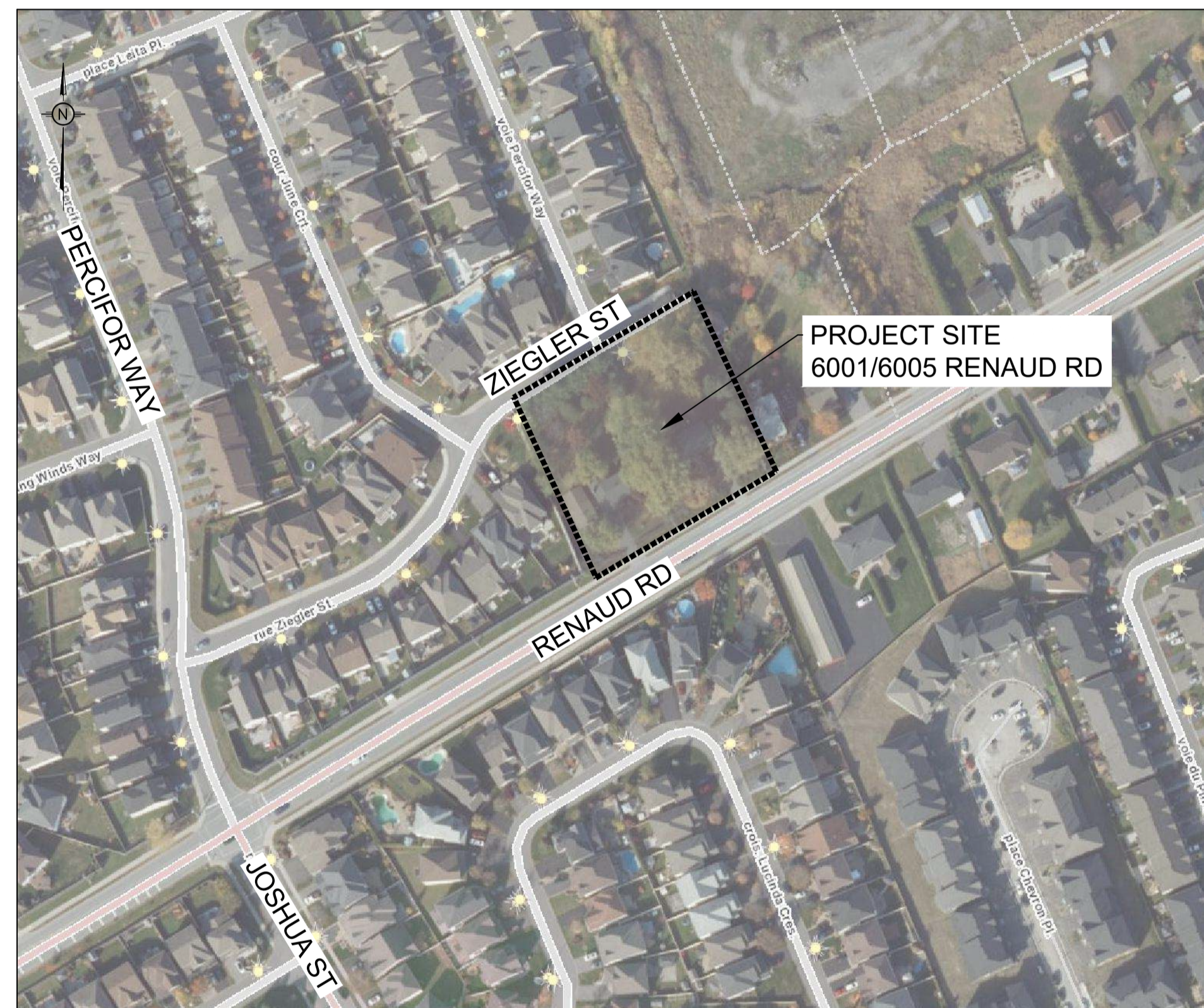


# NAVAN STACKED TOWN HOMES 6001 / 6005 RENAUD ROAD, OTTAWA, ON.

REVISION 04



KEY PLAN (N.T.S.)

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**LRJ**

ENGINEERING | INGÉNIERIE

5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lrl.ca | (613) 842-3434

NAVAN STACKED TOWN HOMES  
6001/6005 RENAUD ROAD, OTTAWA, ON.  
REV.04 - ISSUED FOR CLIENT APPROVAL - APR 23, 2024  
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NOT AUTHENTIC UNLESS SIGNED AND DATED

## GENERAL NOTES

1. ALL WORKS MATERIALS SHALL CONFORM TO THE LAST REVISION OF THE STANDARDS AND SPECIFICATIONS FOR THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS), WHERE APPLICABLE. LOCAL UTILITY STANDARDS AND MINISTRY OF TRANSPORTATION STANDARDS WILL APPLY WHERE REQUIRED.
2. THE CONTRACTORS SHALL CONFIRM THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE SITE AND ADJACENT WORK AREAS. THE CONTRACTORS SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY SERVICES OR UTILITIES DISTURBED DURING CONSTRUCTION, TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
3. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION, ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. LOST TIME DUE TO FAILURE OF THE CONTRACTORS TO CONFIRM UTILITY LOCATIONS AND NOTIFY ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT CONTRACTORS EXPENSE. ANY AREA BEYOND THE LIMIT OF THE SITE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT THE CONTRACTORS EXPENSE. RELOCATING OF EXISTING SERVICES AND/OR UTILITIES SHALL BE AS SHOWN ON THE DRAWINGS OR DETECTED BY THE ENGINEER AT THE EXPENSE OF DEVELOPERS.
5. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS. THE GENERAL CONTRACTORS SHALL BE DEEMED TO BE THE CONTRACTOR AS DEFINED IN THE ACT.
6. ALL THE CONSTRUCTION SIGNAGE MUST CONFORM TO THE MINISTRY OF TRANSPORTATION OF ONTARIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PER LATEST AMENDMENT.
7. THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE ONGOING DURING THE PERIOD OF THE CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES TO PREVENT CONFLICTS.
8. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
9. THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE ENGINEER.
10. ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT.
11. FOR DETAILS RELATING TO STORMWATER MANAGEMENT AND ROOF DRAINAGE REFER TO THE SITE SERVICING AND STORMWATER MANAGEMENT REPORT.
12. ALL SEWERS CONSTRUCTED WITH GRADES LESS THAN 1.0% SHALL BE INSTALLED USING LASER ALIGNMENT AND CHECKED WITH LEVEL INSTRUMENT PRIOR TO BACKFILLING.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND TO BEAR THE COST OF THE SAME.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL BEDDING, OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH AS SPECIFIED BY OPSD IS EXCEEDED.
15. ALL PIPE/CULVERT SECTION SIZES REFER TO INSIDE DIMENSIONS.
16. SHOULD DEEPLY BURIED ARCHAEOLOGICAL REMAINS BE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES, THE HERITAGE OPERATIONS UNIT OF THE ONTARIO MINISTRY OF CULTURE MUST BE NOTIFIED IMMEDIATELY.
17. ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR. REVIEW WITH CONTRACT ADMINISTRATOR AND THE CITY OF OTTAWA PRIOR TO ANY TREE CUTTING/REMOVAL.
18. DRAWINGS SHALL BE READ ON CONJUNCTION WITH ARCHITECTURAL SITE PLAN.
19. THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER ON SET OF AS CONSTRUCTED SITE SERVICING AND GRADING DRAWINGS.
20. BENCHMARKS: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE SITE BENCHMARK(S) HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION DEPICTED ON THIS PLAN.

## EROSION AND SEDIMENT CONTROL NOTES

### GENERAL

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

THE CONTRACTOR ACKNOWLEDGES THAT SURFACE EROSION AND SEDIMENT RUNOFF RESULTING FROM THEIR CONSTRUCTION OPERATIONS HAS POTENTIAL TO CAUSE A DETRIMENTAL IMPACT TO ANY DOWNSTREAM WATERCOURSE OR SEWER, AND THAT ALL CONSTRUCTION OPERATIONS THAT MAY IMPACT UPON WATER QUALITY SHALL BE CARRIED OUT IN MANNER THAT STRICTLY MEETS THE REQUIREMENT OF ALL APPLICABLE LEGISLATION AND REGULATIONS.

AS SUCH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THEIR OPERATIONS, AND SUPPLYING AND INSTALLING ANY APPROPRIATE CONTROL MEASURES, SO AS TO PREVENT SEDIMENT LADEN RUNOFF ENTERING ANY SEWER OR WATERCOURSE WITHIN OR DOWNSTREAM OF THE WORKING AREA.

THE CONTRACTOR ACKNOWLEDGES THAT NO ONE MEASURE IS LIKELY TO BE 100% EFFECTIVELY FOR EROSION PROTECTION AND CONTROLLING SEDIMENT RUNOFF AND DISCHARGES FROM THE SITE. THEREFORE, WHERE NECESSARY THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES ARRANGED IN SUCH MANNER AS TO MITIGATE SEDIMENT RELEASE FROM THE CONSTRUCTION OPERATIONS AND ACHIEVE SPECIFIC MAXIMUM PERMITTED CRITERIA WHERE APPLICABLE. SUGGESTED ON-SITE MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, THE FOLLOWING METHODS: SEDIMENT PONDS, FILTER BAGS, PUMP FILTERS, SETTLING TANKS, SILT FENCE, STRAW BALES, FILTER CLOTHS, CATCH BASIN FILTERS, CHECK DAMS AND/OR OTHER RECOGNIZED TECHNOLOGIES AND METHOD AVAILABLE AT THE TIME OF CONSTRUCTION. SPECIFIC MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF OPSS 577 WHERE APPROPRIATE, OR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

WHERE, IN THE OPINION OF THE CONTRACT ADMINISTRATOR OR REGULATORY AGENCY, THE INSTALLED CONTROL MEASURES FAIL TO PERFORM ADEQUATELY, THE CONTRACTOR SHALL SUPPLY AND INSTALL ADDITIONAL OR ALTERNATIVE MEASURES AS DIRECTED BY THE CONTRACT ADMINISTRATOR OR REGULATORY AGENCY. AS SUCH, THE CONTRACTOR SHALL HAVE ADDITIONAL CONTROL MATERIALS ON SITE AT ALL TIME WHICH ARE EASILY ACCESSIBLE AND MAY BE IMPLEMENTED BY HIM AT THE MOMENT'S NOTICE.

PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL SUBMIT TO THE CONTRACT ADMINISTRATOR SIX COPIES OF A DETAILED EROSION AND SEDIMENT CONTROL PLAN (ESCP). THE ESCP WILL CONSIST OF WRITTEN DESCRIPTION AND DETAILED DRAWINGS INDICATING THE ON-SITE ACTIVITIES AND MEASURES TO BE USED TO CONTROL EROSION AND SEDIMENT MOVEMENT FOR EACH STEP OF THE WORK.

### CONTRACTOR'S RESPONSIBILITIES

THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS, INCLUDING SUB-CONTRACTOR, IN THE WORKING AREA ARE AWARE OF THE IMPORTANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES AND INFORMED OF THE CONSEQUENCES OF THE FAILURE TO COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AGENCIES.

THE CONTRACTOR SHALL PERIODICALLY, AND WHEN REQUESTED BY THE CONTRACT ADMINISTRATOR, CLEAN OUT ACCUMULATED SEDIMENT DEPOSITS AS REQUIRED AT THE SEDIMENT CONTROL DEVICES, INCLUDING THOSE DEPOSITS THAT MAY ORIGINATE FROM OUTSIDE THE CONSTRUCTION AREA. ACCUMULATED SEDIMENT SHALL BE REMOVED IN SUCH A MANNER THAT PREVENTS THE DEPOSITION OF THIS MATERIAL INTO THE SEWER WATERCOURSE AND AVOIDS DAMAGE TO CONTROL MEASURES. THE SEDIMENT SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH REQUIREMENTS FRO EXCESS EARTH MATERIAL, AS SPECIFIED ELSEWHERE IN THE CONTRACT.

THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE CONTRACT ADMINISTRATOR ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO EITHER THE WATERCOURSE OR THE STORM SEWER SYSTEM. FAILURE TO REPORT WILL BE CONSTITUTE A BREACH OF THIS SPECIFICATION AND THE CONTRACTOR MAY ALSO BE SUBJECT TO THE PENALTIES IMPOSED BY THE APPLICABLE REGULATORY AGENCY. APPROPRIATE RESPONSE MEASURES, INCLUDING ANY REPAIRS TO EXISTING CONTROL MEASURES OR THE IMPLEMENTATION OF ADDITIONAL CONTROL MEASURES, SHALL BE CARRIED OUT BY THE CONTRACTOR WITHOUT DELAY.

THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE CONTRACT ADMINISTRATOR, THE MEASURE OR MEASURES, IS NO LONGER REQUIRED. NO CONTROL MEASURE MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE CONTRACT ADMINISTRATOR. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS THE ENTRY OF ANY EQUIPMENT, OTHER THAN HAND-HELD EQUIPMENT, INTO ANY WATERCOURSE, AND PREVENTS THE RELEASE OF ANY SEDIMENT OR DEBRIS INTO ANY SEWER OR WATERCOURSE WITHIN OR DOWNSTREAM OF THE WORKING AREA. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE WORKING AREA AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH THE REQUIREMENTS FOR EXCESS EARTH MATERIAL.

WHERE, IN THE OPINION OF EITHER THE CONTRACT ADMINISTRATOR OR A REGULATORY AGENCY, ANY OF THE TERMS SPECIFIED HEREIN HAVE NOT BEEN COMPLIED WITH OR PERFORMED IN A SUITABLE MANNER, OR THAT ALL THE CONTRACTOR ADMINISTRATOR OR A REGULATORY AGENCY HAS THE RIGHT TO IMMEDIATELY WITHDRAW ITS PERMISSION TO CONTINUE THE WORK BUT MAY RENEW ITS PERMISSION UPON BEING SATISFIED THAT THE DEFAULTS OR DEFICIENCIES IN THE PERFORMANCE OF THIS SPECIFICATION BY THE CONTRACTOR HAVE BEEN REMEDIED.

## SPILL CONTROL NOTES

1. ALL CONSTRUCTION EQUIPMENT SHALL BE RE-FUELED, MAINTAINED, AND STORED NO LESS THAN 30 METRES FROM WATERCOURSE, STREAMS, CREEKS, WOODLOTS, AND ANY ENVIRONMENTALLY SENSITIVE AREAS, OR AS OTHERWISE SPECIFIED.
2. THE CONTRACTOR MUST IMPLEMENT ALL NECESSARY MEASURES IN ORDER TO PREVENT LEAKS, DISCHARGES OR SPILLS OF POLLUTANTS, DELETERIOUS MATERIALS, OR OTHER SUCH MATERIALS OR SUBSTANCES WHICH WOULD OR COULD CAUSE AN ADVERSE IMPACT TO THE NATURAL ENVIRONMENT.
3. IN THE EVENT OF A LEAK, DISCHARGE OR SPILL OF POLLUTANT, DELETERIOUS MATERIAL OR OTHER SUCH MATERIAL OR SUBSTANCE WHICH WOULD OR COULD CAUSE AN ADVERSE IMPACT TO THE NATURAL ENVIRONMENT, THE CONTRACTOR SHALL:
  - 3.1. IMMEDIATELY NOTIFY APPROPRIATE FEDERAL, PROVINCIAL, AND LOCAL GOVERNMENT MINISTRIES, DEPARTMENTS, AGENCIES, AND AUTHORITIES OF THE INCIDENT IN ACCORDANCE WITH ALL CURRENT LAWS, LEGISLATION, ACTS, BY-LAWS, PERMITS, APPROVALS, ETC.
  - 3.2. TAKE IMMEDIATE MEASURES TO CONTAIN THE MATERIAL OR SUBSTANCE, AND TO TAKE SUCH MEASURES TO MITIGATE AGAINST ADVERSE IMPACTS TO THE NATURAL ENVIRONMENT.
  - 3.3. RESTORE THE AFFECTED AREA TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION.

## MUD MAT NOTES

1. THE GRANULAR MATERIAL WILL REQUIRE PERIODIC REPLACEMENT AS IT BECOMES CONTAMINATED BY VEHICLE TRAFFIC.
2. SEDIMENT SHALL BE CLEANED FROM PUBLIC ROADS AT THE END OF EACH DAY.
3. SEDIMENT SHALL BE REMOVED FROM PUBLIC ROADS BY SHOVELING OR SWEEPING AND DISPOSED OR PROPERLY IN A CONTROLLED SEDIMENT DISPOSAL AREA.

## SITE GRADING NOTES

1. PRIOR TO THE COMMENCEMENT OF THE SITE GRADING WORKS, ALL SILTATION CONTROL DEVICES SHALL BE INSTALLED AND OPERATIONAL PER EROSION CONTROL PLAN.
2. ALL GRANULAR AND PAVEMENT FOR ROADS/PARKING AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH GEOTECHNICAL ENGINEERS RECOMMENDATIONS.
3. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD AND PARKING AREAS ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
4. CONCRETE CURB SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. SC1.1 PROVISION SHALL BE MADE OR CURB DEPRESSIONS AS INDICATED ON ARCHITECTURAL SITE PLAN. CONCRETE SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD SC1.4. ALL CURBS, CONCRETE ISLANDS, AND SIDEWALKS SHOWN O THIS DRAWING ARE TO BE PRICED IN SITE WORKS PORTION OF THE CONTRACT.
5. PAVEMENT STATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. R10 AND OPSD 509.010 AND OPSS 310.
6. GRANULAR 'A' SHALL BE PLACED TO A MINIMUM THICKNESS OF 300MM AROUND ALL STRUCTURES WITHIN THE PAVEMENT AREA.
7. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'B' COMPACTED IN MAXIMUM 300MM LIFTS.
8. ALL WORK ON THE MUNICIPAL RIGHT OF WAY AND EASEMENTS TO BE INSPECTED BY THE MUNICIPALITY PRIOR BACKFILLING.
9. CONTRACTOR TO OBTAIN A ROAD OCCUPANCY PERMIT 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL ROAD ALLOWANCE, IF REQUIRED BY THE MUNICIPALITY.
10. ALL PAVEMENT MARKING FEATURES AND SITE SIGNAGE SHALL BE PLACED PER ARCHITECTURAL SITE PLAN. LINE PAINTING AND DIRECTIONAL SYMBOLS SHALL BE APPLIED WITH A MINIMUM OF TWO COATS OF ORGANIC SOLVENT PAINT.
11. REFER TO ARCHITECTURAL SITE PLAN FOR DIMENSIONS AND SITE DETAILS.
12. STEP JOINTS ARE TO BE USED WHERE PROPOSED ASPHALT MEETS EXISTING ASPHALT. ALL JOINTS MUST BE SEALED.
13. SIDEWALKS TO BE 13MM X BEVELED AT 2:1 OR 6MM WITH NO BEVEL REQUIRED BELOW THE FINISHED FLOOR SLAB ELEVATION AT ENTRANCES REQUIRED TO BE BARRIER-FREE, UNLESS OTHERWISE NOTED. ALL IN ACCORDANCE WITH OBC 3.8.1.3 & OTTAWA ACCESSIBILITY DESIGN STANDARDS.
14. WHERE APPLICABLE THE CONTRACTOR IS TO SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWINGS MUST BE SITE SPECIFIC, SIGNED AND SEALED BY A LICENSED STRUCTURAL ENGINEER. THE CONTRACTOR WILL ALSO BE REQUIRED TO SUPPLY AND GEOTECHNICAL CERTIFICATION OF THE AS-CONSTRUCTED RETAINING WALL TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE.

## ROADWORK SPECIFICATIONS

15. ROADWORK TO BE COMPLETED IN ACCORDANCE WITH GEOTECHNICAL REPORT, PREPARED BY LRL ASSOCIATES, DATED NOVEMBER 2020.
16. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND STOCK PILLED ON SITE AS DIRECTED BY NATIONAL MUNICIPALITY.
17. THE SUBGRADE SHALL BE CROWNED AND SLOPED AT LEAST 2% AND PROOF ROLLED WITH HEAVY ROLLERS.
18. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'A', TYPE II COMPACTED IN MAXIMUM 300MM LIFTS.
19. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO MINIMUM OF 100% STANDARD PROCTOR DENSITY MAXIMUM DRY DENSITY (SPMDD).

## SANITARY, FOUNDATION DRAIN, STORM SEWER AND WATERMAIN NOTES

### GENERAL

1. LASER ALIGNMENT CONTROL TO BE UTILIZED ON ALL SEWER INSTALLATIONS.
2. CLAY SEALS TO BE INSTALLED AS PER CITY STANDARD DRAWING S8. THE SEALS SHOULD BE AT LEAST 1.5M LONG (IN THE TRENCH DIRECTION) AND SHOULD EXTEND FROM TRENCH WALL TO TRENCH WALL. THE SEALS SHOULD EXTEND FROM THE FROST LINE AND FULLY PENETRATE THE BEDDING, SUB-BEDDING, AND COVER MATERIAL. THE BARRIERS SHOULD CONSIST OF RELATIVELY DRY AND COMPACTIBLE BROWN SILTY CLAY PLACED IN MAXIMUM 225MM LIFTS AND COMPACTED TO A MINIMUM OF 95% SPMDD. THE CLAY SEALS SHOULD BE PLACED AT THE SITE BOUNDARIES AND AT 60M INTERVALS IN THE SERVICE TRENCHES.
3. SERVICES TO BUILDING TO BE TERMINATED 1.0M FROM THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
4. ALL MAINTENANCE STRUCTURE AND CATCH BASIN EXCAVATIONS TO BE BACKFILLED WITH GRANULAR MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY, A MINIMUM OF 300MM AROUND STRUCTURES.
5. "MODULOC" OR APPROVED PRE-CAST MAINTENANCE STRUCTURE AND CATCH BASIN ADJUSTERS TO BE USED IN LIEU OF BRICKING. PARGE ADJUSTING UNITS ON THE OUTSIDE ONLY.
6. SAFETY PLATFORMS SHALL BE PER OPSD 404.02.
7. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH OPSD 1003.01, IF APPLICABLE.
8. THE CONTRACTOR IS TO PROVIDE CCTV CAMERA INSPECTIONS OF ALL SEWERS, INCLUDING PICTORIAL REPORT, ONE (1) CD COPY AND TWO (2) VIDEO RECORDINGS IN A FORMAT ACCEPTABLE TO ENGINEER. ALL SEWER ARE TO BE FLUSHED PRIOR TO CAMERA INSPECTION. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS AND NECESSARY REPAIRS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE ENGINEER.
9. CONTRACTOR SHALL PERFORM LEAKAGE TESTING, IN THE PRESENCE OF THE CONSULTANT, FOR SANITARY SEWERS IN ACCORDANCE WITH OPSS 407. CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF ALL SEWERS. A COPY OF THE VIDEO AND INSPECTION REPORT SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF WEAR COURSE ASPHALT.

### SANITARY

10. ALL SANITARY SEWER INSTALLATION SHALL CONFORM TO THE LATEST SPECIFIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
11. ALL SANITARY GRAVITY SEWER SHALL BE PVC SDR 35, IPEX 'RING-TITE' (OR APPROVED EQUIVALENT) PER CSA STANDARD B182.2 OR LATEST AMENDMENT, UNLESS SPECIFIED OTHERWISE.
12. EXISTING MAINTENANCE STRUCTURES TO BE RE-BENCHED WHERE A NEW CONNECTION IS MADE.
13. SANITARY GRAVITY SEWER TRENCH AND BEDDING SHALL BE PER CITY OF OTTAWA STD. S6 AND S7 CLASS 'B' BEDDING, UNLESS SPECIFIED OTHERWISE.
14. SANITARY MAINTENANCE STRUCTURE FRAME AND COVERS SHALL BE PER CITY OF OTTAWA STD. S24 AND S25.
15. SANITARY MAINTENANCE STRUCTURES SHALL BE BENCHED PER OPSD 701.021.
16. 100MM THICK HIGH-DENSITY GRADE 'A' POLYSTYRENE INSULATION TO BE INSTALLED IN ACCORDANCE WITH CITY STD W22 WHERE INDICATED ON DRAWING SSP-1.

### STORM

17. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2, OR LATEST AMENDMENT. ALL NON-REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.1, OR LATEST AMENDMENT. PIPE SHALL BE JOINED WITH STD. RUBBER GASKETS AS PER CSA A257.3, OR LATEST AMENDMENT.
18. ALL STORM SEWER TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. S6 AND S7 CLASS 'B' UNLESS OTHERWISE SPECIFIED. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY PROJECT GEOTECHNICAL ENGINEER.
19. ALL PVC STORM SEWERS ARE TO BE SDR 35 APPROVED PER C.S.A. B182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE SPECIFIED.
20. CATCH BASIN SHALL BE IN ACCORDANCE WITH OPSD 705.010.
21. CATCH BASIN LEADS SHALL BE IN 200MM DIA. AT 1% SLOPE (MIN) UNLESS SPECIFIED OTHERWISE.
22. ALL CATCH BASINS SHALL HAVE 600MM SUMPS, UNLESS SPECIFIED OTHERWISE.
23. ALL CATCH BASIN LEAD INVERTS TO BE 1.5M BELOW FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
24. THE STORM SEWER CLASSES HAVE BEEN DESIGNED BASED ON BEDDING CONDITIONS SPECIFIED ABOVE, WHERE THE SPECIFIED TRENCH WIDTH IS EXCEEDED, THE CONTRACTOR IS REQUIRED TO PROVIDE AND SHALL BE RESPONSIBLE FOR EXTRA TEMPORARY AND/OR PERMANENT REPAIRS MADE NECESSARY BY THE WIDENED TRENCH.
25. ALL ROAD AND PARKING LOT CATCH BASINS TO BE INSTALLED WITH ORTHOGONALLY PLACED SUBDRAINS IN ACCORDANCE WITH DETAIL. PERFORATED SUBDRAIN FOR ROAD AND PARKING LOT CATCH BASIN SHALL BE INSTALLED PER CITY STD R1 UNLESS OTHERWISE NOTED.
26. PERFORATED SUBDRAIN FOR REAR YARD AND LANDSCAPING APPLICATIONS SHALL BE INSTALLED PER CITY STD S29, S30 AND S31, WHERE APPLICABLE.
27. RIP-RAP TREATMENT SEWER AND CULVERT OUTLETS PER OPSD 810.010.
28. ALL STORM SEWER/CULVERTS TO BE INSTALLED WITH FROST TREATMENT PER OPSD 803.031 WHERE APPLICABLE.
29. ALL STORM MANHOLES WITH PIPE LESS THAN 900MM IN DIAMETER SHALL BE CONSTRUCTED WITH A 300MM SUMP AS PER SDG, CLAUSE 6.2.

### WATERMAIN

30. ALL WATERMAIN INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
31. ALL PVC WATERMAINS SHALL BE AWWA C-900 CLASS 150, SDR 18 OR APPROVED EQUIVALENT.
32. ALL WATER SERVICES LESS THAN OR EQUAL TO 50MM IN DIAMETER TO BE TYPE 'K' COPPER.
33. WATERMAIN TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W17, UNLESS SPECIFIED OTHERWISE. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER.
34. ALL PVC WATERMAINS, SHALL BE INSTALLED WITH A 10 GAUGE STRANDED COPPER TWU OR RWU TRACER WIRE IN ACCORDANCE WITH CITY OF OTTAWA STD. W-36.
35. CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS PER CITY OF OTTAWA STD.25.5 AND W25.6.
36. VALVE BOXES SHALL BE INSTALLED PER CITY OF OTTAWA STD W24.
37. WATERMAIN IN FILL AREAS TO BE INSTALLED WITH RESTRAINED JOINTS PER CITY OF OTTAWA STD.25.5 AND W25.6.
38. THRUST BLOCKING OF WATERMAINS TO BE INSTALLED PER CITY OF OTTAWA STD. W25.3 AND W25.4.
39. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS, BLOW-OFFS, AND NOZZLES REQUIRED FOR TESTING AND DISINFECTION OF THE WATERMAIN.
40. WATERMAIN CROSSING OVER AND BELOW SEWERS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. W25.2 AND W25, RESPECTIVELY.
41. WATER SERVICES ARE TO BE INSULATED PER CITY STD. W23 WHERE SEPARATION BETWEEN SERVICES AND MAINTENANCE HOLES ARE LESS THAN 2.4M.
42. THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER/UTILITY IS 0.5M PER MOE GUIDELINES. FOR CROSSING UNDER SEWERS, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING TO ENSURE THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.
43. ALL WATERMAINS SHALL HAVE A MINIMUM COVER OR 2.4M, OTHERWISE THERMAL INSULATION IS REQUIRED AS PER STD DWG W22.
44. GENERAL WATER PLANT TO UTILITY CLEARANCE AS PER STD DWG R20.
45. FIRE HYDRANT INSTALLATION AS PER STD DWG W19. ALL BOTTOM OF HYDRANT FLANGE ELEVATIONS TO BE INSTALLED 0.10M ABOVE PROPOSED FINISHED GRADE AT HYDRANT; FIRE HYDRANT LOCATION AS PER STD DWG W18.
46. BUILDING SERVICE TO BE CAPPED 1.0M OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED AND MUST BE RESTRAINED A MINIMUM OF 12M BACK FROM STUBS.
47. ALL WATERMAINS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES UNLESS OTHERWISE DIRECTED. PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED.
48. ALL WATERMAINS SHALL BE BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES. ALL CHLORINATED WATER TO BE DISCHARGED AND PRETREATED TO ACCEPTABLE LEVELS PRIOR TO DISCHARGE. ALL DISCHARGED WATER MUST BE CONTROLLED AND TREATED SO AS NOT TO ADVERSELY EFFECT ENVIRONMENT. IT IS RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MUNICIPAL AND/OR PROVINCIAL REQUIREMENTS ARE FOLLOWED.
49. ALL WATERMAIN STUBS SHALL BE TERMINATED WITH A PLUG AND 50MM BLOW OFF UNLESS OTHERWISE NOTED.

### USE AND INTERPRETATION OF DRAWINGS

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWINGS. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE DRAWING CONTRACTORS AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILS UNLESS OTHERWISE SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

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### UNAUTHORIZED CHANGES

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IN ADDITION, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

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**SUBJECT TO APPROVAL**

No.	REVISIONS	BY	DATE
04	ISSUED FOR MUNICIPAL APPROVAL	K.H.	23 APR 2024
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NOT AUTHENTIC UNLESS SIGNED AND DATED

**LRJ**  
ENGINEERING | INGENIERIE  
5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lrl.ca | (613) 842-3434

CLIENT  
**LANDRIC HOMES**  
1173 CYRVILLE RD, SUITE 202,  
OTTAWA ON K1J 7S6

DESIGNED BY: K.H. DRAWN BY: K.H. APPROVED BY: V.J.

**NAVAN STACKED TOWN HOMES**  
6001/6005 RENAUD RD,  
OTTAWA, ONTARIO

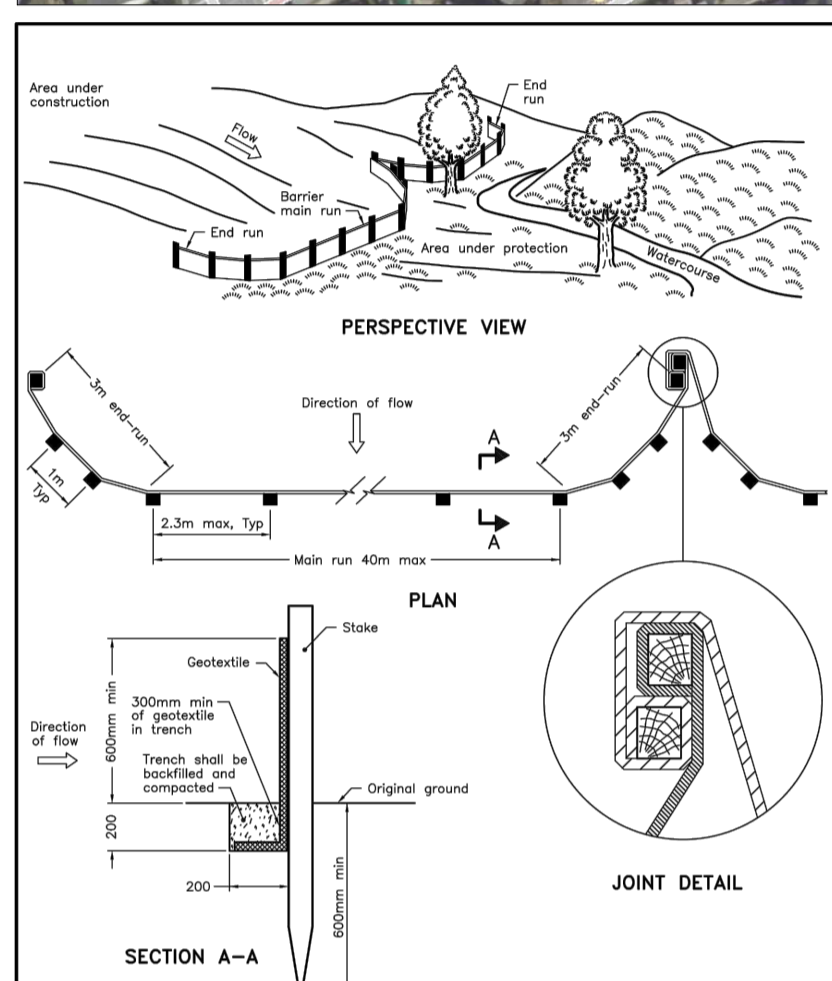
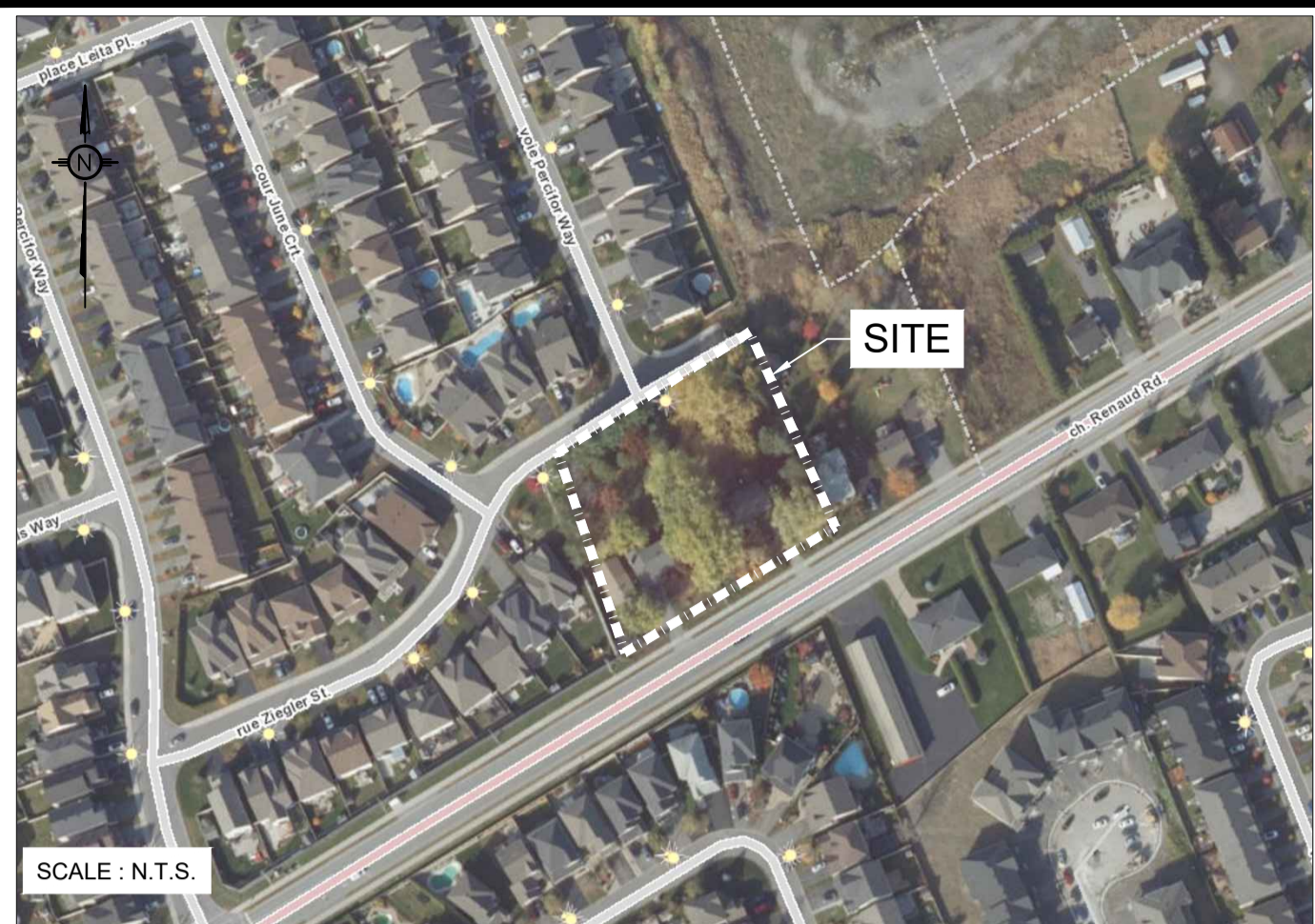
DRAWING TITLE

**GENERAL NOTES**

PROJECT NO.  
210216

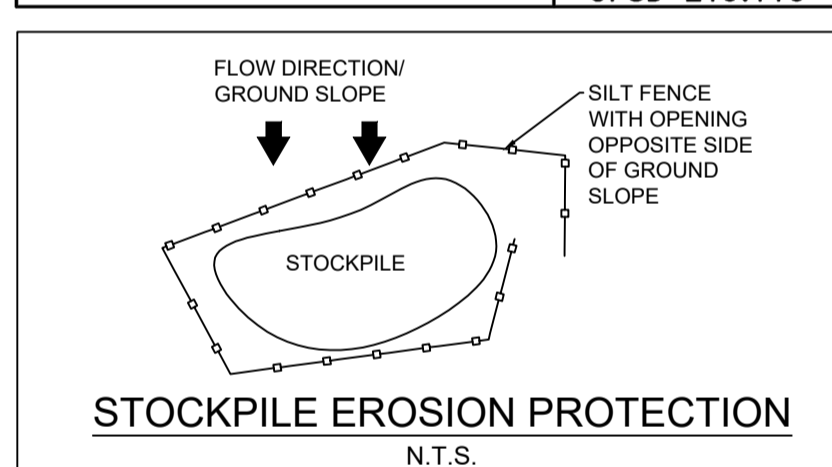
DATE  
NOVEMBER 2021

**C001**

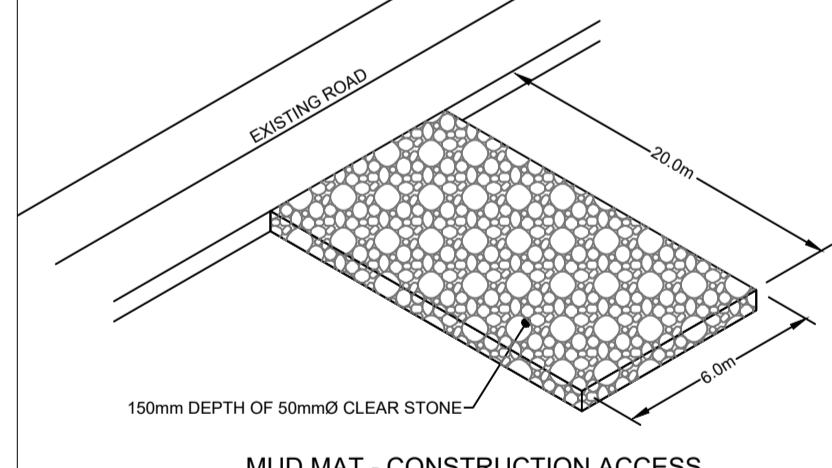


NOTE:  
A: All dimensions are in millimetres unless otherwise shown.

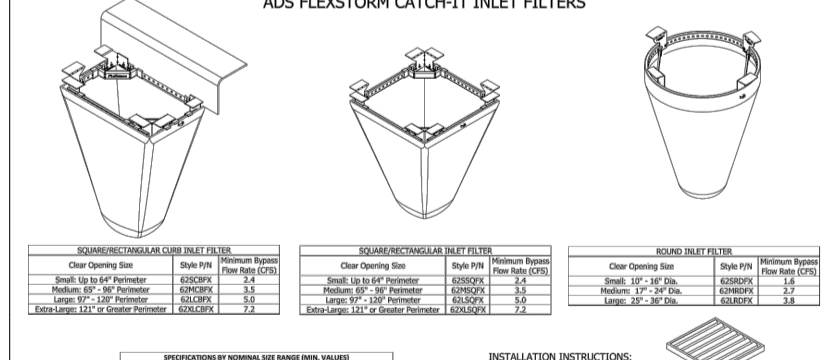
ONTARIO PROVINCIAL STANDARD DRAWING Nov 2021 Rev 3  
**LIGHT-DUTY SILT FENCE BARRIER** OPSPD 219.110



**STOCKPILE EROSION PROTECTION**  
N.T.S.



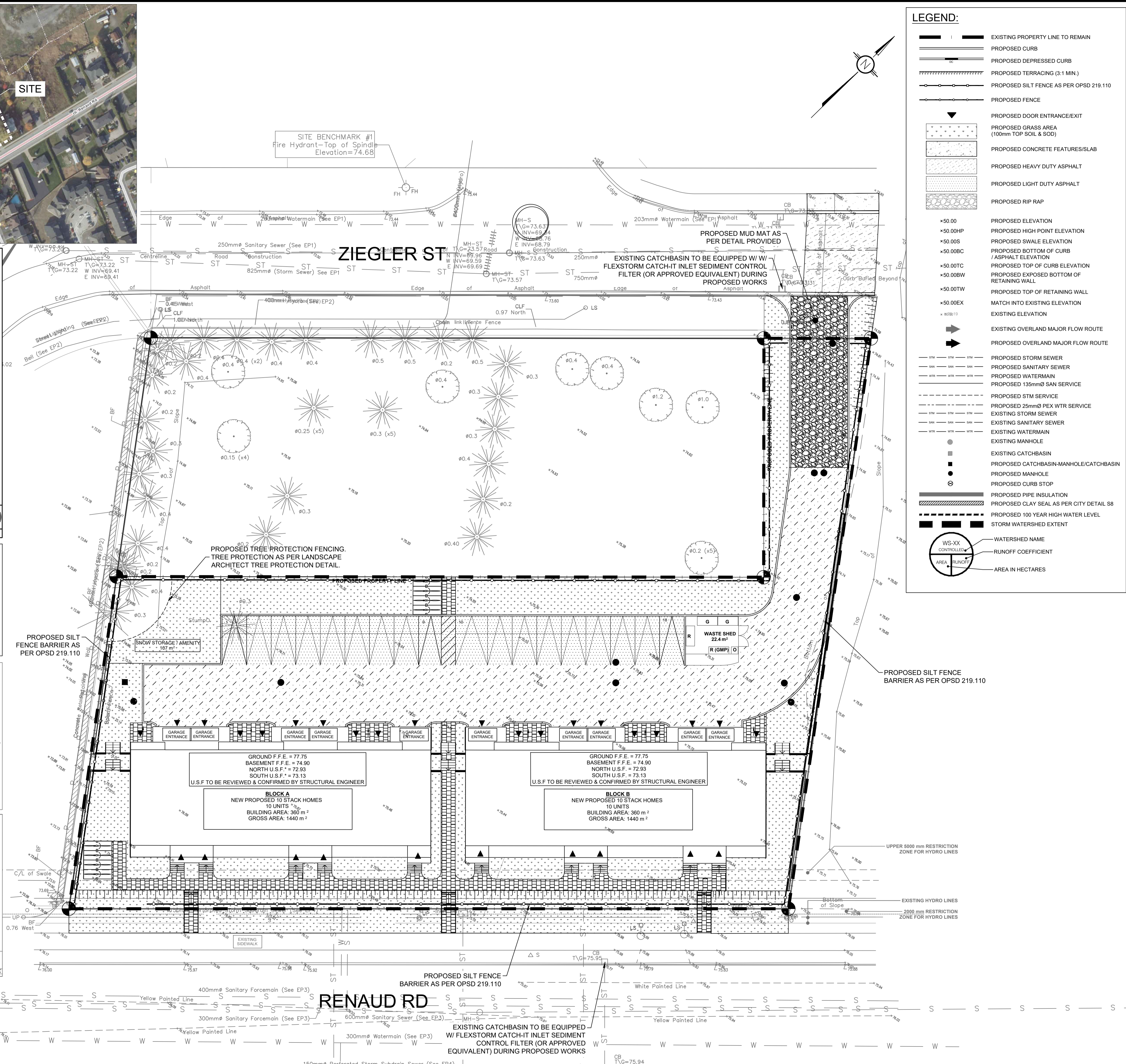
**MUD MAT - CONSTRUCTION ACCESS**  
N.T.S.



**ADS FLEXSTORM CATCH-IT INLET FILTERS**

NOTES:  
1. ALL WORKING IS CONSTRUCTED OF 100% GALVANIZED STEEL.  
2. TOTAL SPREAD CAPACITY SHALL BE BASED ON THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.  
3. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
5. FOR MATERIAL SPECIFICATIONS AND HANDLING GUIDELINES VISIT WWW.ADSAPP.COM

ALL MATERIALS AND METHODS SHALL BE APPROVED BY THE ENGINEER.  
FOR APPROVED MATERIALS AND METHODS VISIT WWW.ADSAPP.COM  
PH: 1-800-863-4712  
WWW.ADSAPP.COM



**LEGEND:**

[Symbol]	EXISTING PROPERTY LINE TO REMAIN
[Symbol]	PROPOSED CURB
[Symbol]	PROPOSED DEPRESSED CURB
[Symbol]	PROPOSED TERRACING (3:1 MIN.)
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SCALE: 1:200

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SCALE: 1:200

**LRI**  
ENGINEERING | INGENIERIE  
5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lri.ca | (613) 842-3434

CLIENT: **LANDRIC HOMES**  
1173 CYVILLE RD, SUITE 202,  
OTTAWA ON K1J 7S6

DESIGNED BY: K.H. DRAWN BY: K.H. APPROVED BY: V.J.

PROJECT: **NAVAN STACKED TOWN HOMES**  
6001/6005 RENAUD RD,  
OTTAWA, ONTARIO

DRAWING TITLE: **EROSION AND SEDIMENT CONTROL PLAN**

PROJECT NO: 210216  
DATE: NOVEMBER 2021

**C101**

PLAN # 18659

CITY FILE # D07-12-21-0239







PIPE CROSSING TABLE (+)						
CROSSING ID	PROP. 150mm WTR SERV INV	PROP. 150mm SAN SERV OBV	EX. 250mm SAN SWR OBV	EX. 750mm STM SWR OBV	EX. 750mm STM SWR INV	CLEARANCE (m)
1	70.81		69.18			1.63
2	71.14			70.64		0.50
3		69.22			69.89	0.77

**LEGEND:**

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- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MIN.)
- PROPOSED SILT FENCE AS PER OPSD 219.110
- PROPOSED FENCE
- PROPOSED DOOR ENTRANCE/EXIST
- PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
- PROPOSED CONCRETE FEATURES/SLAB
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED RIP RAP
- PROPOSED ELEVATION
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- EXISTING ELEVATION
- EXISTING OVERLAND MAJOR FLOW ROUTE
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- PROPOSED CATCHBASIN-MANHOLE/CATCHBASIN
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- STORM WATERSHED EXTENT
- WATERSHED NAME
- RUNOFF COEFFICIENT
- AREA IN HECTARES

CONTRACTOR TO FIELD VERIFY ALL SEWER / MAIN ELEVATIONS. ANY DISCREPANCIES IN DATA ARE TO BE REVIEWED WITH THE CIVIL ENGINEER PRIOR TO SERVICE INSTALLATION.

CONNECTION TO EXISTING 250mmØ AS PER CITY STD S11. EX SAN SWR INV = ±68.93 PROP SAN SERV OBV = 69.03

PIPE CROSSING 3 EX STM SWR INV = ±69.89 PROP SAN SERV OBV = 69.22 CLEARANCE = 0.77m

PROP CONNECTION TO EXISTING 750mmØ STM SEWER EX STM SWR INV = ±69.89 EX STM SWR SL ELEV = ±70.27 PROP STM SERV INV = 70.27

PROP CONNECTION TO 203mmØ WATERMAIN BY CITY FORCES. EXCAVATION AND REINSTATEMENT BY CONTRACTOR EX WTR MAIN OBV = ±70.96 PROP WTR SERV OBV = 70.96 TOP OF GRADE = ±73.45

PIPE CROSSING 1 EX SAN SWR OBV = ±69.18 PROP WTR SERV INV = 70.81 CLEARANCE = 1.63m

PIPE CROSSING 2 EX STM SWR OBV = ±70.64 PROP WTR SERV INV = 71.14 CLEARANCE = 0.50m

PROP. AUTOMATIC FLUSHING CHAMBER AS PER CITY OF OTTAWA DETAIL W3.2

PROP. 21.5m - 300mmØ PVC-DR35 STM SERVICE @ 0.50% SLOPE

PROP. 23.7m - 150mmØ PVC-DR28 SAN SERVICE @ 2.00% SLOPE

PROP. SAN MH01 COVER AS PER S24 TIG = 74.58 NW INV = 69.50 SE INV = 70.08

PROP. STM MH01 COVER AS PER S24.1 TIG = 74.60 NW INV = 71.44 SE INV = 71.47 NW INV TO BE EQUIPPED W/ HYDROVEX 75VHV-1 VERTICAL VORTEX FLOW REGULATOR DESIGN HEAD = 3.10m MAX FLOW RATE = 6.62L/s

PROP. 13.3m - 300mmØ PVC-DR35 STM SERVICE @ 0.50% SLOPE

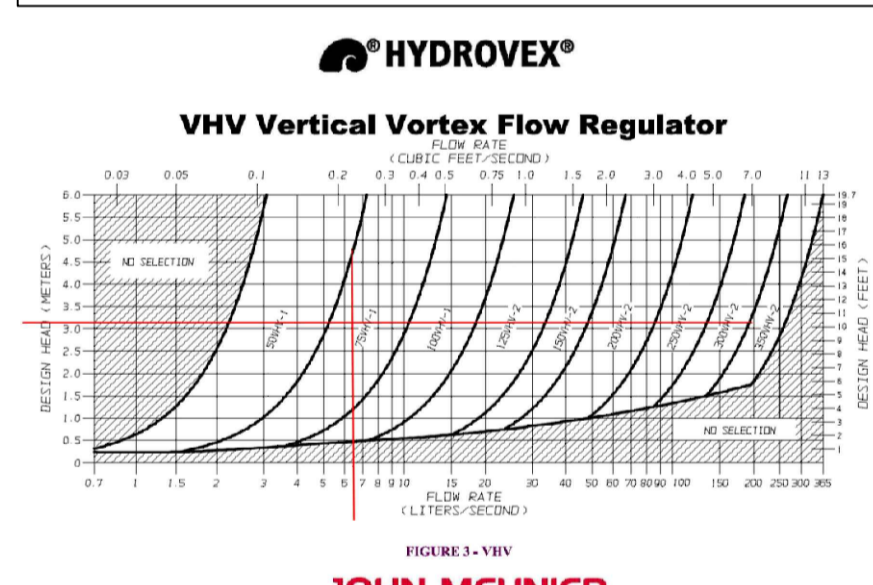
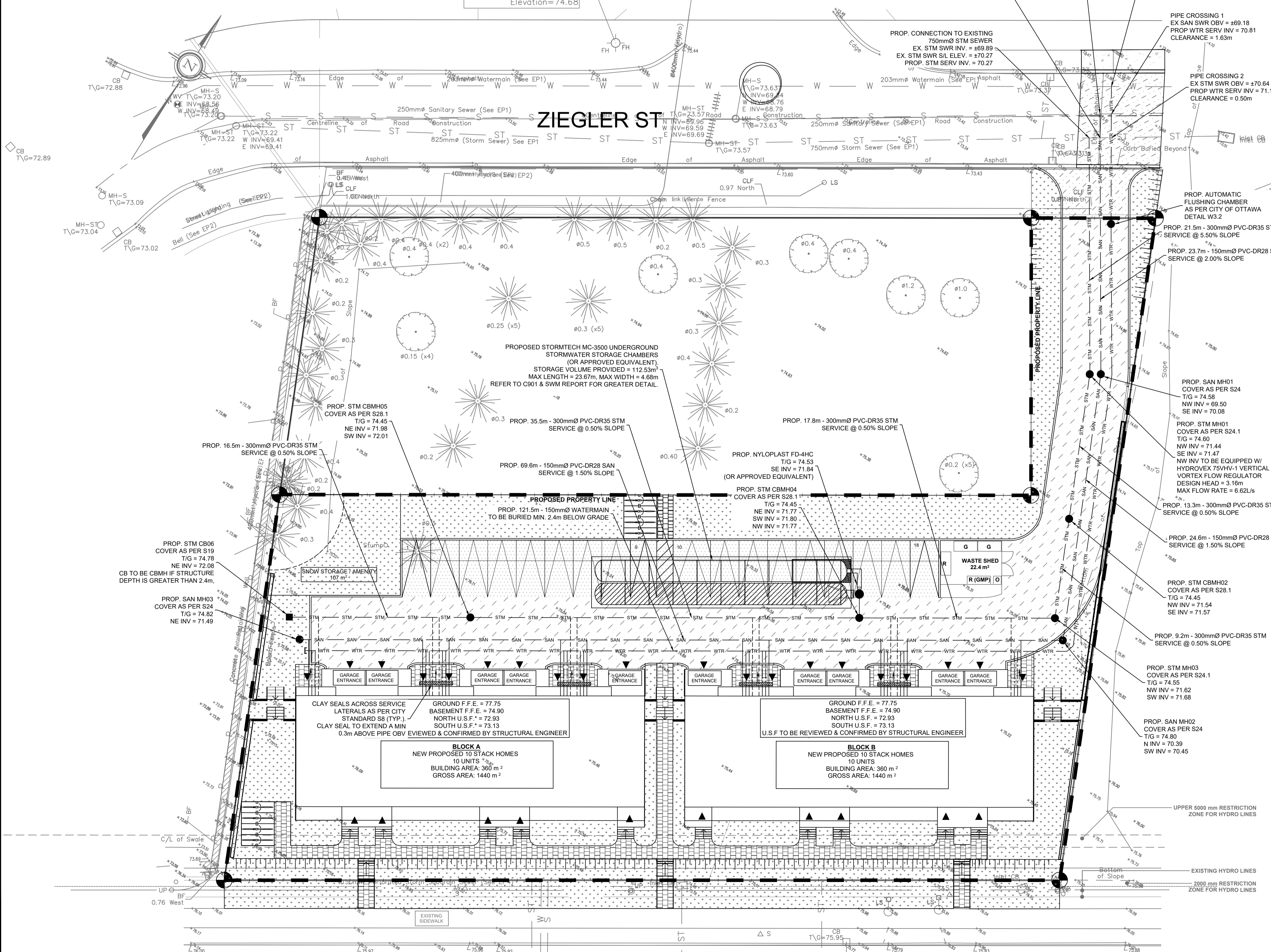
PROP. 24.6m - 150mmØ PVC-DR28 SAN SERVICE @ 1.50% SLOPE

PROP. STM CBMH02 COVER AS PER S28.1 TIG = 74.45 NW INV = 71.54 SE INV = 71.57

PROP. 9.2m - 300mmØ PVC-DR35 STM SERVICE @ 0.50% SLOPE

PROP. STM MH03 COVER AS PER S24.1 TIG = 74.55 NW INV = 71.62 SW INV = 71.68

PROP. SAN MH02 COVER AS PER S24 TIG = 74.80 N INV = 70.39 SW INV = 70.45



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CLIENT: **LANDRIC HOMES**  
1173 CYRVILLE RD, SUITE 202, OTTAWA ON K1J 7S6

DESIGNED BY: K.H. DRAWN BY: K.H. APPROVED BY: V.J.

PROJECT: **NAVAN STACKED TOWN HOMES**  
6001/6005 RENAUD RD, OTTAWA, ONTARIO

DRAWING TITLE: **SERVICING PLAN**

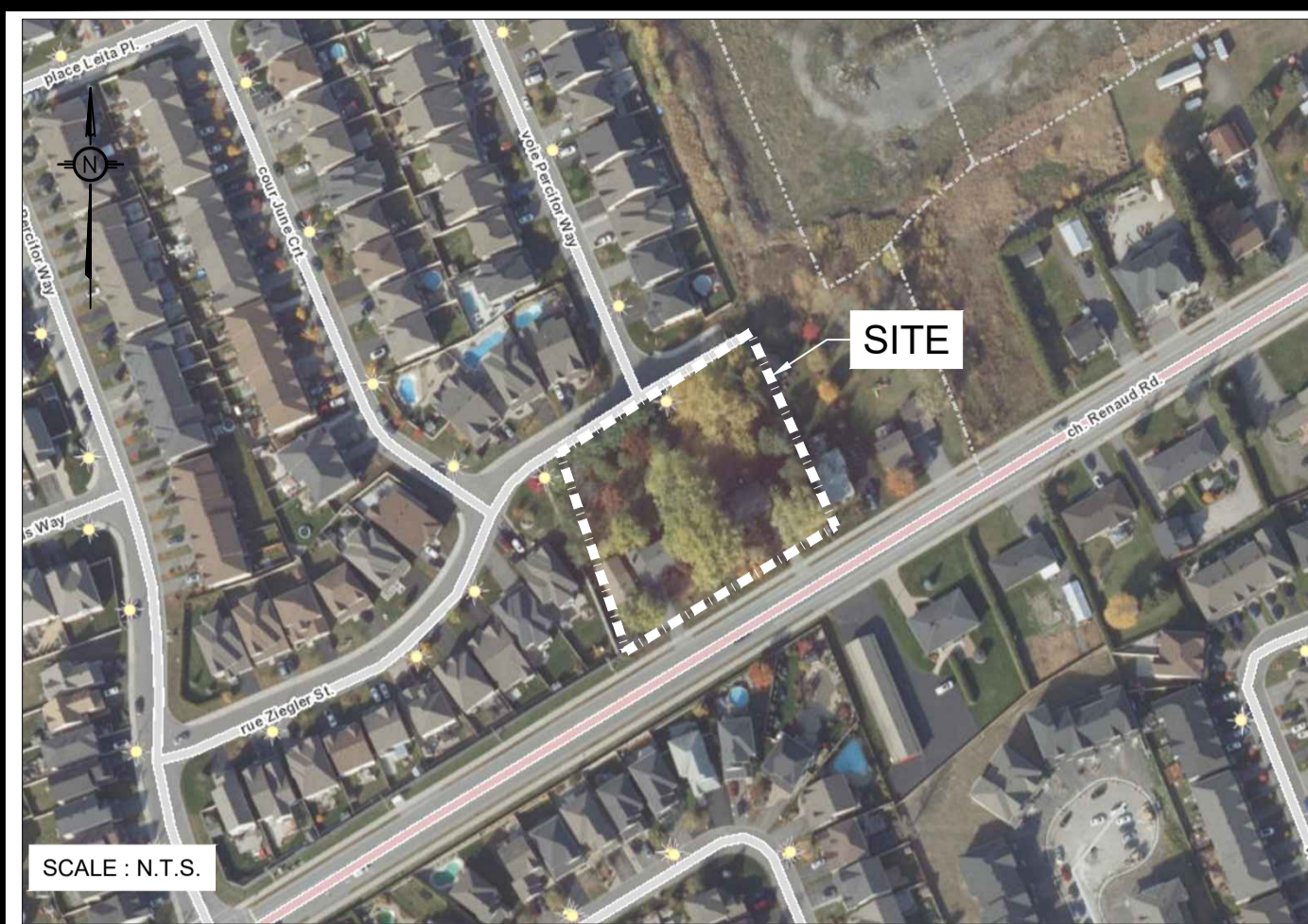
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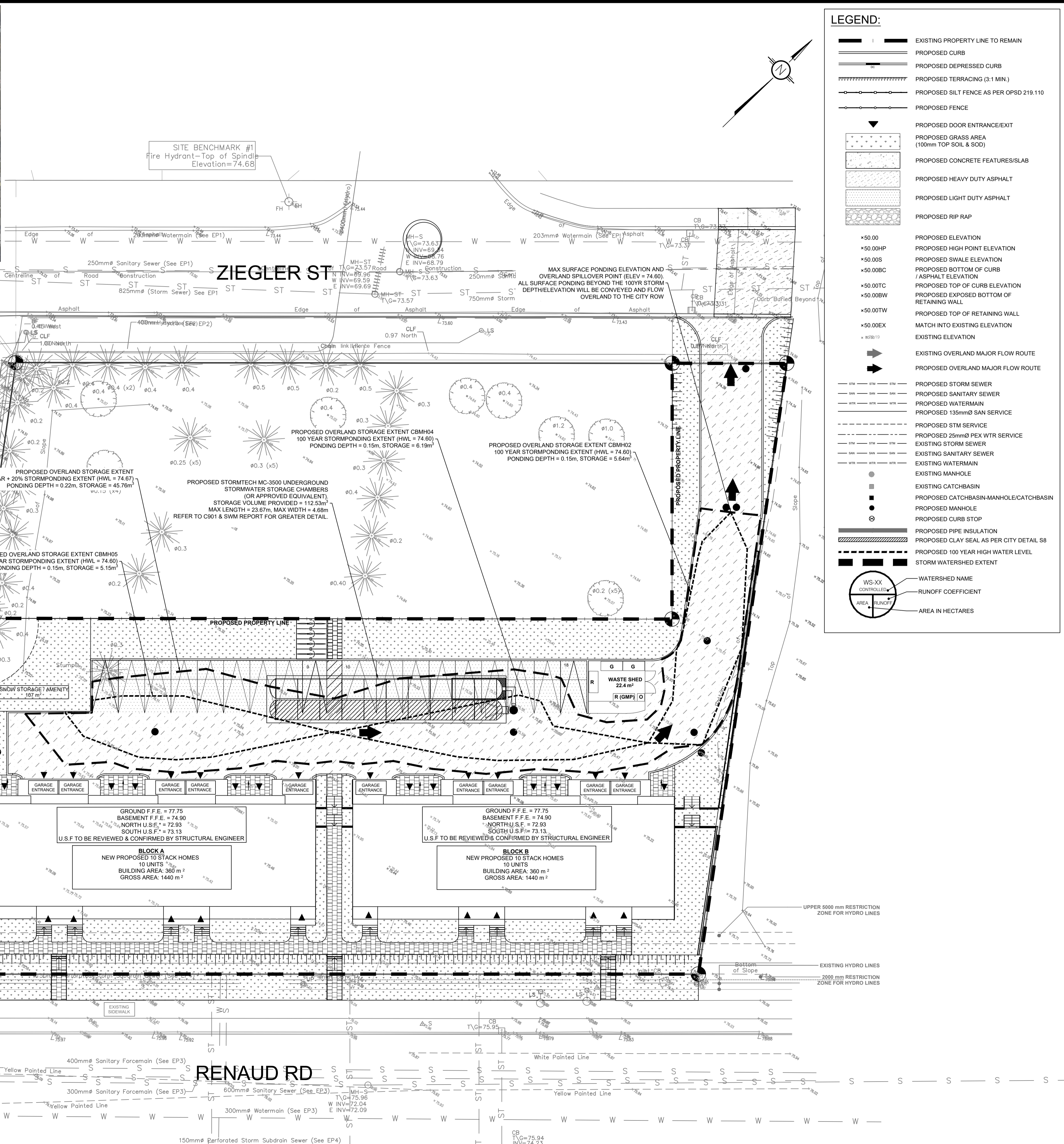
**C401**

PROJECT NO: 210216

DATE: NOVEMBER 2021



SCALE : N.T.S.



### LEGEND:

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- PROPOSED PIPE INSULATION
- PROPOSED CLAY SEAL AS PER CITY DETAIL S8
- PROPOSED 100 YEAR HIGH WATER LEVEL
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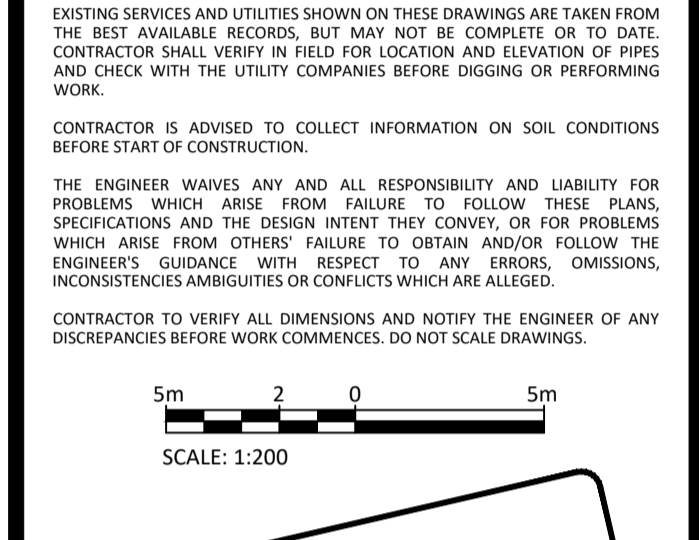
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NOT AUTHENTIC UNLESS SIGNED AND DATED

LRJ

ENGINEERING | INGENIERIE  
5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lrl.ca | (613) 842-3434

CLIENT: **LANDRIC HOMES**  
1173 CRYVILLE RD, SUITE 202,  
OTTAWA ON K1J 7S6

DESIGNED BY: **K.H.**    DRAWN BY: **K.H.**    APPROVED BY: **V.J.**

PROJECT: **NAVAN STACKED TOWN HOMES**  
6001/6005 RENAUD RD,  
OTTAWA, ONTARIO

DRAWING TITLE: **STORMWATER MANAGEMENT PLAN**

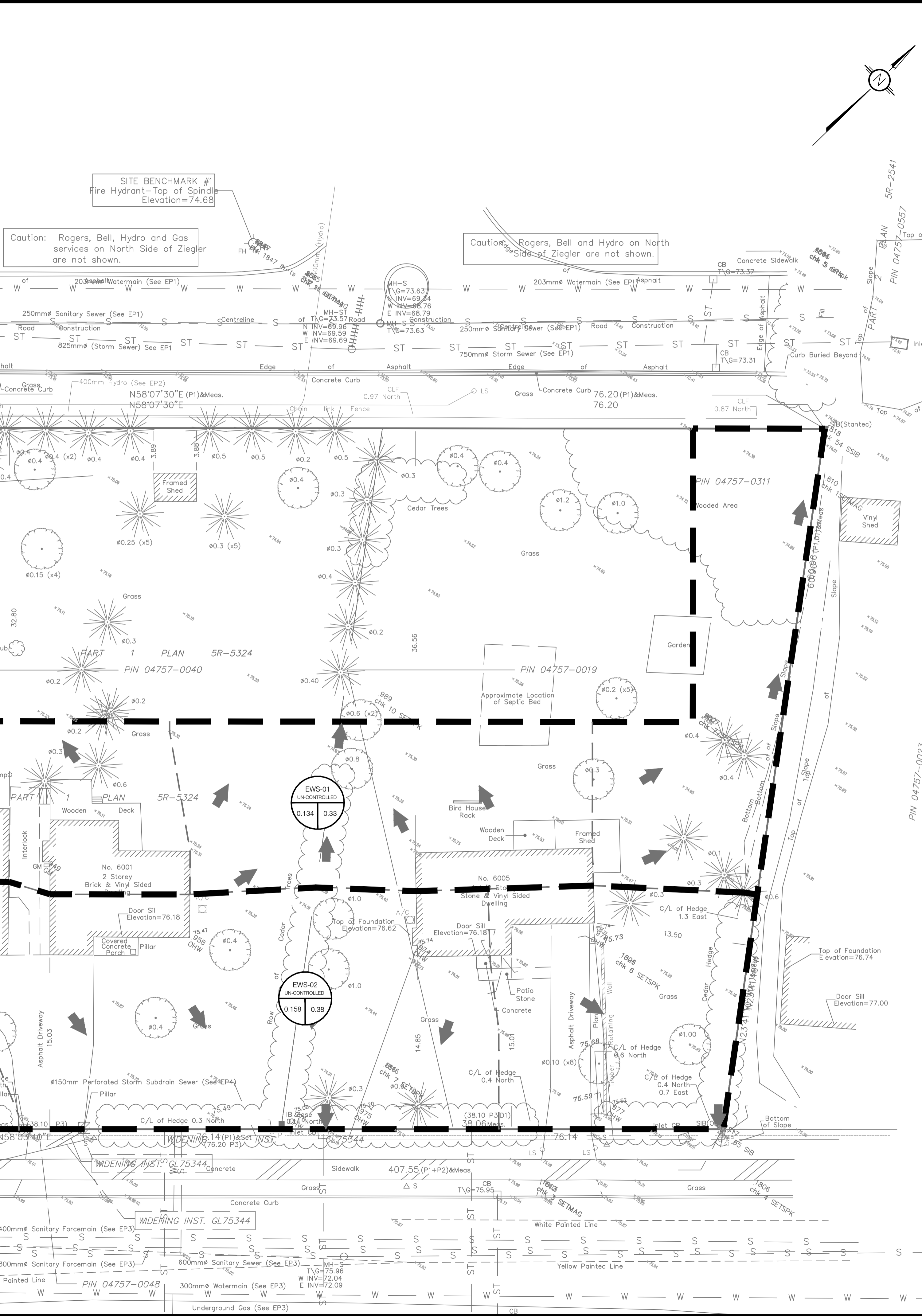
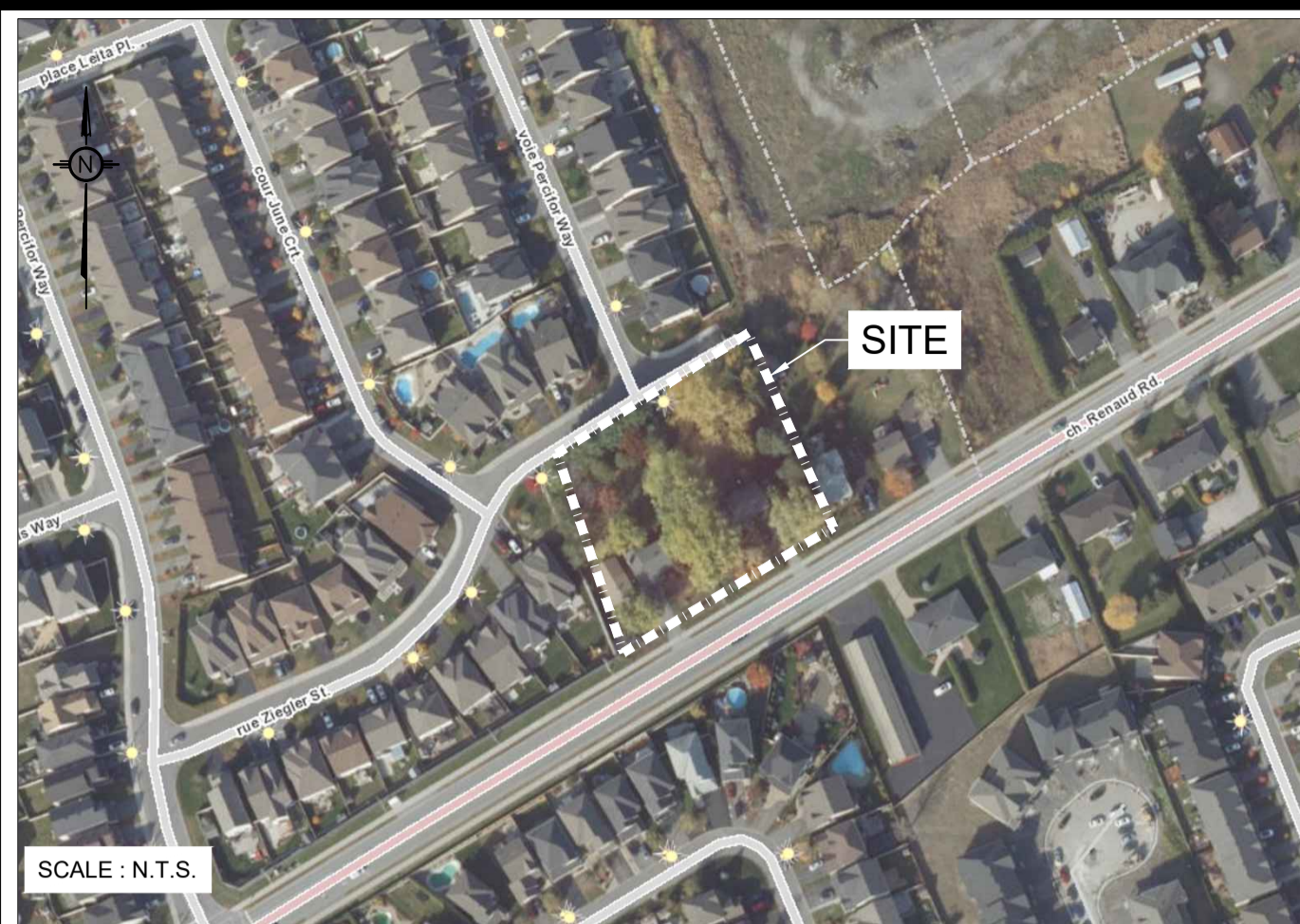
PROJECT NO. **210216**

DATE: **NOVEMBER 2021**

C601

PLAN # 18659

CITY FILE # D07-12-21-0239



**LEGEND:**

- EXISTING PROPERTY LINE TO REMAIN
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- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MIN.)
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- PROPOSED FENCE
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- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED RIP RAP
- PROPOSED ELEVATION
- PROPOSED HIGH POINT ELEVATION
- PROPOSED SWALE ELEVATION
- PROPOSED BOTTOM OF CURB / ASPHALT ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED EXPOSED BOTTOM OF RETAINING WALL
- PROPOSED TOP OF RETAINING WALL
- MATCH TO EXISTING ELEVATION
- EXISTING ELEVATION
- EXISTING OVERLAND MAJOR FLOW ROUTE
- PROPOSED OVERLAND MAJOR FLOW ROUTE
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- PROPOSED 153mmØ SAN SERVICE
- PROPOSED STM SERVICE
- PROPOSED 25mmØ PEX WTR SERVICE
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING MANHOLE
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SCALE: 1:200

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CLIENT: **LANDRIC HOMES**  
1173 CYRVILLE RD, SUITE 202,  
OTTAWA ON K1J 756

DESIGNED BY: **K.H.** DRAWN BY: **K.H.** APPROVED BY: **V.J.**

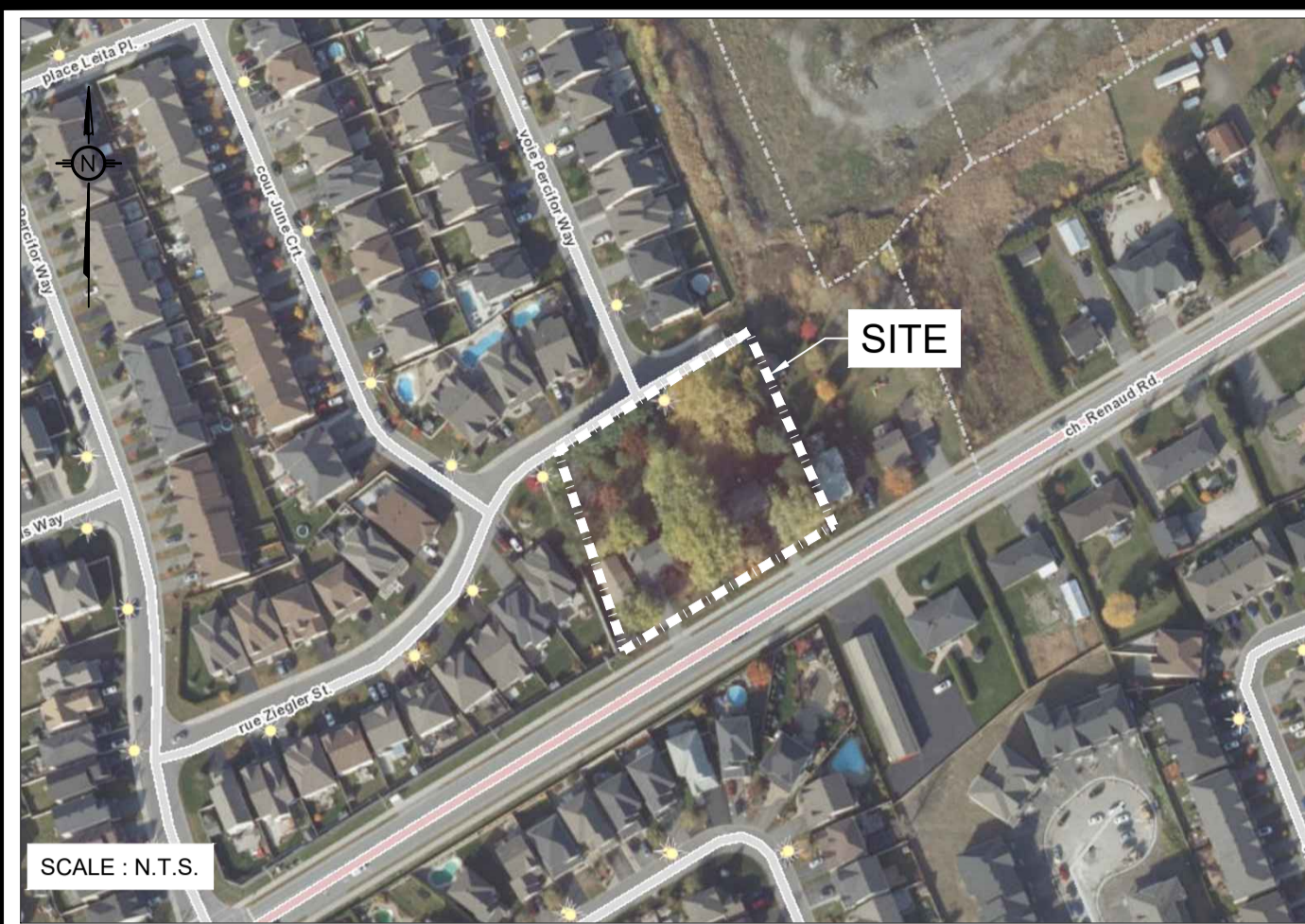
PROJECT: **NAVAN STACKED TOWN HOMES**  
6001/6005 RENAUD RD,  
OTTAWA, ONTARIO

DRAWING TITLE: **PRE-DEVELOPMENT WATERSHED PLAN**

PROJECT NO: **210216**  
DATE: **NOVEMBER 2021**

C701





SCALE: N.T.S.

SITE

SITE BENCHMARK #1  
Fire Hydrant - Top of Spindle  
Elevation = 74.68

ZIEGLER ST

RENAUD RD

**LEGEND:**

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- PROPOSED WATERMAIN
- PROPOSED 135mm SAN SERVICE
- PROPOSED STM SERVICE
- PROPOSED 25mm PEX WTR SERVICE
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING MANHOLE
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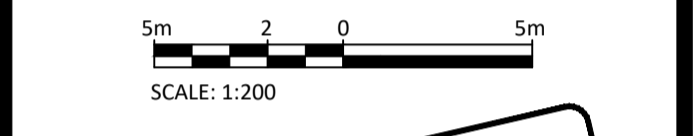
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1173 CYRVILLE RD, SUITE 202,  
OTTAWA ON K1J 7S6

DESIGNED BY: K.H. DRAWN BY: K.H. APPROVED BY: V.J.

PROJECT: **NAVAN STACKED TOWN HOMES**  
6001/6005 RENAUD RD,  
OTTAWA, ONTARIO

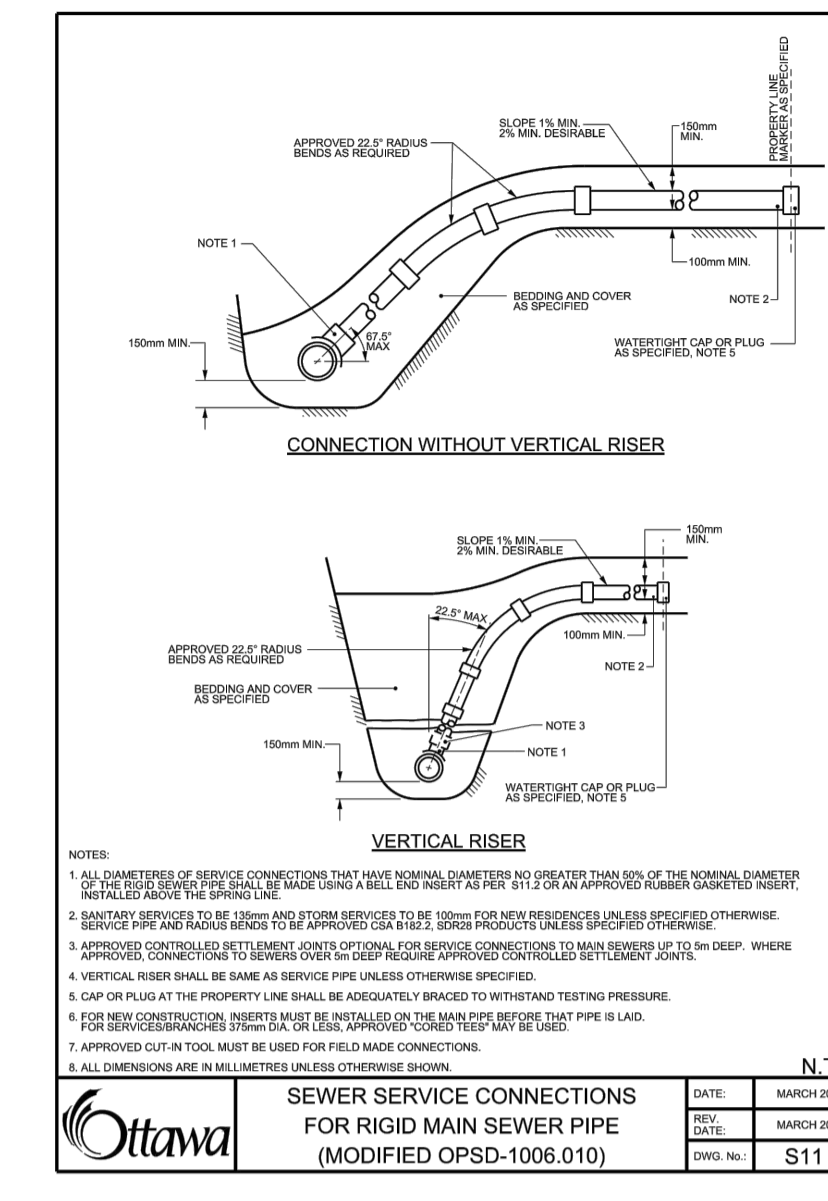
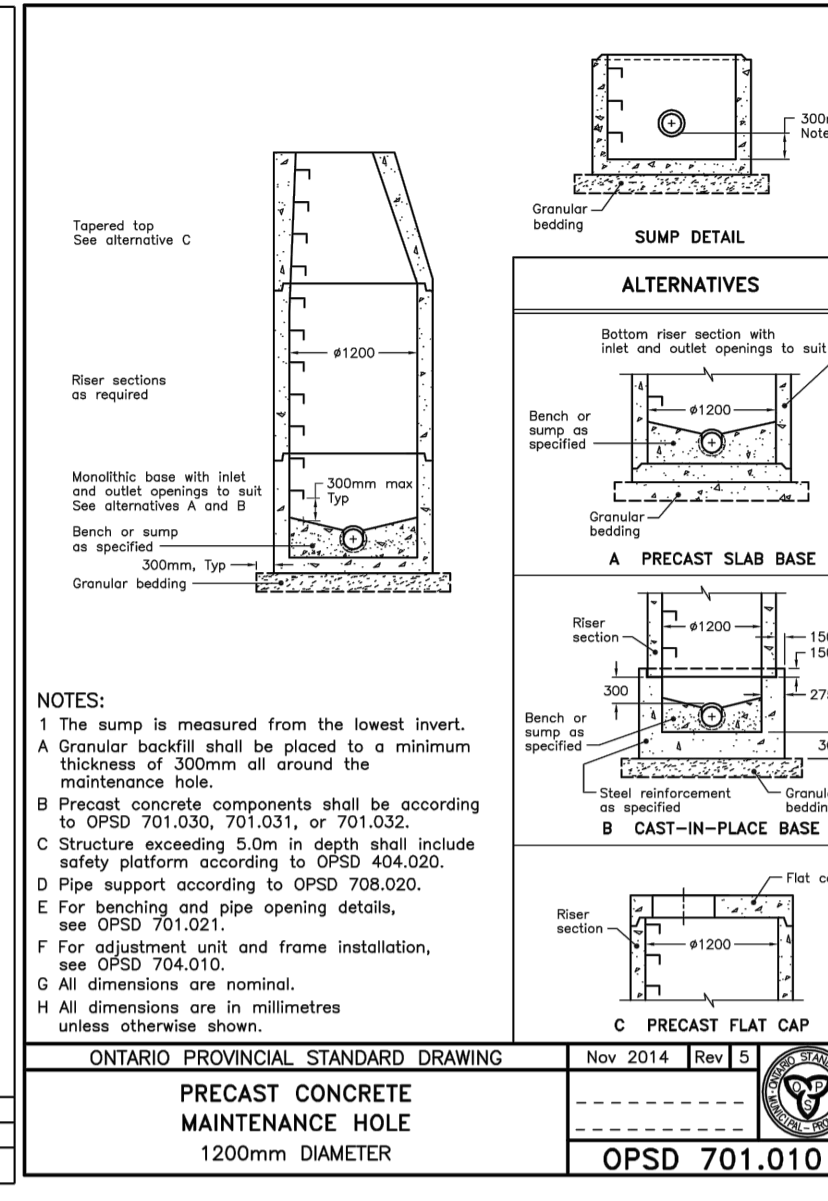
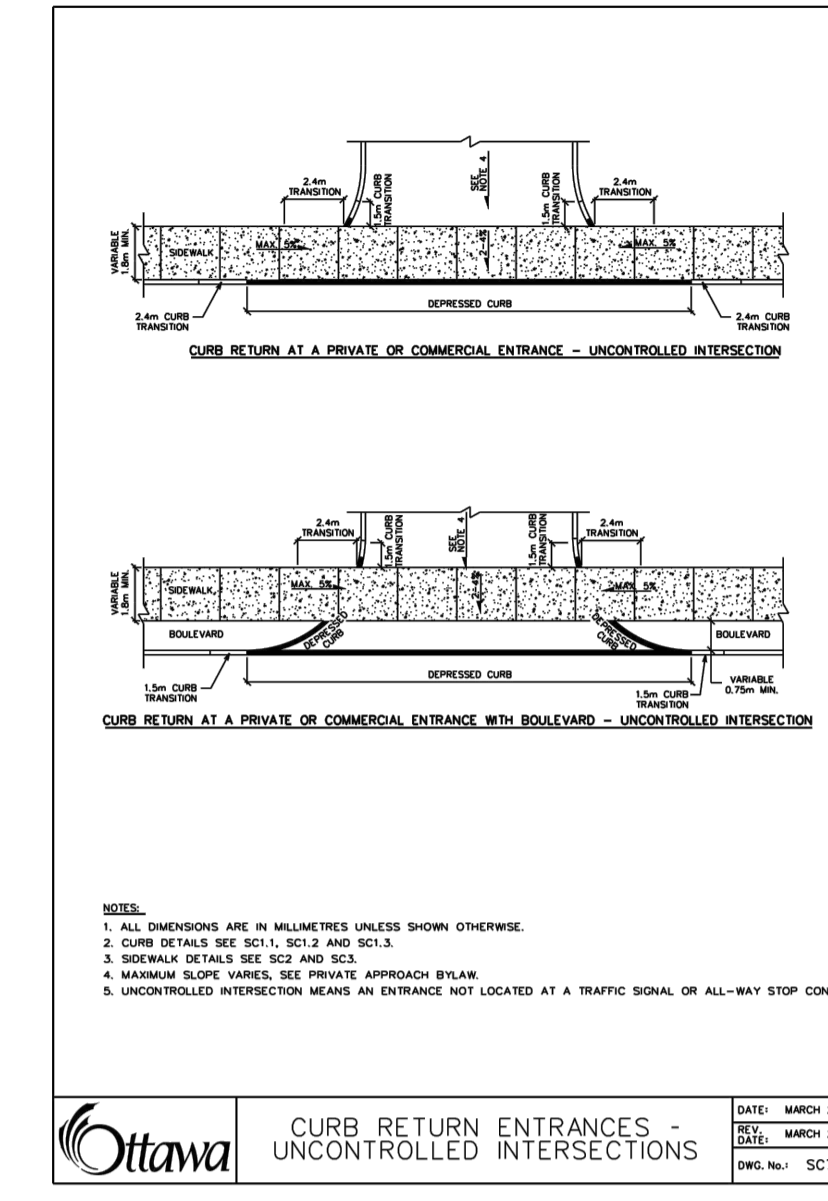
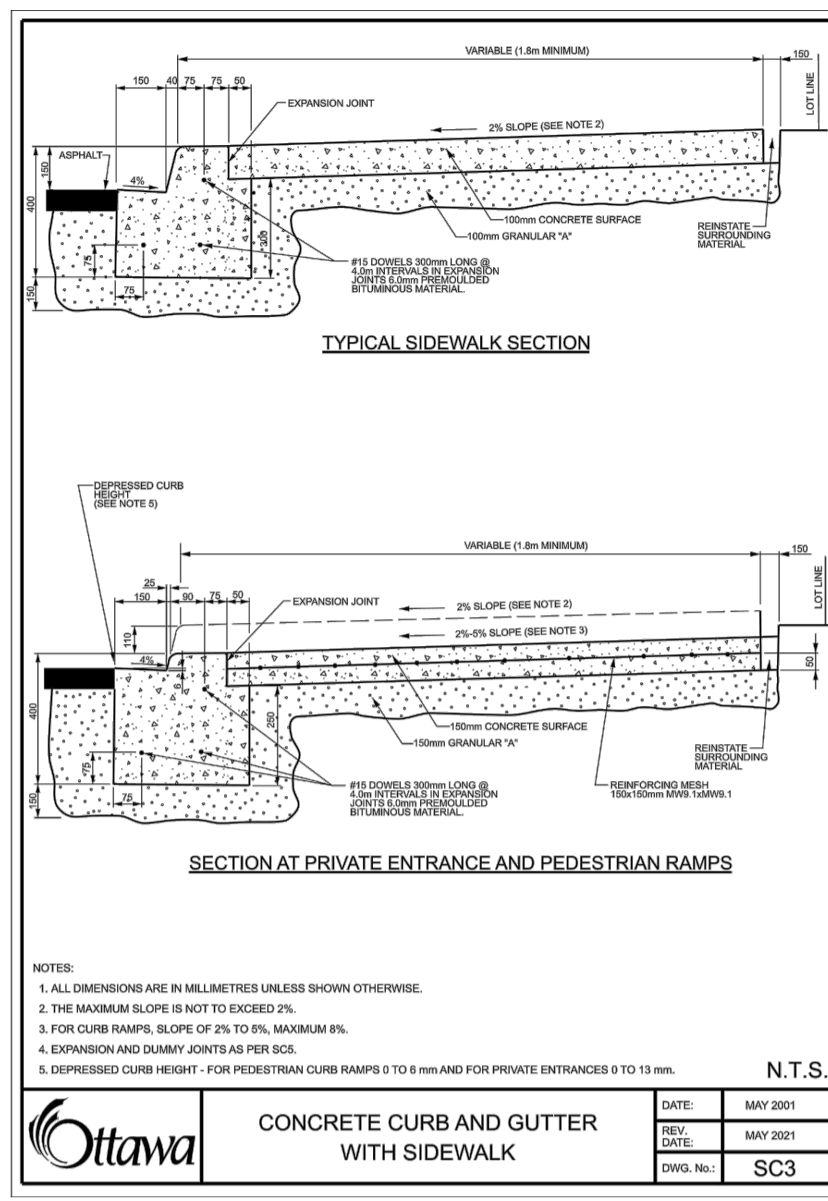
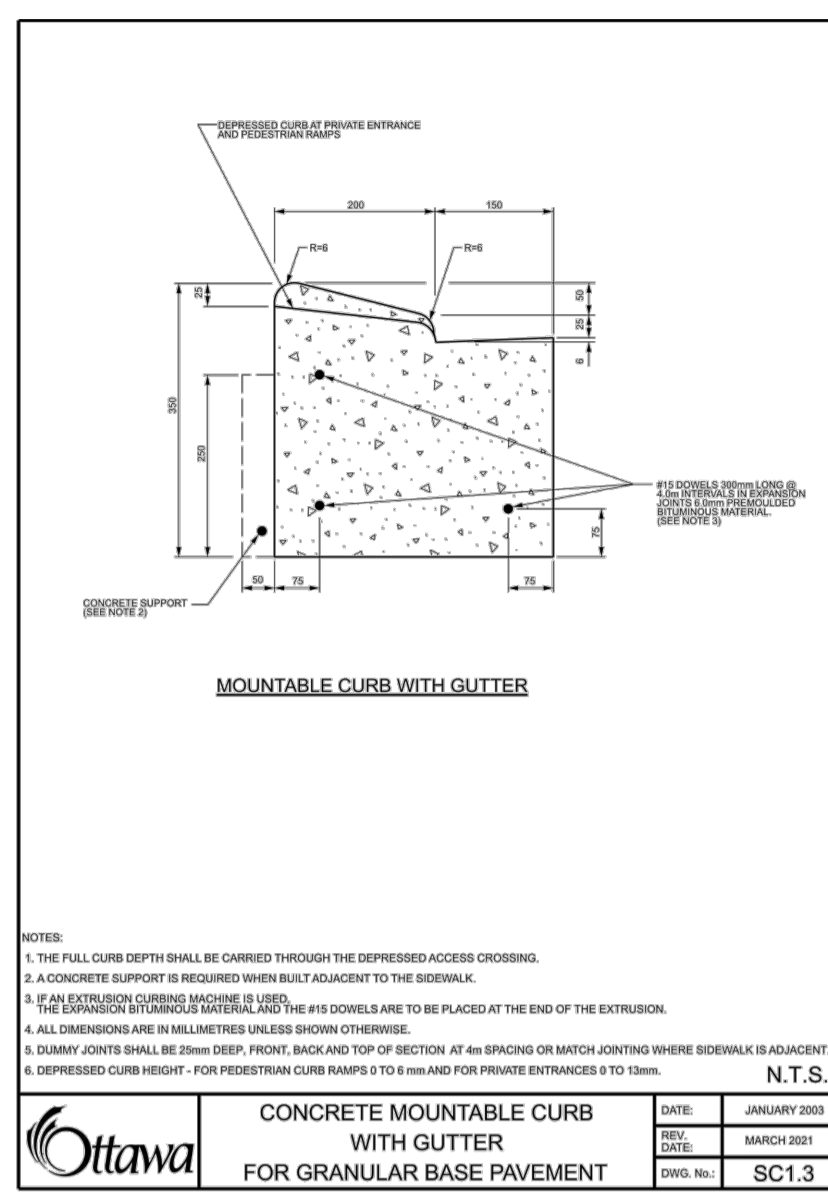
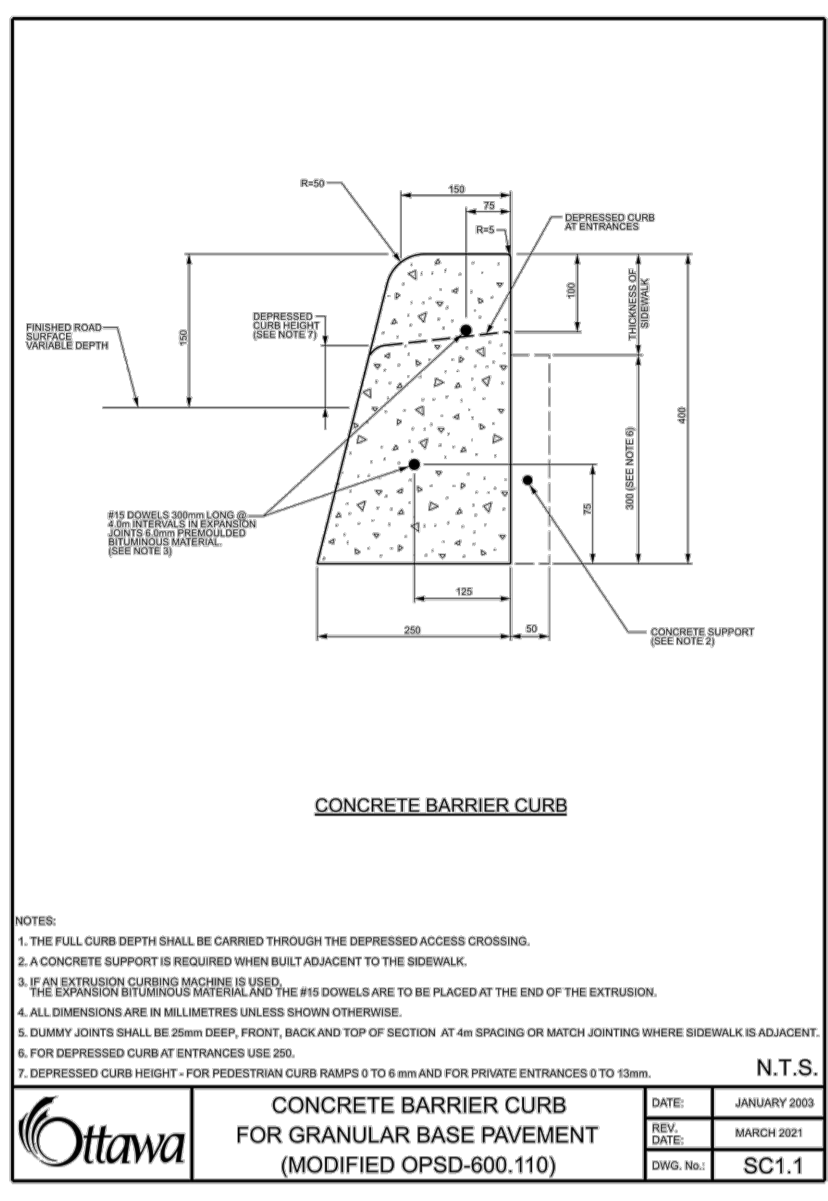
DRAWING TITLE: **POST-DEVELOPMENT WATERSHED PLAN**

PROJECT NO: 210216  
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PLAN # 18659

CITY FILE # D07-12-21-0239



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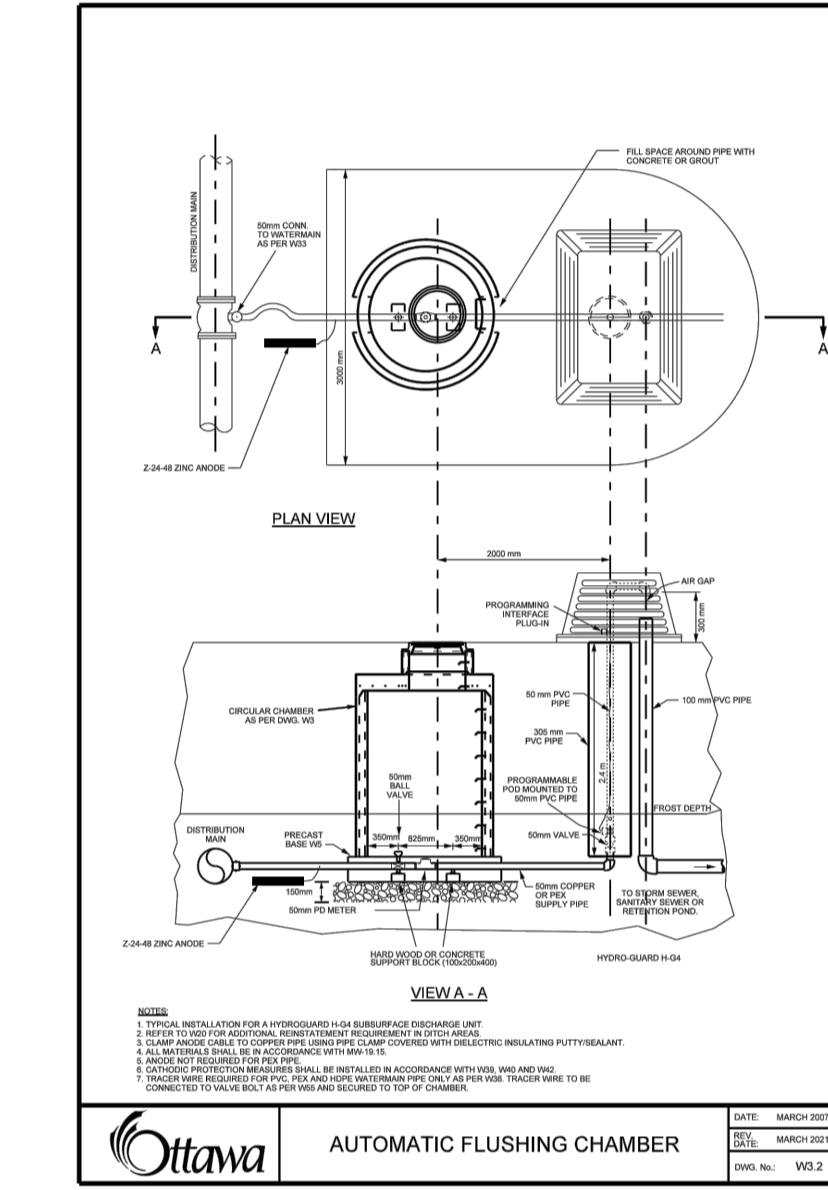
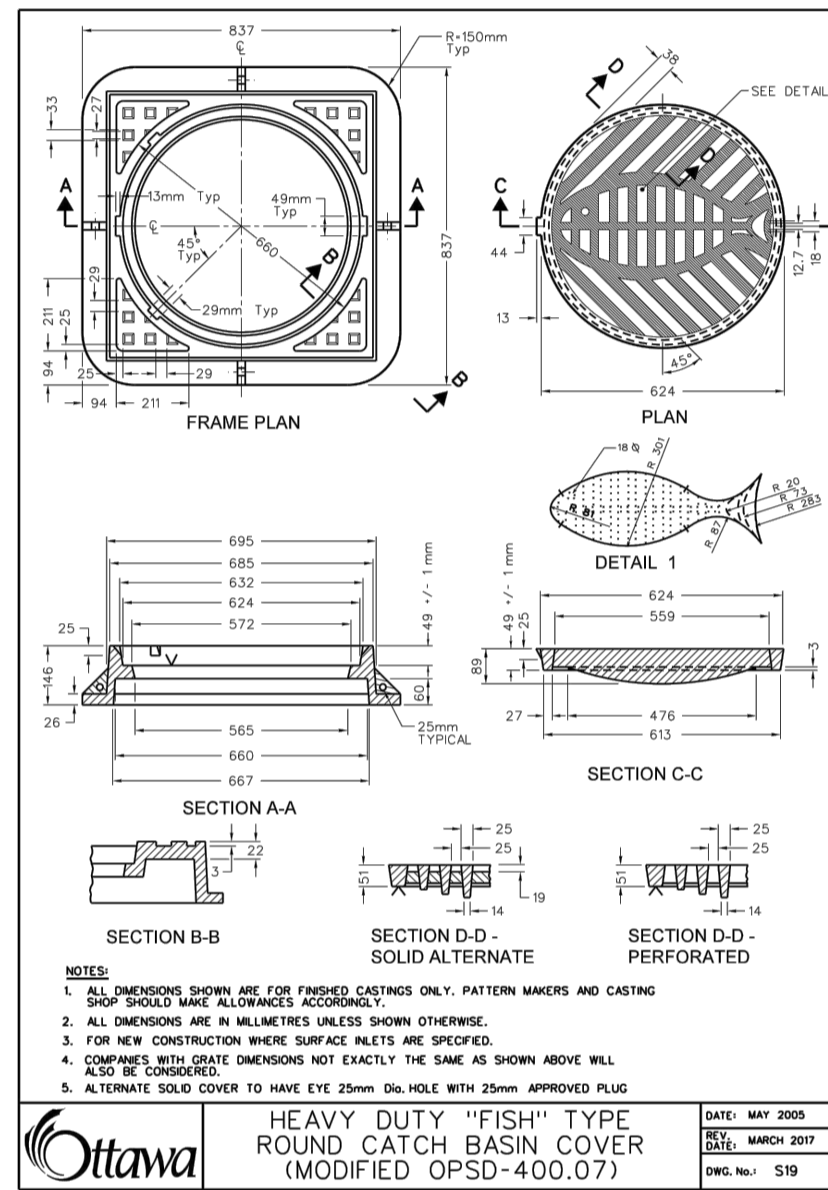
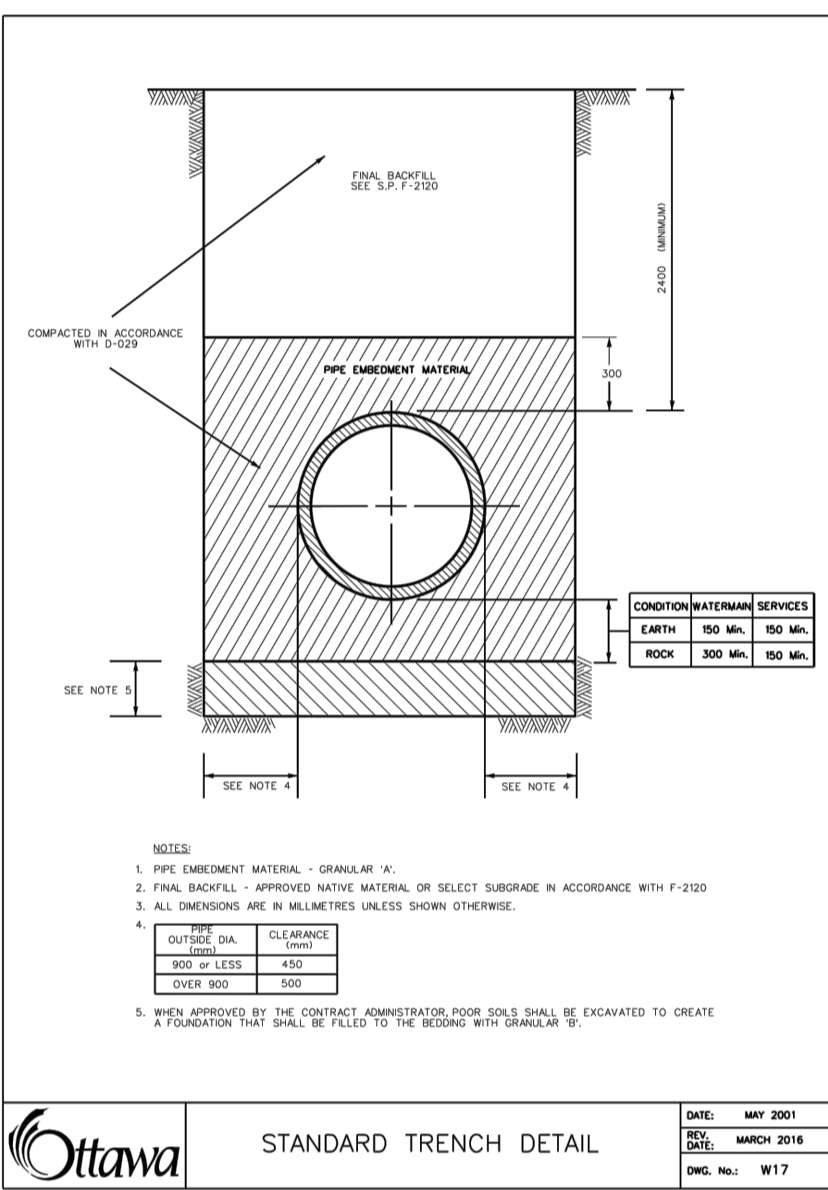
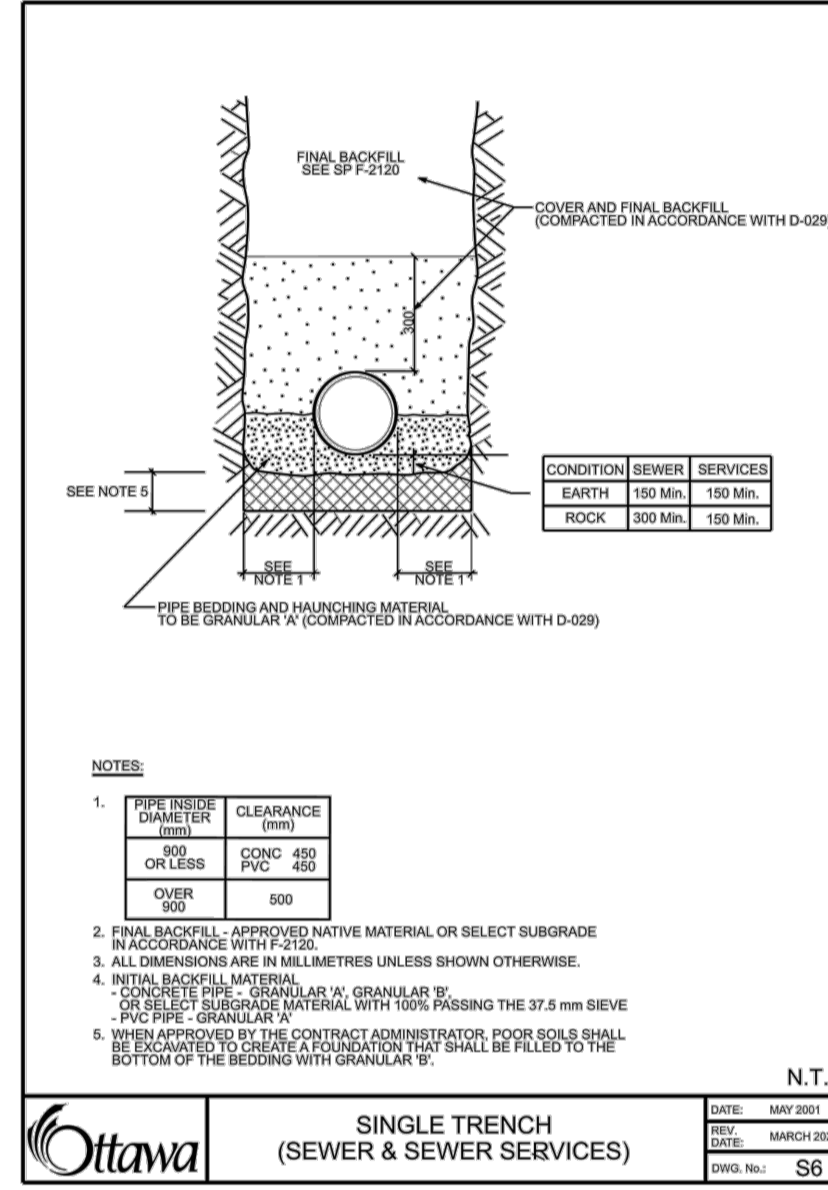
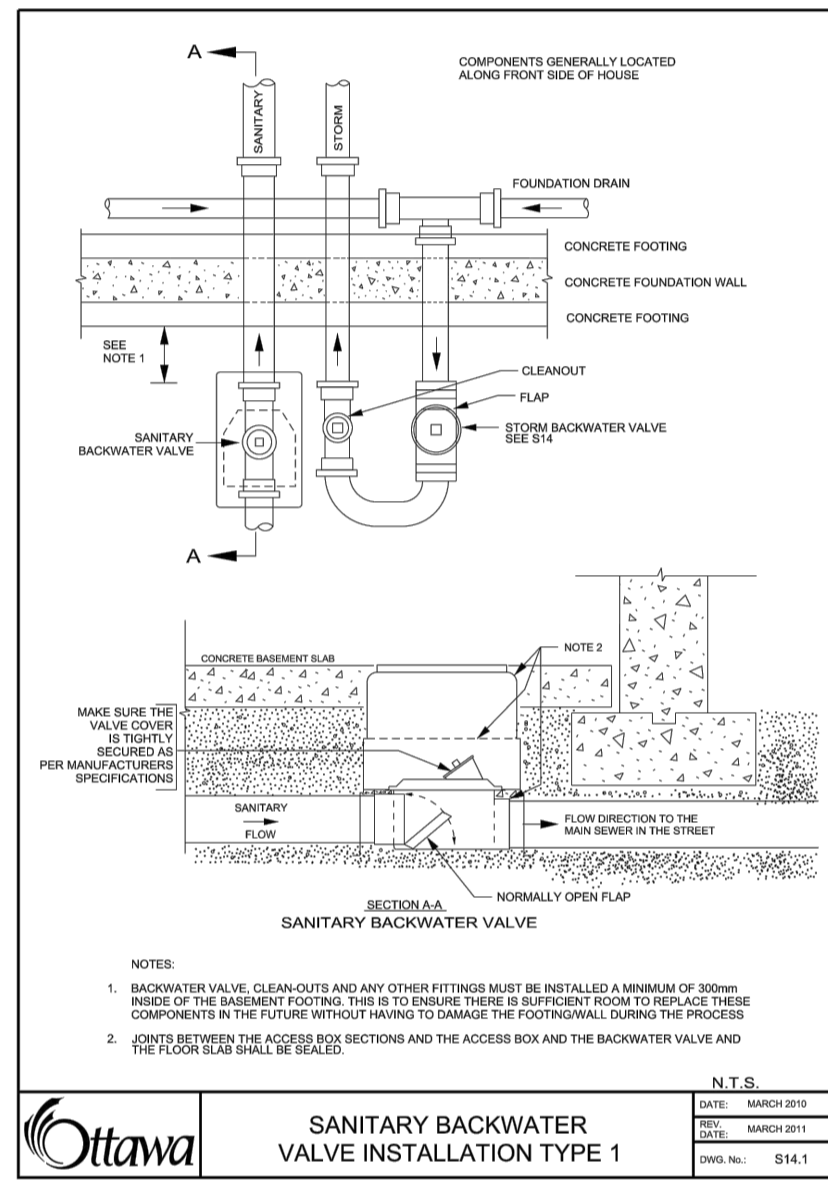
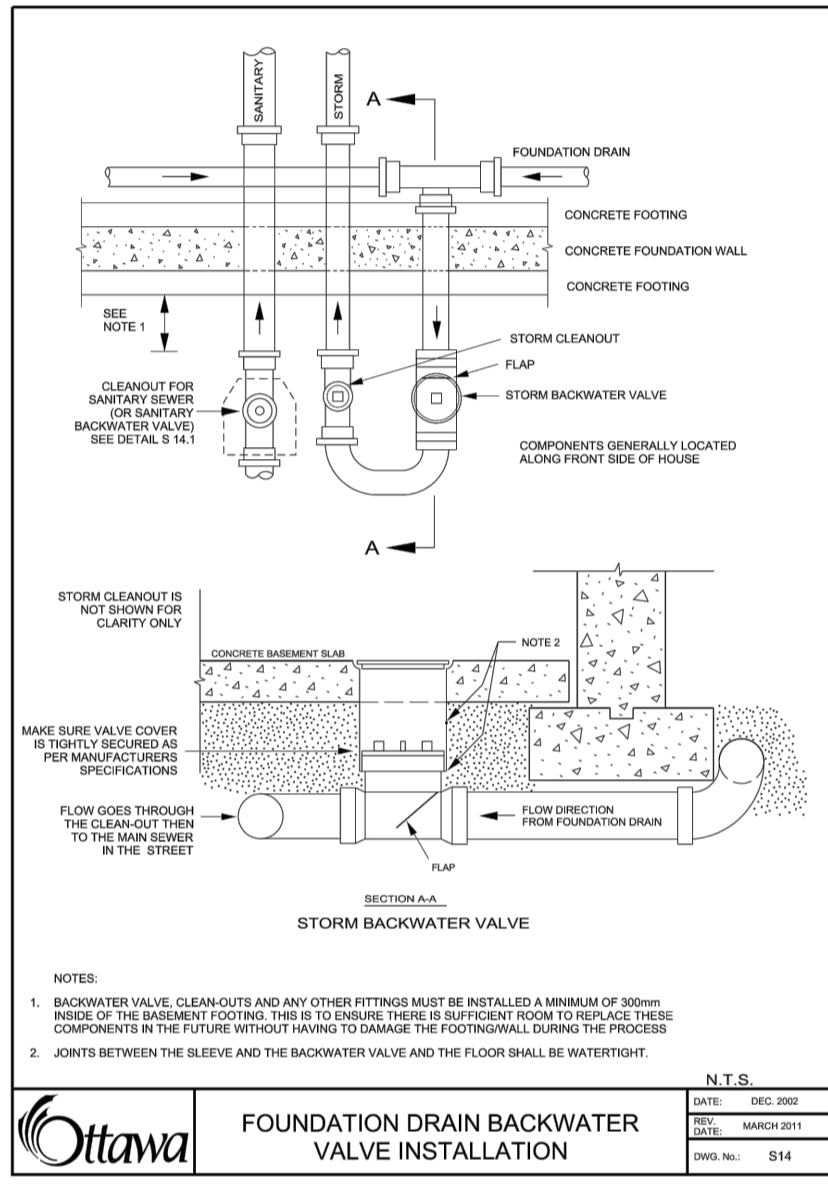
GENERAL NOTES:

EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT MAY NOT BE COMPLETE OR TO DATE. CONTRACTOR SHALL VERIFY IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING OR PERFORMING WORK.

CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DRAWINGS WHEN THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.



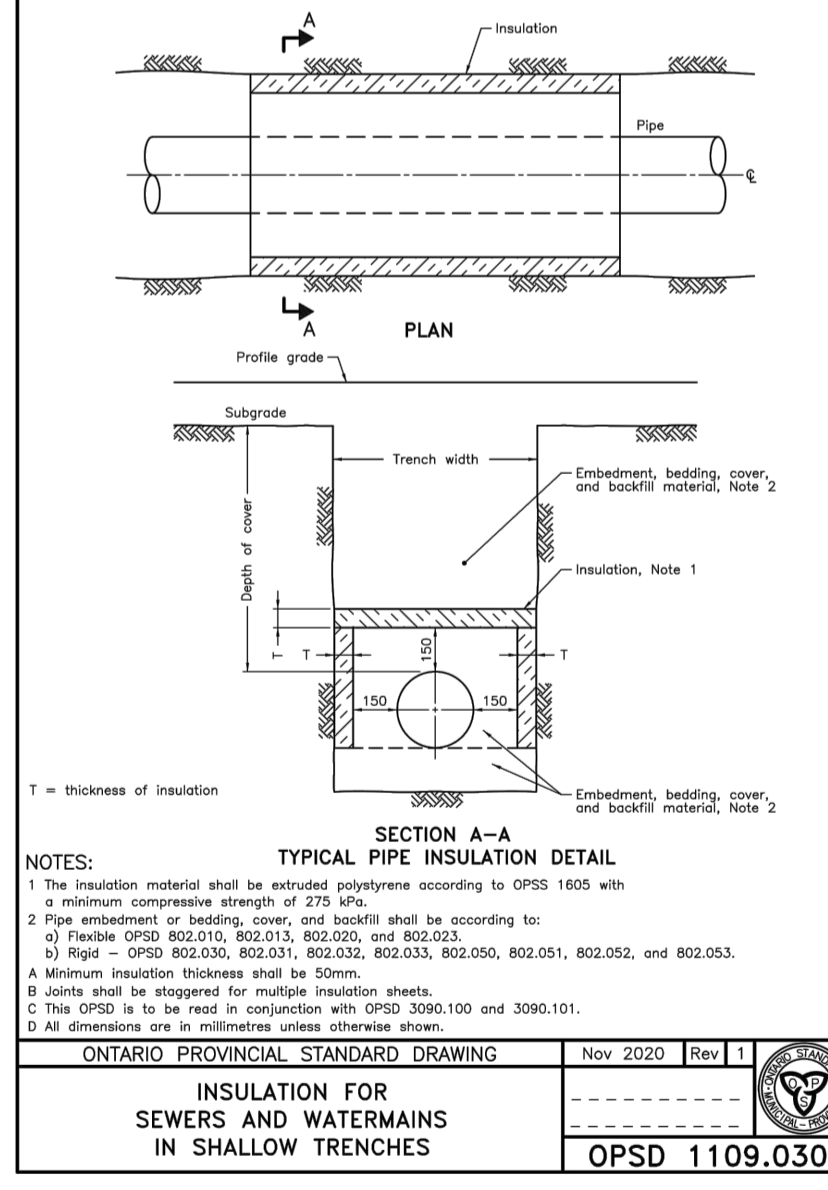
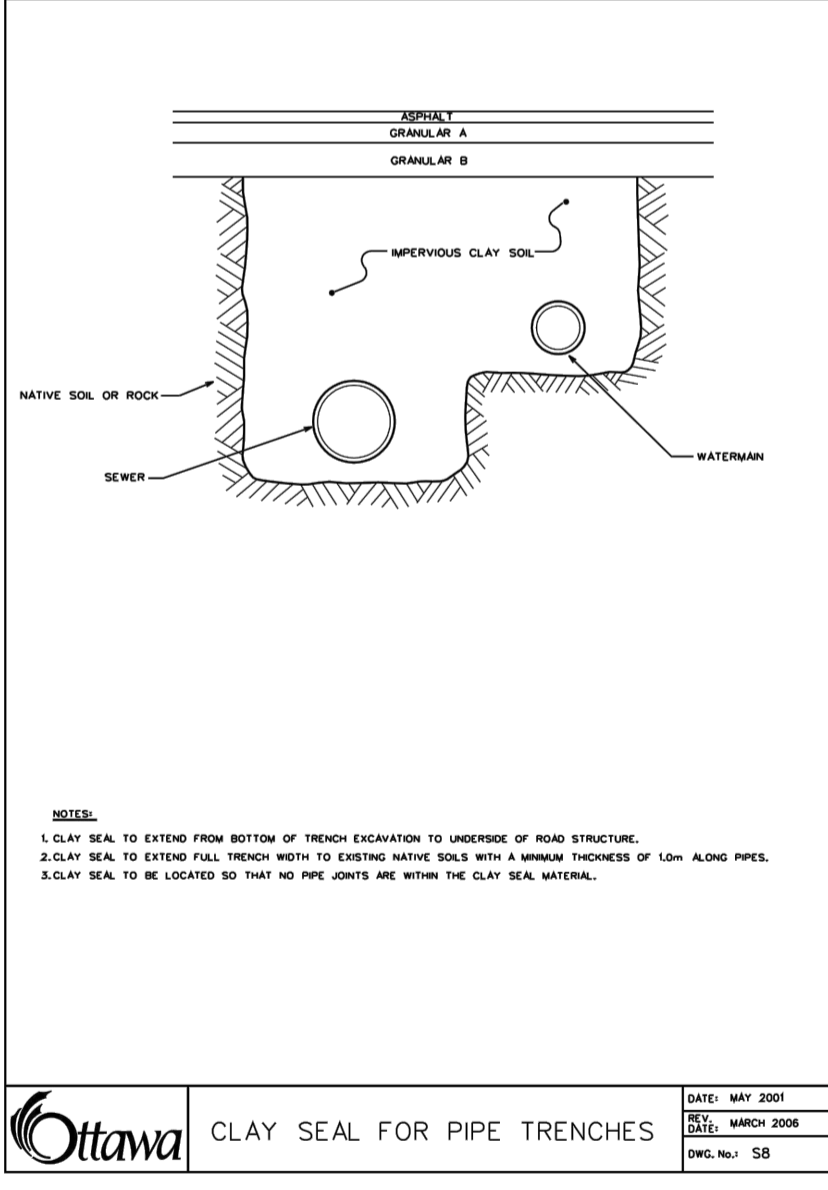
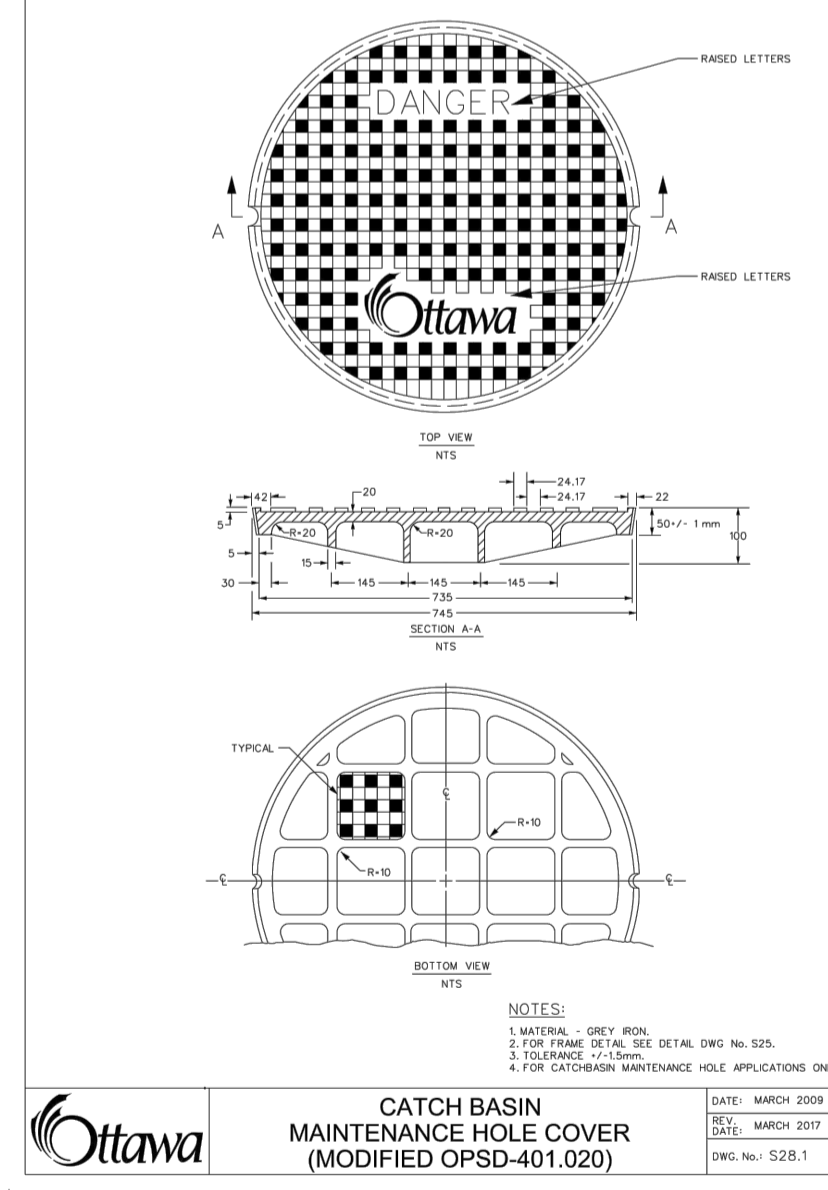
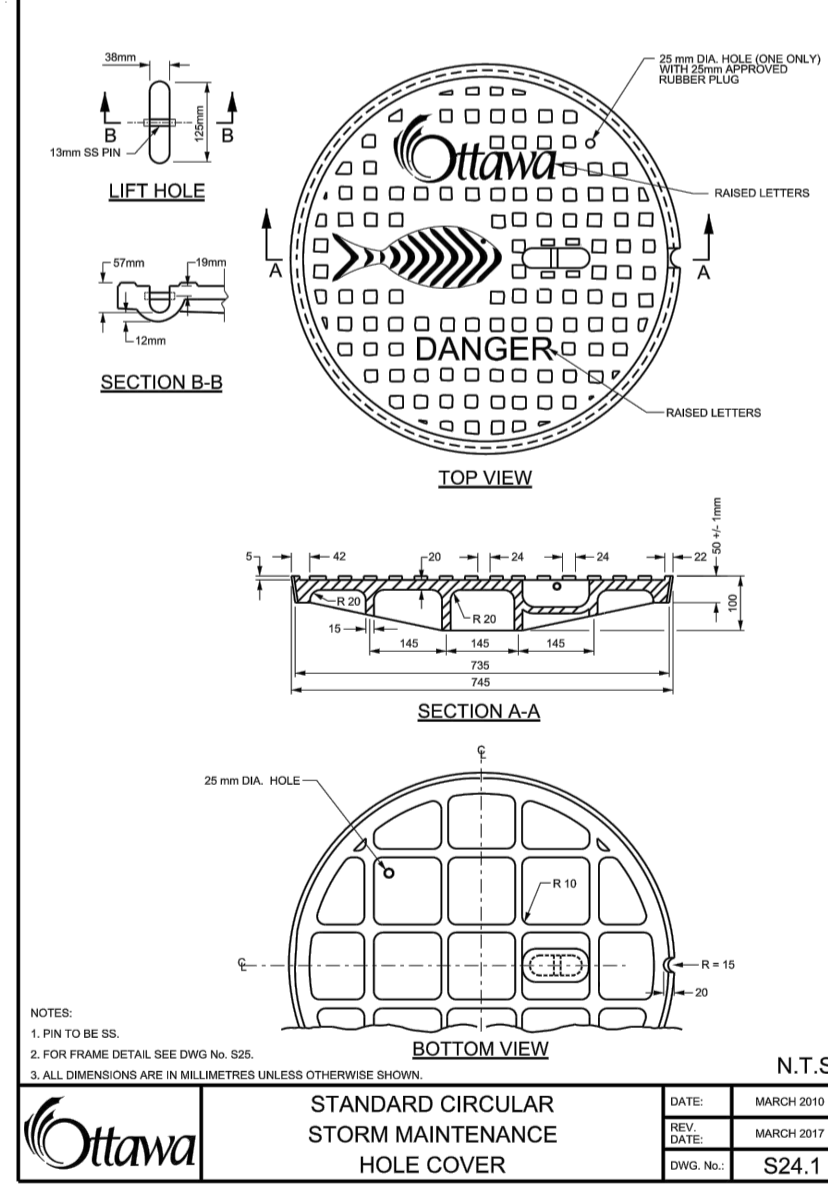
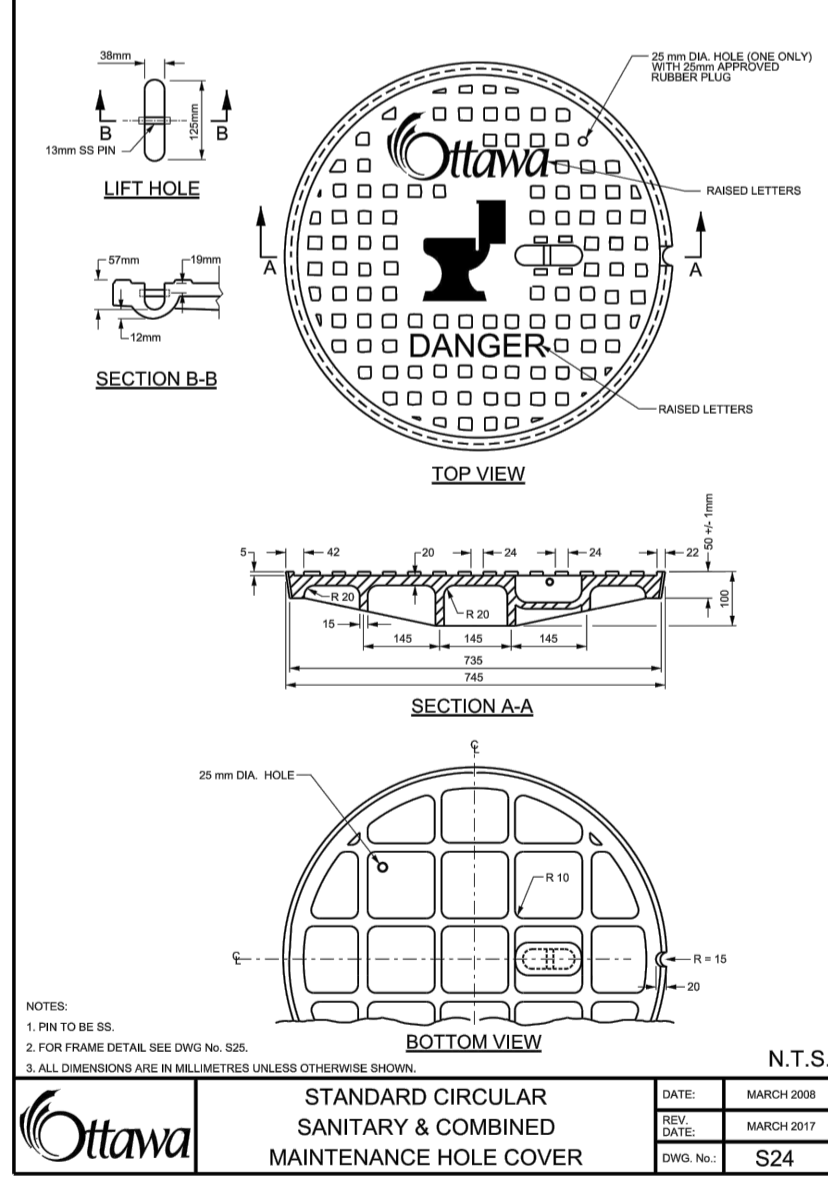
**SUBJECT TO APPROVAL**

04	ISSUED FOR MUNICIPAL APPROVAL	K.H.	23 APR 2024
03	ISSUED FOR MUNICIPAL APPROVAL	K.H.	19 DEC 2023
02	ISSUED FOR MUNICIPAL APPROVAL	K.H.	09 JUN 2023
01	ISSUED FOR MUNICIPAL APPROVAL	A.S.	24 DEC 2021

No. REVISIONS BY DATE

**LICENCED PROFESSIONAL ENGINEER**  
**V. JOHNSON**  
 100510576  
 04-23-2024  
 PROVINCE OF ONTARIO

NOT AUTHENTIC UNLESS SIGNED AND DATED



**LRI**  
 ENGINEERING | INGENIERIE  
 5430 Canotek Road | Ottawa, ON, K1J 9G2  
 www.lri.ca | (613) 842-3434

CLIENT: **LANDRIC HOMES**  
 1173 CYVILLE RD, SUITE 202,  
 OTTAWA ON K1J 756

DESIGNED BY: K.H. DRAWN BY: K.H. APPROVED BY: J.V.

PROJECT: **NAVAN STACKED TOWN HOMES**  
 6001/6005 RENAUD RD,  
 OTTAWA, ONTARIO

DRAWING TITLE: **CONSTRUCTION DETAIL PLAN**

PROJECT NO: 210216  
 DATE: NOVEMBER 2021

**C901**

**PROJECT INFORMATION**

**ADS**  
Advanced Design Systems, Inc.

**210216 - 6001-6005 RENAUD**  
OTTAWA, ON, CANADA

**MC-3500 STORMTECH CHAMBER SPECIFICATIONS**

**IMPORTANT NOTES - NOTES FOR THE BEDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM**

**NOTES FOR CONSTRUCTION EQUIPMENT**

**INSPECTION & MAINTENANCE**

**NOTES**

**RECOMMENDED LAYER**

NO.	DESCRIPTION	THICKNESS	REMARKS
1	ASPHALT	150mm	MINIMUM
2	GRAVEL	150mm	MINIMUM
3	GRAVEL	150mm	MINIMUM
4	GRAVEL	150mm	MINIMUM
5	GRAVEL	150mm	MINIMUM
6	GRAVEL	150mm	MINIMUM
7	GRAVEL	150mm	MINIMUM
8	GRAVEL	150mm	MINIMUM
9	GRAVEL	150mm	MINIMUM
10	GRAVEL	150mm	MINIMUM

**ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS**

MATERIAL LOCATION	DESCRIPTION	ADDITIONAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
1	GRAVEL	ASPHALT	95% MINIMUM
2	GRAVEL	GRAVEL	95% MINIMUM
3	GRAVEL	GRAVEL	95% MINIMUM
4	GRAVEL	GRAVEL	95% MINIMUM
5	GRAVEL	GRAVEL	95% MINIMUM
6	GRAVEL	GRAVEL	95% MINIMUM
7	GRAVEL	GRAVEL	95% MINIMUM
8	GRAVEL	GRAVEL	95% MINIMUM
9	GRAVEL	GRAVEL	95% MINIMUM
10	GRAVEL	GRAVEL	95% MINIMUM

**SCALE: 1:100**

**ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS**

**MATERIAL LOCATION**

**DESCRIPTION**

**ADDITIONAL CLASSIFICATIONS**

**COMPACTION / DENSITY REQUIREMENT**

**SCALE: 1:100**

**MC-3500 ISOLATOR ROW PLAN DETAIL**

**INSPECTION & MAINTENANCE**

**NOTES**

**SCALE: 1:100**

**MC-3500 TECHNICAL SPECIFICATION**

**GENERAL REQUIREMENTS**

**INSTALLATION**

**SCALE: 1:100**

**NYLOPLAST DRAIN BASIN**

**NOTES**

**SCALE: 1:100**

**MC-3500 ISOLATOR ROW PLAN DETAIL**

**INSPECTION & MAINTENANCE**

**NOTES**

**SCALE: 1:100**

**MC-3500 TECHNICAL SPECIFICATION**

**GENERAL REQUIREMENTS**

**INSTALLATION**

**SCALE: 1:100**

**NYLOPLAST DRAIN BASIN**

**NOTES**

**SCALE: 1:100**

**User Inputs**

**Results**

**System Volume and Bed Size**

**System Components**

**SCALE: 1:100**

**NYLOPLAST DRAIN BASIN**

**NOTES**

**SCALE: 1:100**

**SECTION**

**RESIDENTIAL ROAD 16.5m ROAD ALLOWANCE**

**NOTES**

**DATE: MARCH 2009**

**DWG. No.: ROW - 16.5**

**NYLOPLAST DRAIN BASIN**

**NOTES**

**SCALE: 1:100**

**NYLOPLAST DRAIN BASIN**

**NOTES**

**SCALE: 1:100**

**PIPE IN SUPPORTED EXCAVATION**

**PIPE IN UNSUPPORTED EXCAVATION**

**LEGEND:**

**NOTES:**

**ONTARIO PROVINCIAL STANDARD DRAWING**

**FLEXIBLE PIPE EMBEDMENT AND BACKFILL EARTH EXCAVATION**

**OPSD 802.010**

**STANDARD FRENCH REINSTATEMENT**

**NOTES**

**DATE: NOVEMBER 2021**

**C902**

**USE AND INTERPRETATION OF DRAWINGS**

**GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAIL AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.**

**BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS NOTICED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.**

**AS INSTRUMENTS OF SERVICE ALL DRAWINGS, SPECIFICATIONS, CAD FILES OR OTHER ELECTRONIC MEDIA AND COPIES THEREOF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.**

**UNLESS THE REVISION TITLE IS ISSUED FOR CONSTRUCTION, THESE DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.**

**THESE DRAWINGS ILLUSTRATE THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.**

**UNAUTHORIZED CHANGES:**

**IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRL ASSOCIATES LTD. (LRL) WITHOUT OBTAINING LRL'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES, THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.**

**IN ADDITION, THE CLIENT AGREES TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.**

**GENERAL NOTES:**

**EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT MAY NOT BE COMPLETE OR TO DATE. CONTRACTOR SHALL VERIFY PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES, THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.**

**CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.**

**THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT. THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES, THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.**

**CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.**

**ISSUED FOR MUNICIPAL APPROVAL**

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**ISSUED FOR MUNICIPAL APPROVAL**

**REVISIONS**

**NO. REVISIONS BY DATE**

**04 ISSUED FOR MUNICIPAL APPROVAL K.H. 23 APR 2024**

**03 ISSUED FOR MUNICIPAL APPROVAL K.H. 19 DEC 2023**

**02 ISSUED FOR MUNICIPAL APPROVAL K.H. 09 JUN 2023**

**01 ISSUED FOR MUNICIPAL APPROVAL A.S. 24 DEC 2021**

**LICENSED PROFESSIONAL ENGINEER**

**V. JOHNSON**

**100510576**

**04-23-2024**

**PROVINCE OF ONTARIO**

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**LRJ**

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**www.lrl.ca | (613) 842-3434**

**CLIENT**

**LANDRIC HOMES**

**1173 CRYVALLE RD, SUITE 202,**

**OTTAWA ON K1J 7S6**

**DESIGNED BY: K.H.**

**DRAWN BY: K.H.**

**APPROVED BY: J.V.**

**PROJECT**

**NAVAN STOKED TOWN HOMES**

**6001/6005 RENAUD RD,**

**OTTAWA, ONTARIO**

**DRAWING TITLE**

**CONSTRUCTION DETAIL PLAN**

**PROJECT NO.**

**210216**

**DATE**

**NOVEMBER 2021**

**C902**

**PLAN # 18659**

**CITY FILE # D07-12-21-0239**