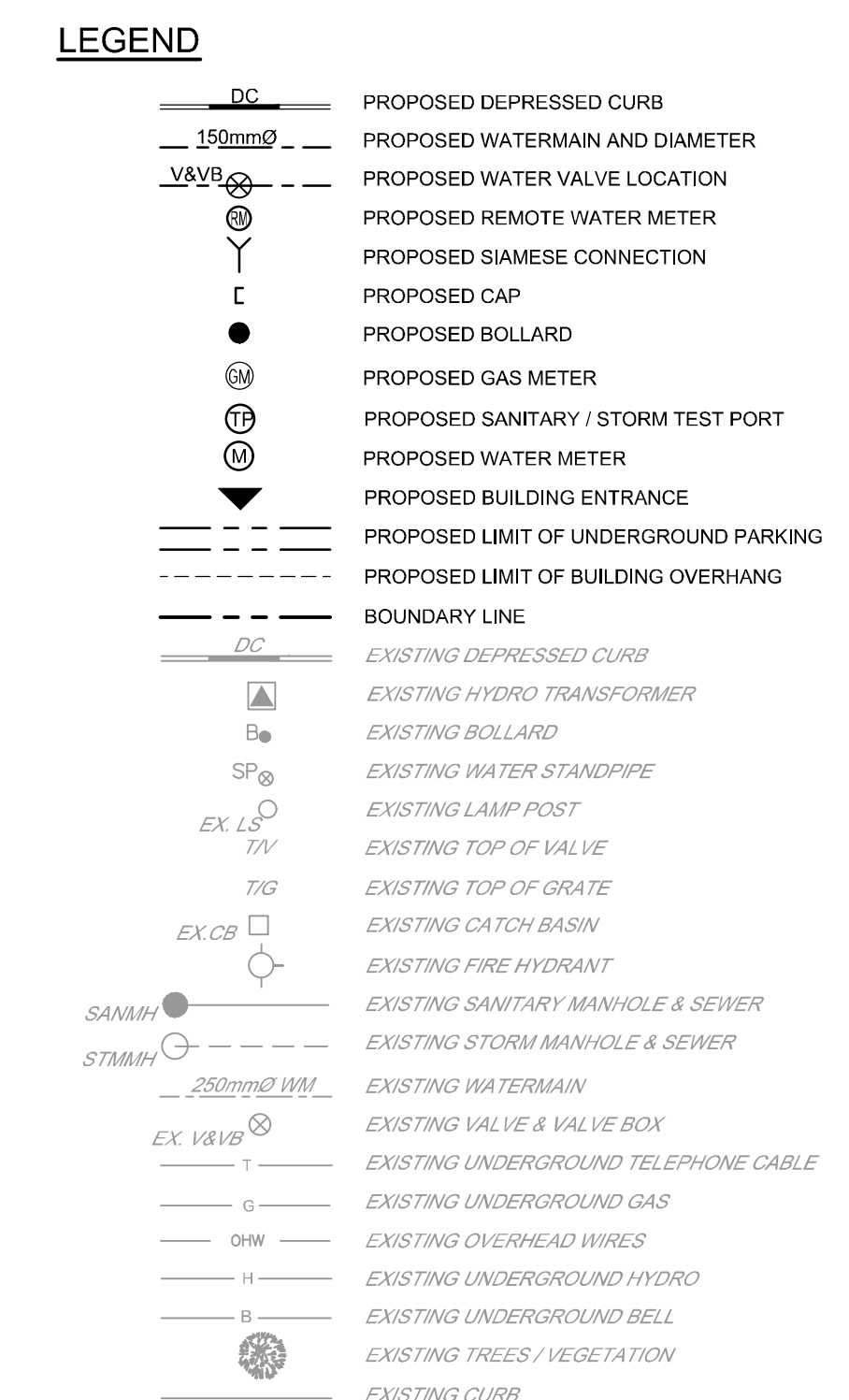


- ### GENERAL NOTES:
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
 - DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS 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-INSURER.
 - 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 ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
 - REFER TO STORMWATER MANAGEMENT REPORT (R-2013-004, DATED JAN. 31, 2013) AND SERVING DESIGN BRIEF (R-2013-003, DATED JAN. 31, 2013) 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 SERVICES 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.
 - REFER TO GEOTECHNICAL REPORT (NO. PG 2674-R2, DATED JUNE 3, 2015) PREPARED BY PATTERSON 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.
 - ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. ONTARIO PROVINCIAL STANDARDS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
 - ALL PRIVATE APPROACHES MUST BE CONSTRUCTED AS PER CITY SPECIFICATION SCT3



- ### SEWER NOTES:
- SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
SEWER SERVICE CONNECTION - RIGID PIPE	S 11	CITY OF OTTAWA
SEWER SERVICE ABANDONMENT	S 11.4	CITY OF OTTAWA
CATCHBASIN (600x600mm)	701.010	OPSD
STORM / SANITARY MANHOLE (1200x)	400.020	OPSD
CB, FRAME & COVER	401.010	OPSD
STORM / SANITARY HW FRAME & COVER	401.010	OPSD
SEWER TRENCH - BEDDING (GRANULAR A)		OPSD
COVER (GRANULAR A OR GRANULAR B TYPE I WITH MAXIMUM PARTICLE SIZE <math>D_{85} < 25mm</math>)		OPSD
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	PVC DR 35	
 - INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH 50mm X 1200mm HI-40 INSULATION. 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 KORIN-SEAL, PSX POSITIVE SEAL AND DURASEAL). THE CONCRETE CRACKLE FOR THE PIPE CAN BE ELIMINATED.
 - THE OWNER SHALL REQUIRE THAT THE SITE SERVING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPS 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 REPORT TO THE CONSULTANT.
 - FULL PORT BACKWATER VALVES ARE REQUIRED ON THE SANITARY SERVICES. INSTALL AS PER THE MANUFACTURER'S RECOMMENDATIONS AND A BACKWATER VALVE IS REQUIRED ON THE STORM SERVICES / FOUNDATION DRAINS FOR EACH BUILDING. INSTALLED AS PER STD. DWG 514.
 - STORM MANHOLES AND CBHMS ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
 - CONTRACTOR TO TELEVISION (CCTV) ALL PROPOSED SEWERS.
 - REINSTATE ALL EXISTING PAVEMENT, CURB AND BOULEVARDS AS PER CITY OF OTTAWA R10.
 - ALL EXISTING SANITARY AND STORM SERVICES ARE TO BE CAPPED AT THE PROPERTY LINE TO THE SATISFACTION OF THE CITY OF OTTAWA'S SEWER OPERATIONS.

WATERMAIN TABLE (x3 SERVICES)

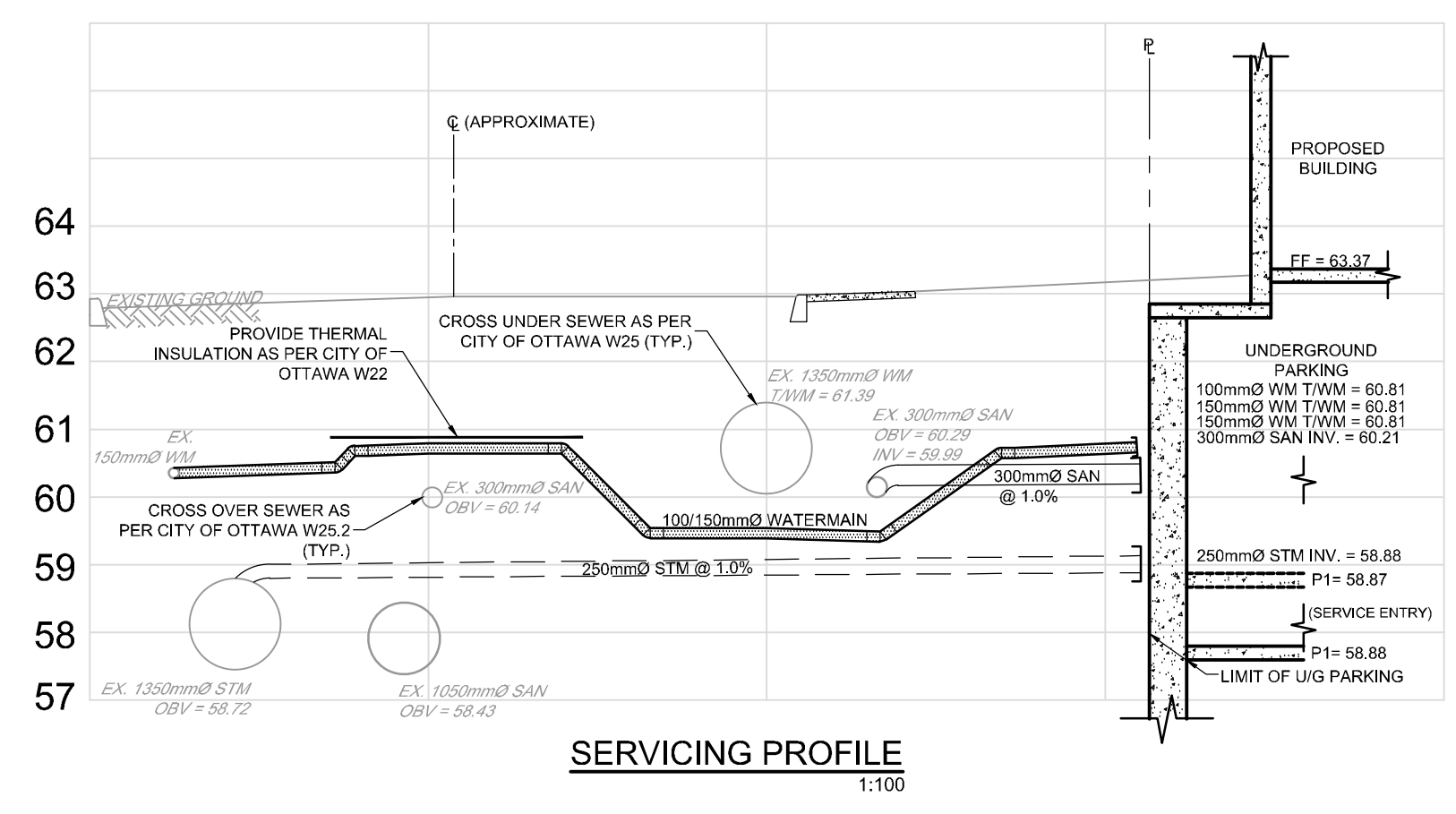
STATION	SURFACE ELEVATION	TOP OF MANHOLE ELEVATION	DESCRIPTION
0+00.0	62.80	66.40	CONNECT TO EXISTING 150mmØ WATERMAIN
0+05.0	62.80	66.40	1/8"Ø
0+10.0	62.84	66.54	STATION
0+14.4	63.20	66.80	STAND POST AT PROPERTY LINE
0+14.8	63.21	66.81	WATERMAIN CAP

CRITICAL PIPE CROSSING TABLE

ITEM	PIPE TYPING	DEPTH (m)	CLEARANCE (m)
1	150mmØ WM TWM = 59.48, 300mmØ SAN OBV = 59.60, 150mmØ WM TWM = 59.54, 300mmØ SAN OBV = 59.69, 250mmØ STM OBV = 60.00	0.50	0.50m
2	250mmØ STM OBV = 59.58, 150mmØ WM TWM = 61.39, 150mmØ WM TWM = 59.54, 150mmØ WM TWM = 61.39	0.66	0.50m
3	150mmØ WM TWM = 60.79, 300mmØ STM OBV = 60.14, 250mmØ STM OBV = 59.92, 300mmØ STM OBV = 59.84, 150mmØ STM OBV = 60.77, 150mmØ STM OBV = 59.47	0.82	0.50m
4	150mmØ WM TWM = 60.43, 150mmØ STM OBV = 58.74, 150mmØ WM TWM = 60.17, 150mmØ STM OBV = 58.75	1.54m	1.52m

- ### WATERMAIN NOTES:
- SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN CROSSING OVER SEWER	W25.1	CITY OF OTTAWA
WATERMAIN (150mm)	PVC DR 18	CITY OF OTTAWA
WATERMAIN (50mm)	TYPE K COPPER	CITY OF OTTAWA
THERMAL INSULATED AT OPEN STRUCTURE	W26	CITY OF OTTAWA
19mm WATER SERVICE CONNECTIONS	W33	CITY OF OTTAWA
50mm WATER SERVICE CONNECTIONS	W38	CITY OF OTTAWA
WATER SERVICE INSTALLATION AT SEWER CROSSING	W38	CITY OF OTTAWA
 - 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. OTHERWISE THERMAL INSULATION IS REQUIRED AS PER STD. DWG W22.
 - PROVIDE MINIMUM 0.50m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS.
 - WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
 - WATER DEMAND = TBD
 - ALL EXISTING WATER SERVICES TO BE BLANKED AT MAIN EXCAVATION AND REINSTATEMENT BY CONTRACTOR.



PROPOSED BUILDING - ROOF DRAIN TABLE

AREA ID	ZURN SPECIFICATION	NOTCHES	1.5-YEAR EVENT			1:100-YEAR EVENT		
			HEAD(m)	Q(m³/s)	VOL(m³)	HEAD(m)	Q(m³/s)	VOL(m³)
			R-01	ZCF121-W-X4-Z-105-10-77	1	0.11	0.40	1.91
R-02	ZCF121-W-X4-Z-105-10-77	1	0.11	0.42	1.97	0.15	0.55	4.15
R-03	ZCF121-W-X4-Z-105-10-77	1	0.12	0.43	2.60	0.15	0.56	5.61
R-04	---	---	0.00	0.67	0.00	0.00	1.27	0.00
R-05	---	---	0.00	0.67	0.00	0.00	1.27	0.00
R-06	---	---	0.00	0.67	0.00	0.00	1.27	0.00
R-07	ZCF121-W-X1-Z-105-10-77	1	0.03	0.51	0.10	0.05	0.72	0.28
R-08	ZCF121-W-X1-Z-105-10-77	1	0.04	0.51	0.11	0.05	0.73	0.30
R-09	---	---	0.00	0.53	0.00	0.00	1.01	0.00
R-10	---	---	0.00	0.57	0.00	0.00	1.08	0.00
R-11	---	---	0.00	0.61	0.00	0.00	1.16	0.00
R-12	ZCF121-W-X4-Z-105-10-77	1	0.11	0.39	1.57	0.14	0.51	3.48
R-13	ZCF121-W-X4-Z-105-10-77	1	0.11	0.40	2.23	0.14	0.52	4.66
R-14	ZCF121-W-X4-Z-105-10-77	1	0.10	0.37	0.98	0.13	0.48	2.16
R-15	ZCF121-W-X4-Z-105-10-77	1	0.11	0.40	1.80	0.14	0.52	3.97
R-16	ZCF121-W-X4-Z-105-10-77	1	0.11	0.40	1.78	0.14	0.52	3.92
R-17	ZCF121-W-X4-Z-105-10-77	1	0.11	0.40	1.77	0.14	0.52	3.89
R-18	ZCF121-W-X4-Z-105-10-77	1	0.07	0.27	0.65	0.10	0.38	0.15
R-19	ZCF121-W-X4-Z-105-10-77	1	0.10	0.36	0.35	0.13	0.48	0.86
R-20	ZCF121-W-X4-Z-105-10-77	1	0.07	0.27	0.65	0.10	0.38	0.15
TOTAL			2.4	17.6	17.16	14.45	18	37.95

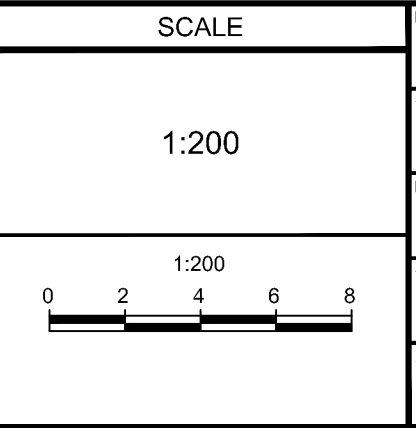
ROOF AREAS R-01 TO R-20 WILL HAVE CONTROLLED ROOF DRAINS WHICH WILL DIRECT RUNOFF TO THE OUTLET VIA THE BUILDINGS INTERNAL PIPES. REFER TO DRAWING 112191-STM FOR STORM DRAINAGE AREAS.

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.

CLARIDGE HOMES
CLARIDGE HOMES SUITE 2001,
210 GLADSTONE AVENUE,
OTTAWA, ONTARIO
K2P 0Y6.

NOTE: CONTRACTOR TO CONFIRM ELEVATIONS OF INFRASTRUCTURE IN THE STREET PRIOR TO EXTENDING SERVICES INTO THE SITE AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

No.	REVISION	DATE	BY
04.	ISSUED FOR COORDINATION	DEC 01/20	JAG
03.	REVISED PER CITY COMMENTS	AUG 24/15	JAG
02.	REVISED PER CITY COMMENTS	OCT 31/13	JAG
01.	ISSUED WITH SITE PLAN APPLICATION	JAN 31/13	GJM



DESIGN	JAG
CHECKED	GJM/JGR
DRAWN	MTM/BET
CHECKED	JAG
APPROVED	GJM/JGR

Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

LOCATION: CITY OF OTTAWA, 1040 SOMERSET STREET WEST

DRAWING NAME: GENERAL PLAN OF SERVICES

PROJECT NO.: 112191-01

REV: REV # 04

DRAWING NO.: 112191-GP