

WATERMAIN NOTES

- CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY STANDARDS.
- WATERMANS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 2.4m. OTHERWISE THERMAL INSULATION IS REQUIRED AS PER CITY STANDARDS (IF AVAILABLE) OR OPSD 1109.030.
- IF THE WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS EQUAL TO OR LESS THAN THAT WHICH IS RECOMMENDED BY THE MANUFACTURER.
- THERMAL INSULATION OF WATERMANS AT OPEN STRUCTURES AS PER CITY STANDARDS (IF AVAILABLE) OR OPSD 1109.030.
- VALVES TO BE OPERATED BY CITY STAFF ONLY.
- NO CONNECTION TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY. CITY TO BE PRESENT FOR WATERMAIN CONNECTION, CONNECTION, EXCAVATION, BACKFILLING AND REINSTATEMENT TO BE COMPLETED BY CONTRACTOR.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ANY WATERMAIN CONNECTIONS REQUIRED. THIS SHALL BE COMPLETED IN THE PRESENCE OF A DESIGNATED MUNICIPAL WATER OPERATOR AND THE SELECTED CONTRACTOR SHALL PROVE TO THE SATISFACTION OF THE CITY THAT THEY ARE COMPETENT TO PERFORM THE WORKS PRIOR TO INITIATING CONSTRUCTION.
- CONCRETE THRUST BLOCKS TO CONFORM TO OPSD 1103.010 AND OPSD 1103.020.
- ALL WATERMAIN TO BE CLASS 150 DR-18 OR APPROVED EQUIVALENT.
- ALL WATERMAIN TO BE EQUIPPED WITH TRACER WIRE.

SEWER NOTES:

- CONSTRUCT ALL SEWERS, CATCH BASINS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY.
- SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.
 - BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
 - SUB-BEDDING, IF REQUIRED SHALL CONSIST OF 450mm OF COMPACTED GRANULAR "B" TYPE 1.
 - BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B" TYPE 1.
 - TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2.0 METRES BELOW FINISHED GRADE) SHALL MATCH EXISTING SOIL CONDITIONS.
- SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR-28.
- SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR-35. BEDDING TO BE TYPE "B" EXCEPT AT RISERS, UNLESS NOTED OTHERWISE.
- INSULATE ALL STORM AND SANITARY SEWERS/SERVICES THAT HAVE LESS THAN 2.0m OF COVER WITH THERMAL INSULATION AS PER OPSD 1109.030.
- SEWER CONNECTIONS ARE TO BE MADE ABOVE THE SPRINGLINE OF THE SEWERMAIN AS PER CITY OF OTTAWA STANDARD DRAWING S11, S11.1 & S11.2.
- SUPPLY AND INSTALL ALL PIPING AND APPURTENANCES AS SHOWN AND DETAILED TO WITHIN 1.0m OF BUILDING. ALL ENDS OF SERVICES TO BE PROPERLY CAPPED AND LOCATED WITH 2"x4" LONG MARKER.

Table 1 - Rigid Insulation Recommendations for Storm Sewer Pipes with Reduced Soil Cover

Thermal Condition	Soil Cover Provided (mm)	Thickness (mm)	Insulation Dimensions	
			Extension (mm)	
Unheated	600 to 900	125	Extend 1200 mm horizontally beyond edge face of the sewer	
	900 to 1200	100	Extend 1200 mm horizontally beyond edge face of the sewer	
	1200 to 1500	75	Extend 900 mm horizontally beyond edge face of the sewer	
	1500 to 1800	50	Extend 600 mm horizontally beyond edge face of the sewer	
	1800 to <2100	25	Extend 300 mm horizontally beyond edge face of the sewer	

Notes: All designs are based on a freezing index of 1000°C-days

All rigid insulation should consist of either Dow Chemical High-Load 40 (HI-40), Styro Rail SR.P400, or equivalent approved by Paterson. The placement of all insulation within the service trenches must be reviewed and approved by Paterson personnel at the time of construction.

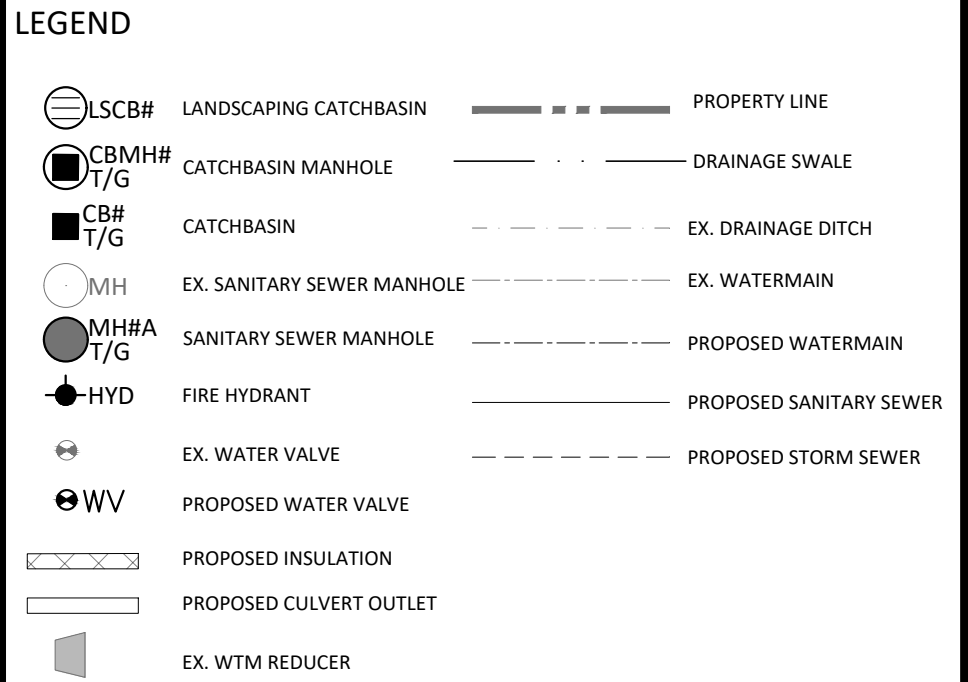
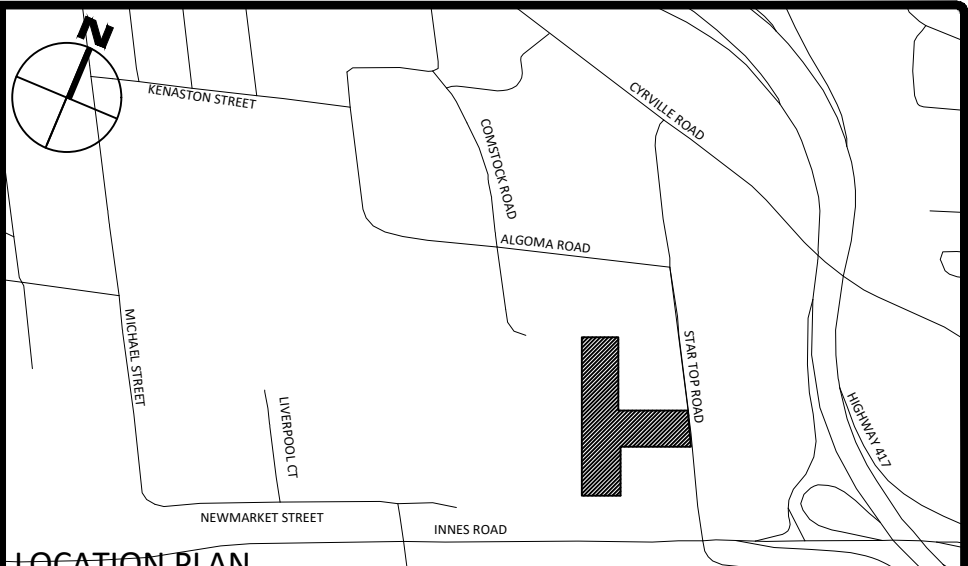
RIGID INSULATION TO CONFORM TO GEOTECHNICAL MEMO COMPLETED BY PATERSON, DATED OCTOBER 11, 2023

LOCATION	STATION	FINISHED GRADE	TOP OF PIPE	COVER
WATERMAIN CONNECTION	0+100.00	66.23	64.00	2.23
VALVE	0+114.59	66.23	64.00	2.23
BUILDING	0+163.72	67.70	64.50	3.20

LOCATION	DESCRIPTION	SEPARATION
1	200mmØ STM SERVICE INV 64.70 200mmØ SAN MAIN TOP 64.00	0.70
2	250mmØ STM SERVICE INV 64.70 200mmØ SAN MAIN TOP 64.05	0.65
3	250mmØ STM SERVICE INV 64.83 200mmØ WTR MAIN TOP = 64.00	0.83
4	250mmØ STM SERVICE INV 64.85 200mmØ SAN MAIN TOP 64.45	0.40
5	450mmØ STM SERVICE INV = 64.86 200mmØ WTR MAIN TOP = 64.30	0.76

STRUCTURE I.D.	TOP OF GRATE ELEVATION	INVERTS	STRUCTURE SIZE	STRUCTURE TYPE	FRAME & COVER
CB 1	66.05	SE. OUT = 64.92	600mm X 600mm	OPSD 705.010	CITY STD S19
CB 2	66.05	NW. OUT = 64.94	600mm X 600mm	OPSD 705.010	CITY STD S19
CB 3	66.85	S. IN = 65.59 N. OUT = 65.50	600mm X 600mm	OPSD 705.010	CITY STD S19
CB 4	65.50	NW. OUT = 64.78	600mm X 600mm	OPSD 705.010	CITY STD S19
LSCB 1	66.31	N. OUT = 65.55	300mmØ	CITY STD S31	CITY STD S31
LSCB 2	67.55	E. OUT = 66.18	300mmØ	CITY STD S31	CITY STD S31
LSCB 3	66.86	W. IN = 65.75 N. OUT = 65.70	300mmØ	CITY STD S30	CITY STD S30
OGS 1	65.88	W. IN = 64.56 NE. OUT = 64.55	3000mmØ	STORMCEPTOR (EFOUSOR APPROVED EQUIVALENT)	OPSD 403.040 (OR MANUFACTURER APPROVED EQUIVALENT)
STMH 1	66.48	SE. IN = 64.83 NW. IN = 64.83 E. OUT = 64.76	1200mmØ	OPSD 701.010	COVER CITY STD S24.1 FRAME CITY STD 25
STMH 2	66.36	S. IN = 65.11 NE. OUT = 65.00 SW. OUT = 65.24	1200mmØ	OPSD 701.010	COVER CITY STD S24.1 FRAME CITY STD 25
STMH 3	65.80	W. IN = 64.68 SW. IN = 64.68 SE. IN = 64.68 NE. OUT = 64.67	1200mmØ	OPSD 701.010	COVER CITY STD S24.1 FRAME CITY STD 25
STMH 4	65.91	SW. IN = 64.57 E. OUT = 64.57	1200mmØ	OPSD 701.010	COVER CITY STD S24.1 FRAME CITY STD 25

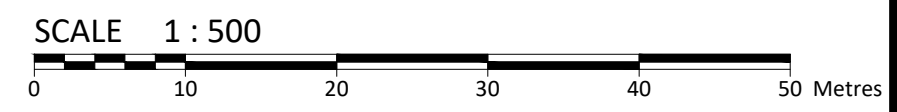
STRUCTURE I.D.	TOP OF GRATE ELEVATION	INVERTS	STRUCTURE SIZE	STRUCTURE TYPE	FRAME & COVER
MHSA 100	65.75	SW. IN = 62.60 NE. OUT = 62.58	1200mmØ	OPSD 701.010	COVER CITY STD S24.1 FRAME CITY STD 25
MHSA 200	65.93	SW. IN = 63.80 NE. OUT = 63.79	1200mmØ	OPSD 701.010	COVER CITY STD S24.1 FRAME CITY STD 25



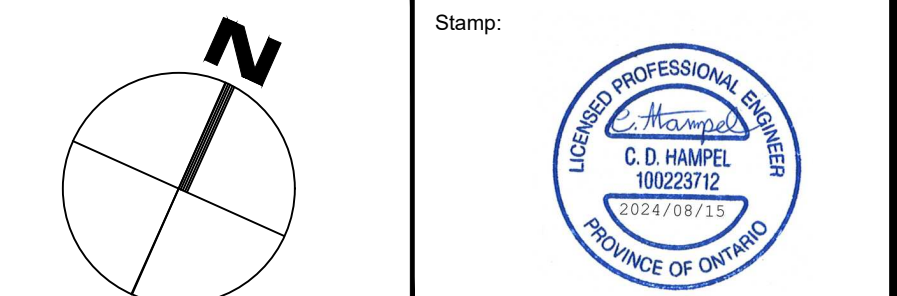
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NOT FOR CONSTRUCTION

No.	Revisions	Date
6	REVISED PER CITY COMMENTS	2024.08.15
5	REVISED PER CITY COMMENTS	2024.03.11
4	ISSUED FOR SITE PLAN CONTROL	2024.01.17
3	REVISED PER UPDATED SITE PLAN	2023.11.15
2	REVISED PER CITY COMMENTS	2023.10.06
1	ISSUED FOR SITE PLAN APPLICATION	2023.08.04

Check and verify all dimensions before proceeding with the work. Do not scale drawings.



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Client: **BBS CONSTRUCTION**
1805 WOODWARD DRIVE
OTTAWA, ON K2C 0P9

Project: **BOONE PLUMBING WAREHOUSE**
1560 STAR TOP ROAD

Drawing Title: **SITE SERVICING PLAN**

Scale: 1:500 Project Number: CCO-23-3725

Drawn By: M.R. Checked By: C.H. Designed By: M.R.

FILENAME: I:\Information\2023\CCO-23-3725-046_Boone Warehouse_1560 Starr Top Road\11 - Drawing\CCO-23-3725 - PRESENTATION.dwg
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