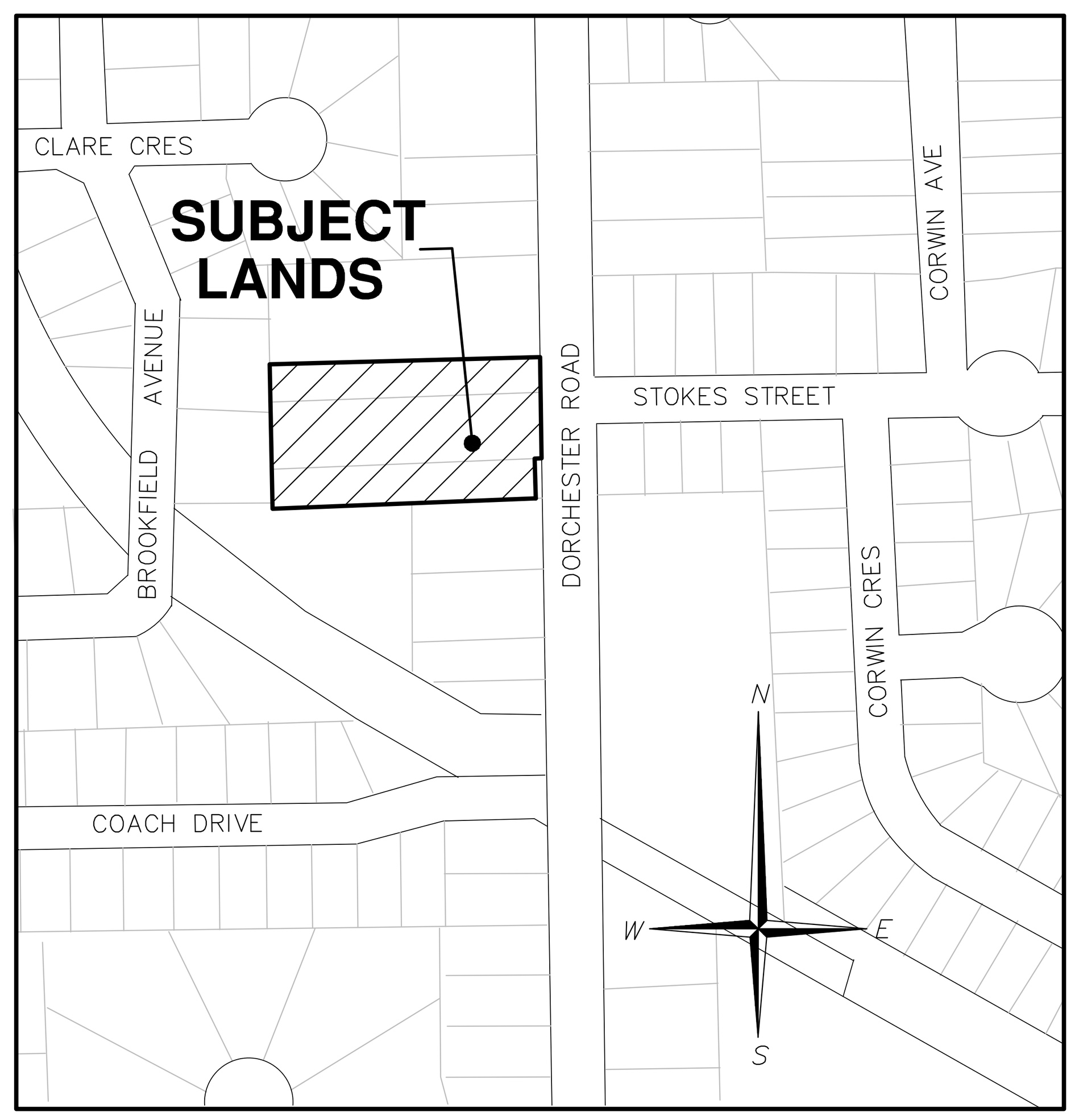
CITY OF NIAGARA FALLS



KEY PLAN
N.T.S.

6259 & 6293 DORCHESTER ROAD

PROPOSED 5 STOREY APARTMENT BUILDING

2nd SUBMISSION: NOVEMBER 18, 2022

AJC PROJECT # 201239

LIST OF DRAWINGS

GENERAL

- A DETAIL SHEET
- 1 SERVICING PLAN
- 2 GRADING PLAN
- 3 EROSION & SEDIMENT CONTROL PLAN
- 4 STORM DRAINAGE AREA PLAN

PANORAMIC PROPERTIES INC.

A. J. Clarke and Associates Ltd.
SURVEYORS • PLANNERS • ENGINEERS
25 MAIN STREET WEST, SUITE 300
HAMILTON, ONTARIO L8P 1H1
Tel: (905) 528-8761 Fax: (905) 528-2289
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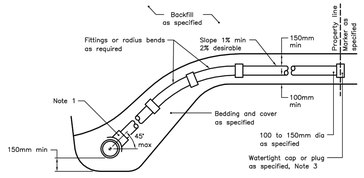
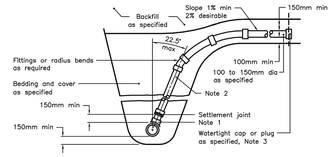
6259 & 6293 DORCHESTER ROAD

6259 & 6293 DORCHESTER ROAD



CONNECTION WITHOUT VERTICAL RISER

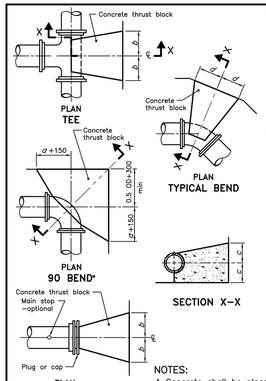


CONNECTION WITH VERTICAL RISER

NOTES:
1 Sewer service connections to the main pipe sewer shall be made using factory made tees, strap-on-saddles, or other approved saddles.
2 Vertical risers shall be as specified.
3 Cap or plug at property line shall be adequately braced.

A Maintenance holes shall be used at the main sewer to connect service connections greater than or equal to 200mm.
B For new construction, saddles shall be installed on the main pipe before that pipe is laid.
C Approved cut-in tool shall be used for field made connections.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2016	Rev 3
SEWER SERVICE CONNECTIONS FOR MAIN PIPE SEWER		OPSD 1006.010



SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 kPa

PIPE	Dimensions			
DIA	a	b	c	d
100	150	250	200	200
150	250	400	250	300
200	400	550	300	450
250	500	650	400	500
300	650	800	450	650
350	700	900	550	700
400	900	1050	600	850

SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 kPa

PIPE	Dimensions			
DIA	a	b	c	d
100	150	200	150	150
150	250	250	200	200
200	400	350	250	300
250	500	450	300	350
300	650	500	350	400
350	700	600	400	500
400	900	750	400	600

SOILS WITH TYPICAL BEARING STRENGTH OF 300 kPa AND OVER

PIPE	Dimensions			
DIA	a	b	c	d
100	150	150	150	150
150	250	200	200	200
200	400	300	200	250
250	500	400	250	300
300	650	450	300	300
350	700	550	350	350
400	900	650	350	450

NOTES:
A Concrete shall be placed to within 50mm of the face of the bell.
B Bond breaker shall be used between concrete and fittings.
C The above thrust block dimensions meet or exceed the MECP Watermain Design Criteria for Future Alterations Authorized Under a Drinking Water Works Permit.
D The assumptions made for the above calculations are:
– Maximum operating pressure of 690 kPa,
– Maximum surge pressure with a flow velocity change of 0.6 m/s of 790 kPa for Class 52 DI pipe and 240 kPa for PVC pipe.
E The tables apply to both ductile iron and PVC pipe. When one length exceeded the other, the longer length was used.
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3
CONCRETE THRUST BLOCKS FOR TEES, PLUGS, AND HORIZONTAL BENDS		OPSD 1103.010

SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 kPa

PIPE	Note 1				
DIA	a	b	c	d	e
100	450	600	750	13	150
150	600	900	900	13	300
200	600	900	1500	13	450
250	900	900	1500	20	600
300	1200	900	1650	20	800
350	1200	1200	1650	25	1000
400	1300	1300	1750	30	1000

SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 kPa

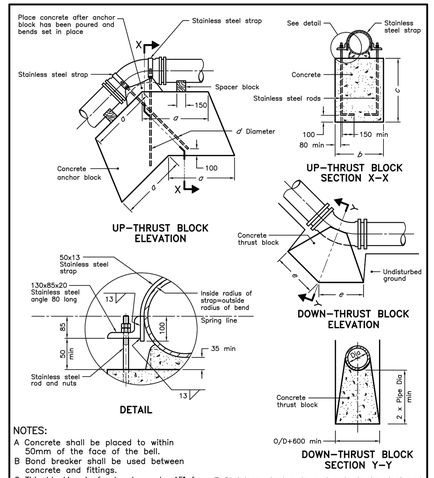
PIPE	Note 1				
DIA	a	b	c	d	e
100	450	600	750	13	150
150	600	900	900	13	300
200	600	900	1500	13	450
250	900	900	1500	20	600
300	1200	900	1650	20	800
350	1200	1200	1650	25	1000
400	1300	1300	1750	30	1000

SOILS WITH TYPICAL BEARING STRENGTH OF 300 kPa AND OVER

PIPE	Note 1				
DIA	a	b	c	d	e
100	450	600	750	13	150
150	600	900	900	13	300
200	600	900	1500	13	450
250	900	900	1500	20	600
300	1200	900	1650	20	800
350	1200	1200	1650	25	1000
400	1000	1300	1750	30	1000

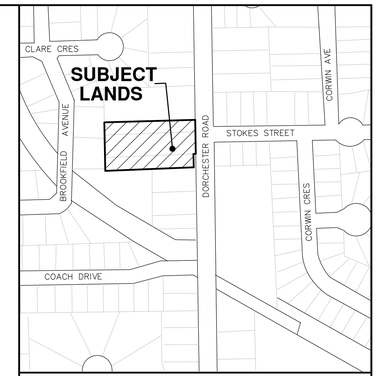
NOTES:
1 The dimensions are as specified in OPSD 1103.020.
A The above thrust block dimensions meet or exceed the MECP Watermain Design Criteria for Future Alterations Authorized Under a Drinking Water Works Permit.
B The assumptions made for the above calculations are as follows:
– Maximum operating pressure of 690 kPa,
– Maximum surge pressure with a flow velocity change of 0.6 m/s of 790 kPa for Class 52 DI pipe and 240 kPa for PVC pipe.
C The tables apply to both ductile iron and PVC pipe. When one length exceeded the other, the longer length was used.
D This OPSD shall be read in conjunction with OPSD 1103.020.
E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 1
DIMENSION TABLES FOR CONCRETE THRUST BLOCKS FOR VERTICAL BENDS		OPSD 1103.021



NOTES:
A Concrete shall be placed to within 50mm of the face of the bell.
B Bond breaker shall be used between concrete and fittings.
C This blocking is for bends up to 45° for up-thrust and 90° for down-thrust.
D This OPSD shall be read in conjunction with OPSD 1103.021.
E All stainless steel to be type 316.
F Stainless steel rods and nuts to be designed based on actual watermain diameter and surge pressure.
G All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 4
CONCRETE THRUST BLOCKS FOR VERTICAL BENDS		OPSD 1103.020



KEY PLAN N.T.S.

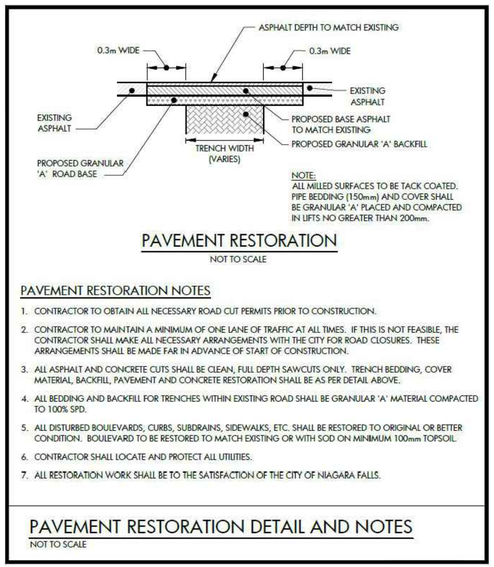
BENCH MARK
Elevation: 195.035
Description: Top of existing Fire Hydrant, located east of Dorchester Road adjacent to the south east corner of 2659 Dorchester Road.

Note
Topographic information was received from J.B.Barnes Limited dating May 26, 2021.

No.	Revision	By	Date
2.	SECOND SUBMISSION	M.D.	NOV. 18, 2022
1.	FIRST SUBMISSION	M.D.	NOV. 03, 2021

REVISIONS

GENERAL NOTES
1 TENDERERS SHALL SATISFY THEMSELVES AS TO THE NATURE OF THE GROUND AND BID ACCORDINGLY.
2 ALL ROCK LINE INDICATIONS SHOWN ON THE PLAN MUST BE VERIFIED BY THE CONTRACTOR.
3 CONTRACTOR SHALL VERIFY LOCATIONS AND INVERTS OF ALL EXISTING SANITARY AND STORM SEWERS AND WATERMAINS, PRIVATE SEWER DRAINS AND WATER SERVICES, GASMAINS, CABLE TV, HYDRO AND TELEPHONE DUCTS, ETC., AT START OF CONSTRUCTION.

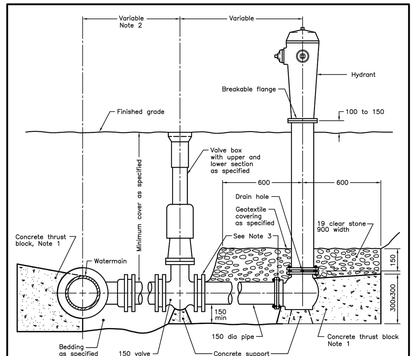


NOTE:
ALL MILLED SURFACES TO BE TACK COATED.
PIPE BEDDING (150mm) AND COVER SHALL BE GRANULAR 'A' PLACED AND COMPACTED IN LIFTS NO GREATER THAN 200mm.

PAVEMENT RESTORATION
NOT TO SCALE

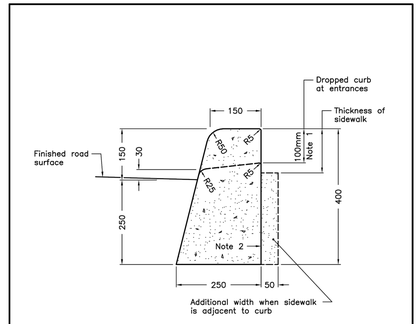
PAVEMENT RESTORATION NOTES
1. CONTRACTOR TO OBTAIN ALL NECESSARY ROAD CUT PERMITS PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC AT ALL TIMES. IF THIS IS NOT FEASIBLE, THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE CITY FOR ROAD CLOSURES. THESE ARRANGEMENTS SHALL BE MADE FAR IN ADVANCE OF START OF CONSTRUCTION.
3. ALL ASPHALT AND CONCRETE CUTS SHALL BE CLEAN, FULL DEPTH SAWCUTS ONLY. TRENCH BEDDING, COVER MATERIAL, BACKFILL, PAVEMENT AND CONCRETE RESTORATION SHALL BE AS PER DETAIL ABOVE.
4. ALL BEDDING AND BACKFILL FOR TRENCHES WITHIN EXISTING ROAD SHALL BE GRANULAR 'A' MATERIAL COMPACTED TO 100% SPD.
5. ALL DISTURBED BOULEVARDS, CURBS, SUBDRAINS, SIDEWALKS, ETC. SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION. BOULEVARD TO BE RESTORED TO MATCH EXISTING OR WITH SOD ON MINIMUM 100mm TOPSOIL.
6. CONTRACTOR SHALL LOCATE AND PROTECT ALL UTILITIES.
7. ALL RESTORATION WORK SHALL BE TO THE SATISFACTION OF THE CITY OF NIAGARA FALLS.

PAVEMENT RESTORATION DETAIL AND NOTES
NOT TO SCALE



NOTES:
1 All concrete thrust blocks shall be poured against undisturbed ground.
2 When specified, for watermains 400mm and less, locate valve within 1.0m of centreline of watermain. Retaining and restraining devices shall be utilized. For watermains 600mm and over, bolt valve with flanged end directly to flanged tee.
3 Retaining and restraining devices shall be as specified.
A Bond breaker shall be used between the concrete and the fittings and appurtenances.
B Bolts and nuts for buried flange to flange connections shall be stainless steel.
C When required, flange of standpipe extensions shall not be in frost zone.
D This OPSD shall be read in conjunction with OPSD 1103.010 and 1103.020.
E Backfill material within 500mm of service box shall be native or imported, as specified.
F Tracer wire shall be installed as specified.
G All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3
HYDRANT INSTALLATION		OPSD 1105.010



NOTES:
1 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
2 For slipforming procedure a 5% batter is acceptable.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB		OPSD 600.110

M.J. DESSUREAULT
Nov. 18, 2022
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO
ENGINEER

PROJECT OWNER:
PANORAMIC PROPERTIES INC.

NOT ISSUED FOR CONSTRUCTION

MUNICIPALITY:
CITY OF NIAGARA FALLS (STAMFORD TOWNSHIP)

PROJECT NAME:
PROPOSED
5 STOREY APARTMENT BUILDING
6259 & 6293 DORCHESTER ROAD
NIAGARA FALLS

A. J. Clarke and Associates Ltd.
SURVEYORS • PLANNERS • ENGINEERS
25 MAIN STREET WEST, SUITE 300
HAMILTON, ONTARIO L8P 1H1
Tel: 905 528-8761 Fax: 905 528-2289
email: ajc@ajclarke.com

TITLE:
DETAIL SHEET

SCALE:	DATE: JULY, 2021
DESIGN: M.D./M.M.	DRAWN: S.S./M.M./T.L.
DWG: 201239	SHT: A

6259 & 6293 DORCHESTER ROAD
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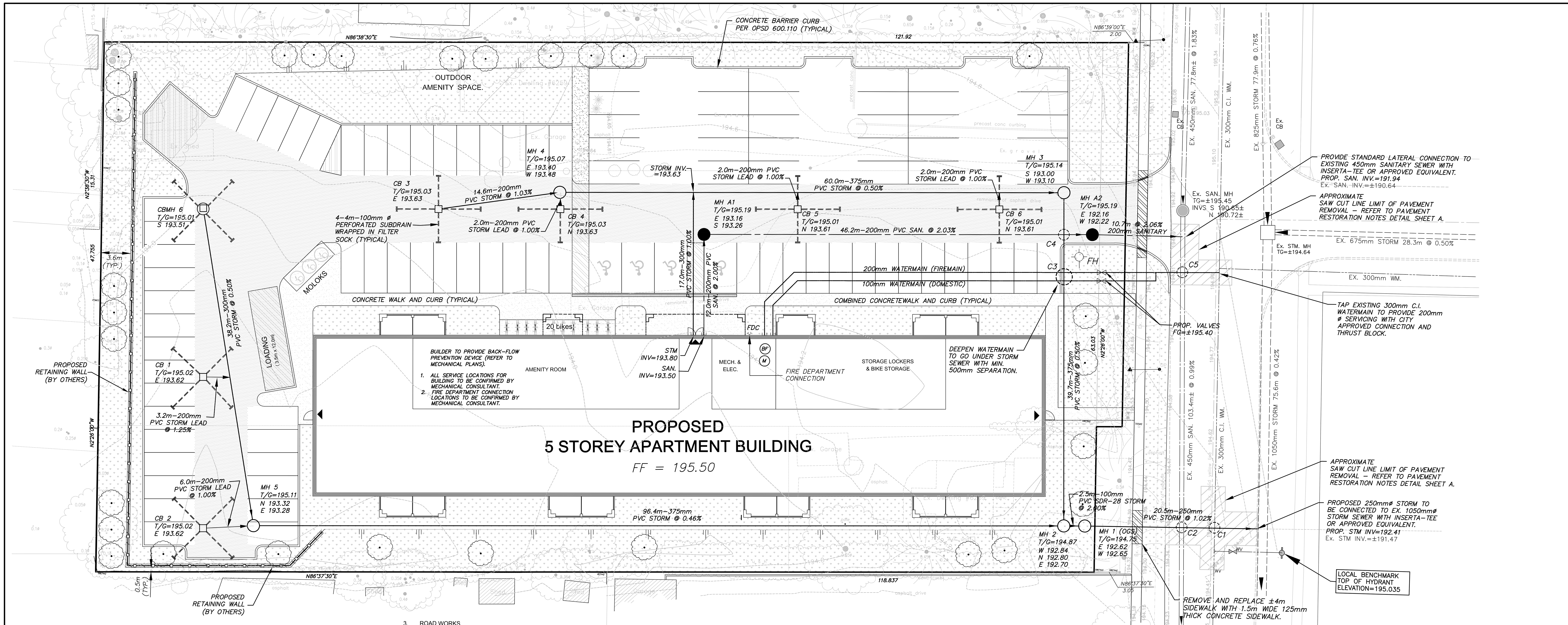
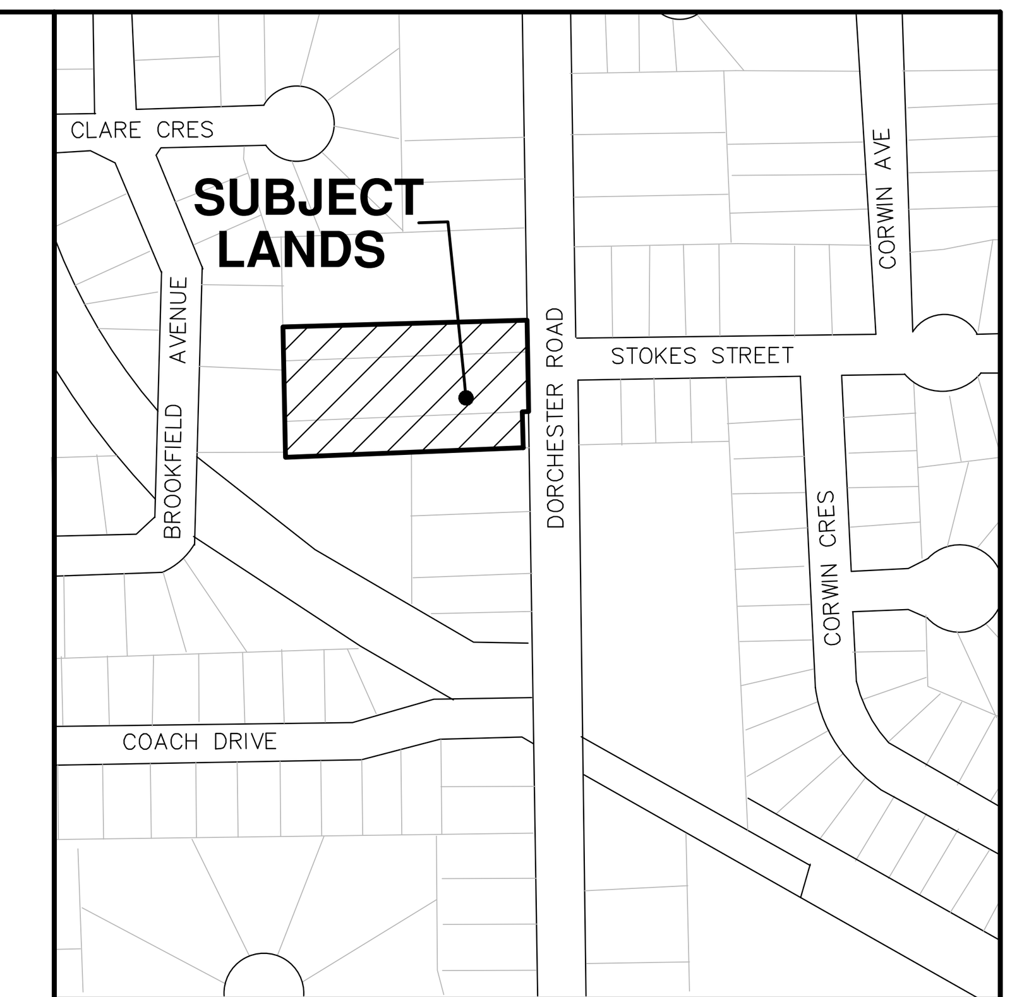
6259 & 6293 DORCHESTER ROAD





KEY PLAN N.T.S.

BENCH MARK

Elevation: 195.035

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Note

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No.	Revision	By	Date
2	SECOND SUBMISSION	M.D.	NOV. 18, 2022
1.	FIRST SUBMISSION	M.D.	NOV. 03, 2021

REVISIONS

1. SANITARY AND STORM SEWERS

A. CONSTRUCTION OF SANITARY & STORM SEWERS & PRIVATE DRAINS SHALL BE IN ACCORDANCE WITH CITY STANDARDS & SPECIFICATIONS (LATEST EDITION) AND MINISTRY OF ENVIRONMENT CONSERVATION AND PARKS (MECP) GUIDELINES (LATEST EDITION).

B. SANITARY SEWERS SHALL BE PVC PIPE, CSA B182.2 SDR-35.

C. PVC STORM SEWERS SHALL BE AS PER, CSA B182.2, SDR-35.

D. REINFORCED CONCRETE PIPE (RCP) STORM SEWERS SHALL BE AS PER CSA A257.2, 100-D MINIMUM.

E. COVER AND BEDDING MATERIAL FOR PVC PIPE SHALL BE GRANULAR 'A' MATERIAL AS PER OPSD 802.010 OR 802.013.

F. PVC PIPE WILL REQUIRE SPECIAL CONSTRUCTION PROCEDURES AS PER CITY SPECIFICATIONS.

G. MANHOLES SHALL BE AS PER OPSD 700.010 UNLESS OTHERWISE SPECIFIED.

H. MANHOLE FRAMES AND COVERS SHALL BE AS PER OPSD 401.010 (STORM-OPEN, SANITARY-CLOSED).

I. CATCH BASIN / DOUBLE CATCH BASIN SHALL BE AS PER OPSD 705.010 & 705.020 RESPECTIVELY.

J. CATCH BASIN FRAME AND GRATE SHALL BE AS PER OPSD 400.100.

K. CATCH BASIN CONNECTIONS TO BE 200mm DIA. PVC PIPE CSA B182.2, SDR-35 AND ARE TO BE INSTALLED WITH MIN. 1.0% SLOPE UNLESS OTHERWISE SPECIFIED.

L. ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.

M. PVC (SANITARY AND STORM) SEWERS ARE TO BE TESTED FOR DEFLECTION (MANDREL PASSAGE) AFTER INSTALLATION. SANITARY SEWERS SHALL BE TESTED FOR LEAKAGE (LOW AIR PRESSURE).

N. ALTERNATE MATERIALS MAY BE ACCEPTABLE PROVIDED APPROVAL HAS FIRST BEEN OBTAINED FROM THE CITY/ENGINEER

O. MANHOLES AND CATCH BASINS SHALL BE INSTALLED FLUSH WITH THE TOP COURSE ASPHALT.

P. MANHOLES AND CATCH-BASINS TO BE ADJUSTED TO MATCH FINAL LIFT OF ASPHALT AT TIME OF FINAL ASPHALT PLACEMENT. FOR MANHOLE AND CATCH BASIN TOP ADJUSTMENTS, ALL PERMANENT ADJUSTMENTS ARE TO BE PRE-CAST ADJUSTMENT UNITS AND ADJUSTABLE MANHOLE COVERS (MANUFACTURED BE BIBBY-STE-CROIX, MODEL C-50-ONT, CIP) OR EQUIVALENT.

2. WATER SERVICES

A. CONSTRUCTION OF WATERMAINS & PRIVATE SERVICES SHALL BE IN ACCORDANCE WITH CITY STANDARDS & SPECIFICATIONS (LATEST EDITION) AND MINISTRY OF ENVIRONMENT CONSERVATION AND PARKS (MECP) GUIDELINES (LATEST EDITION).

B. WATERMAIN SHALL BE INSTALLED WITH MIN. 1.8m COVER.

C. WATERMAIN SHALL BE CLASS 150 DR18 CONFORMING TO AWWA C900.

D. TRACER WIRE SHALL BE INSTALLED WITH PVC PIPE. IT SHALL BE 12 GAUGE TW75, TWU75 OR RW90XLPE COATED COPPER AND SHALL BE POSITIONED ALONG THE TOP OF THE PIPE AND FASTENED AT 6 METRE INTERVALS. THE WIRE IS TO BE INSTALLED BETWEEN EACH VALVE AND/OR THE END OF THE NEW PVC WATERMAIN. JOINTS IN THE WIRE BETWEEN VALVES ARE NOT PERMITTED. AT EACH GATE VALVE A LOOP WIRE IS TO BE BROUGHT UP INSIDE THE VALVE BOX TO THE CAP. THE TRACER WIRE IS TO BE BROUGHT TO THE SURFACE AT SECONDARY VALVE ON ALL FIRE HYDRANTS. THE TRACER WIRE SHALL ALSO BE CONNECTED TO THE CATHODIC PROTECTION SYSTEM AS REQUIRED.

E. MOLDED PVC FITTINGS FOR PIPE SIZES 100mm TO 300mm SHALL CONFORM TO AWWA C900 AND CERTIFIED TO CSA B137.2.

F. BEDDING AND BACKFILL SHALL BE GRANULAR 'A' MATERIAL FOR MAINS AND SERVICES GREATER THAN 50mm.

G. WATERMAIN DEFLECTION FOR PVC PIPE:
   I. MAXIMUM ALLOWABLE DEFLECTION OF 1.5 DEGREES PER JOINT UP TO 250mm DIAMETER (USE MAX = $\frac{1}{2}$ OF MANUFACTURER'S RECOMMENDATION).
   II. ALL JOINTS SHALL BE DEFLECTED AN EQUAL AMOUNT.

H. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATERMAIN AND STORM / SANITARY SEWERS = 2.5m.

I. MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND STORM OR SANITARY SEWER SHALL BE MINIMUM 0.50m AT ALL CROSSINGS.

J. ALL VALVE BOXES TO BE SET TO PROPOSED GRADES.

K. 100mm TO 350mm GATE VALVE & VALVE BOXES AS PER OPSD 1100.011

L. FOR 100mm TO 300mm WATERMAINS STANDARD CONCRETE ANCHOR BLOCKS AS PER OPSD 1103.010 AND OPSD 1006.010 FOR HORIZONTAL AND VERTICAL BENDS RESPECTIVELY.

3. ROAD WORKS

A. ROAD SECTION FOR FIRE ROUTE:
OPSS 40mm HL 3 COMPACTED 97% MARSHALL, OPSS 65mm HL 8 COMPACTED 97% MARSHALL, ON 150mm COMPACTED OPSS GRANULAR 'A' & 450mm COMPACTED OPSS GRANULAR 'B' TYPE II.

B. ROAD SECTION FOR PARKING AREAS:
65mm OPSS HL 3 COMPACTED 97% MARSHALL, ON 150mm COMPACTED OPSS GRANULAR `A` & 300mm COMPACTED OPSS GRANULAR 'B' TYPE II.

C. DRIVEWAY APPROACH SHALL BE INSTALLED AS PER NPSCD B15 STANDARDS.

D. CONCRETE CURB SHALL BE AS PER OPSD 600.110 (BARRIER-TYPE), MIN 30 MPa STRENGTH, (50mm KEY TO BE PROVIDED AS REQUIRED)

E. CONCRETE SIDEWALK SHALL BE AS PER OPSD 310.010 IN CITY R.O.W.

F. 100mm FILTER WRAPPED CORRUGATED PERFORATED SUBDRAINS TO BE INSTALLED AS SHOWN AT ALL CATCHBASINS AND CATCHBASIN MANHOLES AND CONNECTED TO THE CBS AS PER NPSCD B6 STANDARD.

4. COMPACTION REQUIREMENTS

A. ALL BEDDING AND BACKFILL MATERIAL, ROAD SUB-GRADES, AND GENERALLY ALL MATERIAL USED FOR LOT GRADING AND FILL SECTIONS ETC., SHALL BE COMPACTED TO 100% SPD UNLESS OTHERWISE SPECIFIED.

B. ALL GRANULAR ROAD BASE MATERIALS SHALL BE COMPACTED TO 100% SPD.

C. FOR ALL SEWERS AND WATERMAINS IN FILL SECTIONS, THE COMPACTION SHALL BE VERIFIED PRIOR TO LAYING OF PIPE.

5 CITY RIGHT-OF-WAY RESTORATIONS

A. ALL DISTURBED CURBS, BOULEVARD AND UTILITIES SHALL BE RESTORED TO SUIT ORIGINAL CONDITIONS OR BETTER.

B. THROUGH ACCESS TO BE MAINTAINED AT ALL TIMES.

C. CONTRACTOR SHALL PROVIDE DETOUR SIGNS AS REQUESTED BY CITY OF NIAGARA FALLS AS REQUIRED.

D. ALL WORKS SHALL BE TO THE SATISFACTION OF THE NIAGARA FALLS.

SPECIAL NOTES

SN1. EXISTING UTILITIES AND UNDERGROUND SERVICES SHOWN ARE APPROXIMATE LOCATIONS ONLY. THIS DRAWING DOES NOT INDICATE ALL POTENTIAL UTILITIES AND SERVICES. CONTRACTOR IS RESPONSIBLE TO HAVE ALL UTILITIES AND SERVICES STAKED OUT BY THEIR RESPECTIVE LOCATE AND SERVICING COMPANIES PRIOR TO COMMENCING WORK ON SITE.

SN2. ALL EXISTING UTILITIES, SERVICES, AND STRUCTURES, ETC. THAT ARE IN CONFLICT WITH PROPOSED SITE SERVICES, TO BE RELOCATED BY OTHERS, UNLESS OTHERWISE INDICATED.

SN3. REMOVALS AND/OR RELOCATIONS OF THE EXISTING UTILITIES (I.E. HYDRO, COMMUNICATION, FIBER OPTIC CABLES, GAS, ETC.) SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED AND "ISSUED FOR CONSTRUCTION" DRAWINGS PREPARED BY QUALIFIED PROFESSIONAL.

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING SERVICES IN VICINITY OF PROPOSED WORKS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

CONTRACTOR TO CLEAN EXISTING ROADWAYS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY.

ANY WORK PROPOSED WITHIN CITY ROW REQUIRES ROAD OCCUPANCY PERMIT.

ALL BUILDING ROOF DRAINAGE SHALL BE DIRECTED TO THE STORM SEWER LEAD VIA THE INTERNAL MECHANICAL DRAINAGE SYSTEM. WEEPING TILES DRAINAGE SHALL BE TO SUMP PIT AND BE DIRECTED TO THE BUILDING STORM CONNECTION. ALL INTERNAL BUILDING DRAINAGE COMPONENTS SHALL BE CONSTRUCTED AS PER THE REQUIREMENTS OF THE ONTARIO BUILDING CODE.

APPROVAL OF THIS DRAWING IS FOR MATERIAL ACCEPTABILITY AND COMPLIANCE WITH MUNICIPAL AND PROVINCIAL SPECIFICATIONS AND STANDARDS ONLY. APPROVAL AND INSPECTION BY THE CITY OF THE WORKS DOES NOT CERTIFY THE LINE AND GRADE OF THE WORKS AND IT IS THE OWNER'S RESPONSIBILITY TO HAVE THEIR ENGINEER CERTIFY THIS ACCORDINGLY.

IN FUTURE EVENT OF SANITARY PIPE MAINTENANCE/REPAIR, ANY COST RELATED TO STRUCTURE REMOVAL AND REINSTATEMENT SHALL BE THE RESPONSIBILITY OF THE OWNER.

NOTE:

ALL EXISTING SERVICES (WATERMAIN, SANITARY AND STORM SEWER) TO BE REMOVED SHALL BE CAPPED/PLUGGED AT THE EXISTING MAINLINE SERVICE PER THE CITY OF NIAGARA FALLS REQUIREMENTS.

SANITARY MANHOLE SCHEDULE

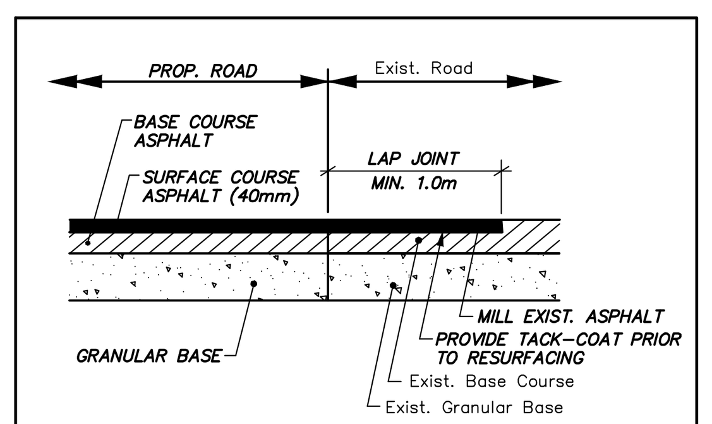
MH	TOP	INVERTS	DESCRIPTION
A1	195.19	S INV=193.26 E INV=193.16	1200mm (OPSD 701.010)
A2	195.19	W INV=192.22 E INV=192.16	1200mm (OPSD 701.010)

STORM MANHOLE SCHEDULE

MH	TOP	INVERTS	DESCRIPTION
CBMH 6	195.01	S INV=193.51	1200mm (OPSD 701.010)
CB 3	195.03	E INV=193.63	600mm x 600mm (OPSD 705.010)
1 (OGS)	194.75	E INV=192.62 W INV=192.65	1200mm STC EF-4
2	194.87	W INV=192.84 N INV=192.80 E INV=192.70	1200mm (OPSD 701.010)
3	195.14	W INV=193.10 S INV=193.00	1200mm (OPSD 701.010)
4	195.07	W INV=193.48 E INV=193.40	1200mm (OPSD 701.010)
5	195.11	N INV=193.32 E INV=193.28	1200mm (OPSD 701.010)

CATCH BASIN SCHEDULE

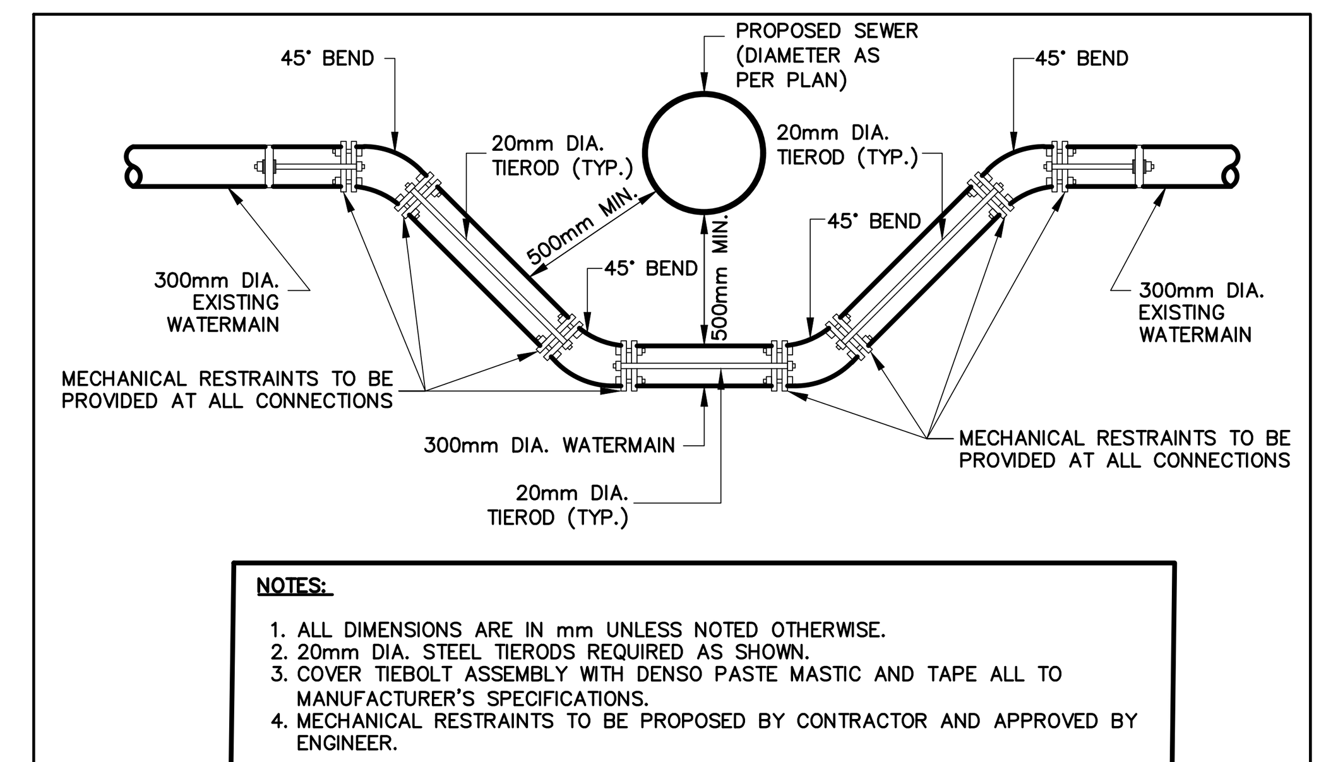
MH	TOP	INVERTS	DESCRIPTION
CB 1	195.02	E INV=193.62	600mm x 600mm (OPSD 705.010)
CB 2	195.02	E INV=193.62	600mm x 600mm (OPSD 705.010)
CB 4	195.03	N INV=193.63	600mm x 600mm (OPSD 705.010)
CB 5	195.01	N INV=193.61	600mm x 600mm (OPSD 705.010)
CB 6	195.01	N INV=193.61	600mm x 600mm (OPSD 705.010)



LAP JOINT DETAIL 'A'
N.T.S.

PIPE CROSSING SCHEDULE

CROSSING NO.	BOTTOM OF PIPE	TOP OF PIPE	DIFFERENCE (METERS)	WM LOWERING REQUIRED
C1	±192.46 (STM)	±191.96 (WM)	0.50	YES
C2	±192.51 (STM)	±190.73 (SAN.)	1.78	N/A
C3	±192.94 (STM)	±192.44 (WM)	0.50	YES
C4	±192.97 (STM)	±192.50 (SAN.)	0.47	N/A
C5	±192.20 (WM)	±191.13 (SAN.)	1.07	NO



WATERMAIN CROSSING DETAIL
N.T.S.

LEGEND

- PROPOSED STORM MANHOLE
- EXISTING STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- PROPOSED WATER VALVE AND BOX/ CURB STOP
- EXIST. WATER VALVE & VALVE BOX
- PROPOSED HYDRANT
- EXISTING HYDRANT
- PROPOSED DEPRESSED CURB
- PROPOSED SANITARY SEWER PIPE
- PROPOSED STORM SEWER PIPE
- PROPOSED CURB
- PROPOSED SIDEWALK
- EXISTING CURB & GUTTER
- CB EXISTING CATCH BASIN
- WATERMAIN TEE (PROPOSED / EXISTING)
- 45° WATERMAIN ELBOW (PROPOSED / EXISTING)
- PLUG (PROPOSED / EXISTING)
- EXISTING WATERMAIN
- EXISTING STORM PIPE
- EXISTING SANITARY SEWER PIPE
- BF BACK-FLOW PREVENTION VALVE
- M WATER METER
- FDC FIRE CONNECTION DEPARTMENT
- PROPOSED SUBDRAIN
- HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED TREES
- EXISTING CONIFEROUS
- EXISTING DECIDUOUS TREE

GENERAL NOTES

1 TENDERERS SHALL SATISFY THEMSELVES AS TO THE NATURE OF THE GROUND AND BID ACCORDINGLY.

2 ALL ROCK LINE INDICATIONS SHOWN ON THE PLAN MUST BE VERIFIED BY THE CONTRACTOR.

3 CONTRACTOR SHALL VERIFY LOCATIONS AND INVERTS OF ALL EXISTING SANITARY AND STORM SEWERS AND WATERMAINS, PRIVATE SEWER DRAINS AND WATER SERVICES, GASMAINS, CABLE TV, HYDRO AND TELEPHONE DUCTS, ETC., AT START OF CONSTRUCTION.

LICENSED PROFESSIONAL ENGINEER M.J. DESSUREAULT Nov. 18, 2022 PROVINCE OF ONTARIO

ENGINEER

PROJECT OWNER:

PANORAMIC PROPERTIES INC.

NOT ISSUED FOR CONSTRUCTION

MUNICIPALITY:

CITY OF NIAGARA FALLS (STAMFORD TOWNSHIP)

PROJECT NAME:

PROPOSED 5 STOREY APARTMENT BUILDING
6259 & 6293 DORCHESTER ROAD
NIAGARA FALLS

A. J. Clarke and Associates Ltd.
SURVEYORS • PLANNERS • ENGINEERS
25 MAIN STREET WEST, SUITE 300
HAMILTON, ONTARIO L8P 1H1
Tel: 905 528-8761 Fax: 905 528-2289
email: ajc@ajclarke.com

TITLE:

SERVICING PLAN

SCALE: 1:250	DATE: JULY, 2021
DESIGN: M.D./M.M.	DRAWN: S.S./M.M.
DWG: 201239	SHT: 1

6259 & 6293 DORCHESTER ROAD

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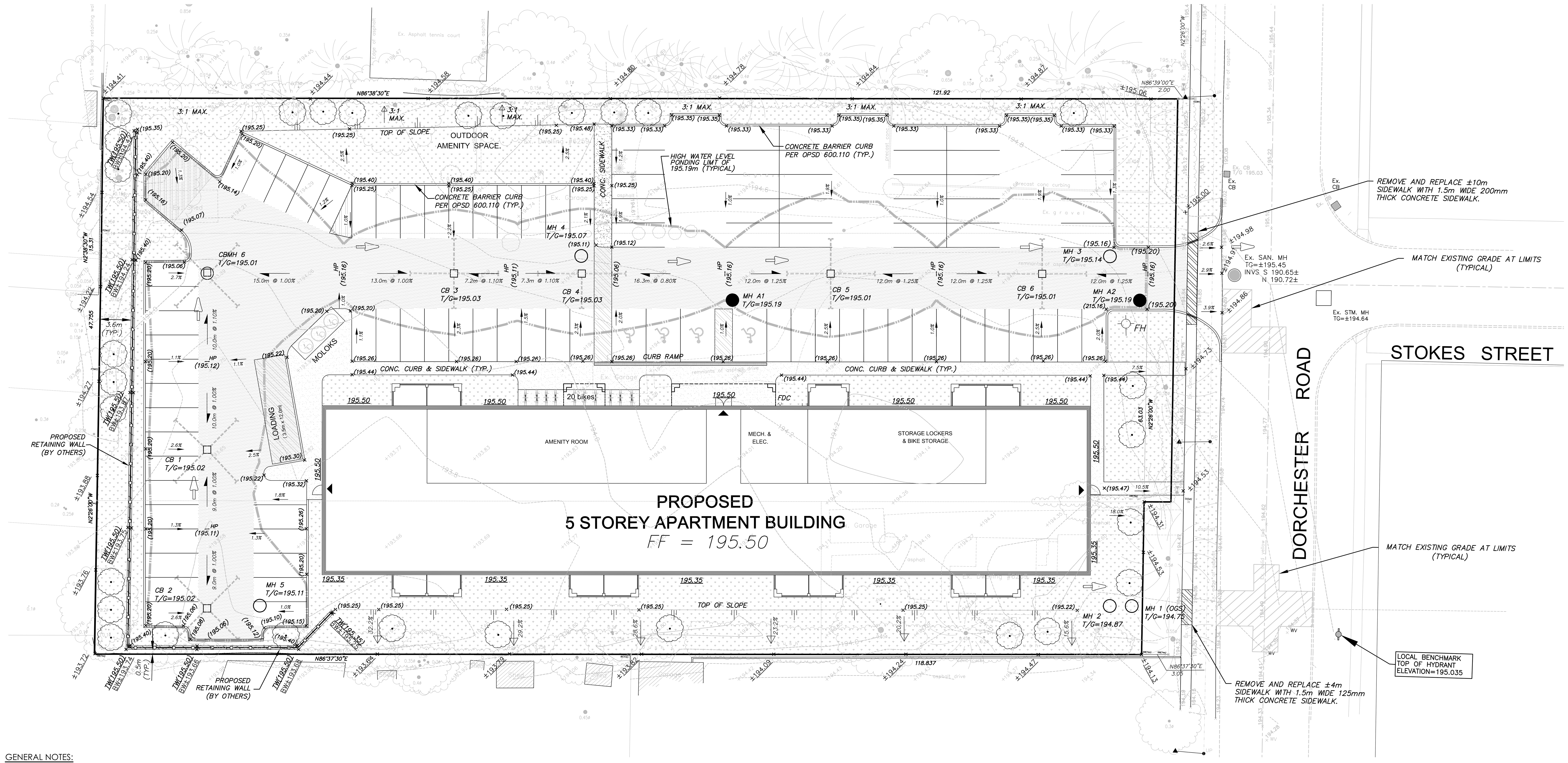
6259 & 6293 DORCHESTER ROAD



GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE NOTED.

LOT GRADING NOTES

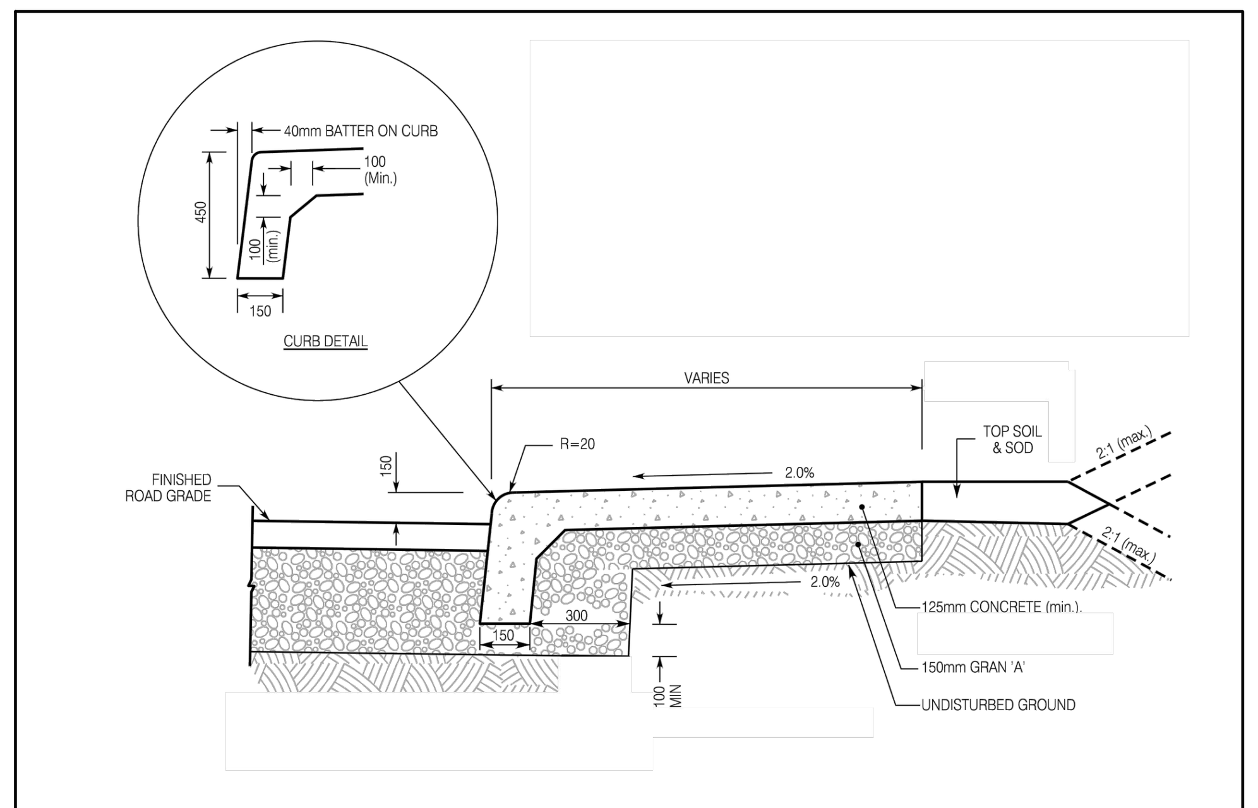
1. ALONG ADJOINING PROPERTIES GRADE TO MEET EXISTING OR PROPOSED ELEVATIONS WITH SODDED SLOPES (MAX. 3H TO 1V) AND/OR RETAINING WALLS AS SPECIFIED.
2. ALL WALLS 1.0m OR HIGHER SHALL BE DESIGNED AND SEALED BY A P.ENG.
3. RETAINING WALLS 0.6m IN HEIGHT OR GREATER REQUIRE CONSTRUCTION OF A FENCE OR GUARD RAIL AT THE TOP OF THE REAR OF THE WALL. GUARDS FOR RETAINING WALLS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF EXTERIOR GUARDS AS CONTAINED IN THE ONTARIO BUILDING CODE
4. TOP OF FOUNDATION WALLS FOR BUILDINGS SHALL BE 150mm (MIN) ABOVE FINISHED GRADE.
5. ALL FILL PLACED ON LOTS SHALL BE COMPACTED TO 100% SPD (UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER). ALL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300mm LIFTS.
6. LOT GRADING SHALL CONFORM STRICTLY WITH THIS PLAN. ANY CHANGES, UNLESS APPROVED PRIOR TO CONSTRUCTION BY THE CITY, SHALL RESULT IN NON ACCEPTANCE BY THE CITY.
7. IF GRADING IS REQUIRED ON LANDS ADJACENT TO THE DEVELOPMENT WHICH ARE NOT OWNED BY THE DEVELOPER, THEN THE DEVELOPER MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNER TO ALLOW THE DEVELOPER TO GRADE ON THE ADJACENT LANDS, OTHERWISE RETAINING WALLS MUST BE USED.
8. THE WRITTEN PERMISSION REQUIRED FROM THE ADJACENT LANDOWNER SHALL BE OBTAINED PRIOR TO ENTERING THE LANDS. SHOULD PERMISSION NOT BE OBTAINED OR IS WITHDRAWN PRIOR TO COMMENCING THE WORK, THEN THE DEVELOPER SHALL LIMIT HIS ACTIVITIES TO THE LIMITS OF THE DEVELOPMENT SITE.

ADDITIONAL NOTES FOR GRADING

1. ALL WORK INVOLVED IN THE CONSTRUCTION, RELOCATION, REPAIR OF MUNICIPAL SERVICES FOR THE PROJECT SHALL BE TO THE SATISFACTION OF THE CITY'S MANAGER OF ENGINEERING. IN ADDITION, ANY CHANGES IN GRADES AND CATCH BASINS REQUIRE THE APPROVAL OF THE CITY'S MANAGER OF ENGINEERING.
2. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNERS BONDED CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS NORMALLY REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS, BUT NOT LIMITED TO THE FOLLOWING:
   - BUILDING PERMITS
   - ROAD CUT PERMITS
   - APPROACH APPROVAL PERMITS
   - ENCROACHMENT AGREEMENTS (IF REQUIRED)
   - SEWER AND WATER PERMITS
   - RELOCATION OF SERVICES
   - COMMITTEE OF ADJUSTMENT
3. ABANDONED ACCESSES MUST BE REMOVED AND THE CURB AND BOULEVARD RESTORED WITH SOD AT THE OWNER'S EXPENSE PER SATISFACTION OF THE CITY'S ENGINEERING MANAGER.

CITY RIGHT-OF-WAY RESTORATIONS:

1. ALL DISTURBED CURBS, BOULEVARD AND UTILITIES SHALL BE RESTORED TO SUIT ORIGINAL CONDITIONS OR BETTER.
2. THROUGH ACCESS TO BE MAINTAINED AT ALL TIMES.
3. CONTRACTOR SHALL PROVIDE DETOUR SIGNS AS REQUESTED BY CITY OF NIAGARA FALLS AS REQUIRED.
4. ALL WORKS SHALL BE TO THE SATISFACTION OF THE CITY OF NIAGARA FALLS.



COMBINED CONCRETE WALK AND CURB
N.T.S.

APPROVAL OF THIS DRAWING IS FOR MATERIAL ACCEPTABILITY AND COMPLIANCE WITH MUNICIPAL AND PROVINCIAL SPECIFICATIONS AND STANDARDS ONLY. APPROVAL AND INSPECTION BY THE CITY OF THE WORKS DOES NOT CERTIFY THE LINE AND GRADE OF THE WORKS AND IT IS THE OWNER'S RESPONSIBILITY TO HAVE THEIR ENGINEER CERTIFY THIS ACCORDINGLY.

CONTRACTOR TO CLEAN EXISTING ROADWAYS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY.

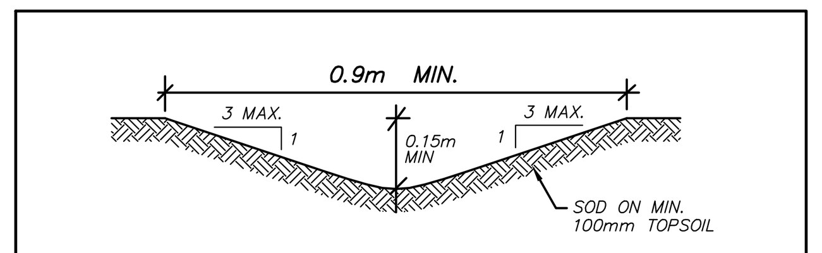
ANY CHANGES IN GRADES AND CATCH BASINS REQUIRE THE APPROVAL OF THE CITY OF NIAGARA FALLS MANAGER OF ENGINEERING.

ANY AREAS WITH DIFFERENCE IN GRADE GREATER THAN 0.60m REQUIRE FALL PROTECTION AS PER OBC REQUIREMENTS.

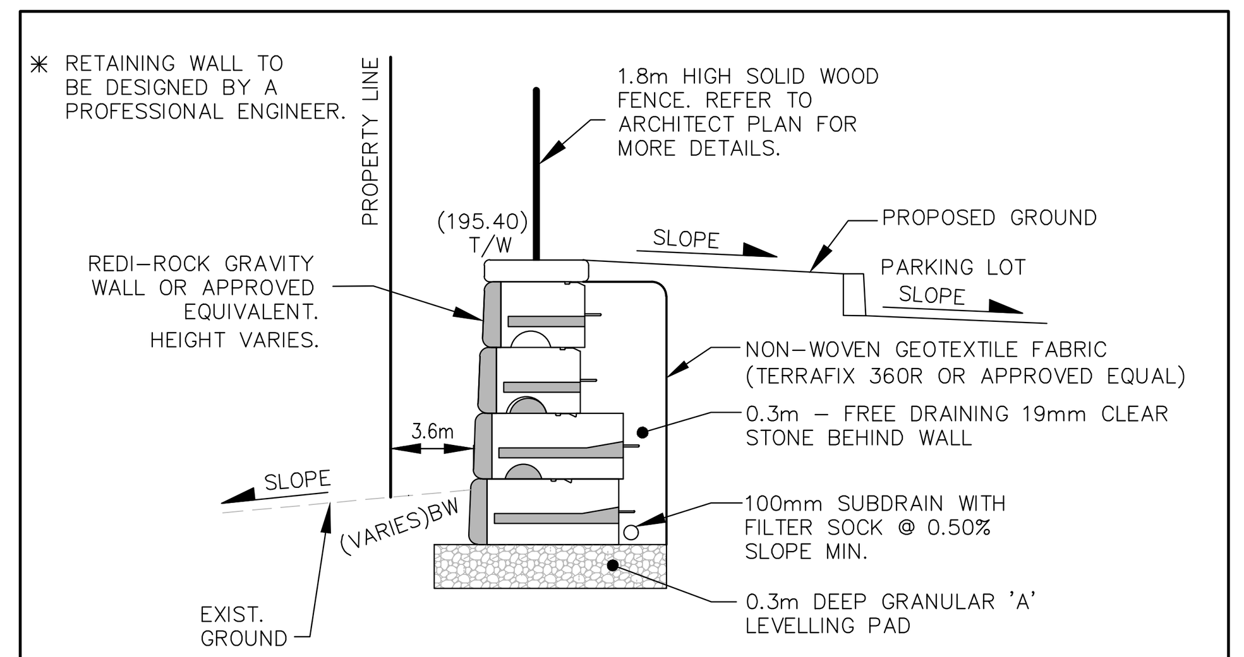
NOTE:

FOR MORE DETAILS ON EXISTING TREES TO REMAIN, TO BE REMOVED AND PROPOSED, REFER TO THE LANDSCAPE PLANS BY ADESSO DESIGN INC.

ANY WORK PROPOSED WITHIN CITY ROW REQUIRES ROAD OCCUPANCY PERMIT.



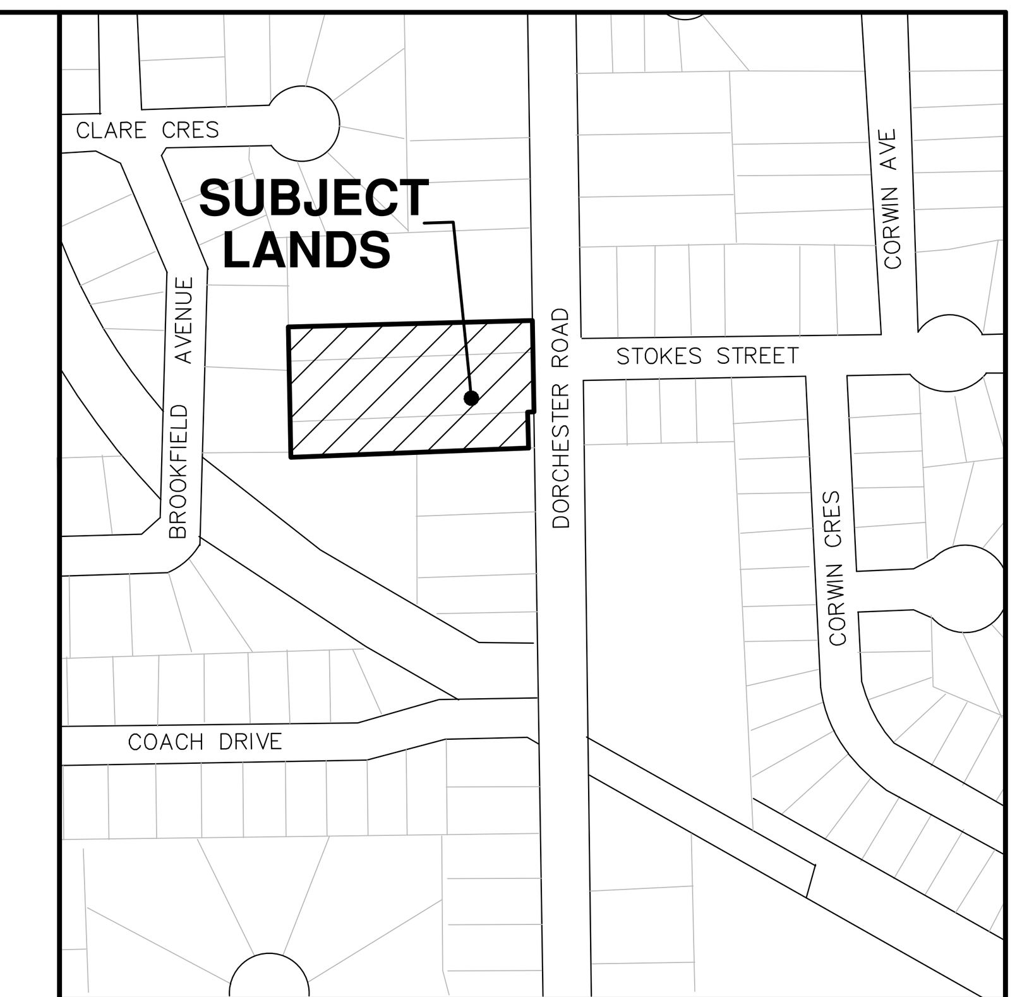
TYPICAL SWALE SECTION
N.T.S.



TYPICAL FREE STANDING RETAINING WALL DETAIL
N.T.S.

LEGEND

- PROPOSED DEPRESSED CURB
- EXISTING HYDRO POLE
- EXISTING HYDRO POLE & LIGHT STANDARD
- EXISTING LIGHT STANDARD
- EXISTING GUYWIRE
- ±000.00 MATCH TO EXISTING GROUND ELEVATIONS
- EXISTING GROUND ELEVATION
- (000.00) PROPOSED GROUND ELEVATION
- 000.00 PROPOSED MIN. FINISHED GRADE AT DWELLING
- PROPOSED RETAINING WALL
- DIRECTION OF MAJOR OVERLAND ROUTE
- PROP. BUILDING ENVELOPE
- EXISTING HYDRANT
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- PROPOSED CATCH BASIN MANHOLE
- PROPOSED STORM MANHOLE
- EXISTING STORM WATER CULVERT
- EXISTING DITCH OR SWALE
- PROPOSED 3:1 MAXIMUM SLOPE
- PROPOSED CURB (OPSD 600.110)
- PROPOSED DEPRESSED CURB
- PROPOSED 1.5m SIDEWALK (OPSD 310.010)
- FUTURE CURB & GUTTER
- EXISTING CURB & GUTTER
- EXISTING FENCE
- EXISTING OVERHEAD CABLES
- PROPOSED TREES
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE



KEY PLAN N.T.S.

BENCH MARK

Elevation: 195.035

Description: Top of existing Fire Hydrant, located east of Dorchester Road adjacent to the south east corner of 2659 Dorchester Road.

Note

Topographic information was received from J.B.Barnes Limited dating May 26, 2021.

No.	Revision	By	Date
2	SECOND SUBMISSION	M.D.	NOV. 18, 2022
1.	FIRST SUBMISSION	M.D.	NOV. 03, 2021

REVISIONS

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ENGINEER

PROJECT OWNER:

PANORAMIC PROPERTIES INC.

NOT ISSUED FOR CONSTRUCTION

MUNICIPALITY:

CITY OF NIAGARA FALLS
(STAMFORD TOWNSHIP)

PROJECT NAME:

PROPOSED
5 STOREY APARTMENT BUILDING
6259 & 6293 DORCHESTER ROAD
NIAGARA FALLS

A. J. Clarke and Associates Ltd.
SURVEYORS • PLANNERS • ENGINEERS
25 MAIN STREET WEST, SUITE 300
HAMILTON, ONTARIO L8P 1H1
Tel: 905 528-8761 Fax: 905 528-2289
email: ajc@ajclarke.com

TITLE:

GRADING PLAN

SCALE:	1:250	DATE:	JULY, 2021
DESIGN:	M.D./M.M.	DRAWN:	S.S./M.M.
DWG:	201239	SHT:	2

6259 & 6293 DORCHESTER ROAD

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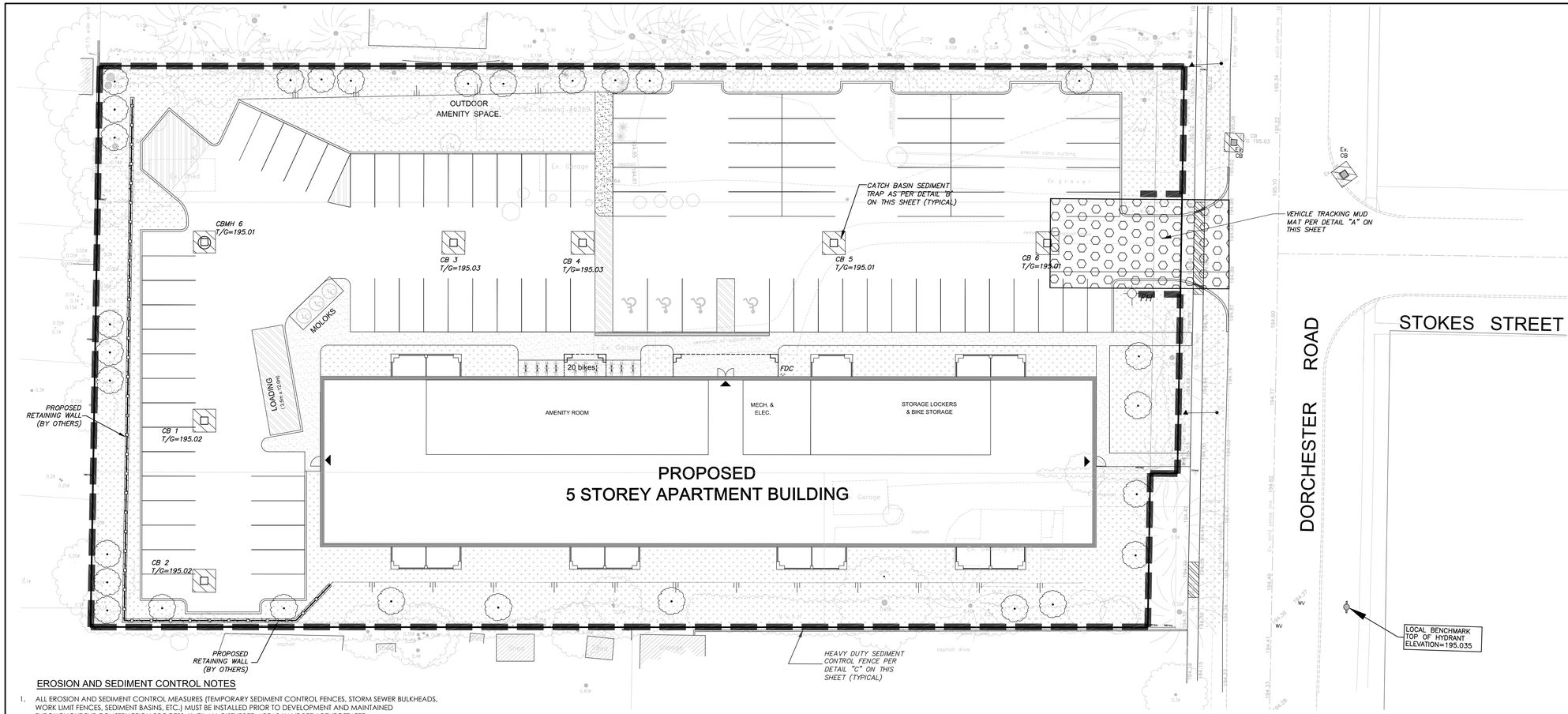
6259 & 6293 DORCHESTER ROAD



EROSION AND SEDIMENT CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROL MEASURES (TEMPORARY SEDIMENT CONTROL FENCES, STORM SEWER BULKHEADS, WORK LIMIT FENCES, SEDIMENT BASINS, ETC.) MUST BE INSTALLED PRIOR TO DEVELOPMENT AND MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS, UNTIL ALL DISTURBED AREAS HAVE BEEN REVEGETATED.
2. TEMPORARY VEHICLE TRACKING CONTROLS TO BE CONSTRUCTED AT ALL ACCESS POINTS. CONTRACTOR SHALL MAINTAIN THESE AS REQUIRED AND AS DIRECTED BY THE CITY ENGINEER.
3. SEDIMENT CONTROL FENCES SHALL BE AS PER OPSD 219.130.
4. CUT-OFF SWALES TO BE CONSTRUCTED WHERE SPECIFIED AND PERIODICALLY INSPECTED TO ENSURE THAT EROSION DOES NOT OCCUR.
5. CATCH BASIN SEDIMENT CONTROL DEVICE, I.E. 'SILTSACK' BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT, TO BE PLACED AS PER MANUFACTURER'S RECOMMENDATIONS (SEE DETAIL 'B'). REGULAR MAINTENANCE IS REQUIRED ('SILTSACK' SUMPS SHALL BE INSPECTED FOR SEDIMENT ACCUMULATION AND FILTER CLOTH BLOCKAGE ON A WEEKLY BASIS). THESE SEDIMENT TRAPS ARE NOT TO BE REMOVED UNTIL THE CURBS HAVE BEEN CONSTRUCTED AND THE BOULEVARDS SODDED. SEDIMENT TRAPS SHALL ALSO BE PLACED AT ALL REAR YARD CATCH BASINS AND MAINTAINED UNTIL GROUND COVER IS ESTABLISHED.
6. REGULAR MAINTENANCE FOR ALL CATCH BASINS (STREET & REAR LOT) IS REQUIRED (SEDIMENT TRAPS AND SUMPS SHALL BE INSPECTED FOR SEDIMENT ACCUMULATION, TRASH BUILD-UP AND FILTER CLOTH BLOCKAGE ON A WEEKLY BASIS AND AFTER ANY MAJOR RAINFALL EVENT). ACCUMULATED SEDIMENT SHALL BE REMOVED BY MECHANICAL MEANS. FLUSHING OF SEDIMENT INTO THE STORM SEWER SYSTEM IS PROHIBITED. IF STANDING WATER REMAINS IN THE CATCH BASIN 24 HOURS (MINIMUM) AFTER A STORM THEN CLEANING OR REPLACEMENT OF THE FILTER CLOTH IS REQUIRED.
7. TOPSOIL PILES SHALL ALSO BE TEMPORARILY SEEDED TO PREVENT EROSION. PLACEMENT OF VEGETATION SHALL BE IN ACCORDANCE WITH OPSS.803. WHERE REQUIRED, EROSION CONTROL BLANKETS SHALL BE PLACED AS PER OPSS.803, AT THE DIRECTION OF THE CITY ENGINEER.
8. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE VISUALLY INSPECTED AFTER EACH WORKING DAY AND MAINTAINED WHEN REQUIRED AS DIRECTED BY THE CONSULTANT AND TO THE SATISFACTION OF THE CITY OF NIAGARA FALLS. THE CONSULTANT SHALL KEEP A DAILY RECORD OF INSPECTION, MAINTENANCE, ETC. AND PRESENT THE CITY WITH A COPY OF THE REPORT ON A MONTHLY BASIS.
9. ANY DISTURBED SUBDIVISION AREAS NOT SCHEDULED FOR FURTHER CONSTRUCTION WITHIN 45 DAYS WILL BE PROVIDED WITH A SUITABLE TEMPORARY MULCH AND SEED COVER WITHIN 7 DAYS OF THE COMPLETION OF THAT PARTICULAR PHASE OF CONSTRUCTION.
10. ALL DISTURBED EXTERNAL AREAS SHALL BE RE-VEGETATED WITH PERMANENT COVER (AS DETAILED) WITHIN 7 DAYS OF THE COMPLETION OF THAT PARTICULAR PHASE OF CONSTRUCTION.
11. ADDITIONAL EROSION AND SEDIMENT CONTROL LOCATIONS/MEASURES MAY BE REQUIRED AS DETERMINED BY THE CITY OF NIAGARA FALLS/ NPCA..

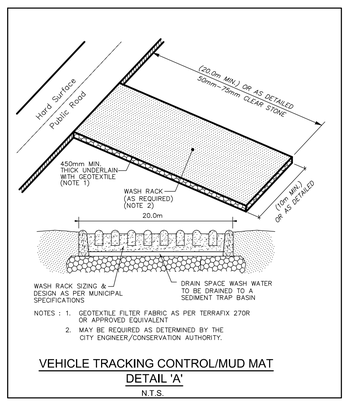
SEDIMENT BASINS/TRAPS MAINTENANCE SCHEDULE

1. SEDIMENT BASINS/TRAPS ARE TO BE INSPECTED AFTER EVERY RAINFALL AND MAINTAINED AS DIRECTED BY THE CONSULTANT AND TO THE SATISFACTION OF THE CITY ENGINEER/ CONSERVATION AUTHORITY.
2. ANY SIGNS OF VISIBLE DAMAGE TO THE TRAP/BASIN OUTLET SHALL BE REPAIRED IMMEDIATELY. IF PORTIONS OF THE DAM HAVE BEEN ERODED, I.E. OVERFLOW SECTION, THEN REPLACEMENT OF STONE AND RESHAPING OF THE DAM PROFILE SHALL BE CARRIED OUT. LIKEWISE, AT THE SEDIMENT BASIN INLETS, THE ROCK LINING SHALL BE INSPECTED AND REPAIRS PERFORMED IMMEDIATELY.
3. TRASH AND DEBRIS SHALL BE REMOVED FROM WITHIN THE TRAP/BASIN AREAS AND INLET CHAMBER (WHERE PRESENT).
4. THE SEDIMENT BASIN/TRAP SIDES AND DITCH SIDE SLOPES SHALL BE INSPECTED TO ENSURE THAT THEY HAVE NOT ERODED OR SETTLED. REMEDIAL ACTION SHALL BE TAKEN IMMEDIATELY TO RESHAPE AND STABILIZE THE SLOPES.
5. WHEN SEDIMENT ACCUMULATES TO HALF THE HEIGHT OF THE SEDIMENT BASIN/TRAP DESIGN DEPTH, I.E. 0.5/0.25 METRE RESPECTIVELY, THEN SEDIMENT REMOVAL IS REQUIRED. CARE MUST BE TAKEN TO AVOID DAMAGING THE OUTLET AND INLET DURING THIS MAINTENANCE OPERATION. DISPOSAL OF THE SEDIMENT SHALL BE TO A CONTROLLED AREA AND STABILIZED (VEGETATED).
6. IF STANDING WATER REMAINS IN THE SEDIMENT BASIN/TRAP 24 HOURS (MINIMUM) AFTER A STORM IT COULD INDICATE A BLOCKAGE IN THE ROCK CHECK DAM. VISUALLY INSPECT THE GRAVEL LINING FOR SIGNS OF EXCESSIVE SEDIMENT AND/OR TRASH BUILDUP. IF SURFACE SEDIMENT AND TRASH REMOVAL DOES NOT ALLEVIATE THE PROBLEM THEN REPLACEMENT OF THE GRANULAR MATERIAL WILL BE REQUIRED.
7. ALL WORKS PERFORMED SHALL BE TO THE SATISFACTION OF THE CITY ENGINEER / CONSERVATION AUTHORITY.

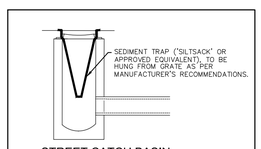
NOTE

VEHICLE TRACKING CONTROL TO BE PLACED AT DESIGNATED CONSTRUCTION ACCESS POINT / POINTS. ACTUAL LOCATION TO BE DETERMINED IN THE FIELD AND SEND TO CITY OF NIAGARA FOR APPROVAL PRIOR TO CONSTRUCTION.

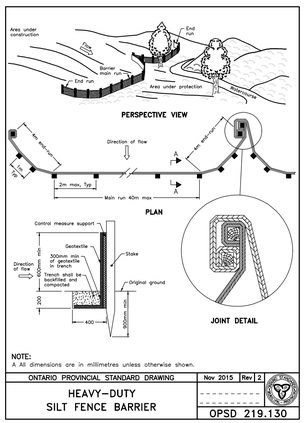
CONTRACTOR TO CLEAN EXISTING ROADWAYS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY.



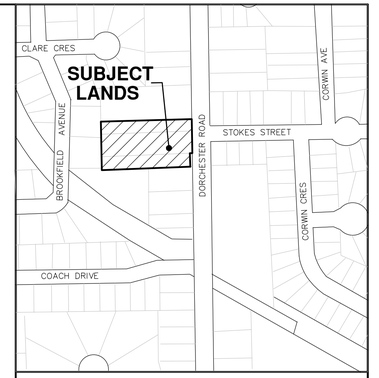
VEHICLE TRACKING CONTROL/MUD MAT
DETAIL 'A'
N.T.S.



STREET CATCH BASIN
SEDIMENT TRAP
DETAIL 'B'
N.T.S.



SEDIMENT CONTROL FENCE INSTALLATION
DETAIL 'C'
N.T.S.



KEY PLAN N.T.S.

BENCH MARK

Elevation: 195.035

Description: Top of existing Fire Hydrant, located east of Dorchester Road adjacent to the south east corner of 2659 Dorchester Road.

Note

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No.	Revision	By	Date
2	SECOND SUBMISSION	M.D.	NOV. 18, 2022
1.	FIRST SUBMISSION	M.D.	NOV. 03, 2021

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LEGEND:

VEHICLE TRACKING CONTROL / MUD MAT (DETAIL 'A')

STREET CATCH BASIN SEDIMENT TRAP (DETAIL 'B')

SEDIMENT CONTROL FENCE (DETAIL `C') (OPSD 219.130)

LIC. PROFESSIONAL ENGINEER
M.J. DESSUREAULT
Nov. 18, 2022
PROVINCE OF ONTARIO

ENGINEER

PROJECT OWNER:

PANORAMIC PROPERTIES INC.

NOT ISSUED FOR CONSTRUCTION

MUNICIPALITY:

CITY OF NIAGARA FALLS
(STAMFORD TOWNSHIP)

PROJECT NAME:

PROPOSED
5 STOREY APARTMENT BUILDING
6259 & 6293 DORCHESTER ROAD
NIAGARA FALLS

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Tel: 905 528-8761 Fax: 905 528-2289
email: ajc@ajclarke.com

TITLE:

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1: 250	DATE: JULY, 2021
DESIGN: M.D./M.M.	DRAWN: S.S./M.M.
DWG: 201239	SHT: 3

6259 & 6293 DORCHESTER ROAD
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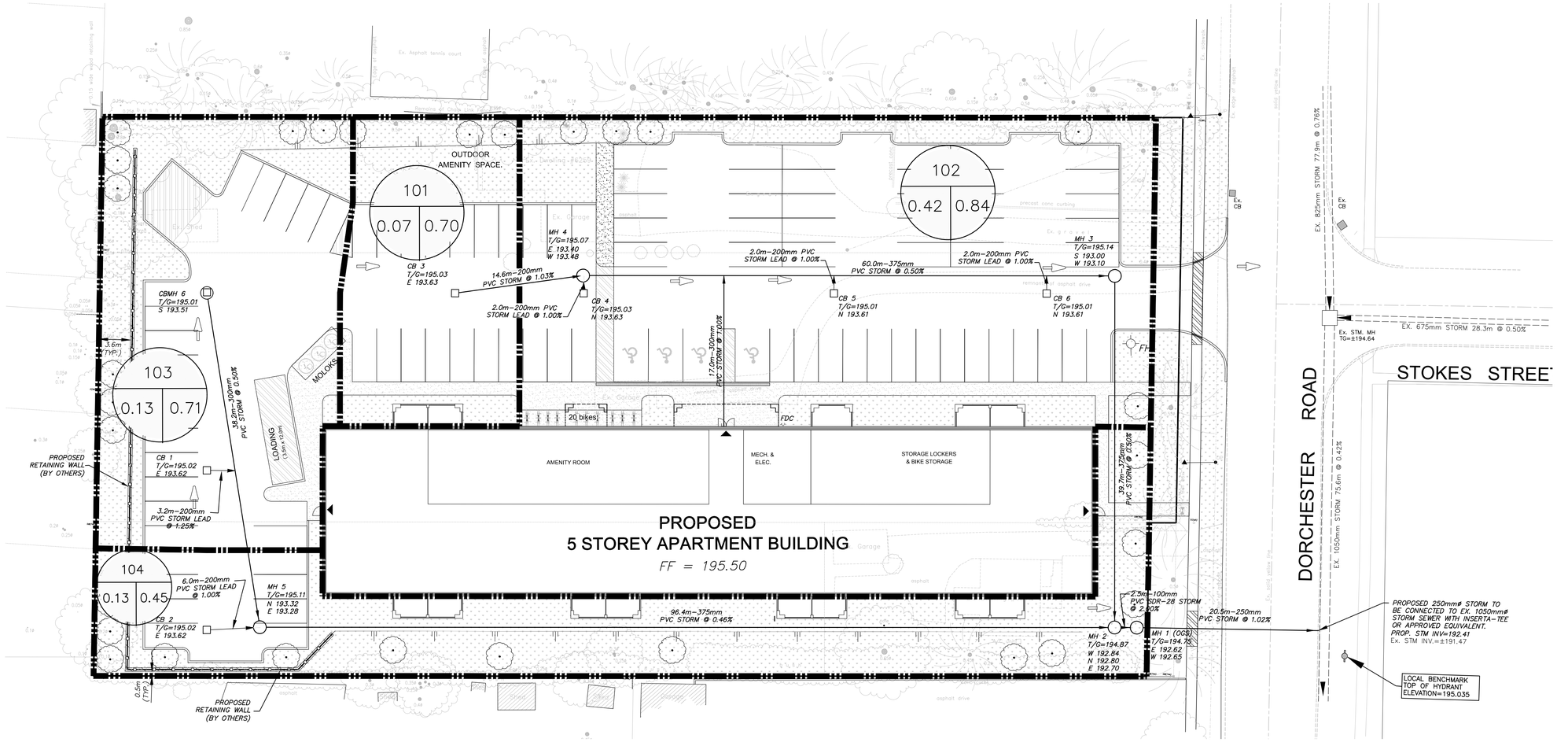
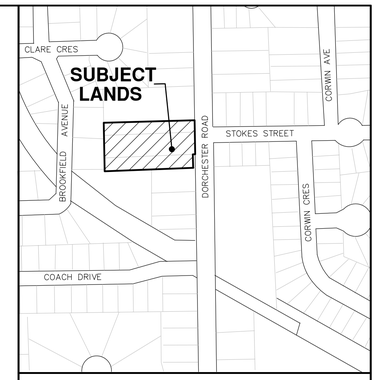
6259 & 6293 DORCHESTER ROAD





KEY PLAN N.T.S.

BENCH MARK

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LICENCED PROFESSIONAL ENGINEER M.J. DESSUREAULT Nov. 18, 2022 PROVINCE OF ONTARIO

ENGINEER

PROJECT OWNER:

PANORAMIC PROPERTIES INC.

NOT ISSUED FOR CONSTRUCTION

MUNICIPALITY:

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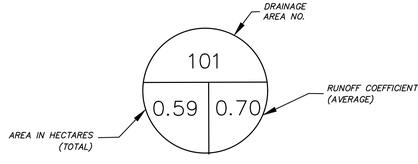
25 MAIN STREET WEST, SUITE 300
HAMILTON, ONTARIO L8P 1H1
Tel: 905 528-8761 Fax: 905 528-2289
email: ajc@ajclarke.com

TITLE:

STORM DRAINAGE AREA PLAN

SCALE: 1:250	DATE: JULY, 2021
DESIGN: M.D./M.M.	DRAWN: S.S./M.M.
DWG: 201239	SHT: 4

LEGEND



DIRECTION OF MAJOR OVERLAND ROUTE

DRAINAGE AREA BOUNDARY

6259 & 6293 DORCHESTER ROAD

H:\Jobs\2020 Projects\201239 (Dorchester, Niagara Falls)\Engineering\Design\Current\BASEPLAN.dwg 11/18/2022 1:58 PM THE LAM