


OWNER'S NAME _____

OWNER'S SIGNATURE _____



LORD MAYOR _____

TOWN CLERK _____

DATE _____

GENERAL NOTES:

- 1.1 ALL MEASUREMENTS ARE IN METRIC UNITS UNLESS OTHERWISE NOTED.
- 1.2 CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- 1.3 CIVIL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL SITE PLAN AND LANDSCAPE PLAN.
- 1.4 THE CONTRACTOR SHALL FIELD CHECK EXISTING CONDITIONS, VERIFY ALL DIMENSIONS, ELEVATIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO COMMENCEMENT OF ANY WORK.
- 1.5 ALL WORK SHALL BE IN ACCORDANCE WITH THE RELEVANT SECTIONS OF THE ONTARIO BUILDING CODE, ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS, THE TOWN OF NIAGARA-ON-THE-LAKE AND NIAGARA REGION REQUIREMENTS WHICHEVER IS MORE STRINGENT UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS.
- 1.6 THE COST AND SUBMISSION OF ALL PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR. PERMITS REQUIRED INCLUDE BUT MAY NOT BE LIMITED TO THE FOLLOWING: NIAGARA REGION CONSTRUCTION ENCROACHMENT AND ENTRANCE PERMIT FOR ACCESS OFF HIGHWAY 55.
- 1.7 THE CONTRACTOR SHALL PROVIDE APPROPRIATE SHORING FOR TRENCH EXCAVATION IN ACCORDANCE WITH THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- 1.8 SELECT NATIVE MATERIAL SHALL BE USED FOR CULVERT, SEWER AND WATER SERVICE TRENCH BACKFILL EXCEPT UNDER PAVEMENT WHERE BACKFILL SHALL BE GRANULAR 'A' MATERIAL.
- 1.9 ALL GRANULAR TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO 96% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). ALL CURB AND PAVEMENT CHANNEL BASE SHALL BE COMPACTED TO 100% (SPMDD); ALL NATIVE BACKFILL SHALL BE COMPACTED TO 95% SPMDD UNLESS OTHERWISE NOTED.
- 1.10 ALL DISTURBED AREAS SHALL BE RESTORED BY THE CONTRACTOR TO MATCH EXISTING CONDITIONS OR BETTER (I.E. EXISTING PAVEMENT, CURBS, LANDSCAPED AREAS, SIDEWALK, ETC.) OR AS NOTED ON THE DRAWINGS. HARD SURFACE MATCH LINES SHALL BE SAWCUT.
- 1.11 PRECAST CURB SHALL BE MAXIMUM 1.8m LONG AND 0.15m HIGH FOR CAR PARKING. PRECAST CURB FOR BUS PARKING AREA SHALL BE 2.4M LONG. PRECAST CURB SHALL BE AS PER OPSD 803.00 AND SHALL INCLUDE ANCHORING.
- 1.12 THE CONTRACTOR SHALL KEEP WORK SITE CLEAN AND FREE OF ALL CONSTRUCTION DEBRIS DURING CONSTRUCTION AND LEAVE THE SITE CLEAN UPON COMPLETION OF WORK OR PORTIONS OF WORK.
- 1.13 ALL PROPERTY BARS SHALL BE PROTECTED. ANY DAMAGED PROPERTY BARS SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- 1.14 ALL DEVIATIONS FROM THE WORKING DRAWINGS MUST BE APPROVED BY THE CONSULTANT. THE CONTRACTOR MUST KEEP AN ACCURATE RECORD OF ALL CHANGES FROM THE ORIGINAL CONSTRUCTION DRAWINGS AND SPECIFICATIONS.
- 1.15 AS-BUILT DRAWINGS ARE TO BE PROVIDED TO THE ENGINEER WITH FINAL SITE GRADING ELEVATIONS, VALVE LOCATIONS, CLEANOUT LOCATIONS, MANHOLE AND CATCH-BASIN STRUCTURE RIM ELEVATIONS AND INVERTS, AND ANY CHANGES TO THE DESIGN.

CULVERTS, SUBDRAINS AND INFILTRATION SYSTEM PIPES

- 2.1 ALL SEWERS AND CULVERTS IN EARTH SHALL HAVE GRANULAR 'A' EMBEDMENT MATERIAL IN ACCORDANCE WITH OPSD 802.010 FOR FLEXIBLE PIPE AND OPSD 802.011 CLASS B BEDDING FOR RIGID PIPE.
- 2.2 SUBDRAIN SHALL BE 100mm DIA. PERFORATED POLYETHYLENE (PE) PIPE WITH KNOTTED GEOTEXTILE SOCK AS PER OPSD 405, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- 2.3 INFILTRATION SYSTEM PIPING SHALL BE RIGID HDPE 320KPA HDPE CORRUGATED PIPE WITH SMOOTH INTERIOR WALL. (BIG 'O' BOSS 2000 OR EQUIVALENT)
- 2.4 CULVERT PIPE SHALL BE 320KPA HDPE CORRUGATED PIPE WITH SMOOTH INTERIOR WALL. (BIG 'O' BOSS 2000 OR EQUIVALENT)
- 2.5 CLEANOUTS SHALL BE INSTALLED AT ENDS OF INFILTRATION TRENCH SUBDRAIN FOR INSPECTION AND FLUSHING. SEE DETAIL 5.

MUNICIPAL WORKS

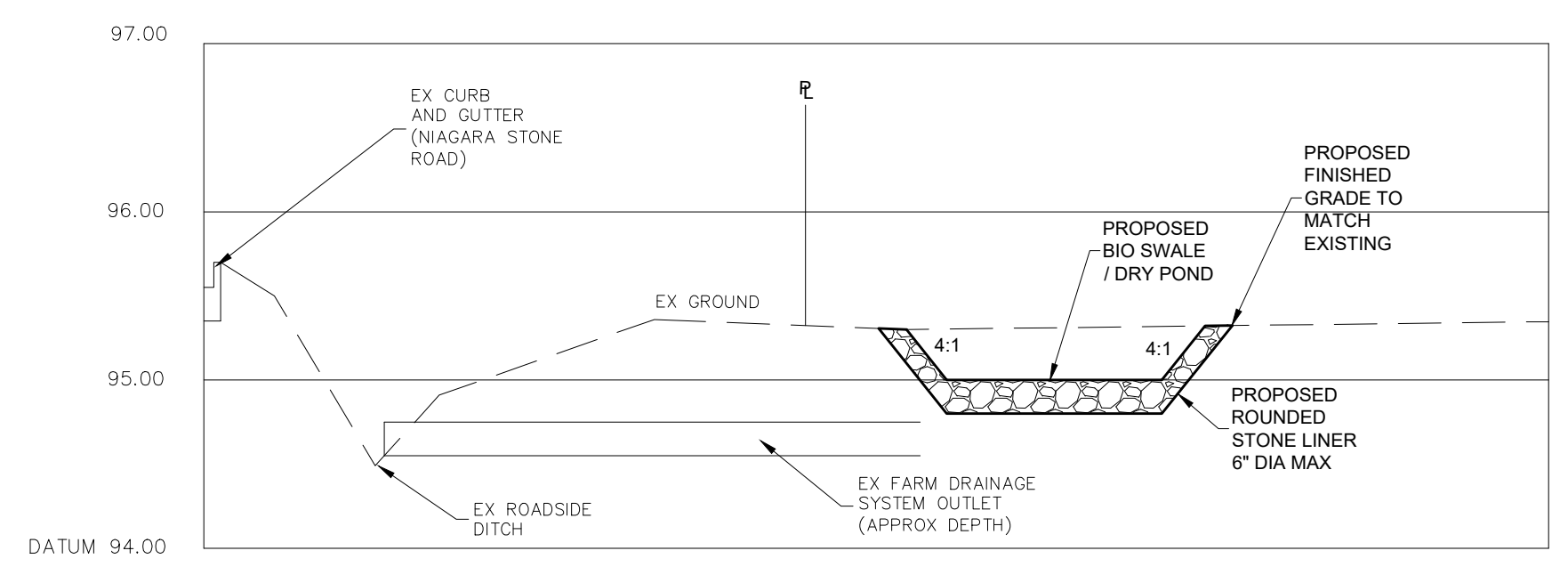
- 5.1 THE CONTRACTOR IS TO OBTAIN A REGIONAL CONSTRUCTION ENCROACHMENT AND ENTRANCE PERMITS FROM THE TRANSPORTATION SERVICES DIVISION, PUBLIC WORKS DEPARTMENT, FOR ANY WORKS TAKING PLACE WITHIN THE REGIONAL ROAD ALLOWANCE. PERMITS, AS REQUIRED, FROM THE REGION AND TOWN OF NIAGARA-ON-THE-LAKE, SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION ON MUNICIPAL PROPERTY.
- 5.2 ALL WORK CARRIED OUT ON MUNICIPAL PROPERTY SHALL BE IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY REQUIREMENTS. TOWN OF NIAGARA-ON-THE-LAKE AND/OR NIAGARA REGION.
- 5.3 CONTRACTOR IS TO PREPARE A TRAFFIC CONTROL PLAN AS PER ONTARIO TRAFFIC MANUAL BOOK 7 REQUIREMENTS.
- 5.4 ASPHALT PAVEMENT RESTORATION SHALL BE AS PER APPLICABLE MUNICIPALITY REQUIREMENTS.
- 5.5 BOULEVARD RESTORATION OF LANDSCAPED AREAS SHALL BE WITH TOPSOIL AND SOG AS PER APPLICABLE MUNICIPALITY REQUIREMENTS.

RELEVANT SPECIFICATIONS

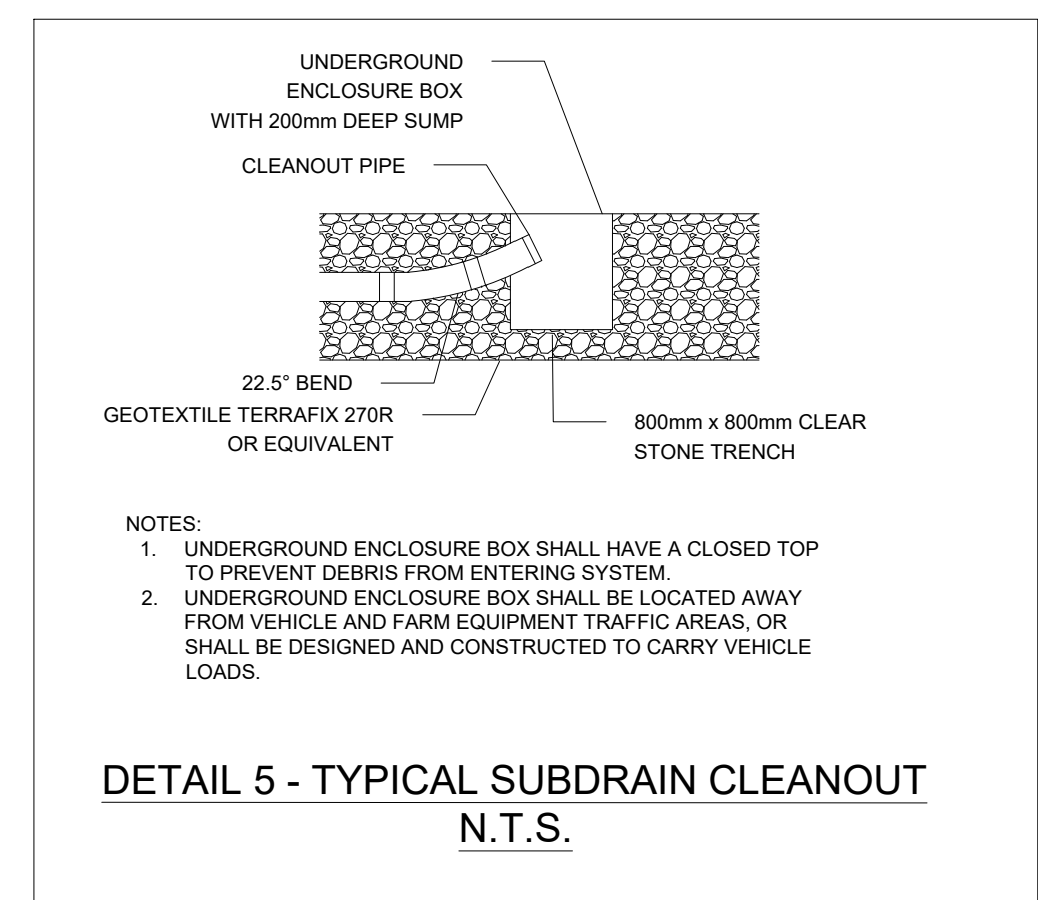
- OPSS 206 Grading
- OPSS 310 Hot Mix Asphalt
- OPSS 314 Untreated Granular
- OPSS 353 Concrete Curb and Gutter Systems
- OPSS 401 Trenching, Backfilling and Compacting
- OPSS 402 Excavating, Backfilling and Compacting for MH's, CB's, D's and V's
- OPSS 405 Subdrains
- OPSS 407 Maintenance Holes, Catch Basin, Dish Inlet and Valve Chamber Installation
- OPSS 409 Closed-Circuit Television Inspection of Pipelines
- OPSS 410 Pipe Sewer Installation in Open Cut
- OPSS 501 Consulting
- OPSS 510 Removal
- OPSS 518 Control of Water from Dewatering Operations
- OPSS 602 Topsoil
- OPSS 803 Sodding
- OPSS 804 Seed and Cover
- OPSS 805 Temporary Erosion and Sediment Control Measures

RELEVANT STANDARD DRAWINGS

- OPSD 218.110 Light Duty Silt Fence Barrier
- OPSD 218.180 Stone Base Flow Check Dam
- OPSD 600.110 Concrete Barrier Curb
- OPSD 600.020 Standard Precast Concrete Curb
- OPSD 802.010 Flexible Pipe Embedment and Backfill, Earth Excavation



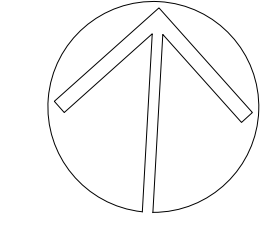
SECTION A-A'
N.T.S.



DETAIL 5 - TYPICAL SUBDRAIN CLEANOUT
N.T.S.

- NOTES:**
1. The position of pole lines, conduits, watermains, sewers, and other underground and above ground utilities and structures is not necessarily shown on the contract drawings, and, where shown the accuracy of the position of such utilities and structures is not guaranteed. Before starting work, the contractor shall identify the exact location of all such utilities and structures and shall assume liability for damage to them.
 2. Check all dimensions and report any inconsistencies to the Engineer before proceeding with the work - DO NOT SCALE DRAWINGS.
 3. This drawing is an instrument of Professional Service and is intended for use only in connection with the project covered by the Engineering Agreement.
 4. Urban & Environmental Management Inc., does not assume any responsibility for losses, damages and costs arising from use or misuse of this drawing by persons, firms, or corporations without prior written consent of Urban & Environmental Management Inc.
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No.	REVISION	DATE	BY
3	SUBMITTED FOR SITE PLAN APPROVAL	JUL 9/24	MM
2	ISSUED FOR CLIENT REVIEW	MAY 6/24	MM
1	ISSUED FOR CLIENT REVIEW	MAR 1/24	MM
0	ISSUED FOR CLIENT REVIEW AND DESIGN COORDINATION	DEC 15/23	MM



REVIEW COPY
NOT FOR CONSTRUCTION

ENGINEER SIGNED AND SEALED
PLANS WILL BE PROVIDED FOR FINAL
TOWN SITE PLAN APPROVAL
SUBMISSION.

CONSULTANT:



URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

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Niagara Falls, ON Canada L2E 3S9
TEL.: (905) 371-8764 FAX: (905) 371-8763

CLIENT:

PROJECT:

N.E.O.B INC.
933 NIAGARA STONE ROAD
NIAGARA-ON-THE-LAKE

TITLE:

DETAILS AND NOTES

CHECKED: MM	DRAWN: MM	Project No. 23-106
DATE: JUNE 1, 2023	SCALE: N.T.S.	DWG. No. C02