

- 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 COMBINED SEWER
 - EXISTING WATERMAN
 - 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 COMBINED MANHOLE
 - 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
 - T/W PROPOSED TOP OF RETAINING WALL ELEVATION
 - B/W PROPOSED BOTTOM OF RETAINING WALL ELEVATION
 - 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

NOTES

- EXISTING SERVICES AND UTILITIES SHOWN ON THIS DRAWING WERE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT ARE INCOMPLETE. CONTRACTOR IS REQUIRED TO CHECK IN THE FIELD FOR LOCATION AND ELEVATION OF PIPES, AND CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
- CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY. REFER ALSO TO THE SITE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY PATERSON GROUP ENTITLED "GEOTECHNICAL INVESTIGATION - REPORT NO. PG5905-1 (DATED AUGUST 23, 2021)".
- SITING DETAILS FOR THE PROPOSED BUILDING WERE TAKEN FROM THE SITE PLAN (DWG. NO. A1 REV. #10 DATED DECEMBER 2, 2021) RECEIVED ON MARCH 16, 2022 AND PREPARED BY HAMEL DESIGN AND PLANNING, THE MAIN FLOOR, TOP OF GROUND FLOOR, BASEMENT SLAB, TOP OF FOOTING ELEVATION, AND UNDERSIDE OF CONCRETE FOOTING ELEVATIONS WERE PROVIDED BY HAMEL DESIGN AND PLANNING. SEE ARCHITECTURAL DRAWING ENTITLED EAST ELEVATION PLAN (PROJ. #2018-22) DWG. NO. AB REV. NO. 10 DATED DECEMBER 2, 2021 RECEIVED ON MARCH 16, 2022 FOR DETAILS.
- EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING SITE BENCHMARK, ROAD ELEVATIONS, SEWER INVERT ELEVATIONS, AND THE TOPOGRAPHICAL INFORMATION OF THE LOT WERE PROVIDED BY ANNIS O'SULLIVAN VOLLEBECK LTD. AS SPECIFIED ON THEIR TOPOGRAPHICAL SURVEY PLAN JOB NO. 9988-08 DATED ON JANUARY 13, 2009 AND REVISED ON MARCH 23, 2010. T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HERE, FOR INFORMATION REGARDING THE EXISTING BELL STREET WATERMAN AND COMBINED SEWER, THE CONTRACTOR SHALL REFER TO THE CITY OF OTTAWA PLAN AND PROFILE ENTITLED BELL STREET SOUTH PLAN NO. 2907 SHEET 4 OF 18 (CONTRACT NO. 96C2907) FOR DETAILS.
- ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA. ALL GRADES SHOWN ARE METRIC AND GEODETIC. EXISTING AND PROPOSED GRADES SHOWN ON THIS DRAWING ARE BASED ON A BENCHMARK REFERENCED FROM ANNIS O'SULLIVAN VOLLEBECK LTD. TOPOGRAPHICAL SURVEY (JOB NO. 9988-08) FOR DETAILS.
- PROPOSED SURFACE GRADE SHALL BE 7% MAXIMUM, WHERE THE GROUND DROPS OFF STEEPLY, TERRACE THE GROUND AT 3M MAXIMUM TO 1V IF NECESSARY TO MEET CITY OF OTTAWA'S GRADING REQUIREMENTS AND THE OWNER'S CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM FOUNDATIONS.
- THE PROPOSED 50mm DIAMETER WATER SERVICE SHALL BE COPPER TYPE "K".
- ALL WATERWORKS SHALL BE CONSTRUCTED TO CITY OF OTTAWA'S LATEST REVISED STANDARDS ON APPROVAL BY THE CITY.
- CONSTRUCT ALL SANITARY AND STORM PIPES IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD OTHERWISE AS PER OPS AND S&S SPECIFICATIONS.
- ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND AS PER CITY'S REQUIREMENTS; ALL WATERMAN SERVICE AND FITTINGS SHALL CONFORM TO APPROVED AMM AND/OR CSA STANDARDS. WATER SERVICE AND WATERMAN TRENCH DETAILS AS PER CITY W17 DETAIL.
- THE CONTRACTOR SHALL CONSTRUCT AND ENSURE THAT THE 50mm DIAMETER WATER SERVICE ON THIS LOT SHALL HAVE A MINIMUM OF 2.4m OF GROUND COVER. THE WATER SERVICE PIPE MATERIAL SHALL BE COPPER TYPE "K" AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF OTTAWA STANDARDS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS TO COMPLETE THE WORKS.
- EXISTING LOCATION OF BELL STREET SOUTH WATERMAN AND COMBINED SEWER SHOWN ON THIS PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION IN THE FIELD TO OBTAIN ITS EXACT LOCATION (SEE NOTE #26 ALSO).
- WATER SERVICE CONNECTION ON BELL STREET SOUTH SHALL BE DONE BY THE CITY. ALL CONNECTIONS AND OTHER RELATED WORKS TO WATERMAN SHALL BE MADE BY THE CITY AND EXCAVATION, BACKFILLING, AND REINSTATEMENTS BY CONTRACTOR. ALL WATERWORKS SHALL BE CARRIED OUT TO THE CITY'S SATISFACTION.
- IF WATER SERVICE IS LESS THAN 2.4m FROM SEWER, MANHOLE, OR CATCH BASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH 50mm RIGID INSULATION (AS PER CITY DETAIL W22 AND W23).
- PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
- PROPOSED SANITARY AND STORM SERVICE LATERALS (150mm DIAMETER) SHALL BE PVC-DR-28 OR EQUIVALENT AND CONNECTION TO THE EXISTING SEWER SHALL BE AS PER CITY OF OTTAWA'S LATEST REVISED ENGINEERING STANDARDS.
- SANITARY AND STORM SEWER SERVICE BENDS AND RISERS USED MUST BE SUBJECT TO THE CITY'S SATISFACTION.
- PIPE MATERIAL AND INSTALLATION METHODS FOR THE TRENCHING AND OUTLET PIPING AT THE SLOPED AREAS WILL BE SUBJECT TO THE SOILS ENGINEER'S REVIEW AND APPROVAL PRIOR TO CONSTRUCTION DUE TO GEOTECHNICAL CONSIDERATIONS OF THIS SITE.
- BEDDING FOR SEWERS AND WATERMAN INSTALLATION SHALL BE TYPE "B" COMPACTED TO 95% DRY PROCTOR DENSITY. FOR THE SEWER LATERALS USE 300mm THICK APPROVED GRANULAR COVER MATERIAL COMPACT TO 95% DRY PROCTOR DENSITY. TRENCH BACKFILL WITH NATIVE MATERIAL AND COMPACT TO 95% DRY PROCTOR DENSITY MINIMUM. NO FRESH MATERIALS ARE TO BE USED AS BACKFILL IN THE SERVING TRENCHES.
- INSULATE THE BUILDING SERVICE LATERALS AND WATER SERVICE WITHIN THE ROAD RIGHT OF WAY WHERE GROUND COVER IS LESS THAN 2.4m FOR WATER SERVICE AND SEWER LATERALS OF LESS THAN 2.0m FOR SERVICE LATERALS AND WATER SERVICE FROM ANY EXISTING CATCH BASINS AND/OR MANHOLES.
- WATER SERVICE, STORM SEWER LATERALS, AND SANITARY SEWER LATERAL ARE THE RESPONSIBILITY OF THE OWNER'S PLUMBER FROM THE FOUNDATION WALL INTO THE FOUNDATION WALL TO THE LATEST REVISION OF THE ONTARIO PLUMBING CODE.
- WHERE FROST COVER FROM UNDERSIDE OF BUILDING CONCRETE FOOTING TO PROPOSED FINISHED GROUND ELEVATION IS LESS THAN 1.5m, IT IS RECOMMENDED THAT INSULATION (50mm THICK) MINIMUM BE INSTALLED AT FOOTING AND FOUNDATION OF THE BUILDING TO PROVIDE SUFFICIENT FROST COVER FOR FOUNDATION STRUCTURES. INSULATION REQUIREMENTS SHALL BE REVIEWED AND RECOMMENDED BY OWNER'S SOILS ENGINEER. EXACT INSULATION REQUIREMENTS SHALL BE CONFIRMED BY ARCHITECT AND OWNER'S SITE SOILS ENGINEER TO CONTRACTOR BEFORE INSTALLATION.
- IT IS REQUIRED THAT A CITY APPROVED BACKWATER VALVE BE INSTALLED AT THE NEW 150mm DIA. (FOUNDATION DRAIN) STORM LATERAL SERVICE AND A FULL PORT BACKWATER VALVE BE INSTALLED FOR THE NEW SANITARY LATERAL SERVICE AS PER CITY DETAIL S14, S14.1, AND S14.2.
- THE OWNER'S HOUSE DESIGNER AND PLUMBER SHALL CHECK THE CURRENT ONTARIO PLUMBING CODE FOR REQUIREMENTS FOR A BACKWATER VALVE IN THE BUILDING AND AS PER THE MECHANICAL ENGINEER'S DRAWINGS AT THE SANITARY AND STORM SEWER SERVICE LINES.
- DETAILS OF THE EXISTING SEWERS AND WATERMAN SHOWN ON BELL STREET SOUTH FROM THE CITY MAY NOT BE CURRENT. THE CONTRACTOR SHALL REFER TO THE CITY'S SEWER AND WATERMAN DRAWINGS FOR DETAILS BEFORE DIGGING. THE CONTRACTOR IS ADVISED TO EXCAVATE AND INVESTIGATE THE SEWER ELEVATIONS IN FRONT OF THIS PROPERTY FIRST TO DETERMINE THAT 1% (MINIMUM) PIPE SLOPE OF THE SANITARY AND STORM LATERALS CAN BE ACHIEVED USING THE PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF 1% (MINIMUM) SLOPE IS NOT POSSIBLE FROM THE BUILDING TO THE SEWER, THEN THE CONTRACTOR SHOULD INFORM THE OWNER'S PROJECT MANAGER AND THE CITY ACCORDINGLY FOR FURTHER DIRECTION.
- FOR DEVELOPMENT OF THIS SITE, THE CONTRACTOR MUST FIRST CONTACT THE UNDERGROUND SANITARY, STORM, AND WATER SERVICES FROM THE SEWER AND WATERMAN TO THE PROPERTY, PRIOR TO BUILDING CONCRETE FOUNDATION POURING. THE CONTRACTOR SHALL VERIFY SEWER DEPTHS TO ENSURE THAT THE SEWER LATERALS CAN ACHIEVE A SLOPE OF 1% (MINIMUM) AND STILL BE BELOW PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF THIS IS FOUND NOT POSSIBLE, THE CONTRACTOR SHALL CONTACT THE OWNER AND HIS OR HER PROJECT MANAGER TO REPORT THE FINDING IN ORDER TO ADJUST BUILDING FOUNDATION GRADES PRIOR TO CONCRETE POURING.
- EXISTING HOUSE LATERALS AND WATER SERVICE PIPING SHALL BE REMOVED. WATER SERVICE SHALL BE BLANKED AT THE MAIN AS PER CITY OF OTTAWA'S REQUIREMENTS. SEWER LATERAL(S) SHALL BE CAPPED AND/OR PLUGGED AT FRONT PROPERTY LINE. ALL WATER AND SEWER LATERAL REMOVAL WORKS SHALL BE CARRIED OUT TO CITY OF OTTAWA'S SATISFACTION.
- ALL EXISTING BUILDING WATER SERVICES PRESENTLY SERVING THIS PROPERTY SHALL BE ABANDONED AND TO BE BLANKED AT THE WATERMAN TO THE SATISFACTION OF THE CITY WATER OPERATIONS DEPARTMENT'S STANDARDS AND REQUIREMENTS.
- CONCRETE CURB AND SIDEWALK DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. NO. SC1.1, SC1.4 DATED MARCH 2007 AND SC8 DATED MARCH 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. THE SECTIONS OF EXISTING DEPRESSED CONCRETE SIDEWALK FOR THE OLD DRIVEWAYS SHALL BE REMOVED AND REPLACED BY RAISED CURBS AND SIDEWALK. THE CURB AND SIDEWALK ARE TO BE RAISED ARE TO BE RAISED BEYOND THE LIMITS SHOWN ON THE PLAN IN ORDER TO TIE INTO THE EXISTING CURB AND SIDEWALK. INTERLOCKING PAVING STONE IS TO BE INSTALLED BETWEEN THE CURB AND SIDEWALK TO MATCH EXISTING CONDITIONS.
- THE DEVELOPER/CONTRACTOR SHALL CONTACT ALL THE UTILITY COMPANIES REGARDING LOCATION OF THE EXISTING OVERHEAD UTILITY WIRES FOR RELOCATION AND POSSIBLE CONFLICT CLEARANCE PRIOR TO CONSTRUCTION.
- STORMWATER MANAGEMENT NOTES
 - REFER TO PROPOSED ROOFTOP STORMWATER MANAGEMENT PLAN (DWG. NO. 821-102 SWM-1) FOR ROOFTOP 5 YEAR AND 100 YEAR HPL.
 - SEE STORM DRAINAGE REPORT NO. R-821-102 DATED FEBRUARY 2022 ALSO FOR DETAILS.
- CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.
- SEDIMENT AND EROSION CONTROL MEASURES MAYBE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR CONSERVATION AUTHORITY. ALSO REFER TO DWG. #821-102 ESC-1 ENTITLED EROSION AND SEDIMENT CONTROL PLAN FOR DETAILS.
- NO EXCESS DRAINAGE, DURING AND AFTER CONSTRUCTION, WILL BE DIRECTED TOWARDS THE NEIGHBOURS' PROPERTIES ALONG BOTH SIDE YARDS.

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 (NHGW) elevation must be verified prior to/at time of excavation (per City of Ottawa Building Code requirements). If it is determined that the proposed footing elevation(s) will be below the NHGW 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 NHGW elevation or demonstrate the use of appropriate foundation water proofing 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 impact on footings and/or basement drainage issues (at time of excavation or future) due to this design.

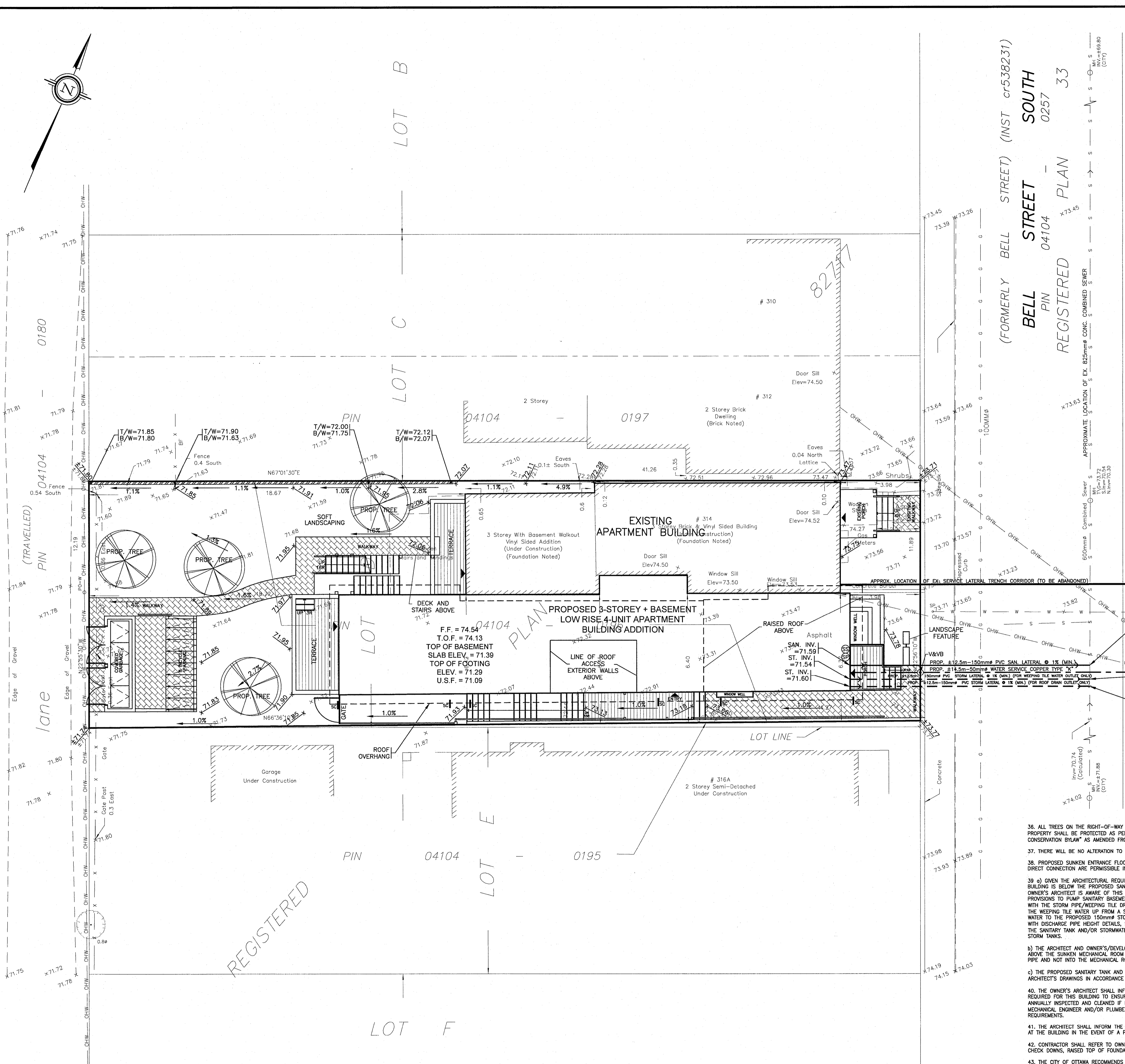
CONNECT NEW SANITARY LATERAL TO EXISTING COMBINED SEWER AT INV.=+71.06. EXISTING COMBINED SEWER SPRINGLINE ELEVATION=+70.91. ALL WORKS SHALL BE CARRIED OUT TO CITY OF OTTAWA'S SATISFACTION AND AS PER CITY DETAIL S11.2

WATER SERVICE CONNECTION BY CITY OF OTTAWA

CONNECT NEW STORM LATERAL TO EXISTING COMBINED SEWER AT INV.=+71.07. EXISTING COMBINED SEWER SPRINGLINE ELEVATION=+70.92. ALL WORKS SHALL BE CARRIED OUT TO CITY OF OTTAWA'S SATISFACTION AND AS PER CITY DETAIL S11.2

CONNECT NEW STORM LATERAL TO EXISTING COMBINED SEWER AT INV.=+71.08. EXISTING COMBINED SEWER SPRINGLINE ELEVATION=+70.93. ALL WORKS SHALL BE CARRIED OUT TO CITY OF OTTAWA'S SATISFACTION AND AS PER CITY DETAIL S11.2

JOB BENCHMARK TOP OF SPINDLE ELEV.=75.00



NO.	REVISION	DATE	BY
2	REVISIONS AS PER LATEST REVISED SITE PLAN OF MARCH 16, 2022	03/17/22	TLM
1	ISSUED FOR HOUSE DESIGNER'S REVIEW PER UPDATED SITE PLAN OF FEBRUARY 3, 2022	03/16/22	TLM

PROFESSIONAL ENGINEER
T.L. MAK
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

DATE: 03/17/22

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.

314 BELL STREET PART OF LOT D REGISTERED PLAN 82717 CITY OF OTTAWA

PROPOSED SITE GRADING PLAN FOR BUILDING ADDITION

T.L. MAK ENGINEERING CONSULTANTS LTD. CONSULTING ENGINEERS

PROJECT No. 821-102 DATE AUGUST 2021 DRAWING No. G-1