

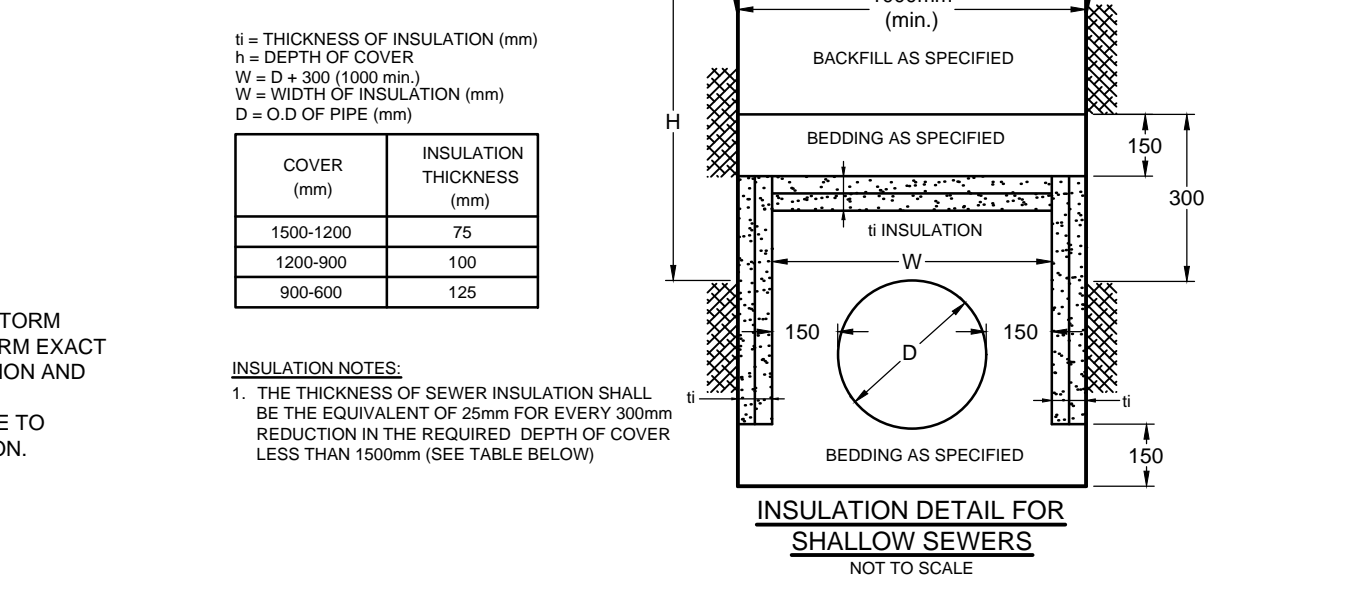
CN and CP RAILWAY RIGHT-OF-WAY

DESIGN EVENT	ICD TYPE (HYDROVEX MODEL)	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m <sup>3</sup> )	AVAILABLE STORAGE
1:2 YR	HYDROVEX	375mm PVC	38.3	1.58	89.26	4.21	
1:5 YR	(150 VHV-2)		40.6	1.76	89.44	76.3	254.1 m <sup>3</sup>
1:100 YR			41.7	1.84	89.52	188.8	

AREA ID	ROOF DRAIN No. (WATTS MODEL)	ROOF DRAIN OPENING SETTING	1:5 YEAR RELEASE RATE	APPROX. 5-YR PONDING DEPTH (mm)	1:100 YEAR RELEASE RATE	APPROX. 100-YR PONDING DEPTH (mm)
R-1	RD 1 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	11 cm	0.87 L/s	14 cm
R-1	RD 2 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	10 cm	0.87 L/s	14 cm
R-1	RD 3 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	10 cm	0.87 L/s	14 cm
R-1	RD 4 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	10 cm	0.87 L/s	13 cm
R-1	RD 5 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	11 cm	0.95 L/s	15 cm
R-1	RD 6 (RD-100)	UN-CONTROLLED	0.16 L/s	---	0.29 L/s	---
R-1	RD 7 (RD-100)	UN-CONTROLLED	0.43 L/s	---	0.84 L/s	---
R-1	RD 8 (RD-100)	UN-CONTROLLED	0.19 L/s	---	0.36 L/s	---

AREA ID	ROOF DRAIN No. (WATTS MODEL)	ROOF DRAIN OPENING SETTING	1:5 YEAR RELEASE RATE	APPROX. 5-YR PONDING DEPTH (mm)	1:100 YEAR RELEASE RATE	APPROX. 100-YR PONDING DEPTH (mm)
R-2	RD 9 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	10 cm	0.87 L/s	14 cm
R-2	RD 10 (RD-100-A-ADJ)	1/4 EXPOSED	0.79 L/s	10 cm	0.87 L/s	14 cm

\*REFER TO THE DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT (R-2018-029) PREPARED BY NOVATECH FOR DRAINAGE AREA IDENTIFIERS AND STORMWATER MANAGEMENT DETAILS.  
 \*\*ALL CONTROLLED FLOW ROOF DRAINS FOR THE PROPOSED BUILDING TO BE WATTS' ADJUSTABLE ACCUTROL® ROOF DRAINS.



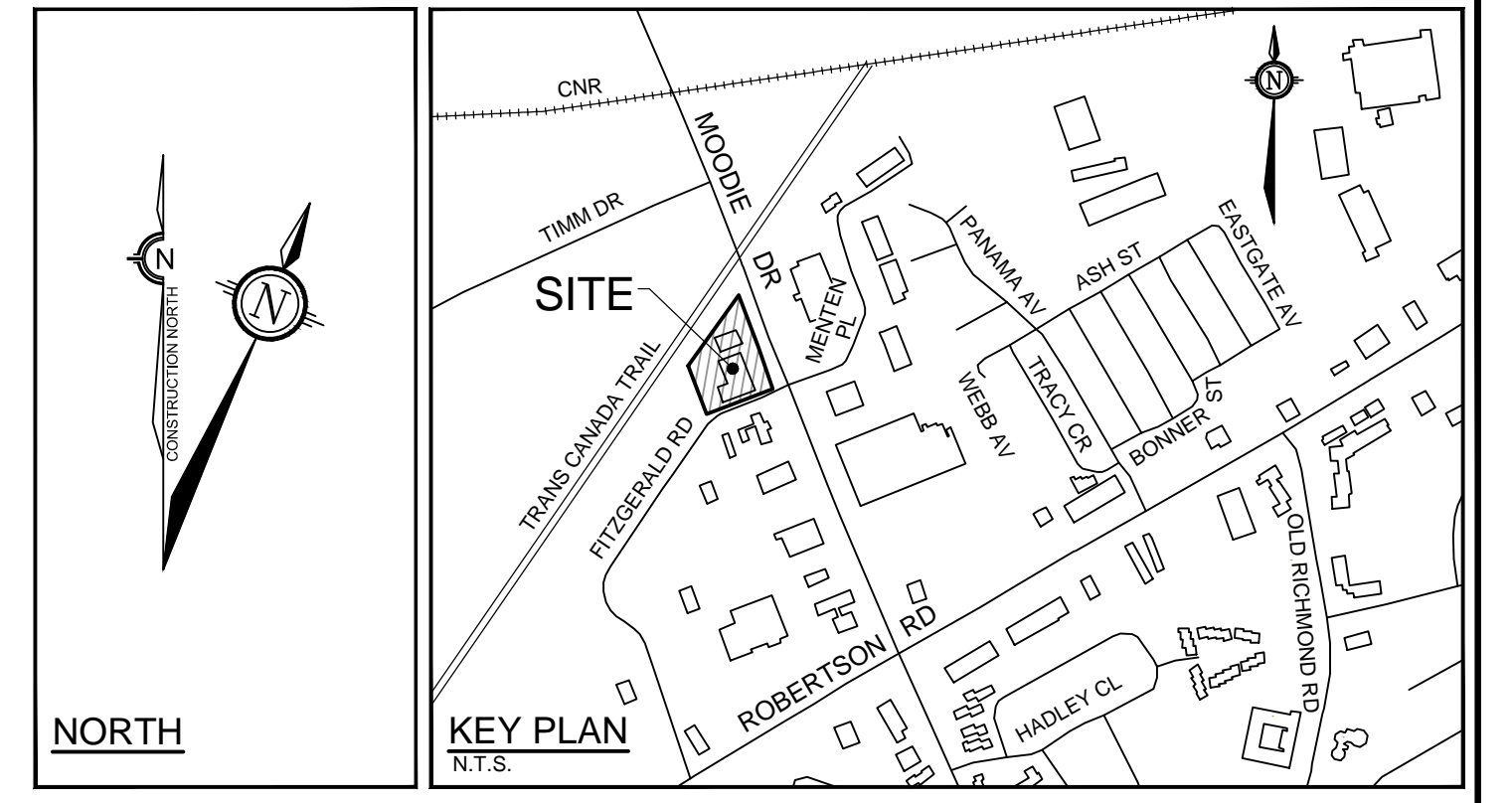
CROSSING	LOWER PIPE	HIGHER PIPE	CLEARANCE	SURFACE ELEVATION
(A)	200mm Ø SAN ØBV=85.91	375mm Ø STM INV=87.57	± 1.6m	89.40 m
(B)	200mm Ø SAN ØBV=85.95	50mm Ø B/W=87.05	± 1.1m	89.50 m
(C)	200mm Ø SAN ØBV=86.13	375mm Ø STM INV=87.62	± 1.5m	89.45 m

STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
0+00	89.90±	86.50±	TEE CONNECTION TO EXISTING 300mm Ø WM
0+06.4	89.30	86.80	200mm Ø VALVE AND VALVE BOX @ PROPERTY LINE
0+13.9	89.44	86.95	CROSS BELOW 375mm Ø STM (±0.6m CLEARANCE)
0+16.2	89.50	87.05	200 x 200 x 50 SERVICE TEE (RESTAURANT)
0+19.0	89.55	87.05	45° HORIZONTAL BEND
0+23.2	89.47	87.05	45° HORIZONTAL BEND
0+24.7	89.48	87.05	CROSS BELOW 375mm Ø STM (±0.55m CLEARANCE)
0+25	89.48	87.05	---
0+29 to 0+33	89.53	87.15	INSULATE IN PROXIMITY TO OPEN STRUCTURE
0+43.7	89.73	87.33	200 x 150 REDUCER
0+44.7	89.75	87.35	150mm Ø VALVE AND VALVE BOX
0+46.5	89.78	87.38	45° HORIZONTAL BEND
0+47.9	89.80	87.40	45° HORIZONTAL BEND
0+50	89.83	87.40	---
0+51	89.83	87.40	CROSS BELOW HYDRO SERVICE (±1.6m CLEARANCE)
0+57.2	89.83	87.40	45° HORIZONTAL BEND
0+60.7	89.83	87.40	45° HORIZONTAL BEND
0+75.8	89.64	87.25	45° HORIZONTAL BEND
0+77.2	89.65	87.25	45° HORIZONTAL BEND
0+80.5	90.03	87.25	CAP 1.0m FROM BUILDING FACE

300mm x 300mm x 200mm TEE CONNECTION TO EXISTING 300mm Ø WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.  
 \*\* PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W23 AND DETAIL W22 WHERE COVER IS LESS THAN 2.4m AND/OR ADJACENT TO OPEN STRUCTURES.

- WATERMAIN NOTES:**
- 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 BY CITY OF OTTAWA FORCES. CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE CITY OF OTTAWA FORCES.
  - SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION AT OPEN STRUCTURES	W23	CITY OF OTTAWA
50mm SERVICE LINE	W33	CITY OF OTTAWA
50mm SERVICE POST	W35	CITY OF OTTAWA
WATERMAIN	PVC DR 18	
  - WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
  - PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS.
  - WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.



- LEGEND**
- SAN MH 1: PROPOSED SANITARY MH & SEWER
  - CBMH 3: PROPOSED CATCHBASIN MANHOLE & SEWER INCLUDING RADIAL SUBDRAINS (PER GEOTECHNICAL REPORT)
  - STM MH 1: PROPOSED STORM MANHOLE & SEWER
  - CB 2: PROPOSED CATCHBASIN AND LEAD INCLUDING RADIAL SUBDRAINS (PER GEOTECHNICAL REPORT)
  - HYD: PROPOSED HYDRANT c/w VALVE & VALVE BOX
  - DC: PROPOSED BARRIER CURB
  - 200mm Ø: PROPOSED DEPRESSED CURB
  - SP: PROPOSED STANDPOST
  - BEND: PROPOSED BEND AND THRUSTBLOCK 11.25°, 22.5°, 45° or TEE
  - ICD: PROPOSED INLET CONTROL DEVICE
  - RD: CONTROLLED FLOW ROOF DRAIN
  - THERMAL INSULATION FOR SHALLOW SEWERS
  - PROPOSED BUILDING ENTRANCE
  - C.S.: PROPOSED CLAY SEAL SEEPAGE BARRIER (PER GEOTECHNICAL REPORT)
  - EXISTING CONCRETE CURB
  - EXISTING SANITARY MANHOLE AND SEWER
  - EXISTING CATCHBASIN MANHOLE AND SEWER
  - EXISTING STORM MANHOLE AND SEWER
  - EXISTING CATCHBASIN C/W CATCHBASIN LEAD
  - EXISTING HYDRANT
  - EXISTING UTILITY POLE C/W GUY WIRES
  - EXISTING WATERMAIN
  - EXISTING HYDRANT C/W VALVE & LEAD
  - EXISTING LIGHT STANDARD
  - EXISTING FENCE
  - EXISTING OVERHEAD UTILITY WIRES
  - PROPOSED WATER METER AND REMOTE METER
  - PROPOSED TRANSFORMER
  - PROPOSED GAS METER

**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.
- 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 INVESTIGATION REPORT (NO. PG4148-1, DATED JUNE 23, 2017) AND GEOTECHNICAL MEMORANDUM (NO. PG4148-MEMO.01R, DATED APRIL 18, 2018), 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-2018-029) 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 INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIG ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, TWM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
- SNOW IS TO BE REMOVED FROM THE SITE. ON-SITE SNOW STORAGE WILL NOT BE PROVIDED.

**SEWER NOTES:**

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

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM / SANITARY MANHOLE (1200mm Ø)	701.010	OPSD
STORM MANHOLE (1500mm Ø)	701.020	OPSD
CB, FRAME & COVER	400.020	OPSD
STORM / SANITARY MH FRAME & COVER	401.010	OPSD
WATERTIGHT MH FRAME AND COVER	401.030	OPSD
SEWER TRENCH	S6	CITY OF OTTAWA
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	PVC DR 35	
- ALL STORM AND SANITARY SERVICE LATERALS SHALL BE EQUIPPED WITH BACKFLOW PREVENTION DEVICES AS PER THE CITY OF OTTAWA STANDARD DETAILS S14 AND S14.1 OR S14.2.
- 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.
- 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.
- FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N SEAL, PSX: POSITIVE SEAL AND RUBERAL). 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 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.
- ALL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SLUMPS UNLESS OTHERWISE INDICATED. ALL CATCHBASINS ARE TO HAVE 600mm SLUMPS UNLESS OTHERWISE INDICATED.
- ALL CATCHBASINS, MANHOLES AND/OR CATCHBASIN MANHOLES THAT ARE TO HAVE ICDS INSTALLED WITHIN THEM ARE TO HAVE 600mm SLUMPS.
- ALL WEeping TIE CONNECTIONS TO BE MADE TO THE PROPOSED STORM SEWER SYSTEM DOWNSTREAM OF ANY INLET CONTROL DEVICES.
- CONTRACTOR TO TELEVISION (CCTV) ALL PROPOSED SEWERS, 200mm Ø OR GREATER PRIOR TO BASE COURSE ASPHALT, UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

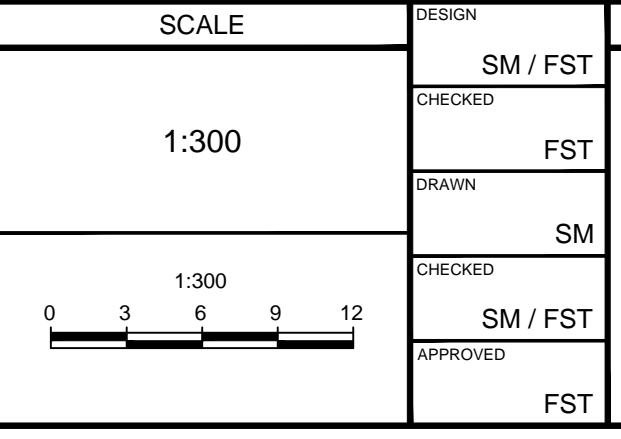
**NOT FOR CONSTRUCTION**

NOTE: THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, 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.



**OWNER INFORMATION**  
 COLONNADÉ HOTEL INVESTMENT LP  
 16 CONNOR GATE, SUITE 200  
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 c/o CAL KIRKPATRICK  
 PHONE: (613) 225-8118  
 Ckirpatrick@Colonnade.ca

No.	REVISION	DATE	BY
4	RE-ISSUED FOR SITE PLAN APPROVAL	OCT 18/18	FST
3	REVISED PER CITY COMMENTS	JUN 28/18	FST
2	ISSUED FOR SITE PLAN APPROVAL	APR 16/18	FST
1	ISSUED FOR CLIENT REVIEW	APR 9/18	FST



**FOR REVIEW ONLY**

DESIGN: SM / FST  
 CHECKED: FST  
 DRAWN: SM  
 CHECKED: SM / FST  
 APPROVED: FST

PROFESSIONAL ENGINEER  
 F.S. THAUETTE  
 100041599  
 OCT 18, 2018  
 PROVINCE OF ONTARIO

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LOCATION: CITY OF OTTAWA, 300 MOODIE DRIVE  
 DRAWING NAME: GENERAL PLAN OF SERVICES  
 PROJECT No.: 118007  
 REV # 4  
 DRAWING No.: 118007-GP  
 #17663