

1 C101 REMOVALS AND EROSION CONTROL

EROSION AND SEDIMENT CONTROL

- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, TEMPORARY SEDIMENT CONTROL, GEOSOCK INSERTS WITH AN OVERFLOW UNDER GRATE OR COVER) TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL PROPOSED ROAD CATCHBASINS, REARWARD CATCHBASINS AND CATCHBASIN MANHOLES AND OTHER SEDIMENT TRAPS. NO RECYCLED GEOSOCK MATERIAL SHALL BE PERMITTED FOR USE ON SITE.
- AT THE DISCRETION OF THE PROJECT MANAGER OR MUNICIPAL STAFF, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
- FOR SILT FENCE BARRIER, USE OPSD 219.110. GEOTEXTILE FOR SILT FENCE AS PER OPS5 1860, TABLE 3.
- EXCEPT AS PROVIDED IN PARAGRAPHS 4.1, and 4.2 BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
 - WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE.
 - WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
- SEDIMENT THAT IS ACCUMULATED BY THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS ESCAPE OF THE SEDIMENT TO THE DOWNSTREAM SIDE OF THE CONTROL MEASURE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED TO THE LEVEL OF THE GRADE EXISTING AT THE TIME THE CONTROL MEASURE WAS CONSTRUCTED AND BE ACCORDING TO THE FOLLOWING:
 - FOR LIGHT-DUTY SEDIMENT BARRIERS, ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT REACHES THE LESSER OF THE FOLLOWING:
 - A DEPTH OF ONE-HALF THE EFFECTIVE HEIGHT OF THE CONTROL MEASURE.
 - A DEPTH OF 300 MM IMMEDIATELY UPSTREAM OF THE CONTROL MEASURE.
 - FOR ALL CONTROL MEASURES, ACCUMULATED SEDIMENT SHALL BE REMOVED AS NECESSARY TO PERFORM MAINTENANCE REPAIRS.
 - ACCUMULATED SEDIMENT SHALL BE REMOVED PRIOR TO THE REMOVAL OF THE CONTROL MEASURE.
 - ACCUMULATED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AS PER OPS5 180.

- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED TO ENSURE THEY ARE IN EFFECTIVE WORKING ORDER. THE CONDITION OF THE CONTROL MEASURES SHALL BE MONITORED PRIOR TO ANY FORECAST STORM EVENT AND FOLLOWING A STORM EVENT.
- DUST CONTROL MEASURES SHOULD BE CONSIDERED PRIOR TO CLEARING AND GRADING. THE USE OF WATER, CALCIUM CHLORIDE FLAKES/SOLUTION OR MAGNESIUM CHLORIDE FLAKES/SOLUTION SHALL BE USED AS DUST SUPPRESSANTS AS PER OPS5 506. THIS IS TO LIMIT WIND EROSION OF SOILS WHICH MAY TRANSPORT SEDIMENTS OFFSITE, WHERE THEY MAY BE WASHED INTO THE RECEIVING WATER BY THE NEXT RAINSTORM.
- ALL "GREEN AREAS" TO BE TREATED WITH 150mm TOPSOIL AND HYDROSEEDING AS SOON AS FEASIBLE, AS PER OPS5 570.
- TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
- STOCKPILED MATERIAL IS TO BE STORED AWAY FROM POTENTIAL RECEIVERS (E.G. STORM CATCHBASINS, MANHOLES) AND BE SURROUNDED BY EROSION CONTROL MEASURES WHERE MATERIAL IS LEFT IN PLACE IN EXCESS OF 14 DAYS.
- IF REQUIRED, DEWATERING/SETTLING BASINS SHALL BE CONSTRUCTED AS PER OPSD 219.240 AND LOCATED ON FLAT GRADE UPSTREAM OF OTHER EXISTING MITIGATION MEASURES. WATERCOURSES SHALL NOT BE DIVERTED, OR BLOCKED, AND TEMPORARY WATERCOURSES CROSSINGS SHALL NOT BE CONSTRUCTED OR UTILIZED, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. IF CLOSURE OF PERMANENT WATER PASSAGE IS NECESSARY, THE CONTRACTOR SHALL RELEASE ANY STRANDED FISH TO THE OPEN PORTION OF THE WATERCOURSE WITHOUT HARM.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO OPS5 577.
- WHERE DEWATERING IS REQUIRED, THE DISCHARGED WATER SHALL BE CONTROLLED IN ACCORDANCE WITH OPS5 538.
- ALL SETTLING/FILTRATION BASINS SHALL BE EQUIPPED WITH TERRAFIX 270R (GEOTEXTILE OR APPROVED EQUIVALENT) AND SHALL BE CLEANED AND REPLACED AS REQUIRED.

GENERAL NOTES

- THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
- THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED FROM INFORMATION SUPPLIED BY (OR SHOWN ON) FARELY, SMITH, DENIS LTD PLAN #81-06 AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY AN ONTARIO LAND SURVEYOR.
- THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
- THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION, PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
- EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
- TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.

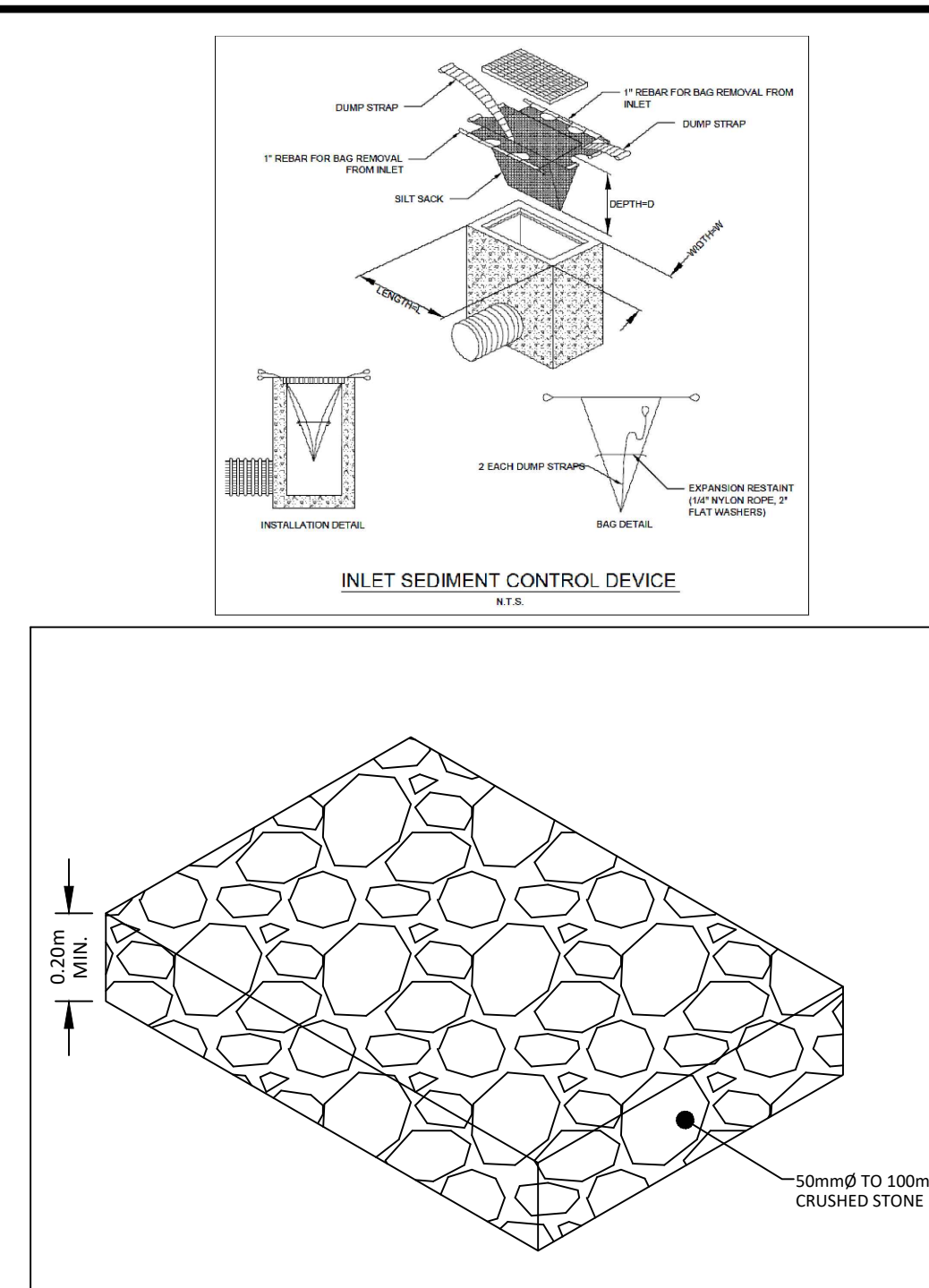
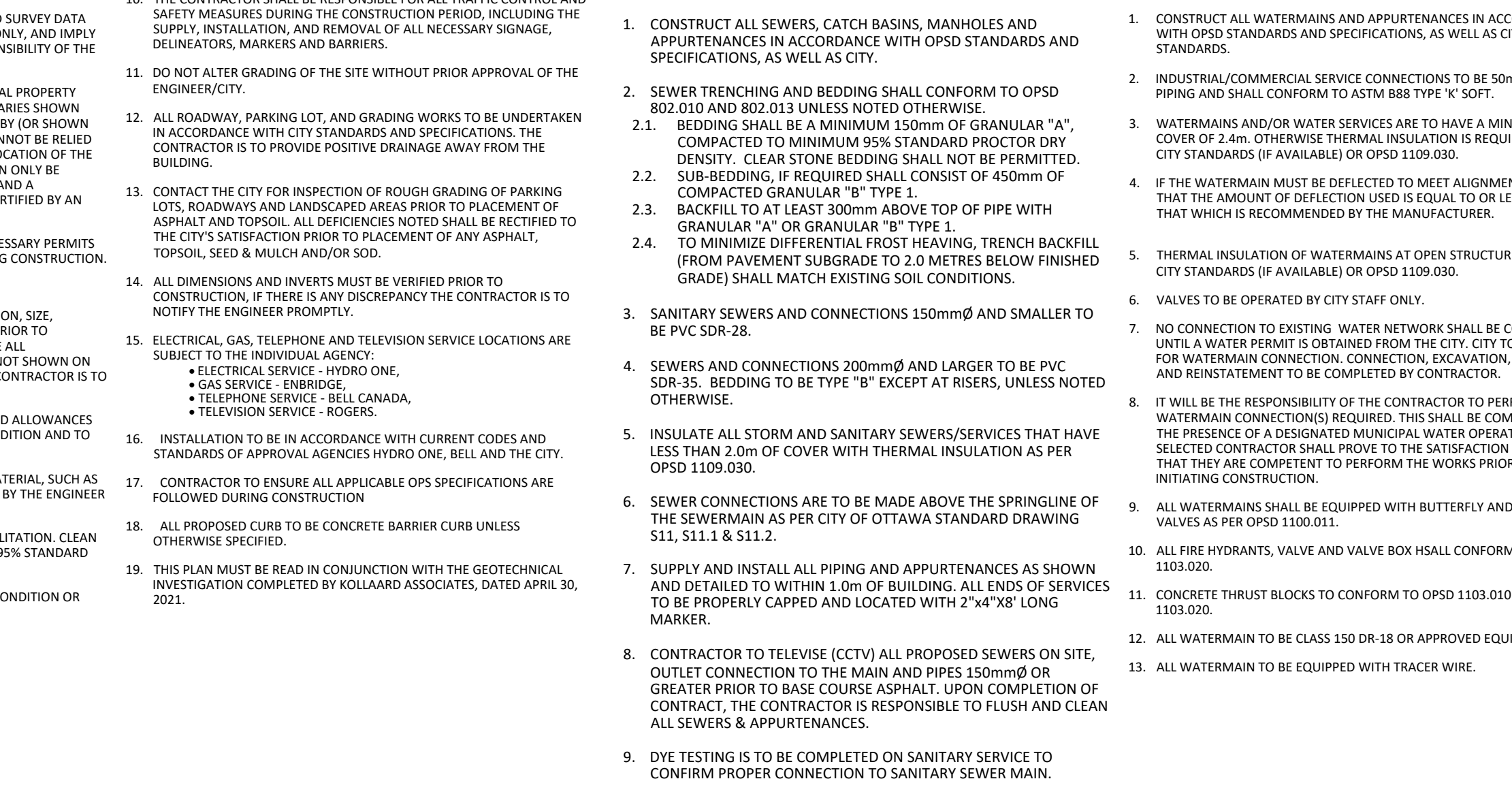
2 C101 SERVICING, SITE GRADING AND DRAINAGE

SEWER NOTES:

- CONSTRUCT ALL SEWERS, CATCH BASINS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY.
- SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.
 - BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
 - SUB-BEDDING, IF REQUIRED SHALL CONSIST OF 450mm OF COMPACTED GRANULAR "B" TYPE 1.
 - BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B" TYPE 1.
 - TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2.0 METRES BELOW FINISHED GRADE) SHALL MATCH EXISTING SOIL CONDITIONS.
- SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR-35.
- SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR-35. BEDDINGS TO BE TYPE "B" EXCEPT AT RISERS, UNLESS NOTED OTHERWISE.
- INSULATE ALL STORM AND SANITARY SEWERS/SERVICES THAT HAVE LESS THAN 2.0m OF COVER WITH THERMAL INSULATION AS PER OPSD 1109.030.
- SEWER CONNECTIONS ARE TO BE MADE ABOVE THE SPRINGLINE OF THE SEWERMAIN AS PER CITY OF OTTAWA STANDARD DRAWING S11, S11.1 & S11.2.
- SUPPLY AND INSTALL ALL PIPING AND APPURTENANCES AS SHOWN AND DETAILED TO WITHIN 1.0m OF BUILDING. ALL ENDS OF SERVICES TO BE PROPERLY CAPPED AND LOCATED WITH 2'x4'x8' LONG MARKER.
- CONTRACTOR TO TELEVIEW (CCTV) ALL PROPOSED SEWERS ON SITE, OUTLET CONNECTION TO THE MAIN AND PIPES 150mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.
- DYE TESTING IS TO BE COMPLETED ON SANITARY SERVICE TO CONFIRM PROPER CONNECTION TO SANITARY SEWER MAIN.

WATERMAIN NOTES

- CONTRACT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY.
- INDUSTRIAL COMMERCIAL SERVICE CONNECTIONS TO BE 50mm COPPER PIPING AND SHALL CONFORM TO ASTM 888 TYPE "K" SOFT.
- WATERMANS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 2.0m. OTHERWISE THERMAL INSULATION IS REQUIRED AS PER CITY STANDARDS (IF AVAILABLE) OR OPSD 1109.030.
- IF THE WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS EQUAL TO OR LESS THAN THAT WHICH IS RECOMMENDED BY THE MANUFACTURER.
- THERMAL INSULATION OF WATERMANS AT OPEN STRUCTURES AS PER CITY STANDARDS (IF AVAILABLE) OR OPSD 1109.030.
- VALVES TO BE OPERATED BY CITY STAFF ONLY.
- NO CONNECTION TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY. CITY TO BE PRESENT FOR WATERMAIN CONNECTION, EXCAVATION, BACKFILLING AND REINSTATEMENT TO BE COMPLETED BY CONTRACTOR.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ANY WATERMAIN CONNECTIONS REQUIRED. THIS SHALL BE COMPLETED IN THE PRESENCE OF A DESIGNATED MUNICIPAL WATER OPERATOR AND THE SELECTED CONTRACTOR SHALL PROVE TO THE SATISFACTION OF THE CITY THAT THEY ARE COMPETENT TO PERFORM THE WORKS PRIOR TO INITIATING CONSTRUCTION.
- ALL WATERMANS SHALL BE EQUIPPED WITH BUTTERFLY AND GATE VALVES AS PER OPSD 1100.011.
- ALL FIRE HYDRANTS, VALVE AND VALVE BOX SHALL CONFORM TO OPSD 1103.020.
- CONCRETE THRUST BLOCKS TO CONFORM TO OPSD 1103.010 AND OPSD 1103.020.
- ALL WATERMAIN TO BE CLASS 150 OR 18 OR APPROVED EQUIVALENT.
- ALL WATERMAIN TO BE EQUIPPED WITH TRACER WIRE.



ROOF DRAIN (B1)		
TYPE OF CONTROL DEVICE	WATTS DRAINAGE RD-100-A-ADJ (FULLY EXPOSED)	
	2-YEAR	100-YEAR
ROOFTOP STORAGE (m³)	1.28	3.20
DEPTH OF FLOW (m)	0.070	0.075
FLOW PER ROOF DRAIN (L/S)	0.25	0.630
DRAW DOWN TIME	73 min	74 min

ROOF DRAIN (B2A)		
TYPE OF CONTROL DEVICE	WATTS DRAINAGE RD-100-A-ADJ (FULLY EXPOSED)	
	2-YEAR	100-YEAR
ROOFTOP STORAGE (m³)	2.83	6.72
DEPTH OF FLOW (m)	0.040	0.095
FLOW PER ROOF DRAIN (L/S)	0.50	1.260
DRAW DOWN TIME	83 min	90 min

ROOF DRAIN (B2B)		
TYPE OF CONTROL DEVICE	WATTS DRAINAGE RD-100-A-ADJ (FULLY EXPOSED)	
	2-YEAR	100-YEAR
ROOFTOP STORAGE (m³)	2.42	6.06
DEPTH OF FLOW (m)	0.040	0.100
FLOW PER ROOF DRAIN (L/S)	0.50	1.260
DRAW DOWN TIME	74 min	75 min

ROOF DRAIN (B3)		
TYPE OF CONTROL DEVICE	WATTS DRAINAGE RD-100-A-ADJ (FULLY EXPOSED)	
	2-YEAR	100-YEAR
ROOFTOP STORAGE (m³)	4.97	12.08
DEPTH OF FLOW (m)	0.035	0.085
FLOW PER ROOF DRAIN (L/S)	0.44	1.070
DRAW DOWN TIME	170 min	181 min

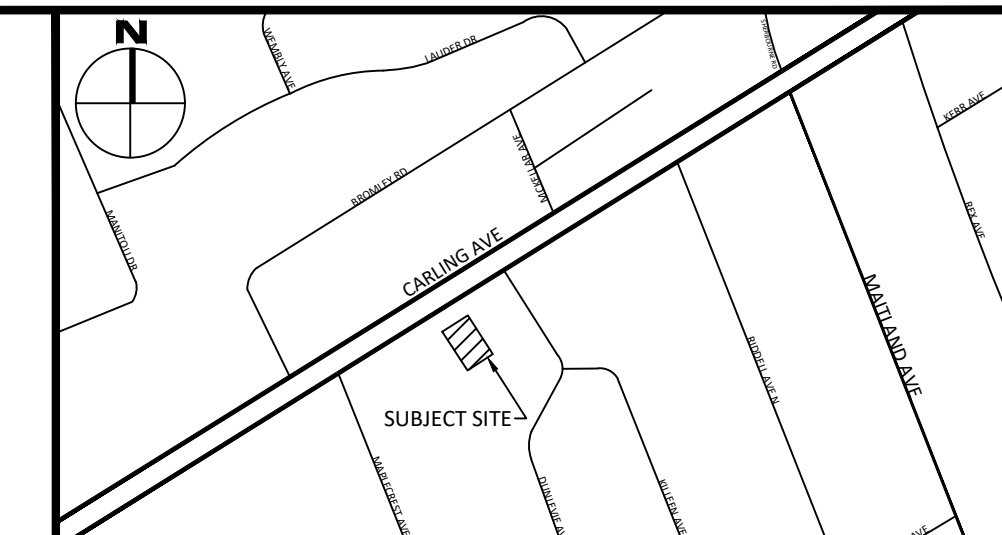
ROOF DRAIN (B4)		
TYPE OF CONTROL DEVICE	WATTS DRAINAGE RD-100-A-ADJ (FULLY EXPOSED)	
	2-YEAR	100-YEAR
ROOFTOP STORAGE (m³)	0.49	1.31
DEPTH OF FLOW (m)	0.015	0.040
FLOW PER ROOF DRAIN (L/S)	0.190	0.500
DRAW DOWN TIME	42 min	38 min

ROOF DRAIN (B5)		
TYPE OF CONTROL DEVICE	WATTS DRAINAGE RD-100-A-ADJ (FULLY EXPOSED)	
	2-YEAR	100-YEAR
ROOFTOP STORAGE (m³)	0.45	1.21
DEPTH OF FLOW (m)	0.015	0.040
FLOW PER ROOF DRAIN (L/S)	0.190	0.500
DRAW DOWN TIME	37 min	34 min

SAN STRUCTURE TABLE				
NAME	RIM ELEV.	INVERT IN.	INVERT OUT.	DESCRIPTION
MH1A	81.70	SE77.64	NW77.61	COVER CITY STD 524 FRAME CITY STD 525 STRUC. OPSD 701.010

WATER COVER TABLE				
BUILDING	STATION	FINISHED GRADE	TOP OF PIPE	COVER
	0+100.00	81.75	79.30	2.55
	0+101.62	81.66	79.14	2.52
CROSSING 1	0+110.54	81.50	79.01	2.49
CONNECTION TO MAIN	0+116.37	81.57	78.79	2.78

CROSSING CONFLICT TABLE		
LOCATION	DESCRIPTION	SEPARATION
1	150mmØ WTR SERVICE INV 78.86	1.03
2	225mmØ SAN SEWER OBV 77.83	2.47
3	225mmØ STM SERVICE INV 80.20	2.47
4	200mmØ STM SERVICE INV 80.15	1.36
5	152mmØ WTR SERVICE INV 78.79	2.49
	200mmØ STM SERVICE INV 80.14	1.35
	152mmØ WTR SERVICE OBV 78.79	



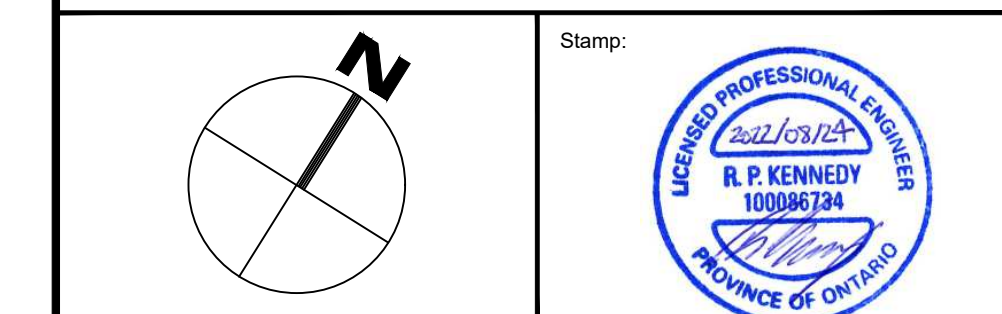
LEGEND	
CONCRETE BARRIER CURB	LIMIT OF CONSTRUCTION
CONCRETE WALKWAY	DRAINAGE SWALE
PROPOSED ASPHALT	DRAINAGE DITCH
PROPOSED LANDSCAPED AREA	SLOPING AT UNLESS SPECIFIED
STORM SEWER MANHOLE	95.50 SURFACE ELEVATION
CATCHBASIN MANHOLE	95.50 SWALE ELEVATION
CATCHBASIN	T&WS 50 TOP OF WALL ELEVATION
SANITARY SEWER MANHOLE	8/W 84.25 BOTTOM OF WALL ELEVATION
FIRE HYDRANT	OVERLAND FLOW ROUTE
WATER VALVE	SILT FENCE BARRIER
WATER METER	STRAW BALE CHECK DAM
PROPOSED WATER METER	MUD MAT
ROOF DRAIN	PROPOSED RETAINING WALL
SEDIMENT CONTROL DEVICE	100-YEAR PONDING LEVEL
	5-YEAR PONDING LEVEL

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

No.	Revisions	Date
4	REVISED PER CITY COMMENTS	AUG. 24, 2022
3	ISSUED FOR SITE PLAN CONTROL	NOV. 08, 2021
2	ISSUED FOR REVIEW	SEP 10, 2021
1	ISSUED FOR REVIEW	MAY 28, 2021

Check and verify all dimensions before proceeding with the work. Do not scale drawings.
SCALE 1:200

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1940 CARLING AVENUE

Drawing Title: REMOVALS, SITE SERVICING, LOT GRADING, DRAINAGE, SEDIMENT AND EROSION CONTROL PLAN
Scale: 1:200 Project Number: CP-20-0079-01
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