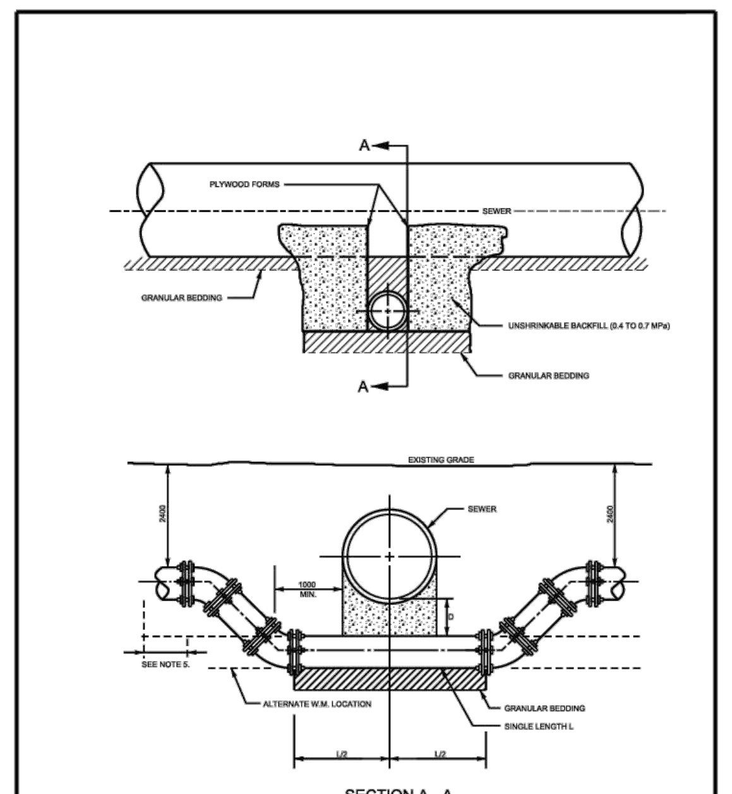


SECTION A - A

NOTES:

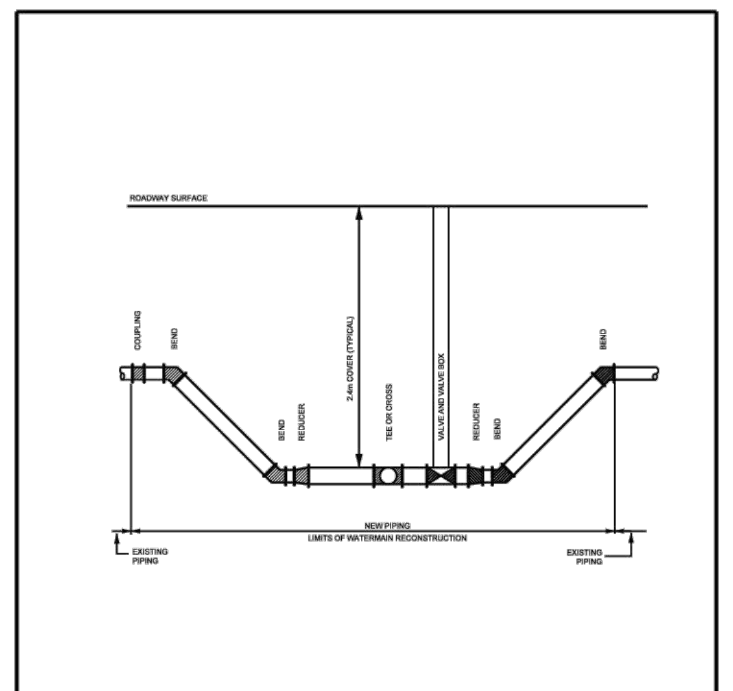
FOR WATERMAIN 100mm (NOMINAL) TO 400mm (NOMINAL)

1. BARREL TO INVERT SEPARATION (D) SHALL BE 500mm MINIMUM.
2. THRUST BLOCKS FOR MAINS LARGER THAN 400mm (NOMINAL) SHALL BE PER SPECIAL DESIGN.
3. FOR 300mm (NOMINAL) AND 400mm (NOMINAL) MAINS, BENDS SHALL BE MAX. 22° 30'.
4. CONCRETE FOR THRUST BLOCKS SHALL BE 20 MPa.
5. REFER TO W25.6 FOR RESTRAINED LENGTH REQUIREMENTS.
6. REFER TO W25.3 AND W25.4 FOR THRUST BLOCK REQUIREMENTS.
7. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
8. DESIGNED TO MEET THE INTENT OF THE MOE WATERMAIN DESIGN CRITERIA JUNE 2012.
9. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH W39, W40, AND W42.
10. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER W36.

Ottawa

WATERMAIN CROSSING
BELOW SEWER

DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W25



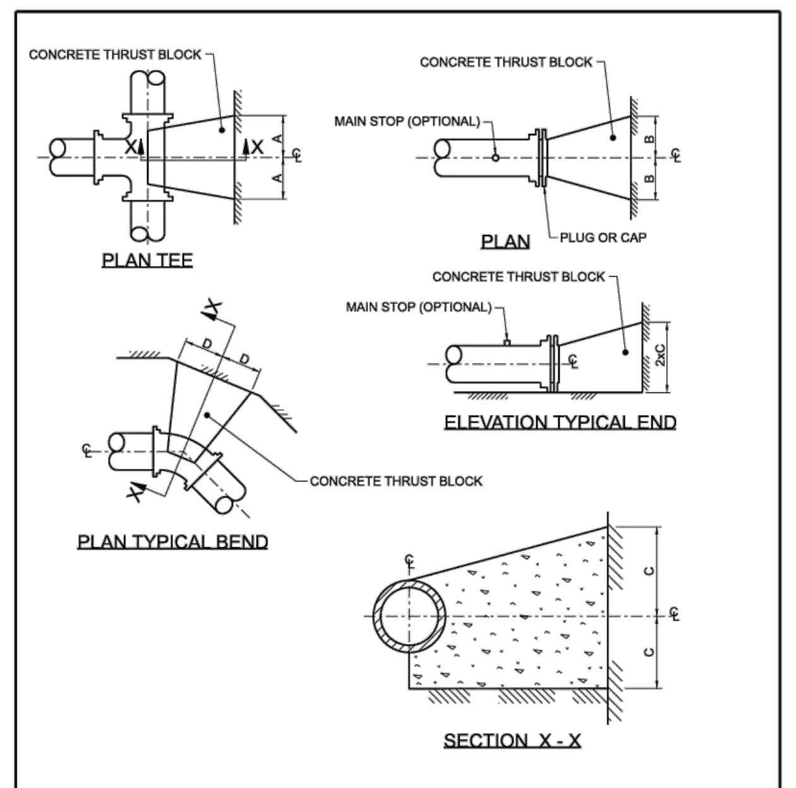
NOTES:

1. FOR 300mm OR GREATER DIAMETER WATERMAIN, BENDS SHALL BE MAXIMUM 22Ø.
2. INSULATION PER W22 AT EXISTING WATERMAIN.
3. REFER TO W25.6 FOR RESTRAINED LENGTH REQUIREMENTS.
4. REFER TO W25.3 AND W25.4 FOR THRUST BLOCK REQUIREMENTS.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
6. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH W39, W40, AND W42.
7. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER W36.

Ottawa

TYPICAL CONNECTION
DETAIL FROM NEW TO
EXISTING WATERMAIN

DATE: MAY 2001
REV. DATE: MARCH 2021
DWG. No.: W25.1



NOTES:

1. CONCRETE SHALL BE PLACED TO WITHIN 50mm OF FACE OF THE BELL.
2. BOND BREAKER TO BE USED BETWEEN CONCRETE AND FITTINGS.
3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
4. REFER TO W25.4 FOR ADDITIONAL REQUIREMENTS.
5. THRUST BLOCKS SHALL BE 20 MPa. CONCRETE AND AS SHOWN ON ABOVE DRAWINGS UNLESS OTHER DIRECTED BY THE CONTRACT ADMINISTRATOR. THE BLOCK SHALL BE CENTERED ON THE THRUST FORCE AND SHALL ALSO PARTIALLY CRADLE THE FITTING TO DISTRIBUTE THE FORCE. THE SIDES OF THE BLOCK SHALL BE 80mm FROM THE JOINT ON EITHER SIDE OF THE BEND OR TEE.
6. THE CONCRETE WHERE POSSIBLE SHALL BE PLACED AGAINST UNDISTURBED SOIL AT THE BOTTOM AND SIDE OF THE TRENCH. WHERE THRUST BLOCKS CAN NOT BE POURED TO UNDISTURBED SOIL, OR WHERE IT WOULD CONFLICT WITH EXISTING OR FUTURE INFRASTRUCTURE, THE THRUST BLOCK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.
7. EXCEPT FOR THE ADDITION OF WATER, CONCRETE FOR THRUST BLOCKS SHALL COME PREMIXED FROM CONCRETE SUPPLIER, AS 'READY MIX' FROM A CONCRETE TRUCK. ON-SITE MIXING OF CEMENT, SAND AND AGGREGATE ETC. BY THE CONTRACTOR, FOR THE PURPOSE OF MAKING CONCRETE THRUST BLOCKS/ ANCHORS WILL NOT BE ACCEPTED.

N.T.S.

Ottawa

CONCRETE THRUST BLOCKS
FOR PVC AND DI PIPE
400mm AND UNDER

DATE: MAY 2001
REV. DATE: MARCH 2022
DWG. No.: W25.3

1. SOIL DESCRIPTION: VERY FINE SANDS, SANDY CLAYS, CLAYS.
SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	250	250	200	200
152	400	400	250	300
203	550	550	300	450
254	650	650	400	500
305	800	800	450	650
406	1050	1050	600	850

2. SOIL DESCRIPTION: SILTY SAND GRAVELS OR CLAYEY SAND GRAVEL MIXTURES, MODERATE AMOUNT OF FINES.
SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	200	200	150	150
152	250	250	200	200
203	350	350	250	270
254	450	450	300	350
305	500	500	350	400
406	750	750	400	600

3. SOIL DESCRIPTION: SANDS, GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
SOILS WITH TYPICAL BEARING STRENGTH OF 300 KPa AND OVER

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	150	150	150	150
152	200	200	200	200
203	300	300	200	230
254	400	400	250	270
305	450	450	300	300
406	650	650	350	450

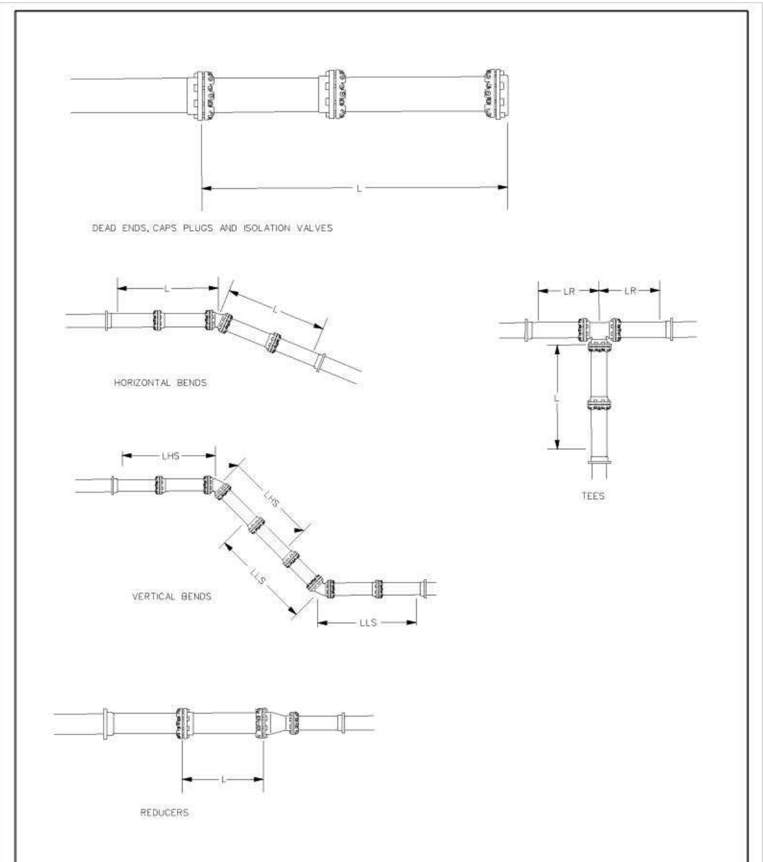
NOTES:

1. THE ABOVE THRUST BLOCK DIMENSIONS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERATIONS AUTHORIZED UNDER A DRINKING WATER WORKS PERMIT.
2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:
   a) MAXIMUM OPERATING PRESSURE OF 100 psi.
   b) MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.6 m/s OF 115 psi (115 psi FOR CLASS 52 DI AND FOR PVC MAX. SURGE IS 35 psi)
3. THE TABLES APPLY TO BOTH DUCTILE IRON AND PVC. WHERE ONE LENGTH EXCEEDED THE OTHER THE LONGER LENGTH WAS USED.
4. DIMENSIONS MAY BE ADJUSTED SO LONG AS THE BEARING SURFACE AREA OF THE THRUST BLOCK IS NOT REDUCED.
4. TO BE USED IN CONJUNCTION WITH W25.3.

Ottawa

THRUST BLOCK DIMENSION TABLES
FOR PVC AND DI PIPE
400mm AND UNDER

DATE: MAY 2001
REV. DATE: MARCH 2011
DWG. No.: W25.4



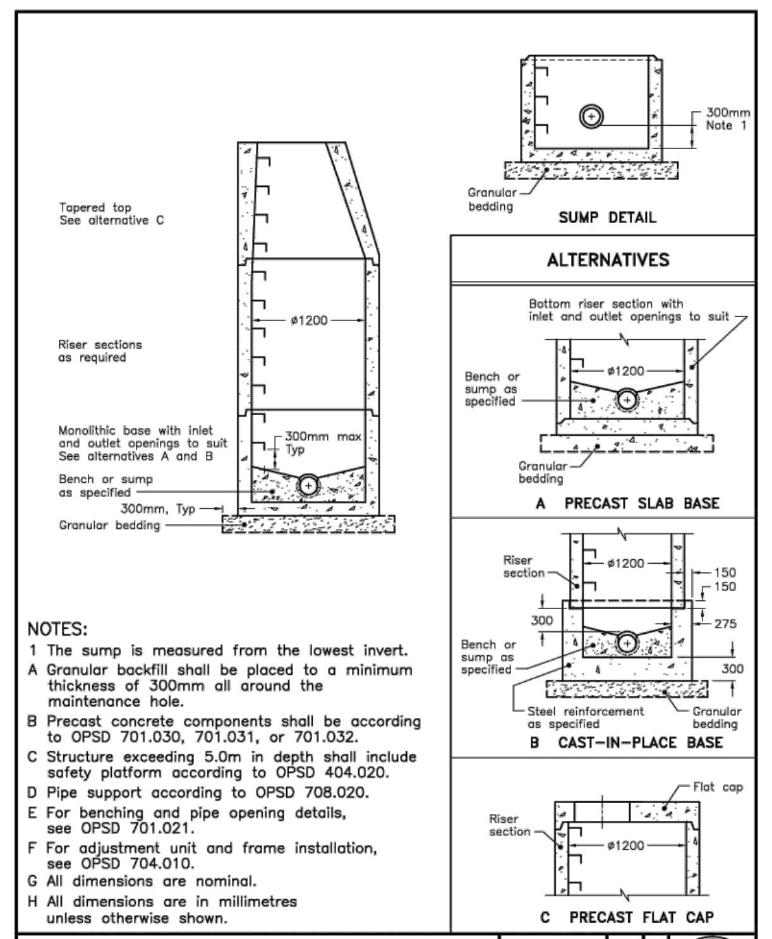
NOTES:

1. ANY JOINT THAT FALLS WITHIN THE RECOMMENDED LENGTH (L) SHALL BE RESTRAINED. SEE DRAWING W25.6
2. TO REDUCE THE NUMBER OF RESTRAINERS REQUIRED THE USE OF FULL PIPE LENGTHS IS RECOMMENDED IN THESE AREAS.

Ottawa

RESTRAINING AND RETAINING RINGS
FOR PVC AND DI PIPE
400mm AND UNDER

DATE: MAY 2001
REV. DATE: NONE
DWG. No.: W25.5



NOTES:

1 The sump is measured from the lowest invert.

A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.

B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.

C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.

D Pipe support according to OPSD 708.020.

E For benching and pipe opening details, see OPSD 701.021.

F For adjustment unit and frame installation, see OPSD 704.010.

G All dimensions are nominal.

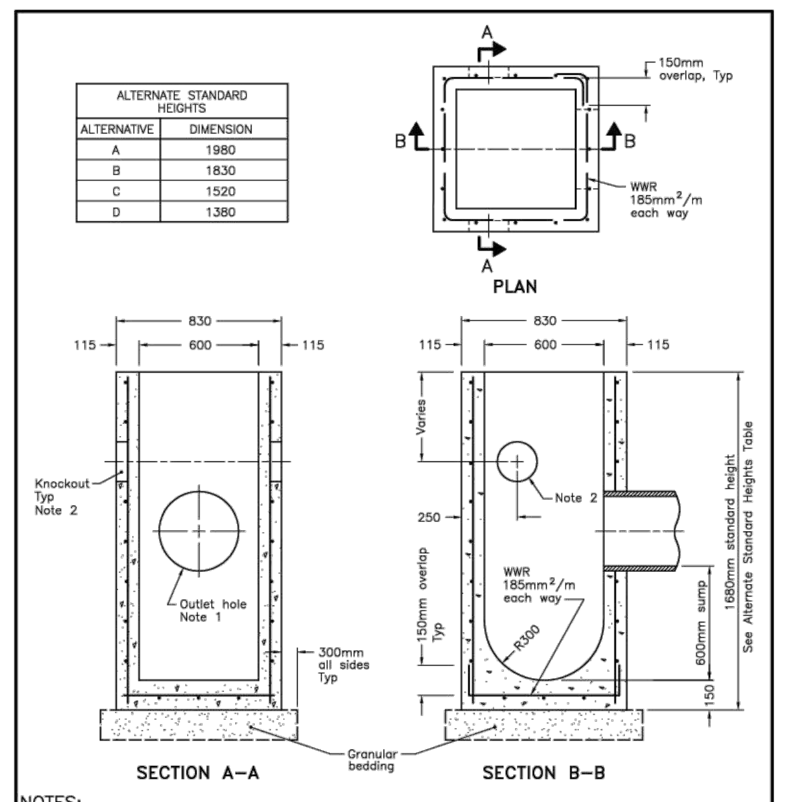
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2014 | Rev 5

PRECAST CONCRETE
MAINTENANCE HOLE
1200mm DIAMETER

OPSD 701.010

ALTERNATE STANDARD HEIGHTS	
ALTERNATIVE	DIMENSION
A	1980
B	1830
C	1520
D	1380



NOTES:

1 Outlet hole size 525mm diameter maximum, location as required.

2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.

A Centre reinforcing in base slab and walls ±20mm.

B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.

C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.

D Pipe support shall be according to OPSD 708.020.

E All dimensions are nominal.

F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2019 | Rev 4

PRECAST CONCRETE CATCH BASIN
600x600mm

OPSD 705.010

Filename: \\exp\data\ott\ott-24015379-a0\60 execution\65 drawings\24015379-402.dwg
Last Saved: 7/11/2025 12:05:04 PM
Pen Table: exp-64.ctb
References: xref-TBLOCK.dwg

CAUTION

THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

JOB BENCH MARK

JBM ▲

FIRE HYDRANT TOP OF SPINDLE ELEVATION=93.57
NORTHING=5020457.01 EASTING=366125.53

TOPOGRAPHIC INFORMATION

PART OF LOT 24, CONCESSION 1 (RIDEAU FRONT)
CITY OF OTTAWA.
TOPOGRAPHIC INFORMATION PROVIDED BY FAIRHALL MOFFATT & WOODLAND LIMITED O.L.S (TP_AE175.DWG) SURVEY DATED AUGUST 29, 2024.
COORDINATES: (SMARTNET) MTM ZONE 9, NAD83 CSRS (2010).

2	ISSUED FOR APPROVAL	12/17/25	AC	BMT
1	ISSUED FOR APPROVAL	07/11/25	SAB	BMT
REV	REVISION DESCRIPTION	DATE	BY	APPD

SCALE

NORTH

DESIGNED BY

REVIEWED BY

B. M. THOMAS
2025-12-17

CLIENT
PEGASUS DEVELOPMENT CORP.
1914 MERIVALE ROAD
OTTAWA, ON. K2G 1E8

exp.

exp Services Inc.
t: +1.613.688.1899 | f: +1.613.225.7330
2650 Queensview Drive, Unit 100
Ottawa, ON K2B 8H6
Canada
www.exp.com
• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •
• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

BASEPLAN	SAB
DESIGN	JLF
CHECKED	BMT
CAD	SAB
PROJECT MANAGER	BMT
APPROVED	BMT

PROJECT
CASSONE COURT
2028 MERIVALE ROAD
OTTAWA, ONTARIO

TITLE
STANDARD DETAILS
DETAIL SHEET 4

PROJECT No.	OTT-24015379-A0
SURVEY	FMW
DATE	MARCH 28, 2025
DRAWING No.	C403