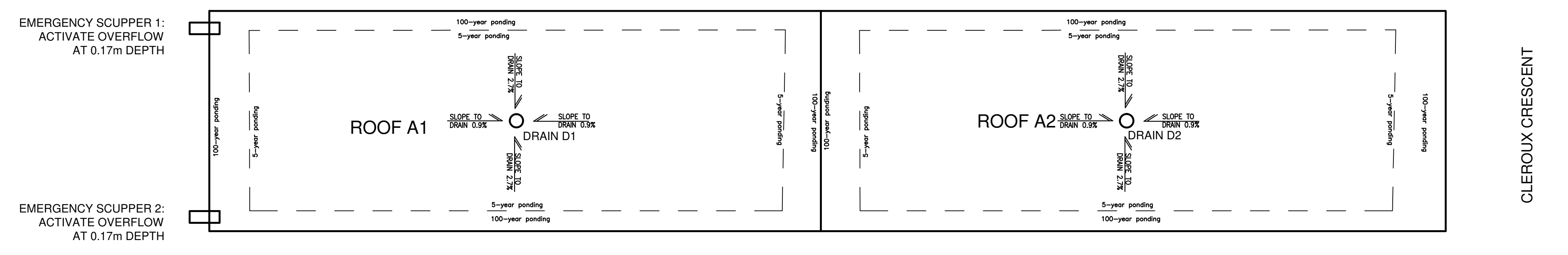


**Storage Requirements**

| | |
|---|---|
| 2-year | **17.50 $m^3$** |
| 100-year | **46.83 $m^3$** |

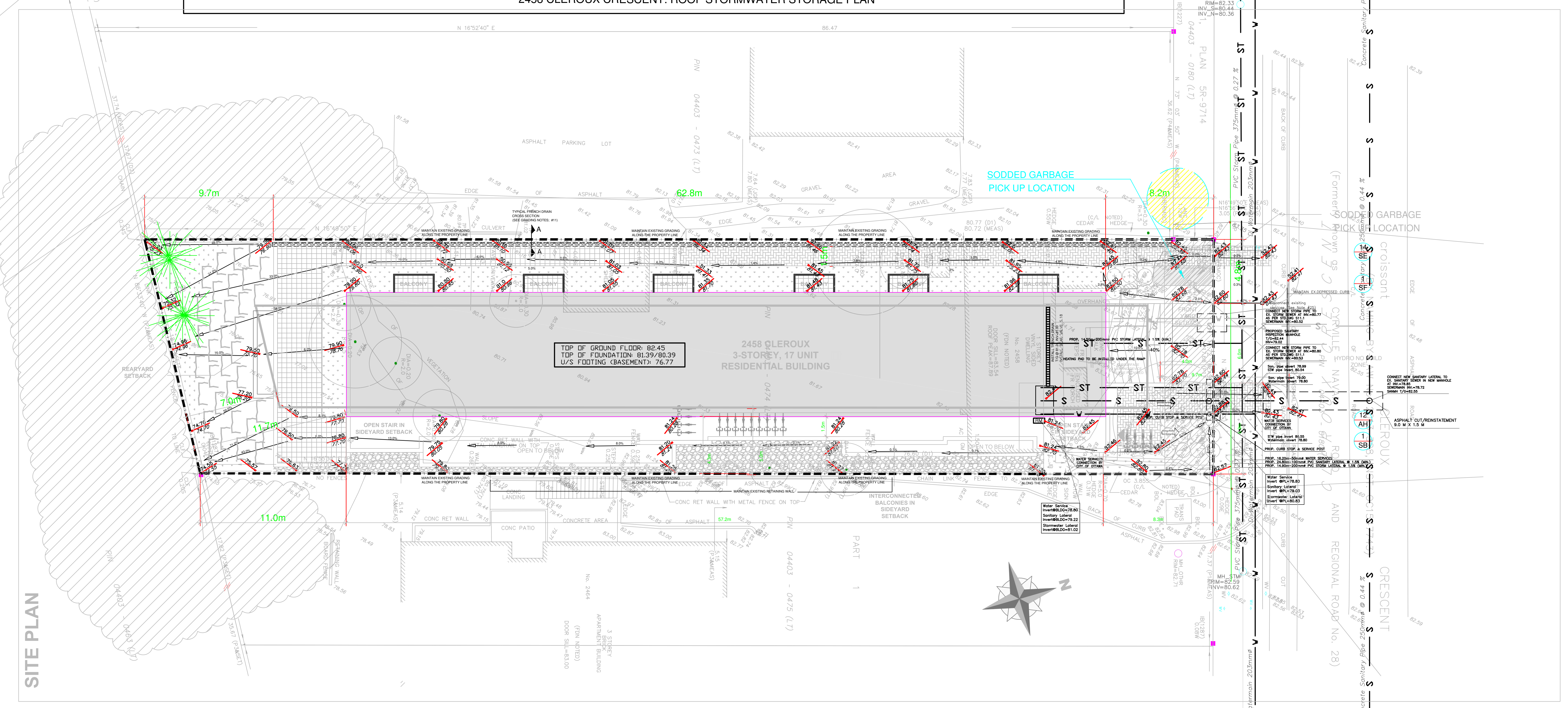
| Surface Type | ID | Area (ha) | Percent of total Area | Required Storage 2 year | Required Storage 100 year | Max Allowed Drain Outflow l/s | Max Allowed Drain Outflow GPM | |
|---|---|---|---|---|---|---|---|---|
| **Roof** | **A1** | 0.0278 | 50.0% | 8.75 | 23.42 | 0.07 | 1.16 | Legend: |
| **Roof** | **A2** | 0.0278 | 50.0% | 8.75 | 23.42 | 0.07 | 1.16 | data for 2-year event |
| **TOTAL** | | 0.0555 | 100.0% | 17.50 | 46.83 | 0.15 | 2.31 | data for 100-year event |

**Stage-Storage**

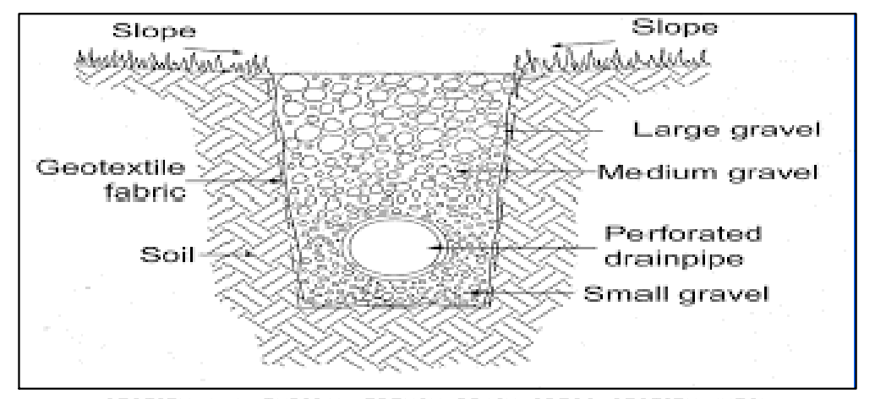
| Roof A1 (Drain 1) | | | Roof A2 (Drain 2) | | |
|---|---|---|---|---|---|
| Depth m | Area $m^2$ | Volume $m^3$ | Depth m | Area $m^2$ | Volume $m^3$ |
| 0.020 | 9.10 | 0.09 | 0.020 | 9.10 | 0.09 |
| 0.040 | 20.10 | 0.40 | 0.040 | 20.10 | 0.40 |
| **0.1** | **175.00** | **8.75** | **0.1** | **175.00** | **8.75** |
| **0.17** | **277.00** | **23.55** | **0.17** | **277.00** | **23.55** |

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

## 2458 CLEROUX CRESCENT: ROOF STORMWATER STORAGE PLAN



| 2458 Cleroux Cres: PROPOSED 100 mm WATERMAIN TABLE | | | | | | NOTE |
|---|---|---|---|---|---|---|
| STATION | SURFACE ELEVATION | TOP OF WM ELEVATION | TOP OF MAIN | INVERT OF MAIN | DESCRIPTION | |
| 0+0.00 | 82.44 | 79.2 | | | BUILIDNG ACCESSDIST | |
| 0+12.90 | 82.44 | 79.2 | | | PROPERTY LINE | |
| 0+14.95 | 82.43 | 78.8 | | 80.55 | CROSSING STORMWATER PIPE | CROSSING UNDER STORMWATER PIPE |
| 0+15.90 | 82.34 | 78.8 | | | CONNECTION TO WATERMAIN 203 MM | |
| NOTE: CONTRACTOR TO CONFIRM BY EXCAVATING | | | | | | |



SECTION A-A: TYPICAL FRENCH DRAIN CROSS SECTION (NTS)

NOTES:

1. 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.
2. CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY.
3. PROPOSED SITING DETAILS FOR THIS PROPOSED BUILDING WERE TAKEN FROM THE SITE PLAN PREPARED BY "P2 Concepts".
4. EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING SITE BENCHMARK, ROAD ELEVATION, SEWER INVERT ELEVATIONS AND THE TOPOGRAPHICAL INFORMATION OF THE LOT SHOWN WERE PROVIDED BY 'ANNIS,O'SULLIVAN & J.D. Barnes Ltd." AND ARCH-NOVA DESIGN INC. IS NOT RESPONSIBLE FOR THE SURVEY PROVIDED.
5. ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA.
6. ALL GRADES SHOWN ARE METRIC. EXISTING AND PROPOSED GRADES SHOWN ON THIS DRAWING ARE BASED ON A GEODETIC BENCHMARK PROVIDED BY "J.D. Barnes Ltd." AS SHOWN ON THEIR SITE PLAN.
7. ALL WILL BE CONSTRUCTED TO CITY OF OTAWA'S LATTEST REVISED STANDARDS ON APPROVAL BY THE CITY. USE SADDLE CONNECTIONS WITH CORP STOPS FOR THE 19 MM WATER SERVICES.
8. CONSTRUCT ALL SANITARY PIPES IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARDS OTHERWISE AS PER OPSS AND OPSD SPECIFICATIONS.
9. ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERS' STANDARDS AND PER CITY'S REQUIREMENTS.
10. 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 W26.
11. IF WATER SERVICE IS LESS THAN 2.4m FROM SEWER, MANHOLE OR CATCH BASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH S/M RIGID INSULATION (AS PER CITY DETAIL W-23).
12. ALL WATERMAIN SERVICE AND FITTINGS SHALL CONFORM TO APPROVED AWWA AND OR CSA STANDARDS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS TO COMPLETE THE WORKS.
14. WATER SERVICES CONNECTION ON CONCORD STREET SOUTH SHALL BE DONE BY THE CITY. EXCAVATION, BACKFILLING AND REINSTATEMENTS BY CONTRACTOR.
15. THE OWNER AND/OR HIS CONTRACTOR SHALL CONTACT ALL THE UTILITY COMPANIES REGARDING RELOCATION REQUIREMENTS FOR THE EXISTING OVERHEAD UTILITY POLE.
16. WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY W-17 DETAIL.
17. SANITARY SERVICES LATERAL PROPOSED SHALL BE PVC-SDR28 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. CONNECT TO CITY SEWER PIPES USING SADDLE SEWER TRENCH DETAILS AS PERR STD DWG S6 & S7, SADDLE CONNECTIONS (MAX 300 MM), MANUFACTURED "T" CONNECTIONS OR FOR LARGE DIAMETERS NEW MANHOLES.
18. SANITARY AND STORM SEWER SERVICES BENDS AND RISERS USED MUST BE CONSTRUCTED TO THE CITY'S SATISFACTION.
19. DETAILS OF THE EXISTING SEWERS AND WATERMAIN SHOWN ON CONCORD AVENUE FROM THE CITY MAY NOT BE CURRENT. THE CONTRACTOR SHALL REFER TO THE CITY'S SEWER AND WATERMAIN DRAWINGS FOR DETAILS. THE 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.
20. 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.
21. IF THE DEPTH FROM UNDERSIDE OF HOUSE CONCRETE FOOTING TO PROPOSED FINISHED GROUND ELVATION IS LESS THAN 1.50 M IT IS RECOMMENDED THAT INSULATION (500 mm TICK) MINIMUM BE INSTALLED AT THE BUIDLING FOOTING AND FOUNDATION OF THE HOUSE TO PROVIDE SUFFICIENT FROST COVER FOR THE FOUNDATION STRUCTURES. THE FOOTINGS WILL 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.
22. CONCRETE BARRIER CURB AND DEPRESSED CURB DETAILS AS PER CITY OF OTTAWA STANDARDS (DWG. # SC-1.1 REV.MARCH 2014). CONCRETE CURB AND CONCRETE SIDEWALK CONSTRUCTION AND REINSTATEMENT SC-1.4 REV.MARCH 2014). 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.
23. WATER SERVICE LINES AS PER STD.DWG W26.
24, WATER SERVICE INSTALLATION AND CROSSINGS AS PER STD.DWG W 25 AND W 25.2.
25. BLANK WATER SERVICES AT CITY WATERMAIN BY CITY FORCES.
26. EXISTING SEWERS TO BE CAPPED AT THE PROPERTY LINE TO THE SATISFACTION OF CITY'S SEWER OPERATIONS
27. BACKWATER VALVES WILL BE USED ON SERVICES PER SC14, SC14.1 AND SC14.2
28. ASPHALT AND GRAVEL SURFACES TO BE CLEARED AND REPLACED WITH LANDSCAPING AS SHOWN ON ARCHITECTURAL AND LANDSCAPING PLANS.
29. ALL SERVICE LATERALS UNDER THE BUILDING FOOTINGS TO BE SLEEVED IF THE PIPE IS LESS THAN 0.3 M BELOW THE FOOTING.
30. INSTALL TRENCH DRAIN AT BOTTOM OF THE GARAGE RAMP. CONNECT TO STORWATER LATERAL.

GRADING NOTES:

1. ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS AS DIRECTED BY THE SITE ENGINEER OR GEOTECHNICAL ENGINEER.
2. EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF GRANULAR.
3. ANY SOFT AREAS EVIDENT FROM THE PROOF ROLLING SHOULD BE SUB-EXCAVATED AND REPLACED WITH SUITABLE MATERIAL THAT IS FROST COMPATIBLE WITH THE EXISTING SOILS AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
4. THE GRANULAR BASE SHOULD BE COMPACTED TO AT LEAST 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. ANY ADDITIONAL GRANULAR FILL USED BELOW THE PROPOSED PAVEMENT SHOULD BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
5. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
6. MAXIMUM TERRACING GRADE TO BE 3:1 UNLESS OTHERWISE NOTED.
7. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
8. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
9. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
10. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING AS-BUILT ELEVATIONS OF ALL DESIGN GRADES SHOWN ON THIS PLAN.
11. FRENCH DRAIN TO INSTALL ALONG WEST SIDE OF THE PROPERTY MIN. 0.1 M INSIDE THE PROPERTY (SEE DETAIL 1)

**LEGEND**

| | |
|---|---|
| 56.63 / 56.25 | PROPOSED ELEVATION<br>EXISTING ELEVATION (INTERPOLATED) |
| ×56.09 | EXISTING ELEVATION (SURVEY) |
| U/S FOOTING | PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION |
| —v— | PROPOSED WATER SERVICES COPPER TYPE "K" |
| — S — | PROPOSED PVC SANITARY LATERAL SERVICES |
| — ST — | PROPOSED PVC STORM SEWER |
| —DR— | PROPOSED FOUNDATION DRAIN (WEEPING TILES) |
| □ | EXISTING CATCH BASIN |
| ☒ | NEW CATCH BASIN |
| ⊗ | EXISTING STORM MANHOLE |
| ⊗ | EXISTING SANITARY MANHOLE |
| ○ | EXISTING WATER VALVE |
| ⌖ | EXISTING FIRE HYDRANT |
| ● | EXISTING UTILITY POLE |
| ⊙ | PROPOSED CURB STOP & SERVICE POST |
| RM | PROPOSED METER & REMOTE METER |
| ○ DRAIN D1 | ROOF DRAIN |
| ▬ ▬ ▬ | PROPERTY LINE |
| ⇦ | OVERLAND FLOW DIRECTION |

SCALE:
0 1 2 3 4 5 10 m

2458 Cleroux Cres: KEY MAP

N

**ARCH-NOVA Design Inc.**

45 Banner Road NEPEAN ON K2 H 8X5
613-702-3403 contact@archnova.ca

| | | |
|---|---|---|
| Drawn by: | Z.M. | |
| Checked by | | |
| Approved by | Z.M. | |
| Rev 1 | Date<br>Feb 2023 | Description<br>City comments |
| Rev 2 | Date | Description |
| Rev 3 | Date | Description |

## Services & Grading Plan

| | |
|---|---|
| Location | 2458 Cleroux Cres. |
| Owner | Melmar Group<br>12 Southland Crescent, Ottawa, Ontario, K1G 5E4 |
| Project No | CW-01-21 |
| Date | May 2023 |
| Drawing No | W-01 |
| Scale | 1:150 |

23.05.2023
Z. MRDJA
90553165

City of Ottawa File No:D07-12-22-0144

City of Ottawa Plan No:18880