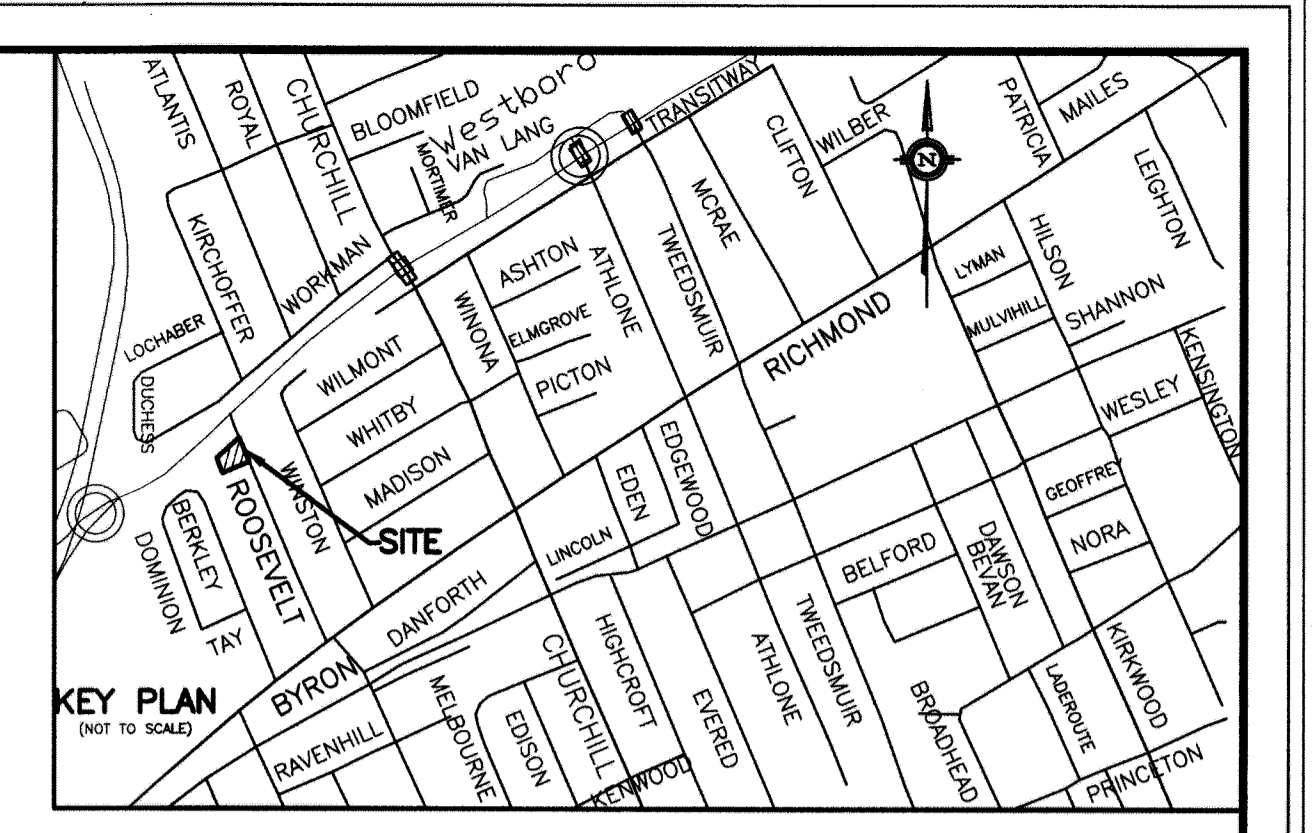


- LEGEND**
- PROPOSED ELEVATION
 - EXISTING ELEVATION
 - F.F. PROPOSED TOP OF GROUND FLOOR ELEVATION
 - T.O.F. PROPOSED TOP OF CONCRETE FOUNDATION ELEVATION
 - U.S.F. PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION
 - EXISTING SANITARY SEWER
 - EXISTING STORM SEWER
 - EXISTING WATERMAIN
 - PROPOSED 150mm PVC SANITARY LATERAL SERVICE @ 1% (MIN.) SLOPE
 - PROPOSED 125mm and 150mm PVC STORM LATERAL SERVICE / PIPE @ 1% (MIN.) SLOPE
 - PROPOSED 38mm WATER SERVICE (COPPER TYPE "K")
 - EXISTING CATCH BASIN
 - EXISTING HYDRO POLE
 - EXISTING SANITARY MANHOLE
 - EXISTING STORM MANHOLE
 - EXISTING OVERHEAD HYDRO CABLE
 - EXISTING OVERHEAD HYDRO/PHONE CABLE
 - EXISTING OVERHEAD TELEPHONE CABLE
 - PROPOSED GENERAL DIRECTION OF LOT GRADING AND SURFACE WATER FLOW
 - PROPOSED RETAINING WALL
 - PROPOSED TOP OF RETAINING WALL ELEVATION
 - PROPOSED 5 YEAR FLOOD LIMIT
 - PROPOSED 100 YEAR FLOOD LIMIT
 - PROPOSED STORM WATER MANAGEMENT/STORM WATER HOLDING TANK(S) C/A DUPLEX PUMPS (SEE MECHANICAL ENGINEER'S DRAWINGS)
 - PROPOSED VALVE AND VALVE BOX
 - PROPOSED CONTROLLED ROOF DRAIN LOCATION (FOR MECHANICAL ROOF TOP ONLY)
 - PROPOSED ROOF SCUPPER LOCATION



- NOTES:**
1. 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 CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
 2. CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY.
 3. SITING DETAILS FOR THE PROPOSED BUILDING WERE TAKEN FROM THE SITE PLAN RECEIVED ON SEPTEMBER 14, 2017 PREPARED BY ROBERTSON MARTIN ARCHITECTS INC. (DATED SEPTEMBER 14, 2017). THE GROUND FLOOR, TOP OF FOUNDATION, LOWER LEVEL SLAB AND UNDERSIDE OF CONCRETE FOOTING ELEVATIONS WERE REFERENCED FROM ROBERTSON MARTIN ARCHITECTS INC.'S EAST ELEVATION PLAN DATED AUGUST 21, 2017, AS WELL AS THE BICYCLE STORAGE ROOM FLOOR ELEVATION AND U.S.F. WERE REFERENCED FROM THE SAME ARCHITECTURAL DRAWING.
 4. EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING SITE BENCHMARK, ROAD ELEVATIONS, SEWER INVERT ELEVATIONS AND TOPOGRAPHICAL INFORMATION OF THE LOT SHOWN WERE PROVIDED BY J.D. BARNES LTD. AS SHOWN ON THEIR TOPOGRAPHICAL SURVEY PLAN (REFERENCE No. 17-10-060-00) RECEIVED ON AUGUST 2, 2017. T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HERE.
 5. FOR INFORMATION REGARDING THE EXISTING ROOSEVELT AVENUE WATERMAIN, STORM AND SANITARY SEWERS AND SERVICES, THE CONTRACTOR SHALL REFER TO THE CITY OF OTTAWA "AS-BUILT" PLAN AND PROFILE PLAN ENTITLED "STORM SEWER CHANGE 0+175 TO CHANGE 3+50" PLAN No. 2179 SHEET 4 OF 11. FOR DETAILS OF EXISTING WATERMAIN, STORM AND SANITARY SEWERS INCLUDING THE SUBDIVISION WATERMAIN (1500mm X 1500mm) AND 1200mm DIAMETER WATERMAIN LOCATED ON THE SUBDIVISION LANEWAY DESCRIBED AS (LANE PER REGISTERED PLAN 114) AND TRANSITWAY LANES NORTH OF THE SAID PROPERTY, REFER TO CITY OF OTTAWA "AS-BUILT" PLAN AND PROFILE DRAWING ENTITLED "STORM SEWER BENCHMARK TO ROOSEVELT 0+125 TO 0+200" PLAN No. 2179 SHEET 3 OF 11.
 6. ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
 7. ALL GRADES SHOWN ARE METRIC. EXISTING AND PROPOSED GRADES SHOWN ON THIS DRAWING ARE BASED ON A BENCHMARK PROVIDED BY J.D. BARNES LTD. AS SHOWN ON THEIR TOPOGRAPHICAL SURVEY PLAN.
 8. ALL WATERWORKS SHALL BE CONSTRUCTED TO CITY OF OTTAWA'S LATEST REVISED STANDARDS APPROVED BY THE CITY. ALL WATERMAIN SERVICE AND FITTINGS SHALL CONFORM TO APPROVED ANNA AND/OR CSA STANDARDS.
 9. CONSTRUCT ALL SANITARY AND STORM PIPES IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD, OTHERWISE AS PER OISS AND OISS SPECIFICATIONS.
 10. ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND AS PER CITY'S REQUIREMENTS.
 11. THE CONTRACTOR SHALL CONSTRUCT AND ENSURE THAT THE 38mm 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.
 12. IF REQUIRED, THE OWNER AND/OR HIS CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES REGARDING RELOCATION REQUIREMENTS FOR THE EXISTING OVERHEAD UTILITY POLE.
 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS TO COMPLETE THE WORKS.
 14. EXISTING LOCATION OF WATERMANS, STORM SEWERS AND SANITARY SEWERS ALONG ROOSEVELT AVENUE AND THE SEWER LATERALS SHOWN ON THIS PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY IN THE FIELD TO CONFIRM EXACT LOCATIONS PRIOR TO EXCAVATION (SEE NOTE 23).
 15. 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.
 16. WATER SERVICE CONNECTION ON ROOSEVELT 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.
 17. IF WATER SERVICE IS LESS THAN 2.4m FROM SEWER, MANHOLE OR CATCH BASIN, CONTRACTOR IS RESPONSIBLE TO INSTALL 18" DIA. 5/8" RIGID INSULATION (AS PER CITY DETAIL W23).
 18. PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
 19. WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY W17 DETAIL.
 20. PROPOSED SANITARY AND STORM SEWER LATERALS SHALL BE PVC DR-28 OR EQUIVALENT AND CONFORM TO THE EXISTING SEWER SHALL BE AS PER CITY OF OTTAWA LATEST REVISED ENGINEERING STANDARDS AND SPECIFICATIONS. THE WORKS SHALL BE CARRIED OUT TO THE SATISFACTION OF THE CITY OF OTTAWA.
 21. SANITARY AND STORM SEWER SERVICE BENDS AND RISERS USED MUST BE CONSTRUCTED TO THE CITY'S SATISFACTION.
 22. BEDDING FOR SEWERS AND WATERMAIN INSTALLATION SHALL BE TYPE "B" COMPACTED TO 95% DRY PROCTOR DENSITY. TRENCH BACKFILL TO BE NATIVE MATERIAL AND COMPACT TO 95% DRY PROCTOR DENSITY MINIMUM. NO FROZEN MATERIALS ARE TO BE USED AS BACKFILL IN THE SEWERING TRENCHES.
 23. DETAILS OF THE EXISTING SEWERS AND WATERMAIN SHOWN ON ROOSEVELT AVENUE, THE LANEWAY AND TRANSITWAY LANES NORTH OF THIS PROPERTY 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 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 HOUSE FOUNDATION GRADES PRIOR TO CONCRETE POURING.
 24. FOR DEVELOPMENT OF THIS LOT, THE CONTRACTOR MUST FIRST CONSTRUCT THE UNDERGROUND SANITARY, STORM AND WATER SERVICES FROM THE SEWER AND WATERMAIN TO THE 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 AND HIS OR HER PROJECT MANAGER TO REPORT THE FINDING IN ORDER TO ADJUST HOUSE FOUNDATION GRADES PRIOR TO CONCRETE POURING.
 25. INSULATE THE BUILDING SEWER LATERALS AND WATER SERVICE WITHIN THE ROAD RIGHT OF WAY WHERE GROUND COVER IS LESS THAN 2.4m FOR WATER SERVICE AND SEWER LATERALS OR LESS THAN 2.4m FOR SERVICE LATERALS AND WATER SERVICE FROM ANY EXISTING CATCH BASINS AND/OR MANHOLES.
 26. WHERE FROST COVER FROM UNDERSIDE OF BUILDING CONCRETE FOOTING TO PROPOSED FINISHED GROUND ELEVATION IS LESS THAN 1.5m, IT IS RECOMMENDED THAT INSULATION (75mm THICK) MINIMUM BE INSTALLED AT THE BUILDING FOOTING AND FOUNDATION TO PROVIDE SUFFICIENT FROST COVER FOR THE FOUNDATION STRUCTURES. THE FOOTINGS SHALL BE REINFORCED FOR INSULATION BY THE OWNER'S SOILS ENGINEER. EXACT INSULATION REQUIREMENTS SHALL BE AS PER ARCHITECT'S INSULATION DETAILS AS SHOWN ON THEIR ARCHITECTURAL DRAWINGS AND CONFIRMED BY THE OWNER'S SITE SOILS ENGINEER.
 27. IT IS RECOMMENDED THAT A FULL PORT BACKWATER VALVE BE INSTALLED FOR THE SANITARY SERVICE LATERAL AND A BACKWATER VALVE FOR THE STORM SERVICE LATERAL. PROPOSED TO SERVICE THE NEW BUILDING UNDER THE CURRENT CITY OF OTTAWA PLUMBING CODE AND AS PER CITY DETAILS S14, S14.1 AND S14.2. THE OWNER'S ARCHITECT 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.
 28. STORMWATER MANAGEMENT NOTES - MECHANICAL ROOM ROOFTOP ONLY
 - ROOF DRAIN SHALL BE SIZED FOR A RELEASE RATE OF 10 US GAL/MIN. OR 0.63 L/S. THE OWNER'S MECHANICAL ENGINEER SHALL SPECIFY THE REQUIRED ROOF DRAIN TYPE AND MODEL No. AND PROVIDE THE NECESSARY INFORMATION TO THE CITY OF OTTAWA FOR THEIR RECORDS TO ENSURE PROPER RELEASE RATE FOR STORMWATER MANAGEMENT COMPLIANCE.
 - ROOF PITCH IS ASSUMED TO HAVE 3% (MIN.) SLOPE.
 - ROOF SCUPPERS ARE RECOMMENDED TO BE INSTALLED 0mm ABOVE ELEVATION OF ROOFTOP ELEVATION FOR EMERGENCY OVERFLOW PURPOSES AT MECHANICAL ROOFTOP, AMENITY ROOFTOP AND PERIMETER ROOFTOP. - SEE STORM DRAINAGE REPORT No. 817-16 DATED SEPTEMBER 2017 FOR DETAILS.
 29. WATER SERVICE, STORM SEWER LATERAL AND SANITARY SEWER LATERAL ARE THE RESPONSIBILITY OF THE OWNER'S PLUMBER FROM 1m OUTSIDE THE FOUNDATION WALL INTO THE PROPOSED BUILDING UNDER THE LATEST REVISION OF THE ONTARIO PLUMBING CODE.
 30. PROPOSED CONTROLLED ROOF DRAIN AND SCUPPER LOCATIONS SHOWN ON THIS PLAN SHALL BE REVIEWED BY THE OWNER AND OWNER'S ARCHITECT FOR APPROVAL. STORMWATER FROM CONTROLLED ROOF DRAIN No. 1 SHALL OUTLET AND DISCHARGE DIRECTLY INTO THE 150mm DIAMETER PVC STORM LATERAL AND NOT INTO THE DESIGNATED 125mm DIAMETER PVC STORM LATERAL, WHICH IS FOR WEEDING TILE DRAINAGE ONLY.

31. THE OWNER'S ARCHITECT AND STRUCTURAL ENGINEER SHALL ENSURE THAT THE ADDITIONAL STORMWATER STORAGE VOLUME FROM STORMWATER MANAGEMENT MEASURES ARE ACCOUNTED FOR IN THE STRUCTURAL DESIGN OF ALL ROOF AREAS ESPECIALLY THE MECHANICAL ROOFTOP AND ANY OF THE SUPPORTING STRUCTURES THAT MAY BE AFFECTED BY THE STORED WATER.
32. IT IS RECOMMENDED THAT THE OWNER'S ARCHITECT AND MECHANICAL ENGINEER MAKE PROVISIONS FOR A SEPARATE HOLDING TANK OR OTHER EQUIVALENT MEASURES ACCEPTABLE TO THE OWNERS IN CASE OF OVERFLOW CONDITIONS FROM STORMWATER FLOW DUE TO BACKWATER VALVE REQUIREMENTS FROM THE CITY OF OTTAWA BECAUSE OF CONNECTIONS TO THE EXISTING 450mm STORM SEWER.
33. ROOF DRAINS FROM THE ROOF AMENITY AREAS AND PERIMETER ROOF AREAS SHALL OUTLET INTO THE DESIGNATED INTERNAL BUILDING HOLDING TANKS. STORMWATER FROM THE BUILDING TANK(S) SHALL BE PUMPED AND OUTLETED INTO ITS DESIGNATED 150mm DIAMETER PVC STORM LATERAL AS SHOWN ON THIS DRAWING. BUILDING WEEDING TILE WATER SHALL DRAIN AND OUTLET BY GRAVITY FLOW INTO ITS OWN DESIGNATED 125mm DIAMETER PVC STORM LATERAL AS INDICATED ON THIS DRAWING AND OUTLET INTO THE 450mm DIAMETER STORM SEWER.
34. GIVEN THE ARCHITECTURAL AND MECHANICAL ENGINEERS' REQUIREMENTS FOR THE PROPOSED BUILDING, THE UNDERSIDE OF CONCRETE FOOTING IS BELOW THE PROPOSED 150mm STORM PIPE INVERT THAT OUTLETS TO THE EX. STORM SEWER. THE OWNER'S ARCHITECT IS AWARE OF THIS CONSTRAINT. THE DEVELOPER AND HIS ARCHITECT WILL MAKE INTERNAL HOUSE PUMPING PROVISIONS TO PUMP THE HOLDING TANK(S). THE ARCHITECT WILL MAKE PROVISIONS TO PUMP THE CISTERN WATER UP FROM A SUMP AND/OR TANK COMPLETE WITH PUMPING SYSTEM TO THE 150mm GRAVITY STORM LATERAL. SEE LATEST REVISED ARCHITECTURAL PLANS FOR OUTLET LOCATION, DISCHARGE PIPE, HEIGHT DETAILS, TANK SIZE AND PUMPING SYSTEM FOR THIS BUILDING. IT IS RECOMMENDED THAT THE STORMWATER HOLDING TANK BE OVERSIZED WITH A DUPLEX PUMPING SYSTEM. ROOF STORMWATER FROM THE CONTROLLED ROOF DRAINS SHALL OUTLET DIRECTLY TO THE PROPOSED 150mm PVC STORM PIPE INTO THE STORMWATER HOLDING TANKS.
35. THE OWNER'S ARCHITECT SHALL INFORM THE OWNERS THAT AN ONGOING YEAR-ROUND MAINTENANCE PROGRAM IS REQUIRED FOR THIS BUILDING TO ENSURE THAT THE HOLDING TANKS IN PARTICULAR SHALL BE ANNUALLY INSPECTED AND CLEANED IF NECESSARY. ALL PUMPS USED IN THIS BUILDING ARE TO BE DETERMINED BY THE OWNER'S MECHANICAL ENGINEER AND/OR PLUMBER BASED ON THE SPECIFIC USAGE UNDER THE PRESENT PLUMBING CODE AND CITY REQUIREMENTS.
36. THE ARCHITECT SHALL INFORM THE OWNERS TO HAVE AVAILABLE AT ALL TIMES A BACKUP GENERATOR ON STANDBY AT THE BUILDING IN THE EVENT OF A POWER BLACKOUT OR OTHER EMERGENCY.
37. ALL EXISTING HOUSE SEWER LATERALS SERVICING THIS PROPERTY SHALL BE ABANDONED AND TO BE CAPPED AT THE WATERMAIN TO THE SATISFACTION OF THE CITY SEWER OPERATIONS DEPARTMENT'S STANDARDS AND REQUIREMENTS.
38. ALL EXISTING HOUSE WATER SERVICE SERVICING THIS PROPERTY SHALL BE ABANDONED AND TO BE CAPPED AT THE WATERMAIN TO THE SATISFACTION OF THE CITY WATER OPERATIONS DEPARTMENT'S STANDARDS AND REQUIREMENTS.
39. SANITARY AND STORM LATERAL INVERTS SET 7.0m FROM OUTSIDE OF BUILDING WALL IS BASED ON ASSUMING AN INTERNAL PIPING SLOPE BY THE OWNER'S PLUMBER WILL BE BETWEEN 1.0% TO 1.1%.
40. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND RECEIVING WATER COURSES AND/OR STORM SEWER DURING CONSTRUCTION ACTIVITIES. THESE PRACTICES ARE REQUIRED TO ENSURE NO EXPOSED SOIL, SEDIMENT, AND/OR ASSOCIATED POLLUTANTS ARE RELEASED TO THE RECEIVING WATERCOURSES. THESE PRACTICES INCLUDE INSTALLATION OF SEDIMENT BARRIERS ON ALL CATCH BASIN AND MAINTENANCE HOLES AND A SET FENCE BARRIER (AS PER OISS 219.110 AND ASSOCIATED SPECIFICATIONS) ALONG THE AVENUE AND ALL OTHER AREAS THAT SHEET DRAIN OFF SITE. MAINTENANCE HOLE SEDIMENT BARRIERS TO BE AMOCO 4555 NONWOVEN GEOTEXTILE OR APPROVED EQUIVALENT. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY AN APPLICABLE REGULATORY AGENCY.

<p>REVISIONS AS PER ARCHITECT'S COMMENTS OF NOVEMBER 20, 2017 AND NOVEMBER 14, 2017</p> <p>1. REVISED WATER SERVICE LOCATION TO CONNECT INTO EX. 300mm WATERMAIN</p>		11/14/17	TLM		<p>SCALE</p> <p>0 1 2 3 5m</p> <p>1:100 HORIZONTAL</p> <p>VERTICAL</p>	<p>DESIGN T.L.M.</p> <p>CHECKED T.L.M.</p> <p>DRAWN BY G.U.</p> <p>CHECKED T.L.M.</p> <p>APPROVED T.L.M.</p>	<p>PROJECT</p> <p>342 ROOSEVELT AVENUE LOT 36 REGISTERED PLAN 114 CITY OF OTTAWA</p> <p>DRAWING TITLE</p> <p>PROPOSED GRADING, SERVICING AND STORMWATER MANAGEMENT PLAN</p>	<p>PROJECT No.</p> <p>817-16</p> <p>DATE</p> <p>SEPTEMBER 2017</p> <p>DRAWING No.</p> <p>G-1</p>
NO.	REVISION	DATE	BY					