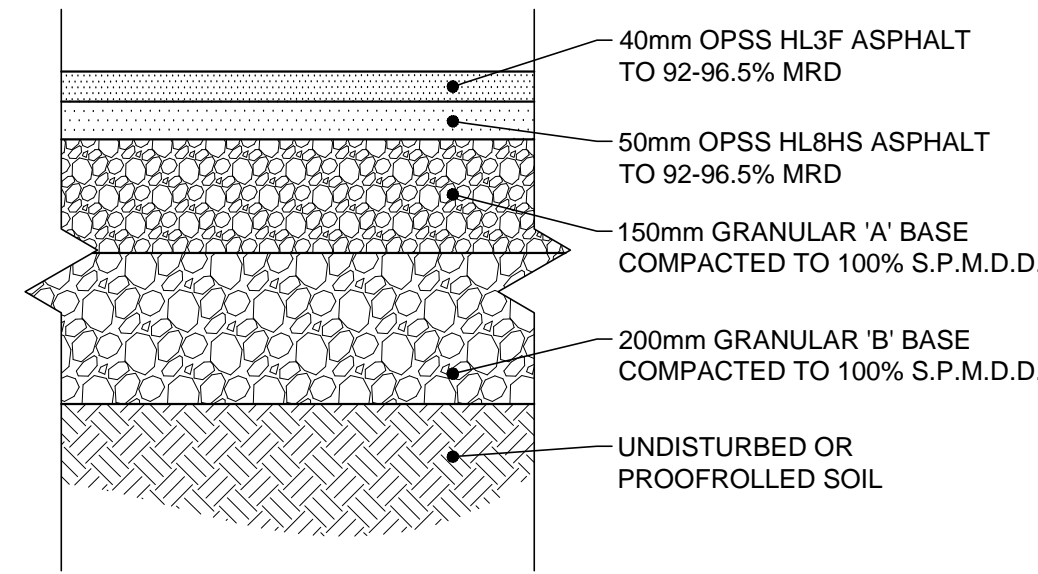


GEODETIC BENCHMARK INFORMATION

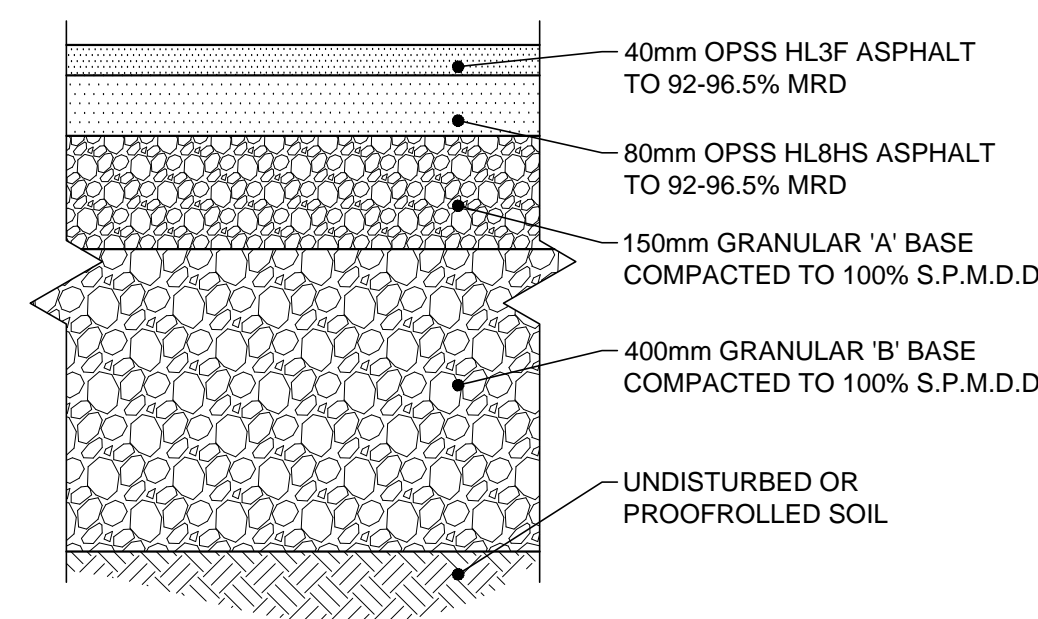
ELEVATIONS ARE OF GEODETIC ORIGIN (CGVD-1928-78), DERIVED FROM GNSS OBSERVATIONS AND NATIONAL RESOURCES CANADA'S GEOID MODEL HT2.0.

GENERAL NOTES:

1. READ ALL CIVIL DRAWINGS IN CONJUNCTION WITH ALL CONTRACT DOCUMENTS, INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, LANDSCAPE AND VENDOR DRAWINGS AS APPLICABLE.
2. THE CONTRACTOR FOR ANY PORTION OF WORK SHALL VISIT THE SITE AND SHALL BE THOROUGHLY FAMILIAR WITH ALL THE PHYSICAL FEATURES THAT MAY AFFECT THE WORK IN ANY WAY.
3. THE CONTRACTOR MUST FIELD CHECK AND VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO COMMENCEMENT OF ANY WORK.
4. THE CONTRACTOR SHALL KEEP WORK SITES CLEAN AND FREE OF ALL CONSTRUCTION DEBRIS DURING THE PROCESS OF CONSTRUCTION AND LEAVE THE SITE CLEAN UPON COMPLETION OF WORK OR PORTIONS OF THE WORK.
5. THE CONTRACTOR SHALL OBTAIN APPROVED SERVICE CONNECTION PERMITS FROM THE CITY OF NIAGARA FALLS PUBLIC WORKS BEFORE CONNECTING TO EXISTING SEWER, OR WATER MAIN.
6. THE CONTRACTOR SHALL NOT OPERATE EXISTING MUNICIPAL WATER SYSTEM VALVES. WATER MAIN FLUSHING, DISINFECTING AND TESTING PLAN TO BE SUBMITTED TO, AND APPROVED BY THE CITY OF NIAGARA FALLS PRIOR TO THE PERFORMANCE OF WORK. VALVES CAN ONLY BE OPERATED BY THE CITY OF NIAGARA FALLS OPERATIONAL STAFF. THE CITY REQUIRES A MINIMUM OF 48 HOURS WRITTEN NOTICE PRIOR TO ALL WORKS.
7. CONSULTANT MUST APPROVE ALL DEVIATIONS FROM THE WORKING DRAWINGS. THE CONTRACTOR MUST KEEP AN ACCURATE RECORD OF ALL CHANGES FROM THE ORIGINAL INFORMATION SHOWN ON THE CONSTRUCTION DRAWINGS.
8. FEATURES OF CONSTRUCTION NOT FULLY SHOWN ARE OF THE SAME CHARACTER AS THOSE NOTED FOR SIMILAR CONDITIONS.
9. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING:
 - OCCUPATIONAL HEALTH AND SAFETY ACT
 - ONTARIO REGULATION 213/91 - CONSTRUCTION PROJECTS
 - THE ONTARIO BUILDING CODE AND THE NATIONAL BUILDING CODE
 - THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS / DRAWINGS
 - THE NIAGARA PENINSULA STANDARD CONTRACT DOCUMENTS
10. ALL ELEVATIONS AND DIMENSIONS SHOWN ARE IN METERS, UNLESS NOTED OTHERWISE.
11. ALL BUILDING ELEVATIONS (MAIN FINISHED FLOOR, TOP OF FOUNDATION) TO BE COORDINATED WITH ARCHITECTURAL DRAWINGS.
12. ALL NEW GRADING AFFECTING EXISTING SITE FEATURES (TREES, FENCES, LANDSCAPING, FOUNDATION WALLS, RETAINING WALLS, SLABS, BELL PEDESTALS, UTILITY POLES ETC.) TO BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, LANDSCAPE AND VENDOR DRAWINGS AS APPLICABLE.
13. PROVIDE APPROPRIATE SHORING FOR TRENCH EXCAVATION IN ACCORDANCE WITH THE LATEST REVISION OF THE OHSA GUIDELINE FOR CONSTRUCTION PROJECTS.
14. MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SEWERS SHALL BE 2.5m. MINIMUM VERTICAL CLEARANCE BETWEEN SEWERS AND WATER MAINS WHICH CROSS IS 500mm.
15. RIGID PIPE TRENCH EXCAVATION AS PER OPSD 802.030 FOR EARTH EXCAVATION AND OPSD 802.033 FOR ROCK EXCAVATION, AS APPLICABLE.
16. FLEXIBLE PIPE TRENCH EXCAVATION AS PER OPSD 802.010 FOR EARTH EXCAVATION AND OPSD 802.013 FOR ROCK EXCAVATION, AS APPLICABLE.
17. ALL SANITARY SEWER CONNECTIONS SHALL BE WITH PRE-MANUFACTURED TEES AND SHALL BE INSTALLED AT A MINIMUM GRADE OF 2% UNLESS NOTED OTHERWISE.
18. ALL WATER SERVICES TO BE INSTALLED WITH TRACER WIRE.
19. ALL WATER SERVICES TO BE INSTALLED WITH A MINIMUM OF 1.7m COVER. SEWERS TO BE INSTALLED WITH A MINIMUM COVER OF 2.20m AT THE PROPERTY LINE BELOW THE FINAL ROAD GRADE OR AT SUCH HIGHER ELEVATION ONLY AS MAY BE NECESSITATED BY THE LEVEL OF THE MAIN SEWER. ON PRIVATE PROPERTY THE MINIMUM COVER IS TO BE NO LESS THAN 1.2m.
20. ALL WATER MAIN FITTINGS SHALL BE MECHANICALLY RESTRAINED. ALL FITTINGS SHALL BE INSTALLED WITH CORROSION RESISTANT COR-BLUE TEE BOLTS AND NUTS, OR APPROVED EQUAL.
21. ALL WATER MAIN FITTINGS SHALL BE CATHODICALLY PROTECTED AS PER OPSD 1109.011.
22. HYDRANT TO BE EQUIPPED WITH 'STORZ' CONNECTIONS.
23. BUILDING SERVICES SHALL TERMINATE AT 1.5m FROM THE FACE OF THE BUILDING. SITE SERVICES CONTRACTOR TO COORDINATE WITH THE MECHANICAL CONTRACTOR, THE CONNECTION OF SITE SERVICES, INCLUDING SANITARY STORM AND WATER, TO THE INTERNAL SERVICES.
24. GRADING IS NOT TO ADVERSELY AFFECT ADJACENT PROPERTIES.
25. ALL WORK WITHIN REGIONAL RIGHT-OF-WAYS REQUIRES REGIONAL ROAD CUT PERMIT.
26. THE CONTRACTOR SHALL ENSURE ALL NEW AND EXISTING MANHOLES / CATCHBASINS / VALVES AND ANY OTHER APPURTENANCE WITHIN THE CONSTRUCTION AREA, TO MATCH FINISHED GRADE, AS REQUIRED.
27. NEW MAINTENANCE HOLES TO CONFORM TO OPSD 701.010 - 701.015 AS APPROPRIATE, WITH TYPICAL MAINTENANCE HOLE BENCHING AS PER OPSD 701.021.
28. NEW CATCH BASINS TO BE PER OPSD 705.010 WITH GRATES TO OPSD 400.020.
29. REMOVAL OF EXISTING FEATURES OF THE SITE ARE TO BE CARRIED OUT IN ACCORDANCE WITH OPS 510 AS APPLICABLE.
30. ROAD, PAVED AREAS AND GRASSED AREAS TO BE RESTORED TO THEIR ORIGINAL CONDITION OR AS PER THE CITY OF NIAGARA FALLS STANDARDS FOR ROAD RESTORATION IF EXISTS. TRENCH BACKFILLS WITHIN MUNICIPAL ROADWAYS TO BE WITH FULL DEPTH GRANULAR 'A'.
31. ALL BARRIER CURBS AS PER OPSD 600.110.
32. SIDEWALKS AS PER OPSD 310.010. IN LOCATIONS WHERE SIDEWALK IS ADJACENT TO CURB AND GUTTER, SIDEWALK TO BE AS PER OPSD 310.020. SIDEWALKS TO BE 125mm THICK, 30MPa CONCRETE COMPLETE WITH 100mm THICK GRANULAR 'A' BASE COMPACTED TO 100% SPMDD. SIDEWALKS ARE TO MEET THE LATEST CITY OF NIAGARA FALLS STANDARDS AS WELL AS THE LATEST NPSCD FOR TACTILE SURFACES AND ACCESSIBLE SIDEWALK.
33. COMPACTION TESTS TO BE PROVIDED BY THE CONTRACTOR THROUGH A THIRD PARTY TESTING AGENCY.
34. PROVIDE SILT FENCE PROTECTION ON ALL NEW AND EXISTING CATCH BASIN COVERS AND AROUND PERIMETER OF AREA OF WORK DURING CONSTRUCTION AND REMOVE UPON COMPLETION.



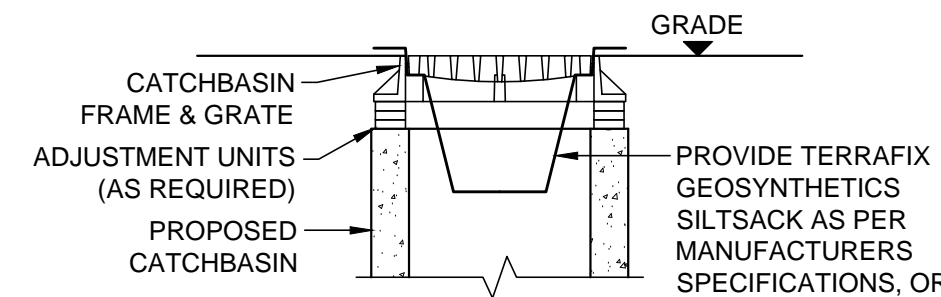
STANDARD DUTY ASPHALT DETAIL
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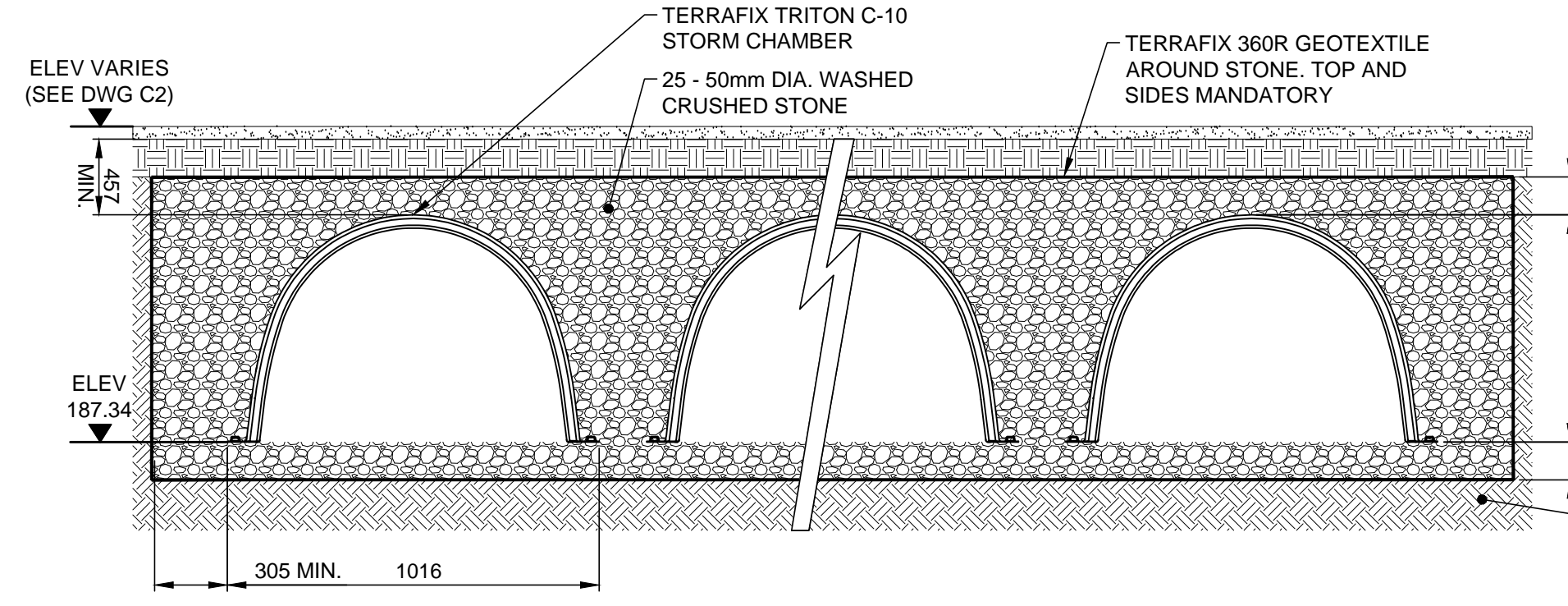
HEAVY DUTY ASPHALT DETAIL
SCALE: 1:10



KEY PLAN
SCALE: NTS



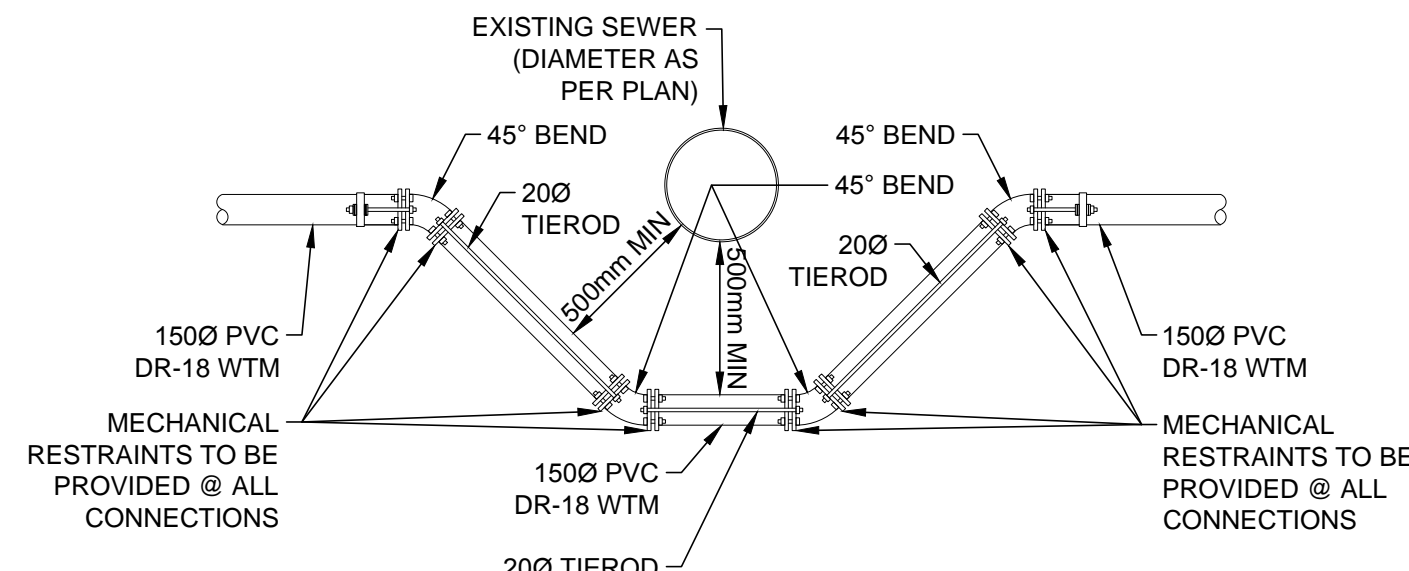
TYP. SEDIMENT TRAP DETAIL
SCALE: 1:25



STORM CHAMBER TYPICAL DETAIL
SCALE: NTS

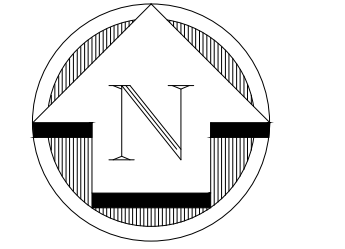
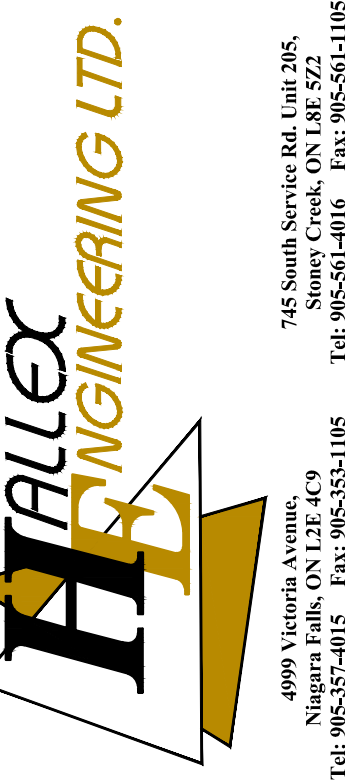
GENERAL NOTES

1. REFER TO TERRAFIX GEOSYNTHETICS INC'S CURRENT RECOMMENDED INSTALLATION GUIDELINES FOR TRITON C-10 STORM CHAMBER COMPLETE WITH INSPECTION PORTS AT THE HEADER ROW.
 2. ALL TRITON C-10 CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, PROVINCIAL AND FEDERAL REGULATIONS.
- THIRD PARTY SOILS CONSULTANT RESPONSIBLE FOR ENSURING THE REQUIRED BEARING CAPACITY OF SUB-GRADE SOILS (TYP.)



- NOTES:**
1. ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE
 2. ONE PAIR OF 20mmØ STEEL TIERRODS REQUIRED AS SHOWN.
 3. COVER TIEBOLT ASSEMBLY WITH DENSOL PASTE MASTIC AND TAPE ALL TO MANUFACTURER'S SPECIFICATIONS
 4. MECHANICAL RESTRAINTS TO BE PROPOSED BY CONTRACTOR AND APPROVED BY ENGINEER.

WTM CROSSING DETAIL
SCALE: NTS



DATE
OCT. 14, 2016
JAN. 16, 2017

REV.	DRAWING REVISION
0	ISSUED FOR SITE PLAN APPROVAL
1	ISSUED FOR SITE PLAN APPROVAL

CLIENT:
VENERINO V.P. PANCI
ARCHITECT INC.
ST. CATHARINES, ON

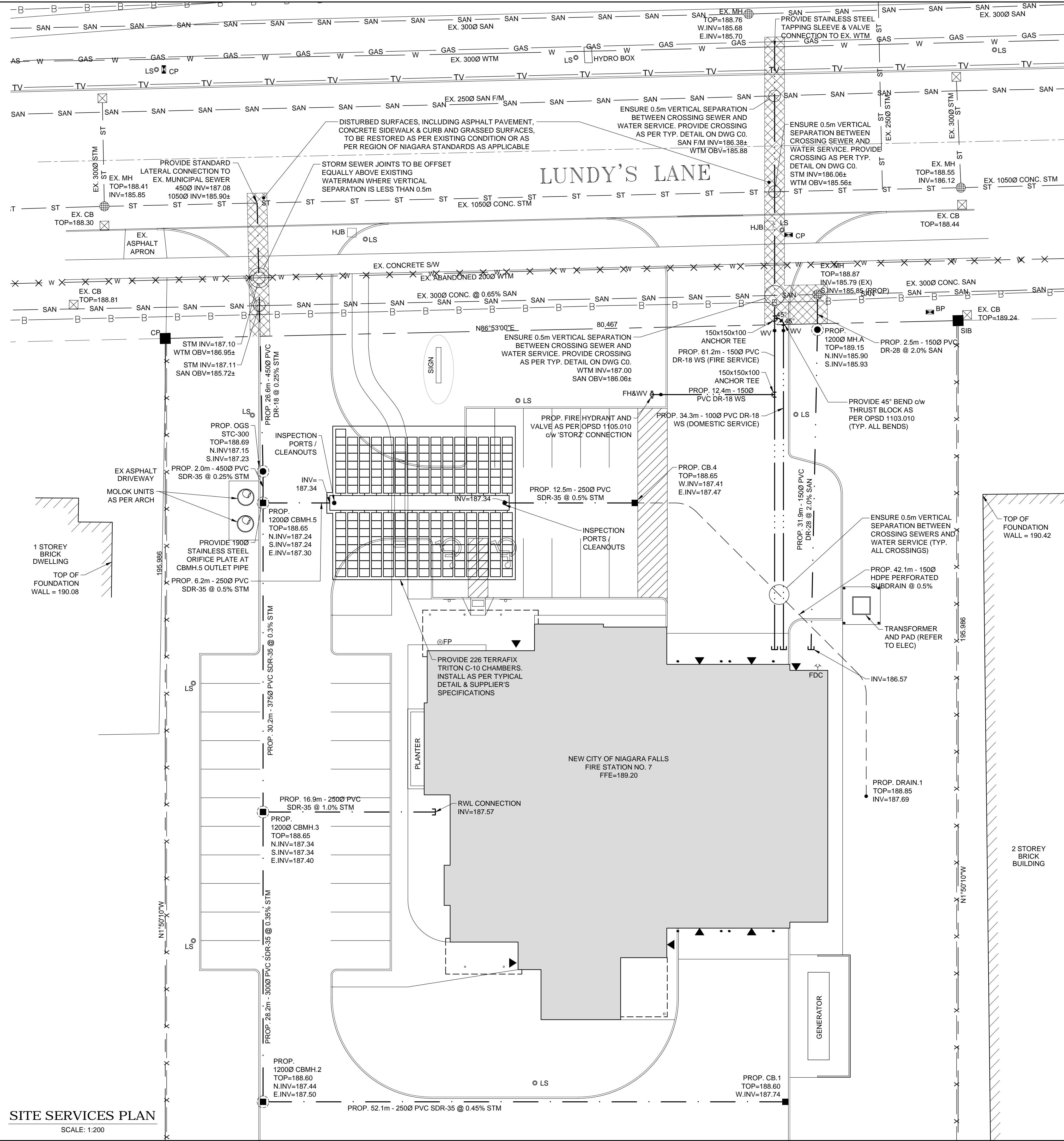
PROJECT:
PROPOSED NIAGARA FALLS
FIRE STATION #7
8530 LUNDY'S LANE
NIAGARA FALLS, ON

SHEET TITLE:
GENERAL NOTES,
TYPICAL DETAILS
& KEY PLAN

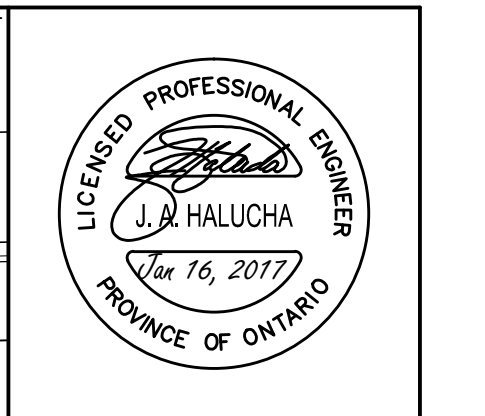
DATE:	MAY 2016
SCALE:	1:250
DR. BY:	PTD/JJS
CH. BY:	JH
JOB No.:	160428
DWG.	CO
REV.	1

LEGEND

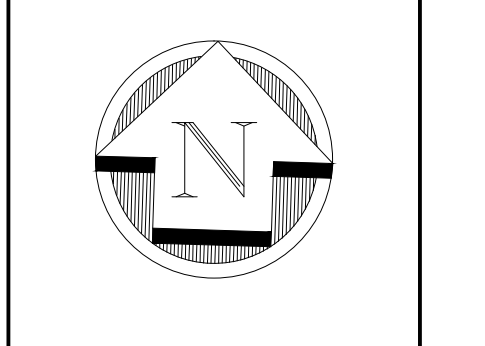
---	EXIST. SANITARY SEWER
---	NEW SANITARY SEWER
---	EXIST. STORM SEWER
---	NEW STORM SEWER
---	EXIST. WATER MAIN
---	NEW WATER MAIN
XX	ABANDONED MAIN
---	PROPERTY LINE
⊠	EXIST. CATCHBASIN
⊠	NEW CATCHBASIN
⊕	EXIST. MANHOLE
⊕	NEW MANHOLE
⊗	EXIST. VALVE
●	NEW VALVE
⊥	ANCHOR TEE
⊥	90° BEND
⊥	45° BEND
⊕	CAPPED SERVICE
⊕	FIRE HYDRANT
▲	GUY WIRE ANCHOR
○	UTILITY POLE
○	LIGHT STANDARD
⊕	GAS METER
▼	BUILDING ENTRANCE



SITE SERVICES PLAN
SCALE: 1:200



HALLEX ENGINEERING LTD.
 499 Victoria Avenue
 Niagara Falls, Ontario
 L2E 2E2
 Tel: 905.231.4115 Fax: 905.231.1185
 745 South Service Rd. Unit 208,
 Niagara Falls, Ontario
 L2E 2E2
 Tel: 905.231.4115 Fax: 905.231.1185



REV.	DRAWING REVISION	DATE
0	ISSUED FOR SITE PLAN APPROVAL	OCT. 14, 2016
1	ISSUED FOR SITE PLAN APPROVAL	JAN. 16, 2017

CLIENT:
 VENERINO V.P. PANCI
 ARCHITECT INC.
 ST. CATHARINES, ON

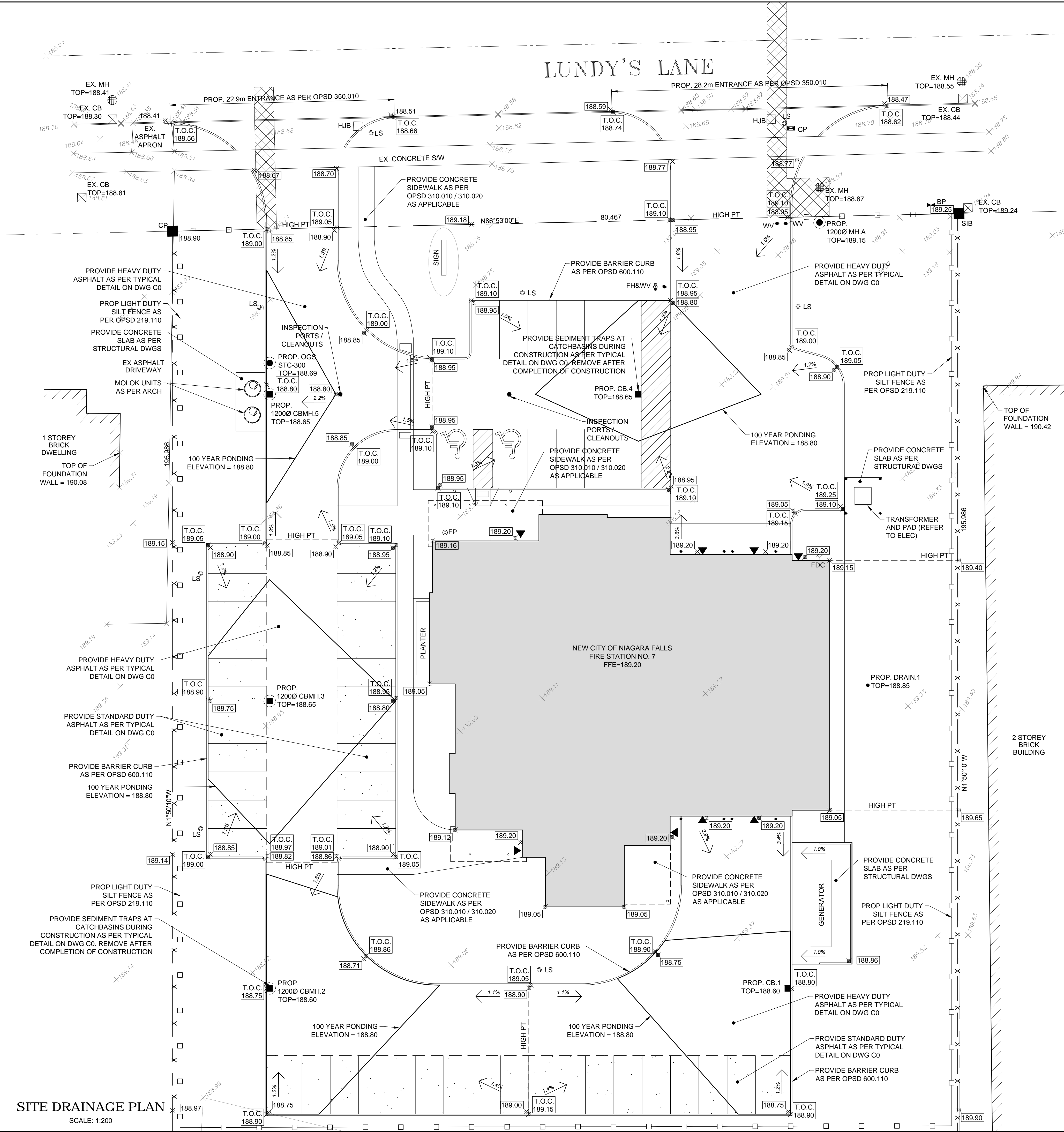
PROJECT:
 PROPOSED NIAGARA FALLS
 FIRE STATION #7
 8530 LUNDY'S LANE
 NIAGARA FALLS, ON

SHEET TITLE:
 SITE SERVICES PLAN

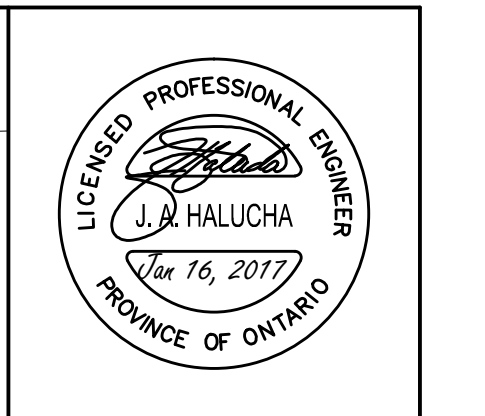
DATE:	MAY 2016
SCALE:	AS SHOWN
DR. BY:	PTD/JS
CH. BY:	JH
JOB No.:	160428
DWG.	C1
REV.	1

LEGEND

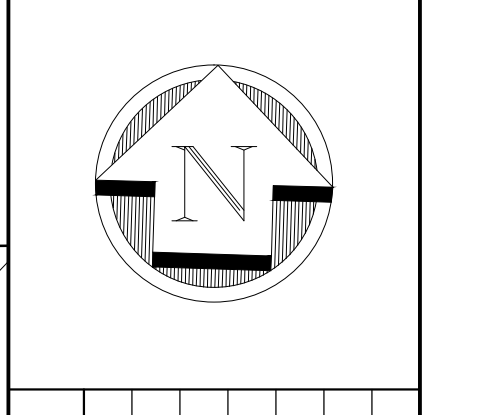
- EXISTING ELEVATION
- PROPOSED ELEVATION
- TOC TOP OF CURB
- DIRECTION OF FLOW
- PROPERTY LINE
- EXIST. CATCHBASIN
- NEW CATCHBASIN
- EXIST. MANHOLE
- NEW MANHOLE
- EXIST. VALVE
- NEW VALVE
- FIRE HYDRANT
- GUY WIRE ANCHOR
- UTILITY POLE
- LIGHT STANDARD
- GAS METER
- BUILDING ENTRANCE



SITE DRAINAGE PLAN
SCALE: 1:200



HALLEX ENGINEERING LTD.
745 South Service Rd. Unit 205,
Niagara Falls, Ontario L2A 6S5
Tel: 905-241-1101 Fax: 905-241-1105



REV.	DRAWING REVISION	DATE
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CLIENT:
VENERINO V.P. PANCI
ARCHITECT INC.
ST. CATHARINES, ON

PROJECT:
PROPOSED NIAGARA FALLS
FIRE STATION #7
8530 LUNDY'S LANE
NIAGARA FALLS, ON

SHEET TITLE:
SITE DRAINAGE PLAN

DATE:	MAY 2016
SCALE:	AS SHOWN
DR. BY:	PTD/JS
CH. BY:	JH
JOB No.:	160426
DWG. REV.	C2 1