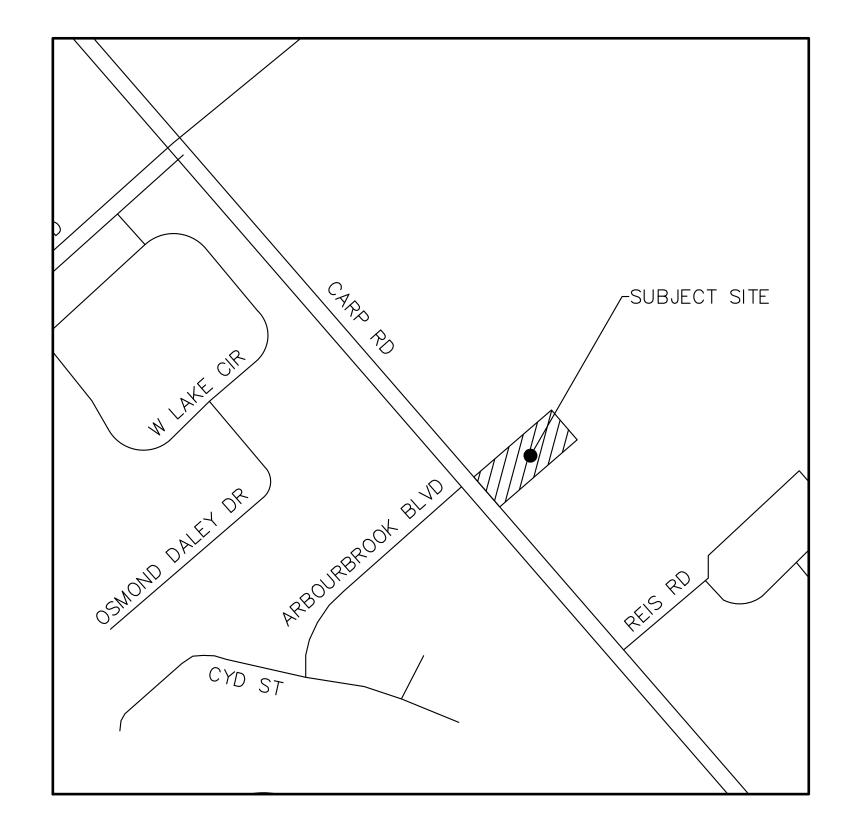
MULTI-TENANT COMMERCIAL DEVELOPMENT 2822 CARP RD, CARP CITY OF OTTAWA

DRAWING LIST

ND-1 NOTES AND DETAILS
SGS-1 SITE GRADING AND SERVICING PLAN
STM-1 PRE-DEVELOPMENT STORM CATCHMENT PLAN
STM-2 POST-DEVELOPMENT STORM CATCHMENT PLAN
EP-1 EROSION AND SEDIMENT CONTROL PLAN



CITY OF OTTAWA
110 LAURIER AVE W
OTTAWA, ONTARIO
K1P 1J1

ARGUE CONSTRUCTION LTD.
2900 CARP RD
CARP, ONTARIO
KOA 1LO



C. THE STANDARD DRAWINGS INCLUDED WITH THESE PLANS ARE PROVIDED FOR CONVENIENCE ONLY AND ARE NOT TO BE CONSTRUED TO BE A COMPLETE SET FOR THE PURPOSE OF THE CONTRACT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL RELEVANT STANDARD DRAWINGS AND SPECIFICATIONS AS REQUIRED FOR THIS CONTRACT.

MEASUREMENTS

A. ALL DIMENSIONS ARE IN METRES, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETRES, UNLESS SPECIFIED OTHERWISE. B. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION, AND ANY

DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

- EXISTING SERVICES AND UTILITIES SHOWN ON THESE CONTRACT DRAWINGS ARE BASED ON THE BEST INFORMATION AVAILABLE AND THEIR LOCATIONS ARE NOT GUARANTEED. THE CONTRACTOR SHALL INTERPRET THIS INFORMATION AS HE WISHES WITH THE UNDERSTANDING THAT THE OWNER DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY AND/OR SUFFICIENCY. THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- B. NATIVE MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- C. GRANULAR MATERIAL, USED FOR BACKFILL, SHALL BE PLACED IN LAYERS 150mm IN DEPTH MAXIMUM AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- D. ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE ENGINEER. ALL GRASS AND VEGETATION COVERED AREAS SHALL BE RESTORED BY PLACING 200mm OF APPROVED TOPSOIL AND NURSERY SOD UNLESS NOTED OTHERWISE.

4. PAVEMENT

A. THE PAVEMENT STRUCTURE SHALL CONSIST OF THE FOLLOWING (REFER TO GEOTECHNICAL INVESTIGATION PREPARES BY GEMTEC FOR PAVEMENT STRUCTURE DETAILS):

ASPHALT PARKING LOT

- 50mm HOT MIX ASPHALT (SUPERPAVE 12.5) WITH PG 58-34 ASPHALT CEMENT
- 150mm GRANULAR 'A' BASE300mm GRANULAR 'B' TYPE II SUBBASE

GRAVEL SURFACES

 310mm GRANULAR 'A' BASE 550mm GRANULAR 'B' TYPE II SUBBASE

5. PAVEMENT STRUCTURE

REFERENCED FROM GEOTECHNICAL REPORT COMPLETED BY PATTERSON GROUP DATED FEBRUARY 26, 2020

CAR PARKING AREAS

50mm WEAR COURSE - HL3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE 150mm BASE - OPSS GRAN A CRUSHED STONE 300mm SUBBASE - OPSS GRAN B TYPE II

6. SEPTIC DESIGN NOTES:

DESIGN DAILY SEWAGE FLOW

CATEGORY WATER CLOSETS FUEL OUTLET VEHICLES SERVED*	QUANTITY 7 0 26	<u>FLOW</u> 6650 L/DAY 0 L/DAY <u>520 L/DAY</u>
TOTAL FLOW		Q = 7170 L/DAY
*ASSUME 2 CARS/BAY/DAY		

SEPTIC SYSTEM

TYPE A DISPERSAL BED AS PER OBC 8.7.7.

SEPTIC TANK

MINIMUM SIZE OF SEPTIC TANK TO BE 21,510 L (O.B.C 8.2.2.3.(1)) RECOMMENDED SIZE OF SEPTIC TANK TO BE 23,00 L

REQ'D TYPE A DISPERSAL BED STONE AREA

A = Q/50A = 7170 / 50

 $A = 143.4m^2$ PROVIDED AREA BED STONE AREA

 $A = 12.0m \times 12.5m$ $A = 150.0 m^2$

REQ'D SAND AREA OF TYPE A DISPERSAL BED (O.B.C. 8.7.7.1.(5)) A = QT/400

 $A = 7170 \times 20 / 400$ $A = 358.5 m^2$

PROVIDED SAND AREA OF TYPE A DISPERSAL BED

 $A = 436.8 \text{m}^2$

* GEO-TECHNICAL ENGINEER TO REVIEW TYPE A DISPERSAL BED AREA SUBGRADE PRIOR TO SEPTIC BED INSTALLATION PROPOSED SEPTIC BED SHALL HAVE A MINIMUM TOPSOIL COVER OF 150mm AND A MAXIMUM COVER OF 500mm TERTIARY TREATMENT REQUIRED

DISTRIBUTION PIPE

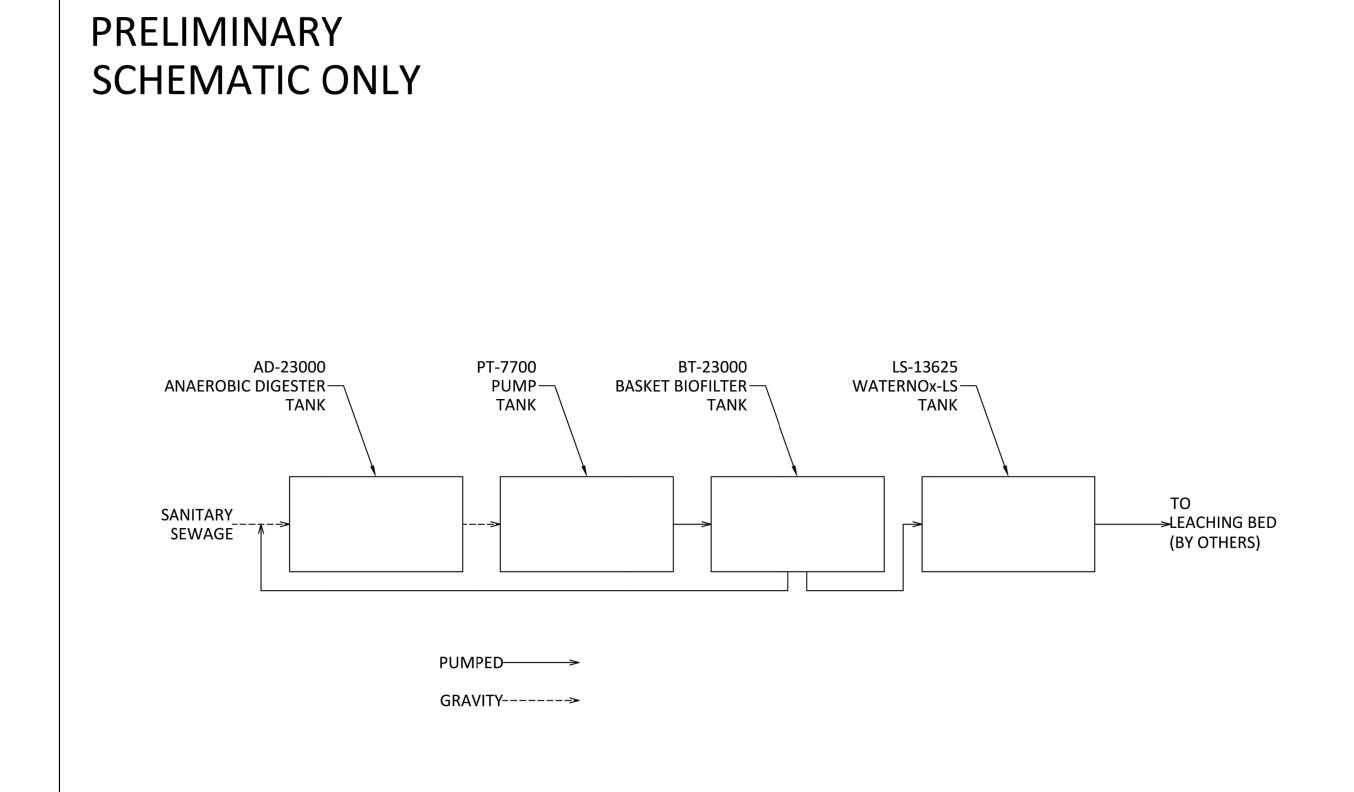
DISTRIBUTION PIPE TO BE INSTALLED WITHIN A LAYER OF STONE AS PER O.B.C. 8.7.3.3.(5). CONTRACTOR TO ENSURE THAT ALL TOPSOIL IS STRIPPED FROM SEPTIC BED AREA. ALL HEAVY EQUIPMENT TO BE KEPT OFF LEACHING BED AREA. BASE OF BED TO BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF DISTRIBUTION PIPING.

REINSTATEMENT:

REVISION NOTE

(O.B.C. 8.7.7.1.(6))

ALL TOPSOIL FROM CONSTRUCTION AREAS TO BE STOCKPILED AND THEN REPLACED TO A MINIMUM DEPTH OF 150mm. SOD AND/OR SEED AND MULCH TO BE APPLIED TO ALL DISTURBED AREAS. ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH LATEST EDITION OF THE ONTARIO BUILDING CODE (PART 8). ALL SURFACE DRAINAGE, FOOTING DRAINS, ROOF LEADERS AND SUMP PUMP DRAINS MUST BE DIRECTED AWAY



1. THIS IS A PRELIMINARY SCHEMATIC FOR A WATERLOO BIOFILTER SEWAGE TREATMENT SYSTEM. THIS IS FOR PLANNING PURPOSES ONLY AND IS NOT AN ENGINEERED DESIGN. 2. THE PEAK SEWAGE FLOW FOR THIS FACILITY IS 7,710 L/day. PEAK

3. THE RAW SEWAGE IS EXPECTED TO HAVE THE FOLLOWING

TKN = 50 mg/sIT IS ALSO ASSUMED THAT THERE IS SUFFICIENT ALKALINITY FOR THOROUGH NITRIFICATION. 4. WASTEWATER FROM THE FACILITY FLOWS BY GRAVITY INTO AN AD-23000 SINGLE COMPARTMENT ANAEROBIC DIGESTER TANK. THE INLET OF THE TANK IS EQUIPPED WITH AN INNERTUBE. THE OUTLET IS EQUIPPED WITH AN EFFLUENT FILTER.

TSS = 210 mg/L

5. THE ANAEROBIC DIGESTER TANK EFFLUENT FLOWS BY GRAVITY INTO A PT-7700 PUMP TANK. THE PUMP TANK IS EQUIPPED WITH A SUBMERSIBLE EFFLUENT PUMP OPERATING ON A TIMER

6. THE PUMP IN THE PUMP TANK DOSES THE SEWAGE TO A BT-23000 SINGLE COMPARTMENT BASKET BIOFILTER TANK HOUSING TWO (2) BASKETS FILLED WITH BIOFILTER MEDIUM. THE SEWAGE IS EVENLY TRICKLES THROUGH THE INTERIOR OF THE MEDIUM. A SMALL, LOW VOLTAGE AIR FAN AND PASSIVE VENTING PROMOTES AEROBIC CONDITIONS. THE TANK IS EQUIPPED WITH TWO (2) SUBMERSIBLE EFFLUENT PUMPS OPERATING ON SEPARATE TIMERS.

7. THE FIRST PUMP IN THE BASKET BIOFILTER TANK RECIRCULATES A PORTION OF THE EFFLUENT TO THE INLET OF THE AD-23000. 8. THE SECOND PUMP IN THE BASKET BIOFILTER TANK PUMPS THE

EFFLUENT TO A LS-13625 DOUBLE COMPARTMENT WATERNOX-LS TANK. THE FIRST COMPARTMENT OF THE TANK IS FILLED WITH DENITRIFYING GRAVITY INTO THE SECOND COMPARTMENT AND OVER TOP OF A BASKET FILLED WITH BIOFILTER MEDIUM. THE SECOND COMPARTMENT IS ALSO EQUIPPED WITH A SUBMERSIBLE EFFLUENT PUMP.

9. THE PUMP IN THE SECOND COMPARTMENT OF THE WATERNOX-LS TANK PUMPS THE FINAL EFFLUENT TO A LEACHING BED (BY OTHERS). 10. ALL PUMPS ARE RUN BY A WATERLOO SMART PANEL. THE WATERLOO SMART PANEL PROVIDES REMOTE MONITORING, CONTROL, AND DATA LOGGING OVER A STABLE WIRELESS CELLULAR NETWORK. THIS FUNCTIONALITY ALLOWS FOR REAL TIME OPERATIONAL ADJUSTMENTS
TO OPTIMIZE SYSTEM PERFORMANCE. THE WATERLOO SMART PANEL ALSO IMMEDIATELY NOTIFIES THE SERVICE PROVIDER OF A PUMP INFORMATION TO LIMIT SITE VISITS WHILE KEEPING THE SYSTEM

11.BY ADHERING TO BEST MANAGEMENT PRACTICES (PROVIDING THE APPROPRIATE STRENGTH SEWAGE, PERFORMING ROUTINE MAINTENANCE, LIMITING TOXINS ENTERING THE SYSTEM) THE WATERLOO BIOFILTER TREATMENT SYSTEM OUTLINED IN THIS SCHEMATIC IS DESIGNED FOR THE FOLLOWING EFFLUENT OBJECTIVES.

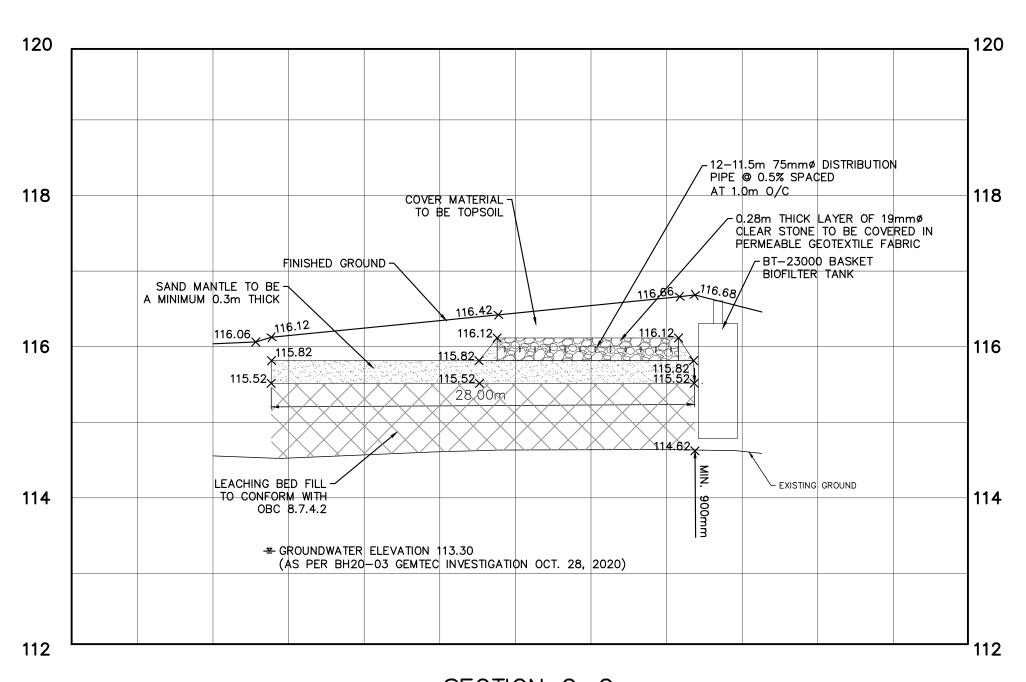
cBOD = 10 mg/LTSS = 10 mg/L TOTAL NITROGEN ≥ 75% REMOVAL



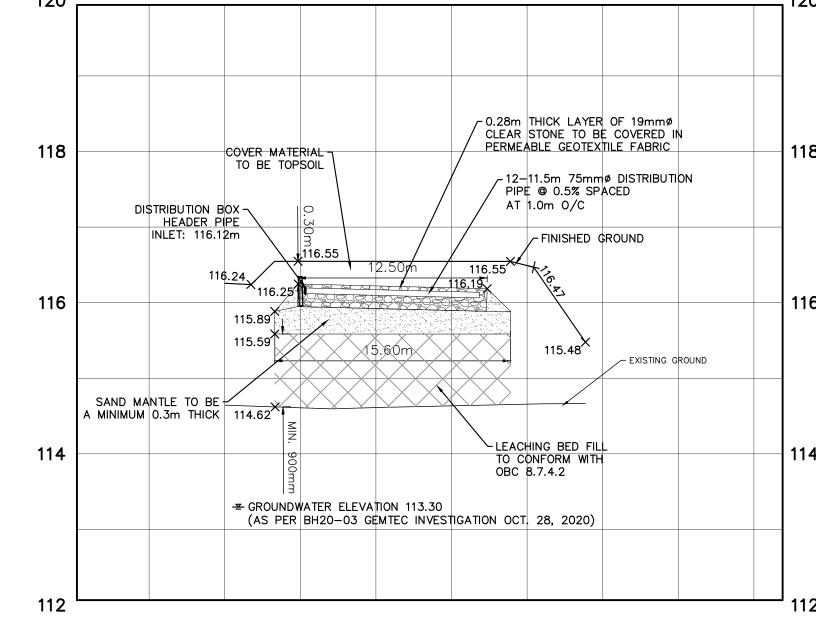
TITLE: PROCESS SCHEMATIC PROJECT: 2822 CARP ROAD - OTTAWA

FOR: PEARSON ENGINEERING 7,170 L/day BASKETS w/ LS

ON-C-2016-0190-B



SECTION C-C HORIZONTAL SCALE 1:250 VERTICAL SCALE 1:50



SECTION D-D HORIZONTAL SCALE 1:250 VERTICAL SCALE 1:50

			<u>BENCHMARK</u>	
			ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO BENCHMARK 68U001/CGVD28 GEODETIC DATUM.	
			BEARINGS ARE GRID, DERIVED FROM THE SOUTHWESTERLY LIMIT OF PART 1	
			PLAN 4R-30382 SHOWN TO BE N41°38'40"W THERON AND ARE REFERRED TO THE CENTRAL MERIDIAN OF MTM ZONE 9 (76°30' WEST LONGITUDE) NAD-83 (ORIGINAL)	

DATE BY



MULTI-TENANT COMMERCIAL BLDGS 2822 CARP ROAD CITY OF OTTAWA

NOTES AND DETAILS



DESIGNED BY PROJECT # 19124 NW/MWD DRAWN BY DRAWING # ND-1SEPTEMBER 2020 REVISION # CHECKED BY GMP

