / STORMWATER PIPES.
3. SEE HWSD – 1180 FOR STANDARD SERVICE 38 DIA. AND LARGER.
4. SERVICES BOXES TO HAVE S.S. OPERATING RODS AND COTTER PINS.
5. PLACE SELECT BACKFILL MATERIAL, MAX. 50mm AROUND SERVICE BOX TO SUB GRADE.
6. TAPE POLYWRAPPING AT TAP LOCATION.
7. BACKFILLING OF SERVICE TRENCH TO BE IN ACCORDANCE WITH SECTION 33 11 00 (3.2.1.1)
8. AN ANODE IS NOT REQUIRED IF MUNICIPEX SERVICE PIPE IS USED.
9. MINIMUM SERVICE SIZE OF MUNICIPEX SERVICE PIPE IS 25mm.
10. REFER TO HWSD – 1390 (TRACE WIRE DETAIL) FOR MUNICIPEX INSTALLATIONS.



No.	DESCRIPTION	DATE	BY	CHKD
9	GENERAL REVISIONS FOR 2024	27/03/24	ST	
8	GENERAL REVISIONS FOR 2016	16/03/01	SS	
7	GENERAL REVISIONS FOR 2009	09/06/08	ML	
6	NOTES 7 & 8 ADDED	04/04/01	BC	
5	TITLE BLOCK CLEANUP	03/04/08	BC	
4	NOTES REVISED	00/03/20	MC	
3	BEDDING REVISED	00/03/20	MC	
2	BEDDING REVISED	99/12/20	RJ	
1	NEW DETAIL DRAWING FOR 1999 SPEC.	99/02/10	MC	

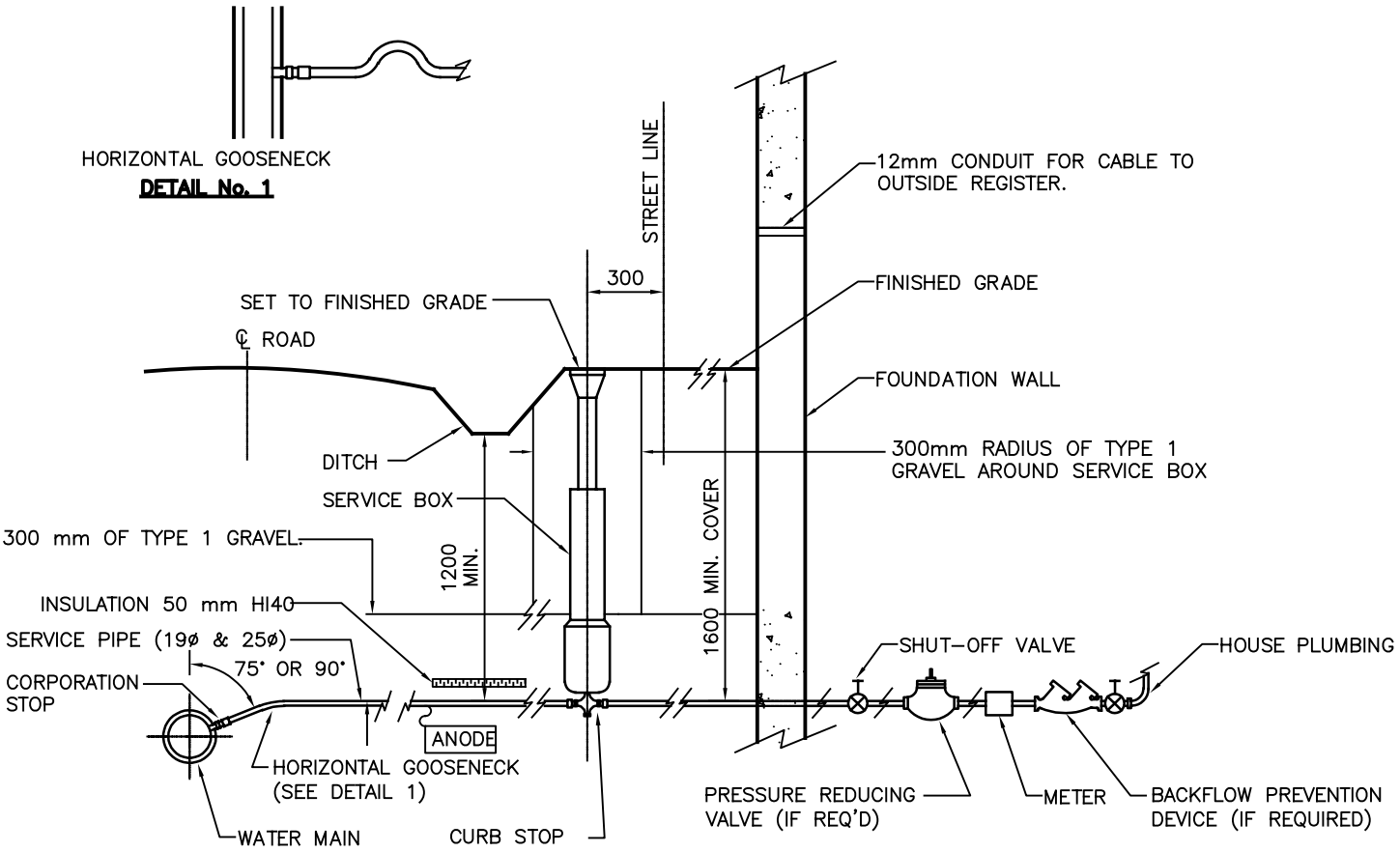
Halifax Water

ENGINEERING DEPARTMENT

PROJECT

STANDARD SERVICE CONNECTION FROM WATERMAIN TO HOUSE PLUMBING URBAN STREET (WITH SIDEWALK)

DRAWN	M.C.	SCALE (PLAN)	N.T.S.
CHECKED	H.M.	SCALE (PROFILE)	
APPROVED	TG	DATE	02/03/26
PROJECT No.			
DWG. No.	HWSD – 1160		



NOTES:

1. ANODE CONNECTED TO SERVICES PIPE FROM MAIN WITH GROUNDING CLAMP (#3110–U OR #3903–BU)
2. MINIMUM 300mm VERTICAL AND HORIZONTAL SEPARATION TO BE MAINTAINED BETWEEN WATER AND WASTEWATER / STORMWATER PIPES.
3. SEE HWSD – 1180 FOR STANDARD SERVICE 38 DIA. AND LARGER.
4. SERVICES BOXES TO HAVE STAINLESS STEEL. OPERATING RODS AND COTTER PINS.
5. PLACE SELECT BACKFILL MATERIAL, MAX. 50 mm AROUND SERVICE BOX TO SUB GRADE.
6. TAPE POLYWRAPPING AT TAP LOCATION.
7. PROVIDE 6.0 m HORIZONTAL SEPARATION FROM ANY PORTION OF A WASTEWATER DISPOSAL FIELD.
8. BACKFILLING OF SERVICE TRENCH TO BE IN ACCORDANCE WITH SECTION 33 11 00
9. AN ANODE IS NOT REQUIRED IF CROSSLINKED POLYETHYLENE (PEXa) SERVICE PIPE IS USED.
10. MINIMUM SERVICE SIZE OF CROSSLINKED POLYETHYLENE (PEXa) SERVICE PIPE IS 25 mm.
11. REFER TO HWSD – 1390 (TRACE WIRE DETAIL) FOR CROSSLINKED POLYETHYLENE (PEXa) SERVICE PIPE INSTALLATIONS.

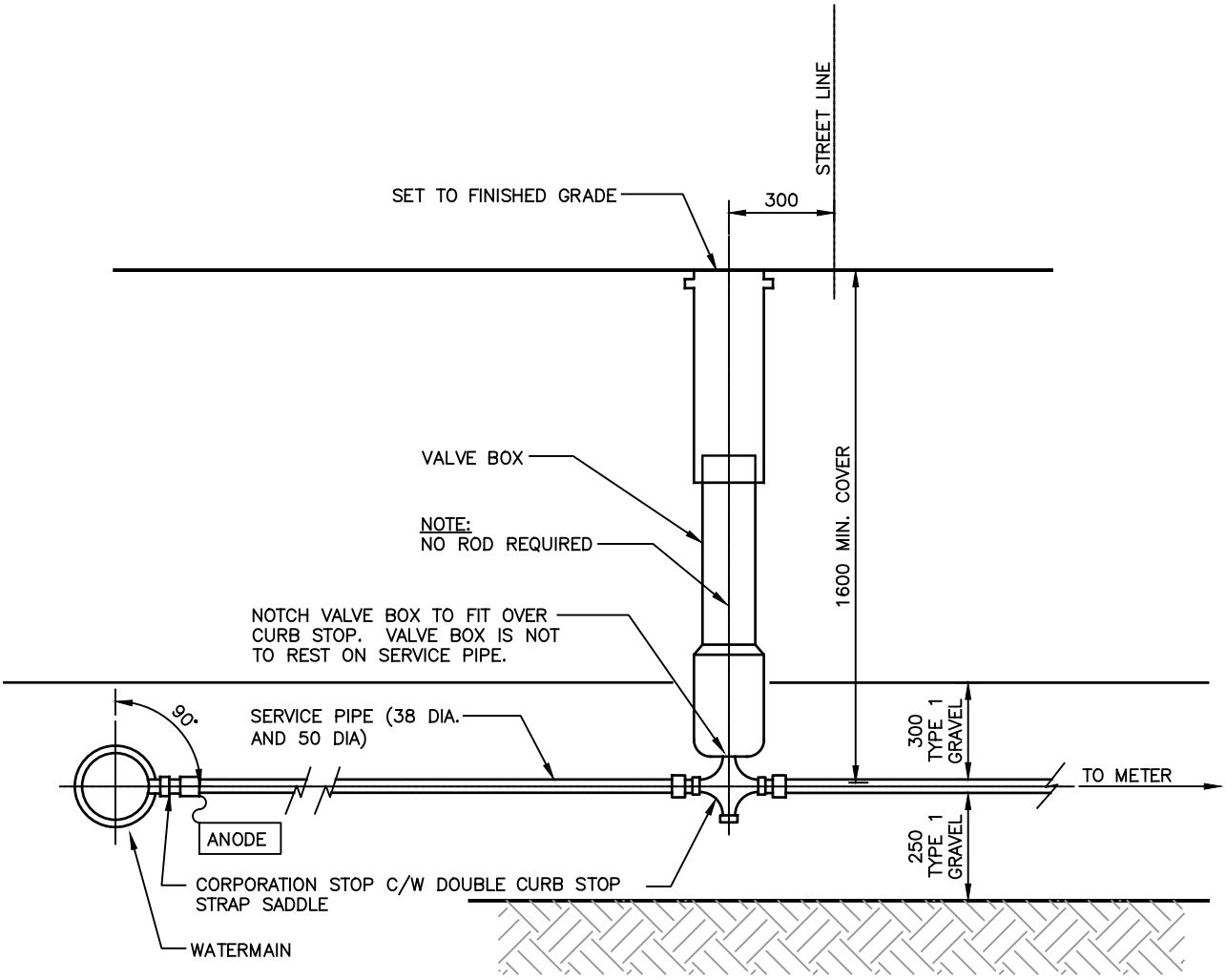
No.	DESCRIPTION	DATE	BY	CHKD
9	GENERAL REVISIONS FOR 2023	23|04|21	SS	
8	GENERAL REVISIONS FOR 2016	16|03|01	SS	
7	GENERAL REVISIONS FOR 2009	09|06|08	ML	
6	NOTES 8 & 9 ADDED	04|04|01	BC	
5	TITLE BLOCK CLEANUP	03|04|08	BC	
4	NOTES REVISED	00|03|20	MC	
3	BEDDING REVISED	00|03|20	MC	
2	BEDDING REVISED	99|12|20	RJ	
1	NEW DETAIL DRAWING FOR 1999 SPEC	99|02|10	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
WATER SERVICE CONNECTION FROM WATER MAIN TO HOUSE PLUMBING
RURAL STREET

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1170		



NOTES:

1. SELECT BACKFILL, (MAX. SIZE 50 mm) TO BE PLACED AROUND VALVE BOX TO SUBGRADE.
2. WHERE A POLYWRAPPED WATERMAIN IS TAPPED, PLACE 150 mm WIDE BAND OF 50 mm WIDE DUCT TAPE AROUND AREA TO BE TAPPED.
3. ANODE TO BE ZINC 24–48 TYPE INSTALLED PER DETAIL ON DWG. HWSD – 1180.
4. SERVICE SADDLE REQUIRED FOR 38 mm AND LARGER CONNECTIONS.
5. BACKFILLING OF SERVICE TRENCH TO BE IN ACCORDANCE WITH SECTION 33 11 00 (3.2.1.1)
6. AN ANODE IS NOT REQUIRED IF MUNICIPEX SERVICE PIPE IS USED.
7. REFER TO HWSD – 1390 (TRACE WIRE DETAIL) FOR MUNICIPEX INSTALLATIONS.
8. REFER TO HWSD – 1160 IF SIDEWALK IS INSTALLED IN R.O.W. FOR VALVE BOX LOCATION.

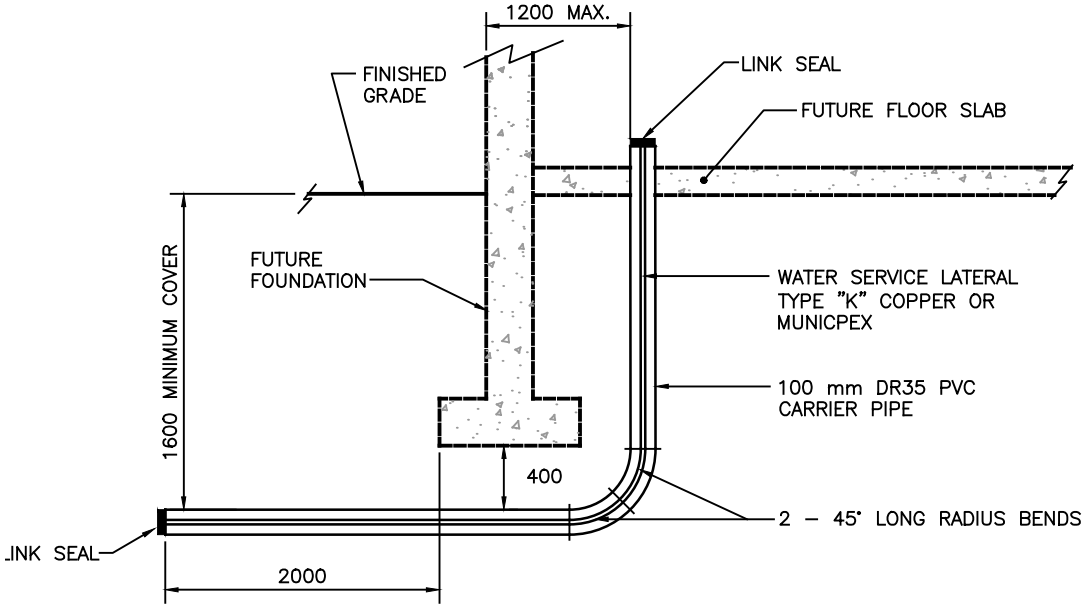
No.	DESCRIPTION	DATE	BY	CHKD
8	GENERAL REVISIONS FOR 2016	16/03/01	SS	
7	ADDED NOTE #8	12/12/06	JW	
6	GENERAL REVISIONS FOR 2009	09/06/09	ML	
5	NOTES 6 & 7 ADDED	04/04/01	BC	
4	TITLE BLOCK CLEANUP	03/04/08	BC	
3	BEDDING TYPE REVISED	00/03/20	MC	
2	NOTE 3 REVISED	99/02/10	MC	
1	GENERAL REVISION	98/01/09	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

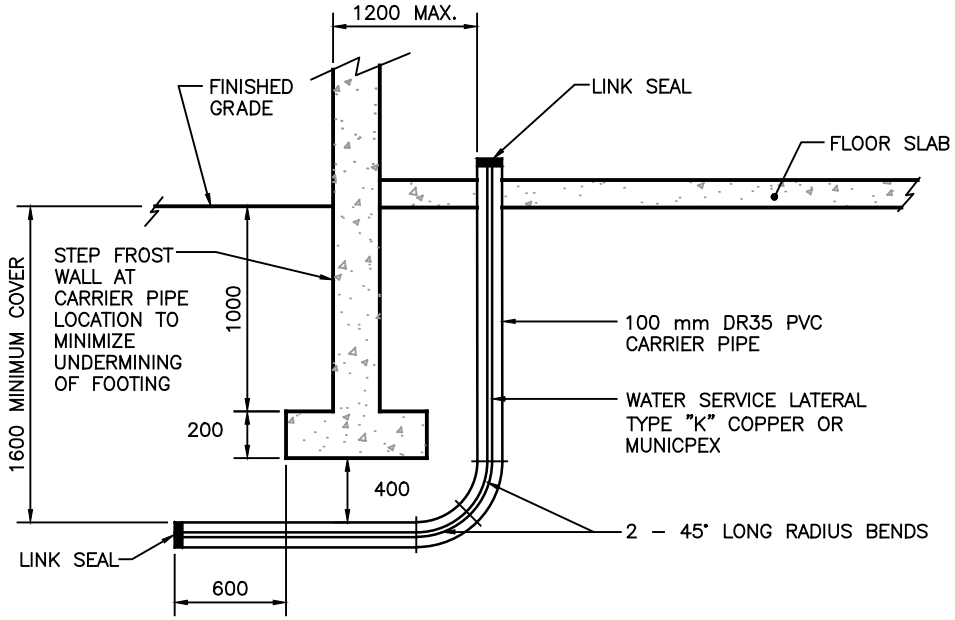
Halifax Water

PROJECT
WATER
SERVICE CONNECTION
38mm (1–1/2") DIA. AND OVER

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1180		



CARRIER PIPE INSTALLED PRIOR TO FOUNDATION INSTALLATION
NTS



CARRIER PIPE INSTALLED AFTER FOUNDATION INSTALLATION
NTS

NOTES:

1. 90° BENDS ARE NOT PERMITTED ON CARRIER PIPES.
2. CARRIER PIPE AND LONG RADIUS BENDS TO BE GASKETED.
3. NO COUPLINGS / CONNECTIONSW ARE PERMITTED IN CARRIER PIPE.
4. CARRIER PIPE TO BE INSPECTED PRIOR TO BACKFILLING.
5. BACKFILLING OF SERVICE TRENCH AS PER SECTION 33 11 00 (PART 3.2.1).
6. REFER TO SECTION 39 00 00 FOR STANDARD SERVICE INSTALLATIONS.
7. COVER OF 1600mm IS TO BE MAINTAINED TO THE VERTICAL BEND UNDERNEATH GARAGES.

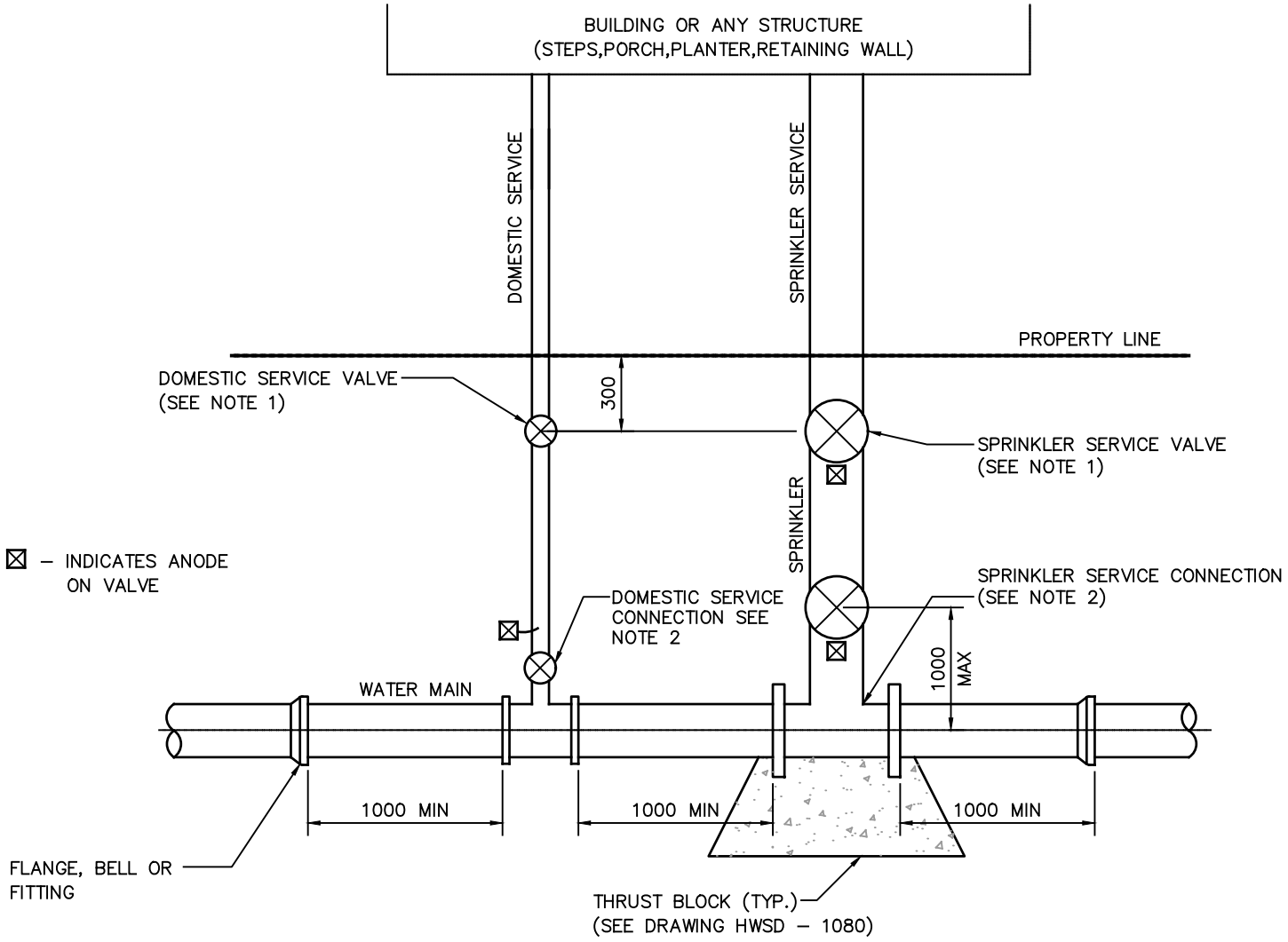
No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2024	03|27|24	ST	
2	GENERAL REVISIONS FOR 2018	05|04|18	ST	
1	GENERAL REVISIONS FOR 2016	16|03|01	SS	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
WATER SERVICE CONNECTION FOR SLAB ON GRADE CONSTRUCTION

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N.A.
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1182		



NOTES:

1. **DOMESTIC / SPRINKLER SERVICE VALVE REQUIREMENTS**
   - –19 mm TO 25 mm – CURB STOP WITH SERVICE BOX (SEE HWSD–1150/1160/1170)
   - –38 mm TO 50 mm – CURB STOP INSTALLED IN VALVE BOX (SEE HWSD–1180)
   - –100 mm AND LARGER – GATE VALVE C/W VALVE BOX

2. **DOMESTIC / SPRINKLER SERVICE CONNECTION REQUIREMENTS**
   - –19 mm TO 25 mm SERVICES – CORPORATION STOP, C/W ANODE (SEE HWSD–1150/1160/1170)
   - –38 m TO 50 mm SERVICES – CORPORATION STOP, C/W SERVICE SADDLE AND ANODE (SEE HWSD–1180)
   - –100 mm AND LARGER – TAPPING SLEEVE AND VALVE C/W VALVE BOX, ANODE AND THRUST BLOCK / OR
     - –CUT IN TEE AND VALVE C/W VALVE BOX, ANODE AND THRUST BLOCK
     - –(SEE SECTIONS 3.3.10.1.2 AND 3.3.10.1.3 FOR TAPPING SLEEVE / CUT–IN–TEE

   REQUIREMENTS)

3. **VALVE COVER REQUIREMENTS**
   - –SPRINKLER VALVE BOX SHALL READ "SPKLR"
   - –DOMESTIC VALVE BOX COVERS SHALL READ "SERV"

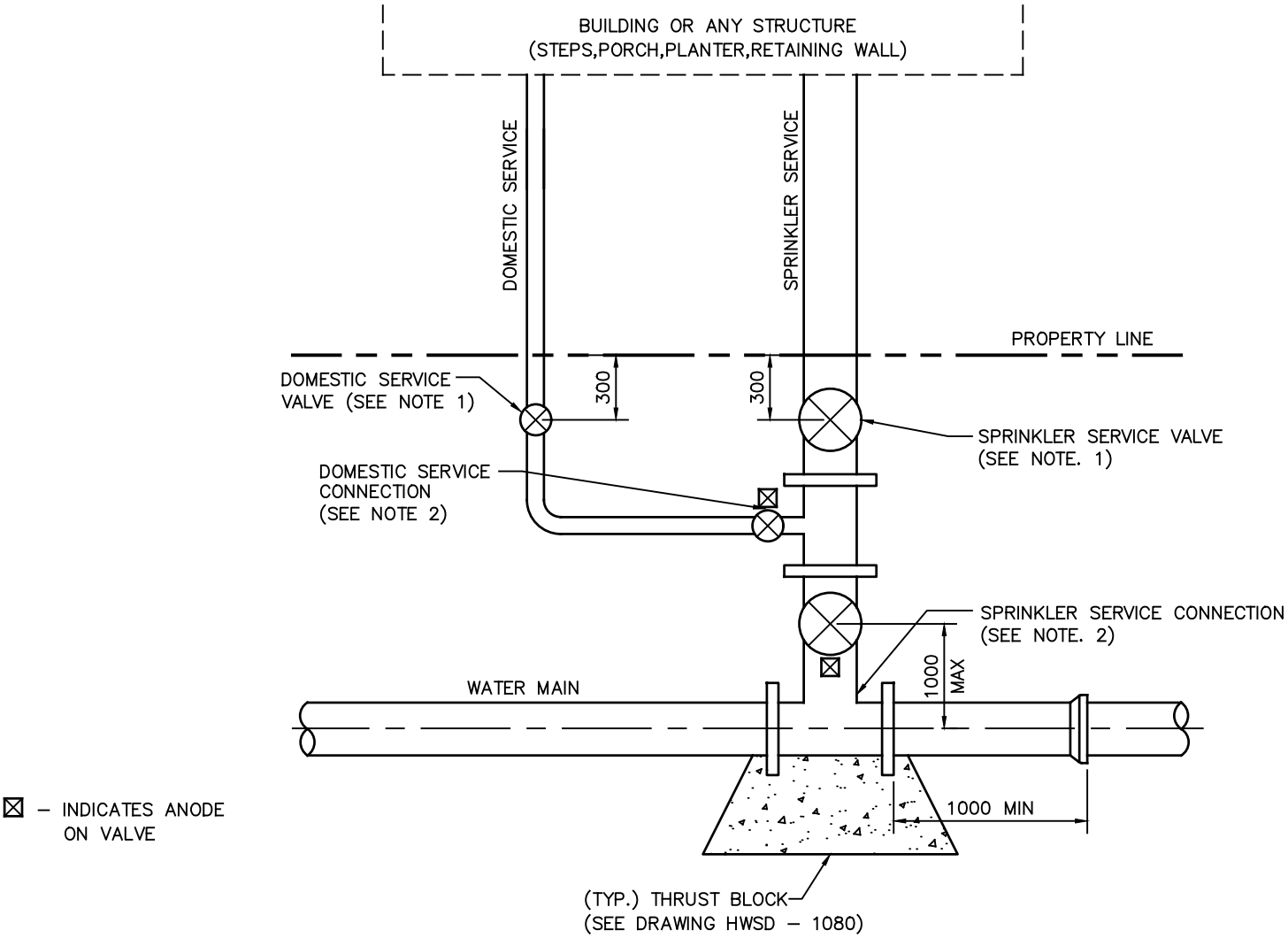
No.	DESCRIPTION	DATE	BY	CHKD
11	NEW DETAIL FOR 2019	19|06|07	ST	
11	NOTE 2 REVISED	16|01|28	SS	
10	ADDED SPRINKLER VALVE AT PL	14|02|25	SS	
9	GENERAL REVISIONS FOR 2011	11|03|21	SK	
8	GENERAL REVISIONS FOR 2009	09|06|09	ML	
7	DIMENSIONS ADJUSTED	04|04|01	BC	
6	TITLE BLOCK CLEANUP	03|04|08	BC	
5	NOTE 2 REVISED	01|01|10	MC	
4	TAPPING VALVE DIMENSION CHANGED	00|03|20	MC	
3	NOTES 3 & 4 REVISED	00|03|20	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
TYPICAL DOMESTIC & SPRINKLER CONNECTIONS AS SEPARATE SERVICE CONNECTION

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1210 (2019)		



NOTES:

1. **DOMESTIC / SPRINKLER SERVICE VALVE REQUIREMENTS**
   - –19 mm TO 25 mm – CURB STOP WITH SERVICE BOX (SEE HWSD–1150/1160/1170)
   - –38 mm TO 50 mm – CURB STOP INSTALLED IN VALVE BOX (SEE HWSD–1180)
   - –100 mm AND LARGER – GATE VALVE C/W VALVE BOX

2. **DOMESTIC / SPRINKLER SERVICE CONNECTION REQUIREMENTS**
   - –19 mm TO 25 mm SERVICES – CORPORATION STOP, C/W ANODE (SEE HWSD–1150/1160/1170)
   - –38 m TO 50 mm SERVICES – CORPORATION STOP, C/W SERVICE SADDLE AND ANODE (SEE HWSD–1180)
   - –100 mm AND LARGER – TAPPING SLEEVE AND VALVE C/W VALVE BOX, ANODE AND THRUST BLOCK / OR
   - –CUT IN TEE AND VALVE C/W VALVE BOX, ANODE AND THRUST BLOCK
   - –(SEE SECTIONS 3.3.10.1.2 AND 3.3.10.1.3 FOR TAPPING SLEEVE / CUT–IN–TEE

REQUIREMENTS)

3. **VALVE COVER REQUIREMENTS**
   - –SPRINKLER VALVE BOX SHALL READ "SPKLR"
   - –DOMESTIC VALVE BOX COVERS SHALL READ "SERV"

No.	DESCRIPTION	DATE	BY	CHKD
11	NEW DETAIL FOR 2019	06|07|19	SS	
10	GENERAL REVISIONS	28|01|16	SS	
9	GENERAL REVISIONS FOR 2011	11|03|21	SK	
8	GENERAL REVISIONS FOR 2009	09|06|09	ML	
7	NOTE 5 REVISED	04|04|01	BC	
6	TITLE BLOCK CLEANUP	03|04|08	BC	
5	NOTE 2 REVISED	01|01|10	MC	
4	PROPERTY LINE VALVE ADDED	00|03|20	MC	
3	TAPPING VALVE DIMENSION REVISED	00|03|20	MC	

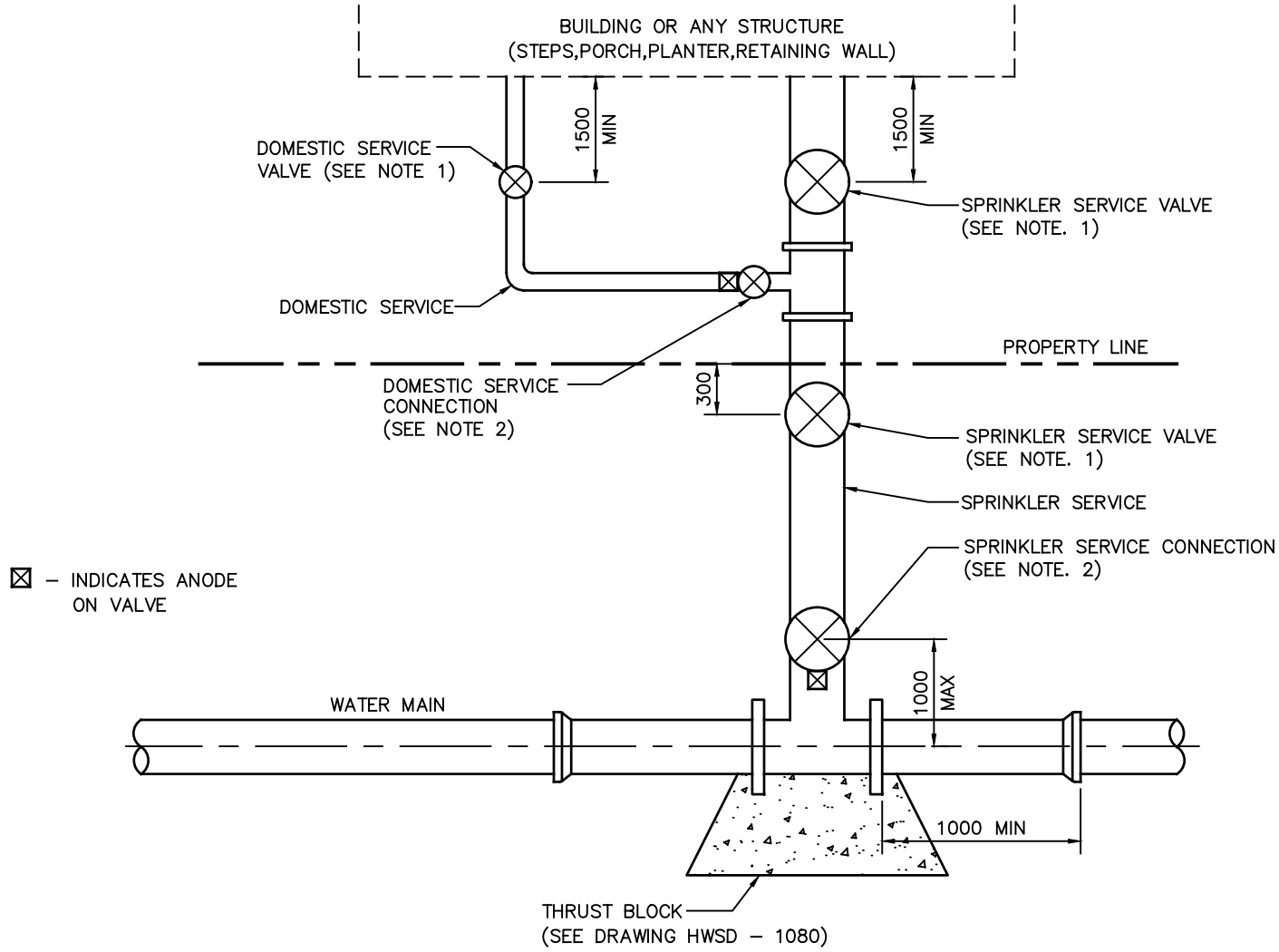
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

PUBLIC BRANCH DOMESTIC & SPRINKLER CONNECTIONS AS ONE SERVICE CONNECTION

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1220 (2019)		



NOTES:

1. **DOMESTIC / SPRINKLER SERVICE VALVE REQUIREMENTS**
   - –19 mm TO 25 mm – CURB STOP WITH SERVICE BOX (SEE HWSD–1150/1160/1170)
   - –38 mm TO 50 mm – CURB STOP INSTALLED IN VALVE BOX (SEE HWSD–1180)
   - –100 mm AND LARGER – GATE VALVE C/W VALVE BOX

2. **DOMESTIC / SPRINKLER SERVICE CONNECTION REQUIREMENTS**
   - –19 mm TO 25 mm SERVICES – CORPORATION STOP, C/W ANODE (SEE HWSD–1150/1160/1170)
   - –38 m TO 50 mm SERVICES – CORPORATION STOP, C/W SERVICE SADDLE AND ANODE (SEE HWSD–1180)
   - –100 mm AND LARGER – TAPPING SLEEVE AND VALVE C/W VALVE BOX, ANODE AND THRUST BLOCK / OR
     –CUT IN TEE AND VALVE C/W VALVE BOX, ANODE AND THRUST BLOCK
     –(SEE SECTIONS 3.3.10.1.2 AND 3.3.10.1.3 FOR TAPPING SLEEVE / CUT–IN–TEE REQUIREMENTS)

3. **VALVE COVER REQUIREMENTS**
   - –SPRINKLER VALVE BOX SHALL READ "SPKLR"
   - –DOMESTIC VALVE BOX COVERS SHALL READ "SERV"

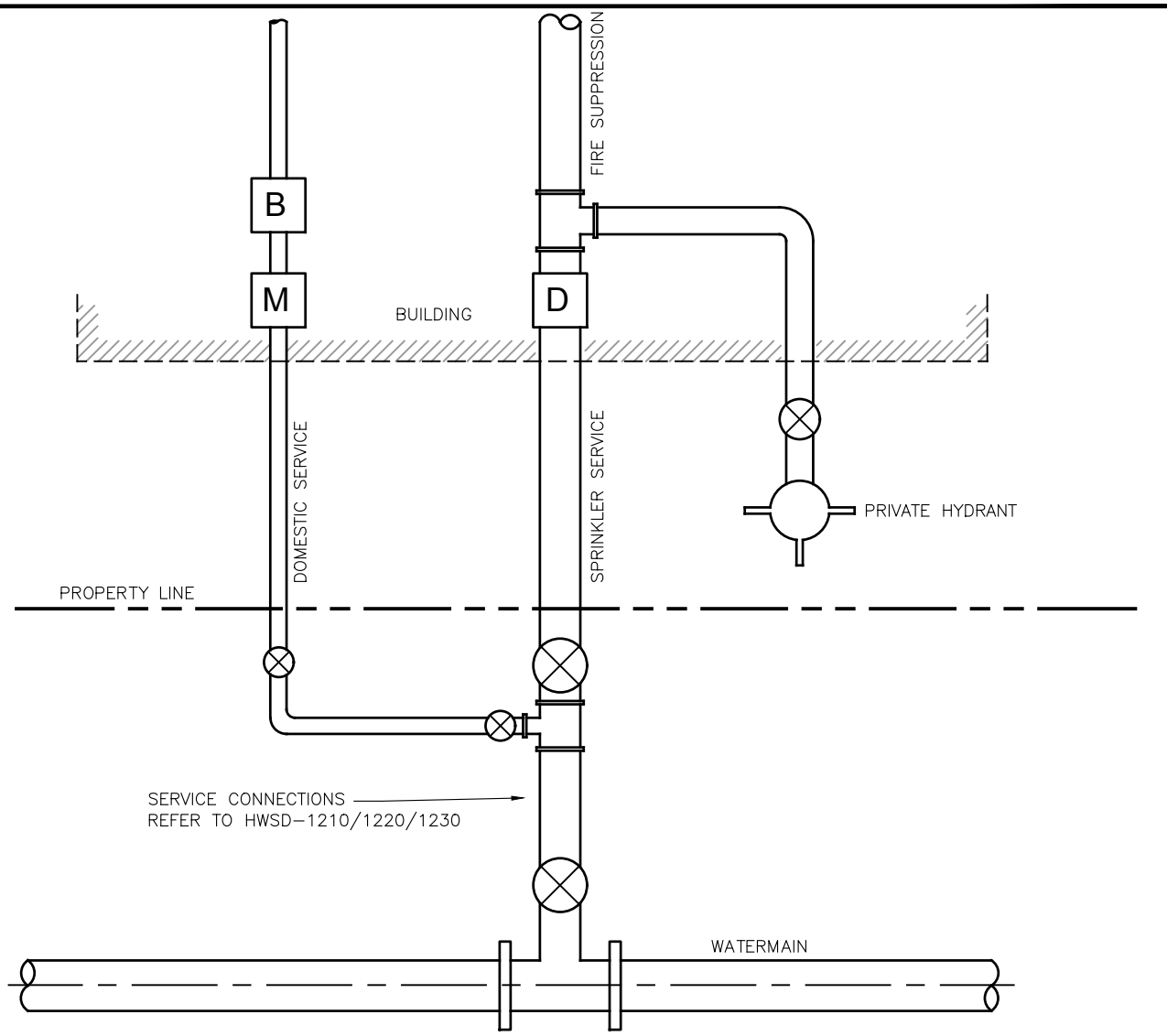
No.	DESCRIPTION	DATE	BY	CHKD
11	NEW DETAIL FOR 2019	16|06|07	ST	
10	NOTE 2 REVISED	16|01|28	SS	
9	ADDED SPRINKLER VALVE AT PL	14|02|25	SS	
8	GENERAL REVISIONS FOR 2011	11|03|21	SK	
7	GENERAL REVISIONS FOR 2009	09|06|09	ML	
6	NOTE 4 REVISED	04|04|01	BC	
5	TITLE BLOCK CLEANUP	03|04|08	BC	
4	NOTE 2 REVISED	01|01|10	MC	
3	TAPPING VALVE DIMENSION REVISED	00|03|20	MC	
2	PROPERTY LINE VALVE REMOVED	99|12|20	RJ	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
PRIVATE BRANCH DOMESTIC & SPRINKLER CONNECTIONS AS ONE SERVICE CONNECTION

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1230 (2019)		



LEGEND:

- D — DETECTOR ASSEMBLY (DOUBLE CHECK DETECTOR ASSEMBLY OR REDUCED PRESSURE DETECTOR ASSEMBLY)
- M — WATER METER
- B — BACKFLOW PREVENTION DEVICE

NOTES:

1. THE REQUIRED DETECTOR ASSEMBLY ON THE SPRINKLER SERVICE IS DETERMINED BASED ON THE TYPE OF SPRINKLER OR STANDPIPE SYSTEM PROPOSED TO BE INSTALLED.
2. PRIVATE HYDRANTS TO BE PAINTED SAFETY YELLOW.
3. BOLLARDS, IF REQUIRED, REFER TO HWSD–1130.

No.	DESCRIPTION	DATE	BY	CHKD
.	.	.	.	

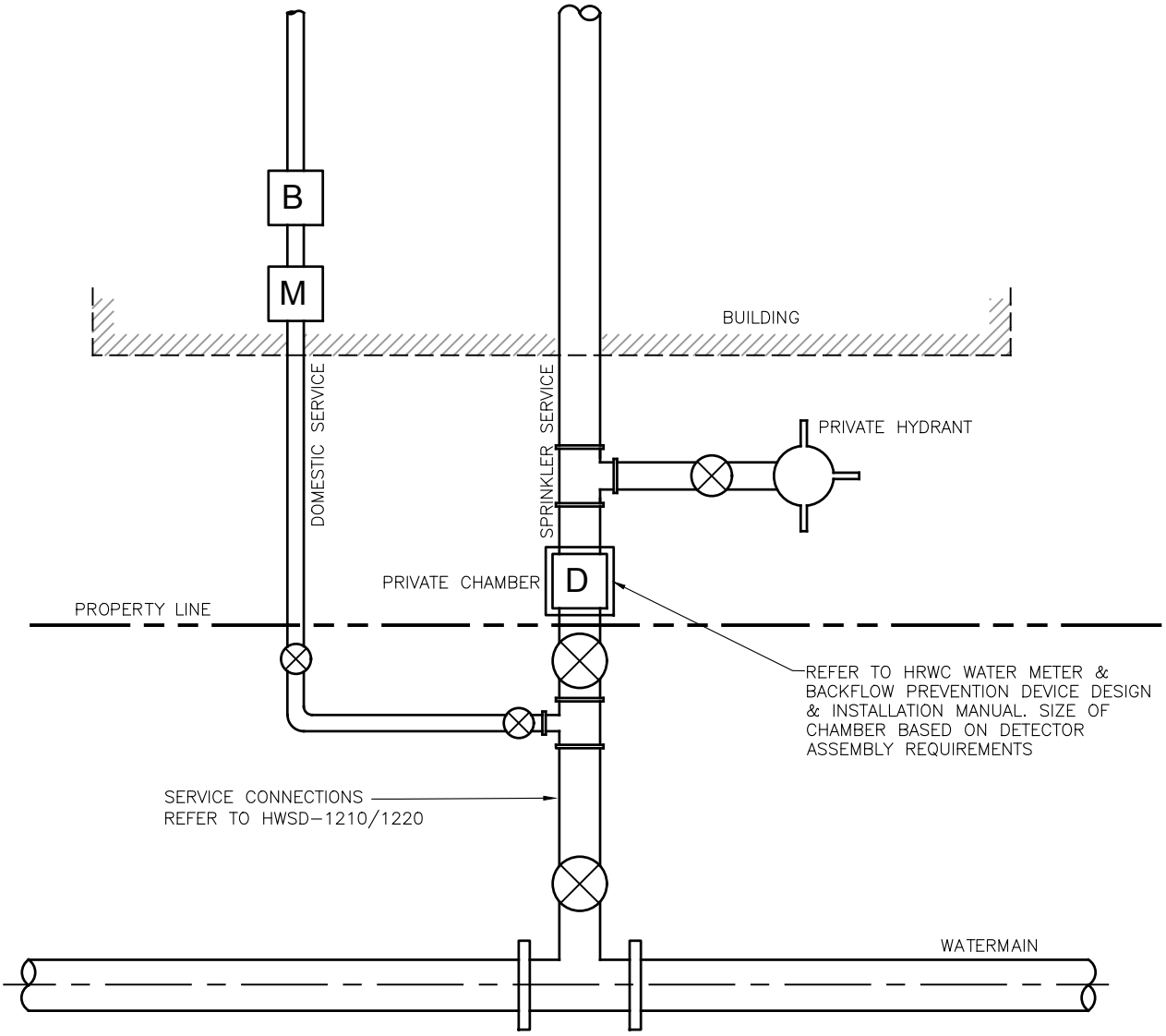
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

PRIVATE HYDRANT OFF SPRINKLER SERVICE CONNECTION

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1232		



LEGEND:

- D — DETECTOR ASSEMBLY (DOUBLE CHECK DETECTOR ASSEMBLY OR REDUCED PRESSURE DETECTOR ASSEMBLY) IN CHAMBER/ENCLOSURE
- M — WATER METER
- B — BACKFLOW PREVENTION DEVICE

NOTES:

1. THE REQUIRED DETECTOR ASSEMBLY ON THE SPRINKLER SERVICE IS DETERMINED BASED ON THE TYPE OF SPRINKLER OR STANDPIPE SYSTEM PROPOSED TO BE INSTALLED.
2. PRIVATE HYDRANTS TO BE PAINTED SAFETY YELLOW.
3. BOLLARDS, IF REQUIRED, REFER TO HWSD–1130.
4. REDUCED PRESSURE DETECTOR ASSEMBLY DEVICES CANNOT BE INSTALLED IN A CHAMBER. THESE DEVICES MUST BE INSTALLED IN AN ABOVE GROUND HEATED ENCLOSURE.

No.	DESCRIPTION	DATE	BY	CHKD
1	GENERAL REVISIONS FOR 2018	05/04/18	ST	

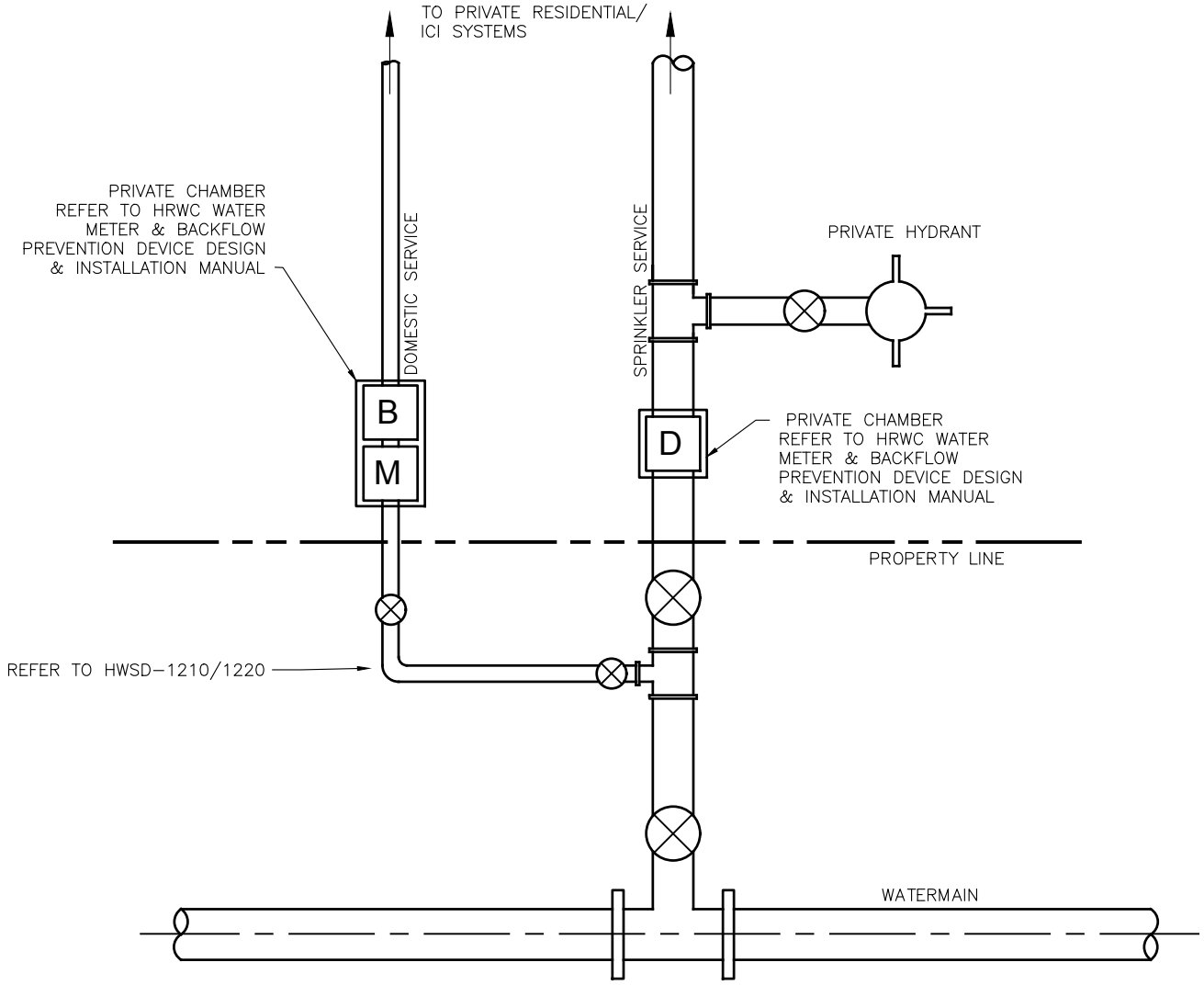
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

PRIVATE HYDRANT OFF SPRINKLER SERVICE CONNECTION

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1234		



LEGEND:

- D — DETECTOR ASSEMBLY (DOUBLE CHECK DETECTOR ASSEMBLY OR REDUCED PRESSURE DETECTOR ASSEMBLY) IN CHAMBER/ENCLOSURE
- B — BACKFLOW PREVENTION DEVICE IN CHAMBER
- M — WATER METER IN CHAMBER

NOTES:

1. THE REQUIRED DETECTOR ASSEMBLY ON THE SPRINKLER SERVICE IS DETERMINED BASED ON THE TYPE OF SPRINKLER OR STANDPIPE SYSTEM PROPOSED TO BE INSTALLED.
2. PRIVATE HYDRANTS TO BE PAINTED SAFETY YELLOW.
3. BOLLARDS, IF REQUIRED, REFER TO HWSD–1130.
4. REDUCED PRESSURE DETECTOR ASSEMBLY DEVICES CANNOT BE INSTALLED IN A CHAMBER. THESE DEVICES MUST BE INSTALLED IN AN ABOVE GROUND HEATED ENCLOSURE.

No.	DESCRIPTION	DATE	BY	CHKD
1	GENERAL REVISIONS FOR 2018	05/04/18	ST	

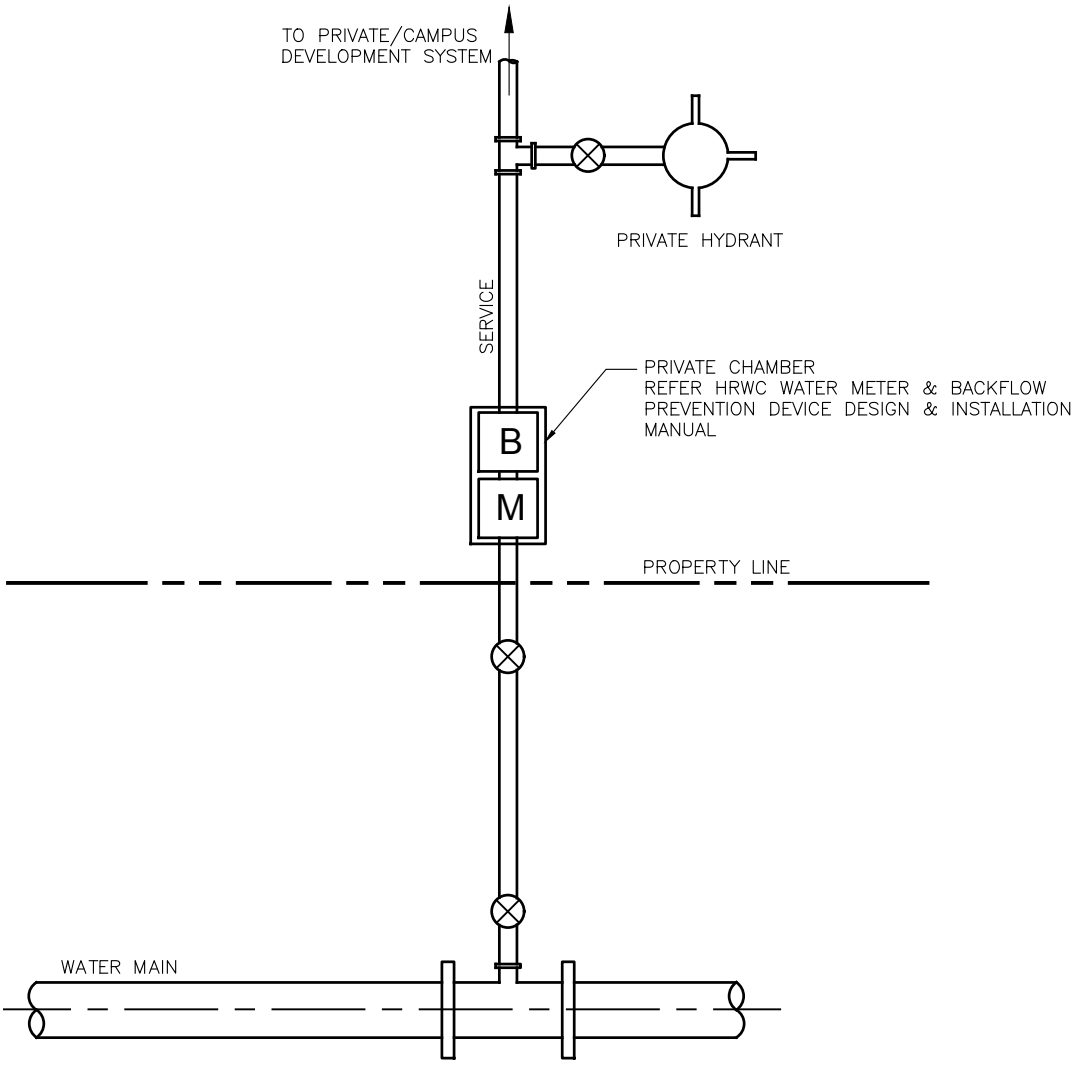
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
WATER SERVICE CONNECTION FOR CAMPUS ARRANGEMENT

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1236		

K:\ENGINEERING DEPT\GIS\PRODUCT\CAD STANDARDS\HW STANDARD SPEC\2018\HWSD – 1236 (2018).DWG



LEGEND:

B	BACKFLOW PREVENTION DEVICE IN CHAMBER/ENCLOSURE
M	WATER METER IN CHAMBER

NOTES:

1. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICES CANNOT BE INSTALLED IN A CHAMBER. THESE DEVICES MUST BE INSTALLED IN AN ABOVE GROUND HEATED ENCLOSURE.

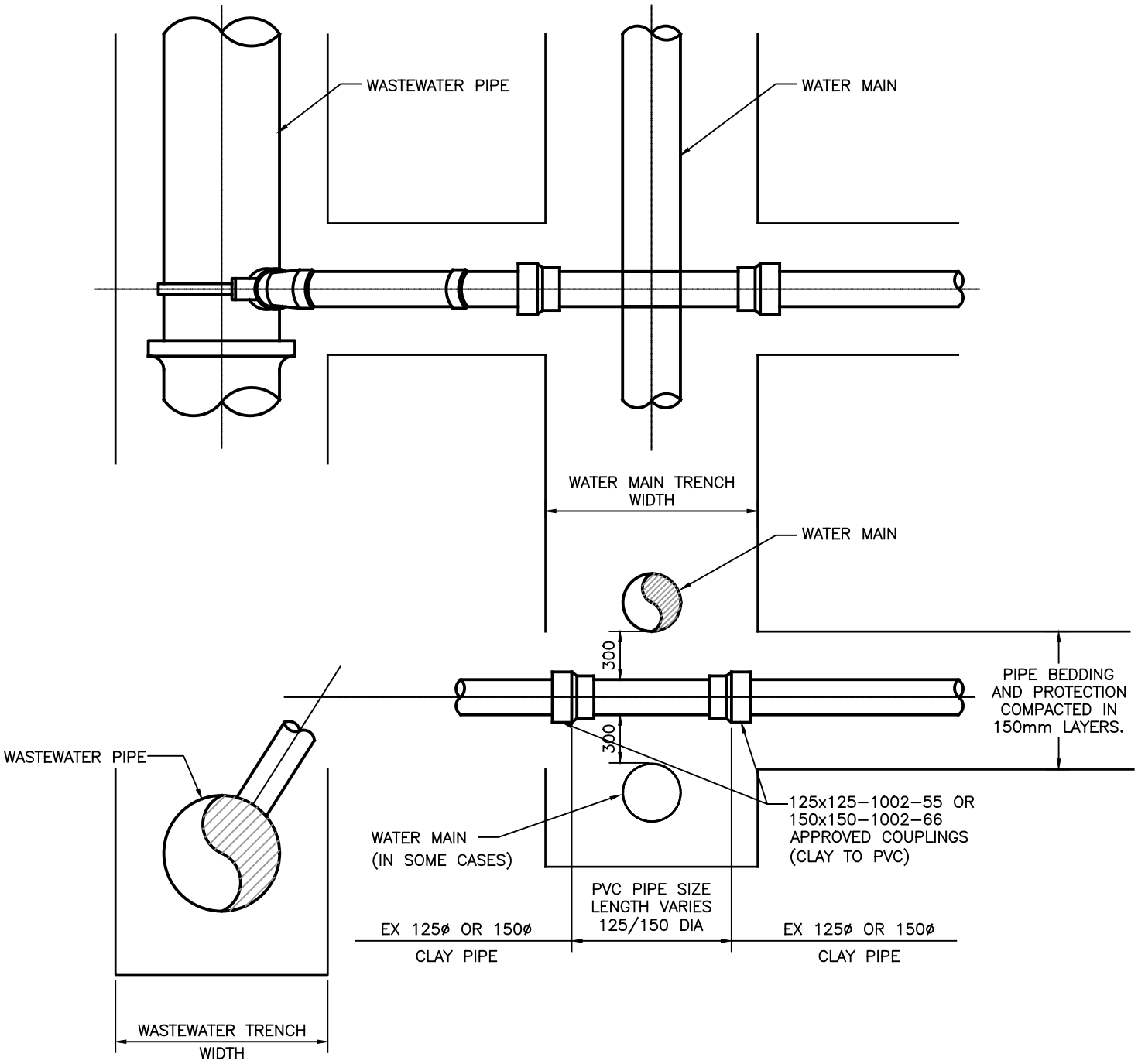
No.	DESCRIPTION	DATE	BY	CHKD
1	GENERAL REVISIONS FOR 2018	05/04/18	ST	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
WATER SERVICE CONNECTION FOR CAMPUS ARRANGEMENT

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1238		



NOTES:

1. ALL PVC GRAVITY WASTEWATER PIPE LESS THAN 200 DIA. SHALL BE DR–28
2. FOR 200 DIA AND OVER PVC PIPE SHALL BE DR35.
3. TAMPING EQUIPMENT AND METHODS AS PER PIPE MANUFACTURERS INSTRUCTIONS.

No.	DESCRIPTION	DATE	BY	CHKD
5	GENERAL REVISIONS FOR 2025	03|25|25	ST	
4	GENERAL REVISIONS FOR 2024	03|27|24	ST	
3	GENERAL REVISIONS FOR 2016	16|03|01	SS	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	TITLE BLOCK CLEANUP	03|04|08	BC	

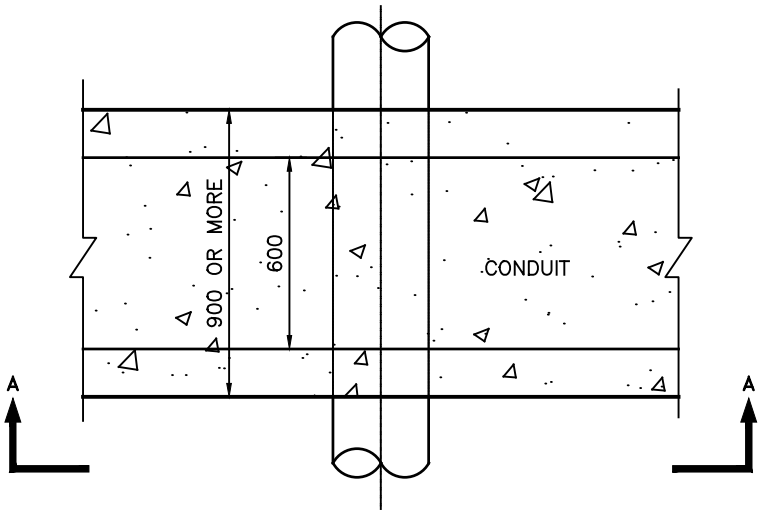
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

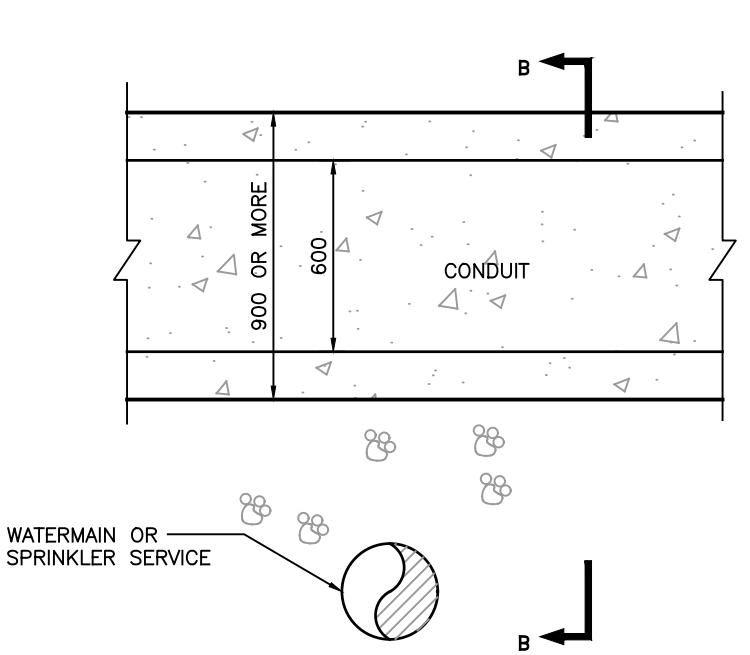
PROJECT

EXISTING WASTEWATER SERVICE CONNECTION REPAIR DETAIL

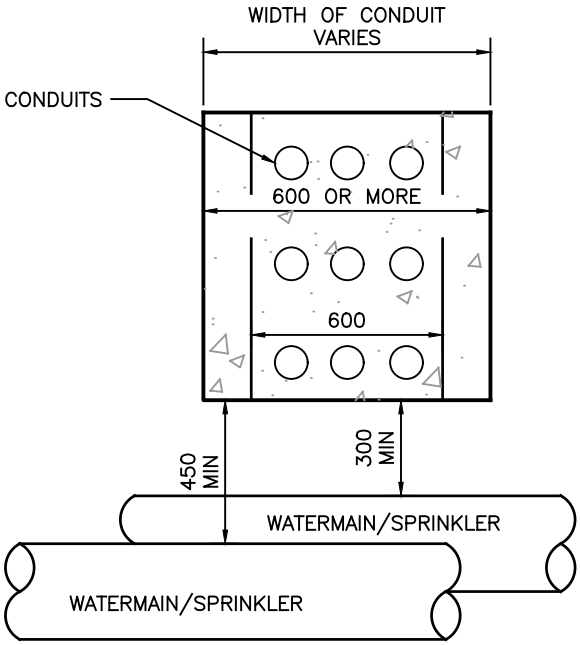
DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1240		



PLAN VIEW



SECTION 'A'



SECTION 'B'

NOTES

REQUIRED SEPARATION BETWEEN WATERMAIN/SPRINKLER AND CONDUIT IS AS FOLLOWS OR AS PER CONDUIT UTILITY'S REQUIREMENTS, WHICH EVER IS MORE STRINGENT.

WIDTH OF CONDUIT ENCASED IN CONCRETE	MINIMUM CLEARANCE
UP TO 600mm	300mm
600mm AND GREATER	450mm

IF REQUIRED SEPARATION CANNOT BE ACHIEVED USE DRAWING HWSD – 1260

No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2025	12|30|24	ST	
3	GENERAL REVISIONS FOR 2009	09|06|09	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	GENERAL REVISION	99|12|20	RJ	

Halifax Water

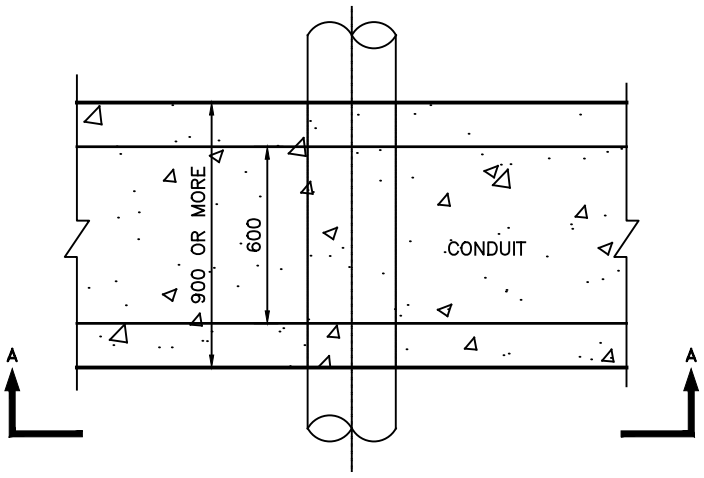
ENGINEERING DEPARTMENT

PROJECT
REQUIRED MINIMUM CLEARANCES BETWEEN UNDERGROUND CONDUITS AND WATERMAIN/SPRINKLER

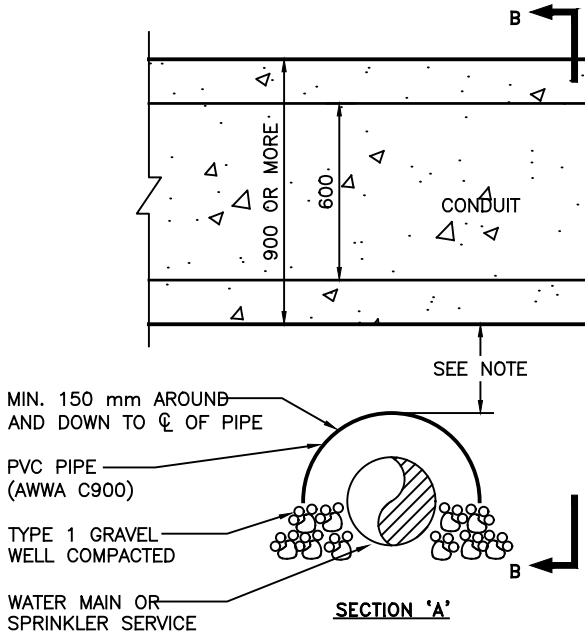
DRAWN ST	SCALE (PLAN) N.T.S.
CHECKED S.H.	SCALE (PROFILE)
APPROVED	DATE
PROJECT No.	
DWG. No. HWSD – 1250 (2025)	

SCALE PLOTTED: 1=1 DATE PLOTTED: 4/23/2008 NOTES:

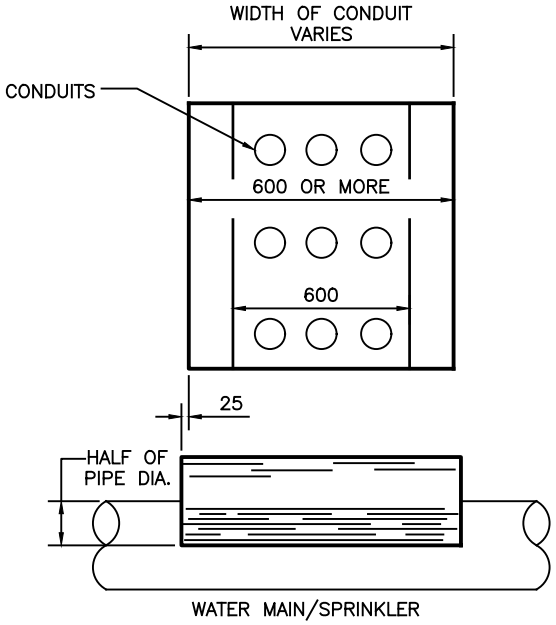
HRWC–A4P.dwg DWG FILENAME: HWSD – 1250 (2025).DWG



PLAN VIEW



SECTION 'A'



SECTION 'B'

NOTES

PVC SLEEVES OVER WATER MAIN REQUIRED WHEN:

WIDTH OF CONDUIT ENCASED IN CONCRETE	MINIMUM CLEARENCE
LESS THAN 600 mm	LESS THAN 300 mm
600 mm AND GREATER	LESS THAN 450 mm

No.	DESCRIPTION	DATE	BY	CHKD
4	REVISED TITLE	16|01|28	SS	
3	GENERAL REVISIONS FOR 2009	09|06|09	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	GENERAL REVISION	99|12|20	RJ	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

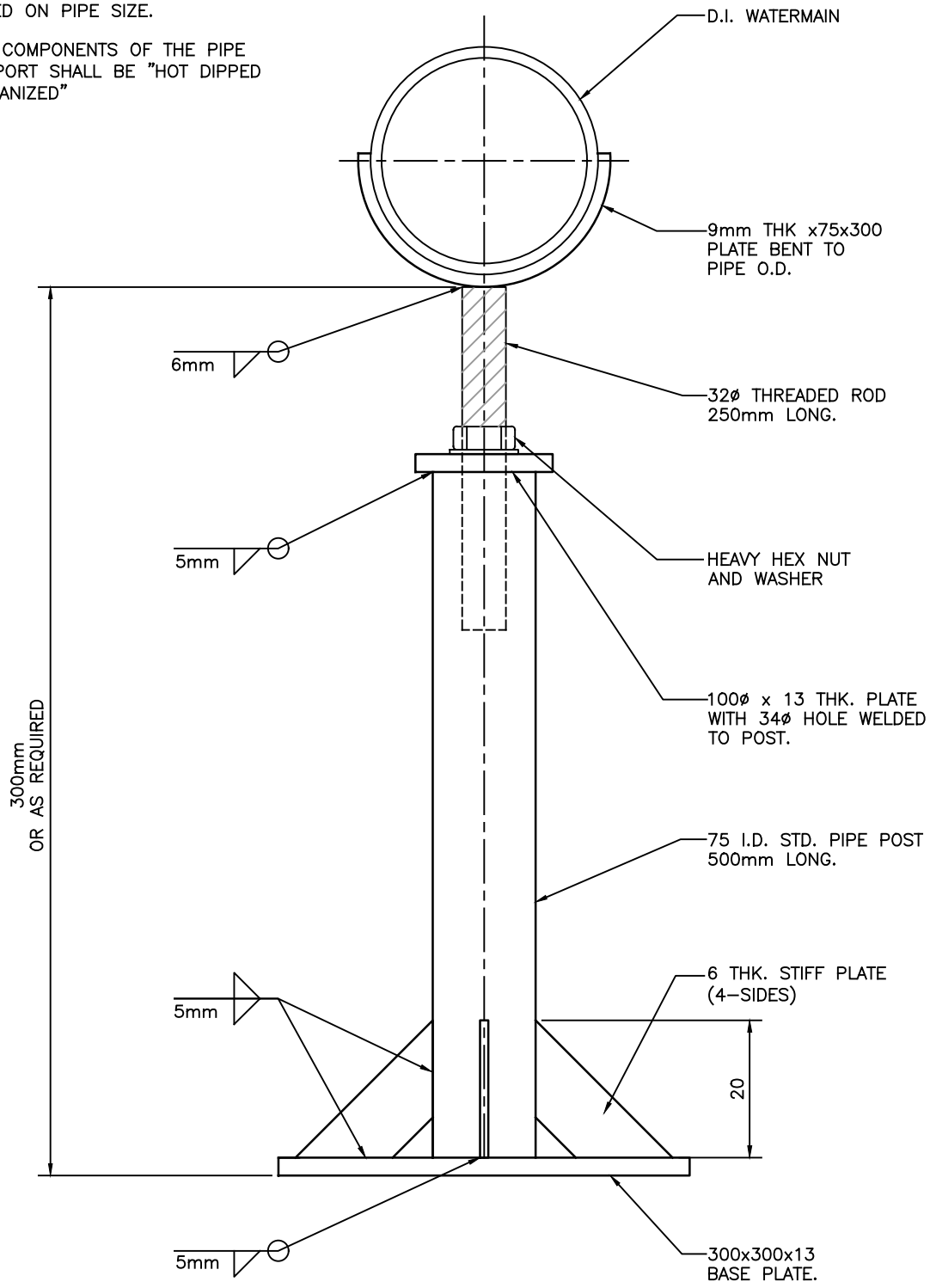
Halifax Water

PROJECT
REQUIRED MINIMUM CLEARANCES BETWEEN NEW UNDERGROUND CONDUITS AND EX. WATER MAIN/SPRINKLER (PVC SLEEVES)

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1260		

NOTES:

1. NUMBER OF SUPPORTS NEEDED BASED ON PIPE SIZE.
2. ALL COMPONENTS OF THE PIPE SUPPORT SHALL BE "HOT DIPPED GALVANIZED"



No.	DESCRIPTION	DATE	BY	CHKD
5	GENERAL REVISIONS FOR 2016	27|03|24	ST	
5	GENERAL REVISIONS FOR 2016	16|03|01	SS	
4	GENERAL REVISIONS FOR 2009	09|06|09	ML	
3	NOTE #2 ADDED	07|05|07	BC	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	NEW DETAIL FOR 2000 SPEC	00|03|28	M.C.	

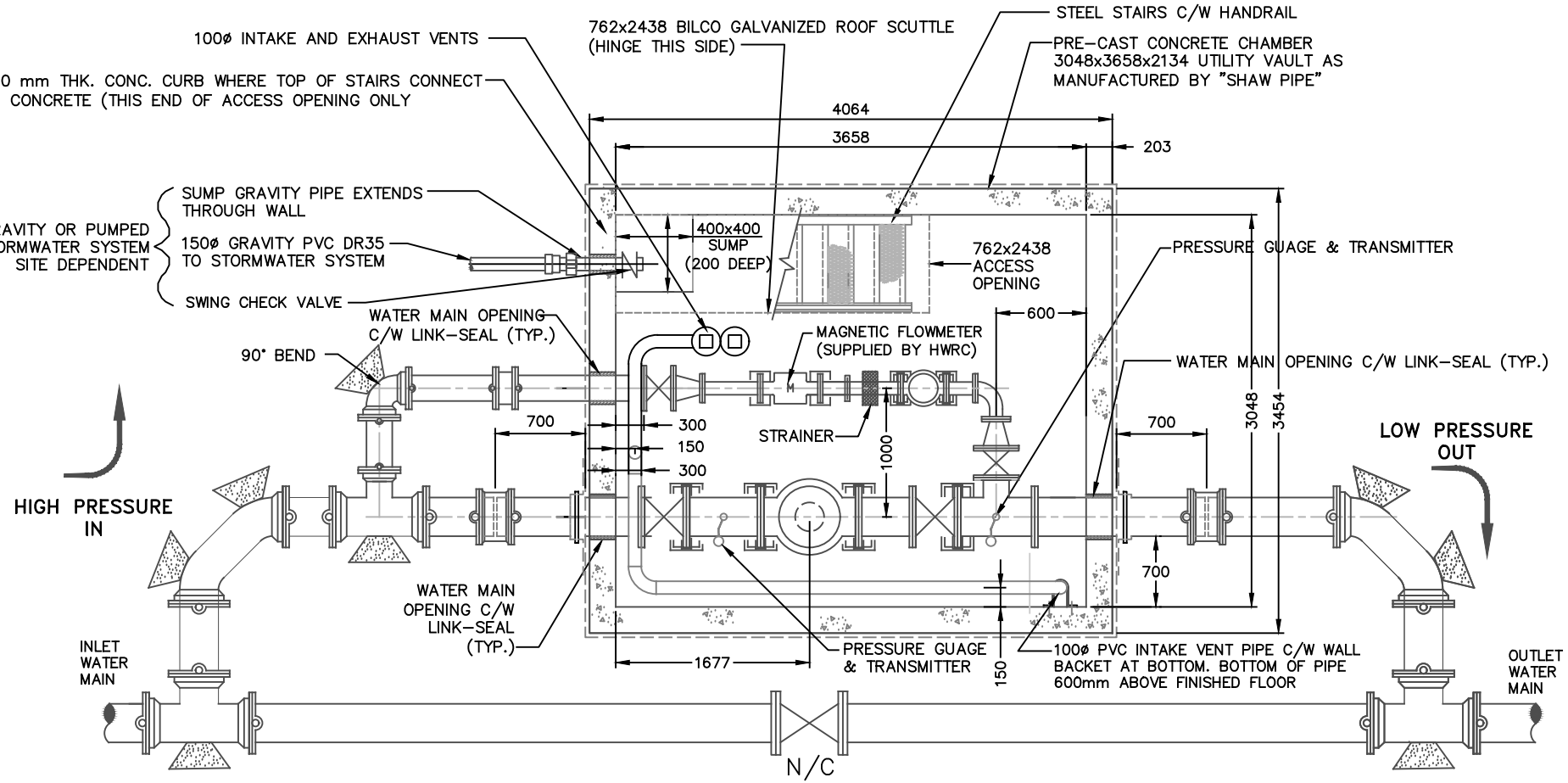
Halifax Water

ENGINEERING DEPARTMENT

PROJECT

PIPE SUPPORT DETAIL

DRAWN MC	SCALE (PLAN) 1:5
CHECKED BC	SCALE (PROFILE)
APPROVED HM	DATE
PROJECT No.	
DWG. No. HWSD – 1270 (2024)	



NOTES:

1. PRV BYPASS PIPING IS TYPICALLY INSTALLED IN STREET.
2. HALIFAX WATER WILL ADVISE ON PIPE / VALVE SIZING DEPENDING ON PROJECT REQUIREMENTS.
3. SEE DWG. HWSD – 1292 FOR SECTION VIEW.
4. ALL INTERNAL PIPING WITHIN THE CHAMBER SHALL BE STAINLESS STEEL.
5. VICTAULIC COUPLINGS NOT SHOWN
6. DETAILED DESIGN OF PRV TO BE SUBMITTED TO HRWC FOR REVIEW

No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2025	10/12/24	ST	
3	GENERAL REVISIONS FOR 2018	05/04/18	ST	
2	GENERAL REVISIONS FOR 2016	16|03|01	SS	
1	REVISED VALVE, REDUCER SEQUENCE INSIDE CHAMBER	15|02|17	SS	.
0	REVISION DETAILS	YY|MM|DD	XX	.

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

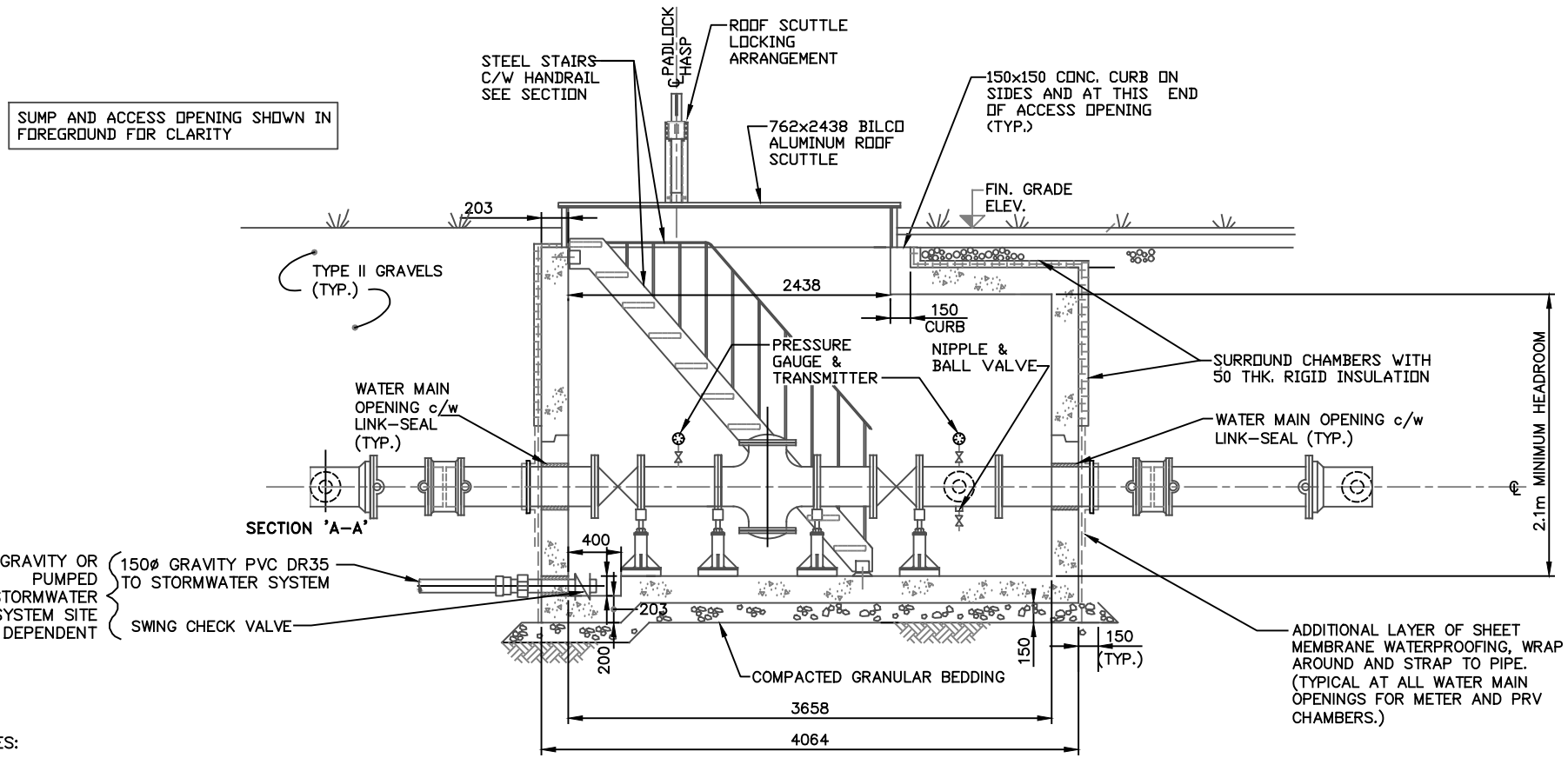
Halifax Water

PROJECT

PRV CHAMBER

PLAN

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N/A
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1290(2024)		



NOTES:

1. PRV BYPASS PIPING IS TYPICALLY INSTALLED IN STREET.
2. HALIFAX WATER WILL ADVISE ON PIPE / VALVE SIZING DEPENDING ON PROJECT REQUIREMENTS.
3. SEE DWG. HWSD – 1290 FOR PLAN VIEW.
4. 2% SLOPE ON FLOOR TO SUMP
5. ALL INTERNAL PIPING WITHIN THE CHAMBER SHALL BE STAINLESS STEEL.
6. VICTAULIC COUPLINGS NOT SHOWN
7. DETAILED DESIGN OF PRV TO BE SUBMITTED TO HRWC FOR REVIEW

PRE-CAST CONCRETE CHAMBER IS A 3048x3658x2134 UTILITY VAULT AS MANUFACTURED BY "SHAW PIPE"

No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2018	18|7|05	ST	
2	GENERAL REVISIONS FOR 2016	16|03|01	SS	
1	ADDED NOTE 4, HEADROOM DIMENSION	15|03|02	SS	
0	NEW DRAWING	14|02|04	SS	.

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

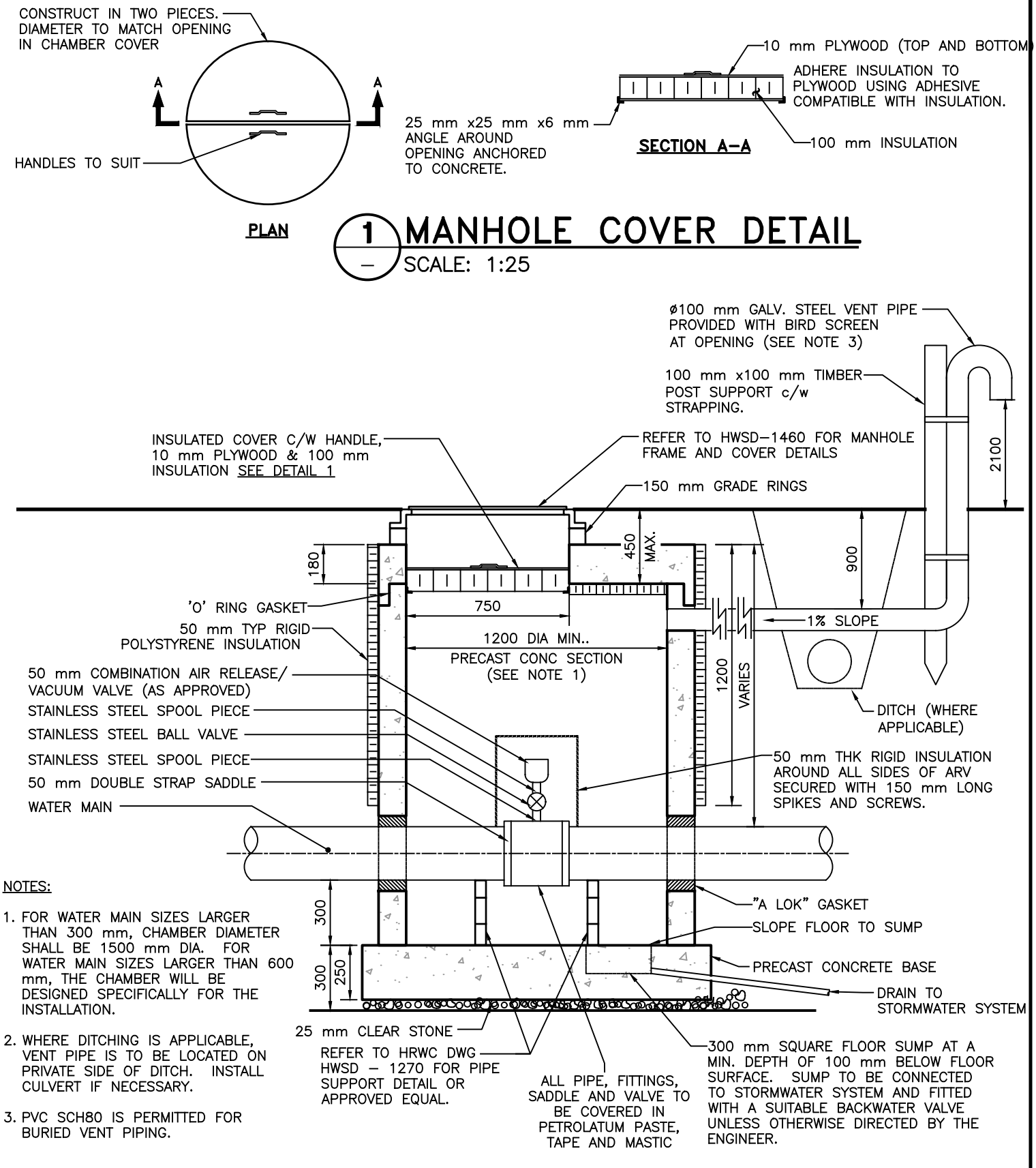
PRV CHAMBER

SECTION

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N/A
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1292



NOTES:

1. FOR WATER MAIN SIZES LARGER THAN 300 mm, CHAMBER DIAMETER SHALL BE 1500 mm DIA. FOR WATER MAIN SIZES LARGER THAN 600 mm, THE CHAMBER WILL BE DESIGNED SPECIFICALLY FOR THE INSTALLATION.
2. WHERE DITCHING IS APPLICABLE, VENT PIPE IS TO BE LOCATED ON PRIVATE SIDE OF DITCH. INSTALL CULVERT IF NECESSARY.
3. PVC SCH80 IS PERMITTED FOR BURIED VENT PIPING.

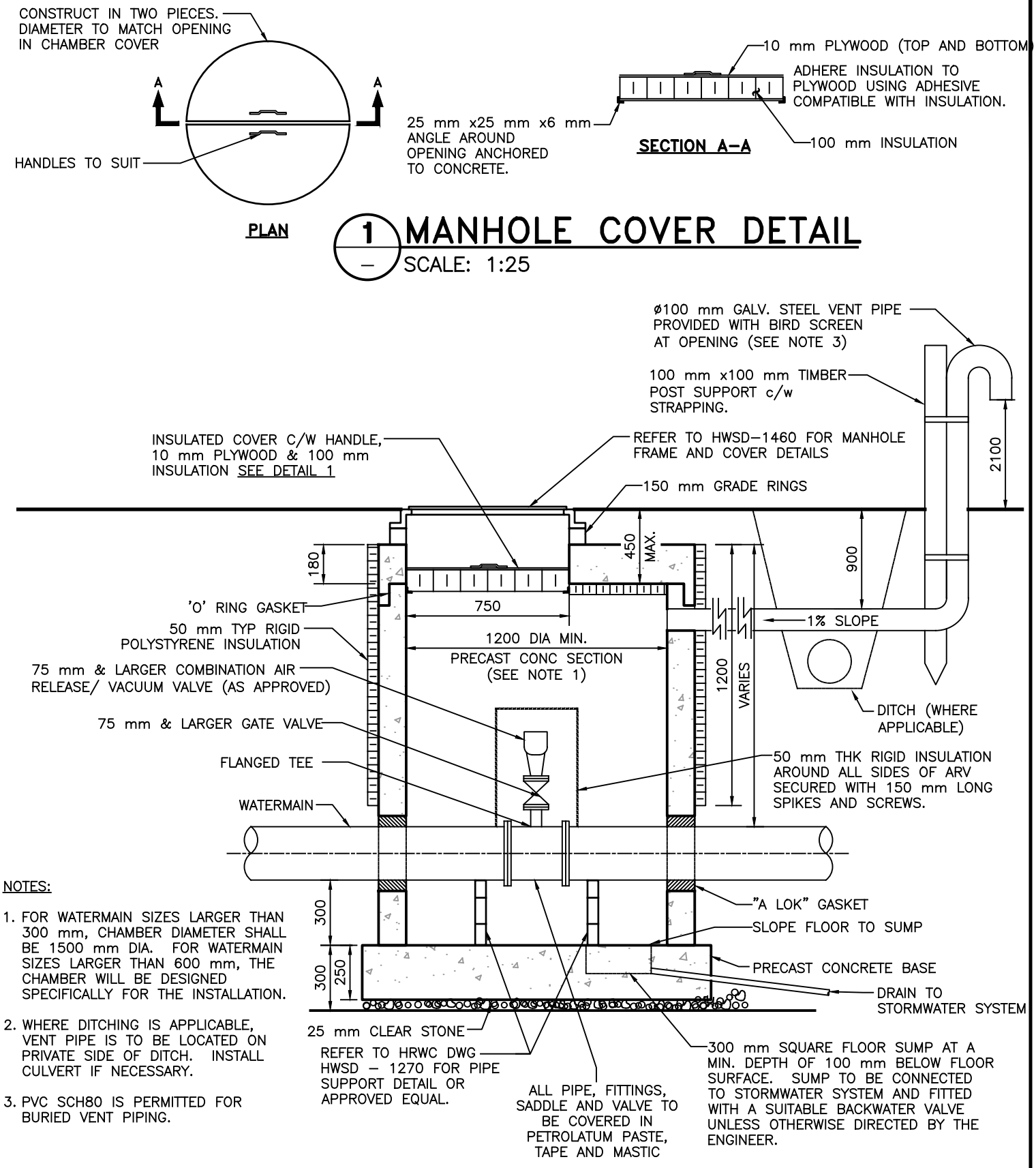
No.	DESCRIPTION	DATE	BY	CHKD
8	NEW DETAIL FOR 2019	19|06|07	ST	
7	ADDED FLOOR DRAIN, REVISED NOTE	16|01|28	SS	
6	DELETE LADDER	11|03|21	BDC	
5	GENERAL REVISIONS FOR 2009	09|06|09	ML	
4	PIPE SUPPORT REVISION	07|04|27	RJ	
3	TITLE BLOCK CLEANUP	03|04|08	BC	
2	GENERAL REVISIONS	99|01|06	MC	
1	GENERAL REVISIONS	98|01|22	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
COMMERCIAL/INDUSTRIAL AIR RELEASE / AIR VACUUM VALVE CHAMBER (50 mm)

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N.T.S.
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1310 (2019)		



NOTES:

1. FOR WATERMAIN SIZES LARGER THAN 300 mm, CHAMBER DIAMETER SHALL BE 1500 mm DIA. FOR WATERMAIN SIZES LARGER THAN 600 mm, THE CHAMBER WILL BE DESIGNED SPECIFICALLY FOR THE INSTALLATION.
2. WHERE DITCHING IS APPLICABLE, VENT PIPE IS TO BE LOCATED ON PRIVATE SIDE OF DITCH. INSTALL CULVERT IF NECESSARY.
3. PVC SCH80 IS PERMITTED FOR BURIED VENT PIPING.

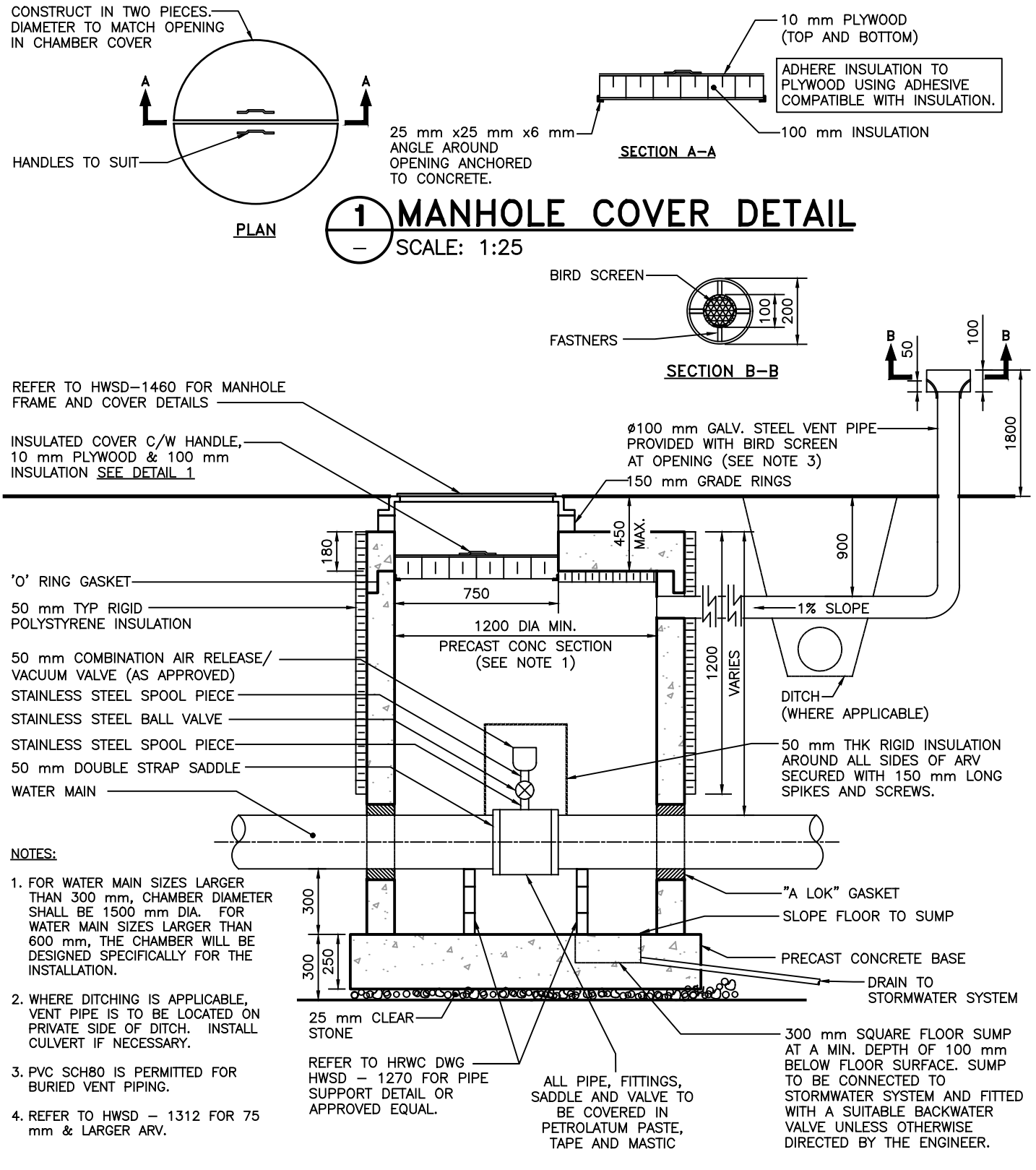
No.	DESCRIPTION	DATE	BY	CHKD
4	NEW DETAIL FOR 2019	19|06|07	ST	
3	DETAIL RENUMBERED	16|02|10	SS	
2	ADDED FLOOR DRAIN, REVISED NOTE	16|01|28	SS	
1	NEW DRAWING	13/02/14	SS	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
COMMERCIAL/INDUSTRIAL AIR RELEASE / AIR VACUUM VALVE CHAMBER (75 mm & LARGER)

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N.T.S.
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1320 (2019)		



NOTES:

1. FOR WATER MAIN SIZES LARGER THAN 300 mm, CHAMBER DIAMETER SHALL BE 1500 mm DIA. FOR WATER MAIN SIZES LARGER THAN 600 mm, THE CHAMBER WILL BE DESIGNED SPECIFICALLY FOR THE INSTALLATION.
2. WHERE DITCHING IS APPLICABLE, VENT PIPE IS TO BE LOCATED ON PRIVATE SIDE OF DITCH. INSTALL CULVERT IF NECESSARY.
3. PVC SCH80 IS PERMITTED FOR BURIED VENT PIPING.
4. REFER TO HWSD – 1312 FOR 75 mm & LARGER ARV.

No.	DESCRIPTION	DATE	BY	CHKD
12	NEW DETAIL FOR 2019	19|06|07	ST	
11	DETAIL RENUMBERED	16|02|10	SS	
10	ADDED FLOOR DRAIN, REVISED NOTE	16|01|28	SS	
9	REVISION TO ARV	.	KW	
8	ADDED NOTE #4	14|02|13	SS	
7	DELETE LADDER	11|03|21	BDC	
6	GENERAL REVISIONS FOR 2009	09|06|09	ML	
5	PIPE SUPPORT REVISION	07|04|27	RJ	
4	VENT PIPE REVISION	06|03|27	RJ	
3	TITLE BLOCK CLEANUP	03|04|08	BC	
2	GENERAL REVISIONS	99|01|06	MC	
1	GENERAL REVISIONS	98|01|22	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

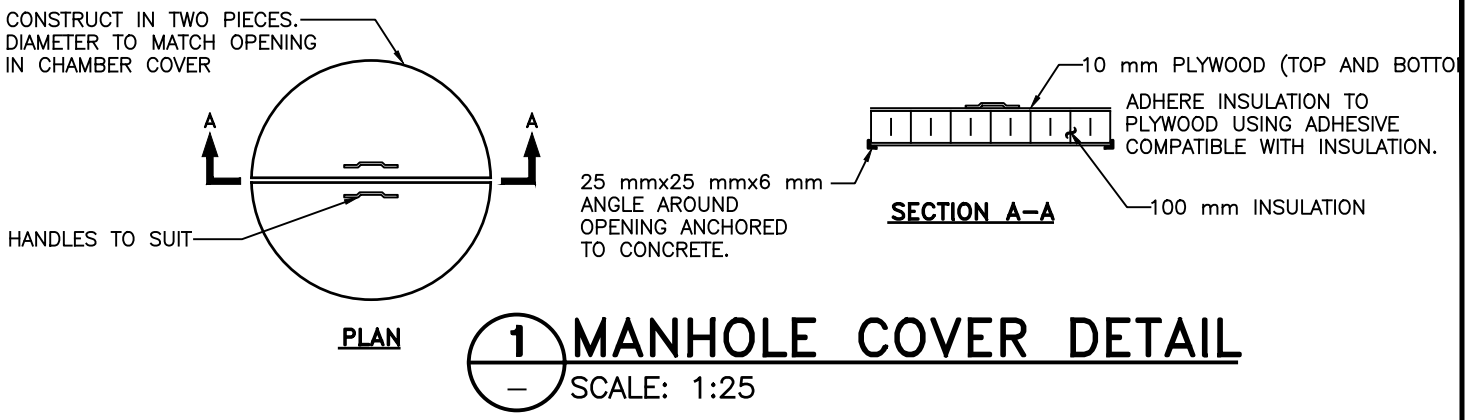
Halifax Water

PROJECT
RESIDENTIAL
AIR RELEASE / AIR VACUUM VALVE CHAMBER
50 mm

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N.T.S.
APPROVED	K.G.	DATE	17/02/15

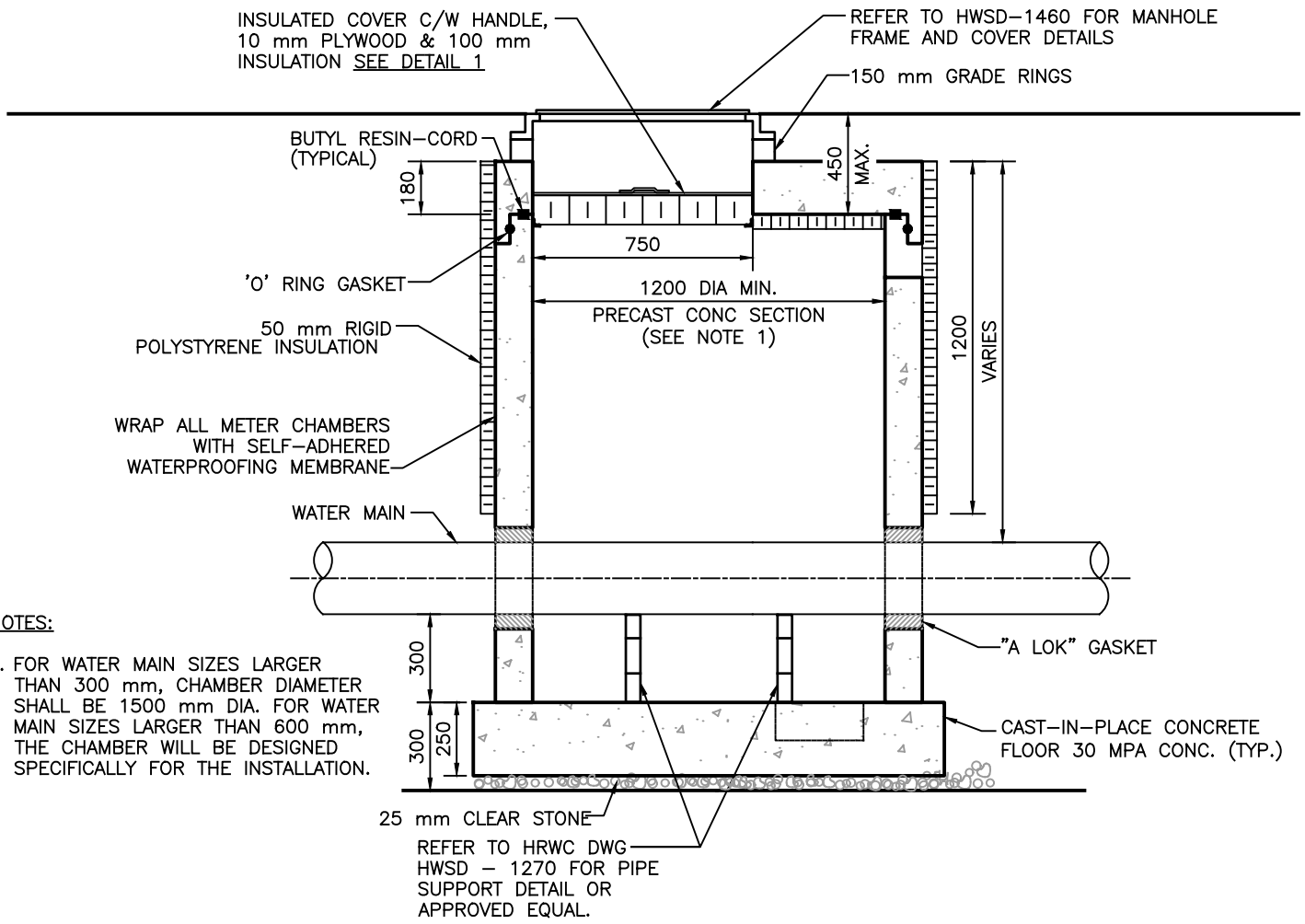
PROJECT No.

DWG. No. HWSD – 1330 (2019)



1 MANHOLE COVER DETAIL

SCALE: 1:25



NOTES:

1. FOR WATER MAIN SIZES LARGER THAN 300 mm, CHAMBER DIAMETER SHALL BE 1500 mm DIA. FOR WATER MAIN SIZES LARGER THAN 600 mm, THE CHAMBER WILL BE DESIGNED SPECIFICALLY FOR THE INSTALLATION.

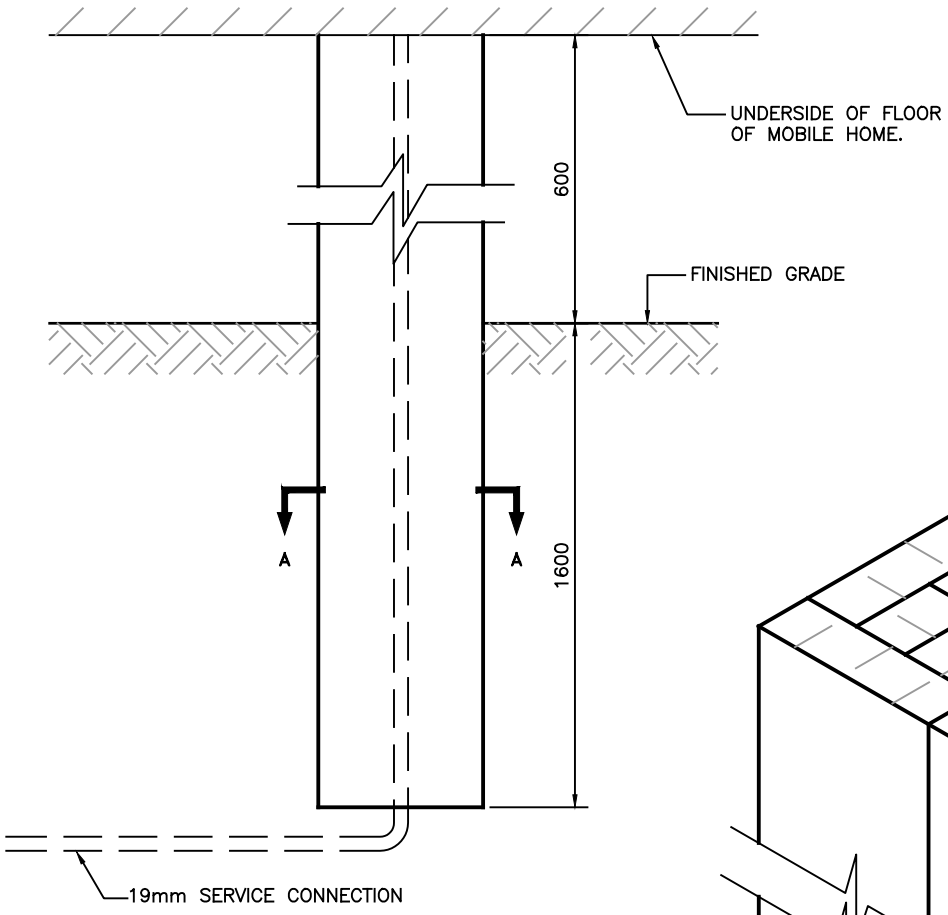
No.	DESCRIPTION	DATE	BY	CHKD
5	GENERAL REVISIONS FOR 2025	31|10|24	ST	
4	DETAIL RENUMBERED	16|02|10	SS	
3	DELETE LADDER	11|03|21	BDC	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	CHANGED PIPE SUPPORT	07|04|27	BC	

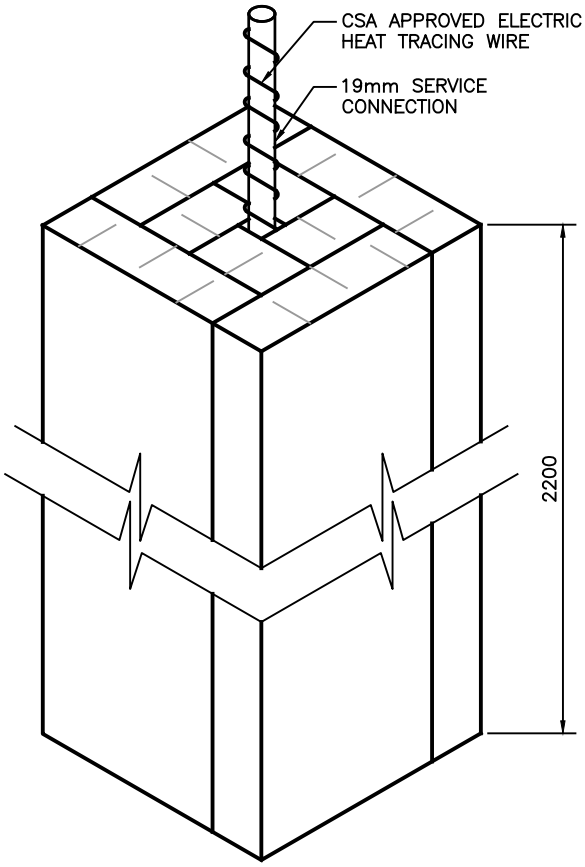
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

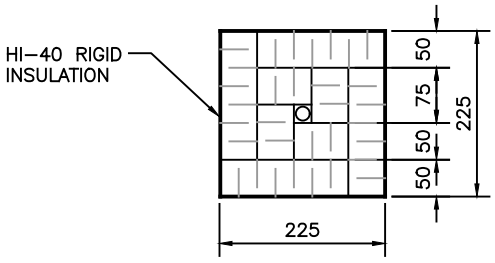
Halifax Water

PROJECT
METER CHAMBER FOR WATERMAINS

DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N.T.S.
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1340		







SECTION A-A

No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2016	16|03|01	SS	
3	GENERAL REVISIONS FOR 2009	09|06|09	ML	
2	REVISED TRACING WIRE NOTE	07|04|27	BC	
1	TITLE BLOCK CLEANUP	03|04|08	BC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

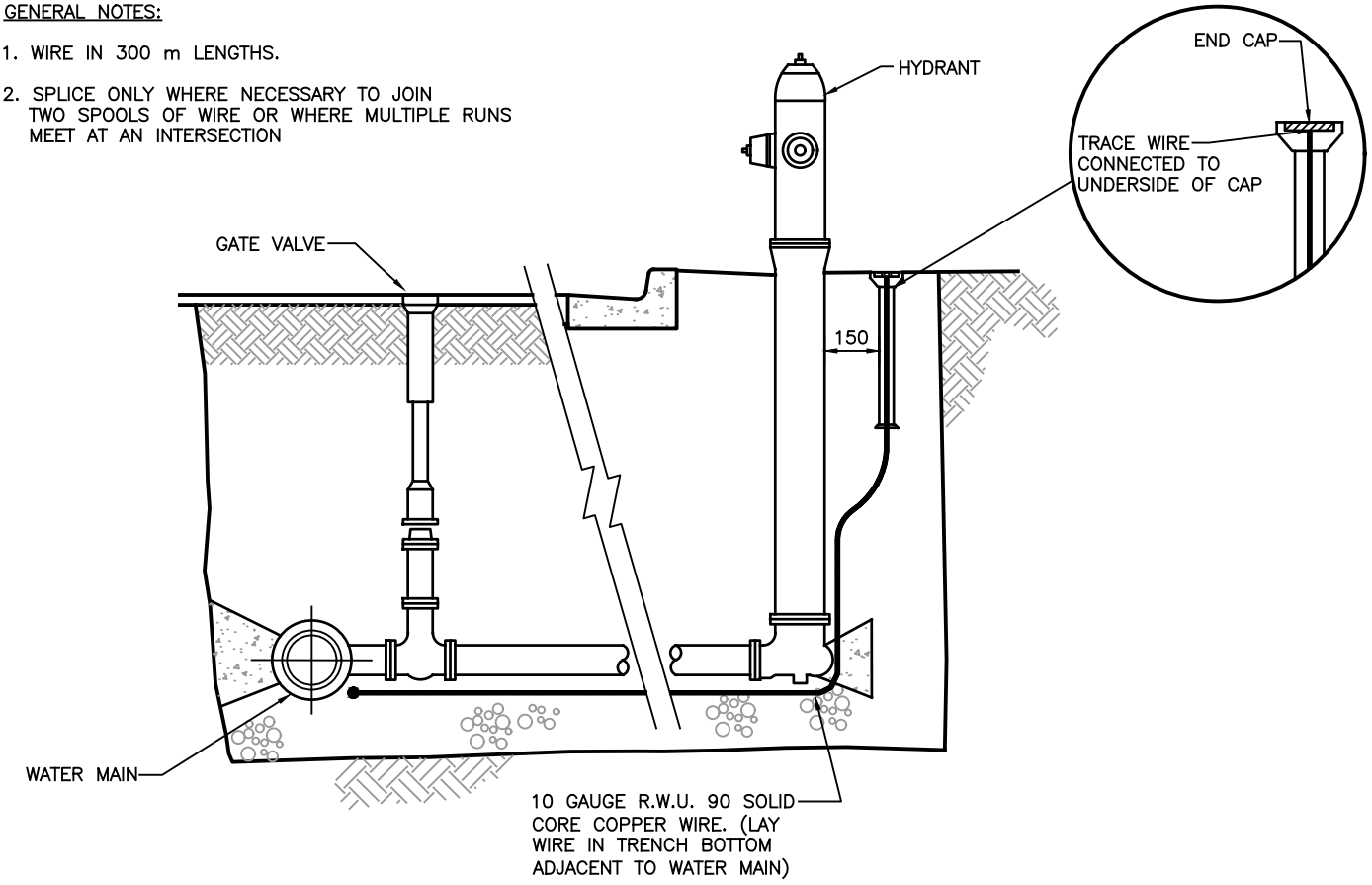
Halifax Water

PROJECT
STANDARD INSULATION DETAIL OF WATER SERVICE CONNECTION FOR MOBILE HOME

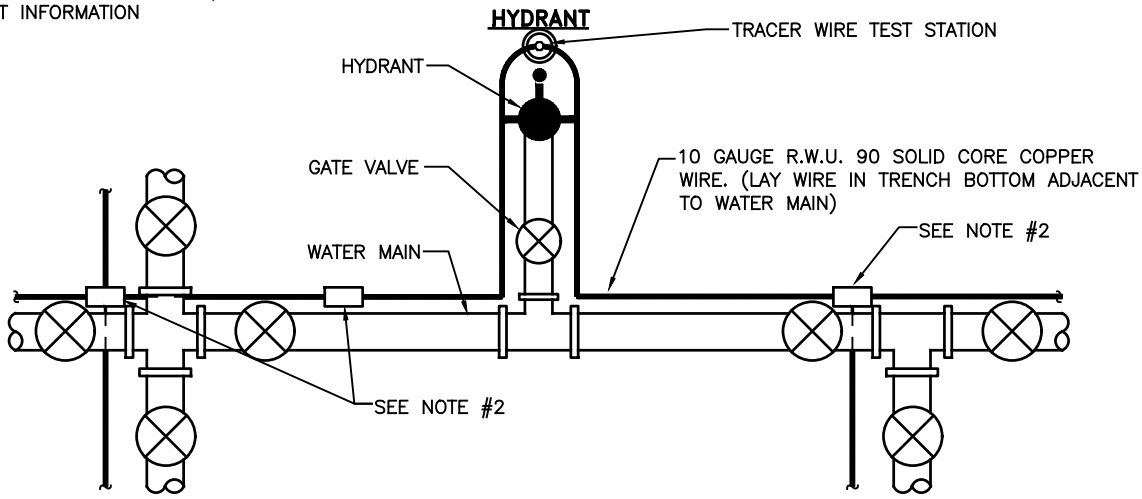
DRAWN	J.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1370		

GENERAL NOTES:

1. WIRE IN 300 m LENGTHS.
2. SPLICE ONLY WHERE NECESSARY TO JOIN TWO SPOOLS OF WIRE OR WHERE MULTIPLE RUNS MEET AT AN INTERSECTION



NOTE:
1. TRACE WIRE SYSTEM TO BE TESTED TO ENSURE CONTINUITY
2. REFER TO SECTION 33 11 00, 2.25 FOR PRODUCT INFORMATION



CROSS TEE

No.	DESCRIPTION	DATE	BY	CHKD
5	ADDED TRACER WIRE TEST STATION	FEB. 14/14	JW	SS
4	GENERAL REVISIONS FOR 2009	02|04|04	ML	
3	ADDED NOTE #2	MAY '07	BC	SS
2	ADDED NOTE	MAR '06	BC	SS
1	GENERAL REVISIONS	02|04|04	PSP	TG

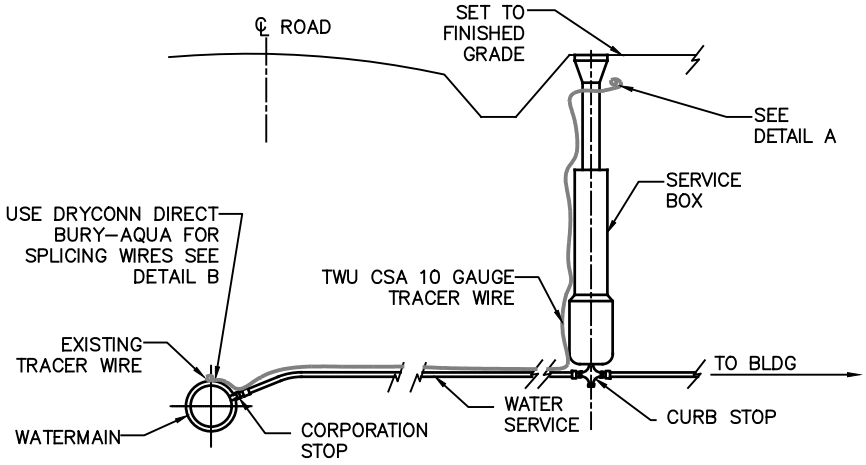
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

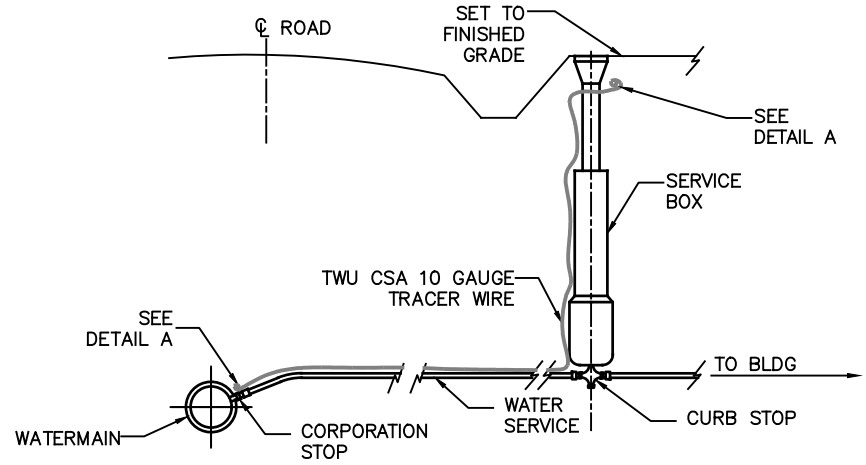
PROJECT

STANDARD TRACE WIRE DETAIL FOR PVC WATER MAIN

DRAWN	J.W.	SCALE (PLAN)	N.T.S
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1380		

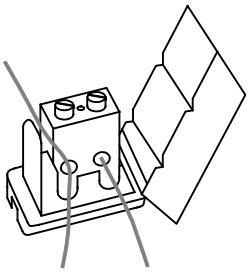


CONNECTION FROM CORPORATION STOP TO CURB STOP WITH EXISTING WIRE AT MAIN

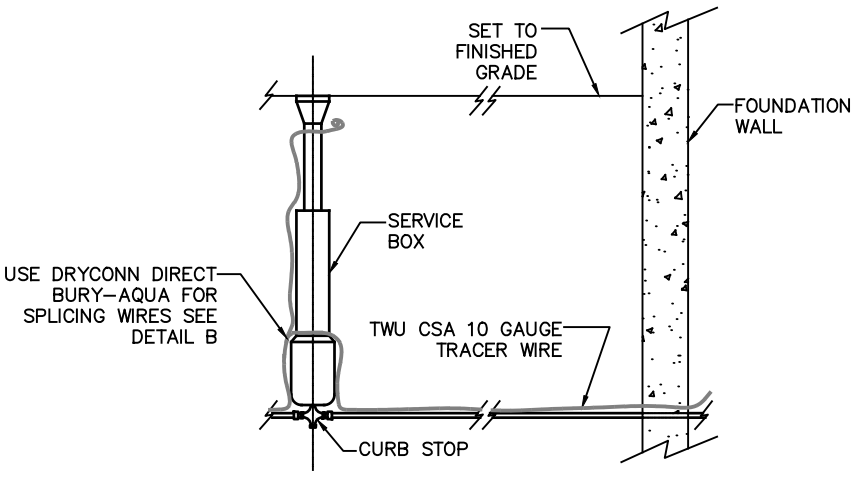


CONNECTION FROM CORPORATION STOP TO CURB STOP WITH NO TRACER WIRE AT MAIN

DETAIL A – COILED WIRE ENDS



DETAIL B – WIRE SPLICING



FUTURE CONNECTION OF TRACER WIRE TO BUILDING

No.	DESCRIPTION	DATE	BY	CHKD
–	–	–	–	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
STANDARD TRACER WIRE DETAIL FOR CROSS–LINKED POLYETHYLENE (PEXa)

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1390		

UTILITY OR SERVICE	MINIMUM HORIZONTAL CLEARANCE (mm)	MINIMUM VERTICAL CLEARANCE (mm)
WATERMAINS (OLD)		
< 14"	3000	300
≥ 14"	4500	300
WATERMAINS (NEW)		
< 14"	2000	300
≥ 14"	3500	300
FIRE HYDRANTS	1500	N/A
WATER VALVES	1500	N/A
WATER CURB STOPS	1500	N/A
WATER SERVICE CONNECTIONS	1500	300
MANHOLES	2000	N/A
CATCH BASIN		
• FROM FACE OF CURB (PE MAIN IN STREET)	1700	N/A
• FROM FACE OF CURB (PE MAIN BEHIND CURB)	1300	N/A
WASTEWATER / STORMWATER MAIN (WW/ SW)	1500	300
WASTEWATER / STORMWATER SERVICE CONNECTIONS (WW/ SW)	1500	300

NOTES:

1. THE FOLLOWING MINIMUM CLEARANCES ARE BASED ON STANDARD BURY OF MAINS AND MAY BE CHANGED IN SITUATIONS WHERE MAINS ARE INSTALLED AT MAXIMUM ALLOWABLE DEPTHS, IN CONSULTATION WITH HERITAGE GAS AND HRWC.

2. IN SITUATIONS WHERE STEEL GAS LINES ARE INSTALLED, THE NOTED SEPARATIONS MAY BE CHANGED IN CONSULTATION WITH HERITAGE GAS AND HRWC.

WW – WASTEWATER
SW – STORMWATER

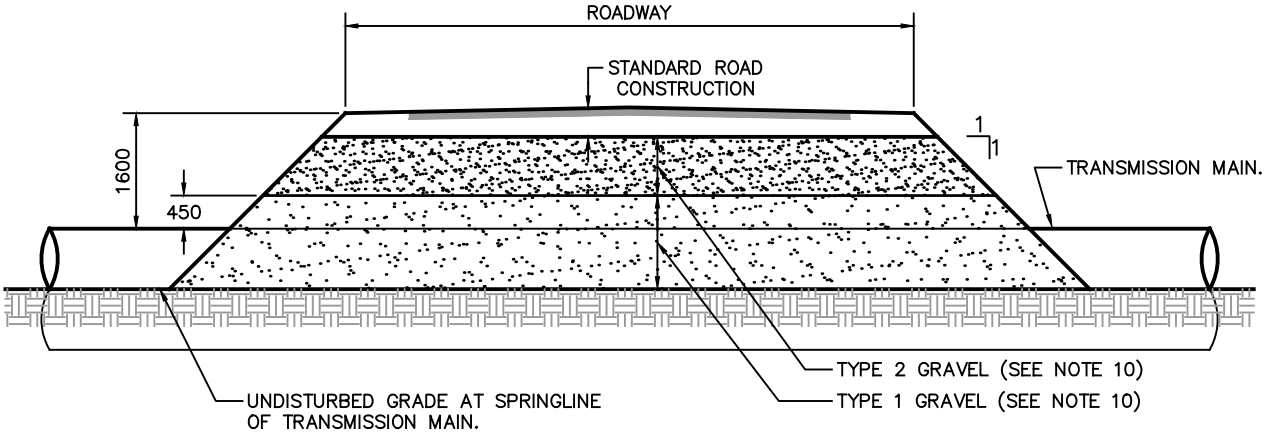
No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2016	16|03|01	SS	
3	GENERAL REVISIONS FOR 2010	10|05|11	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	TITLE CHANGE	05|05|27	BC	SS

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
NATURAL GAS INSTALLATION SEPARATIONS (POLYETHYLENE MAIN)

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1400		



NOTES:

1. MAINTAIN A MINIMUM OF 1.6 m OF GROUND COVER FROM THE TOP OF EXISTING PIPE TO FINISHED GRADE.
2. MAINTAIN A MINIMUM GRADE, NOT TO EXCEED 10%, TO TRANSMISSION MAIN ACCESS ROAD.
3. PROVIDE ADEQUATE DRAINAGE FOR NEW AND EXISTING ROADS
4. PROVIDE LOCKABLE GATES ACROSS PIPELINE ROAD AT NEW STREET BOUNADRIES, AND ENSURE PIPELINE ROAD IS NOT ACCESSIBLE BY VEHICULAR TRAFFIC, EXCEPT VIA GATE STRUCTURE. (LOCKABLE GATES TO HRWC STANDARDS).
5. PROVIDE "ROAD GATE AHEAD" SIGNS 150 m FROM GATE ALONG BOTH DIRECTIONS OF TRANSMISSION MAIN ACCESS ROAD.
6. WHERE DITCH CROSSES TRANSMISSION MAIN, PROVIDE 1.6 m COVER OVER TRANSMISSION MAIN OR INSULATE FOR FROST PROTECTION. MINIMUM COVER OVER TRANSMISSION MAIN IS NOT TO BE LESS THAN 1.2 m. INSULATION TO BE 50 mm HI-40 OR EQUIVALENT.
7. PROVIDE ASPHALT TRANSITION 3 m ONTO TRANSMISSION MAIN ACCESS ROAD.
8. EXACT LOCATION OF EXISTING TRANSMISSION MAIN TO BE DETERMINED BY TEST PIT PRIOR TO FINAL APPROVAL OF ROAD CROSSING DESIGN.
9. ALL WORK AT TRANSMISSION MAIN IS TO BE INSPECTED/SUPERVISED BY HRWC REPRESENTATIVE.
10. BACKFILL TO BE IN ACCORDANCE WITH SECTION 31 20 00.

No.	DESCRIPTION	DATE	BY	CHKD
6	REVISED NOTE # 6	14|02|13	SS	
5	GENERAL REVISIONS FOR 2009	09|06|09	ML	
4	TITLE BLOCK CLEANUP	03|04|08	BC	
3	NOTE 10 ADDED	00|03|20	M.C.	
2	BEDDING TYPE REVISED	00|03|20	M.C.	
1	NEW DETAIL FOR 1999 SPEC	99|02|10	M.C.	

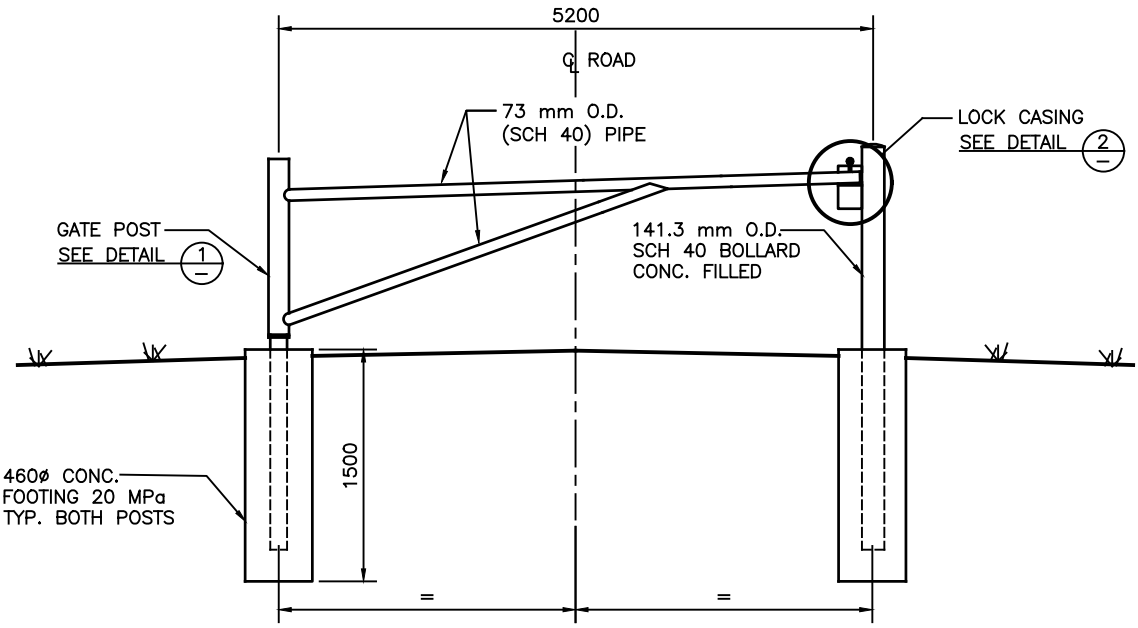
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

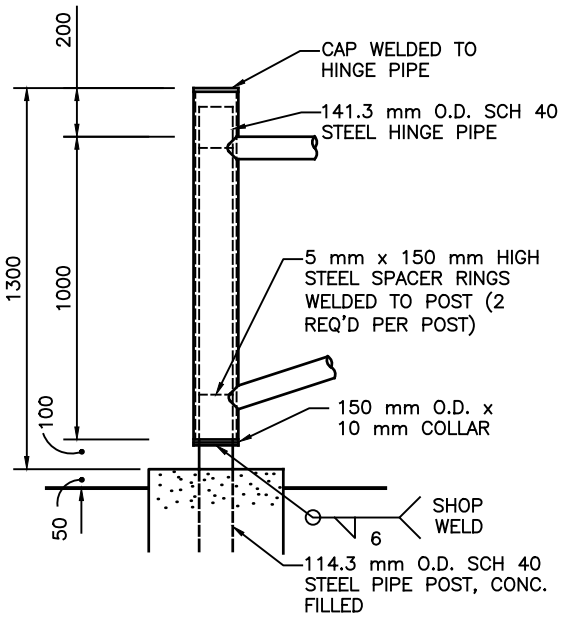
Halifax Water

PROJECT

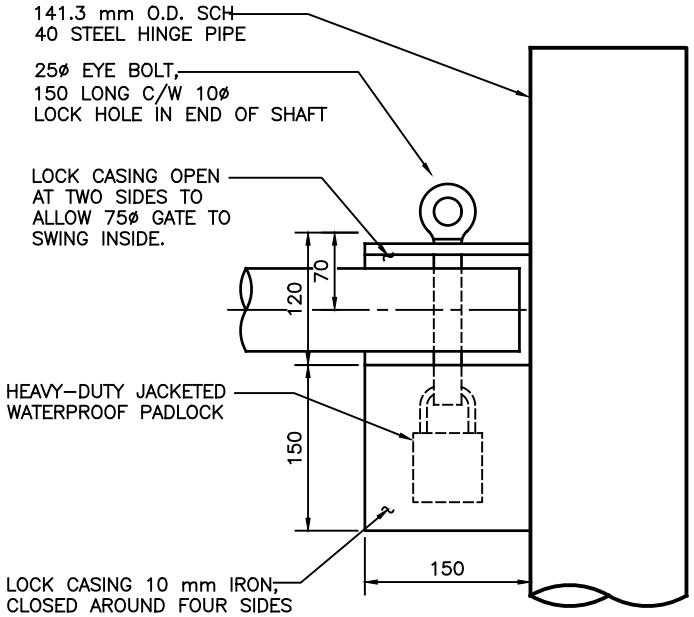
TRANSMISSION MAIN CROSSING DETAIL

DRAWN	J.W.	SCALE (PLAN)	1:100
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1410		





1 GATE POST
N.T.S.



2 LOCK CASING
N.T.S.

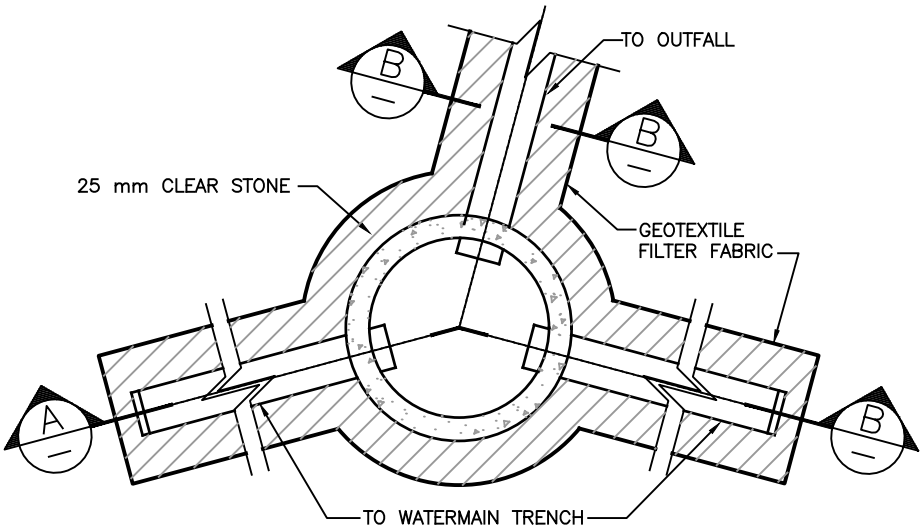
No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2009	09|06|09	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	NEW DRAWING FOR 1999 SPEC	99|02|10	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

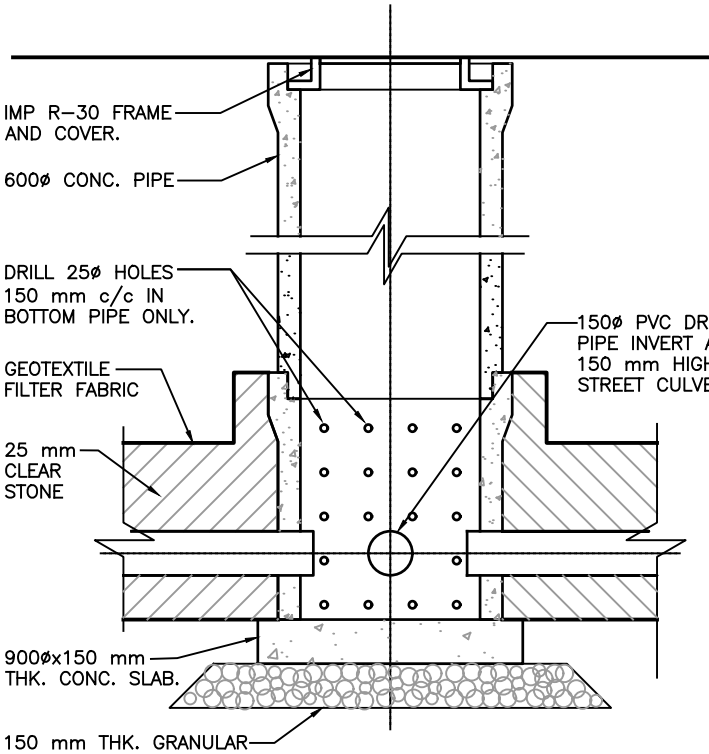
Halifax Water

PROJECT
ACCESS ROAD GATE

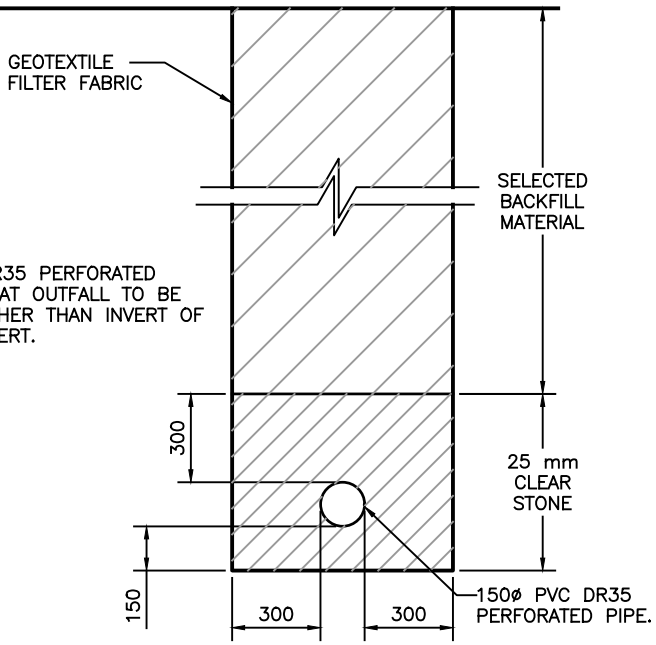
DRAWN	J.W.	SCALE (PLAN)	AS NOTED
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1420		



PLAN
1:25



A — SECTION
1:25



B — TRENCH SECTION
1:25

No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2009	09|06|09	ML	
2	TITLE BLOCK CLEANUP	03|04|08	BC	
1	NEW DETAIL FOR 2000 SPEC.	00|03|31	MC	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

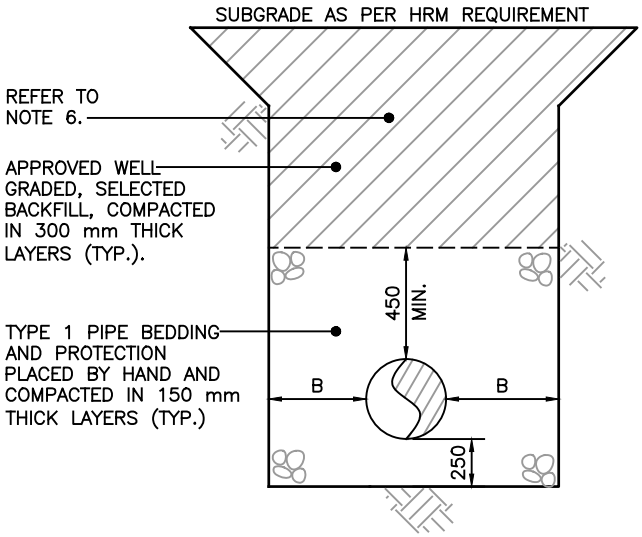
Halifax Water

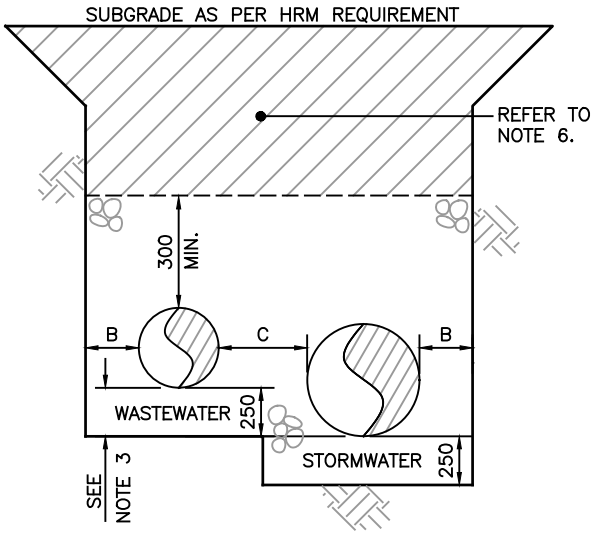
PROJECT
TRENCH DRAINAGE
RELIEF SYSTEM
PLAN & SECTIONS

DRAWN	K.W.	SCALE (PLAN)	1:25
CHECKED	J.D.	SCALE (PROFILE)	N/A
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

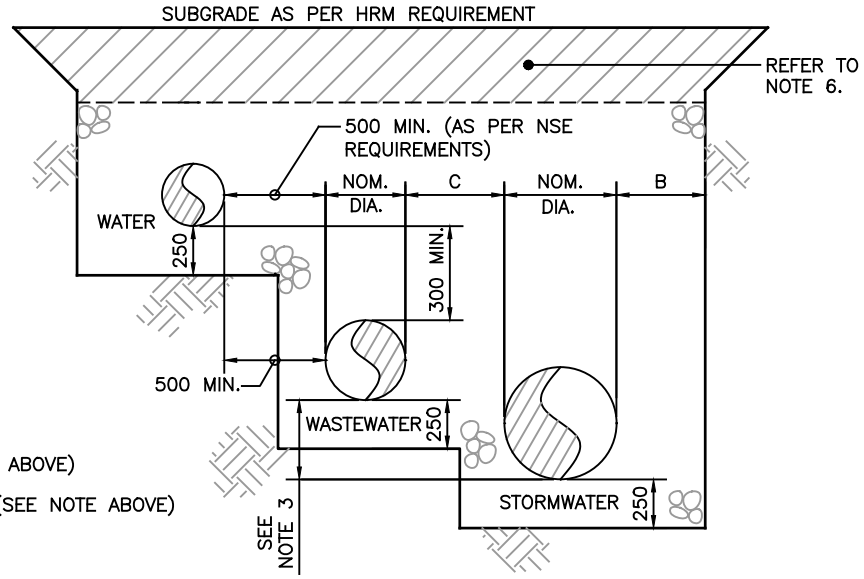
DWG. No. HWSD – 1430





PIPE SIZE NOM. DIA.	DIMENSIONS	
	B	C
UP TO 375	300	250
376 TO 500	300	300
501 TO 750	400	300
751 TO 1200	400	400
OVER 1200	SEE PROJECT DRAWINGS	

BEDDING REQUIREMENTS SHALL BE 250 mm AS PER SECTIONS.



LEGEND

- UNDISTURBED NATIVE SOIL
- TYPE 1 GRAVEL (SEE NOTE ABOVE)
- SELECTED SITE MATERIALS (SEE NOTE ABOVE)

NOTES

1. DIMENSION "C" IS GOVERNED BY THE LARGER PIPE DIAMETER.
2. SIDES OF TRENCHES TO REQUIREMENTS OF DEPARTMENT OF LABOUR.
3. IF CROWNS OF STORMWATER AND WASTEWATER PIPE ARE NOT MATCHED, THE INVERT OF THE STORMWATER PIPE MUST BE AT LEAST 100 mm BELOW THE INVERT OF THE WASTEWATER PIPE.
4. WHEN CONCRETE PIPE IS SPECIFIED FOR A WASTEWATER PIPE, A GEOTECHNICAL REPORT BY A P.ENG. MUST BE UNDERTAKEN TO ENSURE STABILITY OF SUBBASE.
5. MINIMUM GRAVEL COVER OVER WASTEWATER AND STORMWATER PIPES IS TO BE 300 mm.
6. REFER TO HRM TRENCH REINSTATEMENT DETAILS HRM 59, HRM 60 AND HRM 61 IN "HALIFAX REGIONAL MUNICIPALITY MUNICIPAL DESIGN GUIDELINES".
7. FOR CONCRETE PIPE INSTALLATION, PLEASE REFER TO HWSD – 1442.

No.	DESCRIPTION	DATE	BY	CHKD
6	GENERAL REVISIONS FOR 2016	16|03|01	SS	
5	REVISED NOTES, ADDED HRM REQUIREMENTS	13|02|04	JW	
4	ADD NOTE 6	11|03|21	BDC	
3	GENERAL REVISIONS FOR 2010	10|05|13	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

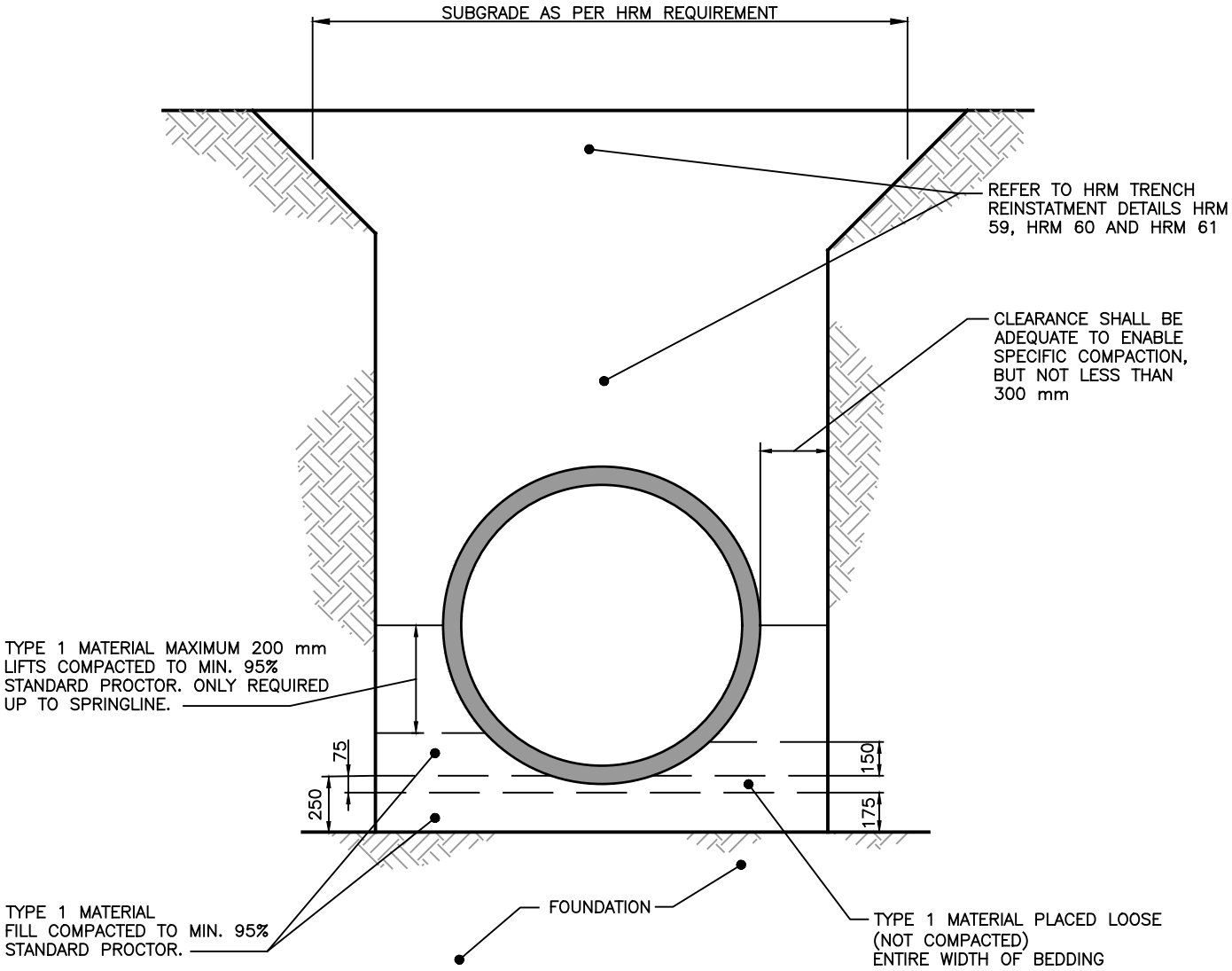
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

TRENCH AND BACKFILL CROSS SECTION

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1440		



NOTES:

DETAIL TAKEN FROM AMERICAN CONCRETE PIPE ASSOCIATION.

No.	DESCRIPTION	DATE	BY	CHKD

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
STANDARD BEDDING DETAIL
FOR CONCRETE PIPE

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1442		

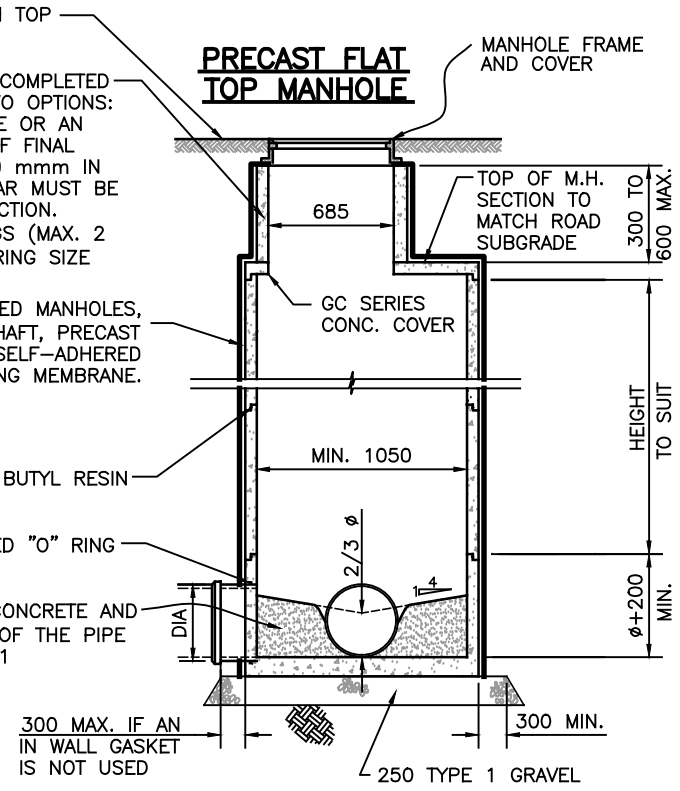
MIN. ALLOWABLE DEFLECTION ANGLES FOR CONCRETE PIPE

PIPE SIZE (mm)	MINIMUM ALLOWABLE DEFLECTION ANGLE					
	1050 M.H.	1200 M.H.	1500 M.H.	1800 M.H.	2100 M.H.	2400 M.H.
200	90	90	90	90	90	90
250	90	90	90	90	90	90
300	90	90	90	90	90	90
375	100	90	90	90	90	90
450	115	100	90	90	90	90
525	135	115	90	90	90	90
600	n/a	130	105	90	90	90
750	n/a	n/a	n/a	n/a	95	90
900	n/a	n/a	n/a	n/a	115	100
1050	n/a	n/a	n/a	n/a	130	110

MIN. ALLOWABLE DEFLECTION ANGLES FOR P.V.C. PIPE

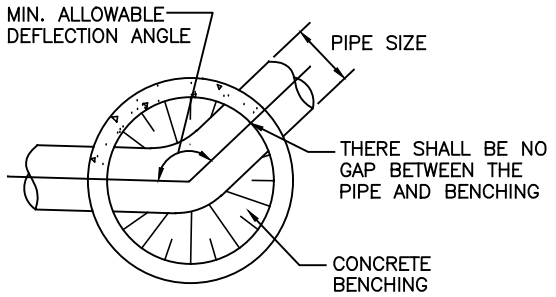
PIPE SIZE	1050 M.H.	1200 M.H.	1500 M.H.	1800 M.H.	2100 M.H.	2400 M.H.
(mm)	MIN. ANGLE	MIN. ANGLE	MIN. ANGLE	MIN. ANGLE	MIN. ANGLE	MIN. ANGLE
200	90	90	90	90	90	90
250	90	90	90	90	90	90
300	90	90	90	90	90	90
375	90	90	90	90	90	90
450	95	90	90	90	90	90
525	110	95	90	90	90	90
600	n/a	110	90	90	90	90
750	n/a	n/a	n/a	n/a	95	90
900	n/a	n/a	n/a	n/a	110	90
1050	n/a	n/a	n/a	n/a	105	95

PRECAST FLAT TOP MANHOLE



NOTES:

1. PRECAST SECTIONS MUST CONFORM TO SECTION 33 39 00 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL SERVICES.
2. CHANNELS IN DEAD END MANHOLES TO FINISH 225 mm FROM UPSTREAM WALL.
3. LIFT HOLES IN PRECAST SECTIONS TO BE GROUTED WITH CEMENT MORTAR PRIOR TO PLACING WATERPROOF MEMBRANE AND GRANULAR BACKFILL.
4. TABLES ARE ONLY PROVIDED AS A GUIDE AND NOT INTENDED FOR DESIGN PURPOSES. ALL SYSTEMS MUST BE APPROVED BY HRWC STAFF.
5. IN ADDITION TO O-RING GASKETS, JOINTS IN PRECAST SECTIONS BELOW THE CONCRETE MANHOLE COVER SHALL BE SEALED WITH 25 mm BUTYL RESIN CORD. THE CORD SHALL BE PLACED ON THE UPPER INSIDE LEDGE OF THE JOINT PRIOR TO PLACEMENT OF THE SUBSEQUENT SECTION. ALL WASTEWATER MANHOLES TO BE WRAPPED IN WATERPROOFING MEMBRANE.
6. PRECAST ECCENTRIC CONE SECTIONS NOT PERMITTED.
7. BACKFILL AROUND MANHOLES SHALL BE TYPE 2 GRAVEL EXTENDING A MIN. OF 300 mm OUTWARD FROM MANHOLE AND VERTICALLY FROM BEDDING MATERIAL TO UNDERSIDE OF ROADBED GRAVELS.
8. "A-LOK" OR APPROVED "O" RING GASKETS SHALL BE THOROUGHLY CLEANED, THEN COVERED GENEROUSLY WITH LUBRICANT SPECIFIED BY THE PIPE MANUFACTURER.



No.	DESCRIPTION	DATE	BY	CHKD
6	GENERAL REVISIONS FOR 2024	24|04|24	ST	
5	REVISED SECTIONS FOR BLUESKIN WATERPROOFING.	15|02|27	SS	
4	REVISED NOTE FOR GRADE RINGS AND NO GAP BETWEEN PIPE & BENCHING	14|02|13	SS	
3	GENERAL REVISIONS FOR 2010	10|05|11	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

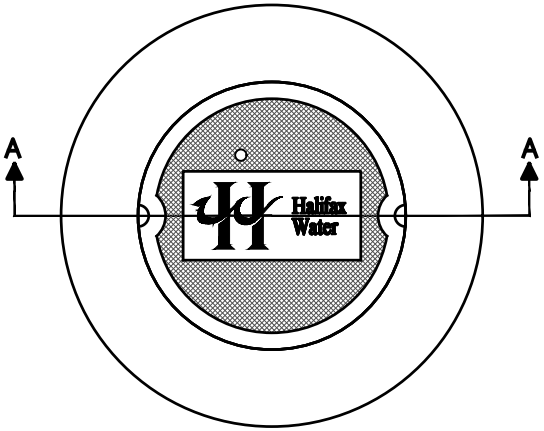
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

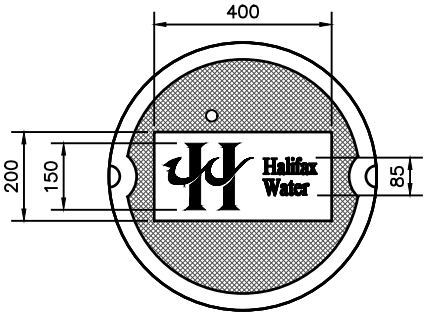
Halifax Water

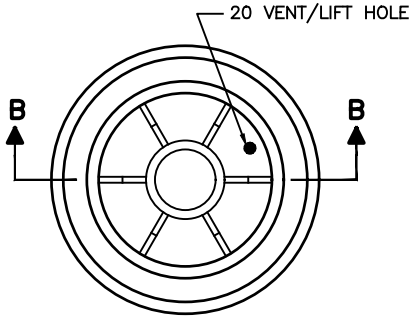
PROJECT

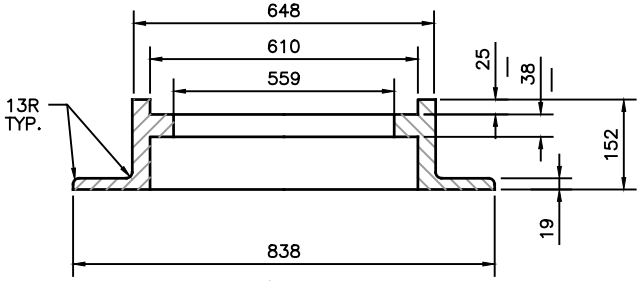
PRECAST MANHOLE

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1450		



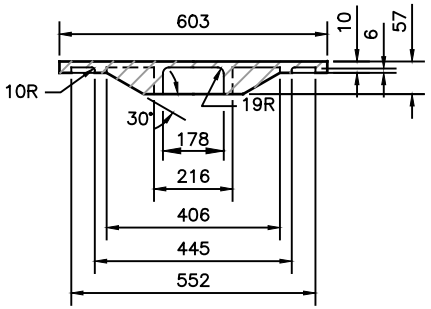






SECTION A–A

VIEW SHOWING PATTERN ON COVER



SECTION B–B

NOTES:

1. ALL MANHOLES ARE TO HAVE AN HRWC LOGO.
2. STANDARD MANHOLE FRAME AND COVER TO BE IMP R–10 OR EQUIVALENT.
3. MATERIAL – GRAY CAST IRON, A.S.T.M. A48/ A48M (2008).
   LOAD CAPACITY – 7250Kg.
   FRAME WEIGHT – 77.1 Kg.
   COVER WEIGHT – 68.0 Kg.
4. ALL MANHOLES NOT LOCATED IN THE STREET ARE TO HAVE AN *IMP R12 FRAME* AND COVER (WITH LOCKING SYSTEM) OR EQUIVALANT.
5. MANHOLES LOCATED ON PRIVATE PROPERTY ARE TO HAVE A PLAIN COVER WITH NO HALIFAX WATER LOGO.
6. IN PARK AREAS AND AREAS SUBJECT TO FLOODING, THE FRAME AND COVER SHALL HAVE THE SAME GENERAL DIMENSIONS OF AN IMP R10, A WATERTIGHT GASKET BETWEEN THE FRAME AND COVER (INTEGRAL WITH THE COVER), AND THE VENT HOLE IS TO BE PLUGGED WITH A REMOVABLE, WATERTIGHT PLUG.
7. ADJUSTABLE MANHOLE FRAMES AND R10 COVERS AS PER HRWC SPECIFICATIONS SHALL BE USED IN ASPHALT SURFACES.

No.	DESCRIPTION	DATE	BY	CHKD
5	ADDED NOTE 5 (NO HW LOGO ON PRIVATE PROPERTY)	12|12|11	JW	
4	REVISED HALIFAX WATER LOGO ON COVER	12|04|02	JW	
3	GENERAL REVISIONS FOR 2010	10|05|13	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

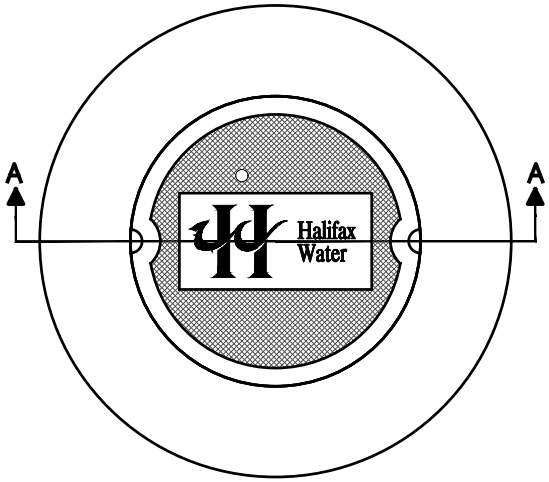
PROJECT

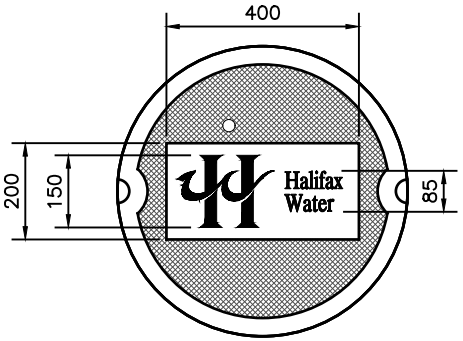
MANHOLE FRAME AND COVER

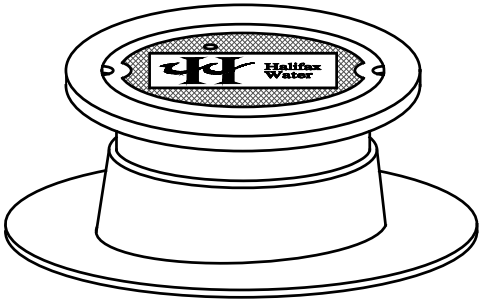
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

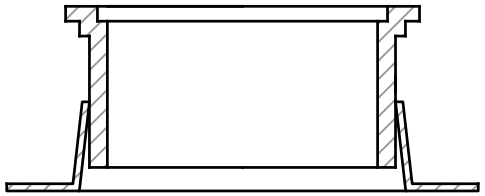
DWG. No. HWSD – 1460







ISOMETRIC VIEW



SECTION A–A

NOTES:

1. ALL MANHOLES ARE TO HAVE AN HRWC LOGO.
2. COVER TO BE IMP R–10 OR EQUIVALENT.
3. ADJUSTABLE MANHOLE FRAMES AND R10 COVERS AS PER HRWC SPECIFICATIONS SHALL BE USED IN ASPHALT SURFACES.
4. ADJUSTABLE MANHOLE FRAME & COVERS TO BE INSTALLED AS PER MANUFACTURER'S REQUIREMENTS.

No.	DESCRIPTION	DATE	BY	CHKD
5	NEW DETAIL FOR 2019	19|06|07	ST	
4	ADDED NOTE 4.	15|02|27	SS	
3	ADDED APPROVED PRODUCTS, REVISED HALIFAX WATER LOGO	APR. 2/12	JW	
2	NEW DRAWING	NOV. 1/11	JW	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

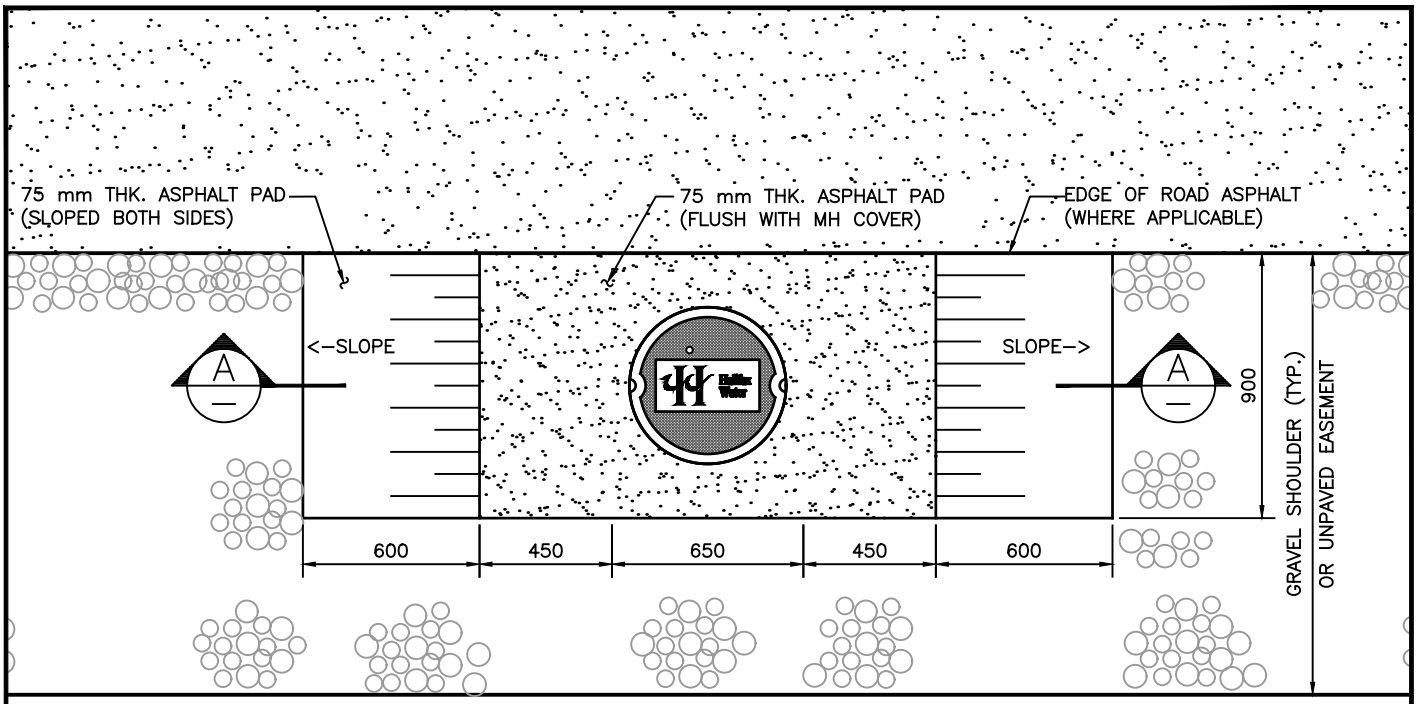
PROJECT

ADJUSTABLE MANHOLE FRAME AND COVER C/W COVER & CONE GUIDE FRAME

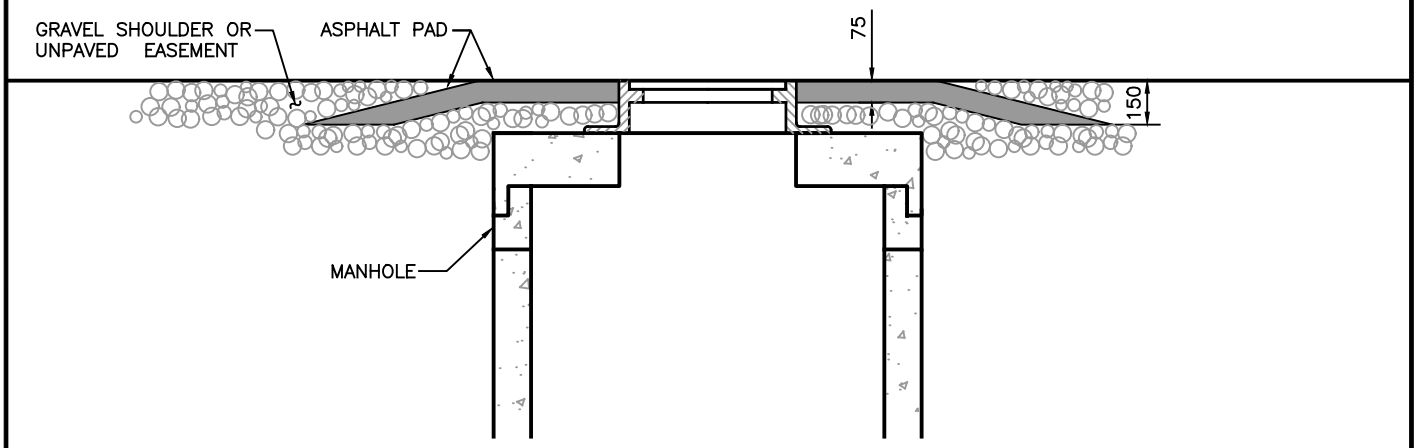
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1462 (2019)



PLAN
1:25



A SECTION

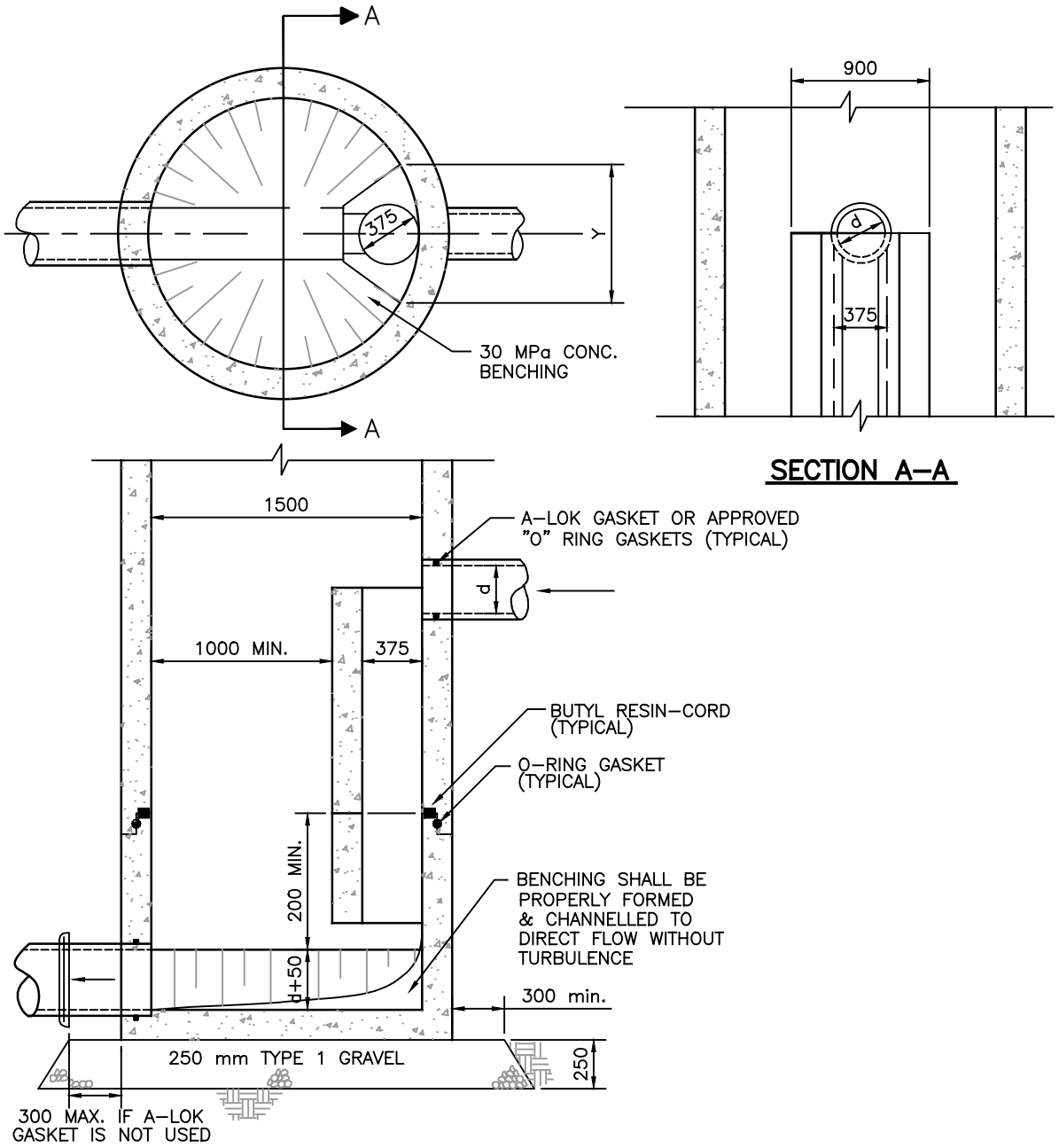
No.	DESCRIPTION	DATE	BY	CHKD
1	NEW DETAIL	14|02|13	SS	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
MANHOLE
ASPHALT APRON DETAIL

DRAWN	K.W.	SCALE (PLAN)	1:25
CHECKED	J.D.	SCALE (PROFILE)	N/A
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1464		



NOTES:

1. PRECAST SECTIONS MUST CONFORM TO SECTION 33 39 00 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL SERVICES.
2. INTERNAL DROP MANHOLES SHALL BE USED ONLY FOR WASTEWATER SYSTEMS.
3. DROP MANHOLES MUST BE USED WHEN THE INVERT OF THE INLET PIPE IS GREATER THAN THE INVERT OF THE OUTLET PIPE BY MORE THAN 1000 mm.
4. OUTSIDE WALL OF INCOMING PIPE MUST BE A MIN. OF 150 mm FROM NEAREST MANHOLE SECTION JOINT.
5. BACKFILL AROUND MANHOLES SHALL BE TYPE 2 GRAVEL EXTENDING A MIN. OF 300 mm OUTWARD FROM MANHOLE AND VERTICALLY FROM BEDDING MATERIAL TO UNDERSIDE OF ROADBED GRAVELS.
6. EXTERNAL DROP MANHOLE SHALL BE USED WHEN THE INLET EXCEEDS 375 mm IN DIAMETER.

No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2024	04|11|24	ST	
4	GENERAL REVISIONS FOR 2016	16|03|01	SS	
3	GENERAL REVISIONS FOR 2010	10|05|20	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

PRECAST INTERNAL DROP MANHOLE SECTION

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1470 (2024)		

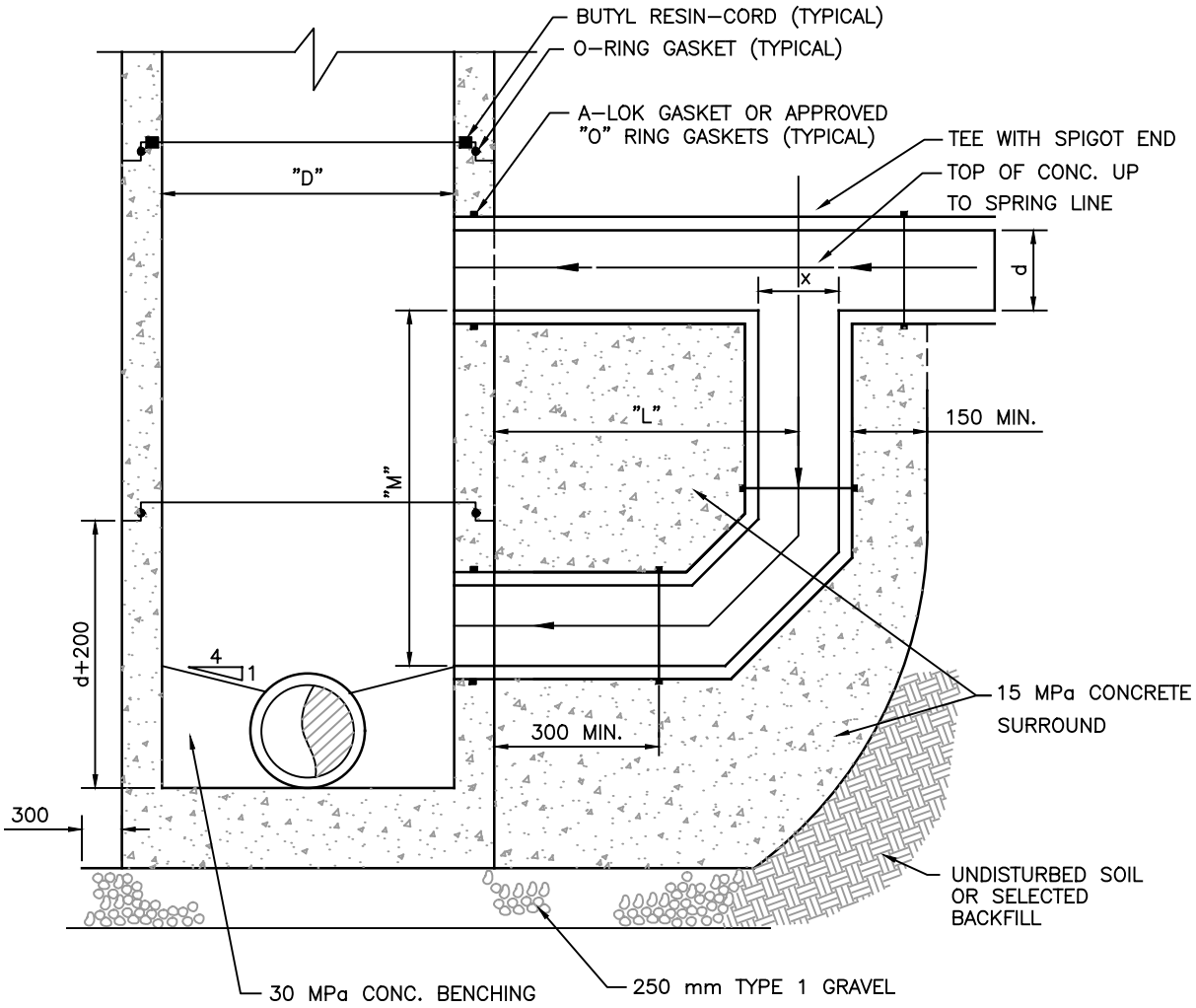


TABLE OF MINIMUM DIMENSIONS				
d	D	x	M	L
250	1050	200	900	700
300	1050	250	900	700
375	1050	300	900	700
450	1050	375	900	700
525	1200	450	975	750
600	1500	450	1075	800
750	1500	525	1275	900
900	1500	600	1500	1000
1050	1800	750	1650	1000
1200	2100	900	1650	1100
1500	*	1050	1800	1150

"D" IS BASED ON A MINIMUM ANGLE BETWEEN PIPES OF 90°.

* FOR PIPES GREATER THAN 1200 mm "D" IS LEFT TO THE DISCRETION OF THE ENGINEER.

NOTES:

1. PRECAST SECTIONS MUST CONFORM TO SECTION 33 39 00 OF THE STANDARD SPECS. FOR MUNICIPAL SERVICES.
2. EXTERNAL DROP MANHOLES SHALL BE USED WHEN THE INLET PIPE EXCEEDS 375 mm DIAMETER.
3. DROP MANHOLES MUST BE USED WHEN THE INVERT OF THE INLET PIPE EXCEEDS THE INVERT OF THE OUTLET PIPE BY MORE THAN 1000 mm.
4. 15 MPa CONCRETE SURROUND MUST BE PLACED BETWEEN DROP PIPE AND MANHOLE AND OTHERWISE COVER DROP PIPE 150 mm IN ALL DIRECTIONS.
5. BACKFILL AROUND MANHOLES SHALL BE TYPE 2 GRAVEL EXTENDING A MIN. OF 300 mm OUTWARD FROM MANHOLE AND VERTICALLY FROM BEDDING MATERIAL TO UNDERSIDE OF ROADBED GRAVELS.

No.	DESCRIPTION	DATE	BY	CHKD
2	GENERAL REVISIONS FOR 2024	04|11|24	ST	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

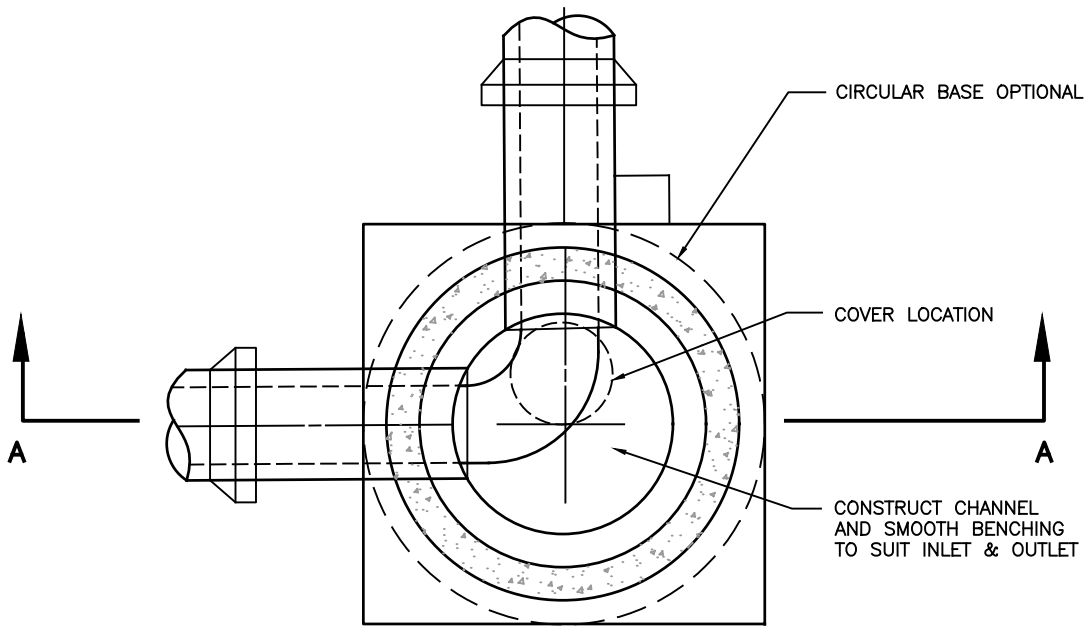
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

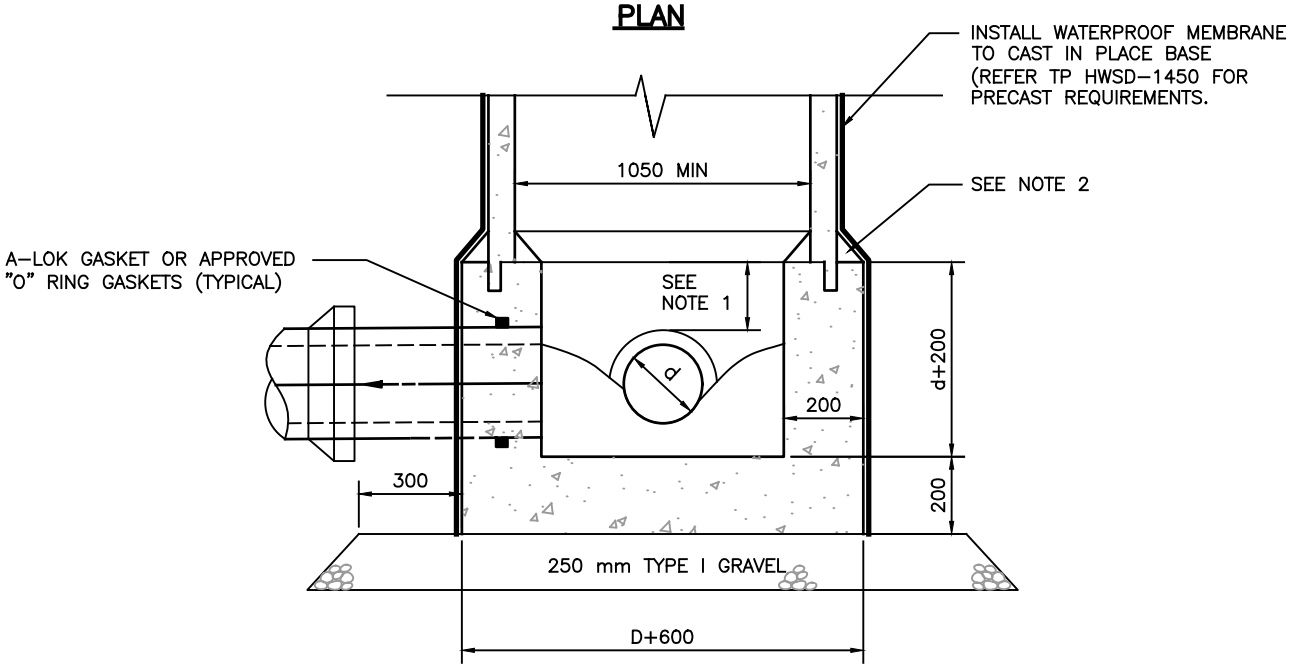
PROJECT

PRECAST EXTERNAL DROP MANHOLE SECTION

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1480 (2024)		



PLAN



SECTION A–A

NOTES:

1. MINIMUM OF 100 mm ABOVE LARGEST PIPE.
2. BELL END OF PRECAST SECTION TO BE FULLY EMBEDDED IN PARTIALLY SET CAST–IN–PLACE BASE. FINISH INTERFACE WITH GROUT OR CONCRETE ON INSIDE AND OUTSIDE OF MANHOLE, SLOPING UP AT 1:1 TO MEET PRECAST SECTION.
3. BACKFILL AROUND MANHOLES SHALL BE TYPE 2 GRAVEL EXTENDING A MIN. OF 300 mm OUTWARD FROM MANHOLE AND VERTICALLY FROM BEDDING MATERIAL TO UNDERSIDE OF ROADBED GRAVELS.

No.	DESCRIPTION	DATE	BY	CHKD
5	ADDED WATERPROOF MEMBRANE	15|02|27	SS	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

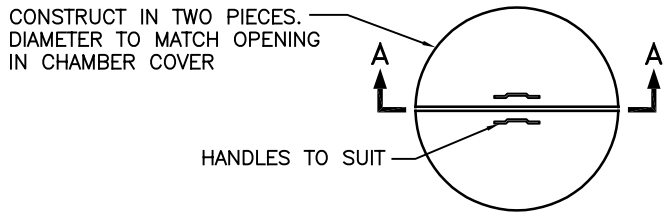
CAST–IN–PLACE BASE
FOR PRECAST MANHOLE

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

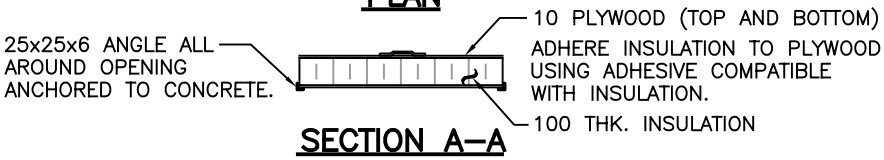
PROJECT No.

DWG. No. HWSD – 1490

FORCEMAIN SIZE	VALVE CHAMBER SIZE (MIN)
100 – 150	1500
200 – 300	1800
400 – 450	2100
500 –	CUSTOM SIZED TO SUIT & AS APPROVED BY ENGINEER

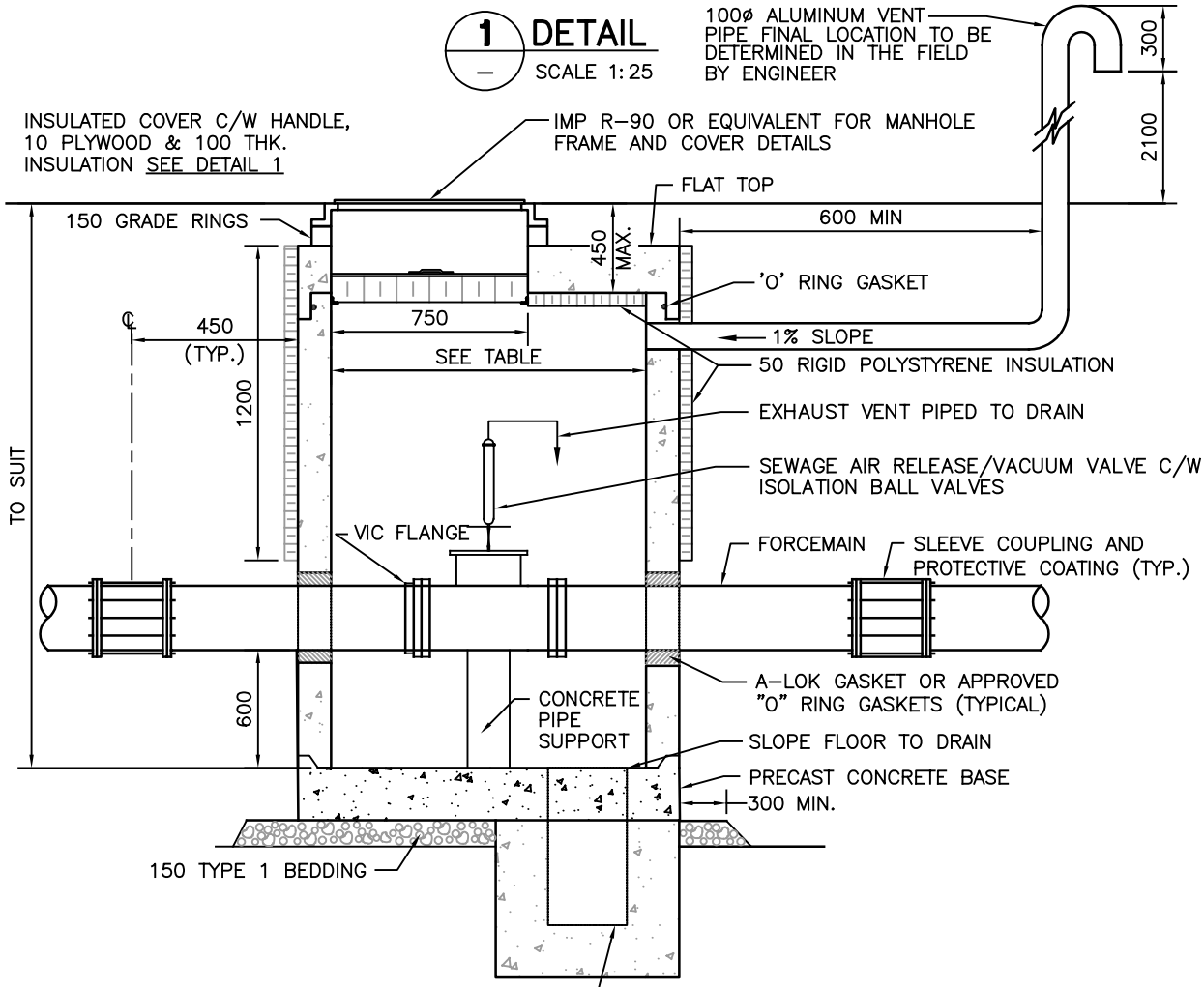


PLAN



SECTION A–A

1 DETAIL
SCALE 1:25



300 SQUARE FLOOR DRAIN C/W BACK WATER VALVE MIN. DEPTH OF 100 mm BELOW FLOOR SURFACE. DRAIN TO BE CONNECTED TO WASTEWATER SYSTEM USING 100ø DR 28 PVC PIPE

1. PRECAST SECTIONS MUST CONFORM TO SECTION 33 39 00 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL SERVICES.
2. LIFT HOLES IN PRECAST SECTIONS TO BE GROUTED WITH CEMENT MORTAR PRIOR TO PLACING GRANULAR BACKFILL.
3. IF FINAL GRADE ADJUSTMENT EXCEEDS 150 mm IN HEIGHT, CIRCULAR 15 m REBAR MUST BE INCORPORATED IN THE RAISED SECTION.

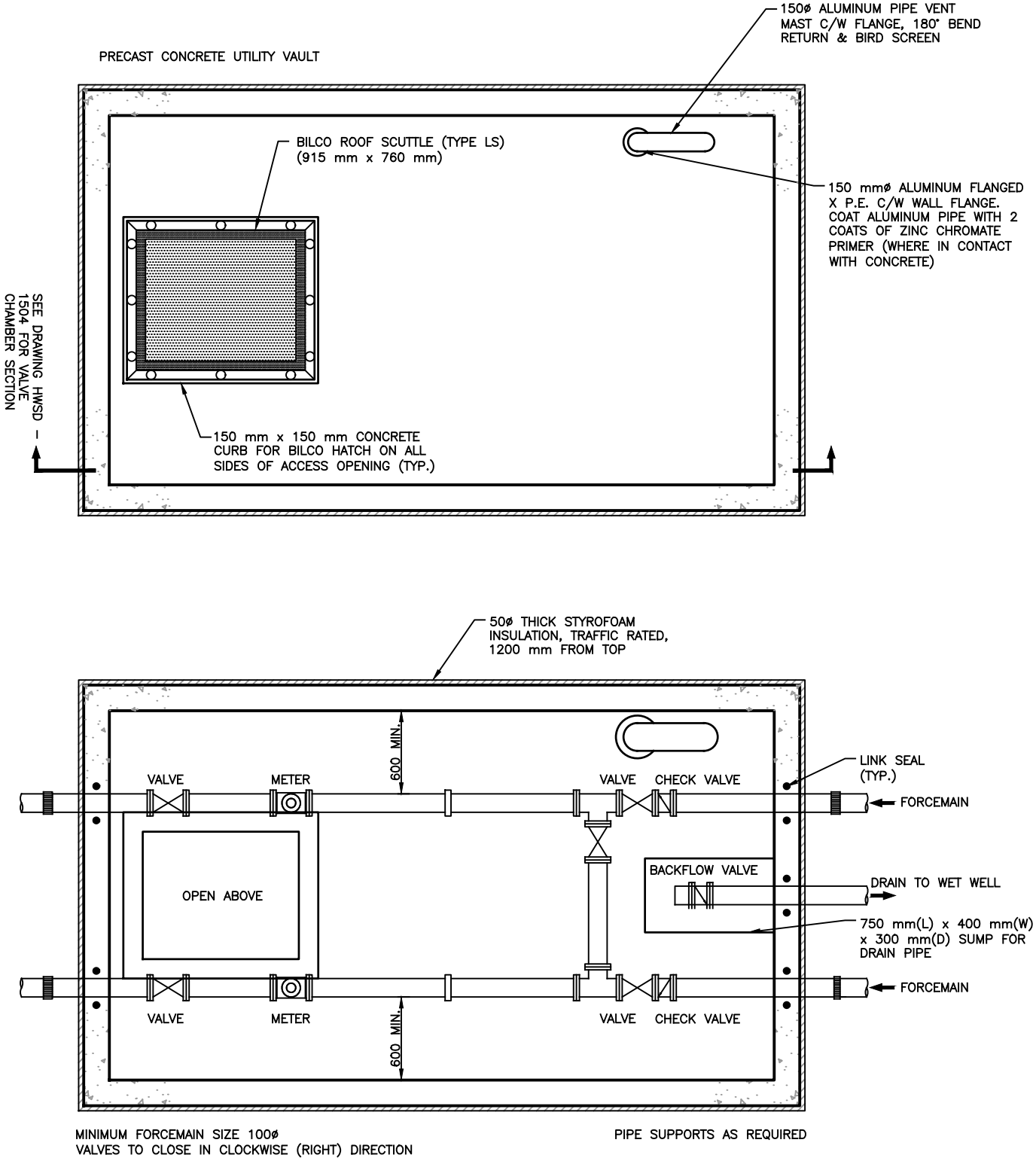
No.	DESCRIPTION	DATE	BY	CHKD
5	GENERAL REVISIONS FOR 2023	23|04|21	ST	
4	GENERAL REVISIONS FOR 2016	16|03|01	SS	
3	ADDED WASTEWATER TO TITLE	09|06|09	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
AIR RELEASE/AIR VACUUM VALVE CHAMBER (FORCE MAIN WASTEWATER SYSTEM)

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1500		



MINIMUM FORCEMAIN SIZE 100ø
VALVES TO CLOSE IN CLOCKWISE (RIGHT) DIRECTION

PIPE SUPPORTS AS REQUIRED

No.	DESCRIPTION	DATE	BY	CHKD
.	.	YY/MM/DD	.	.

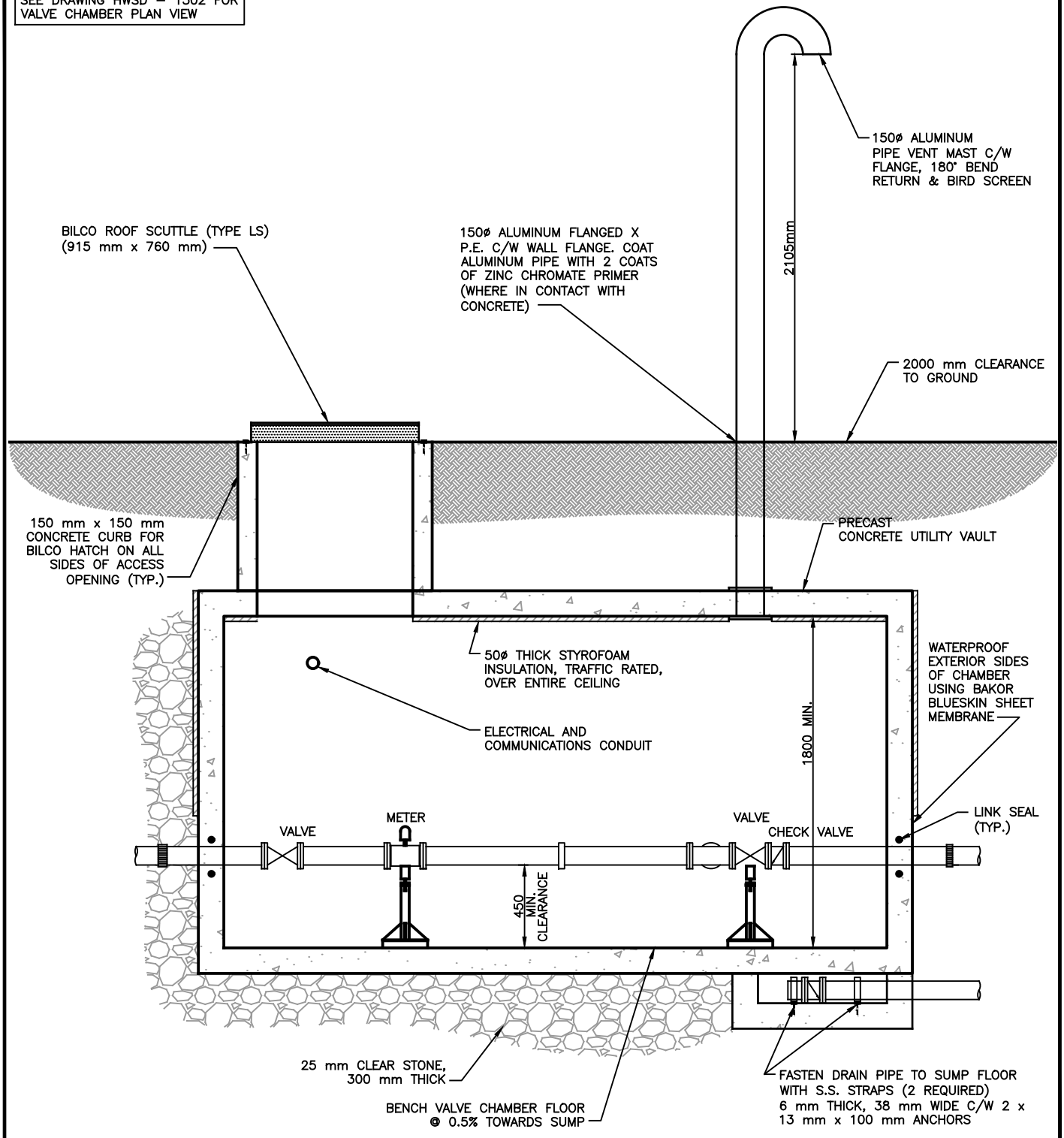
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
FORCEMAIN VALVE CHAMBER
– PLAN –

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1502		

SEE DRAWING HWSD – 1502 FOR VALVE CHAMBER PLAN VIEW



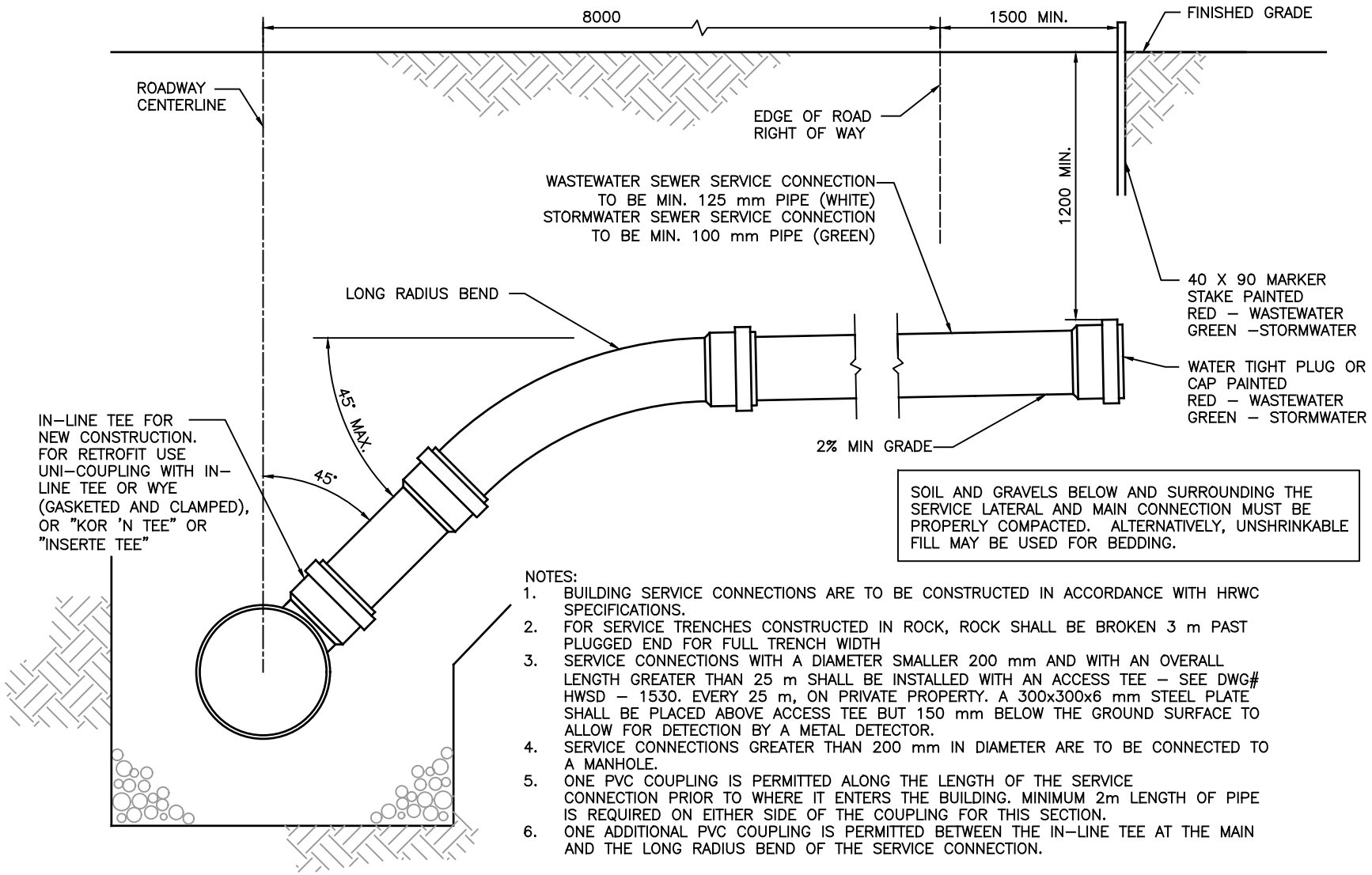
No.	DESCRIPTION	DATE	BY	CHKD
.	.	YY/MM/DD	.	.

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
FORCEMAIN VALVE CHAMBER
– SECTION –

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1504		



NOTES:

1. BUILDING SERVICE CONNECTIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH HRWC SPECIFICATIONS.
2. FOR SERVICE TRENCHES CONSTRUCTED IN ROCK, ROCK SHALL BE BROKEN 3 m PAST PLUGGED END FOR FULL TRENCH WIDTH
3. SERVICE CONNECTIONS WITH A DIAMETER SMALLER 200 mm AND WITH AN OVERALL LENGTH GREATER THAN 25 m SHALL BE INSTALLED WITH AN ACCESS TEE – SEE DWG# HWSD – 1530. EVERY 25 m, ON PRIVATE PROPERTY. A 300x300x6 mm STEEL PLATE SHALL BE PLACED ABOVE ACCESS TEE BUT 150 mm BELOW THE GROUND SURFACE TO ALLOW FOR DETECTION BY A METAL DETECTOR.
4. SERVICE CONNECTIONS GREATER THAN 200 mm IN DIAMETER ARE TO BE CONNECTED TO A MANHOLE.
5. ONE PVC COUPLING IS PERMITTED ALONG THE LENGTH OF THE SERVICE CONNECTION PRIOR TO WHERE IT ENTERS THE BUILDING. MINIMUM 2m LENGTH OF PIPE IS REQUIRED ON EITHER SIDE OF THE COUPLING FOR THIS SECTION.
6. ONE ADDITIONAL PVC COUPLING IS PERMITTED BETWEEN THE IN–LINE TEE AT THE MAIN AND THE LONG RADIUS BEND OF THE SERVICE CONNECTION.

No.	DESCRIPTION	DATE	BY	CHKD
5	GENERAL REVISIONS FOR 2025	13|12|24	SH	
4	GENERAL REVISIONS FOR 2016	16|03|01	SS	
3	GENERAL REVISIONS FOR 2010	10|05|11	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

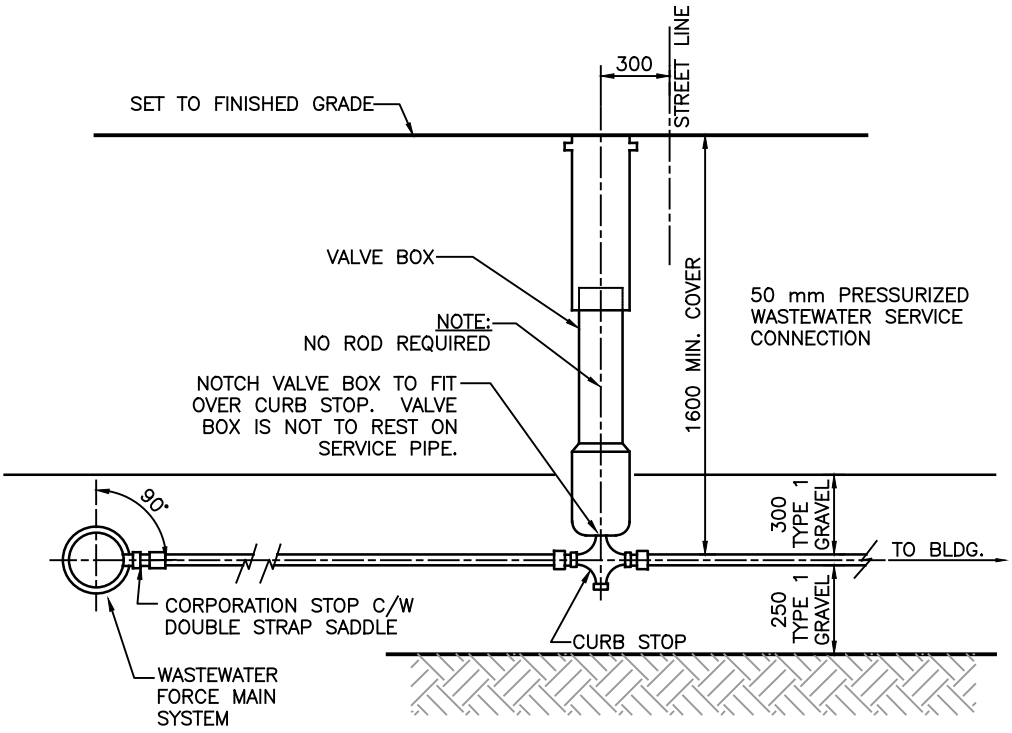
PROJECT

BUILDING SERVICE CONNECTION–PROFILE VIEW

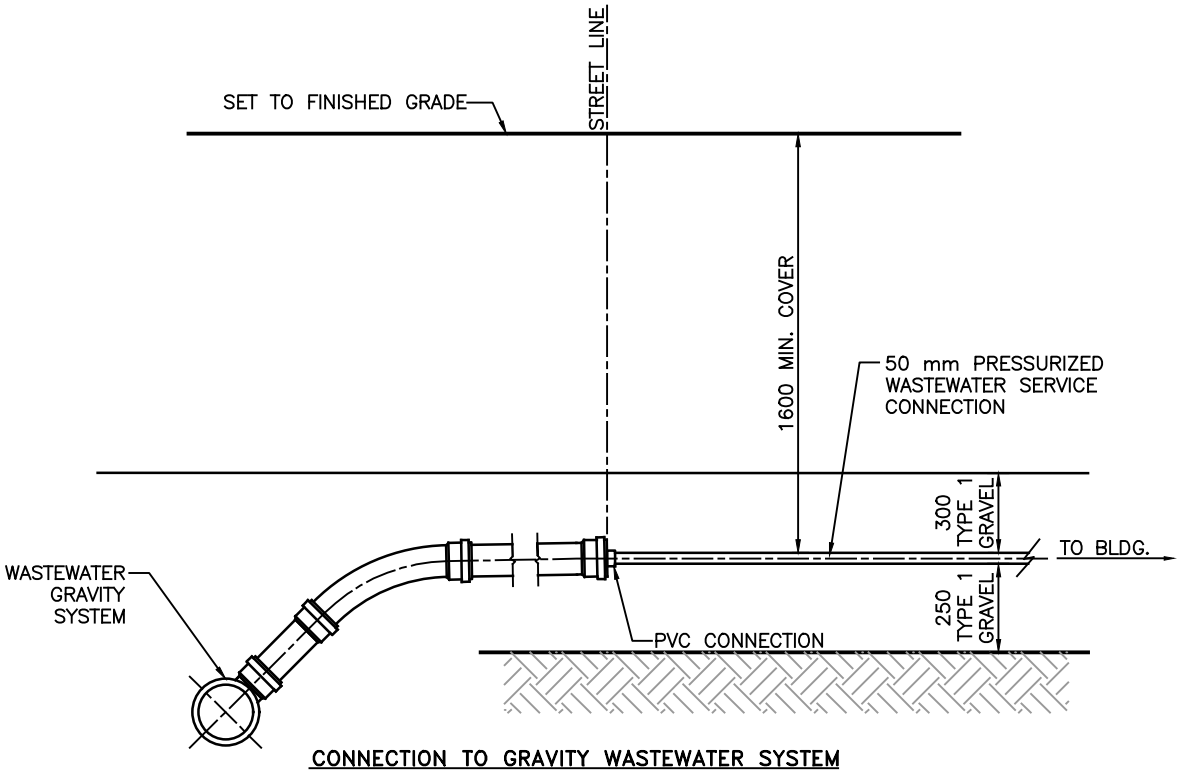
DRAWN	K.W./S.T.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1510



CONNECTION TO WASTEWATER FORCEMAIN SYSTEM



CONNECTION TO GRAVITY WASTEWATER SYSTEM

NOTES:

1. SELECT BACKFILL, (MAX. SIZE 50 mm) TO BE PLACED AROUND VALVE BOX TO SUBGRADE.
2. SERVICE SADDLE REQUIRED FOR 50 mm..

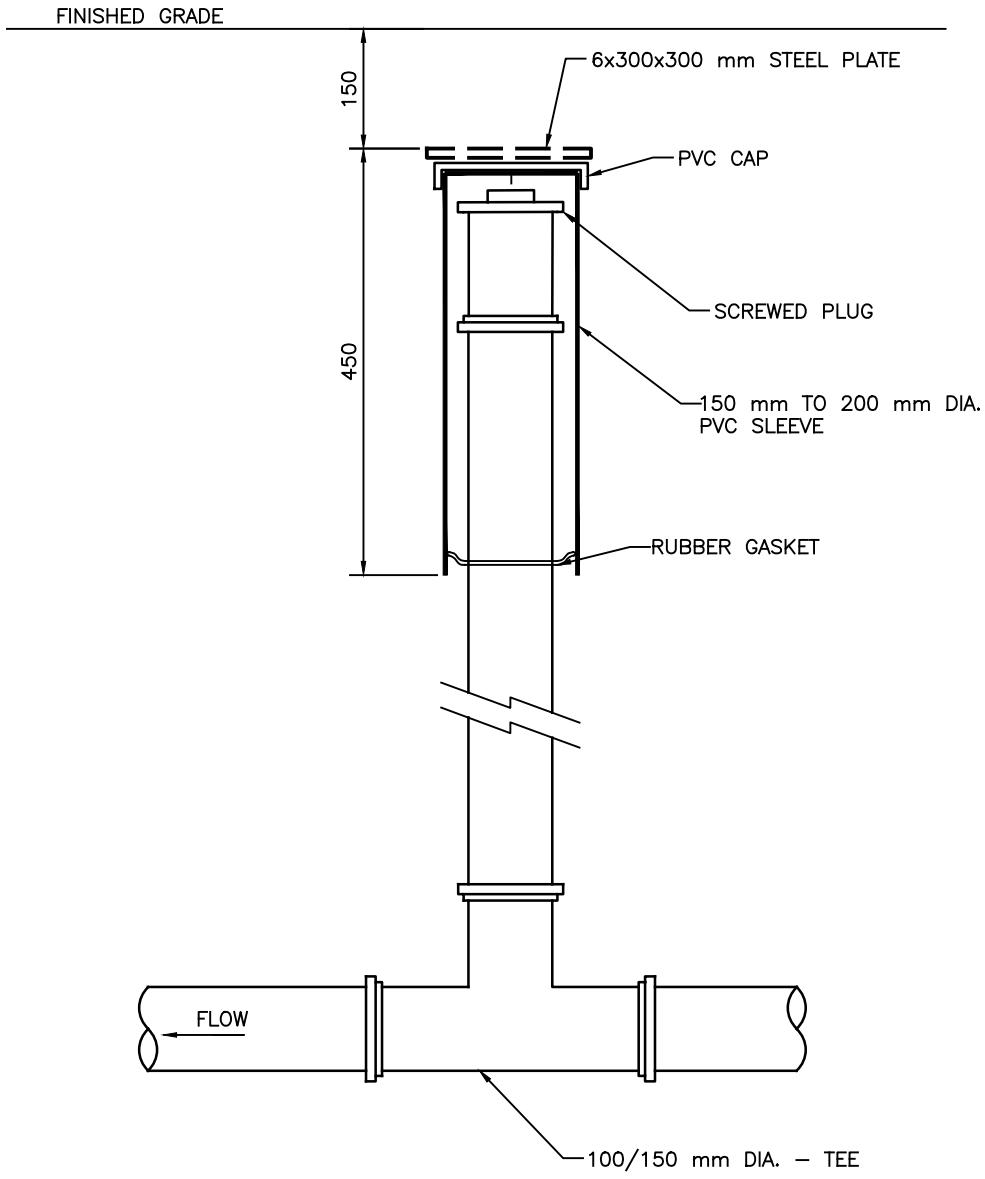
No.	DESCRIPTION	DATE	BY	CHKD
4	GENERAL REVISIONS FOR 2024	27|03|24	ST	
3	GENERAL REVISIONS FOR 2016	16|03|01	SS	
2	REVISED VALVE BOX LOCATION	FEB. 14/14	SS	
1	GENERAL REVIEW	11|03|21	–	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
STANDARD 50 mm PRESSURIZED WASTEWATER SERVICE CONNECTION

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1520		



No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2024	27|03|24	ST	
2	GENERAL REVISIONS FOR 2016	16|03|01	SS	
1	REVISION DETAILS	YY|MM|DD	XX	

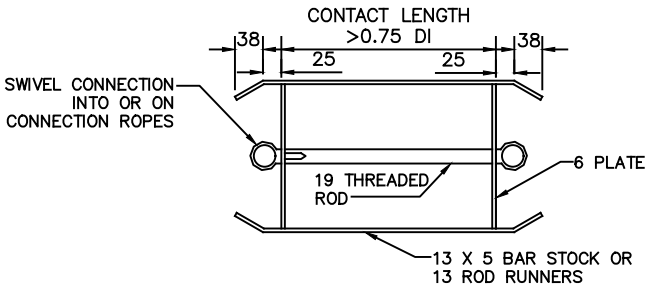
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

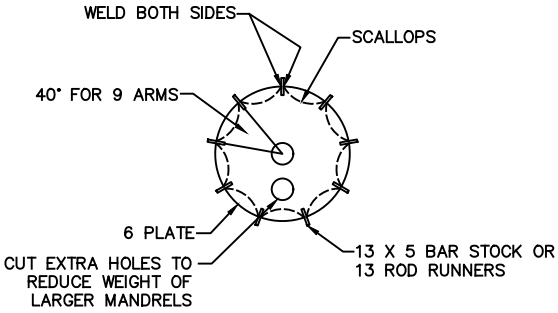
PROJECT

RESIDENTIAL SERVICE CONNECTION ACCESS TEE

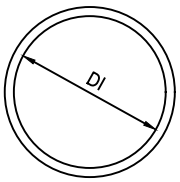
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1530		



LONGITUDINAL SECTION OF MANDREL



TRANSVERSE SECTION OF MANDREL



END VIEW OF PROVING RING

NOTE:
MANDRELS LARGER THAN 450 mm IN DIAMETER SHALL BE CONSTRUCTED OF SPECIAL BREAKDOWN DEVICES TO FACILITATE ENTRY THROUGH ACCESS MANHOLES.

MANDREL SIZING FOR SOLID WALL SDR35 PVC PIPE (CSA B182.2)

SDR35						
NPS	AVERAGE INSIDE DIAMETER (mm)	BASE INSIDE DIAMETER (BID) (mm)	ALLOWABLE VERTICAL DEFLECTION (mm)		RADIUS OF MANDREL ARM (mm)	
			SHORT TERM	LONG TERM	SHORT TERM	LONG TERM
			5.0%	7.5%	5.0%	7.5%
200	200.42	196.11	186.3	181.4	93.7	91.4
250	250.55	245.16	232.9	226.8	117.1	114.3
300	298.27	291.86	277.3	270.0	139.4	136.0
375	365.09	357.25	339.4	330.5	170.6	166.5
450	446.23	436.64	414.8	403.9	208.5	203.5
525	526.08	514.77	489.0	476.2	245.8	239.9
600	591.84	579.11	550.2	535.7	276.6	269.9
675	666.99	652.64	620.0	603.7	311.7	304.2
750	763.57	747.68	710.3	691.6	357.1	348.5
900	913.89	894.77	850.0	827.7	427.3	417.0
1050	1061.84	1039.51	987.5	961.5	496.4	484.5
1200	1212.14	1186.60	1127.3	1097.6	566.7	553.0

PROFILE WALL PVC PIPE (CSA B182.4)

PS 320KPa						
NPS	AVERAGE INSIDE DIAMETER (mm)	BASE INSIDE DIAMETER (BID) (mm)	ALLOWABLE VERTICAL DEFLECTION (mm)		RADIUS OF MANDREL ARM (mm)	
			SHORT TERM	LONG TERM	SHORT TERM	LONG TERM
			5.0%	7.5%	5.0%	7.5%
200	200.41	196.11	186.3	181.4	93.7	91.4
250	250.55	245.19	232.9	226.8	117.1	114.3
300	298.13	291.75	277.2	269.9	139.4	136.0
375	365.09	357.28	339.4	330.5	170.6	166.5
450	448.31	436.70	416.8	405.8	209.5	204.5
525	527.05	515.75	490.0	477.1	246.3	240.4
600	596.9	584.17	555.0	540.4	279.0	272.3
675	673.10	659.49	626.5	610.0	314.9	307.4
750	749.30	734.14	697.4	679.1	350.6	342.1
900	901.70	883.46	839.3	817.2	421.9	411.7
1050	1054.10	1032.79	981.2	955.3	493.2	481.3
1200	1206.50	1182.12	1123.0	1093.5	564.5	550.9

No.	DESCRIPTION	DATE	BY	CHKD
1	NEW DRAWING	12|04|02	JW	

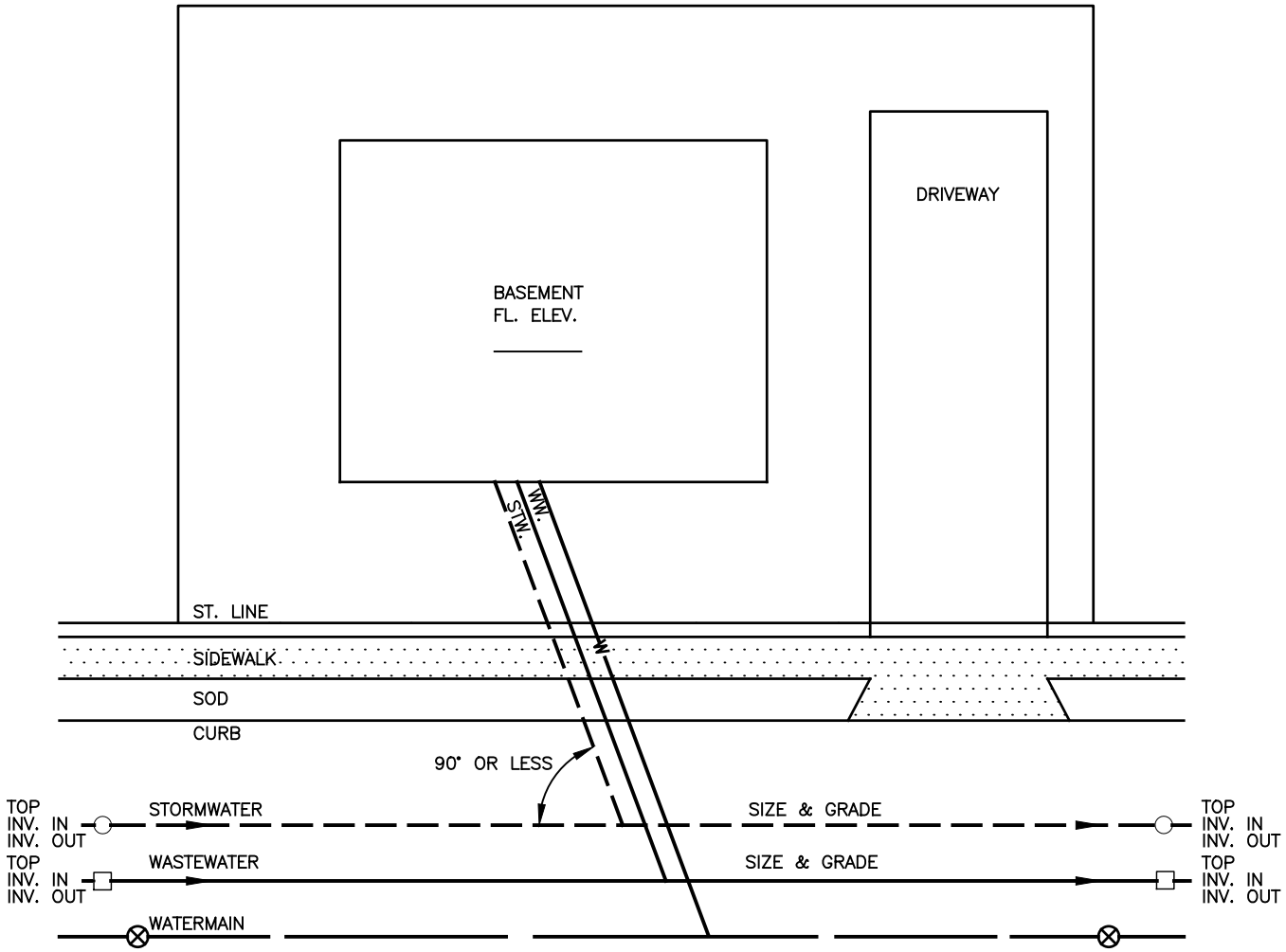
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

DEFLECTION GAUGE TESTING

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1532		



NOTES:

1. SERVICE CONNECTIONS TO BE AT 2% MIN. GRADE.
2. SERVICE CONNECTIONS ARE TO BE INSTALLED AND CONSTRUCTED IN A STRAIGHT LINE
3. SERVICE CONNECTIONS ARE TO BE INSTALLED AND CONSTRUCTED IN A STRAIGHT LINE FROM MAIN TO BUILDING. SERVICE CONNECTIONS ARE NOT TO CROSS OVER EACH OTHER.

WW. = WASTEWATER
STW. = STORMWATER
W = WATER

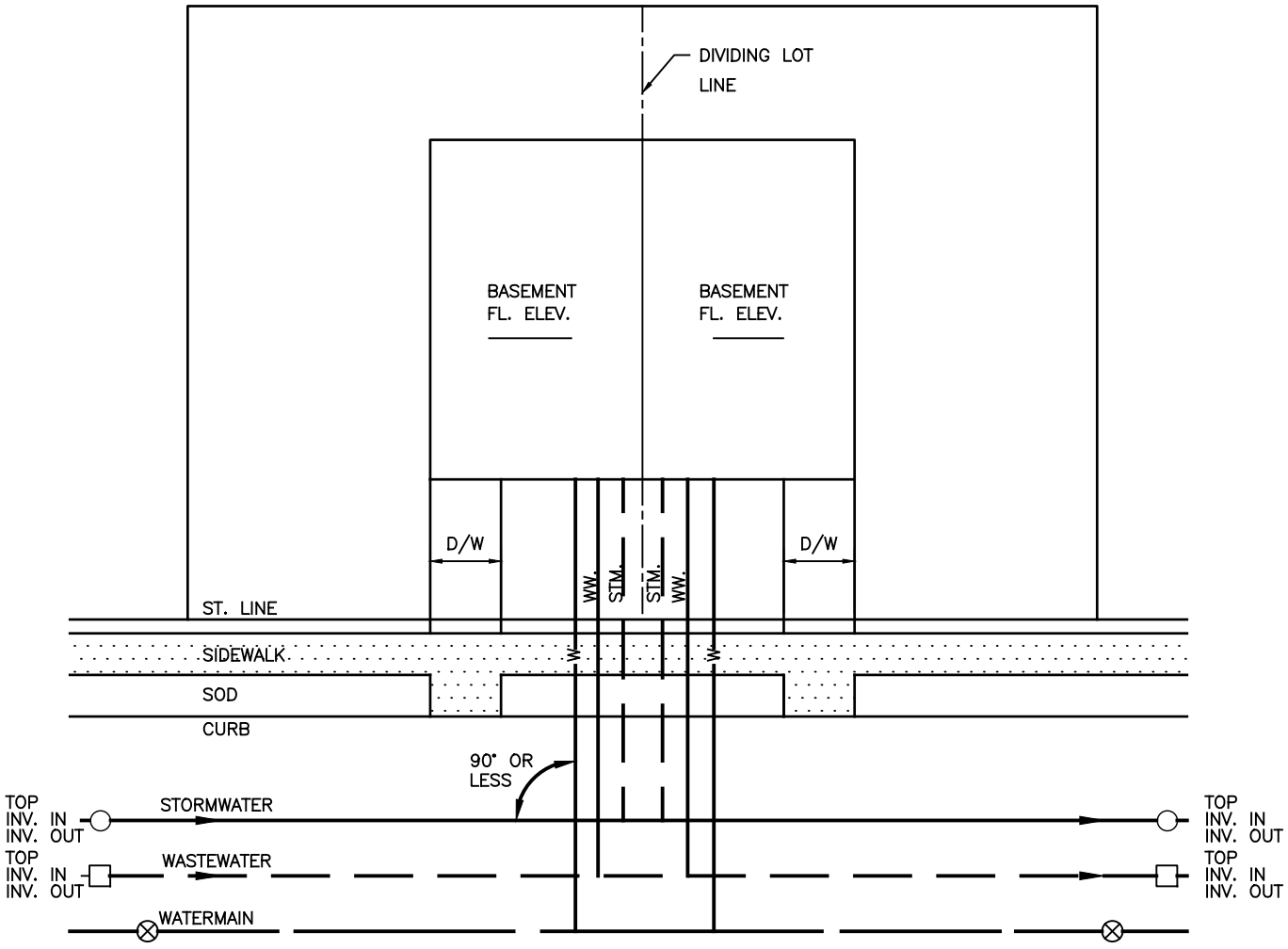
No.	DESCRIPTION	DATE	BY	CHKD
6	GENERAL REVISIONS FOR 2016	16|03|01	SS	
5	REVISED NOTES	FEB. 14/14	JW	SS
4	REVISED NOTES	12|12|17	JW	SS
3	GENERAL REVISIONS FOR 2010	10|05|11	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
SERVICE CONNECTIONS FOR SINGLE FAMILY DWELLING, OVER & UNDER DUPLEX

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1540		



NOTES:

1. SERVICE CONNECTIONS TO BE AT 2% MIN. GRADE.
2. MINIMUM DISTANCE FROM DIVIDING LOT LINE TO NEAREST SERVICE CONNECTION SHALL BE 500 mm.
3. SERVICE CONNECTIONS ARE TO BE INSTALLED AND CONSTRUCTED IN A STRAIGHT LINE FROM MAIN TO BUILDING. SERVICE CONNECTIONS ARE NOT TO CROSS OVER EACH OTHER.

WW. = WASTEWATER
STW. = STORMWATER
W = WATER

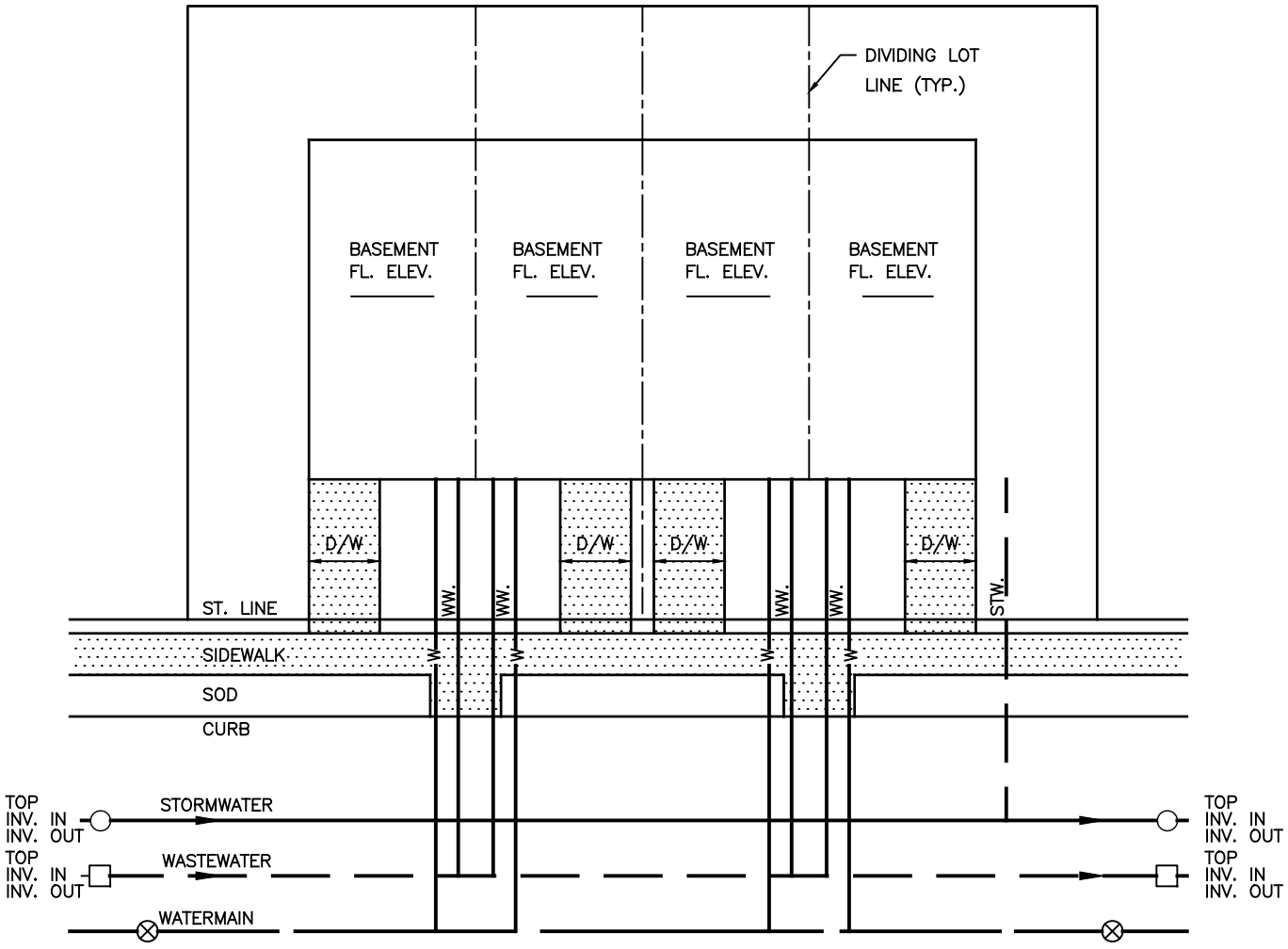
No.	DESCRIPTION	DATE	BY	CHKD
7	GENERAL REVISIONS FOR 2016	16|03|01	SS	
6	REVISED NOTES	14|04|03	SS	
5	REVISED NOTES, LATERAL ALIGNMENT	12|04|02	JW	
4	REVISED NOTES	12|04|02	JW	
3	GENERAL REVISIONS FOR 2010	10|05|11	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
SERVICES CONNECTIONS FOR SIDE BY SIDE DUPLEX

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1550		



NOTES:

1. SERVICE CONNECTIONS TO BE AT 2% MIN. GRADE.
2. MINIMUM DISTANCE FROM DIVIDING LOT LINE TO NEAREST LATERAL SHALL BE 500 mm.
3. SERVICE CONNECTIONS TO BE INSTALLED AND EXTENDED IN A STRAIGHT LINE.
4. STORMWATER LATERAL LOCATION CAN BE VARIED DUE TO SITE GRADING & TOPOGRAPHY.
5. SERVICE CONNECTIONS ARE TO BE INSTALLED AND CONSTRUCTED IN A STRAIGHT LINE FROM MAIN TO BUILDING. SERVICE CONNECTIONS ARE NOT TO CROSS OVER EACH OTHER.

WW. = WASTEWATER
STW. = STORMWATER
W = WATER

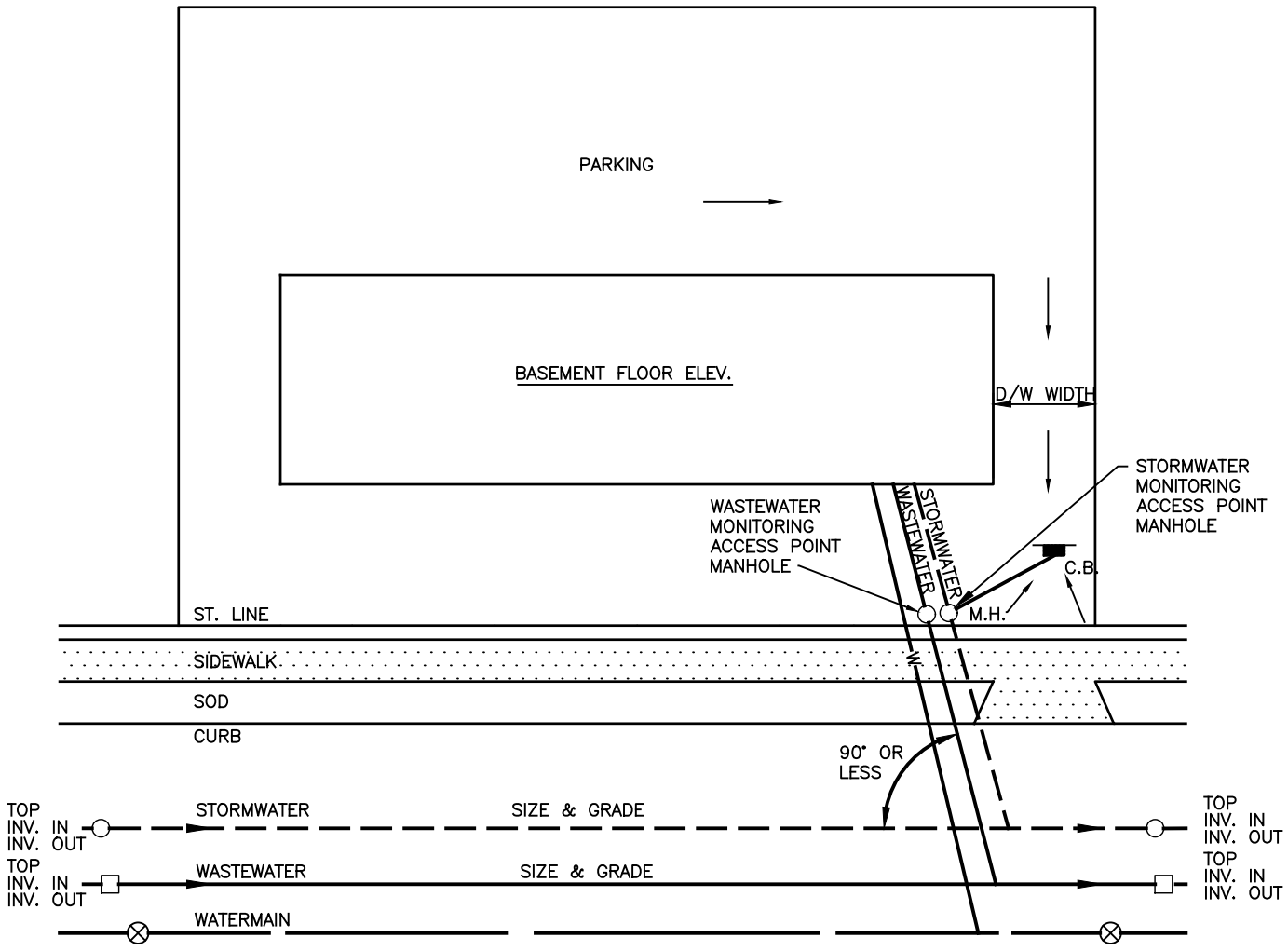
No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2016	16|03|01	SS	
2	REVISED NOTES	14|02|14	JW	SS
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
SERVICE CONNECTIONS FOR TOWNHOUSE DWELLINGS

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1552		



NOTES:

1. CATCHBASIN LEAD IS TO BE A MINIMUM OF 200 mm DIAMETER.
2. SERVICE CONNECTIONS TO BE AT 2% MIN. GRADE.
3. SERVICE CONNECTIONS ARE TO BE INSTALLED AND CONSTRUCTED IN A STRAIGHT LINE FROM MAIN TO BUILDING. SERVICE CONNECTIONS ARE NOT TO CROSS OVER EACH OTHER.
4. SIZE OF CATCHBASIN TO BE A MINIMUM OF 1050 DIAMETER.
5. SIZE OF MANHOLE TO BE A MINIMUM OF 1050 DIAMETER.

WW. = WASTEWATER
STW. = STORMWATER
W = WATER

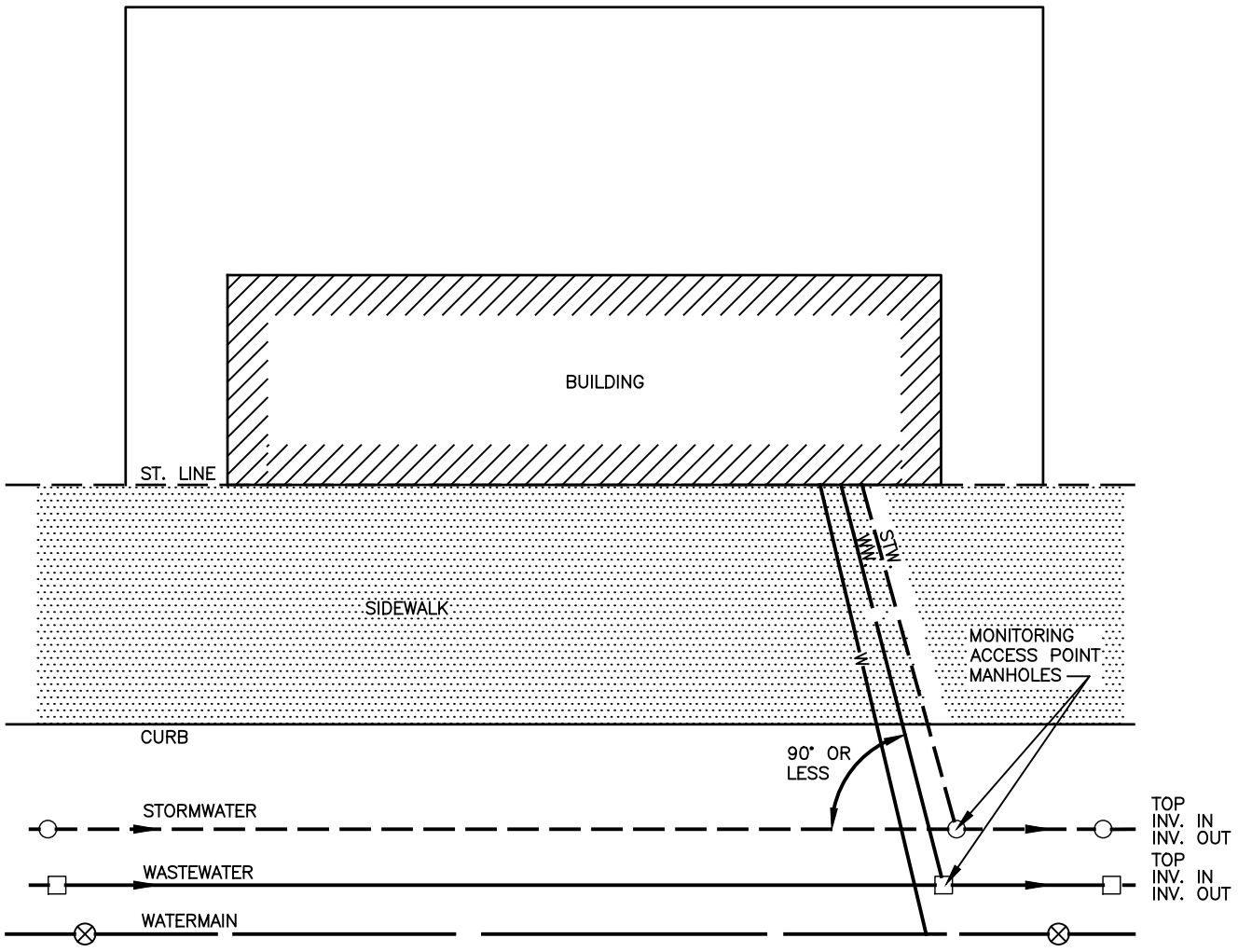
No.	DESCRIPTION	DATE	BY	CHKD
8	GENERAL REVISIONS FOR 2016	16|03|01	SS	
7	ADDED "MONITORING ACCESS POINT" LABELS	15|02|27	SS	
6	REVISED NOTES	14|04|03	SS	
5	REVISED NOTES	12|12|12	JW	
4	REVISED NOTES	12|04|02	JW	
3	GENERAL REVISIONS FOR 2010	10|05|11	ML	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
SERVICE CONNECTIONS FOR ICI BUILDINGS

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1560		



NOTES:

1. REFER TO SECTION 4.6 FOR SERVICE CONNECTION REQUIREMENTS.
2. MANHOLE FRAMES AND COVERS IN ACCORDANCE TO HWSD–1460/1462.
3. MONITORING ACCESS MANHOLES INSTALLED IN THE STREET R.O.W. SHALL BE OWNED AND MAINTAINED BY HALIFAX WATER.
4. SIZE OF MANHOLE TO BE A MINIMUM OF 1050 DIAMETER. REFER TO HWSD–1450.

WW. = WASTEWATER
STW. = STORMWATER
W = WATER

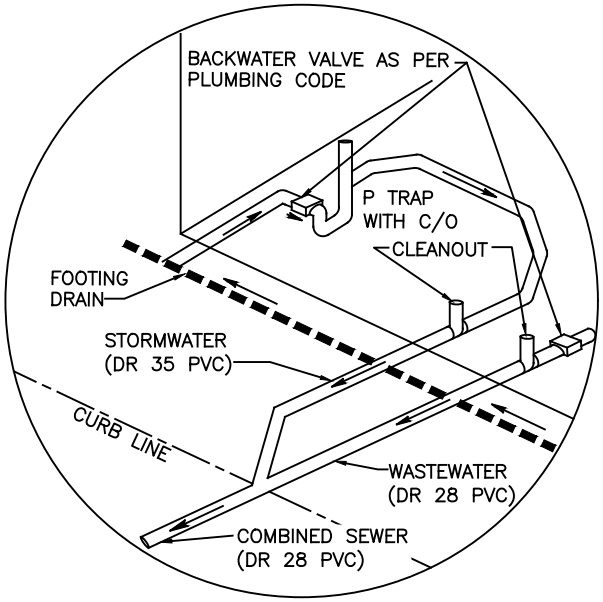
No.	DESCRIPTION	DATE	BY	CHKD
1	GENERAL REVISIONS FOR 2016	16|03|01	SS	
0	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

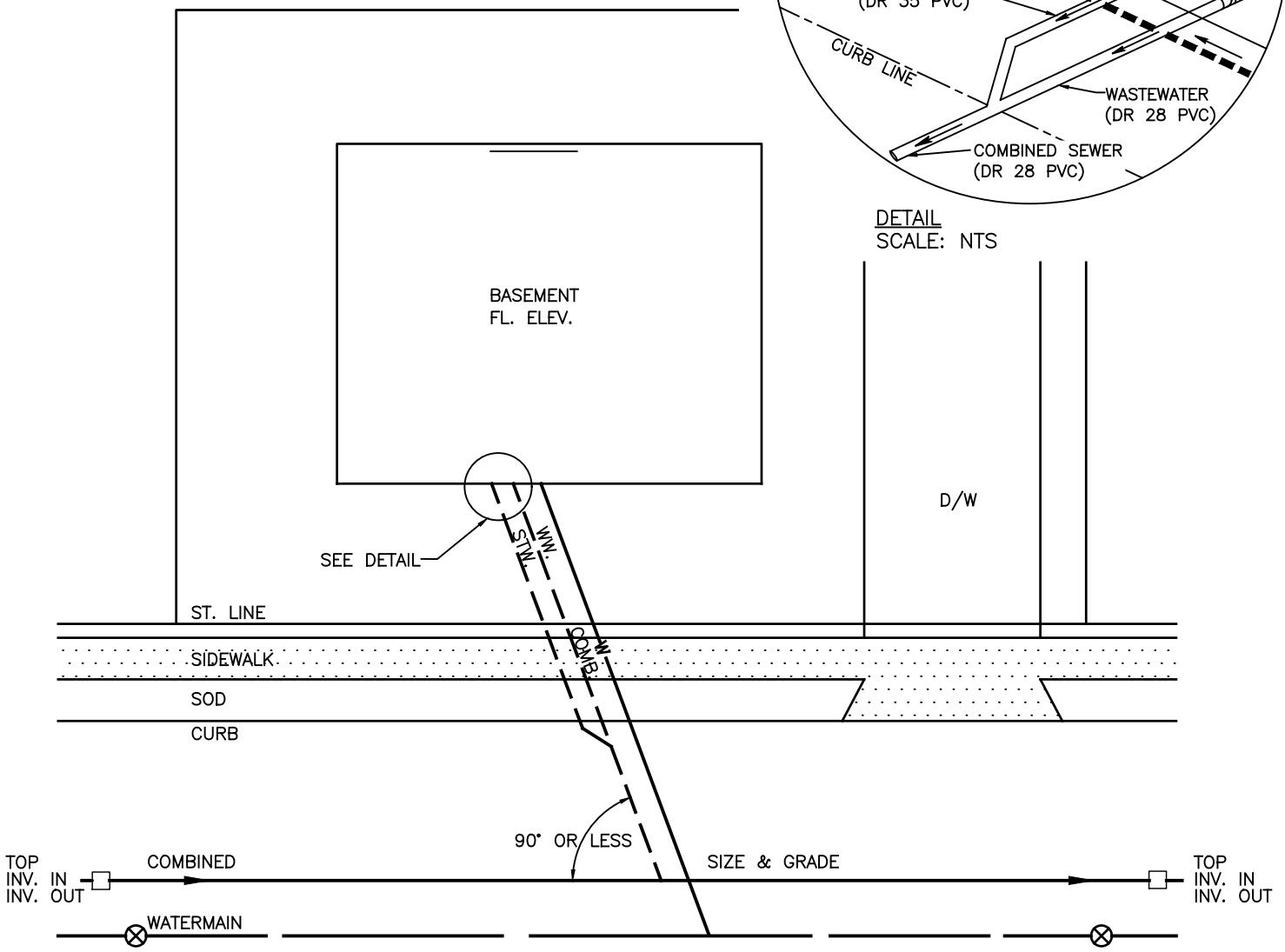
Halifax Water

PROJECT
SERVICE CONNECTIONS FOR ICI BUILDINGS ZERO SETBACK

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1562		



DETAIL
SCALE: NTS



NOTES:

1. SERVICE CONNECTIONS TO BE AT 2% MIN. GRADE.
2. SERVICE CONNECTIONS TO BE INSTALLED AND CONSTRUCTED IN A STRAIGHT LINE.
3. SERVICE CONNECTIONS ARE NOT TO CROSS OVER EACH OTHER.
4. STORMWATER SERVICE CONNECTIONS TO SATISFY SECTION 5.5.2.1.13 OF THE HALIFAX WATER DESIGN SPECIFICATION.

COMB. = COMBINED WASTEWATER & STORMWATER
W = WATER, WW. = WASTEWATER, STW. = STORMWATER

No.	DESCRIPTION	DATE	BY	CHKD
7	GENERAL REVISIONS FOR 2025	19|12|25	ST	
6	GENERAL REVISIONS FOR 2023	20|04|23	ST	
5	GENERAL REVISIONS FOR 2016	16|03|01	SS	
4	ADDED SECOND BACKWATER VALVE ON DETAIL	16|01|28	SS	
3	CHANGED DRAWING # FROM 1562 TO 1564	15|02|27	SS	
2	REVISED NOTES	14|04|03	SS	
1	REVISION DETAILS	YY|MM|DD	XX	

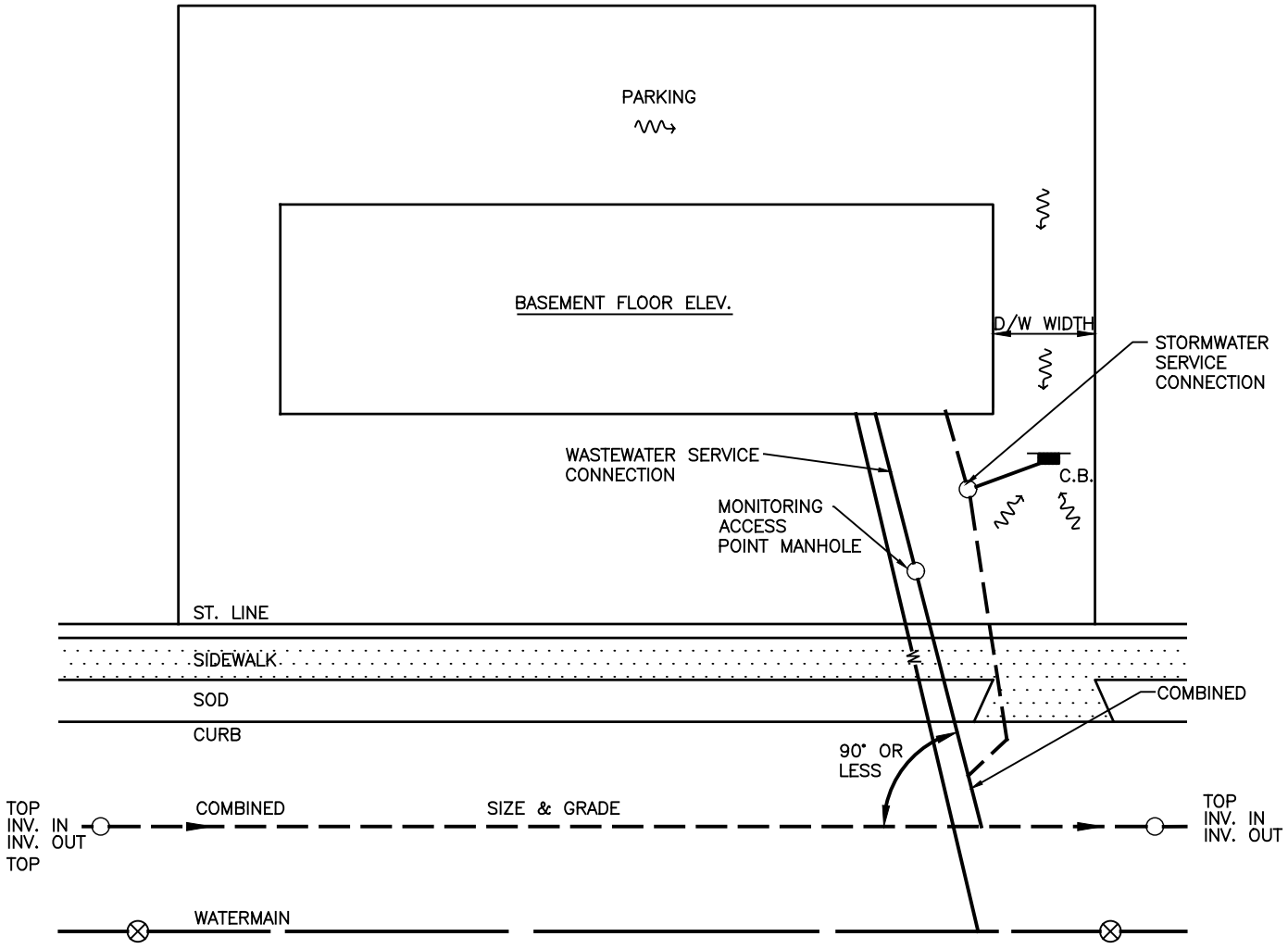
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

COMBINED SERVICES CONNECTION DETAIL OVER & UNDER DUPLEX SINGLE FAMILY DWELLING

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1564		



NOTES:

1. CATCHBASIN LEAD IS TO BE A MINIMUM OF 200 mm DIAMETER.
2. SERVICE CONNECTIONS TO BE AT 2% MIN. GRADE.
3. SERVICE CONNECTIONS ARE TO BE INSTALLED AND CONSTRUCTED IN A STRAIGHT LINE FROM MAIN TO BUILDING. SERVICE CONNECTIONS ARE NOT TO CROSS OVER EACH OTHER.
4. SIZE OF CATCHBASIN TO BE A MINIMUM OF 1050 DIAMETER.
5. SIZE OF MANHOLE TO BE A MINIMUM OF 1050 DIAMETER.
6. COMBINED SEWER LATERAL GREATER THAN 200 mm REQUIRES MH AT COMBINED SEWER MAIN CONNECTION.
7. STORMWATER SERVICE CONNECTIONS TO SATISFY SECTION 5.5.2.1.13 OF THE HALIFAX WATER DESIGN SPECIFICATION.

W = WATER
COMB. = COMBINED WASTEWATER & STORMWATER

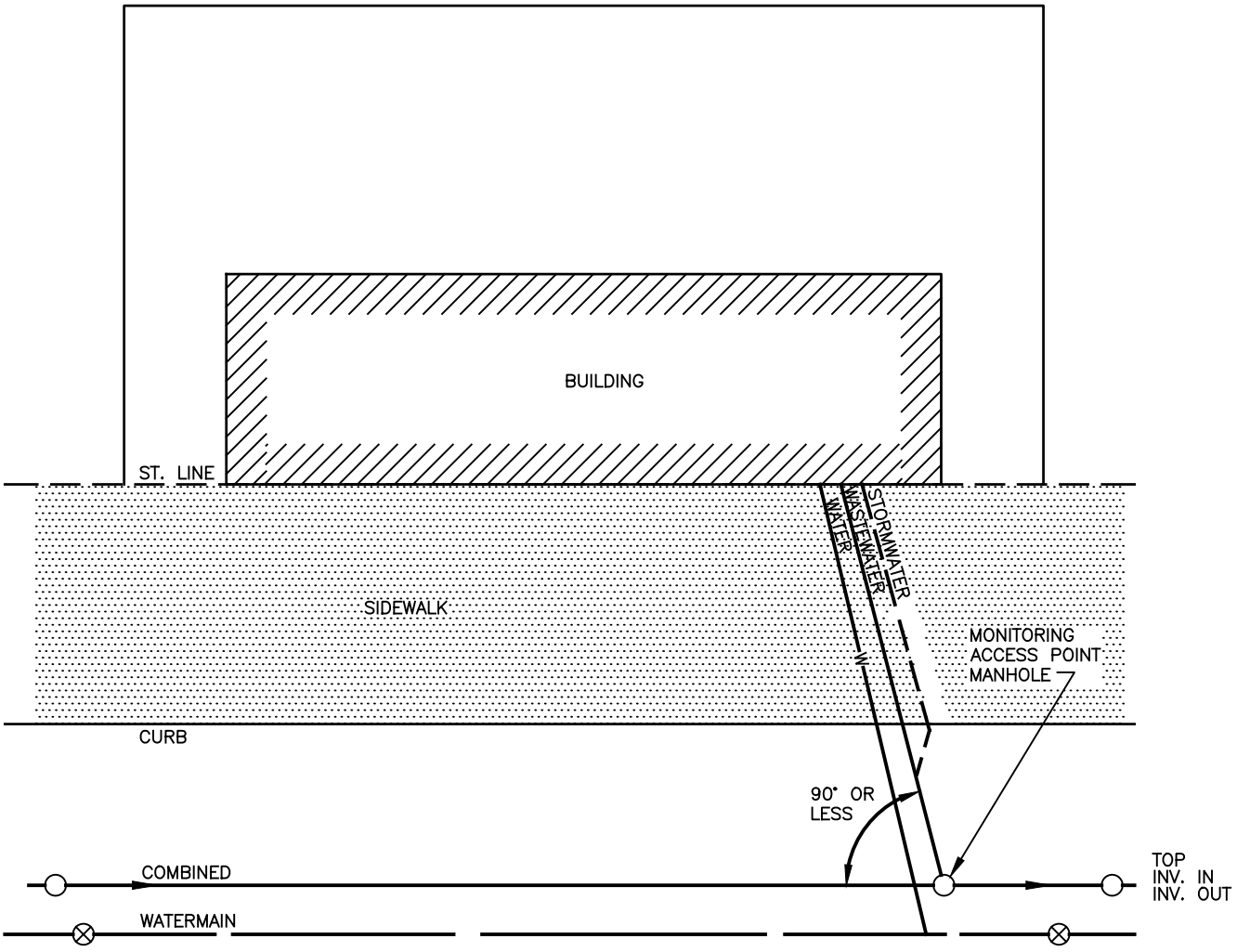
No.	DESCRIPTION	DATE	BY	CHKD
6	GENERAL REVISIONS FOR 2025	25|03|25	ST	
5	GENERAL REVISIONS FOR 2023	20|04|23	ST	JC
4	GENERAL REVISIONS FOR 2016	16|03|01	SS	
3	CHANGED DRAWING # FROM 1564 TO 1566	15|02|27	SS	
2	REVISED NOTES	14|04|03	SS	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
COMBINED SERVICES CONNECTION DETAIL FOR ICI BUILDINGS

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1566		



NOTES:

1. MANHOLE FRAMES AND COVERS IN ACCORDANCE TO HWSD–1460/1462.
2. MONITORING ACCESS MANHOLES INSTALLED IN THE STREET R.O.W. SHALL BE OWNED AND MAINTAINED BY HALIFAX WATER.
3. SIZE OF MANHOLE TO BE A MINIMUM OF 1050 DIAMETER. REFER TO HWSD–1450.
4. STORMWATER SERVICE CONNECTIONS TO SATISFY SECTION 5.5.2.1.13 OF THE HALIFAX WATER DESIGN SPECIFICATION.

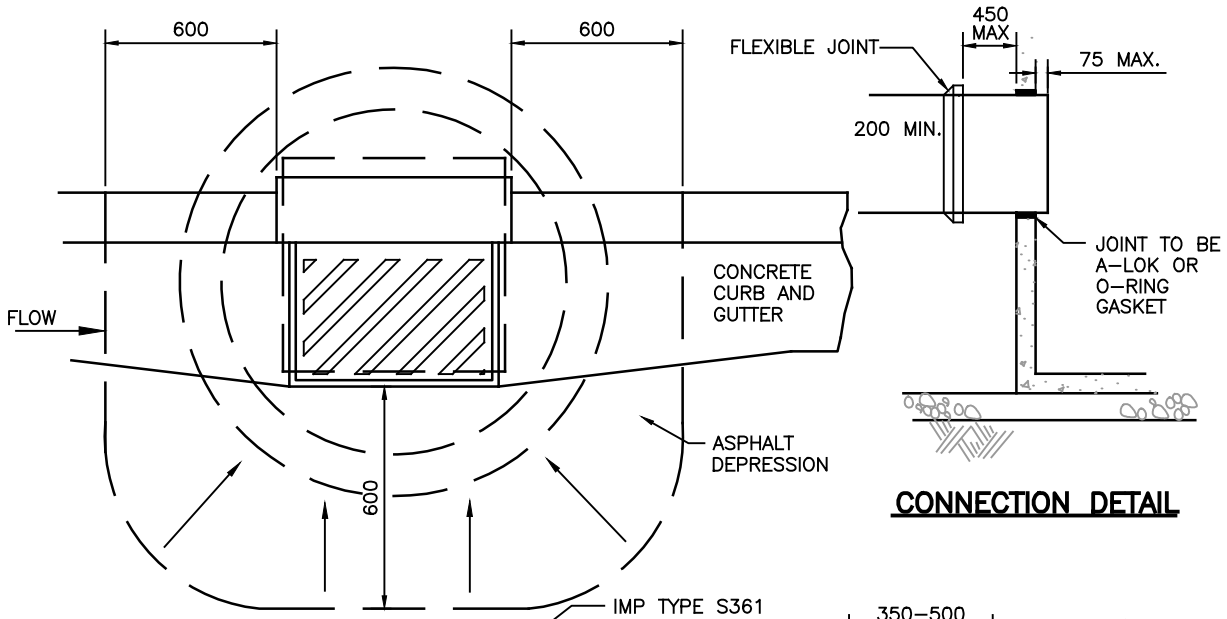
No.	DESCRIPTION	DATE	BY	CHKD
3	GENERAL REVISIONS FOR 2025	19|12|24	ST	
2	GENERAL REVISIONS FOR 2023	20|04|23	ST	JC
1	GENERAL REVISIONS FOR 2016	16|03|01	SS	
0	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

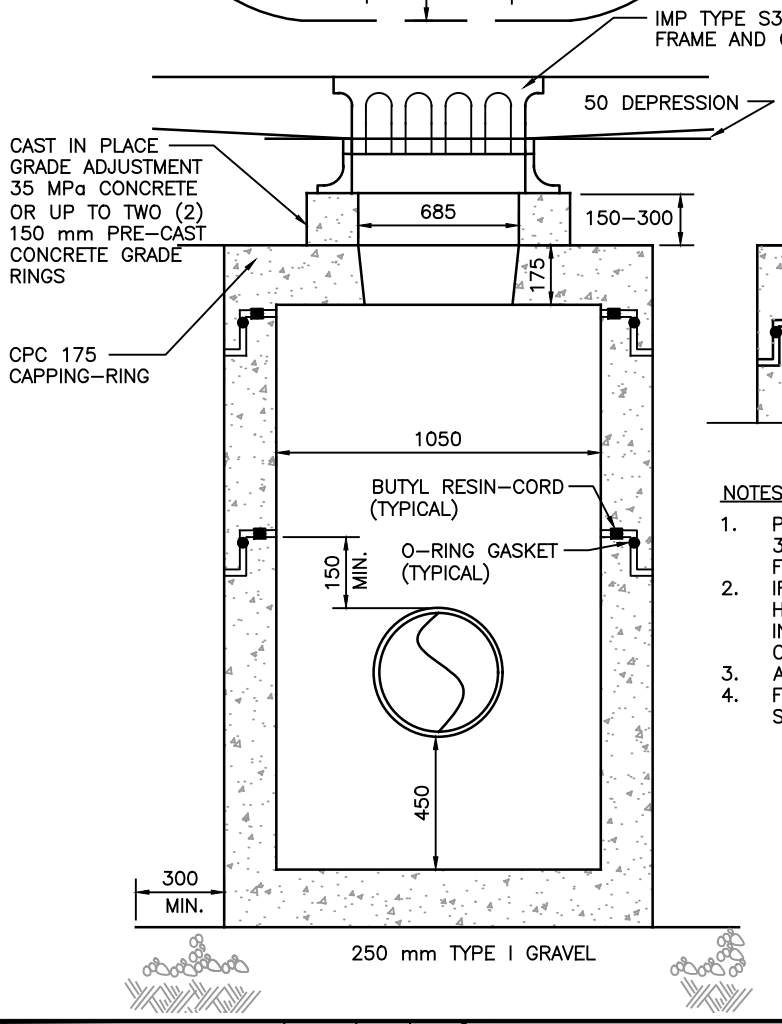
Halifax Water

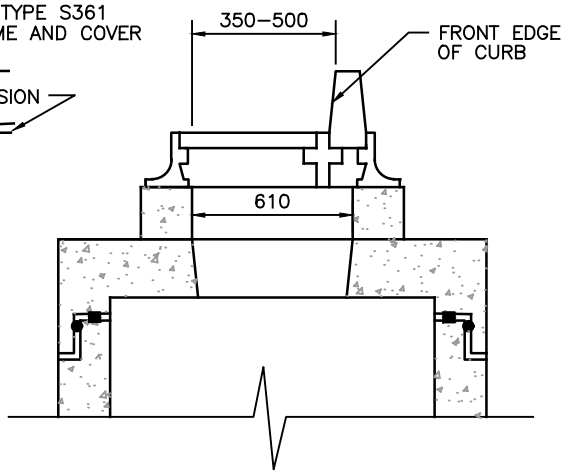
PROJECT
COMBINED SERVICES CONNECTION DETAIL FOR ICI BUILDINGS ZERO SETBACK

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1568		



CONNECTION DETAIL





NOTES:

1. PRECAST SECTIONS MUST CONFORM TO SECTION 33 39 00 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL SERVICES.
2. IF FINAL GRADE ADJUSTMENT EXCEEDS 300 mm HEIGHT, CIRCULAR 15M REBAR MUST BE INCORPORATED IN THE RAISED SECTION AND CAST IN PLACE ADJUSTMENT ONLY IS PERMITTED.
3. ANGLE GRATE TO DIRECT WATER TOWARDS CURB.
4. FOR DOUBLE GRATE INSTALLATIONS A CPC 175D SHALL BE REQUIRED.

No.	DESCRIPTION	DATE	BY	CHKD
8	GENERAL REVISIONS FOR 2024	11|04|24	ST	
7	GENERAL REVISIONS FOR 2016	16|03|01	SS	
6	REVISED CONNECTION DETAIL	15|02|27	SS	
5	REVISED GRADE ADJUSTMENT FOR GRADE RINGS.	14|02|14	SS	
4	REVISED CAST IN PLACE CONCRETE TO 35 MPa	13|02|04	SS	
3	ADD NOTE #4	11|03|21	BDC	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

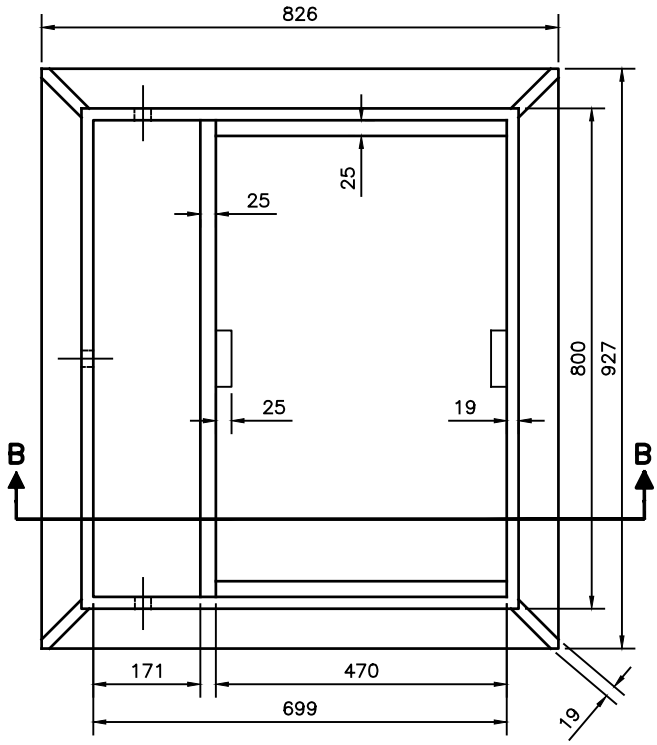
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

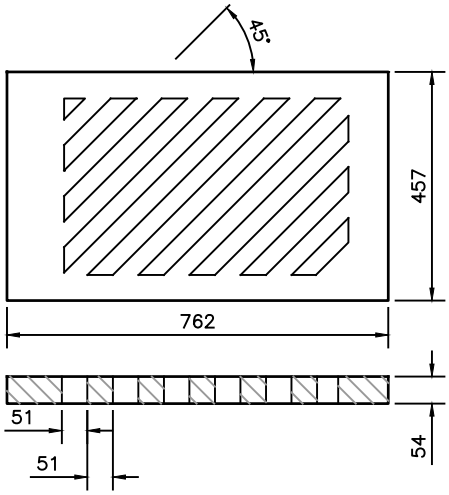
PROJECT

1050 mm PRECAST CATCHBASIN

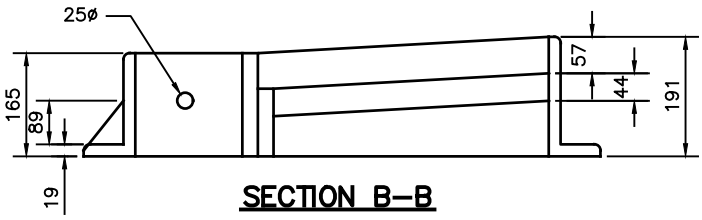
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1570 (2024)		



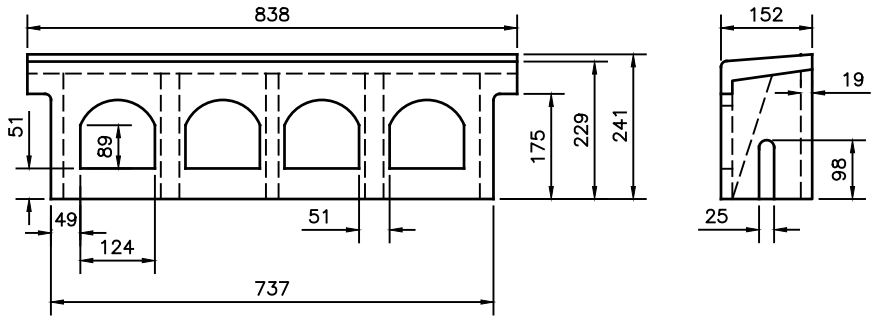
FRAME



GRATE



SECTION B–B



CURB

1. STANDARD CATCHBASIN FRAME AND GRATE SHALL BE IMP S361 OR EQUIVALENT.

2. MATERIAL GREY CAST IRON, A.S.T.M. A48/A48M (2008)
   GRATE WEIGHT 86 kg
   FRAME WEIGHT 143 kg
   CURB WEIGHT 54 kg
   LOAD CAPACITY 7260 kg
   GRATE WATER FLOW 1342 cm^2 OPENING
   CURB WATER FLOW 629 cm^2 OPENING

No.	DESCRIPTION	DATE	BY	CHKD
3	REVISED TITLE BLOCK	12|12|14	JW	SS
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

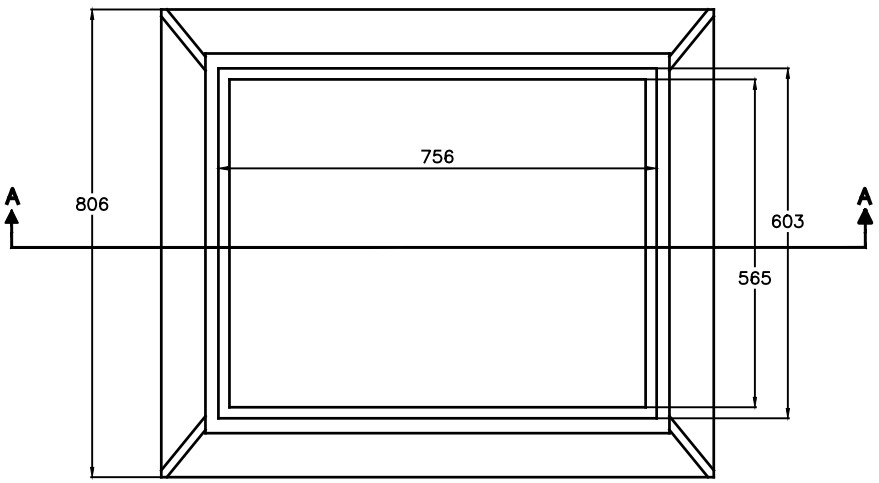
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

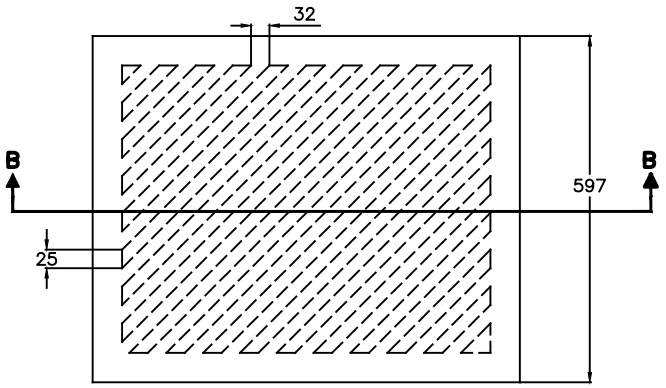
PROJECT
CATCHBASIN FRAME AND GRATE FOR CURB AND GUTTER INSTALLATIONS

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1580		

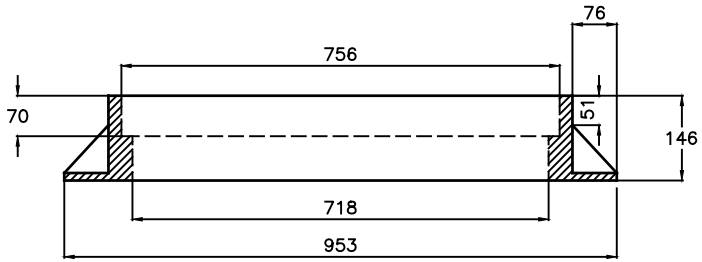
FRAME



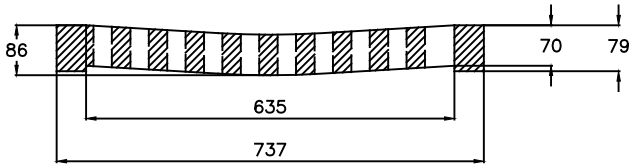
GRATE



SECTION 'A–A'



SECTION 'B–B'



NOTE:

MATERIAL – GRAY CAST IRON, A.S.T.M. A48–74, CLASS 30.
FRAME WEIGHT – 140.2 KG
GRATE WEIGHT – 126.6 KG
LOAD CAPACITY – 7,257 KG
GRATE OVERFLOW – APPROX. 1845 CM^2 OPENING

NOTE:

TOP OF CATCHBASIN COVER TO BE DEPRESSED 50 mm (MIN.) FROM SURROUNDING FINISHED GRADE.

No.	DESCRIPTION	DATE	BY	CHKD
1	NEW DRAWING	12|12|14	JW	SS

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

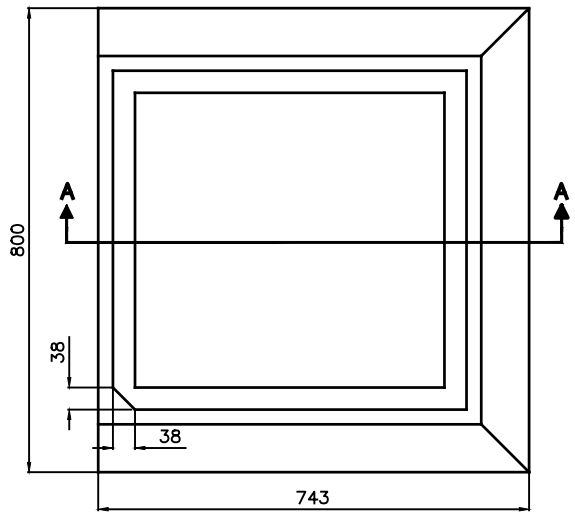
S – 441
CATCHBASIN FRAME & GRATE

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N/A
APPROVED	K.G.	DATE	17/02/15

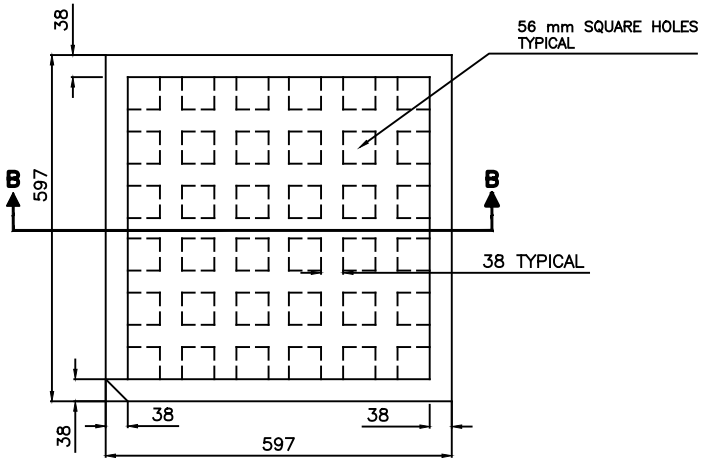
PROJECT No.

DWG. No. HWSD – 1590

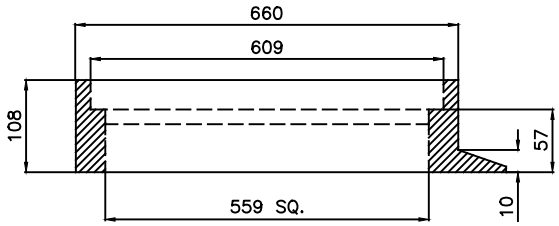
FRAME



GRATE



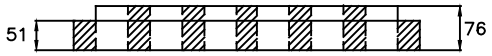
SECTION 'A–A'



NOTE:

TOP OF CATCHBASIN COVER TO BE
DEPRESSED 50 mm (MIN.) FROM
SURROUNDING FINISHED GRADE.

SECTION 'B–B'



NOTE:

SQUARE OPENING AREA = APPROX. 1113 CM²
MATERIAL – GRAY CAST IRON, A.S.T.M. A48–74, CLASS 30.
COVER WEIGHT – 90.72 KG
S 411 FRAME WT. – 97.52 KG
LOAD CAPACITY – 7,257 KG

No.	DESCRIPTION	DATE	BY	CHKD
2	REVISED DIMENSIONS	FEB. 14/14	JW	SS
1	NEW DRAWING	12|12|14	JW	SS

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT

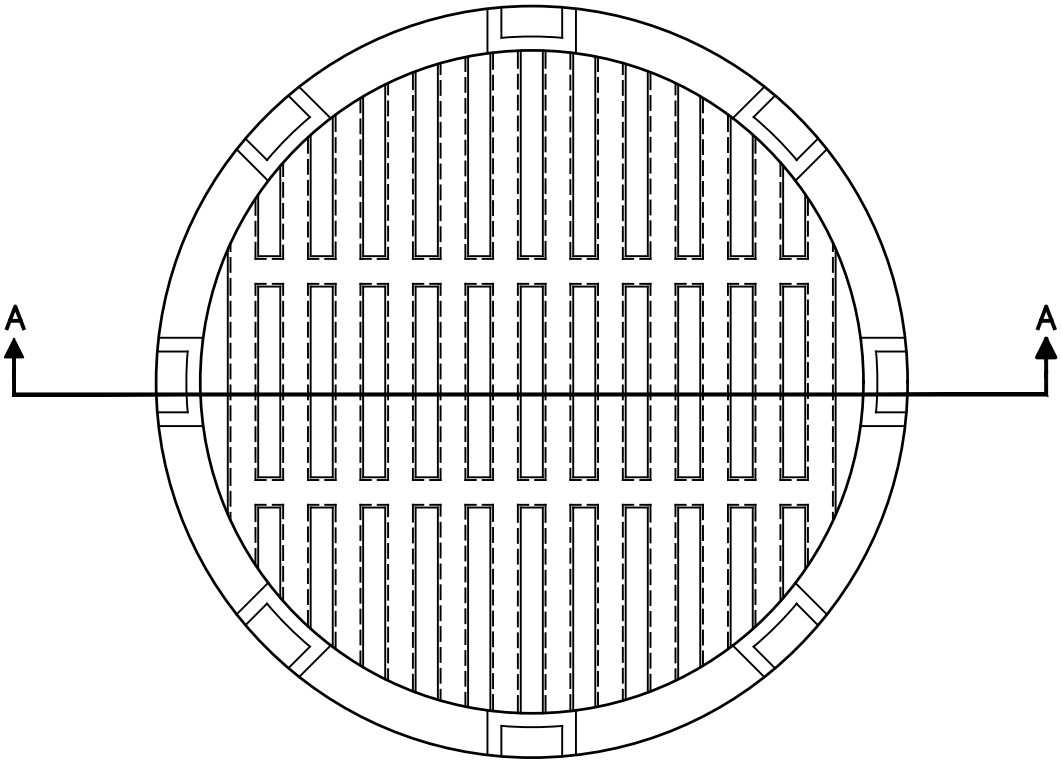
S – 401
CATCH BASIN
FRAME & GRATE

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N/A
APPROVED	K.G.	DATE	17/02/15

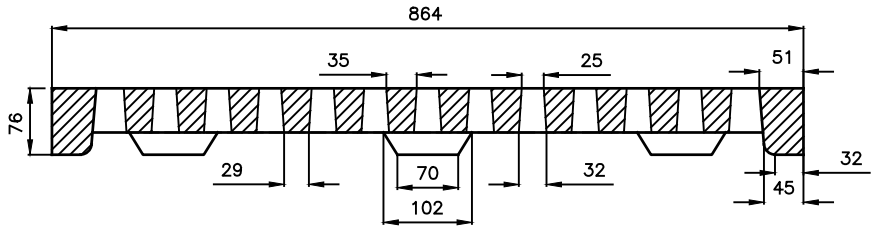
PROJECT No.

DWG. No. HWSD – 1592

GRATE



SECTION 'A–A'



NOTE:

MATERIAL – GRAY CAST IRON, A.S.T.M. A 48–74, CLASS 30.
GRATE WEIGHT – 138.8 KG
LOAD CAPACITY – 7,257 KG.

No.	DESCRIPTION	DATE	BY	CHKD
2	NEW DRAWING	12|12|17	JW	SS
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

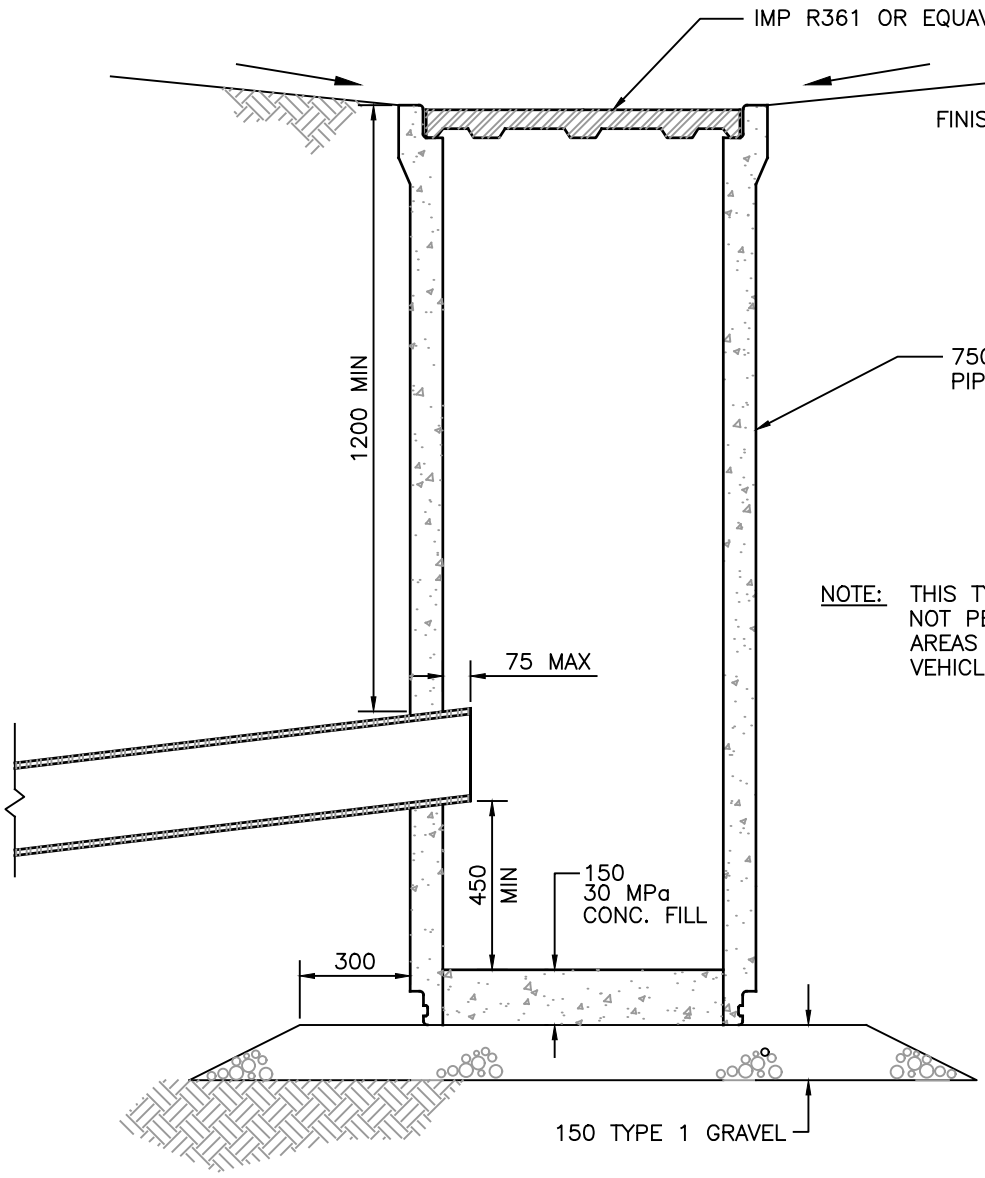
PROJECT

R – 361
GRATING
(FOR BELL END OF 750Ø PIPE)

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1594



NOTE: THIS TYPE OF CATCHBASIN IS NOT PERMITTED IN PAVED AREAS OR AREAS WHERE VEHICLE TRAFFIC IS PRESENT.

No.	DESCRIPTION	DATE	BY	CHKD
3	REVISED TITLE	16|01|28	SS	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

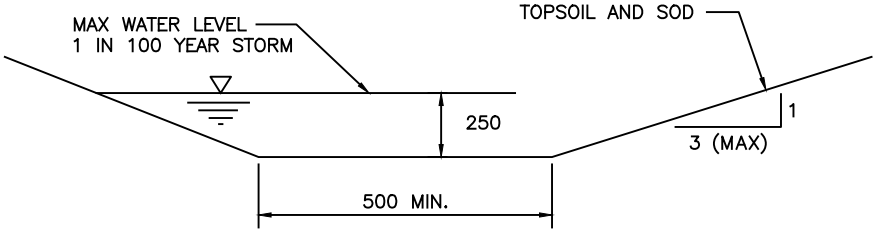
PROJECT

PRIVATE 750 mmø CONCRETE OFF STREET CATCHBASIN

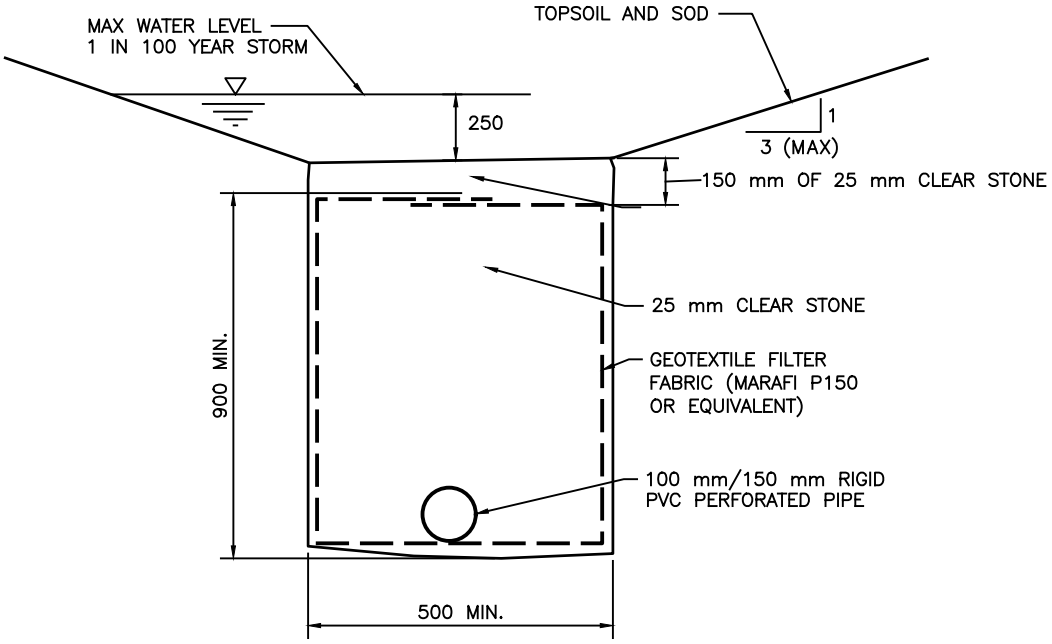
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1600



SWALE CROSS SECTION
NTS



SWALE AND UNDERDRAIN CROSS SECTION
NTS

NOTES:

1. OFF STREET UNDERDRAINS SHALL NOT BE CONNECTED TO THE BACK OR SIDES OF AN ON-STREET CATCH BASIN.
2. OFF STREET UNDERDRAINS SHALL CONNECT TO THE STORMWATER MAIN VIA A STORMWATER SERVICE CONNECTION OR TO A STORMWATER MANHOLE LOCATED IN THE STREET RIGHT OF WAY.
3. A MANHOLE WILL BE REQUIRED TO BE INSTALLED ON THE SERVICE CONNECTION PRIOR TO THE STREET RIGHT-OF-WAY. REFER TO HWSD-1450 FOR MANHOLE DETAILS.
4. OFF STREET UNDERDRAINS MAY BE CONSIDERED, THROUGH THE VARIANCE PROCESS TO CONNECT TO AN OFF STREET CATCH BASIN (AS PER HALIFAX GUIDELINES)

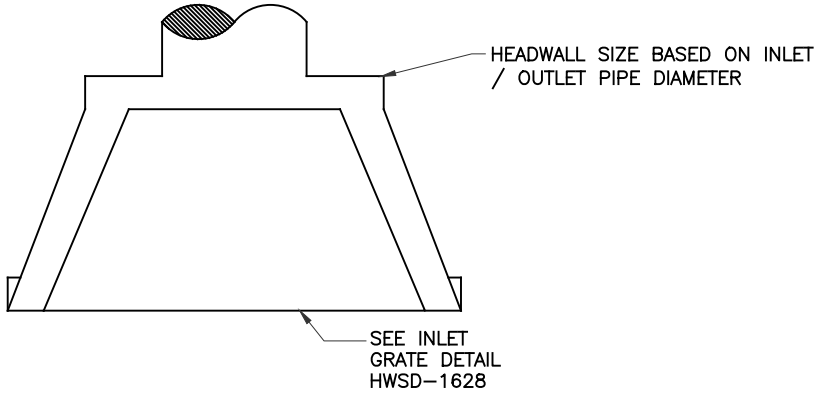
No.	DESCRIPTION	DATE	BY	CHKD
3	ADDED NOTES, CHANGED TITLE	16|01|28	SS	
2	GENERAL REVISIONS FOR 2009	09|06|09	ML	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

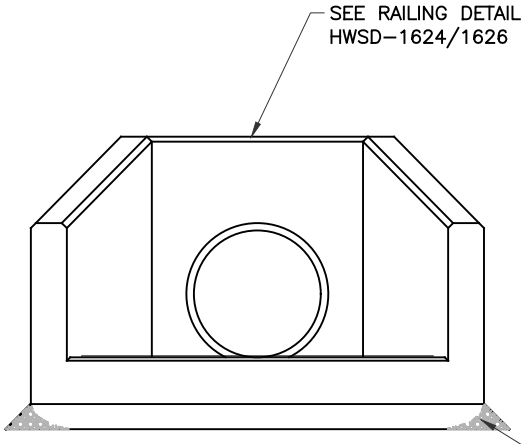
Halifax Water

PROJECT
PRIVATE
SWALE AND UNDERDRAIN
DETAILS

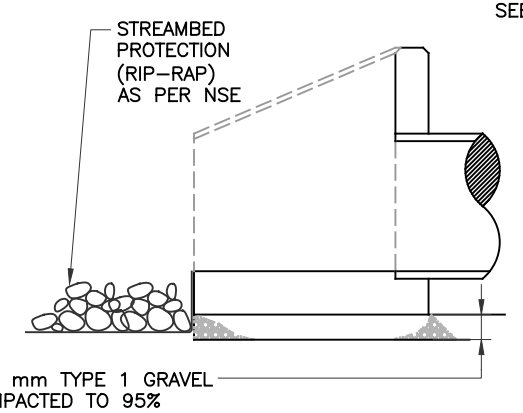
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD - 1610		



PLAN VIEW



FRONT VIEW



SECTION VIEW

NOTES:

1. INLET / OUTLET STRUCTURE SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH NSE AND DFO REGULATIONS AS REQUIRED. THE PROFESSIONAL ENGINEER SHALL TAKE INTO ACCOUNT LOCAL SITE CONDITIONS, DEPTH OF COVER, SLOPE STABILIZATION AND EROSION CONTROL MEASURES FOR INSTALLATION AND FUTURE MAINTENANCE.
2. PRE–CAST HEADWALLS ARE TO BE MANUFACTURED AS ONE PIECE. WHERE MULTIPLE PIPES ENTER AND EXIT A HEADWALL, THE HEADWALL STRUCTURE SHALL BE CUSTOM MANUFACTURED TO SUIT THE DESIGN.
3. SHOP DRAWINGS FOR INLET / OUTLET STRUCTURES TO BE SUBMITTED TO ENGINEER PRIOR TO FABRICATION.
4. ALL MEASUREMENTS IN MILLIMETERS UNLESS OTHERWISE NOTED.
5. THE NOTED INLET / OUTLET HEADWALL ARRANGEMENT IS PROVIDED AS A SAMPLE GUIDE.
6. DESIGN FEATURES INTENDED TO MINIMIZE FLOW THROUGH BEDDING MATERIALS ARE TO BE INDICATED ON DESIGN (EG. CLAY PLUG, CUTOFF WALL, ETC.).
7. FOR PRE–CAST CONCRETE DRIVEWAY HEADWALL SEE HWSD – 1622

No.	DESCRIPTION	DATE	BY	CHKD
2	EDITS FOR 2018	2/16/18	S.T.	
1	NEW DRAWING	1/14/16	S.S.	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

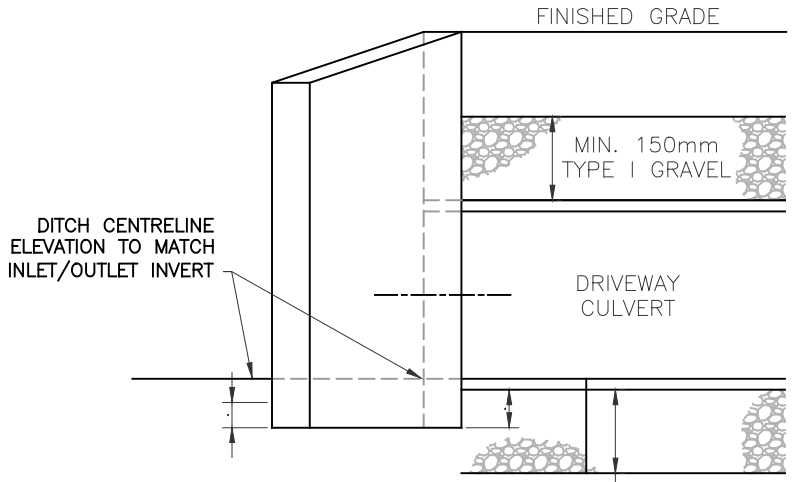
Halifax Water

PROJECT
INLET / OUTLET
PRE–CAST CONCRETE HEADWALL

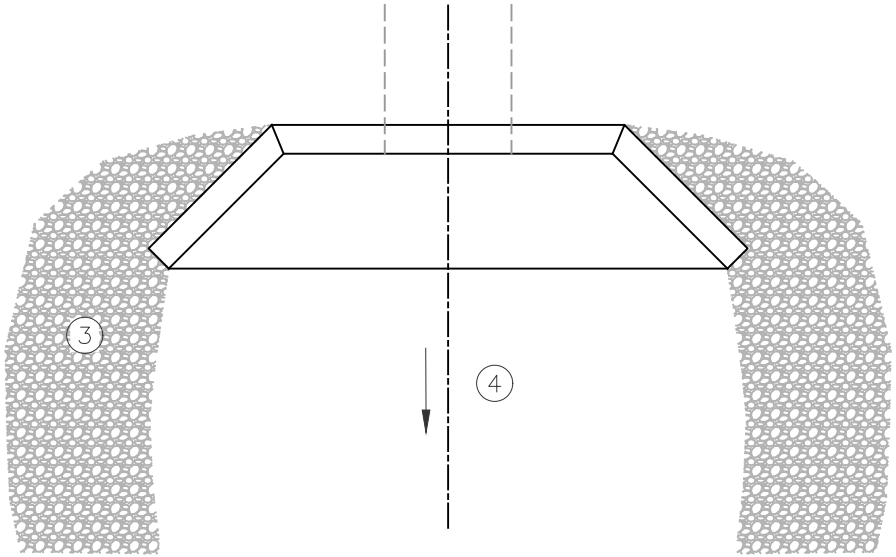
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15
PROJECT No.			
DWG. No.	HWSD – 1620		

NOTES:

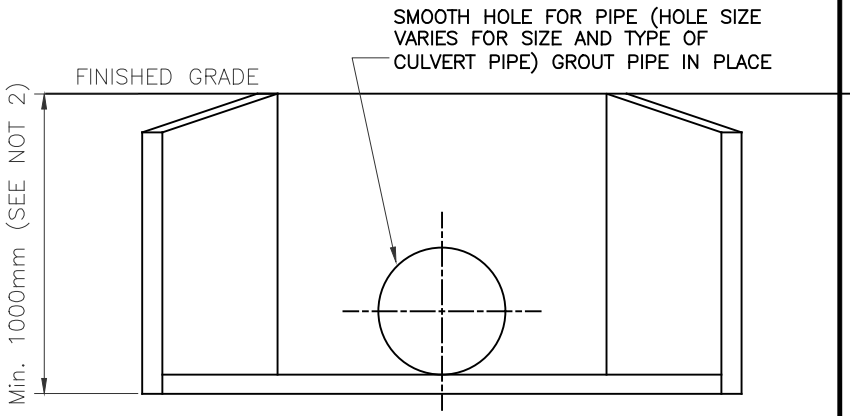
1. DRIVEWAY HEADWALLS SHALL BE INSTALLED SUCH THAT THE TOP HEADWALL IS FLUSH WITH THE DRIVEWAYS FINISHED GRADE.
2. DRIVEWAY HEADWALL HEIGHT SHALL BE DETERMINED BY ROADSIDE DITCH DESIGN ELEVATIONS. MINIMUM HEIGHT OF HEADWALL SHALL BE 1000mm AS PER HWSD–1630.
3. RIP RAP SHALL BE INSTALLED ON THE DITCH SIDE SLOPES ADJACENT TO THE HEADWALL FOR SLOPE STABILIZATION AS REQUIRED.
4. RIP RAP SHALL BE INSTALLED AT THE INLET AND OUTLET APRON FOR DITCH CHANNEL STABILIZATION AS REQUIRED.
5. HEADWALL SHALL BE GROUTED AT THE INLET AND OUTLET CULVERT PIPE.
6. DITCH ELEVATION TO MATCH THE CULVERT INLET AND OUTLET ELEVATION.



INLET/OUTLET
SIDE VIEW



PLAN VIEW



ELEVATION VIEW

No.	DESCRIPTION	DATE	BY	CHKD
6	NEW DETAIL FOR 2022	03/14/22	S.T.	
5	NEW DETAIL FOR 2019	13/06/19	S.T.	
4	2018 EDITS	16/02/18	S.T.	
3	RENUMBERED	16|03|01	S.S.	
2	ADDED NOTE 3	15|02|17	S.S.	
1	NEW DRAWING	11|03|08		

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

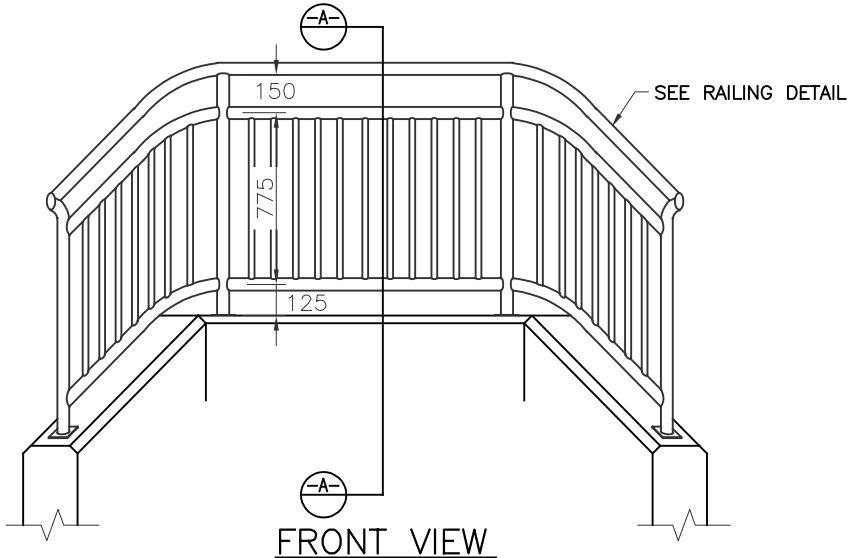
Halifax Water

PROJECT
PRE–CAST CONCRETE
DRIVEWAY HEADWALL

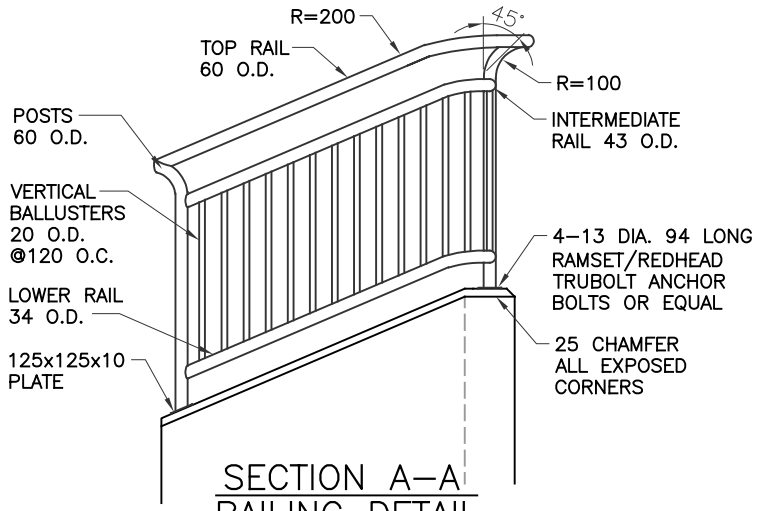
DRAWN	S.T.	SCALE (PLAN)	NTS
CHECKED	J.C.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1622



FRONT VIEW



SECTION A–A
RAILING DETAIL

NOTES:

1. ALL STEEL TO BE HOT DIP GALVANIZED AFTER FABRICATION.
2. CLEAR COVER FOR CONCRETE REINFORCEMENT SHALL BE 50 mm.
3. SHOP DRAWINGS FOR RAILINGS TO BE SUBMITTED TO ENGINEER PRIOR TO FABRICATION.
4. ALL MEASUREMENTS IN MILLIMETERS UNLESS OTHERWISE NOTED.
5. ALL STEEL PIPE TO BE "STANDARD WEIGHT" (SCHEDULE 40) UNLESS OTHERWISE NOTED.
6. A HANDRAIL IS NOT REQUIRED FOR DRIVEWAY CULVERTS.
7. STAINLESS STEEL FASTENERS ARE REQUIRED TO CONNECT HANDRAIL TO CONCRETE STRUCTURE.
8. LENGTH OF RAILING SECTIONS TO BE DETERMINED BY SIZE OF HEADWALL STRUCTURE.
9. INSERT WASHERS TO BE USED IN AREAS WITH HIGH MOISTER AND ELECTROLYTE CONTENT.

No.	DESCRIPTION	DATE	BY	CHKD
2	GENERAL REVISIONS FOR 2023	20/04/23	ST	JC
1	NEW DRAWING	16/01/14	S.S.	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

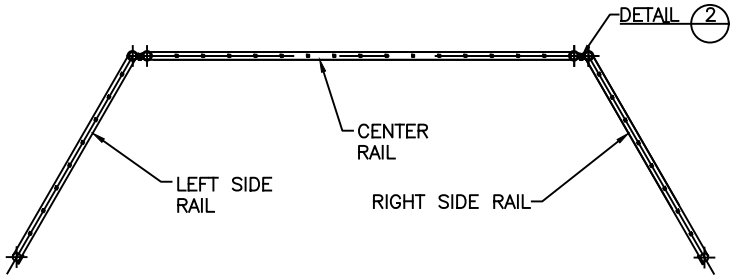
Halifax Water

PROJECT
HEADWALL RAILING DETAIL FOR ON STREET INSTALLATIONS (INSIDE STREET R.O.W.)

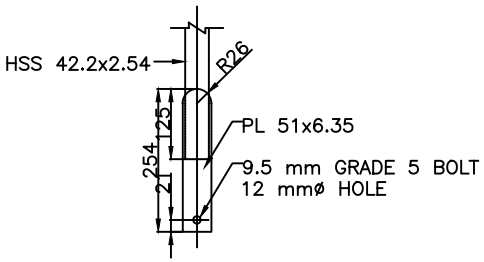
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

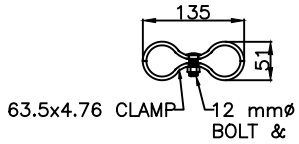
DWG. No. HWSD – 1624



PLAN

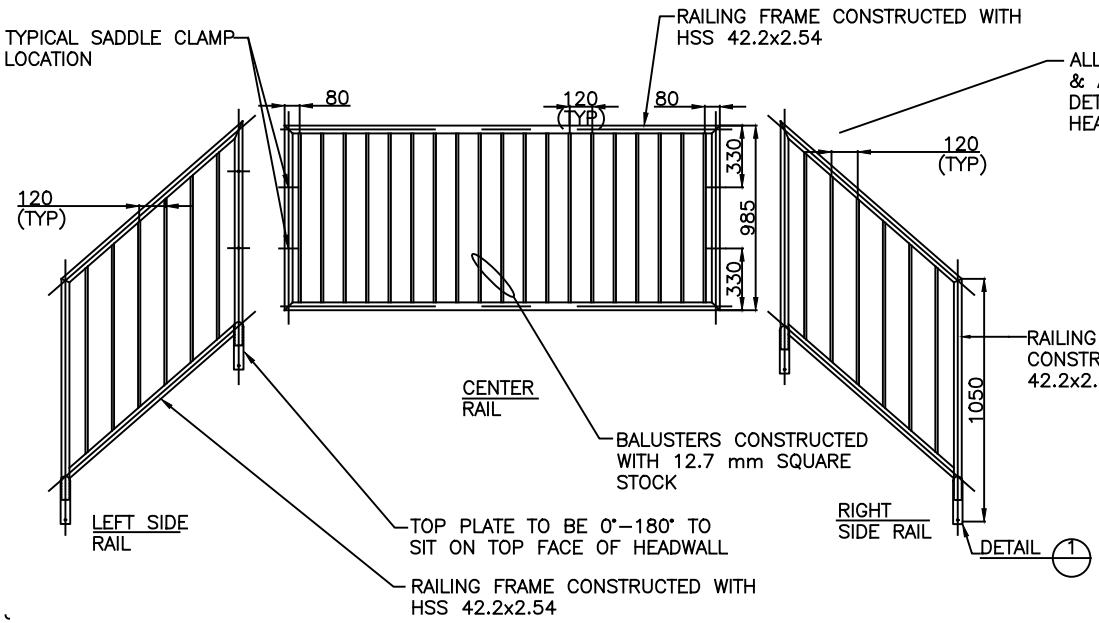


1 SIDE RAIL ANCHOR PLATE



2 SADDLE CLAMP

DETAILS



ELEVATION

NOTES:

1. ALL RAILING STEEL COMPONENTS TO BE GALVANIZED.
2. REQUIRED HOLES TO BE CUT / DRILLED PRIOR TO HOT DIP GALVANIZING.
3. SHOP DRAWINGS FOR RAILINGS TO BE SUBMITTED TO ENGINEER PRIOR TO FABRICATION.
4. ALL MEASUREMENTS IN MILLIMETERS UNLESS OTHERWISE NOTED.
5. ALL CONNECTIONS TO BE 3 mm FILLET WELD.
6. CENTER RAIL SHALL BE ATTACHED TO LEFT AND RIGHT SIDE RAILS WITH SADDLE CLAMP.
7. A HANDRAIL IS NOT REQUIRED FOR DRIVEWAY CULVERTS.
8. STAINLESS STEEL FASTENERS ARE REQUIRED TO CONNECT HANDRAIL TO CONCRETE STRUCTURE.
9. LENGTH OF RAILING SECTIONS TO BE DETERMINED BY SIZE OF HEADWALL STRUCTURE.

No.	DESCRIPTION	DATE	BY	CHKD
1	NEW DRAWING	01/14/2016	S.S.	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

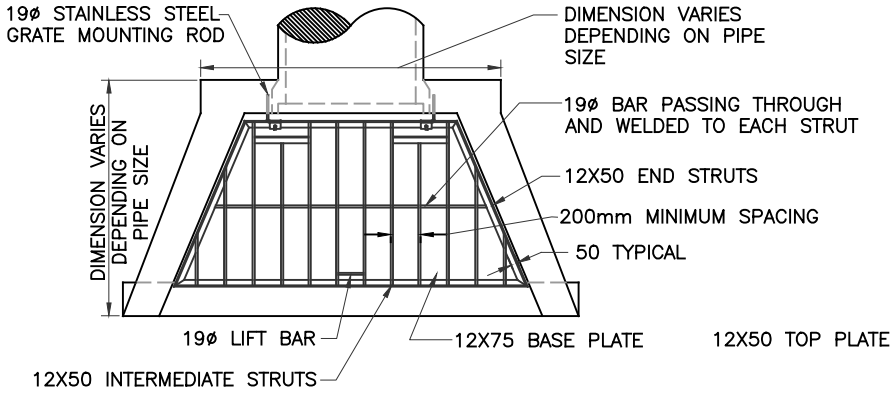
Halifax Water

PROJECT
HEADWALL RAILING DETAIL FOR OFF STREET INSTALLATIONS (OUTSIDE STREET R.O.W.)

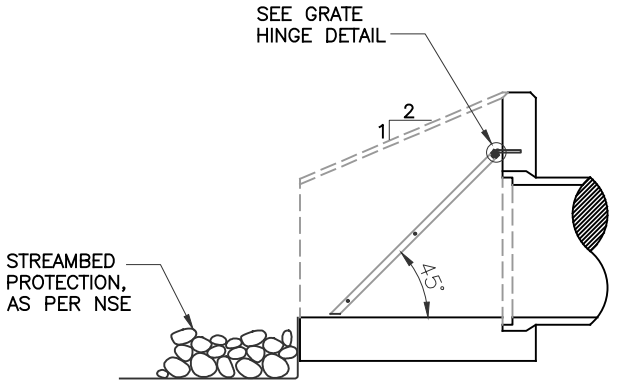
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

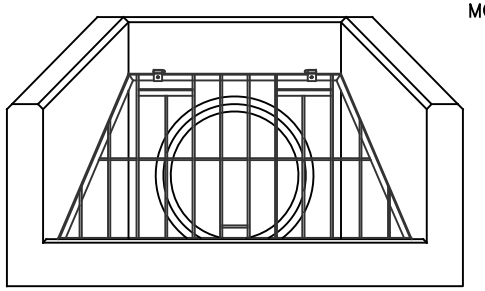
DWG. No. HWSD – 1626



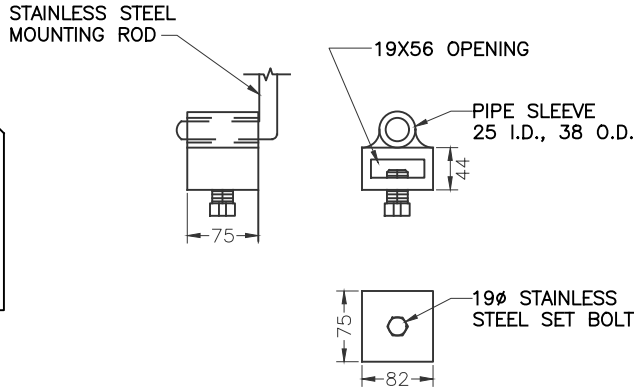
PLAN VIEW



SECTION



FRONT VIEW



HINGE DETAIL

NOTES:

1. ALL STEEL TO BE HOT DIP GALVANIZED AFTER FABRICATION.
2. CLEAR COVER FOR CONCRETE REINFORCEMENT SHALL BE 50 mm.
3. SHOP DRAWINGS FOR GRATES TO BE SUBMITTED TO ENGINEER PRIOR TO FABRICATION.
4. ALL MEASUREMENTS IN MILLIMETERS UNLESS OTHERWISE NOTED.

No.	DESCRIPTION	DATE	BY	CHKD
1	GENERAL REVISIONS FOR 2024	03/27/24	ST	
1	NEW DRAWING	01/14/2016	S.S.	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

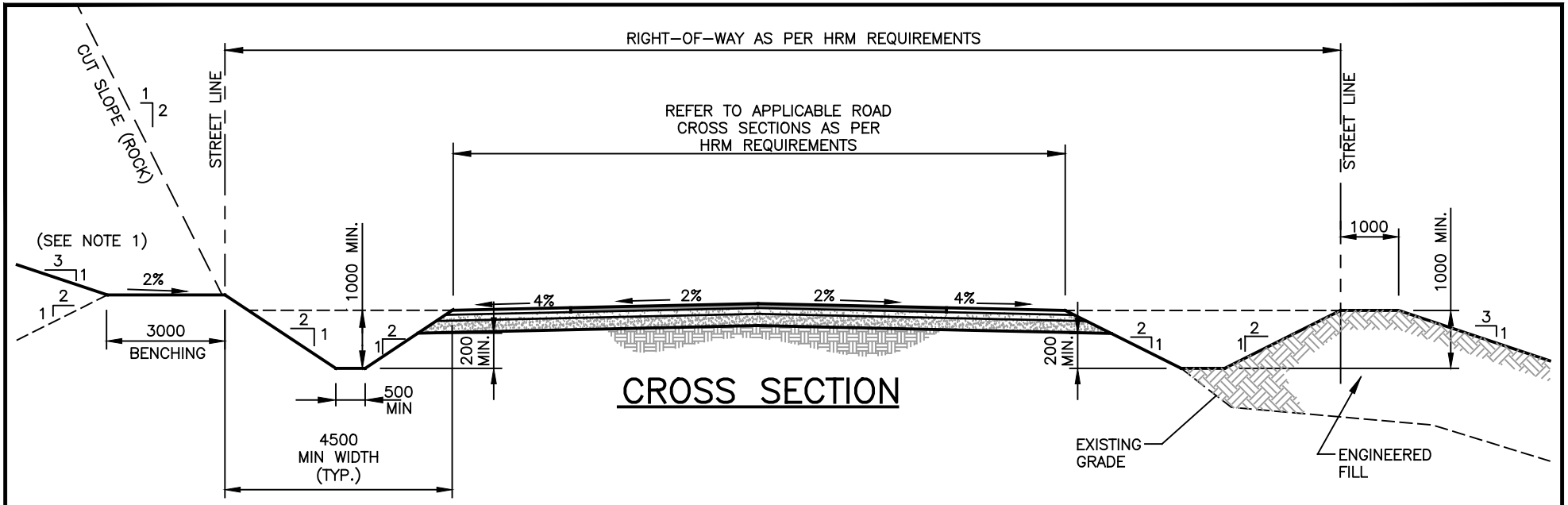
Halifax Water

PROJECT
INLET GRATE DETAIL

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

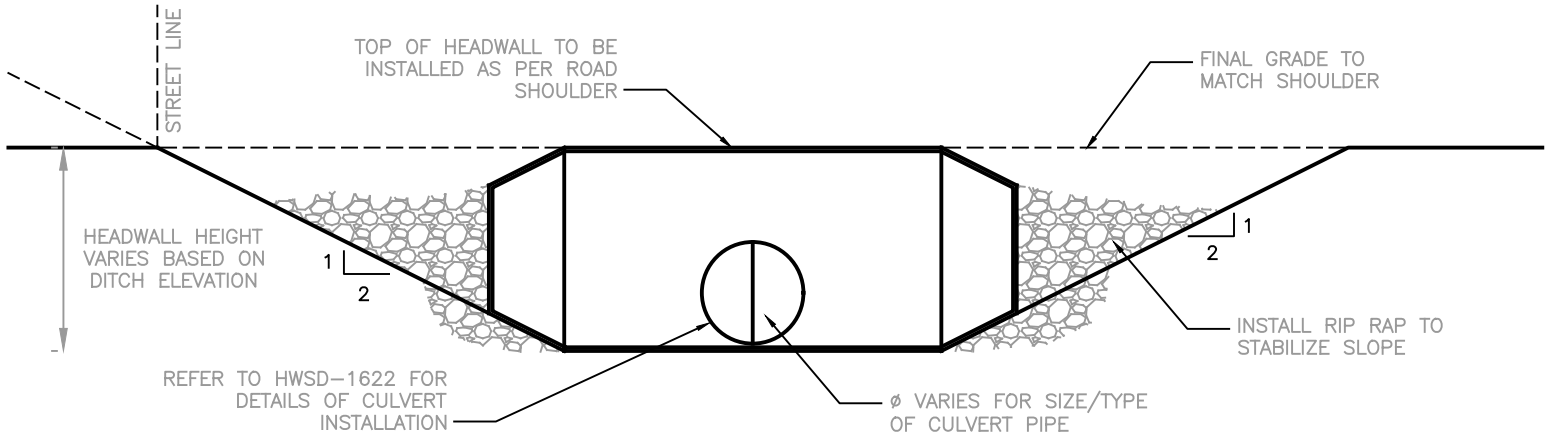
DWG. No. HWSD – 1628



CROSS SECTION

NOTES:

1. REFER TO HRM SPECIFICATIONS FOR REQUIRED RIGHT OF WAY REQUIREMENTS AND ROAD CROSS SECTION REQUIREMENTS.
2. ENGINEERED FILL LOCATIONS SHALL BE DESIGNED AND CERTIFIED BY A GEO–TECHNICAL ENGINEER.
3. DITCH TO BE STABILIZED UTILIZING HYDRO–SEED, SURGE RIP–RAP AND/OR SOD.



No.	DESCRIPTION	DATE	BY	CHKD
3	NEW DETAIL FOR 2019	16/01/29	S.S.	
2	ADDED NOTE #3.	16/01/29	S.S.	
1	REVISION DETAILS	YY|MM|DD	XX	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

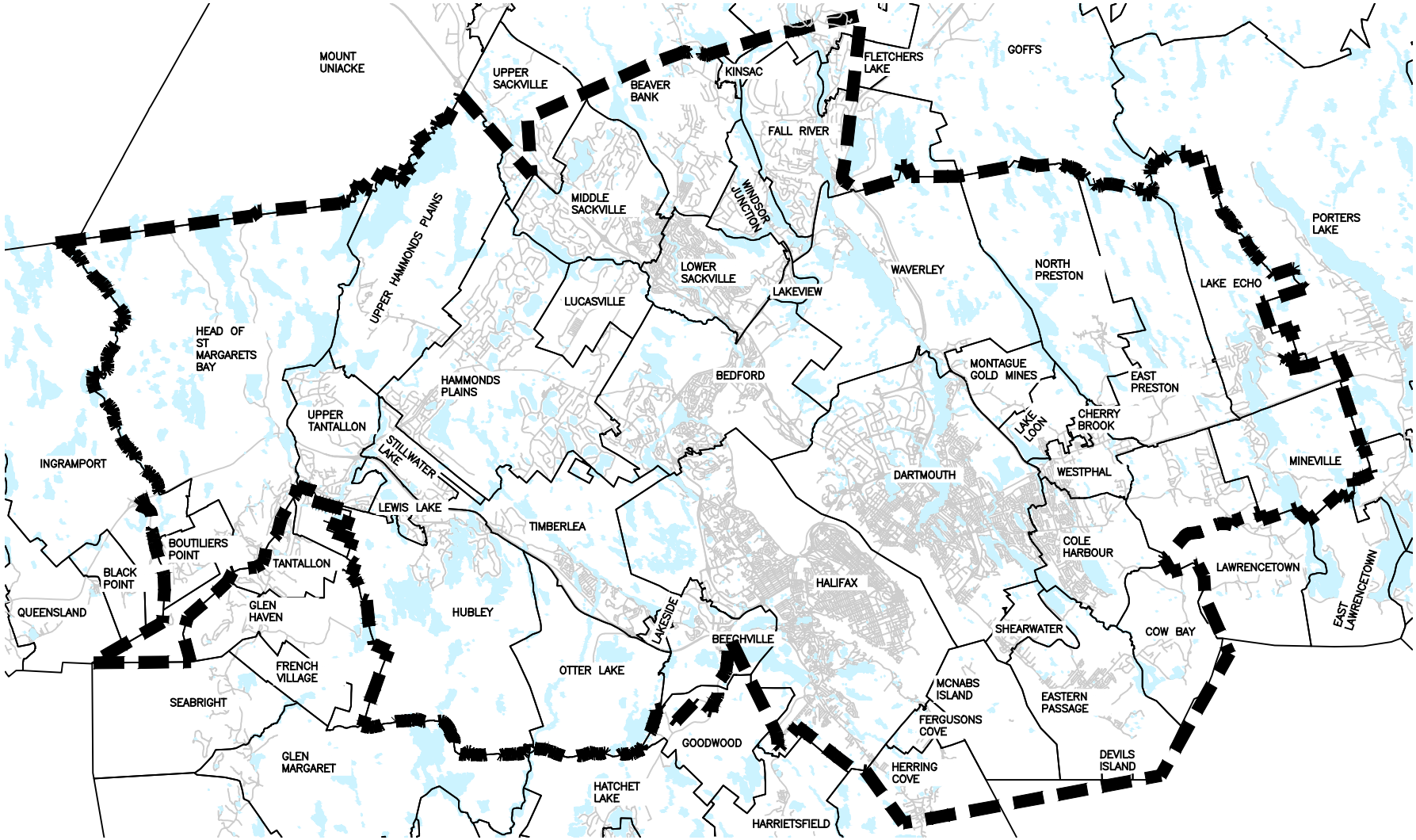
Halifax Water

PROJECT
TYPICAL DITCH CROSS SECTION

DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1630 (2019)



No.	DESCRIPTION	DATE	BY	CHKD
1	GENERAL REVISIONS FOR 2024	04|12|24	ST	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

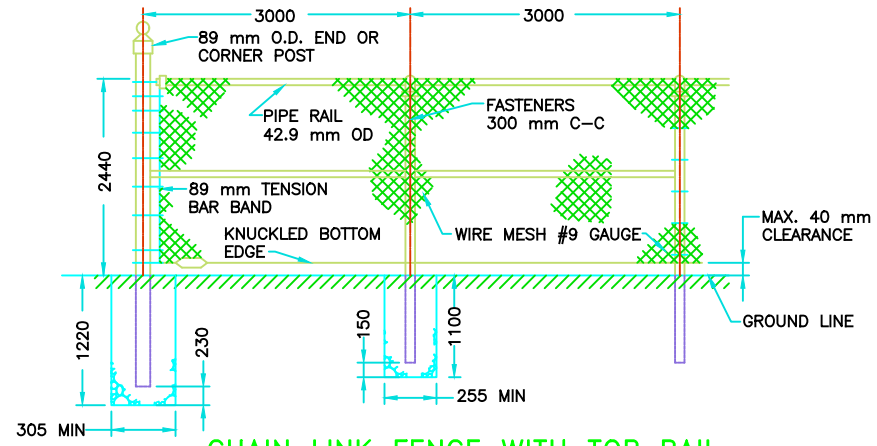
Halifax Water

PROJECT
HRM CORE BOUNDARY MAP

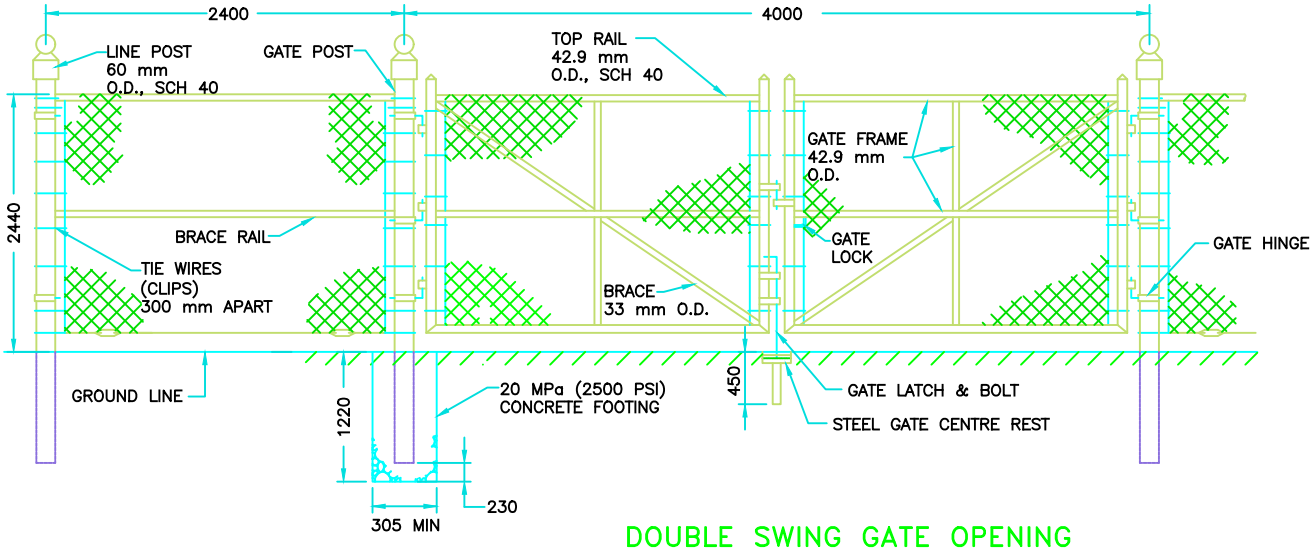
DRAWN	K.W.	SCALE (PLAN)	NTS
CHECKED	J.D.	SCALE (PROFILE)	NTS
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1640 (2024)



CHAIN LINK FENCE WITH TOP RAIL



DOUBLE SWING GATE OPENING

NOTES:

1. RUNS FOR FENCE MORE THAN 150 m ARE TO HAVE A 89 mm O.D. INTERMEDIATE STRAINING POST WITH 42.9 mm O.D. BRACES, SIMILAR TO THOSE USED AT ENDS AND CORNER POSTS IN TWO DIRECTIONS. ONE OF THESE STRAINING POSTS WITH BRACES SHALL BE INSTALLED FOR EVERY 150 m OR FRACTION THEREOF.
2. TIE WIRES – #9 GAUGE HARD ALUMINUM. REFERENCE # 5052H18ASTMB211. FASTENERS – #16 GAUGE GALVANIZED BAG TIES. SINGLE STRAND TENSION WIRE #6 GAUGE FASTENERS 457 mm C–C.
3. SCHEDULE 40 PIPE OR HIGH STRENGTH HOLLOW STRUCTURAL SECTION 2.54 mm WALL WITH MECHANICAL PROPERTIES SIMILAR TO A.S.T.M. SPECIFICATION A–36. NO TUBING, CONDUIT OR OPEN SEAM MATERIAL WILL BE PERMITTED.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
5. THE END POST TO BE INSET 75 mm FROM PROPERTY LINE.
6. MESH FACES OUTWARD FROM DETENTION POND.
7. 50 mm WIRE MESH #9 GAUGE, GALVANIZED.

No.	DESCRIPTION	DATE	BY	CHKD
1	NEW DRAWING	12|12|13	JW	SS

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS, UNLESS OTHERWISE NOTED.

Halifax Water

PROJECT
STANDARD FENCE & DOUBLE SWING GATE DETAIL

DRAWN	K.W.	SCALE (PLAN)	N.T.S.
CHECKED	J.D.	SCALE (PROFILE)	N/A
APPROVED	K.G.	DATE	17/02/15

PROJECT No.

DWG. No. HWSD – 1650