

### PROPOSED WATERMAIN (150mmØ PVC)

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
3+000.0	±101.78	+99.72	CONNECTION TO EXISTING 200mmØ DI WM
3+007.6	101.70	99.30	V&V
3+013.0	101.78	99.38	19mmØ WATER SERVICE
3+013.5	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+019.5	101.78	99.38	19mmØ WATER SERVICE
3+020.0	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+023.0	101.78	99.38	19mmØ WATER SERVICE
3+023.5	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+029.5	101.78	99.38	19mmØ WATER SERVICE
3+030.0	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+033.0	101.78	99.38	19mmØ WATER SERVICE
3+033.5	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+039.5	101.78	99.38	19mmØ WATER SERVICE
3+040.0	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+045.0	101.78	99.38	19mmØ WATER SERVICE
3+046.0	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+052.0	101.78	99.38	19mmØ WATER SERVICE
3+052.5	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+055.5	101.78	99.38	19mmØ WATER SERVICE
3+056.0	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+062.0	101.78	99.38	19mmØ WATER SERVICE
3+062.5	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+065.5	101.78	99.38	19mmØ WATER SERVICE
3+066.0	101.78	99.38	CROSS BELOW 135mmØ SAN (0.30m CLEARANCE)
3+071.6	101.78	99.38	19mmØ WATER SERVICE
3+072.0	101.78	99.38	CAP AT END OF WATERMAIN

### PROPOSED WATERMAIN (150mmØ PVC)

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
2+000.0	±105.40	±103.82	CONNECTION TO EXISTING 200mmØ DI WM
2+008.2	±105.70	±103.77	VB
2+009.9	±105.77	±103.76	CROSS ABOVE 250mmØ SAN (±0.30m CLEARANCE)
2+010.7	±105.77	103.75	CAP 1.0m FROM BUILDING FACE

### PROPOSED WATERMAIN (150mmØ PVC)

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
1+000.0	±105.49	±104.24	CONNECTION TO EXISTING 300mmØ DI WM
1+002.7	±105.55	±103.14	22.5° VERTICAL BEND
1+017.9	±105.50	103.14	CROSS BELOW EXISTING 300mmØ STM (0.50m CLEARANCE)
1+025.0	105.76	103.36	VB
1+028.7	105.90	103.50	CAP 1.0m FROM BUILDING FACE

### PROPOSED WATERMAIN (150mmØ PVC)

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
1+000.0	±105.49	±104.24	CONNECTION TO EXISTING 300mmØ DI WM
1+002.7	±105.55	±103.14	22.5° VERTICAL BEND
1+017.9	±105.50	103.14	CROSS BELOW EXISTING 300mmØ STM (0.50m CLEARANCE)
1+025.0	105.76	103.36	VB
1+028.7	105.90	103.50	CAP 1.0m FROM BUILDING FACE

CONNECTION TO EXISTING 200mmØ D.I. WATERMAIN TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION TO EXISTING 200mmØ D.I. WATERMAIN TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION TO EXISTING 200mmØ D.I. WATERMAIN TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION TO EXISTING 200mmØ D.I. WATERMAIN TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION TO EXISTING 200mmØ D.I. WATERMAIN TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION TO EXISTING 200mmØ D.I. WATERMAIN TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION TO EXISTING 200mmØ D.I. WATERMAIN TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION TO EXISTING 200mmØ D.I. WATERMAIN TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

### INTERNAL SWM STORAGE SYSTEM

DESIGN EVENT	STORAGE SYSTEM CONTROLLED FLOW	STORAGE VOLUMES REQUIRED	STORAGE VOLUMES PROVIDED
1:2 YR	15.1 L/s	21.4 m³	> 116.4 m³
1.5 YR	15.1 L/s	34.9 m³	
1:100 YR	15.1 L/s	90.4 m³	
1:100+20%	15.1 L/s	116.4 m³	
1:100+20%	15.1 L/s	116.4 m³	

NOTES:

- ALL DRAINAGE FROM AREA A-7 (PROPOSED PARKING LOT, DRIVEWAY DECK DRAINS 1-5, AND ROOF DRAIN 23-25) TO BE DIRECTED TO THE INTERNAL STORMWATER STORAGE TANK. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR DETAILS.
- DRAINAGE FROM AREA A-5 (RD 13-22) TO BE CONNECTED DIRECTLY TO GRAVITY STORM SERVICE BY PASSING STORMWATER STORAGE TANK.
- REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR EXACT SIZE AND DETAILS OF INTERNAL STORMWATER STORAGE TANK.
- REFER TO MECHANICAL PLANS FOR PUMP INFORMATION AND DETAILS.

### PROPOSED 50mmØ SANITARY FORCEMAIN TABLE

STATION	SURFACE ELEVATION	PIPE ELEVATION	COMMENTS
4+000.0	102.10	100.00	EXTERIOR WALL OF FORCEMAIN VALVE CHAMBER
4+020.0	102.86	100.61	---
4+040.0	104.14	102.09	---
4+060.0	105.25	103.20	---
4+066.6	105.65	103.60	OUTLET TO SAN MH 104

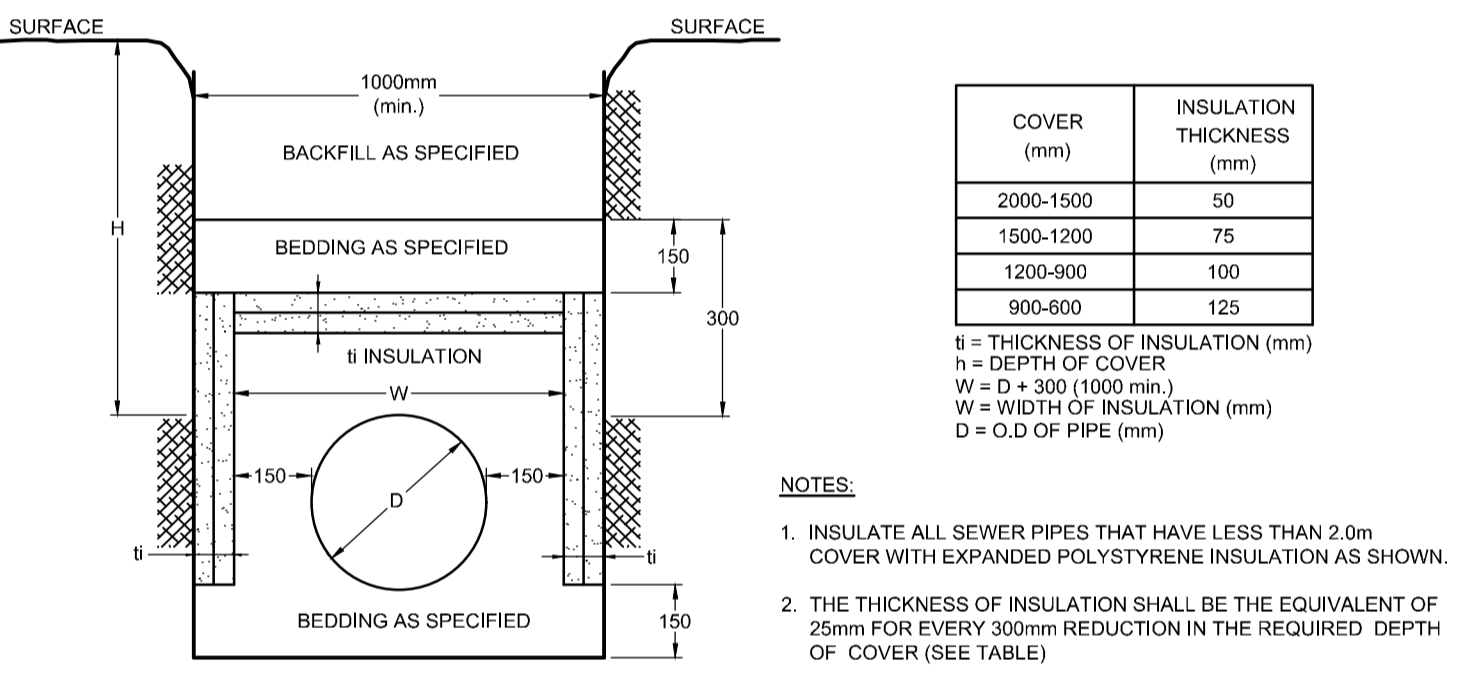
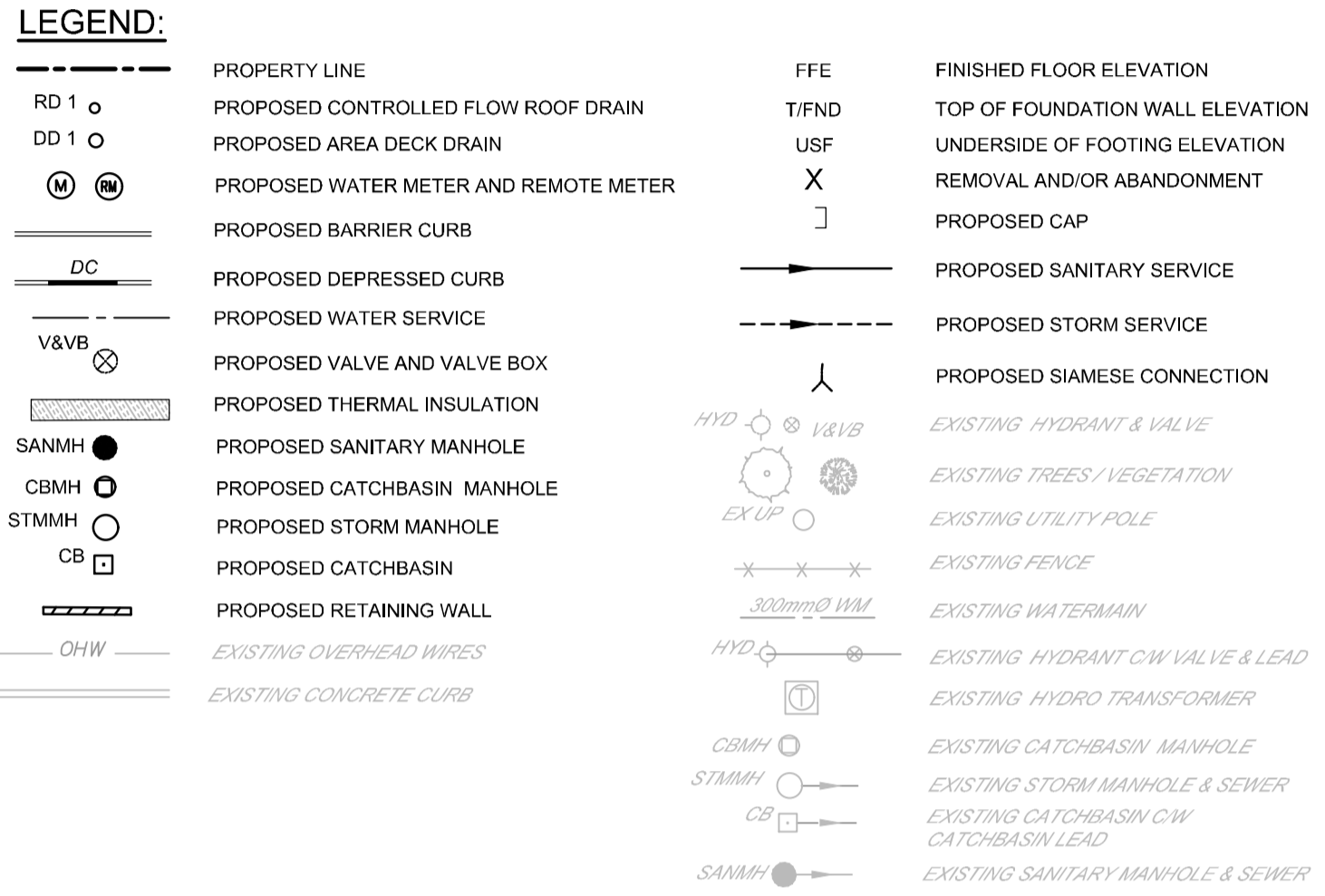
- ### GENERAL NOTES:
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
  - DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
  - OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
  - BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
  - COMPLETE ALL WORKS IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS USING THE CURRENT GUIDELINES, BYLAWS AND STATUTES INCLUDING MATERIALS OF CONSTRUCTION, DISINFECTION AND ALL RELEVANT REFERENCES TO OPSR, OPSD, & AWWA GUIDELINES - ALL CURRENT VERSIONS AND AS AMENDED.
  - RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
  - REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
  - ALL ELEVATIONS ARE GEODETIC.
  - REFER TO GEOTECHNICAL REPORT (No. PG5736-1, DATED APRIL 23, 2021), PREPARED BY PATERSON GROUP, FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
  - REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
  - REFER TO DEVELOPMENT SERVICING AND STORMWATER MANAGEMENT REPORT (R-2022-206) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
  - SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
  - PROVIDE LINE/PARKING PAINTING.
  - CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES AND GRADING PLAN INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THE PLANS. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIALS, SIZES, LENGTHS, SLOPES, INVERT AND TIG ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, TWM ELEVATIONS, ANY ALIGNMENT CHANGES, AND ALL SURFACE ELEVATION AS BUILT GRADES.

- ### SEWER NOTES:
- SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM / SANITARY MANHOLE (1200Ø)	701.010	OPSD
CB. FRAME & COVER	401.020	OPSD
STORM / SANITARY MH FRAME & COVER	401.010	OPSD
SEWER TRENCH	S6	CITY OF OTTAWA
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
  - INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 2.0m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
  - SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
  - PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
  - FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
  - THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPS5 4.10.07.16, 4.10.07.16.04 AND 4.07.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER, WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
  - STORM MANHOLES AND CBMHs ARE TO HAVE 300mm SUMP UNLESS OTHERWISE INDICATED.
  - CONTRACTOR TO TELEVISION (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

- ### WATERMAIN NOTES:
- SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN	PVC DR 18	
  - SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
  - WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
  - WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
  - WATER DEMAND = TBD



NOTE: THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED, BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

**OWNER INFORMATION**  
 LANDRIC HOMES  
 63 MONTREAL ROAD EAST  
 GATINEAU, QUEBEC, J8M 1K3  
 NAME: ERIC DANIS  
 PHONE: (819) 593-4805  
 ericdanis@constructionlaverdnye.com

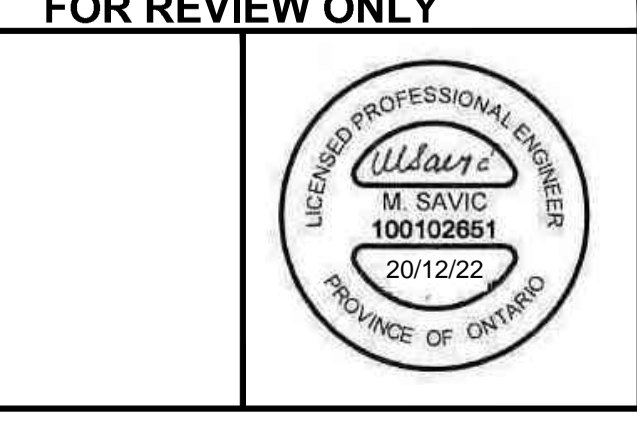
No.	REVISION	DATE	BY
1.	ISSUED FOR SITE PLAN APPLICATION	DEC 2022	MS

DESIGN	LSC
CHECKED	MS
DRAWN	ZA
CHECKED	MS
APPROVED	MS

SCALE: 1:300



**NOVATECH**  
 Engineers, Planners & Landscape Architects  
 Suite 200, 240 Michael Cowpland Drive  
 Ottawa, Ontario, Canada K2M 1P6  
 Telephone (613) 254-9643  
 Facsimile (613) 254-5867  
 Website www.novatech-eng.com

LOCATION CITY OF OTTAWA 1765 MONTREAL ROAD	PROJECT No. 121060
DRAWING NAME GENERAL PLAN OF SERVICES	REV # 1
DRAWING No. 121060-GP	