

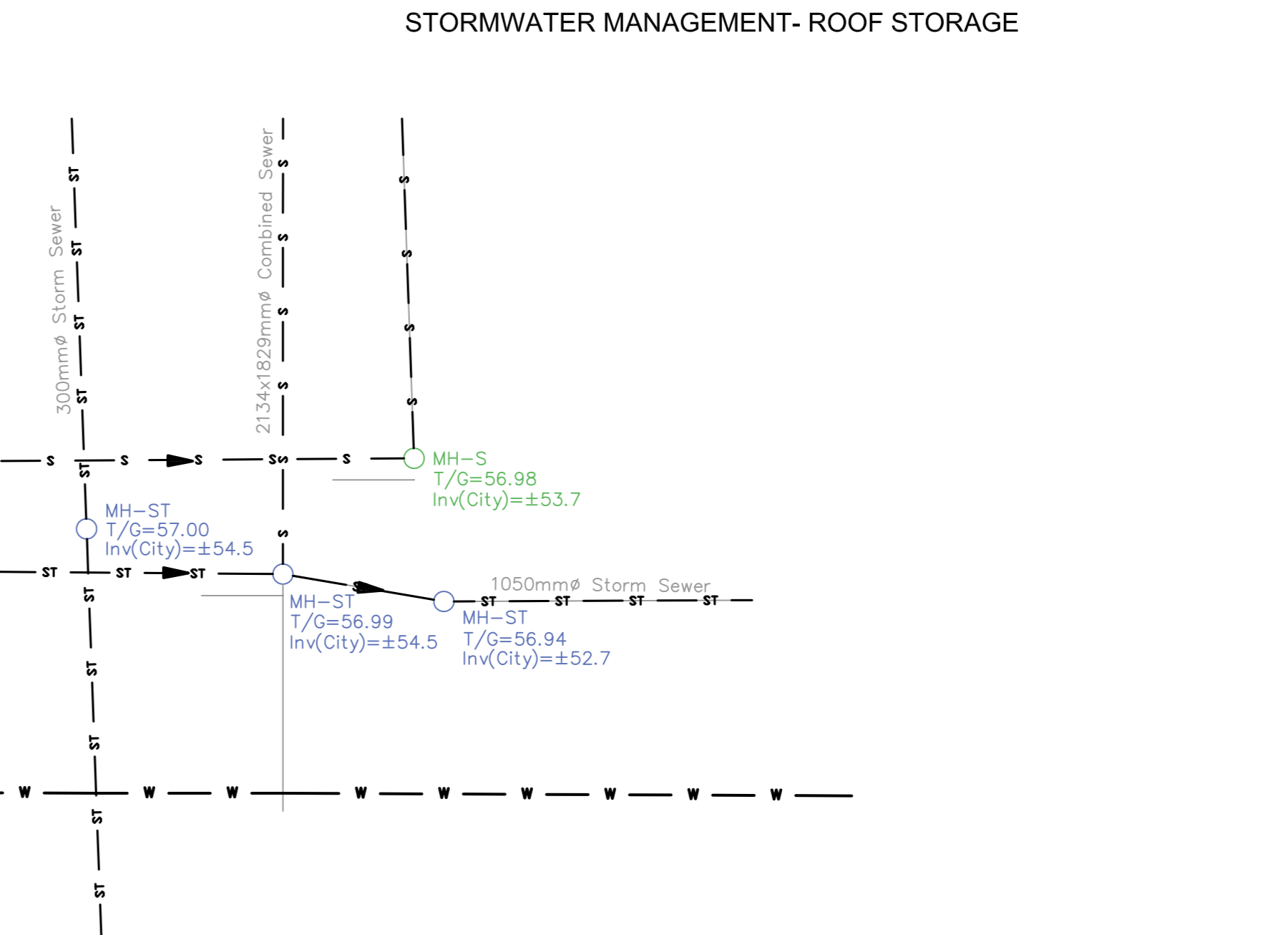
Storage Requirements

Surface Type	5-year	100-year	4.61 m ³	9.97 m ³
Roof A1	0.0284	25.6%	1.16	2.56
Roof A2	0.0277	23.5%	1.06	2.35
Roof A3	0.0291	27.6%	1.25	2.76
Roof A4	0.0276	23.2%	1.05	2.31
TOTAL	0.0282	100.0%	4.51	9.97

Stage Storage

Depth	Area	Volume	Depth	Area	Volume	Depth	Area	Volume	Depth	Area	Volume
0.020	9.10	0.06	0.020	9.10	0.06	0.020	9.10	0.06	0.020	9.10	0.06
0.040	25.00	0.33	0.040	23.00	0.31	0.040	30.00	0.40	0.040	22.00	0.29
0.073	48.00	1.17	0.073	43.00	1.06	0.068	55.00	1.28	0.076	42.00	1.05
0.092	84.00	2.58	0.092	77.00	2.36	0.092	91.00	2.79	0.092	76.00	2.33

Notes:
 Roof drains with controlled flow to be specified by manufacturer using the allowable flow rates presented in this chart

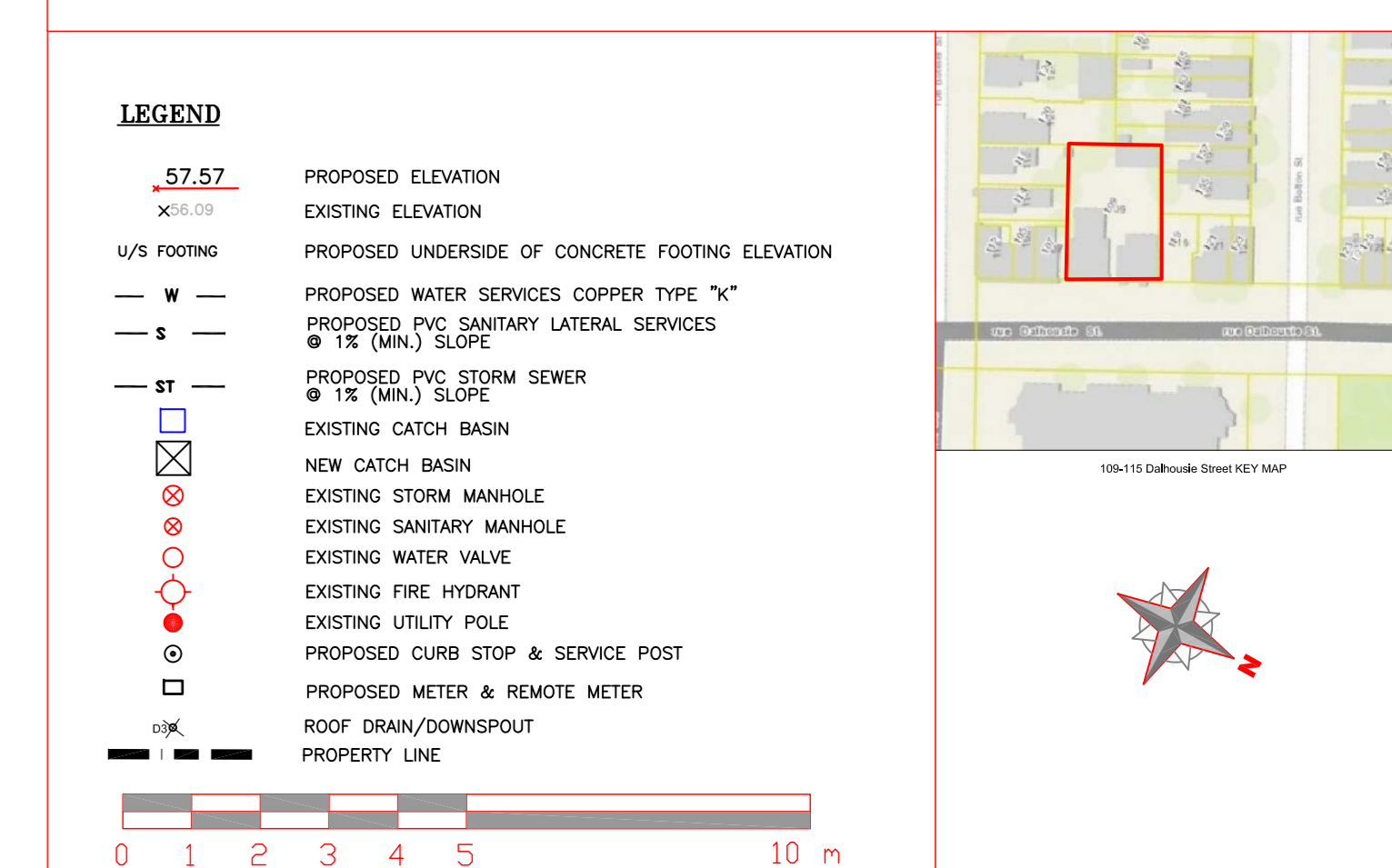
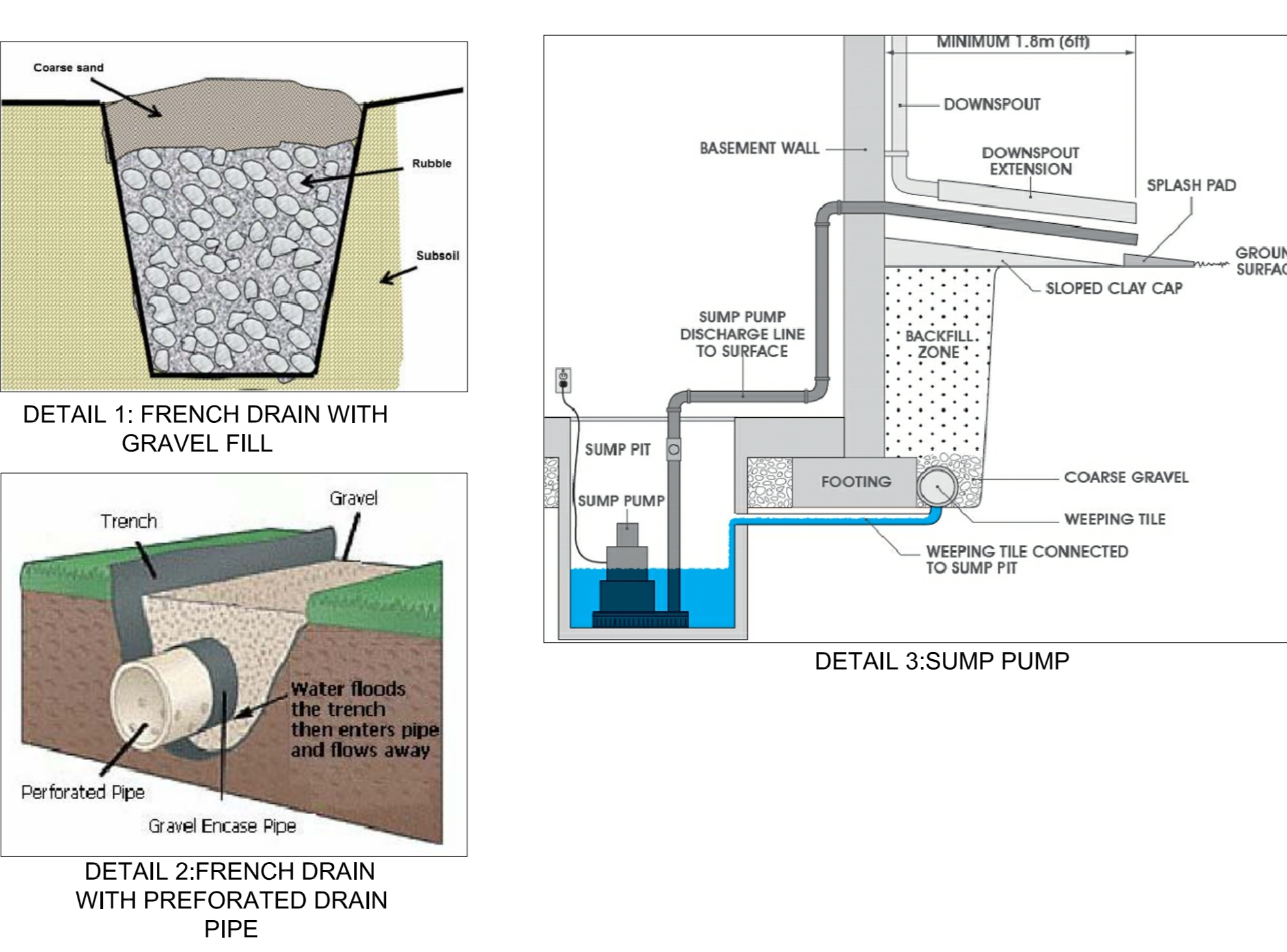


- NOTES:**
- EXISTING SERVICES AND UTILITIES SHOWN ON THIS DRAWING WERE TAKEN FROM THE BEST AVAILABLE RECORDS. CONTRACTOR IS REQUESTED TO CHECK IN THE FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
 - CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY.
 - PROPOSED STING DETAILS FOR THIS PROPOSED BUILDING WERE TAKEN FROM THE SITE PLAN PREPARED BY "RESALINE J. HILL ARCHITECT INC".
 - EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING SITE BENCHMARK, ROAD ELEVATIONS AND THE TOPOGRAPHICAL INFORMATION OF THE LOT SHOWN WERE PROVIDED BY "FARLEY SMITH & DENIS SURVEYING LTD" AND ARCH-NOVA DESIGN INC. IS NOT RESPONSIBLE FOR THE ACCURACY OF PLANS AND INFORMATION. CONTRACTOR IS ADVISED TO CHECK ACCURACY ON THE SITE AND CONFIRM WITH THE CITY STAFF BEFORE ANY WORK ON THE SITE.
 - ALL SERVICES INFORMATION WERE PROVIDED BY THE CITY OF OTTAWA AND ARCH-NOVA IS NOT RESPONSIBLE FOR THE ACCURACY OF PLANS AND INFORMATION. CONTRACTOR IS ADVISED TO CHECK ACCURACY ON THE SITE AND CONFIRM WITH THE CITY STAFF BEFORE ANY WORK ON THE SITE.
 - ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
 - ALL GRADES SHOWN ARE METRIC EXISTING AND PROPOSED GRADES SHOWN ON THIS DRAWING ARE BASED ON A GEODETIC BENCHMARK PROVIDED BY "FARLEY SMITH & DENIS SURVEYING LTD" AS SHOWN ON THE SITE PLAN.
 - USE SADDLE CONNECTIONS WITH CORP STOPS FOR THE 50 MM WATER SERVICES.
 - CONSTRUCT ALL SANITARY PIPES IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARDS OTHERWISE AS PER CPSS AND CPSP SPECIFICATIONS.
 - ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERS' STANDARDS AND PER CITY REQUIREMENTS.
 - THE CONTRACTOR SHALL CONSTRUCT AND ENSURE THAT THE 50 MM WATER SERVICES ON THIS LOT SHALL HAVE A MINIMUM OF 2.4m OF GROUND COVER; OTHERWISE THERMAL INSULATION IS REQUIRED AS PER CITY SPECIFICATIONS W 21, W 22 AND W 23. THE WATER SERVICE INSTALLATION SHALL BE STEEL PIPE AND CONSTRUCTED IN ACCORDANCE WITH STD DWG W6.
 - IF WATER SERVICE IS LESS THAN 0.3 m FROM SEWER MANHOLE OR CATCH BASIN, CONTRACTOR IS REQUESTED TO PROVIDE TRENCH INSULATION AS PER CITY DETAIL W-23.
 - 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.
 - WATER SERVICES CONNECTION ON DALHOUSIE AVENUE SHALL BE DONE BY THE CITY. EXCAVATION, BACKFILLING AND REINSTATEMENTS BY CONTRACTOR.
 - THE OWNER AND/OR HIS CONTRACTOR SHALL CONTACT ALL THE UTILITY COMPANIES REGARDING RELOCATION REQUIREMENTS FOR ANY EXISTING OVERHEAD UTILITY POLE.
 - WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY W-27 DETAIL.
 - SANITARY SERVICES LATERAL PROPOSED SHALL BE PVC-SR88 OR EQUIVALENT AND CONNECTION TO THE EXISTING SEWER SHALL BE AS PER CITY OF OTTAWA DWG S11. SEWER TRENCH DETAILS AS PER STD DWG S6 & S7. SADDLE CONNECTIONS (MAX 300 MM), MANUFACTURED 1" CONNECTIONS OR FOR LARGE DIAMETERS NEW MANHOLES.
 - SANITARY AND STORM SEWER SERVICES BENS AND RISERS USED MUST BE CONSTRUCTED TO THE CITY'S SATISFACTION.
 - DETAILS OF THE EXISTING SEWERS AND WATERMAIN SHOWN ON DALHOUSIE STREET PLANS OBTAINED FROM THE CITY MAY NOT BE CURRENT. THE CONTRACTOR SHALL REFER TO THE CITY'S SEWER AND WATERMAIN DRAWINGS FOR DETAILS. CONTRACTOR IS ADVISED TO EXCAVATE AND INVESTIGATE THE SEWER ELEVATIONS IN FRONT OF THIS PROPERTY FIRST TO ENSURE THAT 1.5% MIN PIPE SLOPE OF THE SANITARY LATERAL CAN BE ACHIEVED USING THE PROPOSED UNDERSIDE OF CONCRETE FOOTINGS ELEVATIONS. IF 1.5% (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 CONSTRUCT THE UNDERGROUND SANITARY AND WATER SERVICES FROM SEWER AND WATERMAIN TO THE PROPERTY FIRSTLY, PRIOR TO HOUSE CONCRETE FOUNDATION POURING.
 - IF THE DEPTH FROM UNDERSIDE OF HOUSE CONCRETE FOOTING TO PROPOSED FINISHED GROUND ELEVATION IS LESS THAN 1.8 m IT IS RECOMMENDED THAT INSULATION (200 mm) MINIMUM BE INSTALLED AT THE BUILDING'S FOOTING AND FOUNDATION OF THE HOUSE TO PROVIDE SUFFICIENT FROST PROTECTION FOR THE FOUNDATION STRUCTURES. THE FOOTINGS NEED TO BE REVIEWED 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.
 - CONCRETE BARRIER CURB AND DEPRESSIONED CURB DETAILS AS PER CITY OF OTTAWA STANDARDS DWG W 26-2 AND W 26-3, FEB. 2002. 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.
 - WATER SERVICE LINES AS PER STD DWG W6.
 - BLANK WATER SERVICES AT CITY WATERMAIN BY CITY FORCES.
 - EXISTING SEWERS TO BE CAPPED AT THE PROPERTY LINE TO THE SATISFACTION OF CITY'S SEWER OPERATIONS.
 - BACKWATER VALVES WILL BE USED ON SERVICES PER SC14, SC141 AND SC142.
 - ASPHALT AND GRAVEL SURFACES TO BE CLEARED AND REPLACED WITH SOFT LANDSCAPING AS SHOWN ON ARCHITECTURAL AND LANDSCAPING PLANS.
 - ALL SERVICE LATERALS UNDER THE BUILDING FOOTINGS TO BE SLEEVED IF THE PIPE IS LESS THAN 0.3 m BELOW FINISHED FLOOR LEVEL.
 - PROPOSED SANITARY AND STORMWATER SERVICES LATERALS SHALL BE PVC-SR88 OR EQUIVALENT AND CONNECTION TO THE EXISTING CITY SYSTEM SHALL BE AS PER CITY OF OTTAWA DWG S11. SEWER TRENCH DETAILS AS PER STD DWG S6 & S7.
 - ALL PROPOSED STORM PIPES WITH OVERBILT LESS THAN 2.0 m BELOW THE SURFACE ARE TO BE INSULATED FOR FROST PROTECTION.
 - STORMWATER DRAIN VERTICAL PIPES TO BE CONNECTED TO STORMWATER LATERAL IN PROPOSED MANHOLES MIN 1 m AND USING 45 DEGREE BENDS.
 - ROOF DRAINS TO BE SELECTED BY CONTRACTOR AND PRESENTED TO ENGINEER FOR ACCEPTANCE.
 - ROOF DRAINS SHOULD PROVIDE REQUIRED OUTFLOW FROM THE ROOF STORAGE.
 - BACKYARD CATCH BASIN (STD S30) TO BE EQUIPPED WITH 75 MM DRIFICE TO PREVENT LARGER BEBRIS TO ENTER INTO THE LATERAL.
 - INSTALL A COVER IN THE RAMP ABOVE THE SEWER MANHOLE. CONTRACTOR TO PROVIDE DETAILED SHOP DRAWING TO ARCHITECT OR ENGINEER FOR ACCEPTANCE.
 - LATERALS INSTALLED UNDER THE PASSAGE TO BACKYARD TO BE PROTECTED WITH A SLEEVE PIPE MINIMUM 1" LARGER DIAMETER THAN THE LATERAL.
 - PROPOSED RAISED CURB TO BE CONSTRUCTED IN ACCORDANCE TO LANDSCAPE PLANS.
 - TRENCH DRAIN TO BE INSTALLED AND INCORPORATED WITH LANDSCAPE USE. TYPE MORE SUITED TO THE SITUATION AND FINAL GRADING AND IN ORDER TO PROVIDE GRAVITY DRAINING FROM WEST AREA OF THE PROPERTY.
 - SUMP PUMP TO BE INSTALLED IN MECHANICAL ROOM (LOWER BASEMENT) AND DISCHARGE THE SUMP TO SURFACE (SEE DETAIL 4.3). FOUNDATION DRAIN (WEEPING TILES) TO BE CONNECTED TO THE SUMP.

109-115 Dalhousie Street: PROPOSED 50mm WATERMAIN TABLE (2.4m COVER)

STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	TOP OF MAIN	INVERT OF MAIN	DESCRIPTION	NOTE
0+0.00	57.11	55.5			CONNECTION TO THE BUILDING	VALVE (1.0m FROM PROPERTY LINE)
0+4.54	57.07	55.5			CONCRETE CURB	
0+8.20	57.1	55.75		56.16	CROSSING SANITARY MAIN	WATER PIPE BELOW SANITARY MAIN
0+9.80	57.08	55.75		56.15	CROSSING STORMWATER MAIN	WATER PIPE BELOW STORM PIPE
0+14.07	57.01	55.75			CONNECTION TO 305 MM WATERMAIN	

NOTE: CONTRACTOR TO CONFIRM BY EXCAVATING



ARCH-NOVA Design Inc.
 45 Banner Road NEPEAN ON K2H 8K5
 613-702-3403 contact@archnova.ca

Services & Grading Plan

Drawn by: Z.M.
 Approved by: Z.M.
 Location: 109-115 DALHOUSIE STREET OTTAWA, ON
 Owner: Adam Savant, ETHOS Developments
 Owner Phone: 613-276-5433 Email: Adam@ethosdevelopments.com
 Project No: CW-04-20
 Date: February 2022
 Drawing No: W-61
 Scale: 1:500