

SUMP PUMP - To Drain Water at Footing Level

Because existing Storm Sewer Elevation is too high in street

CAUTION: SUMP PUMP USE

Because the City Municipal Storm service exists along this street it is too high an elevation to be gravity drained from the proposed storm lateral at the house to the existing storm main, we have proposed a sump pump to be installed to drain the water at the footing level. The proposed underside of footing (USF) elevation (which has been calculated based on architectural plan parameters/basement heights and/or at the instruction of client/agent) has the potential to be too low for this development with respect to possible water drainage issues at footing levels.

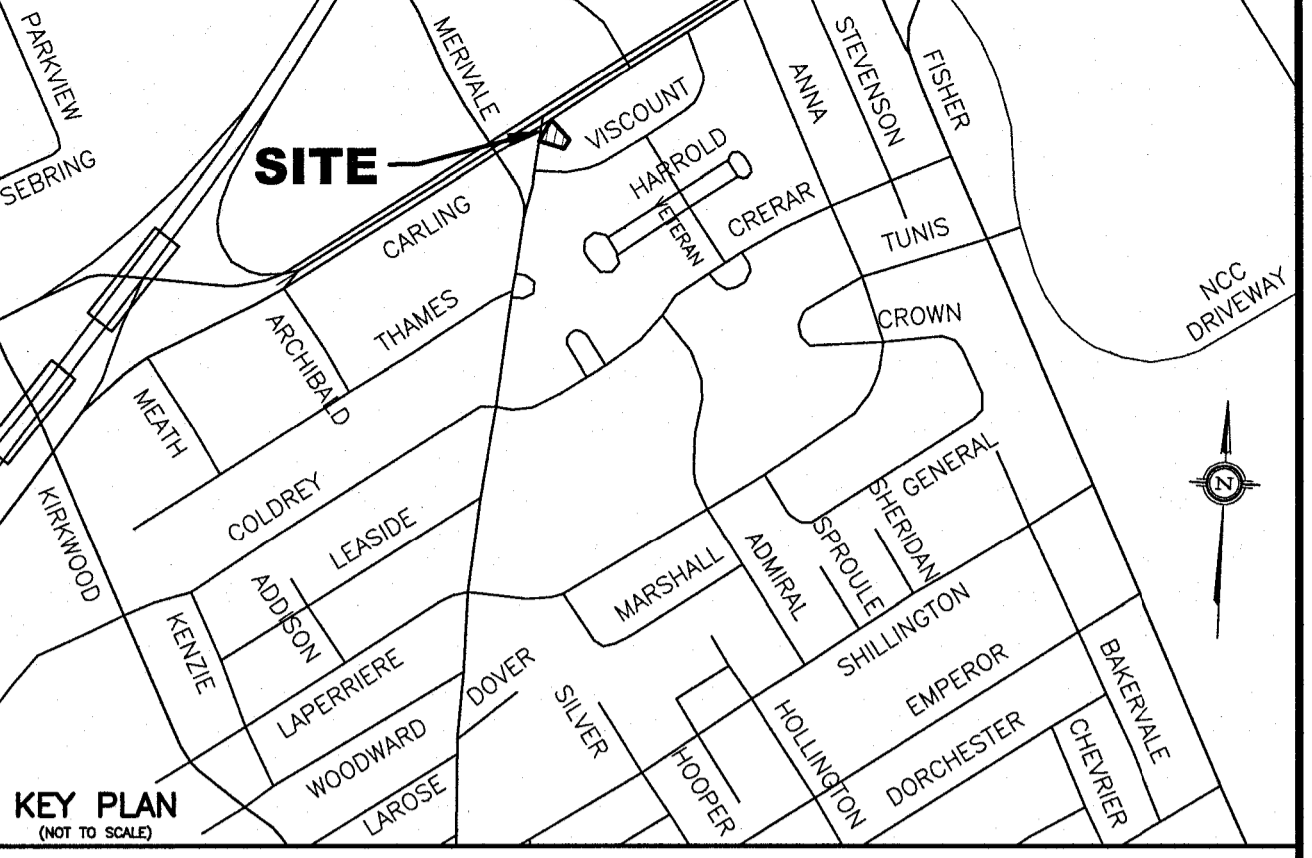
The Normal High Ground Water Table (NHGWT) elevation must be verified prior to/at time of excavation (per City of Ottawa Building Code services requirements). If it is determined that the proposed footing elevation(s) will be below the NHGWT elevation it will be the responsibility of the owner and their representatives to mitigate/rectify the situation by either raising the footing elevation above the NHGWT elevation or demonstrate the use of appropriate foundation waterproofing methods as per current building code requirements. The owners and their representatives must apply for and receive any applicable permits from the City before proceeding with the aforementioned works.

T.L. Mak Engineering Consultants Ltd. assumes no responsibility or liability in regards to the impact on footings and/or basement drainage issues (at time of excavation or future) due to this design.

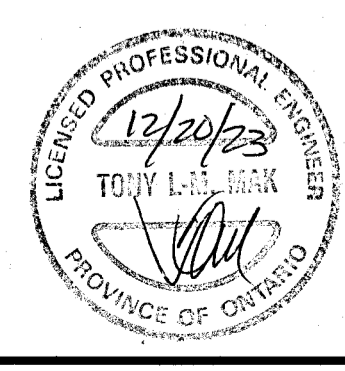
APPROVED
By Lily Xu at 2:54 pm, Jul 29, 2024

LILY XU, MCIP, RPP
MANAGER, DEVELOPMENT REVIEW SOUTH
PLANNING, DEVELOPMENT, AND BUILDING SERVICES
DEPARTMENT, CITY OF OTTAWA

- LEGEND**
- PROPOSED ELEVATION
 - EXISTING ELEVATION
 - F.F. PROPOSED TOP OF GROUND FLOOR ELEVATION
 - T.O.F. PROPOSED TOP OF CONCRETE FOUNDATION ELEVATION
 - U.S.F. PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION
 - D/W PROPOSED DRIVEWAY
 - EXISTING SANITARY SEWER
 - EXISTING STORM SEWER
 - EXISTING WATERMAIN
 - PROPOSED 150mm PVC SANITARY LATERAL SERVICE @ 1% (MIN.) SLOPE
 - PROPOSED 150mm PVC STORM LATERAL SERVICE @ 1% (MIN.) SLOPE
 - PROPOSED 50mm WATER SERVICE (COPPER TYPE "K")
 - EXISTING SANITARY MANHOLE
 - EXISTING STORM MANHOLE
 - EXISTING CATCH BASIN
 - EXISTING WATER VALVE
 - EXISTING FIRE HYDRANT
 - EXISTING UTILITY POLE
 - EXISTING OVERHEAD WIRES
 - PROPOSED VALVE AND VALVE BOX (V&VB)
 - PROPOSED GENERAL DIRECTION OF LOT GRADING AND SURFACE FLOW
 - PROPOSED RETAINING WALL
 - PROPOSED TOP OF RETAINING WALL ELEVATION
 - PROPOSED BOTTOM OF RETAINING WALL ELEVATION
 - PROPOSED ROOF DOWNSPOUT LOCATION
 - PROPOSED RIGID STYROFOAM INSULATION 50mm THICK (MIN.)
 - PROPOSED WEeping TILE SUMP PIT LOCATION C/W DUPLEX SUMP PUMPS (REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS)
 - PROPOSED SANITARY HOLDING TANK LOCATION C/W DUPLEX SEWAGE PUMPS
 - PROPOSED ROOF SCUPPER LOCATION
 - PROPOSED SANITARY MANHOLE (1200mm#)
 - PROPOSED PRESSURE REDUCING VALVE (SEE NOTE #42 ALSO FOR DETAILS)
 - DENOTES LIMIT OF ROAD CUT AND REINSTATEMENT
 - DENOTES PROPOSED CONCRETE SIDEWALK AND DRIVEWAY SURFACES



- NOTES**
- EXISTING SERVICES AND UTILITIES SHOWN ON THIS DRAWING WERE TAKEN FROM THE BEST AVAILABLE RECORDS BUT ARE NOT COMPLETE. CONTRACTOR IS REQUESTED TO CHECK IN THE FIELD FOR LOCATION AND ELEVATION OF PIPES, UNDERGROUND STRUCTURES AND CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
 - CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY. REFER TO THE SITE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY THE OWNER'S SOILS ENGINEERS GEMTEC (PROJ No. 100382.003 DATED FEBRUARY 10, 2023) FOR DETAILS.
 - EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING GEODETIC SITE BENCHMARK, ROAD ELEVATIONS, SEWER INVERT ELEVATIONS AND THE TOPOGRAPHICAL INFORMATION OF THE LOT IS PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBECK LTD. AS DERIVED ON THEIR TOPOGRAPHICAL SURVEY PLAN (JOB No. 21221-20 COMPLETED ON FEBRUARY 1, 2021) RECEIVED ON APRIL 5, 2023. T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HERE. FOR DETAILS OF EXISTING SEWER AND WATER MAIN INFORMATION, THE CONTRACTOR IS RESPONSIBLE TO ASCERTAIN AVAILABLE CITY OF OTTAWA "AS-BUILT" DRAWINGS. ALSO, SEE PLAN AND PROFILE DWG. No. J-29-10 AND PLAN No. R-1000-71 SHEET 10 OF 11 FOR REFERENCES.
 - SITE LAYOUT AND DETAILS FOR GRADING AND SWM DESIGN WERE PROVIDED BY THE OWNER'S ARCHITECT S.J. LAWRENCE ARCHITECT INC. AS DETAILED ON THEIR SITE PLAN (SHEET No. A1.0 REV. No. 6 - JOB No. SL-1053-21) RECEIVED ON AUGUST 28, 2023 AND UPDATED ON DECEMBER 18, 2023. BUILDING SECTIONS PLAN (SHEET No. A5.0 REV. No. 1) RECEIVED ON SEPTEMBER 31, 2023 RECEIVED FROM THE ARCHITECT ON SEPTEMBER 7, 2023 WAS USED TO ESTABLISH THE TOP OF GROUND FLOOR, TOP OF FOUNDATION, TOP OF BASEMENT SLAB, TOP OF FOOTING AND U.S.F. ELEVATIONS FOR THE BUILDING.
 - ALL GRADES SHOWN ARE GEODETIC AND METRIC (SEE ANNIS, O'SULLIVAN, VOLLEBECK LTD.'S TOPOGRAPHICAL PLAN). ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
 - PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY EQUIPMENT, LABOUR AND MATERIALS RELATING TO ALL CIVIL WORKS REQUIRED FOR THIS SITE AND BY THE CITY OF OTTAWA TO CONNECT INTO THE WATERMAIN.
 - CONNECTION OF THE 50mm WATER SERVICE TO THE EXISTING CARLING AVENUE WATERMAIN SHALL BE BY THE CITY OF OTTAWA. EXCAVATION, BACKFILLING, AND RESTORATION SHALL BE CARRIED OUT BY THE CONTRACTOR. CONNECTION SHALL BE CARRIED OUT AS PER CITY OF OTTAWA DWG. No. W60 DETAILS. ALL WATERWORKS TO BE CONSTRUCTED TO THE CITY OF OTTAWA WATER ENGINEERING STANDARDS AND SPECIFICATIONS.
 - 300mm MINIMUM SEPARATION BETWEEN EXISTING WATERMAIN AND PROPOSED SERVICE LATERALS AS PER CITY STANDARDS. IF 300mm MINIMUM SEPARATION CANNOT BE MET, UNSHRINKABLE FILL SHALL BE USED.
 - CONSTRUCT ALL WATERMANS, WATER SERVICES, SANITARY AND STORM SEWER SYSTEMS IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD OTHERWISE AS PER OPSS REQUIREMENT AND DONE TO THE SATISFACTION OF THE CITY.
 - BEDDING AND HAUNCHING MATERIAL FOR SEWER INSTALLATIONS TO BE GRANULAR "A" INSTALLED AND COMPACTED AS PER CITY STANDARD DETAIL DWG. No. S6 AND S7.
 - STORM AND SANITARY LATERALS (150mm#) SHALL BE PVC DR-28 OR EQUIVALENT.
 - ALL WATER SERVICES/MAINS SHALL HAVE 2.4m cover (min.). The 50mm water service shall be COPPER TYPE "K" OR EQUIVALENT. WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY OF OTTAWA W17 AND W22. THRUST BLOCK DETAILS AS PER CITY DETAIL W25.3 DATED MAY 2001. FITTINGS SHALL CONFORM TO CITY OF OTTAWA AND/OR CSA STANDARDS. CATHODIC PROTECTION FOR NEW SERVICE AS PER CITY DETAIL W40 REV. DATE MARCH 2005.
 - IF WATER SERVICE IS LESS THAN 1.0m FROM SEWER, MANHOLE OR CATCHBASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH S/M RIGID INSULATION (SEE CITY DETAIL DRAWING No. W23).
 - STORMWATER MANAGEMENT NOTES:
 - REFER TO PROPOSED ROOFTOP STORMWATER MANAGEMENT PLAN (DWG. No. 821-157 SWM-1) FOR ROOFTOP 2 YEAR HNL AND 100 YEAR HNL.
 - SEE STORM DRAINAGE REPORT No. R-821-157 DATED JUNE 2023 ALSO FOR DETAILS.
 - CONTROLLED ROOF DRAIN MAXIMUM FLOW RATE FOR ROOF DRAIN #1 SHALL BE 0.95 L/s OR 15.0 US GAL/MIN.
 - CONTROLLED ROOF DRAIN MAXIMUM FLOW RATE FOR ROOF DRAIN #2 SHALL BE 0.32 L/s OR 5.0 US GAL/MIN.
 - ALL PROPOSED BUILDING SANITARY, STORM AND WATER SERVICES SHALL TERMINATE ± 1.0m OUTSIDE THE FOUNDATION WALL AND CONNECTION TO PLUMBING BY OTHERS.
 - SANITARY SERVICE DRAIN TO BE EQUIPPED WITH A FULL PORT BACKWATER VALVE AND INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. STORMWATER DRAIN TO BE EQUIPPED WITH A BACKWATER VALVE AND INSTALLED AS PER CITY REQUIREMENTS.
 - PRIOR TO CONCRETE FOOTING AND FOUNDATION POURING, THE OWNERS AND/OR CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SUBGRADE ON THIS LOT IS SUFFICIENT TO SUPPORT THE PROPOSED BUILDING.
 - FOR DEVELOPMENT OF THIS LOT, THE CONTRACTOR MUST FIRST CONSTRUCT THE UNDERGROUND SANITARY, STORM AND WATER SERVICES FROM THE SEWER AND WATERMAIN TO SERVICE THE ENTIRE PROPERTY. PRIOR TO BUILDING CONCRETE FOUNDATION POURING, THE CONTRACTOR SHALL VERIFY SEWER DEPTHS TO ENSURE THAT SEWER LATERALS CAN ACHIEVE A SLOPE OF 1% (MIN.) AND STILL BE BELOW PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF THIS IS FOUND NOT POSSIBLE, THE CONTRACTOR SHALL CONTACT THE OWNER TO REPORT THE FINDING IN ORDER TO ADJUST THE BUILDING FOUNDATION GRADES PRIOR TO CONCRETE POURING.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY EQUIPMENT, LABOUR AND MATERIALS RELATING TO THE CIVIL WORKS REQUIRED FOR INSTALLATION OF NEW SITE SERVICES. PROVINCIAL HEALTH AND SAFETY REGULATIONS MUST BE FOLLOWED DURING CONSTRUCTION.
 - IT IS THE RESPONSIBILITY OF THE SITE SERVICES CONTRACTOR TO OBTAIN AND CONSTRUCT THE WORKS TO MEET THE LATEST REVISIONS IN CURRENT CIRCULATION OF THE CITY OF OTTAWA'S ENGINEERING STANDARDS, OPSS AND OPSS STANDARDS, AND ONTARIO BUILDING/PLUMBING CODES. WHERE THE LATEST REVISION DIFFERS FROM THE REQUIREMENTS SET OUT IN THIS PLAN, THE CONTRACTOR SHALL PRICE THE WORKS TO MEET LATEST REVISED STANDARDS IN HIS PRICE BID FOR THIS PROJECT. THE CONTRACTOR SHALL INFORM THE ENGINEER OF ANY CHANGES PRIOR TO COMMENCEMENT OF THE WORKS.
 - PROPOSED TOP OF ENTRY, TOP OF FOUNDATION, TOP OF BASEMENT SLAB, UNDERSIDE OF FOOTING ELEVATIONS SHALL BE REVIEWED AND APPROVED BY S.J. LAWRENCE ARCHITECT INC. PRIOR TO CONSTRUCTION.
 - IF EXISTING GRADES ALONG ANY EXISTING ADJUTING PROPERTY LIMITS EXCEED THE PROPOSED GRADES ON THIS PROPERTY BY A HEIGHT DIFFERENTIAL THAT EXCEEDS TERRACING OF 3H TO 1V, THEN INSTALL A RETAINING WALL AS PER OWNER'S REQUIREMENTS.
 - SITE SERVING BEDDING, BACKFILL REQUIREMENTS ALONG WITH ROADWAY AND PARKING LOT PAVEMENT STRUCTURES SHALL MEET RECOMMENDATIONS AND REQUIREMENTS SET OUT IN THE OWNER'S SOILS ENGINEER'S REPORT. ALL WORKS TO BE CARRIED OUT BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE AN ASPHALT ACCESS LANEWAY AND PRIVATE DRIVEWAY STRUCTURE SHALL BE APPROVED BY SOILS ENGINEER ON SITE PRIOR TO CONSTRUCTION.
 - THE EXISTING CONCRETE CURB ON CARLING AVENUE AND MERIVALE ROAD IF DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REINSTATEMENT BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF OTTAWA AND IN ACCORDANCE WITH THE LATEST REVISED CITY ENGINEERING STANDARDS.
 - THE CONTRACTOR, UPON COMPLETION OF THE NEW PARKING SPACE, SHALL RESTORE THE EXISTING MERIVALE ROAD ROADWAY BOUNDARY DETAILING DETAILING WORKS ON THE PROPERTY. ADDITIONALLY, THE ROADWAY GRADING SHALL BE RESTORED AND REGRADED TO DRAIN POSITIVELY TO EXISTING STORMWATER OUTLET AS REQUIRED BY THE CITY INSPECTOR.
 - CONSTRUCT DEPRESSED CURBING AND DEPRESS ANY EXISTING CONCRETE/ASPHALT SIDEWALKS FOR THE NEW DRIVEWAY ENTRANCE ALONG MERIVALE ROAD FOR DEVELOPMENT OF THIS PROPERTY IN ACCORDANCE WITH CITY OF OTTAWA ENGINEERING STANDARDS, REQUIREMENTS AND DETAILS PER CITY DWG. No. S013 DATED MARCH 2006. ALL WORKS SHALL BE CARRIED OUT TO THE CITY'S SATISFACTION.
 - CONCRETE BARRIER CURB AND DEPRESSED CURB DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. No. SC1.1, MARCH 2007 AND SC6, MAY 2007). CONCRETE CURB AND CONCRETE SIDEWALK CONSTRUCTION AND REINSTATEMENT SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA AND IN ACCORDANCE WITH THE LATEST REVISED CITY ENGINEERING STANDARDS.



NO.	REVISION	DATE	BY
4	ISSUED FOR BUILDING PERMIT	12/20/23	T.L.M.
3	REVISIONS AS PER CITY'S REVIEW COMMENTS OF DECEMBER 15, 2023 AND REVISED SITE PLAN OF DECEMBER 18, 2023	12/19/23	T.L.M.
2	REVISIONS AS PER CITY'S REVIEW COMMENTS OF SEPTEMBER 18, 2023	09/20/23	T.L.M.
1	REVISIONS AS PER CITY'S COMMENTS OF AUGUST 23, 2023 AND ARCHITECT'S REVISED SITE PLAN PROVIDED ON AUGUST 28, 2023	08/12/23	T.L.M.

SCALE
0 1 2 3 5m
1:100
HORIZONTAL
VERTICAL

DESIGN T.L.M.
CHECKED T.L.M.
DRAWN BY P.M.
CHECKED T.L.M.
APPROVED T.L.M.

PROJECT
1240 CARLING AVENUE
LOT 3
REGISTERED PLAN 267570
CITY OF OTTAWA

DRAWING TITLE
PROPOSED SITE GRADING
AND SERVICING PLAN

PROJECT No. 821-157
DATE APRIL 2023
DRAWING No. G-1

T.L. MAK ENGINEERING CONSULTANTS LTD.
CONSULTING ENGINEERS

D07-12-23-0089

#19023