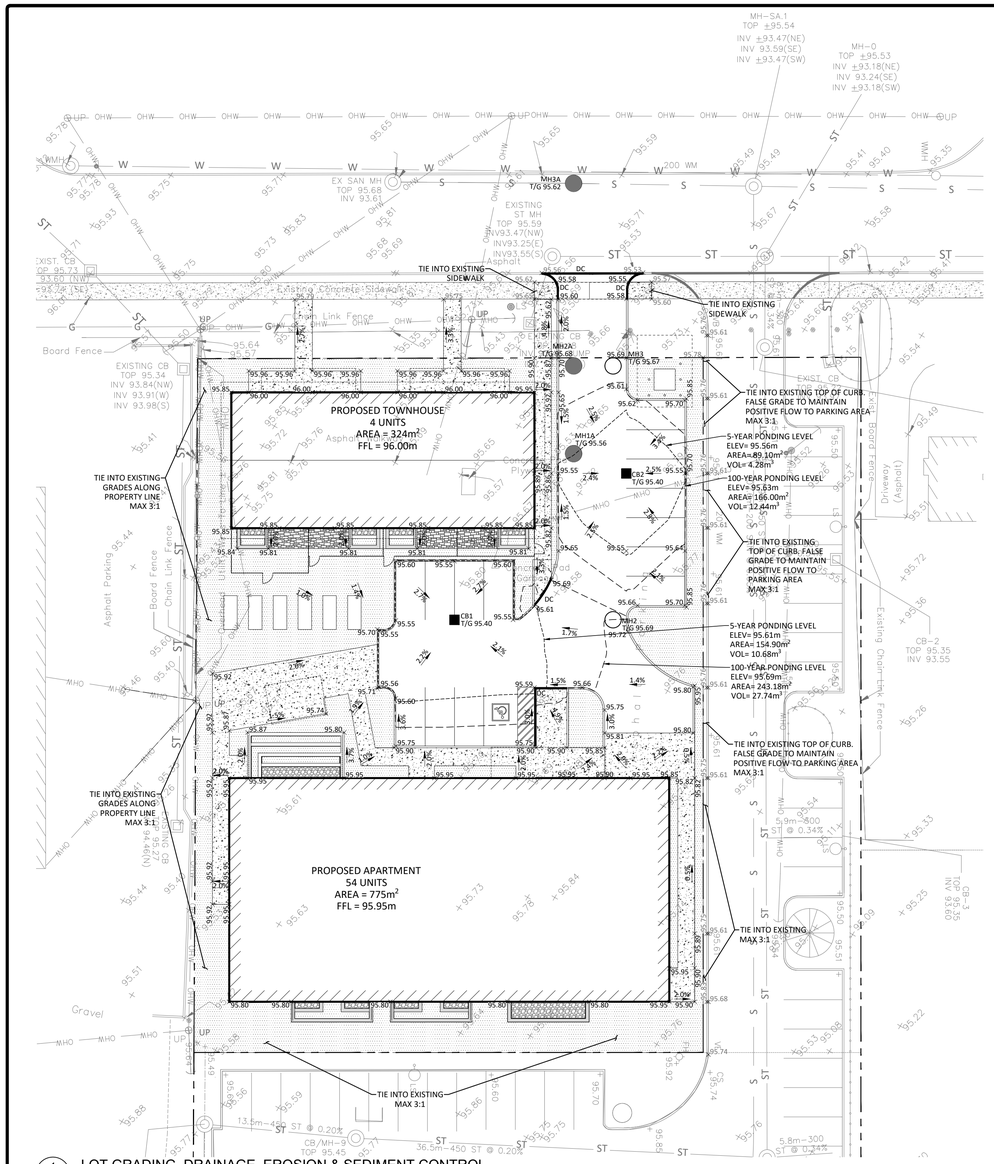
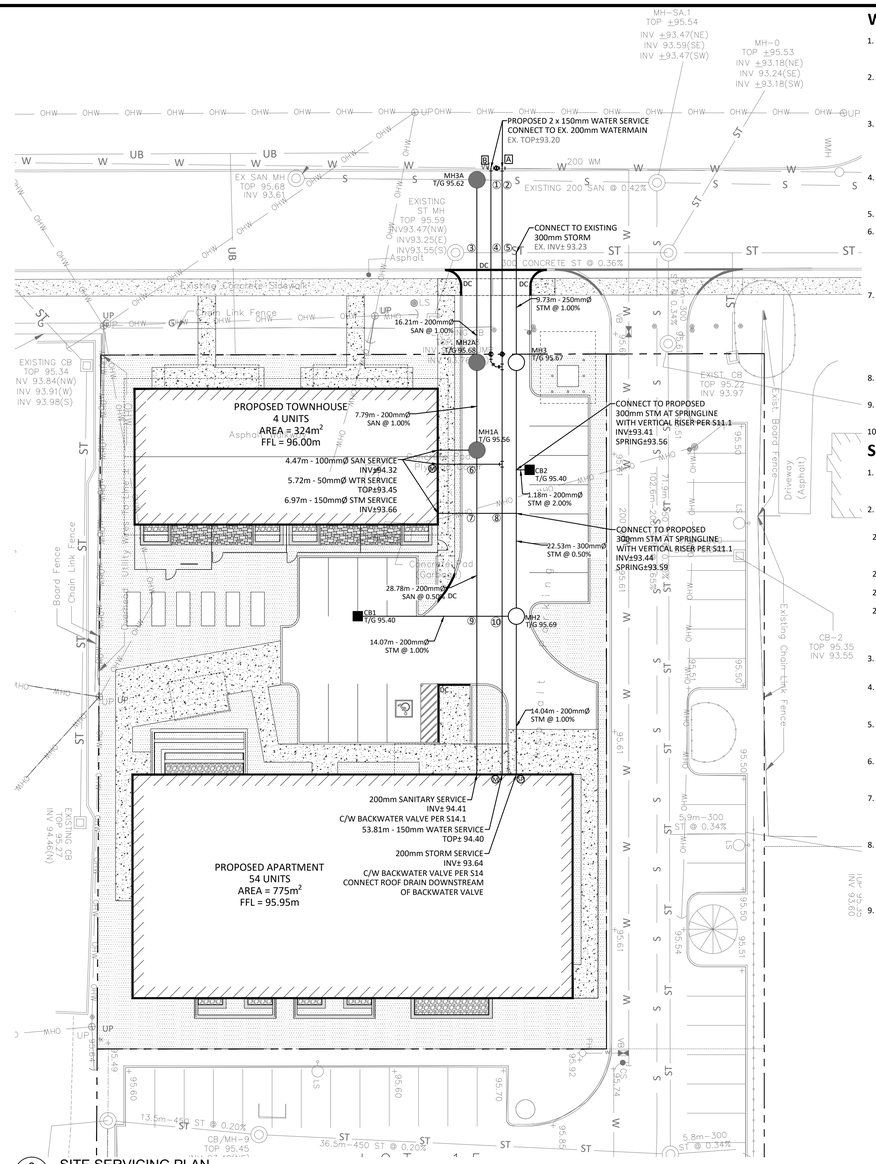


1 C101 LOT GRADING, DRAINAGE, EROSION & SEDIMENT CONTROL
1 : 250



2 C101 SITE SERVICING PLAN
1 : 250

GENERAL NOTES

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED INFORMATION SUPPLIED BY (OR SHOWN ON) FAIRHALL, MOFFAT & WOODLAND DRAWING V22200 AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY AN ONTARIO LAND SURVEYOR.
3. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
5. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
6. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
7. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
8. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
9. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
11. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
12. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
13. CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
14. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
15. ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY:
    - ELECTRICAL SERVICE - HYDRO ONE,
    - GAS SERVICE - ENBRIDGE,
    - TELEPHONE SERVICE - BELL CANADA,
    - TELEVISION SERVICE - ROGERS.
16. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONE, BELL AND THE CITY.
17. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
18. ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.

EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, TEMPORARY SEDIMENT CONTROL (GEOSOCK INSERTS WITH AN OVERFLOW UNDER GRATE OR COVER) TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL PROPOSED ROAD CATCHBASINS, REARYARD CATCHBASINS AND CATCHBASIN MANHOLES AND OTHER SEDIMENT TRAPS. NO RECYCLED GEOSOCK MATERIAL SHALL BE PERMITTED FOR USE ON SITE. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
2. AT THE DISCRETION OF THE PROJECT MANAGER OR MUNICIPAL STAFF, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
3. FOR SILT FENCE BARRIER, USE OPSD 219.110. GEOTEXTILE FOR SILT FENCE AS PER OPSS 1860, TABLE 3.
4. EXCEPT AS PROVIDED IN PARAGRAPHS 4.1., and 4.2. BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
   4.1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE.
   4.2. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
5. SEDIMENT THAT IS ACCUMULATED BY THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS ESCAPE OF THE SEDIMENT TO THE DOWNSTREAM SIDE OF THE CONTROL MEASURE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED TO THE LEVEL OF THE GRADE EXISTING AT THE TIME THE CONTROL MEASURE WAS CONSTRUCTED AND BE ACCORDING TO THE FOLLOWING:
   5.1. FOR LIGHT-DUTY SEDIMENT BARRIERS, ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT REACHES THE LESSER OF THE FOLLOWING:
      5.1.1. A DEPTH OF ONE-HALF THE EFFECTIVE HEIGHT OF THE CONTROL MEASURE.
      5.1.2. A DEPTH OF 300 MM IMMEDIATELY UPSTREAM OF THE CONTROL MEASURE.
   5.2. FOR ALL CONTROL MEASURES, ACCUMULATED SEDIMENT SHALL BE REMOVED AS NECESSARY TO PERFORM MAINTENANCE REPAIRS.
   5.3. ACCUMULATED SEDIMENT SHALL BE REMOVED PRIOR TO THE REMOVAL OF THE CONTROL MEASURE.
   5.4. ACCUMULATED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AS PER OPSS 180.
6. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED TO ENSURE THEY ARE IN EFFECTIVE WORKING ORDER. THE CONDITION OF THE CONTROL MEASURES SHALL BE MONITORED PRIOR TO ANY FORECAST STORM EVENT AND FOLLOWING A STORM EVENT.
7. DUST CONTROL MEASURES SHOULD BE CONSIDERED PRIOR TO CLEARING AND GRADING. THE USE OF WATER, CALCIUM CHLORIDE FLAKES/SOLUTION OR MAGNESIUM CHLORIDE FLAKES/SOLUTION SHALL BE USED AS DUST SUPPRESSANTS AS PER OPSS 506. THIS IS TO LIMIT WIND EROSION OF SOILS WHICH MAY TRANSPORT SEDIMENTS OFFSITE, WHERE THEY MAY BE WASHED INTO THE RECEIVING WATER BY THE NEXT RAINSTORM.
8. ALL 'GREEN AREAS' TO BE TREATED WITH 150mm TOPSOIL AND SOD AS SOON AS FEASIBLE, AS PER OPSS 570.
9. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
10. STOCKPILED MATERIAL IS TO BE STORED AWAY FROM POTENTIAL RECEIVERS (E.G. STORM CATCHBASINS, MANHOLES), AND BE SURROUNDED BY EROSION CONTROL MEASURES WHERE MATERIAL IS LEFT IN PLACE IN EXCESS OF 14 DAYS.
11. IF REQUIRED, DEWATERING/SETTLING BASINS SHALL BE CONSTRUCTED AS PER OPSD 219.240 AND LOCATED ON FLAT GRADE UPSTREAM OF OTHER EXISTING MITIGATION MEASURES. WATERCOURSES SHALL NOT BE DIVERTED, OR BLOCKED, AND TEMPORARY WATERCOURSES CROSSINGS SHALL NOT BE CONSTRUCTED OR UTILIZED, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. IF CLOSURE OF ANY PERMANENT WATER PASSAGE IS NECESSARY, THE CONTRACTOR SHALL RELEASE ANY STRANDED FISH TO THE OPEN PORTION OF THE WATERCOURSE WITHOUT HARM.
12. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO OPSS 577
13. WHERE DEWATERING IS REQUIRED, THE DISCHARGED WATER SHALL BE CONTROLLED IN ACCORDANCE WITH OPSS 518.
14. ALL SETTLING/FILTRATION BASINS SHALL BE EQUIPPED WITH TERRAFIX 270R GEOTEXTILE (OR APPROVED EQUIVALENT) AND SHALL BE CLEANED AND REPLACED AS REQUIRED.

SANITARY STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
MH1A	95.56	SE94.270 SW94.290	NW94.248	COVER CITY STD S24 FRAME CITY STD S25 STRUC. OPSD 701.010
MH2A	95.68	SE94.170	NW94.152	COVER CITY STD S24 FRAME CITY STD S25 STRUC. OPSD 701.010
MH3A	95.62	SE93.990 SW93.546	NE93.540	COVER CITY STD S24 FRAME CITY STD S25 STRUC. OPSD 701.010

STORM STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
CB1	95.40		NE93.741	COVER OPSD 400.020 FRAME OPSD 400.020 STRUCT. OPSD 705.010 C/W 42mm LMF ORIFICE
CB2	95.40		SW93.674	COVER OPSD 400.020 FRAME OPSD 400.020 STRUCT. OPSD 705.010 C/W 40mm LMF ORIFICE
MH2	95.69	SW93.600 SE93.500	NW93.483	COVER CITY STD S24.1 FRAME CITY STD S25 STRUC. OPSD 701.010
MH3	95.67	SE93.370	NW93.347	COVER CITY STD S24.1 FRAME CITY STD S25 STRUC. OPSD 701.010

CROSSING CONFLICT TABLE

LOCATION	DESCRIPTION	SEPARATION
1	200mmØ EXISTING SANITARY SEWER INV 93.53 / 150mmØ WATER SERVICE OBV 93.03	0.50*
2	200mmØ EXISTING SANITARY SEWER INV 93.53 / 150mmØ WATER SERVICE OBV 93.03	0.50*
3	300mmØ EXISTING STM SEWER INV 93.25 / 200mmØ SANITARY SERVICE INV 94.05	0.50
4	300mmØ EXISTING STM SEWER INV 93.24 / 150mmØ WATER SERVICE OBV 92.94	0.30*
5	300mmØ EXISTING STM SEWER INV 93.24 / 150mmØ WATER SERVICE OBV 92.94	0.30*
6	200mmØ SANITARY SERVICE INV 94.27 / 50mmØ WATER SERVICE OBV 93.11	1.16
7	200mmØ SANITARY SERVICE INV 94.29 / 150mmØ STORM SERVICE INV 93.59	0.55
8	150mmØ WATER SERVICE OBV 93.11 / 200mmØ STORM SERVICE INV 93.57	0.46
9	200mmØ SANITARY SERVICE INV 94.34 / 200mmØ STORM SERVICE INV 93.63	0.51
10	150mmØ WATER SERVICE OBV 93.29 / 200mmØ STORM SERVICE INV 93.61	0.32

*PROVIDE VERTICAL BENDS AS REQUIRED TO MEET MINIMUM SEPARATION

WATER COVER TABLE

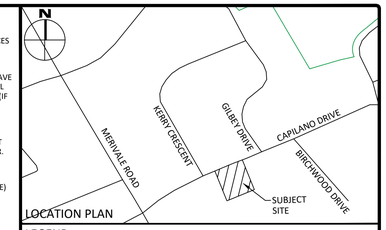
LOCATION	STATION	FINISHED GRADE	TOP OF PIPE	COVER
A - 200 X 150 TEE	0+100.00	95.60	93.20	2.40
VALVE	0+116.51	95.69	93.29	2.40
150 X 150 TEE	0+117.63	95.66	93.26	2.40
150 X 50 TEE	0+126.27	95.47	93.07	2.40
BUILDING	0+153.81	95.90	93.50	2.40
B - 200 X 150 TEE	0+200.00	95.60	93.20	2.40
VALVE	0+216.51	95.69	93.29	2.40
45° BEND	0+217.21	95.67	93.27	2.40
45° BEND	0+217.82	95.66	93.26	2.40
150 X 150 TEE	0+218.39	95.66	93.26	2.40

WATERMAIN NOTES

1. CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY STANDARDS.
2. WATERMAINS 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.
3. 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.
4. THERMAL INSULATION OF WATERMAINS AT OPEN STRUCTURES AS PER CITY STANDARDS (IF AVAILABLE) OR OPSD 1109.030.
5. VALVES TO BE OPERATED BY CITY STAFF ONLY.
6. 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.
7. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ANY WATERMAIN CONNECTION(S) 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.
8. CONCRETE THRUST BLOCKS TO CONFORM TO OPSD 1103.010 AND OPSD 1103.020.
9. ALL WATERMAIN TO BE CLASS 150 DR-18 OR APPROVED EQUIVALENT.
10. ALL WATERMAIN TO BE EQUIPPED WITH TRACER WIRE.

SEWER NOTES:

1. CONSTRUCT ALL SEWERS, CATCH BASINS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY.
2. SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.
   2.1. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
   2.2. SUB-BEDDING, IF REQUIRED SHALL CONSIST OF 450mm OF COMPACTED GRANULAR "B" TYPE 1.
   2.3. BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B" TYPE 1.
   2.4. TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2.0 METRES BELOW FINISHED GRADE) SHALL MATCH EXISTING SOIL CONDITIONS.
3. SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR-28.
4. SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR-35. BEDDING TO BE TYPE "B" EXCEPT AT RISERS, UNLESS NOTED OTHERWISE.
5. INSULATE ALL STORM AND SANITARY SEWERS/SERVICES THAT HAVE LESS THAN 2.0m OF COVER WITH THERMAL INSULATION AS PER OPSD 1109.030.
6. SEWER CONNECTIONS ARE TO BE MADE ABOVE THE SPRINGLINE OF THE SEWERMAIN AS PER CITY OF OTTAWA STANDARD DRAWING S11, S11.1 & S11.2.
7. 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"X8' LONG MARKER.
8. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS ON SITE, OUTLET CONNECTION TO THE MAIN AND PIPES 150mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.
9. DYE TESTING IS TO BE COMPLETED ON SANITARY SERVICE TO CONFIRM PROPER CONNECTION TO SANITARY SEWER MAIN.



LOCATION PLAN

LEGEND

	CONCRETE BARRIER CURB		LIMIT OF CONSTRUCTION
	CONCRETE WALKWAY		DRAINAGE SWALE
	PROPOSED HEAVY DUTY ASPHALT		DRAINAGE DITCH
LSCB#	LANDSCAPING CATCHBASIN		SLOPING AT 3:1 UNLESS SPECIFIED
CBMH# T/G	CATCHBASIN MANHOLE	95.50	SURFACE ELEVATION
CB# T/G	CATCHBASIN	95.50 (S)	SWALE ELEVATION
MH#A T/G	SANITARY SEWER MANHOLE	T/W95.50 B/W 94.25	TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION
HYD B/F	FIRE HYDRANT		OVERLAND FLOW ROUTE
	WATER VALVE		SILT FENCE BARRIER
M	WATER METER		STRAW BALE CHECK DAM
RM	REMOTE WATER METER		MUD MAT

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

No.	Revisions	Date
1	ISSUED FOR SITE PLAN CONTROL	MAR. 03, 2023

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

SCALE 1 : 250
0 5 10 15 20 25 Metres

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OTTAWA, ON K2P 2R3

Project:
RESIDENTIAL DEVELOPMENT
56 CAPILANO DRIVE

Drawing Title:
LOT GRADING, DRAINAGE, SERVICING, EROSION & SEDIMENT CONTROL PLAN

Scale:	1:250
Drawn By:	NV
Checked By:	CJM
Designed By:	NV
Project Number:	CCO-23-3325
Drawing Number:	C101

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#XXXXX

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LAST SAVED: Friday, March 03, 2023 LAST SAVED BY: c.vachon
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