GENERAL NOTES:

1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
2. 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.
3. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
4. 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.
5. 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, OPSD & AWWA GUIDELINES - ALL CURRENT VERSIONS AND 'AS AMENDED'.
6. 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.
7. 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.
8. ALL ELEVATIONS ARE GEODETIC.
9. REFER TO THE GEOTECHNICAL INVESTIGATION REPORT (NO. PG4811-1, REV. 1, DATED MAY 31, 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.
10. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
11. REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2020-059) PREPARED BY NOVATECH.
12. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
13. PROVIDE LINE/PARKING PAINTING.
14. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A SERVICING PLAN OF 119171-GP INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THE SERVICING PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.

SEWER NOTES:

1. 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'.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM / SANITARY MANHOLE (1200mmØ)	701.010	OPSD
STORM / CATCHBASIN MANHOLE (1800mmØ)	701.012	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
SANITARY / STORM SEWER / CB LEAD	PVC DR 35	
STORM SUPER-PIPE (1.0m DIAMETER AND OVER)	CONCRETE 65-D	

3. THE WEEPING TILE SERVICE SHALL BE EQUIPPED WITH A BACKFLOW PREVENTION DEVICE AS PER THE CITY OF OTTAWA STANDARD DETAIL S18, AS INDICATED ON THE PLAN 119171-GP.
4. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
5. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
6. 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.
7. 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.
8. 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.
9. TYPICAL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED. ALL CATCHBASINS ARE TO HAVE 600mm SUMPS UNLESS OTHERWISE INDICATED.
10. ALL CATCHBASINS, MANHOLES AND/OR CATCHBASIN MANHOLES THAT ARE TO HAVE ICD'S INSTALLED WITHIN THEM ARE TO HAVE 600mm SUMPS.
11. ALL WEEPING TILE CONNECTIONS TO BE MADE TO THE PROPOSED STORM SEWER SYSTEM DOWNSTREAM OF ANY INLET CONTROL DEVICES.
12. THE CONTRACTOR IS TO TELEVISE (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.

GRADING NOTES:

1. ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS AS DIRECTED BY THE SITE ENGINEER OR GEOTECHNICAL ENGINEER.
2. EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF GRANULARS.
3. ANY SOFT AREAS EVIDENT FROM THE PROOF ROLLING SHOULD BE SUB-EXCAVATED AND REPLACED WITH SUITABLE MATERIAL THAT IS FROST COMPATIBLE WITH THE EXISTING SOILS AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
4. THE GRANULAR BASE SHOULD BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. ANY ADDITIONAL GRANULAR FILL USED BELOW THE PROPOSED PAVEMENT SHOULD BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
5. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
6. MAXIMUM TERRACING GRADE TO BE 3:1 UNLESS OTHERWISE NOTED.
7. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
8. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
9. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
10. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING AS-BUILT ELEVATIONS OF ALL DESIGN GRADES SHOWN ON PLAN 119171-GR.

PAVEMENT STRUCTURES:

☐	LIGHT DUTY PAVEMENT 50mm HL-3 or SUPERPAVE 12.5 150mm GRANULAR "A" 300mm GRANULAR "B" TYPE II ASPHALT GRADE PG 58-34 - TRAFFIC LEVEL 'B' *INSTALLED PER GEOTECHNICAL REPORT
░	HEAVY DUTY PAVEMENT 40mm HL-3 or SUPERPAVE 12.5 50mm HL-8 or SUPERPAVE 19.0 150mm GRANULAR "A" 450mm GRANULAR "B" TYPE II ASPHALT GRADE PG 58-34 - TRAFFIC LEVEL 'B' *INSTALLED PER GEOTECHNICAL REPORT
▵	HEAVY DUTY CONCRETE ROADWAY CONCRETE AND HEAVY DUTY GRANULAR BASE INSTALLED PER GEOTECHNICAL REPORT
▨	HEAVY DUTY PAVEMENT - ROADWAY RE-INSTATEMENT MATCH EXISTING GRANULAR STRUCTURE OF ROADWAY IN TRENCHES MATCH EXISTING ASPHALT THICKNESSES IN TRENCHES NEW ASPHALT GRADE: PG 58-34 PROVIDE FULL ROAD WIDTH ASPHALT OVERLAY, MIN. 40mm DEPTH AS SHOWN INCLUDING INTERSECTION OF LEES & ROBINSON AVENUES. REFER TO AMENDED ROAD ACTIVITY BY-LAW 2003-445.

EROSION AND SEDIMENT CONTROL NOTES :

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

1. ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF OTTAWA. THEY ARE TO BE APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION. THESE PRACTICES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL AND SHOULD INCLUDE AS A MINIMUM THOSE MEASURES INDICATED ON THE PLAN.
2. EROSION AND SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED DURING CONSTRUCTION IN ACCORDANCE WITH THE "GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES" (GOVERNMENT OF ONTARIO, MAY 1987). THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEETING ALL REGULATORY AGENCY REQUIREMENTS.
3. TO PREVENT SURFACE EROSION FROM ENTERING ANY STORM SEWER SYSTEM DURING CONSTRUCTION, FILTER BAGS WILL BE PLACED UNDER GRATES OF NEARBY CATCHBASINS AND STRUCTURES. A LIGHT DUTY SILT FENCE BARRIER WILL ALSO BE INSTALLED AROUND THE CONSTRUCTION AREA (WHERE APPLICABLE). THESE CONTROL MEASURES WILL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
4. TO LIMIT EROSION: MINIMIZE THE AMOUNT OF EXPOSED SOILS AT ANY GIVEN TIME, RE-VEGETATE EXPOSED AREAS AND SLOPES AS SOON AS POSSIBLE AND PROTECT EXPOSED SLOPES WITH NATURAL OR SYNTHETIC MULCHES.
5. FOR MATERIAL STOCKPILING: MINIMIZE THE AMOUNT OF EXPOSED MATERIALS AT ANY GIVEN TIME; APPLY TEMPORARY SEEDING, TARPS, COMPACTION AND/OR SURFACE ROUGHENING AS REQUIRED TO STABILIZE STOCKPILED MATERIALS THAT WILL NOT BE USED WITHIN 14 DAYS.
6. THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE ENGINEER, THE MEASURES ARE NO LONGER REQUIRED. NO CONTROL MEASURES MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
7. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO ANY STORM SEWER SYSTEM. APPROPRIATE RESPONSE MEASURES, INCLUDING ANY REPAIRS TO EXISTING CONTROL MEASURES OR THE IMPLEMENTATION OF ADDITIONAL CONTROL MEASURES, SHALL BE CARRIED OUT BY THE CONTRACTOR WITHOUT DELAY.
8. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
9. ROADWAYS ARE TO BE SWEPT AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR THE MUNICIPALITY.
10. THE CONTRACTOR SHALL ENSURE PROPER DUST CONTROL IS PROVIDED WITH THE APPLICATION OF WATER (AND IF REQUIRED, CALCIUM CHLORIDE) DURING DRY PERIODS. MONITOR DUST LEVELS DURING SITE PREPARATION/EXCAVATION, AND CONSTRUCTION ACTIVITIES, AND WHEN DUST LEVELS BECOME VISUALLY APPARENT SPRAY WATER TO MINIMIZE THE RELEASE OF DUST FROM GRAVEL, PAVED AREAS AND EXPOSED SOILS. USE CHEMICAL DUST SUPPRESSANTS ONLY WHERE NECESSARY ON PROBLEM AREAS.

WATERMAIN NOTES:

1. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND 'AS AMENDED'. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS 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.
2. 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 AT OPEN STRUCTURES	W23	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN CROSSING OVER SEWER	W25.2	CITY OF OTTAWA
DISTRICT METERING CHAMBER	W3.3	CITY OF OTTAWA
WATERMAIN MATERIAL	PVC DR 18	
PARK WATER SERVICE MATERIAL	PEX / TYPE 'K' SOFT COPPER	

3. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
4. PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, WHERE POSSIBLE UNLESS OTHERWISE INDICATED.
5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

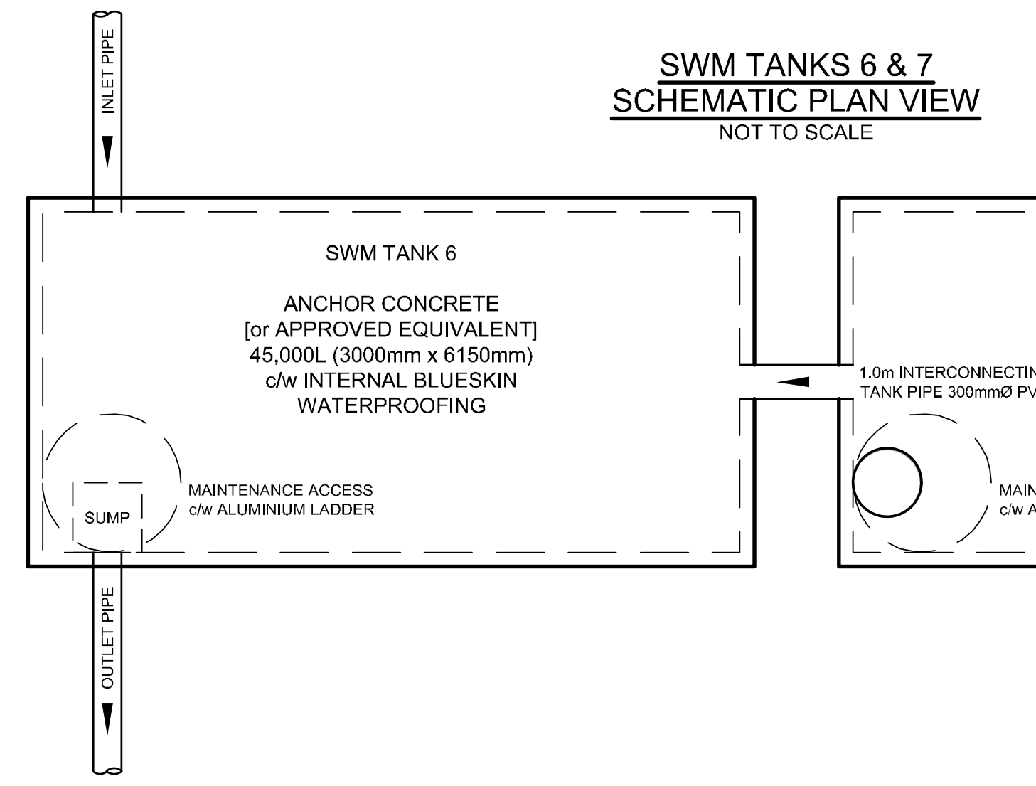
Erosion and Sediment Control Responsibilities:

				During Construction			After Construction Prior to Final Acceptance		After Final Acceptance
	ESC Measure	Symbol	Specification	Installation Responsibility	Inspection/Maintenance Responsibility	Inspection Frequency	Approval to Remove	Removal Responsibility	Inspection/Maintenance Responsibility
Temporary Measures	Silt Fence (Light Duty)	— · · —	OPSD 219.110	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Consultant	Developer's Contractor	N/A
	Filter Bags	Location as Indicated in ESC Note #3	Erosion and Sediment Control Notes	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Consultant	Developer's Contractor	N/A
	Mud Mat	MM	Drawing Details	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Developer's Contractor	Developer's Contractor	N/A
	Dust Control	Location as Required Around Site	Erosion and Sediment Control Notes	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Consultant	Developer's Contractor	N/A
	Stabilized Material Stockpiling	Location as Required by Contractor	Erosion and Sediment Control Notes	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Developer's Contractor	Developer's Contractor	N/A
	Sediment Basin (for flows being pumped out of excavations)	Location as Required by Contractor	- - -	Developer's Contractor	Developer's Contractor	After Every Rainstorm	Developer's Contractor	Developer's Contractor	N/A

CRITICAL SEWER PIPE CROSSING TABLE

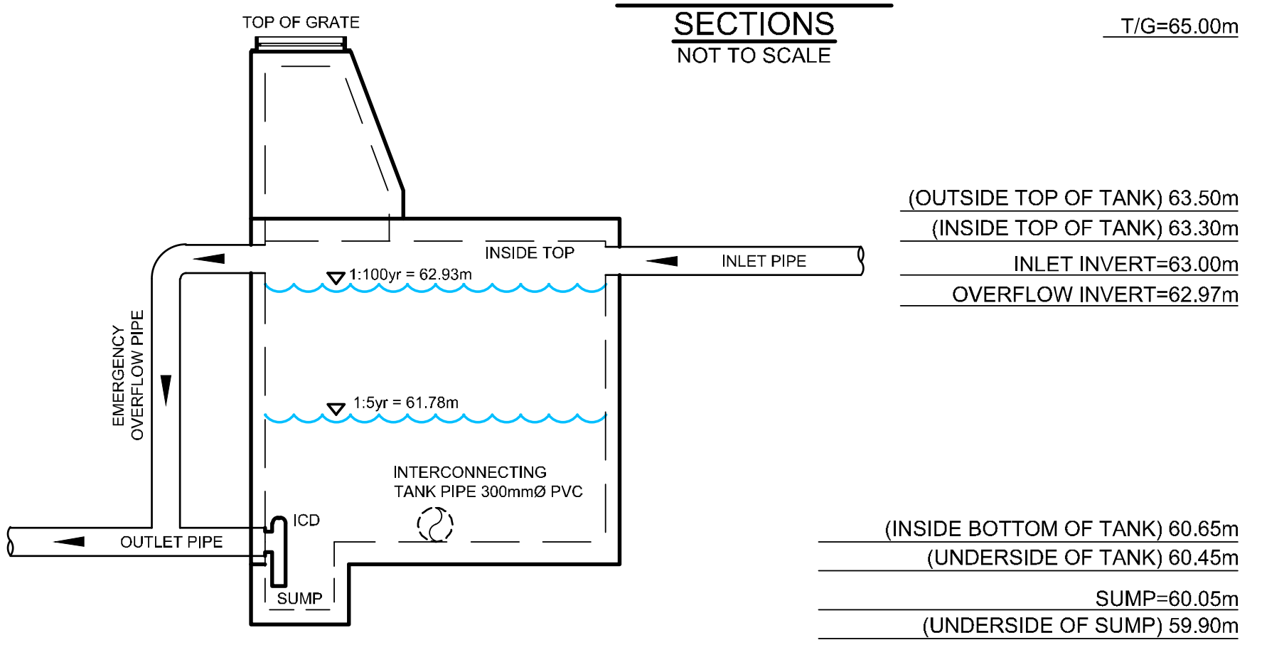
CROSSING	LOWER PIPE	HIGHER PIPE	CLEARANCE	SURFACE ELEVATION
Ⓐ	375mmØ STM OBV=60.03	250mmØ SAN INV=61.51	± 1.5m	64.58 m
Ⓑ	300mmØ STM OBV=60.86	200mmØ SAN INV=61.87	± 1.0m	64.93 m
Ⓒ	1050mmØ STM OBV=61.05	150mmØ U/S WM=61.45	± 0.3m	63.67 m
Ⓓ	250mmØ SAN OBV=60.95	150mmØ U/S WM=61.45	± 0.5m	63.69 m
Ⓔ	1050mmØ STM OBV=63.45	150mmØ U/S WM=64.25	± 0.7m	66.85 m
Ⓕ	250mmØ SAN OBV=63.30	150mmØ U/S WM=64.25	± 0.95m	66.80 m

* SEE 119171-GP PLAN FOR SEWER CROSSING LOCATIONS A and B on SEWERS + C, D, E and F on WATERMAIN.

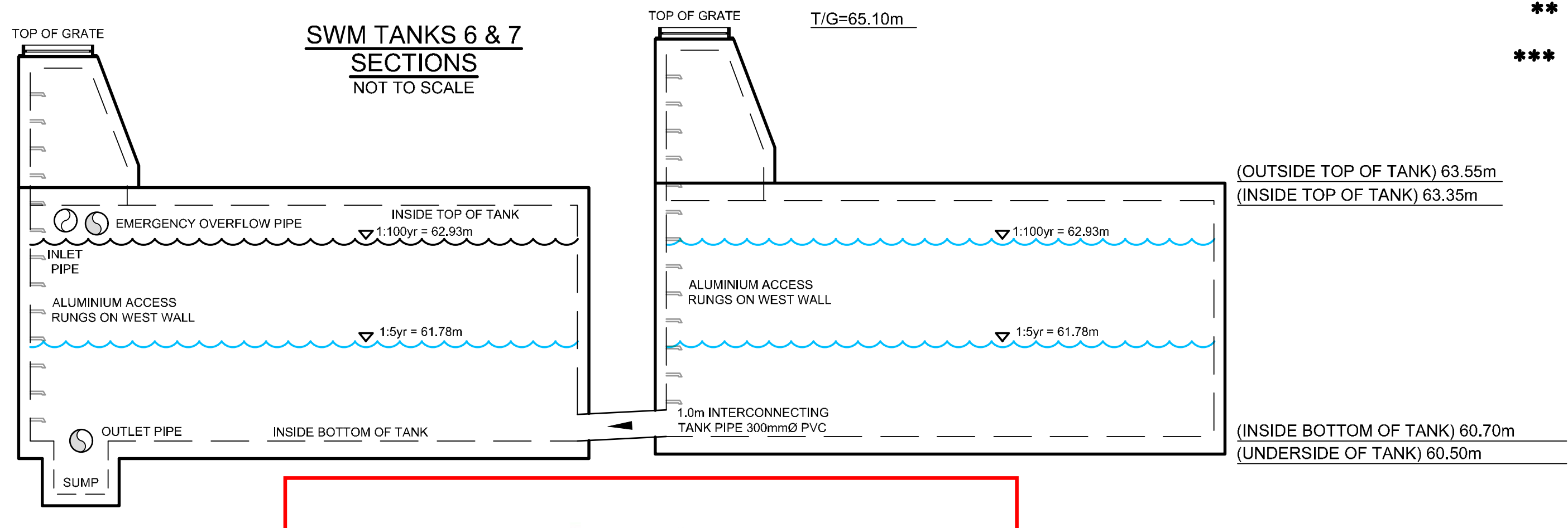


SWM TANKS 6 & 7
SCHEMATIC PLAN VIEW
NOT TO SCALE

SWM TANKS 6 & 7
SECTIONS
NOT TO SCALE



SWM TANKS 6 & 7
SECTIONS
NOT TO SCALE



PROPOSED 250mmØ WATERMAIN TABLE - EAST / WEST SITE LOOP

STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
4+000	69.93±	67.50 *	TEE CONNECTION TO NEW 300mmØ WATERMAIN EXTENSION
4+002.8	70.10	67.45	22.5° VERTICAL BEND
4+005.4	70.12	66.34	22.5° VERTICAL BEND
4+006.7	70.05	66.34 ***	CROSS BELOW EX.600mmØ WM [U/S=67.34m] (±1.0m CLEARANCE)
4+008.0	69.90	66.34	22.5° VERTICAL BEND
4+010.4	69.75	67.35	22.5° VERTICAL BEND
4+018.0	69.30	66.90	22.5° HORIZONTAL BEND
4+020.0	69.29	66.89	CROSS BELOW EX. BELL DUCT (±1.2m CLEARANCE)
4+020.8	69.28	66.88	CROSS BELOW EX. BELL DUCT (±1.5m CLEARANCE)
4+021.8	69.27	66.87	CROSS BELOW EX. COMMS DUCT (±1.5m CLEARANCE)
4+022.1	69.27	66.87	22.5° HORIZONTAL BEND
4+023.1	69.26	66.86	250mmØ VALVE & VALVE BOX @ PROPERTY LINE
4+028.2	69.05	66.65	250 x 250 x 250 TEE
4+050	68.05	65.65	- - -
4+075	67.15	64.75	- - -
4+095.8	66.25	63.85	150 x 250 x 250 BUILDING SERVICE TEE
4+097.1	66.19	63.79	250mmØ VALVE & VALVE BOX
4+098.3	66.13	63.73	150 x 250 x 250 BUILDING SERVICE TEE
4+119.5	65.15	61.64 ***	CROSS BELOW 250mmØ STM [Inv=63.03m] (±1.4m CLEARANCE)
4+121.0	65.10	61.49 ***	CROSS BELOW 200mmØ SAN [Inv=61.99m] (±0.5m CLEARANCE)
4+125	64.93	61.80	- - -
4+132.9	64.80	62.40	22.5° HORIZONTAL BEND
4+136.6	64.70	62.30 ***	CROSS ABOVE 200mmØ STM [Obv=60.77m] (±1.3m CLEARANCE)
4+140.6	64.56	62.16	22.5° HORIZONTAL BEND
4+150	64.10	61.70	- - -
4+164.1	63.78	61.68 **	45° HORIZONTAL BEND
4+165.5	63.77	61.67 **	45° HORIZONTAL BEND
4+166.9	63.74	61.64 **	150mmØ HYDRANT TEE
4+168.5	63.73	61.63 **	45° HORIZONTAL BEND
4+169.9	63.71	61.61 **	45° HORIZONTAL BEND
4+171.4	63.70	61.60 **	150 x 250 x 250 BUILDING SERVICE TEE
4+172.6	63.69	61.59 **	250mmØ VALVE & VALVE BOX
4+173.9	63.68	61.58 **	150 x 250 x 250 BUILDING SERVICE TEE
4+175.5	63.66	61.57 **	INSULATE IN PROXIMITY TO OPEN STRUCTURE
4+197.2	64.48	62.08	250 x 250 x 250 TEE (5+000)
4+199.8	64.50	62.15 ***	CROSS ABOVE 200mmØ STM [Obv=60.70m] (±1.2m CLEARANCE)
4+203.3	64.65	62.20 **	250 x 250 x 250 TEE (5+102.5)
4+204.8	64.68	62.18 **	250mmØ VALVE & VALVE BOX
4+212.5	64.93	61.40 ***	CROSS BELOW 200mmØ SAN [Inv=61.90m] (±0.5m CLEARANCE)
4+214.0	64.96	61.52 ***	CROSS ABOVE 250mmØ STM [Obv=60.87m] (±0.4m CLEARANCE)
4+225	65.43	62.43	- - -
4+239.5	66.12	63.72	150mmØ HYDRANT TEE
4+242.5	66.17	63.77 **	INSULATE IN PROXIMITY TO OPEN STRUCTURE
4+252.0	66.70	64.30 ***	CROSS ABOVE 200mmØ STM [Obv=62.92m] (±1.1m CLEARANCE)
4+254.1	66.80	64.40	150 x 250 x 250 BUILDING SERVICE TEE
4+255.4	66.85	64.45	250mmØ VALVE & VALVE BOX
4+256.6	66.90	64.50	150 x 250 x 250 BUILDING SERVICE TEE
4+262.6	67.30	64.90	22.5° HORIZONTAL BEND
4+268.6	67.50	65.10	22.5° HORIZONTAL BEND
4+275	67.80	65.40	- - -
4+300	68.75	66.35	- - -
4+305.7	69.05	66.65	250 x 250 x 250 TEE
4+308.7	69.15	66.75	22.5° HORIZONTAL BEND
4+313.3	69.35	66.95	DISTRICT METER AREA CHAMBER @ PROPERTY LINE
4+317.5	69.48	67.08	50 x 250 x 250 PARK SERVICE TEE
4+319.5	69.57	67.17	45° HORIZONTAL BEND
4+323.9	69.87	67.19	CROSS BELOW EX. COMMS DUCT (±1.5m CLEARANCE)
4+325.3	69.90	67.20	CROSS BELOW EX. BELL DUCTS (±1.6m CLEARANCE)
4+326.1	69.93	67.23	22.5° HORIZONTAL BEND
4+328.6	70.02	67.25± *	CONNECTION TO EX.150mmØ WM T.V.S. with 250x150 REDUCER

* CONNECTIONS TO EXISTING 150mmØ and NEW 300mmØ WATERMAINS. EXACT ELEVATIONS TO BE FIELD DETERMINED.

** PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAILS W22 IN SHALLOW TRENCHES WHERE COVER IS LESS THAN 2.4m AND/OR W23 ADJACENT TO OPEN STRUCTURES.

*** PIPE CROSSINGS WITH WATERMAINS ARE TO BE IN ACCORDANCE WITH CITY STANDARDS W25 AND W25.2 TO AVOID CONFLICTS, WHERE POSSIBLE.

PROPOSED 250mmØ WATERMAIN TABLE - NORTH / SOUTH SITE LOOP

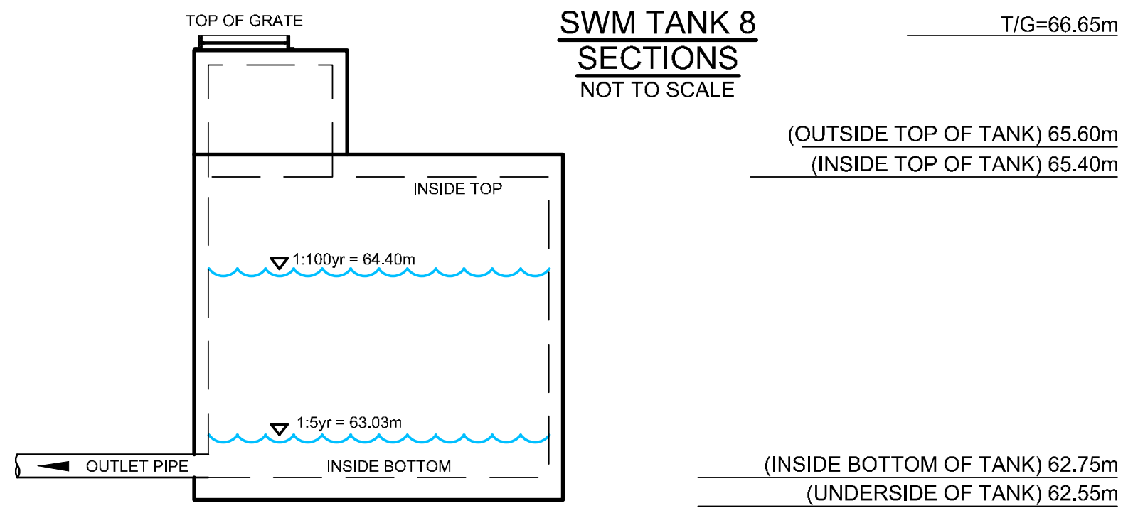
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
5+000	64.48	62.08	250 x 250 x 250 TEE (4+197.2)
5+001.0	64.46	62.10 **	250mmØ VALVE & VALVE BOX
5+002.5	64.45	** 62.10 ***	CROSS ABOVE 300mmØ STM [Obv=60.10m] (±1.75m CLEARANCE)
5+004.5	64.45	** 62.15 ***	CROSS ABOVE 250mmØ SAN [Obv=61.62m] (±0.3m CLEARANCE)
5+005.6	64.45	62.15 **	22.5° HORIZONTAL BEND
5+008.0	64.43	62.03	22.5° HORIZONTAL BEND
5+009.5	64.40	62.10	150mmØ HYDRANT TEE
5+025	64.05	61.65 **	- - -
5+040.4	63.72	61.32 ***	CROSS BELOW 200mmØ STM [Inv=61.91m] (±0.6m CLEARANCE)
5+048.3	63.76	61.26	45° HORIZONTAL BEND
5+049.3	63.75	61.25	150mmØ HYDRANT TEE
5+049.7	63.75	61.25	45° HORIZONTAL BEND
5+050.6	63.60	61.20	250mmØ VALVE & VALVE BOX
5+051.4	63.60	61.20 ***	CROSS ABOVE 375mmØ STM [Obv=59.58m] (±1.35m CLEARANCE)
5+052.9	63.60	61.20	45° HORIZONTAL BEND
5+054.3	63.58	61.18	45° HORIZONTAL BEND
5+062.3	63.53	61.13 **	INSULATE IN PROXIMITY TO OPEN STRUCTURE
5+075	63.88	61.48	- - -
5+078.8	64.08	61.68 ***	CROSS ABOVE 200mmØ STM [Obv=59.83m] (±1.6m CLEARANCE)
5+091.9	64.50	62.10	150 x 250 x 250 BUILDING SERVICE TEE
5+093.2	64.55	62.15	250mmØ VALVE & VALVE BOX
5+094.4	64.60	62.20	150 x 250 x 250 BUILDING SERVICE TEE
5+098.0	64.66	62.32 ***	CROSS ABOVE 250mmØ SAN [Obv=61.82m] (±0.25m CLEARANCE)
5+100.0	64.66	62.25 ***	CROSS ABOVE 300mmØ STM [Obv=60.55m] (±1.45m CLEARANCE)
5+102.5	64.65	62.20	250 x 250 x 250 TEE (4+203.3)

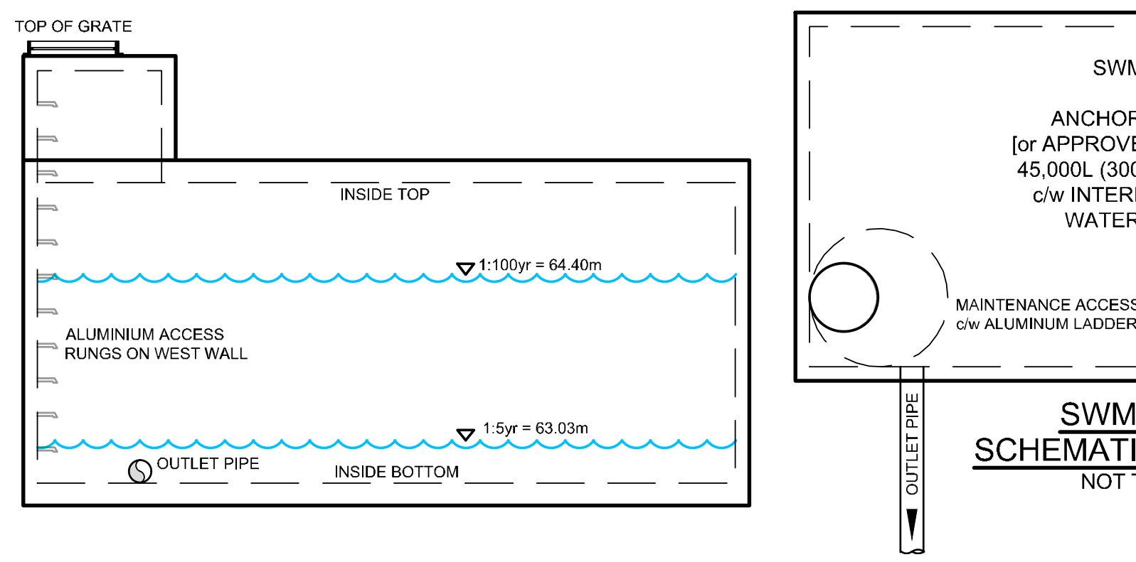
* CONNECTIONS TO EXISTING 150mmØ and NEW 300mmØ WATERMAINS. EXACT ELEVATIONS TO BE FIELD DETERMINED.

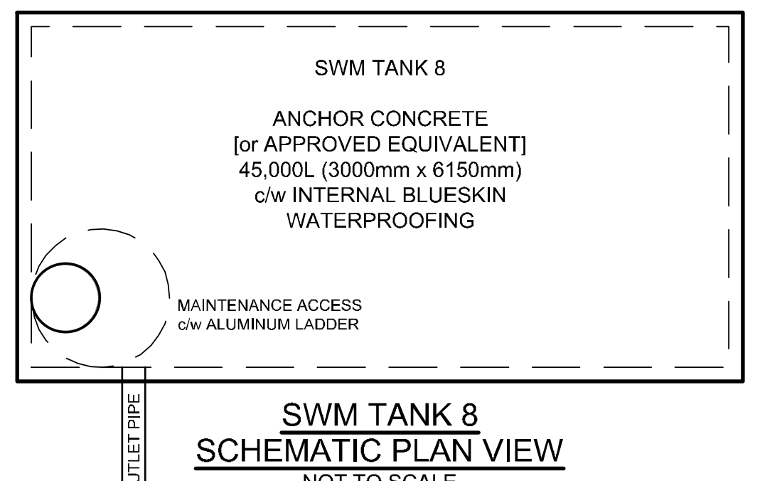
** PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAILS W22 IN SHALLOW TRENCHES WHERE COVER IS LESS THAN 2.4m AND/OR W23 ADJACENT TO OPEN STRUCTURES.

*** PIPE CROSSINGS WITH WATERMAINS ARE TO BE IN ACCORDANCE WITH CITY STANDARDS W25 AND W25.2 TO AVOID CONFLICTS, WHERE POSSIBLE.

SWM TANK 8
SECTIONS
NOT TO SCALE







SWM TANK 8
SCHEMATIC PLAN VIEW
NOT TO SCALE

INLET CONTROL DEVICE DATA TABLE: AREA A-2.1 (TANK 1)

DESIGN EVENT	ICD TYPE (PLUG TYPE)	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	½ PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST LMF CUSTOM	200mmØ PVC	12.0	6.0	0.75	61.15	17.9	> 65 m³
1:5 YR			14.0	7.0	0.80	61.20	25.9	
1:100 YR			16.5	8.3	1.50	61.90	60.8	

INLET CONTROL DEVICE DATA TABLE: AREA A-2.2 (TANK 2)

DESIGN EVENT	ICD TYPE (PLUG TYPE)	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	½ PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST LMF MODEL 100	200mmØ PVC	7.5	3.8	0.72	61.12	13.8	> 45 m³
1:5 YR			9.5	4.8	1.15	61.55	19.2	
1:100 YR			12.0	6.0	1.80	62.20	43.3	

INLET CONTROL DEVICE DATA TABLE: AREA A-2.3 (TANK 3)

DESIGN EVENT	ICD TYPE (PLUG TYPE)	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	½ PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST LMF MODEL 85	200mmØ PVC	3.5	1.8	0.30	60.40	24.7	> 70 m³
1:5 YR			4.5	2.3	0.50	60.60	33.5	
1:100 YR			6.0	3.0	0.85	60.95	69.9	

INLET CONTROL DEVICE DATA TABLE: AREA A-3.1 (TANK 4)

DESIGN EVENT	ICD TYPE (PLUG TYPE)	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	½ PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST MHF MODEL 'A'	200mmØ PVC	15.0	7.5	0.58	60.90	20.5	>75 m³
1:5 YR			17.5	8.8	0.93	61.25	29.7	
1:100 YR			20.0	10.0	1.18	61.58	71.0	

INLET CONTROL DEVICE DATA TABLE: AREA A-3.2 (TANK 5)

DESIGN EVENT	ICD TYPE (PLUG TYPE)	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	½ PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST LMF CUSTOM	200mmØ PVC	15.0	7.5	0.90	61.30	20.0	> 75 m³
1:5 YR			16.5	8.3	1.40	61.80	30.0	
1:100 YR			18.0	9.0	2.00	62.40	71.7	

INLET CONTROL DEVICE DATA TABLE: AREA A-4 (TANK 6 & 7)

DESIGN EVENT	ICD TYPE (PLUG TYPE)	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	½ PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST LMF CUSTOM	250mmØ PVC	8.0	4.0	0.68	61.46	28.9	91 m³
1:5 YR			9.7	4.9	1.00	61.78	40.4	
1:100 YR			14.2	7.1	2.15	62.93	83.2	

INLET CONTROL DEVICE DATA TABLE: AREA A-5 (STM MH 08)

DESIGN EVENT	ICD TYPE (PLUG TYPE)	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	½ PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST MHF CUSTOM	300mmØ PVC	13.8	6.9	0.43	60.39	36.3	106 m³
1:5 YR			17.5	8.8	0.69	60.65	50.1	
1:100 YR			36.0	18.0	2.90	62.86	96.1	

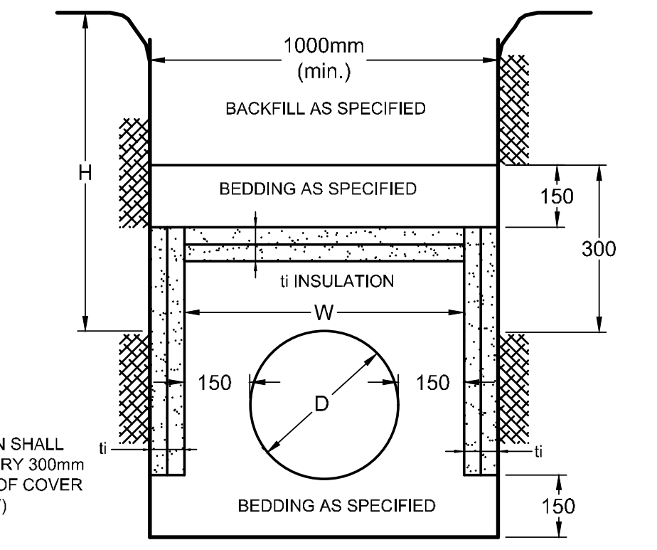
INLET CONTROL DEVICE DATA TABLE: AREA A-6 (CBMH 05)

DESIGN EVENT	ICD TYPE (PLUG TYPE)	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	½ PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m³)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST LMF CUSTOM	300mmØ PVC	9.0	4.5	2.03	62.81	24.4	99 m³
1:5 YR			9.4	4.7	2.25	63.03	36.4	
1:100 YR			12.0	6.0	3.62	64.40	83.0	

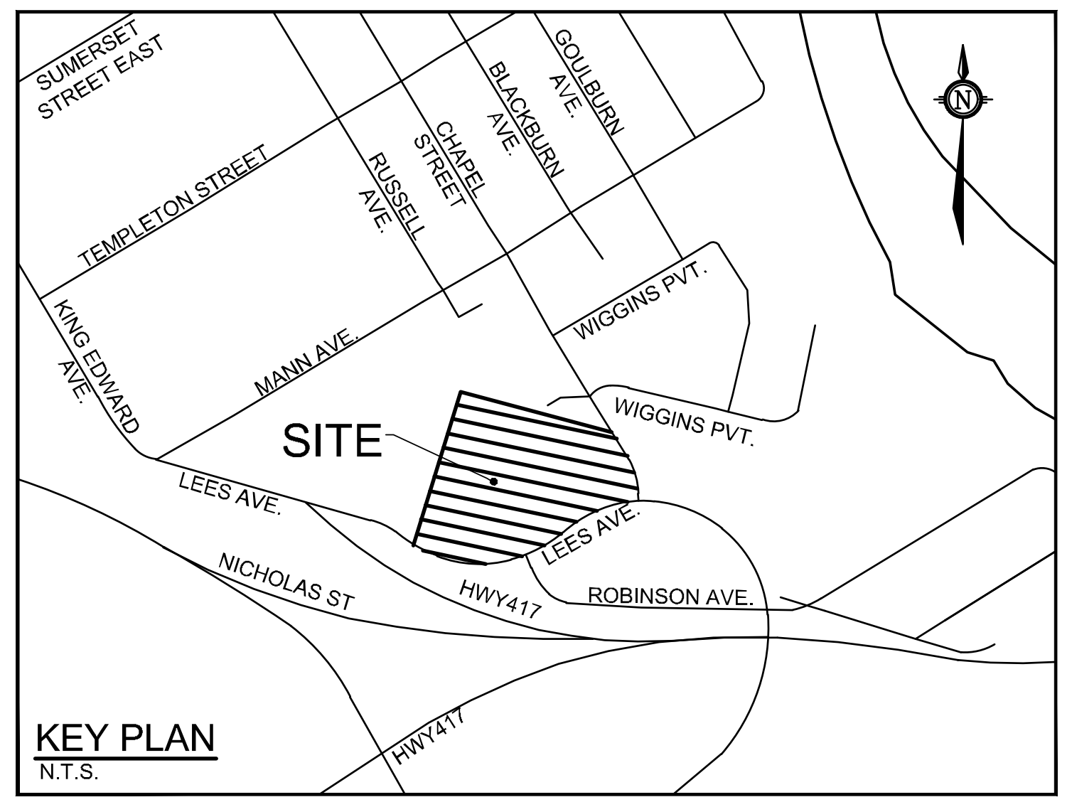
ti = THICKNESS OF INSULATION (mm)
h = DEPTH OF COVER
W = D + 300 (1000 min.)
W = WIDTH OF INSULATION (mm)
D = O.D OF PIPE (mm)

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

INSULATION NOTES:
1. THE THICKNESS OF SEWER INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER LESS THAN 1500mm (SEE TABLE BELOW).



INSULATION DETAIL FOR
SHALLOW SEWERS
NOT TO SCALE



KEY PLAN
N.T.S.

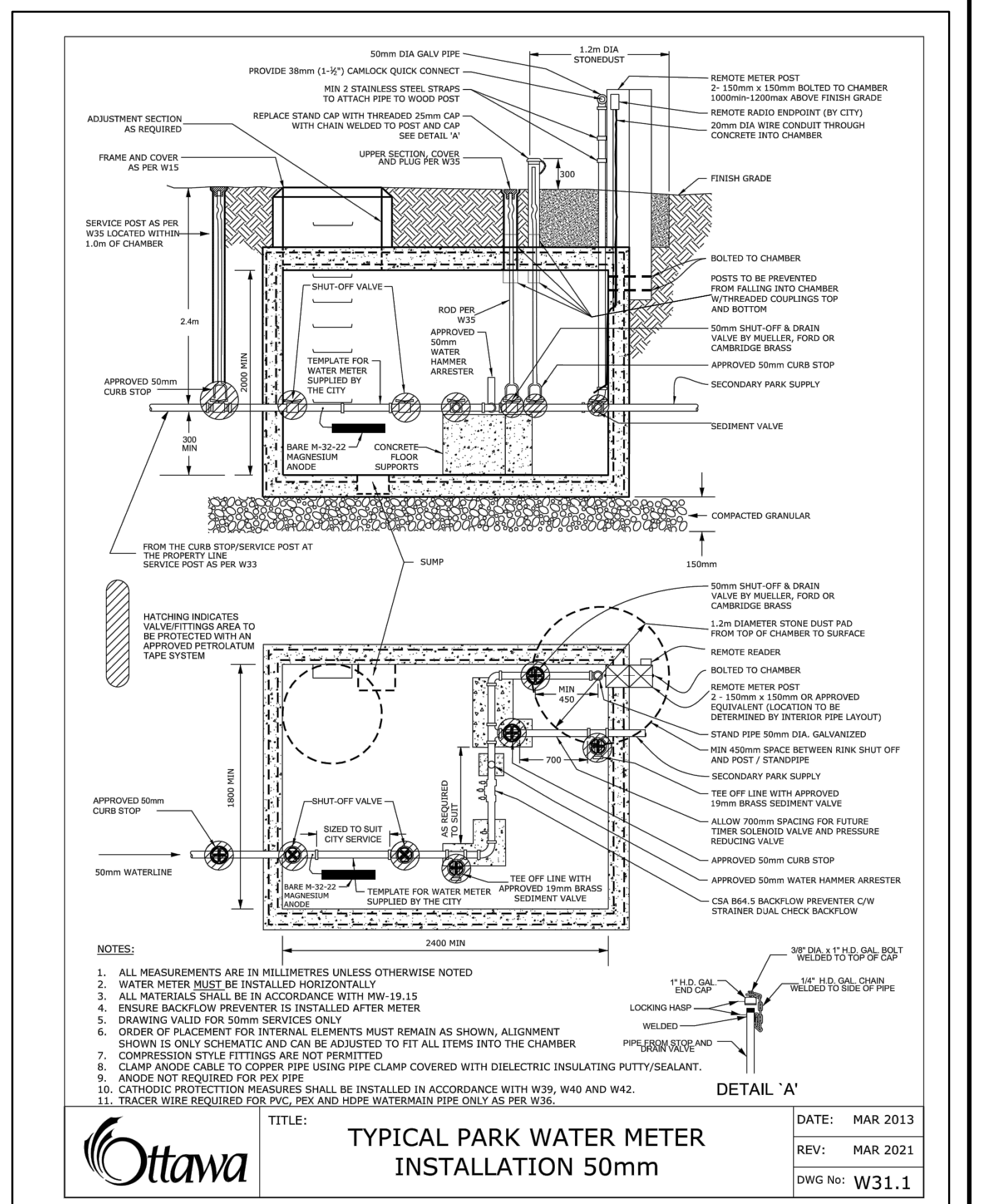
BENCHMARK INFO:

CITY OF OTTAWA MONUMENT No. 2011-0127 LOCATED NEAR THE SOUTH-WEST CORNER OF THE INTERSECTION OF LEES AVENUE AND ROBINSON AVENUE. GEODETIC ELEVATION = 63.60m.

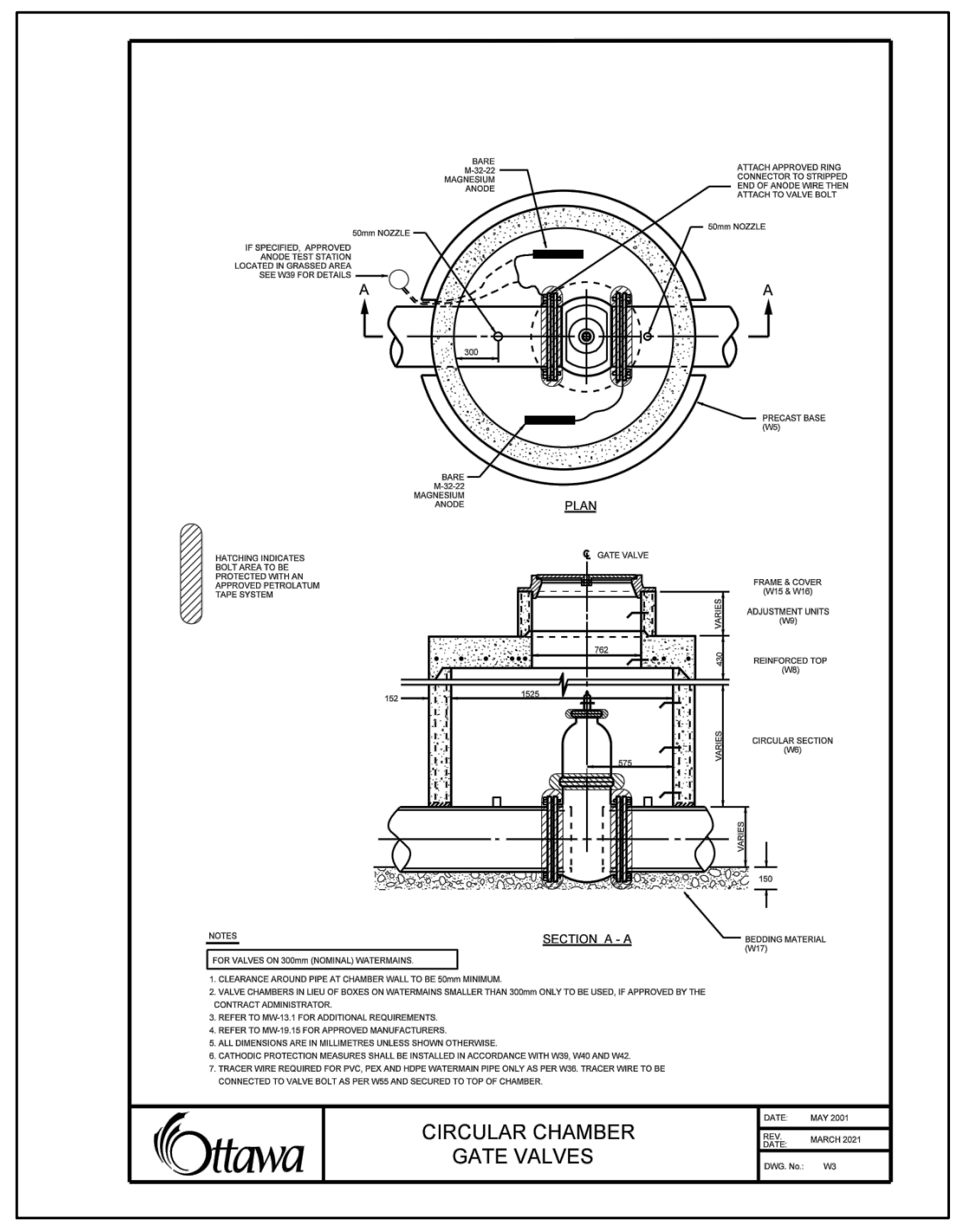
ALL ELEVATIONS ARE REFERRED TO THE CGVD28 GEODETIC DATUM, DERIVED FROM VERTICAL CONTROL MONUMENT NO. 3603 HAVING AN ELEVATION OF 76.959 METRES. BEARINGS ARE GRID, DERIVED FROM THE NORTHERLY LIMIT OF PART 1 ON PLAN 4R-1381 AND ARE REFERRED TO THE CENTRAL MERIDIAN OF MTM ZONE 9 (76°30' WEST LONGITUDE) NAD-83 (ORIGINAL)

THE EXISTING GRADES SHOWN ON THE PLANS ARE TAKEN DIRECTLY FROM TOPOGRAPHICAL SURVEY PLAN (Ref. # 21029-20 JRE Lt 7 PL 49 T F), PREPARED BY ANNIS, O'SULLIVAN, VOLLEBEKK SIGNED AND DATED AUGUST 14, 2020.

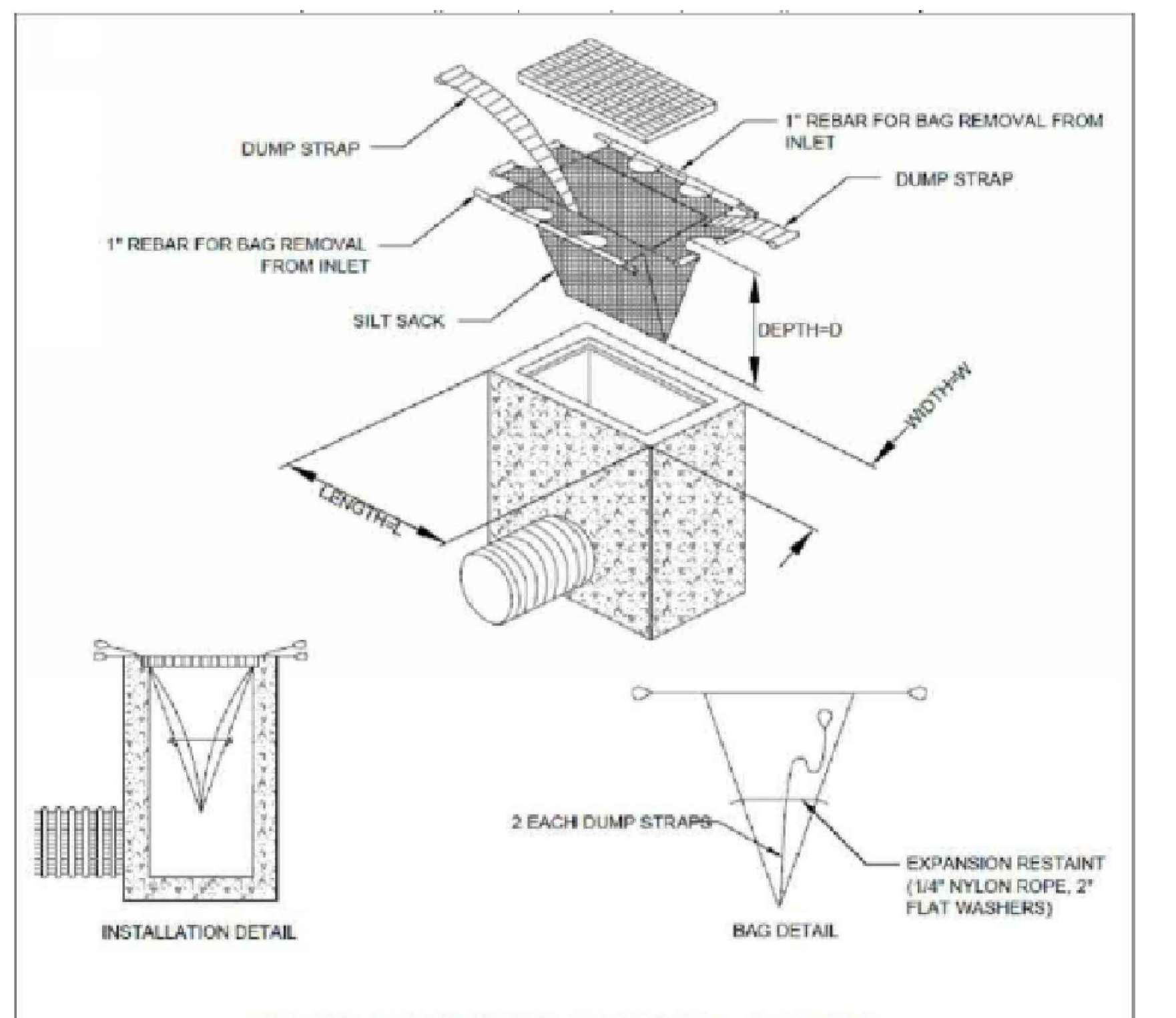
SURROUNDING BACKGROUND TOPO INFORMATION BEYOND THE LIMITS OF THE SITE SURVEY ARE SHOWN FROM CITY OF OTTAWA 1:1000 MAPPING FOR CONTEXT ONLY.



TITLE: TYPICAL PARK WATER METER INSTALLATION 50mm
DATE: MAR 2013
REV: MAR 2021
DWG No.: W31.1



CIRCULAR CHAMBER GATE VALVES



INLET SEDIMENT CONTROL DEVICE
N.T.S.

ALL PROJECT NOTES, DETAILS AND SPECIFICATIONS ARE TO MEET THE MOST CURRENT AND AMENDED VERSIONS OF THE CITY OF OTTAWA AND PROVINCIAL STANDARDS

THIS PLAN IS TO BE READ IN CONJUNCTION WITH CIVIL PLANS 119171-GP, 119171-GR, 119171-PR1 AND 119171-PR2

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.

APPROVED
By Andrew McCreight at 8:41 am, Jun 14, 2024

A. McCreight
ANDREW MCCREIGHT
MANAGER, DEVELOPMENT REVIEW CENTRAL
PLANNING, DEVELOPMENT & BUILDING SERVICES
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

OWNER INFORMATION
2 ROBINSON AVENUE LIMITED PARTNERSHIP
88 ALBERT STREET
OTTAWA, ONTARIO, K1P 5E9
CONTACT: MR. KIERAN WAUGH
PHONE: (416) 903-1377
EMAIL: kwaugh@placedoree.com

No.	REVISION	DATE	BY
6	REVISED PER CITY COMMENTS	JAN 19/24	FST
5	RE-ISSUED FOR SITE PLAN APPROVAL	MAR 1/23	FST
4	RE-ISSUED FOR SITE PLAN APPROVAL	JAN 10/23	FST
3	RE-ISSUED FOR SITE PLAN APPROVAL	OCT 07/22	FST
2	REVISED PER CITY COMMENTS / UPDATED SITE PLAN	MAR 30/21	FST
1	ISSUED FOR SITE PLAN APPROVAL	NOV 15/21	FST

SCALE
NOT TO SCALE

DESIGN	SM
CHECKED	FST
DRAWN	SM
CHECKED	FST
APPROVED	FST

FOR REVIEW ONLY

F.S. THAUVETTE
100041399
January 19, 2024

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Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
320 LEES AVENUE (2 ROBINSON AVENUE)

DRAWING NAME
CIVIL NOTES, DETAILS & TABLES

PROJECT No. 119171
REV: REV # 6
DRAWING No. 119171-NDT

D07-12-21-0202

18357