

## LEGEND

	PROPERTY LINE		EXISTING OVERHEAD WIRES
	PROPOSED SANITARY MH & SEWER		EXISTING CONCRETE CURB
	PROPOSED CATCHBASIN MH & SEWER		EXISTING SANITARY MANHOLE & SEWER
	PROPOSED STORM MH & SEWER		EXISTING CATCHBASIN MANHOLE
	PROPOSED CATCHBASIN & LEAD		EXISTING STORM MANHOLE & SEWER
	PROPOSED HYDRANT VALVE & VALVE BOX		EXISTING CATCHBASIN C/W CATCHBASIN LEAD
	PROPOSED INLET CONTROL DEVICE		EXISTING HYDRANT & VALVE
	CONTROLLED FLOW ROOF DRAIN		EXISTING TREES / VEGETATION
	PROPOSED WATER METER AND REMOTE METER		EXISTING UTILITY POLE
	PROPOSED BARRIER CURB		EXISTING FENCE
	PROPOSED DEPRESSED CURB		EXISTING WATERMAIN
	PROPOSED WATER SERVICE AND DIAMETER		EXISTING HYDRANT C/W VALVE & LEAD
	PROPOSED VALVE & VALVE BOX		FINISHED FLOOR ELEVATION
	PROPOSED BEND AND THRUSTBLOCK 11.25', 22.5', 45° or TEE		TOP OF FOUNDATION WALL ELEVATION
	PROPOSED CAP		UNDERSIDE OF FOOTING ELEVATION
	PROPOSED BUILDING ENTRANCE		REMOVALS
	THERMAL INSULATION FOR SHALLOW SEWERS		PROPOSED HYDRO TRANSFORMER

PROPOSED 200mmØ / 150mmØ WATER SERVICE TABLE

STATION	SURFACE ELEVATION	T/W M ELEVATION	COMMENTS
0+00	70.52±	68.18±	200mmØ WM CONNECTION TO EX. 300mmØ C.I. WM
0+06.7	70.60	68.00	PROPERTY LINE / 200mmØ V&VB
0+08.0	70.59	68.00	HYDRANT LEAD
0+09.0	70.58	68.00	200x150mmØ REDUCER
0+11.2	70.56	67.95	CROSS BELOW 600mmØ STORM (CLEARANCE = 0.5m±)
0+20	70.68	68.08	---
0+30	70.80	68.20	---
0+37.6	70.65	68.25	45° HORIZONTAL BEND
0+40.2	70.73	68.30	45° HORIZONTAL BEND
0+45.1	70.95	68.35	CAP 1.0m FROM FOUNDATION WALL

\* CONNECTION TO EXISTING 300mmØ UCI WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.

## 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 STANDARDS INCLUDING MATERIALS OF CONSTRUCTION, DISINFECTION AND ALL RELEVANT REFERENCES TO OPSS, OPSS & 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 MUNICIPAL AUTHORITIES.
- 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 INVESTIGATION REPORT (R# N-1, PG4353-2, DATED MAY 19, 2021) PREPARED BY PATERSON GROUP INC. 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 HARD SURFACED AREAS AND DIMENSIONS.
- REFER TO THE DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT (R-2021-066) PREPARED BY NOVATECH.
- SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

## SEWER NOTES:

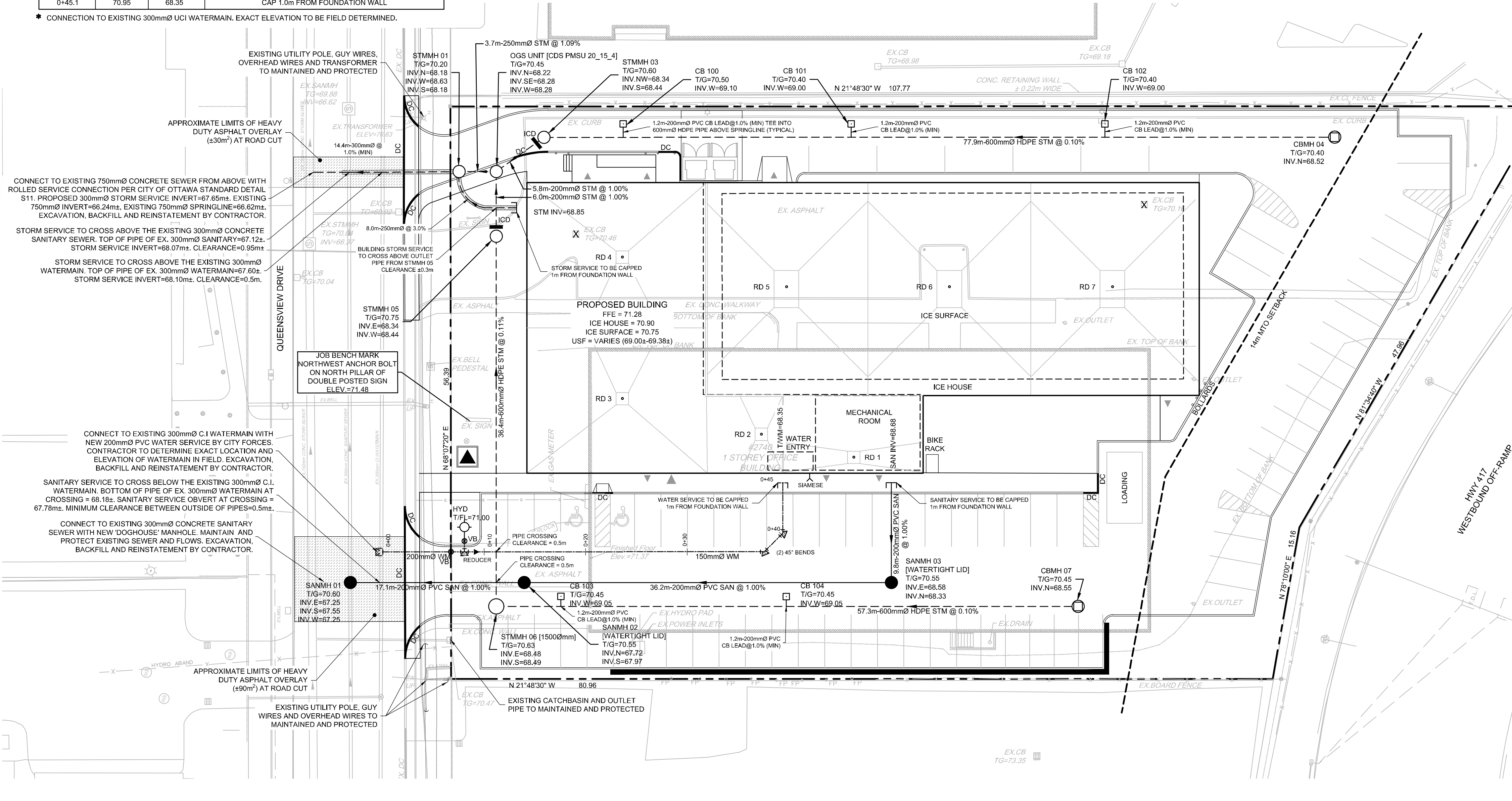
- SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND 'AS AMENDED'.
- SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
STORM/SANITARY MANHOLE (12000)	701.010	OPSD
STORM/CATCHBASIN MANHOLE (15000)	701.011	OPSD
STORM/CBMH FRAME AND COVER	401.010 - TYPE 'B'	OPSD
SANITARY MANHOLE FRAME AND COVER	401.010 - TYPE 'A'	OPSD
WATERTIGHT MANHOLE FRAME AND COVER	401.030	OPSD
CATCHBASIN MH FRAME & COVER	401.010 Type 'B'	OPSD
CATCHBASIN (600x600)	705.010	OPSD
CATCHBASIN FRAME & COVER	S19	CITY OF OTTAWA
SEWER TRENCH	S6	CITY OF OTTAWA
STORM SEWER	PVC DR 35 (450mmØ PIPE AND SMALLER)	
SANITARY SEWER	HDPE BOSS 2000 (600mmØ PIPE AND LARGER)	
	PVC DR 35	
- THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14.1 OR S14.2. REFER TO MECHANICAL PLANS FOR DETAILS.
- THE STORM SERVICE LATERAL SHALL BE EQUIPPED WITH A BACKFLOW PREVENTER WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14. REFER TO MECHANICAL PLANS FOR DETAILS.
- 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 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
- INSULATE ALL PIPES (SAN / STM) THAT HAVE LESS THAN 1.5m COVER WITH H-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
- CONCRETE MANHOLES ARE TO BE 1200mmØ STRUCTURES UNLESS OTHERWISE NOTED ON THE DRAWING. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES FOR EXAMPLE KOR-N-SEAL, PSX, POSITIVE SEAL AND DURA SEAL. THE CONCRETE CRADLE FOR THE PIPE CAN BE OMITTED.
- TYPICAL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR IS 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. PROVIDE A COPY OF ALL CCTV INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL APPLICABLE SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIG ELEVATIONS, STRUCTURE LOCATIONS AND ANY ALIGNMENT CHANGES, ETC.
- 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 OPSS 410.07.16, 410.07.16.04 AND 407.07.24. 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.

## WATERMAIN NOTES:

- SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND 'AS AMENDED'.
- SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
HYDRANT INSTALLATION	W19	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWERS	W25	CITY OF OTTAWA
CATHODIC PROTECTION FOR PVC WATERMAINS	W40	CITY OF OTTAWA
WATERMAIN MATERIAL	PVC DR 18 (100mm AND LARGER)	
- EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS 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.
- PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, UNLESS OTHERWISE INDICATED.
- WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.



COVER (mm)	INSULATION THICKNESS (mm)
1800-1500	50
1500-1200	75
1200-900	100
900-600	125

h = THICKNESS OF INSULATION (mm)  
h = DEPTH OF COVER  
W = D + 300 (1000 min.)  
D = O.D. OF PIPE (mm)

- NOTES:
- INSULATE ALL SEWER PIPES THAT ARE LESS THAN 600mmØ AND HAVE LESS THAN 1.5m COVER WITH EXPANDED POLYSTYRENE INSULATION AS SHOWN.
  - THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER (SEE TABLE).

INSULATION DETAIL FOR SHALLOW SEWERS ONLY  
NOT TO SCALE

INLET CONTROL DEVICE DATA TABLE - AREA A-1

DESIGN EVENT	ICD TYPE (PLUG TYPE)	OUTLET STRUCTURE	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPX TEMPEST	1200mmØ STM MH 03	200mmØ PVC	2.8	0.46	68.90	17.4	69.9 m³
1:5 YR	VORTEX LMF 65			3.3	0.71	69.15	23.8	
1:100 YR				5.5	2.07	70.51	37.0	

INLET CONTROL DEVICE DATA TABLE - AREA A-2

DESIGN EVENT	ICD TYPE (PLUG TYPE)	OUTLET STRUCTURE	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPX TEMPEST	1200mmØ STM MH 05	200mmØ PVC	5.1	0.56	69.00	26.0	66.1 m³
1:5 YR	VORTEX LMF 85			6.8	1.04	69.48	31.0	
1:100 YR				9.5	2.13	70.57	52.6	

PROPOSED SITE FLOWS & STORMWATER MANAGEMENT TABLE

DESIGN EVENT	PRE-DEVELOPMENT CONDITIONS		POST-DEVELOPMENT CONDITIONS						
	SITE FLOWS (L/s)	TARGET CONTROL RATE (L/s)	A-0 FLOW (L/s)	A-1 FLOW (L/s)	A-2 FLOW (L/s)	R-1 FLOW (L/s)	CONTROL FLOW (L/s)	TOTAL FLOW (L/s)	REDUCTION IN FLOW (L/s or %)**
1:2 YR	81.6	17.4	2.9	2.8*	5.1*		10.1*	13.0	68.6 or 84%
1:5 YR	110.8	[33.5 L/s/ha]	4.0	3.3*	6.8*	2.2*	12.3*	16.3	94.5 or 85%
1:100 YR	212.6		8.1	5.5*	9.5*		17.2*	25.3	187.3 or 88%

\* TOTAL CONTROLLED FLOW IS LESS THAN THE TARGET CONTROL RATE (EXCLUDING A-0 DUE TO DIFFERENT TIMES TO PEAK)  
\*\* REDUCED FLOW COMPARED TO PRE-DEVELOPMENT UNCONTROLLED CONDITIONS

NOTE:  
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND 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, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

**Granite Curling Club**  
of West Ottawa

**MORLEY HOPPNER**

OWNER INFORMATION  
GRANITE CURLING CLUB OF WEST OTTAWA  
2026 SCOTT STREET, OTTAWA, ON K1Z 6T1  
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manager@OttawaGranite.com

DESIGN BUILDER INFORMATION  
MORLEY HOPPNER INC.  
1818 BRADLEY SIDE ROAD, OTTAWA, ON K0A 1L0  
CONTACT: KEN HOPPNER, CEO  
TELEPHONE: 613-831-5490  
khoppner@morleyhoppner.com

No.	REVISION	DATE	BY
1	ISSUED FOR SITE PLAN APPROVAL	JUL 26/21	FST

SCALE

1:250

0 2 4 6 8 10

DESIGN	DWM
CHECKED	FST
DRAWN	
CHECKED	DWM
	FST
APPROVED	FST

FOR REVIEW ONLY

**PROFESSIONAL ENGINEER**  
F.S. THAUVE  
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PROVINCE OF ONTARIO

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LOCATION  
CITY OF OTTAWA  
2740 QUEENSVIEW DRIVE

DRAWING NAME  
**GENERAL PLAN OF SERVICES**

PROJECT No.

121127-00

REV

REV 1

DRAWING No.

121127-GP