

EIS-ENG-23-35

# COLBORNE STREET NORTH RECONSTRUCTION PHASE 1

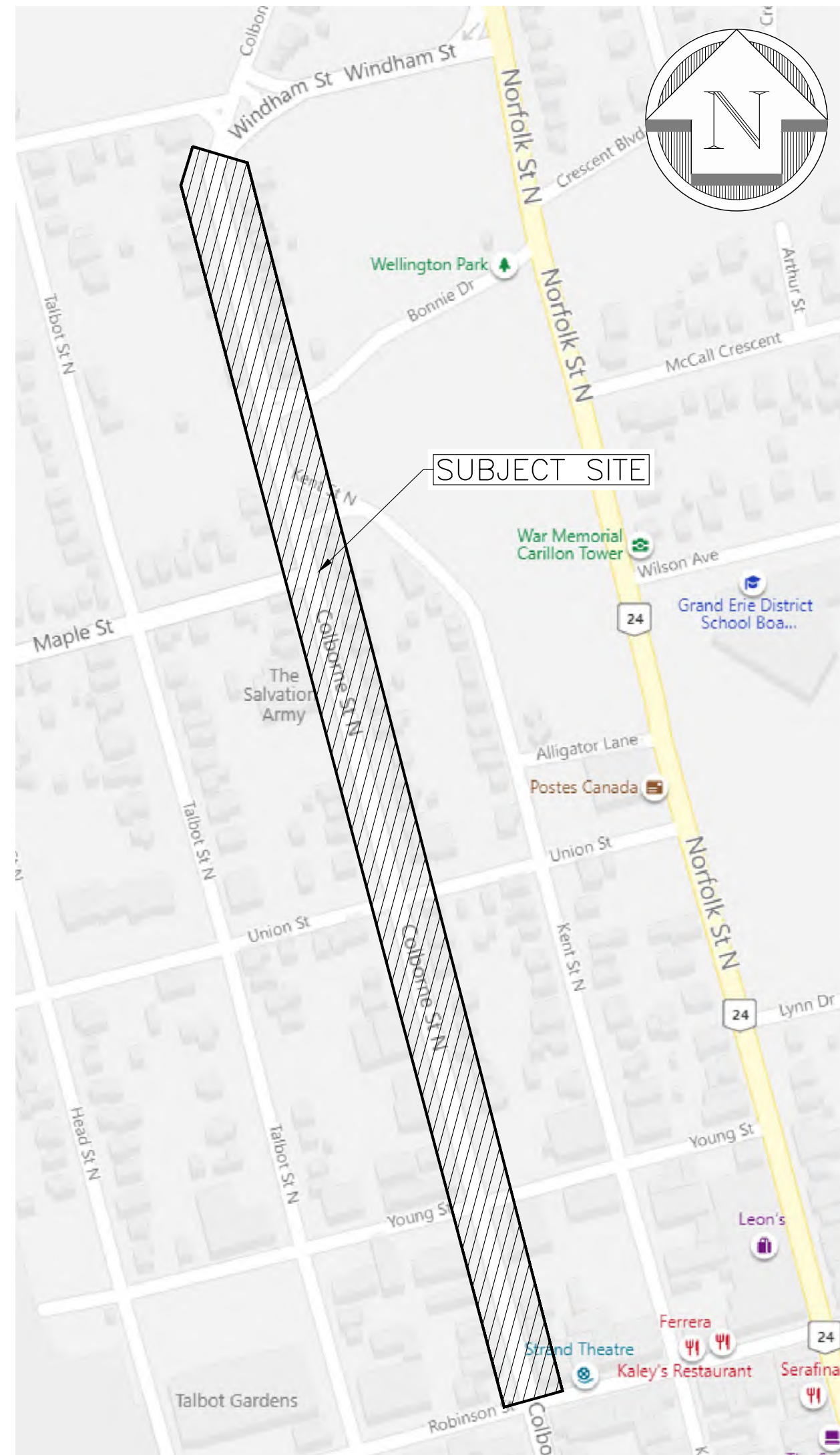
SIMCOE  
NORFOLK COUNTY



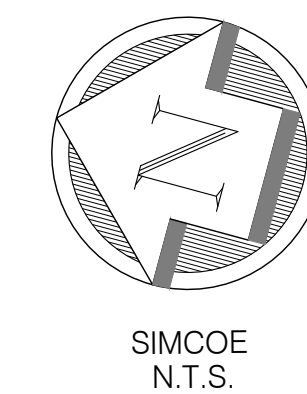
REV. No.	DATE	REVISION
0	JUL 12/21	PRELIMINARY / 30% DESIGN
1	MAR 10/22	60% DESIGN
2	OCT 14/2022	90% DESIGN
3	NOV 10/22	ISSUED FOR TENDER

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- BENCHMARKS:**
- BM1: TOP NORTHEAST CORNER OF TOP CONCRETE STEP OF STAIRS AT MUNICIPAL SIDEWALK IN FRONT OF HOUSE #284.  
ELEV = 213.36
  - BM2: TOP SOUTHWEST CORNER OF CONCRETE CULVERT ON COLBORNE STREET BETWEEN BONNIE DRIVE AND KENT STREET.  
ELEV = 210.73
  - BM3: TOP NORTHEAST CORNER OF CONCRETE BASE OF "SALVATION ARMY" SIGN ON WEST SIDE OF COLBORNE STREET, 70m SOUTH OF MAPLE STREET.  
ELEV = 211.86
  - BM4: TOP NORTHWEST CORNER OF CONCRETE LANDING AT COLBORNE STREET ENTRANCE TO ST. PETERS LUTHERAN CHURCH.  
ELEV = 212.59
  - BM5: TOP SOUTHWEST CORNER OF TOP CONCRETE STEP AT #52 COLBORNE STREET, 1m NORTH OF SOUTHEAST CORNER OF BUILDING.  
ELEV = 214.11
  - BM6: TOP OF LARGE PUMPER NOZZLE OF FIRE HYDRANT #90 LOCATED AT SOUTHEAST CORNER OF INTERSECTION OF COLBORNE AND ROBINSON STREETS.  
ELEV = 214.16



DRAWING LIST			
DWG	DRAWING TITLE	DESCRIPTION	PHASE
COV	COVER PAGE		
04	PLAN & PROFILE COLBORNE STREET	0+420 - 0+560	PHASE 1 & PHASE 2
05	PLAN & PROFILE COLBORNE STREET	0+560 - 0+700	PHASE 1
06	PLAN & PROFILE COLBORNE STREET	0+700 - END	PHASE 1
09	PLAN & PROFILE YOUNG STREET		PHASE 1
11	INTERSECTION GRADING PLAN PHASE 1		PHASE 1
13	PAVEMENT MARKING & SIGNAGE PHASE 1		PHASE 1
GN1	GENERAL NOTES PHASE 1		PHASE 1
SAN	SANITARY DRAINAGE AREAS		PHASE 1 & PHASE 2
STM	STORM DRAINAGE AREAS		PHASE 1 & PHASE 2
XS-03	COLBORNE SECTIONS - 03		PHASE 1
XS-04	COMMERCIAL ENTRANCE SECTIONS		PHASE 1



G. DOUGLAS VALLEE LIMITED  
2 TALBOT STREET NORTH  
SIMCOE, ONTARIO N3Y 3W4  
(519) 426-6270



Project Title  
**COLBORNE STREET NORTH  
RECONSTRUCTION**  
SIMCOE - NORFOLK COUNTY  
EIS-ENG-23-35

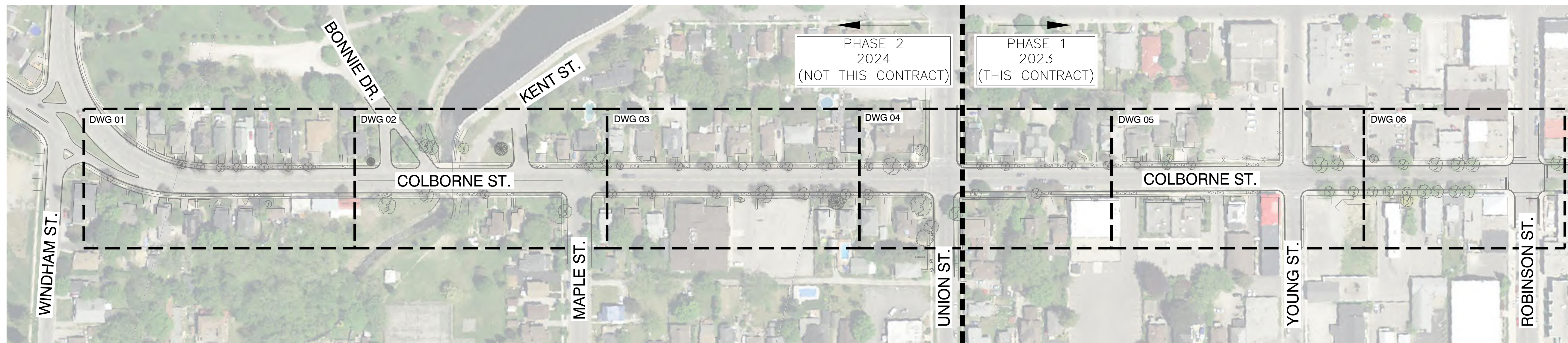
Drawing Title  
**COVER PAGE**

Designed by : NLB      Drawn By : NLB

Checked by : TGS      Date Started : April 14, 2021

Drawing Scale : AS SHOWN      Drawing No.

Project No. **20-127**      **COV**





**NOTES:**

1. ALL EXISTING STORM, WATER, AND SANITARY TO BE REMOVED UNLESS OTHERWISE NOTED.
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**SERVICE LABELS**

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WS	MUNICIPAL STREET #
WS	WATER SERVICE
SA	SANITARY SERVICE
	LOCATION TO BE CONFIRMED BY CONTRACTOR IN FIELD

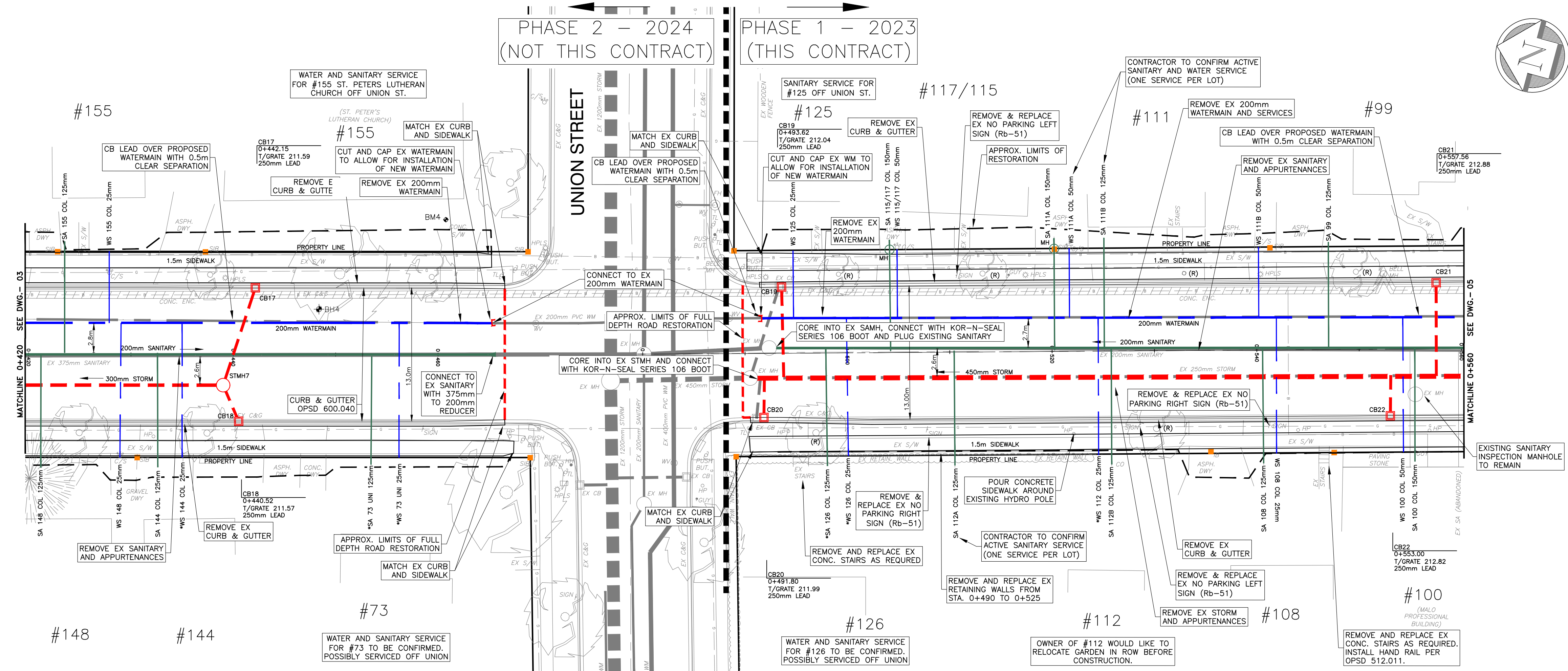
**TREE LABELS**

000 (R/P/TPZ)	TO BE REMOVED/PRUNED/TREE PROTECTION ZONE
	TREE IDENTIFICATION NUMBER PER ARBORIST REPORT

NOTE: REFER TO ARBORIST REPORT FOR SPECIFIC DETAILS.

**REMOVAL LEGEND**

(Symbol)	EXISTING PIPE TO BE REMOVED
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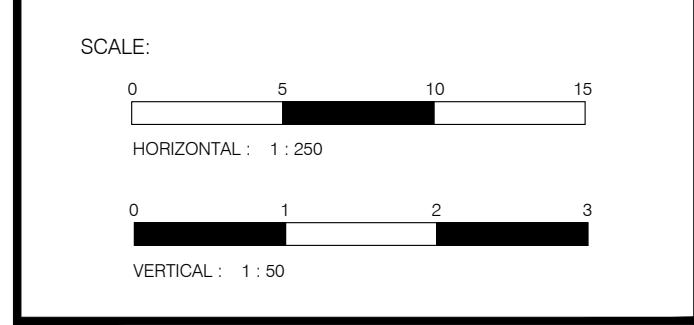
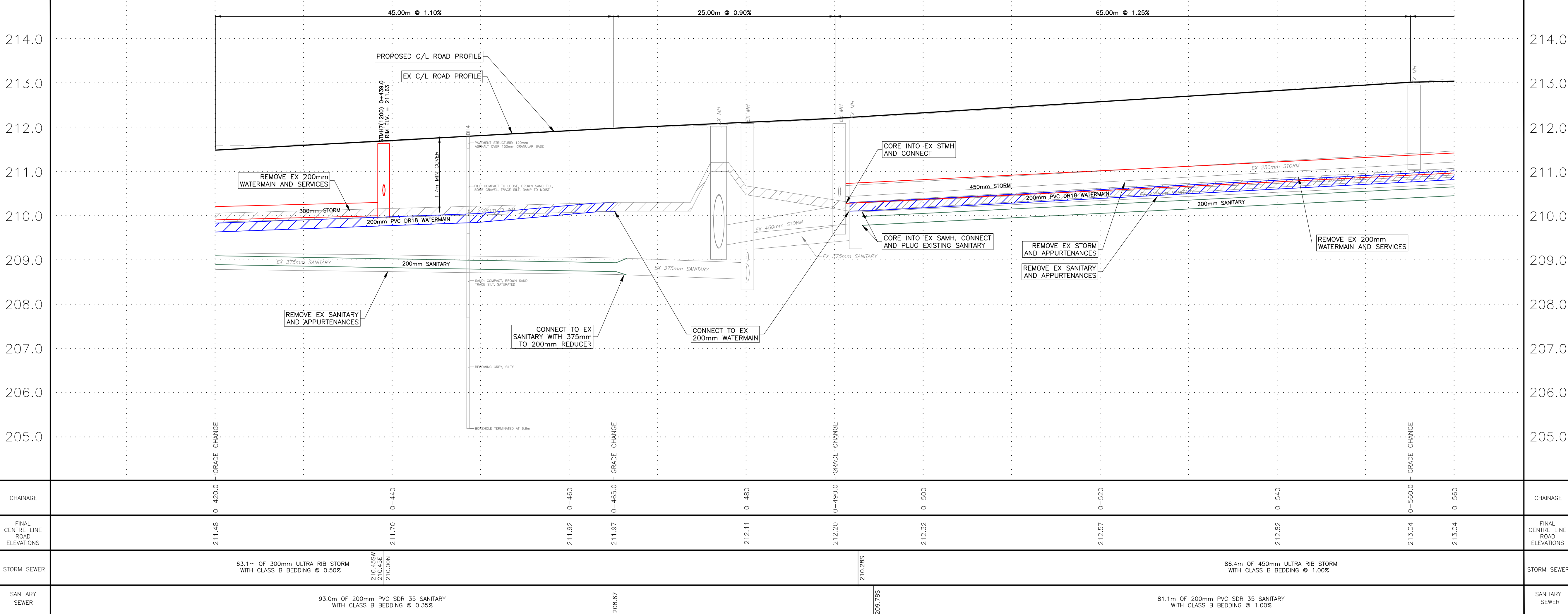


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**COLBORNE STREET**



**vallee**  
 Consulting Engineers, Architects & Planners

**G. DOUGLAS VALLEE LIMITED**  
 2 TALBOT STREET NORTH  
 SIMCOE, ONTARIO N3Y 3W4  
 (519) 426-6270



Project Title:  
**COLBORNE STREET NORTH RECONSTRUCTION**  
 SIMCOE - NORFOLK COUNTY  
 EIS-ENG-23-35

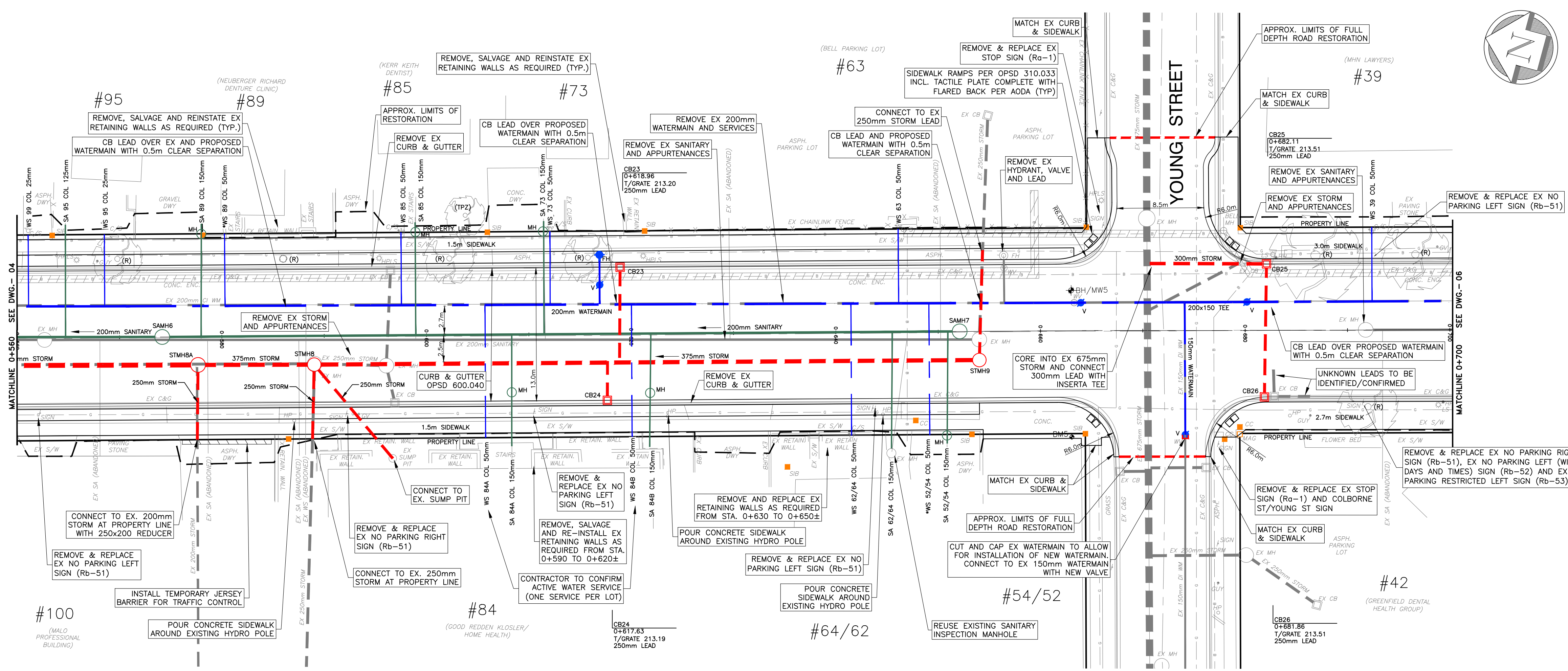
Designed by :	NLB	Drawn By :	NLB
Checked by :	TGS	Date Started :	April 14, 2021
Drawing Scale :	AS SHOWN	Drawing No.:	<b>04</b>
Project No.:	<b>20-127</b>		

DATE LAST PLOTTED :



- NOTES:**
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- SERVICE LABELS**
- WS/SA 01 COL. - 1ST 3 LETTERS OF STREET
  - MUNICIPAL STREET #
  - WS - WATER SERVICE
  - SA - SANITARY SERVICE
  - LOCATION TO BE CONFIRMED BY CONTRACTOR IN FIELD
- TREE LABELS**
- 000 (R/P/TPZ) - TO BE REMOVED/PRUNED/TREE PROTECTION ZONE
  - PER ARBORIST REPORT
- REMOVAL LEGEND**
- EXISTING PIPE TO BE REMOVED

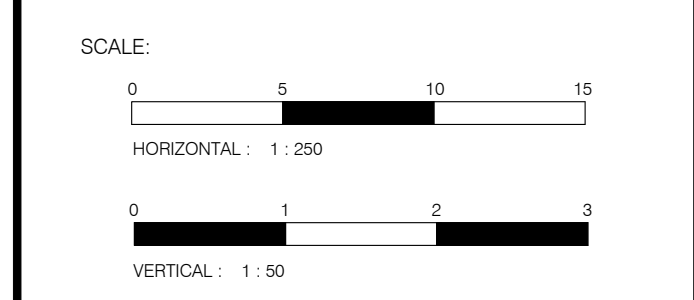
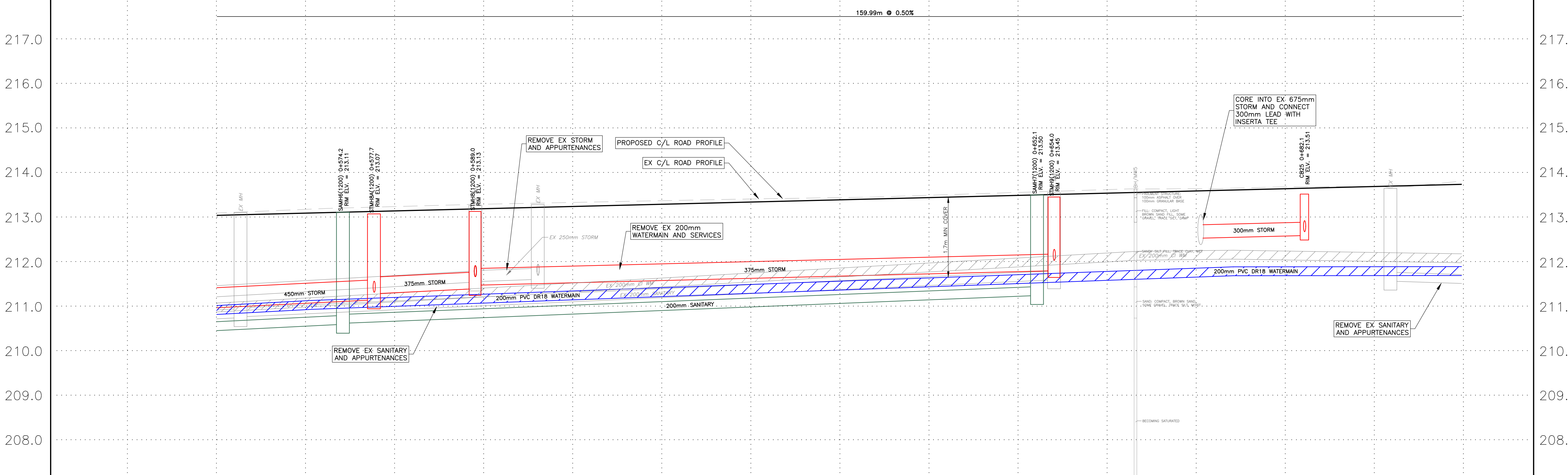


# COLBORNE STREET

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2 TALBOT STREET NORTH  
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**Project Title**  
**COLBORNE STREET NORTH RECONSTRUCTION**  
SIMCOE - NORFOLK COUNTY  
EIS-ENG-23-35

CHAINAGE	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700
FINAL CENTRE LINE ROAD ELEVATIONS	213.04	213.14	213.24	213.34	213.44	213.54	213.64	213.73
STORM SEWER	86.4m OF 450mm ULTRA RIB STORM WITH CLASS B BEDDING @ 1.00%		11.4m OF 375mm ULTRA RIB STORM WITH CLASS B BEDDING @ 1.00%		85.0m OF 375mm ULTRA RIB STORM WITH CLASS B BEDDING @ 0.50%		11.4m OF 300mm ULTRA RIB STORM WITH CLASS B BEDDING @ -0.50%	
SANITARY SEWER	81.1m OF 200mm PVC SDR 35 SANITARY WITH CLASS B BEDDING @ 1.00%		77.9m OF 200mm PVC SDR 35 SANITARY WITH CLASS B BEDDING @ 0.80%					

Project Title	PLAN AND PROFILE COLBORNE STREET 0+560 - 0+700
Designed by :	NLB
Drawn By :	NLB
Checked by :	TGS
Date Started :	April 14, 2021
Drawing Scale :	AS SHOWN
Drawing No. :	05
Project No. :	20-127



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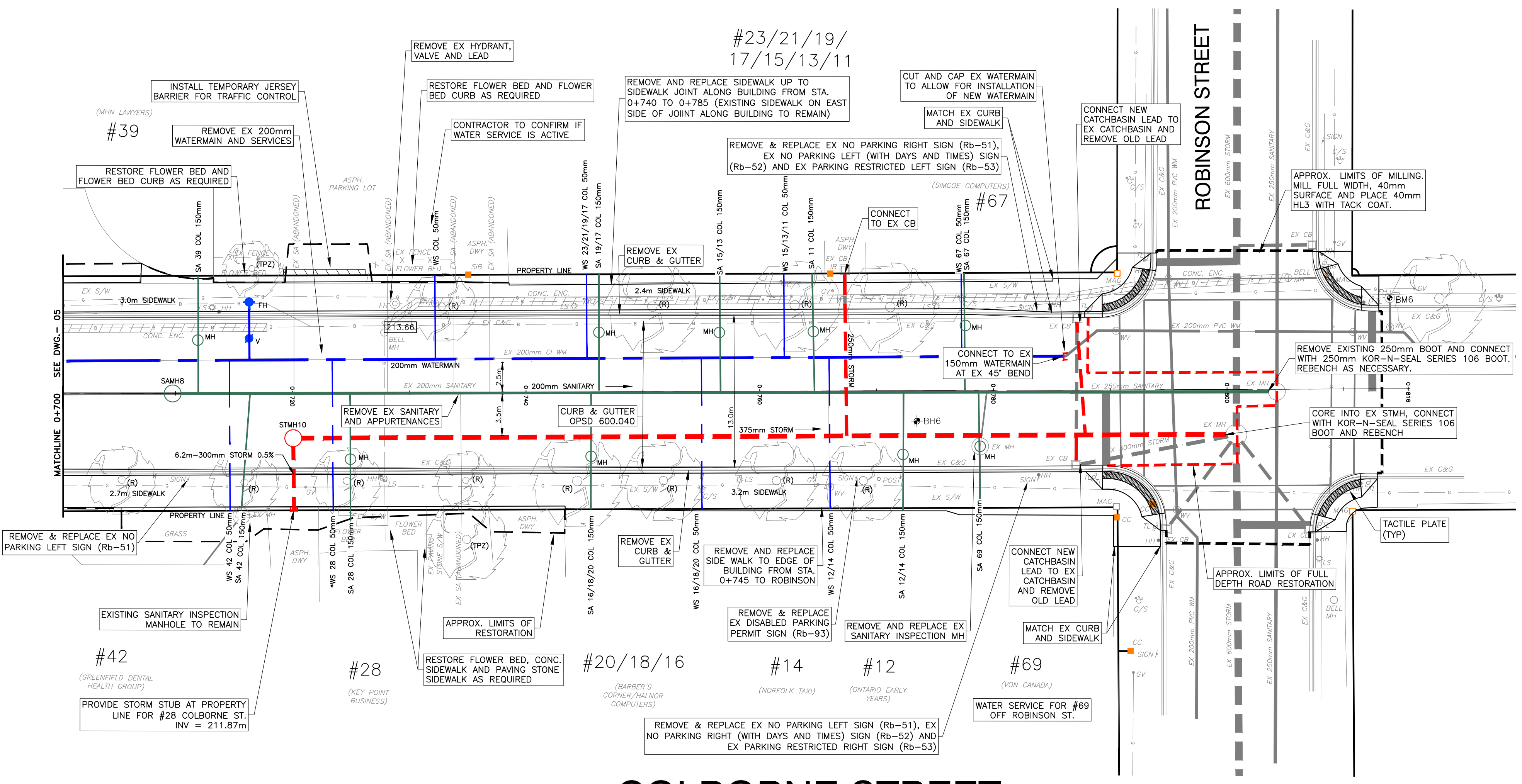
**TREE LABELS**

OOD (R/P/TPZ)	TO BE REMOVED/PRUNED/TREE PROTECTION ZONE
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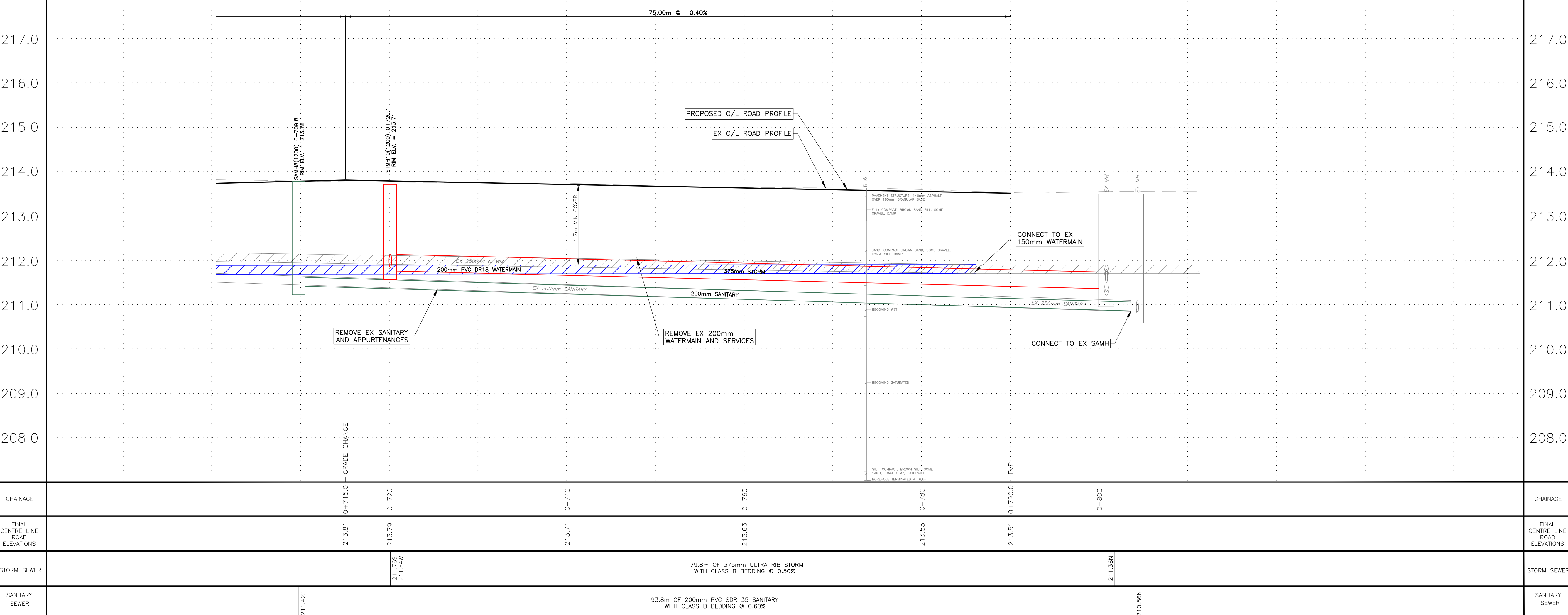
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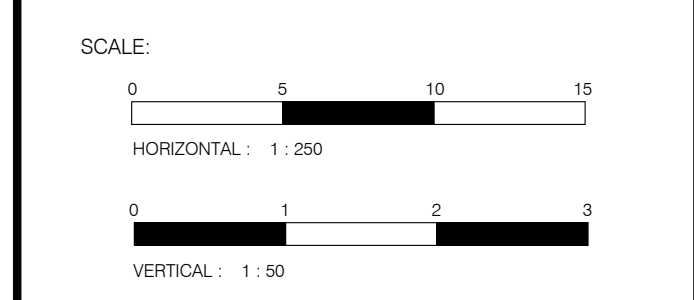
**COLBORNE STREET**



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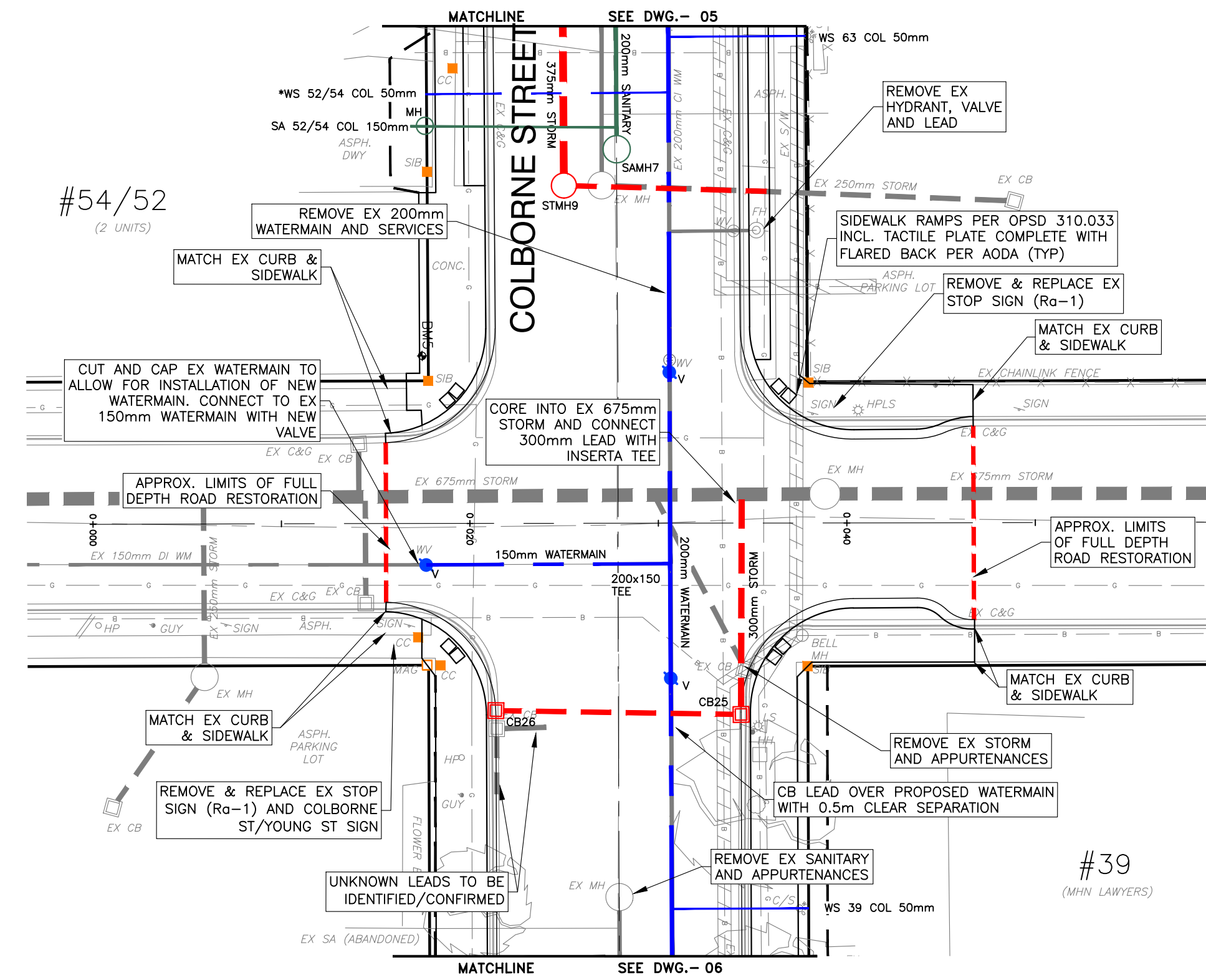
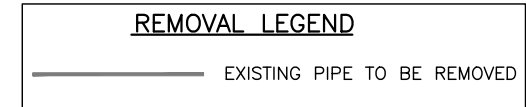
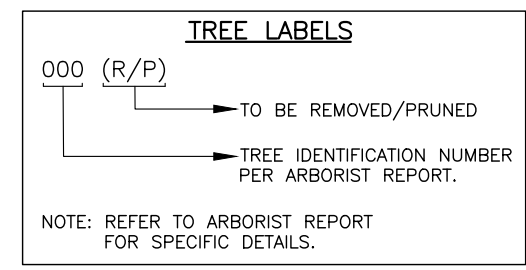
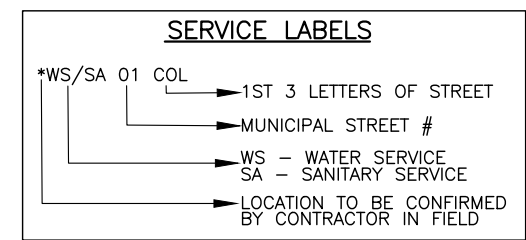
Project Title  
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SIMCOE - NORFOLK COUNTY  
EIS-ENG-23-35

Designed by :	NLB	Drawn By :	NLB
Checked by :	TGS	Date Started :	April 14, 2021
Drawing Scale :	AS SHOWN	Drawing No. :	<b>06</b>
Project No. :	<b>20-127</b>		

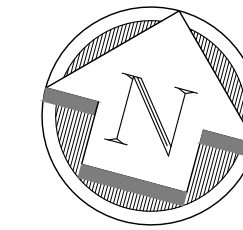
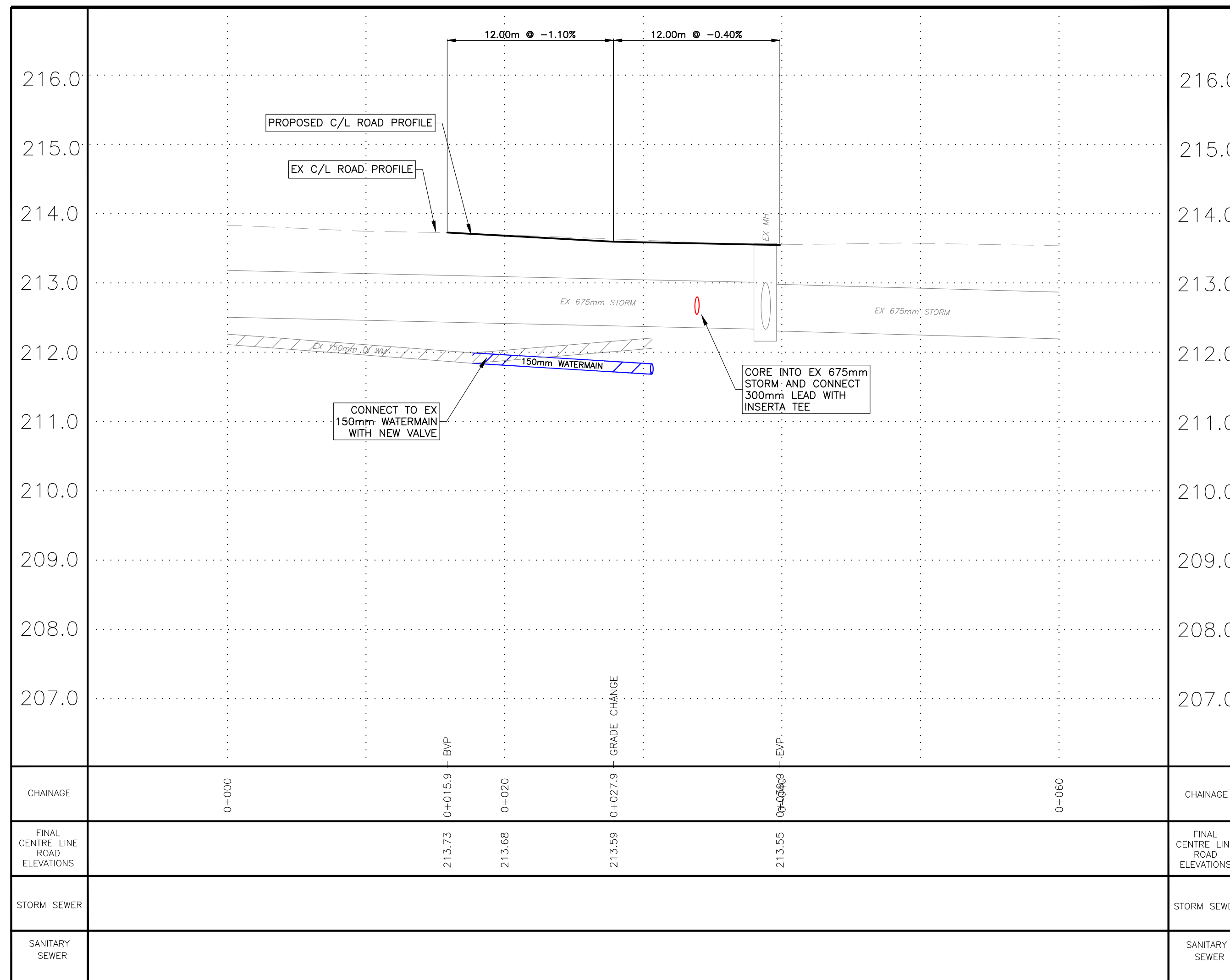
DATE LAST PLOTTED :



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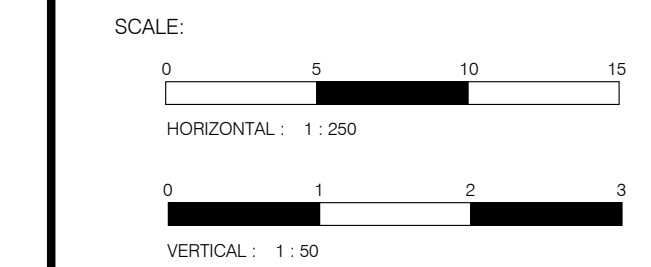
## YOUNG STREET



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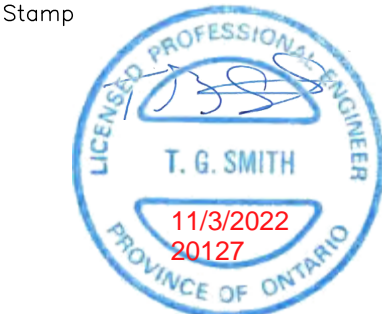
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Stamp



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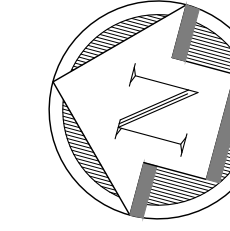
Drawing Title  
**PLAN AND PROFILE YOUNG STREET**

Designed by : NLB Drawn By : NLB

Checked by : TGS Date Started : April 14, 2021

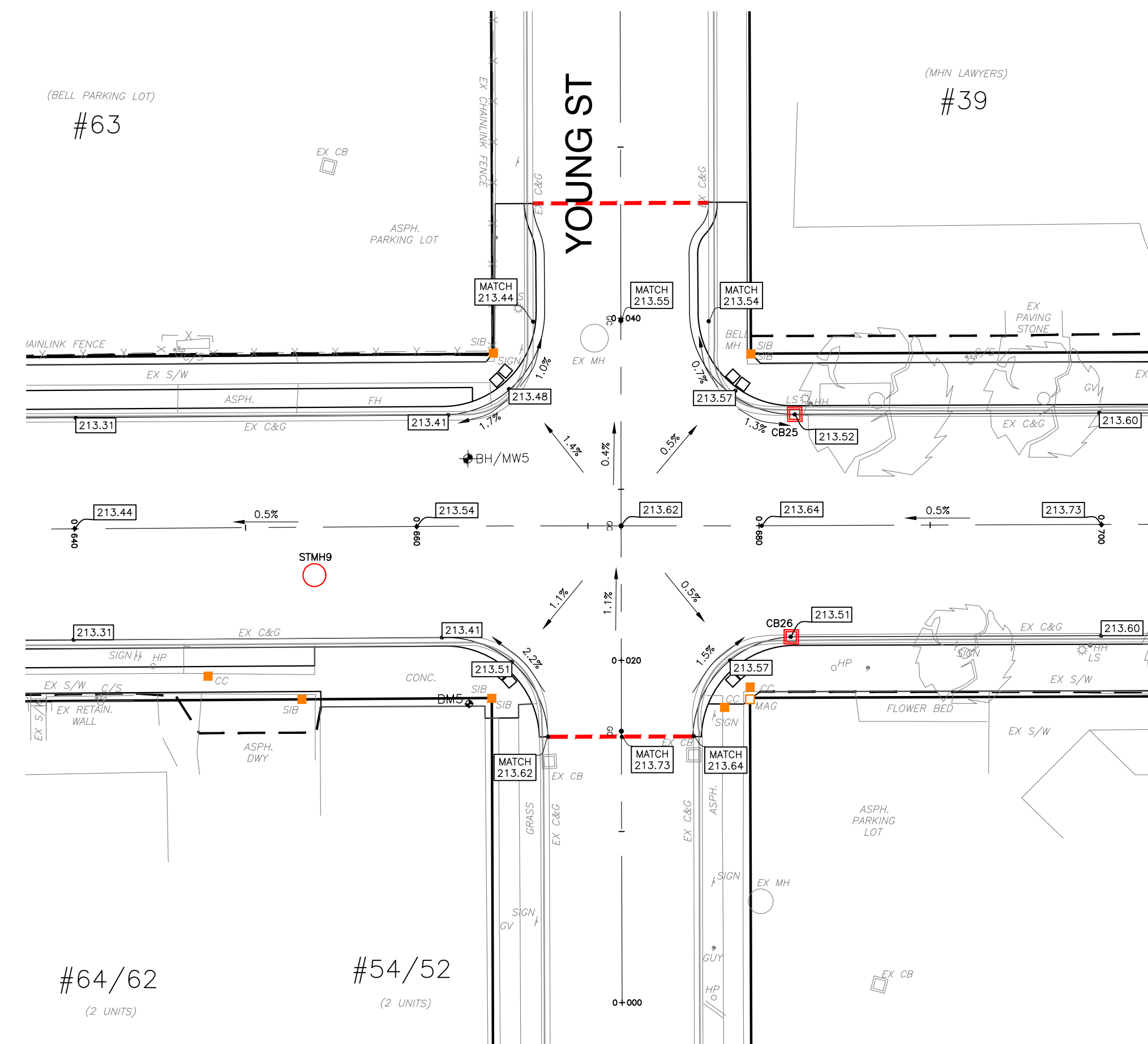
Drawing Scale : AS SHOWN Drawing No. **09**

Project No. **20-127**

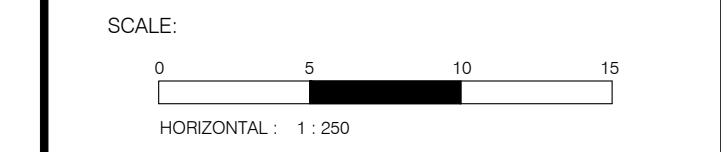


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2	OCT 14/2022	90% DESIGN
3	NOV 10/22	ISSUED FOR TENDER

**NOTE:**  
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### COLBORNE ST AT YOUNG ST



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**G. DOUGLAS VALLEE LIMITED**  
 2 TALBOT STREET NORTH  
 SIMCOE, ONTARIO N3Y 3W4  
 (519) 426-6270

Stamp



Project Title  
**COLBORNE STREET NORTH  
 RECONSTRUCTION**  
 SIMCOE - NORFOLK COUNTY  
 EIS-ENG-23-35

Drawing Title  
**INTERSECTION GRADING PLAN PHASE 1**

Designed by : **NLB** Drawn By : **NLB**

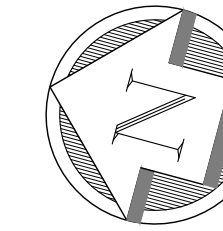
Checked by : **TGS** Date Started : **April 14, 2021**

Drawing Scale : **AS SHOWN** Drawing No. **11**

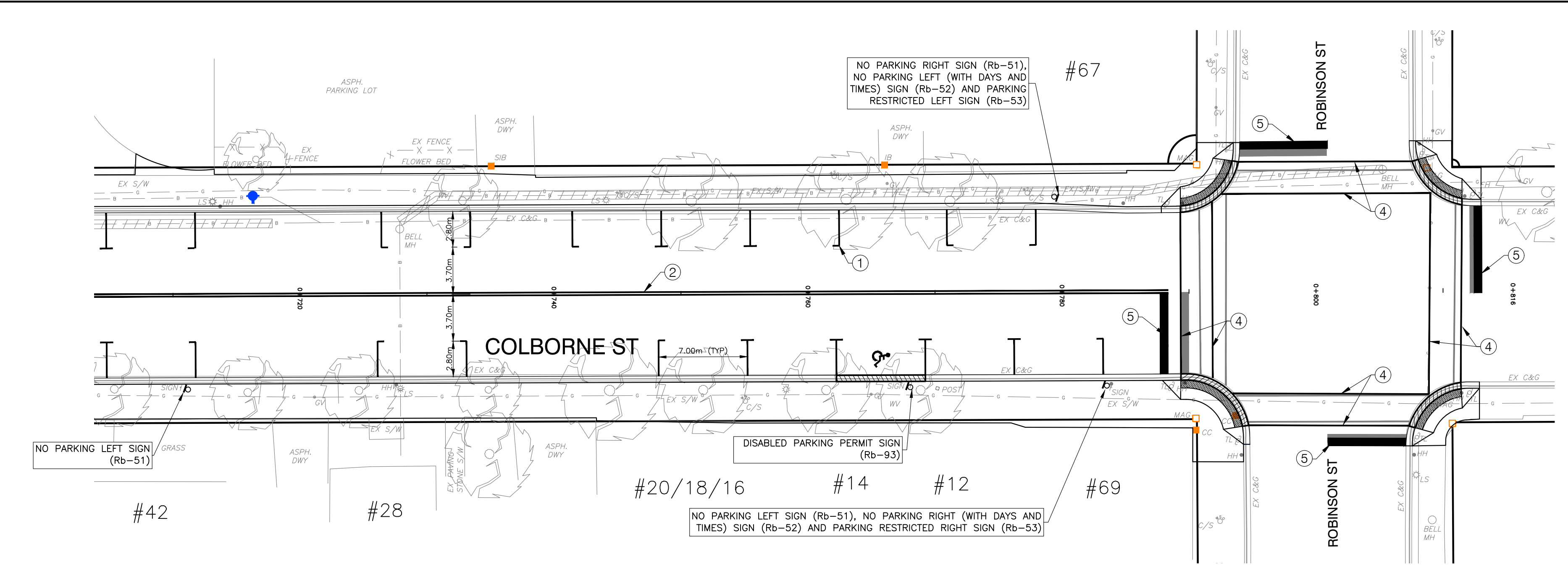
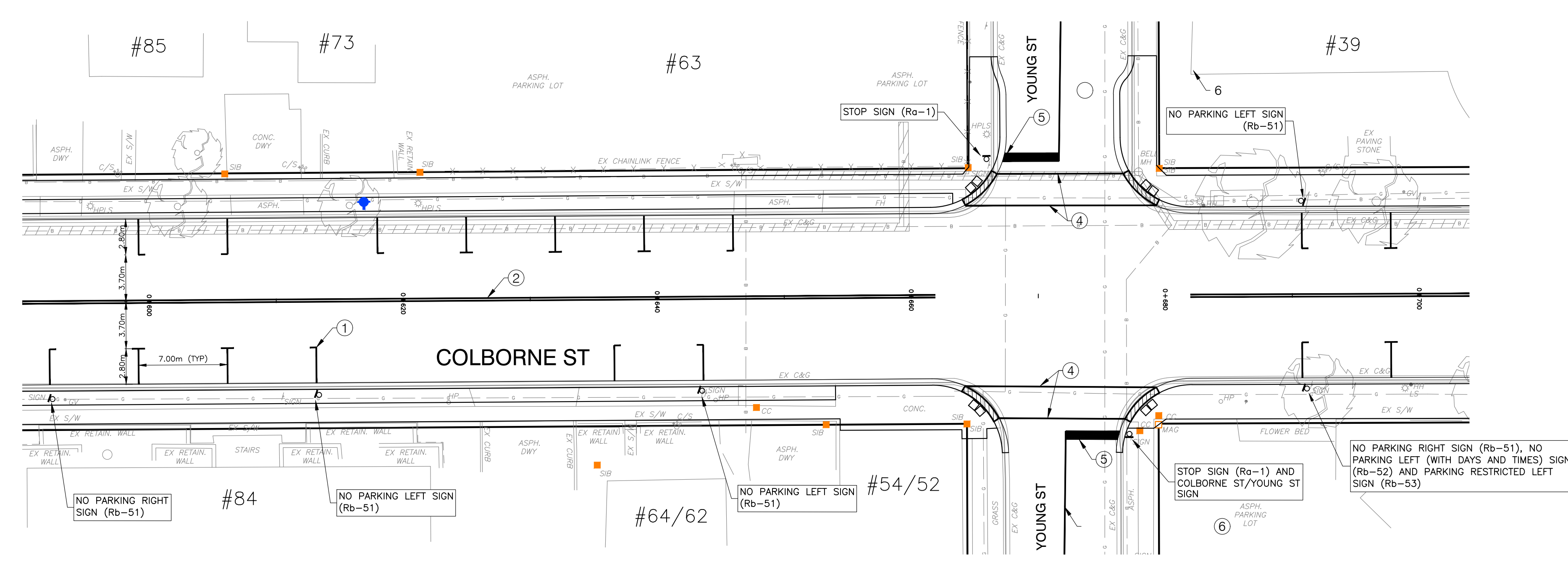
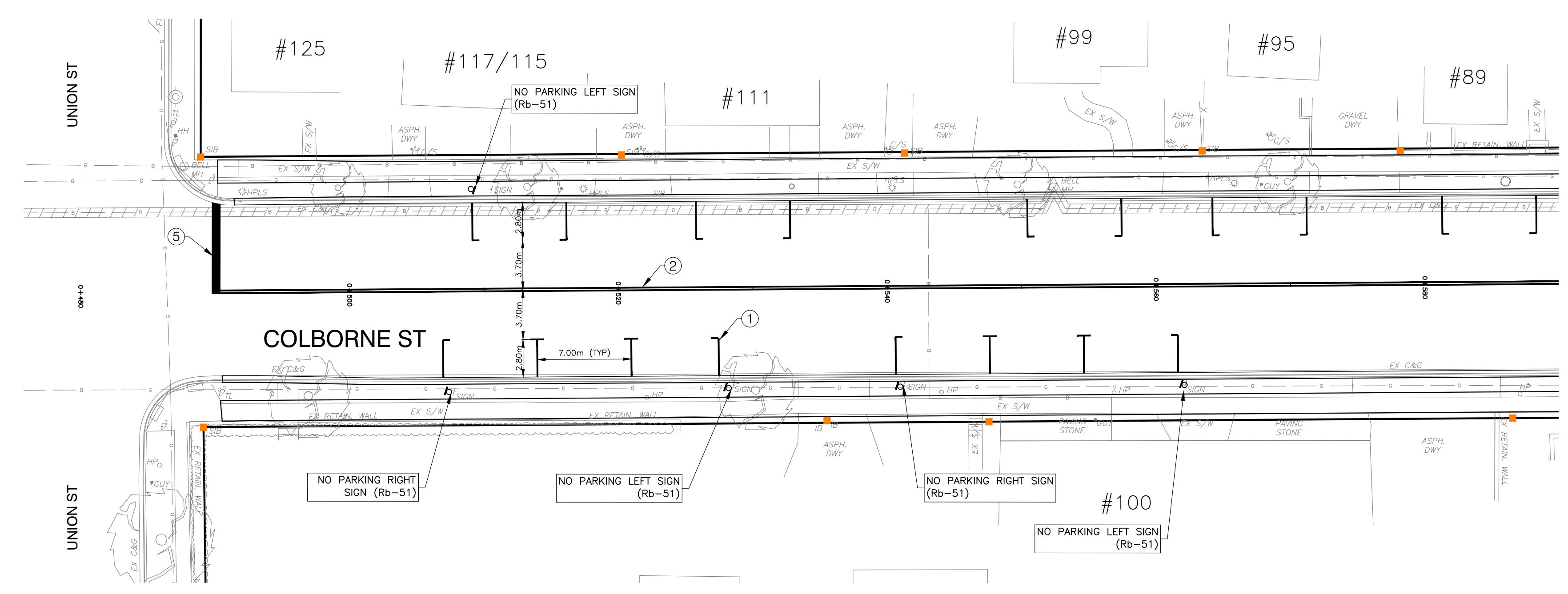
Project No. **20-127**

DATE LAST PLOTTED : -----





REV. No.	DATE	REVISION
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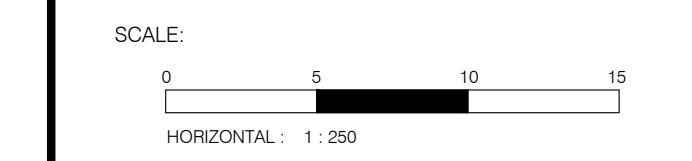


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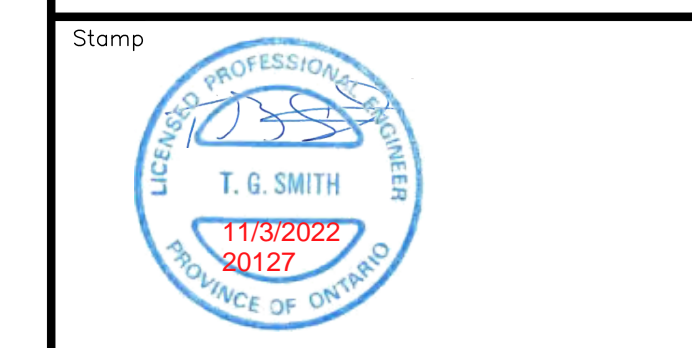
**PAVEMENT MARKING LEGEND**

1. PARALLEL PARKING SPACE (2.8m X 7.0m) PAINTED WITH SOLID WHITE, 10cm
2. SOLID DOUBLE YELLOW, 10cm
3. 333 BROKEN WHITE, 10cm
4. SOLID WHITE, 10cm
5. SOLID WHITE, 45cm
6. SOLID YELLOW, 10cm, 30m LONG

▬ DEPRESSED CURB FOR CROSSWALKS  
⊠ SIGNAGE



**G. DOUGLAS VALLEE LIMITED**  
2 TALBOT STREET NORTH  
SIMCOE, ONTARIO N3Y 3W4  
(519) 426-6270



Project Title  
**COLBORNE STREET NORTH RECONSTRUCTION**  
SIMCOE - NORFOLK COUNTY  
EIS-ENG-23-35

Drawing Title  
**PAVEMENT MARKING & SIGNAGE PLAN PHASE 1**

Designed by : NLB Drawn By : NLB

Checked by : TGS Date Started : April 14, 2021

Drawing Scale : AS SHOWN Drawing No. : 13

Project No. 20-127

DATE LAST PLOTTED : -----



**GENERAL NOTES**

- PRIOR TO CLOSING ANY STREET, THE CONTRACTOR SHALL OBTAIN CLEARANCE BY FILING 1. OUT THE COUNTY'S NOTICE OF ROAD CLOSURE FORM AND NOTIFY SCHOOL BUS OPERATORS OF STREETS USED FOR DETOUR AND THE DURATION OF THE DETOUR. THE CONTRACTOR MUST SUPPLY AND MAINTAIN ADEQUATE LOCAL DETOUR SIGNS AND LIGHTS. THE CONTRACTOR MUST MAINTAIN MAXIMUM ACCESS TO ALL PROPERTIES AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL CONSTRUCT TEMPORARY MEASURES TO CONTROL SILT ENTERING THE STORM DRAINAGE SYSTEM TO THE SPECIFICATIONS OUTLINED IN THE GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES PREPARED BY THE MINISTRY OF NATURAL RESOURCES. THESE MEASURES ARE TO BE INSTALLED PRIOR TO COMMENCING ANY CONSTRUCTION FOR THIS STREET AND ARE TO REMAIN IN PLACE UNTIL CONSTRUCTION HAS BEEN COMPLETED TO THE SPECIFICATIONS OF THE ENGINEER.
- THE CONTRACTOR IS TO MEET ALL THE REQUIREMENTS OF THE OWNERS OF THE UTILITIES ON THIS PLAN, AND MUST MAKE SATISFACTORY ARRANGEMENTS WITH THE UTILITY COMPANIES FOR CROSSING THEIR INSTALLATIONS AND FOR PROVIDING ADEQUATE PROTECTION DURING CONSTRUCTION. PRIOR TO COMMENCING ANY CONSTRUCTION, ALL EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED AND MARKED. ANY UTILITIES DAMAGED OR DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- ALL ORGANIC, SUITABLE MATERIALS BENEATH THE ROAD ALLOWANCES MUST BE REMOVED AND THESE AREAS BACKFILLED WITH AN APPROVED FILL MATERIAL, ALL TO THE SATISFACTION OF THE ENGINEER. PRIOR TO COMMENCING ANY CONSTRUCTION, ALL EXISTING SEWER OUTLET INFORMATION, BENCHMARKS, DIMENSIONS, ELEVATIONS AND GRADES MUST BE CHECKED AND VERIFIED AND ANY DISCREPANCIES REPORTED TO THE ENGINEER IMMEDIATELY.
- PDC'S SHALL BE 125mm Ø PVC SDR28 WITH CLASS 'B' BEDDING. PDC'S SHALL BE LAID AT A 2% (MIN) GRADE C/W 22.5' OR 45' LONG RADIUS BENDS AS REQUIRED. PDC'S SHALL BE CONNECTED TO THE EXISTING PDC'S WITH APPROVED WATERTIGHT COUPLINGS. THE CONTRACTOR SHALL USE 22.5' OR 45' LONG RADIUS BENDS AND A MINIMUM 2% GRADE TO AVOID CONFLICTS WITH EXISTING SEWERS, WATERMANS AND UTILITIES.
- ALL CATCH BASIN LEADS FOR SINGLE CATCH BASINS SHALL BE 250mm Ø PVC SDR35 WITH CLASS 'B' BEDDING, UNLESS OTHERWISE NOTED. ALL CATCH BASIN LEADS FOR TWIN INLET CATCH BASINS SHALL BE 300mm Ø PVC SDR35 WITH CLASS 'B' BEDDING, UNLESS OTHERWISE NOTED.
- ALL PVC WATERMAIN SHALL HAVE TWO 10 COPPER TRACING WIRE LAID ALONG ENTIRE LENGTH. ALL COPPER SERVICES TO BE CONNECTED TO MAIN LINE TRACER WIRE PER COUNTY SPECIFICATIONS. ALL WATERMAIN SHALL HAVE 1.7m TO 1.9m COVER.
- ALL NEW WATER SERVICES SHALL BE CROSS-LINKED POLYETHYLENE (PEX) PIPE, CSA CERTIFIED TO CSA B137.5 CONFORMING TO AWWA C904 AND SHALL BE SDR9, PRESSURE RATED AT THE FOLLOWING:
  - 160 PSI AT 73.4°F (1100 kPa AT 23°C)
  - 100 PSI AT 180°F (690 kPa AT 82°C)
  - 80 PSI AT 200°F (55 kPa AT 93°C)
- NEW WATER SERVICE SIZE TO MATCH EXISTING SERVICE, MIN SIZE 25mm.
- TRACER WIRE SHALL BE TAPPED TO WATER SERVICE LINE 2.0m ON CENTER AND CONNECTED TO CURB STOP TAIL NUT AT PROPERTY LINE AND TO MAIN LINE TRACER WIRE WITH WATER TIGHT CONNECTIONS.
- WATERMAIN FITTINGS SHALL BE MECHANICAL JOINT OR PUSH-ON JOINT INSTALLED WITH APPROVED MECHANICAL THRUST RESTRAINTS.
- ALL MECHANICAL THRUST RESTRAINTS SHALL CONFORM TO CONTRACT DOCUMENT SPECIFICATIONS.
- ALL NON-COATED METAL SURFACES TO BE COMPLETELY WRAPPED IN DENSO TAPE.
- WATERMAIN TRACER BOXES TO BE SNAKE PIT (LD14TP-ADJ (BLUE) BY COPPEHEAD INDUSTRIES AND LOCATED AT EACH FIRE HYDRANT.
- ALL INSULATED CONFLICTS TO BE SHOWN ON AS CONSTRUCTED PLANS

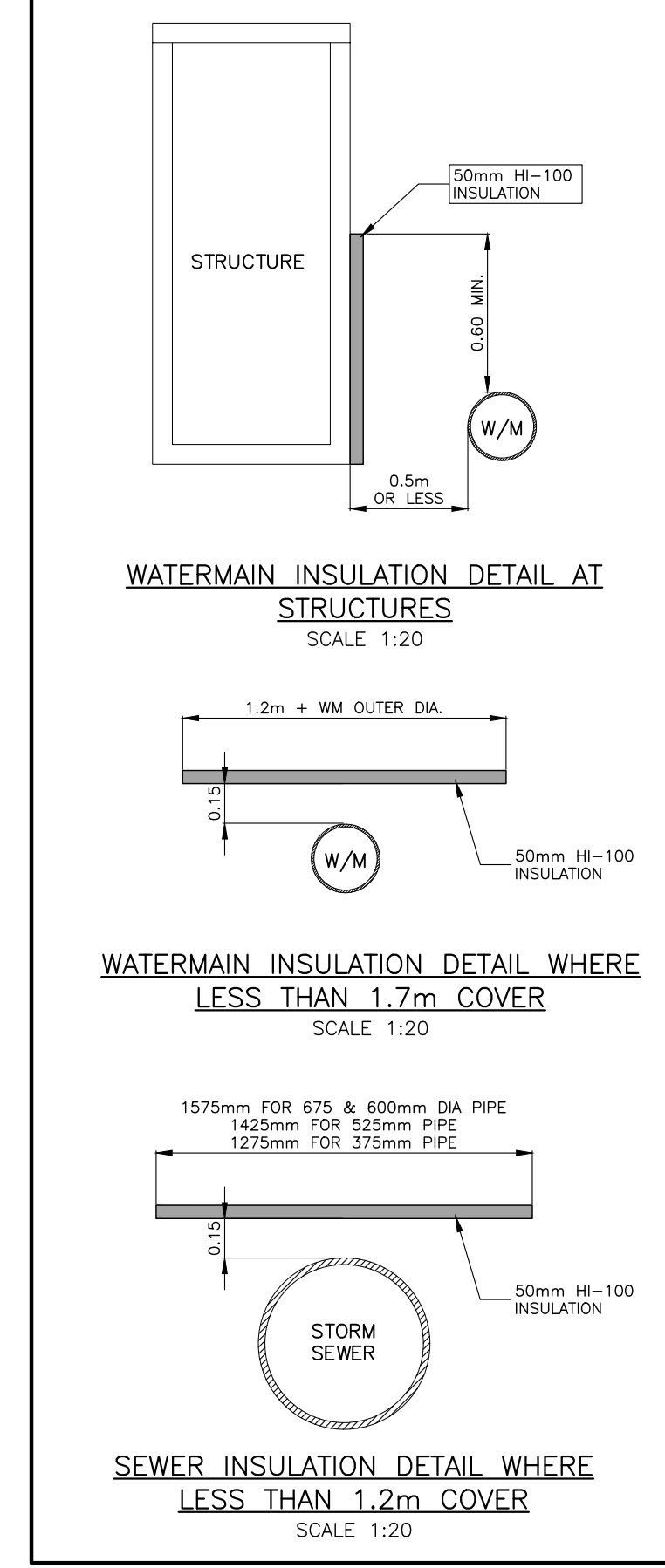
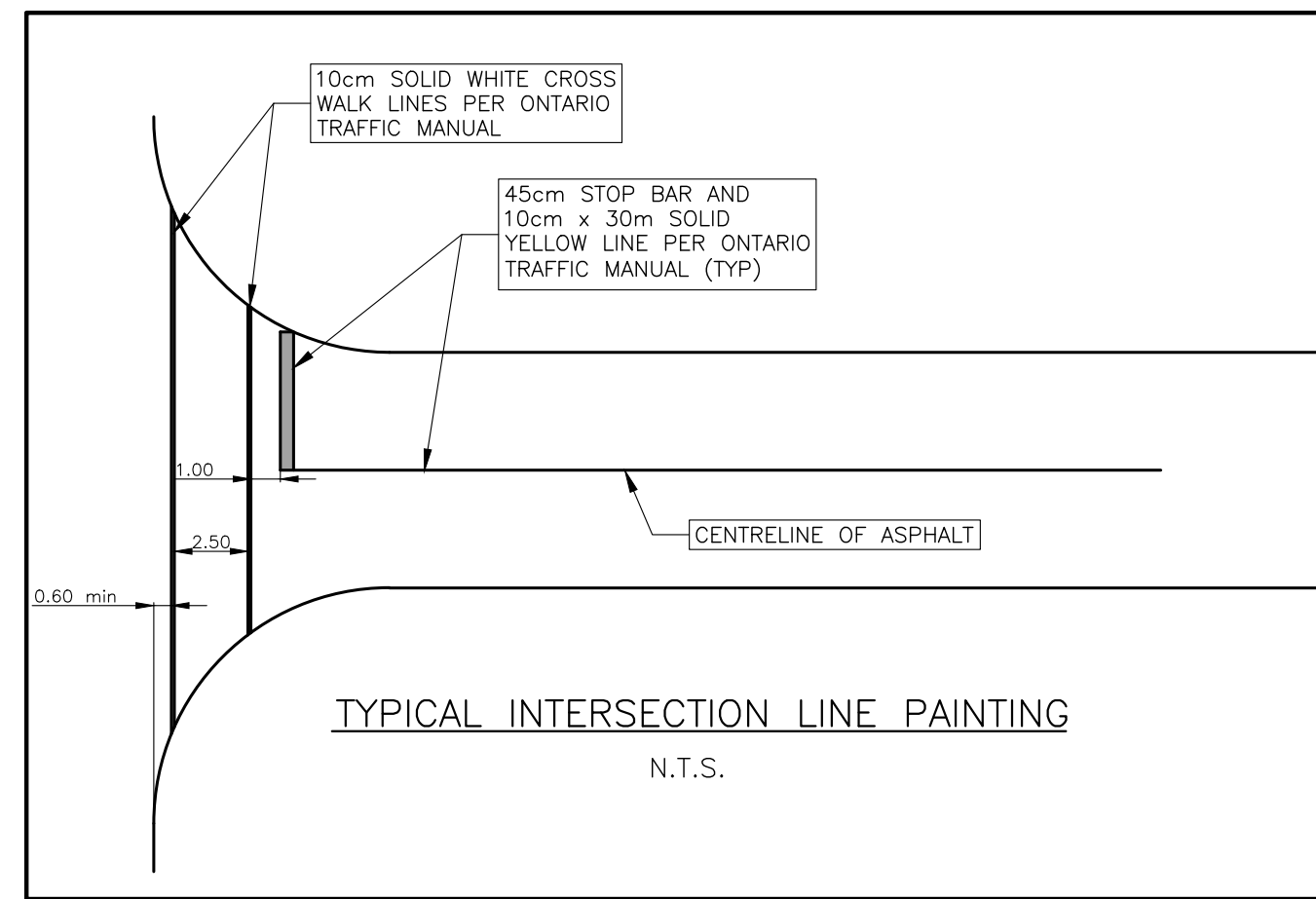
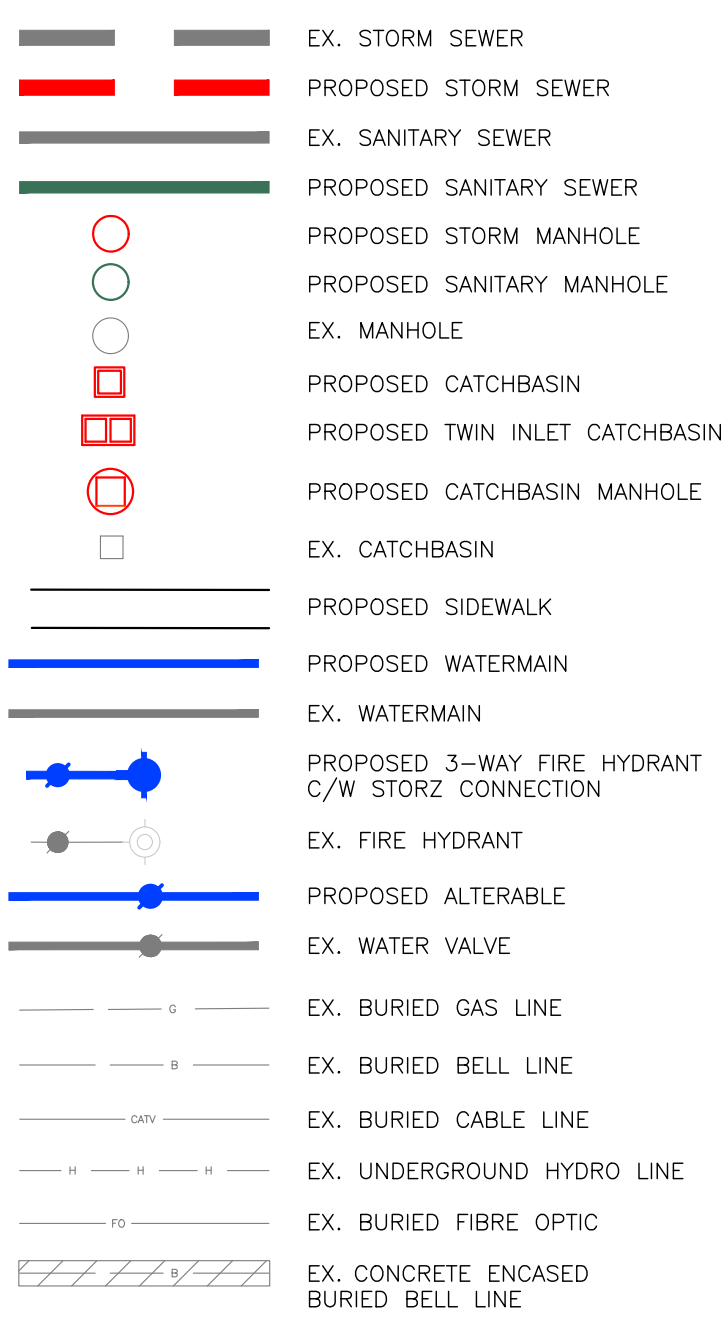
**GENERAL SEDIMENT CONTROL MEASURES**

- PROTECT ALL EXPOSED SURFACES AND CONTROL ALL RUNOFF DURING CONSTRUCTION
- ALL EROSION CONTROL MEASURES TO BE IN PLACE BEFORE STARTING CONSTRUCTION AND REMAIN IN PLACE UNTIL RESTORATION IS COMPLETE
- MAINTAIN EROSION CONTROL MEASURES DURING CONSTRUCTION
- ALL COLLECTED SEDIMENT TO BE DISPOSED OF AT AN APPROVED LOCATION
- MINIMIZE AREA DISTURBED DURING CONSTRUCTION
- ALL DEWATERING TO BE DISPOSED OF IN AN APPROVED SEDIMENTATION BASIN
- PROTECT ALL CATCHBASINS, MANHOLES AND PIPE ENDS FROM SEDIMENT INTRUSION WITH GEOTEXTILE (TERRAFIX 270R OR APPROVED EQUIVALENT)
- KEEP ALL SUMPS CLEAN DURING CONSTRUCTION
- PREVENT WIND-BLOWN DUST
- STRAW BALES TO BE USED IN LOCALIZED AREAS AS SHOWN AND AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION

**ROAD & BOULEVARD RESTORATION**

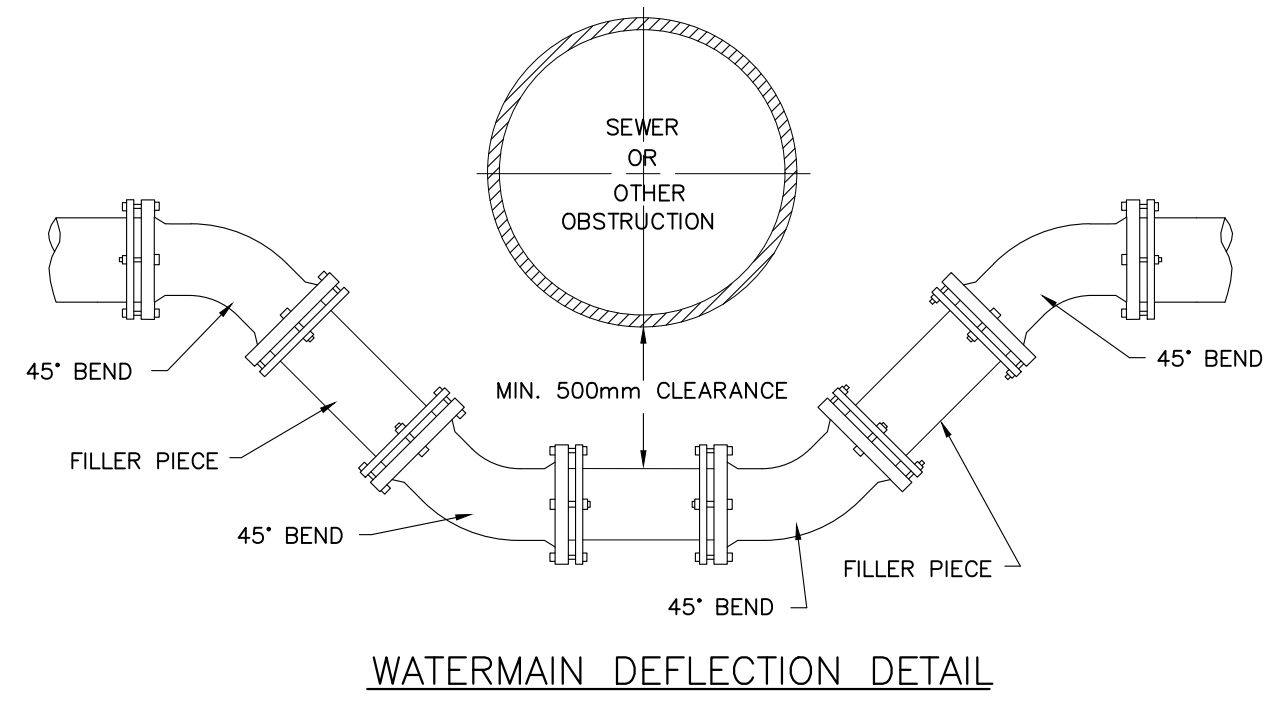
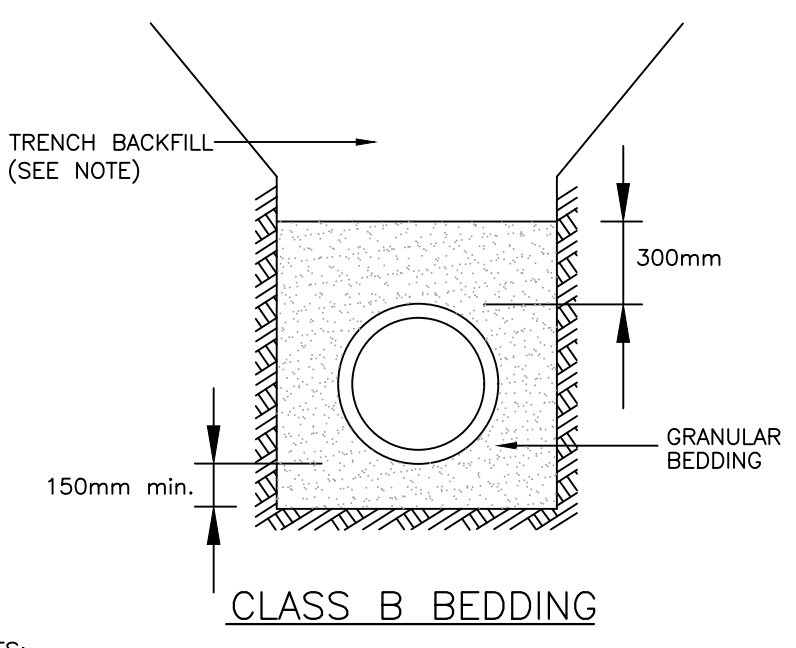
- ALL DISTURBED AREAS SHALL BE RESTORED AS FOLLOWS:
  - ALL SIDE ROAD CUTS SHALL BE RESTORED WITH
    - 40mm HL3 SURFACE ASPHALT (97% MARSHALL)
    - 50mm HL8 BASE ASPHALT (97% MARSHALL)
    - 150mm GRANULAR "A" BASE (100% SPMD)
  - ALL HIGHWAY ROAD CUTS SHALL BE RESTORED WITH
    - 50mm HL3 SURFACE ASPHALT (97% MARSHALL)
    - 100mm HL8 BASE ASPHALT (97% MARSHALL)
    - 150mm GRANULAR "A" BASE (100% SPMD)
    - 450mm GRANULAR "B" TYPE 2 SUBBASE (100% SPMD)
- BOULEVARDS SHALL BE RESTORED WITH SOD OVER 100mm TOPSOIL (min) UNLESS OTHERWISE NOTED
- ASPHALT DRIVEWAYS SHALL BE RESTORED WITH 150mm OF GRANULAR "A" (100% SPMD) WITH 50mm OF HL3 ASPHALT (97% MARSHALL)
- GRAVEL DRIVEWAYS SHALL BE RESTORED WITH 150mm OF GRANULAR "A" (100% SPMD) WITH 50mm OF HL3 ASPHALT (97% MARSHALL)
- CONCRETE DRIVEWAYS SHALL BE RESTORED WITH 150mm OF GRANULAR "A" (100% SPMD) WITH 150mm OF CONCRETE (CLASS C2)

**LEGEND**



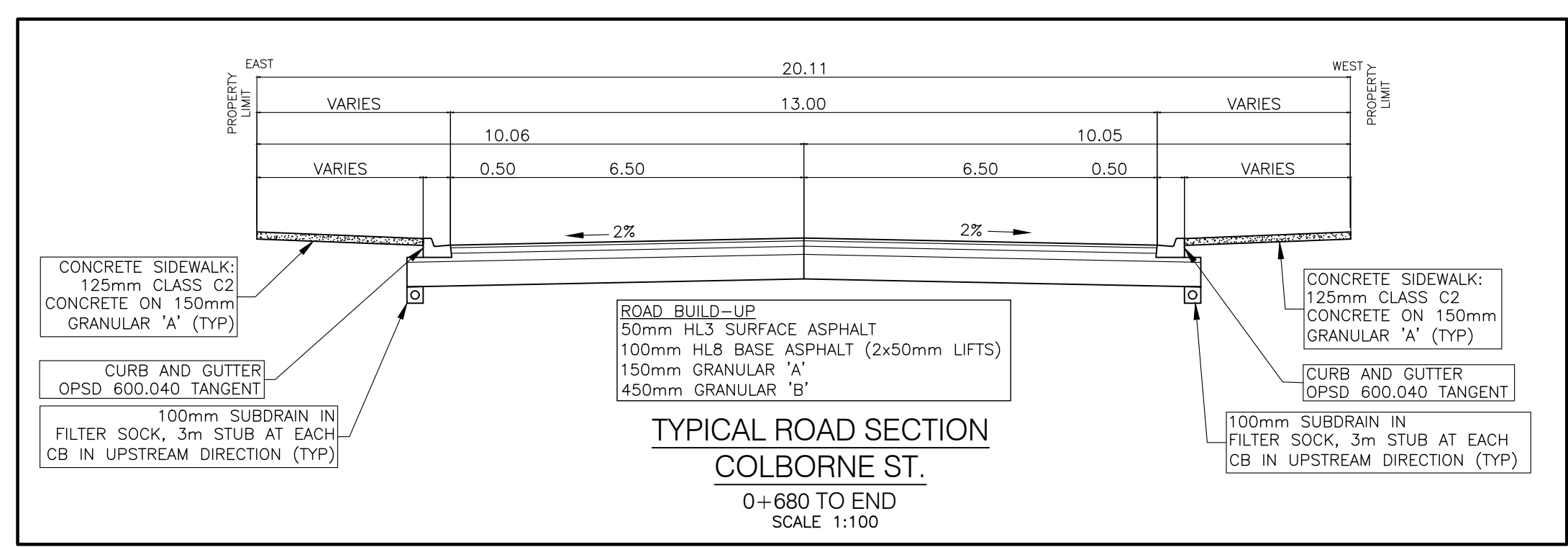
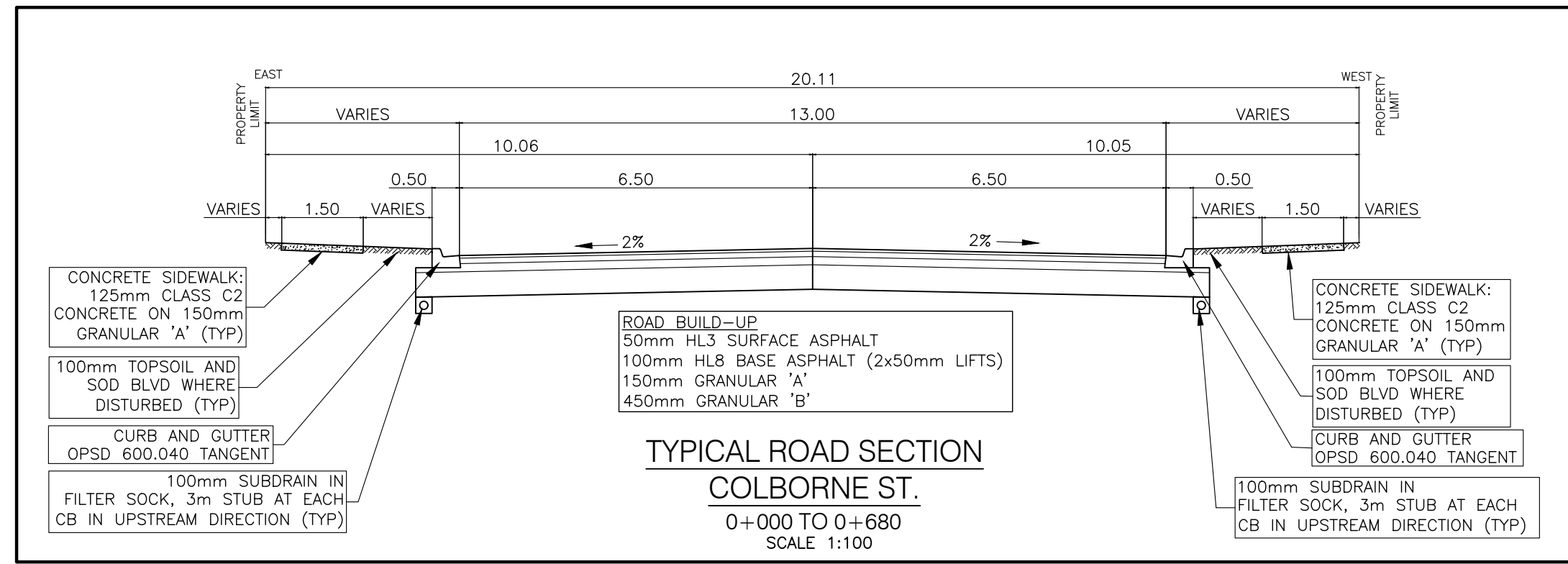
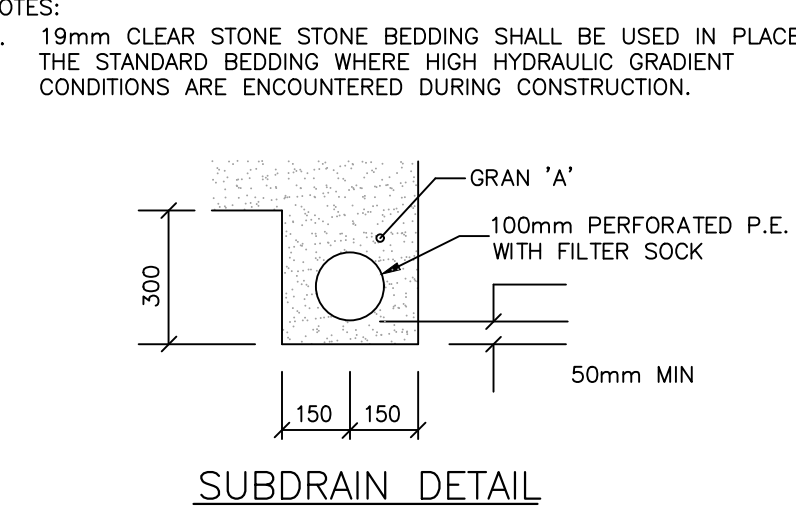
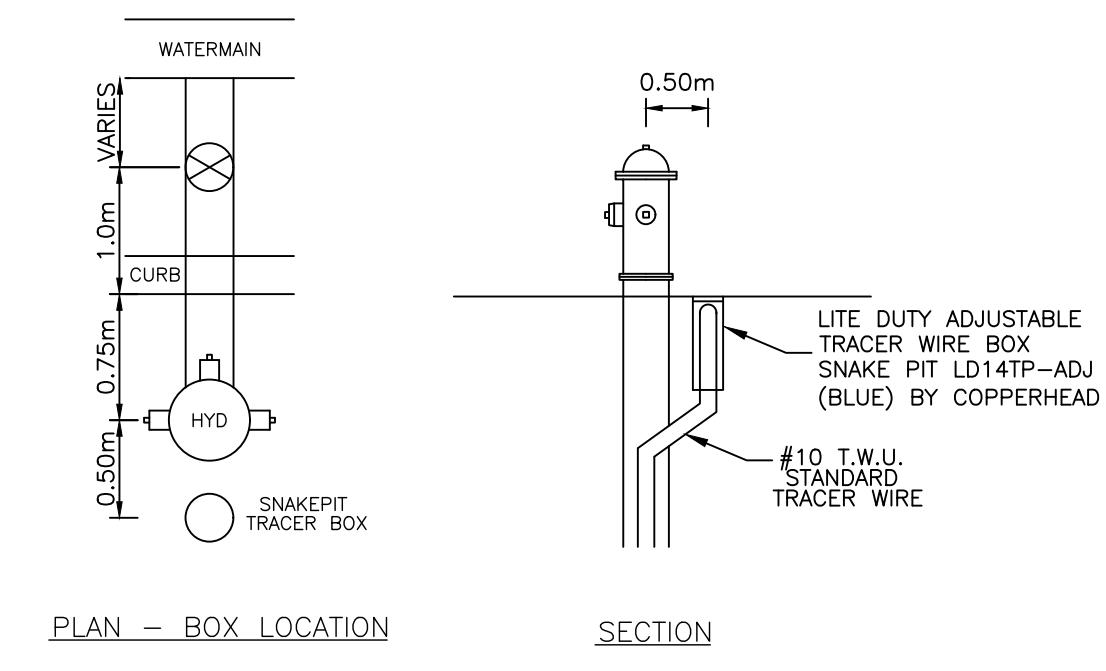
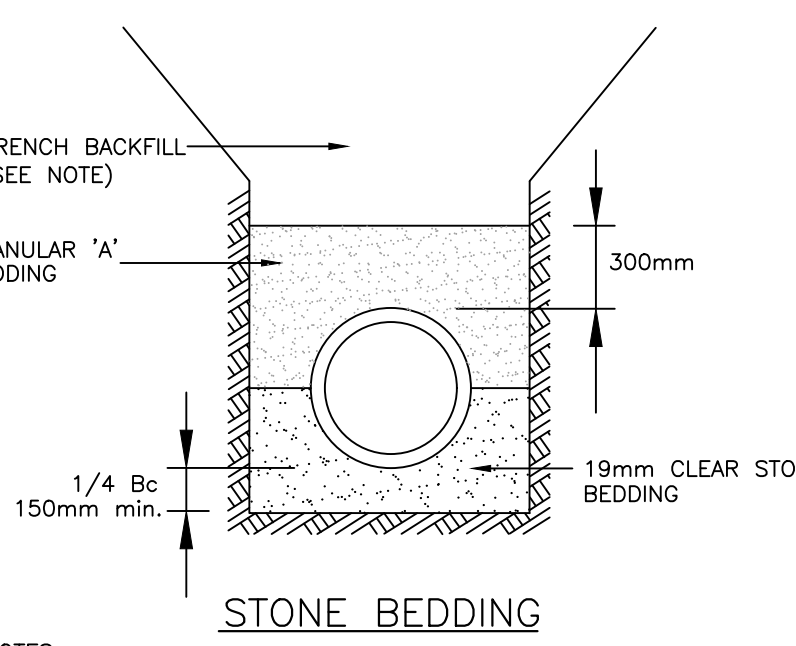
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DIAMETER (mm)	MINIMUM LENGTH TO BE RESTRAINED ON EACH SIDE OF FITTINGS (m)			
	11-1/4'	22-1/2'	45'	90° AND TEES DEAD END AND VALVES
100			4.0	10
150			5.5	14
200			7.0	18
250			8.5	22
300			10	26

ALL JOINTS WITHIN DISTANCES SHOWN SHALL BE RESTRAINED WITH A MEG-A-LUG JOINT RESTRAINT



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SIMCOE, ONTARIO N3Y 3W4  
(519) 426-6270

Stamp: T. G. SMITH, 11/3/2022, 20127, PROVINCE OF ONTARIO

Project Title: **COLBORNE STREET NORTH RECONSTRUCTION**  
SIMCOE - NORFOLK COUNTY  
EIS-ENG-23-35

Drawing Title: **GENERAL NOTES PHASE 1**

Designed by: NLB | Drawn By: NLB

Checked by: TGS | Date Started: April 14, 2021

Drawing Scale: AS SHOWN | Drawing No. **GN1**

Project No. **20-127**



REV. No.	DATE	REVISION
0	JUL 12/21	PRELIMINARY / 30% DESIGN
1	MAR 10/22	60% DESIGN
2	OCT 14/2022	90% DESIGN

**SANITARY SEWER DESIGN SHEET**

Date: 5/3/2021  
 Project: 20-127 Colborne Street Reconstruction  
 Town/County: Simcoe, Norfolk County

Pipe Material: PVC  
 N 0.013

Designed by: NLB  
 Checked by: TGS  
 Sheet: 1 of 1

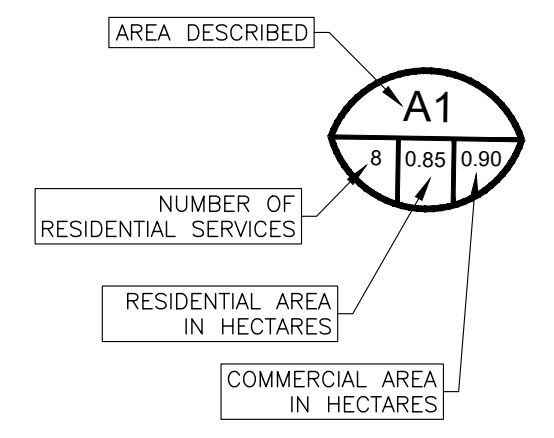
Area	Zoning	Street	From MH	To MH	Residential Area		Commercial Area		Total Area Ha	Residential Services		Population		KAV Factor	Flow			Sewer Design								
					Section	Cumul. Ha	Section	Cumul. Ha		Section	Cumul. Services	Section	Cumul. Pop.		M=Peak Factor	Q(i) L/s	Q(s) L/s	Q(d) L/s	Material	Size mm	Length m	N	Slope %	Cap L/s	Q(d)/Cap %	Full V m/s
A1	Residential	Colborne	SAMH5	EX STUB	0.85	0.85	0.00	0.00	0.850	8	8	22	22	1.000	4.375	0.24	0.50	0.74	PVC	200	93.0	0.013	0.35%	19.4	3.8%	0.62
A3	Residential/Commercial	Colborne	SAMH7	SAMH6	0.36	0.36	0.65	0.65	1.010	3	3	67	67	0.871	3.736	0.28	1.30	1.58	PVC	200	77.9	0.013	0.80%	29.3	5.4%	0.93
A2	Residential/Commercial	Colborne	SAMH6	EX STUB	0.66	1.02	0.26	0.91	1.930	9	12	115	182	0.906	3.770	0.54	3.57	4.11	PVC	200	81.1	0.013	1.00%	32.8	12.5%	1.04
A4	Commercial	Colborne	SAMH8	EX MH	0.00	0.00	1.10	1.10	1.100	0	0	99	99	0.800	3.396	0.31	1.75	2.06	PVC	200	93.8	0.013	0.60%	25.4	8.1%	0.81

Design Information:  
 Q(s) = Sewage Flow = P q M / 86.4  
 Q(i) = Infiltration Flow = I A  
 Q(d) = Peak Design Flow = Q(s) + Q(i)

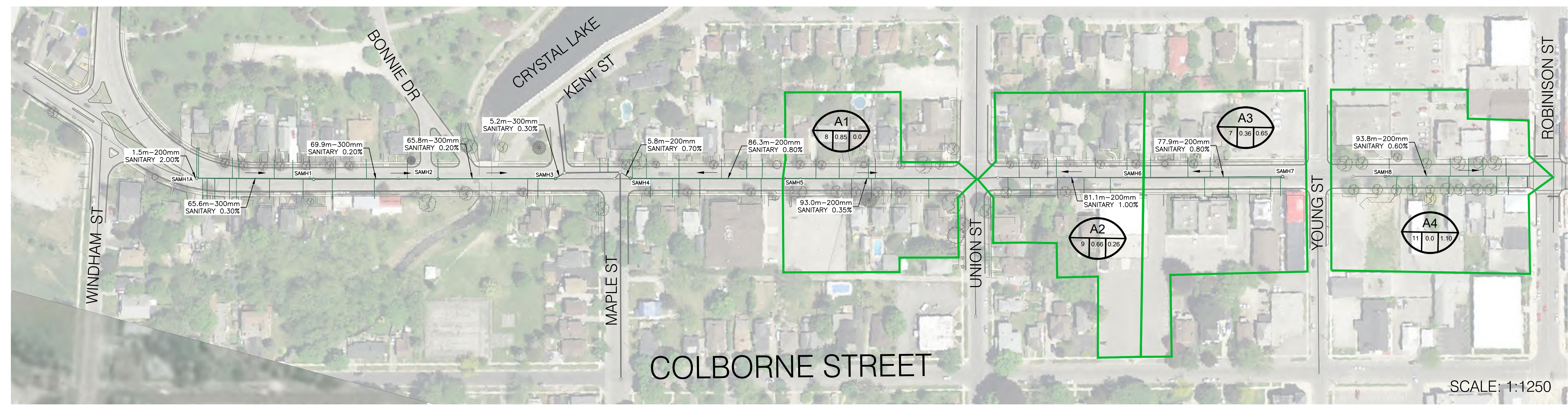
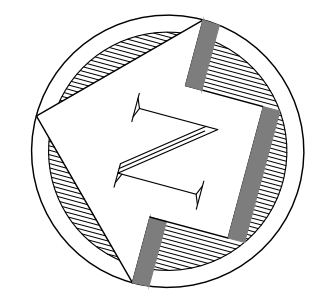
P = Population in thousands  
 A = Tributary Area  
 Residential M = Peaking Factor =  $1 + 14 / (4 + P^{0.5})$   
 Commercial M = Peaking Factor =  $0.8 (1 + 14 / (4 + P^{0.5}))$   
 Combined M =  $KAV (1 + 14 / (4 + P^{0.5}))$   
 KAV =  $(AR + (0.8*AC))/(AR+AC)$

Residential q = Per Capita Flow = **450** L/cap/d  
 Commercial q = Per Capita Flow = **40000** L/ha/d  
 I = Peak Extraneous Flow = **0.28** L/s/ha  
 Residential Population Density = **2.75** persons /unit  
 Commercial Population Density = **90** persons /ha

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NOTE: THE SANITARY SEWER SYSTEM NORTH OF SAMH5 HAS BEEN ANALYZED BY NORFOLK COUNTY'S CONSULTANT, R. V. ANDERSON LIMITED.



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 Architects & Planners

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 (519) 426-6270



Project Title  
**COLBORNE STREET NORTH RECONSTRUCTION**  
 SIMCOE - NORFOLK COUNTY  
 EIS-ENG-23-35

Drawing Title  
**SANITARY DRAINAGE AREAS**

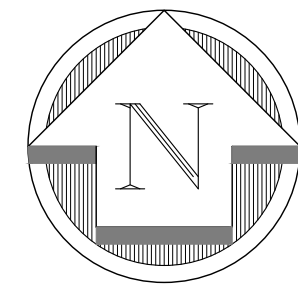
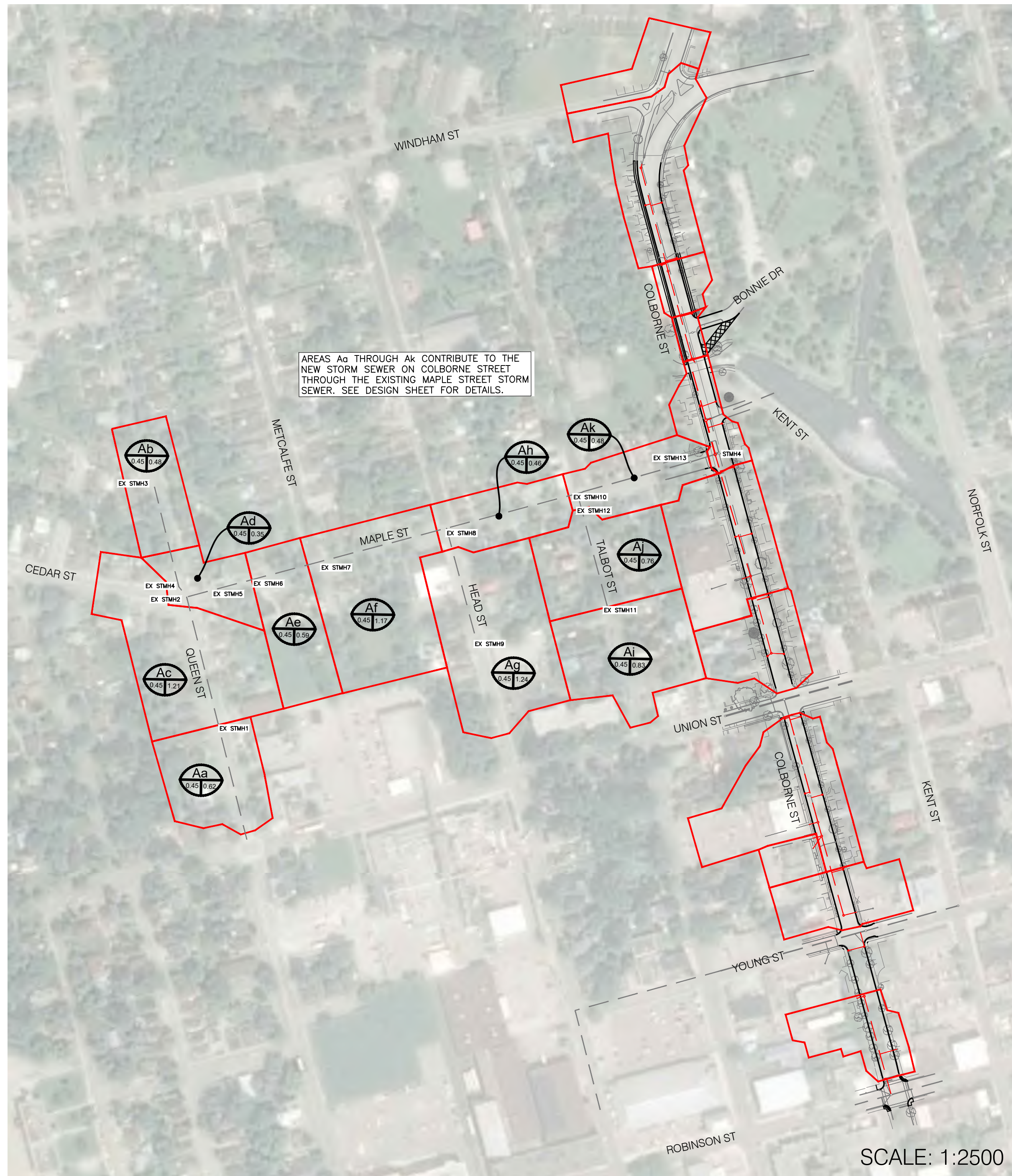
Designed by : NLB  
 Drawn By : NLB

Checked by : TGS  
 Date Started : April 14, 2021

Drawing Scale : AS SHOWN  
 Drawing No. **SAN**

Project No. **20-127**





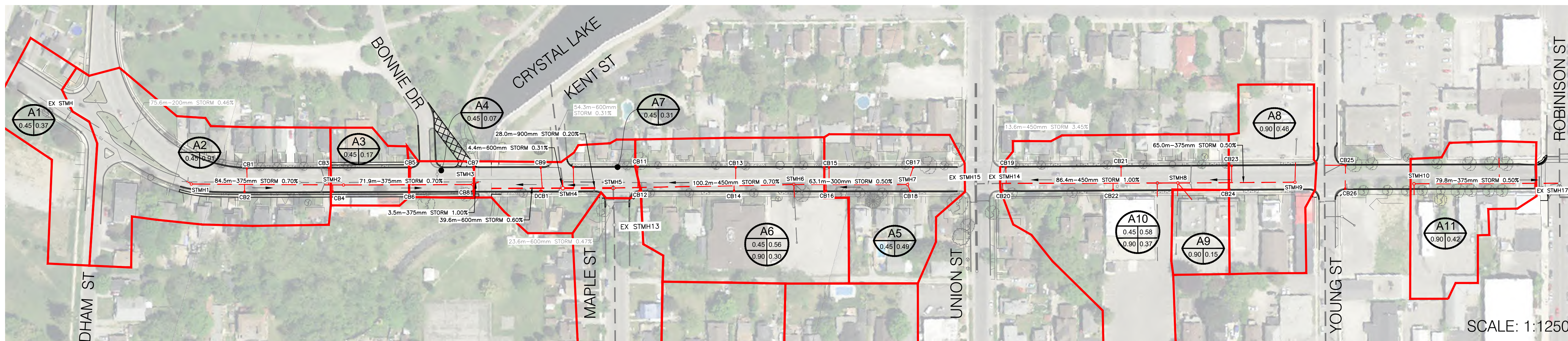
**STORM SEWER DESIGN SHEET**

Date: 22/4/2021 Storm: 5-year Pipe Material: PVC<=450, Concrete >450  
 Project: 20-127 Colborne Street Reconstruction A= 583.017 n= 0.013  
 Town/County: Simcoe, Norfolk County B= 3.007 C= 0.703  
 Designed by: NLB  
 Checked by: TGS  
 Sheet: 1 of 1

Area	Location	Street	From	To	Area			Total Area	Individual C <sup>A</sup>	Cumulative C <sup>A</sup>	Time of Concentration min	Rainfall mm/hr	Flow 2.78*A <sup>1.48</sup> L/s	Sewer Design						
					Ha 0.25	Ha 0.45	Ha 0.90							Capacity (Full) L/s	Vel (Full) m/s	Length m	Time min	Cap %		
A1	Colborne	EX STMH	STMH1			0.37		0.37	0.17	0.17	15.00	76.40	35.4	300	0.46%	65.6	0.93	75.6	1.36	54%
A2	Colborne	STMH1	STMH2			0.91		0.91	0.41	0.58	16.36	72.60	116.2	375	0.70%	146.7	1.33	84.5	1.06	79%
A3	Colborne	STMH2	STMH3			0.17		0.17	0.08	0.65	17.42	69.92	126.8	375	0.70%	146.7	1.33	71.9	0.90	86%
A4	Colborne	STMH3	OUTLET			0.07		0.07	0.03	0.68	18.32	67.83	129.0	375	1.00%	175.3	1.59	3.5	0.04	74%
Aa	Queen	EX STMH1	EX STMH2			0.62		0.62	0.28	0.28	15.00	76.40	59.3	450	0.50%	201.6	1.27	104.1	1.37	29%
Ab	Queen	EX STMH3	EX STMH4			0.48		0.48	0.22	0.22	15.00	76.40	45.9	300	0.50%	68.4	0.97	73.6	1.27	67%
-	Queen	EX STMH4	EX STMH2			0.00		0.00	0.00	0.22	16.27	72.84	43.7	300	0.50%	68.4	0.97	16.5	0.28	64%
Ac	Maple	EX STMH2	EX STMH5			1.21		1.21	0.54	1.04	16.55	72.09	208.3	525	0.38%	265.1	1.22	34.9	0.47	79%
Ad	Maple	EX STMH5	EX STMH6			0.35		0.35	0.16	1.20	17.03	70.88	235.9	525	0.38%	265.1	1.22	69.5	0.95	89%
Ae	Maple	EX STMH6	EX STMH7			0.59		0.59	0.27	1.46	17.97	68.62	279.0	525	0.50%	304.1	1.40	44.5	0.53	92%
Af	Maple	EX STMH7	EX STMH8			1.17		1.17	0.53	1.99	18.50	67.43	372.9	600	0.50%	434.2	1.54	107.3	1.16	86%
Aq	Head	EX STMH9	EX STMH8			1.24		1.24	0.56	0.56	15.00	76.40	118.5	375	0.50%	124.0	1.12	84.0	1.25	96%
Ah	Maple	EX STMH8	EX STMH10			0.46		0.46	0.21	2.75	19.66	64.98	497.5	675	0.50%	594.4	1.66	110.3	1.11	84%
Ai	Talbot	EX STMH11	EX STMH12			0.83		0.83	0.37	0.37	15.00	76.40	79.3	375	0.27%	91.1	0.82	79.0	1.60	87%
Aj	Talbot	EX STMH12	EX STMH10			0.76		0.76	0.34	0.72	16.60	71.97	143.2	450	0.27%	148.1	0.93	13.8	0.25	97%
-	Maple	EX STMH10	EX STMH13			0.00		0.00	0.00	3.47	20.77	62.84	606.1	750	0.50%	787.2	1.78	88.4	0.83	77%
Ak	Maple	EX STMH13	STMH5			0.48		0.48	0.22	3.69	21.60	61.35	628.5	750	0.47%	763.2	1.73	23.6	0.23	82%
A5	Colborne	STMH7	STMH6			0.49		0.49	0.22	0.22	15.00	76.40	46.8	300	0.50%	68.4	0.97	63.1	1.09	68%
A6	Colborne	STMH6	STMH5			0.56	0.30	0.86	0.52	0.74	16.09	73.32	151.3	450	0.70%	238.5	1.50	100.2	1.11	63%
-	Colborne	STMH5	STMH4			0.00		0.00	0.00	4.43	21.83	60.95	750.3	900	0.20%	809.6	1.27	28.0	0.37	93%
-	Kent	STMH4	EX OUTLET			0.00		0.00	0.00	4.43	22.19	60.33	328.2	600	0.31%	341.9	1.21	58.7	0.81	96%
A7	Colborne	STMH4	CULVERT			0.31		0.31	0.14	-	22.19	60.33	445.5	600	0.60%	475.6	1.68	39.6	0.39	94%
A8	Colborne	STMH9	STMH8			0.46		0.46	0.41	0.41	15.00	76.40	87.9	375	0.50%	124.0	1.12	65.0	0.97	71%
A9	Colborne	STMH8	STMH8A			0.15		0.15	0.14	0.55	15.97	73.65	112.4	375	1.00%	175.3	1.59	11.4	0.12	64%
A10	Colborne	STMH8A	EX STMH14			0.58	0.37	0.95	0.59	1.14	16.08	73.32	233.0	450	1.00%	285.1	1.79	86.4	0.80	82%
-	Colborne	EX STMH14	EX STMH15			0.00		0.00	0.00	1.14	16.89	71.23	226.3	450	3.45%	529.6	3.33	13.6	0.07	43%
A11	Colborne	STMH10	EX STMH17			0.42		0.42	0.38	0.38	15.00	76.40	80.3	300	0.80%	86.5	1.22	79.8	1.09	93%

Legend:  
 Proposed storm system  
 Existing storm system

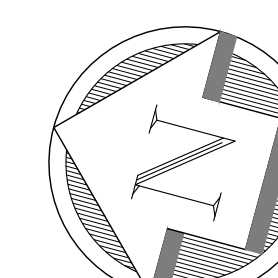
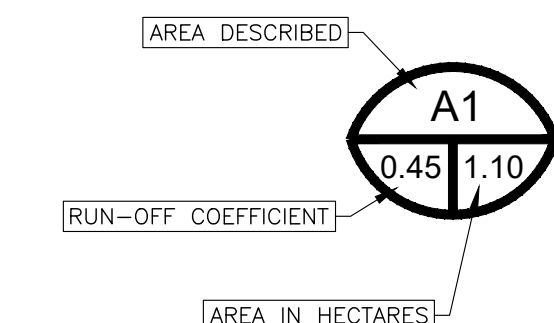
Notes:  
 - Assumed future design on north end of Colborne EX STMH to STMH1.  
 - Assumed future design on Maple Street.  
 - Flow from STMH5 split between the existing 600mm storm from STMH4 to existing outlet and the proposed 600mm storm from STMH4 to the culvert.



**COLBORNE STREET**

REV. No.	DATE	REVISION
0	JUL 12/21	PRELIMINARY / 30% DESIGN
1	MAR 10/22	60% DESIGN
2	OCT 14/2022	90% DESIGN
3	NOV 10/22	ISSUED FOR TENDER

NOTE:  
 THE CONTRACTOR IS CAUTIONED THAT ALL OF THE EXISTING UTILITIES ARE NOT INDICATED ON THIS DRAWING. THE CONTRACTOR MUST ARRANGE FOR LOCATES FROM EACH AREA UTILITY COMPANY PRIOR TO ANY CONSTRUCTION OR EXCAVATION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES INCLUDING THOSE NOT INDICATED ON THIS DRAWING. G. DOUGLAS VALLEE LTD. CAN NOT ACCEPT RESPONSIBILITY FOR DAMAGE TO ANY EXISTING UTILITY WHICH MAY OR MAY NOT BE INDICATED ON THIS DRAWING.



**vallee**  
 Consulting Engineers,  
 Architects & Planners

G. DOUGLAS VALLEE LIMITED  
 2 TALBOT STREET NORTH  
 SIMCOE, ONTARIO N3Y 3W4  
 (519) 426-6270



Project Title  
**COLBORNE STREET NORTH RECONSTRUCTION**  
 SIMCOE - NORFOLK COUNTY  
 EIS-ENG-23-35

Drawing Title  
**STORM DRAINAGE AREAS**

Designed by: NLB Drawn By: NLB

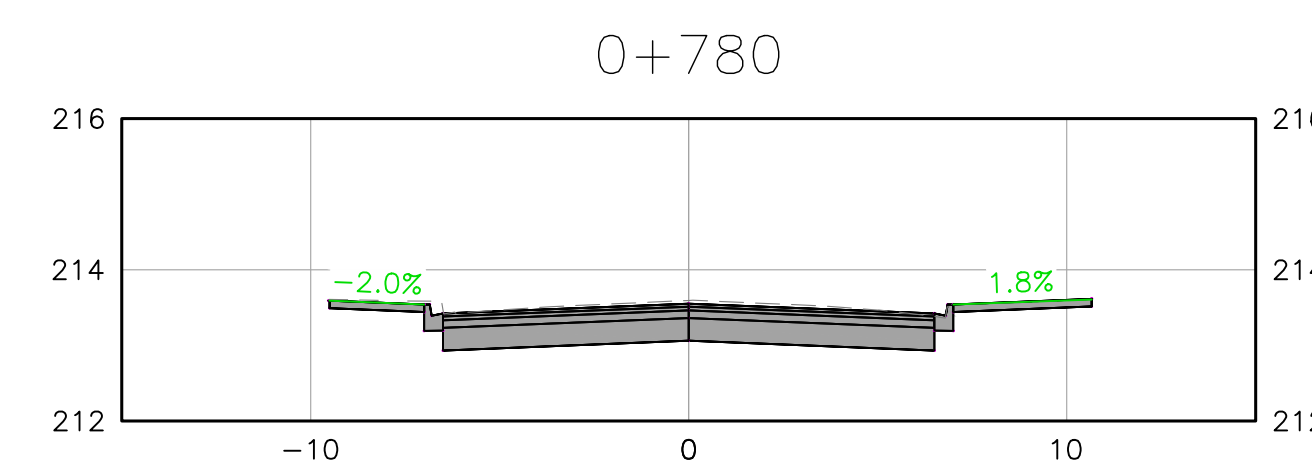
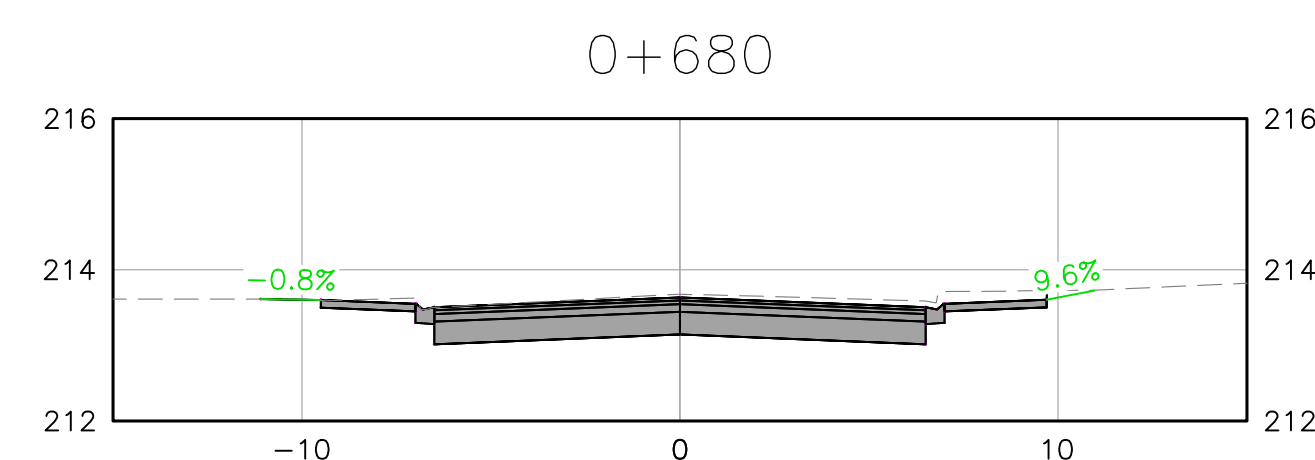
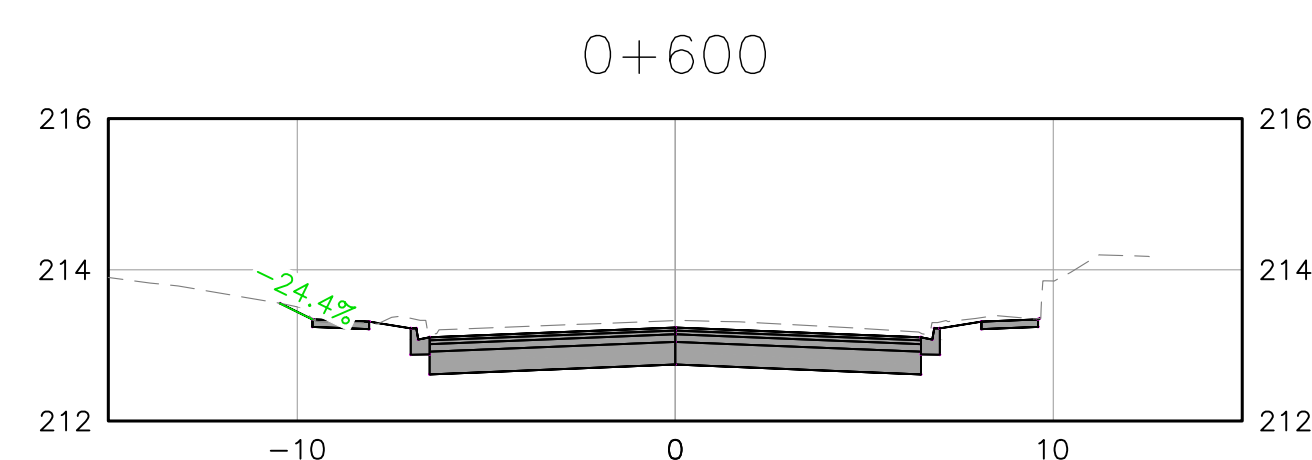
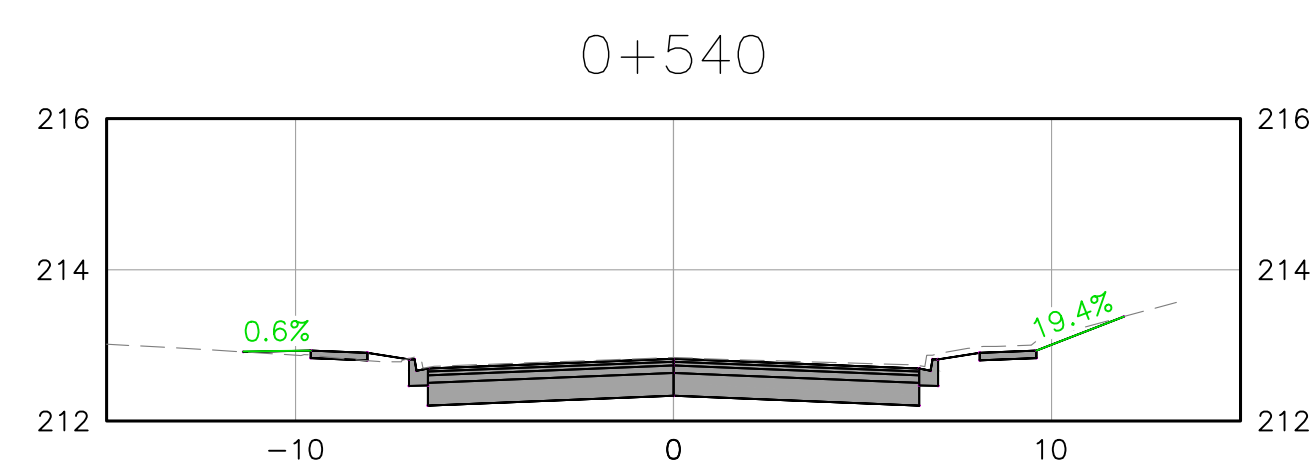
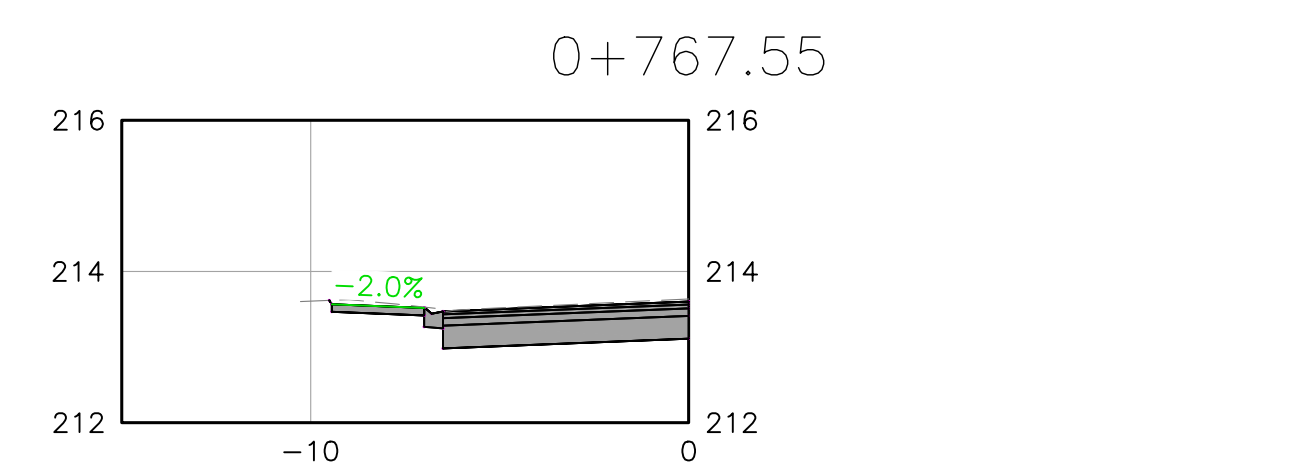
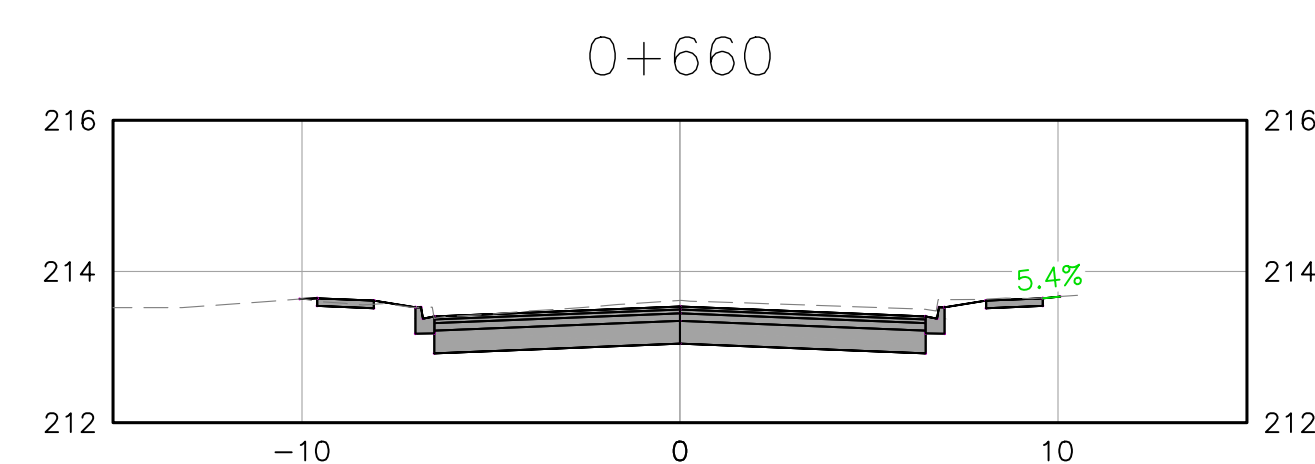
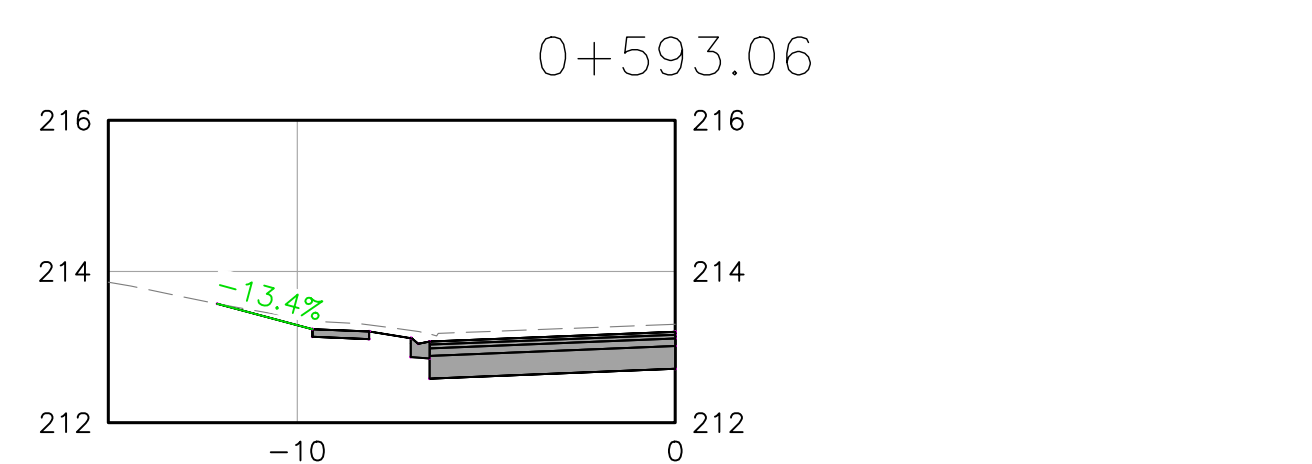
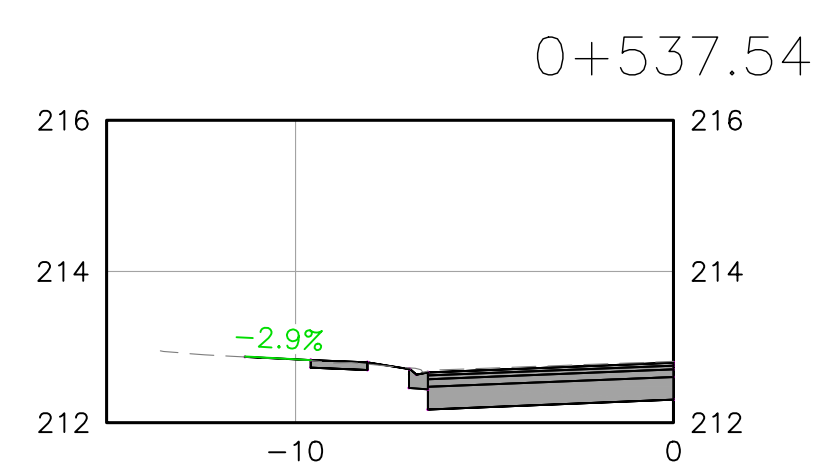
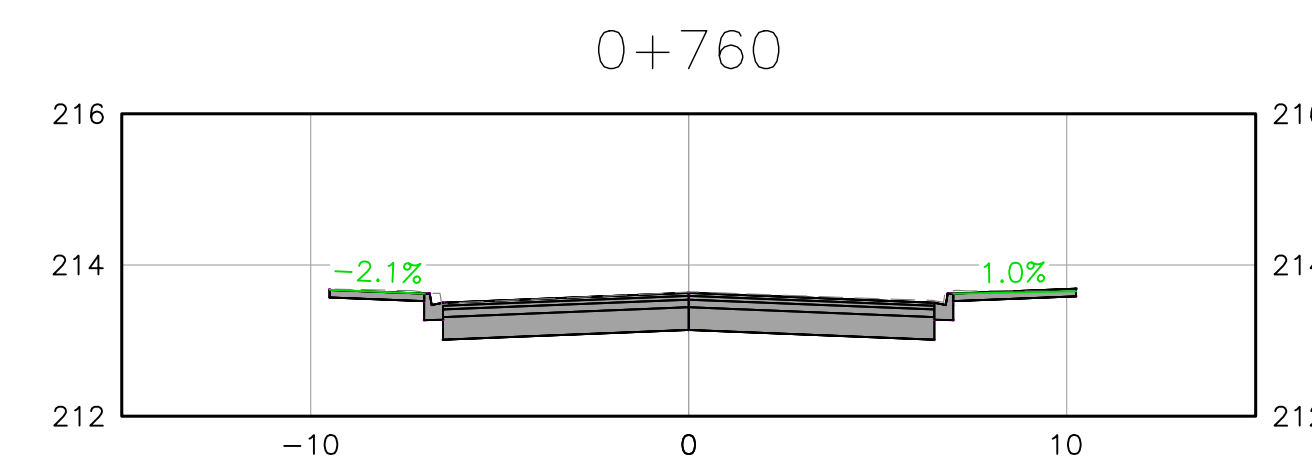
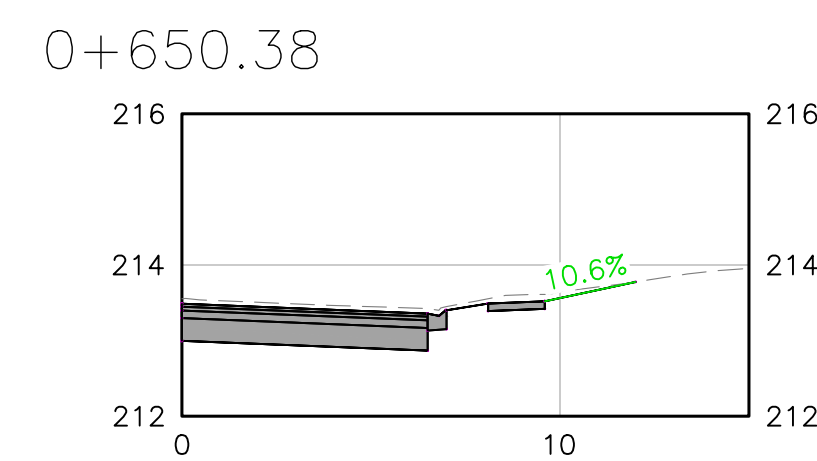
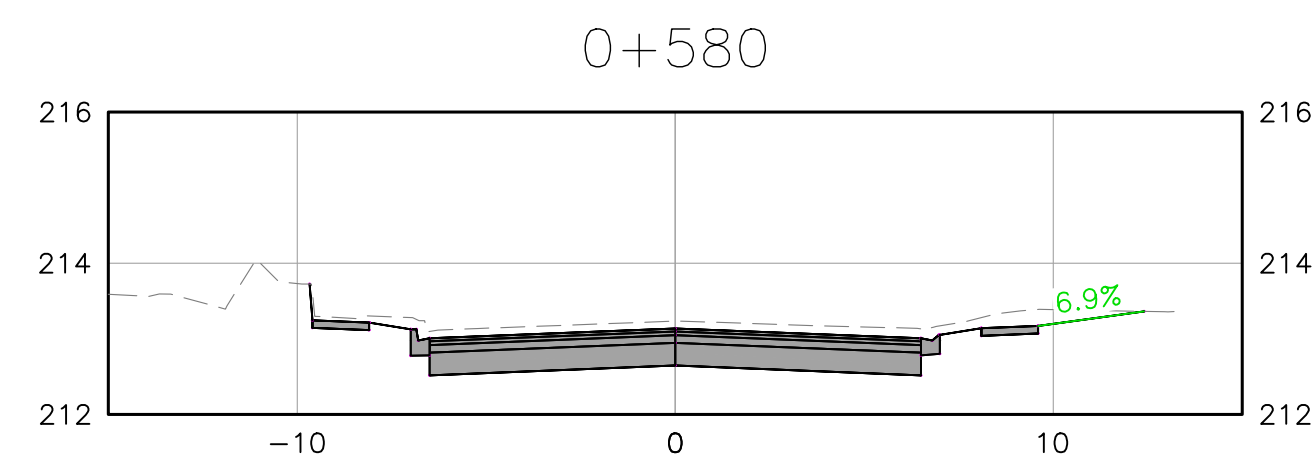
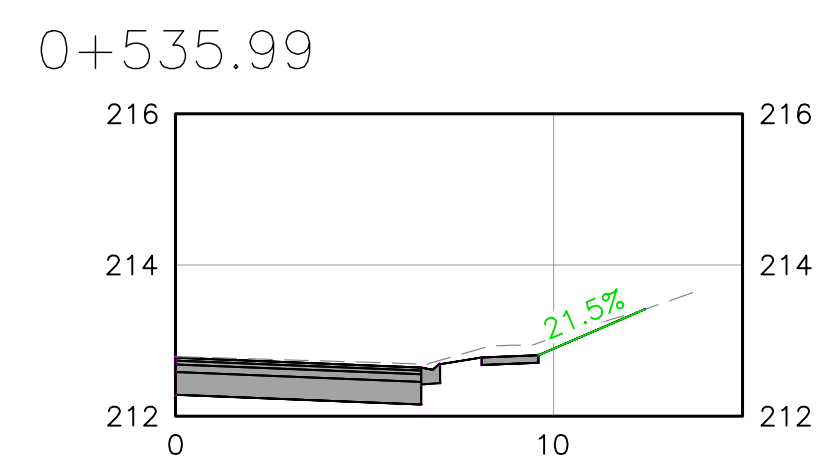
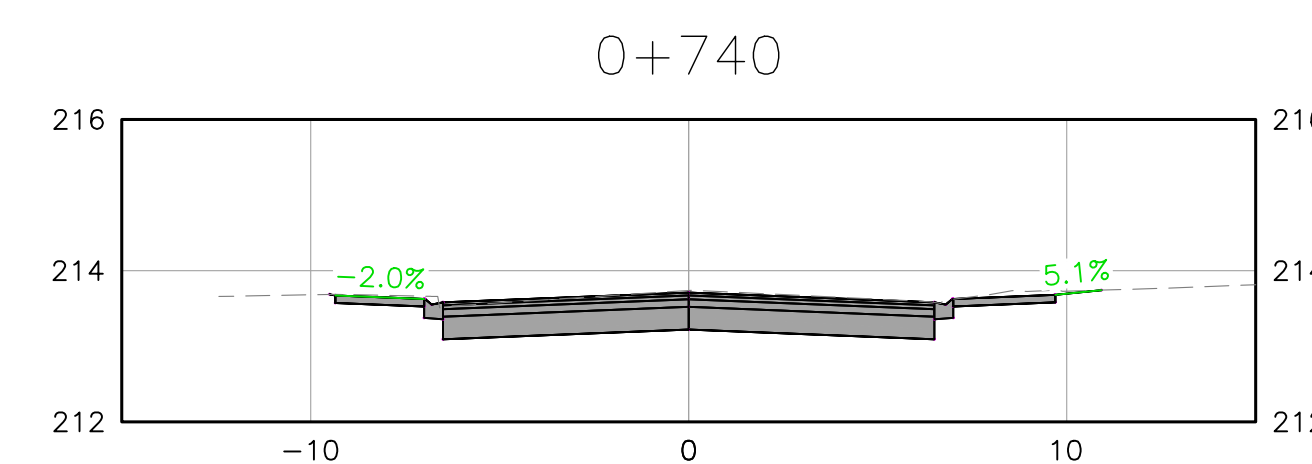
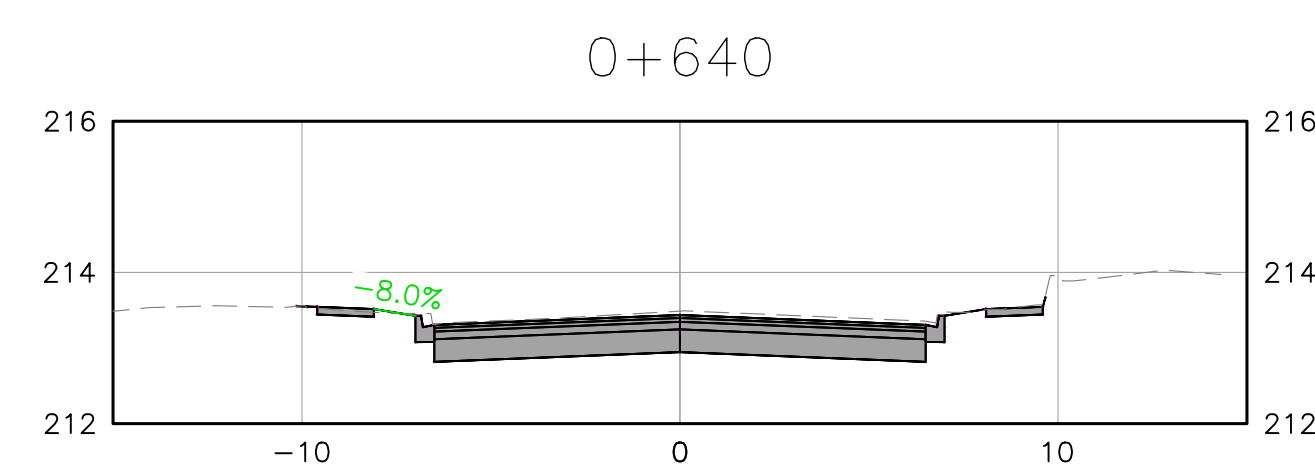
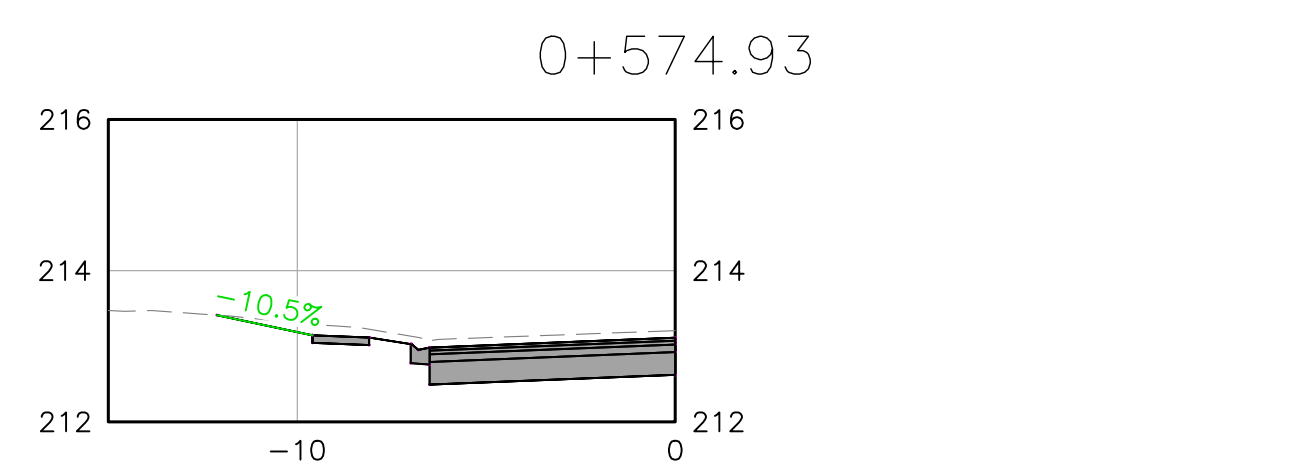
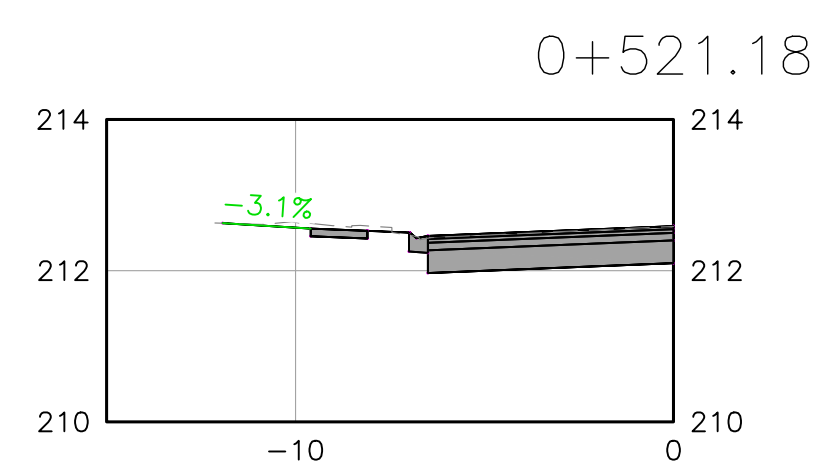
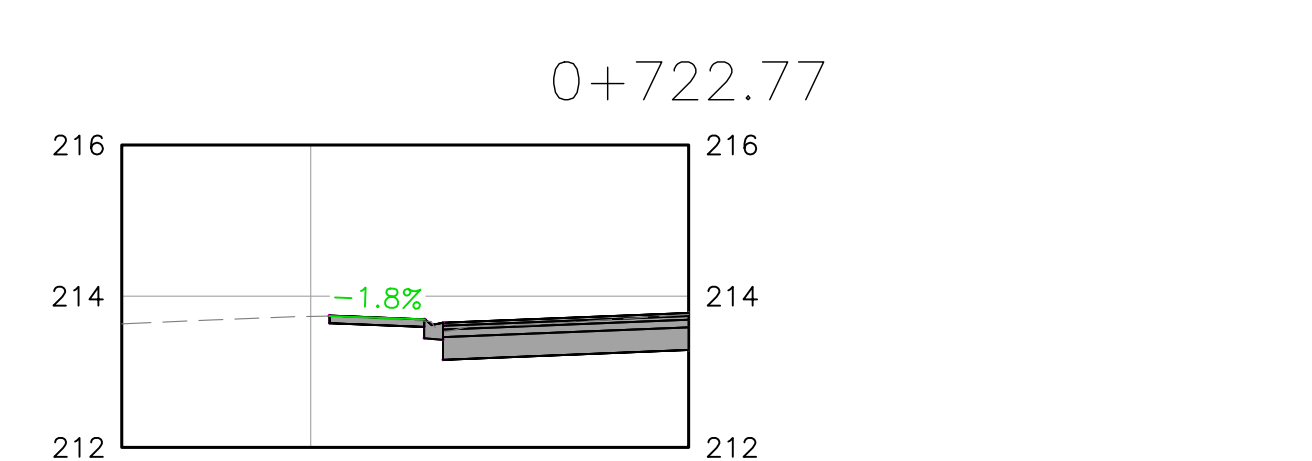
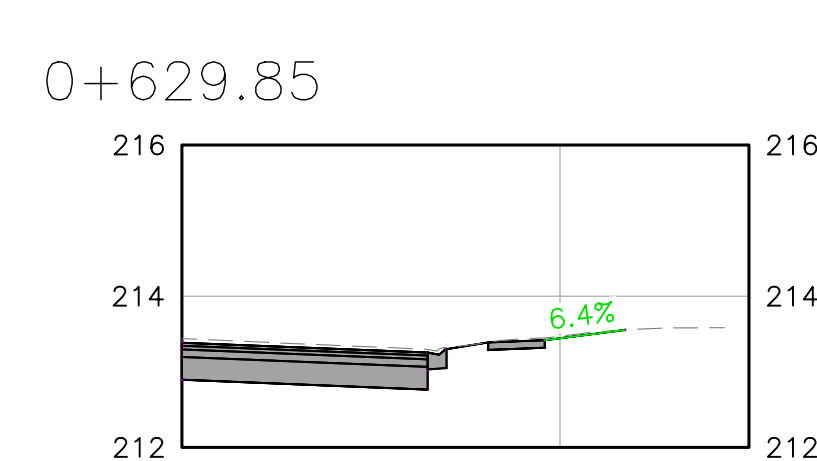
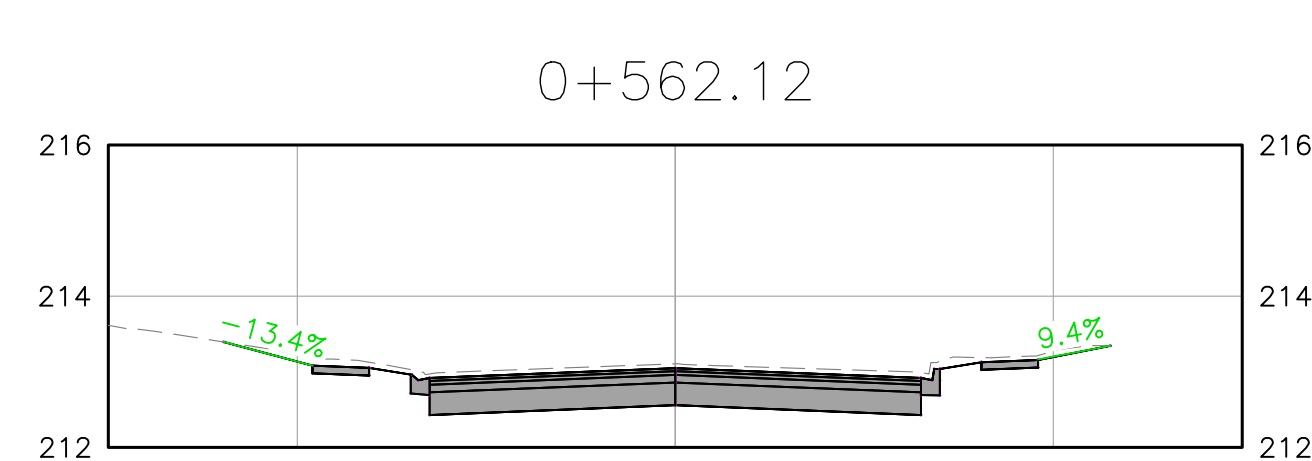
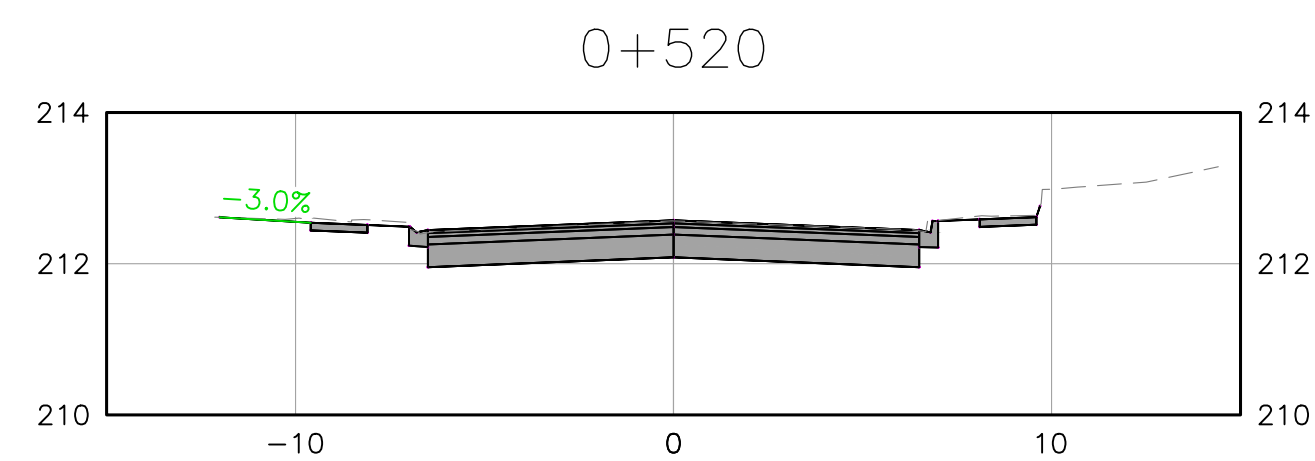
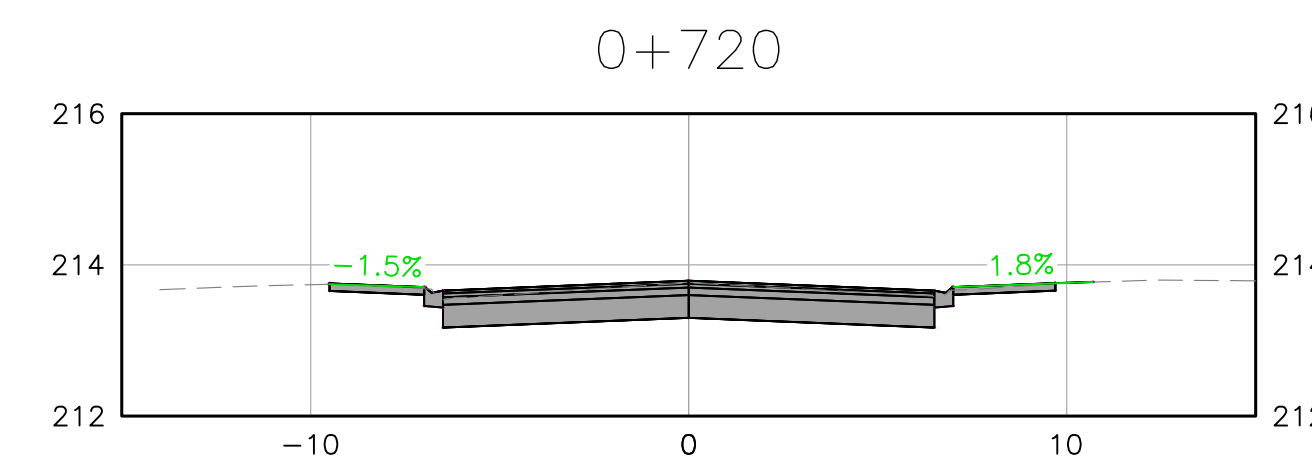
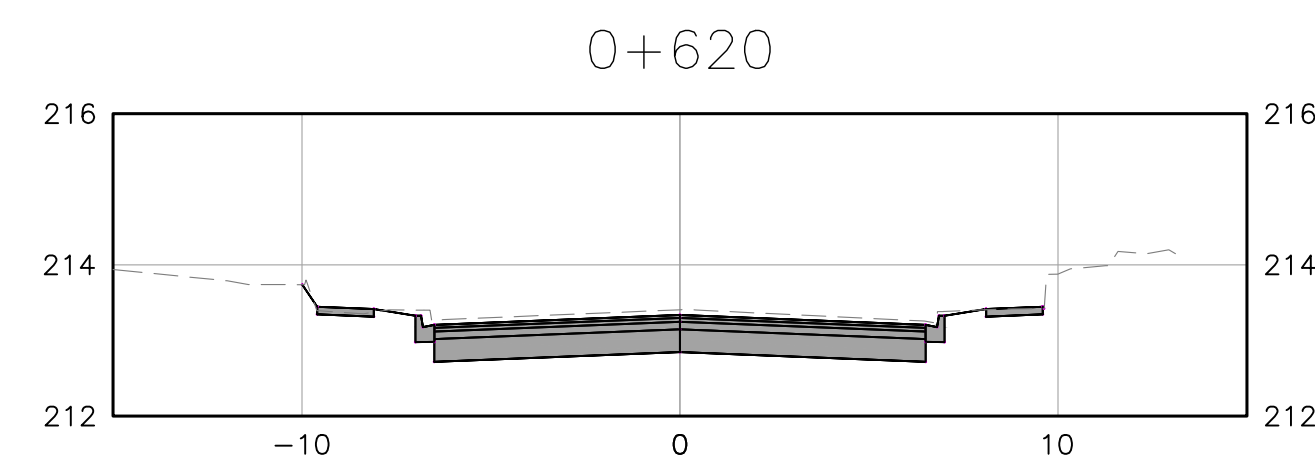
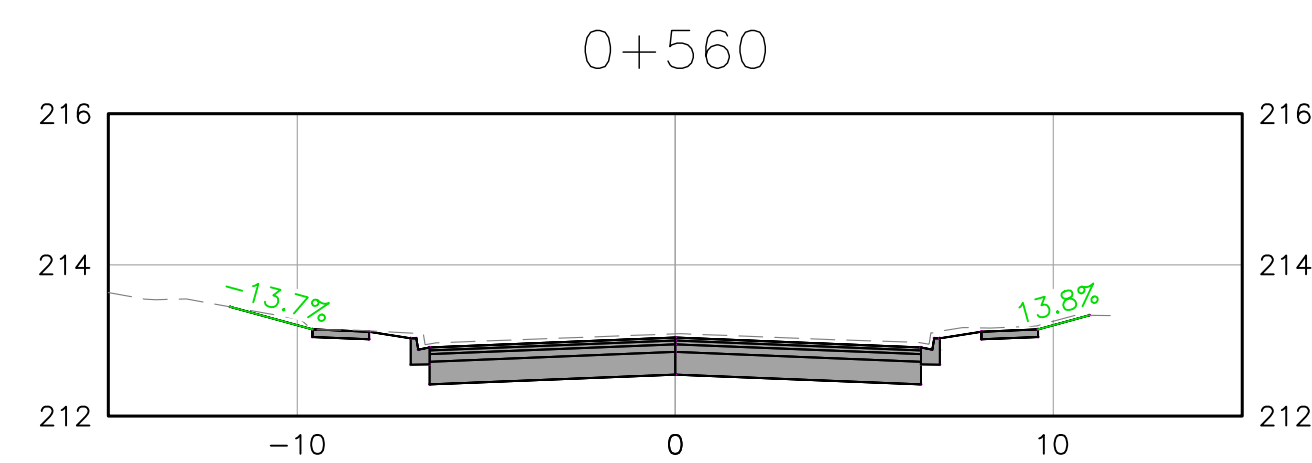
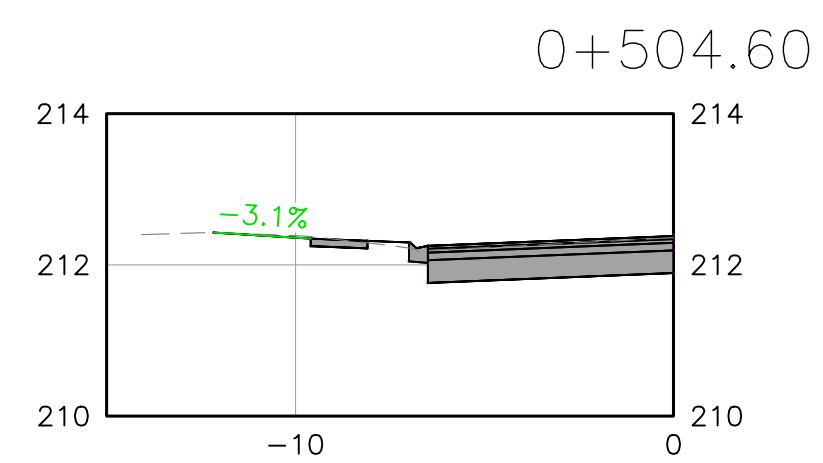
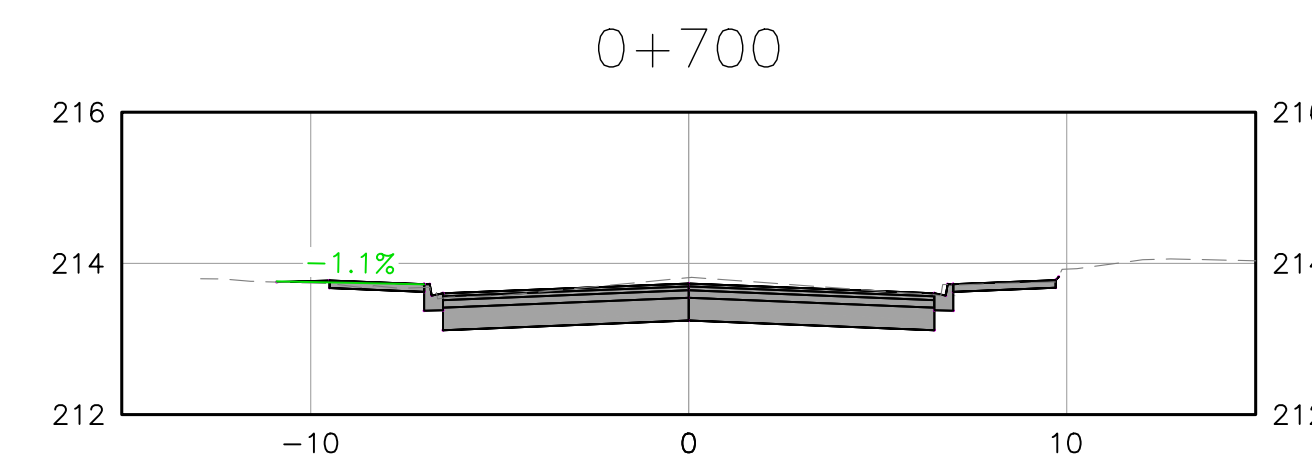
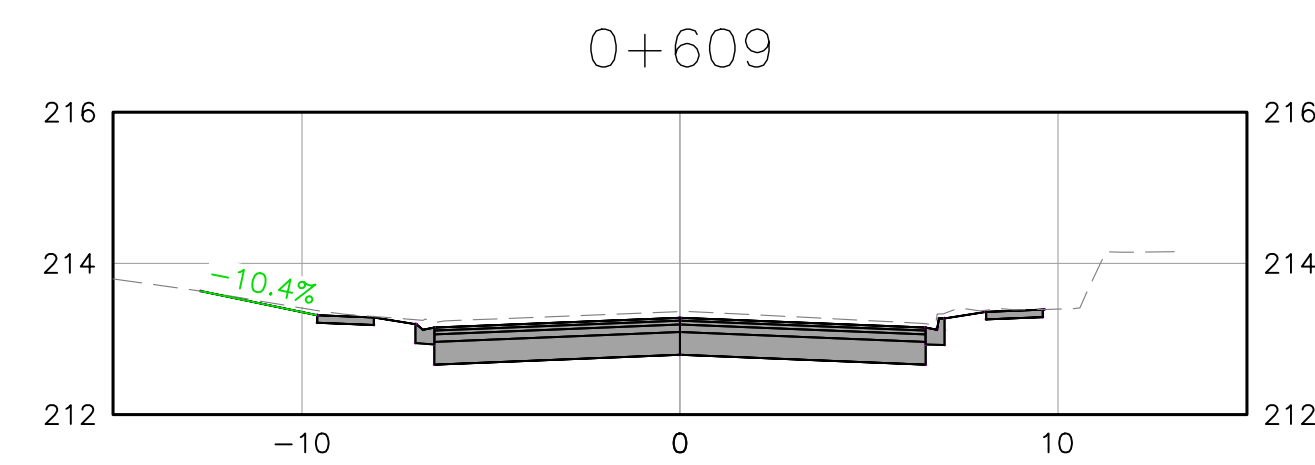
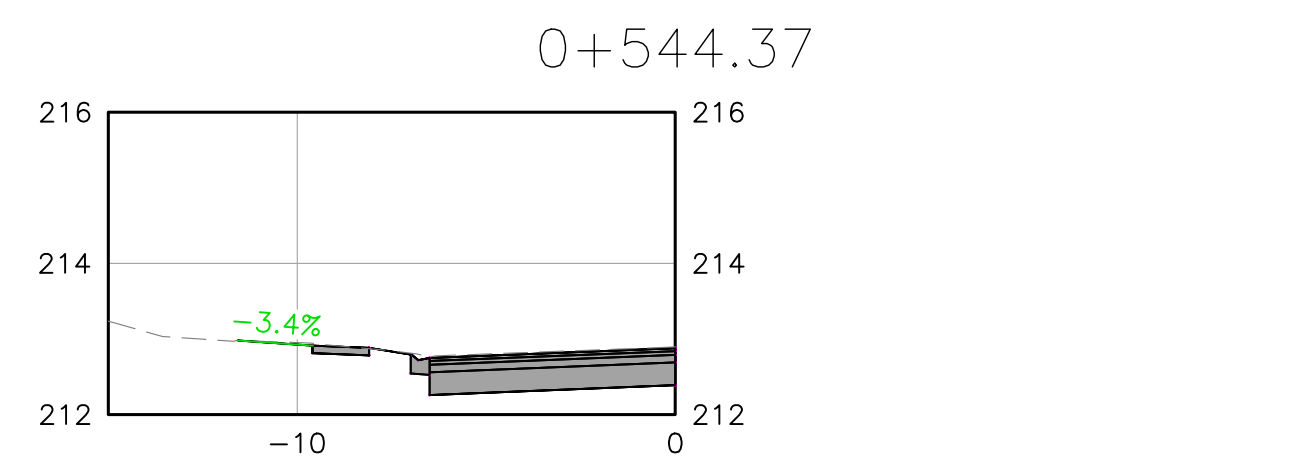
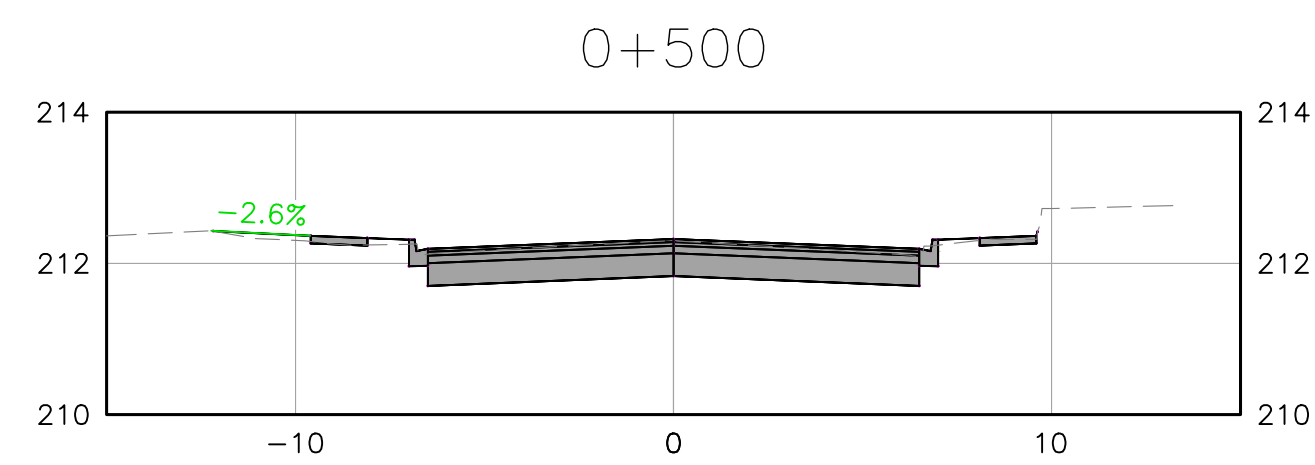
Checked by: TGS Date Started: April 14, 2021

Drawing Scale: AS SHOWN Drawing No.

Project No. **20-127** **STM**

DATE LAST PLOTTED: 11/3/2022





DATE LAST PLOTTED : November 2, 2022



**G. DOUGLAS VALLEE LIMITED**  
 2 TALBOT STREET NORTH  
 SIMCOE, ONTARIO N3Y 3W4  
 (519) 426-6270

Project Title	COLBORNE STREET NORTH RECONSTRUCTION
Location	SIMCOE - NORFOLK COUNTY
Drawing Title	COLBORNE SECTIONS - 03



REV. No.	DATE	REVISION
0	JUL 12/21	PRELIMINARY / 30% DESIGN
1	MAR 10/22	60% DESIGN
2	OCT 14/2022	90% DESIGN
3	NOV 10/22	ISSUED FOR TENDER

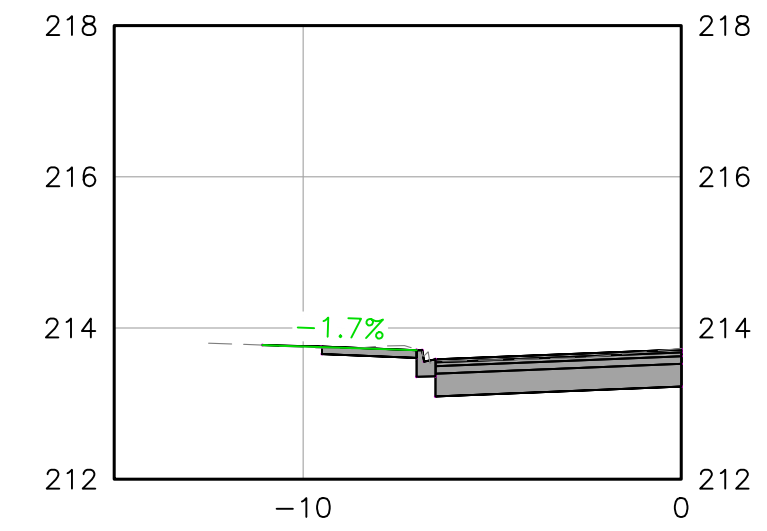
REV. No.	DATE	REVISION

Designed by :	NLB	Drawn By :	NLB
Checked by :	TGS	Date Started :	JULY 14, 2021
Drawing Scale :		HORIZ: 1:200 VERT: 1:100	

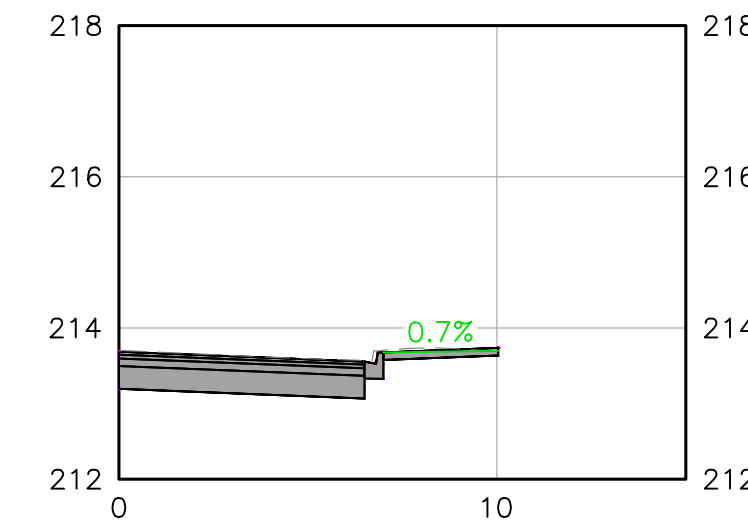
Project No.	20-127
Drawing No.	XS-03



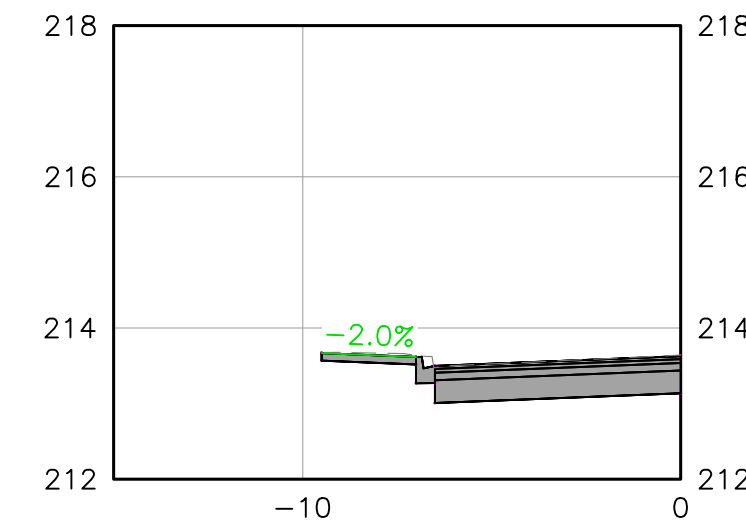
MHN Lawyers  
0+695.98



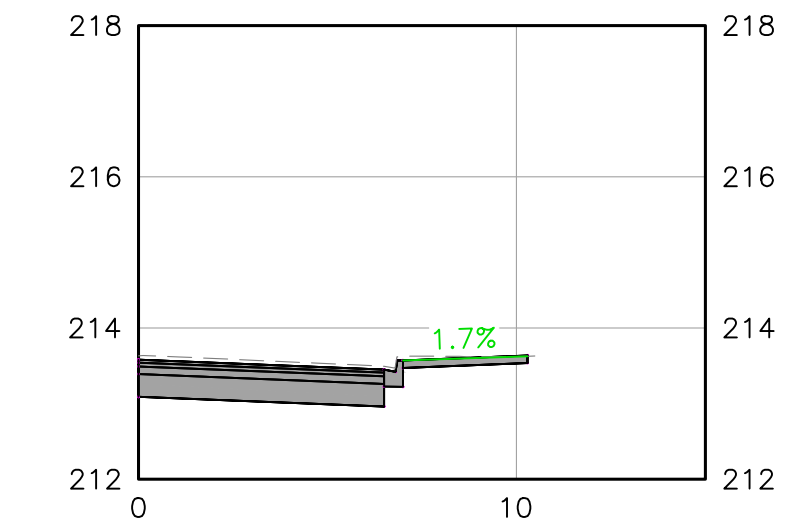
The Barbers Corner  
(one step to door)  
0+746.28



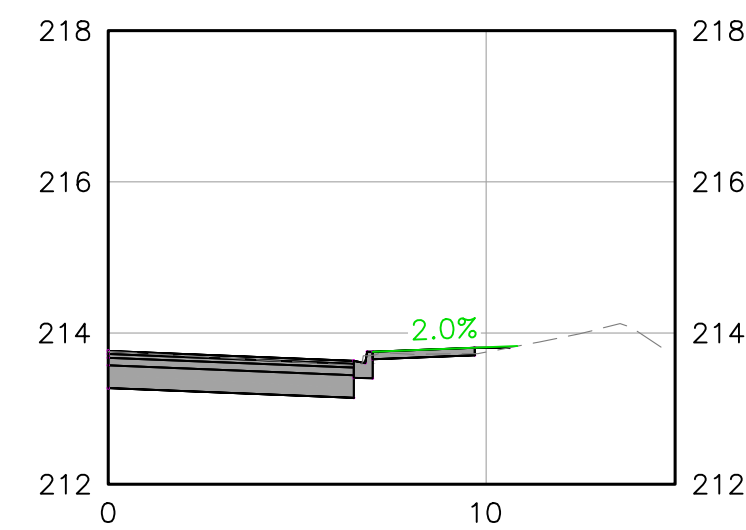
#13 Colborne  
(2 steps to door)  
0+761.11



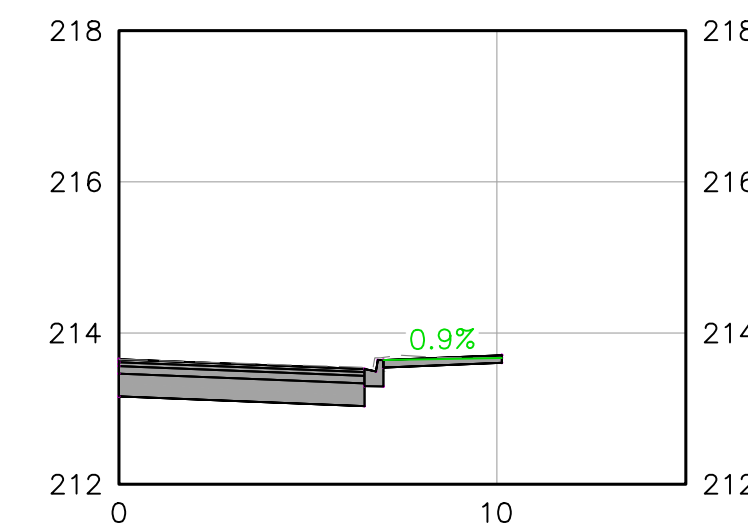
Ontario Early Years Centre  
(flush with sidewalk)  
0+773.07



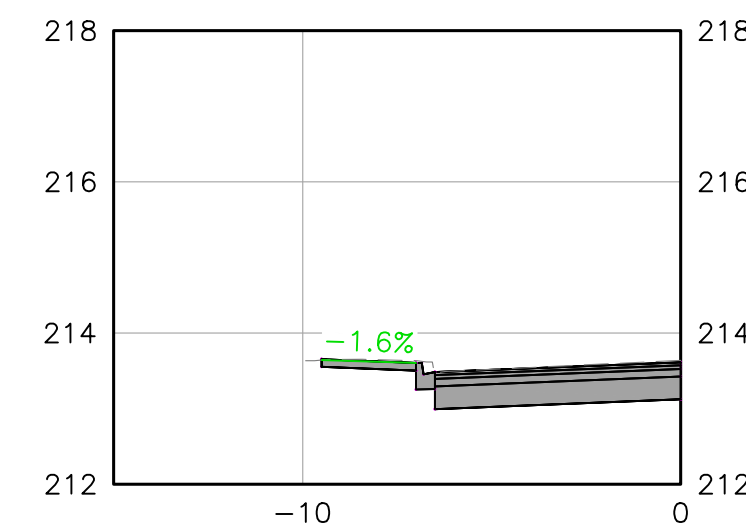
MW Drafting & Design  
0+726.80



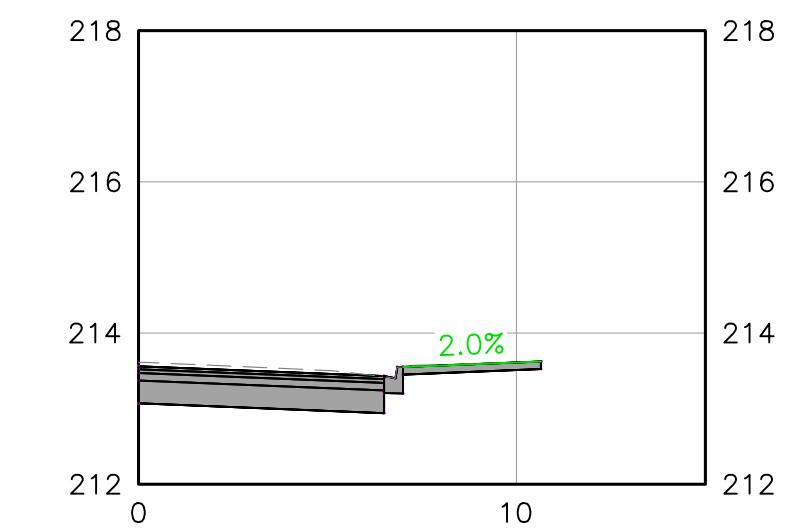
Hal Nor Computers  
(flush with sidewalk)  
0+754.42



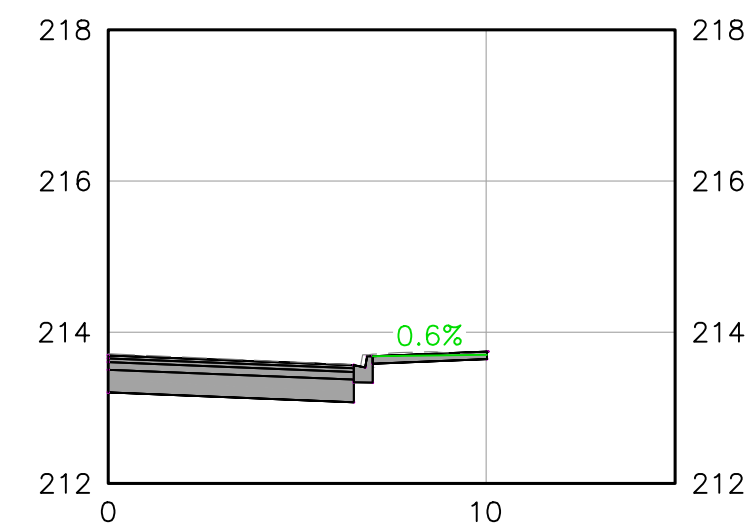
#11 Colborne  
(2 steps to door)  
0+764.37



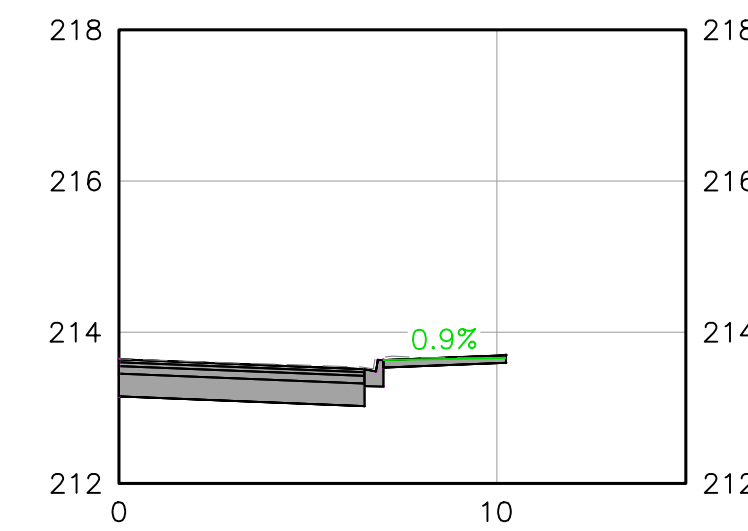
#2 Colborne  
(flush with sidewalk)  
0+777.74



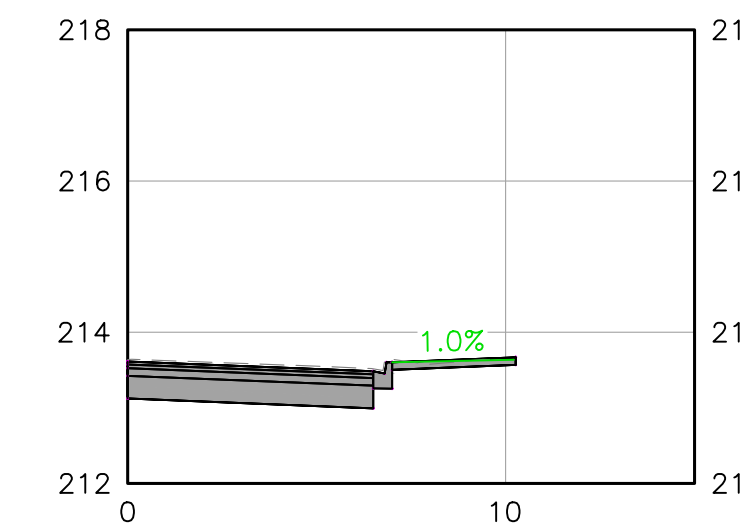
#20 Colborne  
(one step to door)  
0+744.36



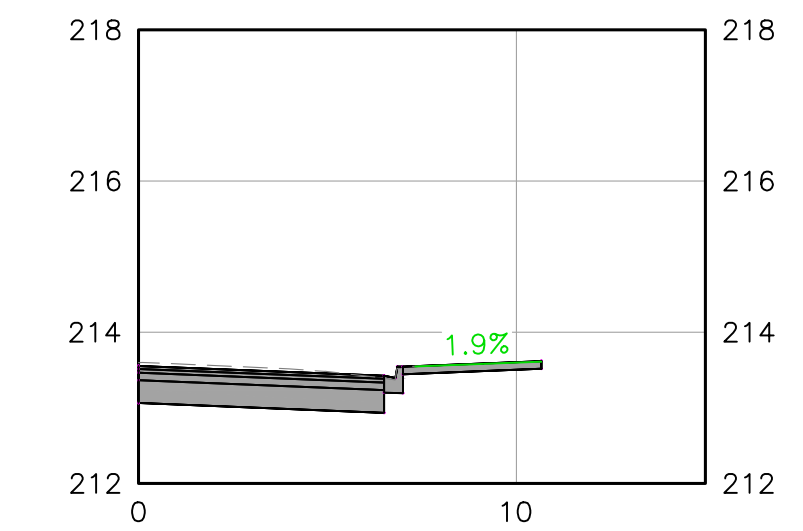
Norfolk Taxi & Delivery  
(flush with sidewalk)  
0+757.56



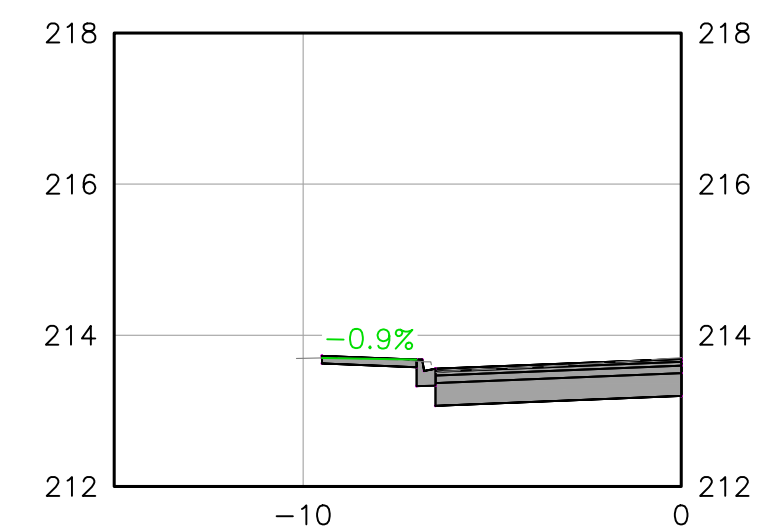
#14 Colborne  
(flush with sidewalk)  
0+764.68



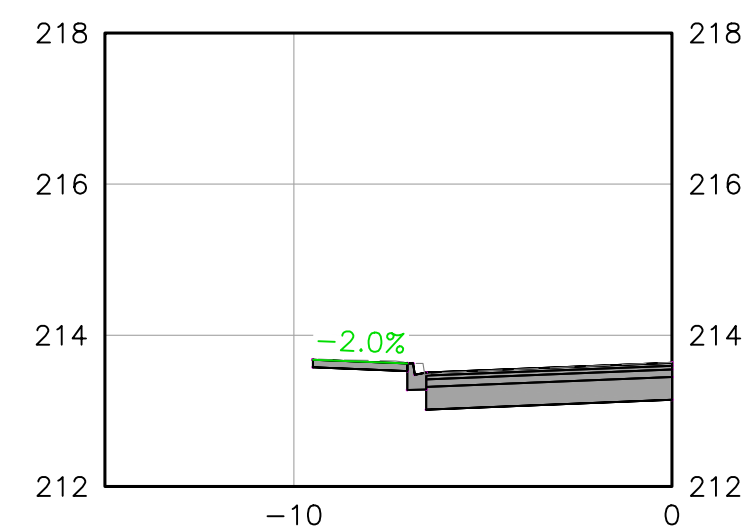
Von Canada Side Door  
(flush with sidewalk)  
0+779.57



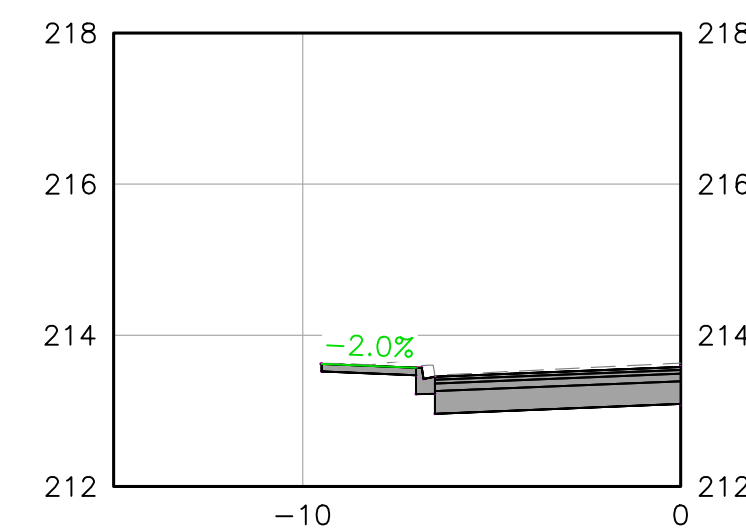
#19 Colborne  
(half step to door)  
0+745.54



#15 Colborne  
(2 steps to door)  
0+758.45



Simcoe Computers Side Door  
(one step to door)  
0+772.47



DATE LAST PLOTTED : November 2, 2022



**G. DOUGLAS VALLEE LIMITED**  
2 TALBOT STREET NORTH  
SIMCOE, ONTARIO N3Y 3W4  
(519) 426-6270

Project Title	COLBORNE STREET NORTH RECONSTRUCTION
Location	SIMCOE - NORFOLK COUNTY
Drawing Title	COMMERCIAL ENTRANCE SECTIONS



REV. No.	DATE	REVISION	REV. No.	DATE	REVISION
0	JUL 12/21	PRELIMINARY / 30% DESIGN			
1	MAR 10/22	60% DESIGN			
2	OCT 14/2022	90% DESIGN			
3	NOV 10/22	ISSUED FOR TENDER			

Designed by :	NLB	Drawn By :	NLB
Checked by :	TGS	Date Started :	JULY 14, 2021
Drawing Scale :		HORIZ: 1:200 VERT: 1:100	

Project No.	20-127
Drawing No.	XS-04



DRAWING CROSS-REFERENCE:  
 SEE DRAWING 'RL1' FOR GENERAL NOTES AND LEGEND  
 SEE DRAWING 'RL2' FOR PERMANENT ROADWAY LIGHTING - CHARTS  
 SEE DRAWING 'RL3' FOR PERMANENT ROADWAY LIGHTING - LAYOUT

OWNER



DESIGNER



REVISIONS

No	DATE	REMARKS



**GENERAL NOTES**

<p><b>GENERAL 1.0</b></p> <p>1.0.1 INSTALLATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.</p> <p>1.0.2 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THEY HAVE AN UP TO DATE SET OF THE CURRENT NAGARA REGION TRAFFIC SIGNAL AND ROADWAY LIGHTING STANDARD DRAWINGS, DETAILS AND SPECIFICATIONS. A COPY SHALL BE KEPT ON SITE AND UTILIZED FOR ELECTRICAL INSTALLATION COMPLIANCE.</p> <p>1.0.3 CONTRACTOR SHALL COORDINATE INSTALLATIONS OF ELECTRICAL EQUIPMENT/PLANT WITH ALL OTHER TRADES AND THE CONTRACT ADMINISTRATOR.</p> <p>1.0.4 POLES, ELECTRICAL JUNCTION BOXES, FOOTINGS AND ALL OTHER GRADE DEPENDANT EQUIPMENT SHALL NOT BE PLACED UNTIL THE CURB HAS BEEN PLACED AND FINAL GRADES ARE DETERMINED.</p> <p>1.0.5 EXACT LOCATIONS OF UNDERGROUND UTILITIES AND ELECTRICAL DUCTS/CABLES SHALL BE DETERMINED ON SITE PRIOR TO COMMENCEMENT OF WORK.</p> <p><b>OPERATIONAL CONSTRAINTS 2.0</b></p> <p>2.0.1 INSTALLATIONS SHALL BE STAGED SUCH THAT THE EXISTING, TEMPORARY OR PERMANENT ROADWAY LIGHTING SYSTEMS ARE FULLY OPERATIONAL FROM DUST UNTIL DAWN HOURS. THE EXISTING LIGHTING SYSTEM SHALL REMAIN FULLY OPERATIONAL UNTIL THE TEMPORARY AND/OR PERMANENT LIGHTING SYSTEM IS ENERGIZED AND OPERATIONAL. IF EXISTING CONDITIONS AND/OR STAGING DOES NOT PERMIT THE CONTINUOUS OPERATION OF THE EXISTING, TEMPORARY OR PERMANENT LIGHTING SYSTEM, THE CONTRACTOR SHALL PROVIDE NECESSARY TEMPORARY MEASURES TO ENSURE LIGHTING SYSTEMS REMAIN OPERATIONAL.</p> <p>2.0.2 THE CONTRACTOR SHALL PERFORM PERIODIC NIGHT INSPECTIONS TO ENSURE LIGHTING SYSTEMS ARE OPERATIONAL IN ACCORDANCE WITH THE MUNICIPAL MAINTENANCE ACT, AS A MINIMUM.</p> <p>2.0.3 IN THE EVENT THE ROADWAY LIGHTING SYSTEM(S) ARE NOT OPERATIONAL (IN PART OR IN WHOLE) DURING A NIGHT INSPECTION, THE CONTRACTOR SHALL COMPLETE EMERGENCY ELECTRICAL WORKS TO RESTORE THE ROADWAY LIGHTING SYSTEM(S). THE STREET LIGHTING SYSTEM(S) OWNER/MUNICIPALITIES EMERGENCY ROADWAY LIGHTING SERVICES MAINTENANCE CONTRACTOR SHALL BE CONTACTED TO ASSIST WITH THE WORKS AS REQUIRED.</p> <p>2.0.4 THE EXISTING AND/OR TEMPORARY ROADWAY LIGHTING SYSTEM(S) SHALL BE DISCONNECTED ONLY UPON ENERGIZATION OF THE PROPOSED TEMPORARY/PERMANENT ROADWAY LIGHTING SYSTEM(S).</p> <p><b>HYDRO/ESA COORDINATION FOR ENERGIZATION 3.0</b></p> <p>3.0.1 THE CONTRACTOR SHALL CONTACT THE HYDRO SUPPLY AUTHORITY TO OBTAIN AN UNDERSTANDING OF THE CURRENT PROCESS/PROCESSES REQUIRED TO BE COMPLETED IN ORDER TO ARRANGE AND HAVE COMPLETED ALL CONNECTIONS TO/DISCONNECTIONS FROM HYDRO SUPPLY POINTS (BY THE HYDRO SUPPLY AUTHORITY) AS REQUIRED TO FULFILL THE DESIGN INTENT AND COMPLETE THE PROCESS/PROCESSES REQUIRED.</p> <p>3.0.2 THE CONTRACTOR SHALL CONTACT THE ELECTRICAL SAFETY AUTHORITY (ESA) TO OBTAIN AN UNDERSTANDING OF THE CURRENT PROCESS/PROCESSES REQUIRED TO COMPLETE ALL INSPECTIONS AND OBTAIN CLEARANCES REQUIRED FOR ALL APPLICABLE ELECTRICAL ITEMS INSTALLED AND COMPLETE THE PROCESS/PROCESSES REQUIRED, IF/AS REQUIRED.</p> <p>3.0.3 CONTACT/COMMUNICATION WITH THE HYDRO SUPPLY AUTHORITY/AUTHORITIES AND ELECTRICAL SAFETY AUTHORITY (ESA) SHALL BE MADE EARLY IN THE CONTRACT TO AVOID DELAYS IN THE ENERGIZATION OF TEMPORARY AND/OR PERMANENT ROADWAY LIGHTING SYSTEMS. NO CLAIMS FOR EXTRAS DUE TO DELAYS WILL BE CONSIDERED FOR LATE COORDINATION.</p> <p>3.0.4 ROADWAY LIGHTING SYSTEM ENERGIZATION AND SWITCH-OVERS FROM EXISTING TO TEMPORARY / TEMPORARY TO PERMANENT SHALL BE PLANNED FOR EARLY IN THE WORK DAY TO PROVIDE SUFFICIENT TIME TO RECTIFY DEFICIENCIES THAT WOULD PREVENT THE OPERATION OF THE ENERGIZED LIGHTING SYSTEM.</p>	<p><b>CLEARANCES 4.0</b></p> <p>4.0.1 ALL CLEARANCES TO HYDRO CONDUCTORS AND EQUIPMENT SHALL BE MAINTAINED IN ACCORDANCE WITH THE HYDRO AUTHORITY, CSA, ESA, OSG AND ALL GOVERNING CODES, STANDARDS AND REGULATIONS.</p> <p>4.0.2 ALL CLEARANCES TO COMMUNICATION PLANT AND EQUIPMENT SHALL BE MAINTAINED IN ACCORDANCE WITH THE COMMUNICATION COMPANY, CSA, ESA, OSG AND ALL GOVERNING CODES, STANDARDS AND REGULATIONS.</p> <p>4.0.3 ALL CLEARANCES TO MUNICIPAL SERVICES SHALL BE MAINTAINED IN ACCORDANCE WITH THE MUNICIPAL STANDARDS, CSA, ESA, OSG AND ALL GOVERNING CODES, STANDARDS AND REGULATIONS.</p> <p>4.0.4 IF IT IS NECESSARY FOR THE CONTRACTOR TO WORK WITHIN THE LIMITS SET OUT IN THE OCCUPATIONAL SAFETY GROUP INC. (OSG) "THE GREEN BOOK", THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE AUTHORITY IN WHICH THE WORK LIMITS ARE BEING ENCRACHED ON. ALL STAFF COMPLETING SUCH WORK SHALL BE QUALIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF "THE GREEN BOOK" AND THE HYDRO AUTHORITY. THE CONTRACTOR SHALL COORDINATE TO HAVE THE HYDRO SUPPLY AUTHORITY AND/OR UTILITY OWNER PRESENT FOR THEIR ASSISTANCE TO DO THE WORK, AS REQUIRED.</p> <p><b>QUALIFICATIONS 5.0</b></p> <p>5.0.1 THE CONTRACTOR'S EMPLOYEES COMPLETING ALL WORK SHALL MEET ALL QUALIFICATIONS TO DO SUCH WORK AS SET OUT BY MINISTRY OF LABOUR ONTARIO.</p> <p><b>SITE SAFETY 6.0</b></p> <p>6.0.1 CONTRACTOR SHALL DETERMINE THE POWER SOURCE LOCATION OF ALL ROADWAY LIGHTING SYSTEMS WITHIN THE PROJECT LIMITS AND VERIFY THE ROADWAY LIGHTING BEING FED FROM EACH SOURCE. CONTRACTOR SHALL ARRANGE WITH THE ROADWAY LIGHTING SYSTEM OWNER(S)/AUTHORITIES FOR ACCESS TO ALL POWER SOURCES TO PERFORM AN EMERGENCY DE-ENERGIZATION SHOULD A POTENTIALLY LIFE THREATENING INCIDENT OCCUR.</p> <p><b>INSTALLATION/MATERIALS 7.0</b></p> <p>7.0.1 ROADWAY LIGHTING EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE ROADWAY LIGHTING SYSTEM OWNERS STANDARDS AND SPECIFICATIONS.</p> <p><b>REMOVALS OF EXISTING ROADWAY LIGHTING 8.0</b></p> <p>8.0.1 CONTRACTOR SHALL COORDINATE WITH THE EXISTING ROADWAY LIGHTING SYSTEM OWNER AND/OR HYDRO SUPPLY AUTHORITY FOR THE DISCONNECTION AND ISOLATION ALL ROADWAY LIGHTING SYSTEMS BEING MODIFIED AND/OR REMOVALS/RELOCATIONS COMPLETED.</p> <p>8.0.2 ALL ROADWAY LIGHTING SYSTEMS BEING WORKED ON SHALL BE DE-ENERGIZED AT THE POWER SOURCE PRIOR TO COMMENCEMENT OF WORK.</p> <p>8.0.3 REMOVALS OF ROADWAY LIGHTING CABLES WITHIN JOINT USE ELECTRICAL CHAMBERS AND DUCTS SHALL BE COORDINATED WITH THE EQUIPMENT/ INFRASTRUCTURE OWNER.</p> <p>8.0.4 REMOVALS OF ROADWAY LIGHTING POLES WITH 3RD PARTY ATTACHMENTS SHALL BE COORDINATED WITH THE APPROPRIATE ATTACHERS, REMOVALS, AND STAGING.</p> <p>8.0.5 ANY AND ALL ELECTRICAL EQUIPMENT THAT IS DIRECTLY RELATED TO THE OPERATION OF THE EXISTING ROADWAY LIGHTING SYSTEM BEING REMOVED, THAT DOES NOT IMPACT THE OPERATION OF AN EXISTING ITEM THAT SHALL REMAIN OPERATIONAL, SHALL BE REMOVED AS PART OF THE REMOVALS.</p> <p><b>SITE FINISHING/CLEAN-UP 9.0</b></p> <p>9.0.1 ALL GARBAGE, EXCESS MATERIAL AND SITE DEBRIS FROM THE ELECTRICAL INSTALLATIONS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OFF-SITE AT A MUNICIPAL APPROVED GARBAGE DISPOSAL FACILITY.</p> <p>9.0.2 COORDINATE RESTORATION OF SURFACE WORKS WITH CONTRACT ADMINISTRATOR AND FINISHING TRADES.</p>
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**LEGEND**

	EXISTING HYDRO POLE
	EXISTING HYDRO CABLE AERIAL (SECONDARY AND/OR PRIMARY)
	EXISTING LIGHTING CABLE UNDERGROUND
	EXISTING CABLE AERIAL (SECONDARY AND/OR PRIMARY)
	EXISTING FOOTING MOUNTED HYDRO TRANSFORMER
	EQUIPMENT IDENTIFICATION LABEL
	INSTALL RELOCATED ARM BRACKET AND NEW LUMINAIRE
	EXISTING POLE, EMBEDDED IN GROUND
	NEW POLE, EMBEDDED IN GROUND
	EXISTING LUMINAIRE AND ARM BRACKET
	NEW LUMINAIRE AND ARM BRACKET
	REMOVE EXISTING LUMINAIRE INSTALL NEW LUMINAIRE ON EXISTING ARM BRACKET
	EXISTING POST TOP LUMINAIRE, ON POLE
	EXISTING DUCT, BURIED IN GROUND
	NEW DUCT, BURIED IN GROUND
	DUCT TERMINATION POINT
	NEW LIGHTING CABLE AERIAL
	NEW CONNECTION TO HYDRO SECONDARY, BY HYDRO
	NEW ELECTRICAL CHAMBER
	NEW GROUND ELECTRODE
	NEW POWER SUPPLY IN-POLE BREAKER
	EQUIPMENT IDENTIFICATION LABEL
	NEW RISER CONDUIT ASSEMBLY ON POLE

PROJECT TITLE

COLBORNE STREET

DRAWING TITLE

GENERAL NOTES AND LEGEND

LOCATION

SIMCOE, NORFOLK COUNTY, ONTARIO

DATE NOVEMBER 2022

DRAWN AP

CHECKED GH

SCALE HOR. N/A  
VER. N/A

ISSUED FOR TENDER NOVEMBER 16, 2022

ISSUED FOR CONSTRUCTION

DWG. No. RL1 PROJECT No. 21-0204 REV. No. 0



DRAWING CROSS-REFERENCE:  
 SEE DRAWING 'RL1' FOR GENERAL NOTES AND LEGEND  
 SEE DRAWING 'RL2' FOR PERMANENT ROADWAY LIGHTING - CHARTS  
 SEE DRAWING 'RL3' FOR PERMANENT ROADWAY LIGHTING - LAYOUT

SUMMARY OF: POLES (STREET LIGHTING)																
GENERAL				LOCATION				SETTING			INSTALLATION					
PROJECT POLE No.	OWNER POLE No.	POLE OWNER	POLE USE	COORDINATES	DESCRIPTION	SIDE OF ROAD	ROAD NAME	CLEARANCE CONSTRAINTS	TYPE	DEPTH	ROTATION	STATUS	ACTION	MATERIAL	HEIGHT	
HP-1	SL2463	HYDRO	MULTI	N (Y) E (X)	N/A N/A	BOULEVARD	EAST	COLBORNE STREET NORTH	NOTE 'A1'	N/A	N/A	N/A	EXISTING	REMAIN	WOOD	UNKNOWN
HP-2	SL2462	HYDRO	MULTI	N (Y) E (X)	N/A N/A	BOULEVARD	EAST	COLBORNE STREET NORTH	NOTE 'A1'	N/A	N/A	N/A	EXISTING	REMAIN	WOOD	UNKNOWN
HP-3	SL2461	HYDRO	MULTI	N (Y) E (X)	N/A N/A	BOULEVARD	EAST	COLBORNE STREET NORTH	NOTE 'A1'	N/A	N/A	N/A	EXISTING	REMAIN	WOOD	UNKNOWN
HP-4	SL2460	HYDRO	MULTI	N (Y) E (X)	N/A N/A	BOULEVARD	EAST	COLBORNE STREET NORTH	NOTE 'A1'	N/A	N/A	N/A	EXISTING	REMAIN	WOOD	UNKNOWN
HP-5	SL2459	HYDRO	MULTI	N (Y) E (X)	N/A N/A	BOULEVARD	EAST	COLBORNE STREET NORTH	NOTE 'A1'	N/A	N/A	N/A	EXISTING	REMAIN	WOOD	UNKNOWN
HP-6	SL2458	HYDRO	MULTI	N (Y) E (X)	N/A N/A	BOULEVARD	EAST	COLBORNE STREET NORTH	NOTE 'A1'	N/A	N/A	N/A	EXISTING	REMAIN	WOOD	UNKNOWN
HP-7	SL2541	HYDRO	MULTI	N (Y) E (X)	N/A N/A	BOULEVARD	EAST	COLBORNE STREET NORTH	NOTE 'A1'	N/A	N/A	N/A	EXISTING	REMAIN	WOOD	UNKNOWN
NP-1	NOT ASSIGNED	COUNTY	SL	N (Y) 4743073.510 E (X) 556666.471	N/A	BOULEVARD	EAST	COLBORNE STREET NORTH	NOTE 'A1'	DIRECT EMBEDMENT	1.524m	OPSD 2220.01	NEW	INSTALL	CONCRETE	9.144m
NP-2	NOT ASSIGNED	COUNTY	SL	N (Y) 4743055.984 E (X) 556648.988	N/A	BOULEVARD	WEST	COLBORNE STREET NORTH	NOTE 'A1'	DIRECT EMBEDMENT	1.524m	OPSD 2220.01	NEW	INSTALL	CONCRETE	9.144m

NOTES:  
 A1. CLEARANCE TO UTILITIES SHALL BE IN ACCORDANCE WITH MUNICIPAL STANDARDS.

SUMMARY OF: ROADWAY LIGHTING EQUIPMENT ATTACHMENTS ON POLES (STREET LIGHTING)																															
MOUNTING ON:		ATTACHMENT 'A'											ATTACHMENT 'B'										ADDITIONAL ATTACHMENTS						NOTES		
PROJECT POLE No.	OWNER POLE No.	TYPE	STATUS	ACTION	HEIGHT	SIDE OF POLE	ROTATION	CLEARANCE CONSTRAINTS	MATERIAL	LENGTH	ATTACHMENT DETAIL	TYPE	STATUS	ACTION	TILT/ROLE	TYPE	LIGHT SOURCE	WATTAGE	OUTPUT DIAL POSITION	PHOTOMETRIC FILE	PHOTO CELL	ATTACHMENT DETAIL	POWER	SUPPLY	GROUND ELECTRODE	PLANTER	HANGER	GFCI		OUTLET	
																								DETAIL	DETAIL	DETAIL	DETAIL	DETAIL		DETAIL	
HP-1	SL2463	ARM BRACKET	EXISTING	REMAIN	N/A	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	46W	N/A	A	YES	NOTE 'B1'	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-
HP-2	SL2462	ARM BRACKET	EXISTING	REMAIN	N/A	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	46W	N/A	A	YES	NOTE 'B1'	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-
HP-3	SL2461	ARM BRACKET	EXISTING	REMAIN	N/A	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	46W	N/A	A	YES	NOTE 'B1'	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-
HP-4	SL2460	ARM BRACKET	EXISTING	REMAIN	N/A	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	46W	N/A	A	YES	NOTE 'B1'	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-
HP-5	SL2459	ARM BRACKET	EXISTING	REMAIN	N/A	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	46W	N/A	A	YES	NOTE 'B1'	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-
HP-6	SL2458	ARM BRACKET	EXISTING	REMAIN	N/A	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	46W	N/A	A	YES	NOTE 'B1'	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-
HP-7	SL2541	ARM BRACKET	EXISTING	REMAIN	N/A	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	59W	N/A	B	YES	NOTE 'B1'	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-
NP-1	NOT ASSIGNED	ARM BRACKET	NEW	INSTALL	NOTE 'B2'	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	59W	N/A	B	YES	NOTE 'B1'	YES	N/A	YES (2)	N/A	N/A	N/A	N/A	IN-POLE BREAKER	
NP-2	NOT ASSIGNED	ARM BRACKET	NEW	INSTALL	NOTE 'B2'	ROAD	PERPENDICULAR TO ROAD CL	N/A	ALUMINUM	3.0m	N/A	LUMINAIRE	NEW	INSTALL	NONE	CONVENTIONAL	LED	59W	N/A	B	YES	NOTE 'B1'	NO	N/A	YES (1)	N/A	N/A	N/A	N/A	-	

NOTES:  
 B1. LUMINAIRES SHALL BE INSTALLED IN ACCORDANCE WITH LUMINAIRE MANUFACTURERS STANDARDS.  
 B2. TOP BOLT SHALL BE THREADED THROUGH PRESET HOLE 300mm FROM TOP OF POLE.

SUMMARY OF: PHOTOMETRIC FILES			
REF. No.	FILE		NOTES
	MANUFACTURER	MANUFACTURERS IES FILE NAME	
A	GE	'ERL1_06B540_-----120-277V.IES'	-
B	GE	'ERL1_08B540_-----IES'	-

SUMMARY OF: ELECTRICAL CHAMBER															
JUNCTION BOX NUMBER	USE	LOCATION				CHAMBER					GROUND				NOTES
		ROAD NAME	STATION	DISTANCE FROM CL	DISTANCE FROM E/P	COORDINATES (TO CENTRE)	INSTL.	MAT.	DIA. / DIMENSION	CONSTRUCTION DETAIL	INSTALLATION DETAIL	INSTL.	TYPE	QTY.	
NEC-1	ROADWAY LIGHTING	COLBORNE STREET N.	0+657	X	2.8m	N 4743066.748 E 556650.848	NEW	CONC.	450	N/A	E-1.03	N/A	N/A	N/A	N/A



REVISIONS		
No	DATE	REMARKS



PROJECT TITLE  
 COLBORNE STREET

DRAWING TITLE  
 PERMANENT ROADWAY LIGHTING CHARTS

LOCATION  
 SIMCOE, NORFOLK COUNTY, ONTARIO

DATE: NOVEMBER 2022

DRAWN: AP

CHECKED: GH

SCALE: HOR. N/A  
VER. N/A

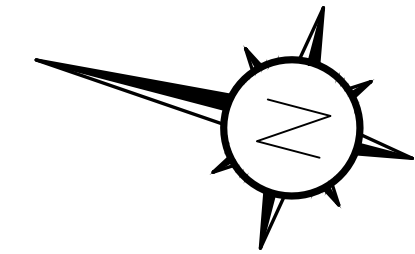
ISSUED FOR TENDER: NOVEMBER 16, 2022

ISSUED FOR CONSTRUCTION

DWG. No. | PROJECT No. | REV. No.  
 RL2 | 21-0204 | 0

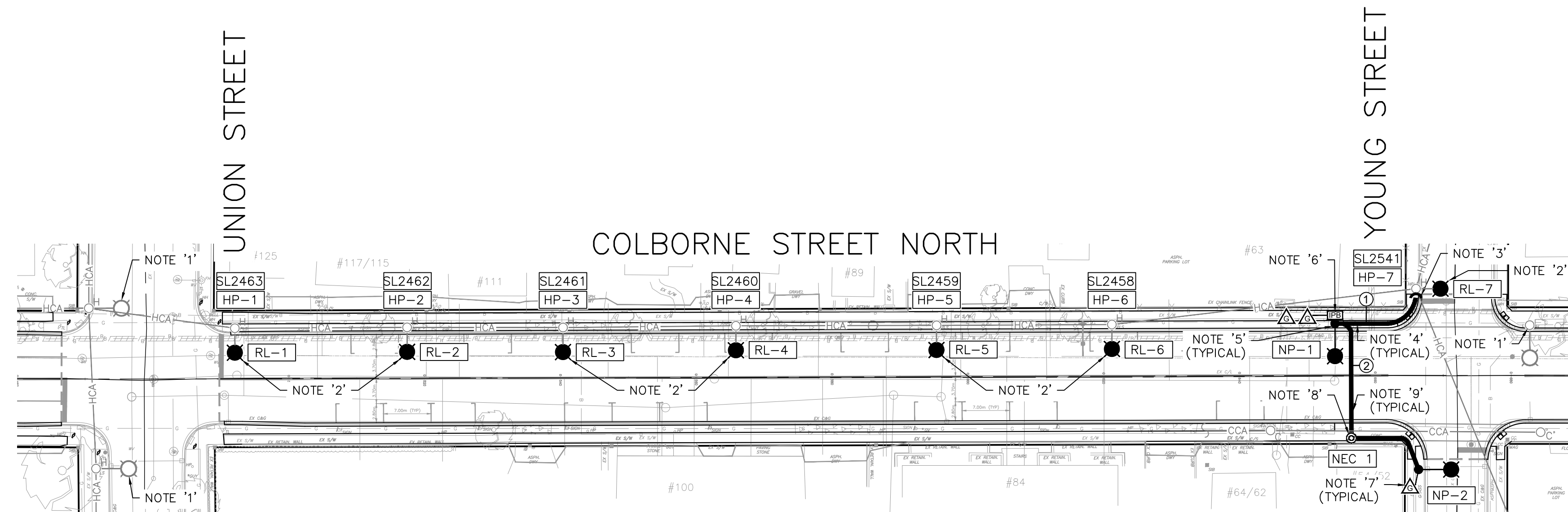


DRAWING CROSS-REFERENCE:  
 SEE DRAWING 'RL1' FOR GENERAL NOTES AND LEGEND  
 SEE DRAWING 'RL2' FOR PERMANENT ROADWAY LIGHTING - CHARTS  
 SEE DRAWING 'RL3' FOR PERMANENT ROADWAY LIGHTING - LAYOUT



SUMMARY OF: REMOVALS		
REMOVAL NUMBER	REMOVAL DESCRIPTION	REMOVAL INSTRUCTIONS
R-1	LUMINAIRE	DELIVER TO COUNTY
R-2	LUMINAIRE	DELIVER TO COUNTY
R-3	LUMINAIRE	DELIVER TO COUNTY
R-4	LUMINAIRE	DELIVER TO COUNTY
R-5	LUMINAIRE	DELIVER TO COUNTY
R-6	LUMINAIRE	DELIVER TO COUNTY
R-7	LUMINAIRE	DELIVER TO COUNTY
NOTE:	1. ALL MISCELLANEOUS AND SUNDRY ITEMS SHALL BE REMOVED AND DISPOSED. 2. DELIVERY LOCATION OF MATERIALS TO BE SALVAGED, IS LOCATED IN THE CONTRACT SPECIFICATION.	

CABLE/WIRING & DUCT LEGEND	
①	2-1/C #6 AWG LV FWR. 1-1/C #6 AWG IGRD 1-50mm RPVC PVC DUCT OC
②	2-1/C #6 AWG LV LTG. 1-1/C #6 AWG IGRD 1-50mm RPVC PVC DUCT OC



**NOTES (CONSTRUCTION/INSTALLATION):**

- EXISTING LIGHTING ASSEMBLY TO REMAIN.
- REMOVE EXISTING LUMINAIRE AND INSTALL NEW LUMINAIRE.
- SUPPLY AND INSTALL RISER DUCT SYSTEM ON EXISTING HYDRO POLES IN ACCORDANCE WITH DETAIL E-5.09.
- SUPPLY AND INSTALL DUCTS IN ACCORDANCE WITH OPSD 2100.050, 2101.01, AND 2103.02.
- SUPPLY AND INSTALL NEW LIGHTING ASSEMBLIES IN ACCORDANCE WITH 'SUMMARY OF: POLES (STREET LIGHTING) AND ROADWAY LIGHTING EQUIPMENT ATTACHMENTS ON POLES (STREET LIGHTING) CHARTS.
- SUPPLY AND INSTALL NEW POWER SUPPLY (N-POLE BREAKER) IN CONCRETE POLE.
- SUPPLY AND INSTALL GROUND ELECTRODES AT LIGHTING ASSEMBLIES IN ACCORDANCE WITH ESA REQUIREMENTS.
- SUPPLY AND INSTALL NEW ELECTRICAL CHAMBERS IN ACCORDANCE WITH DETAIL E-1.03.
- SUPPLY AND INSTALL CABLES IN DUCTS IN ACCORDANCE WITH ESA REQUIREMENTS AND 'SUMMARY OF: DUCTS AND CABLES' CHART.
- SUPPLY AND INSTALL FUSE HOLDER KIT WITH FUSE AND COMPLETE CONNECTIONS OF RUNNER CABLES TO RISER CABLES IN POLE HANDHOLE IN ACCORDANCE WITH OPSD 2255.010.

OWNER

DESIGNER

REVISIONS		
No	DATE	REMARKS

**NOT FOR CONSTRUCTION**  
 ISSUED FOR:  
 TENDER  
 NOVEMBER 16, 2022  
 TSL PR. No.: P-21.0204

PROJECT TITLE  
 COLBORNE STREET

DRAWING TITLE  
 PERMANENT ROADWAY LIGHTING LAYOUT

LOCATION  
 SIMCOE, NORFOLK COUNTY, ONTARIO

DATE NOVEMBER 2022  
 DRAWN AP  
 CHECKED GH  
 SCALE HOR: 1:500  
 VER: N/A  
 ISSUED FOR TENDER NOVEMBER 16, 2022  
 ISSUED FOR CONSTRUCTION

DWG. No. PROJECT No. REV. No.  
 RL3 | 21-0204 | 0



**DRAWING CROSS-REFERENCE:**

- SEE DRAWING 'TS1' FOR GENERAL NOTES AND LEGEND
- SEE DRAWING 'TS2' FOR EQUIPMENT - CHARTS
- SEE DRAWING 'TS3' FOR EXISTING TRAFFIC CONTROL - STAGE 1
- SEE DRAWING 'TS4' FOR EXISTING TRAFFIC CONTROL - STAGE 2
- SEE DRAWING 'TS5' FOR EXISTING TRAFFIC CONTROL - STAGE 3

**GENERAL NOTES**

**GENERAL 1.0**

- 1.1 INSTALLATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.
- 1.2 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THEY HAVE AN UP TO DATE SET OF THE CURRENT OPSD (ONTARIO PROVINCIAL STANDARD DRAWINGS) DRAWINGS, DETAILS AND SPECIFICATIONS. A COPY SHALL BE KEPT ON SITE AND UTILIZED FOR ELECTRICAL INSTALLATION COMPLIANCE.
- 1.3 THE MATERIAL REMOVED FROM TUNNELING UNDER THE EXISTING CURB AND GUTTER OR SIDEWALK MUST BE REPLACED BY TAMPING INTERMITTENTLY TO ENSURE PROPER COMPACTION WITH NO CAVITIES.
- 1.4 CONTRACTOR SHALL COORDINATE INSTALLATIONS OF ELECTRICAL EQUIPMENT/PLANT WITH ALL OTHER TRADES AND THE CONTRACT ADMINISTRATOR.
- 1.5 POLES, ELECTRICAL CHAMBERS, FOOTINGS AND ALL OTHER GRADE DEPENDANT EQUIPMENT SHALL NOT BE PLACED UNTIL THE CURB HAS BEEN PLACED AND FINAL GRADES ARE DETERMINED.
- 1.6 EXACT LOCATIONS OF UNDERGROUND UTILITIES AND ELECTRICAL DUCTS/CABLES SHALL BE DETERMINED ON SITE PRIOR TO COMMENCEMENT OF WORK.
- 1.7 ALL CONNECTIONS BETWEEN HANDWELLS AND CONCRETE POLE BASES FOR TRAFFIC SIGNAL POLES OR PEDESTRIAN POLES ARE TO BE MADE WITH 75mm Ø RIGID PVC CONDUIT UNLESS OTHERWISE INDICATED.
- 1.8 THE PEDESTRIAN HEADS ARE TO BE MOUNTED 2.75m ABOVE THE GROUND.
- 1.9 THE CONTRACTOR IS TO CONTACT THE APPROPRIATE HYDRO AUTHORITY FOR ALL CONNECTIONS TO AND/OR DISCONNECTIONS FROM POWER. INSTALLATION OF THE POWER SUPPLY AND THE POWER CONNECTION MUST BE COMPLETED VERY EARLY IN THE CONTRACT TO ENSURE THERE IS NO DELAY TO THE TRAFFIC SIGNAL AND/OR ILLUMINATION TURN ON.
- 1.10 GROUND PROPOSED POLES AND HANDWELL FRAMES USING NO. 6 AWG GREEN GROUND WIRE. POLES ARE TO BE CONNECTED TO SYSTEM GROUND WIRE IN THE NEAREST HANDWELL. CONNECTION IS TO BE MADE USING THERMIT WELD "T" SPLICE. CHECK THE RESISTANCE TO GROUND.
- 1.11 ALL LUMINAIRES ARE TO BE MOUNTED ON 1.8m MAST ARMS, UNLESS OTHERWISE SPECIFIED.
- 1.12 ALL CONDUIT THAT IS TO BE ABANDONED, UNDER THE EXISTING ROAD, MUST BE PLUGGED USING THE CONDUIT MANUFACTURER'S PLUGS.

**OPERATIONAL CONSTRAINTS 2.0**

- 2.1 INSTALLATIONS SHALL BE STAGED SUCH THAT THE EXISTING, TEMPORARY OR PERMANENT TRAFFIC SIGNALS AND STREET LIGHTING SYSTEMS ARE FULLY OPERATIONAL FROM DUSK UNTIL DAWN HOURS. THE EXISTING TRAFFIC SIGNAL AND LIGHTING SYSTEM SHALL REMAIN FULLY OPERATIONAL UNTIL THE TEMPORARY AND/OR PERMANENT TRAFFIC SIGNAL AND LIGHTING SYSTEM IS ENERGIZED AND OPERATIONAL. IF EXISTING CONDITIONS AND/OR STAGING DOES NOT PERMIT THE CONTINUOUS OPERATION OF THE EXISTING, TEMPORARY OR PERMANENT TRAFFIC AND LIGHTING SYSTEM, THE CONTRACTOR SHALL PROVIDE NECESSARY TEMPORARY MEASURES TO ENSURE LIGHTING SYSTEMS REMAIN OPERATIONAL.
- 2.2 THE CONTRACTOR SHALL PERFORM PERIODIC NIGHT INSPECTIONS TO ENSURE LIGHTING SYSTEMS ARE OPERATIONAL IN ACCORDANCE WITH THE LOCAL MUNICIPAL MAINTENANCE ACT, AS A MINIMUM.
- 2.3 IN THE EVENT THE STREET LIGHTING SYSTEM(S) ARE NOT OPERATIONAL (IN PART OR IN WHOLE) DURING A NIGHT INSPECTION, THE CONTRACTOR SHALL COMPLETE EMERGENCY ELECTRICAL WORKS TO RESTORE THE STREET LIGHTING SYSTEM(S). THE STREET LIGHTING SYSTEM OWNER/MUNICIPALITIES EMERGENCY STREET LIGHTING SERVICES MAINTENANCE CONTRACTOR SHALL BE CONTACTED TO ASSIST WITH THE WORKS AS REQUIRED.
- 2.4 THE EXISTING AND/OR TEMPORARY STREET LIGHTING SYSTEM(S) SHALL BE DISCONNECTED ONLY UPON ENERGIZATION OF THE PROPOSED TEMPORARY/PERMANENT STREET LIGHTING SYSTEM(S).
- 2.5 EXISTING TRAFFIC SIGNALS SHALL REMAIN FULLY OPERATIONAL UNTIL THE TEMPORARY TRAFFIC SIGNALS ARE COMPLETE AND READY FOR ACTIVATION. CONTRACTOR SHALL HAVE THE INTERSECTION CONTROL TAKEN OVER BY A PAY DUTY POLICE OFFICER. ONCE THE INTERSECTION IS UNDER THE CONTROL OF THE POLICE OFFICER, THE EXISTING SIGNALS CAN BE DE-ENERGIZED. THE CONTRACTOR SHALL MAINTAIN THE OPERATION OF THE INTERSECTION WITH A POLICE OFFICER UNTIL THE TEMPORARY SIGNALS ARE OPERATIONAL. ONCE THE TEMPORARY SIGNALS ARE OPERATIONAL THE POLICE OFFICER CAN BE DISMISSED.
- 2.6 TEMPORARY TRAFFIC SIGNALS SHALL REMAIN FULLY OPERATIONAL UNTIL THE PERMANENT TRAFFIC SIGNALS ARE COMPLETE AND READY FOR ACTIVATION. CONTRACTOR SHALL HAVE THE INTERSECTION CONTROL TAKEN OVER BY A PAY DUTY POLICE OFFICER. ONCE THE INTERSECTION IS UNDER THE CONTROL OF THE POLICE OFFICER, THE TEMPORARY SIGNALS CAN BE DE-ENERGIZED. THE CONTRACTOR SHALL MAINTAIN THE OPERATION OF THE INTERSECTION WITH A POLICE OFFICER UNTIL THE PERMANENT SIGNALS ARE OPERATIONAL. ONCE THE PERMANENT SIGNALS ARE OPERATIONAL THE POLICE OFFICER CAN BE DISMISSED.

**HYDRO/ESA COORDINATION FOR ENERGIZATION 3.0**

- 3.1 THE CONTRACTOR SHALL CONTACT THE HYDRO SUPPLY AUTHORITY TO OBTAIN AN UNDERSTANDING OF THE CURRENT PROCESS/PROCESSES REQUIRED TO BE COMPLETED IN ORDER TO ARRANGE AND HAVE COMPLETED ALL CONNECTIONS TO/DISCONNECTIONS FROM HYDRO SUPPLY POINTS (BY THE HYDRO SUPPLY AUTHORITY) AS REQUIRED TO FULFILL THE DESIGN INTENT AND COMPLETE THE PROCESS/PROCESSES REQUIRED.
- 3.2 THE CONTRACTOR SHALL CONTACT THE ELECTRICAL SAFETY AUTHORITY (ESA) TO OBTAIN AN UNDERSTANDING OF THE CURRENT PROCESS/PROCESSES REQUIRED TO COMPLETE ALL INSPECTIONS AND OBTAIN CLEARANCES REQUIRED FOR ALL APPLICABLE ELECTRICAL ITEMS INSTALLED AND COMPLETE THE PROCESS/PROCESSES REQUIRED.
- 3.3 THE CONTRACTOR IS TO CONTACT THE HYDRO SUPPLY AUTHORITY AND COORDINATE ALL CONNECTIONS TO/DISCONNECTIONS FROM POWER.
- 3.4 CONTACT/COMMUNICATION WITH THE HYDRO SUPPLY AUTHORITY/AUTHORITIES AND ELECTRICAL SAFETY AUTHORITY SHALL BE MADE EARLY IN THE CONTRACT TO AVOID DELAYS IN THE ENERGIZATION OF TEMPORARY AND/OR PERMANENT TRAFFIC SIGNALS AND STREET LIGHTING SYSTEMS. NO CLAIMS FOR EXTRAS DUE TO DELAYS WILL BE CONSIDERED FOR LATE COORDINATION.
- 3.5 TRAFFIC SIGNAL STREET LIGHTING SYSTEM ENERGIZATION AND SWITCH-OVERS FROM EXISTING TO TEMPORARY / TEMPORARY TO PERMANENT SHALL BE PLANNED FOR EARLY IN THE WORK DAY TO PROVIDE SUFFICIENT TIME TO RECTIFY DEFICIENCIES THAT WOULD PREVENT THE OPERATION OF THE ENERGIZED TRAFFIC SIGNAL AND LIGHTING SYSTEM.

**CLEARANCES 4.0**

- 4.0 ALL CLEARANCES TO HYDRO CONDUCTORS AND EQUIPMENT SHALL BE MAINTAINED IN ACCORDANCE WITH THE HYDRO AUTHORITY, CSA, ESA, OSG AND ALL GOVERNING CODES, STANDARDS AND REGULATIONS.
- 4.1 ALL CLEARANCES TO COMMUNICATION PLANT AND EQUIPMENT SHALL BE MAINTAINED IN ACCORDANCE WITH THE COMMUNICATION COMPANY, CSA, ESA, OSG AND ALL GOVERNING CODES, STANDARDS AND REGULATIONS.
- 4.2 ALL CLEARANCES TO MUNICIPAL SERVICES SHALL BE MAINTAINED IN ACCORDANCE WITH THE MUNICIPAL STANDARDS, CSA, ESA, OSG AND ALL GOVERNING CODES, STANDARDS AND REGULATIONS.
- 4.3 IF IT IS NECESSARY FOR THE CONTRACTOR TO WORK WITHIN THE LIMITS SET OUT IN THE OCCUPATIONAL SAFETY GROUP INC. (OSG) "THE GREEN BOOK", THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE AUTHORITY IN WHICH THE WORK LIMITS ARE BEING ENCRAGED ON. ALL STAFF COMPLETING SUCH WORK SHALL BE QUALIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF "THE GREEN BOOK" AND THE HYDRO AUTHORITY. THE CONTRACTOR SHALL COORDINATE TO HAVE THE HYDRO SUPPLY AUTHORITY AND/OR UTILITY OWNER PRESENT FOR THEIR ASSISTANCE TO DO THE WORK, AS REQUIRED.

**QUALIFICATIONS 5.0**

- 5.0 THE CONTRACTOR'S EMPLOYEES COMPLETING ALL WORK SHALL MEET ALL QUALIFICATIONS TO DO SUCH WORK AS SET OUT BY MINISTRY OF LABOUR ONTARIO.

**REMOVALS OF EXISTING TRAFFIC SIGNALS 6.0**

- 6.1 CONTRACTOR SHALL COORDINATE WITH THE EXISTING TRAFFIC SIGNALS SYSTEM OWNER AND/OR HYDRO SUPPLY AUTHORITY FOR THE DISCONNECTION AND ISOLATION ALL TRAFFIC SIGNAL SYSTEMS BEING MODIFIED AND/OR REMOVALS/RELOCATIONS COMPLETED.
- 6.2 ALL TRAFFIC SIGNAL SYSTEMS BEING WORKED ON SHALL BE DE-ENERGIZED AT THE POWER SOURCE PRIOR TO COMMENCEMENT OF WORK.
- 6.3 REMOVALS OF TRAFFIC SIGNAL CABLES WITHIN JOINT USE ELECTRICAL CHAMBERS AND DUCTS SHALL BE COORDINATED WITH THE EQUIPMENT/ INFRASTRUCTURE OWNER.
- 6.4 REMOVALS OF TRAFFIC SIGNAL POLES WITH 3RD PARTY ATTACHMENTS SHALL BE COORDINATED WITH THE APPROPRIATE ATTACHERS, REMOVALS, AND STAGING.
- 6.5 ALL HOLES LEFT FROM THE REMOVAL OF TRAFFIC SIGNAL EQUIPMENT SHALL BE FILLED WITH EITHER GRANULAR 'A' COMPACTED TO 100% STANDARD PROCTOR DENSITY OR EARTH COMPACTED TO 95% OF M.D.D. DEPENDING ON WHAT THE LOCAL MATERIAL IS, UNLESS OTHERWISE NOTED.
- 6.6 ANY AND ALL ELECTRICAL EQUIPMENT THAT IS DIRECTLY RELATED TO THE OPERATION OF THE EXISTING TRAFFIC SIGNALS SYSTEM BEING REMOVED THAT DOES NOT IMPACT THE OPERATION OF AN EXISTING ITEMS TO REMAIN OPERATIONAL SHALL BE REMOVED AS PART OF THE REMOVALS.

**SITE FINISHING/CLEAN-UP 7.0**

- 7.1 ALL GARBAGE, EXCESS MATERIAL AND SITE DEBRIS FROM THE ELECTRICAL INSTALLATIONS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OFF-SITE AT A MUNICIPAL APPROVED GARBAGE DISPOSAL FACILITY.
- 7.2 SONOTUBES SHALL BE REMOVED TO 100mm BELOW FINISHED GRADE UPON SETTING OF CONCRETE FOR ELECTRICAL INSTALLATIONS UTILIZING SONOTUBES.
- 7.3 COORDINATE RESTORATION OF SURFACE WORKS WITH CONTRACT ADMINISTRATOR AND FINISHING TRADES.

**LEGEND**

EXISTING	TEMPORARY	PERMANENT
○ HP EXISTING POLE, EMBEDDED IN GROUND	⊠ TEMPORARY PEDESTRIAN STAND	● NEW POLE EMBEDDED IN GROUND
○ RL EXISTING POLE, EMBEDDED IN GROUND	● NEW TRAFFIC SIGNAL POLE, BY DIRECT EMBEDMENT	● NEW TRAFFIC SIGNAL POLE, FOOTING AND ANCHORAGE ASSEMBLY
⏏ EXISTING PEDESTRIAN SIGNAL HEAD (TYPE 'STD'), MOUNTED ON DOUBLE ARM BRACKET	● PEDESTRIAN PUSH BUTTON	● NEW ACCESSIBLE PEDESTRIAN SIGNAL (APS) UNIT, MOUNTED ON POLE
⏏ EXISTING PEDESTRIAN PUSHBUTTON (TYPE 'STD'), MOUNTED ON POLE	⏏ NEW PEDESTRIAN SIGNAL HEADS (WITH COUNTDOWN) AND DOUBLE ARM BRACKETS	⏏ NEW PEDESTRIAN SIGNAL HEADS (WITH COUNTDOWN) AND DOUBLE ARM BRACKETS
TS ○ EXISTING TRAFFIC SIGNAL POLE	⏏ NEW TRAFFIC SIGNAL HEAD - TYPE 'HWY' AND SUSPENSION CLAMPS	2.4m NEW TRAFFIC SIGNAL MAST ARM, MOUNTED ON POLE
▽ EXISTING TRAFFIC SIGNAL HEAD (TYPE 'STD'), MOUNTED ON DOUBLE ARM BRACKET OR POLE	▽ NEW TRAFFIC SIGNAL HEAD - TYPE 9A	▪ NEW TRAFFIC SIGNAL HEAD MOUNTING HARDWARE (HANGER)
▽ EXISTING TRAFFIC SIGNAL HEAD (TYPE 'HWY'), MOUNTED ON TRAFFIC SIGNAL MAST ARM	▽ TEMPORARY AERIAL TRAFFIC CABLE	— NEW TRAFFIC SIGNAL HEAD MOUNTING HARDWARE (PLUMBIZER)
▽ EXISTING TRAFFIC SIGNAL HEAD (TYPE 'HWY'), MOUNTED ON TRAFFIC SIGNAL MAST ARM	▽ NEW OVERSIZE HIGHWAY TRAFFIC SIGNAL HEAD	▽ NEW TRAFFIC SIGNAL HEAD - TYPE 'HWY'
▽ EXISTING OVERSIZED STREET NAME SIGN, MOUNTED ON TRAFFIC SIGNAL MAST ARM	△ TEMPORARY GROUND ELECTRODE	▽ NEW TRAFFIC SIGNAL HEAD - TYPE 'OVERSIZE HWY'
⏏ EXISTING JUNCTION BOX, IMBEDDED IN GROUND	⏏ TEMPORARY TRAFFIC SIGNAL CONTROLLER POLE MOUNTED	⏏ NEW TRAFFIC SIGNAL HEAD - TYPE 9A
— EXISTING DUCT, BURIED IN GROUND	⏏ TEMPORARY TRAFFIC SIGNAL CONTROLLER AND FOOTING	⏏ NEW OVERSIZE STREET NAME SIGN
△ EXISTING GROUND ELECTRODE	⏏ TEMPORARY LUMINAIRE AND ARM BRACKET	★ NEW DETECTION DEVICE (WAVETRONIX)
⏏ EXISTING TRAFFIC SIGNAL CONTROLLER	— TEMPORARY SINGLE GUY ANCHOR	▨ NEW DETECTION DEVICE (WAVETRONIX)
⏏ EXISTING POWER SUPPLY, MOUNTED ON POLE	— TEMPORARY DOUBLE GUY ANCHOR	— NEW LUMINAIRE AND ARM BRACKET
⏏ EXISTING LUMINAIRE AND ARM BRACKET	— TEMPORARY SINGLE STRUT GUY ANCHOR	— REMOVE EXISTING LUMINAIRE INSTALL NEW LUMINAIRE ON EXISTING ARM BRACKET
⏏ EXISTING POST TOP LUMINAIRE, ON POLE	— TEMPORARY DOUBLE STRUT GUY ANCHOR	— NEW DUCT BURIED IN GROUND INSTALLED BY OPEN-CUT METHOD
— EXISTING SINGLE GUY ANCHOR	— OVERHEAD AUDIBLE PEDESTRIAN SIGNAL	● NEW 675mm HANDWELL
— EXISTING DOUBLE GUY ANCHOR		⊙ NEW ELECTRICAL CHAMBER
— EXISTING STRUT GUY ANCHOR		⏏ NEW JUNCTION BOX
⏏ EXISTING TRANSFORMER, MOUNTED ON CONCRETE FOOTING		△ NEW GROUND ELECTRODE
— EXISTING LIGHTING CABLE/DUCT UNDERGROUND		⏏ NEW TRAFFIC SIGNAL CONTROLLER AND FOOTING
		⏏ NEW CONTROLLER FOOTING
		⏏ NEW POWER SUPPLY, POLE MOUNTED
		⏏ NEW POWER SUPPLY PEDESTAL AND FOOTING
		★ NEW SIGN AND POST
		~ NEW AERIAL TRAFFIC CABLE
		^ NEW DUCT RISER ASSEMBLY ON POLE

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REVISIONS

No	DATE	REMARKS



PROJECT TITLE

COLBORNE STREET NORTH AND ROBINSON STREET

DRAWING TITLE

GENERAL NOTES AND LEGEND

LOCATION

SIMCOE, NORFOLK COUNTY, ONTARIO

DATE NOVEMBER 2022

DRAWN AP

CHECKED KS

SCALE HOR. N/A VER. N/A

ISSUED FOR TENDER NOVEMBER 16, 2022

ISSUED FOR CONSTRUCTION

DWG. No. PROJECT No. REV. No.  
TS1 | 21-0204 | 0



**DRAWING CROSS-REFERENCE:**

SEE DRAWING 'TS1' FOR GENERAL NOTES AND LEGEND  
 SEE DRAWING 'TS2' FOR EQUIPMENT - CHARTS  
 SEE DRAWING 'TS3' FOR EXISTING TRAFFIC CONTROL - STAGE 1  
 SEE DRAWING 'TS4' FOR EXISTING TRAFFIC CONTROL - STAGE 2  
 SEE DRAWING 'TS5' FOR EXISTING TRAFFIC CONTROL - STAGE 3

POLES & ELECTRICAL STRUCTURES						
NOTE: ALL DIMENSIONS ARE TO THE CENTRE OF POLE BASES, POLES, HANDWELLS ETC.						
LOCATION	POLE OR STRUCT. No.	STATION	O/S FROM C	FROM PARALLEL TO E/P	STANDARDS	COMMENTS
COLBORNE ST	EP-01	0+788.3	N/A	N/A	E-3.06, E-3.30	INSTALL APS & LED PED HEAD WITH COUNTDOWN
ROBINSON ST	EP-02	0+792.3	N/A	N/A	E-3.06, E-3.30	INSTALL APS & LED PED HEAD WITH COUNTDOWN
ROBINSON ST	EP-03	0+808.4	N/A	N/A	E-3.06, E-3.30	INSTALL APS & LED PED HEAD WITH COUNTDOWN
COLBORNE ST	EP-04	0+812.9	N/A	N/A	E-3.06, E-3.30	INSTALL APS & LED PED HEAD WITH COUNTDOWN
COLBORNE ST	EP-05	0+812.6	N/A	N/A	E-3.06, E-3.30	INSTALL APS & LED PED HEAD WITH COUNTDOWN
ROBINSON ST	EP-06	0+807.6	N/A	N/A	E-3.06, E-3.30	INSTALL APS & LED PED HEAD WITH COUNTDOWN
ROBINSON ST	EP-07	0+793.9	N/A	N/A	E-3.06, E-3.30	INSTALL APS & LED PED HEAD WITH COUNTDOWN
COLBORNE ST	EP-08	0+788.5	N/A	N/A	E-3.06, E-3.30	INSTALL APS & LED PED HEAD WITH COUNTDOWN
COLBORNE ST	PHW1	0+790.2	N/A	3.1m	E-1.04	INSTALL 1 GROUND ROD
COLBORNE ST	PHW2	0+810.8	N/A	2.2m	E-1.03	INSTALL 1 GROUND ROD
COLBORNE ST	PHW3	0+810.8	N/A	2.2m	E-1.03	INSTALL 1 GROUND ROD
COLBORNE ST	PHW4	0+790.2	N/A	3.2m	E-1.03	INSTALL 1 GROUND ROD
COLBORNE ST	TC1	N/A	N/A	N/A	E-3.09, E-3.09A	
COLBORNE ST	SP1	0+760	N/A	1.0m		INSTALL 4 GROUND RODS

POLE ASSEMBLIES						
POLE NO.	POLE DESCRIPTION	TRAFFIC SIGNAL MAST ARM	PLUMBIZER/BACKET	LUMINAIRE MAST ARM	LUMINAIRE	COMMENTS
EP-01			1 VERTICAL BRACKET	KA-176-LS-BLK	25W LED	DECORATIVE COACH LIGHT
EP-02			1 VERTICAL BRACKET	KA-176-LS-BLK	25W LED	DECORATIVE COACH LIGHT
EP-03			1 VERTICAL BRACKET	KA-176-LS-BLK	40W LED	DECORATIVE COACH LIGHT
EP-04			1 VERTICAL BRACKET	KA-176-LS-BLK	25W LED	DECORATIVE COACH LIGHT
EP-05			1 VERTICAL BRACKET	KA-176-LS-BLK	25W LED	DECORATIVE COACH LIGHT
EP-06			1 VERTICAL BRACKET	KA-176-LS-BLK	25W LED	DECORATIVE COACH LIGHT
EP-07			1 VERTICAL BRACKET	KA-176-LS-BLK	40W LED	DECORATIVE COACH LIGHT
EP-08			1 VERTICAL BRACKET	KA-176-LS-BLK	25W LED	DECORATIVE COACH LIGHT

OWNER



DESIGNER



REVISIONS

No	DATE	REMARKS



PROJECT TITLE  
 COLBORNE STREET  
 NORTH AND  
 ROBINSON STREET

DRAWING TITLE  
 CHARTS

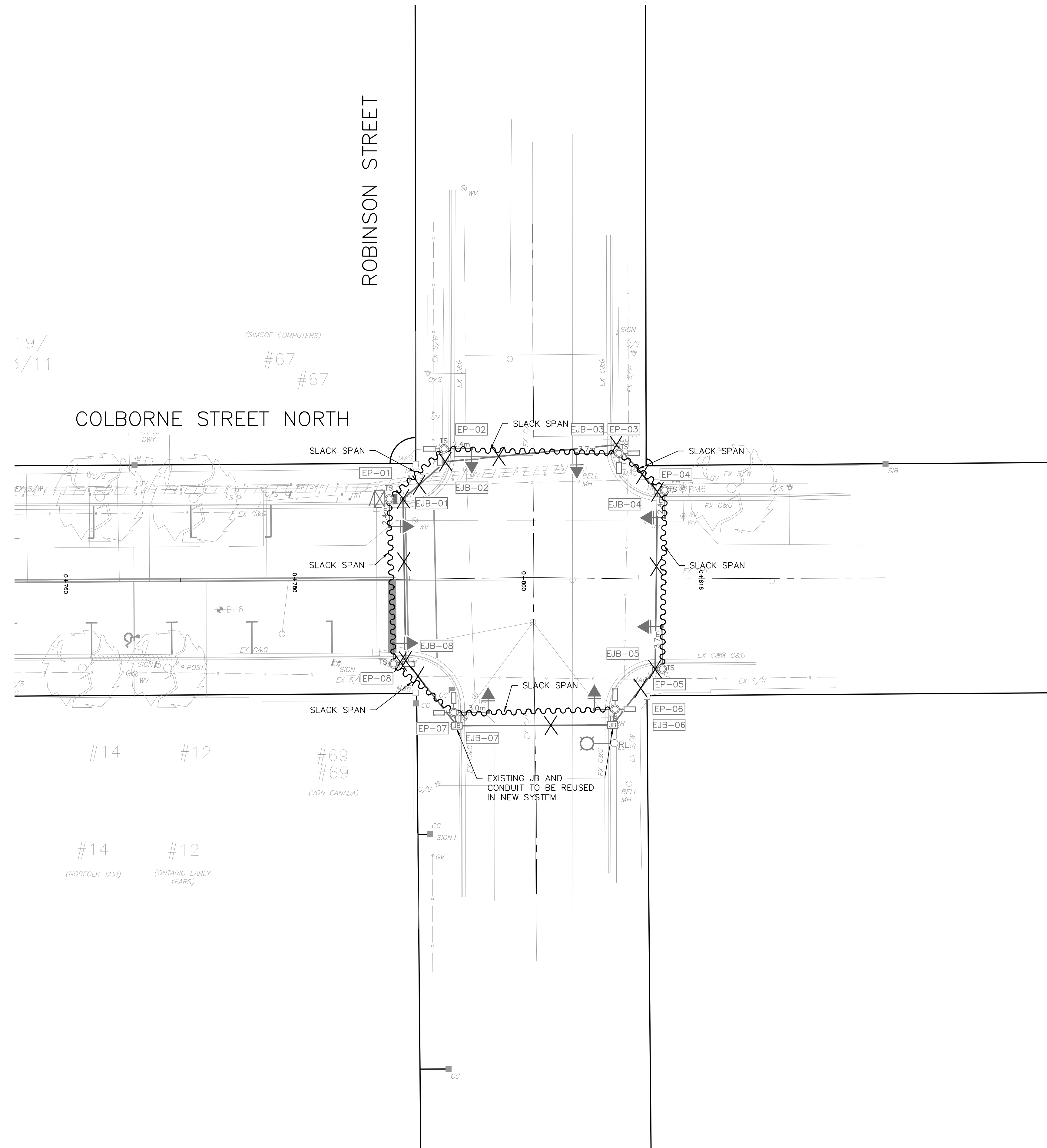
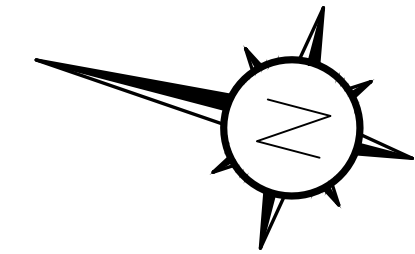
LOCATION  
 SIMCOE, NORFOLK  
 COUNTY, ONTARIO

DATE NOVEMBER 2022  
 DRAWN AP  
 CHECKED KS  
 SCALE HOR. N/A  
 VER. N/A  
 ISSUED FOR TENDER NOVEMBER 16, 2022  
 ISSUED FOR CONSTRUCTION

DWG. No. PROJECT No. REV. No.  
 TS2 21-0204 0



DRAWING CROSS-REFERENCE:  
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 SEE DRAWING 'TS2' FOR EQUIPMENT - CHARTS  
 SEE DRAWING 'TS3' FOR EXISTING TRAFFIC CONTROL - STAGE 1  
 SEE DRAWING 'TS4' FOR EXISTING TRAFFIC CONTROL - STAGE 2  
 SEE DRAWING 'TS5' FOR EXISTING TRAFFIC CONTROL - STAGE 3



- NOTES (STAGE 1):**
1. INSTALL AERIAL TRAFFIC SIGNAL CABLE AND REMOVE EXISTING UNDERGROUND WIRING.
  2. OVERHEAD SLACK SPAN TO CONSIST OF 12 CONDUCTOR TRAFFIC SIGNAL CABLE, GROUND WIRE (TYPICAL) (NO STEEL MESSENGER).
  3. WITH TRAFFIC CONTROL (PAID DUTY OFFICER) TRAFFIC SIGNALS TO BE CUT OVER FROM EXISTING TO TEMPORARY FEED.
  4. ALL WIRING TO BE REMOVED FROM EXISTING CONDUIT AND CONDUIT TO BE ABANDONED.
  5. 'EJB-06' AND 'EJB-07' TO REMAIN.
  6. 'EJB-06' AND 'EJB-07' AND CONDUIT BETWEEN 'EJB-06' AND 'EP-06', 'EJB-07' AND 'EP-07' TO BE REUSED.
  7. MAINTAIN POWER SOURCE TO BIA SECURITY CAMERA ON POLE EP-06 THROUGHOUT CONSTRUCTION.
  8. THE EXISTING POWER SOURCE IS LOCATED AT THE NORTHEAST CORNER OF THE ROBINSON ST. & KENT ST. NORTH. THE WIRING FOR THE TRAFFIC SIGNALS POWER SOURCE IS RUN UNDERGROUND.

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PROJECT TITLE  
 COLBORNE STREET  
 NORTH AND  
 ROBINSON STREET

DRAWING TITLE  
 TEMPORARY AERIAL  
 FEED AND REMOVAL  
 OF EXISTING STAGE 1

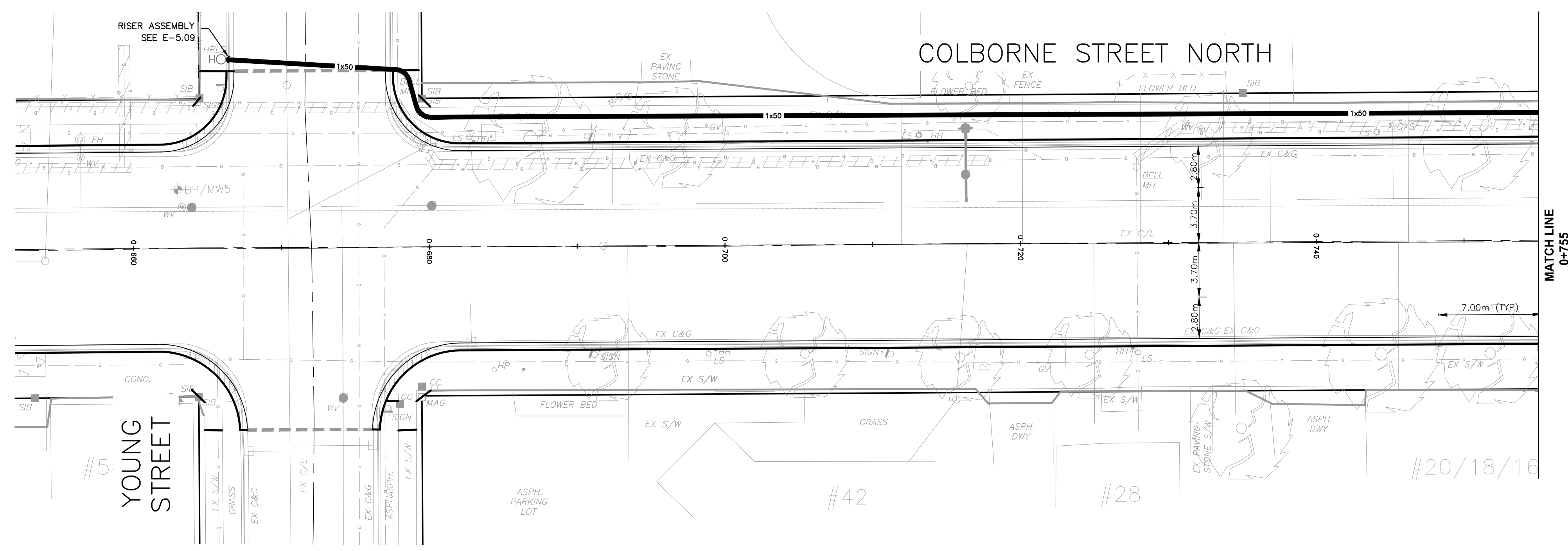
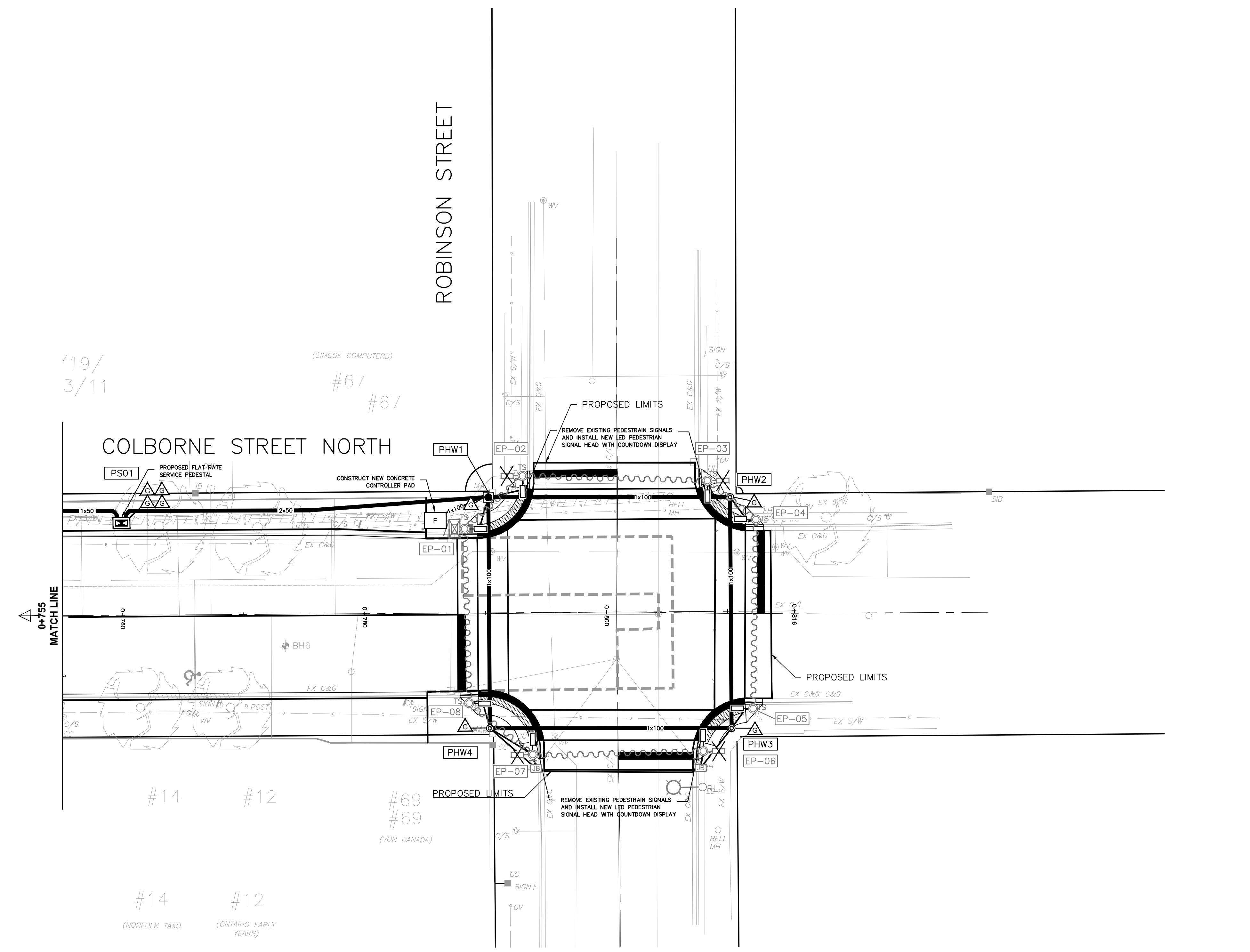
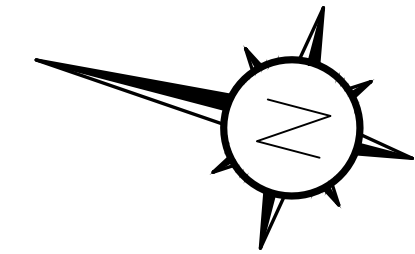
LOCATION  
 SIMCOE, NORFOLK  
 COUNTY, ONTARIO

DATE NOVEMBER 2022  
 DRAWN AP  
 CHECKED KS  
 SCALE HOR: 1:200  
 VER: N/A  
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DWG. No. PROJECT No. REV. No.  
 TS3 | 21-0204 | 0



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 SEE DRAWING 'TS5' FOR EXISTING TRAFFIC CONTROL - STAGE 3



- NOTES (STAGE 2):**
- INSTALL NEW SERVICE PEDESTAL FOOTING AND ASSOCIATED CONDUIT, AND GROUND GRID.
  - INSTALL NEW 100mm DIAMETER CONDUIT BETWEEN NEW HANDWELLS 'PHW1' THROUGH 'PHW4' AS SHOWN ON THE DRAWING.
  - CONSTRUCT CONCRETE PAD FOR TRAFFIC CONTROLLER AND UPS IN ACCORDANCE WITH E-3.09 AND E-3.09A.
  - REMOVE AND SALVAGE EXISTING PEDESTRIAN SIGNAL HEADS. REPLACE EXISTING PEDESTRIAN SIGNAL HEADS WITH NEW LED PEDESTRIAN SIGNAL HEADS WITH COUNTDOWN DISPLAY.
  - TIE IN EXISTING POLE BASES TO NEW HANDWELLS USING EXITING SLEEVES IN CONCRETE POLE BASES.
  - MAINTAIN POWER SOURCE TO BIA CAMERA THROUGHOUT CONSTRUCTION ON POLE 'EP-06'.
  - THE EXISTING POWER SOURCE IS LOCATED AT THE NORTHEAST CORNER OF THE ROBINSON ST. & KENT ST. NORTH. THE WIRING FOR THE TRAFFIC SIGNALS POWER SOURCE IS RUN UNDERGROUND TO THE CONTROLLER.

OWNER  
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PROJECT TITLE  
**COLBORNE STREET NORTH AND ROBINSON STREET**

DRAWING TITLE  
**REVISION TO EXISTING TRAFFIC CONTROL SIGNALS STAGE 2**

LOCATION  
**SIMCOE, NORFOLK COUNTY, ONTARIO**

DATE  
 NOVEMBER 2022

DRAWN  
 AP

CHECKED  
 KS

SCALE  
 HOR. 1:200  
 VER. N/A

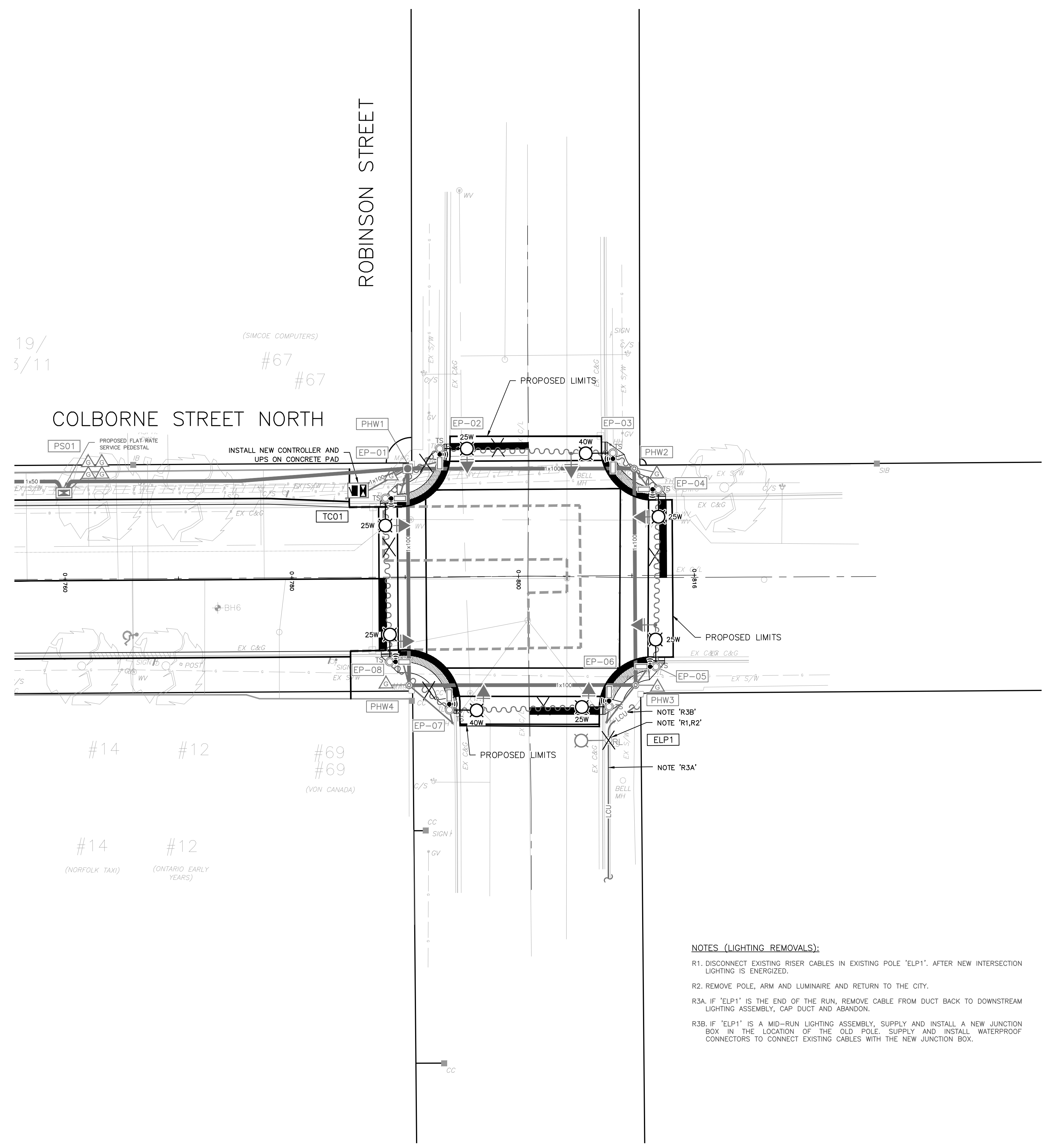
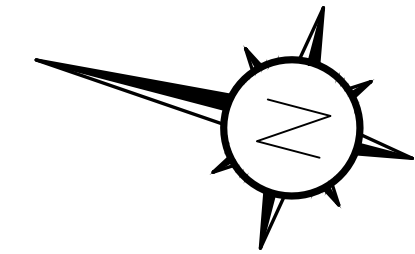
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ISSUED FOR CONSTRUCTION

DWG. No. | PROJECT No. | REV. No.  
 TS4 | 21-0204 | 0



DRAWING CROSS-REFERENCE:  
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 SEE DRAWING 'TS2' FOR EQUIPMENT - CHARTS  
 SEE DRAWING 'TS3' FOR EXISTING TRAFFIC CONTROL - STAGE 1  
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 SEE DRAWING 'TS5' FOR EXISTING TRAFFIC CONTROL - STAGE 3



19/  
3/11

(SIMCOE COMPUTERS)  
#67  
#67

COLBORNE STREET NORTH

ROBINSON STREET

#14 #12 #69 #69  
(NORFOLK TAXI) (ONTARIO EARLY YEARS)  
(VON CANADA)

**NOTES (LIGHTING REMOVALS):**  
 R1. DISCONNECT EXISTING RISER CABLES IN EXISTING POLE 'ELP1'. AFTER NEW INTERSECTION LIGHTING IS ENERGIZED.  
 R2. REMOVE POLE, ARM AND LUMINAIRE AND RETURN TO THE CITY.  
 R3A. IF 'ELP1' IS THE END OF THE RUN, REMOVE CABLE FROM DUCT BACK TO DOWNSTREAM LIGHTING ASSEMBLY, CAP DUCT AND ABANDON.  
 R3B. IF 'ELP1' IS A MID-RUN LIGHTING ASSEMBLY, SUPPLY AND INSTALL A NEW JUNCTION BOX IN THE LOCATION OF THE OLD POLE. SUPPLY AND INSTALL WATERPROOF CONNECTORS TO CONNECT EXISTING CABLES WITH THE NEW JUNCTION BOX.

**NOTES (STAGE 3):**  
 1. INSTALL NEW UNDERGROUND WIRING AND CABLE AS REQUIRED.  
 2. ONCE NEW POWER SOURCE HAS BEEN CONNECTED, CONTROLLER, UPS TO BE RELOCATED TO CONCRETE PAD, WIRING TO BE CUT OVER FROM AERIAL TO UNDERGROUND.  
 3. INSTALL AND CONNECT AUDIBLE PEDESTRIAN SIGNAL STATIONS.  
 4. REMOVE TEMPORARY AERIAL WIRING.  
 5. EXISTING POWER SOURCE TO BE DISCONNECTED AT SOURCE.  
 6. MAINTAIN POWER SOURCE TO BIA CAMERA THROUGHOUT CONSTRUCTION ON POLE 'EP-06'.  
 7. THE EXISTING POWER SOURCE IS LOCATED AT THE NORTHEAST CORNER OF THE ROBINSON ST. KENT ST. NORTH. THE WIRING FOR THE TRAFFIC SIGNALS POWER SOURCE IS RUN UNDERGROUND TO THE CONTROLLER.  
 8. EXISTING CONTROLLER TO BE REMOVED AND SALVAGED AND RETURNED TO THE COUNTY.

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PROJECT TITLE  
 COLBORNE STREET  
 NORTH AND  
 ROBINSON STREET

DRAWING TITLE  
 REVISION TO EXISTING  
 TRAFFIC CONTROL  
 SIGNALS STAGE 3

LOCATION  
 SIMCOE, NORFOLK  
 COUNTY, ONTARIO

DATE NOVEMBER 2022  
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