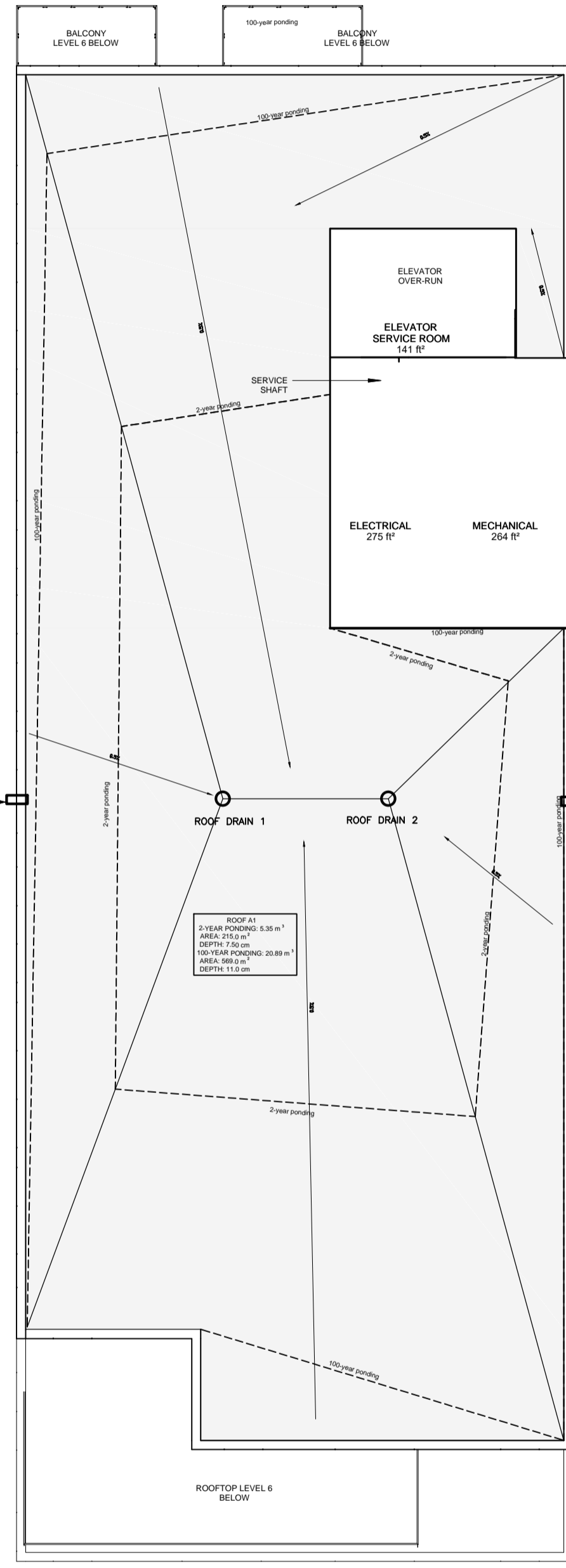


| 374 MCARTHUR AVENUE: PROPOSED 100 mm WATERMAIN TABLE | | | | | | NOTE |
|--|-------------------|---------------------|-------------|----------------|--------------------------------|-------------------------------|
| STATION | SURFACE ELEVATION | TOP OF WM ELEVATION | TOP OF MAIN | INVERT OF MAIN | DESCRIPTION | |
| 0+0.00 | 61.05 | 59.5 | 59.04 | | PROPERTY LINE | |
| 0+3.95 | 61.05 | 59.5 | 59.04 | | CROSSING SANITARY PIPE | CROSSING OVER SANITARY PIPE |
| 0+9.53 | 61.2 | 58.9 | 57.96 | | CROSSING STORMWATER PIPE | CROSSING OVER STORMWATER PIPE |
| 0+14.20 | 61.1 | 58.9 | 59 | | CONNECTION TO WATERMAIN 400 MM | INSULATION REQUIRED |

NOTE: CONTRACTOR TO CONFIRM BY EXCAVATING

- 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 SITING DETAILS FOR THIS PROPOSED BUILDING WERE TAKEN FROM THE SITE PLAN PREPARED BY "ROSSMANN ARCHITECTURE".
 - 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 "ANNIS, O'SULLIVAN, VOLLEBEKK LTD" (MARCH 31, 2020) AND ARCH-NOVA DESIGN INC. IS NOT RESPONSIBLE FOR THE SURVEY PROVIDED.
 - 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 "ANNIS, O'SULLIVAN, VOLLEBEKK LTD" (MARCH 31, 2020) AS SHOWN ON THEIR 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 OPSS AND OPSD SPECIFICATIONS.
 - ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ELEVATIONS.
 - THE CONTRACTOR SHALL CONSTRUCT AND ENSURE THAT THE 100 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.
 - IF WATER SERVICE IS LESS THAN 0.3 m FROM SEWER, MANHOLE OR CATCH BASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH 50mm RIGID INSULATION (AS PER CITY DETAIL W-23).
 - ALL WATERMAIN SERVICE AND FITTINGS SHALL CONFORM TO APPROVED AWA AND/OR CSA STANDARDS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS TO COMPLETE THE WORKS.
 - WATER SERVICES CONNECTION ON MCARTHUR 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-17 DETAIL.
 - PROPOSED SANITARY SERVICES LATERAL 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 PER STD DWG S6 & S7, SADDLE CONNECTIONS (MAX 300 MM), MANUFACTURED "T" CONNECTIONS OR FOR LARGE DIAMETERS NEW MANHOLES.
 - SANITARY AND STORM SEWER SERVICES BENDS AND RISERS USED MUST BE CONSTRUCTED TO THE CITY'S SATISFACTION.
 - DETAILS OF THE EXISTING SEWERS AND WATERMAIN SHOWN ON MCARTHUR AVENUE 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 (500 mm TICK) MINIMUM BE INSTALLED AT THE BUILDING'S 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.
 - WATER SERVICE LINES AS PER STD.DWG W26.
 - BLANK WATER SERVICES AT CITY WATERMAIN BY THE CITY CREW. APPROXIMATE LOCATION SHOWN AND TO BE CONFIRMED BY CONTRACTOR.
 - EXISTING SEWERS TO BE CAPPED AT THE PROPERTY LINE TO THE SATISFACTION OF CITY'S SEWER OPERATIONS. APPROXIMATE LOCATION SHOWN AND TO BE CONFIRMED BY CONTRACTOR.
 - BACKWATER VALVES WILL BE USED ON SERVICES PER SC14, SC14.1 AND SC14.2
 - 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 THE FOOTING.
 - PROPOSED SANITARY AND STORMWATER SERVICES LATERALS SHALL BE PVC-SDR28 OR EQUIVALENT AND CONNECTIONS 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 OBVERT LESS THAN 2.0 m BELOW THE SURFACE ARE TO BE INSULATED FOR FROST PROTECTION.
 - ROOF DRAINS TO BE MANUFACTURED OR SELECTED BY CONTRACTOR AND PRESENTED TO ENGINEER FOR ACCEPTANCE. ROOF DRAINS SHOULD PROVIDE REQUIRED OUTFLOW FROM THE ROOF STORAGE. SEE DETAIL 2.
 - EXISTING REMOVABLE BICYCLE CURB TO BE RELOCATED IN ACCORDANCE WITH THE CITY'S PLANS FOR THE BICYCLE LINE.



Storage Requirements

| | |
|----------|----------------------|
| 2-year | 5.33 m ³ |
| 100-year | 20.75 m ³ |

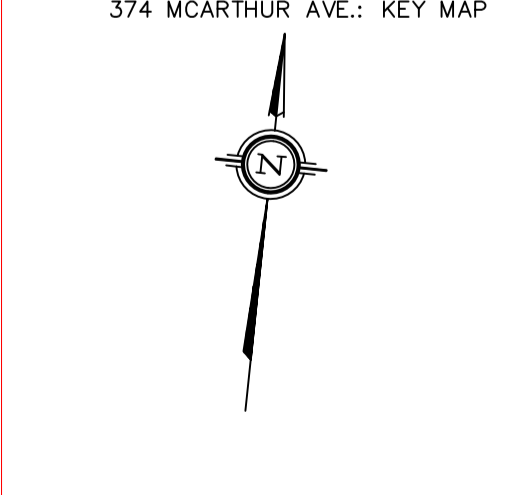
| Surface Type | ID | Area (m ²) | Percent of total Area | Required Storage 2-year | Required Storage 100-year | Max Allowed Drain Outflow l/s | Max Allowed Drain Outflow GPM |
|--------------|----|------------------------|-----------------------|-------------------------|---------------------------|-------------------------------|-------------------------------|
| Roof | D1 | 284.50 | 50.0% | 2.66 | 10.38 | 2.74 | 43.36 |
| Roof | D2 | 284.50 | 50.0% | 2.66 | 10.38 | 2.74 | 43.36 |
| TOTAL | | 569.00 | 100.0% | 5.33 | 20.75 | 5.47 | 86.72 |

Stage-Storage

| Depth m | Area m ² | Volume m ³ |
|---------|---------------------|-----------------------|
| 0.050 | 100.0 | 1.67 |
| 0.075 | 215.0 | 5.38 |
| 0.08 | 450.0 | 12.00 |
| 0.1105 | 569.0 | 20.96 |

Legend:
data for 2-year event
data for 100-year event

- LEGEND**
- 56.63 PROPOSED ELEVATION
 - 57.87 EXISTING ELEVATION
 - U/S FOOTING PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION
 - W PROPOSED WATER SERVICES COPPER TYPE "K"
 - SD PROPOSED PVC SANITARY LATERAL SERVICES @ 1% (MIN.) SLOPE
 - FD PROPOSED FOUNDATION DRAINAGE
 - SS PROPOSED PVC STORM SEWER
 - P EXISTING UNDERGROUND POWER LINE/CONDUIT
 - CB EXISTING CATCH BASIN
 - SM EXISTING STORM MANHOLE
 - SM EXISTING SANITARY MANHOLE
 - WV EXISTING WATER VALVE
 - FD EXISTING FIRE HYDRANT
 - UP EXISTING UTILITY POLE
 - CS PROPOSED CURB STOP & SERVICE POST
 - RM PROPOSED METER & REMOTE METER
 - RD ROOF DRAIN
 - D4 PROPERTY LINE
 - D4 DRAIN



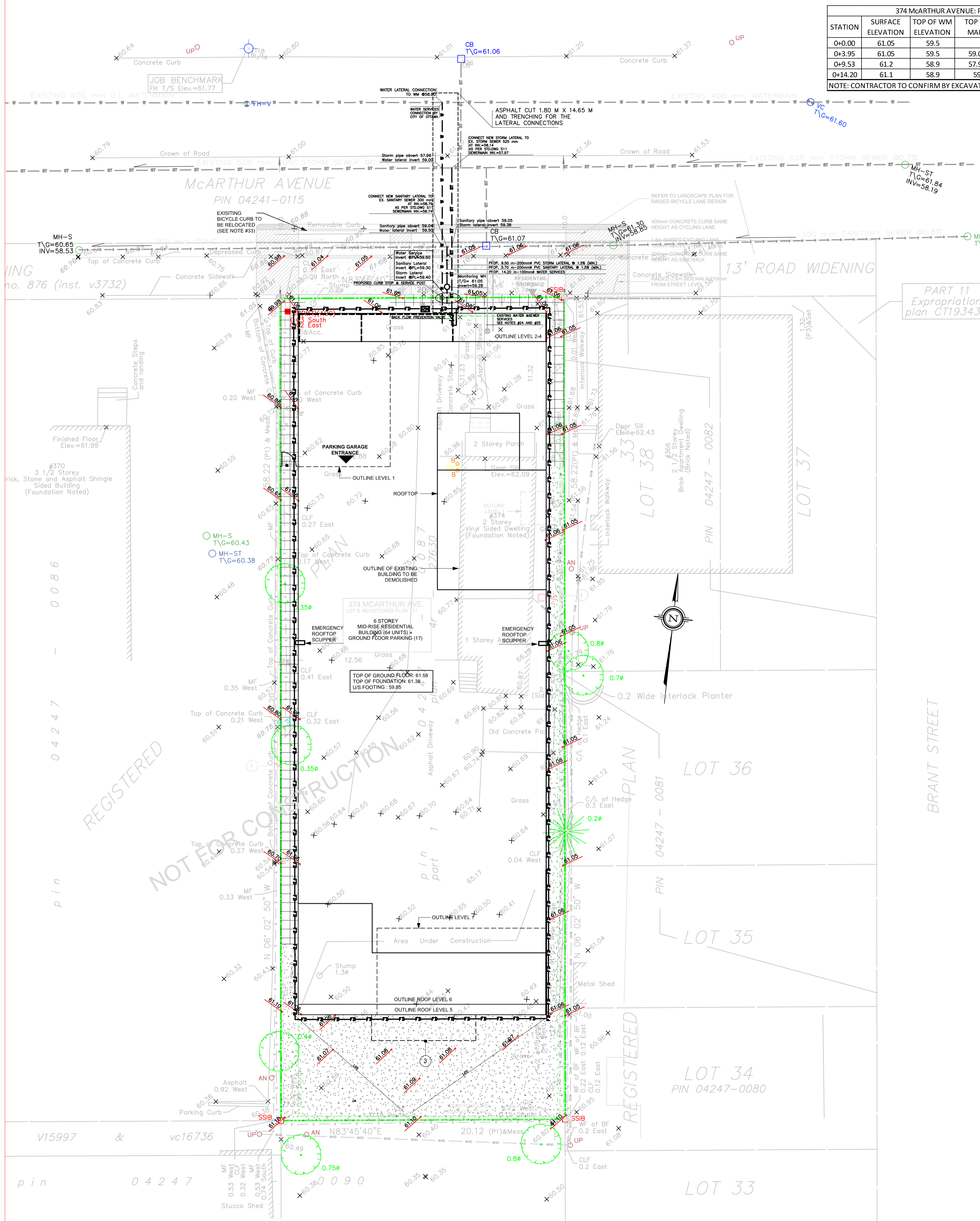
Drawn by: Z.M.
Checked by: Z.M.
Approved by: Z.M.
Rev 1 Date: July 2021 Description: City review and comments
Rev 2 Date: January 2021 Description: City review and comments
Rev 3 Date: Description:

ARCH-NOVA Design Inc. 45 Banner Road NEPEAN ON K2H 8X5
613-702-3403 contact@archnova.ca

Servicing & Grading Plan

Location: 374 MCARTHUR AVENUE, OTTAWA, ON
Owner:
Project No: CW-01-20
Date: January 2022
Drawing No: W-01
Scale: 1:150

Professional Engineer: Z. M. (14.01.2022)
City of Ottawa File No: 007-12-20-029



REGISTERED
NOT FOR CONSTRUCTION

REGISTERED

PART 11
Expropriation
plan CT193430

BRANT STREET

pin 04247

LOT 33