

re: **Anchor Detail – Fire Tanks**
Proposed Commercial Development
5923 Ottawa Street, Richmond (Ottawa), Ontario

to: Stratford Foxrun – **Jack Gulas** – jack@stratfordfoxrun.com

date: June 11, 2026

file: PH4924-MEMO.06

Further to your request and authorization, Paterson Group (Paterson) prepared the following memorandum to provide an anchoring detail for the fire tanks at the aforementioned site.

The following memorandum should be read in conjunction with the Site Servicing Plan-C102 by Egis dated January 28, 2026 attached to this report. The calculations were completed assuming that the attached 45,000 L Fire Tank by Boyd Bros Concrete will be used.

Anchoring Requirements

A detail regarding the required anchoring for **each** of the proposed fire tanks, consisting of four (4) concrete blocks each of minimum 0.61 m (W) x 0.61 m (H) x 1.22 m (L) (2 ft x 2 ft x 4 ft) with an anchoring ring/hook to attach strapping/cables, has been attached to this Memo (Paterson drawing PH4926-MEMO.06 – Figure 1). The cable should consist of minimum 13 mm (0.5”) diameter galvanized aircraft cable with turnbuckle rods or equivalent strapping. All material should be resistant to degradation due to water for an extended period to prevent failure during the tank lifespan. A lean concrete slab of minimum 0.13 m thick is to be poured below the base of anchor blocks. Compacted Granular ‘A’ shall be placed between the slab and tank base.

The calculations assumed 0.5 m of glacial till soil cover over the tanks and a high groundwater elevation of 1.46 m below ground surface based on the Paterson’s Groundwater Monitoring Program (PH4924-MEMO.01 dated August 5, 2025) and the proposed grade raises as per the Lot Grading & Drainage Plan completed by Egis (Drawing C101 dated January 28, 2026).

See attached drawing Figure 1 – Anchor Detail – Septic / Balancing Tank for specific placement of the anchor blocks. The review has only assessed the buoyancy impact on the proposed tanks due to an empty tank during seasonally high groundwater conditions.

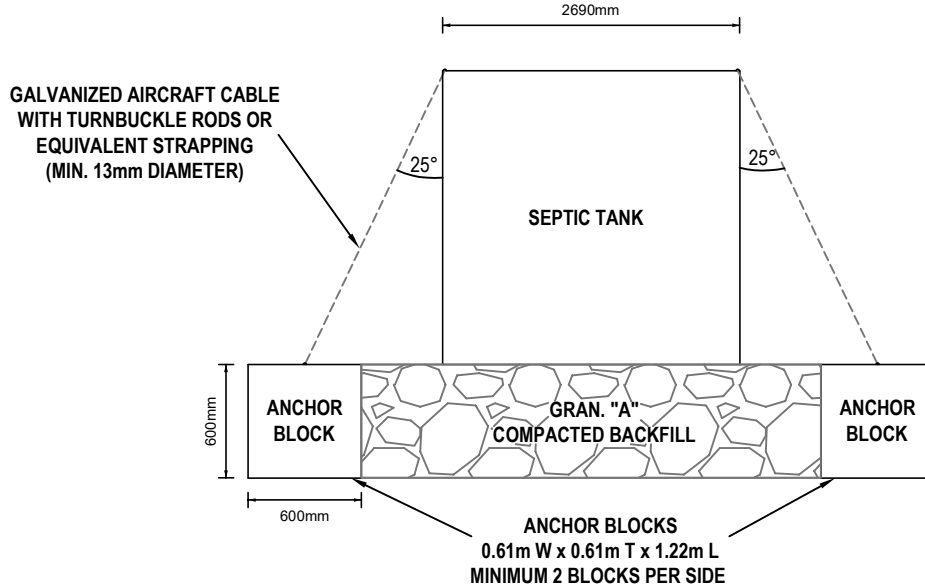


We trust that the current submission meets your immediate requirements.

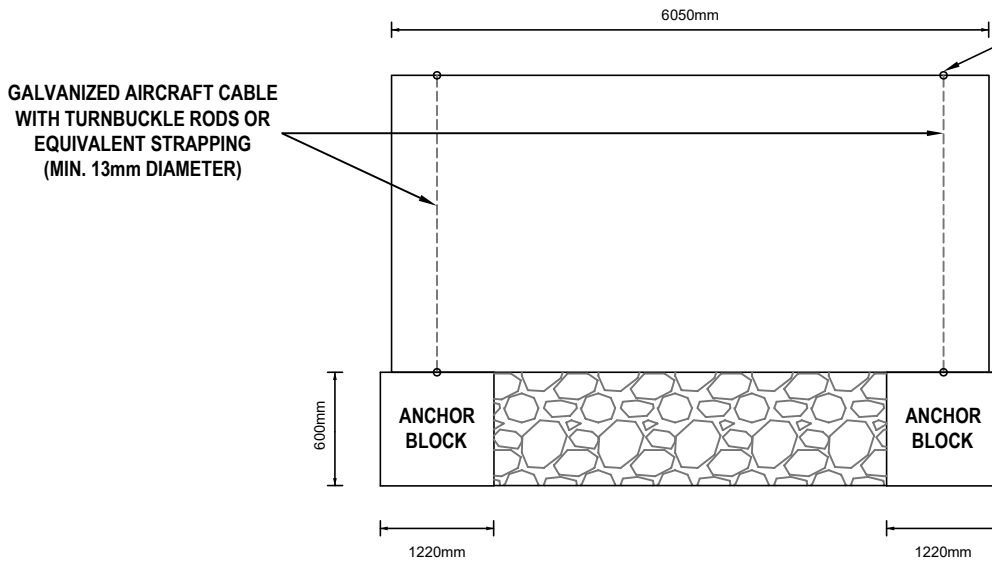
Best Regards,
Paterson Group Inc.

Michael S. Killam, P.Eng.
Attachment: Figure 1 – Anchor Detail – Septic / Balancing Tank





NOTE:
IF CABLING IS USED, PROVIDE LOAD DISTRIBUTION FOR THE CABLE TO PREVENT DAMAGE TO THE TANK CORNERS.



NOTE:

- STRAPPING TO BE PLACED SUCH AS TO NOT INTERFERE WITH THE TANK RISER ASSEMBLIES.
- HORIZONTAL PLACEMENT OF ANCHOR BLOCKS DEPENDENT UPON DIMENSIONS OF TANK (SEPTIC & BALANCING TANK).
- ANY STRAPPING OR CABLES USED SHOULD BE RESISTANT TO DEGRADATION DUE TO WATER FOR AN EXTENDED PERIOD OF TIME.

ASSUMPTIONS:

- GROUNDWATER AT A MAX. OF 93.63m
- SOIL COVER OF 500mm.



9 AURIGA DRIVE
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STRATFORD FOXRUN
BUOYANCY REVIEW
5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

Title:
**ANCHOR DETAIL -
FIRE WATER STORAGE TANKS**

Date:
06/2026

Report No.:
**PH4924 -
MEMO.06**

Scale:
NTS

Drawing No.:
FIGURE 1

Drawn by:
HV

Checked by:
AS

4

3

2

1

TOTAL VOLUME: 45000L

CONCRETE: 35MPa WITH 5-8% AIR ENTRAINMENT
NON SULPHATE RESISTANT

REINFORCING: GRADE 400W CONFORMING TO CSA G30.18
15M @ 200mm ON CENTRE EACH WAY
ADDITIONAL 15M AROUND PERIMETER AT SEAM BETWEEN

SECTIONS 15M x900mm ON DIAGONAL AT EACH CORNER OF LID OPENING

WEIGHT: TOP SECTION 19000KGS
BOTTOM SECTION 19000KGS
TOTAL 38000KGS

MAXIMUM BURIAL DEPTH: 1200MM OF GROUND COVER IN AREA OF
NON-VEHICULAR TRAFFIC

WATER TIGHTNESS: 2X ROWS CON-SEAL CS-102 MASTIC SEALANT BETWEEN
SECTIONS. SEALANT APPLIED ONSITE BY BOYD BROS CONCRETE
ACCORDING TO MANUFACTURER'S RECOMMENDED METHOD

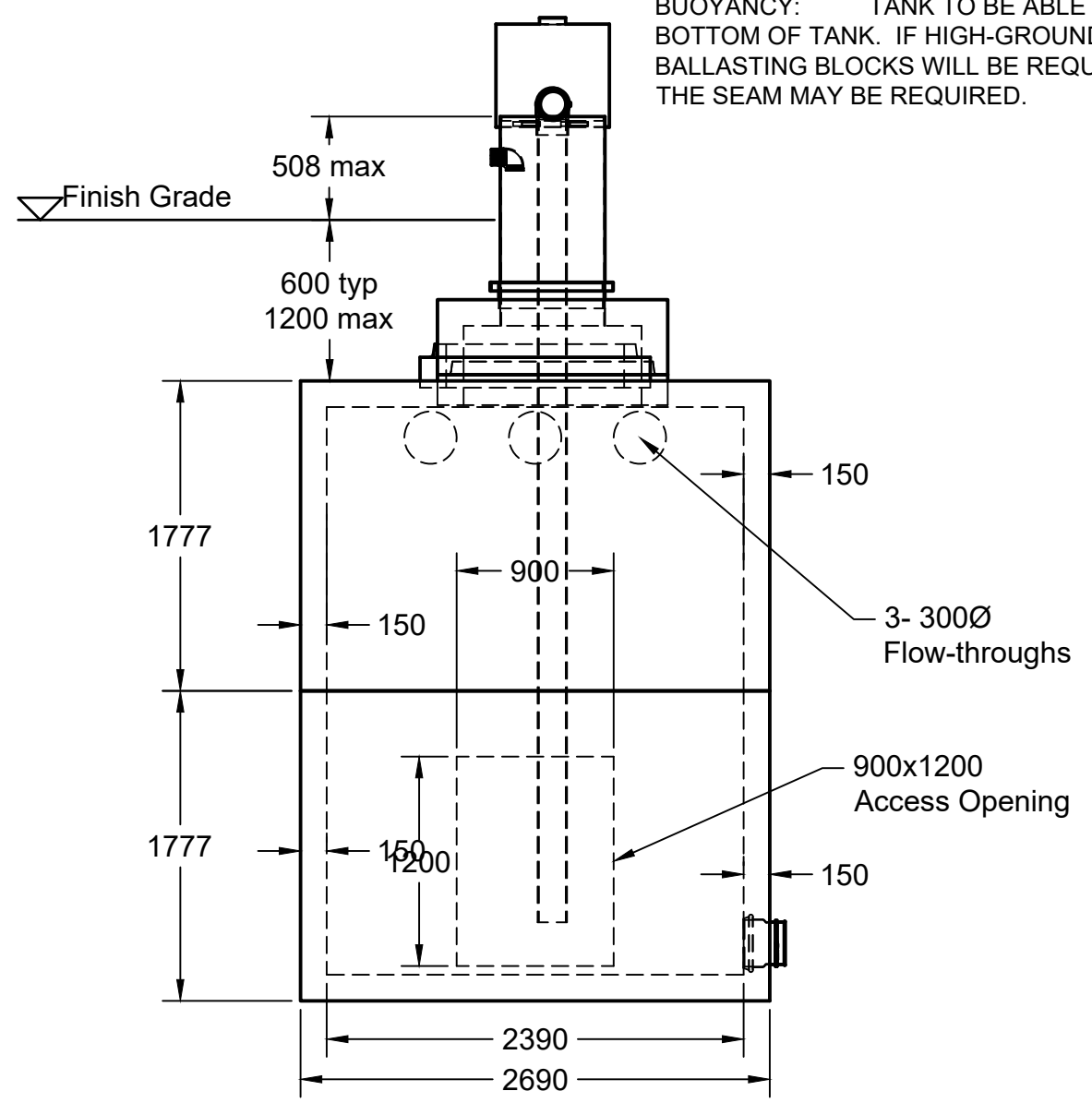
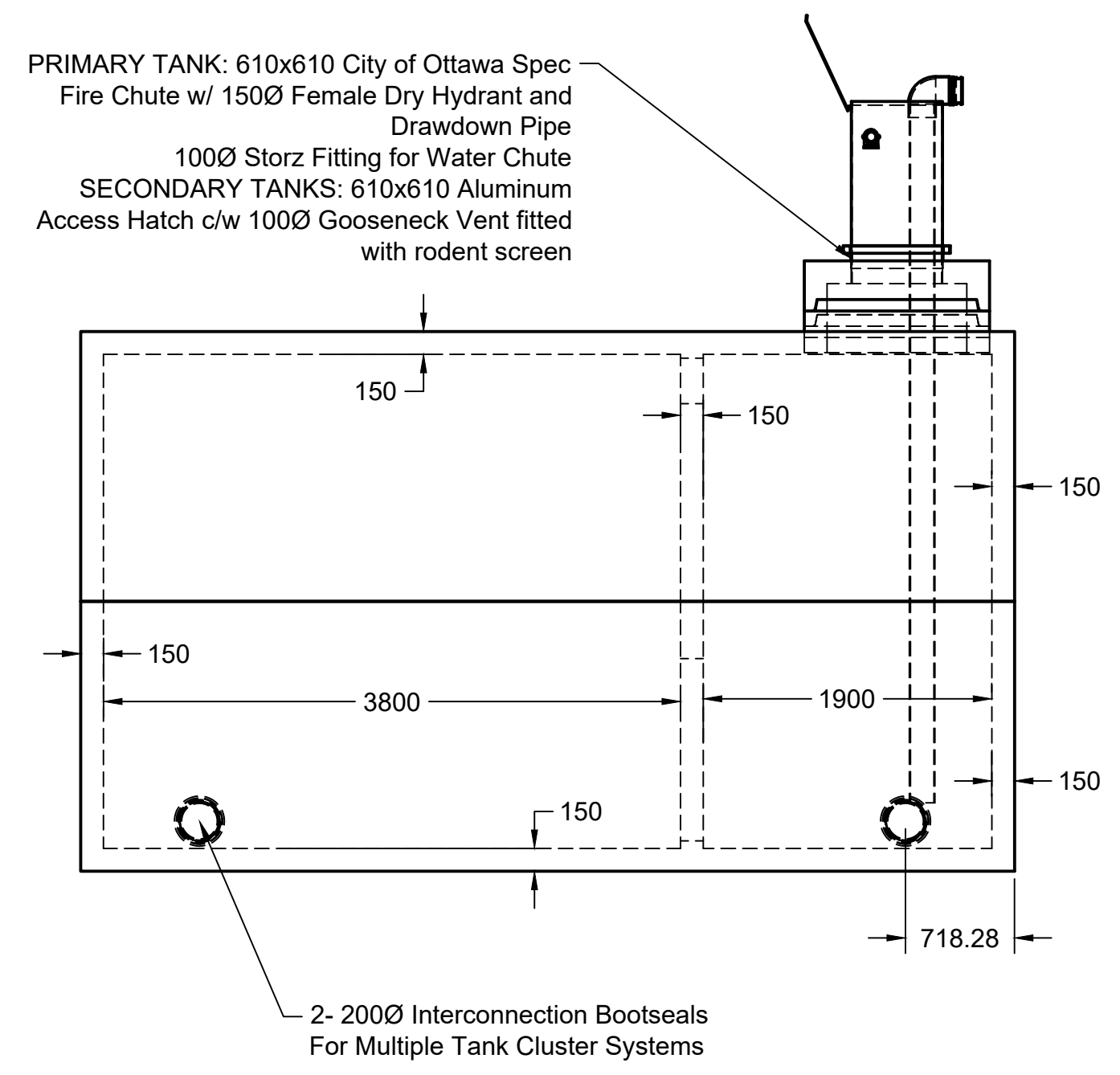
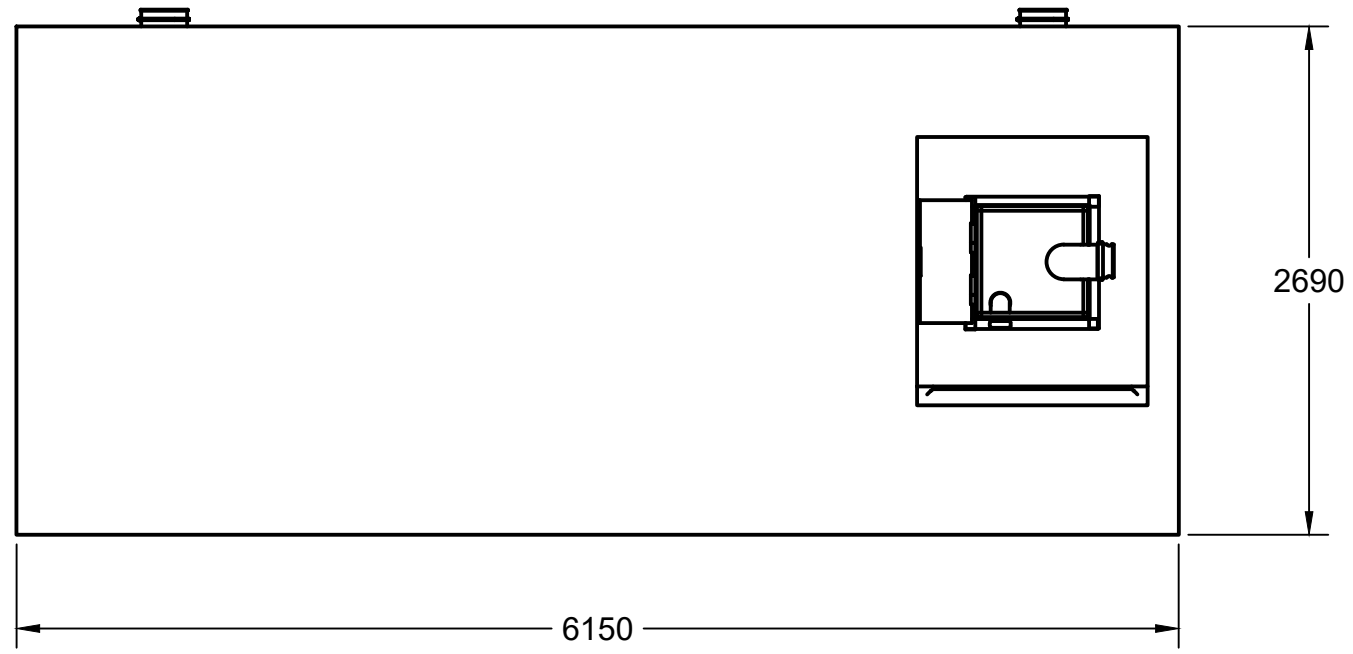
PIPE/WALL CONNECTIONS: 200mmØ Flexible Rubber Bootseal for PVC Supply Line

ACCESS OPENINGS:
PRIMARY TANK: 610X610 CITY OF OTTAWA SPEC FIRE CHUTE FOR FIRETRUCK
CONNECTION
SECONDARY ACCESS (OPTIONAL) :1200x1300 CAST-IN RISER FLANGE WITH
610X610 DRIP PROOF ALUMINUM ACCESS HATCH
900X1200 OPENING IN DIVIDER WALL FOR ACCESS TO BOTH CHAMBERS FROM
ONE ACCESS POINT

OPTIONAL STAINLESS STEEL BOLT-ON LADDER OPTIONAL

TANK DESIGN CONFORMS TO CSA STANDARD B66-15 WITH A NON-TRAFFIC LOAD ON TOP,
AND WITH HEAVY TRUCK LOADING DIRECTLY ADJACENT TO TANK TO ACCOMMODATE FIRE
TRUCK TO BE WITHIN 1M OF WATER DRAW-DOWN CHUTE, AS PER FIRE DEPT.

BUOYANCY: TANK TO BE ABLE TO WITHSTAND GROUNDWATER UP 2.0M FROM
BOTTOM OF TANK. IF HIGH-GROUNDWATER LEVEL IS IN EXCESS OF THIS, ADDITIONAL
BALLASTING BLOCKS WILL BE REQUIRED. ADDITIONAL WATERPROOFING MEASURES AT
THE SEAM MAY BE REQUIRED.



bb BOYD BROS
concrete products

5450 Cuddy St Osgoode, ON K0A 2W0
tel: (613) 826.2318 fax: (613) 826.3679
toll free: 888.846.6664
website: www.boydbrosconcrete.ca
email: info@boydbrosconcrete.ca

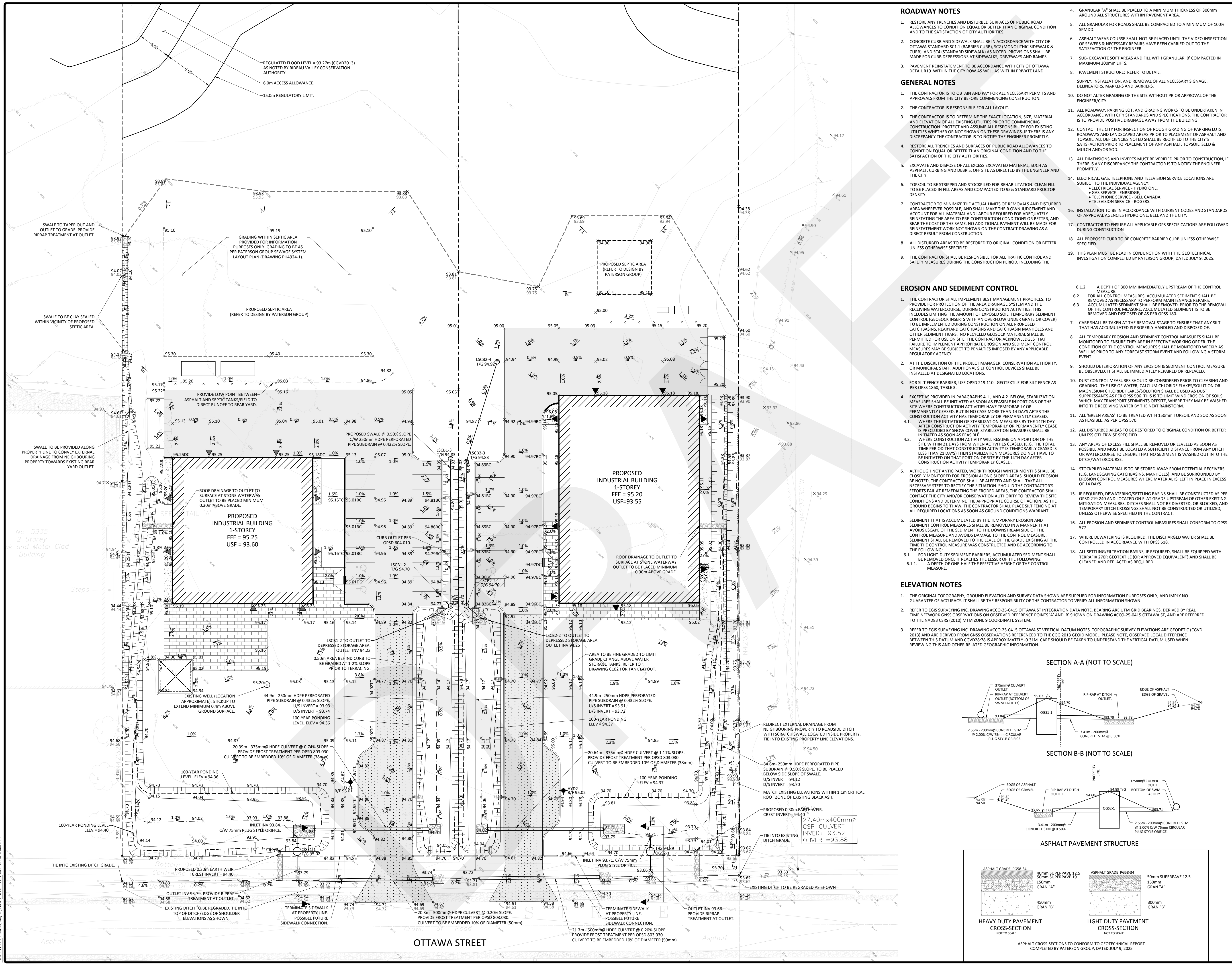
PROJECT		
Boyd Bros Concrete		
TITLE		
45000 Fire Tank		
DRAWN Rob Sanna 6/19/23 APPROVED		
SIZE	DWG NAME	REV
C	45000 Fire Tank	3
SCALE 1:40	WEIGHT 35000kgs	SHEET 1/1

4

3

2

1



ROADWAY NOTES

- RESTORE ANY TRENCHES AND DISTURBED SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF CITY AUTHORITIES.
- CONCRETE CURB AND SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SCL1 (BARRIER CURB), SCL2 (MONOLITHIC SIDEWALK & CURB), AND SCL4 (STANDARD SIDEWALK) AS NOTED. PROVISIONS SHALL BE MADE FOR CURB DEPRESSIONS AT SIDEWALKS, DRIVEWAYS, DRIVEWAYS.
- PAYMENT REINSTATEMENT TO BE ACCORDANCE WITH CITY OF OTTAWA DETAIL R10 WITHIN THE CITY ROW AS WELL AS WITHIN PRIVATE LAND TO THE SATISFACTION OF THE CITY AUTHORITIES.

GENERAL NOTES

- 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.
- CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND DISTURBED AREA WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR ADEQUATELY REINSTATING THE AREA TO PRE-CONSTRUCTION CONDITION BETTER, AND BEAR THE COST OF THE SAME. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.
- ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE

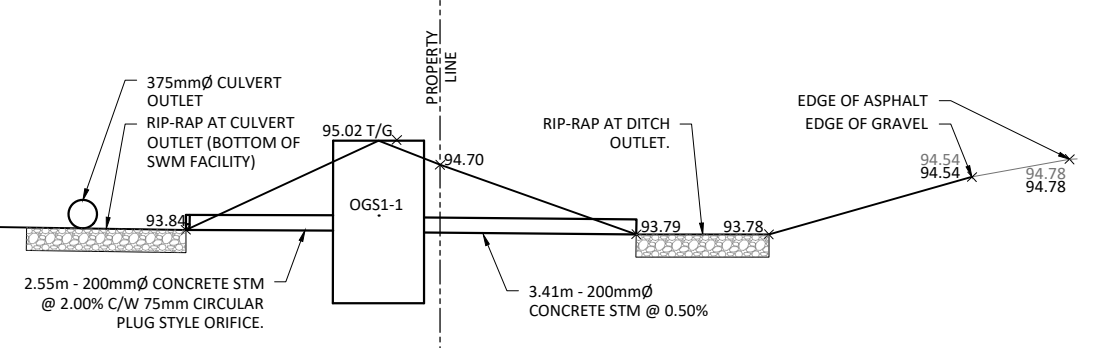
EROSION AND SEDIMENT CONTROL

- 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 (GEOSSOCK INSERTS WITH AN OVERFLOW UNDER GRATE OR COVER) TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL PROPOSED CATCHBASINS, REARWARD CATCHBASINS AND CATCHBASIN MANHOLES AND OTHER SEDIMENT TRAPS. NO RECYCLED GEOSSOCK MATERIAL SHALL BE PERMITTED FOR USE ON THE SITE. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- AT THE DISCRETION OF THE PROJECT MANAGER, CONSERVATION AUTHORITY, OR MUNICIPAL STAFF, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
- FOR SILT FENCE BARRIER, USE OPSD 210.110. GEOTEXTILE SILT FENCE AS PER OPSD 1800, 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 TEMPORARILY OR PERMANENTLY CEASED.
 - WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED 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 (LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
- ALTHOUGH NOT ANTICIPATED, WORK THROUGH WINTER MONTHS SHALL BE CLOSELY MONITORED FOR EROSION ALONG SLOPED AREAS. SHOULD EROSION BE NOTICED, THE CONTRACTOR SHALL BE ALERTED AND SHALL TAKE ALL NECESSARY STEPS TO RECTIFY THE SITUATION. SHOULD THE CONTRACTOR'S EFFORTS FAIL AT REMEDIATING THE EROSION AREAS, THE CONTRACTOR SHALL CONTACT THE CITY AND/OR CONSERVATION AUTHORITY TO REVIEW THE SITE CONDITIONS AND DETERMINE THE APPROPRIATE COURSE OF ACTION, AS THE GROUND BEGINS TO THAW, THE CONTRACTOR SHALL PLACE SILT FENCES AT ALL REQUIRED LOCATIONS AS SOON AS GROUND CONDITIONS WARRANT.
- 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 RECEIVING WATERCOURSE. 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.

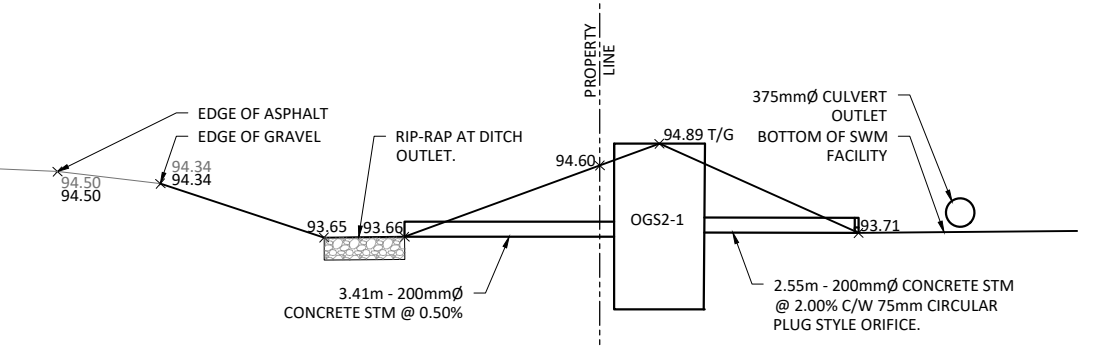
ELEVATION NOTES

- 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.
- REFER TO EGIS SURVEYING INC. DRAWING KCCO-25-0415 OTTAWA ST INTEGRATION DATA NOTE. BEARING ARE UTM GRID BEARINGS, DERIVED BY REAL TIME NETWORK GNSS OBSERVATIONS ON OBSERVED REFERENCE POINTS 'A' AND 'B' SHOWN ON DRAWING KCCO-25-0415 OTTAWA ST, AND ARE REFERRED TO THE MAD83 CSRS (2010) MTM ZONE 9 COORDINATE SYSTEM.
- REFER TO EGIS SURVEYING INC. DRAWING KCCO-25-0415 OTTAWA ST VERTICAL DATUM NOTES. TOPOGRAPHIC SURVEY ELEVATIONS ARE GEODETIC (CGVD 2013) AND ARE DERIVED FROM GNSS OBSERVATIONS REFERENCE TO THE CGVD 2013 GEOID MODEL. PLEASE NOTE, OBSERVED LOCAL REFERENCE BETWEEN THIS DATUM AND CGVD2878 IS APPROXIMATELY -0.31M. CARE SHOULD BE TAKEN TO UNDERSTAND THE VERTICAL DATUM USED WHEN REVIEWING THIS AND OTHER RELATED GEOGRAPHIC INFORMATION.

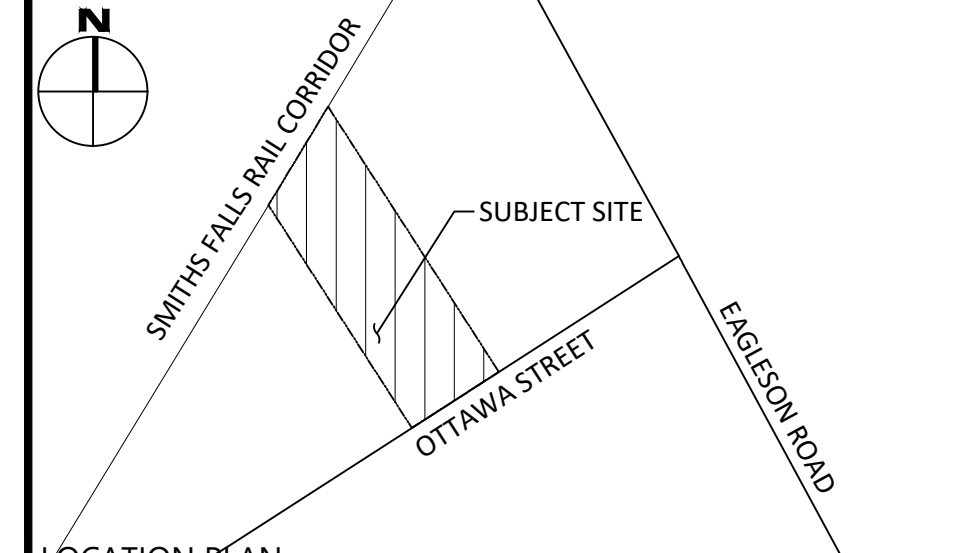
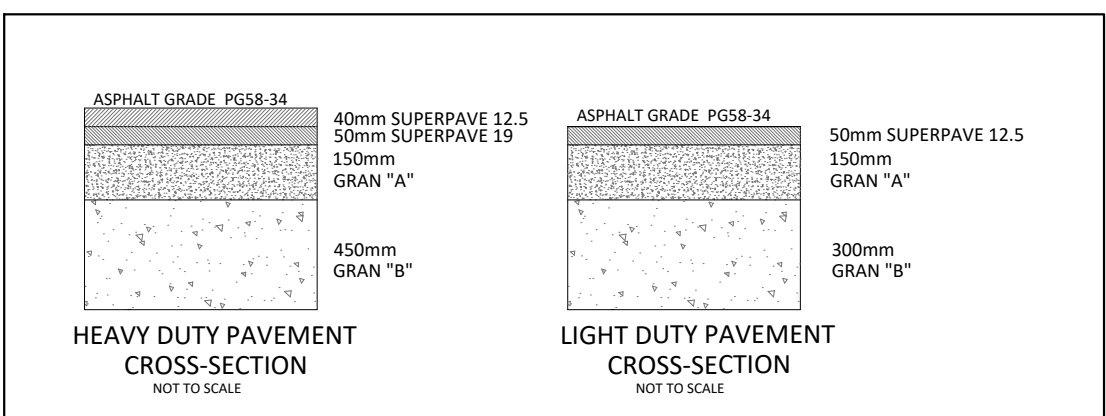
SECTION A-A (NOT TO SCALE)



SECTION B-B (NOT TO SCALE)



ASPHALT PAVEMENT STRUCTURE



LEGEND

CONCRETE BARRIER CURB	LIMIT OF CONSTRUCTION	
CONCRETE WALKWAY	DRAINAGE SWALE	
PROPOSED ASPHALT	DRAINAGE DITCH	
PROPOSED HEAVY DUTY ASPHALT	SLOPING AT 3:1 UNLESS SPECIFIED	
LSCB#	LANDSCAPING CATCHBASIN	95.50 SURFACE ELEVATION
CBM#H#	CATCHBASIN MANHOLE	95.50 SWALE ELEVATION
CB#	CATCHBASIN	T/W 95.50 b/w 94.25 TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION
MH#A	SANITARY SEWER MANHOLE	OVERLAND FLOW ROUTE
HYD	FIRE HYDRANT	SILT FENCE BARRIER
B/F	WATER VALVE	STRAW BALE CHECK DAM
W	WATER METER	MUD MAT
RM	REMOTE WATER METER	CURB OUTLET PER OPSD 604.010
RW	RETAINING WALL	PROPERTY BOUNDARY
OGSH	OIL & GRIT SEPARATOR UNIT	

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

No.	Revisions	Date
6	REISSUED FOR SITE PLAN CONTROL	JAN. 28, 2026
5	REISSUED FOR SITE PLAN CONTROL	NOV. 21, 2025
4	REISSUED FOR SITE PLAN CONTROL	SEP. 16, 2025
3	REISSUED FOR SITE PLAN CONTROL	JUN. 06, 2025
2	ISSUED FOR SITE PLAN CONTROL	OCT. 17, 2024
1	ISSUED FOR COORDINATION	OCT. 11, 2024

Check and verify all dimensions before proceeding with the work. Do not scale drawings.

SCALE 1 : 300

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Client: **99117756 CANADA INC.**
411 LEGGET DRIVE, SUITE 710
OTTAWA, ON K2K 3C9

Project: **DISTILLERY & WAREHOUSE**
5923 OTTAWA STREET

Drawing Title: **LOT GRADING & DRAINAGE PLAN**

Scale: 1:300	Project Number: CCO-25-0415
Drawn By: FV	Checked By: JB
Designed By: AG	Drawing Number: C101

U:\MAMEL\Information\CCO-25-0415\99117756 CANADA INC. DISTILLERY & WAREHOUSE_5923 OTTAWA STREET\12 - Drawings\CCO-25-0415 - Preliminary.dwg
 DATE: 2024-07-26 10:51:00 AM
 USER: J. VANDERKAM

D07-12-25-0078

