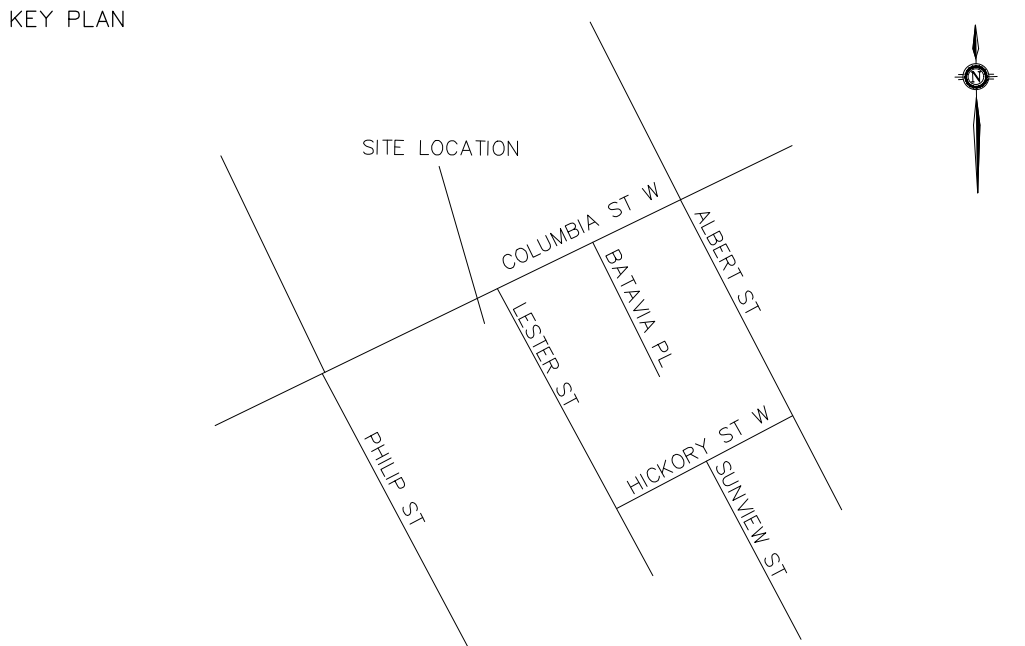
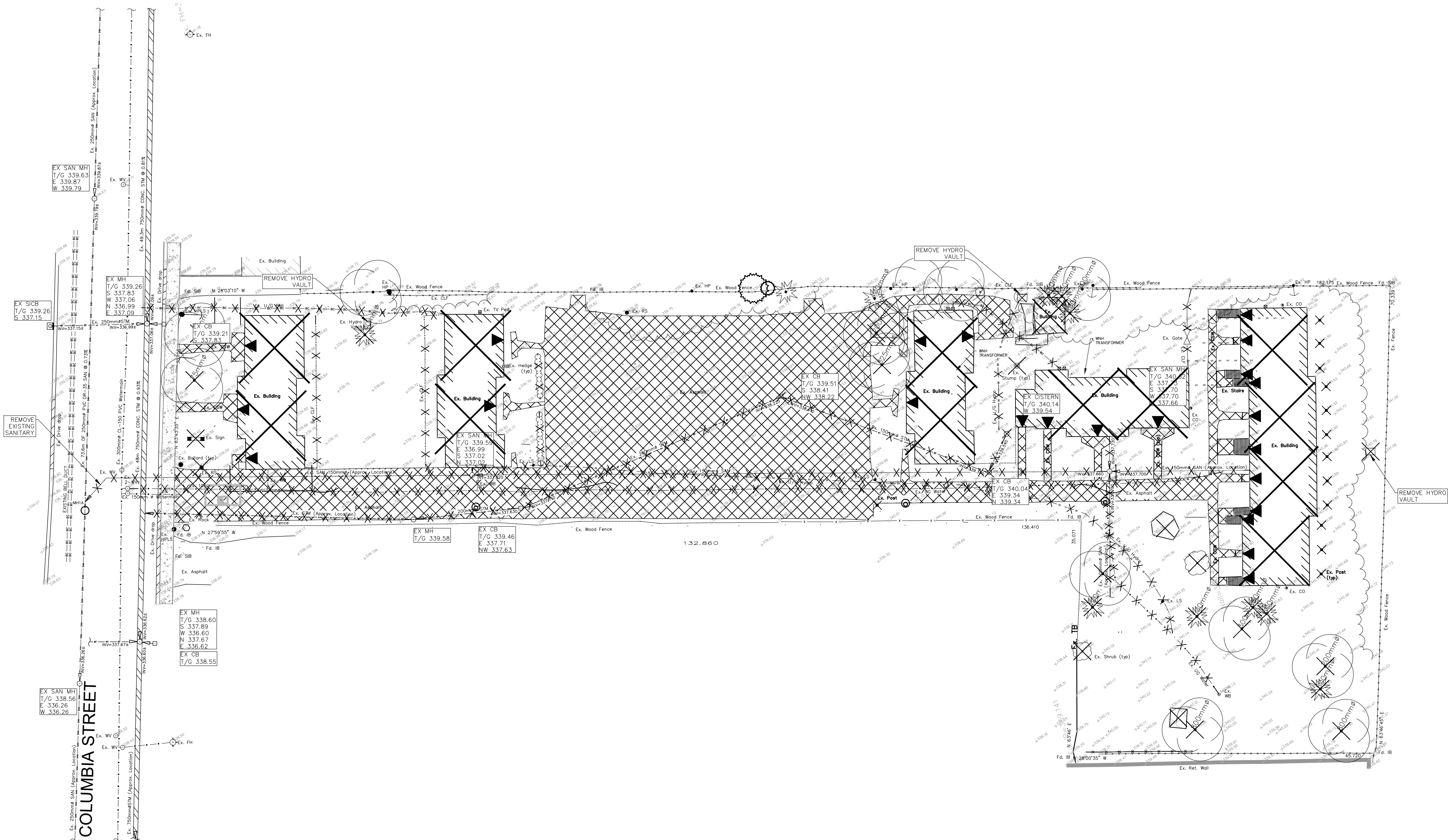
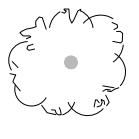
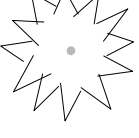




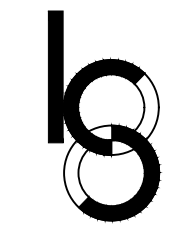
- NOTES:
- SAN — SAN — EXISTING SANITARY
 - ST — ST — EXISTING STORM
 - W — W — EXISTING WATERMAIN
 - X · X — REMOVALS
 - x — EXISTING FENCE
 - H — H — EXISTING HYDRO
 - G — G — EXISTING GAS
 - BC — BC — BC — EXISTING BELL
 -  EXISTING DECIDUOUS TREE
 -  EXISTING CONIFEROUS TREE

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143 COLUMBIA STREET WEST

CITY OF WATERLOO REGION OF WATERLOO

EXISTING CONDITIONS
AND REMOVALS PLAN

 **K. SMART ASSOCIATES LIMITED**
CONSULTING ENGINEERS AND PLANNERS
KITCHENER SUDBURY



DESIGNED BY: SL	0 8 16	DATE: NOV 3, 2021
CHECKED BY: DH	SCALE 1:400	SHEET
DRAWN BY: SL		1 OF 4
CHECKED BY: DH		
FILE No. 20-261	REVISION No.	

STORM SEWERS

ALL MANHOLES AND CATCHBASIN MANHOLES ARE TO BE 1200mmØ PRECAST AS PER OPSD 701.01

MANHOLE AND CATCHBASIN, FRAMES, GRATES, CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.

STORM MANHOLE LIDS TO BE PER OPSD 401.010.

ALL CATCHASINS AND CATCHBASIN MANHOLES TO HAVE 600mm SUMP.

THE USE OF PROFILE PVC IS NOT PERMITTED WITHIN THE MUNICIPAL RIGHT OF WAY.

ALL STORM SEWER TO BE PVC SMOOTH WALL SDR 35

BEDDING COVER AND BACKFILL PER OPSD 802.01

INSULATION USED FOR FROST COVER – POLYSTYRENE FOAM BOARD SHALL BE USED FOR PIPE INSULATION AND MUST BE 25mm THICK FOR EVERY 300mm REDUCTION IN DEPTH OF COVER. IT MUST BE LAID IN 50mm THICKNESS WITH A WIDTH OF THE INSULATION THAT COMPLIES WITH SECTION 7.3.5.4 OF THE OBC.

2. SANITARY SEWERS

PVC SDR 35 AS PER OPSD 1841 FOR GRAVITY SEWERS, SAND OR GRANULAR 'A' BEDDING, GRANULAR 'B' BACKFILL

BEDDING, COVER AND BACKFILL OPSD 802.010, FERNCO COUPLERS TO BE USED

3. WATERMAIN

WATERMAIN SHALL BE CLASS 150 PCV C900 PIPE.

PIPE BEDDING FOR RIGID PIPE TO BE CLASS B AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010. BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR A. TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

WATERMAIN VALVES, 100mm AND LARGER, SHALL BE AS PER AWWA C509 – MUELLER A2360-23 OR APPROVED EQUIVALENT (OPEN LEFT) INCLUDING VALVE BOX AND 2.3 KG ANODE.

PVC WATERMAIN SHALL HAVE TWO SOLID COPPER, AWG10 TRACER WIRE STRAPPED TO TOP AS PER DGSMS STANDARDS AT 5 METRE INTERVALS.

ANODES CONNECTED TO EACH METALLIC FITTING USING BRASS GROUNDING CLAMPS, AND SHALL NOT BE ATTACHED TO TRACER WIRES, AND TRACER WIRE SHALL NOT BE CONNECTED TO WATERMAIN FITTINGS.

ALL METALLIC WATERMAIN FITTING AND APPUTENANCES ARE TO BE WRAPPED

WITH AN APPROVED PETROLEUM SYSTEM.

ALL WATERMANS AND SERVICES TO HAVE MINIMUM 2m COVER.

CITY OF WATERLOO TO SUPPLY WATER METER. CONTRACTOR TO INSTALL METER, ALL VALVES, PIPING AND REMOTE METER READOUT AT LOCATION ON BUILDING EXTERIOR ACCEPTABLE TO THE CITY.

BACKFLOW PREVENTION DEVICES ARE REQUIRED AT THE WATER METER AND OTHER LOCATION AS NECESSARY IN ACCORDANCE WITH CSA AND OBC REGULATIONS. DEVICES TO BE TESTED ANNUALLY BY A LICENSED PLUMBER WITH A COPY OF THE CERTIFICATION REPORT SUBMITTED TO THE REGION.

SERVICE PROVIDING FIRE FLOWS MUST BE PRESSURE TESTED TO 200psi AS PER OBC PLUMBING CODE.

WATER SERVICE TESTING AND COMMISSIONING SHALL COMPLY WITH DGSMS SECTION D.2.8. 'COMMISSIONING'.

THE DESIGN, CONSTRUCTION, INSTALLATION AND TESTING OF WATERMAIN AND SERVICE PIPING SHALL BE IN CONFORMANCE WITH OPSD 441.

THE TRENCH SHALL BE BACKFILLED BETWEEN JOINTS BEFORE TESTING TO PREVENT MOVEMENT OF PIPE.

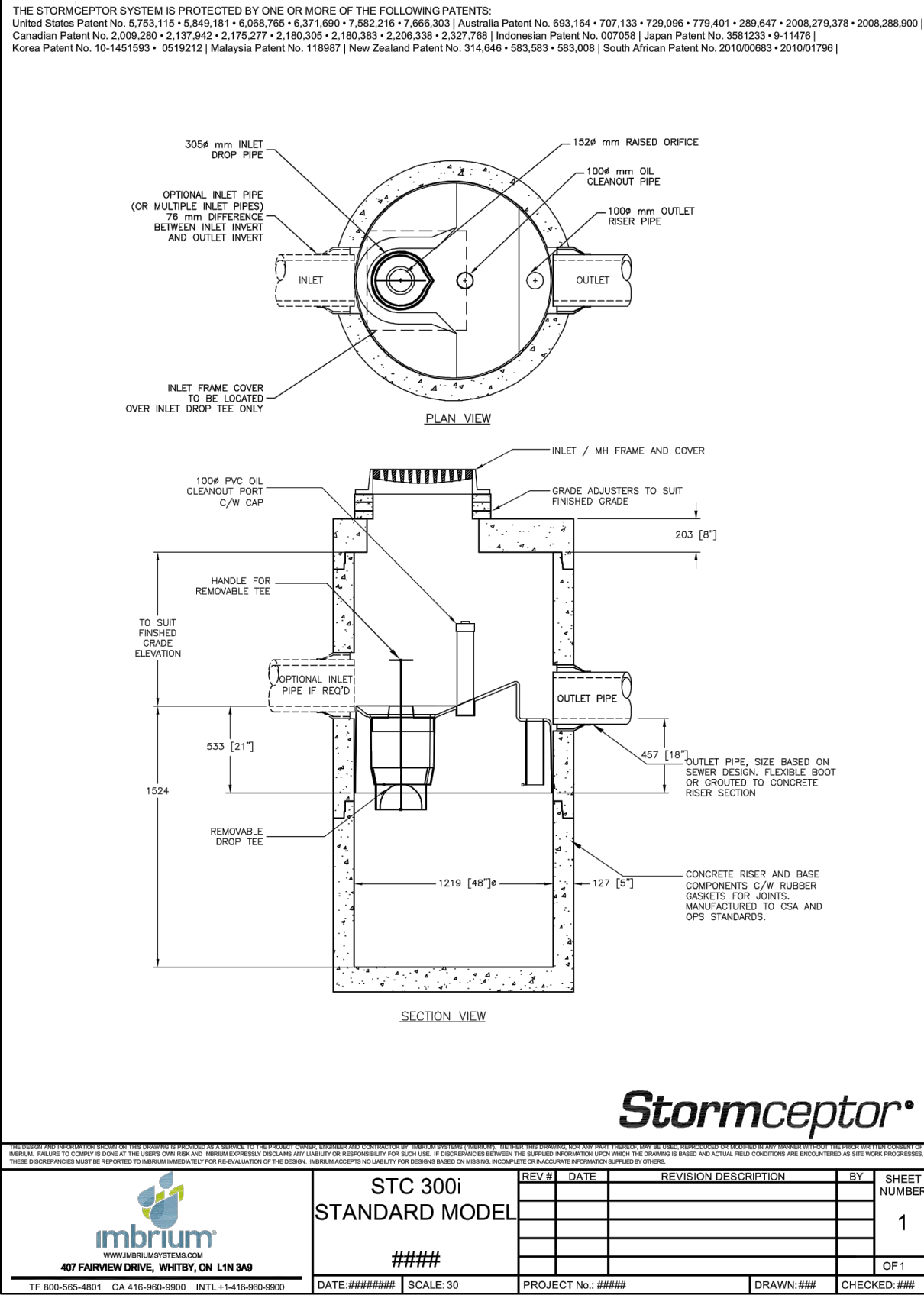
THE AMOUNT OF LEAKAGE SHALL NOT EXCEED THE ALLOWABLE LEAKAGE SPECIFIED IN OPSD 441.

ALL CONTROL VALVES SHALL BE FULLY CLOSED AND OPENED UNDER SYSTEM WATER PRESSURE TO ENSURE PROPER OPERATION.

PRESSURE LEAKAGE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE CONSULTING ENGINEER.

CERTIFICATION SHALL BE COMPLETED BY THE CONSULTANT INDICATING THE TESTS WERE COMPLETED AND PASSED, AND SUBMITTED TO THE ENGINEERING SERVICES INSPECTOR.

THE COMMISSIONING PLAN MUST BE SUBMITTED TO THE PWS WATER SERVICES FOR APPROVAL PRIOR TO CONSTRUCTION.



KEY PLAN

143 COLUMBIA STREET W

CITY OF WATERLOO REGION OF WATERLOO

SERVICING PLAN

K. SMART ASSOCIATES LIMITED
CONSULTING ENGINEERS AND PLANNERS
KITCHENER SUDBURY

DESIGNED BY: SL

CHECKED BY: DH

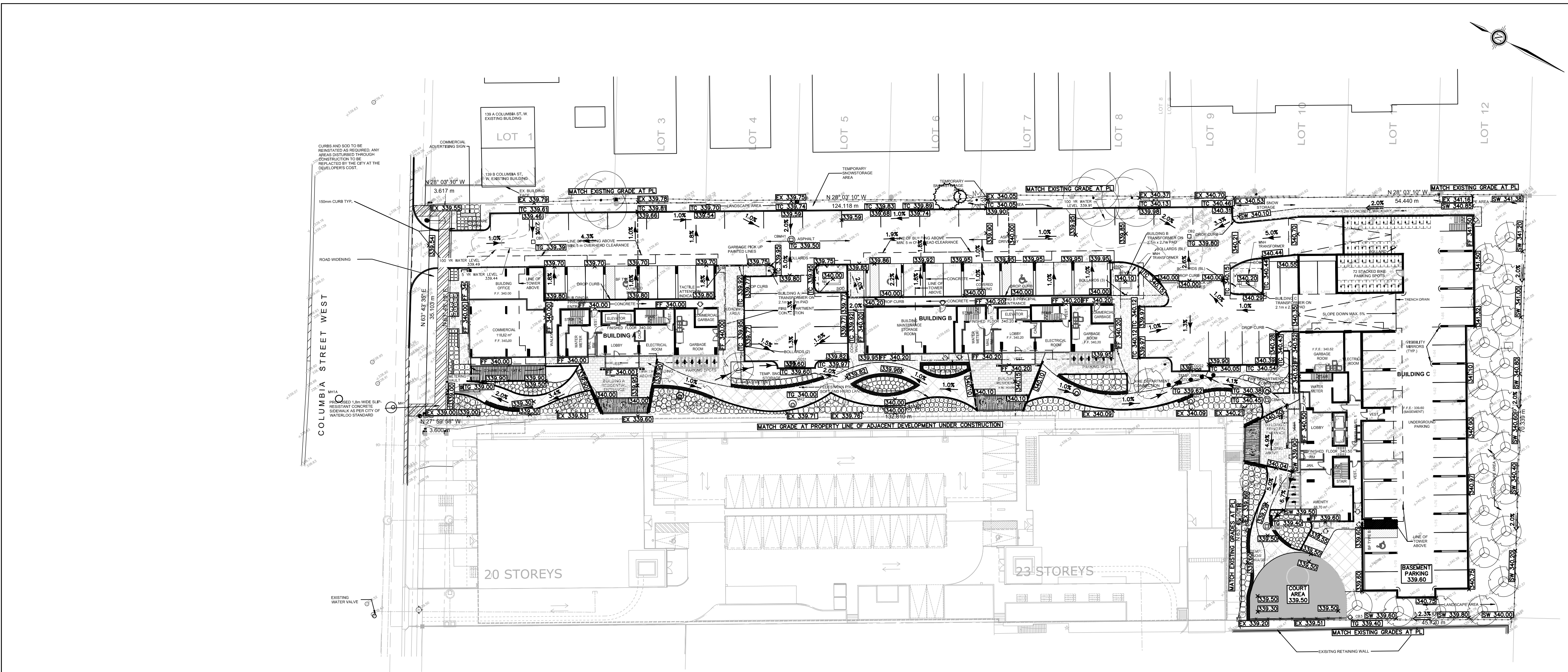
DRAWN BY: SL

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FILE No. 21-261

DATE: NOV 3, 2021

SHEET 2 OF 4



CONSTRUCTION NOTES AND SPECIFICATIONS

1. GENERAL

THIS PLAN NOT FOR CONSTRUCTION UNTIL SIGNED AND SEALED BY ENGINEER AND APPROVED BY THE CITY OF WATERLOO AND THE REGION OF WATERLOO.

THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE EXISTING CONDITIONS PLAN, GRADING PLAN, LANDSCAPE PLAN AND STORM WATER MANAGEMENT REPORT.

THIS PLAN IS TO BE USED FOR SERVICING AND GRADING ONLY; ANY OTHER INFORMATION SHOWN IS FOR ILLUSTRATION PURPOSES ONLY. THIS PLAN MUST NOT BE USED TO SITE THE PROPOSED BUILDING.

NO CHANGES ARE TO BE MADE WITHOUT NOTIFICATION TO THE CITY OF WATERLOO PROJECT MANAGER AND THE APPROVAL OF THE DESIGN ENGINEER.

ENGINEERING ACCEPTANCE OF THIS PLAN DOES NOT EXEMPT THE OWNER'S BONDED CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS AND ADDITIONAL APPROVALS REQUIRED TO COMPLETE THE PROJECT.

THIS PLAN NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF K. SMART ASSOCIATES LIMITED.

PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST:

CHECK AND VERIFY ALL EXISTING CONDITIONS, LOCATIONS AND ELEVATIONS WHICH INCLUDES BUT IS NOT LIMITED TO THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS. REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING.

THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

VERIFY THAT THE FINISHED FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.

CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.

CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL AFFECTED PROPERTY TO ORIGINAL CONDITIONS AT OWNER'S EXPENSE.

ALL SERVICE CONNECTIONS TO THE PROPERTY LINE MUST BE INSTALLED WITHIN THE RIGHT-OF-WAY TO CITY'S SATISFACTION PRIOR TO ANY INTERNAL SERVICING WORKS.

ALL UNDERGROUND SERVICES ARE TO BE CONSTRUCTED IN FULL COMPLIANCE WITH THE ONTARIO BUILDING CODE (PART 7, PLUMBING), THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) AND IN COMPLIANCE WITH LOCAL APPLICABLE CODES AND REGULATIONS; WHICH CODES AND REGULATIONS SHALL SUPERSEDE ALL OTHERS.

CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER 48 HOURS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION, ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE SECTION 2.3.2. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT CONTRACTOR'S EXPENSE.

IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCR OACH ON PRIVATE LAND TO UNDERTAKE ANY WORK, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE PROPERTY OWNER, COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE ENGINEERING AND CONSTRUCTION DIVISION PRIOR TO ANY WORK BEING PERFORMED. THE CITY OF WATERLOO DOES NOT PERMIT THE USE OF ANY ADJACENT PROPERTY FOR THE USE OF CONSTRUCTION.

SITE PLAN INFORMATION PROVIDED BY PG DESIGN STUDIO INC.

LEGAL INFORMATION OBTAINED FROM SITE PLAN.

CONTRACTOR TO INSTALL EROSION CONTROL MEASURES AS SHOWN PRIOR TO CONSTRUCTION AND MAINTAIN IN GOOD CONDITION UNTIL CONSTRUCTION IS COMPLETED AND VEGETATIVE COVER IS ESTABLISHED.

SITE SERVICING CONTRACTOR TO TERMINATE ALL SERVICES 1.0 METRE FROM FOUNDATION WALL.

FILTER FABRIC TO BE TERRAFIX 200R OR APPROVED EQUIVALENT.

GRASS SLOPES SHALL BE 4:1 WHEN POSSIBLE. MAXIMUM GRASSED SLOPE TO BE 3:1.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS OF THE LOCAL MUNICIPALITY AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

CONTRACTOR TO MAINTAIN SAFE WORKING CONDITIONS IN ALL EXCAVATIONS AND TRENCHES IN ACCORDANCE WITH THE CURRENT MINISTRY OF LABOUR REGULATIONS.

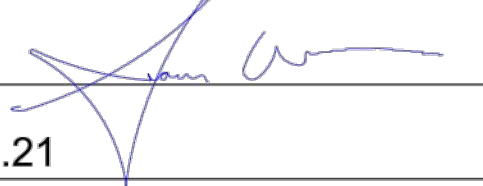
I hereby certify that this Site Grading, Servicing and Storm Water Management Plan conforms to the Landscape Plans for this project.

* Signature of the Professional Consultant(s) for Site Grading, Drainage and Siltation Control, and Storm Water Management.

* Signature: 

Date: NOV 3/21

* Signature of Landscape Architect

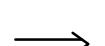
* Signature: 

Date: Nov 3.21

KEY PLAN



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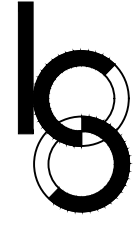
- 300.00** PROPOSED ELEVATION
- TC 300.00** PROPOSED TOP OF CURB ELEVATION
- BC 300.00** PROPOSED BOTTOM OF CURB ELEVATION
- TG 300.00** PROPOSED TOP OF GRATE ELEVATION
- TB 300.00** PROPOSED TOP OF BANK ELEVATION
- SW 300.00** PROPOSED SWALE ELEVATION
-  PROPOSED SURFACE FLOW DIRECTION
-  PROPOSED SWALE FLOW DIRECTION

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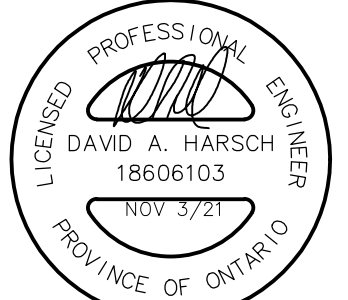
143 COLUMBIA STREET W

CITY OF WATERLOO REGION OF WATERLOO

GRADING PLAN



K. SMART ASSOCIATES LIMITED
CONSULTING ENGINEERS AND PLANNERS
KITCHENER SUDBURY



DESIGNED BY: SL	0 8 16	DATE: NOV 3, 2021
CHECKED BY: DH	SCALE 1:400	SHEET 3 OF 4
DRAWN BY: SL		
CHECKED BY: DH		
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