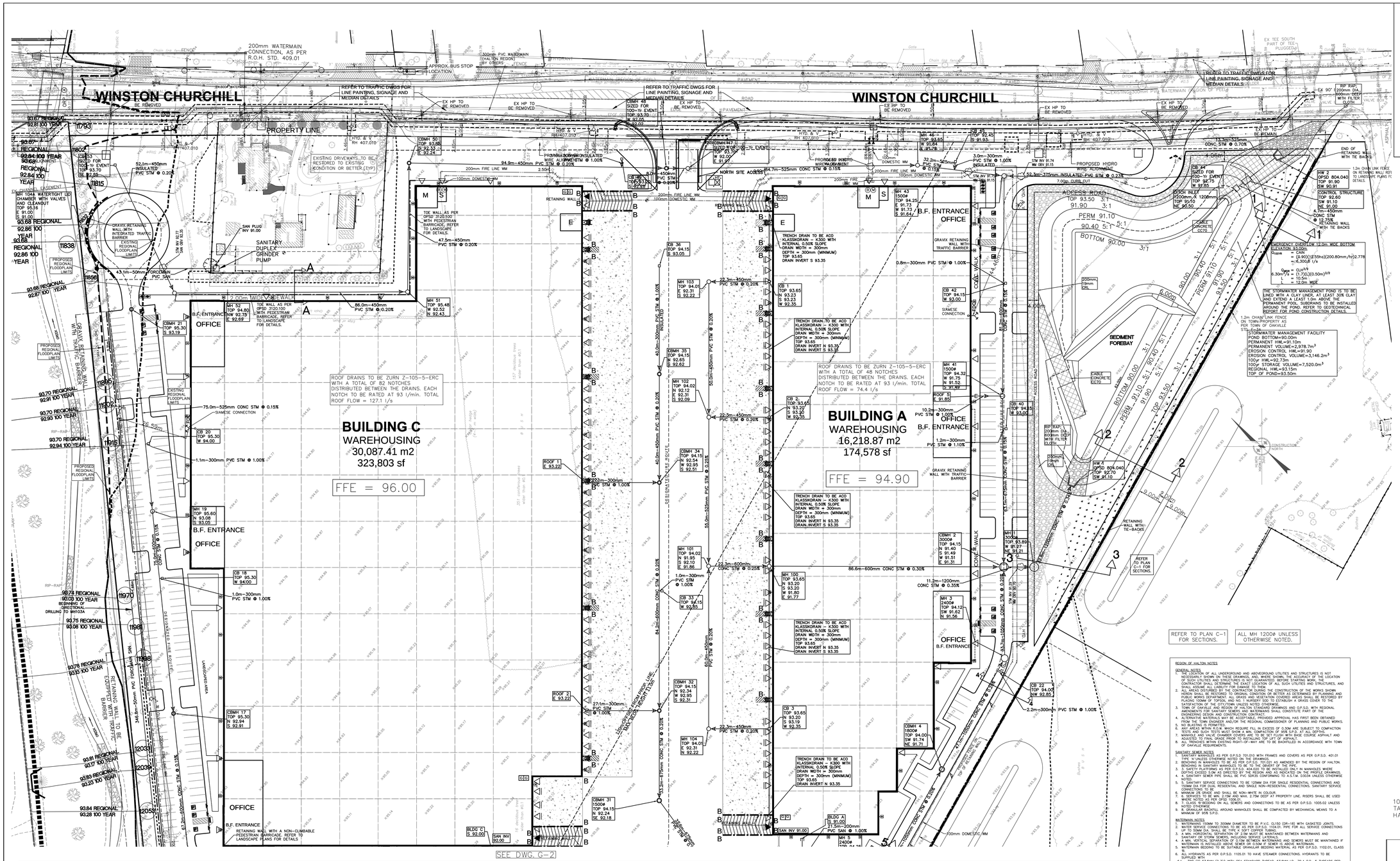
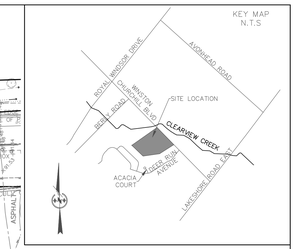




LEGEND

- CATCHBASIN
- CATCHBASIN MANHOLE
- STORM MANHOLE
- SANITARY MANHOLE
- VALVE AND BOX
- HYDRANT AND VALVE
- STORM
- SANITARY
- WATERMAIN
- BACKFLOW PREVENTOR
- WATER METER
- 116.52 EXISTING ELEVATION
- EXISTING REGIONAL FLOODLINE
- REGIONAL FLOODLINE
- (1981) SECTION NUMBER
- TREE PROTECTION
- FENCE

100 YEAR AND REGIONAL FLOODLINE INFORMATION TAKEN FROM PLAN PREPARED BY CVC FLOOD HAZARD MAP.

REGION OF HALTON NOTES

GENERAL NOTES

1. THE LOCATION OF ALL UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THESE DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE LOCATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
2. ALL AREAS DISTURBED BY THE CONTRACTOR DURING THE CONSTRUCTION OF THE WORKS SHOWN HEREIN SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AS DETERMINED BY PLANNING AND DEVELOPMENT COMMISSIONER OF PLANNING AND PUBLIC WORKS. RESTORATION SHALL BE COMPLETED BY PLACING 100MM OF TOPSOIL AND NO. 1 NURSERY SOD TO ESTABLISH A GRASS COVER TO THE SATISFACTION OF THE DITY/TOWN UNLESS NOTED OTHERWISE.
3. TOWN OF OAKVILLE AND REGION OF HALTON STANDARD DRAWINGS AND O.P.S.D. WITH REGIONAL AMENDMENTS FOR SANITARY SEWERS AND WATERMAINS SHALL CONSTITUTE PART OF THE CONTRACT UNLESS OTHERWISE NOTED OTHERWISE.
4. ALTERNATIVE MATERIALS MAY BE ACCEPTABLE, PROVIDED APPROVAL HAS FIRST BEEN OBTAINED FROM THE TOWN ENGINEER AND/OR THE REGIONAL COMMISSIONER OF PLANNING AND PUBLIC WORKS.
5. NO PERMANENT STRUCTURE WHICH REQUIRE FILL IN EXCESS OF 0.30M ARE SUBJECT TO COMPACTION TESTS AND SUCH TESTS MUST SHOW A MIN. COMPACTION OF 95% S.P.D. AT ALL DEPTHS.
7. MANHOLE AND VALVE CHAMBER COVERS) ARE TO BE SET FLUSH WITH BASE COURSE ASPHALT AND ADJUSTED TO FINAL GRADE PRIOR TO INSTALLING TOP LIFT OF ASPHALT.
8. ALL DISTURBED AREAS WITHIN EXISTING RIGHT-OF-WAY ARE TO BE BACKFILLED IN ACCORDANCE WITH TOWN OF OAKVILLE REQUIREMENTS.

SANITARY SEWER NOTES

1. MANHOLES FRAMES AS PER O.P.S.D. 701.010 WITH FRAMES AND COVERS AS PER O.P.S.D. 401.01 TYPE 'A' UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. BENCHING IN MANHOLES TO BE AS PER O.P.S.D. 701.021 AS ANNOTED BY THE REGION OF HALTON. BENCHING IN SANITARY MANHOLES TO BE TO THE OBVERT OF THE PIPE.
3. DROP PIPES SHALL BE PROVIDED IN ACCORDANCE WITH O.P.S.D. 701.021 IN MANHOLES WHERE DEPTHS EXCEED 5.0M AS SPECIFIED BY THE ENGINEER AND AS INDICATED ON THE PROFILE DRAWINGS.
4. SANITARY SEWER PIPE SHALL BE PVC SDR35 CONFORMING TO A.S.T.M. D3034 UNLESS OTHERWISE NOTED.
5. SANITARY SERVICE CONNECTIONS TO BE 125MM DIA FOR SINGLE RESIDENTIAL CONNECTIONS AND 150MM DIA FOR DOUBLE RESIDENTIAL AND SINGLE NON-RESIDENTIAL CONNECTIONS. SANITARY SERVICE CONNECTIONS TO BE:
6. MINIMUM 2% GRADE AND SHALL BE NON-WHITE IN COLOUR.
7. WHERE NOTED ON THE DRAWINGS, SERVICE TO BE 2.75M DEEP AT PROPERTY LINE. RISERS SHALL BE USED WHERE NOTED AS PER OPSD 1006.01.
8. 7. CLASS 'B' BEDDING ON ALL SEWERS AND CONNECTIONS TO BE AS PER O.P.S.D. 1005.02 UNLESS NOTED OTHERWISE
9. 8. GRANULAR BACKFILL AROUND MANHOLES SHALL BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 95% S.P.D.

WATERMAIN NOTES

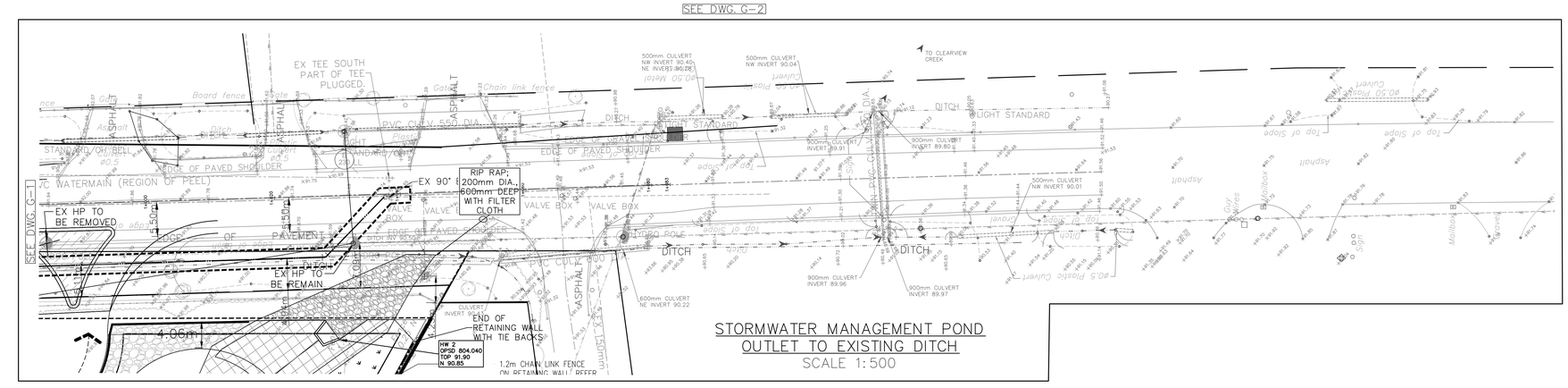
1. WATERMAINS 50MM TO 300MM DIAMETER TO BE P.V.C. CL150 (DR=18) WITH GASKETED JOINTS.
2. WATERMAIN CONNECTIONS TO BE AS PER O.P.S.D. 1104.01. PIPE FOR ALL SERVICE CONNECTIONS SH TO 50MM DIA. SHALL BE TYPE K SOFT COPPER TUBING.
3. 4. MIN. HORIZONTAL SEPARATION OF 2.5M MUST BE MAINTAINED BETWEEN WATERMAINS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS.
4. 5. MIN. VERTICAL SEPARATION OF 0.45M BETWEEN WATERMAINS AND SEWERS MUST BE MAINTAINED IF WATERMAIN IS INSTALLED ABOVE SEWER OR 0.50M IF SEWER IS ABOVE WATERMAIN.
5. WATERMAIN BEDDING TO BE SUITABLE GRANULAR BEDDING MATERIAL AS PER O.P.S.D. 1102.01, CLASS 'B'.
6. ALL HYDRANTS AS PER O.P.S.D. 1105.01 TO HAVE STEAMER CONNECTIONS. HYDRANTS TO BE SUPPLIED WITH:
   6.1. TWO (2) 63.5MM (2 1/2) WITH CSA STANDARD THREAD, 63.5MM I.D., 79.4 O.D., 5 THREADS PER 25MM, 31.75MM SQUARE OPERATING NUT;
   6.2. ONE (1) 100MM (4") STORZ PUMPER CONNECTION AS PER CAN/ULC - S515-20, 31.75MM SQUARE OPERATING NUT, AND STORZ CAP PAINTED GLOSS BLACK.
7. HYDRANTS SHALL BE INSTALLED SUCH THAT THE ROD STEM LENGTH SHALL NOT EXCEED 1.7M MEASURED FROM THE BREAK-OFF FLANGE. IF HYDRANT BARREL LENGTH EXCEEDS 1.17M THEN A EXTENT THAT CAN BE RAISED FROM THE BOTTOM WITHOUT INCREASING ROD LENGTH SI TO AB USEDA.
8. ALL METALLIC WATERMAINS, FITTINGS, HYDRANTS AND RESTRAINERS TO HAVE CATHODIC PROTECTION AS PER AWWA STANDARD C105/A21.5 (LATEST STANDARD DRAWINGS RH 420.03 AND RH 420.02.
9. ALL SACRIFICIAL ANODES SHALL BE ZINC ALLOY AS PER AWWA C-105 TYPE 1 AND SHALL BE MADE OF HIGH GRADE ELECTROLYTIC ZINC, 99.99% PURE.
10. ANODE INSTALLATION IS NOT REQUIRED WITHIN VALVE-CHAMBERS, DRAIN CHAMBERS OR AIR RELEASE CHAMBERS.
11. ALL METAL CONNECTIONS TO BE COATED WITH 'TC MASTIC OR APPROVED EQUIVALENT.
12. FOR ALL ANODES CONNECTED TO NEW PIPE, FITTINGS OR TO EXISTING METALLIC WATERMAINS, A CADMELDER AND CA-15 OR EQUIVALENT CARTRIDGE SHALL BE USED. ANODE INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
13. WHERE NEW AWWC IS TO BE CONNECTED TO EXISTING DUCTILE IRON OR CAST IRON PIPE A 14.0KG ANODE SHALL BE INSTALLED ON THE FIRST LENGTH OF EXISTING PIPE, AS PER REGION OF HALTON STANDARD DRAWING RH 420.01.
14. ALL VALVES TO OPEN LEFT (COUNTER-CLOCKWISE) AND SHALL HAVE 50MM SQUARE STANDARD OPERATING NUTS.
15. ALL PLUGS, CAPS, TEES, AND BENDS SHALL BE MECHANICALLY RESTRAINED AS PER MANUFACTURERS SPECIFICATIONS. RESTRAINTS SHALL MEET UNI-B-13-92.
16. RECOMMENDED RESTRAINED LENGTH ARE AS FOLLOWS:

RECOMMENDED RESTRAINED LENGTH OF PVC PIPE INSTALLED IN SAND-SILT:

NOM. PIPE SIZE	90° BEND	45° BEND	22.5° BEND	11.25° BEND	45° VERT. BEND DOWN/UP	VALVE/HYD DEAD-END
150	3.7m	1.6m	0.8m	0.4m	4.6m/1.6m	11.1m
200	4.8m	2.0m	1.0m	0.5m	2.9m/1.0m	14.4m
300	6.8m	2.5m	1.4m	0.7m	8.6m/2.9m	20.7m

NOM. PIPE SIZE	REDUCING TEE	NOM. PIPE SIZE	STRAIGHT TEE
200x150	6.2m (BRANCH ONLY)	150	8.5m (BRANCH)/2.9m (MAIN)
300x150	3.7m (BRANCH ONLY)	200	12.1m (BRANCH)/4.5m (MAIN)
300x200	8.9m (BRANCH)/1.8m (MAIN)	300	18.9m (BRANCH)/13.3m (MAIN)

17. WHERE WATERMAIN IS PLACED IN FILL OR IN PREVIOUSLY DISTURBED GROUND ALL JOINTS TO BE MECHANICALLY RESTRAINED.
18. MINIMUM COVER OVER WATERMAIN SHALL BE 1.70M MEASURED FROM THE ROAD CENTRELINE ELEVATION.
19. THE DEPTH OF WATER SERVICES AT PROPERTY LINE SHOULD BE A MINIMUM OF 1.7M AND A MAXIMUM OF 2.0M. THE DISTANCE BETWEEN THE GROUND ELEVATION AND THE TOP OF THE ROD SHALL BE BETWEEN 0.5M AND 1.0M.
20. WHERE WATERMAIN CROSSES ABOVE SEWER TO HAVE MIN. 1.70M OF COVER. WHERE THIS CANNOT BE ACHIEVED, WATER SERVICE IS TO CROSS UNDER STORM SEWER.
21. GATE VALVES CONFORMING TO A.W.W.A. C500 STANDARDS ARE REQUIRED ON WATERMAINS 300MM DIA. AND LESS. ON 350MM DIA. AND GREATER, USE BUTTERFLY VALVE TYPE VALVE BOXES.
22. ALL WATERMAIN FITTINGS SHALL HAVE MECHANICAL JOINTS.
23. VERTICAL AND HORIZONTAL ALIGNMENT OF WATERMAIN TO BE ACHIEVED BY DEFLECTION OF JOINTS AS PER MANUFACTURER'S SPECIFICATIONS, DEFLECTION IN THE BARREL IS NOT PERMITTED.
24. TRACER WIRE IS TO BE INSTALLED ON ALL NEW INSTALLATIONS OF PVC WATERMAIN PIPE FOR ALL WATERMAIN 150MM DIA. AND LARGER. THE TRACER WIRE SHALL BE INSTALLED ALONGSIDE THE PIPE, STRAPPED TO THE PIPE AT 5 METRE INTERVALS. JOINTS IN THE WIRE BETWEEN VALVES ARE NOT PERMITTED.
25. THE CONTRACTOR MAY TEST THE TRACING WIRE FOR CONDUCTIVITY. IF THE TRACING WIRE IS NOT CONTINUOUS FROM VALVE TO VALVE, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE WIRE.
26. ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 24 HOURS IN ADVANCE OF THE SHUT DOWN AS PER REGION OF HALTON STANDARD PROCEDURES. ALL SHUT DOWNS TO BE OPERATED BY REGION OF HALTON.
27. OPERATION OF EXISTING WATERMAINS SHALL BE BY REGION OF HALTON STAFF ONLY.
28. FIRE HYDRANT CAPS SHALL BE COLOUR CODED AS PER NFPA STANDARDS.



STORMWATER MANAGEMENT POND OUTLET TO EXISTING DITCH
SCALE 1:500

LICENSED PROFESSIONAL ENGINEER
2023-12-13
A. M. CANDARAS
PROVINCE OF ONTARIO

No.	Date	By	REVISIONS
11	DEC.13/23	J.M.N.	ISSUED FOR SIXTH SUBMISSION
10	AUG.30/23	J.M.N.	ISSUED FOR FIFTH SUBMISSION
9	JUNE 6/23	J.M.N.	ISSUED FOR COORDINATION
8	JUN.17/23	J.M.N.	ISSUED FOR FOURTH SUBMISSION
7	JAN.02/22	J.M.N.	ISSUED FOR COORDINATION
6	NOV.25/21	J.M.N.	ISSUED FOR THIRD SUBMISSION
5	NOV.09/21	J.M.N.	ISSUED FOR COORDINATION

a.m.candaras associates inc.
consulting engineers
8551 Weston rd., suite 203
Woodbridge ont. L4L 9R4
905-850-8020 Fax 905-850-8099
Email: civil@amcail.com

560, 570 AND 580 WINSTON CHURCHILL BLVD.

TOWN OF OAKVILLE
REGION OF HALTON

SITE SERVICING AND STORMWATER MANAGEMENT PLAN - NORTH

SCALE: 1:500	DATE: MAY 2019	PROJ No.	
DRAWN: A.D.D.	CHK'D: A.M.C.	PLAN No.	G-1
DESIGNED: A.M.C.	SHEET 1 OF 2		