DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION
SITE FEATURES			SERVICES AND STRUCTURES			MISCELLANEOUS
PROPERTY LINE			SANITARY SEWER		250mmø SAN	REMOVED X
TOP OF SLOPE			COMBINATION SEWER	——— SĀ ———— ŠA ———— SĀ ——————————————————————————————	300mmø COMB	RELOCATED
TERRACING (3:1 TYPICAL)			STORM SEWER		375mmø STM	ADJUSTED
© DITCH/SWALE AND DIRECTION OF FLOW			STORM SUBDRAIN	ST	150mmø SUBDRAIN	LIGHT DUTY PAVEMENT
EDGE OF SHOULDER			STORM CULVERT		600mmø CULVERT	REFER TO NOTES FOR COMPOSITION
EDGE OF PAVEMENT			SANITARY MANHOLE			HEAVY DUTY PAVEMENT REFER TO NOTES FOR COMPOSITION
€ ROAD/ALIGNMENT			COMBINATION MANHOLE	○ EX. COMB	О СОМВМН 100	ROAD REINSTATEMENT AS PER CITY STANDARD R10
CHAINLINK FENCE	XX	xx	STORM MANHOLE	○ EX.STM	O STMMH 200	RIP-RAP AS PER OPSD 810.010
POST AND RAIL FENCE			CATCHBASIN MANHOLE	○EX.CBMH	■ CBMH 100	F
SIDEWALK (TYPE AS NOTED ON DRAWINGS)			CATCHBASIN	□ EX.CB	■ CB1	LANDSCAPE REINSTATEMENT
BARRIER CURB (SC1.1)			DOUBLE CATCHBASIN	EX.DCB	■■ DCB1	
MOUNTABLE CURB (SC1.3)			CATCHBASIN ELBOW (S30)	○ EX.CBE	O CBE	
DEPRESSED CURB	DC	DC	CATCHBASIN TEE (S31)	○ EX.CBT	O CBT	
TACTILE WALKING SURFACE INDICATOR "TWSI" (SC7.3)			CURB INLET CATCHBASIN	□ EX.CICB	■ CICB 1	
GUARDRAIL			DITCH INLET CATCHBASIN	■ EX.DICB	■ DICB 1	
JERSEY BARRIERS	# #		WATERMAIN	200mmø_WATERMAIN	200mmø WATERMAIN	
BUILDING ENTRY/EXIT WITH RISERS	▼xR	▼xR	IRRIGATION	IR IR	IR IR	
BUILDING ENTRY/EXIT BARRIER FREE	BF	₩BF	VALVE AND VALVE BOX	⊗ V&VB	⊗ V&VB	
BUILDING ENTRY/EXIT OVERHEAD DOOR			VALVE AND VALVE CHAMBER FIRE HYDRANT	⊗ v&vc -Ó- FH	◎ V&VC - ◇ -FH	
POST SIGN	⊚ POST þ SIGN	⊚ POST þ SIGN	SIAMESE CONNECTION	Ýsc	个sc	
BOLLARD	P SIGN	© BOLL	WATER METER	<u>(M)</u>	₩	
VEGETATION			REMOTE WATER METER	RM	RM	
			45° BEND	<→ 45°	٠ ٠ 45°	
			22.5* BEND	~ 22°	~ 22°	
			11.25* BEND	⊢₁ 11°	∺ 11°	
UTILITY AND STRUCTURES			TEE	∴ 200X150 TEE	파 200X150 TEE	
HYDRO (OVERHEAD)	——————————————————————————————————————	———ОН———	REDUCER	> 200X100 RED	>200X100 RED	
HYDRO	———Н———	———н———	CROSS	⊕300X200 CROSS	⊕300X200 CROSS	
POWER	— Р — Р —	— Р — Р —	CURB STOP	⊗ CS	● CS	
ELECTRICAL	Е	———Е———	WATER WELL	(1)	®	
BELL (OVERHEAD)	OB	OB				
BELL	В	———В———				
CABLE (OVERHEAD)	OC	oc	GRADING			
CABLE TV	c	c	GROUND ELEVATION	X 100.00	X 100.00	
FIBRE OPTIC	F0	F0	SWALE ELEVATION	X 100.00(S)	X 100.00(S)	
STREETLIGHT	SL SL		TOP OF GRATE ELEVATION	T/G=100.00	T/G=100.00	
GASMAIN	G G	G	TOP OF WALL ELEVATION	X 100.00 T/W	X 100.00 T/W	
JOINT USE TRENCH - BELL/CABLE TV	BC	BC	BOTTOM OF WALL ELEVATION	X 100.00 B/W	X 100.00 B/W	
JOINT USE TRENCH - HYDRO/CABLE TV	HC	НС ———	FINISHED FLOOR ELEVATION	FF=100.00	FF=100.00	
JOINT USE TRENCH - HYDRO/BELL/CABLE TV	HBC	HBC	TOP OF FOUNDATION ELEVATION	TF=100.00	TF=100.00	
JOINT USE TRENCH - HYDRO/BELL/CABLE TV/GAS	HBCG	HBCG	BASEMENT FLOOR ELEVATION	BF=100.00	BF=100.00	
JOINT USE TRENCH - BELL/CABLE TV/GAS	——————————————————————————————————————	BCG	PARKING LEVEL ELEVATION	P1=100.00	P1=100.00	
DUCT CROSSING WITH NUMBER AND TYPE OF DUCTS	2H,2C,2B	2H,2C,2B	UNDERSIDE OF FOOTING ELEVATION	USF=100.00	USF=100.00	
STREETLIGHT (c/w GROUND ROD WHERE REQUIRED)	X——⊗ ρ LS		ORIGINAL GROUND ELEVATION	<i>OG=100.00</i>	OG=100.00	
STREETLIGHT DISCONNECT	[SD]	<u>sd</u>	TOP OF ROCK ELEVATION	T/ROCK=100.00	T/ROCK=100.00	
HYDRO TRANSFORMER			CONTOUR LINES	100.00	100.00	
HYDRO SWITCHING KIOSK HYDRO MANHOLE	lacksquare	⊕	SLOPE AND DIRECTION OF FLOW	2.0%	2.0%	
HYDRO METER	⊕	♦	OVERLAND FLOW ROUTE ONSITE			
UTILITY POLE AND GUY WIRE	(—OUP	(—OUP	OVERLAND FLOW ROUTE EXTERNAL		\	
CABLE PEDESTAL	©	C				
BELL PEDESTAL	B	В				
BELL MANHOLE	B	igored	STORMWATER MANAGEMENT			
BELL GROUND LEVEL BOX	GLB	GLB	STORM DRAINAGE AREA BOUNDARY			
ENDWALL			STORM DRAINAGE AREA NUMBER STORM DRAINAGE AREA IN HECTARES	0.06	0.06	
COMMUNITY MAILBOX	CMB	<u>CMB</u>	RUN-OFF COEFFICENT	0.75	0.75	
GAS VALVE	⊗ GV	⊗ GV	5 YEAR PONDING AREA	5 YR	5 YR	
GAS METER	©	\bar{\bar{\bar{\bar{\bar{\bar{\bar{	100 YEAR PONDING AREA	100 YR	100 YR	
TRAFFIC MANHOLE	○ TMH	○ TMH				
TRAFFIC HAND HOLE TRAFFIC JOINT USE POLE	□ HH ⊚ JUP	□ HH ⊚ JUP				
TRAFFIC JOINT USE POLE TRAFFIC MAST ARM	⊕ JOF =O= MAF	⊕ JUP -O- MAF	GEOTECHNICAL			
TRAFFIC CONDUIT	— т — т —	— 1 — 1 —	BOREHOLE	-∳- ВН	-ф -вн	
			TEST PIT	T TP	TP	
			COREHOLE		ф сн	
			PIEZOMETER	PIZ	+ PIZ	
			MONITORING WELL	₩	ф мw	

GENERAL NOTES:

CONSTRUCTOR AS DEFINED IN THE ACT.

- 1. ALL WORKS AND MATERIALS SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS), WHERE
- 2. THE LOCATION OF UTILITIES IS APPROXIMATE ONLY, AND THE EXACT LOCATION SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE LOCATION AND STATUS OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION OF PLANT AND EQUIPMENT FROM DAMAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY SERVICES OR UTILITIES DISTURBED DURING CONSTRUCTION, TO THE SATISFACTION OF THE AUTHORITY HAVING
- 3. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING SERVICES PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL CONFIRM LOCATIONS AND ELEVATIONS OF EXISTING SERVICES AND STRUCTURES TO BE CONNECTED TO AND EXISTING SERVICES THAT MAY BE DAMAGED OR CAUSE CONFLICTS PRIOR TO CONSTRUCTION OF ANY NEW SEWER, WATER AND/OR STORM WATER WORKS. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION, ANY DISCREPANCIES INTERPRETATIONS, CHANGES AND ADDITIONS TO THESE DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER WHEN NOTED AND BEFORE PROCEEDING WITH CONSTRUCTION WORKS, DO NOT CONTINUE CONSTRUCTION IN AREAS WHERE DISCREPANCIES APPEAR UNTIL SUCH DISCREPANCIES HAVE BEEN RESOLVED.
- 4. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED. ALL DRAWINGS SHOULD NOT BE SCALED BY THE CONTRACTOR. ANY MISSING OR QUESTIONABLE DIMENSIONS ARE TO BE CONFIRMED WITH THE ENGINEER IN WRITING.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND BEAR COST OF THE SAME.
- 6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS", THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION, BACKFILL AND REINSTATEMENT OF ALL AREAS DISTURBED DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER, THE CITY OF OTTAWA AND THE AUTHORITY HAVING JURISDICTION.
- 8. ANY AREAS BEYOND THE LIMIT OF THE SITE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL
- CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT THE CONTRACTOR'S
- 9. THE CONTRACTOR SHALL COMPLY WITH THE CITY OF OTTAWA REQUIREMENTS FOR TRAFFIC CONTROL WHEN WORKING ON CITY STREETS, ALL CONSTRUCTION SIGNAGE MUST CONFORM TO THE M.T.O. BOOK 7 AND T.A.C MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST AMENDMENT).
- 10. THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING
- 11. THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS WRITTEN APPROVAL BY THE ENGINEER HAS BEEN OBTAINED.
- 12. EXCESS EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE.
- 13. THE SITE LAYOUT IS THE RESPONSIBILITY OF THE CONTRACTOR. AS-BUILT SITE SERVICING & GRADING DRAWINGS SHALL BE MAINTAINED ON SITE BY THE CONTRACTOR.
- 14. THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL BEDDING OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH, AS SPECIFIED BY OPSD, IS EXCEEDED.
- 15. ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED AY THE CONTRACTOR. REVIEW WITH ENGINEER AND THE CITY OF OTTAWA PRIOR TO ANY TREE CUTTING.
- 16. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW
- 17. ALL BOREHOLES SHOWN ON THE DRAWINGS ARE FOR INFORMATION ONLY. FOR GEOTECHNICAL INFORMATION REFER
- TO GEOTECHNICAL INVESTIGATION REPORT PREPARED BY EXP. SERVICES INC, DATED MARCH 2020. 18. THE CONTRACTOR SHALL APPRAISE HIS/HER SELF OF ALL SURFACE AND SUBSURFACE CONDITIONS TO BE ENCOUNTERED AND SHALL CARRY OUT THEIR OWN TEST PITS AS REQUIRED TO MAKE THEIR OWN INDEPENDENT

ASSESSMENT OF GROUND CONDITIONS. THE CONTRACTOR SHALL NOT MAKE ANY CLAIM FOR ANY EXTRA COST DUE TO

- ANY SUCH GROUND CONDITIONS VARYING FROM THOSE ANTICIPATED BY THE CONTRACTOR. 19. DO NOT CONSTRUCT USING DRAWINGS THAT ARE NOT MARKED "ISSUED FOR CONSTRUCTION".
- 20. FOR TOPOGRAPHICAL INFORMATION REFER TO PLAN PREPARED BY FARLEY, SMITH & DENIS SURVEYING LTD DATED JANUARY 8, 2020.
- 21. CIVIL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, LANDSCAPE AND LEGAL DRAWINGS.
- 22. ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR. REVIEW WITH CONTRACT ADMINISTRATOR AND THE CITY OF OTTAWA PRIOR TO ANY TREE CUTTING.
- 23. STREET LIGHTING SHALL BE TO CITY OF OTTAWA STANDARDS.

SANITARY SEWER NOTES

- 1. ALL SANITARY SEWER MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
- ALL SANITARY SEWERS SHALL BE PVC SDR 35, IPEX "RING-TITE" (OR EQUIVALENT), AS PER CSA STANDARD 8182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE NOTED.
- 3. SANITARY SEWER TRENCH AND BEDDING SHALL BE AS PER CITY OF OTTAWA STD. S6 AND S7, CLASS 'B BEDDING UNLESS
- 4. ALL SANITARY LATERALS ARE TO BE PVC SDR 28. IPEX "RING-TITE" (OR EQUIVALENT). ANY COLOR EXCEPT WHITE AND

MARKED WITH A 50MM X 100MM WOODEN MARKER, EXTENDING FROM THE INVERT TO 1.0 m ABOVE GRADE PAINTED RED.

- 5. SEWER BEDDING AS PER CITY STANDARD S6 & S7. GRANULAR 'A' BEDDING TO BE INCREASED TO 300mm WHERE SEWERS ARE BELOW THE GROUNDWATER TABLE.
- 6 SANITARY SEWER MANHOLES SHALL BE BENCHED AS PER OPSD 701 021 SANITARY MANHOLE FRAME AND COVERS SHALL BE AS PER CITY OF OTTAWA STD. S24 AND S25, SAFETY PLATFORMS SHALL BE AS PER OPSD 404.02. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA SPECIFICATIONS AND OPSD 1003.01.
- 7. THE CONTRACTOR SHALL CONDUCT INFILTRATION/EXFILTRATION (AS PER CURRENT OPSS) TESTING ON ALL NEWLY INSTALLED SANITARY SEWERS. THE TEST SHALL BE PERFORMED IMMEDIATELY AFTER SEWER INSTALLATION AND VIEWED BY THE ENGINEER

9. ALL SERVICE CONNECTIONS TO BE CONSTRUCTED AS PER CITY STANDARD \$11 & \$11.1.

- 8. THE CONTRACTOR SHALL CONDUCT CCTV INSPECTION OF ALL NEWLY INSTALLED SANITARY SEWERS AND EXISTING
- SEWERS CONNECTED TO. THE TEST SHALL BE PERFORMED IMMEDIATELY AFTER SEWERS INSTALLED.
- 10. THE CONTRACTOR SHALL CONSTRUCT FLEXIBLE SANITARY SEWERS IN ACCORDANCE WITH OPSD 802.010 AND 802.013. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT THE PIPES FROM HEAVY CONSTRUCTION EQUIPMENT. BEDDING AND BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% SPMDD.
- 11. ALL SANITARY BUILDING DRAINS TO BE EQUIPPED WITH SANITARY BACKWATER VALVES INSTALLED PER CITY OF OTTAWA STANDARD DRAWING S14.1.
- 12. WITHIN THE FROST ZONE, THE BACKFILL IN THE SERVICE TRENCHES SHOULD MATCH THE SOIL ON SIDES TO MINIMIZE DIFFERENTIAL FROST HEAVING IN THE SUBGRADE.
- 13. MINIMUM SOIL COVER TO BE 2.1m TO PROTECT SEWERS FROM FROST DAMAGE. IN AREAS WHERE ADEQUATE FROST COVER CANNOT BE ACHIEVED, EQUIVALENT THERMAL INSULATION TO BE INSTALLED AS PER OPSD 514.010

STORM SEWER NOTES

SPECIFICATIONS (OPSS).

- 1. ALL STORM SEWER MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND
- 2. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2 (LATEST AMENDMENT). ALL NON-REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.L (LATEST AMENDMENT). PIPE SHALL BE JOINTED WITH STD. RUBBER GASKETS AS PER CSA A257.3 (LATEST AMENDMENT).
- 3. ALL PVC STORM SEWERS ARE TO BE SDR 35 APPROVED PER C.S.A. B182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE
- 4. THE CONTRACTOR SHALL CONSTRUCT FLEXIBLE STORM SEWERS IN ACCORDANCE WITH OPSD 802.010 AND 802.013. RIGID STORM PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH OPSD 802.030. DURING CONSTRUCTION THE CONTRACTOR SHALL PROTECT THE PIPES FROM HEAVY CONSTRUCTION EQUIPMENT. BEDDING AND BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% SPMDD.
- 5. SEWER BEDDING AS PER CITY STANDARD S6 & S7.
- 6. ALL STORM LATERALS SHALL BE PVC SDR 28, WHITE IN COLOR AND MARKED WITH A 50mm X 100mm WOODEN MARKER EXTENDING FROM THE INVERT TO 1.0m ABOVE GRADE PAINTED GREEN.
- 7. ALL SERVICE CONNECTIONS TO BE CONSTRUCTED AS PER CITY STANDARD \$11 & \$11.1.
- 8. WITHIN THE FROST ZONE, THE BACKFILL IN THE SERVICE TRENCHES SHOULD MATCH THE SOIL ON SIDES TO MINIMIZE DIFFERENTIAL FROST HEAVING IN THE SUBGRADE.

- 9. MINIMUM SOIL COVER TO BE 2.1m TO PROTECT SEWERS FROM FROST DAMAGE. IN AREAS WHERE ADEQUATE FROST COVER CANNOT BE ACHIEVED, EQUIVALENT THERMAL INSULATION TO BE INSTALLED AS PER OPSD 514.010.
- 10. ALL STORM SERVICES TO BE EQUIPPED WITH APPROVED BACKWATER VALVES.
- 11. STORM MANHOLE FRAME AND COVERS SHALL BE AS PER CITY OF OTTAWA STD. S24, S24.1 AND S25.
- 12. SAFETY PLATFORMS SHALL BE IN ACCORDANCE WITH OPSD 404.02.
- 13. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA SPECIFICATIONS AND OPSD 1003.01.
- 14. STORM SEWER MANHOLES SERVING LOCAL SEWERS LESS THAN 900MM SHALL BE CONSTRUCTED WITH A 300MM SUMP. FOR STORM SEWERS 900MM AND OVER USE BENCHING IN ACCORDANCE WITH OPSD 701 .021.
- 15. SINGLE AND DOUBLE CATCHBASINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S1. AND OPSD 705.020, RESPECTIVELY. FRAMES AND GRATE SHALL BE AS PER CITY OF OTTAWA STD. S19 FOR REAR LOT CATCHBASINS, AND STREET CATCHBASINS.
- 16. CURB INLET TYPE CATCH BASIN (CICB) SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S3. AND GRATE SHALL BE AS PER CITY OF OTTAWA STD. S22 AND S23, UNLESS OTHERWISE NOTED.
- 17. SINGLE AND DOUBLE CATCHBASIN LEADS SHALL BE 200MM AND 250MM DIA (MIN) RESPECTIVELY, 1.0% SLOPE (MIN.) UNLESS OTHERWISE NOTED.
- 18. ALL CATCHBASINS AND CATCHBASIN MANHOLES SHALL HAVE SUMPS WITH 300MM DEPTH, UNLESS OTHERWISE NOTED.
- 19. CONTRACTOR SHALL ENSURE THAT CATCHBASINS ARE INSTALLED AT THE LOW POINT OF SAG CURB WORKS.
- 20. THE STORM SEWER CLASSES HAVE BEEN DESIGNED BASED ON BEDDING CONDITIONS SPECIFIED. WHERE THE SPECIFIED TRENCH WIDTH IS EXCEEDED, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ADDITIONAL BEDDING, A DIFFERENT TYPE OF BEDDING OR A HIGHER PIPE STRENGTH AT HIS OWN EXPENSE AND SHALL ALSO BE RESPONSIBLE FOR EXTRA TEMPORARY AND/OR PERMANENT REPAIRS MADE NECESSARY BY THE WIDENED TRENCH.
- 21. THE CONTRACTOR SHALL CONDUCT CCTV INSPECTION OF ALL NEWLY INSTALLED STORM SEWERS AND EXISTING SEWERS CONNECTED TO. THE TEST SHALL BE PERFORMED IMMEDIATELY AFTER SEWERS INSTALLED.

WATERMAIN NOTES

- 1. ALL WATERMAIN MATERIALS AND INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS
- 2. NO WORK SHALL COMMENCE UNLESS A CITY WATER WORKS INSPECTOR IS ON SITE. WATERMAIN CONNECTIONS BY CITY OF OTTAWA FORCES WITH ALL EXCAVATION BACKFILL AND ROAD REINSTATEMENT BY CONTRACTOR.
- 3. ALL PVC WATERMAINS SHALL BE EQUAL TO AWWA C-900 CLASS 150, SDR 18, OR APPROVED EQUAL.
- 4 WATERMAINS TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W17 LINESS.
- OTHERWISE SPECIFIED. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY PROJECT GEOTECHNICAL ENGINEER.
- 5. ALL PVC WATERMAINS SHALL BE INSTALLED WITH A 10 GAUGE STRANDED COPPER TWU OR RWU TRACER WIRE IN ACCORDANCE WITH CITY OF OTTAWA STD. W36.
- 6. WATER SERVICES ARE TO BE TYPE K SOFT COPPER AS PER CITY OF OTTAWA STD. W26 UNLESS OTHERWISE SPECIFIED ALL WATER SERVICES CROSSING SEWERS ARE TO BE INSTALLED AS PER CITY OF OTTAWA STD. W38. WATER SERVICES SHALL BE MARKED WITH A "50mm X IOOmm", EXTENDING FROM THE INVERT TO 1.0M ABOVE GRADE PAINTED BLUE. STANL
- POSTS/SHUT-OFFS SHALL BE INSTALLED AT THE PROPERTY LINE. 7. CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS AS PER CITY OF OTTAWA STD. W40 AND W42.
- 8. VALVE BOXES SHALL BE INSTALLED AS PER CITY OF OTTAWA DETAIL W24.
- 9. ALL FIRE HYDRANTS TO BE INSTALLED AS PER CITY STANDARD W19 AND LOCATED AS PER CITY STANDARD W18 AND/OR CITY STANDARD CROSS SECTIONS.
- 10. ALL WATERMAINS TO BE INSTALLED AT MINIMUM COVER OF 2.4m.
- 11. THRUST BLOCKS AND RESTRAINT AS PER CITY OF OTTAWA DWGS: W25.3 AND W25.4, W25.5 AND W25.6.
- 12. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
- 13. DISINFECTION AND TESTING OF WATERMAIN TO BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS.
- 14. WATER METERS TO BE INSTALLED AS PER W30 FOR WATER SERVICES.
- 15. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS AND BLOW-OFFS AND NOZZLES REQUIRED FOR TESTING AND DISINFECTION OF THE WATERMAN.
- 16. INSULATION FOR WATERMAIN CROSSING OVER AND BELOW SEWER SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. W25.2 AND W25. RESPECTIVELY, WHERE WATERMAN COVER IS LESS THAN 2.4m
- 17. WHERE THE SEPARATION BETWEEN SERVICES AND MANHOLES IS LESS THAN 1.2m, WATER SERVICES ARE TO BE
- INSULATED AS PER CITY OF OTTAWA STD. W23.
- 18. AS PER CITY GUIDELINE. THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER / UTILITY IS 0.25M FOR CROSSING OVER THE SEWER, AS PER CITY STD W25.2. FOR CROSSING UNDER SEWER, THE MINIMUM VERTICAL LEARANCE IS 0.50M AS PER CITY STD, W25, FOR CROSSING UNDER SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.

ROADWAY SPECIFICATIONS

- 1. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- 2. CONCRETE CURB SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. SCI.1.1(BARRIER CURB) AND SC1.3 (MOUNTABLE CURB), AS NOTED. PROVISION SHALL BE MADE FOR CURB DEPRESSIONS AT SIDEWALKS AND DRIVEWAYS.
- 3. ROAD SUBDRAINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. R1. SUBDRAINS SHALL BE 6M IN LENGTH AT CATCHBASINS. SUBDRAINS SHALL BE INSTALLED BOTH SIDES AT LOWPOINTS AND ON THE HIGH SIDE AT FLOWBY
- 4. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD.
- R10 AND OPSD 509.010, OPSS 310. 5. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS OF 300MM AROUND ALL STRUCTURES WITHIN PAVEMENT
- 6. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO A MINIMUM OF 98% STANDARD PROCTOR DENSITY.
- 7. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS & NECESSARY REPAIRS HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE ENGINEER.
- 8. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'B' COMPACTED IN MAXIMUM 300MM LIFTS.
- 9. PAVEMENT STRUCTURE: 65 mm ASPHALT HL3/SP12.5 CAT B PG 58-34
- 150 mm OF OPSS 1010 GRANULAR A COMPACED TO 100 % SPMDD 450 mm OF OPSS 1010 GRANULAR B TYPE II COMPACTED TO 100 % SPMDD

GENERAL NOTES FOR GRADING

- 1. IT SHALL BE THE BUILDER'S RESPONSIBILITY TO ENSURE THAT GRADING AROUND HYDRANTS, TRANSFORMERS, AND UTILITY PEDESTALS, ETC., MEET CURRENT CITY OF OTTAWA, HYDRO AND UTILITY COMPANY REQUIREMENTS.
- 2. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
- 3. CONTRACTOR TO ADJUST EXISTING CATCH BASINS, MANHOLES, FIRE HYDRANTS, VALVE CHAMBERS AND VALVE BOXES TO FINAL GRADE AS REQUIRED.
- 4. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING FOUNDATIONS OF ADJACENT BUILDINGS DURING EXCAVATION AND CONSTRUCTION PERIOD.
- 5. GRADING IN GRASSED AREAS WILL BE BETWEEN 2% TO 7%. GRADES IN EXCESS OF 7% WILL REQUIRE A MAXIMUM 3:1

REVIEWED BY	2503858 ONTARIO INC 894 BUNCHBERRY WAY OTTAWA, ON. K1T 0L6 613.915.2591	MZG DESIGN MZG CHECKED BMT	172 MAIN STREET OTTAWA, ONTARIO.	PROJECT No. OTT-00258388-B0 SURVEY FSD DATE MARCH 2020
	exp Services Inc. t: +1.613.688.1899 f: +1.613.225.7330 2650 Queensview Drive, Unit 100 Ottawa, ON K2B 8H6 Canada www.exp.com	MZG PROJECT MANAGER BMT	NOTES AND LEGEND SHEET	C100

• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •

• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY