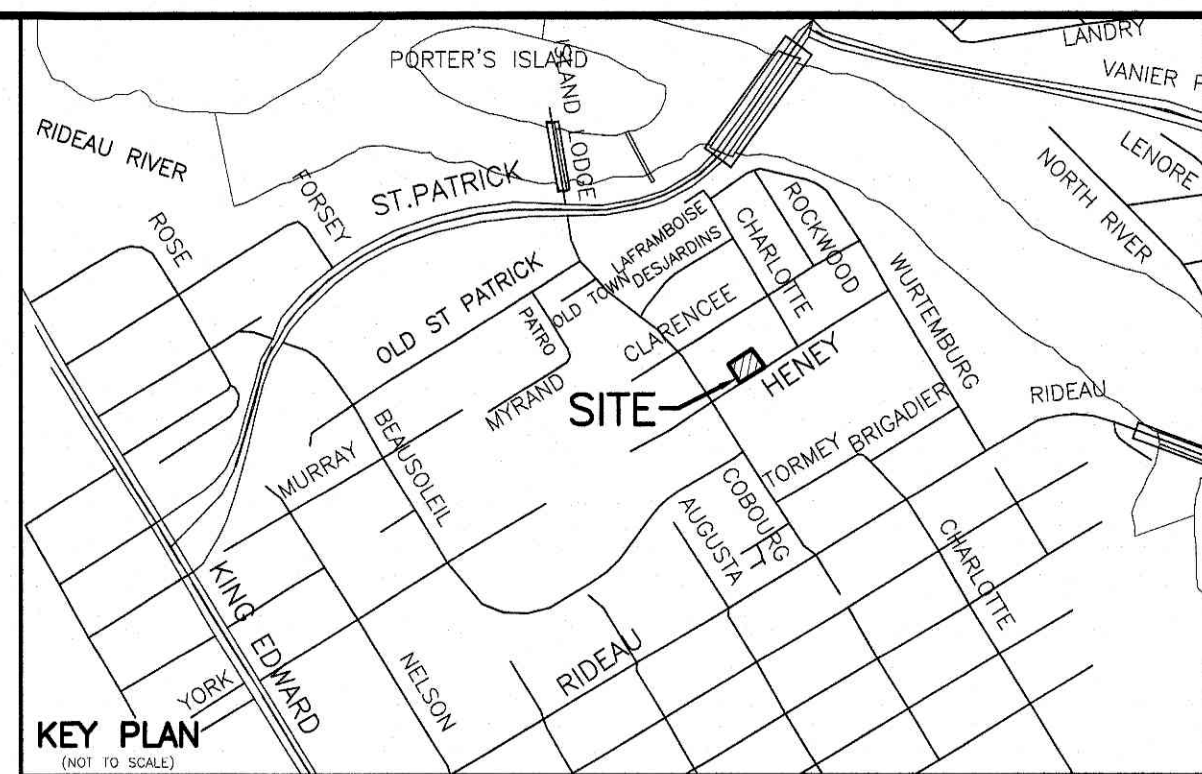


APPROVED
By Douglas James at 4:15 pm, Aug 28, 2018

DOUGLAS JAMES, MCIP, RPP
MANAGER, DEVELOPMENT REVIEW - CENTRAL
PLANNING, INFRASTRUCTURE & ECONOMIC
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

- LEGEND**
- PROPOSED ELEVATION
 - EXISTING ELEVATION
 - PROPOSED GROUND FLOOR ELEVATION
 - PROPOSED TOP OF CONCRETE FOUNDATION ELEVATION
 - PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION
 - PROPOSED DRIVEWAY
 - EXISTING SANITARY SEWER
 - EXISTING STORM SEWER
 - EXISTING WATERMAIN
 - PROPOSED 150mm PVC SANITARY LATERAL SERVICE
 - PROPOSED 100mm AND 125mm PVC DR-28 STORM LATERAL SERVICE
 - PROPOSED 38mm WATER SERVICE (COPPER TYPE "K")
 - EXISTING SANITARY MANHOLE
 - EXISTING STORM MANHOLE
 - EXISTING CATCH BASIN
 - EXISTING POLE
 - EXISTING FIRE HYDRANT
 - PROPOSED V&V

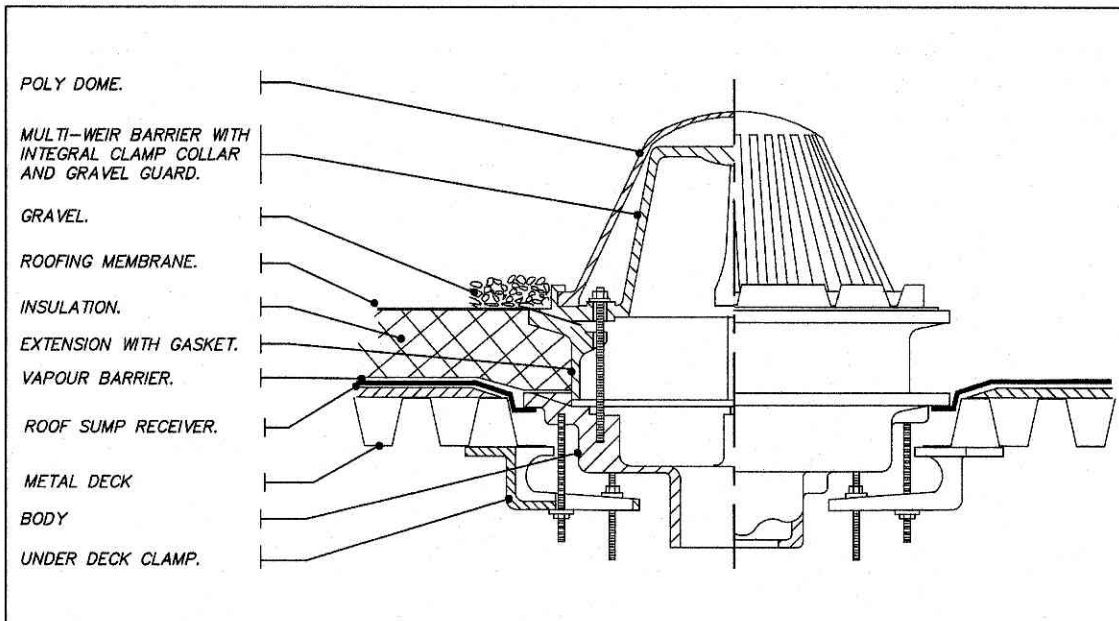
- PROPOSED GENERAL DIRECTION OF LOT GRADING
- PROPOSED ROOF DOWNSPOUT LOCATION
- PROPOSED CB/MH (CATCH BASIN/MANHOLE)
- PROPOSED CATCH BASIN
- PROPOSED HIGH RIDGE LINE
- ROOF TOP DRAINAGE FLOW DIRECTION
- 100 YR. HIGH WATER LEVEL=64.80
- 5 YR. HIGH WATER LEVEL=64.75
- PROPOSED RETAINING WALL
- PROPOSED TOP OF RETAINING WALL ELEVATION
- PROPOSED BOTTOM OF RETAINING WALL ELEVATION
- PROPOSED ROOF SCUPPER LOCATION
- PROPOSED OVERLAND FLOW ROUTE
- PROPOSED CLAY DYKE LOCATION
- PROPOSED REMOTE WATER LOCATION
- PROPOSED WATER METER LOCATION
- PROPOSED THERMAL RIGID STYROFOAM INSULATION
- ENGINEER'S RECOMMENDATIONS



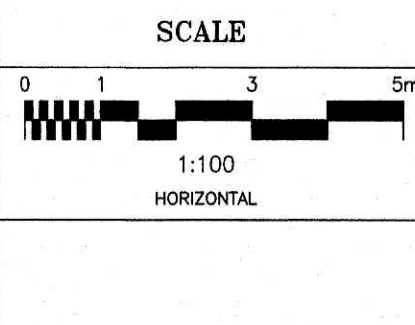
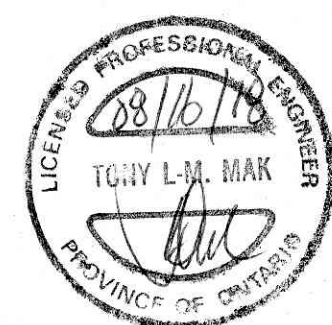
NOTES

- EXISTING SERVICES AND UTILITIES SHOWN ON THIS DRAWING WERE TAKEN FROM THE BEST AVAILABLE RECORDS BUT ARE NOT COMPLETE. CONTRACTOR IS REQUESTED 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 TO THE SITE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY THE OWNER'S SOILS ENGINEER.
- EXISTING BUILDING AND STRUCTURE LOCATION, TOPOGRAPHICAL INFORMATION ON THIS DRAWING, GEODETIC SITE BENCHMARK, SEWER AND MANHOLE LOCATIONS, ETC. SHOWN ON THIS PLAN WERE PROVIDED BY J.D. BARNES LIMITED (REFERENCE No. 17-10-002-00 DATED JANUARY 27, 2017). SANITARY AND STORM SEWER INVERT INFORMATION ALONG HENLEY STREET WERE TAKEN FROM THE CITY'S PLAN AND PROFILE DRAWING ENTITLED HENLEY STREET - COBBOUR STREET TO WURTEMBERG STREET PLAN No. F-37-C SHEET 8 OF 8 REV. 1, DATED 25/7/74 PREPARED BY THE CITY OF OTTAWA. THE CONTRACTOR SHALL FIELD SURVEY AND VERIFY THIS INFORMATION TO HIS OR HER SATISFACTION PRIOR TO CONSTRUCTION. T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HERE. THE CONTRACTOR IS ADVISED TO OBTAIN AND REVIEW TO HIS SATISFACTION THIS SURVEY/ TOPOGRAPHICAL PLAN PRIOR TO CONSTRUCTION.
- SITE LAYOUT AND DETAILS FOR GRADING AND SWM DESIGN WERE PROVIDED BY THE OWNER'S ARCHITECT ROBERTSON MARTIN ARCHITECTS INCORPORATED AS DETAILED ON THEIR SITE PLAN DATED MARCH 29, 2017 AND RECEIVED ON MARCH 30, 2017 AND UPDATED ON JULY 18, 2017 AND APRIL 10, 2018. BUILDING CROSS SECTION PLAN RECEIVED FROM THE ARCHITECT ON APRIL 10, 2018 WAS USED TO ESTABLISH THE F.F., T.O.F., TOP OF BASEMENT SLAB AND U.S.F. ELEVATIONS.
- ALL GRADES SHOWN ARE GEODETIC AND METRIC (SEE J.D. BARNES LIMITED'S TOPOGRAPHICAL PLAN).
- 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.
- ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
- CONNECTION OF THE 38mm WATER SERVICE TO THE EXISTING 150mm WATERMAIN ON HENLEY STREET SHALL BE BY THE CITY OF OTTAWA AND EXCAVATION, BACKFILLING AND REINSTATEMENT SHALL BE CARRIED OUT BY THE CONTRACTOR. ALL WATERWORKS TO BE CONSTRUCTED TO CITY OF OTTAWA WATER ENGINEERING STANDARDS AND SPECIFICATIONS.
- CONSTRUCT ALL WATERMAINS, WATER SERVICES, SANITARY AND STORM SEWER SYSTEMS IN ACCORDANCE WITH CITY OF OTTAWA LATEST REVISED STANDARD OTHERWISE AS PER OPSF 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 (100mm, 125mm AND 150mm) SHALL BE PVC DR-28 OR EQUIVALENT. STORM PIPE SIZE (200mm AND 375mm) SHALL BE PVC DR-35. SEWER CONNECTION DETAILS PER CITY DETAIL S11.1 FOR FLEXIBLE PIPES.
- ALL WATER SERVICES/MAINS SHALL HAVE 2.4m COVER (MIN.). THE 25mm WATER SERVICE SHALL BE COPPER TYPE "K". WATER SERVICE AND WATERMAIN PVC DR-28 OR EQUIVALENT. STORM PIPE SIZE (200mm AND 375mm) SHALL BE PVC DR-35. SEWER CONNECTION DETAILS PER CITY DETAIL S11.1 FOR FLEXIBLE PIPES.
- 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).
- INSTALL THE SPECIFIED IC (INLET CONTROL DEVICE) AT THE DOWNSTREAM PIPE END OF THE PROPOSED 200mm STORM SEWER AT PROPOSED CB/MH #1 AS DETAILED ON THIS DRAWING.
- MANHOLES AND CATCH BASIN MANHOLES SHALL BE PRE-CAST TYPE (1200mm) AS PER CITY'S LATEST REVISED ENGINEERING STANDARDS FOR STORM MANHOLE/CATCH BASINS AS PER OPSF 701.01 C/W FRAME AND COVER PER OPSF 401.01.
- THE CATCH BASIN SHALL BE 600mm x 600mm PRECAST TYPE PER OPSF 705.010 C/W FRAME AND COVER PER OPSF 400.020 INCLUDING ADJUSTMENT RINGS.

- STORMWATER MANAGEMENT NOTES**
- THE 5 YEAR HIGH WATER LEVEL IS ESTIMATED AT ELEVATION = 64.75m IN THE UNDERGROUND STORM PIPE.
 - THE 100 YEAR HIGH WATER LEVEL IS ESTIMATED AT ELEVATION = 64.80m AT PARKING LOT.
 - SEE STORM DRAINAGE REPORT No. R-817-6 DATED APRIL 2017 ALSO FOR DETAILS.
 - INSTALL IC FLOW RESTRICTOR HYDROVEX MODEL No. (50-VH-1) OR EQUAL AS SHOWN ON THIS DRAWING.
 - CONTROLLED ROOF DRAIN FLOW RATE SHALL BE 0.3L/S OR 10 U.S. GAL/MIN.
 - NO BUILDING STORM PIPE CONNECTION TO THE PROPOSED 375mm STORM PIPE IS PERMITTED AS THIS PIPE WILL BE CONSTANTLY SURCHARGED WITH BACKWATER EFFECTS BECAUSE IT IS UPSTREAM OF THE IC IN CB/MH #1.
- ALL PROPOSED BUILDING SANITARY, STORM AND WATER SERVICES SHALL TERMINATE AT 1.0m OUTSIDE THE FOUNDATION WALL AND CONNECTION TO PLUMBING BY OTHERS.
 - SANITARY BUILDING 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'S 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, OPSF & OPSD 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 ENGINEERS OF ANY CHANGES PRIOR TO COMMENCEMENT OF THE WORKS.
 - PROPOSED GROUND FLOOR, TOP OF CONCRETE FOUNDATION, TOP OF BASEMENT SLAB AND UNDERSIDE OF FOOTING ELEVATIONS SHALL BE REVIEWED AND APPROVED BY ROBERTSON MARTIN ARCHITECTS INCORPORATED 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 SERVICING 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 ON THE PROPOSED ASPHALT ACCESS LANEWAY AND PRIVATE DRIVEWAY STRUCTURE SHALL BE APPROVED BY SOILS ENGINEER ON SITE PRIOR TO CONSTRUCTION.



TYPICAL ROOF DRAIN DETAIL
N.T.S.



DESIGN	T.L.M.
CHECKED	T.L.M.
DRAWN BY	G.U.
CHECKED	T.L.M.
APPROVED	T.L.M.

PROJECT	33 HENLEY STREET PART OF LOT 8 REGISTERED PLAN 43586 CITY OF OTTAWA
OWNER	33 HENLEY ST INC. 5689 POWER ROAD OTTAWA ON K1G 3N4 TEL: 613-293-8110
DRAWING TITLE	PROPOSED GRADING, SERVICING AND STORMWATER MANAGEMENT PLAN

PROJECT No.	817-6	DATE	APRIL 2017	DRAWING No.	G-1
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NO.	REVISION	DATE	BY
5	REVISION TO T.O.F. AND U.S.F. AS PER ARCHITECT'S COMMENTS OF JULY 23, 2018	07/30/18	TLM
4	REVISIONS AS PER CITY'S COMMENTS OF MAY 18, 2018	05/24/18	TLM
3	REVISIONS AS PER CITY COMMENTS OF NOV/10/17 AND ARCHITECT'S REVISED SITE PLAN OF APRIL 10, 2018	04/23/18	TLM
2	REVISIONS AS PER ARCHITECT'S REVISED SITE PLAN OF MARCH 10, 2018	04/11/18	TLM
1	REVISIONS AS PER ARCHITECT'S REVISED SITE PLAN OF JULY 18, 2017	07/27/17	TLM

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