

INTERNAL SWM STORAGE TANK #1 SYSTEM

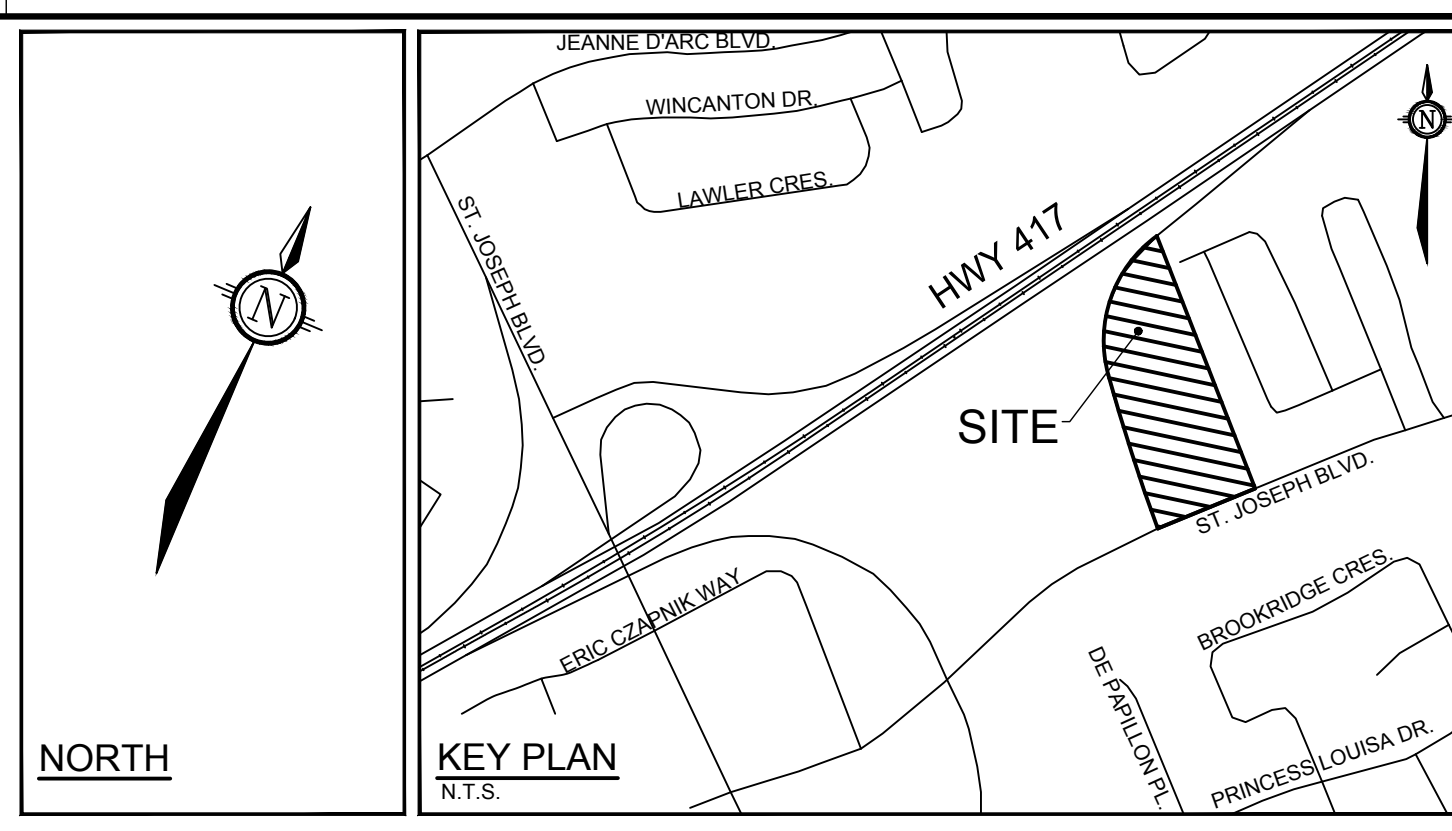
DESIGN EVENT	STORAGE SYSTEM CONTROLLED FLOW	STORAGE VOLUMES REQUIRED	STORAGE VOLUMES PROVIDED
1:2 YR	29.5 L/s	39.5 m³	>219 m³
1:5 YR		64.7 m³	
1:100 YR		170.2 m³	
1:100+20% NOTES:		218.4 m³	

1. ALL DRAINAGE FROM AREA A-5 TO BE DIRECTED TO THE INTERNAL STORMWATER STORAGE SYSTEM. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR DETAILS.
 2. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR EXACT SIZE AND DETAILS OF INTERNAL STORMWATER STORAGE SYSTEM.
 3. REFER TO MECHANICAL PLANS FOR PUMP INFORMATION AND DETAILS OF THE INTERNAL STORMWATER STORAGE SYSTEM.

ROOF DRAIN TABLE

AREA ID	BUILDING	ROOF DRAIN No. (WATTS MODEL)*	ROOF DRAIN OPENING SETTING	2 YEAR RELEASE RATE	APPROX. 2-YR PONDING DEPTH	5-YEAR RELEASE RATE	APPROX. 5-YEAR PONDING DEPTH	100-YEAR RELEASE RATE	APPROX. 100-YR PONDING DEPTH
A-3	A	RD 1 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	11 cm	0.32 L/s	12 cm	0.32 L/s	14 cm
		RD 2 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	11 cm	0.32 L/s	12 cm	0.32 L/s	14 cm
		RD 3 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	10 cm	0.32 L/s	11 cm	0.32 L/s	13 cm
		RD 4 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	10 cm	0.32 L/s	11 cm	0.32 L/s	13 cm
		RD 5 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	11 cm	0.32 L/s	12 cm	0.32 L/s	15 cm
		RD 6 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	11 cm	0.32 L/s	12 cm	0.32 L/s	15 cm
		RD 7 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	8 cm	0.32 L/s	10 cm	0.32 L/s	14 cm
		RD 8 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	8 cm	0.32 L/s	10 cm	0.32 L/s	14 cm
		RD 9 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	8 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 10 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	8 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 11 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	10 cm	0.32 L/s	11 cm	0.32 L/s	13 cm
		RD 12 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	10 cm	0.32 L/s	11 cm	0.32 L/s	13 cm
A-4	B	RD 1 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 2 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 3 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 4 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 5 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 6 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
B-2	C	RD 1 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 2 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 3 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 4 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 5 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
		RD 6 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	9 cm	0.32 L/s	10 cm	0.32 L/s	12 cm
B-3	D	RD 1 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	11 cm	0.32 L/s	12 cm	0.32 L/s	14 cm
		RD 2 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	11 cm	0.32 L/s	12 cm	0.32 L/s	14 cm
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		RD 11 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	10 cm	0.32 L/s	11 cm	0.32 L/s	13 cm
		RD 12 (RD-100-A-ADJ.)	CLOSED	0.32 L/s	10 cm	0.32 L/s	11 cm	0.32 L/s	13 cm

* REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2023-086) 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.



- ### 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 MUNICIPAL AUTHORITIES AND OWNER.
 - 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 (REF NO. P05891-1, REVISION 1, DATED NOVEMBER 6, 2019) AND TREE PLANTING SETBACK RECOMMENDATIONS (REF NO. P05891-MEMO-01), 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 ARCHITECTS' AND LANDSCAPE ARCHITECTS' DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
 - REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2023-086) PREPARED BY NOVATECH.
 - SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
 - 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 TAG ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, TWM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
 - PROVIDE LINE/PARKING PAINTING AS REQUIRED PER THE ARCHITECTURAL SITE PLAN.

- ### 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 (800X600MM)	705.010	OPSD
STORM / SANITARY MANHOLE (1200MM2)	701.010	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
EXTERIOR MECHANICAL AREA DECK DRAIN	FD-490-F-4	(OR APPROVED EQUIVALENT)
STORM SEWER	PVC DR 35	WATTS CANADA
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	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.
 - FOR ON-SITE SEWERS, 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. FOR OFF-SITE SEWERS, INSULATE ALL PIPES (SAN / STM) THAT HAVE LESS THAN 1.8m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
 - 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.
 - TYPICAL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
 - THE CONTRACTOR IS TO TELEVISION (CTV) ALL PROPOSED SEWERS, 200mm 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 CTV 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 TAG 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 WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
 - SPECIFICATIONS:

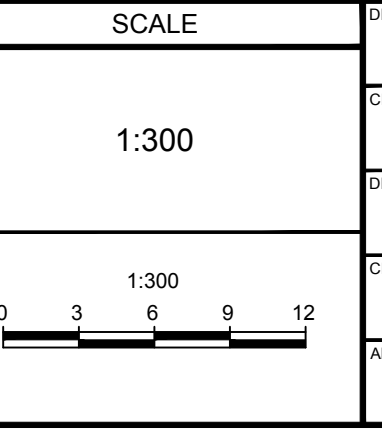
ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
FIRE HYDRANT INSTALLATION	W19	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
INSULATION ADJACENT TO OPEN STRUCTURES	W23	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN	PVC DR 18	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN CROSSING ABOVE SEWER	W26.2	CITY OF OTTAWA
 - 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. EXCAVATION, INSTALLATION OF SERVICE, BACKFILL AND RESTORATION BY THE CONTRACTOR.
 - 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.

- ### BENCHMARK NOTES:
- ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM.
 - IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.
 - BENCHMARK WAS PROVIDED ONPLAN OF SURVEY PART OF LOT 33, CONCESSION 1 (OLD SURVEY) GEOGRAPHIC TOWNSHIP OF CUMBERLAND, CITY OF OTTAWA, SURVEYED BY STANTEC GEOMATICS LTD.

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
 8417709 CANADA INC.
 430 boulevard de l'hôpital, Suite 310
 Gatineau, QC J8V 1T7
 NAME: PAUL-ANDRÉ CHARBONNEAU
 PHONE: (819) 955-8032
 EMAIL: paul-andre@chartro.ca

No.	REVISION	DATE	BY
1.	ISSUED FOR SPC APPLICATION	JUL 19/24	FST



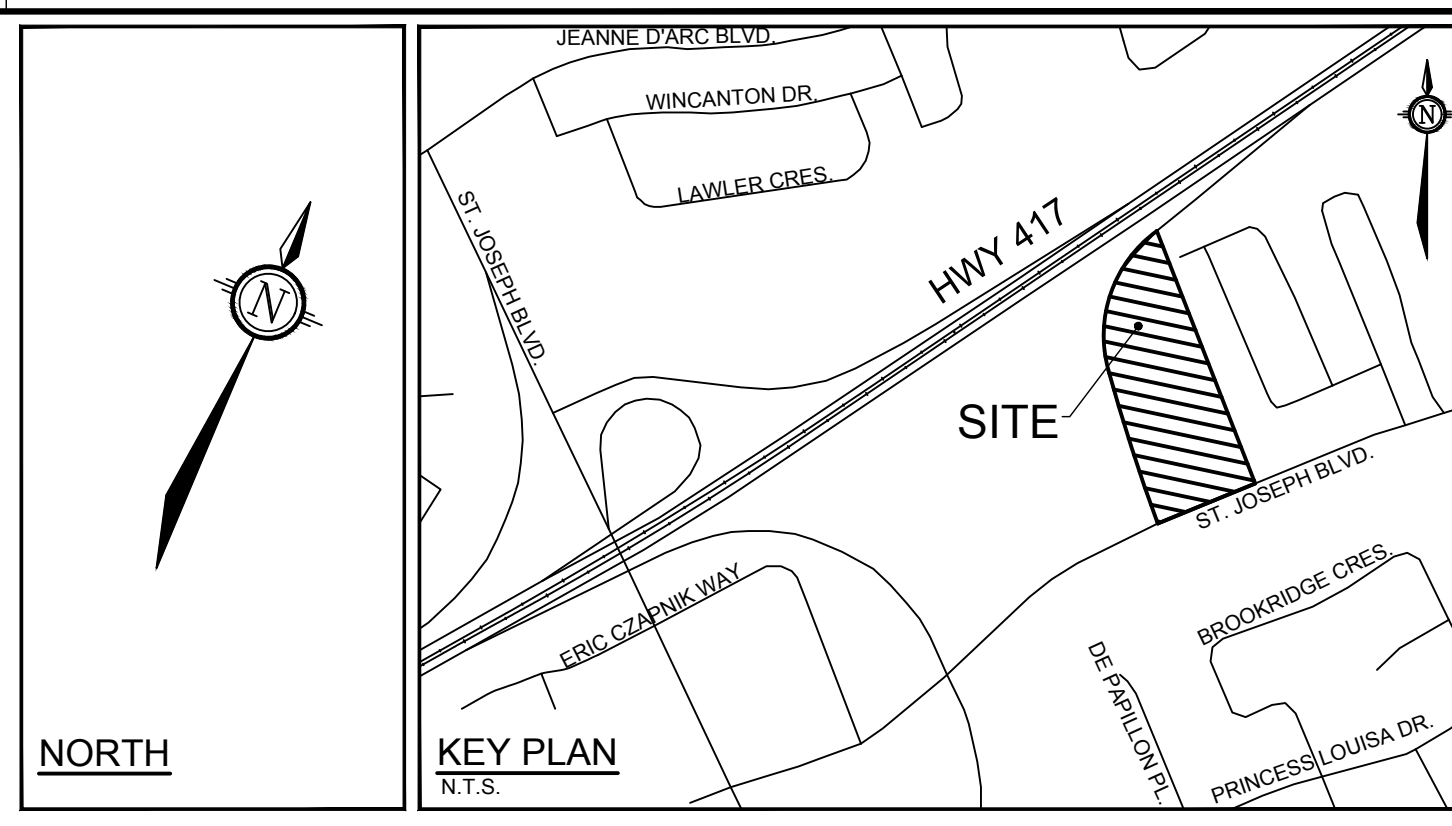
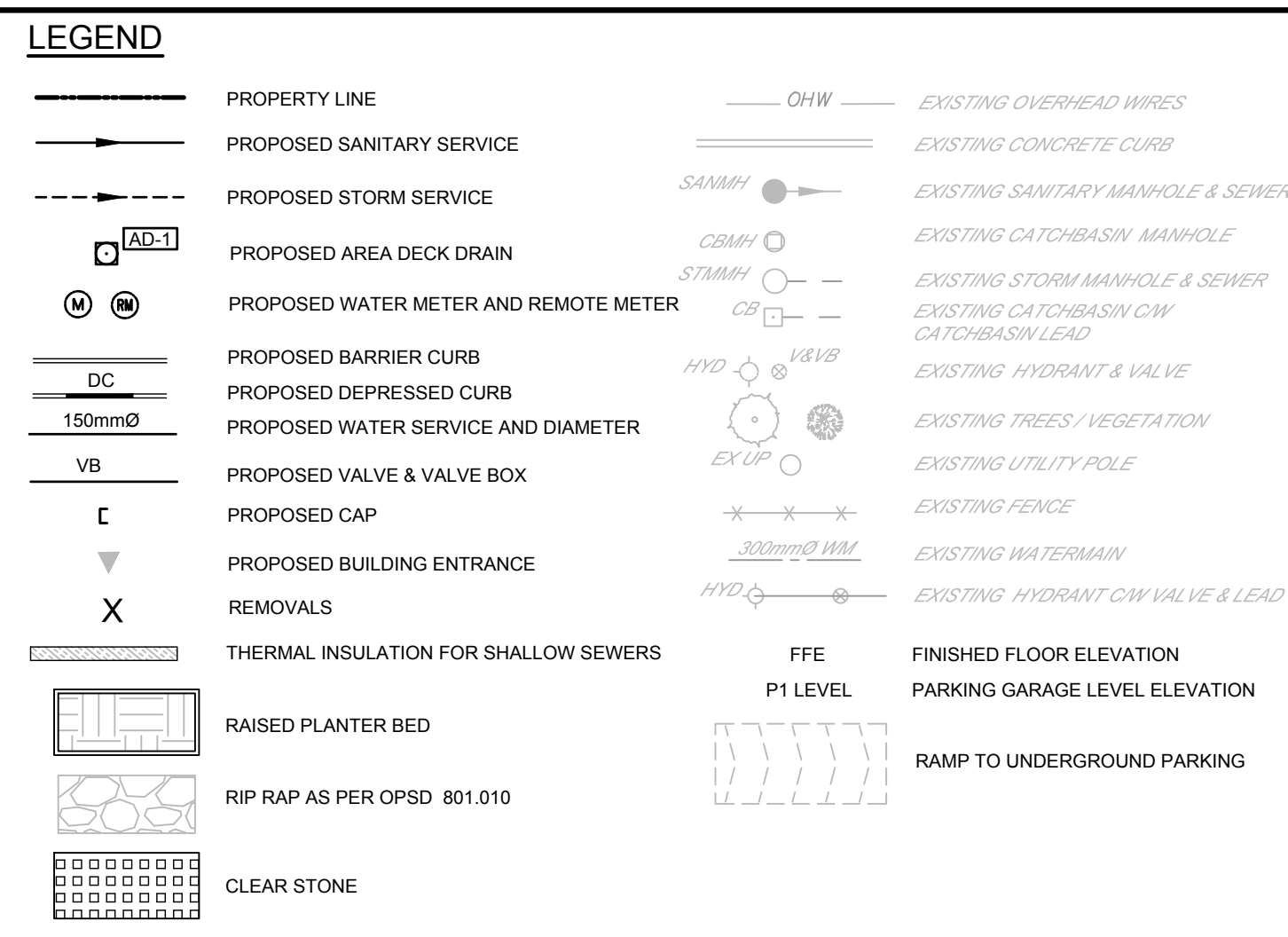
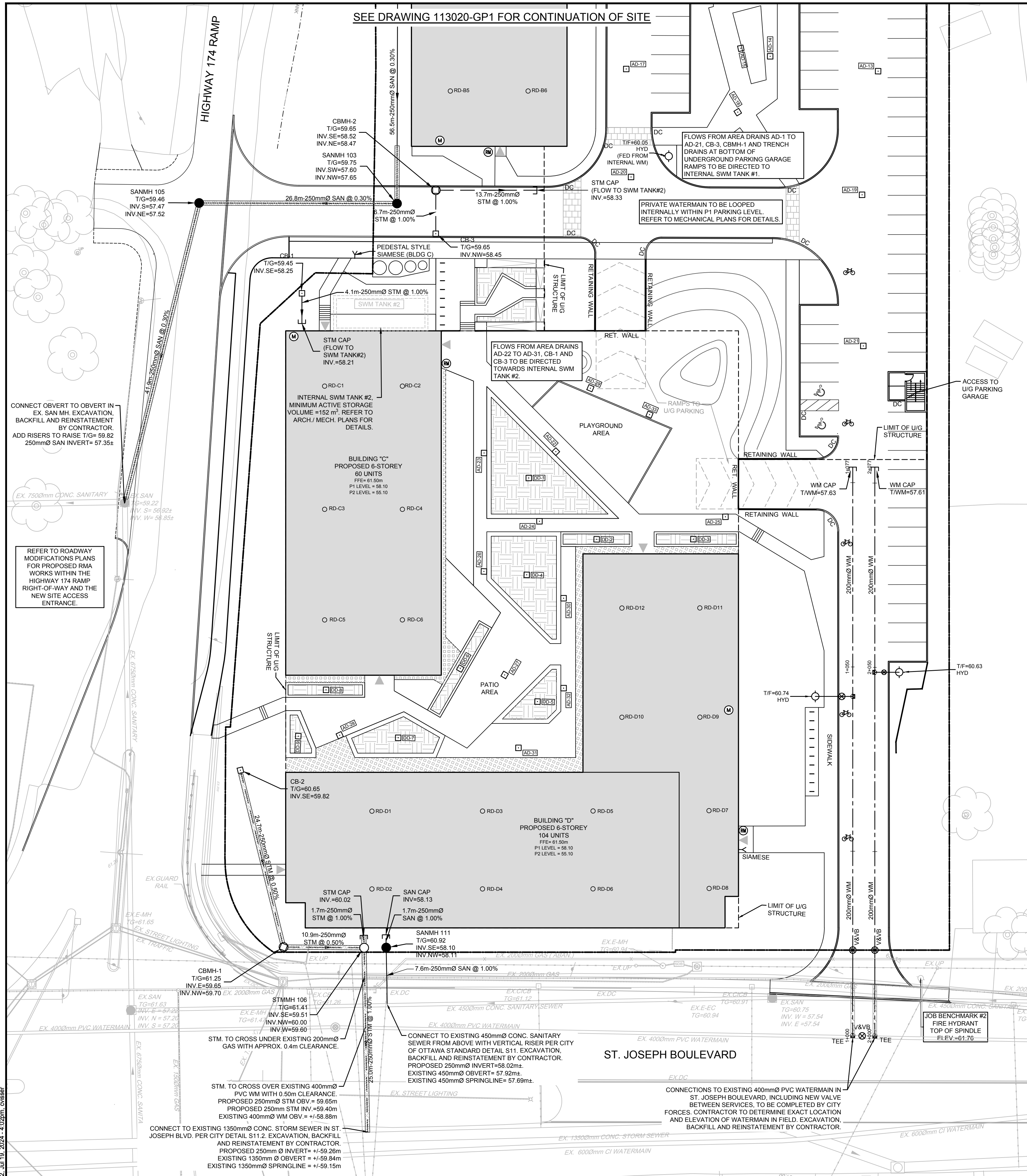
FOR REVIEW ONLY

DESIGN	CV
CHECKED	FST
DRAWN	CV
CHECKED	FST
APPROVED	FST

PROFESSOR OF OTTAWA

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

CITY OF OTTAWA
 3459 & 3479 ST. JOSEPH BOULEVARD
 DRAWING NAME
GENERAL PLAN OF SERVICES
 PROJECT No. 113020-00
 REV #1
 DRAWING No. 113020-GP1



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 - PROVIDE LINE/PARKING PAINTING AS REQUIRED PER THE ARCHITECTURAL SITE PLAN.

PROPOSED 200mmØ WATER SERVICE TABLE

Station	F/G ELEVATION	TOP OF WATERMAIN	DESCRIPTION
1+000.00	60.77	58.37	150mmØ WM TEE CONNECTION TO EX. 400mmØ PVC WM
1+004.95	60.69	58.74	WATERMAIN CROSSING UNDER SAN (±0.50m CLEARANCE)
1+007.12	60.82	58.47	WATERMAIN UNDER EX. GAS LINE (1.2m CLEARANCE)
1+010.36	60.93	58.48	WATERMAIN CROSSING UNDER ABANDONED GASLINE (±1.2m CLEARANCE)
1+011.59	60.98	58.58	150mmØ VALVE AND VALVE BOX
1+025.00	60.91	58.51	
1+046.00	60.43	58.03	TEE CONNECTION FOR FIRE HYDRANT
1+050.00	60.32	57.92	
1+075.00	60.04	57.64	
1+077.11	60.03	57.63	TEE CONNECTION FOR BUILDING D

PROPOSED 200mmØ WATER SERVICE TABLE

Station	F/G ELEVATION	TOP OF WATERMAIN	DESCRIPTION
2+000.00	60.75	58.35	150mmØ WM TEE CONNECTION TO EX. 400mmØ PVC WM
2+004.99	60.66	58.71	WATERMAIN CROSSING UNDER SAN (±0.50m CLEARANCE)
2+006.97	60.81	58.46	WATERMAIN UNDER EX. GAS LINE (1.2m CLEARANCE)
2+010.41	60.93	58.58	WATERMAIN CROSSING UNDER ABANDONED GASLINE (±1.2m CLEARANCE)
2+011.64	60.98	58.58	150mmØ VALVE AND VALVE BOX
2+025.00	60.91	58.51	
2+049.34	60.34	57.94	TEE CONNECTION FOR FIRE HYDRANT
2+050.00	60.32	57.92	
2+075.00	60.03	57.63	
2+077.16	60.01	57.61	TEE CONNECTION FOR BUILDING D

★ CONNECTIONS TO EXISTING 400mmØ PVC. EXACT ELEVATIONS TO BE FIELD DETERMINED.
 ★★ PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W22 IN SHALLOW TRENCHES AND/OR CITY OF OTTAWA DETAIL W23 ADJACENT TO OPEN STRUCTURES.

INTERNAL SWM STORAGE TANK #2 SYSTEM

DESIGN EVENT	STORAGE SYSTEM CONTROLLED FLOW	STORAGE VOLUMES	
		REQUIRED	PROVIDED
1.2 YR		35.3 m³	
1.5 YR		52.4 m³	
1.100 YR	3.8 L/s	121.2 m³	>153 m³
1.100+20%		152.7 m³	

NOTES:
 1. ALL DRAINAGE FROM AREA B-S TO BE DIRECTED TO THE INTERNAL STORMWATER STORAGE SYSTEM REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR DETAILS.
 2. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR EXACT SIZE AND DETAILS OF INTERNAL STORMWATER STORAGE SYSTEM.
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- ### 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 (800/600MM)	705.010	OPSD
STORM / SANITARY MANHOLE (1200MMØ)	701.010	OPSD
CB, FRAME & COVER	400.020	OPSD
STORM / SANITARY MH FRAME & COVER	401.010	OPSD
WATER TIGHT MH FRAME AND COVER	401.030	OPSD
SEWER TRENCH	S6	CITY OF OTTAWA
EXTERIOR MECHANICAL AREA DECK DRAIN	FD-490-F-4	WATTS CANADA
	(OR APPROVED EQUIVALENT)	
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	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.
 - FOR ON-SITE SEWERS, 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. FOR OFF-SITE SEWERS, INSULATE ALL PIPES (SAN / STM) THAT HAVE LESS THAN 1.8m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
 - 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.
 - TYPICAL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
 - THE CONTRACTOR IS TO TELETYPE (CTV) 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 SERVING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TAG 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 OPSD 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 WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
 - SPECIFICATIONS:

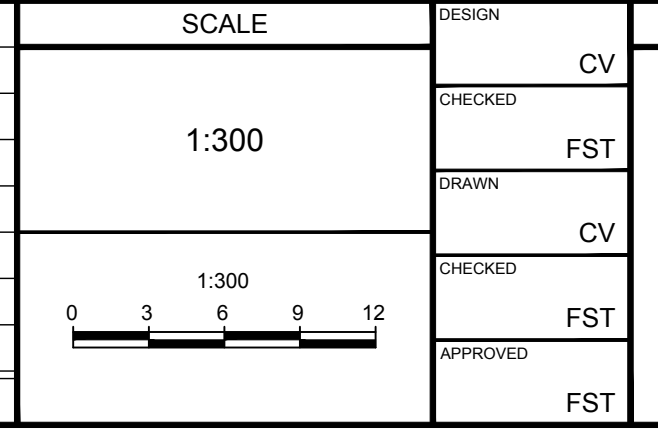
ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
FIRE HYDRANT INSTALLATION	W19	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
INSULATION ADJACENT TO OPEN STRUCTURES	W23	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN	PVC DR 18	
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN CROSSING ABOVE SEWER	W25.2	CITY OF OTTAWA
 - 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. EXCAVATION, INSTALLATION OF SERVICE, BACKFILL AND RESTORATION BY THE CONTRACTOR.
 - 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.

- ### BENCHMARK NOTES:
- ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM.
 - IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.
 - BENCHMARK WAS PROVIDED ON PLAN OF SURVEY PART OF LOT 33, CONGRESSION 1 (OLD SURVEY) GEOGRAPHIC TOWNSHIP OF CUMBERLAND, CITY OF OTTAWA, SURVEYED BY STANTEC GEOMATICS LTD.

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
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 PHONE: (819) 955-8032
 EMAIL: paul-andre@chartro.ca

No.	REVISION	DATE	BY
1.	ISSUED FOR SPC APPLICATION	JUL 19/24	FST



DESIGN	CV
CHECKED	FST
DRAWN	CV
CHECKED	FST
APPROVED	FST

FOR REVIEW ONLY

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

LOCATION
 CITY OF OTTAWA
 3459 & 3479 ST. JOSEPH BOULEVARD

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 113020-00
 REV #1
 DRAWING No. 113020-GP2