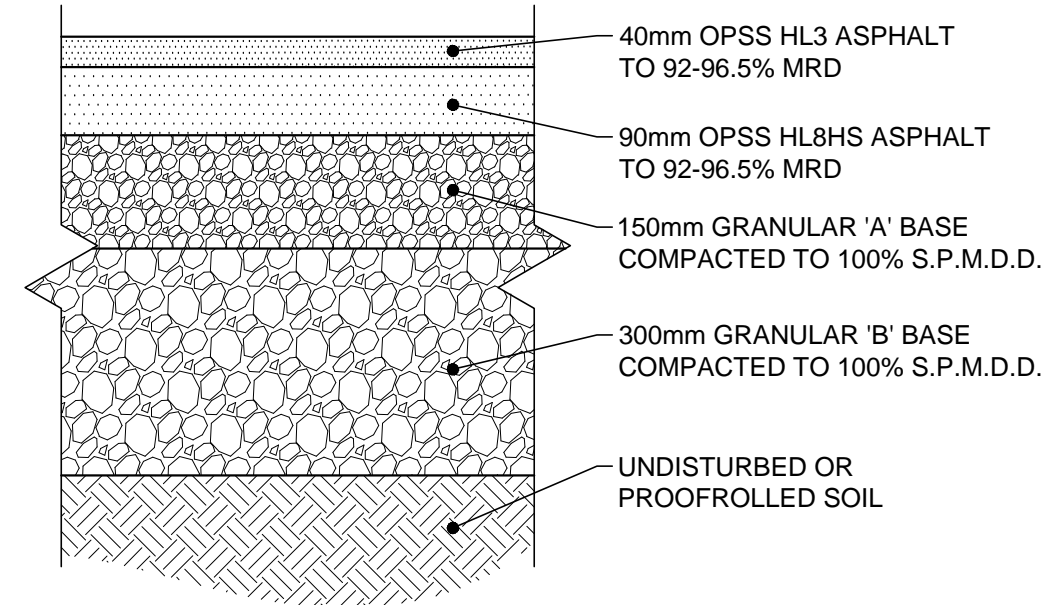


**GEODETIC BENCHMARK INFORMATION**

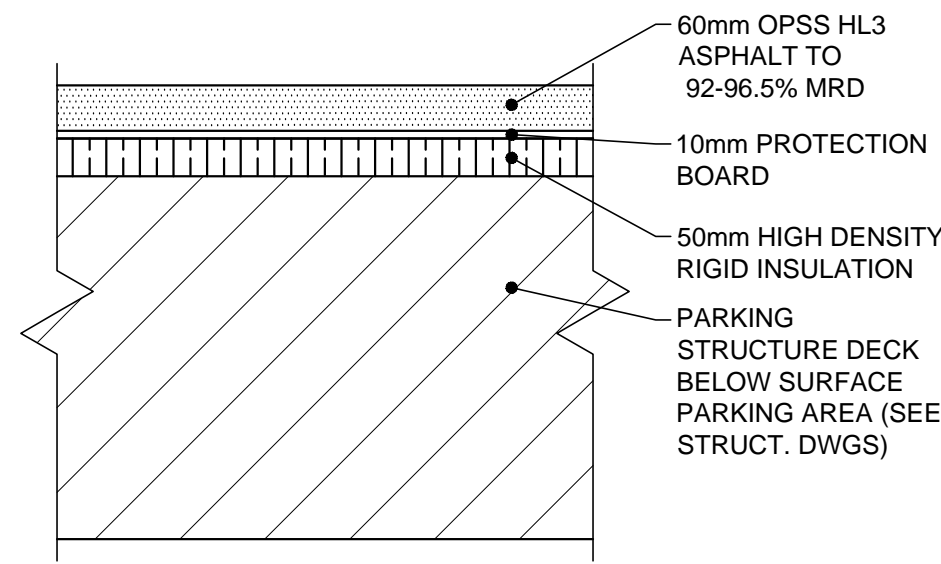
ELEVATIONS ARE OF GEODETIC ORIGIN AND ARE REFERRED TO GEODETIC SURVEY OF CANADA MONUMENT No. 0011922U2594, ELEVATION 175.974m

**GENERAL NOTES:**

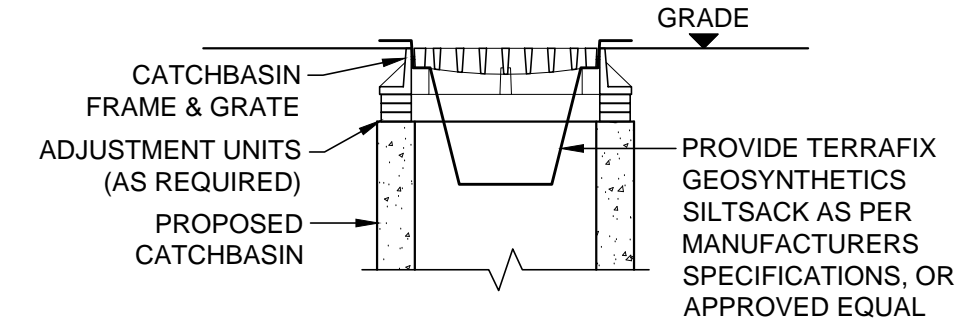
1. READ ALL CIVIL DRAWINGS IN CONJUNCTION WITH ALL CONTRACT DOCUMENTS, INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, LANDSCAPE AND VENDOR DRAWINGS AS APPLICABLE.
2. THE CONTRACTOR FOR ANY PORTION OF WORK SHALL VISIT THE SITE AND SHALL BE THOROUGHLY FAMILIAR WITH ALL THE PHYSICAL FEATURES 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, BASEMENT FINISHED FLOOR) 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. SANITARY LATERAL INVERTS TO BE CONFIRMED ONCE ARCHITECTURAL BACKGROUNDS ARE PROVIDED AND A BASEMENT FLOOR ELEVATION IS CONFIRMED.
19. ALL WATER SERVICING TO COMPLY WITH CSA B137.5, ANSISNF 14861, AND CURRENT AWWA STANDARDS.
20. ALL WATER SERVICES TO BE INSTALLED WITH TRACER WIRE.
21. ALL WATER SERVICES TO BE INSTALLED WITH A MINIMUM OF 1.8m 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.
22. 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.
23. ALL WATER MAIN FITTINGS SHALL BE CATHODICALLY PROTECTED AS PER OPSD 1109.011.
24. 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.
25. GRADING IS NOT TO ADVERSELY AFFECT ADJACENT PROPERTIES.
26. ALL WORK WITHIN MUNICIPAL RIGHT-OF-WAYS REQUIRES ROAD OCCUP. PERMIT.
27. 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.
28. NEW MAINTENANCE HOLES TO CONFORM TO OPSD 701.010 - 701.015 AS APPROPRIATE, WITH TYPICAL MAINTENANCE HOLE BENCHING AS PER OPSD 701.021.
29. PRE-CONSTRUCTION SURVEY TO BE COMPLETED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.
30. REMOVAL OF EXISTING FEATURES OF THE SITE ARE TO BE CARRIED OUT IN ACCORDANCE WITH OPSS 510 AS APPLICABLE.
31. 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'.
32. ALL BARRIER CURBS AS PER OPSD 600.110.
33. 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 150mm THICK AT DRIVEWAYS AND 125mm THICK AT ALL OTHER AREAS. 30MPa CONCRETE COMPLETE WITH 100mm THICK GRANULAR 'A' BASE COMPACTED TO 100% SPMD. SIDEWALKS ARE TO MEET THE LATEST CITY OF NIAGARA FALLS STANDARDS AS WELL AS THE LATEST NPSCD FOR TACTILE SURFACES AND ACCESSIBLE SIDEWALK.
34. ASPHALT AND GRANULAR CROSS SECTION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER. IF CHANGES TO THE ASPHALT CROSS SECTIONS ARE REQUIRED BASED ON GEOTECHNICAL CONSIDERATIONS, THE CONSULTANT SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF ANY WORK.
35. SEALED COMPACTION TEST REPORTS TO BE PROVIDED BY THE CONTRACTOR THROUGH A THIRD PARTY TESTING AGENCY.
36. 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.



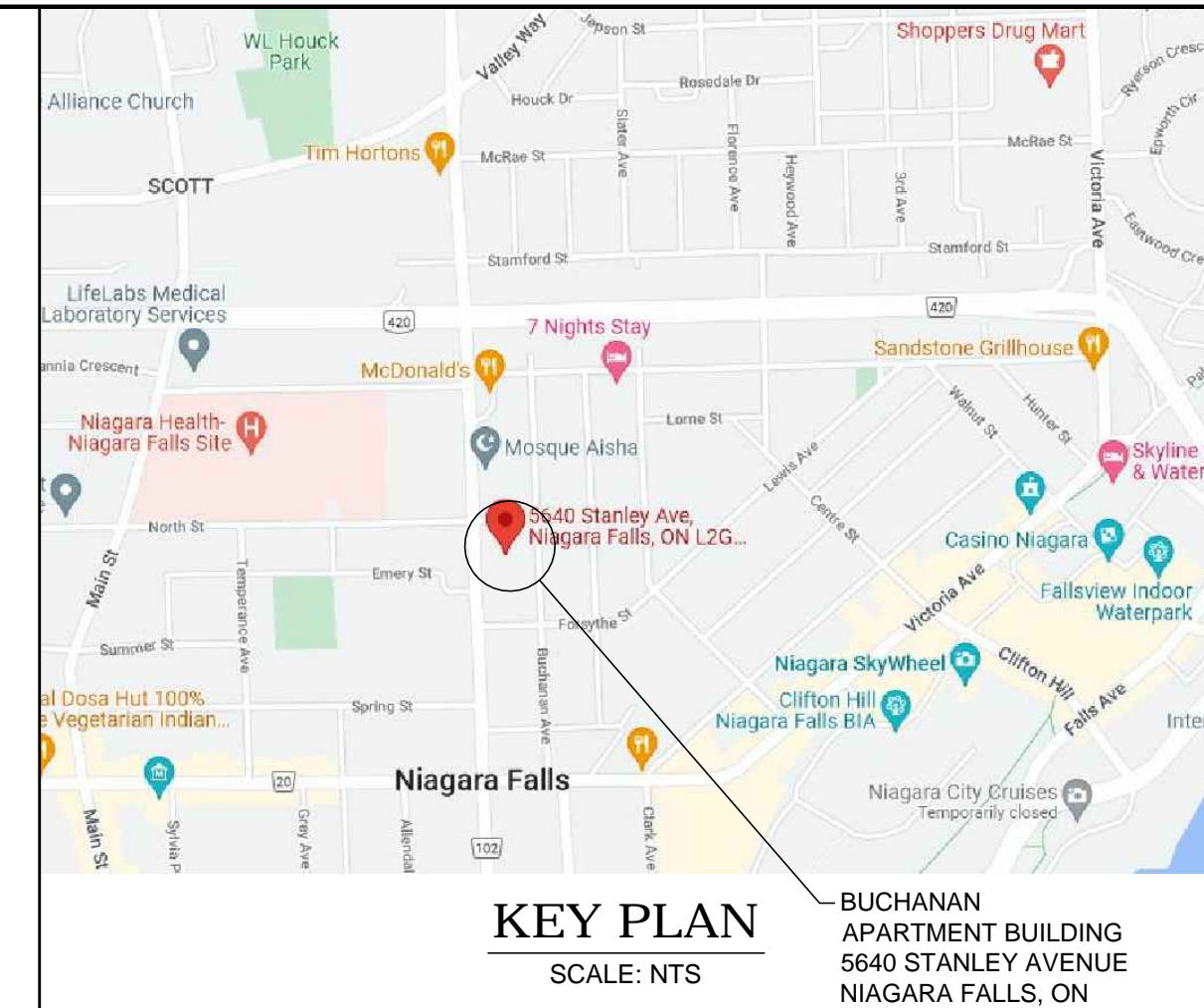
**HEAVY DUTY ASPHALT DETAIL**  
SCALE: 1:10



**PARKING STRUCTURE ASPHALT**  
SCALE: 1:10



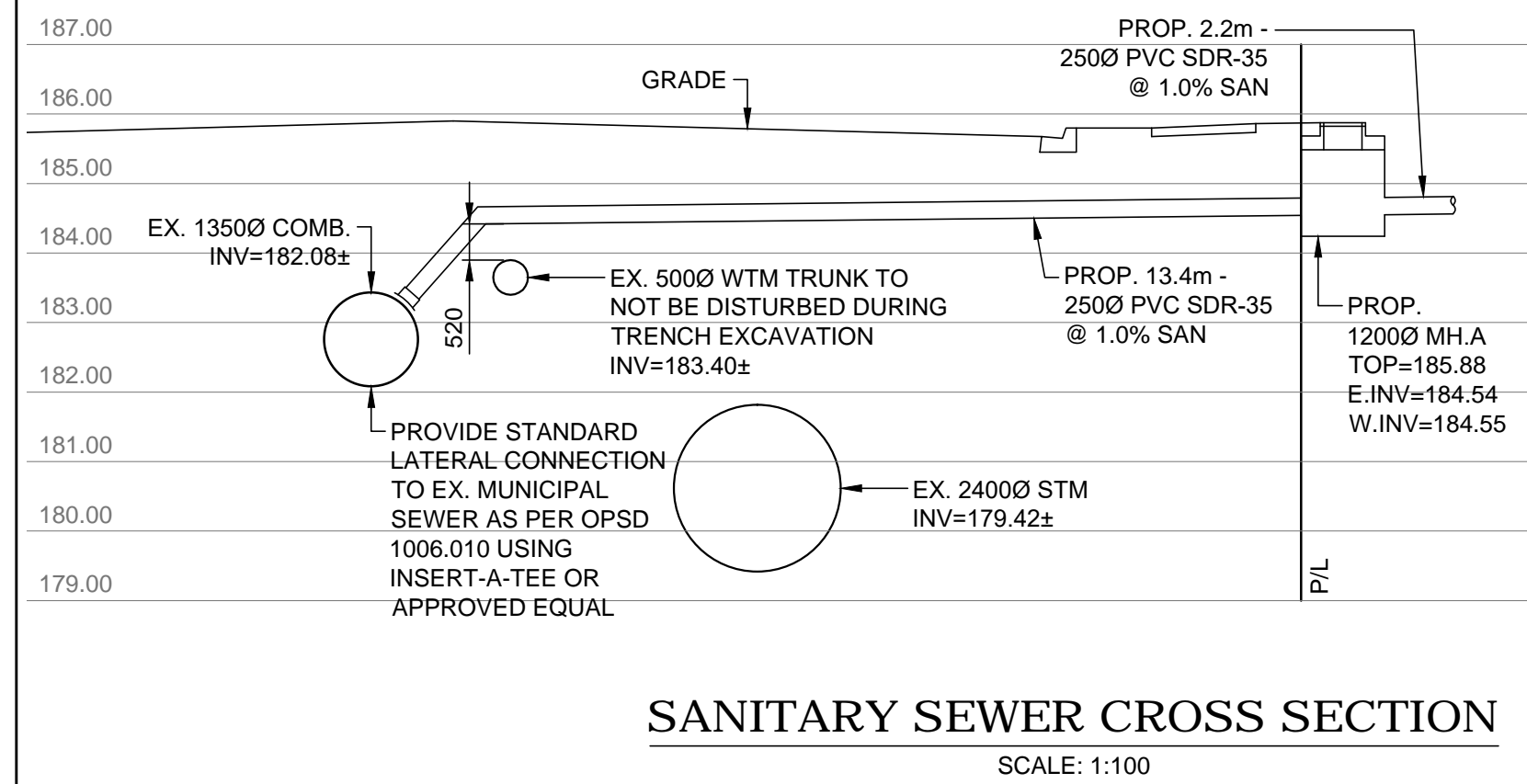
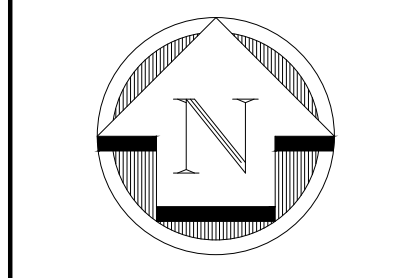
**TYP. SEDIMENT TRAP**  
SCALE: 1:25



**KEY PLAN**  
SCALE: NTS



**HALLEX ENGINEERING LTD.**  
4999 Victoria Avenue,  
Niagara Falls, ON L2G 1K6  
Tel: 905.352.1111 Fax: 905.352.1105



**SANITARY SEWER CROSS SECTION**  
SCALE: 1:100

- NOTES:**
1. EXISTING REGIONAL AND MUNICIPAL SERVICE DEPTHS AND LOCATIONS TO BE CONFIRMED BY HYDROVAC PRIOR TO CONSTRUCTION COMMENCING.
  2. CONTRACTOR TO PROVIDE TRUNK WATERMAIN SUPPORT DETAIL TO THE REGION OF NIAGARA FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION COMMENCING.
  3. BOND BREAKER WRAP TO BE APPLIED TO CPP WATERMAIN PRIOR TO BACKFILLING CROSSINGS WITH UFILL.
  4. PROVIDE 50mm MIN. STYROFOAM HI 40 RIGID HIGH DENSITY BOARD BY THE DOW CHEMICAL COMPANY, OR APPROVED EQUAL, TO BE ADDED OVER TRUNK WATERMAIN FOR THE FULL WIDTH OF TRENCH AND EXTENDING OVER THE ENTIRE WATERMAIN. THE MATERIAL SHALL HAVE 240 kPa MIN. COMPRESSIVE STRENGTH.

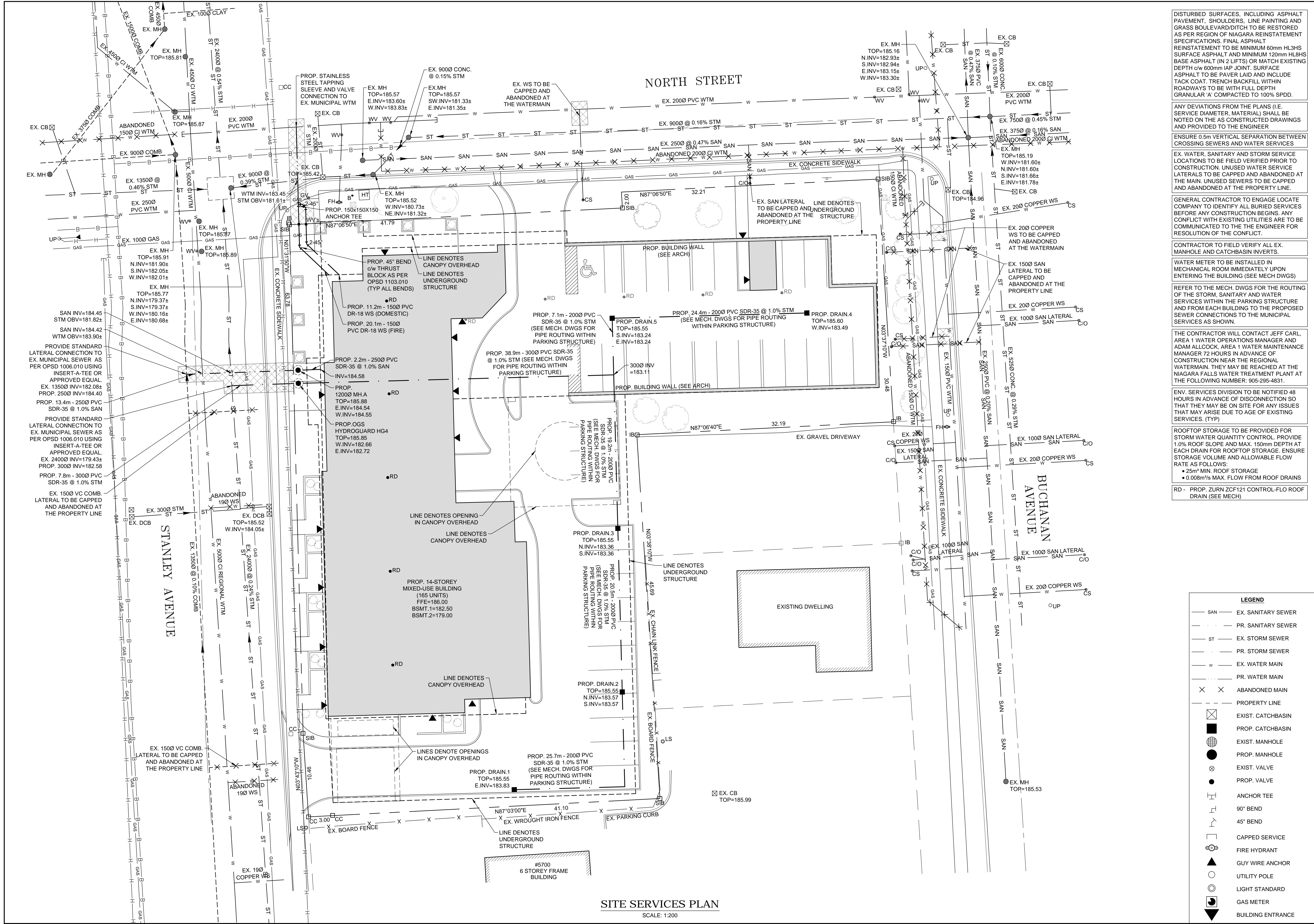
REV.	DRAWING REVISION	DATE
0	ISSUED FOR SITE PLAN APPROVAL	JUL 05 2023

**CLIENT:**  
ACK ARCHITECTS STUDIO INC.  
290 GLENDALE AVENUE  
ST. CATHARINES, ON

**PROJECT:**  
BUCHANAN APARTMENT BLDG  
5640 STANLEY AVENUE  
NIAGARA FALLS, ON

**SHEET TITLE:**  
GENERAL NOTES,  
TYPICAL DETAILS  
& KEY PLAN

<b>DATE:</b>	JUN /2023
<b>SCALE:</b>	AS SHOWN
<b>DR. BY:</b>	JF
<b>CH. BY:</b>	JS / JH
<b>JOB No.:</b>	221014
<b>DWG.</b>	CO
<b>REV.</b>	0



**SITE SERVICES PLAN**  
SCALE: 1:200

DISTURBED SURFACES, INCLUDING ASPHALT PAVEMENT, SHOULDERS, LINE PAINTING AND GRASS BOULEVARD/DITCH TO BE RESTORED AS PER REGION OF NIAGARA REINSTATEMENT SPECIFICATIONS. FINAL ASPHALT REINSTATEMENT TO BE MINIMUM 60mm HL3HS SURFACE ASPHALT AND MINIMUM 120mm HL8HS BASE ASPHALT (IN 2 LIFTS) OR MATCH EXISTING DEPTH c/w 600mm IAP JOINT. SURFACE ASPHALT TO BE PAVER LAID AND INCLUDE TACK COAT, TRENCH BACKFILL WITHIN ROADWAYS TO BE WITH FULL DEPTH GRANULAR 'A' COMPACTED TO 100% SPDD.

ANY DEVIATIONS FROM THE PLANS (I.E. SERVICE DIAMETER, MATERIAL) SHALL BE NOTED ON THE AS CONSTRUCTED DRAWINGS AND PROVIDED TO THE ENGINEER

ENSURE 0.5m VERTICAL SEPARATION BETWEEN CROSSING SEWERS AND WATER SERVICES

EX. WATER, SANITARY AND STORM SERVICE LOCATIONS TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION. UNUSED WATER SERVICE LATERALS TO BE CAPPED AND ABANDONED AT THE MAIN. UNUSED SEWERS TO BE CAPPED AND ABANDONED AT THE PROPERTY LINE.

GENERAL CONTRACTOR TO ENGAGE LOCATE COMPANY TO IDENTIFY ALL BURIED SERVICES BEFORE ANY CONSTRUCTION BEGINS. ANY CONFLICT WITH EXISTING UTILITIES ARE TO BE COMMUNICATED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.

CONTRACTOR TO FIELD VERIFY ALL EX. MANHOLE AND CATCHBASIN INVERTS.

WATER METER TO BE INSTALLED IN MECHANICAL ROOM IMMEDIATELY UPON ENTERING THE BUILDING (SEE MECH DWGS)

REFER TO THE MECH. DWGS FOR THE ROUTING OF THE STORM, SANITARY AND WATER SERVICES WITHIN THE PARKING STRUCTURE AND FROM EACH BUILDING TO THE PROPOSED SEWER CONNECTIONS TO THE MUNICIPAL SERVICES AS SHOWN.

THE CONTRACTOR WILL CONTACT JEFF CARL, AREA 1 WATER OPERATIONS MANAGER AND ADAM ALCOCK, AREA 1 WATER MAINTENANCE MANAGER 72 HOURS IN ADVANCE OF CONSTRUCTION NEAR THE REGIONAL WATERMAIN. THEY MAY BE REACHED AT THE NIAGARA FALLS WATER TREATMENT PLANT AT THE FOLLOWING NUMBER: 905-295-4831.

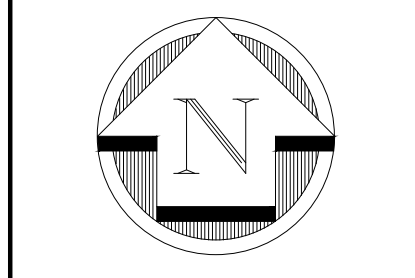
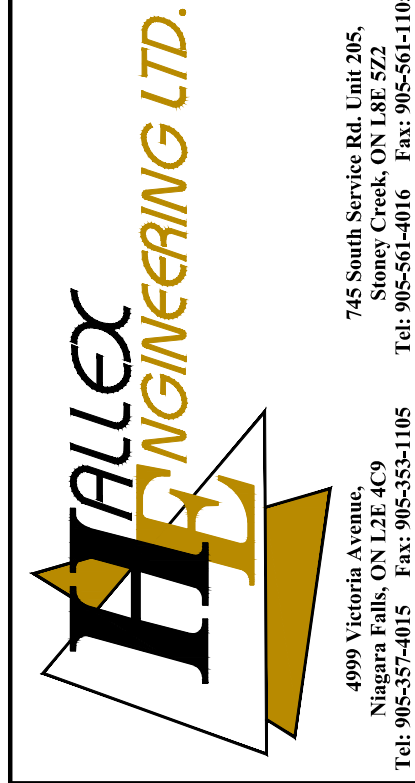
ENV. SERVICES DIVISION TO BE NOTIFIED 48 HOURS IN ADVANCE OF DISCONNECTION SO THAT THEY MAY BE ON SITE FOR ANY ISSUES THAT MAY ARISE DUE TO AGE OF EXISTING SERVICES. (TYP)

ROOFTOP STORAGE TO BE PROVIDED FOR STORM WATER QUANTITY CONTROL. PROVIDE 1.0% ROOF SLOPE AND MAX. 150mm DEPTH AT EACH DRAIN FOR ROOFTOP STORAGE. ENSURE STORAGE VOLUME AND ALLOWABLE FLOW RATE AS FOLLOWS:

- 25m<sup>2</sup> MIN. ROOF STORAGE
- 0.008m<sup>3</sup>/s MAX. FLOW FROM ROOF DRAINS

RD - PROP. ZURN ZCF121 CONTROL-FLO ROOF DRAIN (SEE MECH)

LEGEND	
— SAN	EX. SANITARY SEWER
— PR.	SANITARY SEWER
— ST	EX. STORM SEWER
— PR.	STORM SEWER
— W	EX. WATER MAIN
— PR.	WATER MAIN
X X	ABANDONED MAIN
—	PROPERTY LINE
⊠	EXIST. CATCHBASIN
■	PROP. CATCHBASIN
●	EXIST. MANHOLE
●	PROP. MANHOLE
⊙	EXIST. VALVE
⊙	PROP. VALVE
⊙	ANCHOR TEE
⊙	90° BEND
⊙	45° BEND
⊙	CAPPED SERVICE
⊙	FIRE HYDRANT
▲	GUY WIRE ANCHOR
○	UTILITY POLE
⊙	LIGHT STANDARD
⊙	GAS METER
⊙	BUILDING ENTRANCE



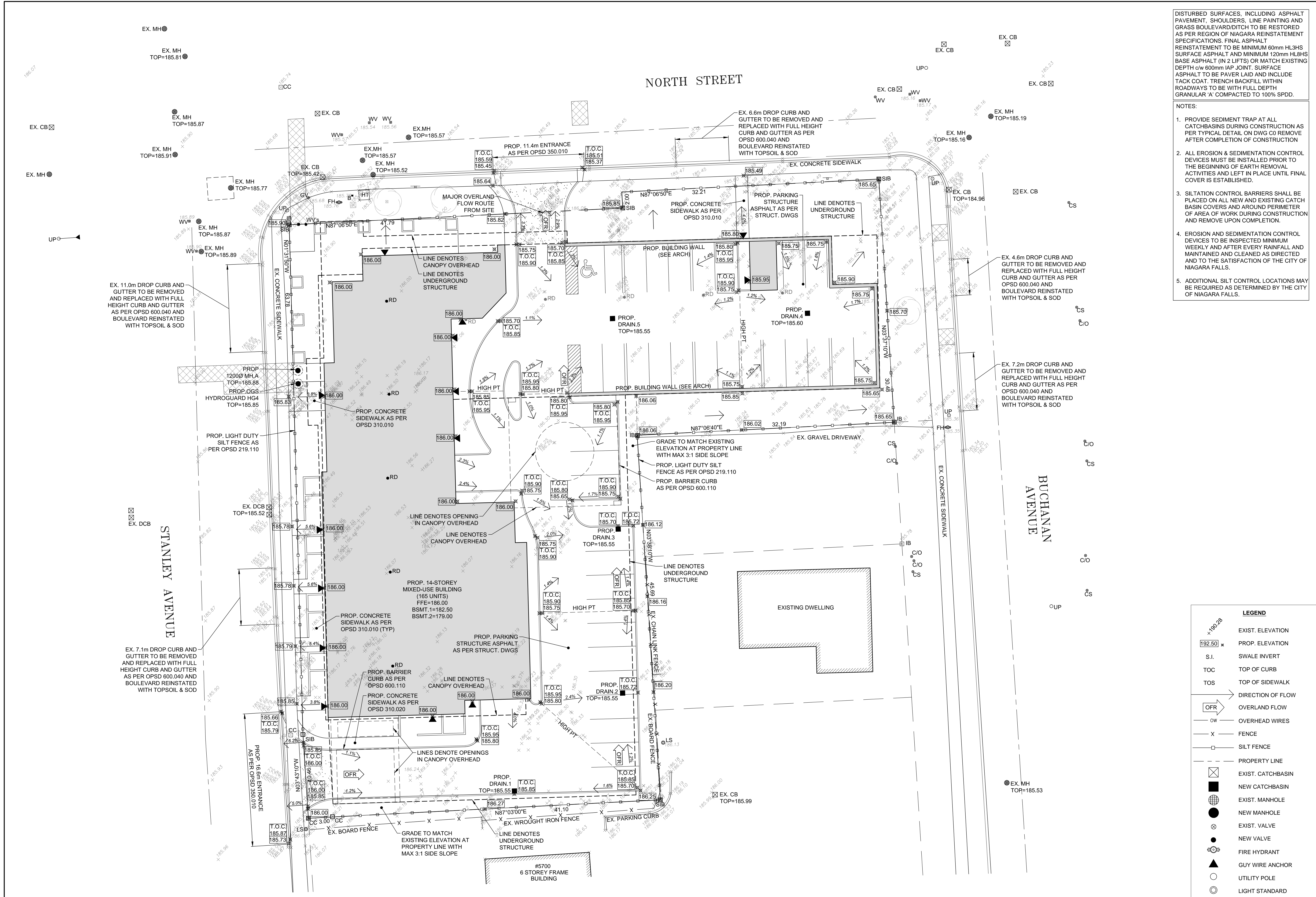
REV.	DRAWING REVISION	DATE
0	ISSUED FOR SITE PLAN APPROVAL	JUL 05 2023

**CLIENT:**  
ACK ARCHITECTS STUDIO INC.  
290 GLENDALE AVENUE  
ST. CATHARINES, ON

**PROJECT:**  
BUCHANAN APARTMENT BLDG  
5640 STANLEY AVENUE  
NIAGARA FALLS, ON

**SHEET TITLE:**  
SITE SERVICES PLAN

<b>DATE:</b>	JUN. /2023
<b>SCALE:</b>	AS SHOWN
<b>DR. BY:</b>	JF
<b>CH. BY:</b>	JS / JH
<b>JOB No.:</b>	221014
<b>DWG.</b>	C1
<b>REV.</b>	0

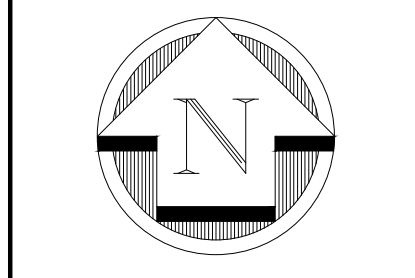
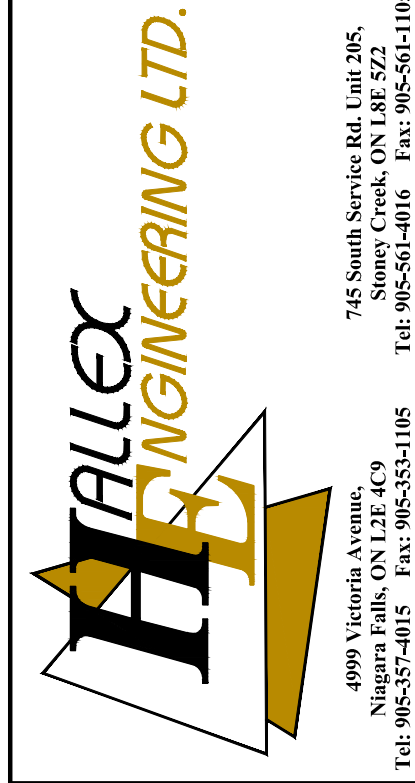


**SITE DRAINAGE PLAN**  
SCALE: 1:200

DISTURBED SURFACES, INCLUDING ASPHALT PAVEMENT, SHOULDERS, LINE PAINTING AND GRASS BOULEVARD/DITCH TO BE RESTORED AS PER REGION OF NIAGARA REINSTATEMENT SPECIFICATIONS. FINAL ASPHALT REINSTATEMENT TO BE MINIMUM 60mm HL3HS SURFACE ASPHALT AND MINIMUM 120mm HL8HS BASE ASPHALT (IN 2 LIFTS) OR MATCH EXISTING DEPTH  $\pm$  600mm IAP JOINT. SURFACE ASPHALT TO BE PAVER LAID AND INCLUDE TACK COAT. TRENCH BACKFILL WITHIN ROADWAYS TO BE WITH FULL DEPTH GRANULAR 'A' COMPACTED TO 100% SPDD.

- NOTES:**
1. PROVIDE SEDIMENT TRAP AT ALL CATCHBASINS DURING CONSTRUCTION AS PER TYPICAL DETAIL ON DWG C0 REMOVE AFTER COMPLETION OF CONSTRUCTION
  2. ALL EROSION & SEDIMENTATION CONTROL DEVICES MUST BE INSTALLED PRIOR TO THE BEGINNING OF EARTH REMOVAL ACTIVITIES AND LEFT IN PLACE UNTIL FINAL COVER IS ESTABLISHED.
  3. SILTATION CONTROL BARRIERS SHALL BE PLACED ON ALL NEW AND EXISTING CATCH BASIN COVERS AND AROUND PERIMETER OF AREA OF WORK DURING CONSTRUCTION AND REMOVE UPON COMPLETION.
  4. EROSION AND SEDIMENTATION CONTROL DEVICES TO BE INSPECTED MINIMUM WEEKLY AND AFTER EVERY RAINFALL AND MAINTAINED AND CLEANED AS DIRECTED AND TO THE SATISFACTION OF THE CITY OF NIAGARA FALLS.
  5. ADDITIONAL SILT CONTROL LOCATIONS MAY BE REQUIRED AS DETERMINED BY THE CITY OF NIAGARA FALLS.

LEGEND	
+100.28	EXIST. ELEVATION
192.50	PROP. ELEVATION
S.I.	SWALE INVERT
TOC	TOP OF CURB
TOS	TOP OF SIDEWALK
→	DIRECTION OF FLOW
OFR	OVERLAND FLOW
—	OVERHEAD WIRES
X	FENCE
□	SILT FENCE
- - -	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



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<b>CH. BY:</b>	JS / JH
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<b>DWG.</b>	C2
<b>REV.</b>	0