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. 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.
6. 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.
7. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
8. ALL ELEVATIONS ARE GEODETIC AND ARE REFERED TO THE CGVD28 GEODETIC DATUM. THE SITE BENCHMARK IS A CUT CROSS LOCATED ON THE BASE OF A LIGHT STANDARD WITHIN THE NEIGHBORING DEALERSHIP PROPERTY TO THE SOUTH. BEARINGS ARE DERIVED FROM MTM ZONE 9 (NAD-83, ORIGINAL). REFER TO ANNIS O'SULLIVAN VOLLEBEKK LTD. TOPOGRAPHIC PLAN OF SURVEY OF PART IF THE NORTHERLY LIMIT, THE WESTERLY LIMIT AND PART OF THE SOUTHERLY LIIT OF PIN 14563-3947 BEING PART OF LOT 1 CONCESSION 11, GEOGRAPHIC TOWNSHIP OF CUMBERLAND, CITY OF OTTAWA. DATE JANUARY 6,2023.
9. REFER TO GEOTECHNICAL INVESTIGATION REPORT TITLED PROPOSED MULTI-BUIILDING DEVELOPMENT, 4200 INNES ROAD, OTTAWA ONTARIO. PG6528-1, (DATED MARCH 22,2023), PREPARED BY PATERSON 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.
10. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
11. REFER TO THE STORMWATER MANAGEMENT REPORT No. R-2023-090, DATED SEPTEMBER 15, 2023 PREPARED BY NOVATECH.
12. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10 AND R25).
13. PROVIDE LINE/PARKING PAINTING.
14. 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 T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
15. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.

SEWER NOTES:

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

ITEM	SPEC. No.	REFERENCE
SANITARY/STORM/CATCHBASIN MANHOLE (1200Ø)	701.010	OPSD
STORM MANHOLE (1500Ø)	701.011	OPSD
CATCHBASIN (600x600)	705.010	OPSD
CATCHBASIN FRAME AND COVER	400.020	OPSD
STORM/SANITARY MH FRAME	S25	CITY OF OTTAWA
SANITARY COVER	S24	CITY OF OTTAWA
STORM COVER (CLOSED)	S24.1	CITY OF OTTAWA
STORM COVER (OPEN)	S28.1	CITY OF OTTAWA
SEWER TRENCH	S6 &S7	CITY OF OTTAWA
STORM SEWER < 450mmØ	PVC DR 35(UNLESS SPECIFIED OTHERWISE)	
STORM SEWER >= 450mmØ	CONC 65D (UNLESS SPECIFIED OTHERWISE)	
SANITARY SEWER	PVC DR 35	CITY OF OTTAWA
CATCHBASIN LEAD	PVC DR 35	
CATCHBASIN COVER	S19	CITY OF OTTAWA
ROAD SUBDRAIN (CONTINUOUS)	R1	CITY OF OTTAWA
WATERTIGHT FRAME & COVER	401.030	OPSD

2. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 2.0m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION (REFER TO DETAIL)
3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0% (2.0% PREFERRED)
4. ALL STORM AND SANITARY LATERALS SHALL BE EQUIPED WITH BACKFLOW PREVENTION DEVICES AS PER THE CITY OF OTTAWA STANDARD DETAILS S14 AND S14,1 OR S14,2.
5. THE PIPE BEDDING FOR THE SEWER AND WATER PIPES SHOULD CONSIST OF AT LEAST 150 MM OF OPSS GRANULAR. HOWEVER, WHEN THE BEDDING IS LOCATED WITHIN BEDROCK SUBGRADE, A MINIMUM OF 300 MM OF OPSS GRANULAR A SHOULD BE PLACED FOR BEDDING FOR SEWER OR WATER PIPES. THE MATERIAL SHOULD BE PLACED IN A MAXIMUM 225 MM THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 99% OF ITS SPMDD. THE BEDDING MATERIAL SHOULD EXTEND AT LEAST TO THE SPRING LINE OF THE PIPE. THE COVER MATERIAL, WHICH SHOULD CONSIST OF OPSS GRANULAR A, SHOULD EXTEND FROM THE SPRING LINE OF THE PIPE TO AT LEAST 300 MM ABOVE THE OBVERT OF THE PIPE. THE MATERIAL SHOULD BE PLACED IN MAXIMUM 225 MM THICK LIFTS AND COMPACTED TO A MINIMUM OF 99% OF ITS SPMDD. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
6. WHERE HARD SURFACE AREAS ARE CONSIDERED ABOVE THE TRENCH BACKFILL, THE TRENCH BACKFILL MATERIAL WITHIN THE FROST ZONE (ABOUT 1,8 M BELOW FINISHED GRADE) SHOULD MATCH THE SOILS EXPOSED AT THE TRENCH WALLS TO MINIMIZE DIFFERENTIAL FROST HEAVING. THE TRENCH BACKFILL SHOULD BE PLACED IN MAXIMUM 300 MM THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE MATERIAL'S SPMDD
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. ALL STORM MANHOLES MANHOLES WITH PIPE SIZES LESS THAN 900mm ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED. ALL STORM MANHOLES WITH PIPE SIZES 900mm AND LARGER ARE TO BE BENCHED.
9. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS 200mm OR GREATER IN DIAMETER PRIOR TO BASE COURSE ASPHALT TO ENSURE THAT THEY ARE CLEAN AND OPERATIONAL. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES AND RE CCTV PRIOR TO ACCEPTANCE, OBTAIN APPROVAL FROM THE CITY'S SEWER OPERATIONS. PROVIDE THE CCTV INSPECTION AND REPORT TO THE ENGINEER FOR REVIEW AND APPROVAL.
10. 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 T/G ELEVATIONS, STRUCTURE LOCATIONS AND ANY ALIGNMENT CHANGES, ETC.
11. 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.
12. ALL CATCHBASINS AND CATCHBASIN MANHOLES TO BE PROVIDED WITH MINIMUM 3 METER LONG PERFORATED SUBDRAINS EXTENDING IN TWO DIRECTIONS 300mm BELOW THE SUBGRADE LEVEL. SUBDRAIN IS TO BE PROVIDED AT THE TRANSITIONS BETWEEN DIFFERENT PAVEMENT COMPOSITIONS. THE SUBGRADE SURFACE SHOULD BE SHAPED TO PROMOTE WATER FLOW TO THE DRAINAGE LINES.
11. ALL WORKS SHALL BE PERFORMED AS APPLICABLE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SPECIFICATIONS, AND IN PARTICULAR O.P.S.S. 407 AND 410.

PAVEMENT STRUCTURE:

- HEAVY-TRUCK TRAFFIC AND LOADING AREAS
  - 40mm HL3 OR SUPERPAVE 12.5
  - 50mm HL8 OR SUPERPAVE 19.0
  - 150mm OPSS GRAN "A" CRUSHED STONE
  - 450mm OPSS GRANULAR B TYPE II
- CAR ONLY PARKING AREAS
  - 50mm HL3 OR SUPERPAVE 12.5
  - 150mm OPSS GRAN "A" CRUSHED STONE
  - 300mm OPSS GRAN "B" TYPE II

NOTE:
- MINIMUM PERFORMANCE GRADED (PG) 58-34 ASPHALT CEMENT.
- SUBGRADE - EITHER IN SITU SOIL, BEDROCK OR OPSS GRANULAR TYPE I OR II MATERIAL PLACED OVER IN SITU SOIL OR BEDROCK

WATERMAIN NOTES:

1. SUPPLY AND CONSTRUCT ALL WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN CROSSING ABOVE SEWER	W25.2	CITY OF OTTAWA
HYDRANT	WSD-24	CITY OF OTTAWA
VALVE AND VALVE BOX	WSD-19	CITY OF OTTAWA
WATERMAIN	PVC DR 18	

3. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARD AND SPECIFICATIONS. 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.
3. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. ANY WATERMAIN WITH LESS THAN 2.4m COVER TO BE INSULATED PER THE SEWER AND WATERMAIN NOTES AND DETAIL.
4. PROVIDE MINIMUM CLEARANCE, BETWEEN OUTSIDE OF PIPES, AT ALL CROSSINGS AS PER CITY DETAILS W25 AND W25.2. WATERMAIN MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.25m OVER AND 0.50m UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
6. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS CITY OF OTTAWA STANDARD DETAILS WSD-39, 40, 41, 42, 43 AND 44.
8. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

GRADING NOTES:

1. ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED BUILDING AND PAVED AREAS.
2. EXPOSED SUB-GRADES 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. NON-SPECIFIED EXISTING FILL ALONG WITH SITE-EXCAVATED SOIL COULD BE PLACED AS GENERAL LANDSCAPING FILL AND BENEATH EXTERIOR PARKING AREAS WHERE SETTLEMENT OF THE GROUND SURFACE IS OF MINOR CONCERN. THESE MATERIALS SHOULD BE SPREAD IN LIFTS WITH A MAXIMUM THICKNESS OF 300 mm AND COMPACTED BY THE TRACKS OF THE SPREADING EQUIPMENT TO MINIMIZE VOIDS. IF THIS MATERIAL IS TO BE USED TO BUILD UP THE SUBGRADE LEVEL FOR AREAS TO BE PAVED, IT SHOULD BE COMPACTED IN THIN LIFTS TO AT LEAST 95% OF THE MATERIAL'S SPMDD.
4. THE PAVEMENT GRANULAR BASE AND SUBBASE SHOULD BE PLACED IN MAXIMUM 300 mm THICK LIFTS AND COMPACTED TO A MINIMUM OF 100% OF THE MATERIAL'S SPMDD USING SUITABLE COMPACTION EQUIPMENT. IF BEDROCK IS ENCOUNTERED AT THE SUBGRADE LEVEL, THE TOTAL THICKNESS OF THE PAVEMENT GRANULAR MATERIALS (BASE AND SUBBASE) COULD BE REDUCED TO 300 MM FOR THE FOLLOWING PAVEMENT STRUCTURES. THE UPPER 300 mm OF THE BEDROCK SURFACE SHOULD BE REVIEWED AND APPROVED BY PATERSON PRIOR TO PLACING THE BASE AND SUBBASE MATERIALS. CARE SHOULD BE EXERCISED TO ENSURE THAT THE BEDROCK SUBGRADE DOES NOT HAVE DEPRESSIONS THAT WILL TRAP THE WATER.
5. BACKFILL MATERIAL BELOW SIDEWALK AND WALKWAY SUBGRADE AREAS OR OTHER SETTLEMENT SENSITIVE STRUCTURES WHICH ARE NOT ADJACENT TO THE BUILDINGS SHOULD CONSIST OF FREE-DRAINING,NON-FROST SUSCEPTIBLE MATERIAL. THIS MATERIAL SHOULD BE PLACED IN MAXIMUM 300 MM THICK LOOSE LIFTS AND COMPACTED TO AT LEAST 98% OF ITS SPMDD UNDER DRY AND ABOVE FREEZING CONDITIONS.
6. IF SOFT SPOTS DEVELOP IN THE SUBGRADE DURING COMPACTION OR DUE TO CONSTRUCTION TRAFFIC, THE AFFECTED AREAS SHOULD BE EXCAVATED AND REPLACED WITH OPSS GRANULAR B TYPE II MATERIAL.
7. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED. REFER TO THE ARCHITECTURAL PLANS FOR DETAILS
8. GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
9. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED
10. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
11. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.\
12. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING THE AS-BUILT ELEVATION OF EVERY DESIGN GRADE SHOWN ON THIS PLAN.

EROSION AND SEDIMENT CONTROL NOTES:

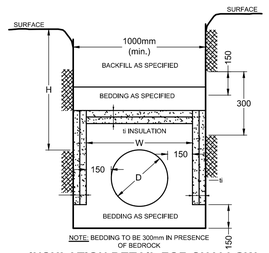
1. THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL SUCH AS BUT NOT LIMITED TO INSTALLING FILTER CLOTHS ACROSS MANHOLE/CATCHBASIN LIDS TO PREVENT SEDIMENTS FROM ENTERING STRUCTURES AND INSTALL AND MAINTAIN A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.
2. THE CONTRACTOR SHALL PLACE FILTER CLOTH UNDER THE CATCHBASIN AND MANHOLE GRATES FOR THE DURATION OF CONSTRUCTION AND WILL REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION.
3. SILT FENCING FOR ENTIRE PERIMETER OF SITE, SHALL BE UTILIZED TO CONTROL EROSION FROM THE SITE DURING CONSTRUCTION.
4. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

SEWER & WATERMAIN INSULATION NOTES:

1. INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 2.0m COVER AND ALL WATERMAIN WITH LESS THAN 2.4m OF COVER WITH EXPANDED POLYSTYRENE INSULATION AS PER OPSD 1109.030.
2. THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER WITH 50mm MINIMUM (SEE TABLE)

COVER SEWER / WATER (mm)	INSULATION THICKNESS (mm)
2000-1700 / 2400-2100	50
1700-1400 / 2100-1800	75
1400-1100 / 1800-1500	100

T = THICKNESS OF INSULATION (mm)
W = WIDTH OF INSULATION (mm)
W = D + 300 (1000 min.)
D = O.D OF PIPE (mm)



NOTE: BEDDING TO BE 300mm IN PRESENCE OF BEDROCK

INSULATION DETAIL FOR SHALLOW SEWERS & WATERMAIN
N.T.S

PIPE CROSSING TABLE			
CROSSING	LOWER PIPE	HIGHER PIPE	CLEARANCE
1	825mmØ STM OBV = 83,73 *	200mmØ WM (F.P) INV = 86,14	±2.41m
2	825mmØ STM OBV = 83,73*	200mmØ SAN INV = 84,69	±0.96m
3	250mmØ STM OBV = 85,56	200mmØ WTM INV = 86,24	±0.68m
4	525mmØ STM OBV = 84,70*	200mmØ WTM INV = 86,15	±1.45m
5	200mmØ SAN OBV = 85,13	200mmØ WTM INV = 86,14	±1.01m
6	525mmØ STM OBV =84,68*	200mmØ SAN INV = 84,92	±0.25m
7	525mmØ STM OBV = 84,70*	200mmØ WTM INV = 86,15	±1.45m
8	200mmØ WTM OBV = 85,84	375mmØ STM INV =86,34*	±0.50m
9	250mmØ STM OBV = 86.73	200mmØ WTM INV = 86,98	±1.46m
10	250mmØ STM OBV = 84,81	200mmØ SAN INV = 85,08	±0.27m
11	250mmØ STM OBV = 84.87	200mmØ WTM INV = 86,33	±1.46m
12	200mmØ SAN OBV = 85,42	200mmØ WTM INV = 86,29	±0.87m
13	200mmØ SAN OBV = 85,72	200mmØ WTM INV = 86,48	±0.79m
14	250mmØ STM OBV = 85,20	200mmØ WTM INV = 86,54	±1.34m
15	250mmØ STM OBV = 85,00	200mmØ SAN INV = 85,36	±0.36m
16	250mmØ STM OBV = 85,21	200mmØ WTM INV = 86,57	±1.36m
17	200mmØ SAN OBV = 85,74	200mmØ WTM INV = 86,54	±0.80m
18	250mmØ STM OBV = 84,99	200mmØ SAN INV = 85,27	±0.28m
19	250mmØ STM OBV = 86,39	200mmØ WTM INV = 86,50	±0.25m
20	825mmØ STM OBV = 84,79*	200mm WM INV = 85,95	±1.16m

* INV/OBV INDICATED FOR CONCRETE PIPES ARE OUTER DIAMETER

ICD SIZING AND FLOWS						
STRUCTURE	TEMPEST LMF ICD SIZE	ICD INVERT (m)	T/G (m)	100-yr HGL (m)	100-yr HEAD (m)	100-yr RELEASE RATE (L/s)
CB01	Vortex 78	87,50	88.70	88.80	1.30	6.0
CB02	Vortex 64	86,10	88.60	88.88	2.78	6.0
CB12	Vortex 66	85.33	88.75	87.87	2.54	6.0
CBMH208	Vortex 64	86.10	88.65	88.98	2.88	6,1
CISTERN	Vortex 72	86.39	89.21	88.20	1.81	6,1

PROPOSED WATERMAIN (1+000.0)			
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
1+000.0	88.64	86.24	CONNECTION TO EXISTING 300mmØ WM
1+005.3	88.74	86.34	CROSS ABOVE 825mmØ STM (±2.41 CLEARANCE)
1+014.1	88.84	86.44	200mmØ VALVE AND VALVE BOX
1+016.2	88.84	86.44	CROSS ABOVE 250mmØ STM (±0.68 CLEARANCE)
1+040.6	88.80	86.40	200mmØ VALVE AND VALVE BOX
1+051,1	88,78	86,34	CROSS ABOVE 200mmØ STM (±1.01 CLEARANCE)
1+052.6	88,74	86.34	CROSS ABOVE 525mmØ STM (±1.45 CLEARANCE)
1+087.4	88.75	85.84	CROSS BELOW 375mmØ STM AS PER CITY OF OTTAWA STANDARD W25 (±0.50 CLEARANCE)
1+091.1	88,79	86.39	45° HORIZONTAL BEND
1+097.2	88,89	86.49	45° HORIZONTAL BEND
1+117.9	88.94	87.18	CROSS ABOVE 250mmØ STM AS PER CITY OF OTTAWA STANDARD W25 (±0.25 CLEARANCE)
1+134.3	89.01	86,61	200mmØ VALVE AND VALVE BOX
1+167.6	89,08	86.68	CROSS ABOVE 200mmØ SAN (±0.79 CLEARANCE)
1+169.1	89.11	86.74	CROSS UNDER 200mmØ STM (±1.31 CLEARANCE)
1+170.6	89,10	86.70	45° HORIZONTAL BEND
1+179.7	89,08	86.68	45° HORIZONTAL BEND
1+205.8	89.16	86.76	CROSS ABOVE 250mmØ STM (±1.36 CLEARANCE)
1+208.0	89,14	86,74	CROSS ABOVE 200mmØ SAN (±0.80 CLEARANCE)
1+224.2	89,16	86.76	200mmØ VALVE AND VALVE BOX
1+263.5	88.55	86.15	CROSS ABOVE 825mmØ (±1.16 CLEARANCE)
1+251,7	88,75	86.35	DMA CHAMBER PER CITY DETAIL W3
1+269.0	88,59	86,19	CONNECTION TO EXISTING 300mmØ WM

PROPOSED WATERMAIN (2+000.0)			
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
2+000.0	88,72	86,32	CONNECTION TO PROPOSED 200mmØ WM
2+003.0	88,79	86.39	200mmØ VALVE AND VALVE BOX
2+036.2	88,93	86,08	CROSS ABOVE 250mmØ STM ±1.46 CLEARANCE)
2+037.6	88,89	85,99	CROSS ABOVE 200mmØ STM (±0.87 CLEARANCE)
2+068.0	88.10	86.50	CROSS ABOVE 250mmØ STM AS PER CITY OF OTTAWA STANDARD W25 (±0.25 CLEARANCE)
2+078.0	89,01	86,61	200mmØ VALVE AND VALVE BOX
2+084.0	89,29	86,89	CONNECTION TO PROPOSED 200mmØ WM

PROPOSED WATERMAIN (3+000.0)			
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
3+000,0	88,87	86.47	CONNECTION TO PROPOSED 200mmØ WM
3+006.0	89,21	86,81	200mmØ VALVE AND VALVE BOX
3+009.0	89.32	86.92	BUILDING CAP

PROPOSED WATERMAIN (4+000.0)			
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
4+000.0	88.79	86,39	CONNECTION TO PROPOSED 200mmØ WM
4+012,4	89.07	86,67	200mmØ VALVE AND VALVE BOX
4+020.0	89.25	86.85	BUILDING CAP

PROPOSED WATERMAIN (5+000.0)			
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
5+000,0	89.12	86.72	CONNECTION TO PROPOSED 200mmØ WM
5+001.4	89,31	86.91	200mmØ VALVE AND VALVE BOX
5+004.0	89.37	86.97	BUILDING CAP

PROPOSED WATERMAIN (6+000.0)			
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
6+000.0	89.07	86.67	CONNECTION TO PROPOSED 200mmØ WM
6+011.8	89.43	87.03	200mmØ VALVE AND VALVE BOX
6+013.9	89.42	87.02	BUILDING CAP

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.

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
2.	REVISED PER CITY COMMENTS	SEPT 15/2023	GJM
1	ISSUED FOR SITE PLAN APPLICATION	MAY 24/2023	GJM

SCALE: AS SHOWN

DESIGN: ARM/CJF
CHECKED: ARM
DRAWN: ARM/CJF
CHECKED: ARM
APPROVED: GJM

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER A.R. MESTWARP 100201604 September 15/2023 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER G.J. MacDONALD Sept. 15, 2023 PROVINCE OF ONTARIO

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Facsimile (613) 254-5867
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LOCATION
4200 INNES ROAD, CITY OF OTTAWA
TRINTIY APARTMENTS

DRAWING NAME
NOTES AND DETAILS

PROJECT No. 122179
REV REV#2
DRAWING No. 122179-ND

CITY FILE No. D07-12-23-0068

PLAN No. 18993

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PLANA1 (ISO) - 841mm x 594mm