

M E M O R A N D U M

DATE: APRIL 27, 2018

TO: RICHARD BUCHANAN

FROM: JUSTIN GAUTHIER

RE: PART OF 375 DESCHÂTELETS AVENUE – GREYSTONE VILLAGE 3A
– THE GROVE: SITE SERVICING AND STORMWATER MANAGEMENT
MEMORANDUM

CC: JOHN RIDDELL

ATTACHED: 114025-GP(3A): GENERAL PLAN OF SERVICES
114025-GR(3A): GRADING, EROSION AND SEDIMENT CONTROL PLAN
116143-STM(3A): STORMWATER MANAGEMENT PLAN
(114025-3)

This memo is supplementary to the “*Greystone Village - 175 Main Street: Site Servicing, Stormwater Management, Noise, Erosion and Sediment Control Brief (Phase 2 and 3), R-2017-089*”, dated May 26, 2017 to provide specifics related to the Greystone Village 3A – The Grove, which is part of the overall Greystone Village subdivision development.

The proposed development is located at part of 375 Deschâtelets Avenue in Old Ottawa East, east of Main Street, south of des Oblats Avenue, west of Scholastic Drive and north of Deschâtelets Avenue within the City of Ottawa. The existing property is currently vacant. The proposed re-development of this portion of the site will consist of a 3-storey stacked townhouse building that will contain 18 units. A total of approximately 20 underground spaces will be provided on 1 level of underground parking.

The subject site is approximately 0.1540 ha in area. The development will have a two-way vehicular ramp access to the underground parking garage located on Deschâtelets Avenue. It will also be the access to the future underground parking garage to the east.

This site servicing and stormwater management memorandum will outline how the site will be serviced with sanitary, storm and watermain; and will demonstrate that adequate municipal capacity is available within the proposed infrastructure to service the development.

Sanitary

The proposed 3-storey building at part of 375 Deschâtelets Avenue will be serviced by a new 200mm dia. sanitary service that connects to the existing 250mm dia. sanitary sewer on Deschâtelets Avenue.

The ultimate outlet is the existing 1350mm Rideau River Interceptor trunk sewer that runs parallel to the Rideau River on the eastern portion of the overall site.

The development will consist of 18 suites, therefore:

3A

$$Q_{SAN} = 18 \text{ units} \times 2.1 \text{ persons/unit} \times 350 \text{ L/cap/day} = 13,230 \text{ L/day}$$

$$\text{Average Sanitary Flow} = 13,230 \text{ L/day} = 0.15 \text{ L/sec}$$

$$\text{Peak Sanitary Flow} = 0.60 \text{ L/sec (with PF} = 4.0 \Rightarrow \text{max for residential)}$$

$$\text{Extraneous flow} = 0.28 \text{ L/sec/ha} \times 0.1540 \text{ ha} = 0.0431 \text{ L/sec}$$

Therefore,

$$\text{Total Site Average Sanitary Flow to Deschâtelets Ave} = 0.19 \text{ L/sec}$$

$$\text{Total Site Peak Sanitary Flow to Deschâtelets Ave} = 0.64 \text{ L/sec (with PF)}$$

The proposed development population estimates and sanitary flows accounted for in the “*Greystone Village - 175 Main Street: Site Servicing, Stormwater Management, Noise, Erosion and Sediment Control Brief (Phase 2 and 3)*” are based on the City of Ottawa Sewer Design Guidelines.

Stormwater

The site has an overall slope towards the Rideau River to the East. Storm runoff from the majority of the site is conveyed overland towards the Rideau River.

The proposed 3-storey building at part of 375 Deschâtelets Avenue will be serviced by a new 200mm dia. storm service that connects to the existing 300mm dia. storm sewer on Deschâtelets Avenue.

The ultimate outlet is the Rideau River on the eastern portion of the overall site.

As discussed in the “*Greystone Village - 175 Main Street: Site Servicing, Stormwater Management, Noise, Erosion and Sediment Control Brief (Phase 2 and 3)*”, water quality control will be provided within the subdivision’s storm sewer system with Vortech type structures and water quantity control is not required, other than for the roof, since the sewers are ultimately discharging directly to the Rideau River, provided the outlets are designed with suitable erosion protection measures. **The flat roofs are to be controlled to 80L/s/ha, but this pitched roof will flow uncontrolled to the**

sewer system. The design has accounted for the entire area at a C of 0.9 and the average C is around 0.73, therefore there is no capacity issue.

The site will be graded such that flows in excess of the 100-year storm event will be conveyed overland to Deschâtelets Avenue, as well as the Forecourt.

Erosion and sediment control measures will be implemented during all phases of construction and inspected regularly.

Watermain

The proposed 3-storey building at part of 375 Deschâtelets Avenue will be serviced by a new 150mm dia. water service that connects to the existing 250mm dia. watermain on Deschâtelets Avenue.

The existing 250mm dia. watermain on Deschâtelets Avenue is looped from the existing 200mm dia. watermain on Clegg Street to the new 400mm dia. watermain on Main Street.

Estimated domestic water demands for the development are roughly the same as the proposed development sanitary flows listed above. Therefore:

Average Day Demand = 0.15 L/s

Maximum Day Demand = 0.15 L/s * 2.5 = 0.375 L/s

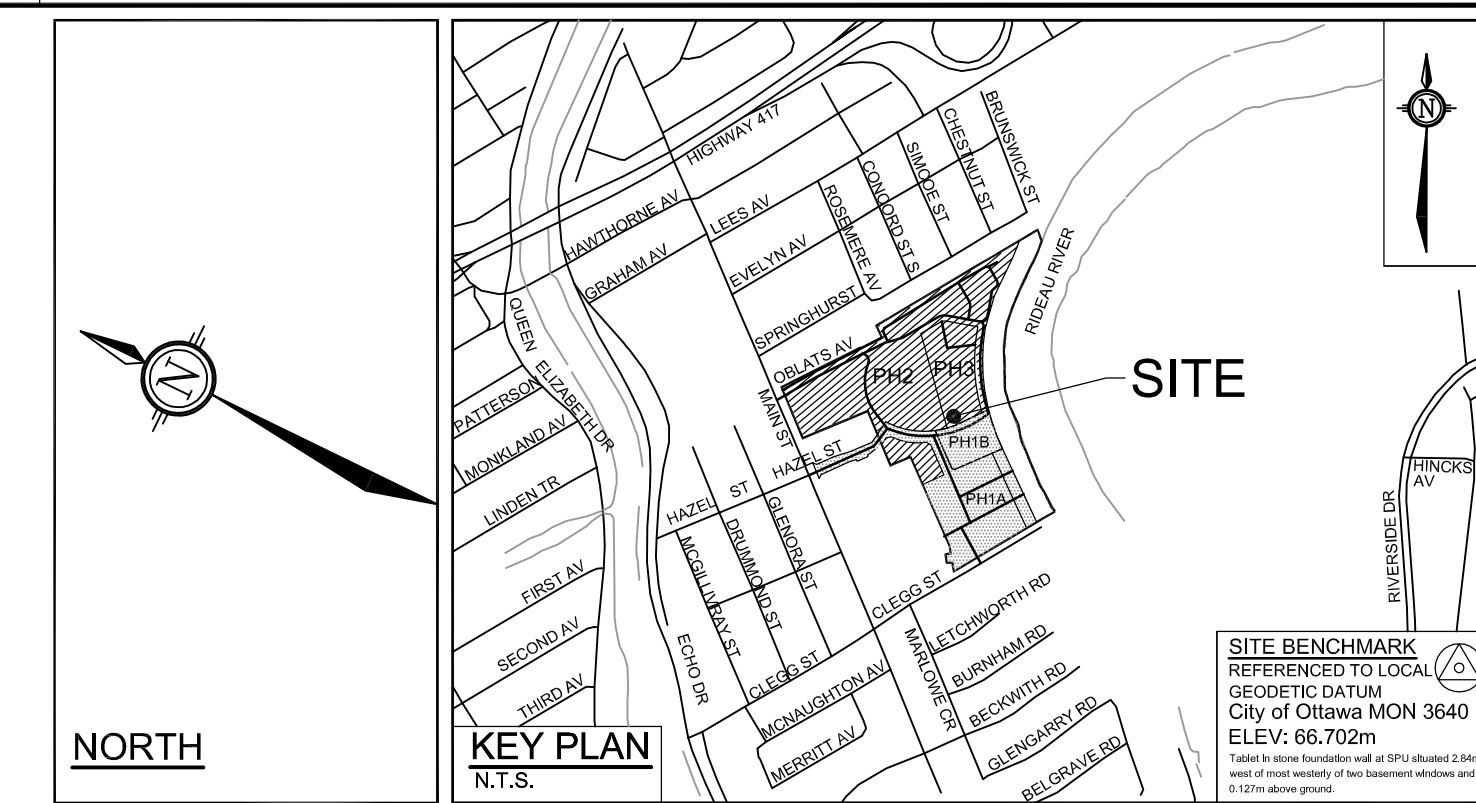
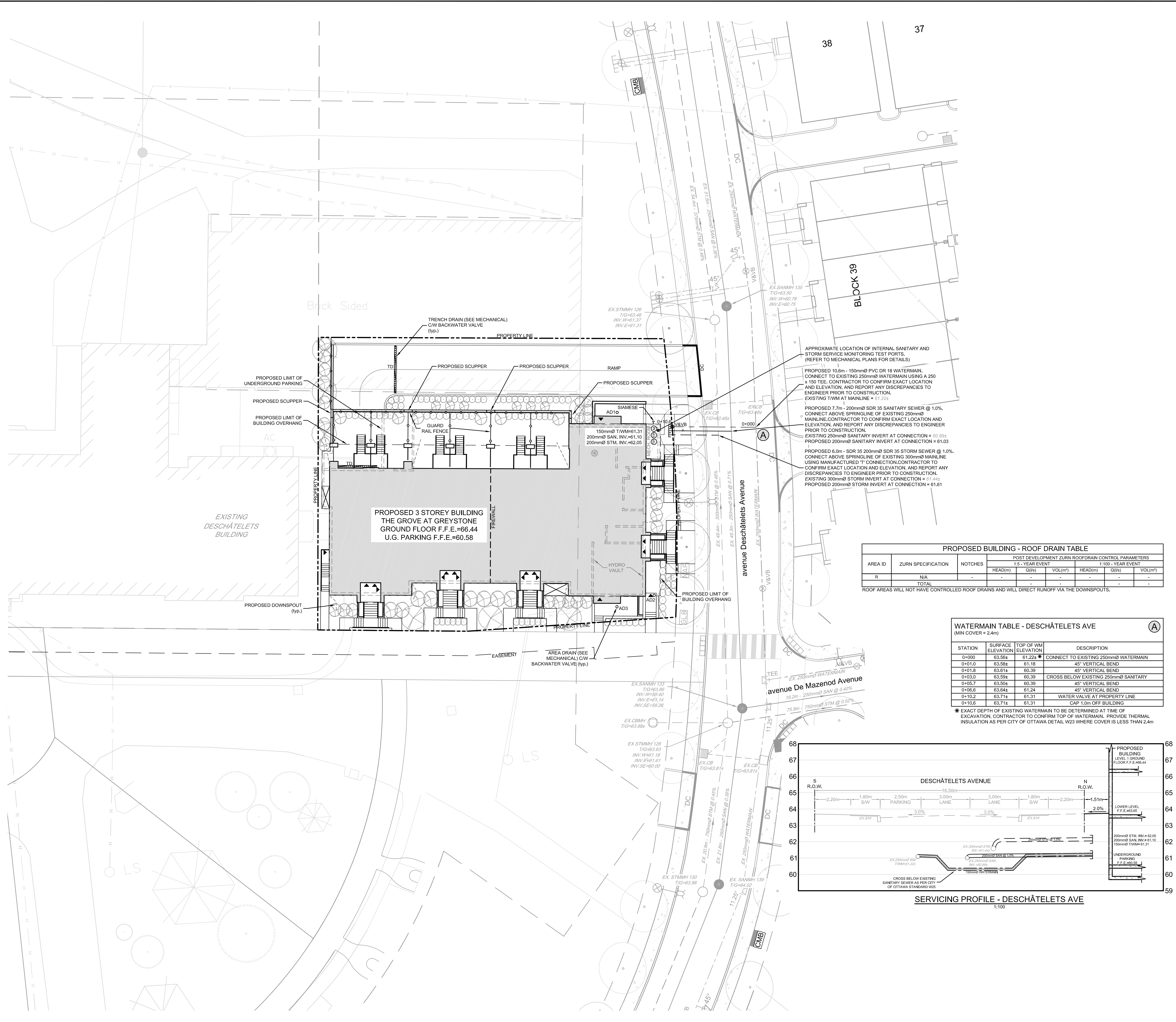
Maximum Hourly Demand = 0.375 * 2.2 = 0.825 L/s

The hydraulic analysis performed for the overall site as per the "*Greystone Village - 175 Main Street: Site Servicing, Stormwater Management, Noise, Erosion and Sediment Control Brief (Phase 2 and 3)*" demonstrates that the system will work for domestic water as well as fire demand.

We submit the following and request your review and approval in order that we can receive site plan approval.

Thanks.





LEGEND

---	SITE BOUNDARY	---	EXISTING ADJACENT PROPERTY LINE
---	PROPOSED STORM SEWER AND DIRECTION OF FLOW	---	EXISTING STORM MANHOLE AND SEWER
---	PROPOSED SANITARY SEWER AND DIRECTION OF FLOW	---	EXISTING SANITARY MANHOLE AND SEWER
---	PROPOSED WATERMAIN	---	EXISTING WATERMAIN
---	PROPOSED VALVE AND VALVE BOX	---	EXISTING VALVE AND VALVE BOX
---	PROPOSED WATER METER LOCATION	---	EXISTING FIRE HYDRANT
---	PROPOSED REMOTE METER LOCATION	---	EXISTING CATCHBASIN
---	PROPOSED SANITARY / STORM MONITORING TEST PORT	---	EXISTING TOP OF GRATE
---	PROPOSED TRENCH DRAIN	---	EXISTING UTILITY POLE CW GUY WIRES
---	PROPOSED SIAMISE CONNECTION	---	EXISTING LIGHT STANDARD
---	PROPOSED BUILDING ENTRANCE	---	EXISTING ROGERS NETWORK ACCESS POINT
---	PROPOSED LIMITS OF UNDERGROUND PARKING	---	EXISTING BELL GRADE LEVEL BOX
---	PROPOSED RETAINING WALL	---	EXISTING TREES
---	PROPOSED BARRIER CURB	---	
---	PROPOSED DEPRESSED CURB	---	
---	PROPOSED DOWNSPOUT	---	

- GENERAL NOTES:**
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
 - DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION, PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
 - OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
 - BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
 - RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
 - REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
 - ALL ELEVATIONS ARE GEODETIC.
 - REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
 - REFER TO SERVICES DESIGN BRIEF PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
 - SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
 - PROVIDE LINE/PARKING PAINTING.
 - CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING THE AS-BUILT ELEVATION OF EVERY DESIGN GRADE SHOWN ON THIS PLAN.
 - REFER TO GEOTECHNICAL REPORT NO. 1668819, DATED JUNE 2017, PREPARED BY GOLD ALDER ASSOCIATES FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
 - ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
 - ALL PRIVATE APPROACHES MUST BE CONSTRUCTED AS PER CITY SPECIFICATION SC13.

APPROXIMATE LOCATION OF INTERNAL SANITARY AND STORM SERVICE MONITORING TEST PORTS. (REFER TO MECHANICAL PLANS FOR DETAILS)

PROPOSED 10.6m - 150mmØ PVC DR 18 WATERMAIN, CONNECT TO EXISTING 250mmØ WATERMAIN USING A 250 x 150 TEE. CONTRACTOR TO CONFIRM EXACT LOCATION AND ELEVATION, AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION. EXISTING TWM AT MAINLINE = 61.22±

PROPOSED 7.7m - 200mmØ SDR 35 SANITARY SEWER @ 1.0%, CONNECT ABOVE SPRINGLINE OF EXISTING 250mmØ MAINLINE. CONTRACTOR TO CONFIRM EXACT LOCATION AND ELEVATION, AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION. EXISTING 250mmØ SANITARY INVERT AT CONNECTION = 60.09±, PROPOSED 200mmØ SANITARY INVERT AT CONNECTION = 61.03±

PROPOSED 6.0m - SDR 35 200mmØ SDR 35 STORM SEWER @ 1.0%, CONNECT ABOVE SPRINGLINE OF EXISTING 300mmØ MAINLINE USING MANUFACTURED 'T' CONNECTION. CONTRACTOR TO CONFIRM EXACT LOCATION AND ELEVATION, AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION. EXISTING 300mmØ STORM INVERT AT CONNECTION = 61.44±, PROPOSED 200mmØ STORM INVERT AT CONNECTION = 61.61±

PROPOSED BUILDING - ROOF DRAIN TABLE

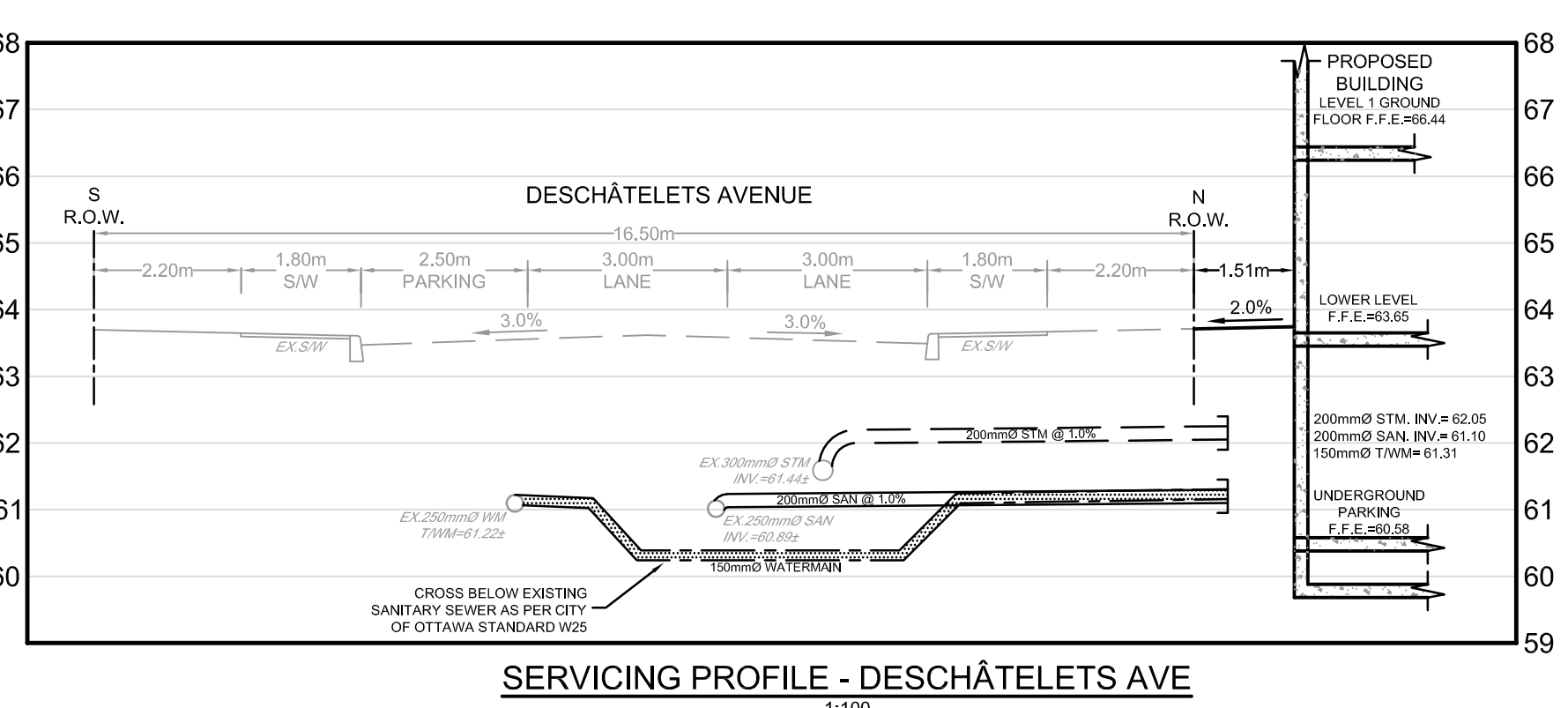
AREA ID	ZURN SPECIFICATION	NOTCHES	POST DEVELOPMENT ZURN ROOF DRAIN CONTROL PARAMETERS		1:100 - YEAR EVENT	
			HEAD(m)	Q(l/s)	HEAD(m)	Q(l/s)
R	N/A	-	-	-	-	-
TOTAL			-	-	-	-

ROOF AREAS WILL NOT HAVE CONTROLLED ROOF DRAINS AND WILL DIRECT RUNOFF VIA THE DOWNSPOUTS.

WATERMAIN TABLE - DESCHÂTELETS AVE
(MIN COVER = 2.4m)

STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
0+0.0	63.56±	61.22±	CONNECT TO EXISTING 250mmØ WATERMAIN
0+0.0	63.56±	61.18	45° VERTICAL BEND
0+0.1	63.61±	60.39	45° VERTICAL BEND
0+0.0	63.59±	60.39	CROSS BELOW EXISTING 250mmØ SANITARY
0+0.7	63.52±	60.39	45° VERTICAL BEND
0+0.6	63.94±	61.24	45° VERTICAL BEND
0+1.0	63.71±	61.31	WATER VALVE AT PROPERTY LINE
0+10.6	63.71±	61.31	CAP 1.0m OFF BUILDING

* EXACT DEPTH OF EXISTING WATERMAIN TO BE DETERMINED AT TIME OF EXCAVATION. CONTRACTOR TO CONFIRM TOP OF WATERMAIN. PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W23 WHERE COVER IS LESS THAN 2.4m



- SEWER NOTES:**
- SPECIFICATIONS:
ITEM: SEWER SERVICE CONNECTION - RIGID PIPE
SPEC. No. S11
REFERENCE: CITY OF OTTAWA
ITEM: SEWER SERVICE ABANDONMENT
SPEC. No. S11.4
REFERENCE: CITY OF OTTAWA
ITEM: SEWER TRENCH - BEDDING (GRANULAR A)
SPEC. No. S6 S7 W17
REFERENCE: CITY OF OTTAWA / OPSD
ITEM: SEWER TRENCH - COVER (GRANULAR A OR GRANULAR B TYPE I, WITH MAXIMUM PARTICLE SIZE=25mm)
SPEC. No. S6 S7 W17
REFERENCE: CITY OF OTTAWA / OPSD
ITEM: STORM SEWER
SPEC. No. PVC DR 36
REFERENCE: CITY OF OTTAWA
ITEM: SANITARY SEWER
SPEC. No. PVC DR 35
REFERENCE: CITY OF OTTAWA
 - INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH 50mmX1200mm H-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
 - SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
 - PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
 - FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
 - THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSD 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
 - FULL PORT BACKWATER VALVES ARE REQUIRED ON THE SANITARY SERVICES, INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS AND A BACKWATER VALVE IS REQUIRED ON THE STORM SERVICES / FOUNDATION DRAINS FOR EACH BUILDING, INSTALLED AS PER STD. DWG S14.
 - CONTRACTOR TO TELEVOICE (CCTV) ALL PROPOSED SEWERS/LATERALS.
 - REINSTATE ALL EXISTING PAVEMENT, CURB AND BOULEVARDS AS PER CITY OF OTTAWA R10.
 - ALL EXISTING SANITARY AND STORM SERVICES ARE TO BE CAPPED AT THE PROPERTY LINE TO THE SATISFACTION OF THE CITY OF OTTAWA'S SEWER OPERATION.
 - MONITORING TEST PORTS FOR BUILDING SERVICES TO BE INSTALLED IN PARKING GARAGE.

- WATERMAIN NOTES:**
- SPECIFICATIONS:
ITEM: WATERMAIN TRENCHING
SPEC. No. W17
REFERENCE: CITY OF OTTAWA
ITEM: THERMAL INSULATION IN SHALLOW TRENCHES
SPEC. No. W22
REFERENCE: CITY OF OTTAWA
ITEM: VALVE BOX ASSEMBLY
SPEC. No. W24
REFERENCE: CITY OF OTTAWA
ITEM: CONNECTION DETAIL FROM EXISTING TO NEW WM
SPEC. No. W25.1
REFERENCE: CITY OF OTTAWA
ITEM: WATERMAIN CROSSING BELOW SEWER
SPEC. No. W25
REFERENCE: CITY OF OTTAWA
ITEM: WATERMAIN CROSSING OVER SEWER
SPEC. No. W25.2
REFERENCE: CITY OF OTTAWA
ITEM: WATERMAIN (150mmØ)
SPEC. No. PVC DR 18
REFERENCE: CITY OF OTTAWA
ITEM: WATERMAIN (50mmØ)
SPEC. No. TYPE 'K' COPPER
REFERENCE: CITY OF OTTAWA
ITEM: THERMAL INSULATED AT OPEN STRUCTURE
SPEC. No. W23
REFERENCE: CITY OF OTTAWA
ITEM: WATER SERVICE INSTALLATION AT SEWER CROSSING
SPEC. No. W38
REFERENCE: CITY OF OTTAWA
 - SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARD AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHARACTERIZATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
 - WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. OTHERWISE THERMAL INSULATION IS REQUIRED AS PER STD. DWG W22.
 - PROVIDE MINIMUM 0.50m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS WHEN WATERMAIN IS BELOW AND MINIMUM 0.25m CLEARANCE WHEN WATERMAIN IS ABOVE.
 - WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
 - WATER DEMAND = A.D.D. + T.B.D. / 1000. M.D.D. = T.B.D. / 1000. M.H.D. = T.B.D. / 1000
 - ALL EXISTING WATER SERVICES TO BE BLANKED AT MAIN BY CITY FORCES. EXCAVATION AND REINSTATEMENT BY CONTRACTOR.

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

**PRELIMINARY
NOT FOR
CONSTRUCTION**

SCALE
1:200

0 2 4 6 8

FOR REVIEW ONLY

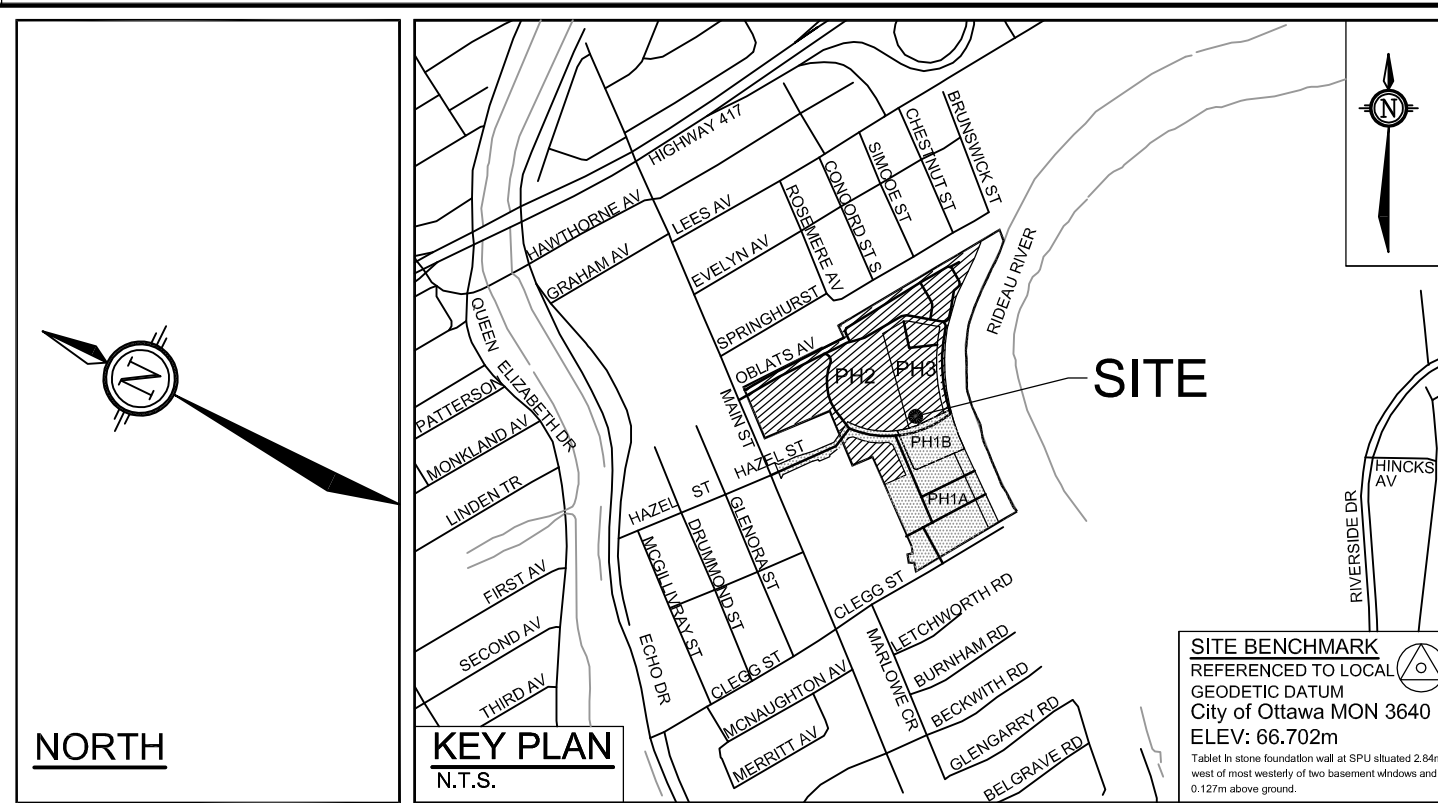
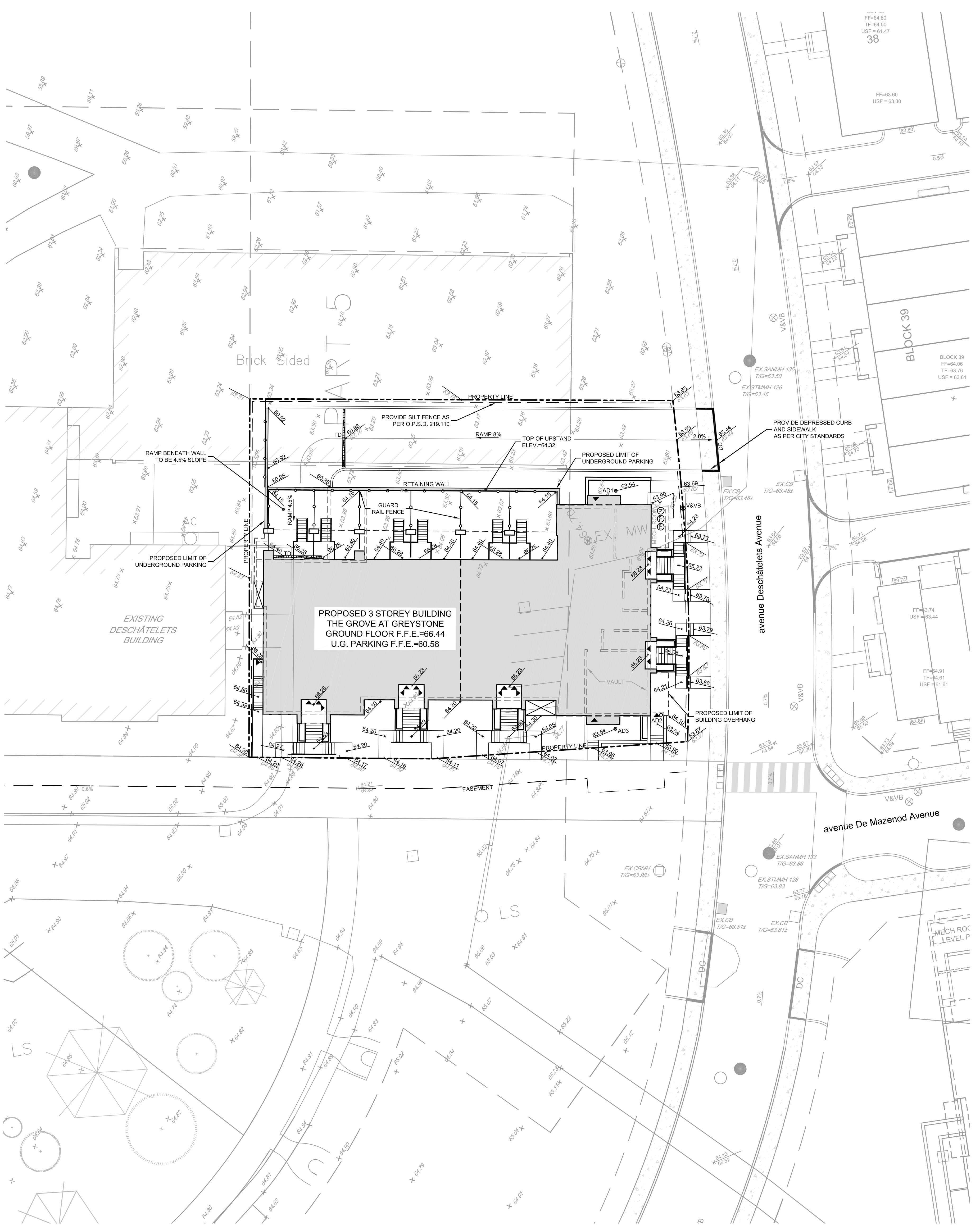
DESIGN	JAG
CHECKED	MSP
DRAWN	MTM
CHECKED	JAG
APPROVED	JGR

PROFESSIONAL ENGINEER
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LOCATION CITY OF OTTAWA The Grove at Greystone Village	PROJECT NO. 114025-3A
DRAWING NAME GENERAL PLAN OF SERVICES	REV # REV # 2
	DRAWING NO. 114025-GP(3A)



LEGEND

--- SITE BOUNDARY	V&VB	EXISTING VALVE AND VALE BOX
--- PROPOSED ELEVATION	○	EXISTING FIRE HYDRANT
--- EXISTING ELEVATION	EX.CB	EXISTING CATCHBASIN
--- PROPOSED TOP OF WALL ELEVATION	T/G	EXISTING TOP OF GRADE
--- PROPOSED GRADE AND DIRECTION	EX.U.P.	EXISTING UTILITY POLE CIV GUY WIRES
--- PROPOSED TERRACING (MAX 3:1)	LS*	EXISTING LIGHT STANDARD
--- PROPOSED SILT FENCE	○	EXISTING HYDRANT
--- PROPOSED RETAINING WALL		
--- PROPOSED BARRIER CURB		
--- PROPOSED DEPRESSED CURB		
--- PROPOSED CATCHBASIN		
--- PROPOSED TRENCH DRAIN		
--- PROPOSED LIMITS OF UNDERGROUND PARKING		
--- PROPOSED SIAMISE CONNECTION		
--- PROPOSED BUILDING ENTRANCE		

PAVEMENT STRUCTURE DETAILS:
PAVEMENT STRUCTURE

- 40mm Superpave 12.5mm PG 58-34
- 50mm Superpave 19.0mm PG 58-34
- 150mm GRANULAR 'A' BASE
- 375mm GRANULAR 'B' TYPE II SUBBASE
- GPS SELECT SUBGRADE MATERIAL (SSM)

GENERAL NOTES:

- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
- OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
- RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
- ALL ELEVATIONS ARE GEODETIC.
- REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
- REFER TO SERVISING DESIGN BRIEF PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
- SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
- PROVIDE LINE/PARKING PAINTING.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING THE AS-BUILT ELEVATION OF EVERY DESIGN GRADE SHOWN ON THIS PLAN.
- REFER TO GEOTECHNICAL REPORT (NO 1668819, JUNE 2017) PREPARED BY GOLDER ASSOCIATES FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
- ALL PRIVATE APPROACHES MUST BE CONSTRUCTED AS PER CITY SPECIFICATION SC13.

GRADING NOTES:

- ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS.
- EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL CONSULTANT.
- ANY SOFT AREAS EVIDENT FROM THE PROOF ROLLING SHOULD BE SUBEXCAVATED AND REPLACED WITH SUITABLE MATERIAL THAT IS FROST COMPATIBLE WITH THE EXISTING SOILS.
- 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.
- GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
- ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
- ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
- REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.

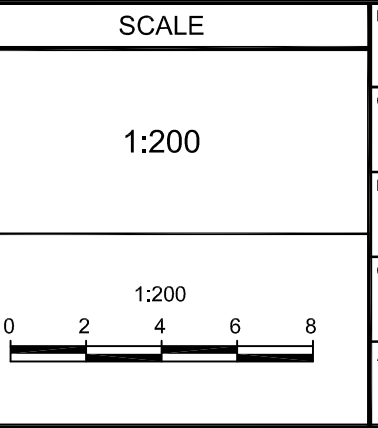
EROSION AND SEDIMENT CONTROL NOTES:

- ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF OTTAWA. THEY ARE TO BE APPROPRIATE TO THE SITE CONDITIONS. PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION, THESE PRACTICES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL AND SHOULD INCLUDE AS A MINIMUM THOSE MEASURES INDICATED ON THIS PLAN.
- TO PREVENT SURFACE EROSION FROM ENTERING THE DITCH OR STORM SYSTEM DURING CONSTRUCTION, FILTER CLOTH WILL BE PLACED UNDER GRATES OF CATCHBASINS AND STRUCTURES. A LIGHT DUTY SILT FENCE BARRIER WILL ALSO BE INSTALLED ALONG THE PROPERTY LINES. THESE CONTROL MEASURES WILL REMAIN IN PLACE UNTIL VEGETATION HAS BEEN ESTABLISHED AND CONSTRUCTION IS COMPLETE.
- THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE ENGINEER, THE MEASURES ARE NO LONGER REQUIRED. NO CONTROL MEASURES MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
- THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO ANY DITCH OR STORM SEWER SYSTEM. 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 CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- ROADWAYS ARE TO BE SWEEPED AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR MUNICIPALITY.
- THE CONTRACTOR SHALL ENSURE PROPER DUST CONTROL IS PROVIDED WITH THE APPLICATION OF WATER (AND IF REQUIRED, CALCIUM CHLORIDE) DURING DRY PERIODS.

NOTE:
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**PRELIMINARY
NOT FOR
CONSTRUCTION**

No.	REVISION	DATE	BY
1.	ISSUED WITH SITE PLAN APPLICATION	APR 27/18	JAG



DESIGN	JAG
CHECKED	MSP
DRAWN	MTM
CHECKED	JAG
APPROVED	JGR

FOR REVIEW ONLY

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowland Drive
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LOCATION
CITY OF OTTAWA
The Grove at Greystone Village

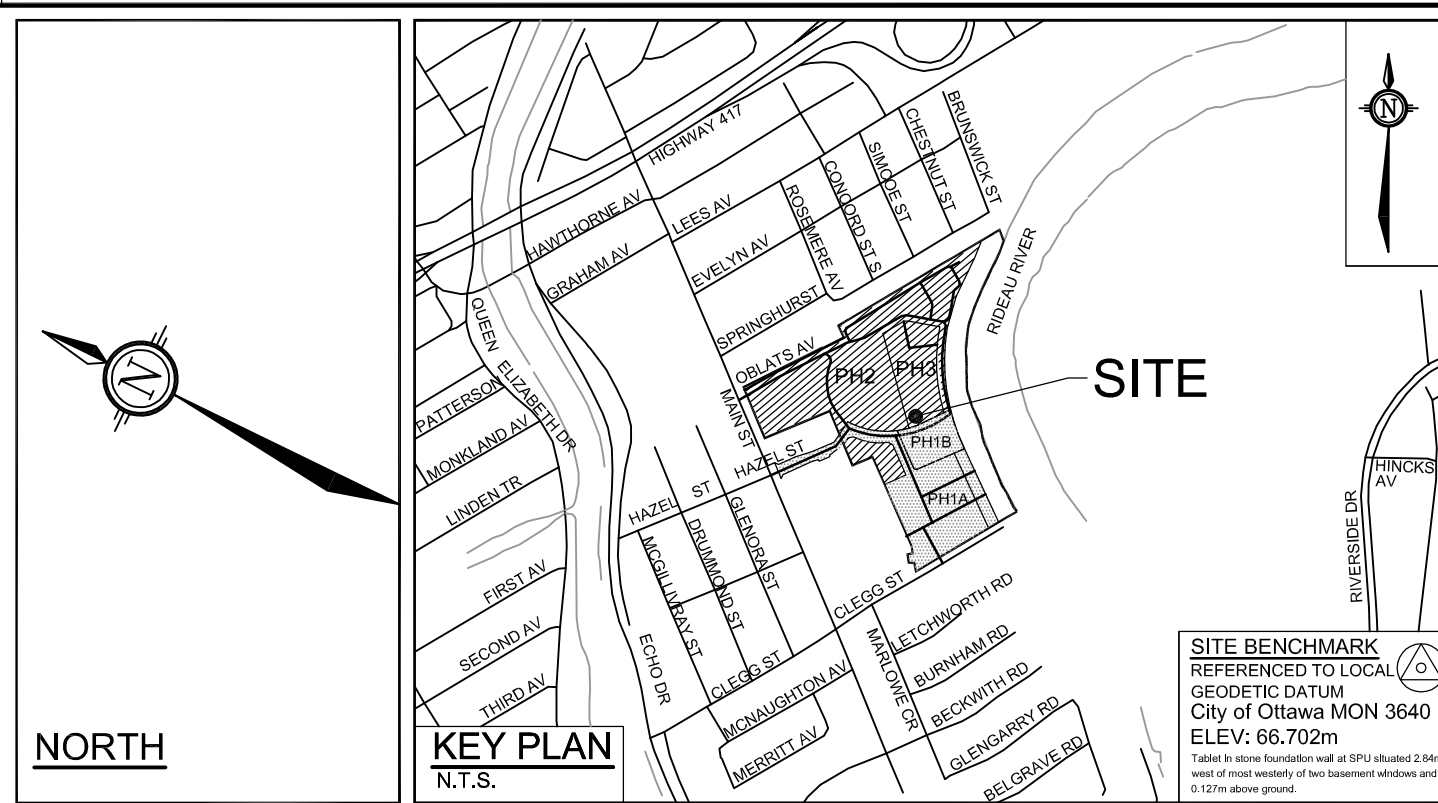
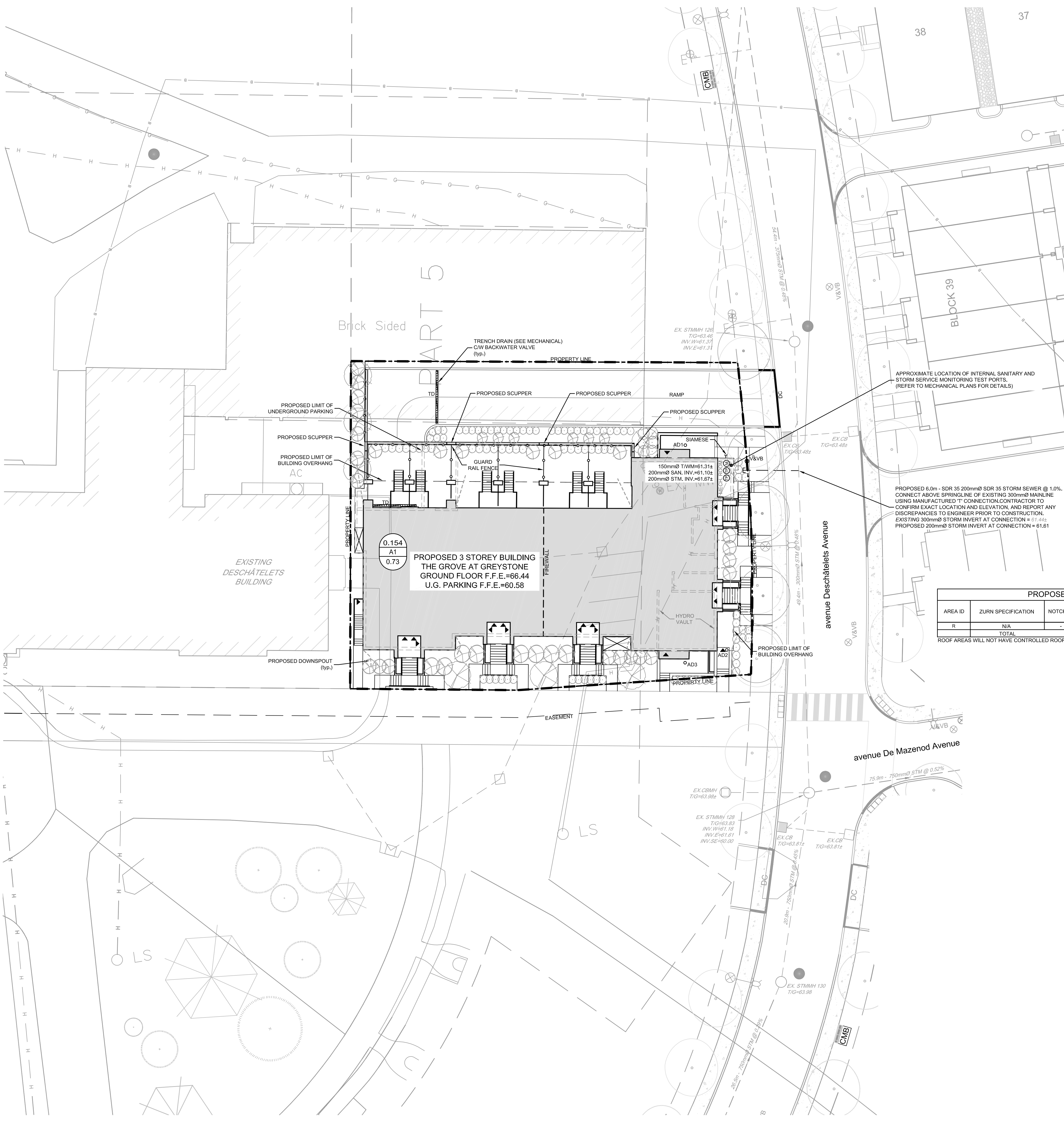
DRAWING NAME
GRADING, EROSION & SEDIMENT CONTROL PLAN

PROJECT NO.
114025-3A

REV # 1

DRAWING NO.
114025-GR(3A)

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LEGEND

---	SITE BOUNDARY	---	EXISTING ADJACENT PROPERTY LINE
---	PROPOSED STORM SEWER AND DIRECTION OF FLOW	---	EXISTING STORM MANHOLE AND SEWER
⊗	PROPOSED VALVE AND VALVE BOX	---	EXISTING SANITARY MANHOLE AND SEWER
⊗	PROPOSED WATER METER LOCATION	---	EXISTING WATERMAIN
⊗	PROPOSED REMOTE METER LOCATION	---	EXISTING VALVE AND VALE BOX
⊗	PROPOSED SANITARY / STORM MONITORING TEST PORT	⊗	EXISTING FIRE HYDRANT
---	PROPOSED TRENCH DRAIN	⊗	EXISTING TOP OF GRATE
---	PROPOSED SIAMISE CONNECTION	⊗	EXISTING CATCH-BASIN
---	PROPOSED BUILDING ENTRANCE	⊗	EXISTING UTILITY POLE CW GUY WIRES
---	PROPOSED LIMITS OF UNDERGROUND PARKING	⊗	EXISTING LIGHT STANDARD
---	PROPOSED RETAINING WALL	⊗	EXISTING TREES
---	PROPOSED BARRIER CURB		
---	PROPOSED DEPRESSED CURB		
---	STORM DRAINAGE AREA		
⊗	0.154 A1 0.74 DRAINAGE AREA (HECTARES)		
---	DRAINAGE AREA I.D.		
---	RUNOFF COEFFICIENT		
---	DIRECTION OF MAJOR OVERLAND FLOW ROUTE		
⊗	PROPOSED DOWNSPOUT		
⊗	PROPOSED TREES / SHRUBS		

APPROXIMATE LOCATION OF INTERNAL SANITARY AND STORM SERVICE MONITORING TEST PORTS. (REFER TO MECHANICAL PLANS FOR DETAILS)

PROPOSED 6.0m - SDR 35 200mmØ SDR 35 STORM SEWER @ 1.0%. CONNECT ABOVE SPRINGLINE OF EXISTING 300mmØ MAINLINE USING MANUFACTURED IT CONNECTION. CONTRACTOR TO CONFIRM EXACT LOCATION AND ELEVATION, AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION. EXISTING 300mmØ STORM INVERT AT CONNECTION = 61.14±. PROPOSED 200mmØ STORM INVERT AT CONNECTION = 61.61

PROPOSED BUILDING - ROOF DRAIN TABLE

AREA ID	ZURN SPECIFICATION	NOTCHES	POST DEVELOPMENT ZURN ROOF DRAIN CONTROL PARAMETERS			
			1-YEAR EVENT		1-100-YEAR EVENT	
			HEAD(m)	Q(m³/s)	HEAD(m)	Q(m³/s)
R	N/A	-	-	-	-	
TOTAL						

ROOF AREAS WILL NOT HAVE CONTROLLED ROOF DRAINS AND WILL DIRECT RUNOFF VIA THE DOWNSPOUTS.

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SCALE	1:200
DATE	APR 27/18
BY	JAG
REVISION	
1. ISSUED WITH SITE PLAN APPLICATION	APR 27/18 JAG

FOR REVIEW ONLY

PROFESSIONAL ENGINEER
D.D. BLAIR
100122737
APR 27/18

PROFESSIONAL ENGINEER
J.G. RIDDELL
PROVINCE OF ONTARIO

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LOCATION
CITY OF OTTAWA
The Grove at Greystone Village

DRAWING NAME
STORMWATER MANAGEMENT PLAN

PROJECT NO.: 114025-3A
REV # 1
DRAWING NO.: 114025-STM(3A)

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