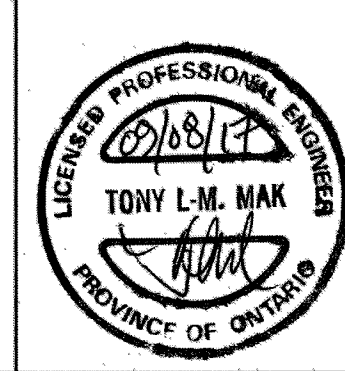
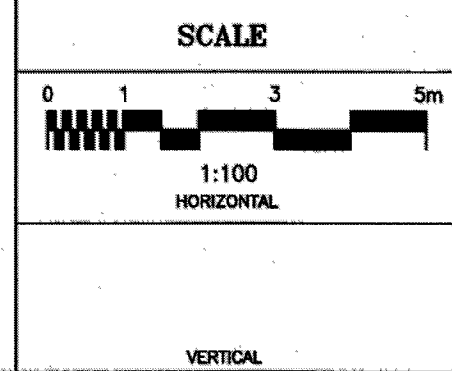


- LEGEND**
- PROPOSED ELEVATION
  - EXISTING ELEVATION
  - F.F. PROPOSED FINISHED FLOOR ELEVATION
  - T.O.F. PROPOSED TOP OF CONCRETE FOUNDATION ELEVATION
  - U.S.F. PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION
  - D/W PROPOSED DRIVEWAY
  - EXISTING SANITARY SEWER
  - EXISTING WATERMAIN
  - PROPOSED 125mm PVC SANITARY LATERAL SERVICE @ 1% (MIN.) SLOPE
  - PROPOSED 100mm PVC STORM LATERAL SERVICE @ 1% (MIN.) SLOPE
  - PROPOSED 25mm WATER SERVICE (COPPER TYPE "K")
  - EXISTING SANITARY MANHOLE
  - EXISTING STORM MANHOLE
  - EXISTING UTILITY POLE
  - EXISTING OVERHEAD WIRES
  - PROPOSED V&VB
  - PROPOSED GENERAL DIRECTION OF LOT GRADING AND SURFACE WATER FLOW
  - PROPOSED DEPRESSED CURB
  - PROPOSED ROOF DOWNSPOUT LOCATION
  - PROPOSED PERMEABLE PAVEMENT
  - PROPOSED RIGID STYROFOAM INSULATION 50mm THICK (MIN.) AND AS PER OWNER'S SOILS ENGINEER'S RECOMMENDATIONS.

- NOTES:**
- EXISTING SERVICES AND UTILITIES SHOWN ON THIS DRAWING WERE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT ARE NOT COMPLETE. CONTRACTOR IS REQUIRED TO CHECK IN THE FIELD FOR LOCATION AND ELEVATION OF PIPES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
  - CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY. PRIOR TO POURING OF CONCRETE FOOTING AND FOUNDATION, THE OWNER AND/OR CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SUBGRADE ON THIS LOT IS SUFFICIENT TO SUPPORT THE PROPOSED RESIDENTIAL BUILDINGS.
  - SITING DETAILS FOR THE PROPOSED DWELLINGS WERE PROVIDED BY MIROCA DESIGN INC. AS DETAILED ON THEIR SITE PLAN RECEIVED ON JUNE 16, 2017. BUILDING ELEVATIONS SHOWN (i.e. F.F., T.O.F. AND U.S.F.) WERE PROVIDED BY MIROCA DESIGN INC. AND RECEIVED ON JUNE 20, 2017.
  - EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING SITE BENCHMARK, ROAD ELEVATIONS, SEWER LOCATIONS, AND TOPOGRAPHICAL INFORMATION OF THE LOT WERE PROVIDED BY ANNIS O'SULLIVAN VOLLEBEK LIMITED AS SHOWN ON THEIR TOPOGRAPHICAL SURVEY PLAN (JOB NO. 16491-16 DECEMBER 23, 2016). T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HERE, FOR INFORMATION REGARDING STORM AND SANITARY INVERT ELEVATION AT MANHOLES AND WATERMAIN LOCATION AND SIZE, THE CONTRACTOR SHALL REFER TO CITY "AS-BUILT" DRAWING (PLAN No. 3378 SHEET 3 OF 8) ENTITLED TWEEDSMUIR AVENUE FROM STA. 220 TO STA. 370 FOR DETAILS.
  - ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
  - ALL GRADES SHOWN ARE GEODETIC AND METRIC.
  - ALL WATERWORKS SHALL BE CONSTRUCTED TO CITY'S LATEST REVISED STANDARDS ON APPROVAL BY THE CITY. THE CITY OF OTTAWA REQUIRES 0.3m (MIN.) CLEARANCE BETWEEN THE EXISTING WATERMAIN AND THE PROPOSED SANITARY LATERAL.
  - CONSTRUCT ALL SANITARY PIPES IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD, OTHERWISE AS PER OPSD AND OPSD SPECIFICATIONS.
  - ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND AS PER CITY'S REQUIREMENTS.
  - THE CONTRACTOR SHALL CONSTRUCT AND ENSURE THAT THE 25mm WATER SERVICE ON THIS LOT SHALL HAVE A MINIMUM OF 2.4m OF GROUND COVER. OTHERWISE INSULATE WITH RIGID S/M STYROFOAM IN ACCORDANCE WITH THE SITE SOILS ENGINEER'S REQUIREMENTS. THE WATER SERVICE INSTALLATION SHALL BE COPPER TYPE "K" AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF OTTAWA STANDARDS.
  - THIS LOT GRADING DESIGN PLAN WAS PREPARED FOR THE OWNERS FOR BUILDING PERMIT ISSUANCE. ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND PER CITY'S REQUIREMENTS. THIS GRADING PLAN SHALL NOT BE USED FOR BUILDING CONSTRUCTION LAYOUT PURPOSES. REFER TO THE HOUSE DESIGNER'S APPROVED SITE PLAN FOR EXACT DIMENSIONS REGARDING BUILDING LOCATION LAYOUT.
  - WHERE ROOF EAVESDROUGHS ARE INSTALLED, ROOF DOWNSPOUTS SHALL BE DIRECTED TO OUTLET DISCHARGE TO THE FRONT YARD ONLY, WHERE POSSIBLE, AND NOT TO THE REAR OR SIDE YARDS.
  - ALL WATERMAIN SERVICE AND FITTINGS SHALL CONFORM TO APPROVED AWWA AND/OR CSA STANDARDS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS TO COMPLETE THE WORKS.
  - EXISTING LOCATION OF TWEEDSMUIR AVENUE WATERMAIN, STORM SEWER, AND SANITARY SEWER SHOWN ON THIS PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY IN THE FIELD TO CONFIRM EXACT LOCATIONS PRIOR TO EXCAVATION (SEE NOTE 24).
  - PROPOSED SURFACE GRADE SHALL BE 7% (MAX.) WHERE THE GROUND DROPS OFF STEEPLY. TERRACE THE GROUND AT 3H (MAX.) TO 1V AS NECESSARY TO MEET THE CITY'S GRADING REQUIREMENTS.
  - WATER SERVICE CONNECTION ON TWEEDSMUIR AVENUE SHALL BE DONE BY THE CITY. ALL CONNECTIONS AND OTHER RELATED WORKS TO WATERMAIN 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 1.0m FROM SEWER, MANHOLE, OR CATCH BASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH S/M RIGID INSULATION (AS PER CITY DETAIL W23).
  - PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
  - WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY W17 DETAIL.
  - PROPOSED SANITARY AND STORM SERVICE LATERALS SHALL BE PVC DR-28 OR EQUIVALENT.
  - SANITARY AND STORM SERVICE BENDS AND RISERS USED MUST BE CONSTRUCTED TO THE CITY'S SATISFACTION.
  - BEDDING FOR SEWERS AND WATERMAIN 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 FROZEN MATERIALS ARE TO BE USED AS BACKFILL IN THE SERVING TRENCHES.
  - DETAILS OF THE EXISTING SEWERS AND WATERMAIN SHOWN ON TWEEDSMUIR AVENUE FROM THE CITY MAY NOT BE CURRENT. THE CONTRACTOR SHALL REFER TO THE CITY'S SEWER AND WATERMAIN DRAWINGS FOR DETAILS BEFORE DIGGING. THE CONTRACTOR IS ADVISED TO EXCAVATE AND INVESTIGATE THE SEWER ELEVATIONS IN FRONT OF THIS PROPERTY FIRST TO ENSURE THAT 1% (MIN.) PIPE SLOPE OF THE SANITARY AND STORM LATERALS CAN BE ACHIEVED USING THE PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF 1% (MIN.) SLOPE IS NOT POSSIBLE FROM THE HOUSE TO THE SEWER, THEN THE CONTRACTOR SHOULD INFORM THE OWNER'S PROJECT MANAGER AND THE CITY ACCORDINGLY FOR FURTHER DIRECTION.
  - FOR DEVELOPMENT OF THIS LOT, THE CONTRACTOR MUST FIRST CONSTRUCT THE UNDERGROUND SANITARY, STORM AND WATER SERVICES FROM SEWER AND WATERMAIN TO THE PROPERTY. PRIOR TO HOUSE CONSTRUCTION POURING THE FLOOR SLAB, 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 NOT POSSIBLE, THE CONTRACTOR SHALL CONTACT THE OWNER AND HIS OR HER PROJECT MANAGER TO REPORT THE FINDING IN ORDER TO ADJUST HOUSE FOUNDATION GRADES PRIOR TO CONCRETE POURING.
  - INSULATE THE HOUSE SERVICE LATERALS WITHIN THE PRIVATE PROPERTY AND ROAD RIGHT OF WAY WHERE GROUND COVER FOR FROST PROTECTION IS LESS THAN 2.4m FOR WATER SERVICE AND 2.4m FOR SANITARY AND STORM GRAVITY SEWERS. MINIMUM GROUND COVER OVER THE HOUSE SERVICE PIPES SHALL NOT BE LESS THAN 200mm. EXACT INSULATION THICKNESS SHALL BE DETERMINED BY THE CITY INSPECTOR ON SITE AND/OR OWNER'S SOILS ENGINEER. ALL INSULATION WORKS SHALL BE CARRIED OUT AS PER CITY'S CURRENT ENGINEERING STANDARDS.
  - WHERE FROST COVER FROM UNDERSIDE OF HOUSE CONCRETE FOOTING TO PROPOSED FINISHED GROUND ELEVATION IS LESS THAN 1.6m, IT IS RECOMMENDED THAT INSULATION (50mm THICK) MINIMUM BE INSTALLED AT THE BUILDING FOOTING AND FOUNDATION OF THE HOUSE TO PROVIDE SUFFICIENT FROST COVER FOR THE FOUNDATION STRUCTURE. THE INSULATION REQUIREMENTS SHALL BE REVIEWED AND RECOMMENDED BY THE OWNER'S SOILS ENGINEER. EXACT INSULATION REQUIREMENTS SHALL BE CONFIRMED BY THE OWNER'S HOUSE DESIGNER AND THE SITE SOILS ENGINEER TO THE CONTRACTOR PRIOR TO INSTALLATION.
  - IT IS RECOMMENDED THAT A BACKWATER VALVE BE INSTALLED FOR THE NEW STORM LATERAL SERVICE AND A FULL PORT BACKWATER VALVE BE INSTALLED FOR THE NEW SANITARY LATERAL SERVICE PROPOSED TO SERVICE THE DWELLING UNDER THE CURRENT REGULATION OF THE ONTARIO PLUMBING CODE AND AS PER CITY DETAILS S14, S14.1 AND S14.2.
  - EXISTING HOUSE LATERALS AND WATER SERVICE PIPING HAVE BEEN AND/OR SHALL BE ABANDONED. THE WATER SERVICE SHALL BE BLANKED AND CAPPED AT THE MAIN AS PER CITY'S REQUIREMENTS. THE SEWER LATERALS SHALL BE CAPPED AND/OR PLUGGED AT THE FRONT PROPERTY LINE. ALL WATER AND SEWER LATERAL WORKS SHALL BE CARRIED OUT TO THE CITY'S SATISFACTION.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR REINSTATEMENT OF ALL AREAS DISTURBED DURING CONSTRUCTION AND SUCH REINSTATEMENT MUST BE UNDERTAKEN IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

- UPON COMPLETION OF THE NEW SERVICE LATERALS FOR THE PROPOSED DWELLINGS AND THE NEW DRIVEWAY, THE CONTRACTOR SHALL RESTORE THE EXISTING ROADWAY BOUNDARY DRAINAGE ACROSS THIS LOT TO DRAIN POSITIVELY TO ITS EXISTING OUTLET. THE WORKS SHALL BE CARRIED OUT TO THE SATISFACTION OF THE CITY.
- AT THE TIME OF CONSTRUCTION OF DRIVEWAY FOR THE NEW HOUSES, REGRADE ROADWAY BOUNDARY TO OUTLET INTO EXISTING STORM OUTLET TO THE CITY'S SATISFACTION AND REQUIREMENTS.
- THE CONTRACTOR SHALL CONTACT ALL THE UTILITY COMPANIES REGARDING LOCATION OF THE EXISTING OVERHEAD UTILITY WIRES FOR RELOCATION AND POSSIBLE CONFLICT CLARIFICATION PRIOR TO CONSTRUCTION.
- CONSTRUCT DEPRESSED CURBING AND DEPRESS ANY EXISTING ASPHALT SIDEWALKS FOR THE NEW ENTRANCEWAY ALONG TWEEDSMUIR AVENUE FOR DEVELOPMENT OF THIS PROPERTY IN ACCORDANCE WITH CITY OF OTTAWA ENGINEERING STANDARDS AND REQUIREMENTS DWG. No. SC1.1 DATED MARCH 2007. 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 SC8 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.
- THE EXISTING CONCRETE CURB ALONG TWEEDSMUIR AVENUE 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.
- LOCATION AND ELEVATION OF EXISTING WATERMAIN, SANITARY AND STORM SEWERS SHOWN ON THIS DRAWING WERE TAKEN FROM ANNIS O'SULLIVAN VOLLEBEK LIMITED'S TOPOGRAPHICAL SURVEY PLAN. THE CONTRACTOR SHALL OBTAIN AND REVIEW THESE PLANS AND SATISFY HIMSELF OR HERSELF ALONG WITH OBTAINING LOCATES OF THESE SERVICES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE FOR PROTECTION OF THE RECEIVING STORM SEWER DURING CONSTRUCTION ACTIVITIES. THESE PRACTICES ARE REQUIRED TO ENSURE NO SEDIMENT AND/OR ASSOCIATED POLLUTANTS ARE RELEASED TO THE RECEIVING WATERCOURSE. THESE PRACTICES INCLUDE INSTALLATION OF SEDIMENT BARRIERS ON ALL CATCH BASIN AND MAINTENANCE HOLES AND A SILT FENCE BARRIER (AS PER OPSD 219.110 AND ASSOCIATED SPECIFICATIONS) ALONG THE PROPERTY LIMITS OF THE PROPOSED DEVELOPMENT AND ALL OTHER AREAS THAT SHEET DRAIN OFF SITE. MAINTENANCE HOLE SEDIMENT BARRIERS TO BE AMOCO 4555 NONWOVEN GEOTEXTILE OR APPROVED EQUIVALENT.
- THE CONTRACTOR SHALL REFER TO THE OWNER'S HOUSE DESIGNER'S FINAL PLANS PREPARED BY MIROCA DESIGN INC. FOR DETAILS OF ANY PROPOSED HOUSE FOUNDATION CHECK DOWNS PRIOR TO CONCRETE POURING.
- NO EXCESS DRAINAGE DURING AND AFTER CONSTRUCTION WILL BE DIRECTED TOWARDS THE NEIGHBOUR'S PROPERTIES.
- ALL TREES ON THE RIGHT-OF-WAY ARE TO BE MAINTAINED BEFORE AND AFTER CONSTRUCTION AND ALL TREES WITHIN THE PROPERTY SHALL BE PROTECTED AS PER THE "MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAWS" AND THE "URBAN TREES CONSERVATION BY-LAW" AS AMENDED FROM TIME TO TIME.
- THERE WILL BE NO ALTERATION TO THE EXISTING GRADE AND DRAINAGE PATTERN ON THE PROPERTY LINES.
- THE ROOF TYPE OF THE PROPOSED DWELLINGS IS FLAT.
- WHERE SERVICE LATERALS PASS UNDER THE FRONT PORCH THE CITY OF OTTAWA RECOMMENDS SLEEVING IS TO BE PROVIDED.
- THE PROPOSED PERMEABLE MATERIAL SHOWN ON THIS DRAWING SHALL BE AS PER CITY STANDARDS SC27 OR EQUIVALENT.



NO.	REVISION	DATE	BY
3	REVISIONS AS PER CITY'S REVIEW COMMENTS OF AUG. 31, 2017	08/07/17	TLM
2	REVISIONS AS PER CITY REVIEW COMMENTS OF AUG. 25, 2017	08/28/17	TLM
1	REVISIONS AS PER LATEST REVISED SITE PLAN OF 06/16/17 AND BUILDING SECTION PLANS OF 06/20/17	06/28/17	TLM

341 TWEEDSMUIR AVENUE  
LOT 16 AND PART OF LOT 17  
REGISTERED PLAN 263  
CITY OF OTTAWA

**PROPOSED LOT GRADING PLAN**

T.L. MAK ENGINEERING CONSULTANTS LTD. CONSULTING ENGINEERS	
PROJECT No.	DATE
817-1	MAY 2017
DRAWING No.	G-1