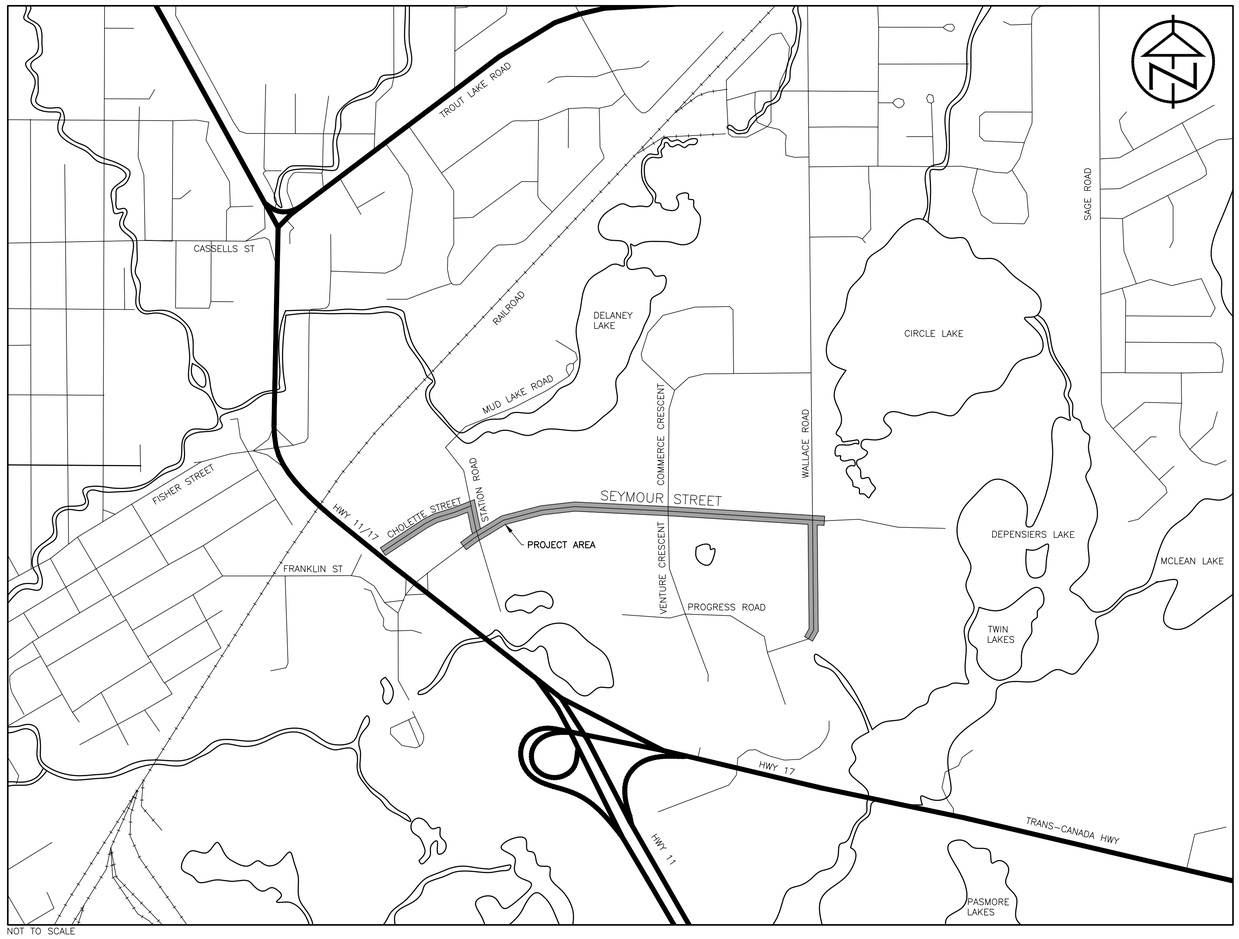
SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

TENDER NO. 2025-068



TATHAM ENGINEERING

ISSUED FOR CONSTRUCTION

JULY 2025
PROJECT 124112

NORTH BAY
ONTARIO · CANADA

ISSUED FOR CONSTRUCTION
JULY 2025
PROJECT 124112

TATHAM ENGINEERING

INDEX

SHEET	DRAWING	DESCRIPTION		
1	TP.1	TITLE PAGE		
2	IN.1	DRAWING INDEX & LEGEND		
3	GP.1	GENERAL PLAN		
4	RM.1	REMOVALS PLAN & PROFILE	SEYMOUR STREET	STA. 0+990 TO 1+160
5	RM.2	REMOVALS PLAN & PROFILE	SEYMOUR STREET	STA. 1+160 TO 1+280
6	RM.3	REMOVALS PLAN & PROFILE	SEYMOUR STREET	STA. 1+280 TO 1+420
7	RM.4	REMOVALS PLAN & PROFILE	SEYMOUR STREET	STA. 1+420 TO 1+560
8	RM.5	REMOVALS PLAN & PROFILE	SEYMOUR STREET	STA. 1+560 TO 1+700
9	RM.6	REMOVALS PLAN & PROFILE	SEYMOUR STREET	STA. 1+700 TO 1+840
10	RM.7	REMOVALS PLAN & PROFILE	SEYMOUR STREET	STA. 1+840 TO 1+980
11	RM.8	REMOVALS PLAN & PROFILE	SEYMOUR STREET	STA. 1+980 TO 2+120
12	RM.9	REMOVALS PLAN & PROFILE	CHOLETTE STREET	STA. 3+000 TO 3+120
13	RM.10	REMOVALS PLAN & PROFILE	CHOLETTE STREET	STA. 3+120 TO 3+260
14	RM.11	REMOVALS PLAN & PROFILE	CHOLETTE STREET	STA. 3+260 TO 3+300
15	RM.12	REMOVALS PLAN & PROFILE	STATION ROAD	STA. 4+000 TO 4+060
16	RM.13	REMOVALS PLAN & PROFILE	COMMERCE AND VENTURE CRESCENT	STA. 5+000 TO 5+100
17	RM.14	REMOVALS PLAN & PROFILE	WALLACE ROAD	STA. 6+000 TO 6+130
18	RM.15	REMOVALS PLAN & PROFILE	WALLACE ROAD	STA. 6+130 TO 6+270
19	RM.16	REMOVALS PLAN & PROFILE	WALLACE ROAD	STA. 6+270 TO 6+380
20	PP.1	PLAN & PROFILE	SEYMOUR STREET	STA. 1+000 TO 1+160
21	PP.2	PLAN & PROFILE	SEYMOUR STREET	STA. 1+160 TO 1+280
22	PP.3	PLAN & PROFILE	SEYMOUR STREET	STA. 1+280 TO 1+420
23	PP.4	PLAN & PROFILE	SEYMOUR STREET	STA. 1+420 TO 1+560
24	PP.5	PLAN & PROFILE	SEYMOUR STREET	STA. 1+560 TO 1+700
25	PP.6	PLAN & PROFILE	SEYMOUR STREET	STA. 1+700 TO 1+840
26	PP.7	PLAN & PROFILE	SEYMOUR STREET	STA. 1+840 TO 1+980
27	PP.8	PLAN & PROFILE	SEYMOUR STREET	STA. 1+980 TO 2+120
28	PP.9	PLAN & PROFILE	CHOLETTE STREET	STA. 3+000 TO 3+120
29	PP.10	PLAN & PROFILE	CHOLETTE STREET	STA. 3+120 TO 3+260
30	PP.11	PLAN & PROFILE	CHOLETTE STREET	STA. 3+260 TO 3+300
31	PP.12	PLAN & PROFILE	STATION ROAD	STA. 4+000 TO 4+060
32	PP.13	PLAN & PROFILE	COMMERCE AND VENTURE CRESCENT	STA. 5+000 TO 5+100
33	PP.14	PLAN AND PROFILE	WALLACE ROAD	STA. 6+000 TO 6+130
34	PP.15	PLAN AND PROFILE	WALLACE ROAD	STA. 6+130 TO 6+270
35	PP.16	PLAN AND PROFILE	WALLACE ROAD	STA. 6+270 TO 6+390
36	PM.1	PAVEMENT MARKINGS	SEYMOUR STREET	STA. 0+090 TO 1+280
37	PM.2	PAVEMENT MARKINGS	SEYMOUR STREET	STA. 1+280 TO 1+560
38	PM.3	PAVEMENT MARKINGS	SEYMOUR STREET	STA. 1+560 TO 1+840
39	PM.4	PAVEMENT MARKINGS	SEYMOUR STREET	STA. 1+840 TO 2+120
40	PM.5	PAVEMENT MARKINGS	CHOLETTE STREET	STA. 3+000 TO 3+300
41	SI.1	SIGN SCHEDULE		
42	XS.1	CROSS SECTION	SEYMOUR STREET	STA. 1+000 TO 1+060
43	XS.2	CROSS SECTION	SEYMOUR STREET	STA. 1+070 TO 1+160
44	XS.3	CROSS SECTION	SEYMOUR STREET	STA. 1+170 TO 1+240
45	XS.4	CROSS SECTION	SEYMOUR STREET	STA. 1+250 TO 1+320
46	XS.5	CROSS SECTION	SEYMOUR STREET	STA. 1+330 TO 1+400
47	XS.6	CROSS SECTION	SEYMOUR STREET	STA. 1+410 TO 1+480
48	XS.7	CROSS SECTION	SEYMOUR STREET	STA. 1+490 TO 1+550
49	XS.8	CROSS SECTION	SEYMOUR STREET	STA. 1+560 TO 1+620
50	XS.9	CROSS SECTION	SEYMOUR STREET	STA. 1+690 TO 1+770
51	XS.10	CROSS SECTION	SEYMOUR STREET	STA. 1+780 TO 1+850
52	XS.11	CROSS SECTION	SEYMOUR STREET	STA. 1+860 TO 1+930
53	XS.12	CROSS SECTION	SEYMOUR STREET	STA. 1+940 TO 2+070
54	XS.13	CROSS SECTION	SEYMOUR STREET	STA. 2+085 TO 2+100
55	XS.14	CROSS SECTION	CHOLETTE STREET	STA. 3+010 TO 3+100
56	XS.15	CROSS SECTION	CHOLETTE STREET	STA. 3+110 TO 3+200
57	XS.16	CROSS SECTION	CHOLETTE STREET	STA. 3+210 TO 3+270
58	DE.1	TYPICAL SECTIONS & DETAILS	SHEET 1	
59	DE.2	TYPICAL SECTIONS & DETAILS	SHEET 2	
60	DE.3	TYPICAL SECTIONS & DETAILS	SHEET 3	
61	DE.4	STANDARD DETAILS	SHEET 1	
62	DE.5	STANDARD DETAILS	SHEET 2	
63	DE.6	STANDARD DETAILS	SHEET 3	
64	DE.7	STANDARD DETAILS	SHEET 4	
65	DE.8	GRADING DETAILS	SHEET 1	
66	DE.9	GRADING DETAILS	SHEET 2	
67	E1.0	TRAFFIC SIGNAL SUMMARY TABLE		
68	E1.1	TRAFFIC SIGNAL LAYOUT		
69	E1.2	TRAFFIC SIGNAL WIRING DIAGRAM		
70	E1.3	TRAFFIC SIGNAL SPECIFICATIONS/WIRING DETAILS		
71	E1.4	TRAFFIC SIGNAL DETAILS		
72	E1.5	PHOTOMETRIC ANALYSIS		
73	E1.6	STANDARD ELECTRICAL DETAILS SHEET 1		
74	E1.7	STANDARD ELECTRICAL DETAILS SHEET 2		
75	S.1	GENERAL NOTES & TYPICAL DETAILS		
76	S.2	RETAINING WALL PROFILE ELEVATIONS		
77	S.3	RETAINING WALL PROFILE SECTIONS		
78	S.4	RETAINING WALL PROFILE SECTIONS		
79	S.5	TYPICAL BARRIER RAILING DETAILS		
80	CS.1	CONSTRUCTION STAGING PLAN		

LEGEND

ITEM	EXISTING	PROPOSED
PROPERTY LINE		
LOT LINE		
CENTRELINE		
EDGE OF ASPHALT		
CONCRETE CURB		
EDGE OF GRAVEL SHOULDER		
DITCH/DIRECTION OF FLOW		
DRAINAGE SWALE/DIRECTION OF FLOW		
WATERMAIN	150ø WATERMAIN	150ø WATERMAIN
WATER SERVICE		
FIRE HYDRANT	HYD	HYD
WATER VALVE	WV	WV
AIR RELEASE VALVE	ARV	ARV
CURB STOP VALVE	CSV	CSV
WATERMAIN PLUG AND THRUST BLOCK		
WATERMAIN AUTO FLUSHER	AUTO FLUSHER	AUTO FLUSHER
WATERMAIN REDUCER		
SANITARY SEWER/SIZE/DIRECTION OF FLOW	200ø SAN	200ø SAN
SANITARY MAINTENANCE HOLE	SAN MH4	SAN MH4
SANITARY SERVICE		
SANITARY FORCEMAIN	200ø SAN FM	200ø SAN FM
STORM SEWER/SIZE/DIRECTION OF FLOW	375ø STM	375ø STM
STORM MAINTENANCE HOLE	STM MH4	STM MH4
CATCH BASIN	CB	CB
DOUBLE CATCH BASIN	DCB	DCB
CATCH BASIN MAINTENANCE HOLE	CBMH	CBMH
DOUBLE CATCH BASIN MAINTENANCE HOLE	DCBMH	DCBMH
DITCH INLET CATCH BASIN	DICB	DICB
CULVERT	375ø CULVERT	375ø CULVERT
150 SUBDRAIN C/W FILTER SOCK		
BELL DUCT BANK	BU / BU	
BELL UNDERGROUND	BU	BU
BELL AERIAL	BA	BA
CABLE UNDERGROUND	CU	CU
CABLE AERIAL	CA	CA
HYDRO UNDERGROUND	HU	HU
HYDRO AERIAL	HA	HA
GAS MAIN/SERVICE	GAS	GAS
FENCE	X X	X X
GUIDERAIL		
BUSHLINE/TREELINE		
CONTOUR	179.00	179.00
SPOT ELEVATION	× 179.00	×179.00
GRADING DIRECTION/GRADE PERCENTAGE	1.9%	1.9%
DRAINAGE FLOW		
TRAFFIC SIGN	SIGN	SIGN
TRAFFIC POLE/TRAFFIC SIGNAL	TLS	P1
LIGHT STANDARD	LS	LS
HYDRO POLE	HP	HP
GUY WIRE		
BELL POLE	BP	
BELL MAINTENANCE HOLE	BELL MH	
BELL PEDESTAL/VAULT		
CABLE PEDESTAL/VAULT		
HYDRO TRANSFORMER/VAULT		
GAS VALVE	GAS VALVE	
GAS MARKER	GAS	
MAILBOX		
STANDARD IRON BAR	SIB	
IRON BAR	IB	
TEMPORARY BENCHMARK	TBM#1	
BOREHOLE/TEST HOLE	BH9	
DECIDUOUS/CONIFEROUS TREE, SHRUB/BUSH		
BEDROCK		
RIP-RAP		

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNLEDGE — 100120565 — July 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M. J. FIGUEROA — 100543117 — July 4, 2025 — PROVINCE OF ONTARIO

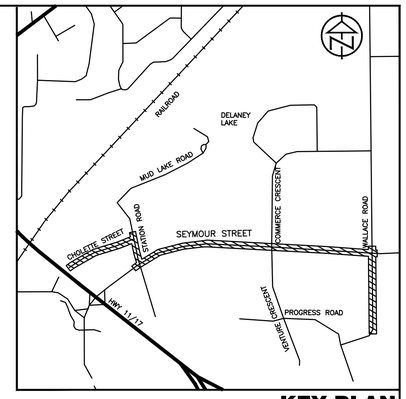
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

DRAWING INDEX & LEGEND

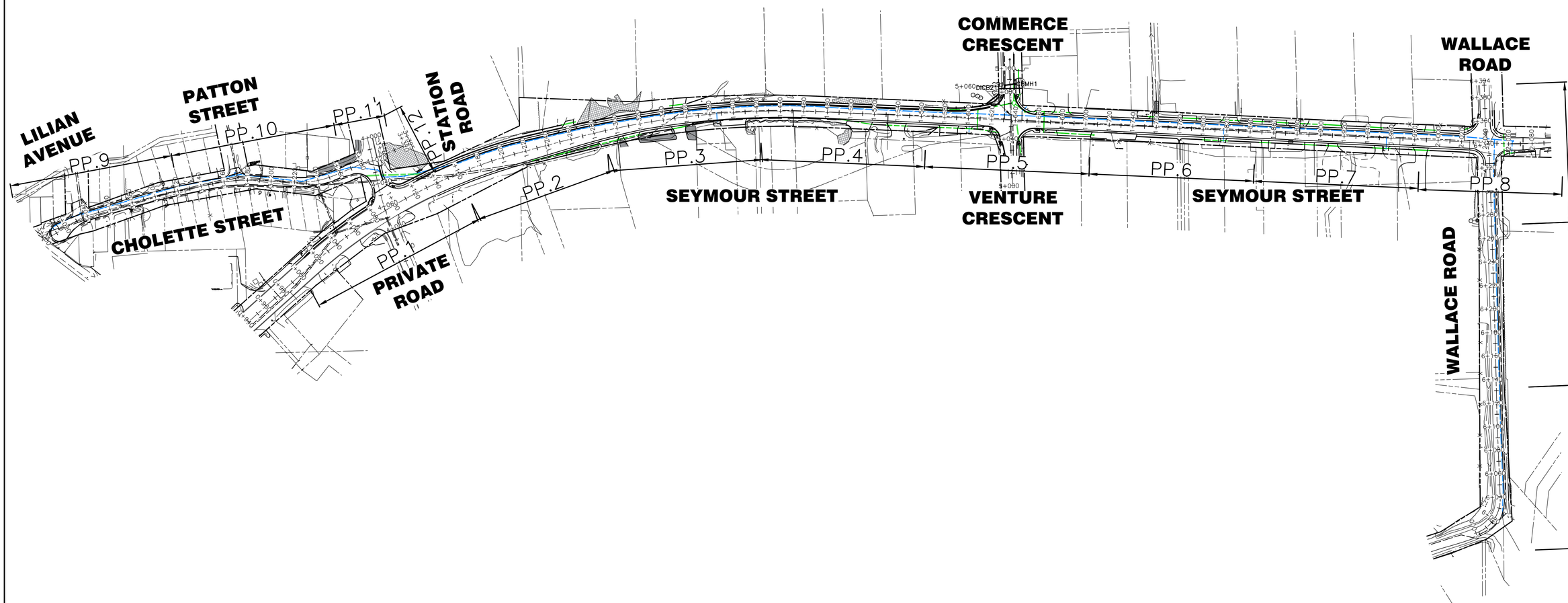
TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: N/A	Sheet No. 2 of 80

Drawing Name: 124112-TP01.dwg, Plotted: Jul 04, 2025



KEY PLAN



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LICENSED PROFESSIONAL ENGINEER
A.E. BROWNRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M.J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

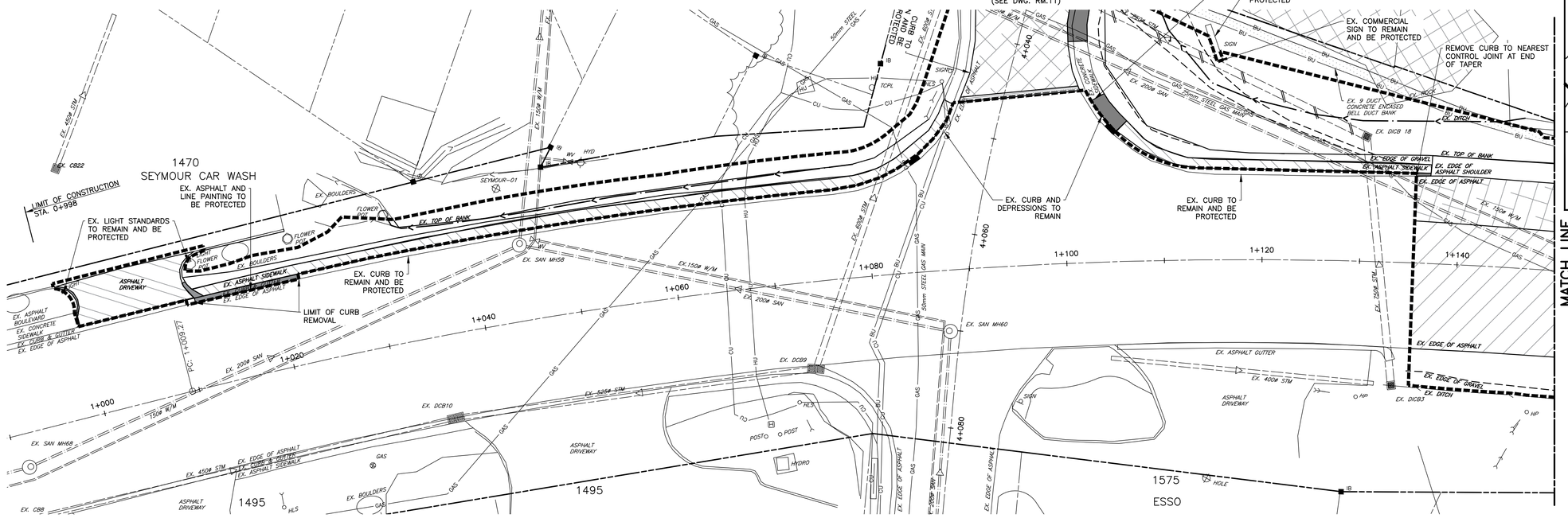
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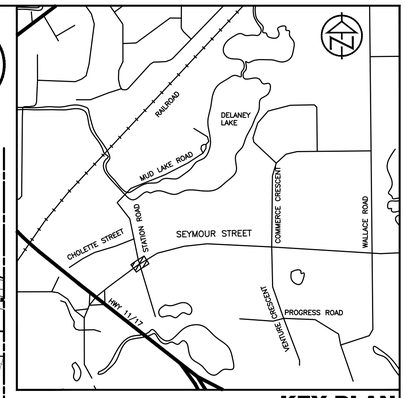
GENERAL PLAN

TATHAM ENGINEERING

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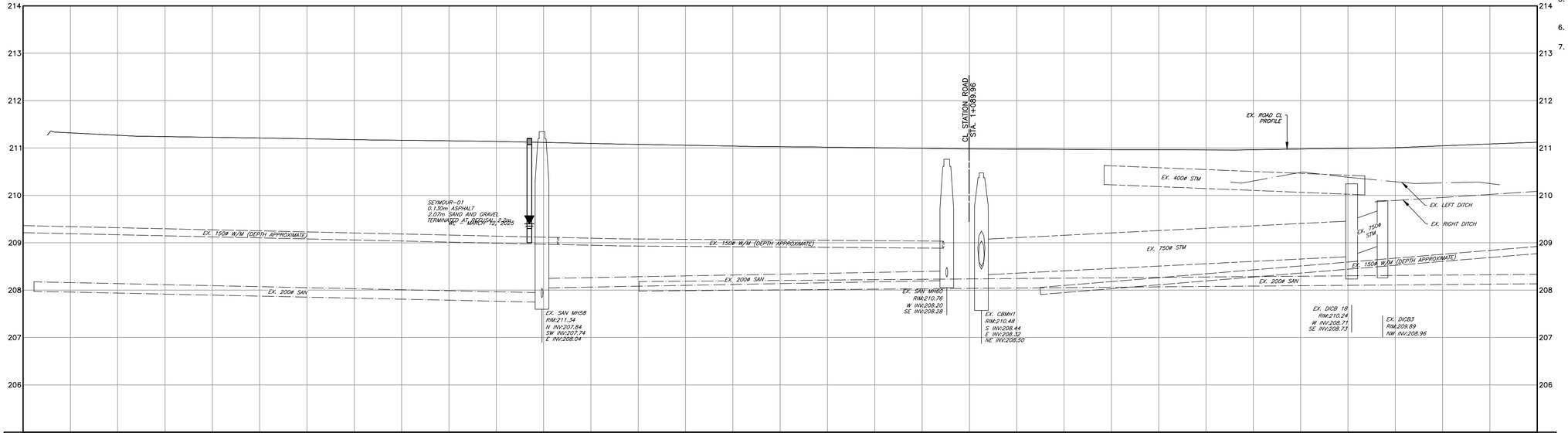


KEY PLAN

MATCH LINE
STA. 1+150
(SEE DWG. RM.2)

NOTES

1. EXISTING UTILITY, WATERMAIN AND SEWER INFORMATION HAS BEEN COMPILED FROM AS-BUILT/RECORD DRAWINGS PROVIDED FOR INFORMATION ONLY. CONTRACTOR TO VERIFY ACTUAL LOCATIONS AND DEPTHS OF UTILITIES, WATERMAINS AND SEWERS AND ADVISE ENGINEER IMMEDIATELY OF CONFLICTS OR DISCREPANCIES WHEN IDENTIFIED.
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STA	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140
C/L ELEV	211.27	211.19	211.14	211.06	211.01	210.97	210.96	211.05	211.12
SAN	55.1m 200ø @ 0.4% START INV:207.98 END INV:207.74	1+054.8 RIM:211.34	45.1m 200ø @ 0.3% START INV:208.20 END INV:208.04	1+092.6 RIM:210.76	115.8m 200ø @ 0.1% START INV:208.14 END INV:207.98		25.6m 750ø @ 0.9% START INV:208.96 END INV:208.73		
STM					1+091.2 RIM:210.48	46.3m 750ø @ 0.8% START INV:208.71 END INV:208.32	27.0m 400ø @ 0.5% START INV:210.23 END INV:210.01	1+150.4 RIM:210.24	1+153.7 RIM:209.89	

LEGEND

- CONCRETE REMOVAL
- LAP JOINT
- MILL ASPHALT (50mm DEPTH)
- REMOVE ASPHALT AND GRANULAR BASE (FULL DEPTH)
- MISCELLANEOUS ASPHALT REMOVAL (FULL DEPTH)
- CLEARING AND GRUBBING
- LIMIT OF SURFACE FEATURE REMOVALS
- ITEMS TO BE REMOVED
- ITEM TO BE SALVAGED
- ITEM TO BE REMOVED BY OTHERS

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A. E. BROWNRIDGE — 100120585 — JULY 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M. J. FIGUEROA — 100543417 — JULY 4, 2025 — PROVINCE OF ONTARIO

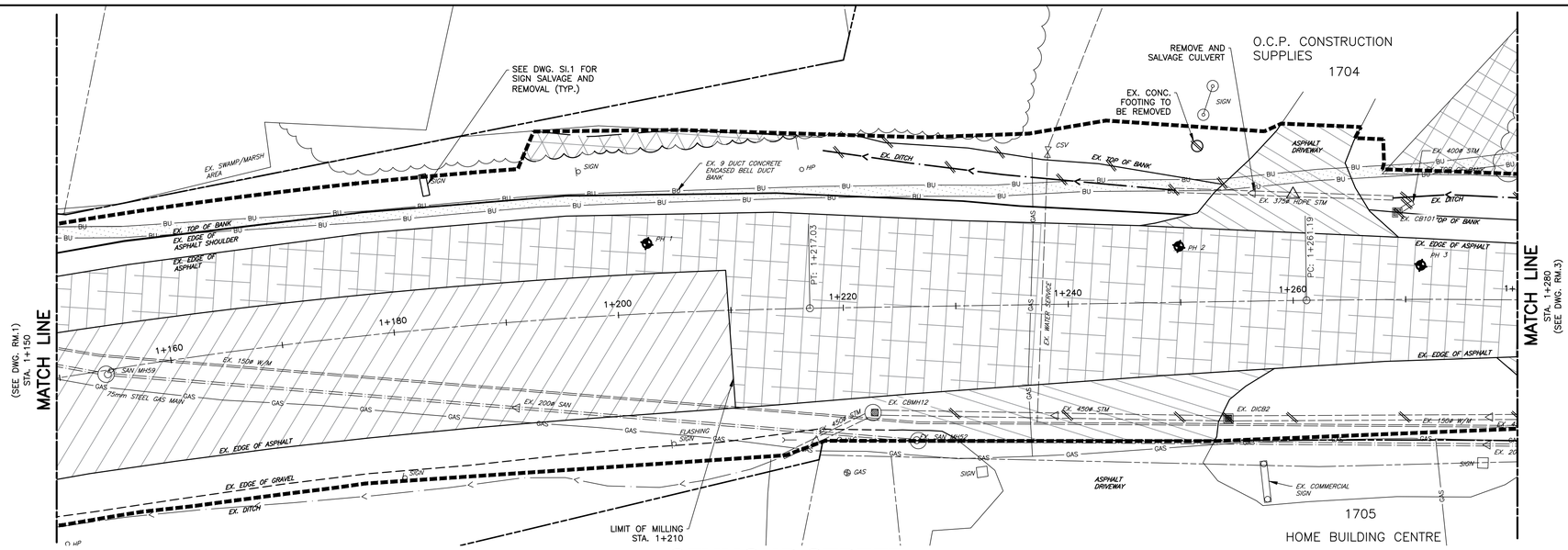
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CITY OF NORTH BAY

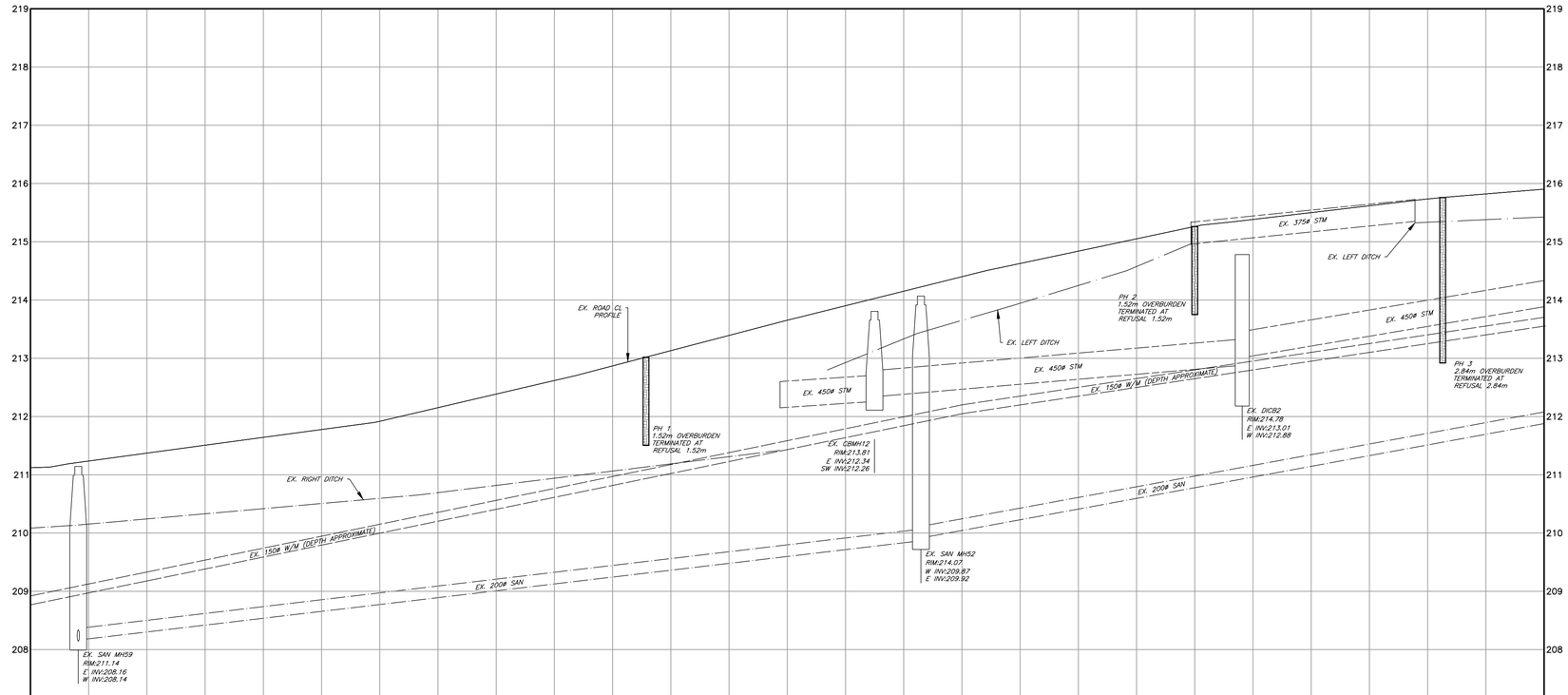
REMOVALS PLAN AND PROFILE
SEYMOUR STREET
STA. 0+990 TO 1+150

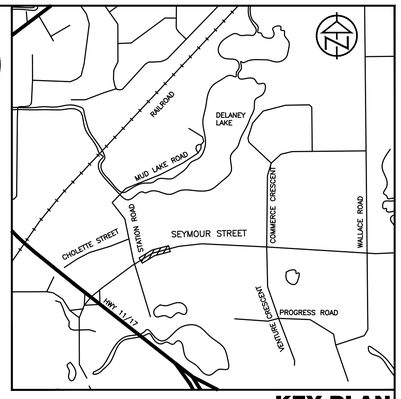
TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 4 of 80

Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025







KEY PLAN

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

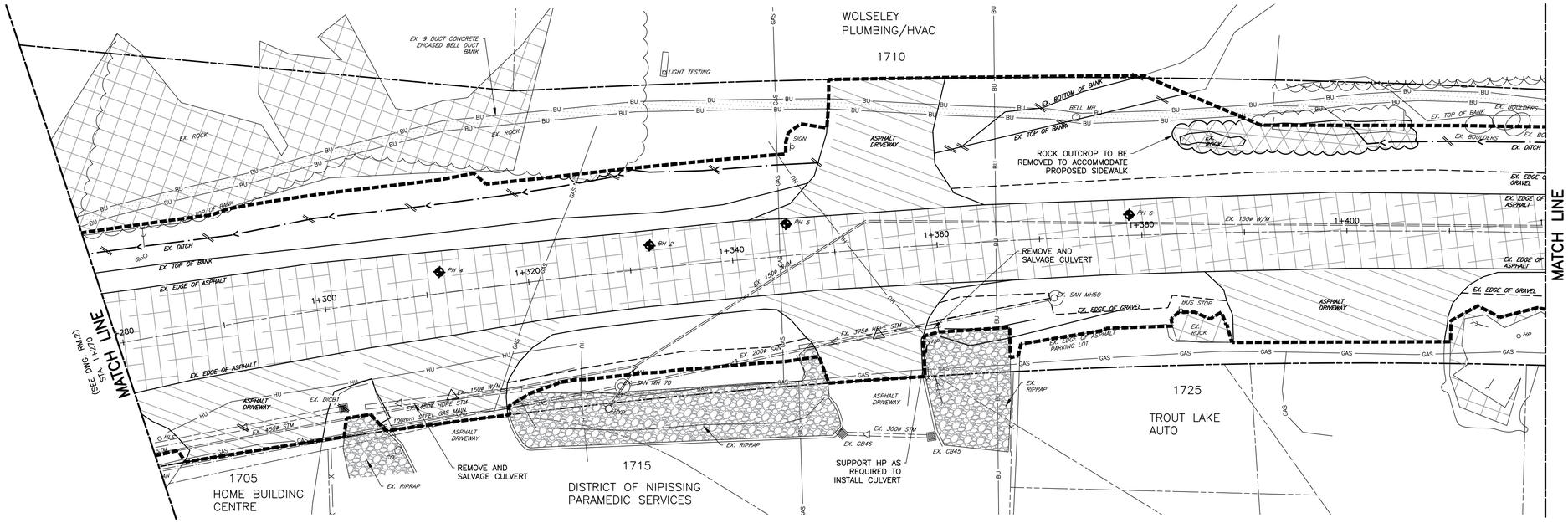
CITY OF NORTH BAY

REMOVALS PLAN AND PROFILE SEYMOUR STREET STA. 1+150 TO 1+280

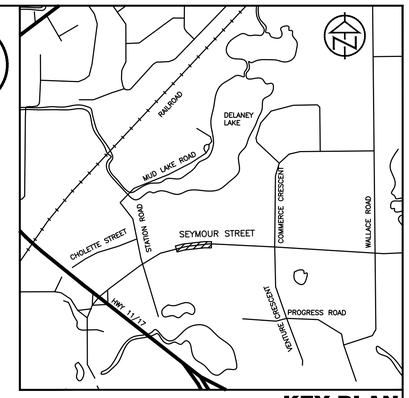
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.2**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 5 of 80

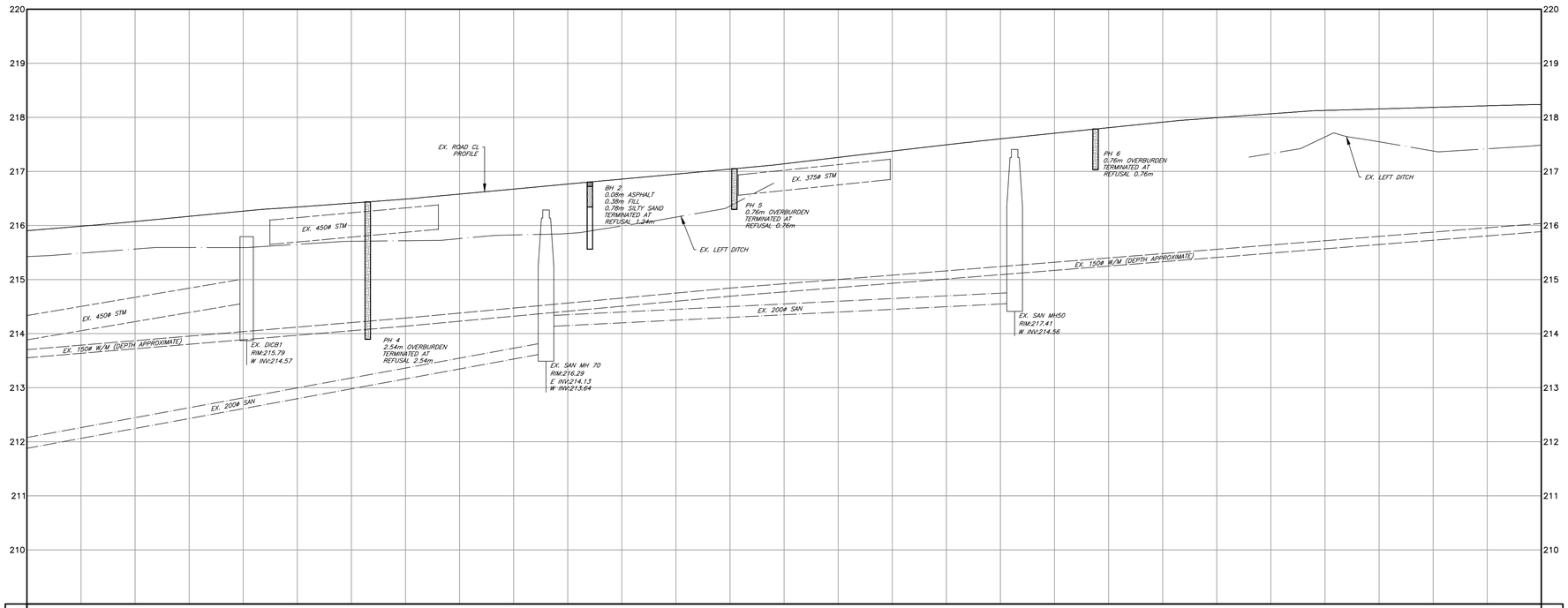
Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025



SEYMOUR STREET



KEY PLAN



STA	1+300	1+320	1+340	1+360	1+380	1+400
C/L ELEV	216.27	216.59	216.85	217.39	217.81	218.13
SAN	100.4m 200ø @ 3.7% START INV=213.64 END INV=209.92		EX. SAN MH 70 RIM=216.29	43.1m 200ø @ 1.0% START INV=214.56 END INV=214.13	EX. SAN MH50 RIM=217.41	
STM	45.7m 450ø @ 3.4% START INV=214.57 END INV=213.01	EX. DICB1 RIM=215.79	15.3m 450ø @ 1.8% START INV=215.93 END INV=215.65		13.9m 375ø @ 2.1% START INV=216.85 END INV=216.56	

NOTES

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LEGEND

- CONCRETE REMOVAL
- LAP JOINT
- MILL ASPHALT (50mm DEPTH)
- REMOVE ASPHALT AND GRANULAR BASE (FULL DEPTH)
- MISCELLANEOUS ASPHALT REMOVAL (FULL DEPTH)
- CLEARING AND GRUBBING
- LIMIT OF SURFACE FEATURE REMOVALS
- ITEMS TO BE REMOVED
- ITEM TO BE SALVAGED
- ITEM TO BE REMOVED BY OTHERS

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M.J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

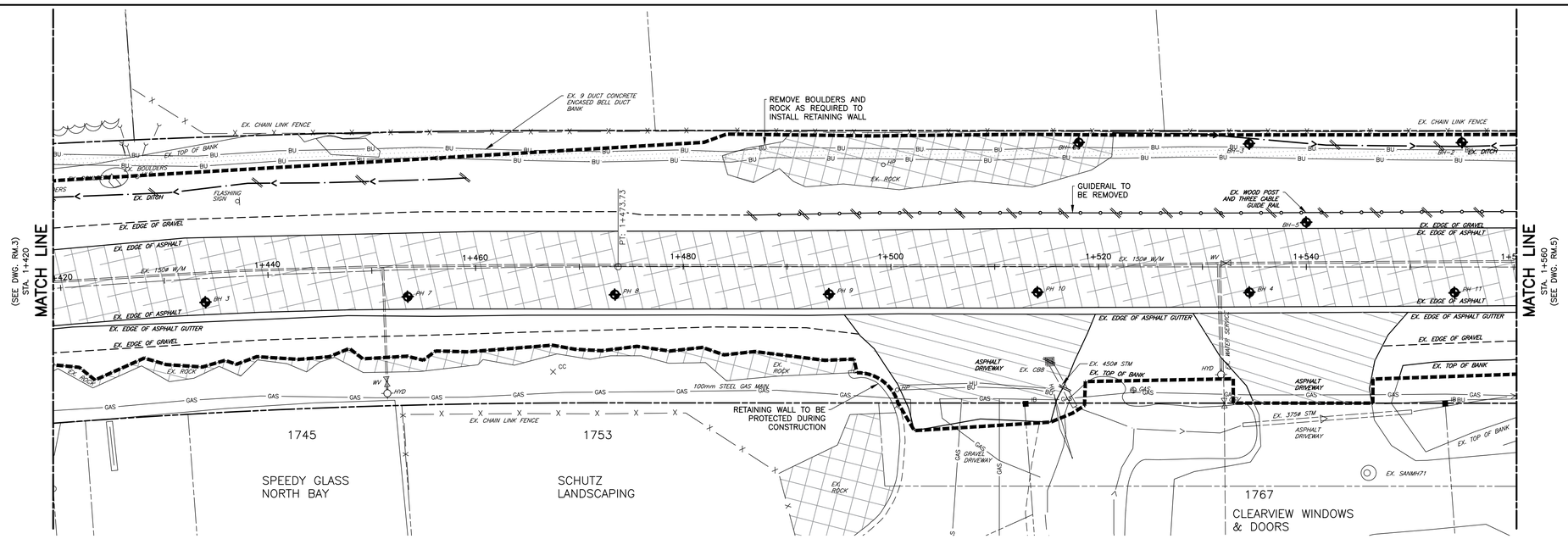
CITY OF NORTH BAY

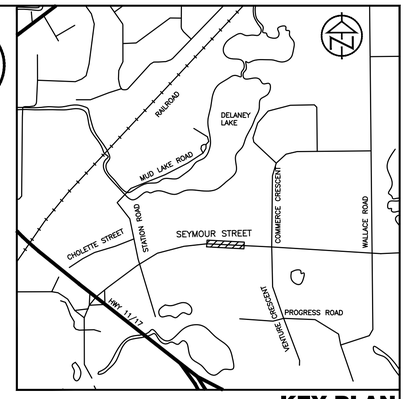
REMOVALS PLAN AND PROFILE SEYMOUR STREET STA. 1+290 TO 1+420

TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 6 of 80

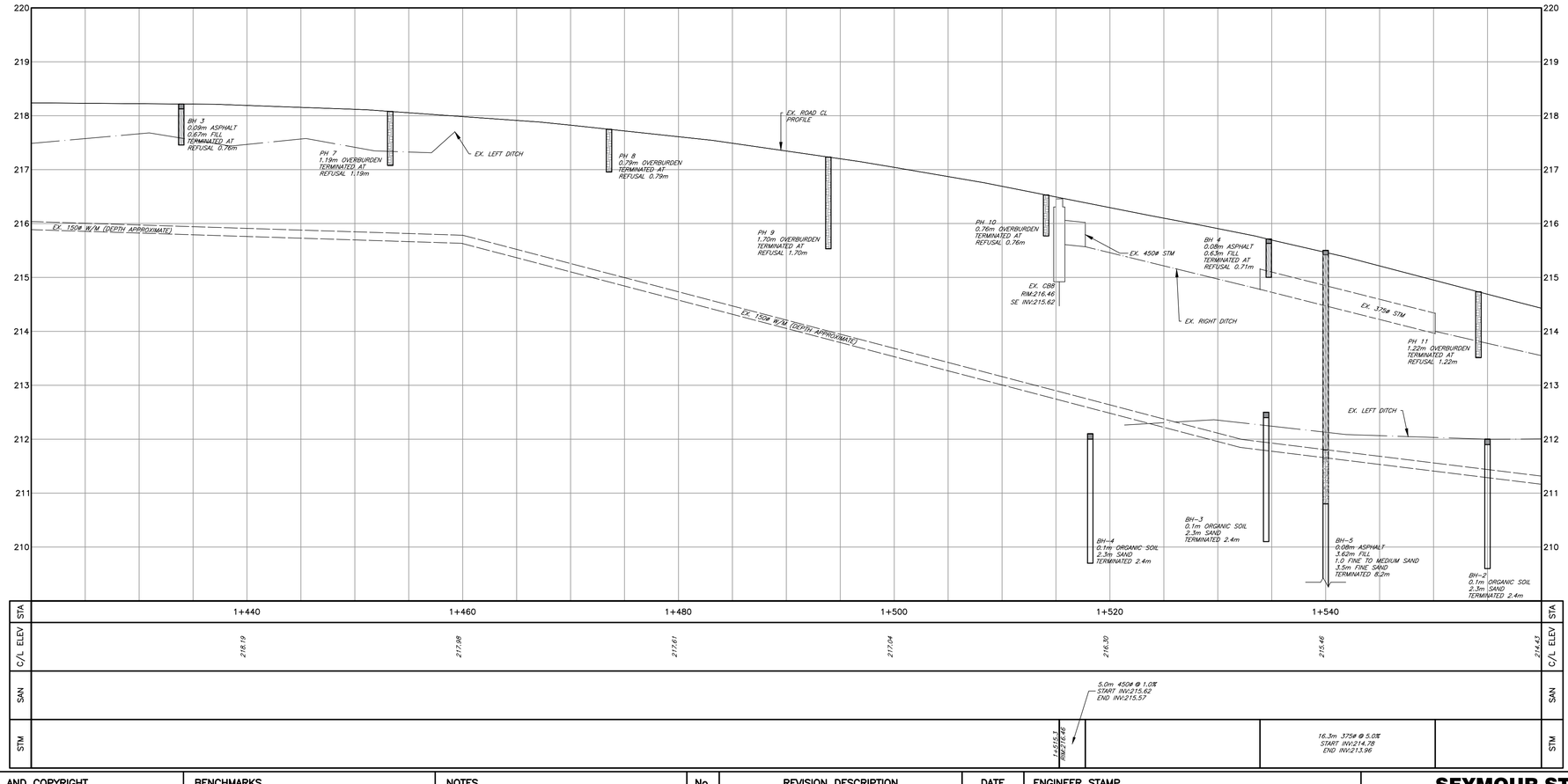
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KEY PLAN

SEYMOUR STREET



STA	1+440	1+460	1+480	1+500	1+520	1+540
C/L ELEV	218.19	217.88	217.61	217.04	216.30	215.46
SAN					5.0m 450ø @ 1.0% START INV:215.62 END INV:215.57	
STM					1+515.5 RIM:216.46	16.3m 375ø @ 5.0% START INV:214.78 END INV:213.96

NOTES

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LEGEND

- CONCRETE REMOVAL
- LAP JOINT
- MILL ASPHALT (50mm DEPTH)
- REMOVE ASPHALT AND GRANULAR BASE (FULL DEPTH)
- MISCELLANEOUS ASPHALT REMOVAL (FULL DEPTH)
- CLEARING AND GRUBBING
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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNRIDGE — 100120585 — JULY 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M. J. FIGUEROA — 100543417 — JULY 4, 2025 — PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

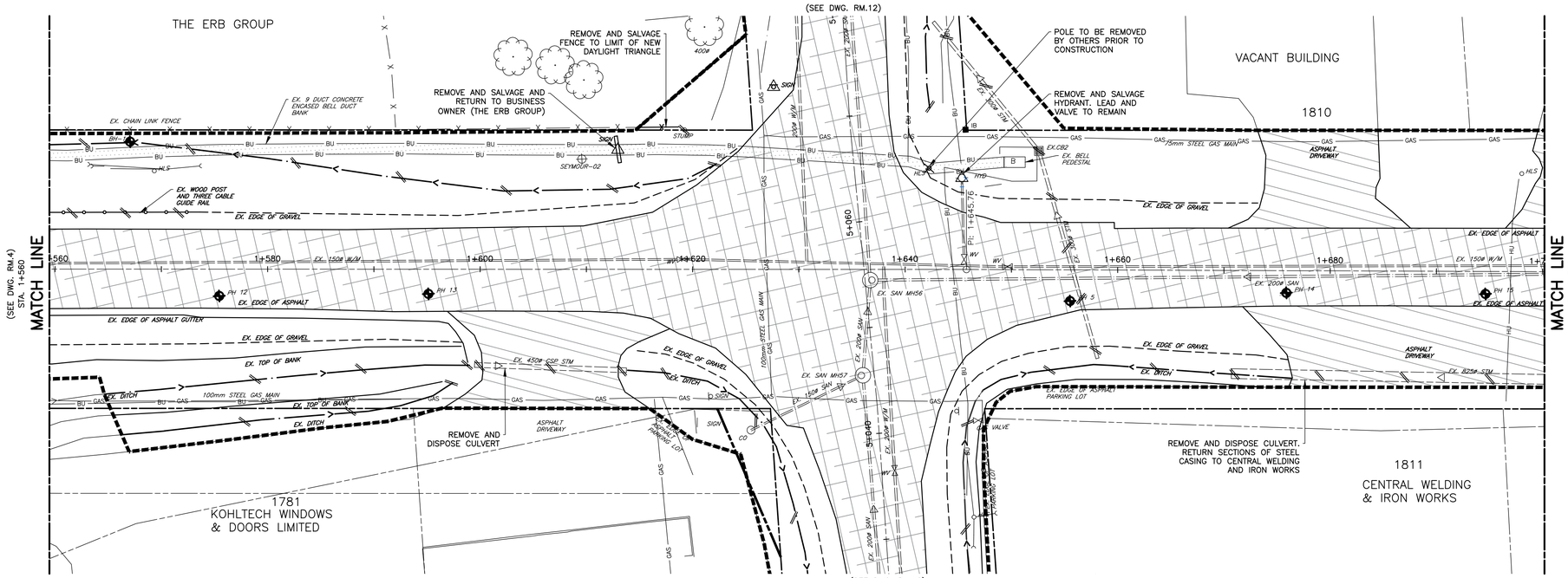
REMOVALS PLAN AND PROFILE SEYMOUR STREET STA. 1+420 TO 1+560

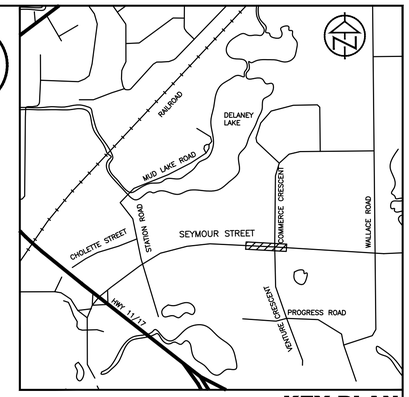
TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024		
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Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025

COMMERCE CRESCENT



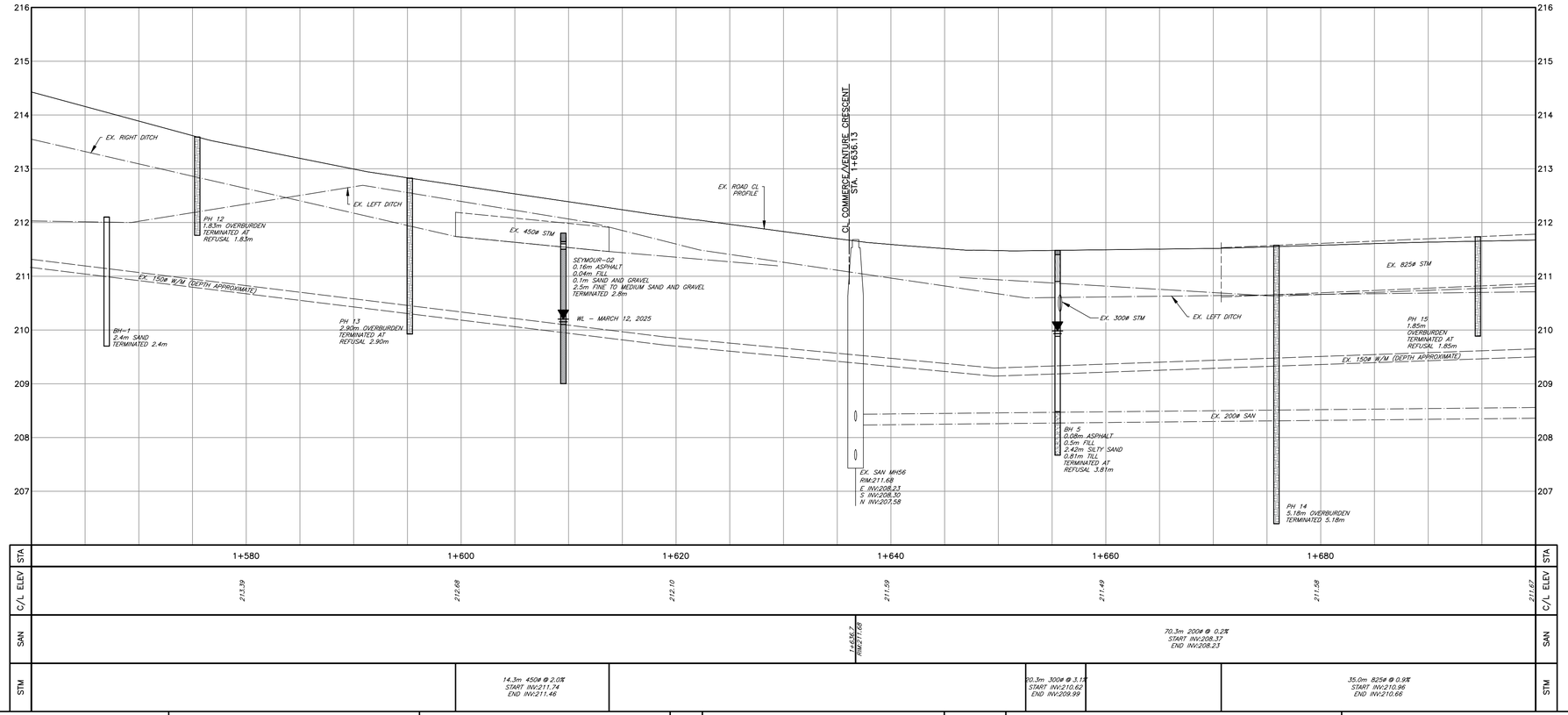


KEY PLAN

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SEYMOUR STREET — VENTURE CRESCENT — SEYMOUR STREET



STA	1+580	1+600	1+620	1+640	1+660	1+680
C/L ELEV	213.39	212.68	212.10	211.59	211.49	211.58
SAN				1+636.7 INV:211.68	70.3m 200ø @ 0.2% START INV:208.37 END INV:208.23	
STM		14.3m 450ø @ 2.0% START INV:211.74 END INV:211.46			90.3m 300ø @ 3.1% START INV:210.62 END INV:209.99	35.0m 825ø @ 0.9% START INV:210.96 END INV:210.66

LEGEND

- CONCRETE REMOVAL
- LAP JOINT
- MILL ASPHALT (50mm DEPTH)
- REMOVE ASPHALT AND GRANULAR BASE (FULL DEPTH)
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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNRIDGE — 100120585 — JULY 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M.J. FIGUEROA — 100543417 — JULY 4, 2025 — PROVINCE OF ONTARIO

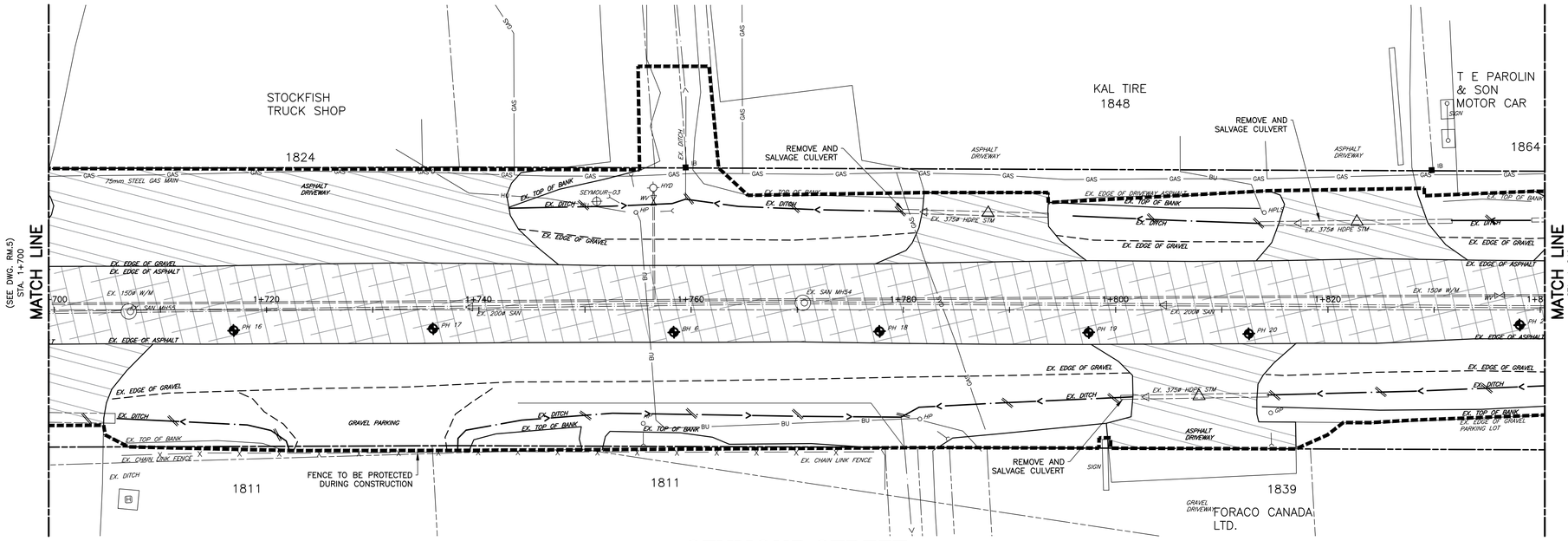
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

REMOVALS PLAN AND PROFILE
SEYMOUR STREET
STA. 1+560 TO 1+700

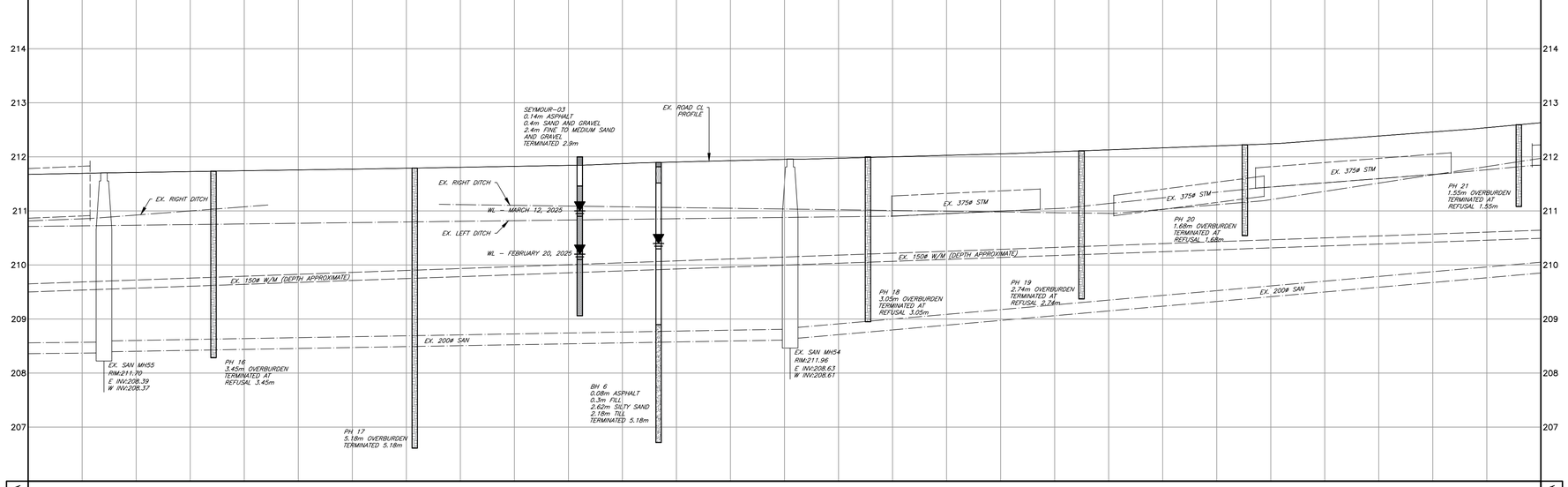
TATHAM ENGINEERING

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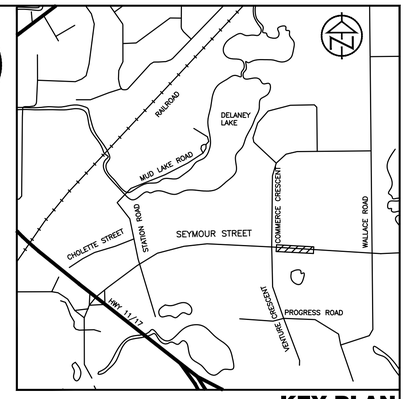
Drawing Name: 124112-RM01.dwg; Plotted: Jul 04, 2025



SEYMOUR STREET



STA	1+720	1+740	1+760	1+780	1+800	1+820	
C/L ELEV	211.74	211.61	211.60	212.00	212.13	212.31	212.61
SAN	70.3m 200ø @ 0.2% START INV:208.37 END INV:208.23	1+707.70 RIM:211.70	63.5m 200ø @ 0.3% START INV:208.61 END INV:208.39	1+777.96 RIM:211.96	91.1m 200ø @ 1.8% START INV:210.23 END INV:208.63	12.0m 375ø @ 0.7% START INV:211.93 END INV:211.84	
STM	35.0m 825ø @ 0.9% START INV:210.96 END INV:210.66			13.8m 375ø @ 0.9% START INV:211.03 END INV:210.90	13.9m 375ø @ 2.6% START INV:211.27 END INV:210.91	18.1m 375ø @ 1.5% START INV:211.70 END INV:211.42	



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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNBRIDGE — 100120565 — JULY 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M. J. FIGUEROA — 100543417 — JULY 4, 2025 — PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

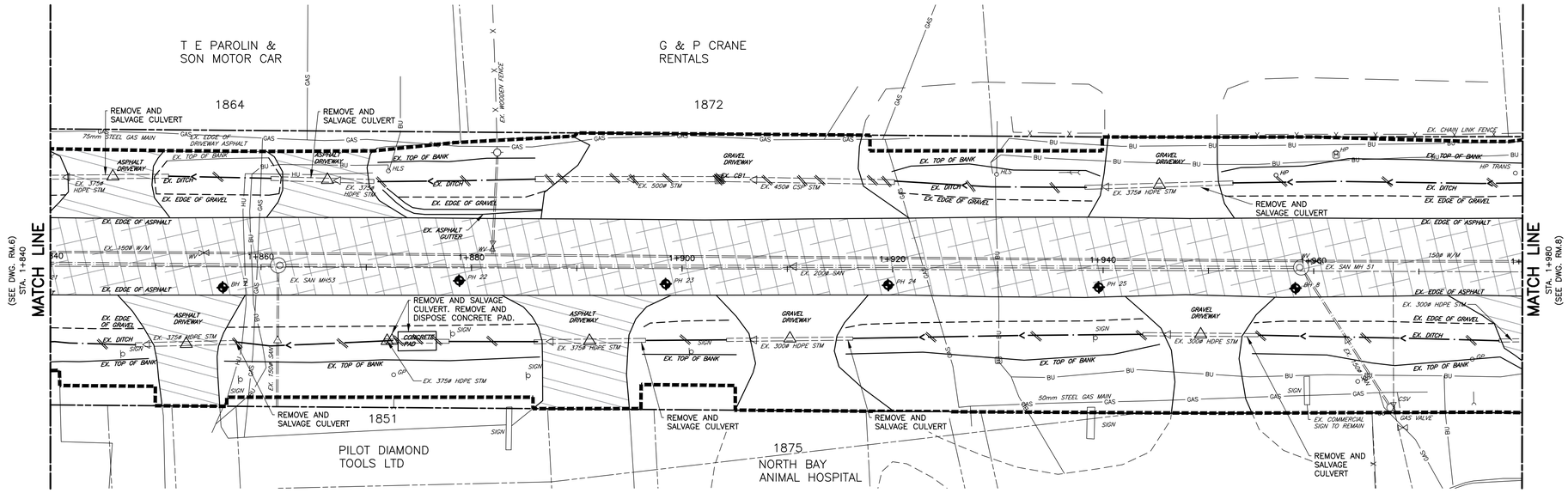
CITY OF NORTH BAY

REMOVALS PLAN AND PROFILE SEYMOUR STREET STA. 1+700 TO 1+840

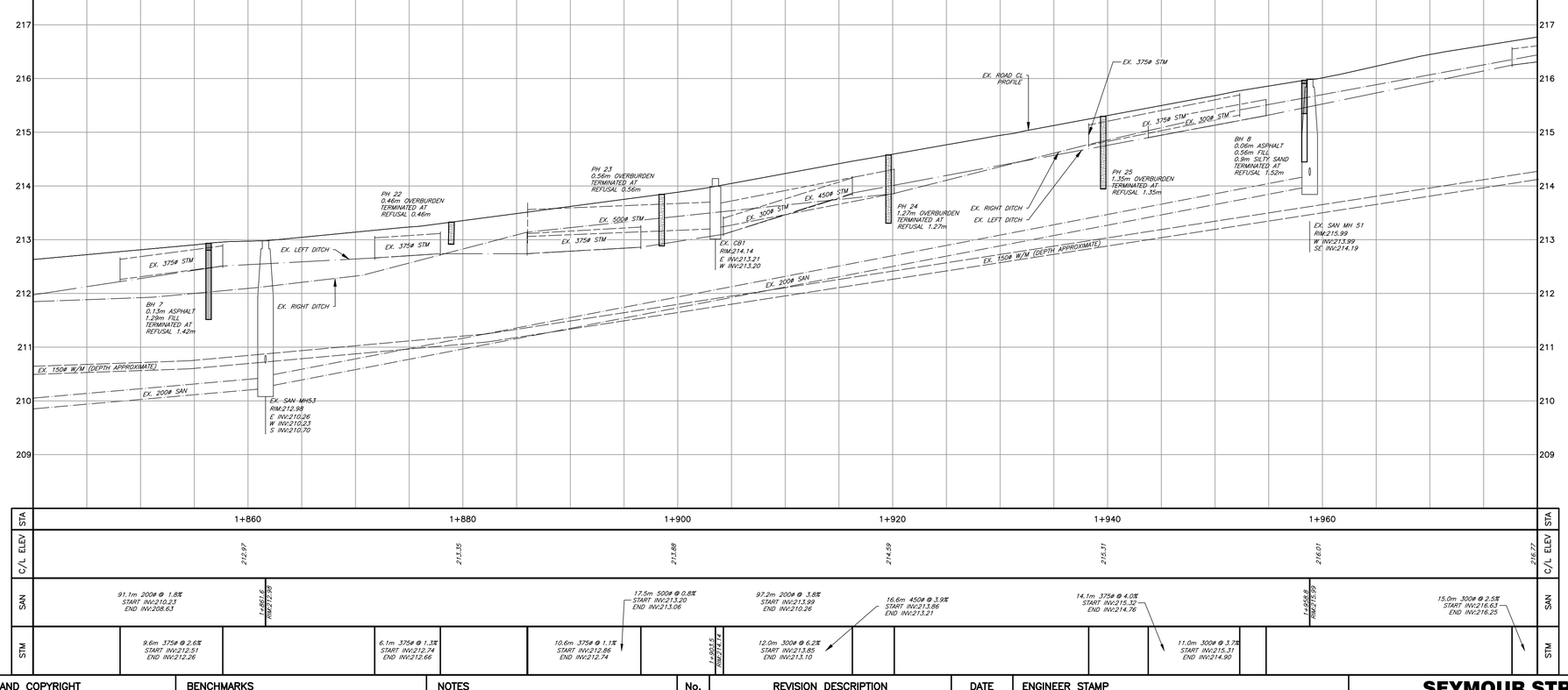
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.6**
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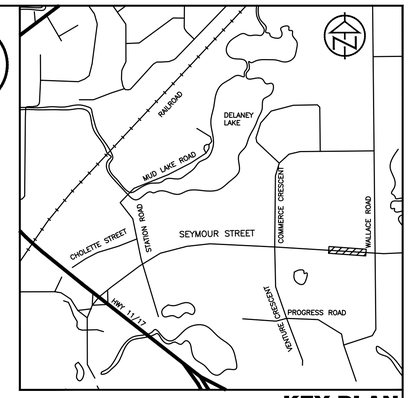
Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025



SEYMOUR STREET



STA	1+860	1+880	1+900	1+920	1+940	1+960
C/L ELEV	212.97	213.35	213.88	214.59	215.71	216.01 / 216.77
SAN	91.1m 200ø @ 1.8% START INV:210.23 END INV:208.63	1+851.6 RIM:212.98	17.5m 500ø @ 0.8% START INV:213.20 END INV:213.06	97.2m 200ø @ 3.8% START INV:213.89 END INV:210.26	16.6m 450ø @ 3.9% START INV:213.86 END INV:213.21	1+978.8 RIM:215.99 15.0m 300ø @ 2.5% START INV:216.63 END INV:216.25
STM	9.6m 375ø @ 2.6% START INV:212.51 END INV:212.26	6.1m 375ø @ 1.3% START INV:212.74 END INV:212.66	10.6m 375ø @ 1.1% START INV:212.86 END INV:212.74	1+903.5 RIM:214.14 12.0m 300ø @ 6.2% START INV:213.85 END INV:213.10	11.0m 300ø @ 3.7% START INV:215.31 END INV:214.90	



KEY PLAN

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNRIDGE — 100120585 — JULY 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M. J. FIGUEROA — 100543417 — JULY 4, 2025 — PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

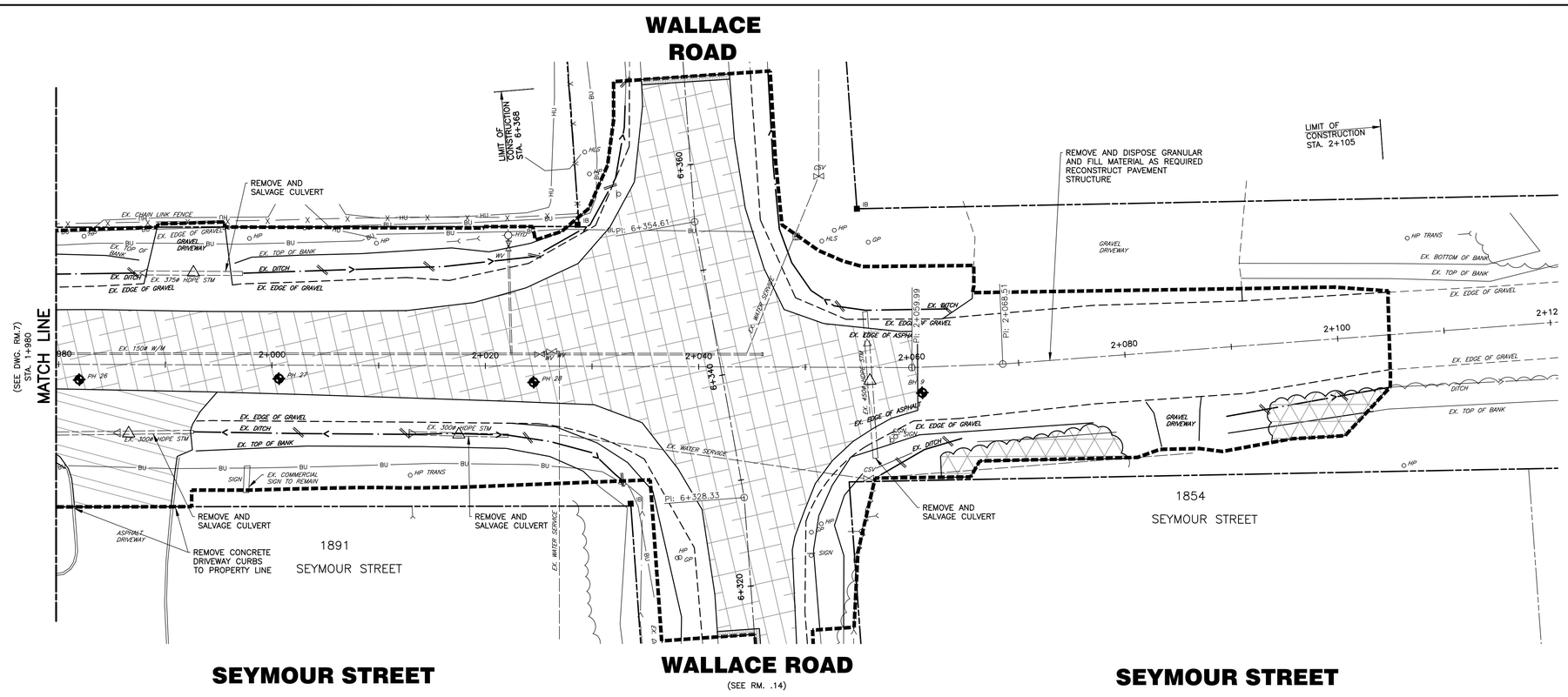
CITY OF NORTH BAY

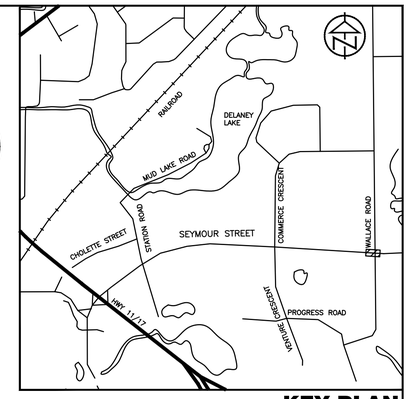
REMOVALS PLAN AND PROFILE SEYMOUR STREET STA. 1+840 TO 1+980

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG:	RM.7
DRAWN: NB	DATE: SEP 2024		
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No.	10 of 80

Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025

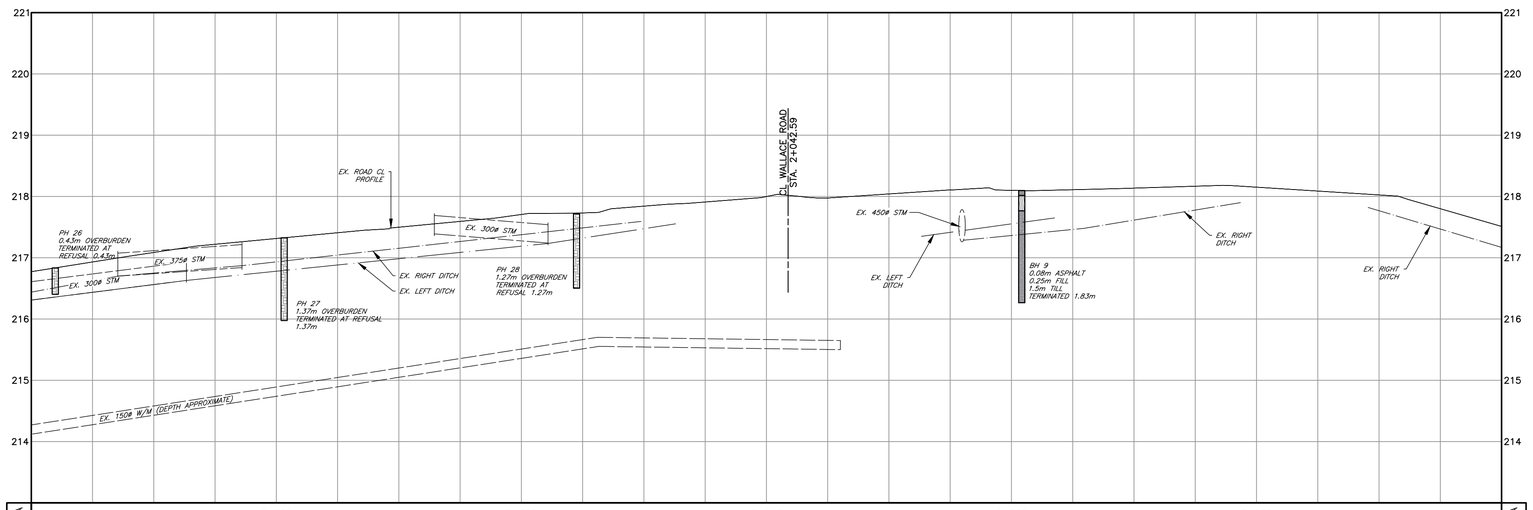




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STA	2+000	2+020	2+040	2+060	2+080	STA
C/L ELEV	217.31	217.71	218.00	218.10	218.15	217.51 C/L ELEV
SAN		10.1m 375ø @ 1.4% START INV:216.84 END INV:216.70		13.8m 450ø @ 0.7% START INV:217.36 END INV:217.26		SAN
STM	15.0m 300ø @ 2.5% START INV:216.63 END INV:216.25		9.3m 300ø @ 1.6% START INV:217.39 END INV:217.24			STM

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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120565 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

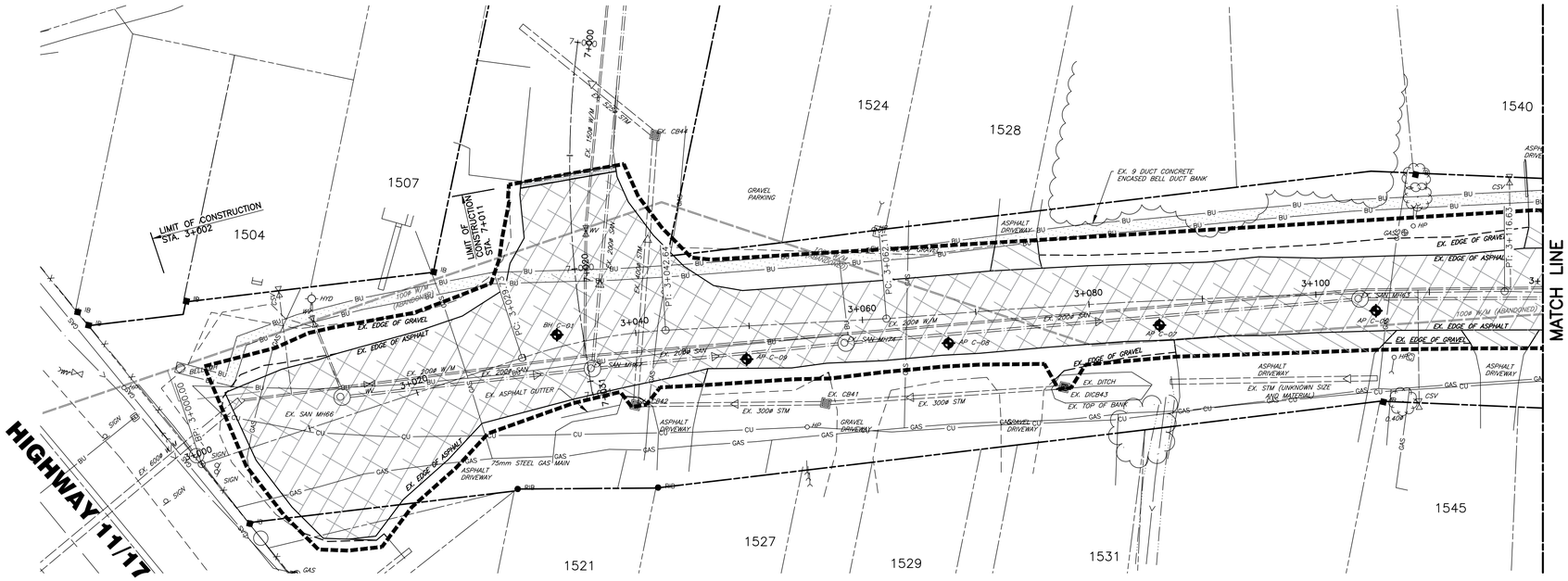
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

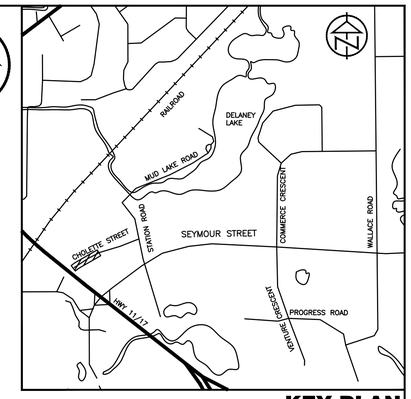
REMOVALS PLAN AND PROFILE SEYMOUR STREET STA. 1+980 TO 2+120

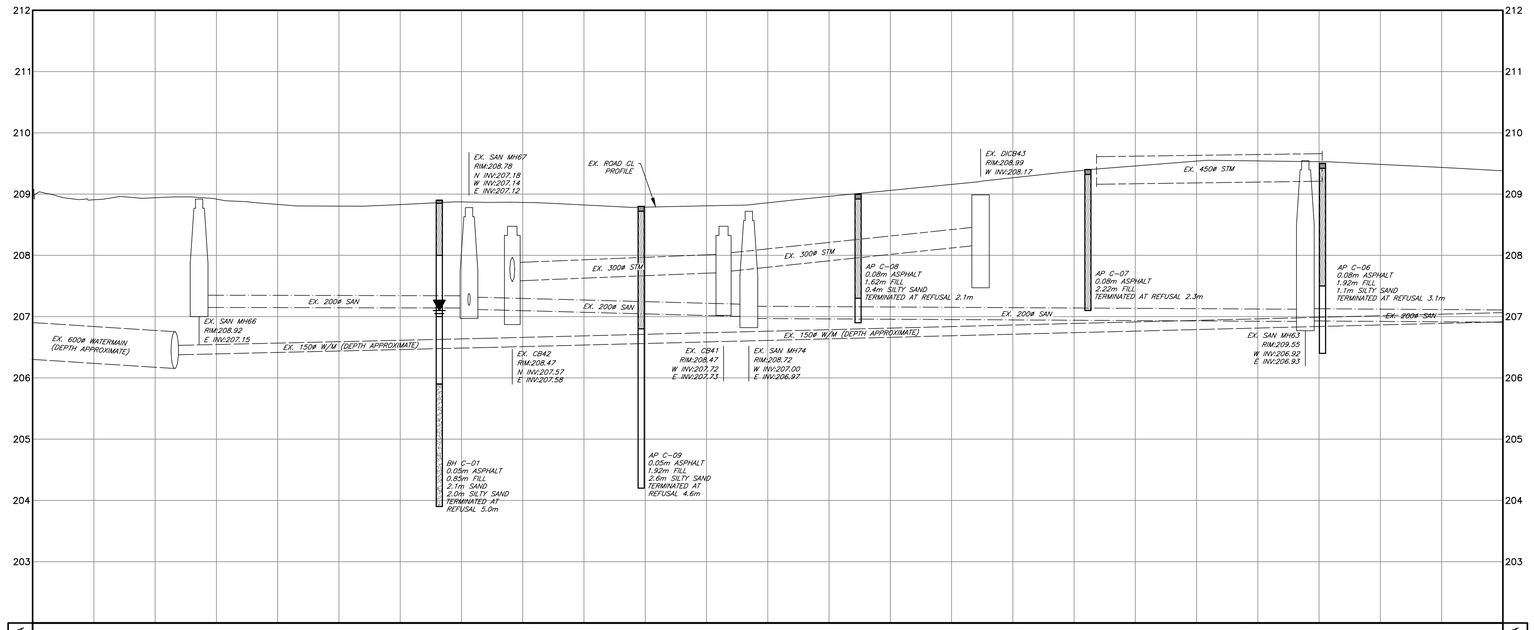
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.8**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 11 of 80

Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025







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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00111982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

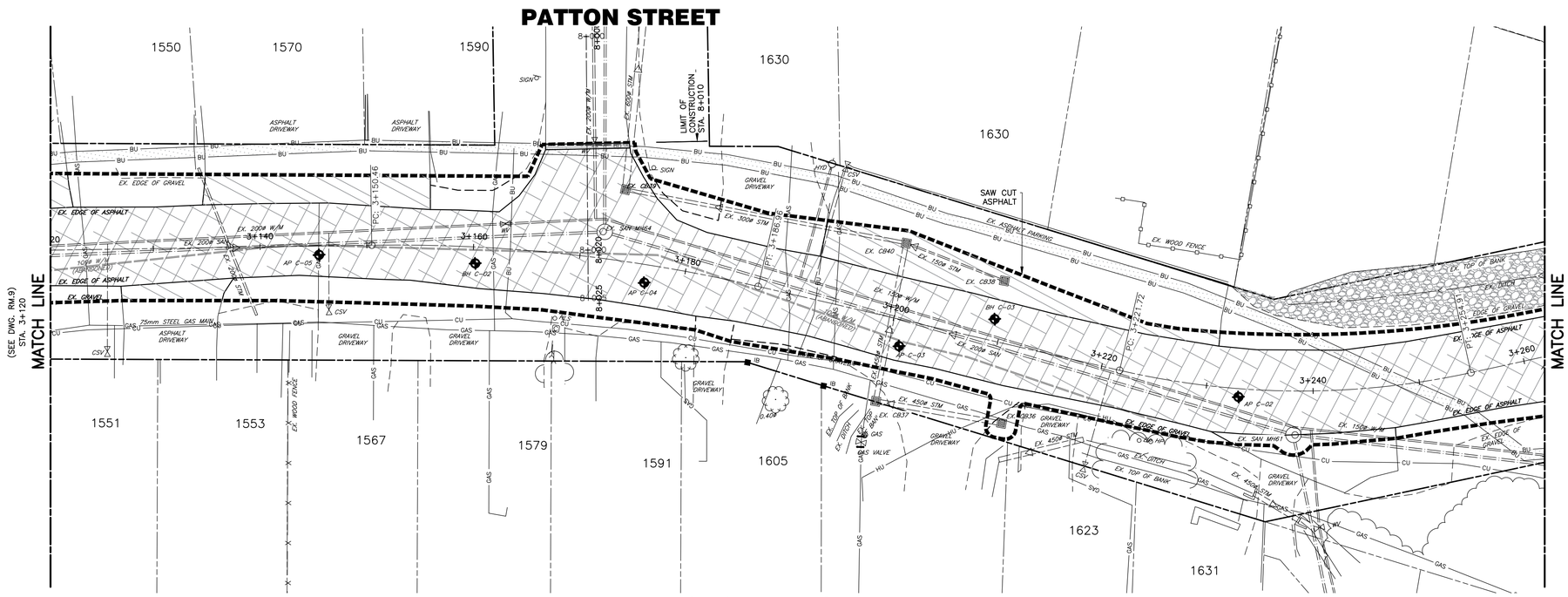
CITY OF NORTH BAY

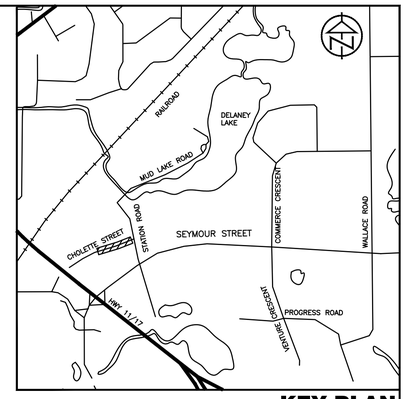
REMOVALS PLAN AND PROFILE SEYMOUR STREET STA. 3+000 TO 3+120

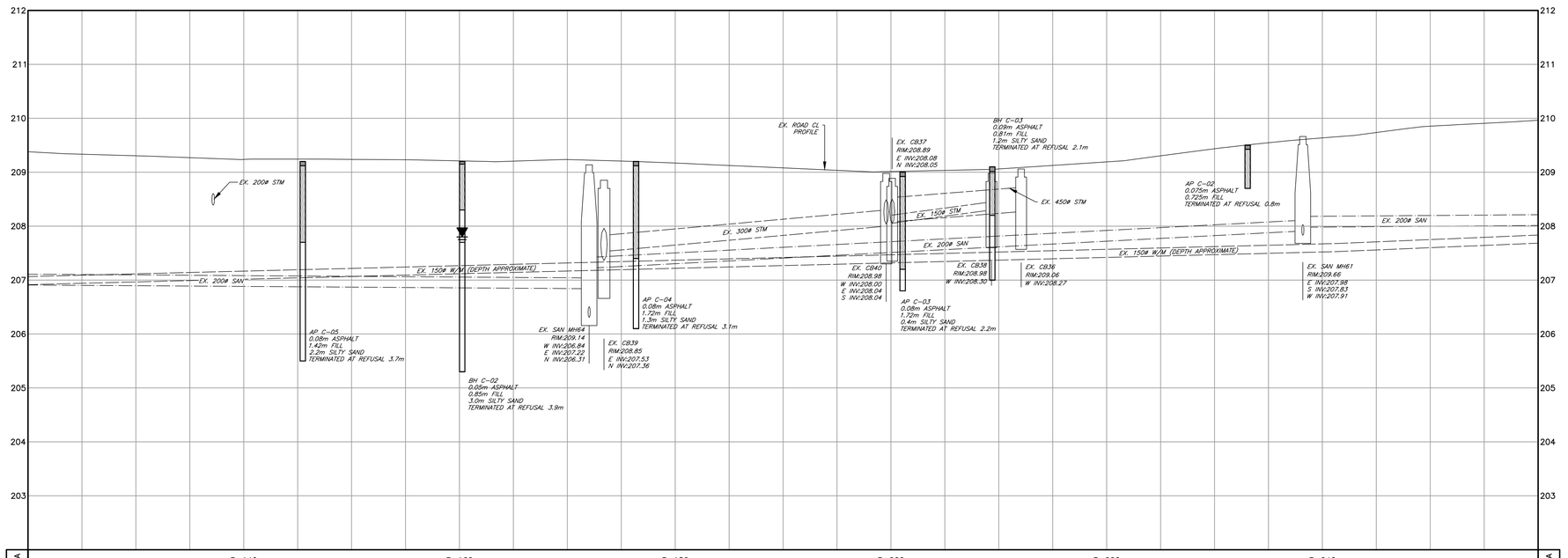
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.9**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 12 of 80

Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025







STA	3+140	3+160	3+180	3+200	3+220	3+240
C/L ELEV	209.24	209.21	209.17	209.01	209.19	209.64
SAN	68.4m 200ø @ 0.1% START INV:206.93 END INV:206.84			3+126.0 RIM:208.14	67.3m 200ø @ 1.0% START INV:207.91 END INV:207.22	3+238.2 RIM:208.66
STM	4.8m 200ø @ 2.1% START INV:208.54 END INV:208.23		3+172.4 RIM:208.85	26.8m 300ø @ 1.8% START INV:208.00 END INV:207.53	3+198.6 RIM:208.85 3+212.1 RIM:208.36	12.0m 450ø @ 1.6% START INV:208.27 END INV:208.08 3+212.1 RIM:208.06

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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

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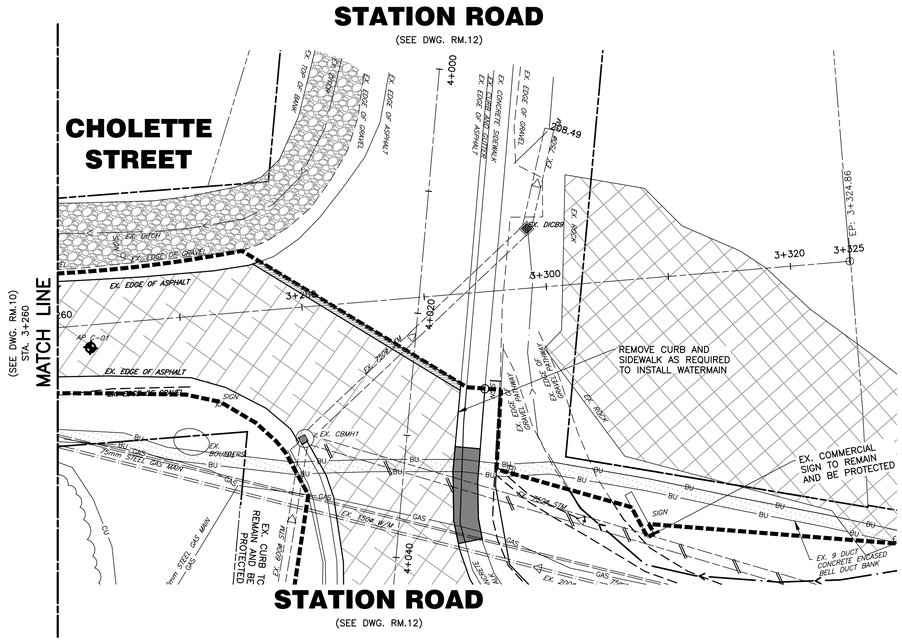
CITY OF NORTH BAY

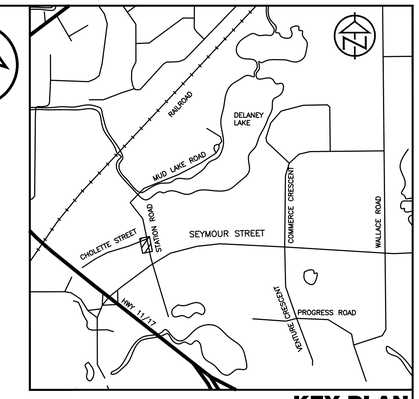
REMOVALS PLAN AND PROFILE CHOLETTE STREET STA. 3+120 TO 3+260

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.10**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 13 of 80

Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025

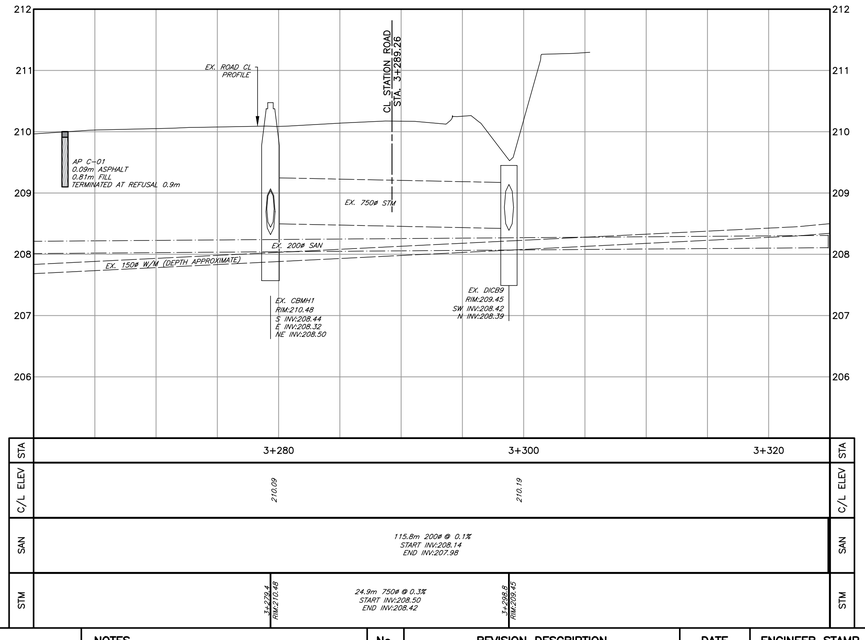




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ENGINEER STAMP

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SEYMOUR STREET RECONSTRUCTION

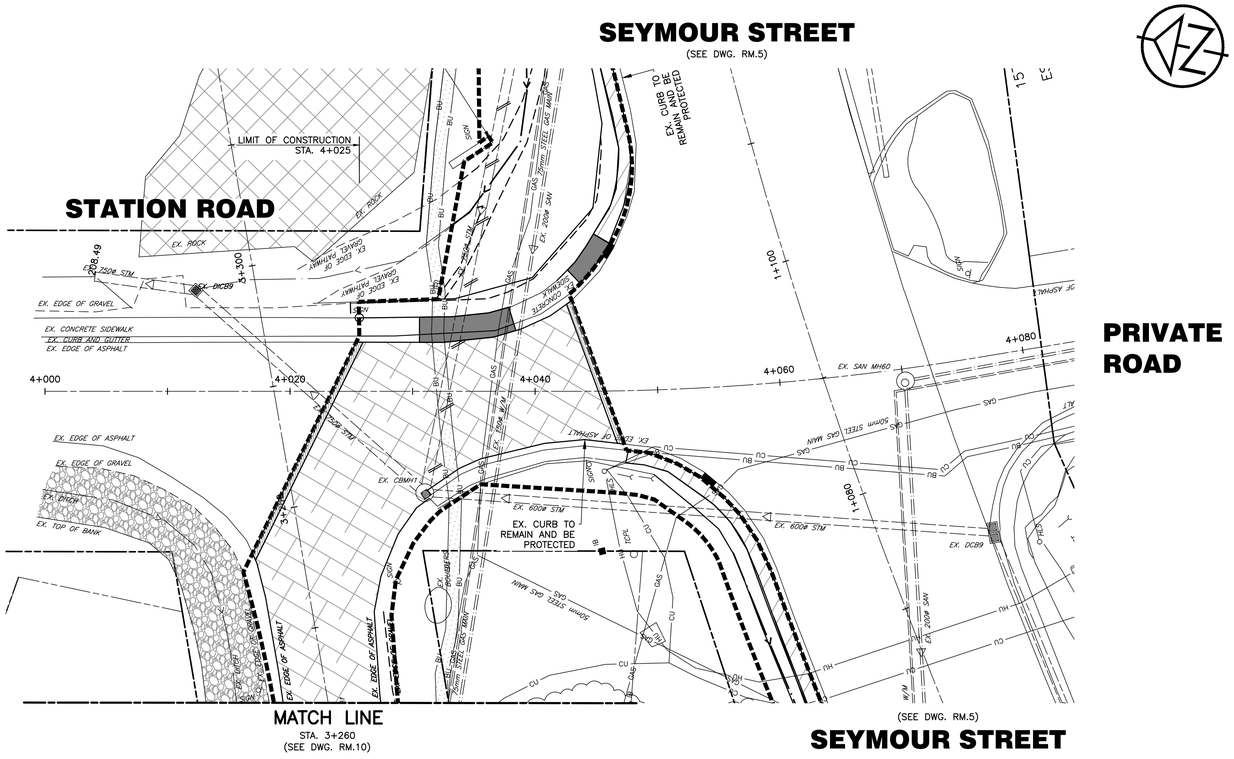
CITY OF NORTH BAY

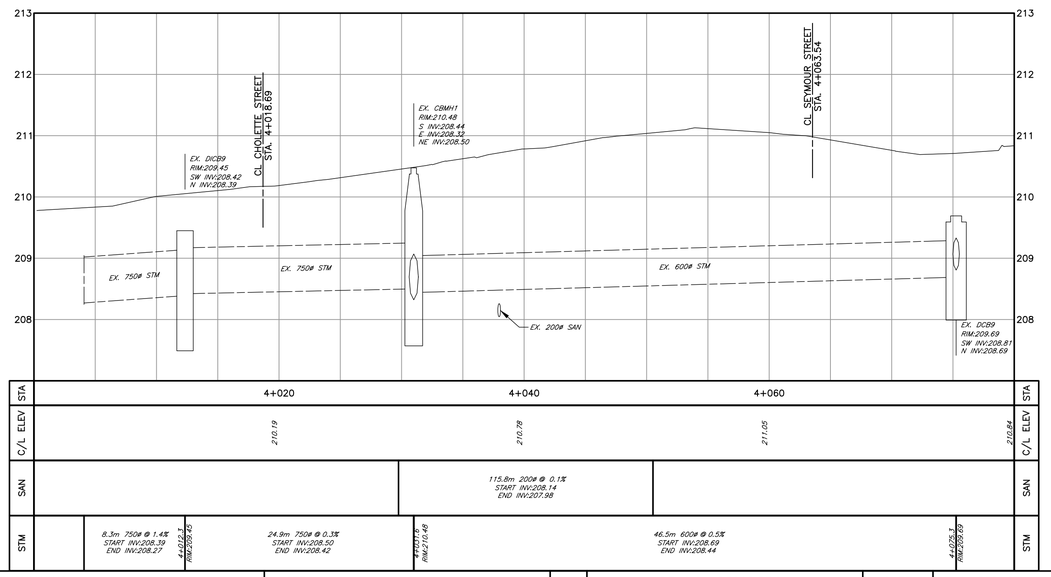
REMOVALS PLAN AND PROFILE CHOLETTE STREET STA. 3+260 TO 3+300

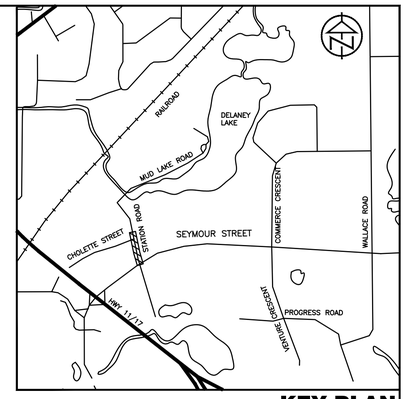
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.11**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 14 of 80

Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025







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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNRIDGE — 100120565 — JULY 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M.J. FIGUEROA — 100543417 — JULY 4, 2025 — PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

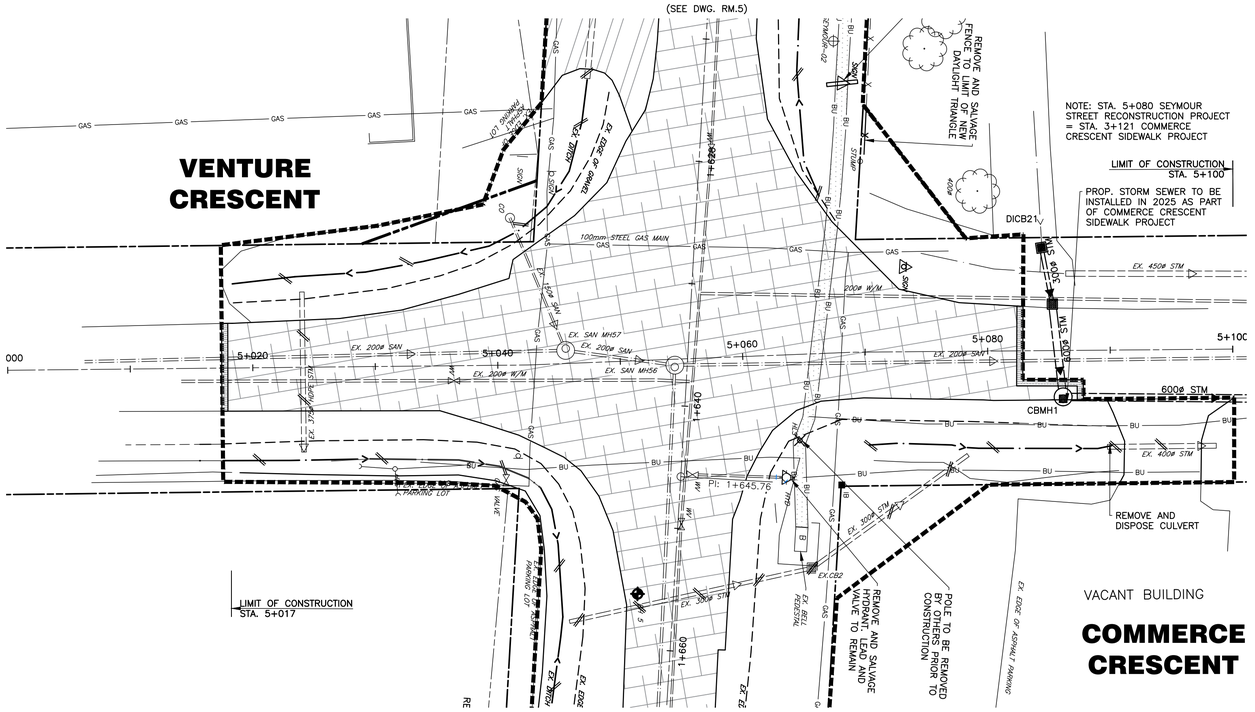
CITY OF NORTH BAY

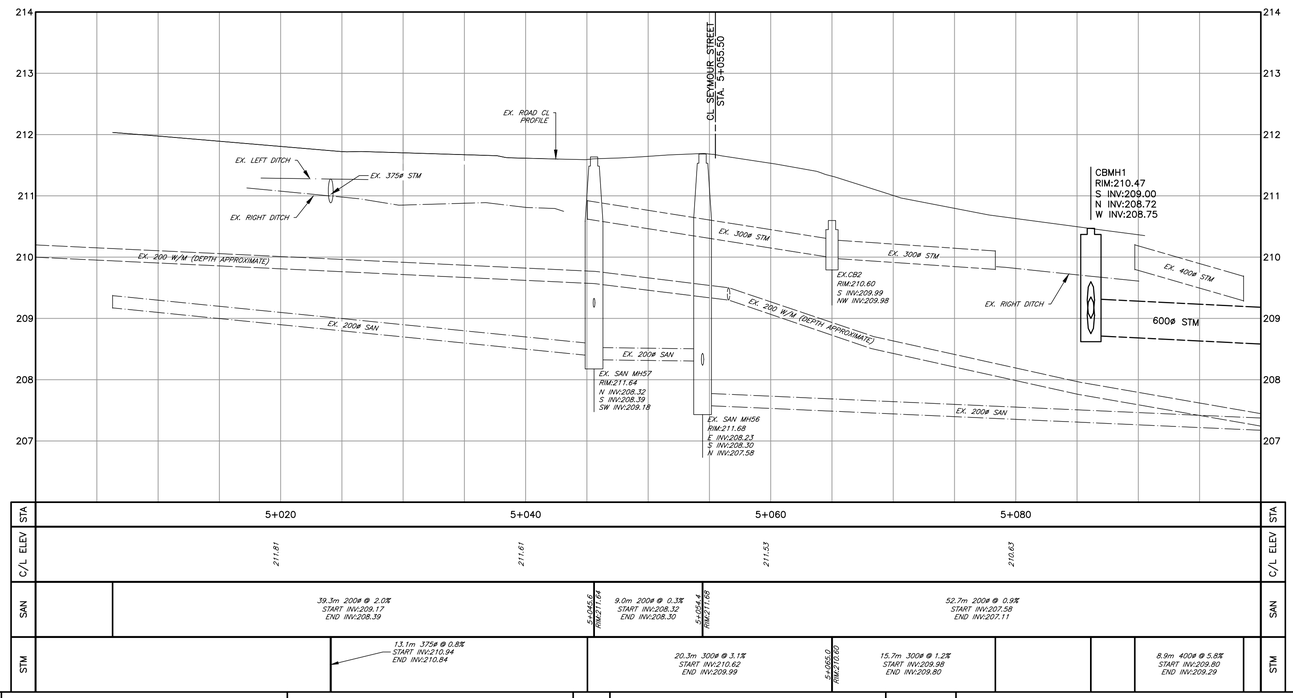
REMOVALS PLAN AND PROFILE STATION STREET STA. 4+000 TO 4+060

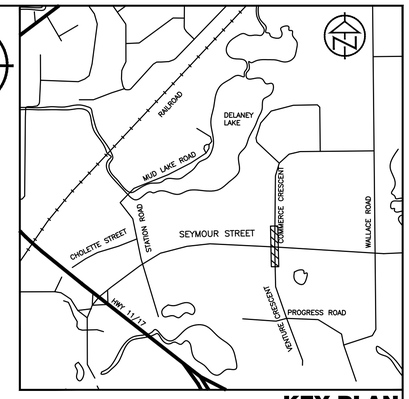
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.12**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 15 of 80

Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025







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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

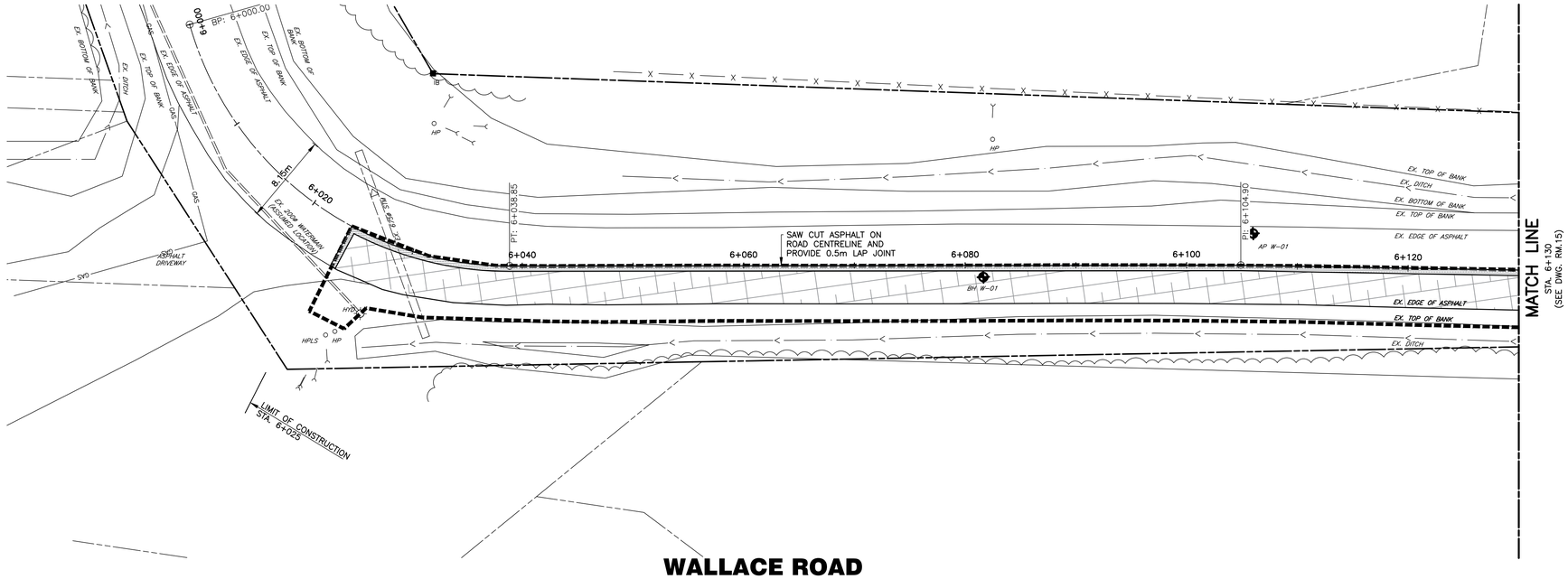
CITY OF NORTH BAY

REMOVALS PLAN AND PROFILE COMMERCE AND VENTURE CRESCENT STA. 5+000 TO 5+100

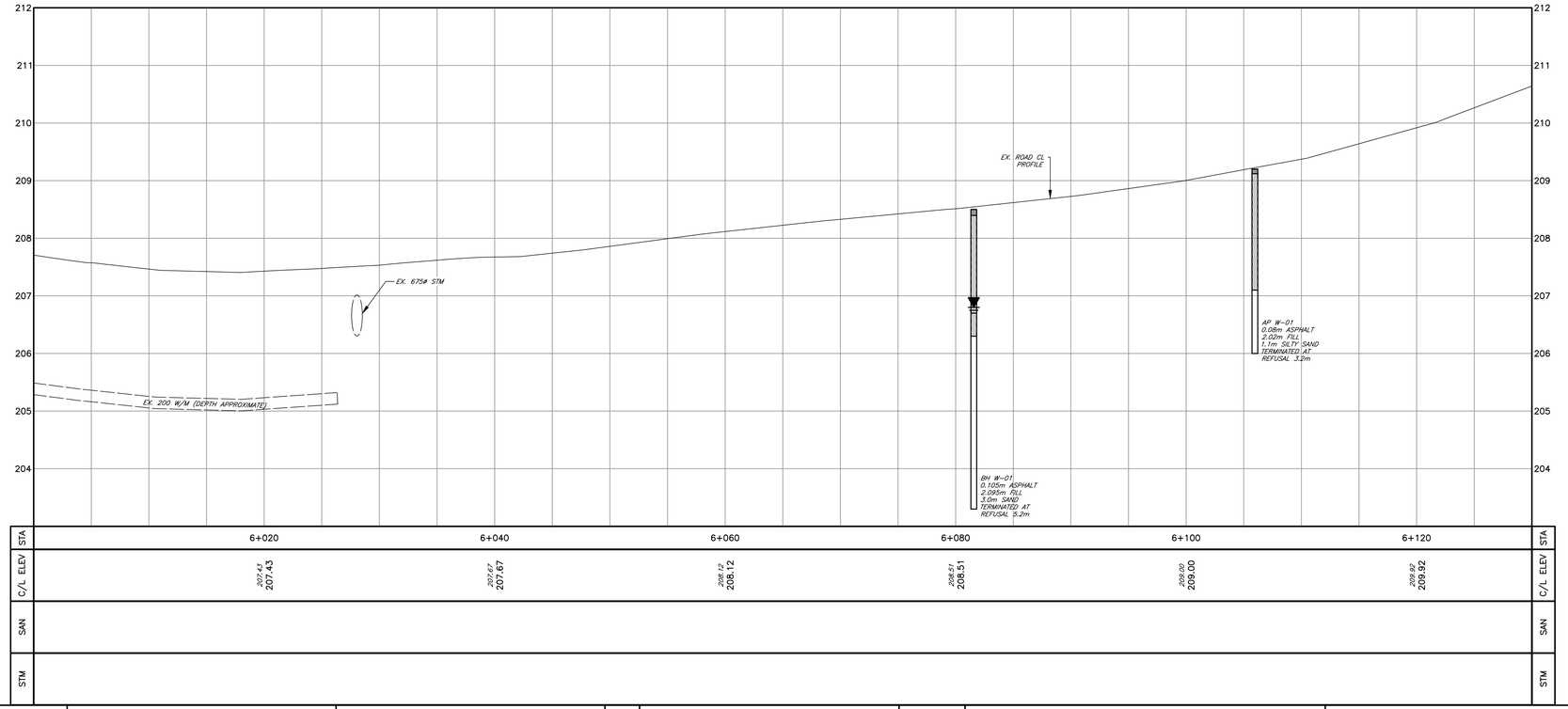
TATHAM ENGINEERING

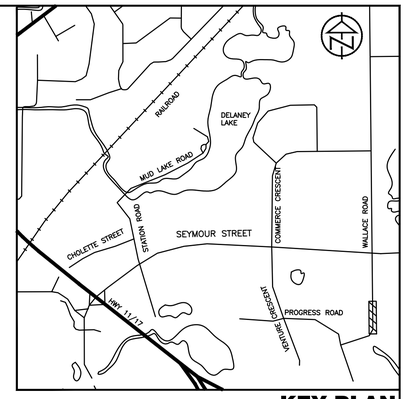
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CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 16 of 80

Drawing Name: 124112–RM01.dwg, Plotted: Jul 04, 2025



WALLACE ROAD





KEY PLAN

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

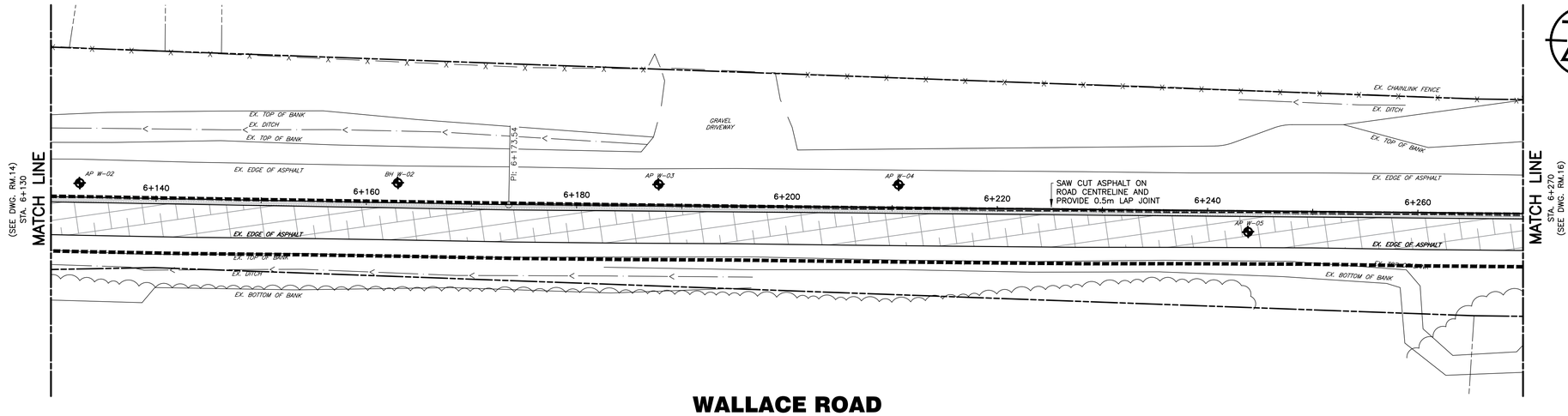
CITY OF NORTH BAY

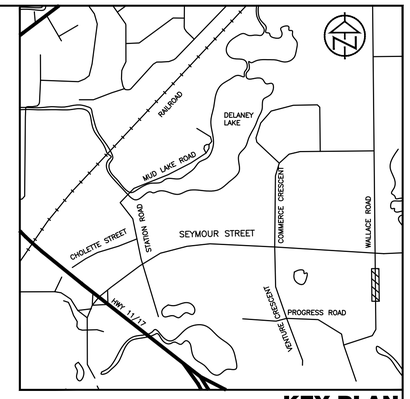
REMOVAL PLAN AND PROFILE WALLACE ROAD STA. 6+000 TO 6+130

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.14**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 17 of 80

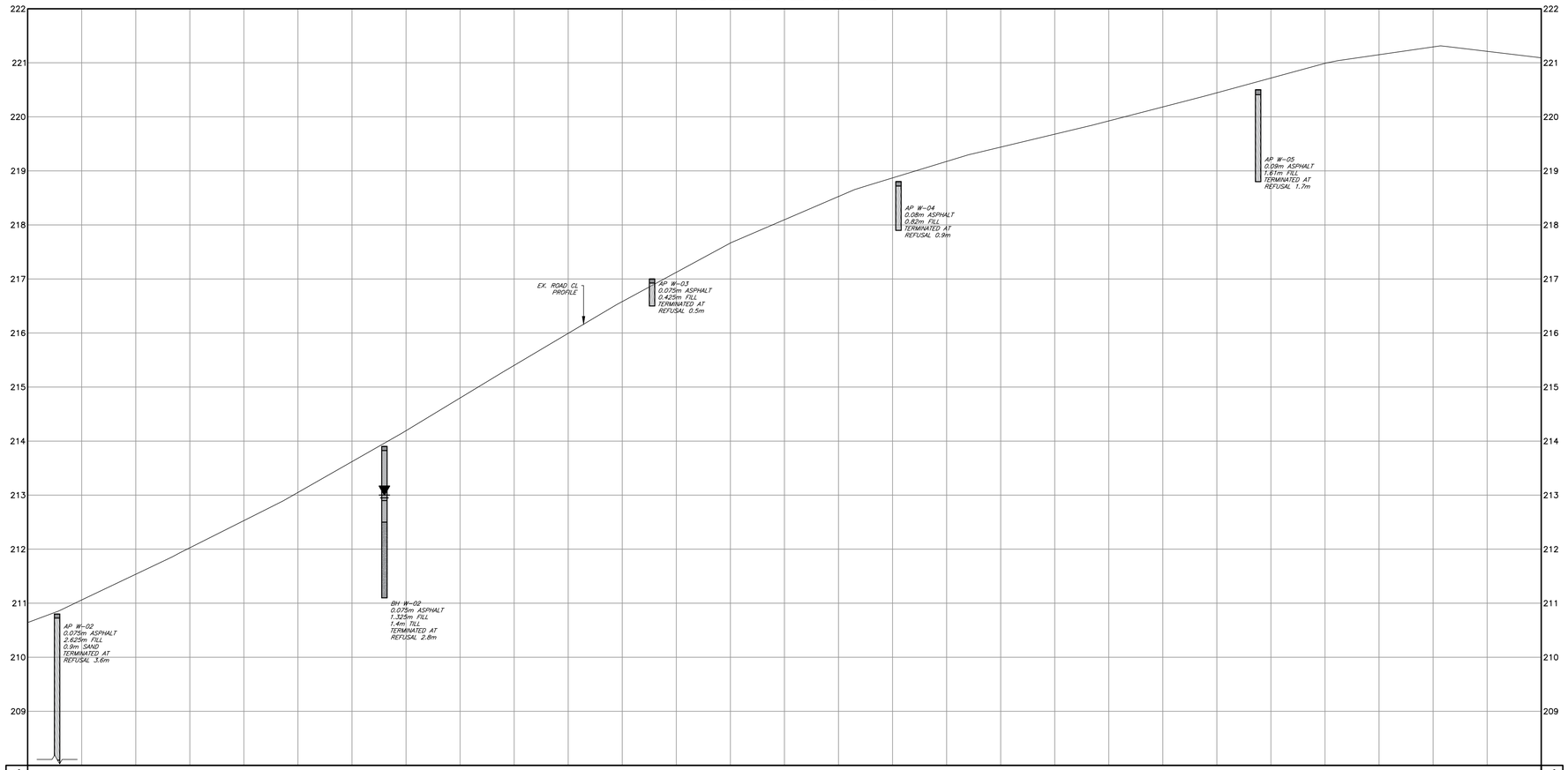
Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025





KEY PLAN

WALLACE ROAD



STA	6+140	6+160	6+180	6+200	6+220	6+240	6+260	STA
C/L ELEV	211.54	213.62	215.99	218.10	219.44	220.45	221.29	C/L ELEV
SAN								SAN
STM								STM

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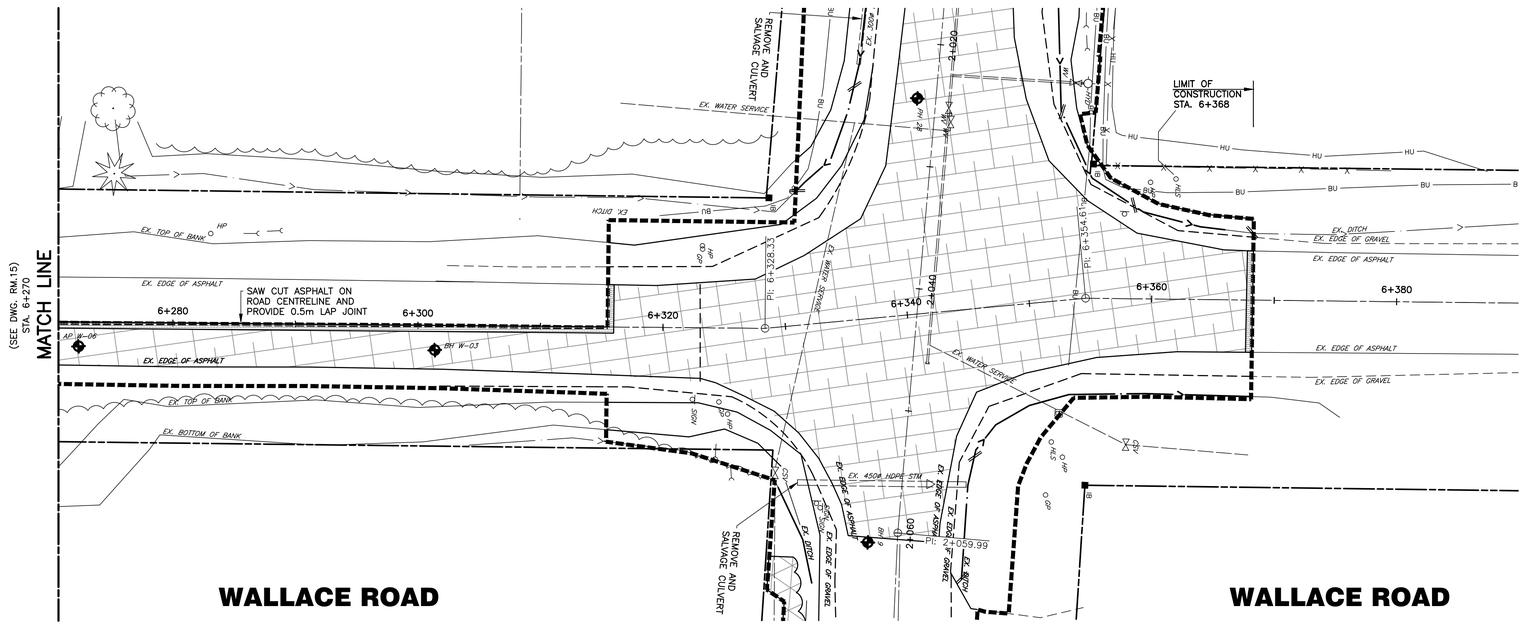
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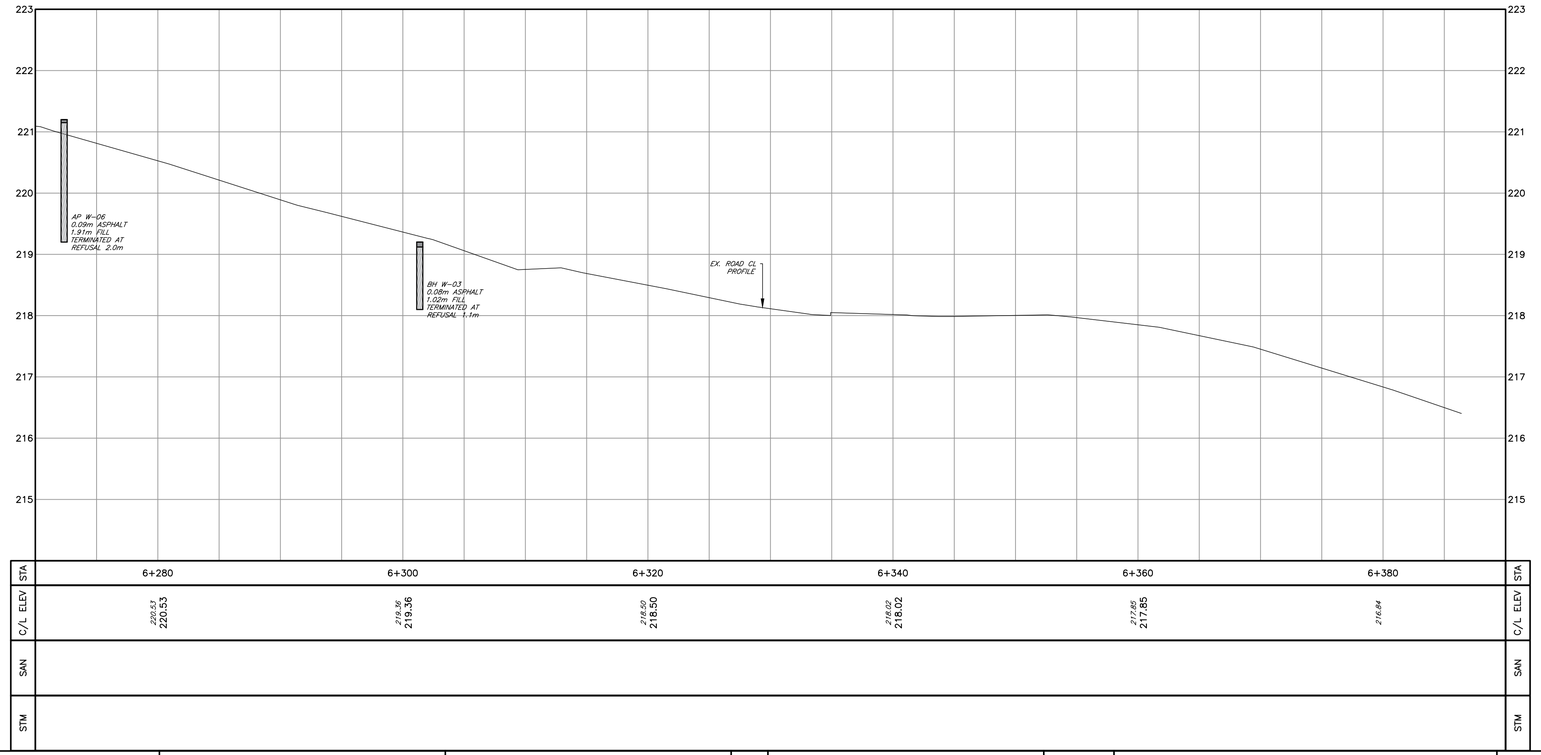
REMOVAL PLAN AND PROFILE WALLACE ROAD STA. 6+130 TO 6+270

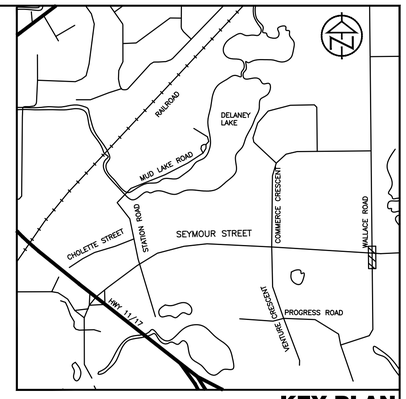
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DESIGN: MJF	FILE: 124112	DWG: **RM.15**
DRAWN: NB	DATE: SEP 2024	
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Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025







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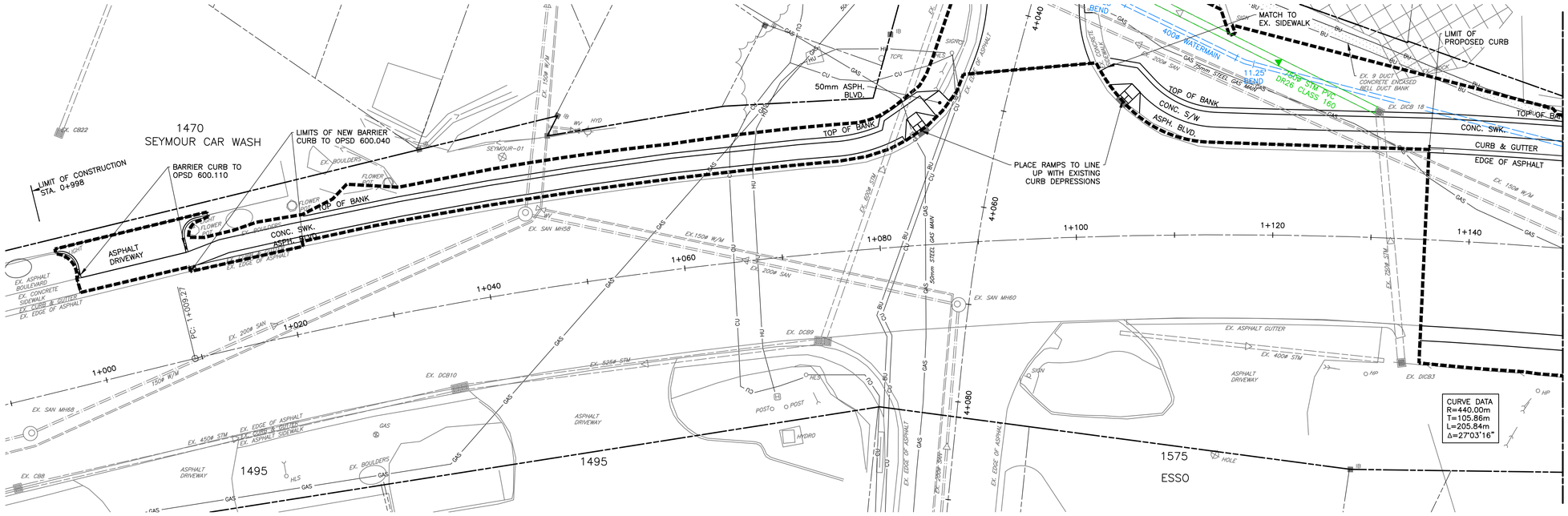
CITY OF NORTH BAY

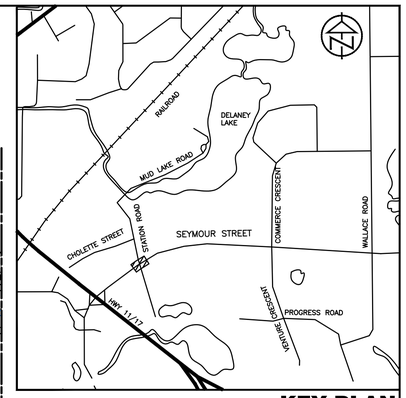
REMOVAL PLAN AND PROFILE WALLACE ROAD STA. 6+270 TO 6+390

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **RM.16**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 19 of 80

Drawing Name: 124112-RM01.dwg, Plotted: Jul 04, 2025



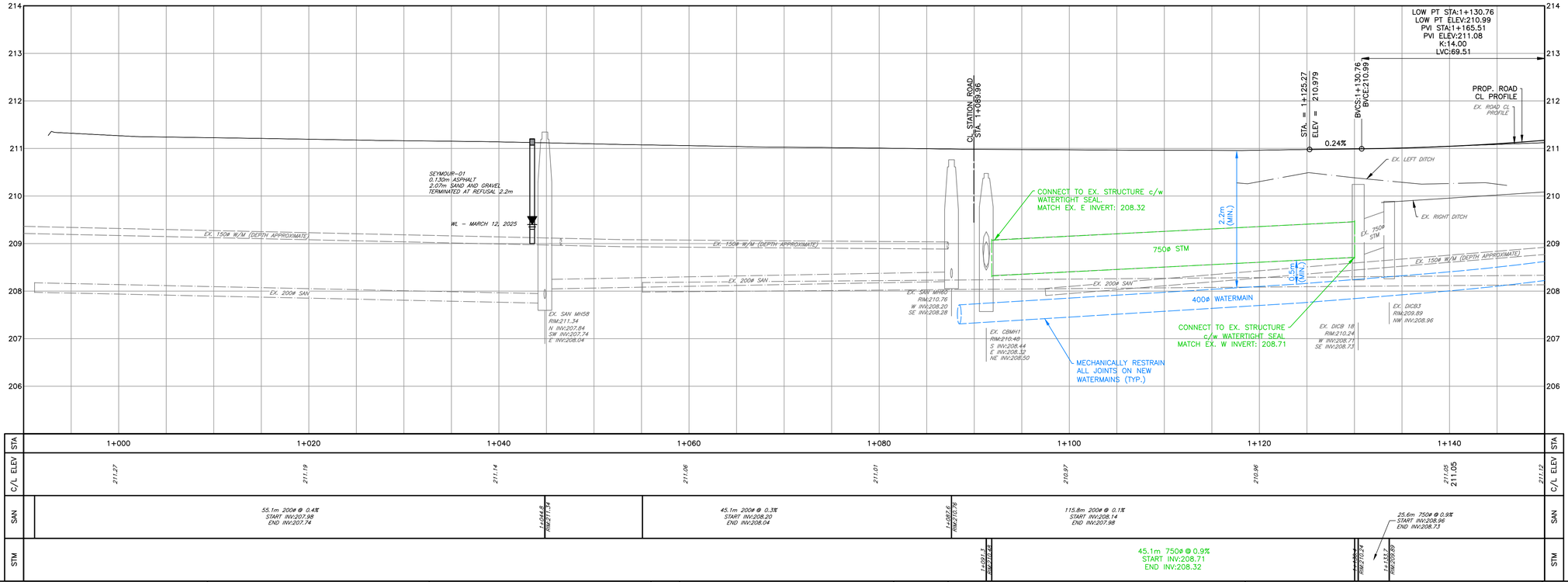


KEY PLAN

SUPERELEVATION – SEYMOUR STREET

STATION	CURVE POINT	LT OF ℄ (%)	RT OF ℄ (%)
1+135.00	MATCH	+2.4	-3.3
1+201.43	EFS	+3.0	-3.0
1+214.43	RC	+2.0	-2.0
1+217.03	EC	+2.0	-2.0
1+261.19	BC	+2.0	-2.0
1+458.13	EFS/RC	+2.0	-2.0
1+473.73	EC	+1.2	-2.0
1+497.13	ES/HC	0	-2.0
1+536.13	NC	-2.0	-2.0

NC NORMAL CROWN
RC REVERSE CROWN
BS/HC BEGINNING OF SUPERELEVATION/HALF CROWN
ES/HC END OF SUPERELEVATION/HALF CROWN
BC BEGINNING OF CURVE
EC END OF CURVE
BFS BEGINNING OF FULL SUPERELEVATION
EFS END OF FULL SUPERELEVATION



NOTES

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3. REFER TO DRAWINGS DE.1 TO DE.6 FOR TYPICAL CROSS SECTIONS AND DETAILS.

LEGEND

LIMIT OF WORK

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

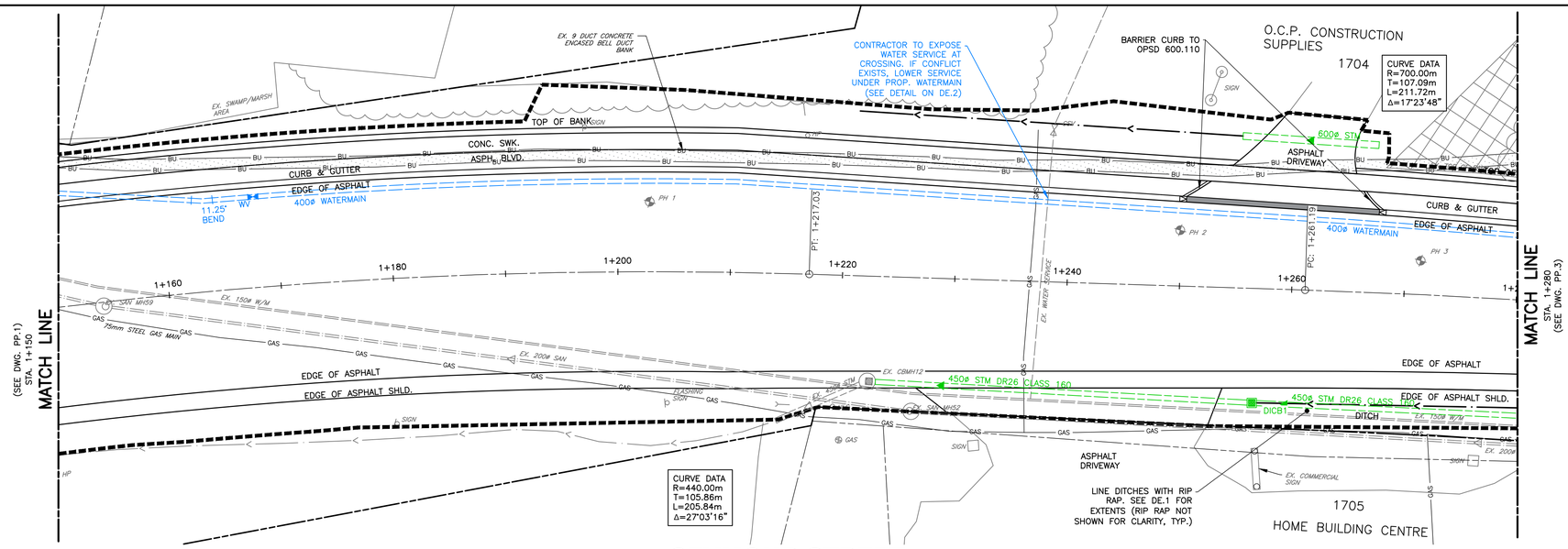
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

PLAN AND PROFILE
SEYMOUR STREET
STA. 0+090 TO 1+150

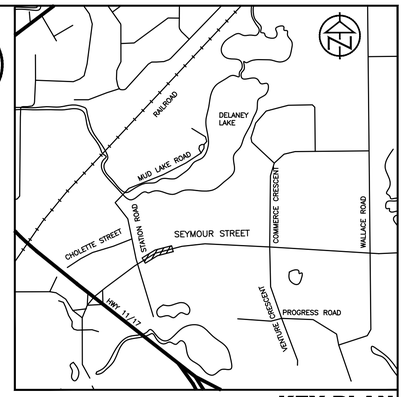
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG:	
DRAWN: NB	DATE: SEP 2024	**PP.1**	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No.	20 of 80

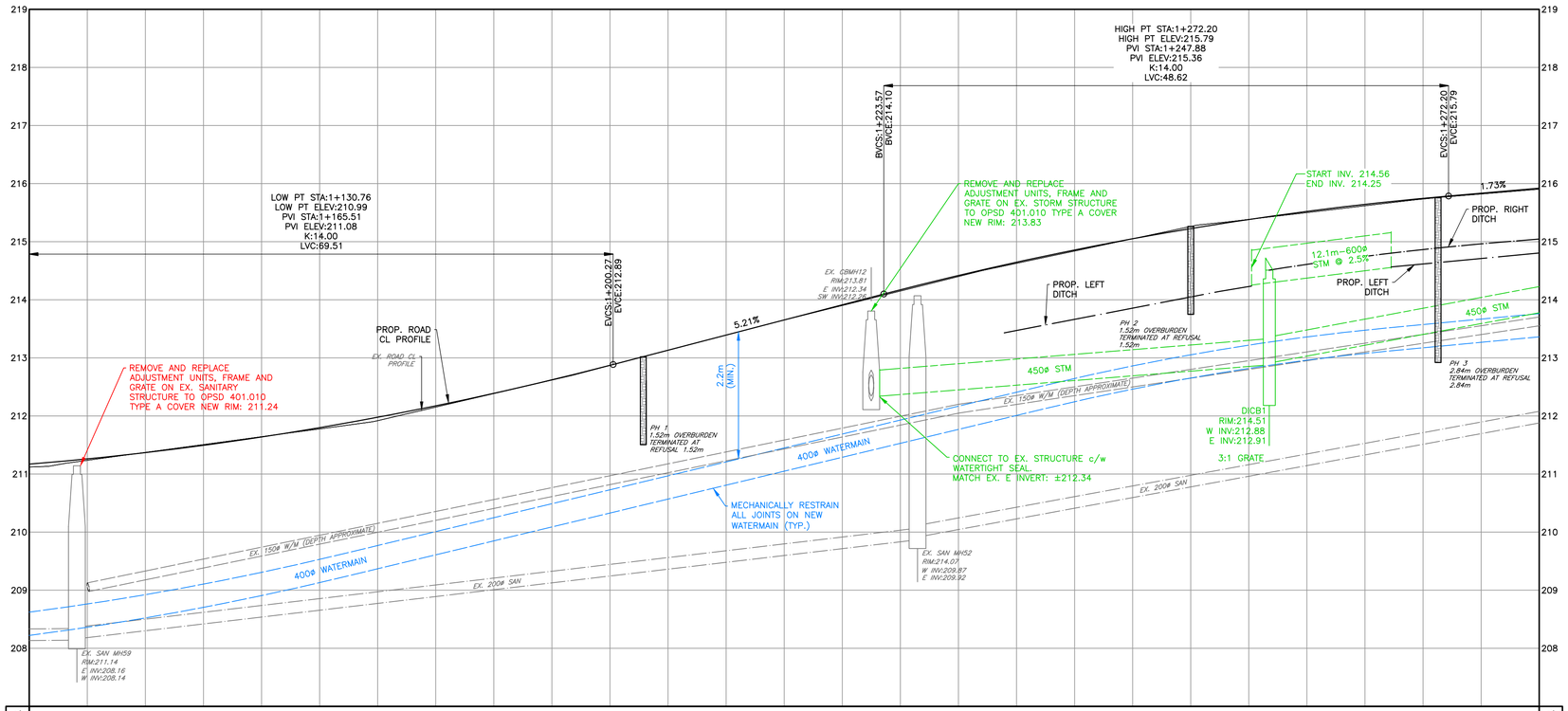
Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025



SEYMOUR STREET



KEY PLAN



STA	1+160	1+180	1+200	1+220	1+240	1+260	STA
C/L ELEV	211.17	211.37 211.98	212.67 212.87	213.90 213.91	214.64 214.86	215.50 215.52	C/L ELEV
SAN	15.8m 200ø @ 2.5% START INV:208.16 END INV:207.76	EX. SAN MH59 RIM:211.14	72.4m 200ø @ 2.4% START INV:209.97 END INV:208.16	EX. SAN MH52 RIM:214.07	100.4m 200ø @ 3.7% START INV:213.64 END INV:209.92		SAN
STM				33.6m 450ø @ 1.6% START INV:212.88 END INV:212.34	EX. DICB1 RIM:215.51	43.4m 450ø @ 3.8% START INV:214.55 END INV:212.91	STM

SUPERELEVATION – SEYMOUR STREET			
STATION	CURVE POINT	LT OF ℄ (%)	RT OF ℄ (%)
1+135.00	MATCH	+2.4	–3.3
1+201.43	EFS	+3.0	–3.0
1+214.43	RC	+2.0	–2.0
1+217.03	EC	+2.0	–2.0
1+261.19	BC	+2.0	–2.0
1+458.13	EFS/RC	+2.0	–2.0
1+473.73	EC	+1.2	–2.0
1+497.13	ES/HC	0	–2.0
1+536.13	NC	–2.0	–2.0

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RC REVERSE CROWN
BS/HC BEGINNING OF SUPERELEVATION/HALF CROWN
ES/HC END OF SUPERELEVATION/HALF CROWN
BC BEGINNING OF CURVE
EC END OF CURVE
BFS BEGINNING OF FULL SUPERELEVATION
EFS END OF FULL SUPERELEVATION

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LEGEND

LIMIT OF WORK

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120585 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

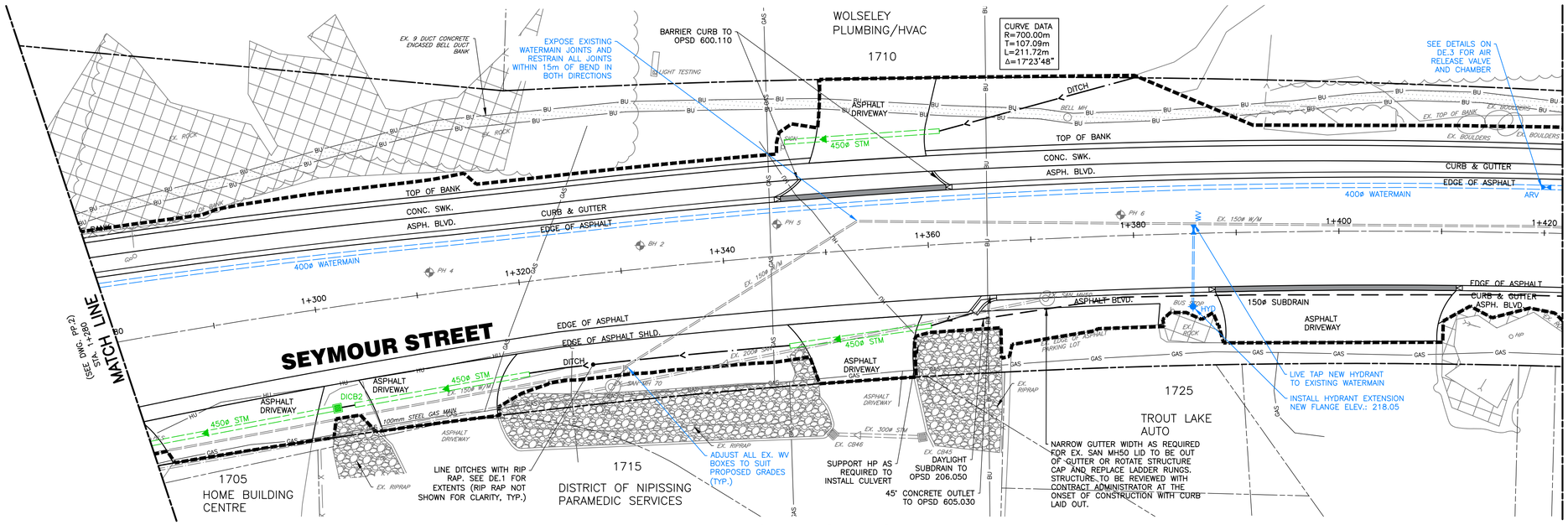
CITY OF NORTH BAY

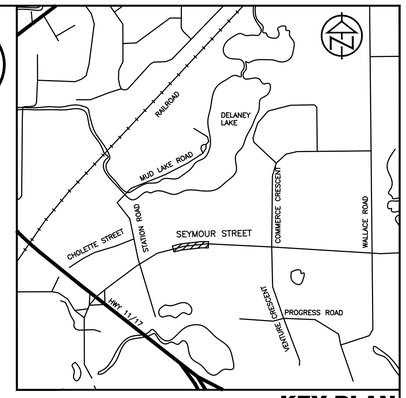
PLAN AND PROFILE SEYMOUR STREET STA. 1+150 TO 1+280

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **PP.2**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 21 of 80

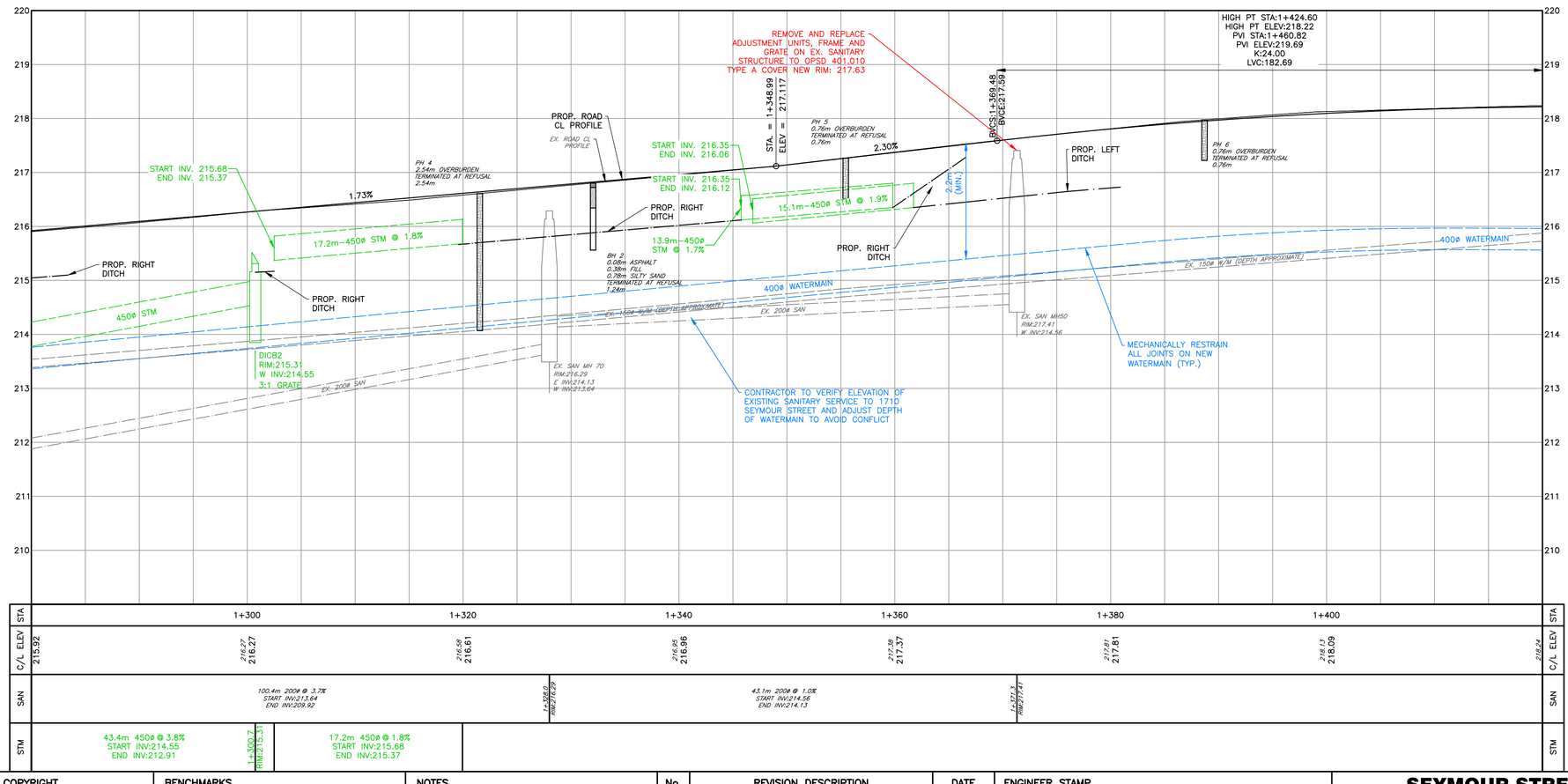
Drawing Name: 124112–PP01.dwg, Plotted: Jul 04, 2025





KEY PLAN

SEYMOUR STREET



SUPERELEVATION – SEYMOUR STREET

STATION	CURVE POINT	LT OF ℄ (%)	RT OF ℄ (%)
1+135.00	MATCH	+2.4	−3.3
1+201.43	EFS	+3.0	−3.0
1+214.43	RC	+2.0	−2.0
1+217.03	EC	+2.0	−2.0
1+261.19	BC	+2.0	−2.0
1+458.13	EFS/RC	+2.0	−2.0
1+473.73	EC	+1.2	−2.0
1+497.13	ES/HC	0	−2.0
1+536.13	NC	−2.0	−2.0

NC NORMAL CROWN
RC REVERSE CROWN
BS/HC BEGINNING OF SUPERELEVATION/HALF CROWN
ES/HC END OF SUPERELEVATION/HALF CROWN
BC BEGINNING OF CURVE
EC END OF CURVE
BFS BEGINNING OF FULL SUPERELEVATION
EFS END OF FULL SUPERELEVATION

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LEGEND

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

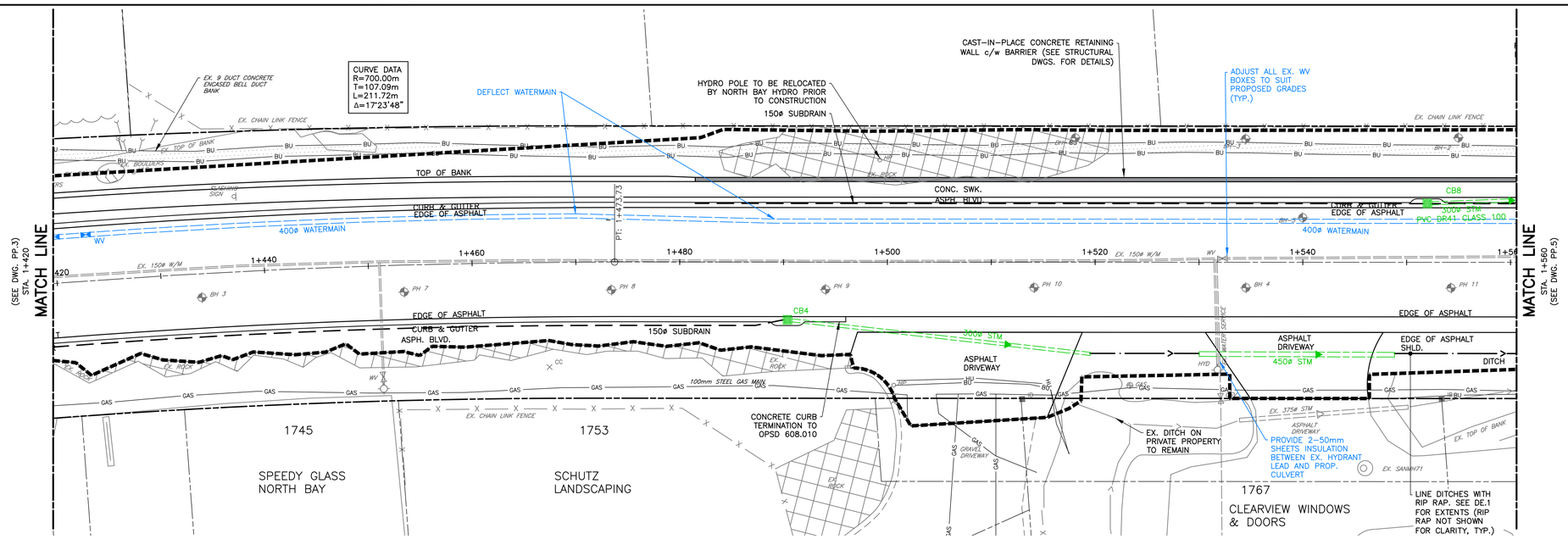
CITY OF NORTH BAY

PLAN AND PROFILE SEYMOUR STREET STA. 1+280 TO 1+420

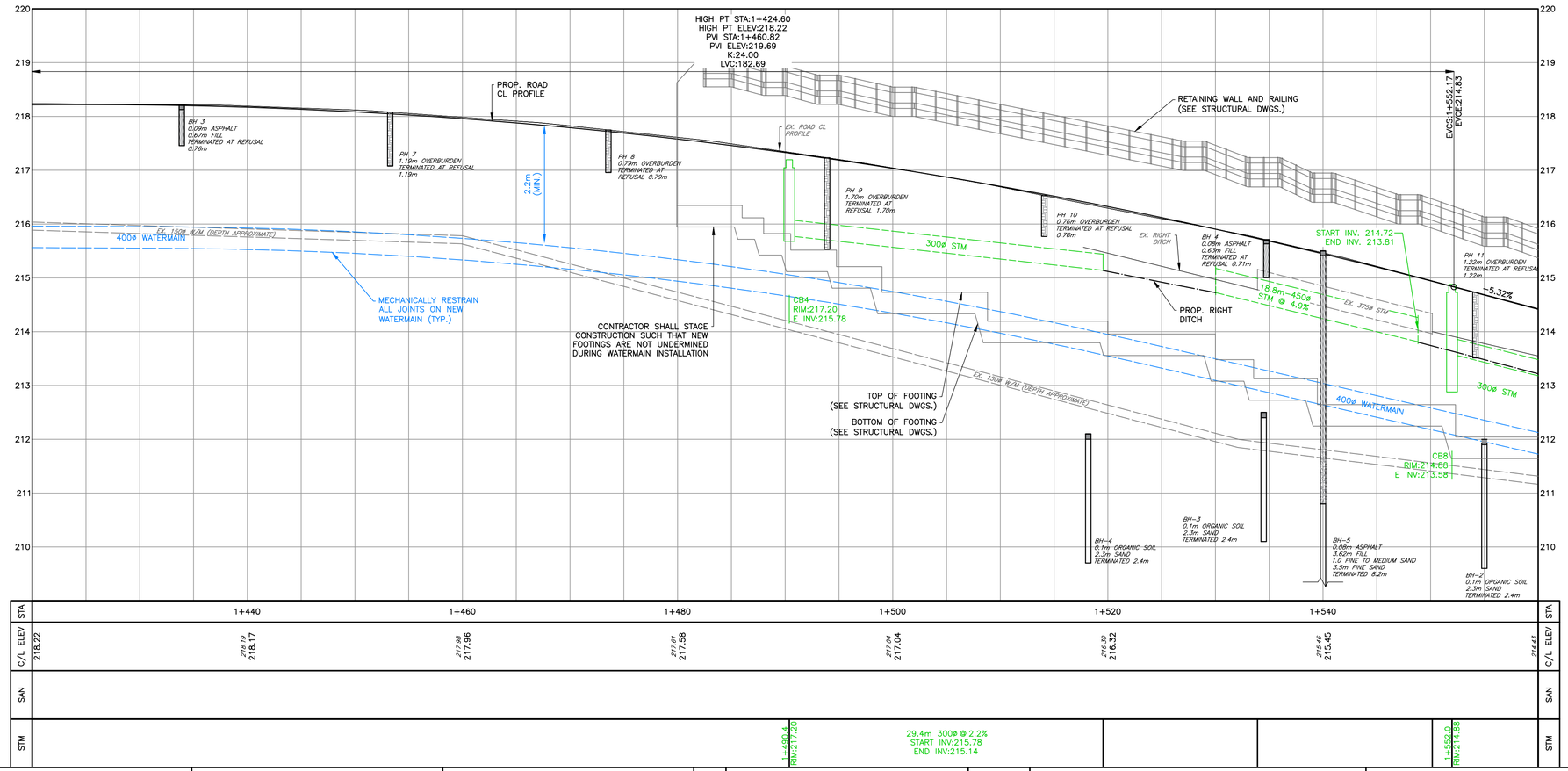
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: PP.3
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 22 of 80

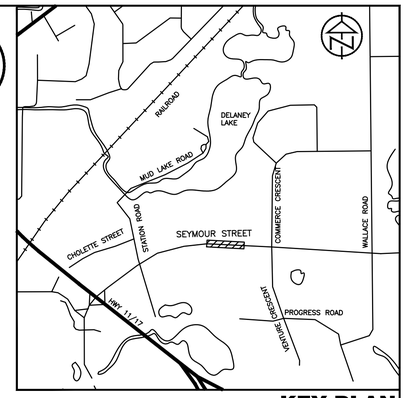
Drawing Name: 124112–PP01.dwg, Plotted: Jul 04, 2025



SEYMOUR STREET



STA	1+440	1+460	1+480	1+500	1+520	1+540
C/L ELEV	218.22	218.17	217.96	217.58	217.04	216.32	215.45
SAN							
STM				1+489.4 RIM:217.20	29.4m 300ø @ 2.2% START INV:215.78 END INV:215.14			1+552.6 RIM:214.88



KEY PLAN

SUPERELEVATION – SEYMOUR STREET			
STATION	CURVE POINT	LT OF ℄ (%)	RT OF ℄ (%)
1+135.00	MATCH	+2.4	−3.3
1+201.43	EFS	+3.0	−3.0
1+214.43	RC	+2.0	−2.0
1+217.03	EC	+2.0	−2.0
1+261.19	BC	+2.0	−2.0
1+458.13	EFS/RC	+2.0	−2.0
1+473.73	EC	+1.2	−2.0
1+497.13	ES/HC	0	−2.0
1+536.13	NC	−2.0	−2.0

NC NORMAL CROWN
RC REVERSE CROWN
BS/HC BEGINNING OF SUPERELEVATION/HALF CROWN
ES/HC END OF SUPERELEVATION/HALF CROWN
BC BEGINNING OF CURVE
EC END OF CURVE
BFS BEGINNING OF FULL SUPERELEVATION
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LEGEND

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

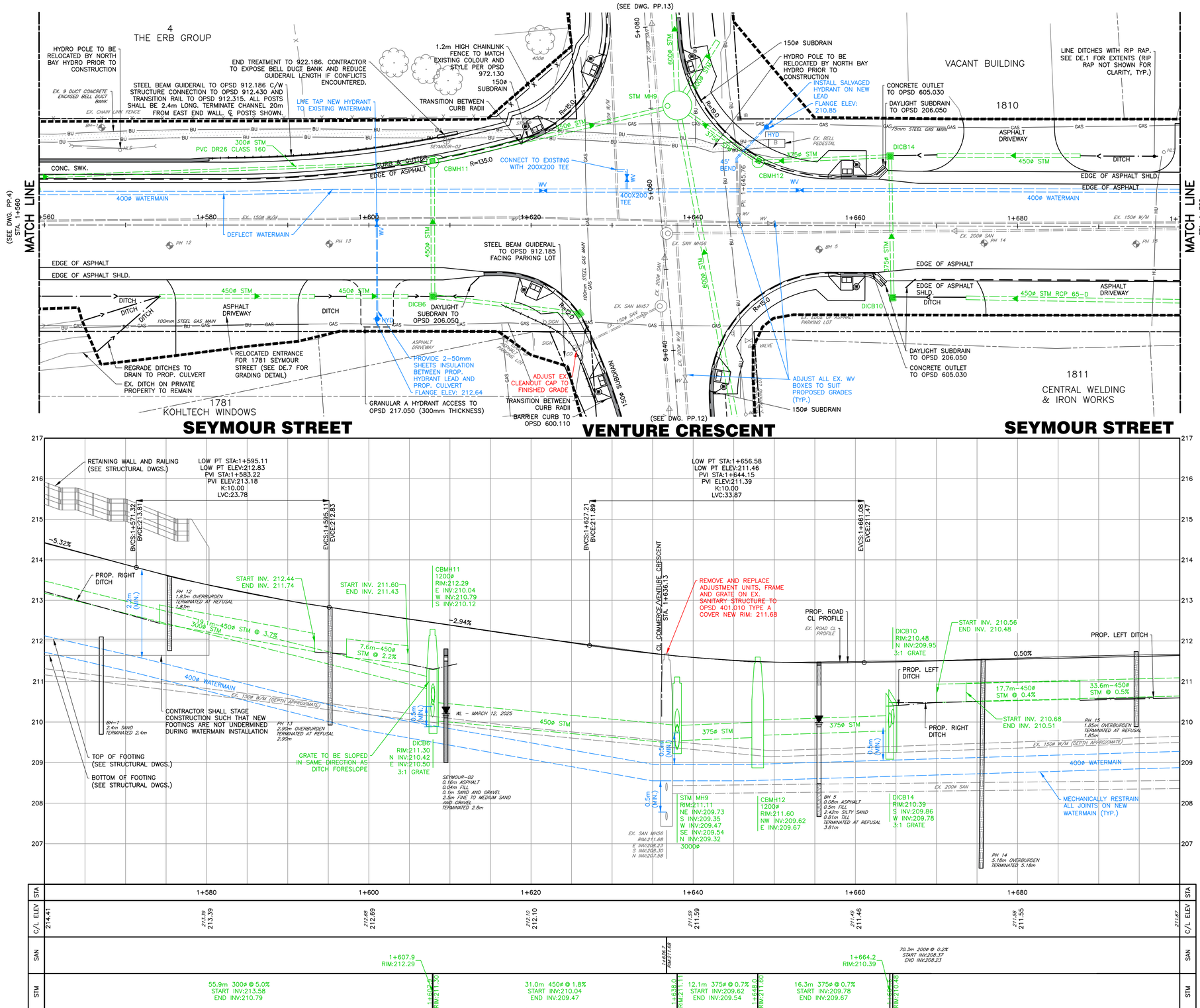
CITY OF NORTH BAY

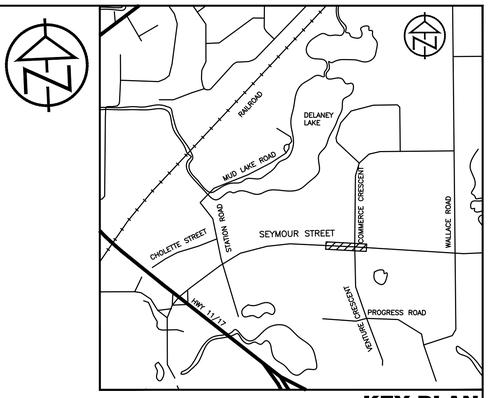
PLAN AND PROFILE
SEYMOUR STREET
STA. 1+420 TO 1+560

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **PP.4**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 23 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025





NOTES

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LEGEND

- - - LIMIT OF WORK

STRUCTURES		
STRUCTURE	**RIM**	**PIPES**
CB3	211.48	W INV: 210.59 450ø
DICB6	211.30	N INV: 210.42 450ø E INV: 210.50 450ø
DICB10	210.48	N INV: 209.95 375ø

DITCH INLET LEAD			
STRUCTURE	**SIZE**	**LENGTH**	**SLOPE**
DICB6	450mm	16.5m	1.8%
DICB10	375mm	17.4m	0.5%

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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNRIDGE — 100120585 — July 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M. J. FIGUEROA — 100543417 — July 4, 2025 — PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

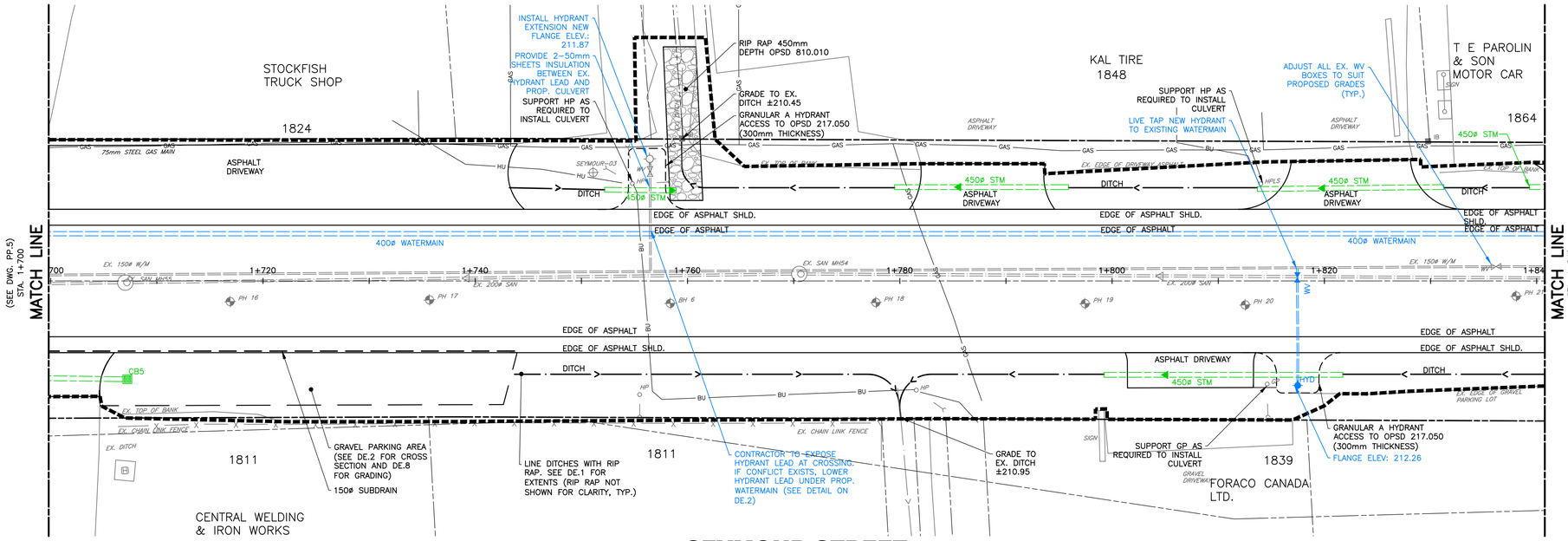
CITY OF NORTH BAY

PLAN AND PROFILE SEYMOUR STREET STA. 1+560 TO 1+700

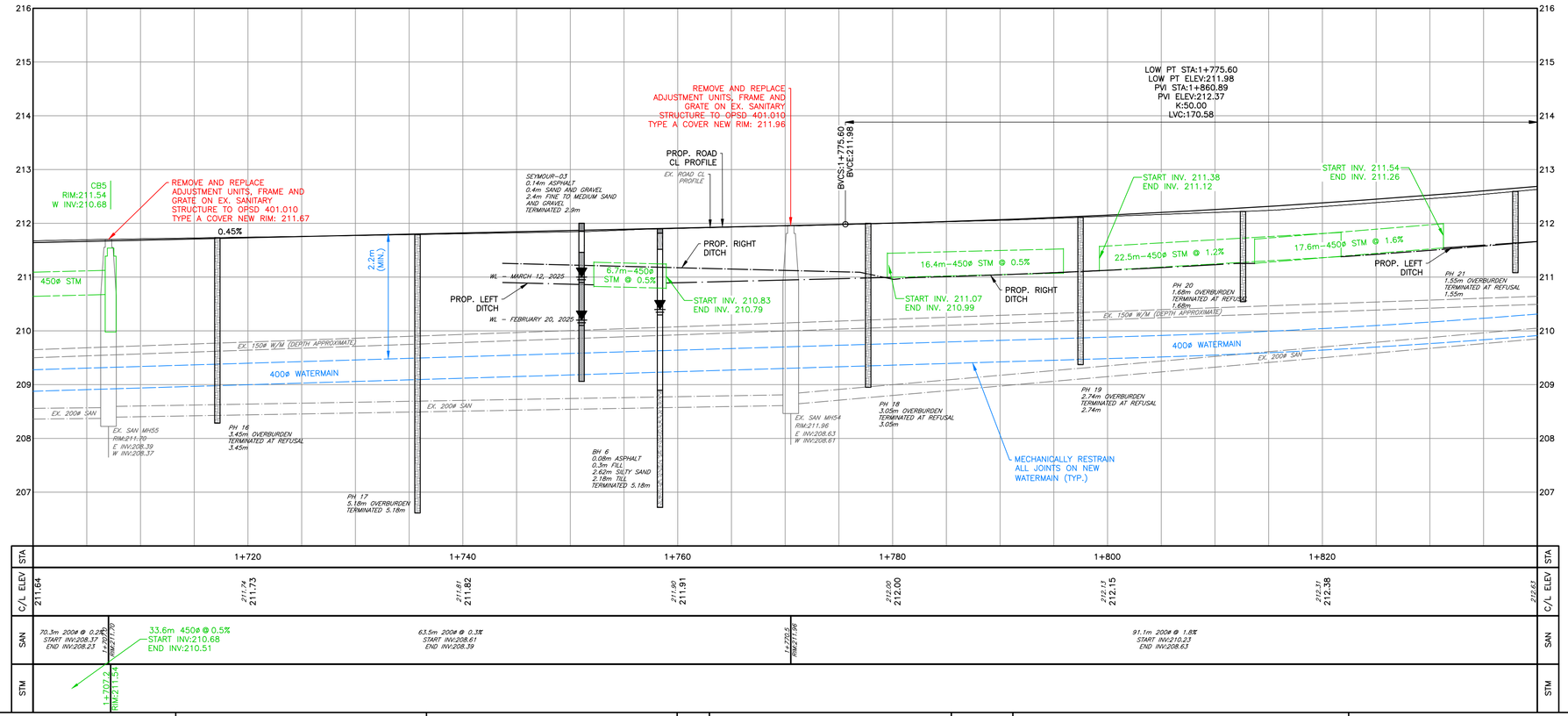
TATHAM ENGINEERING

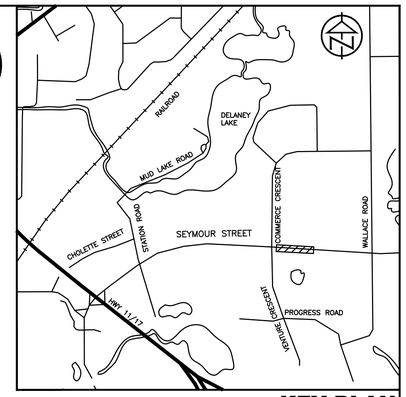
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE:	Sheet No. 24 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025



SEYMOUR STREET





KEY PLAN

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LEGEND

LIMIT OF WORK

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

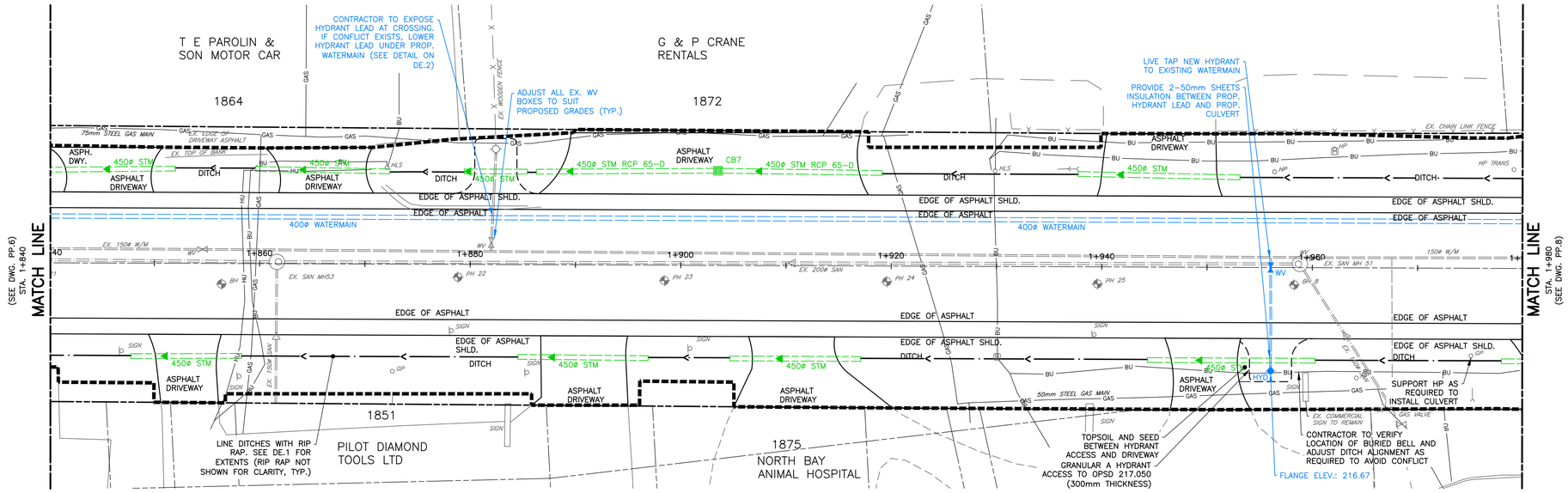
CITY OF NORTH BAY

PLAN AND PROFILE SEYMOUR STREET STA. 1+700 TO 1+840

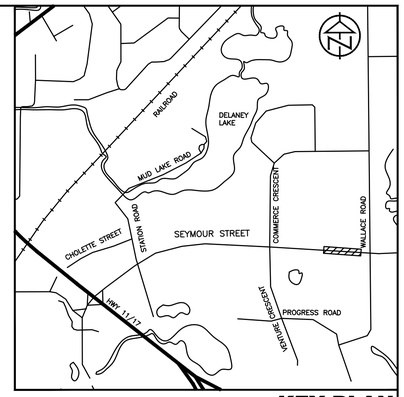
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **PP.6**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 25 of 80

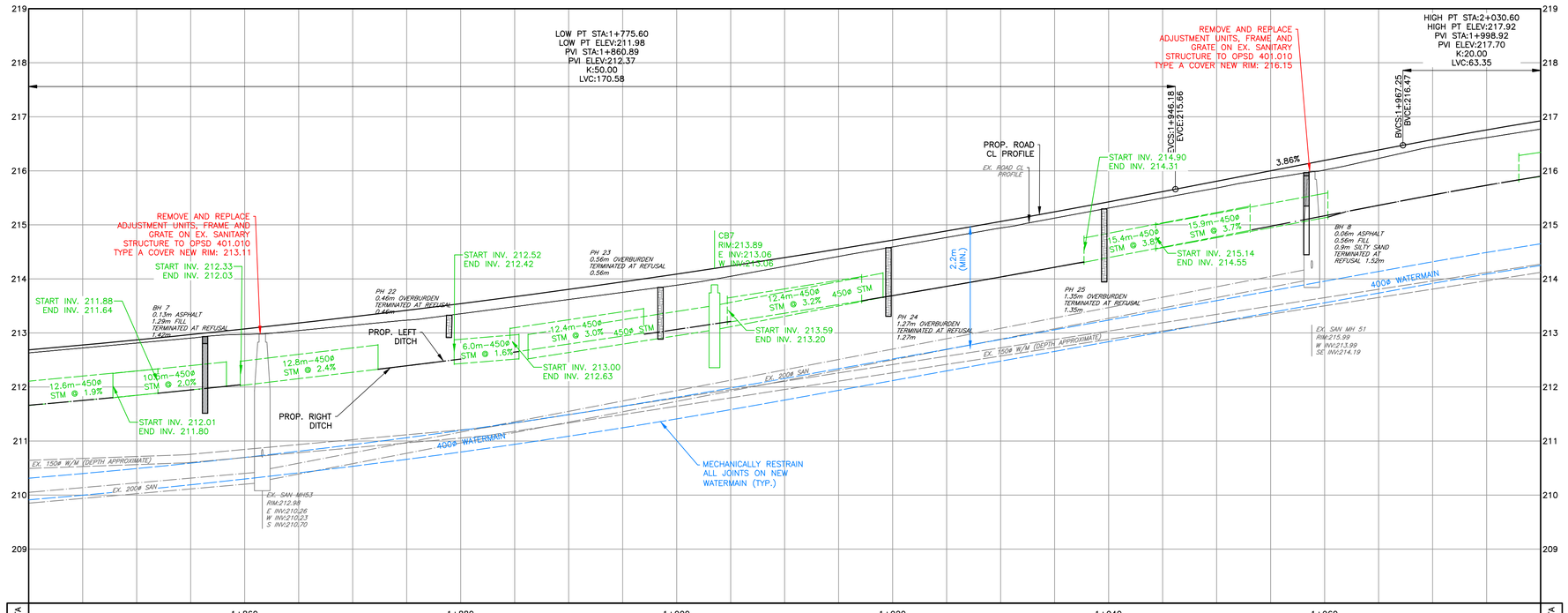
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SEYMOUR STREET



KEY PLAN



STA	1+860		1+880		1+900		1+940		1+960	
C/L ELEV	212.69	212.97 213.07	213.26 213.54	213.68 214.09	214.29 214.72	215.31 215.42	216.01 216.19	216.77
SAN	91.1m 200ø @ 1.8% START INV:210.23 END INV:208.63	1.06m ø MH211.58	97.2m 200ø @ 3.8% START INV:213.99 END INV:210.26	1.05m ø MH215.89	
STM	17.3m 450ø @ 3.1% START INV:213.06 END INV:212.52	1+903.5 RIM:213.89	15.6m 450ø @ 3.9% START INV:213.66 END INV:213.06	

NOTES

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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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ENGINEER STAMP

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LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

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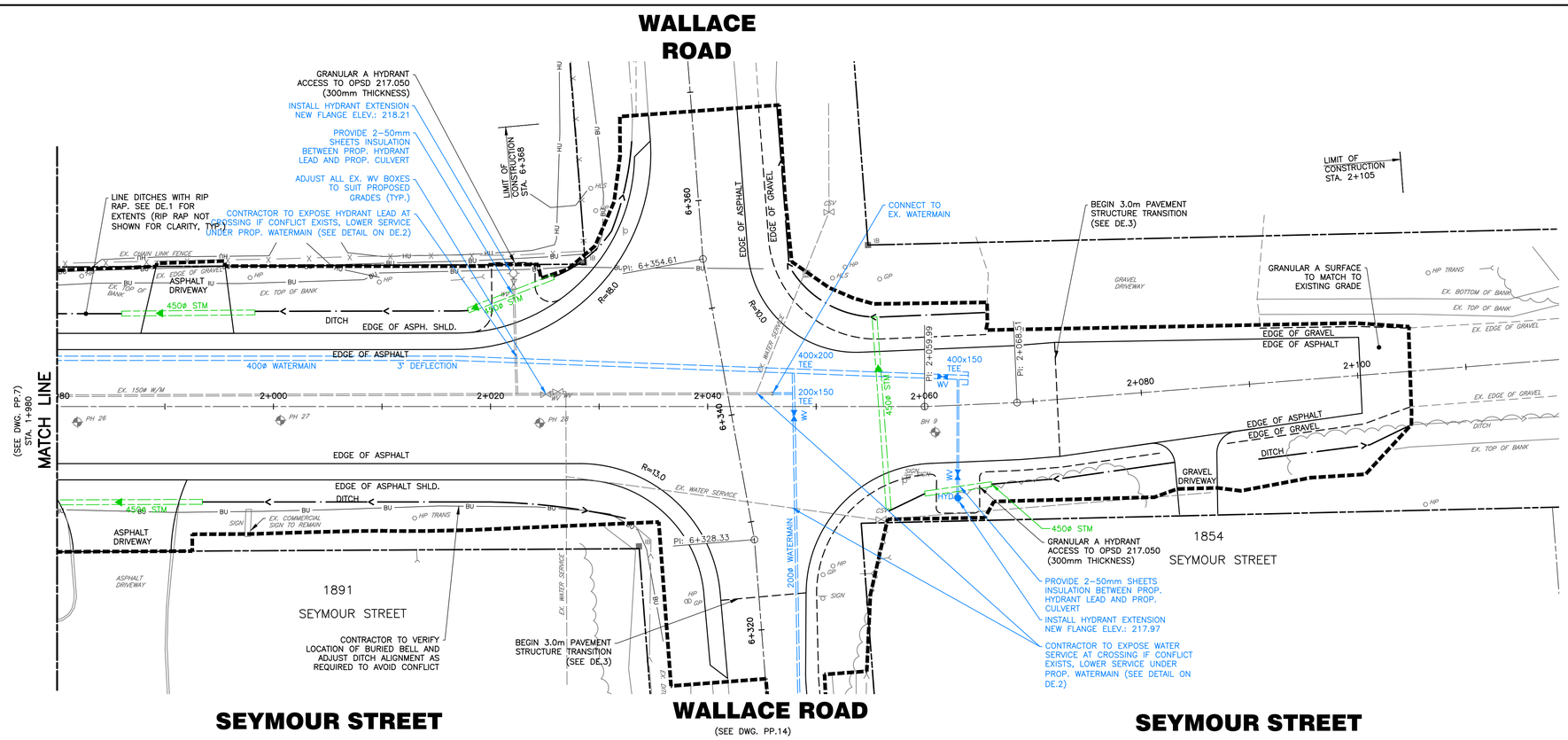
CITY OF NORTH BAY

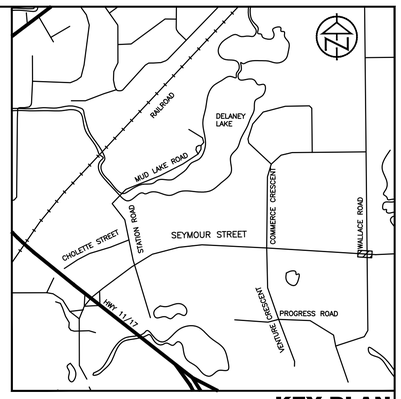
PLAN AND PROFILE
SEYMOUR STREET
STA. 1+840 TO 1+980

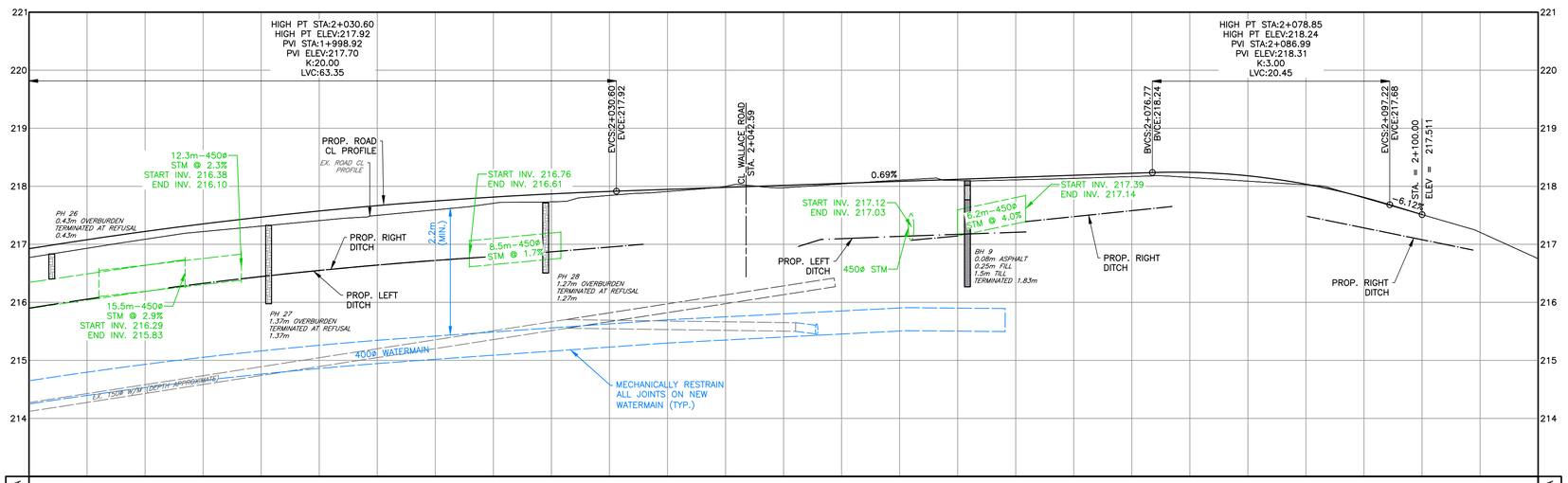
TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 24 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025







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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNBRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

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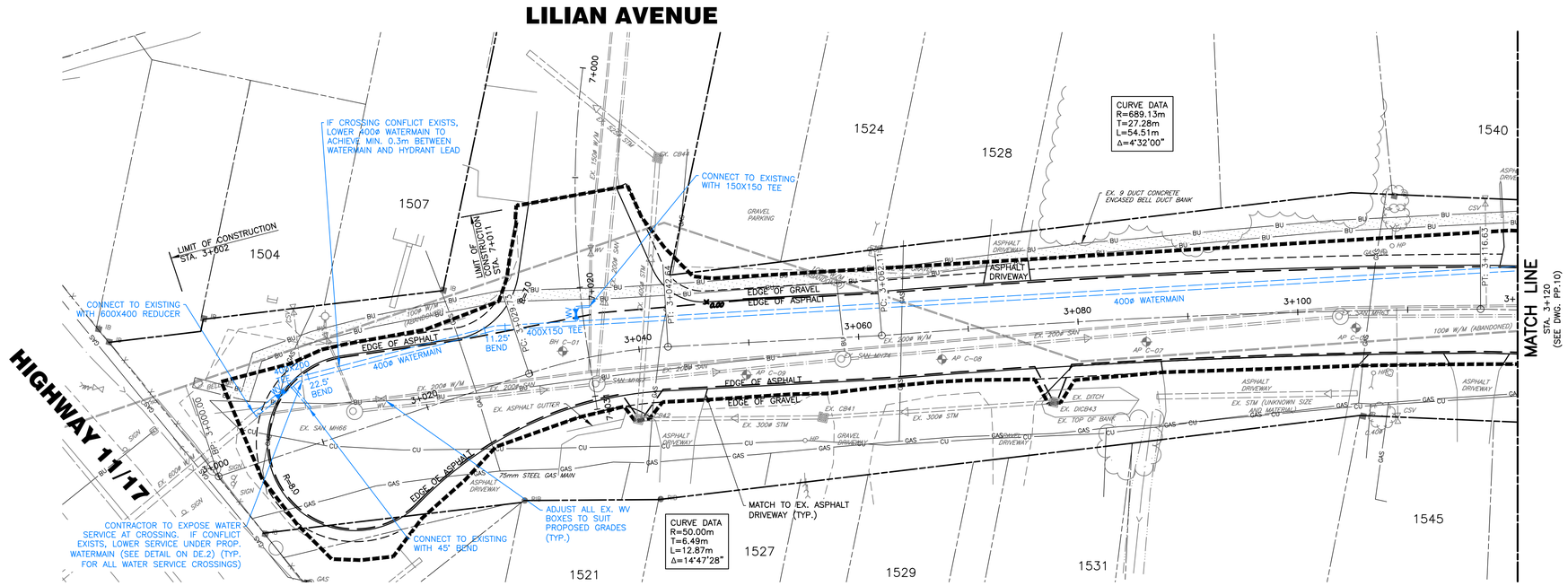
CITY OF NORTH BAY

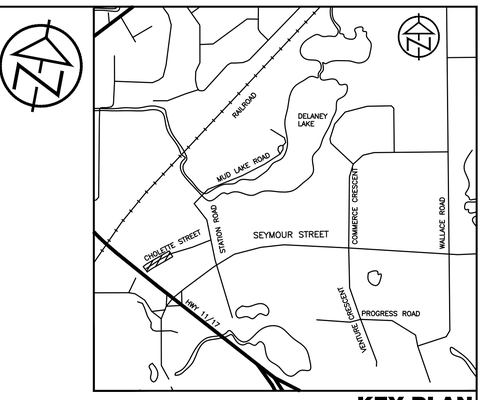
PLAN AND PROFILE SEYMOUR STREET STA. 1+980 TO 2+120

TATHAM ENGINEERING

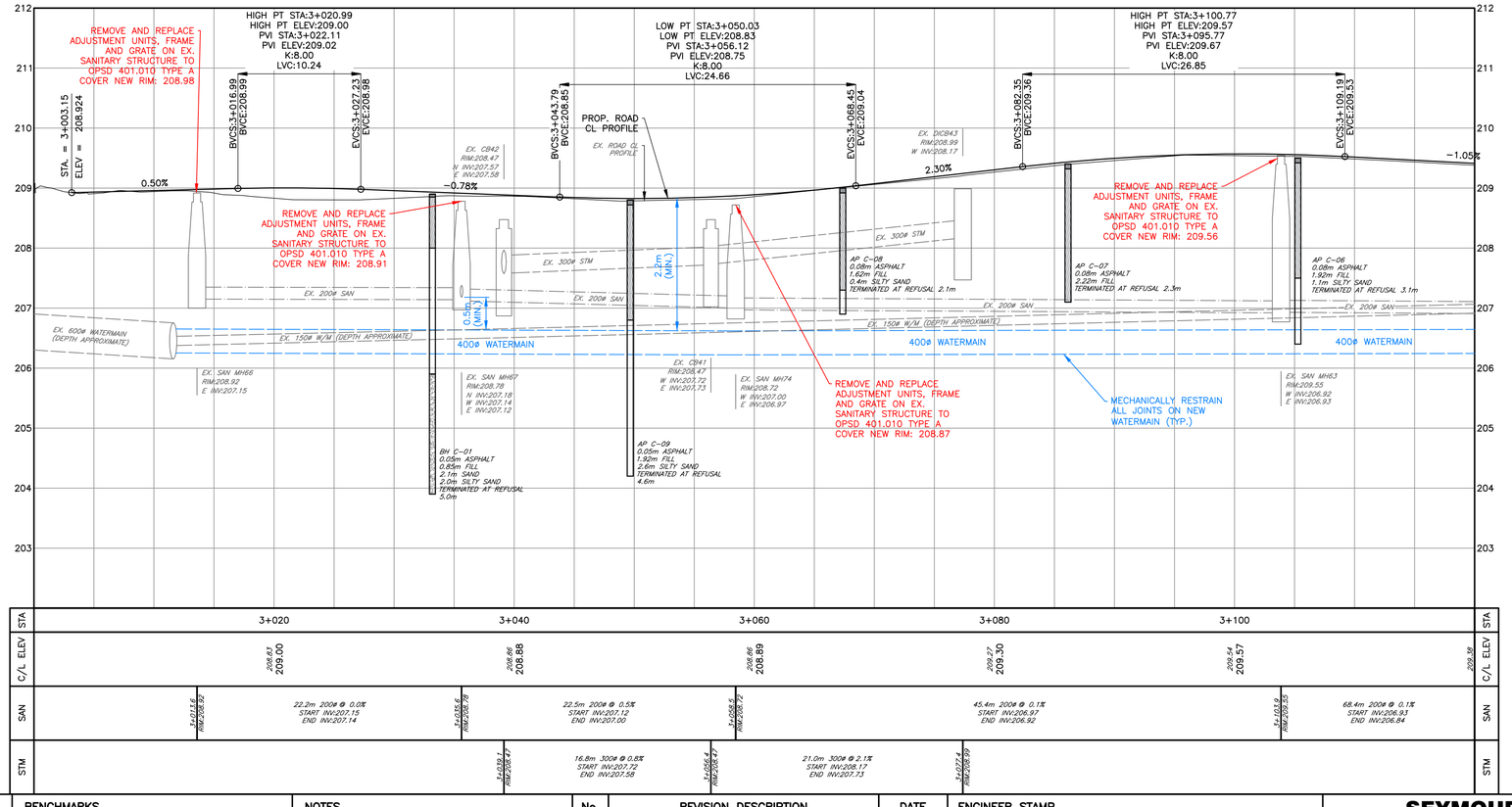
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CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 27 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025





KEY PLAN



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ENGINEER STAMP

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LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

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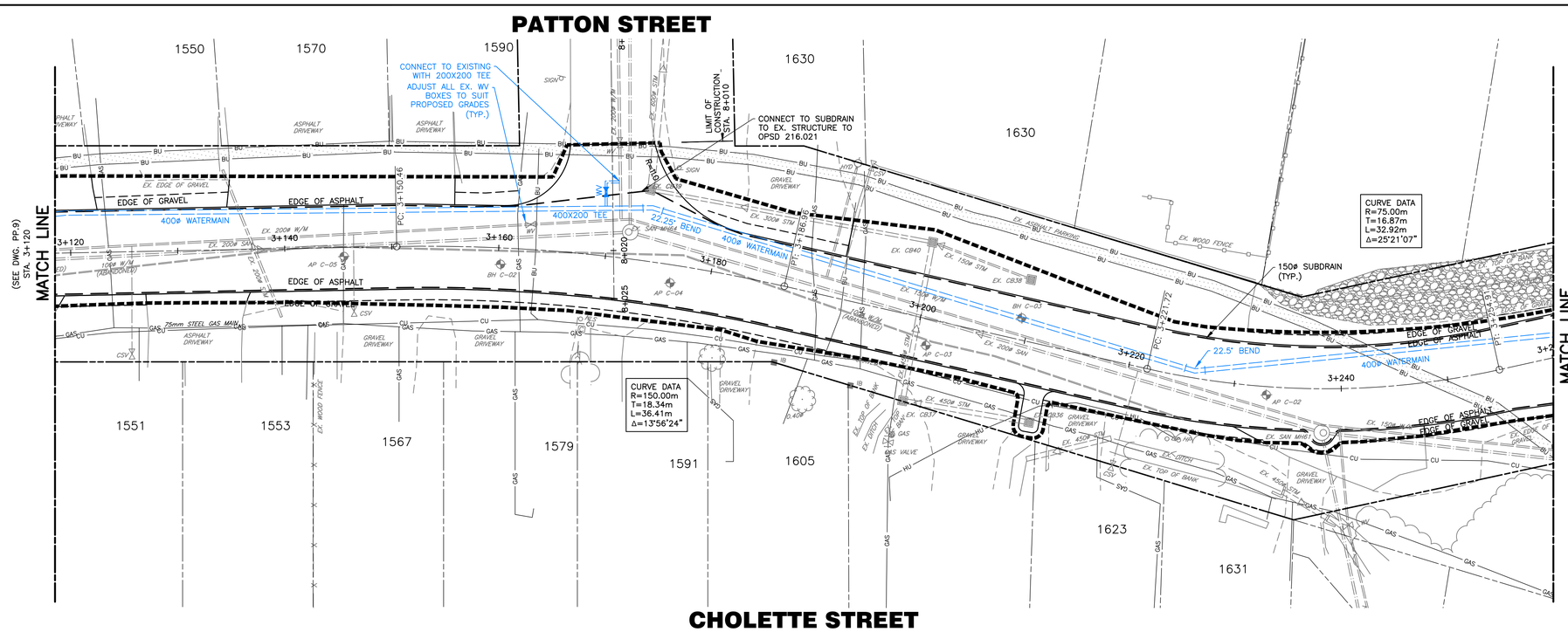
CITY OF NORTH BAY

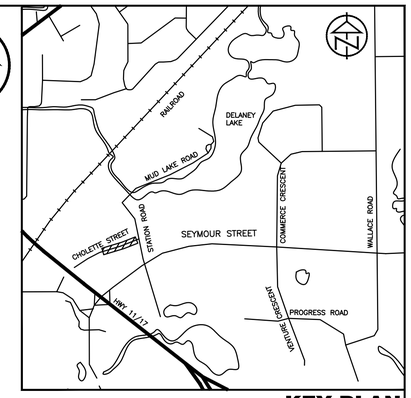
PLAN AND PROFILE CHOLETTE STREET STA. 3+000 TO 3+120

TATHAM ENGINEERING

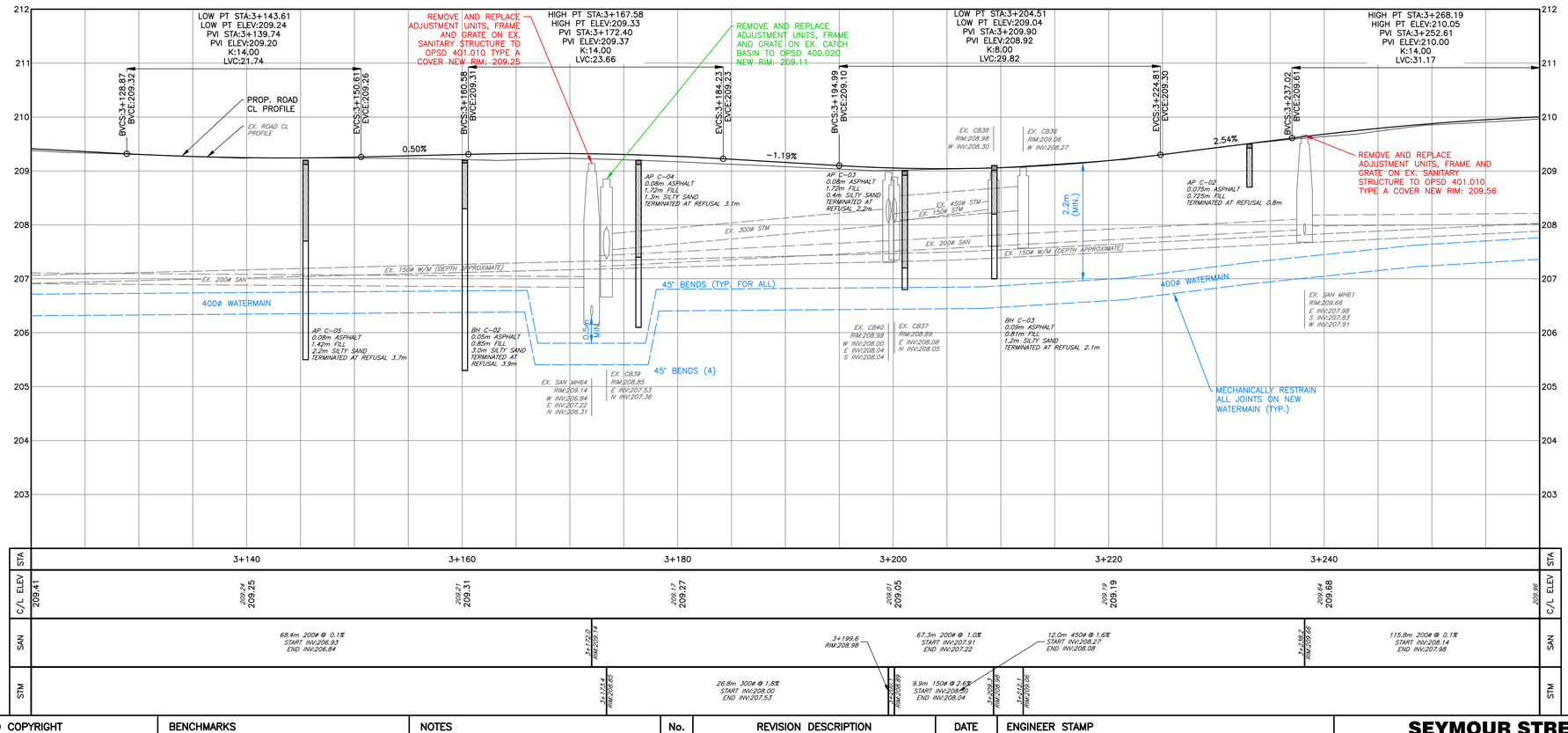
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CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 28 of 80

Drawing Name: 124112-PP01.dwg; Plotted: Jul 04, 2025





KEY PLAN



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ENGINEER STAMP

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LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

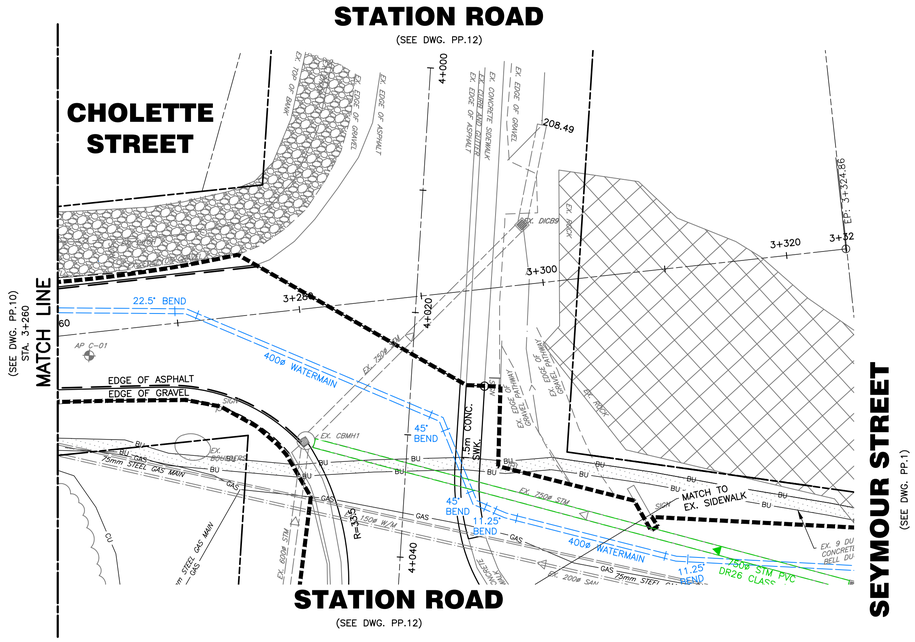
CITY OF NORTH BAY

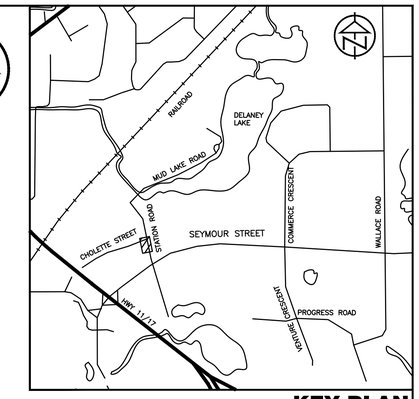
PLAN AND PROFILE CHOLETTE STREET STA. 3+120 TO 3+260

TATHAM ENGINEERING

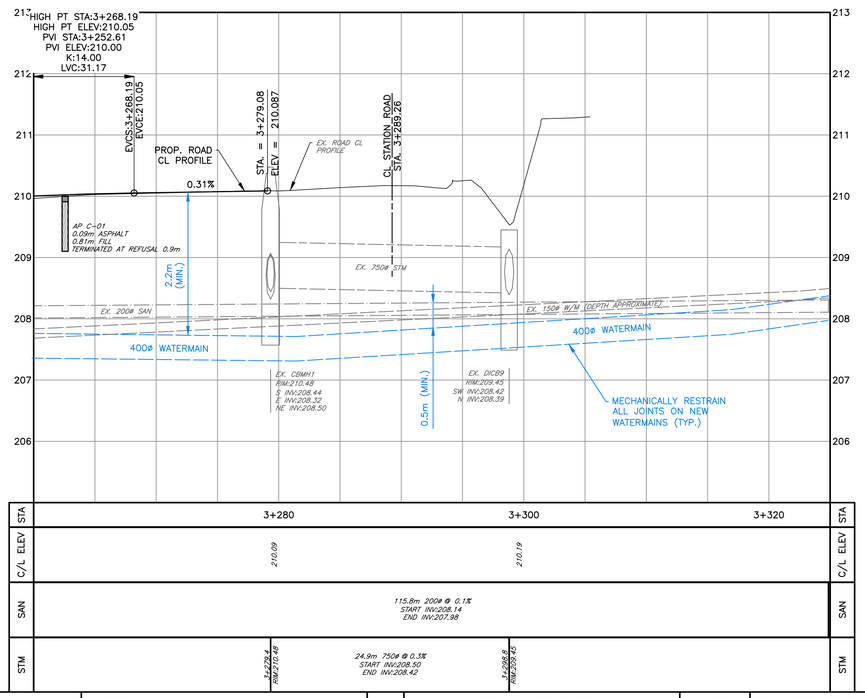
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Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025





KEY PLAN



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00111982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

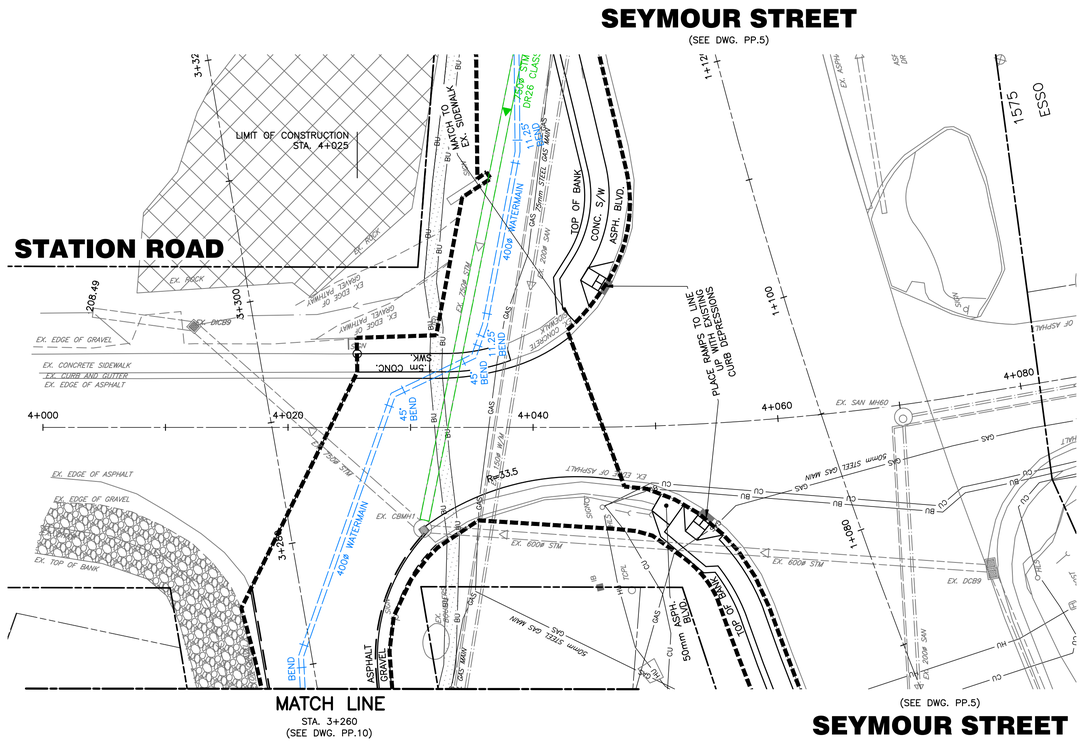
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

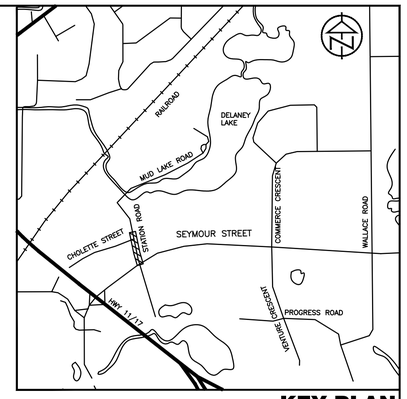
PLAN AND PROFILE
CHOLETTE STREET
STA. 3+260 TO 3+300

TATHAM ENGINEERING

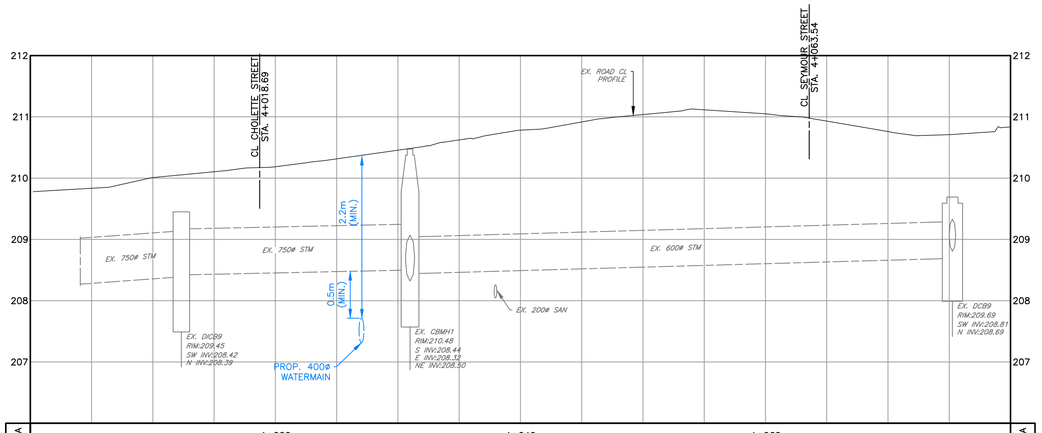
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CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 30 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025





KEY PLAN



STA	4+020	4+040	4+060
C/L ELEV	210.19 / 210.19	210.78 / 210.78	211.05 / 210.84
SAN		115.8m 200ø @ 0.1% START INV:208.14 END INV:207.98	
STM			

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNRIDGE — 100120565 — July 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M. J. FIGUEROA — 100543417 — July 4, 2025 — PROVINCE OF ONTARIO

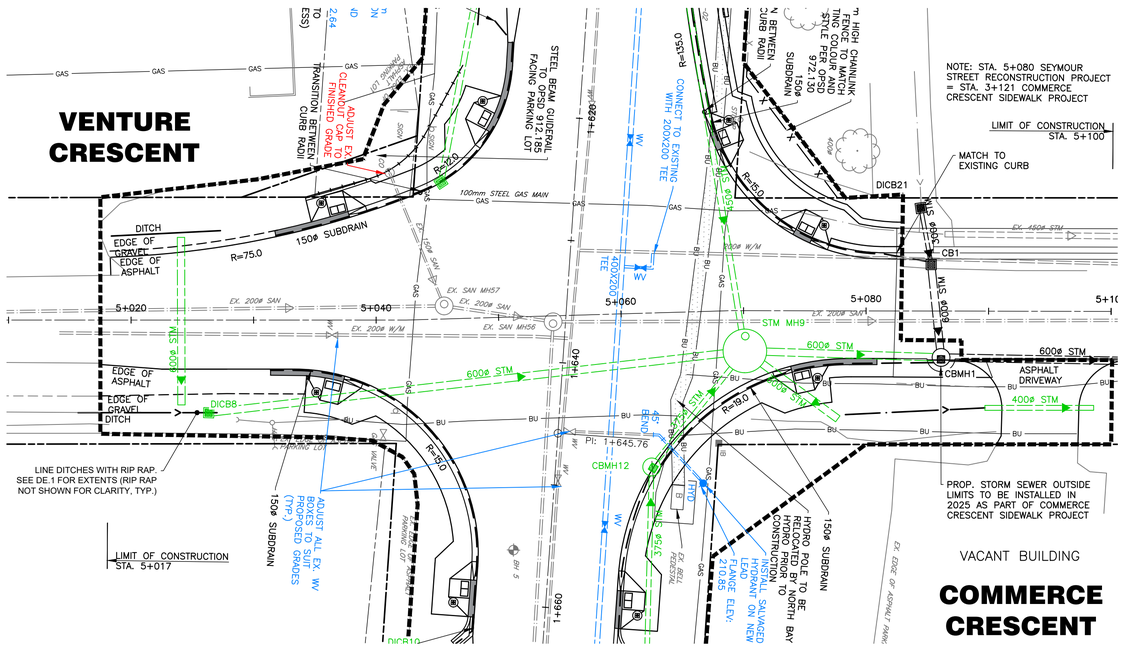
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

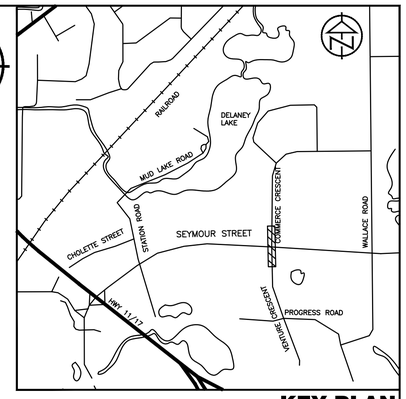
PLAN AND PROFILE STATION ROAD STA. 4+000 TO 4+070

TATHAM ENGINEERING

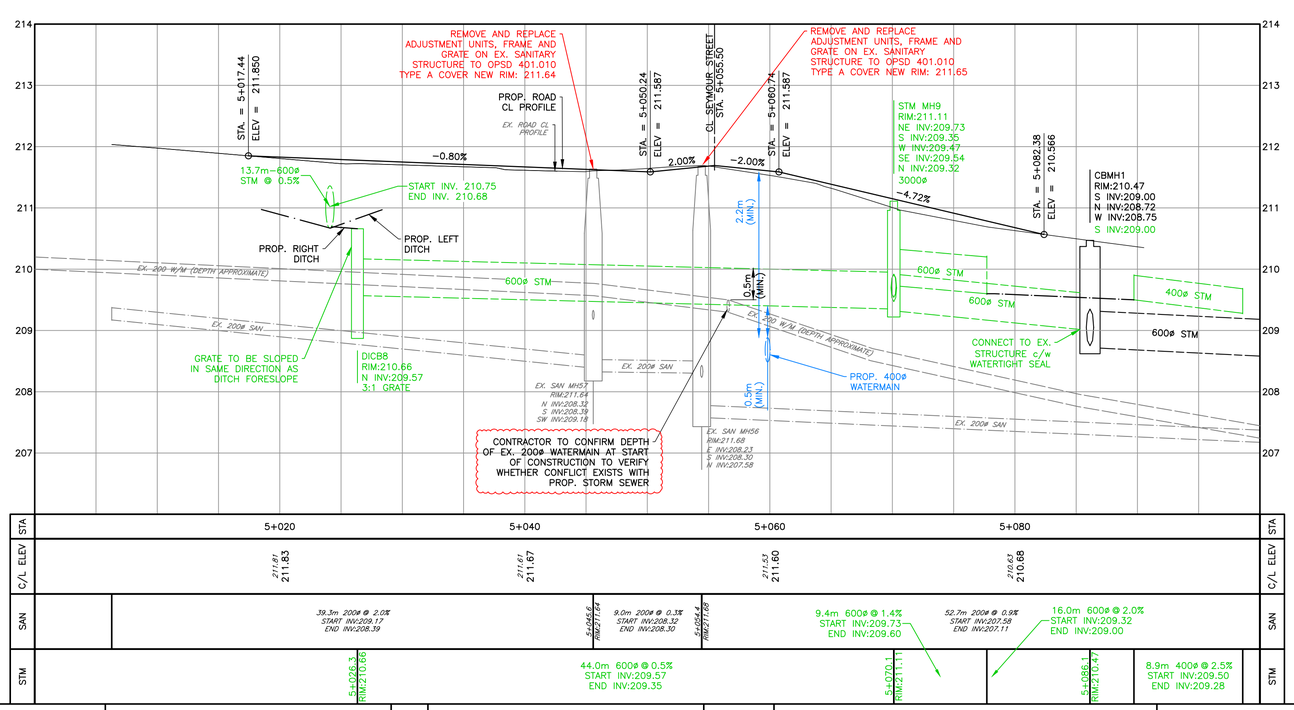
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 32 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025





KEY PLAN



NOTES

1. EXISTING UTILITY, WATERMAIN AND SEWER INFORMATION HAS BEEN COMPILED FROM AS–BUILT/RECORD DRAWINGS PROVIDED FOR INFORMATION ONLY. CONTRACTOR TO VERIFY ACTUAL LOCATIONS AND DEPTHS OF UTILITIES, WATERMAINS AND SEWERS AND ADVISE ENGINEER IMMEDIATELY OF CONFLICTS OR DISCREPANCIES WHEN IDENTIFIED.
2. EXISTING FEATURES THAT HAVE BEEN REMOVED ARE NOT SHOWN ON PP DRAWINGS. EXISTING FEATURES TO REMAIN ARE SHOWN IN GREY FOR CLARITY.
3. REFER TO DRAWINGS DE.1 TO DE.6 FOR TYPICAL CROSS SECTIONS AND DETAILS.

LEGEND

LIMIT OF WORK

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

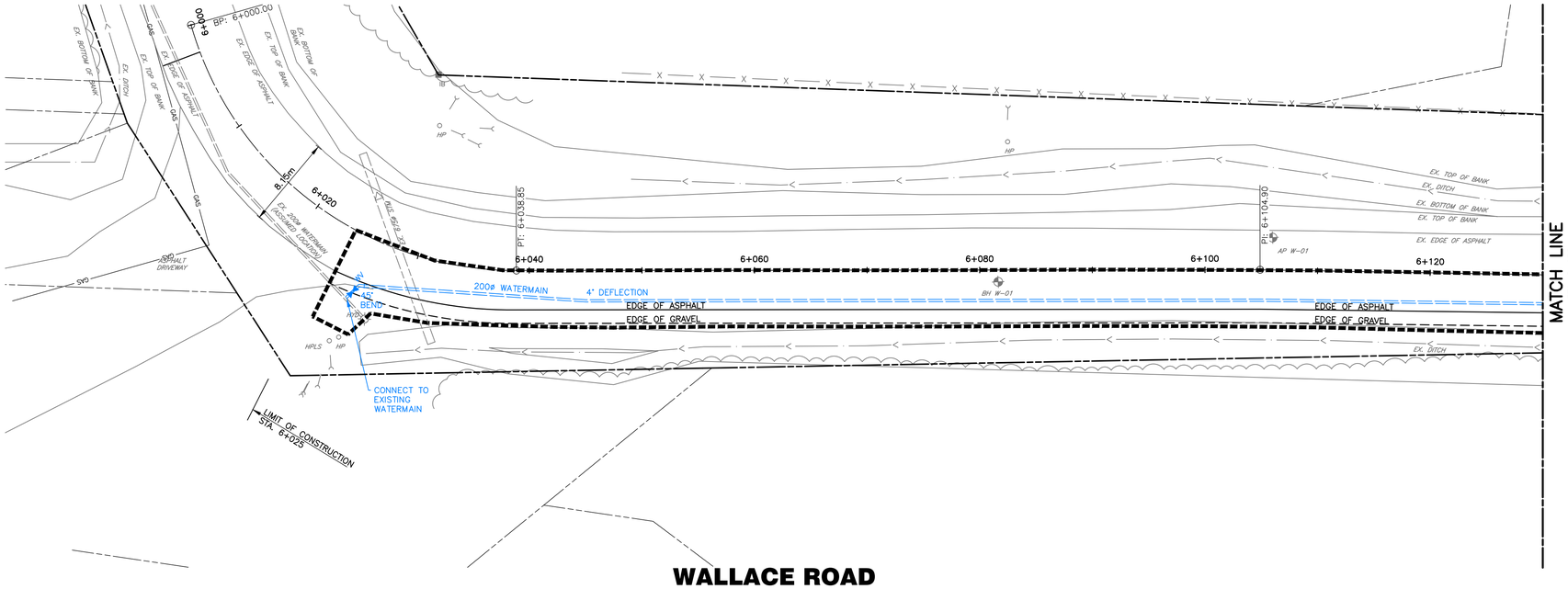
CITY OF NORTH BAY

PLAN AND PROFILE COMMERCE AND VENTURE CRESCENT STA. 5+000 TO 5+100

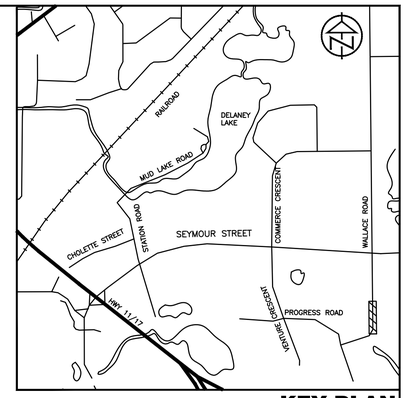
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **PP.13**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 32 of 80

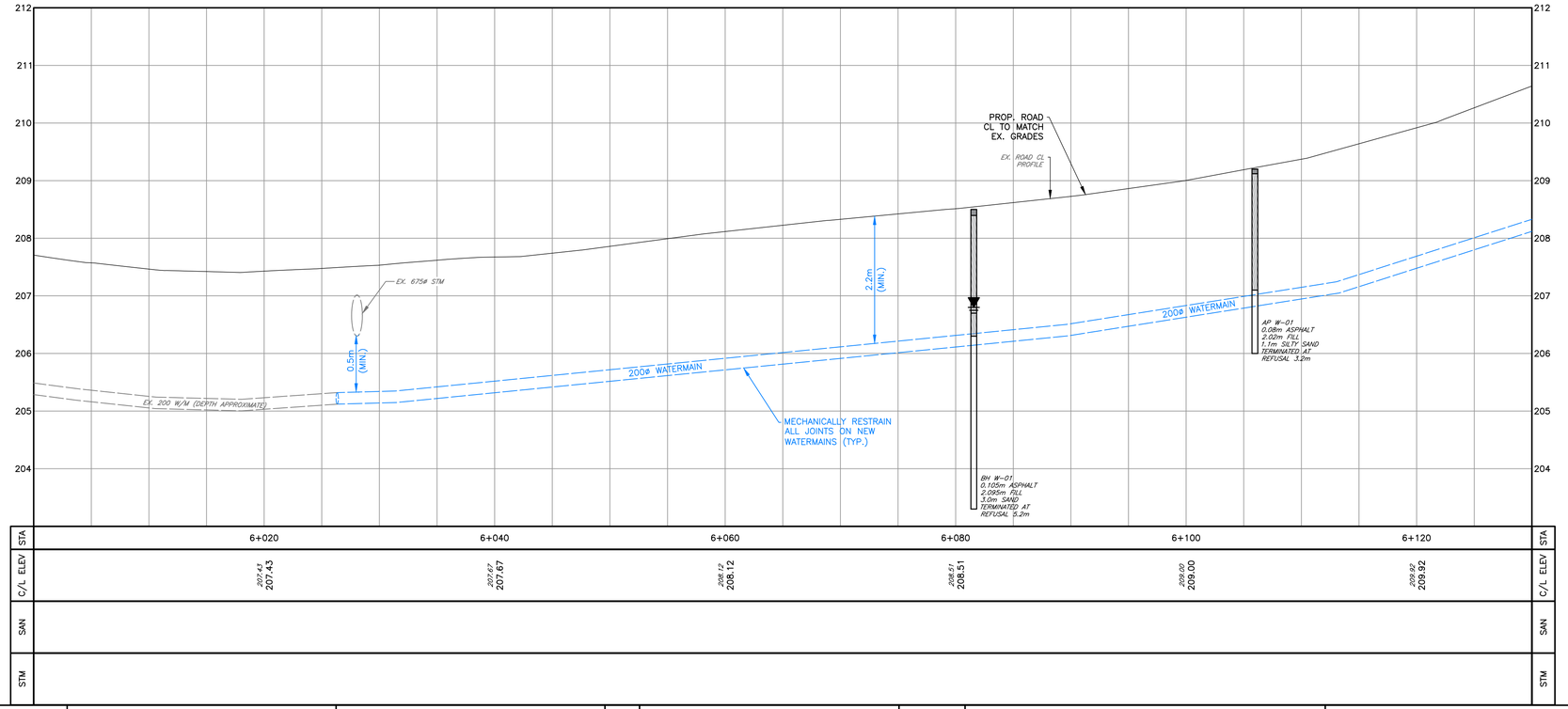
Drawing Name: 124112–PP01.dwg, Plotted: Jul 04, 2025



WALLACE ROAD



KEY PLAN



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LEGEND

LIMIT OF WORK

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MINISTRY OF NATURAL RESOURCES
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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNRIDGE — 100120585 — JULY 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M.J. FIGUEROA — 100543417 — JULY 4, 2025 — PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

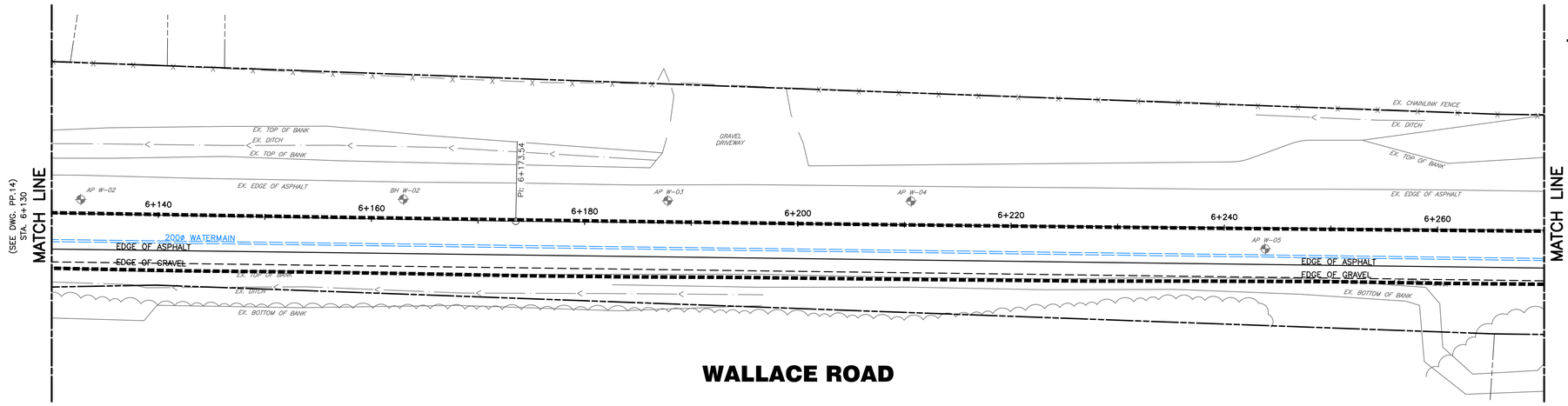
CITY OF NORTH BAY

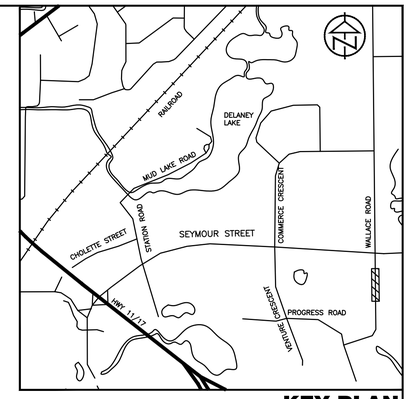
PLAN AND PROFILE WALLACE ROAD STA. 6+000 TO 6+130

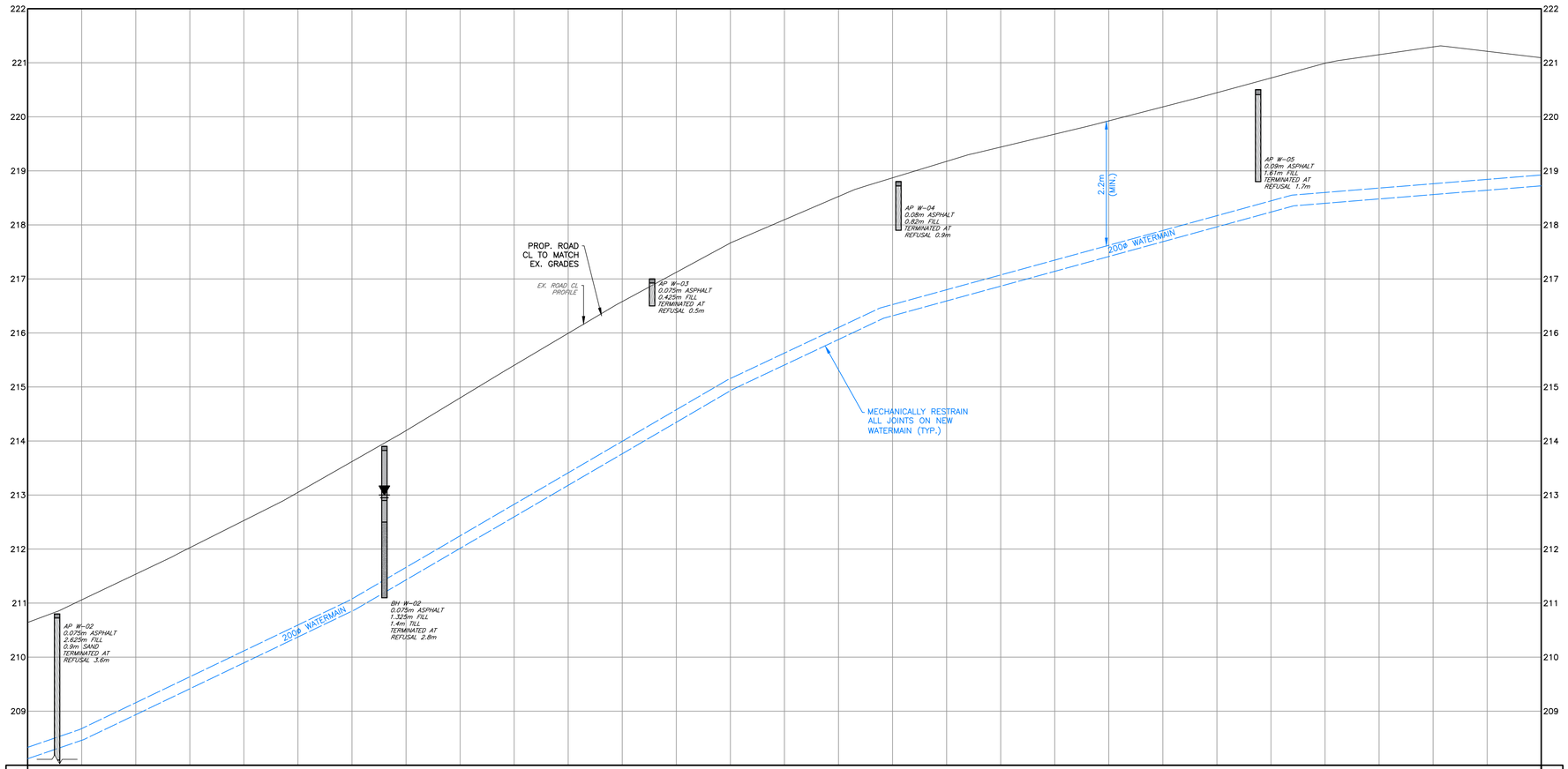
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **PP.14**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 33 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025







STA	6+140	6+160	6+180	6+200	6+220	6+240	6+260
C/L ELEV	–	211.54 (211.54)	213.62 (213.62)	215.99 (215.99)	218.10 (218.10)	219.44 (219.44)	220.45 (220.45)	221.29 (221.29)
SAN							
STM							

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

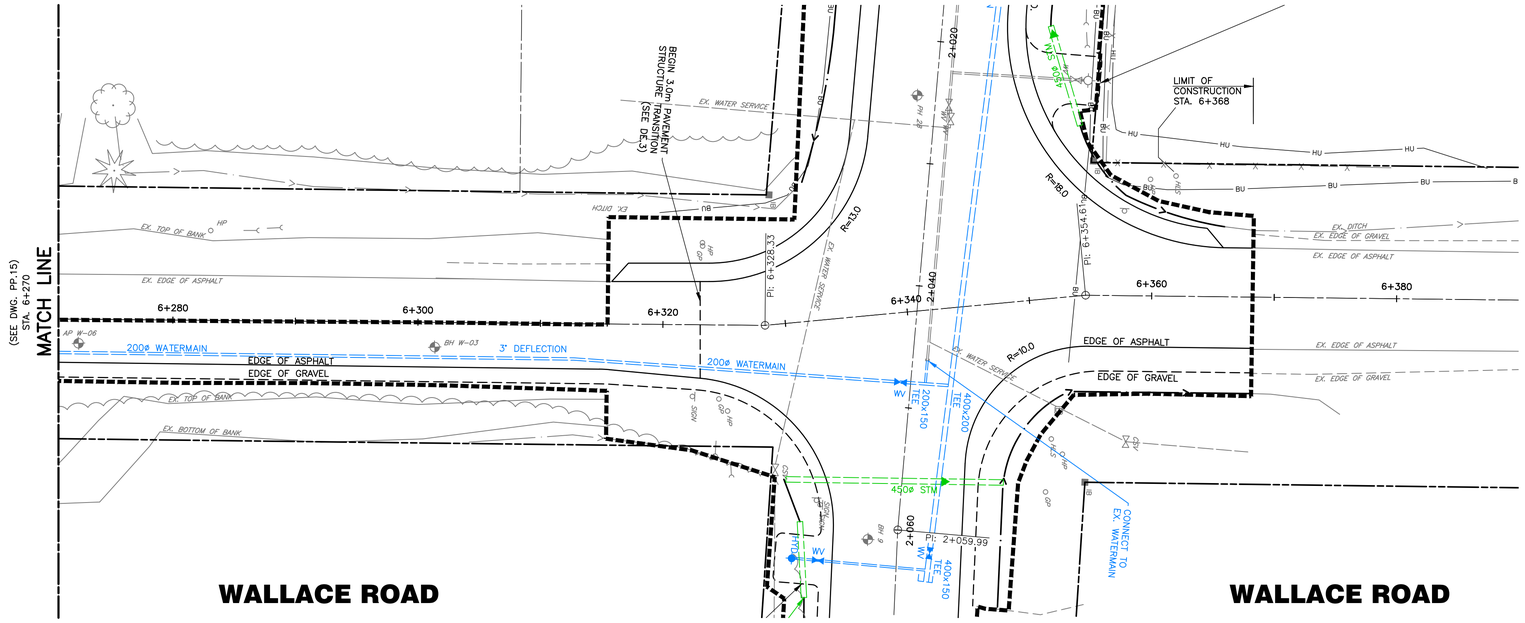
CITY OF NORTH BAY

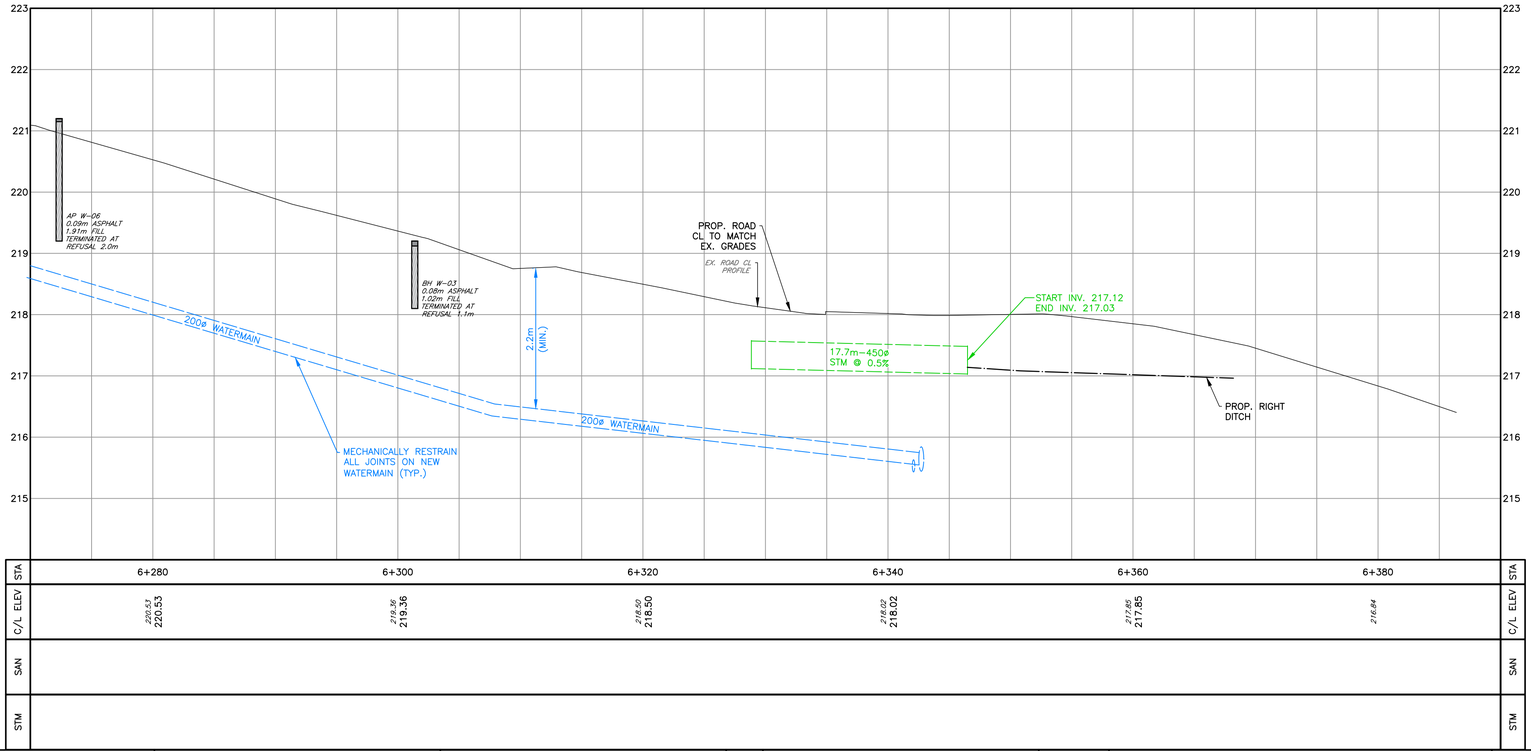
PLAN AND PROFILE WALLACE ROAD STA. 6+130 TO 6+270

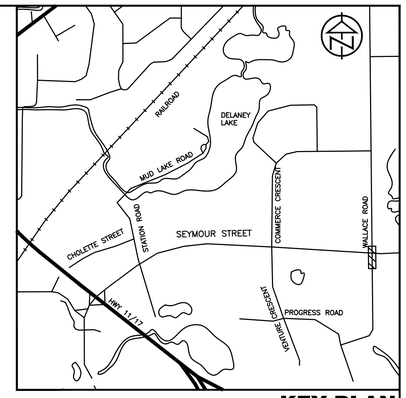
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: PP.15
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H 1:50 V	Sheet No. 34 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025







NOTES

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M.J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

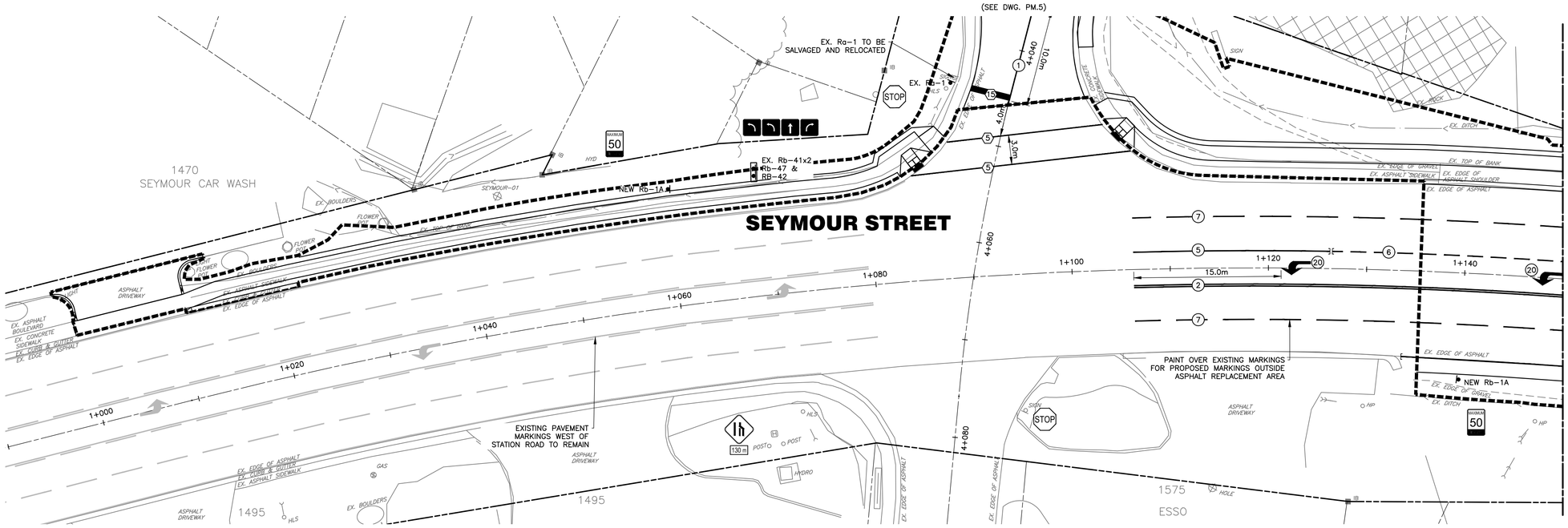
CITY OF NORTH BAY

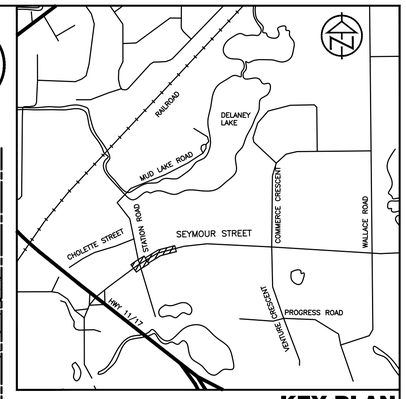
PLAN AND PROFILE WALLACE ROAD STA. 6+270 TO 6+390

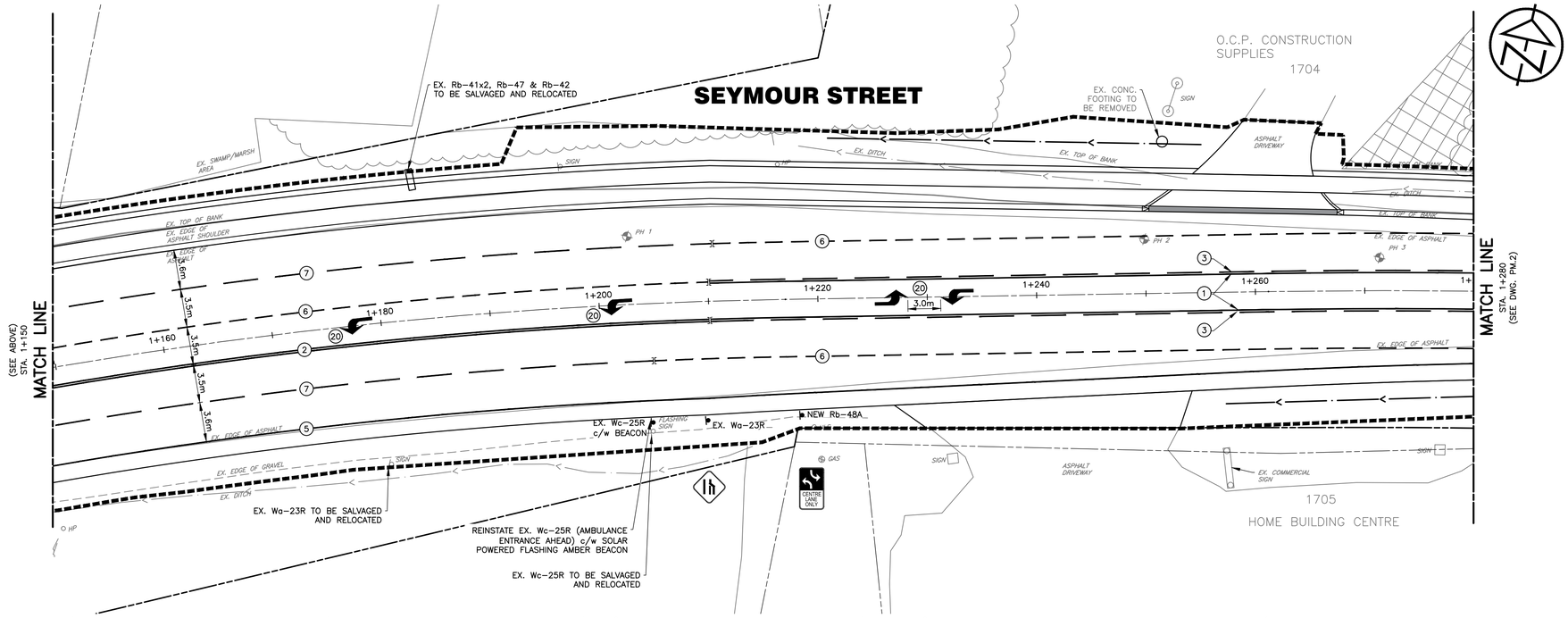
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **PP.16**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250 H, 1:50 V	Sheet No. 35 of 80

Drawing Name: 124112-PP01.dwg, Plotted: Jul 04, 2025







1	SOLID YELLOW,10cm
2	SOLID DOUBLE YELLOW,10cm
3	363 BROKEN YELLOW,10cm
4	SOLID YELLOW,20cm
5	SOLID WHITE,10cm
6	333 BROKEN WHITE,10cm
7	363 BROKEN WHITE,10cm
8	393 BROKEN WHITE,10cm
9	SOLID WHITE,20cm
10	111 BROKEN WHITE,10cm
11	333 BROKEN WHITE,20cm
12	333 BROKEN WHITE,30cm
13	SOLID WHITE,30cm
14	SOLID WHITE,45cm
15	SOLID WHITE,60cm
20	SYMBOLS
] [	LIMITS OF MARKINGS

NOTES:
1. 333, 363, 393, Denotes Pavement Marking Spacing (ie., 3 m line, 3 m gap, 3 m line)
2. (1) Denotes PAVEMENT MARKING, PAINT
3. [1] Denotes PAVEMENT MARKING, TEMPORARY
4. ⚠ Denotes PAVEMENT MARKING, TEMPORARY–REMOVABLE
5. ⬡ Denotes PAVEMENT MARKING, DURABLE

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

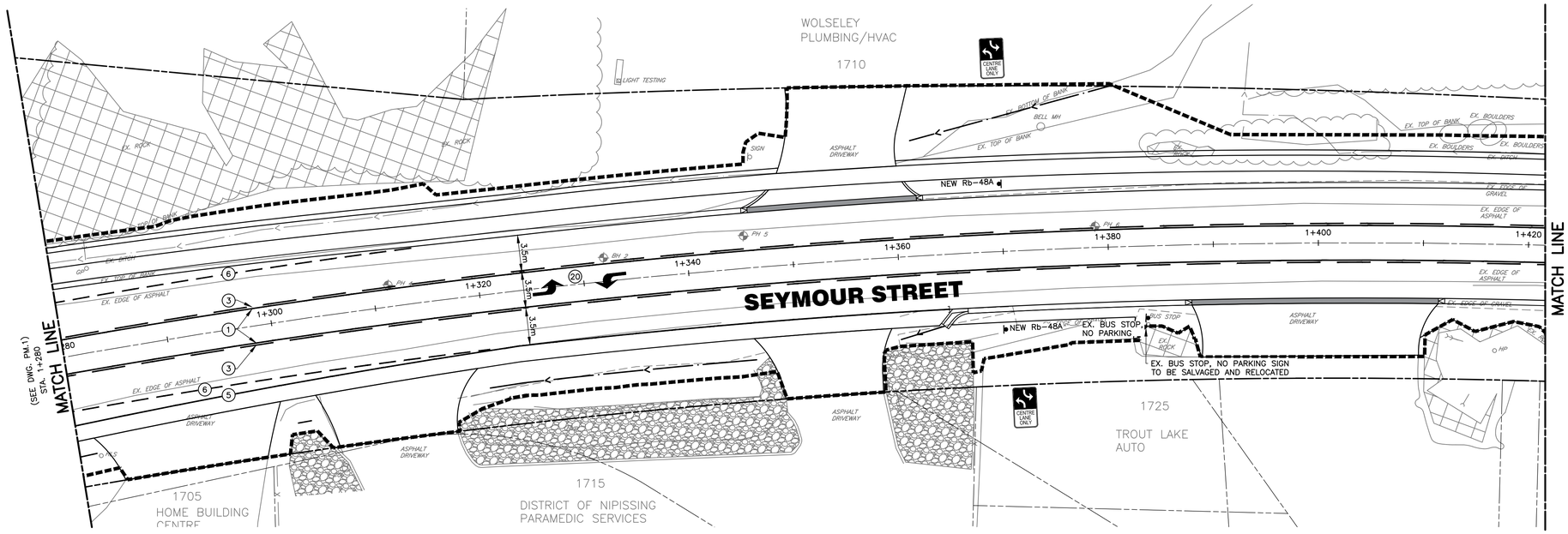
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

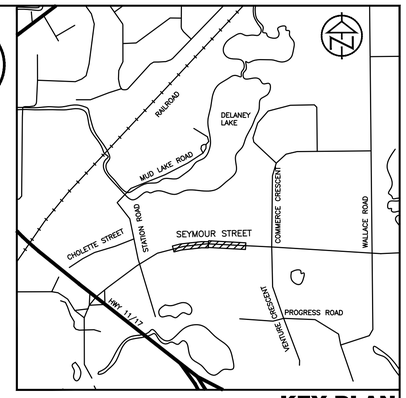
PAVEMENT MARKINGS & SIGNAGE–SEYMOUR ST STA. 0+090 TO 1+280

TATHAM ENGINEERING

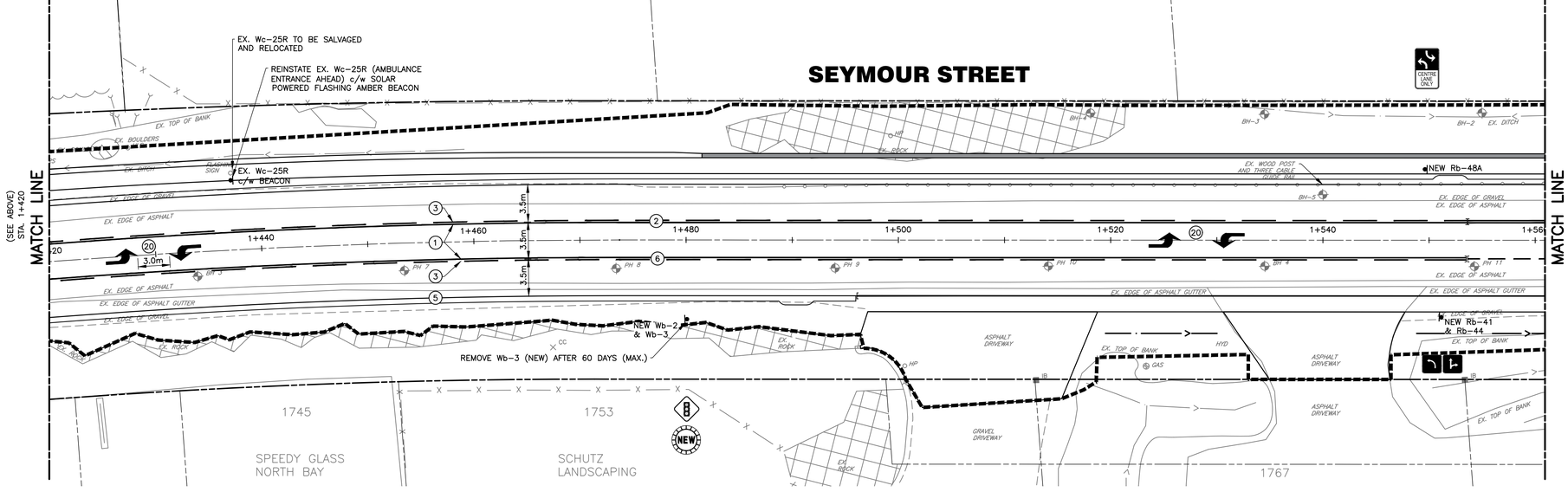
DESIGN: MJF	FILE: 124112	DWG: **PM.1**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250	Sheet No. 36 of 80

Drawing Name: 124112–PM01.dwg, Plotted: Jul 04, 2025





KEY PLAN



1	SOLID YELLOW,10cm
2	SOLID DOUBLE YELLOW,10cm
3	363 BROKEN YELLOW,10cm
4	SOLID YELLOW,20cm
5	SOLID WHITE,10cm
6	333 BROKEN WHITE,10cm
7	363 BROKEN WHITE,10cm
8	393 BROKEN WHITE,10cm
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14	SOLID WHITE,45cm
15	SOLID WHITE,60cm
20	SYMBOLS
] [	LIMITS OF MARKINGS

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

LICENCED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENCED PROFESSIONAL ENGINEER M.J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

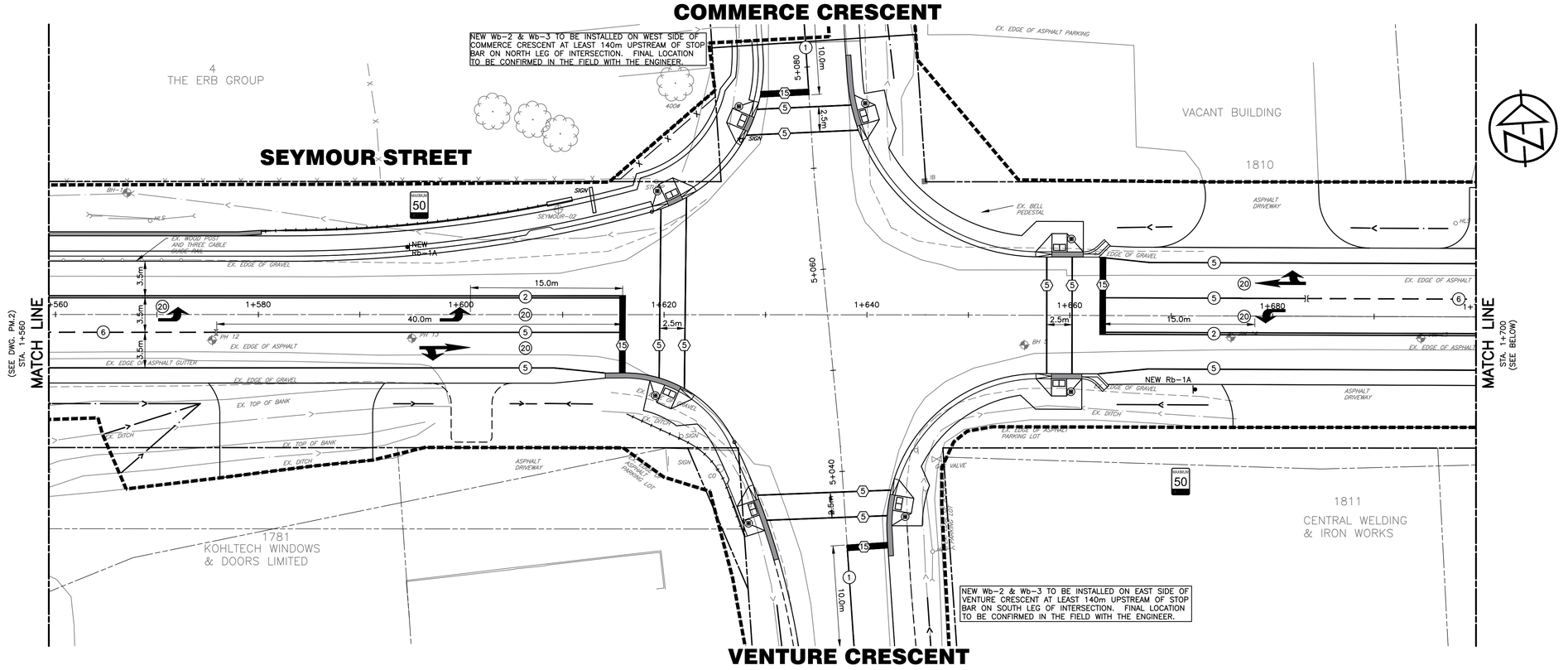
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

PAVEMENT MARKINGS & SIGNAGE-SEYMOUR ST STA. 1+280 TO 1+560

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **PM.2**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250	Sheet No. 37 of 80

Drawing Name: 124112-PM01.dwg, Plotted: Jul 04, 2025



1	SOLID YELLOW,10cm
2	SOLID DOUBLE YELLOW,10cm
3	363 BROKEN YELLOW,10cm
4	SOLID YELLOW,20cm
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20	SYMBOLS
] [	LIMITS OF MARKINGS

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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

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LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

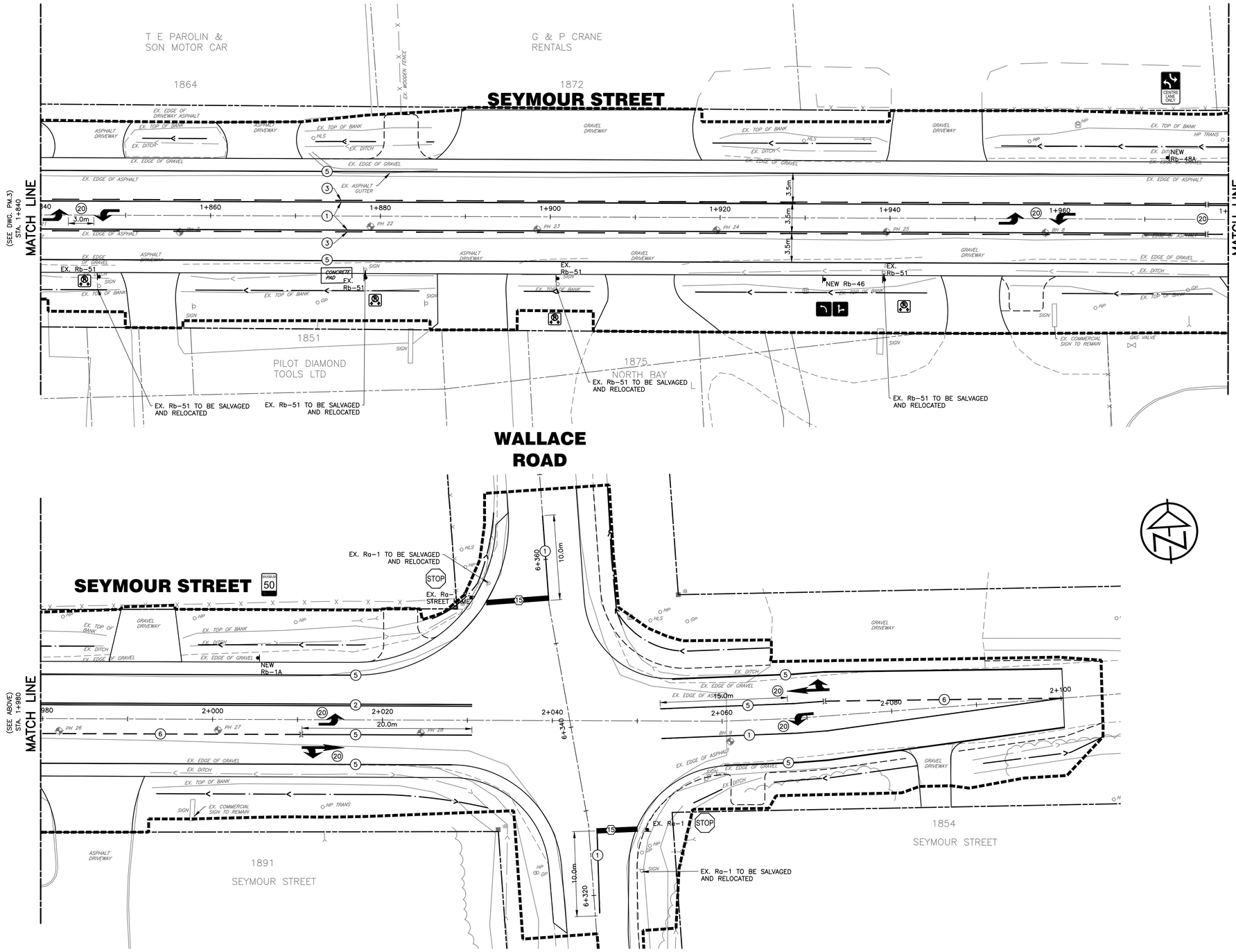
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

PAVEMENT MARKINGS & SIGNAGE–SEYMOUR ST STA. 1+560 TO 1+840

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **PM.3**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250	Sheet No. 38 of 80

Drawing Name: 124112–PM01.dwg, Plotted: Jul 04, 2025



1	SOLID YELLOW,10cm
2	SOLID DOUBLE YELLOW,10cm
3	363 BROKEN YELLOW,10cm
4	SOLID YELLOW,20cm
5	SOLID WHITE,10cm
6	333 BROKEN WHITE,10cm
7	363 BROKEN WHITE,10cm
8	393 BROKEN WHITE,10cm
9	SOLID WHITE,20cm
10	111 BROKEN WHITE,10cm
11	333 BROKEN WHITE,20cm
12	333 BROKEN WHITE,30cm
13	SOLID WHITE,30cm
14	SOLID WHITE,45cm
15	SOLID WHITE,60cm
20	SYMBOLS
] [	LIMITS OF MARKINGS

NOTES:
1. 333, 363, 393, Denotes Pavement Marking Spacing (ie., 3 m line, 3 m gap, 3 m line)
2. (1) Denotes PAVEMENT MARKING, PAINT
3. [1] Denotes PAVEMENT MARKING, TEMPORARY
4. /1\ Denotes PAVEMENT MARKING, TEMPORARY-REMOVABLE
5. (1) Denotes PAVEMENT MARKING, DURABLE

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M.J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

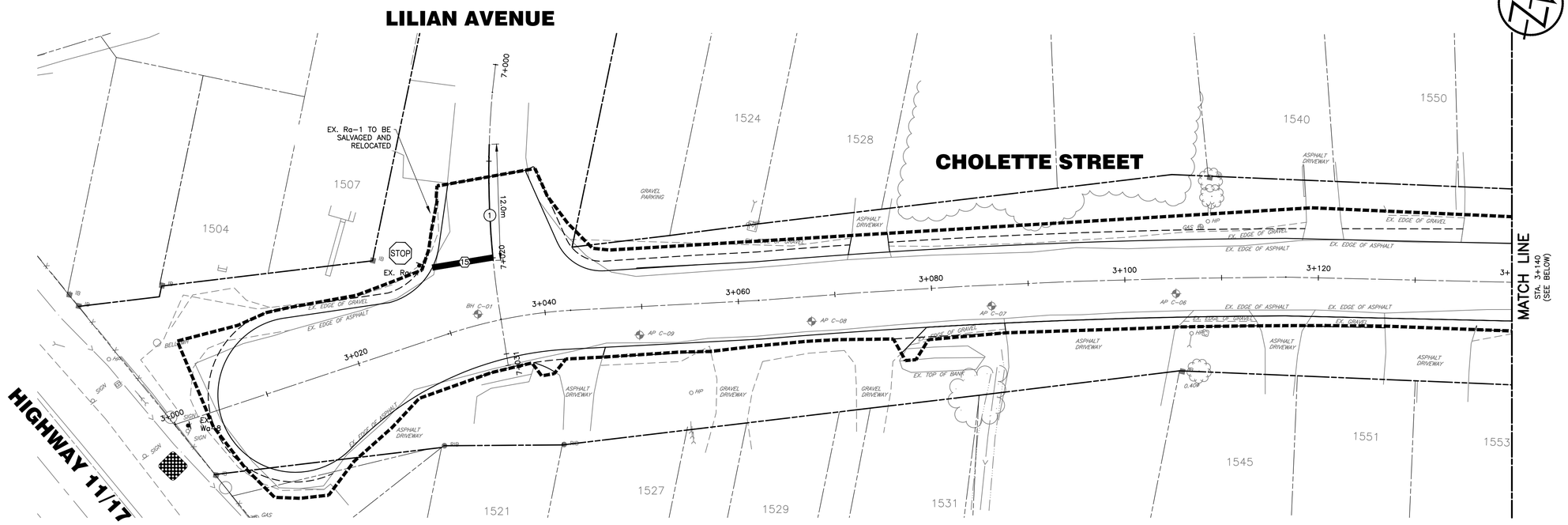
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

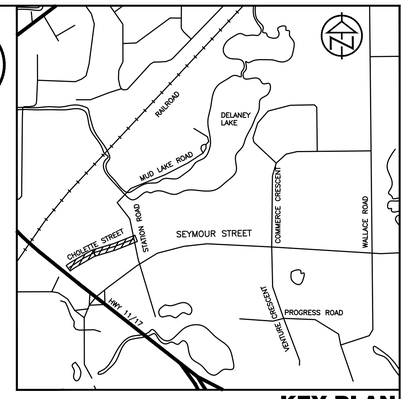
PAVEMENT MARKINGS & SIGNAGE-SEYMOUR ST STA. 1+840 TO 2+070

TATHAM ENGINEERING

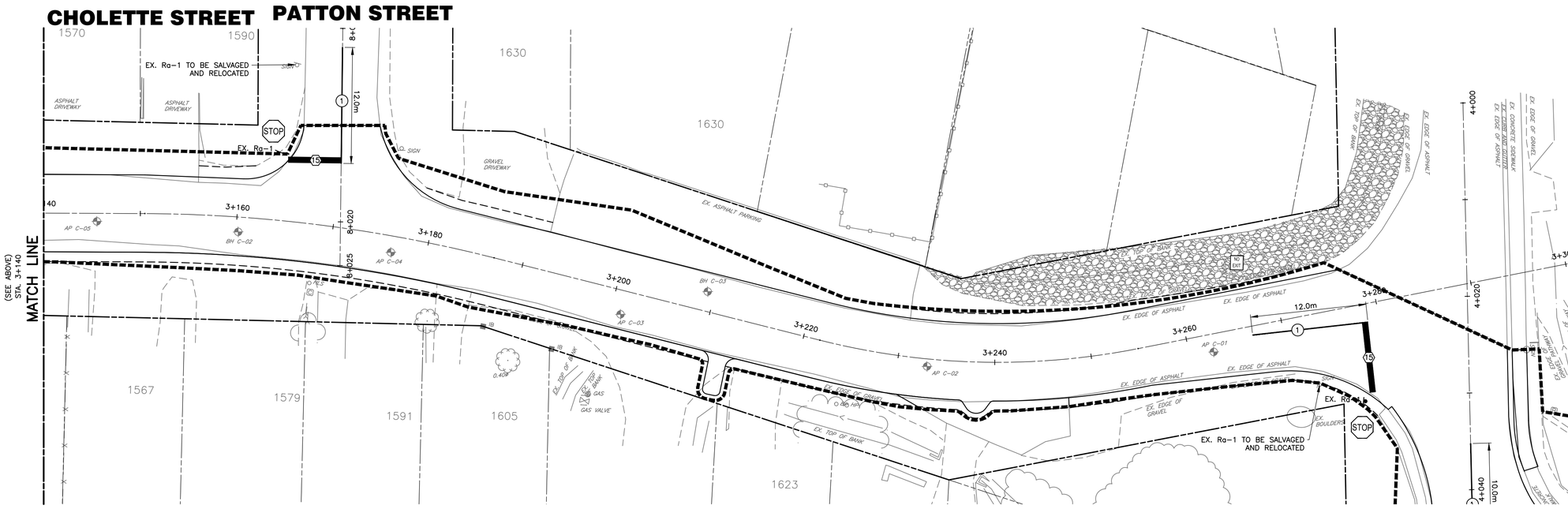
DESIGN: MJF	FILE: 124112	DWG: **PM.4**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250	Sheet No. 39 of 80

Drawing Name: 124112-PM01.dwg, Plotted: Jul 04, 2025





KEY PLAN



1	SOLID YELLOW,10cm
2	SOLID DOUBLE YELLOW,10cm
3	363 BROKEN YELLOW,10cm
4	SOLID YELLOW,20cm
5	SOLID WHITE,10cm
6	333 BROKEN WHITE,10cm
7	363 BROKEN WHITE,10cm
8	393 BROKEN WHITE,10cm
9	SOLID WHITE,20cm
10	111 BROKEN WHITE,10cm
11	333 BROKEN WHITE,20cm
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13	SOLID WHITE,30cm
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15	SOLID WHITE,60cm
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MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENCED PROFESSIONAL ENGINEER
A. E. BROWNRIDGE
100120585
JULY 4/25
PROVINCE OF ONTARIO

LICENCED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
JULY 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

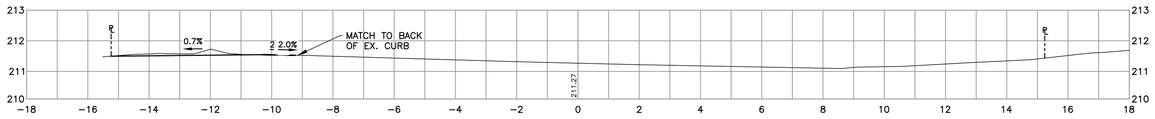
PAVEMENT MARKINGS & SIGNAGE-CHOLETTE ST STA. 3+000 TO 3+300

TATHAM ENGINEERING

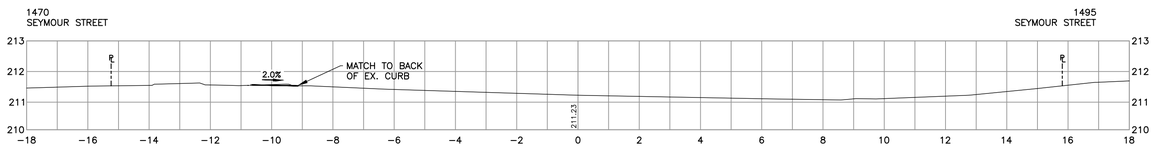
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:250	Sheet No. 40 of 80

Drawing Name: 124112-PM01.dwg, Plotted: Jul 04, 2025

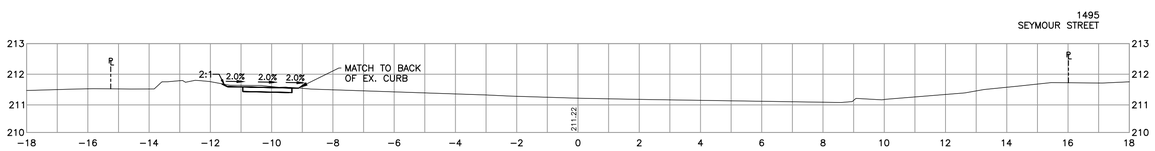
1+000



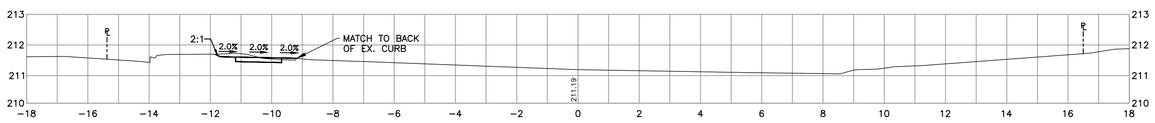
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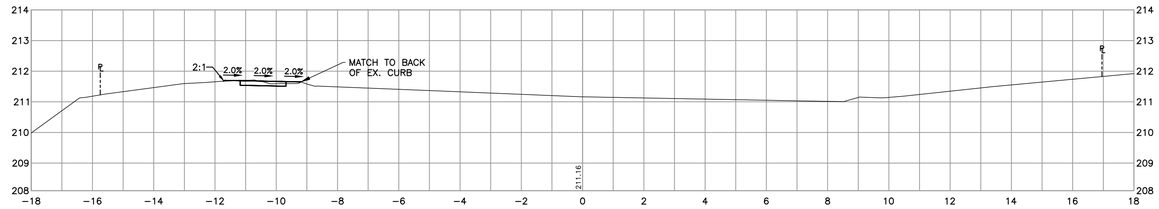
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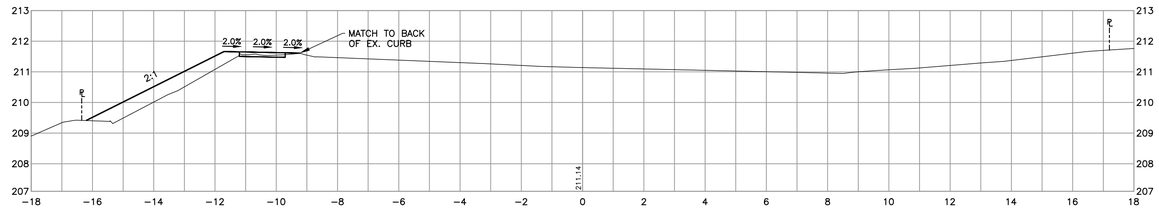
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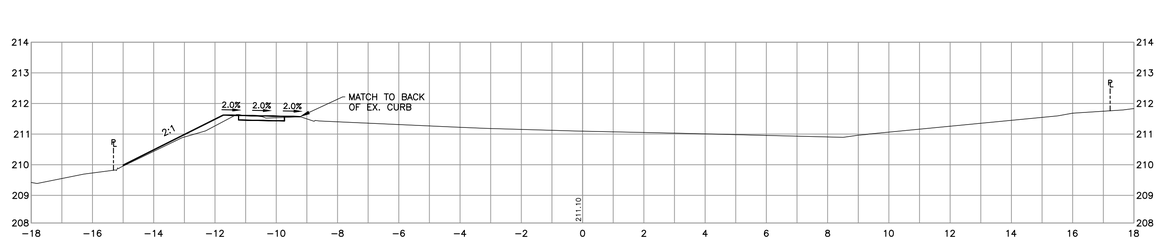
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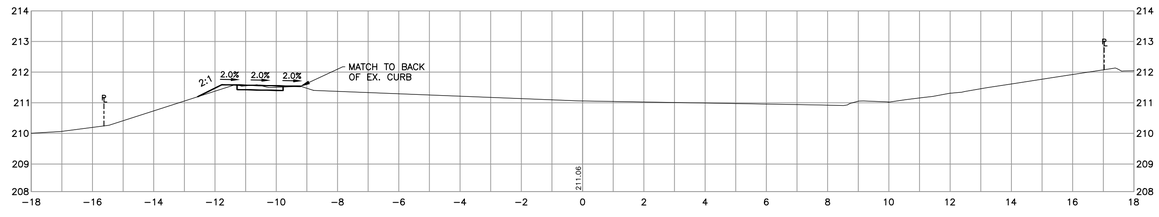
1+040



1+050



1+060



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

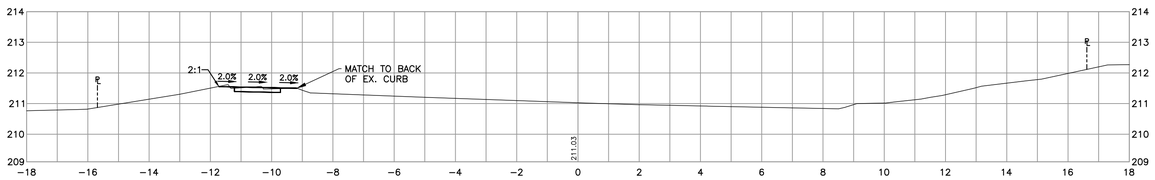
CROSS SECTIONS SEYMOUR STREET STA. 1+000 TO 1+060

TATHAM ENGINEERING

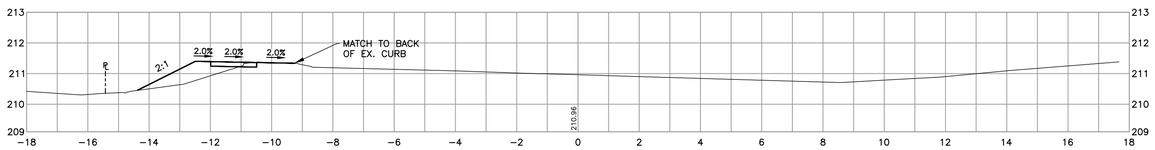
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 42 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

1+070

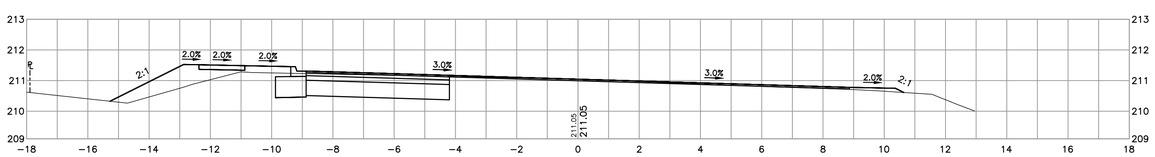


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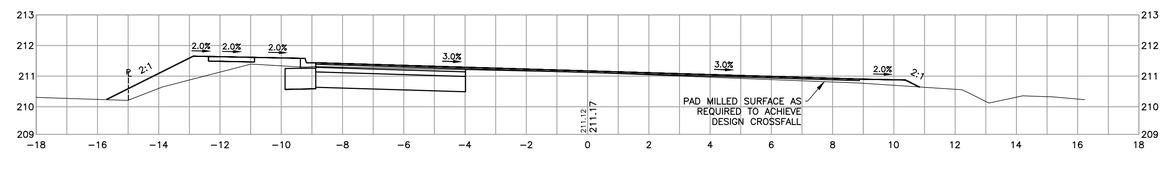


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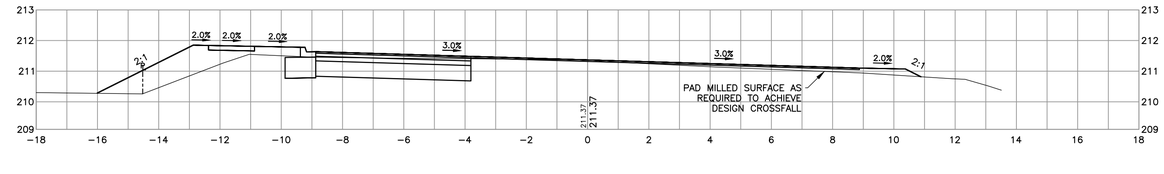
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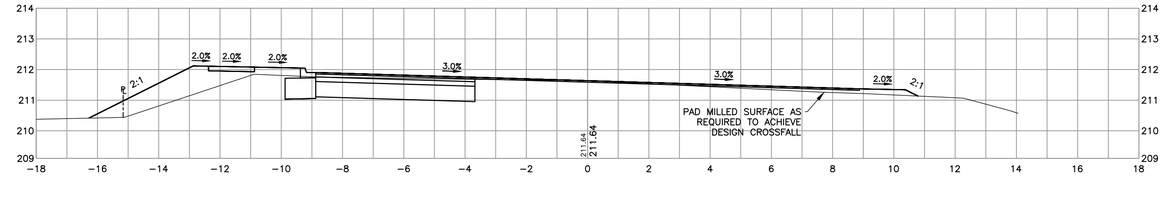
1+150



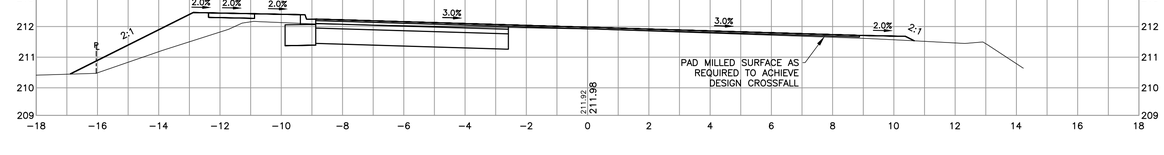
1+160



1+170



1+180



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

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A. E. BROWNRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

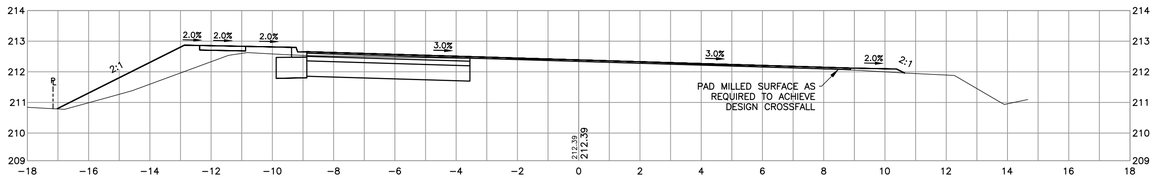
CROSS SECTIONS
SEYMOUR STREET
STA. 1+070 TO 1+180

TATHAM ENGINEERING

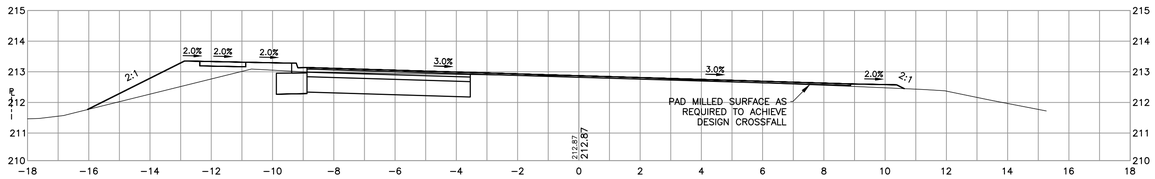
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 43 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

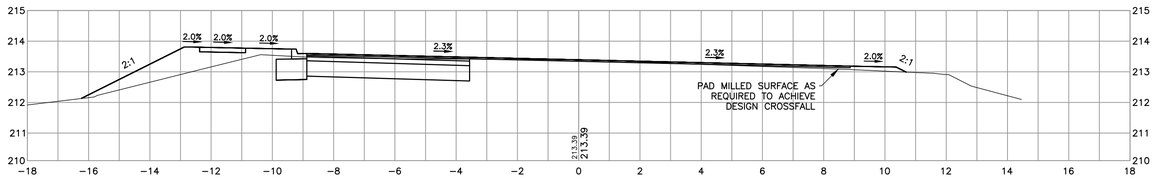
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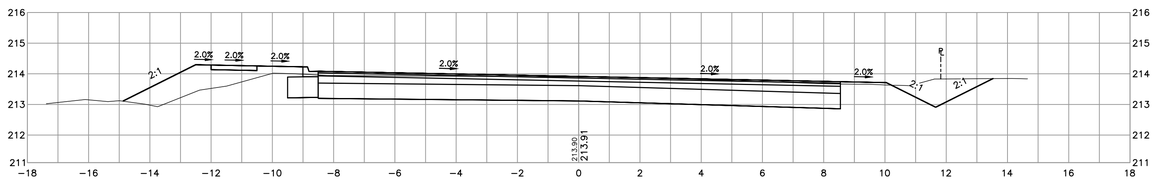
1+200



1+210

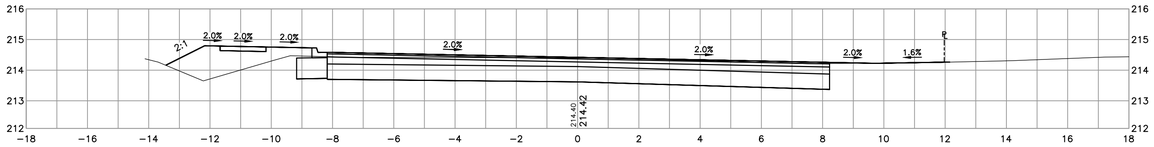


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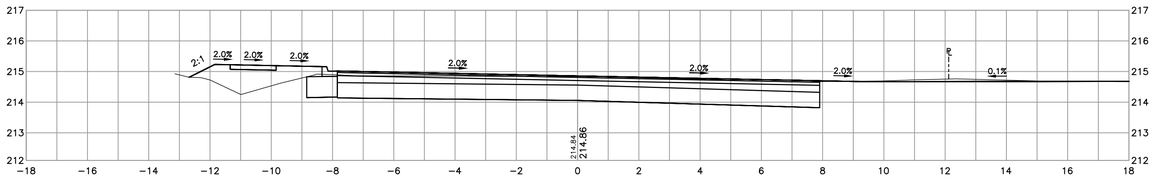
1+230

HOME HARDWARE
1705 SEYMOUR STREET



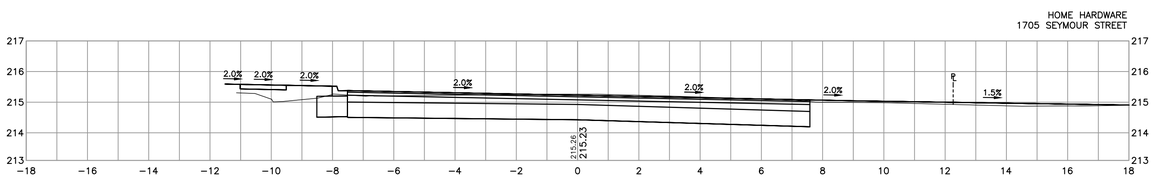
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HOME HARDWARE
1705 SEYMOUR STREET



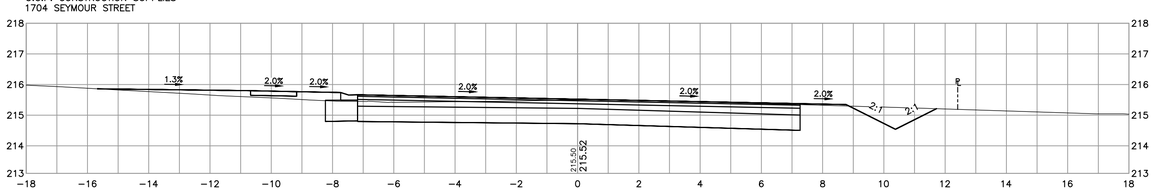
1+250

HOME HARDWARE
1705 SEYMOUR STREET



1+260

O.C.P. CONSTRUCTION SUPPLIES
1704 SEYMOUR STREET



DISCLAIMER AND COPYRIGHT

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BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER — A.E. BROWNRIDGE — 100120565 — July 4/25 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — M.J. FIGUEROA — 100543417 — July 4, 2025 — PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

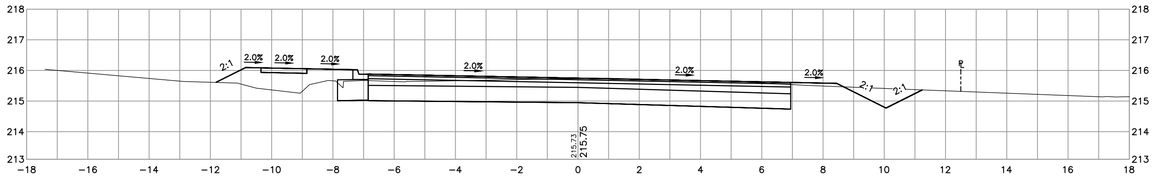
CROSS SECTIONS SEYMOUR STREET STA. 1+190 TO 1+260

TATHAM ENGINEERING

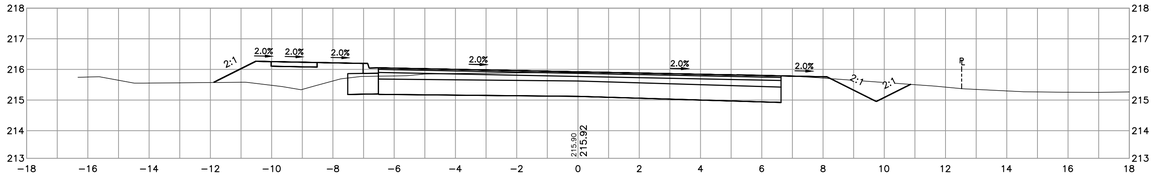
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 44 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

1+270

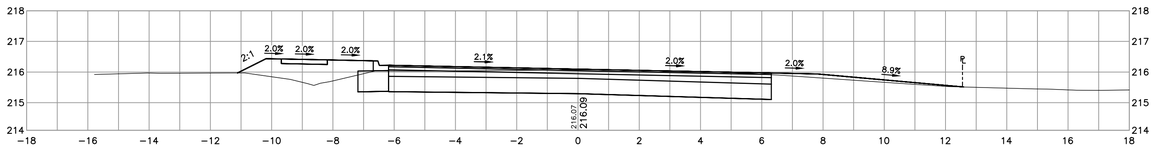


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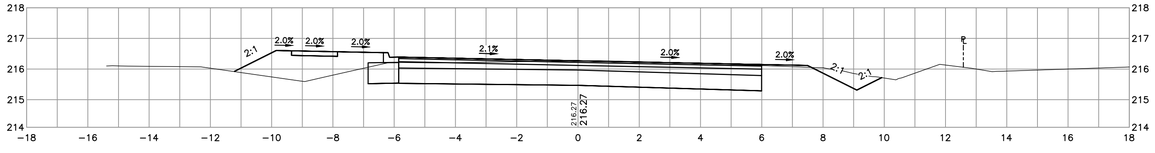


1+290

HOME HARDWARE
1705 SEYMOUR STREET

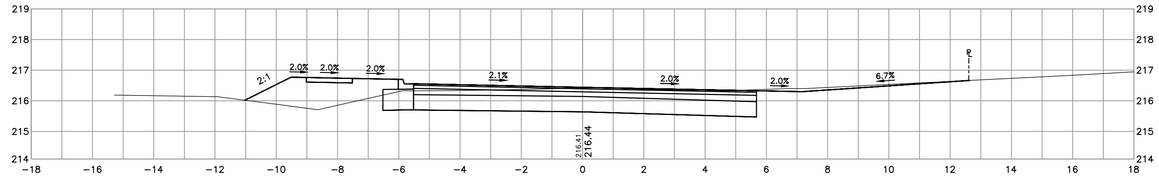


1+300

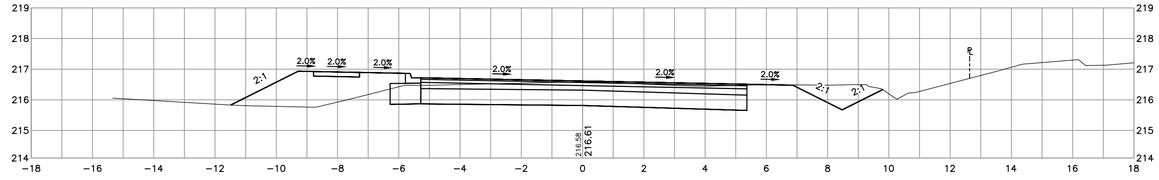


1+310

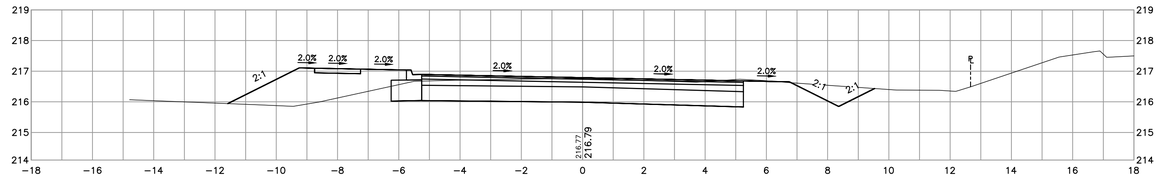
DISTRICT OF NIPISSING
PARAMEDIC SERVICES
1715 SEYMOUR STREET



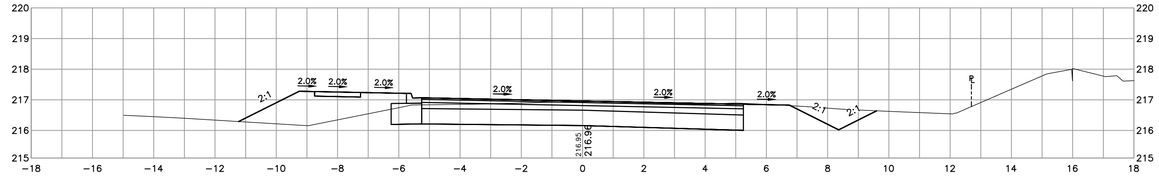
1+320



1+330



1+340



DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A. E. BROWNRIDGE
100120585
JULY 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
JULY 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

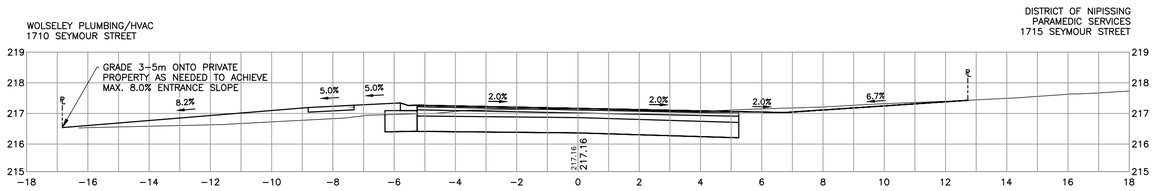
CROSS SECTIONS
SEYMOUR STREET
STA. 1+270 TO 1+340

TATHAM ENGINEERING

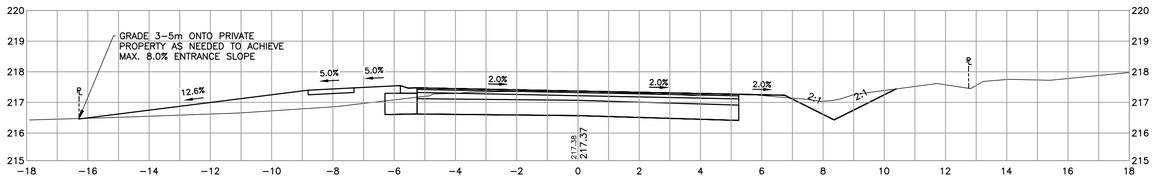
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 45 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

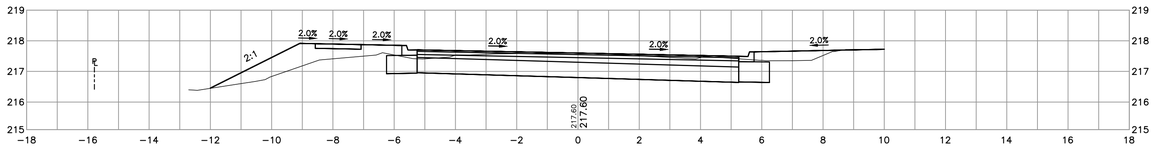
1+351



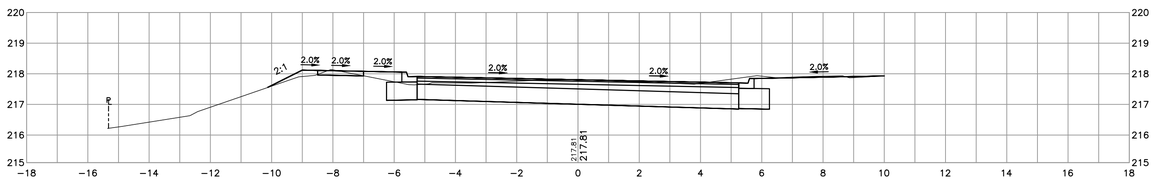
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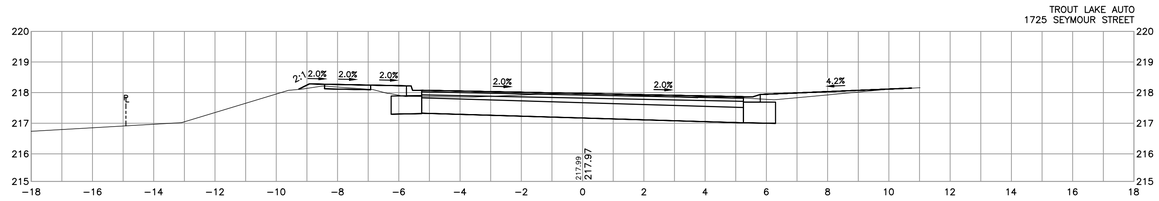
1+370



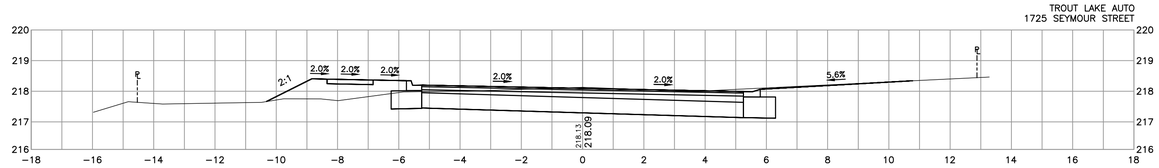
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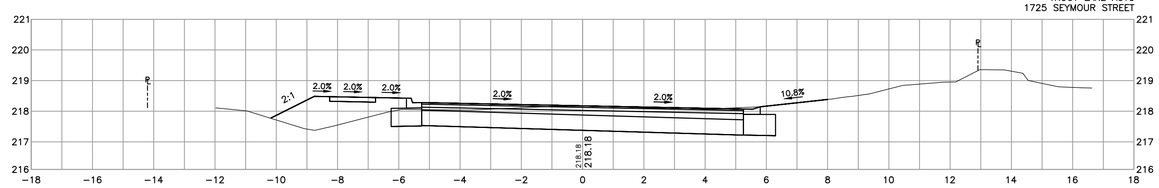
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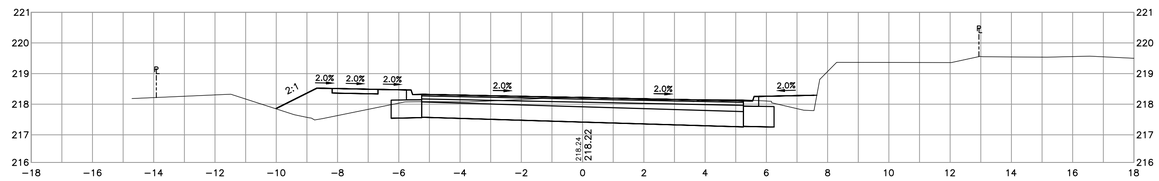
1+400



1+410



1+420



DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

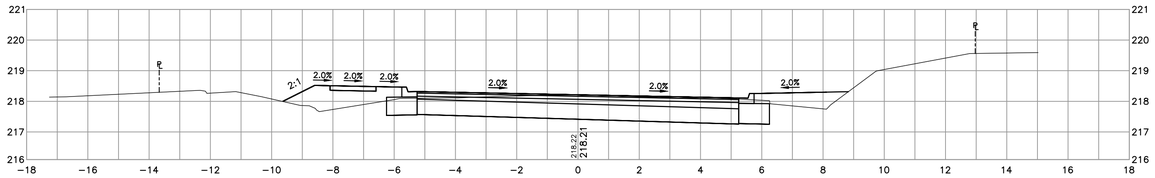
CROSS SECTIONS
SEYMOUR STREET
STA. 1+350 TO 1+420

TATHAM ENGINEERING

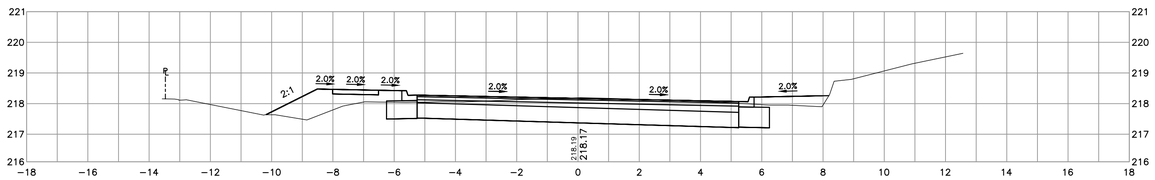
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DRAWN: NB	DATE: SEP 2024	
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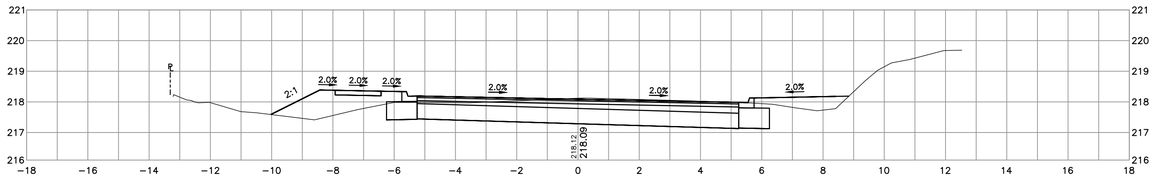
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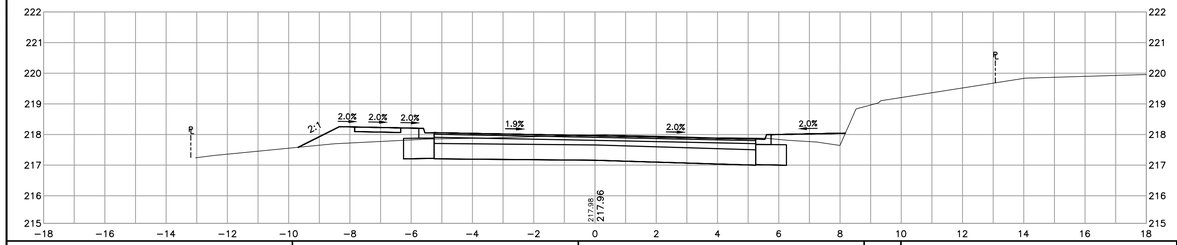
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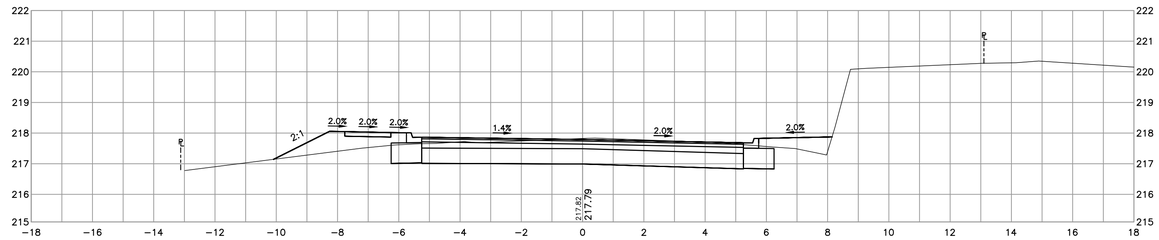
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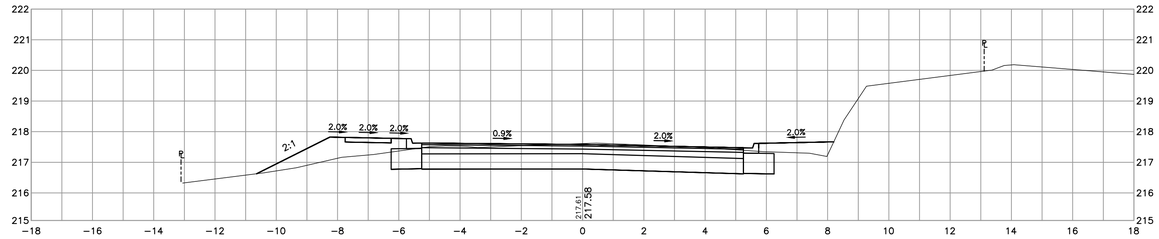
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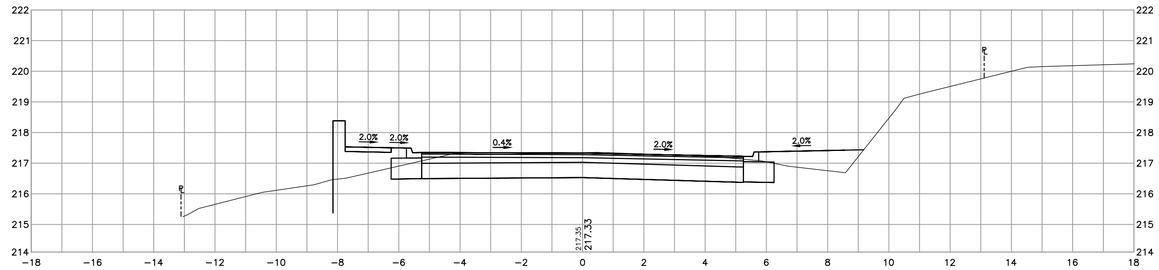
1+470



1+480



1+490



DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNBRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

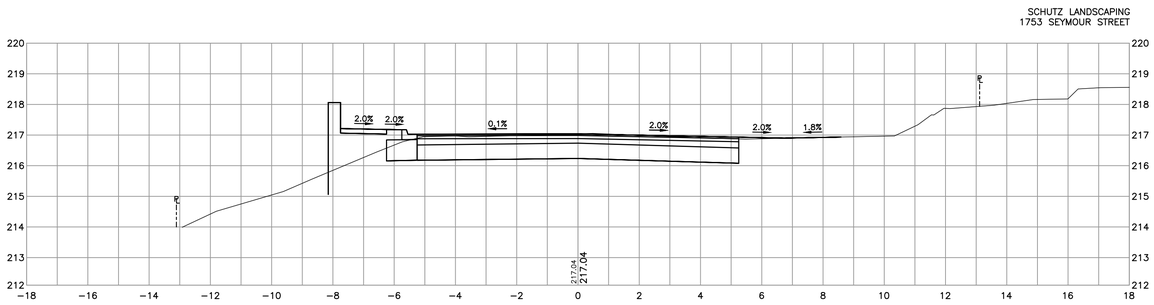
CROSS SECTIONS SEYMOUR STREET STA. 1+430 TO 1+490

TATHAM ENGINEERING

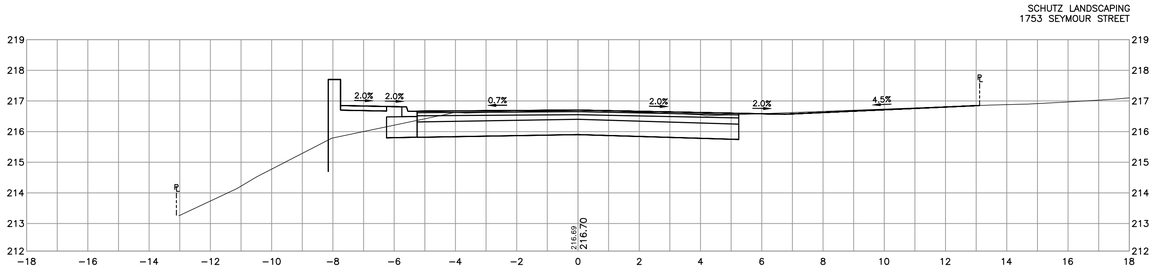
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CHECK: AEB	SCALE: 1:100	Sheet No. 47 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

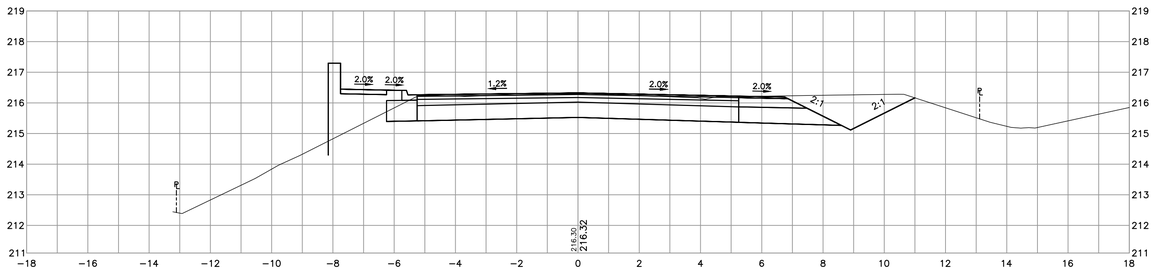
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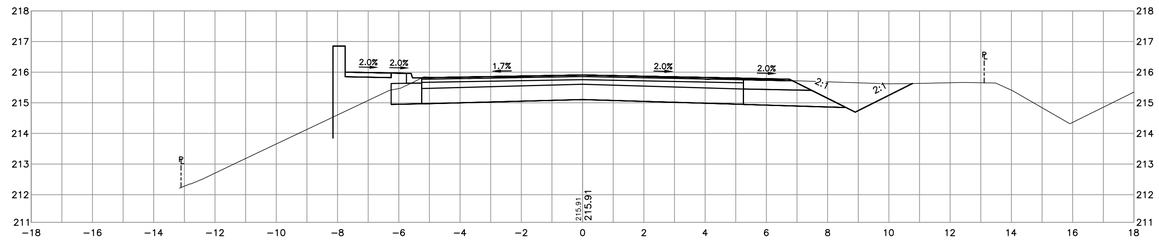
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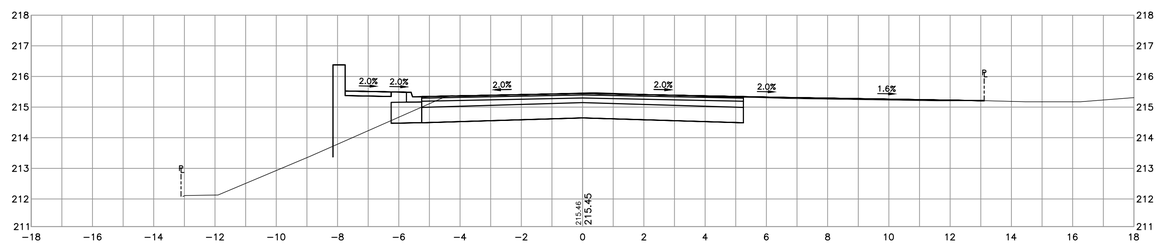
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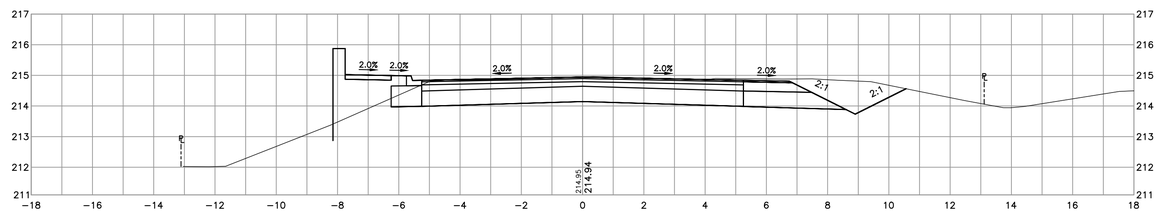
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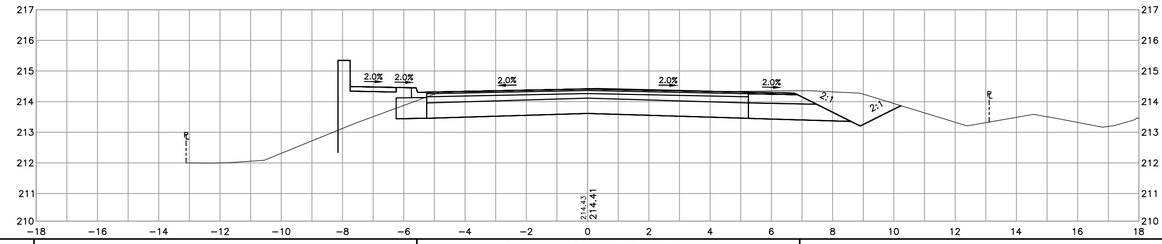
1+540



1+550



1+560



DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNBRIDGE
100120565
July 4/23
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

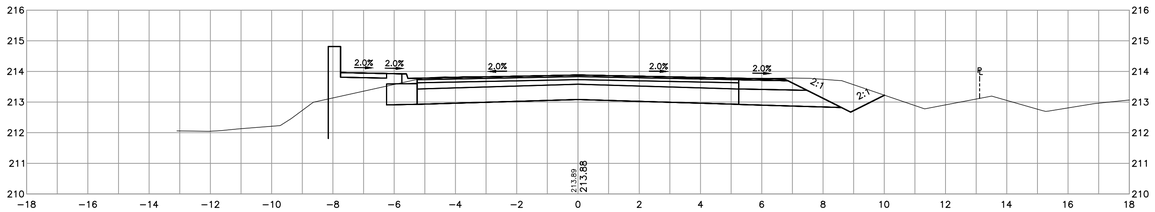
CROSS SECTIONS SEYMOUR STREET STA. 1+500 TO 1+560

TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 48 of 80

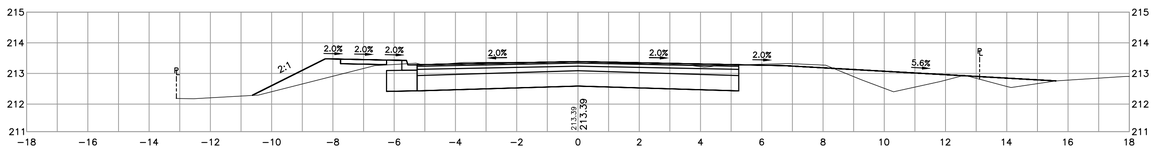
Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

1+570



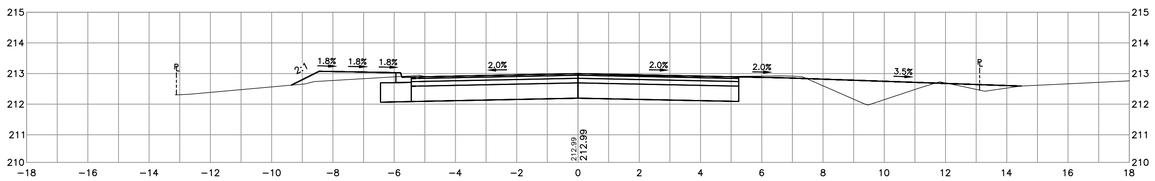
1+580

KOHLTECH WINDOWS & DOORS LIMITED
1781 SEYMOUR STREET

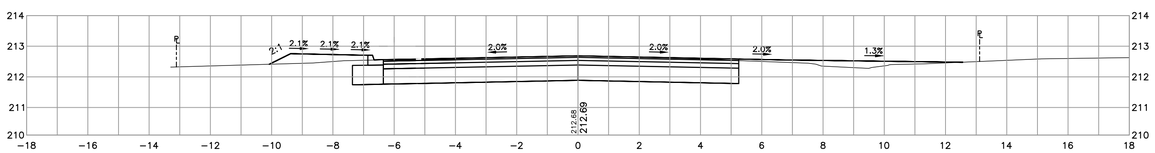


1+590

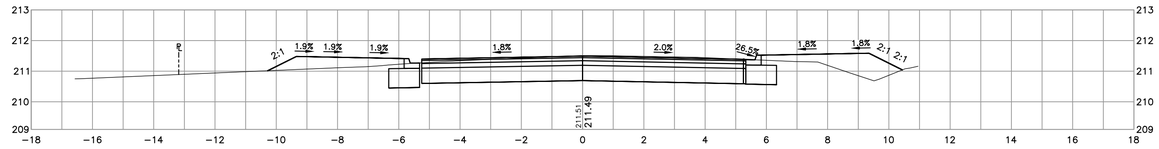
KOHLTECH WINDOWS & DOORS LIMITED
1781 SEYMOUR STREET



1+600



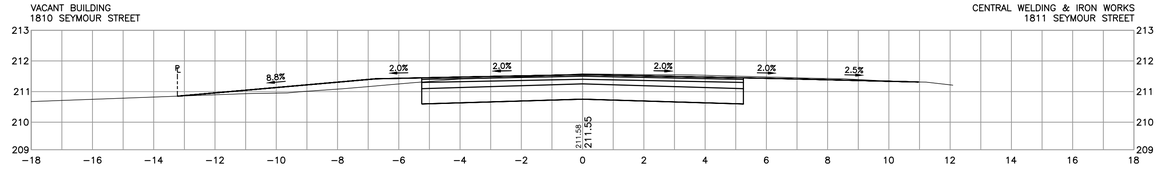
1+667



1+680

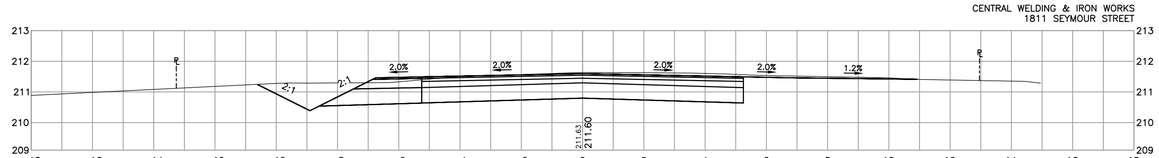
VACANT BUILDING
1810 SEYMOUR STREET

CENTRAL WELDING & IRON WORKS
1811 SEYMOUR STREET



1+690

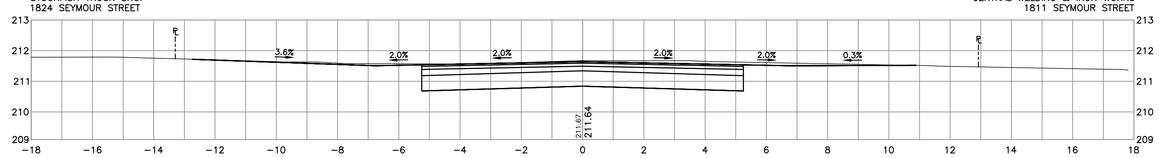
CENTRAL WELDING & IRON WORKS
1811 SEYMOUR STREET



1+700

STOCKFISH TRUCK SHOP
1824 SEYMOUR STREET

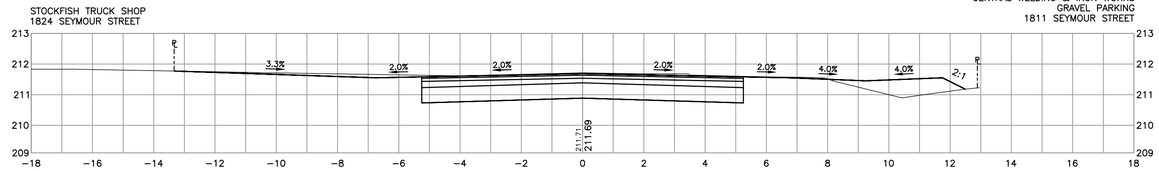
CENTRAL WELDING & IRON WORKS
1811 SEYMOUR STREET



1+710

STOCKFISH TRUCK SHOP
1824 SEYMOUR STREET

CENTRAL WELDING & IRON WORKS
GRAVEL PARKING
1811 SEYMOUR STREET



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

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7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNRIDGE
100120585
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M.J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

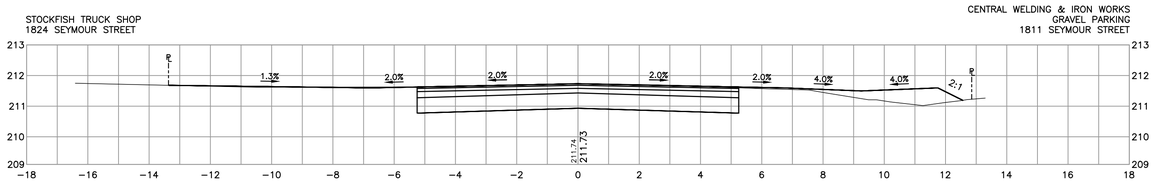
CROSS SECTIONS SEYMOUR STREET STA. 1+570 TO 1+710

TATHAM ENGINEERING

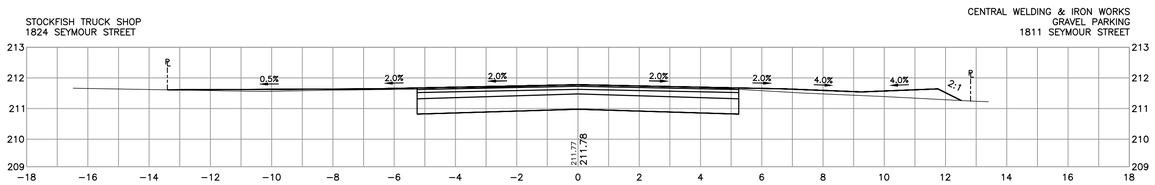
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 49 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

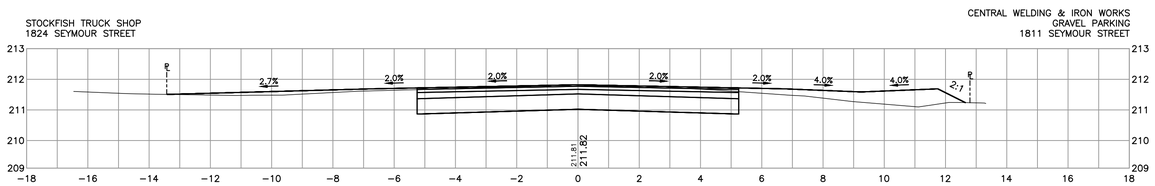
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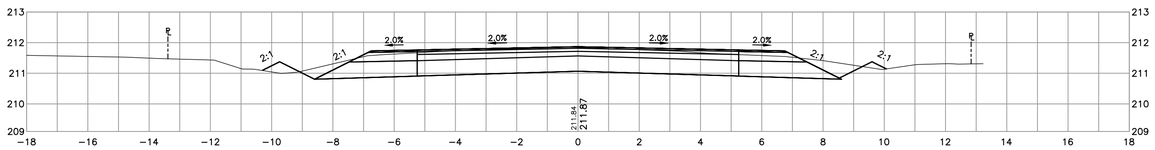
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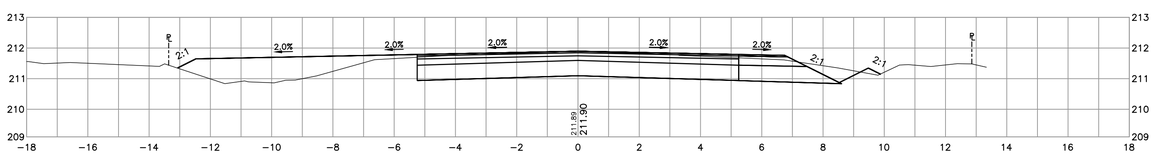
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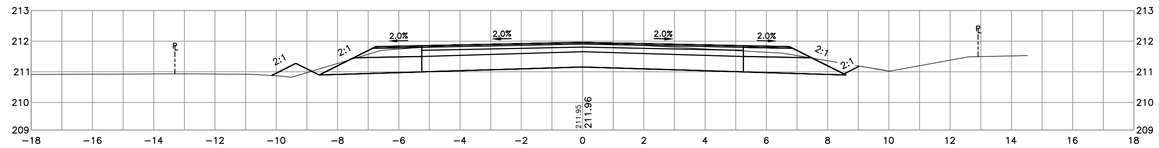
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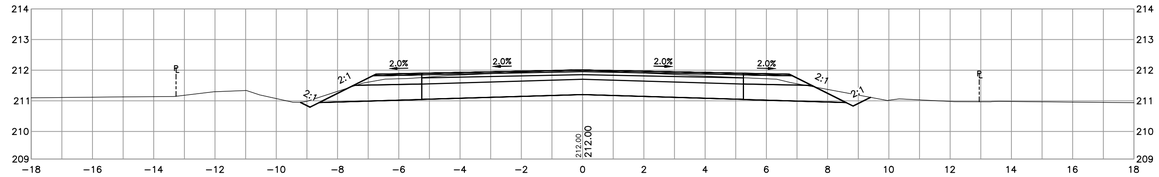
1+756



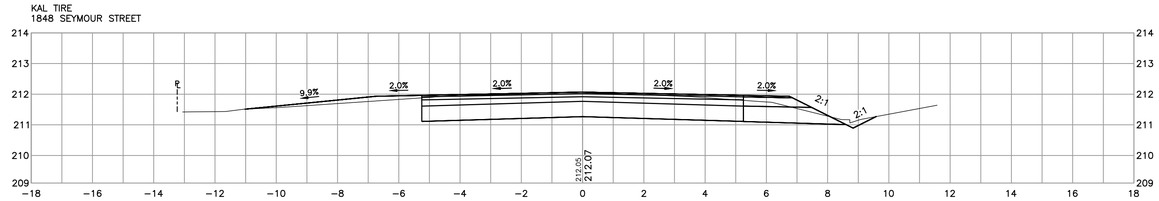
1+770



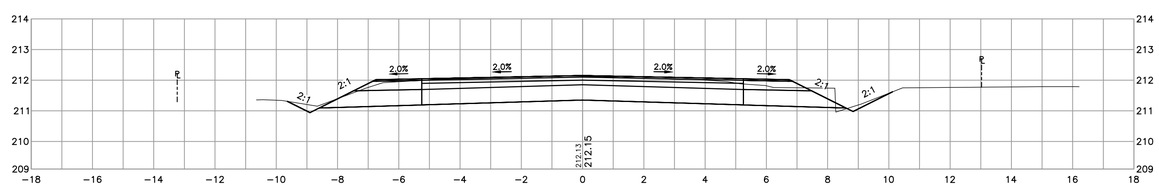
1+780



1+790



1+800



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A. E. BROWNRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

CROSS SECTION SEYMOUR STREET STA. 1+720 TO 1+800

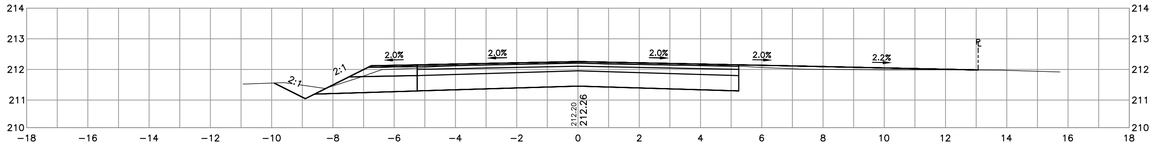
TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 50 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

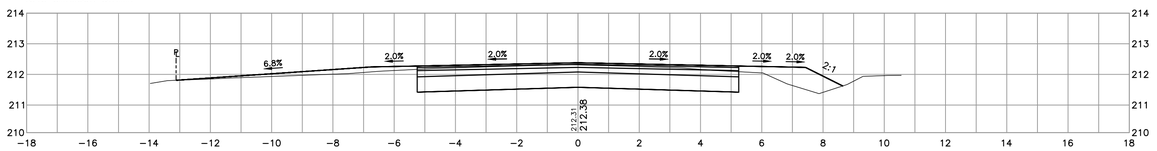
1+810

FORACO CANADA LTD.
1839 SEYMOUR STREET

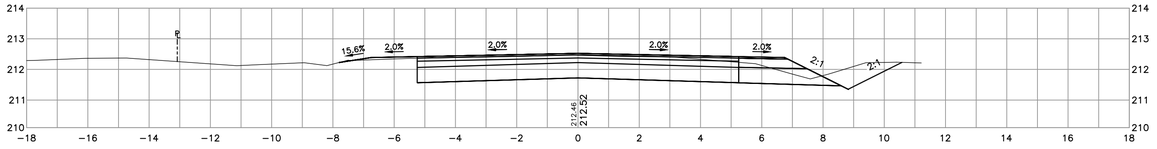


1+820

KAL TIRE
1848 SEYMOUR STREET

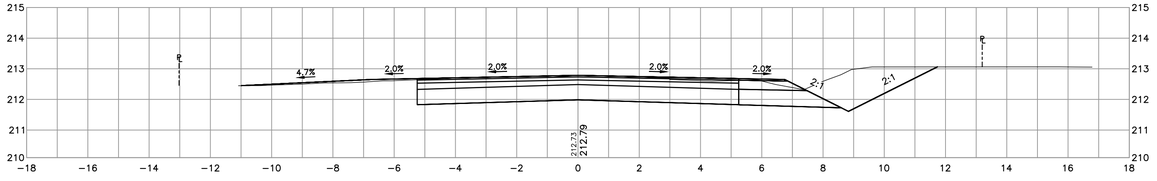


1+830



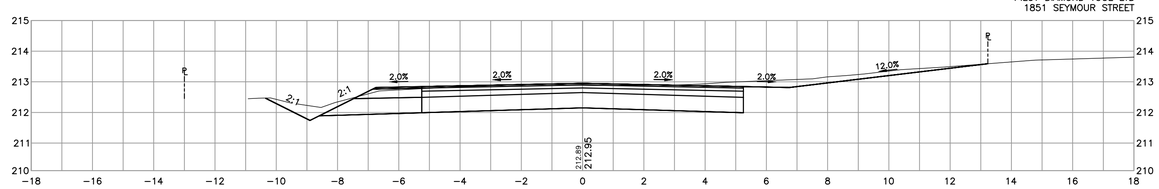
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T E PAROLIN & MOTOR CAR
1864 SEYMOUR STREET

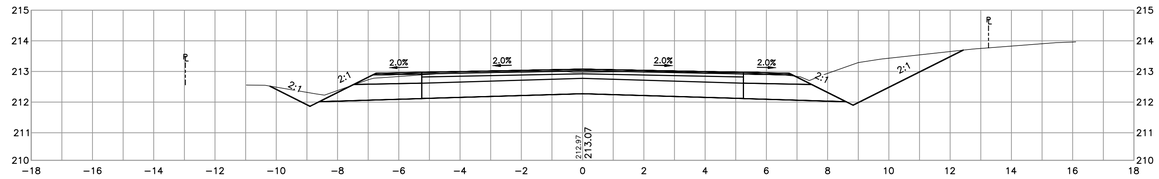


1+854

PILOT DIAMOND TOOL LTD
1851 SEYMOUR STREET

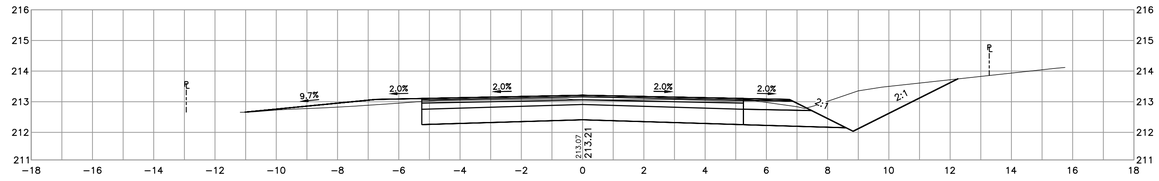


1+860

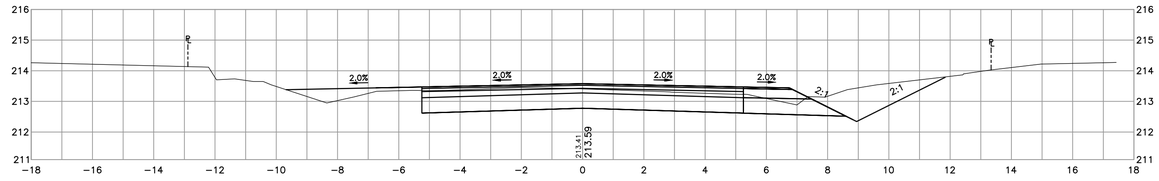


1+866

T E PAROLIN & MOTOR CAR
1864 SEYMOUR STREET



1+882



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BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

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100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

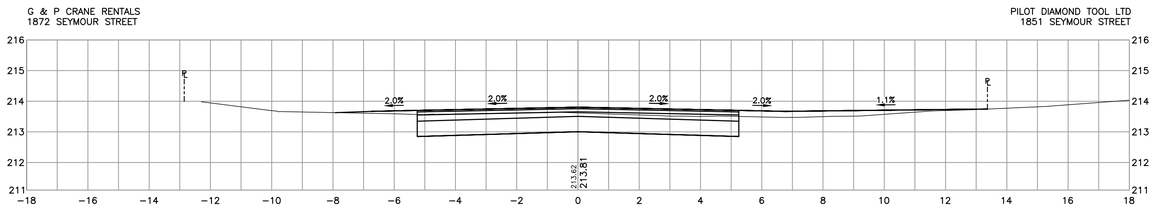
CROSS SECTIONS SEYMOUR STREET STA. 1+810 TO 1+880

TATHAM ENGINEERING

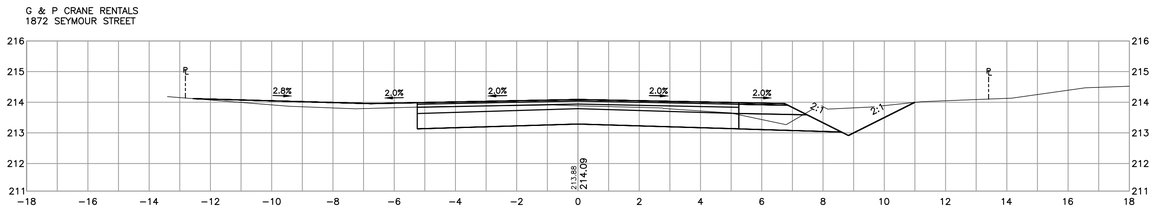
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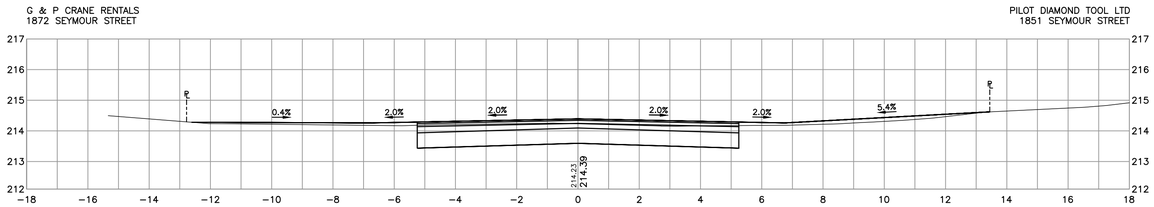
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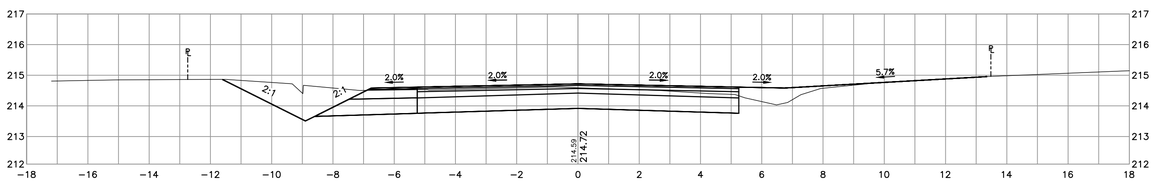
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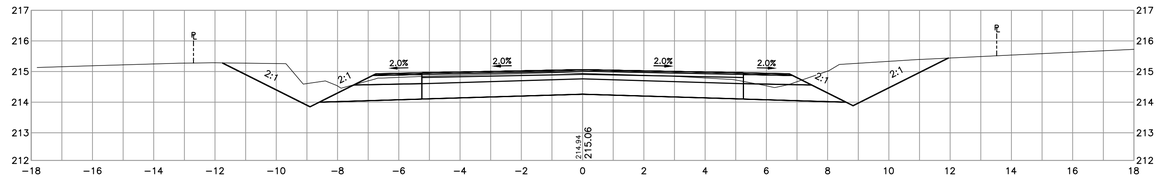
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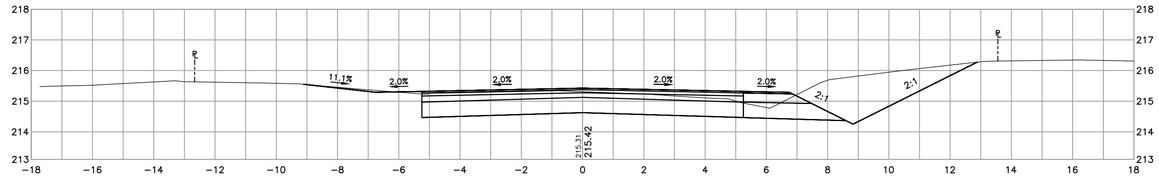
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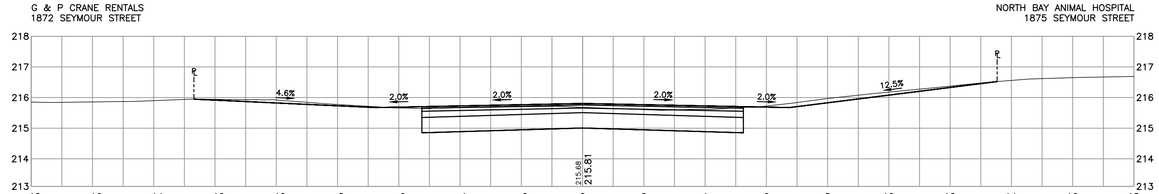
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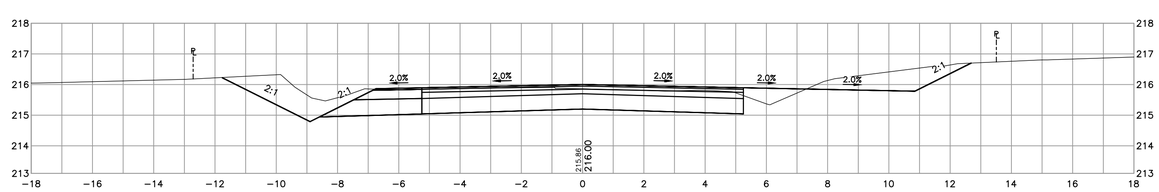
1+940



1+950



1+955



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MINISTRY OF NATURAL RESOURCES
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7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
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100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M.J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

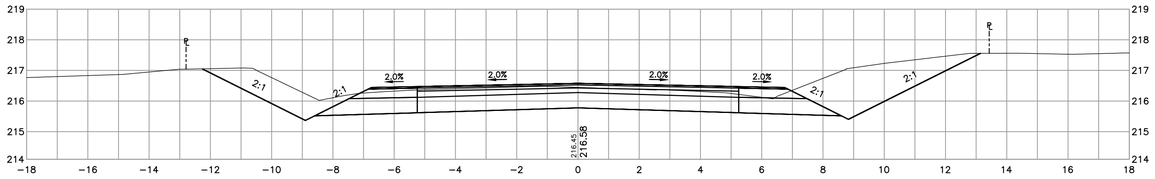
CROSS SECTIONS SEYMOUR STREET STA. 1+890 TO 1+955

TATHAM ENGINEERING

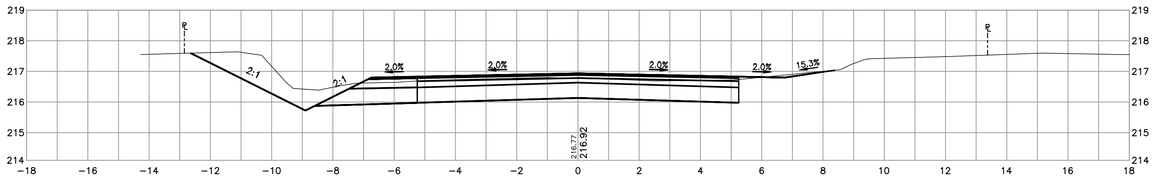
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CHECK: AEB	SCALE: 1:100	Sheet No. 52 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

1+970



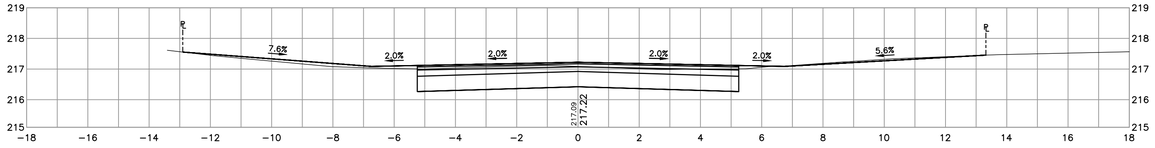
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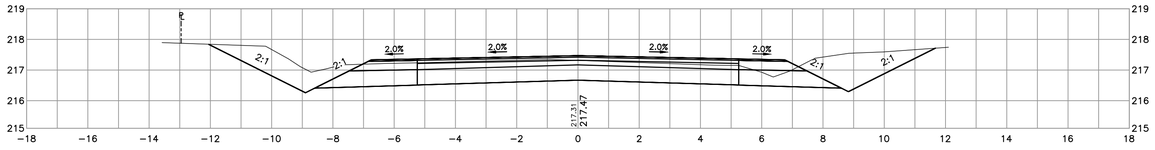
1+990

1897 WALLACE ROAD

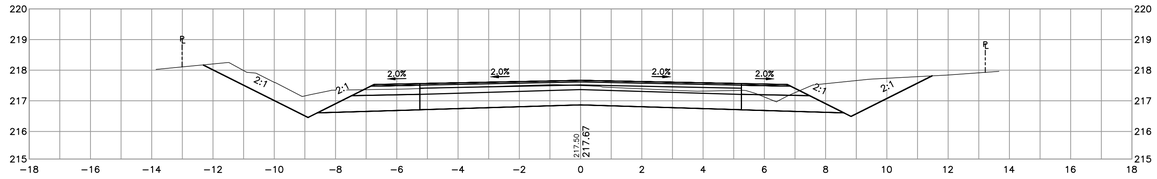
1891 SEYMOUR STREET



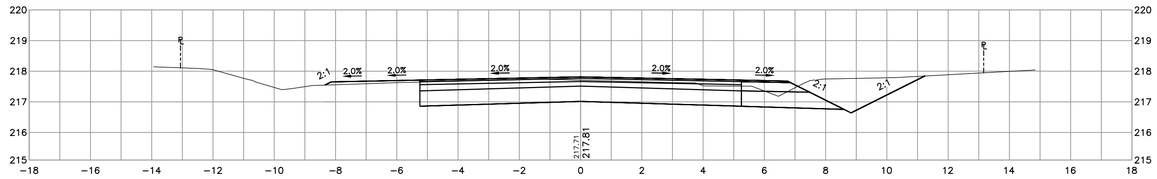
2+000



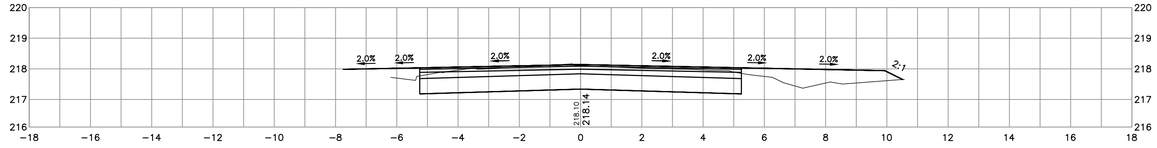
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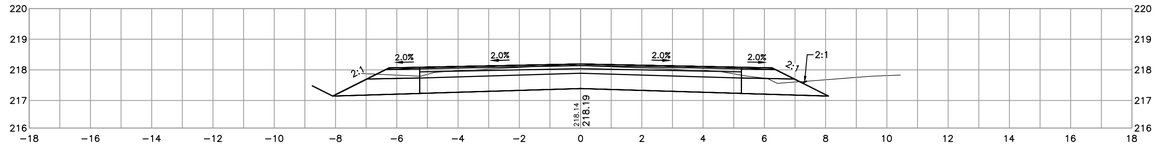
2+020



2+063



2+070



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ENGINEER STAMP

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100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

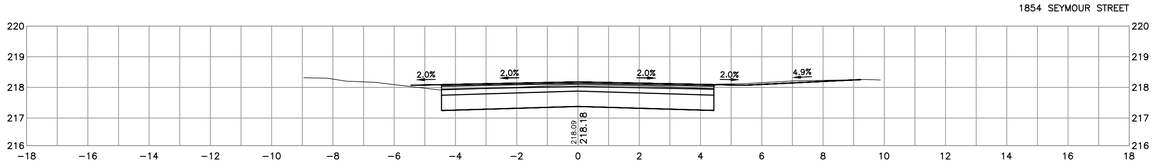
CROSS SECTIONS SEYMOUR STREET STA. 1+970 TO 2+070

TATHAM ENGINEERING

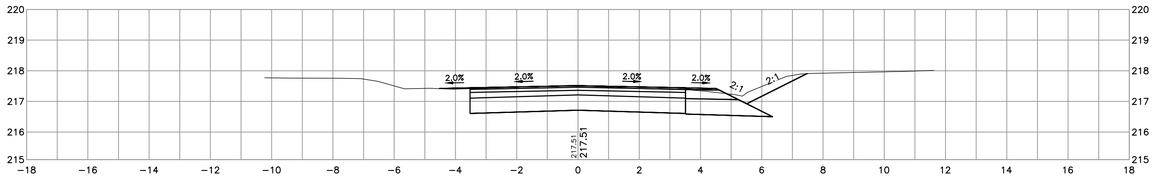
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CHECK: AEB	SCALE: 1:100	Sheet No. 53 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

2+085



2+100



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SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

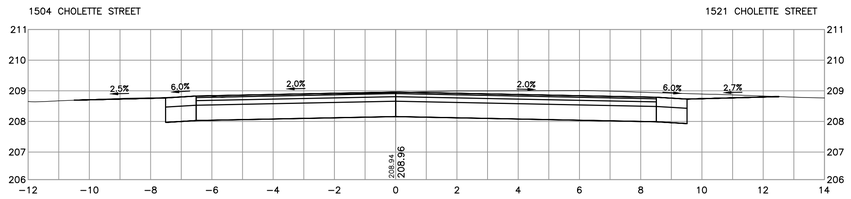
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TATHAM ENGINEERING

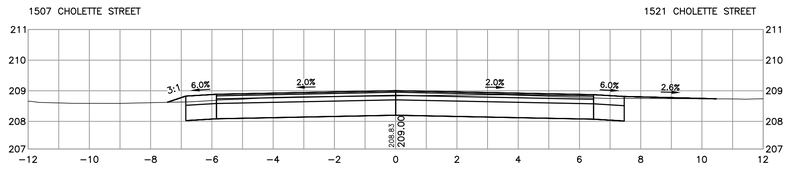
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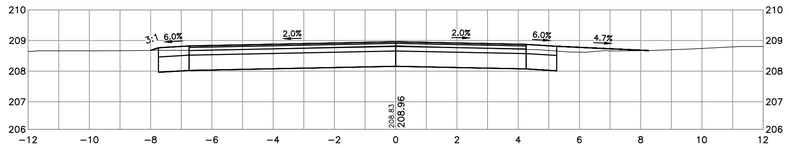
3+010



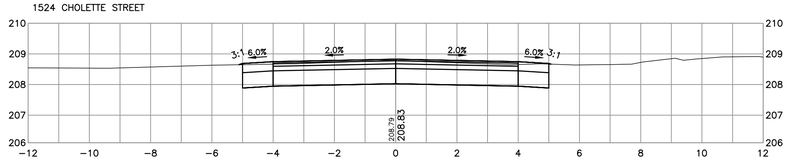
3+020



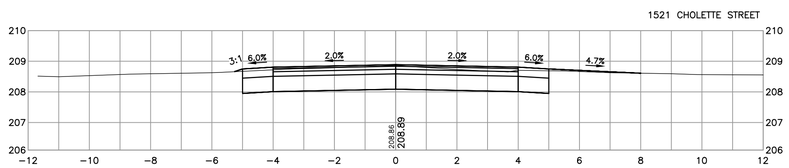
3+030



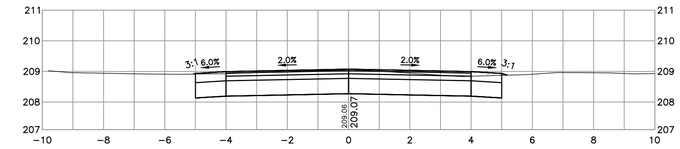
3+050



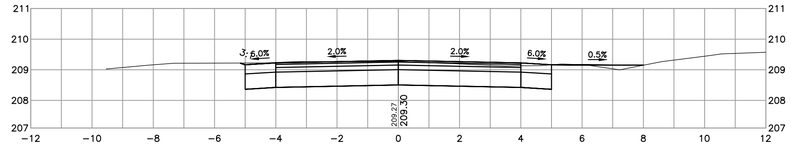
3+060



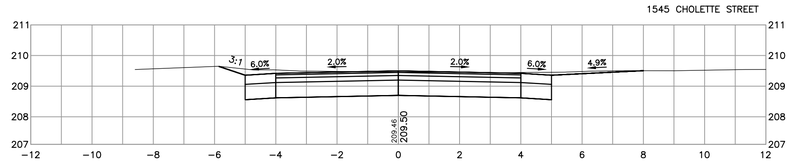
3+070



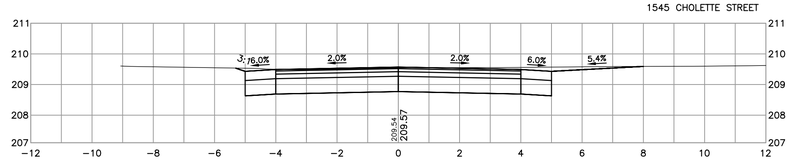
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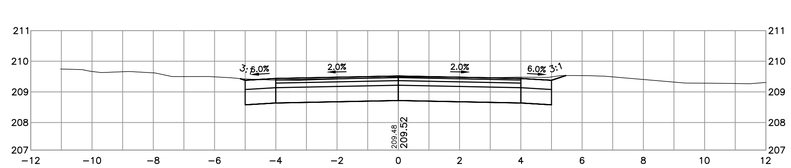
3+090



3+100



3+110



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00119820044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A. E. BROWNRIDGE
100120585
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

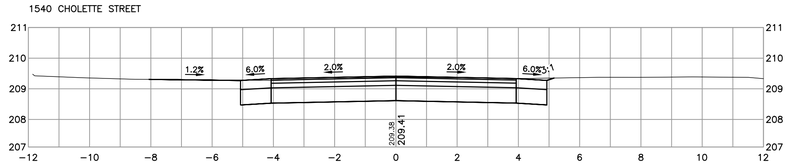
CROSS SECTIONS CHOLETTE STREET STA. 3+010 TO 3+110

TATHAM ENGINEERING

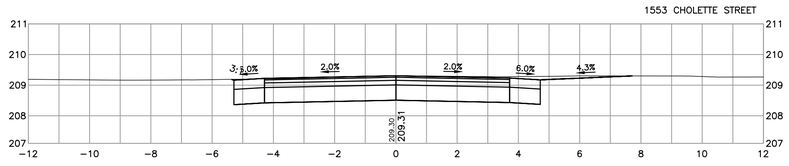
DESIGN: MJF	FILE: 124112	DWG: **XS.14**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 55 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

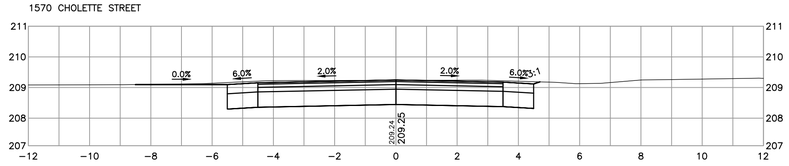
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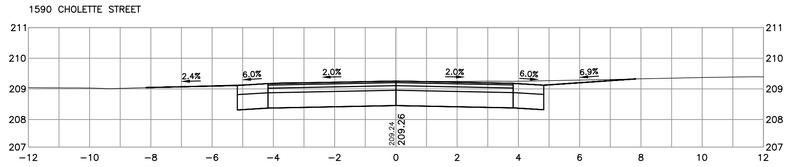
3+130



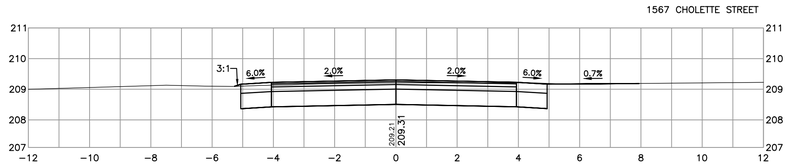
3+140



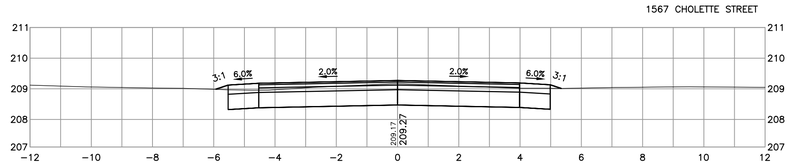
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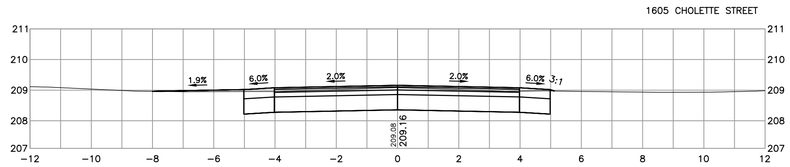
3+160



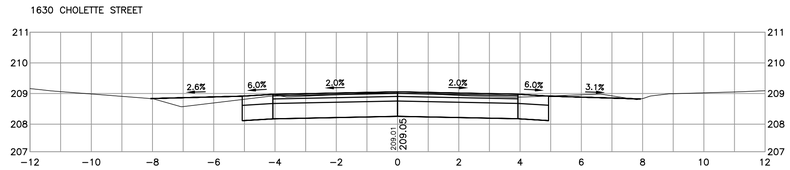
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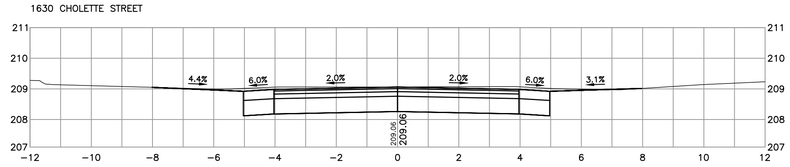
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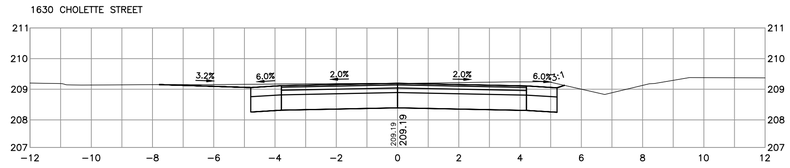
3+200



3+210



3+220



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNBRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

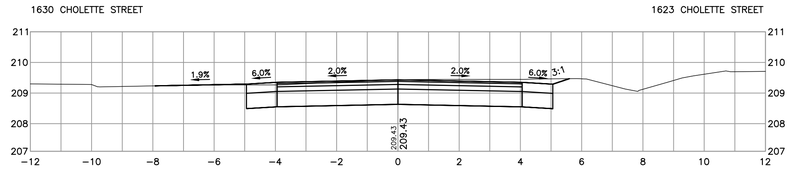
CROSS SECTIONS
CHOLETTE STREET
STA. 3+120 TO 3+220

TATHAM ENGINEERING

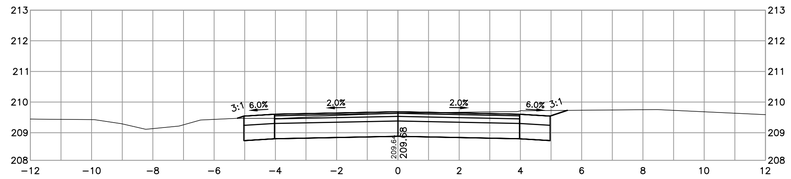
DESIGN: MJF	FILE: 124112	DWG: XS.15
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 56 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

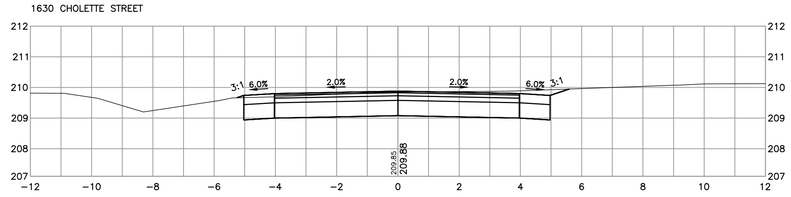
3+230



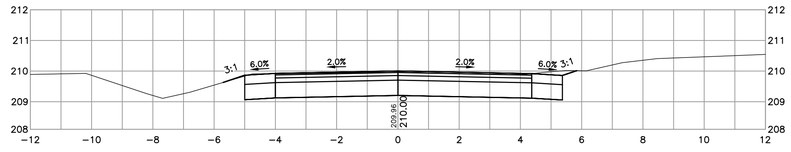
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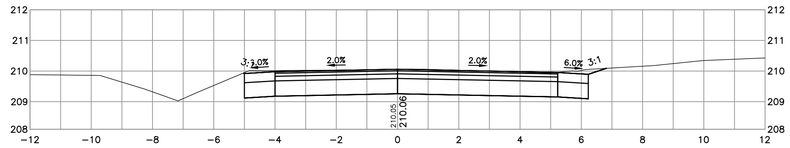
3+250



3+260



3+270



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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ENGINEER STAMP

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A.E. BROWNBRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

CROSS SECTIONS CHOLETTE STREET STA. 3+230 TO 3+270

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **XS.16**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 57 of 80

Drawing Name: 124112-XS01.dwg, Plotted: Jul 04, 2025

EXISTING		SEYMOUR STREET											
STATION	EX. SIDE	SIGN No.	SIGN DESCRIPTION	SIZE (cm)	REMOVE	RELOCATE	NEW	STATION	PROP. SIDE	SIGN ID	SIGN SIZE (mm)	QUANTITY	SUPPORT OPSD
		Rb–1A	MAXIMUM SPEED (50km/h)				X	1+160	LT	1	600 x 900	1	985.110
1+071	RT	Wa–23R	LANE ENDS	EXISTING				LEAVE IN PLACE					
1+071	RT	Wa–23t	115m	EXISTING	X								
		Wa–23t	130m				X	1+071	RT	1		1	
		Rb–1A	MAXIMUM SPEED (50km/h)				X	1+140	RT	1	600 x 900	1	985.110
1+180	RT	Wa–23R	LANE ENDS	EXISTING		X		1+210	RT	1	EXISTING	1	985.110
1+184	LT	RB–41 x2 RB–47 RB–42	LEFT TURN ONLY THROUGH ONLY RIGHT TURN ONLY	EXISTING		X		1+069	LT	1	EXISTING	1	985.220
1+204	RT	Wc–25R	AMBULANCE ENTRANCE	EXISTING		X		1+204	RT	1	EXISTING	1	985.110
		Rb–48A	TWO–WAY LEFT TURN				X	1+219	RT	1	900 x 1500	1	985.110
1+284	LT	CUSTOM	BUS STOP, NO PARKING	EXISTING				LEAVE IN PLACE					
1+347	LT	CUSTOM	WORSELEY	EXISTING				LEAVE IN PLACE					
		Rb–48A	TWO–WAY LEFT TURN				X	1+370	LT	1	900 x 1500	1	985.110
		Rb–48A	TWO–WAY LEFT TURN				X	1+370	RT	1	900 x 1500	1	985.110
1+384	RT	CUSTOM	BUS STOP, NO PARKING	EXISTING		X		1+384	RT	1	EXISTING	1	985.110
1+437	LT	Wc–25R	AMBULANCE ENTRANCE	EXISTING		X		1+437	LT	1	EXISTING	1	985.110
		Rb–48A	TWO–WAY LEFT TURN				X	1+469	LT	1	900 x 1500	1	985.110
		Wb–2	TRAFFIC SIGNAL AHEAD				X	1+480	RT	1	600 x 600	1	985.110
		Wb–3	NEW				X	1+480	RT	1	900 x 900	1	
		Rb–48A	TWO–WAY LEFT TURN				X	1+549	LT	1	900 x 1500	1	985.110
		Rb–41	LEFT TURN ONLY				X	1+551	RT	1	600 x 600	1	985.220
		Rb–44	STRAIGHT THROUGH OR RIGHT TURN				X	1+551	RT	1	600 x 600	1	
		Rb–1A	MAXIMUM SPEED (50km/h)				X	1+595	LT	1	600 x 900	1	985.110
1+613	LT	CUSTOM	MAGNETSIGNS	EXISTING				LEAVE IN PLACE					
			STREET NAME – "VENTURE"				X	1+620	RT	1	CUSTOM	1	MAST ARM
			STREET NAME – "COMMERCE"				X	1+620	LT	1	CUSTOM	1	MAST ARM
1+622	RT	CUSTOM	CITY STREET NAMES	EXISTING	X								
			STREET NAME – "VENTURE"				X	1+660	RT	1	CUSTOM	1	MAST ARM
			STREET NAME – "COMMERCE"				X	1+660	LT	1	CUSTOM	1	MAST ARM
		Rb–1A	MAXIMUM SPEED (50km/h)				X	1+672	RT	1	600 x 900	1	985.110
		Rb–48A	TWO–WAY LEFT TURN				X	1+746	RT	1	900 x 1500	1	985.110
		Rb–41	LEFT TURN ONLY				X	1+749	LT	1	600 x 600	1	985.220
		Rb–44	STRAIGHT THROUGH OR RIGHT TURN				X	1+749	LT	1	600 x 600	1	
		Wb–2	TRAFFIC SIGNAL AHEAD				X	1+800	LT	1	600 x 600	1	985.110
		Wb–3	NEW				X	1+800	LT	1	900 x 900	1	
1+847	RT	RB–51	NO PARKING	EXISTING		X		1+847	RT	1	EXISTING	1	985.110
1+858	RT	CUSTOM	NEXT DRIVEWAY	EXISTING				LEAVE IN PLACE					
1+872	LT	RB–51	NO PARKING	EXISTING				LEAVE IN PLACE					
1+878	RT	RB–51	NO PARKING	EXISTING		X		1+878	RT	1	EXISTING	1	985.110
1+885	RT	CUSTOM	SHIPPING & RECEIVING	EXISTING				LEAVE IN PLACE					
1+901	RT	RB–51	NO PARKING	EXISTING		X		1+901	RT	1	EXISTING	1	985.110
1+930	LT	RB–51	NO PARKING	EXISTING				LEAVE IN PLACE					
		Rb–41	LEFT TURN ONLY				X	1+932	RT	1	600 x 600	1	985.220
		Rb–44	STRAIGHT THROUGH OR RIGHT TURN				X	1+932	RT	1	600 x 600	1	
1+939	RT	RB–51	NO PARKING	EXISTING		X		1+939	RT	1	EXISTING	1	985.110
		Rb–48A	TWO–WAY LEFT TURN				X	1+973	LT	1	900 x 1500	1	985.110
1+979	LT	RB–51	NO PARKING	EXISTING				LEAVE IN PLACE					
		Rb–1A	MAXIMUM SPEED (50km/h)				X	2+005	LT	1	600 x 900	1	985.110
2+010	LT	RB–51	NO PARKING	EXISTING				LEAVE IN PLACE					
2+058	RT	Wa–31 & CUSTOM	NO EXIT & NO DUMPING	EXISTING		X		LEAVE IN PLACE		1	EXISTING	1	985.110

EXISTING		CHOLETTE STREET											
STATION	EX. SIDE	SIGN No.	SIGN DESCRIPTION	SIZE (cm)	REMOVE	RELOCATE	NEW	STATION	PROP. SIDE	SIGN ID	SIGN SIZE (mm)	QUANTITY	SUPPORT OPSD
3+001	RT	Wa–8	CHECKERBOARD	EXISTING		X		3+001	RT	1	EXISTING	1	985.110
3+030	LT	Ra–1	STOP (LILLIAN AVE.)	EXISTING		X		3+029	LT	1	EXISTING	1	985.110
3+065	LT	Ra–1	STOP (PATTON ST.)	EXISTING		X		3+063	LT	1	EXISTING	1	985.110
3+176	LT	CUSTOM	CITY STREET NAME	EXISTING				LEAVE IN PLACE					
3+265	LT	Wa–31	NO EXIT	EXISTING		X		3+265	LT	1	EXISTING	1	985.110
3+273	RT	Ra–1	STOP	EXISTING		X		3+278	RT	1	EXISTING	1	985.110

EXISTING		STATION ROAD											
STATION	EX. SIDE	SIGN No.	SIGN DESCRIPTION	SIZE (cm)	REMOVE	RELOCATE	NEW	STATION	PROP. SIDE	SIGN ID	SIGN SIZE (mm)	QUANTITY	SUPPORT OPSD
4+025	LT	CUSTOM	BUS STOP, NO PARKING	EXISTING				LEAVE IN PLACE					
4+044	RT	RA–1	STOP	EXISTING		X		4+046	RT	1	EXISTING	1	985.110
4+077	LT	RA–1	STOP	EXISTING				LEAVE IN PLACE					

EXISTING		COMMERCE CRESCENT & VENTURE CRESCENT											
STATION	EX. SIDE	SIGN No.	SIGN DESCRIPTION	SIZE (cm)	REMOVE	RELOCATE	NEW	STATION	PROP. SIDE	SIGN ID	SIGN SIZE (mm)	QUANTITY	SUPPORT OPSD
			STREET NAME – "SEYMOUR"				X	5+035	LT	1	CUSTOM	1	MAST ARM
5+042	RT	Ra–1	STOP	EXISTING	X								
5+064	RT	CUSTOM	CITY STREET NAMES	EXISTING	X								
5+073	LT	Ra–1	STOP	EXISTING	X								
			STREET NAME – "SEYMOUR"				X	5+076	RT	1	CUSTOM	1	MAST ARM

EXISTING		WALLACE ROAD											
STATION	EX. SIDE	SIGN No.	SIGN DESCRIPTION	SIZE (cm)	REMOVE	RELOCATE	NEW	STATION	PROP. SIDE	SIGN ID	SIGN SIZE (mm)	QUANTITY	SUPPORT OPSD
6+021	RT	Ra–1	STOP	EXISTING		X		6+025	RT	1	EXISTING	1	
6+056	LT	Ra–1	STOP	EXISTING		X		6+054	LT	1	EXISTING	1	

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

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July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

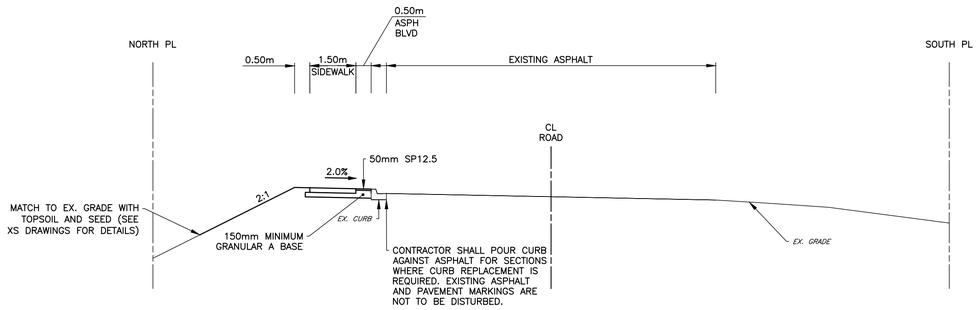
CITY OF NORTH BAY

SIGN SCHEDULE

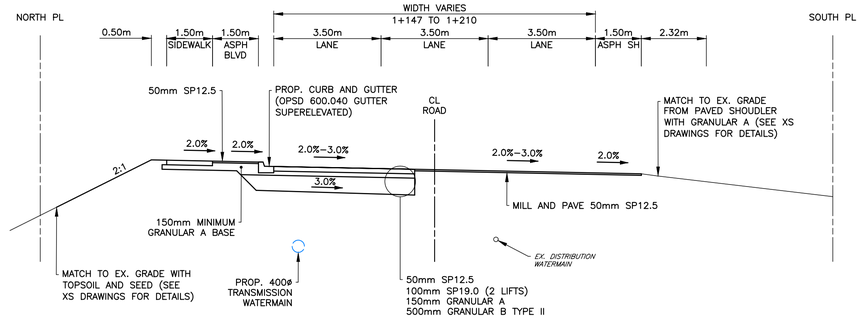
TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: N/A	

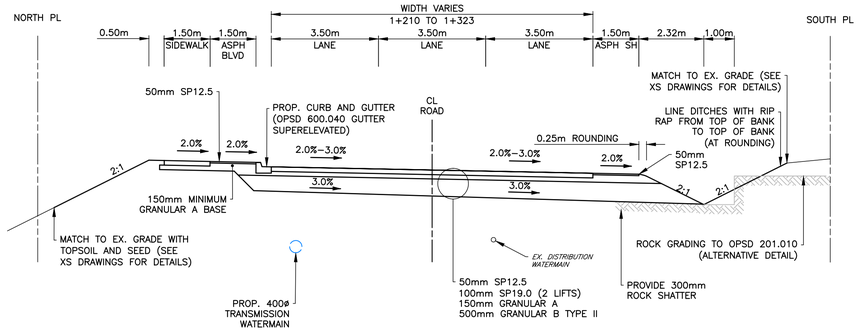
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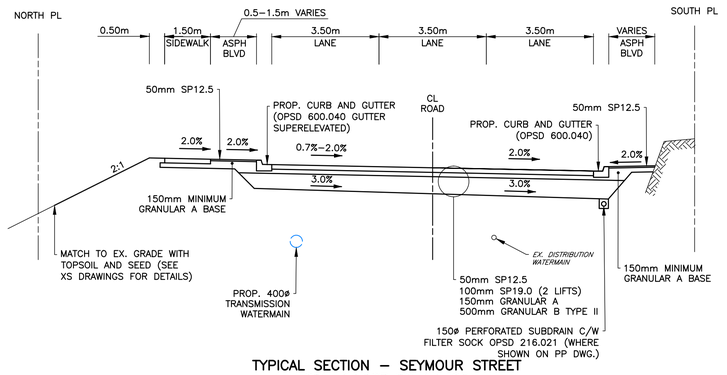
TYPICAL SECTION – SEYMOUR STREET
STA. 1+012 TO 1+080



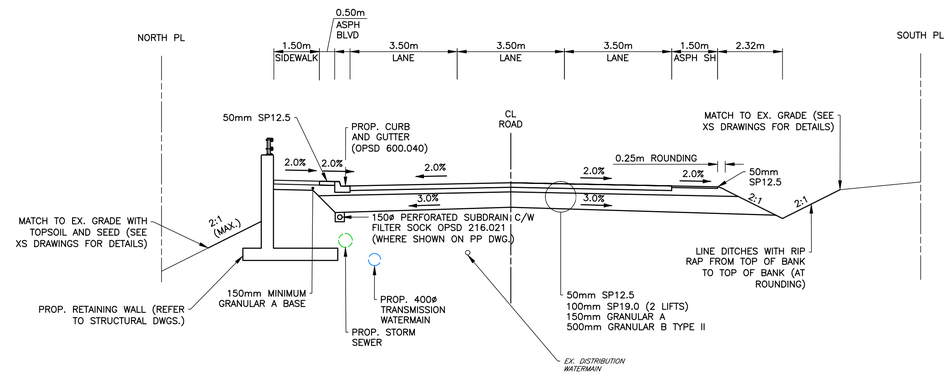
TYPICAL SECTION – SEYMOUR STREET
STA. 1+147 TO 1+210



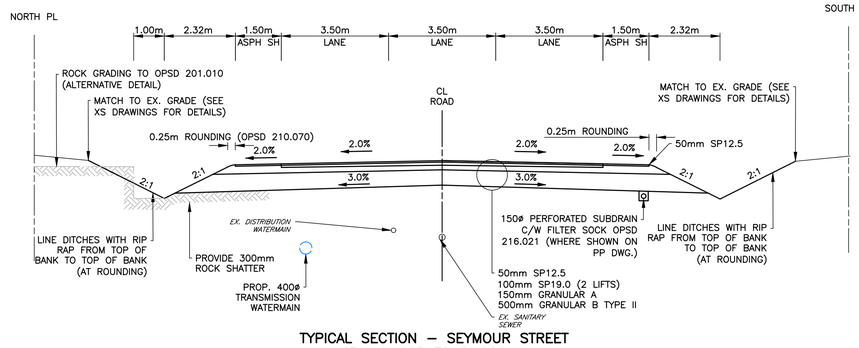
TYPICAL SECTION – SEYMOUR STREET
STA. 1+210 TO 1+367



TYPICAL SECTION – SEYMOUR STREET
STA. 1+367 TO 1+485



TYPICAL SECTION – SEYMOUR STREET
STA. 1+485 TO 1+580



TYPICAL SECTION – SEYMOUR STREET
STA. 1+665 TO 2+020 &
STA. 2+060 TO 2+072

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 001198ZU044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

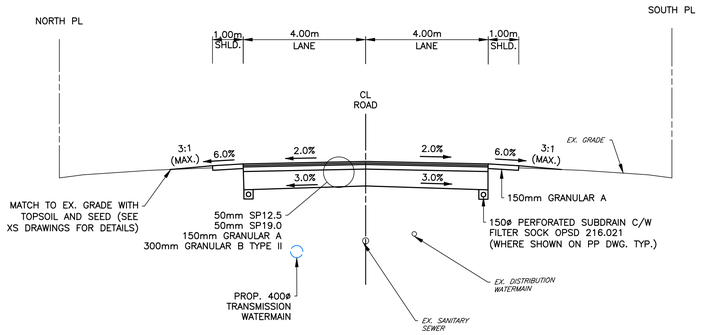
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

TYPICAL SECTIONS & DETAILS
SHEET 1

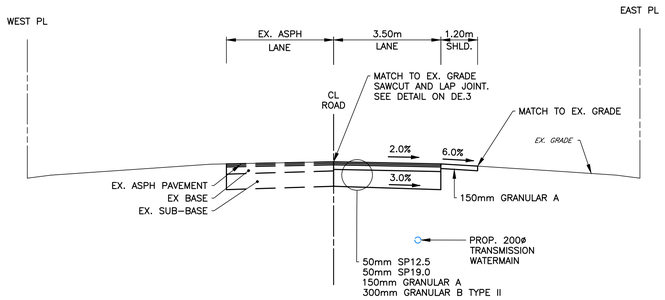
TATHAM ENGINEERING

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: NTS	Sheet No. 58 of 80

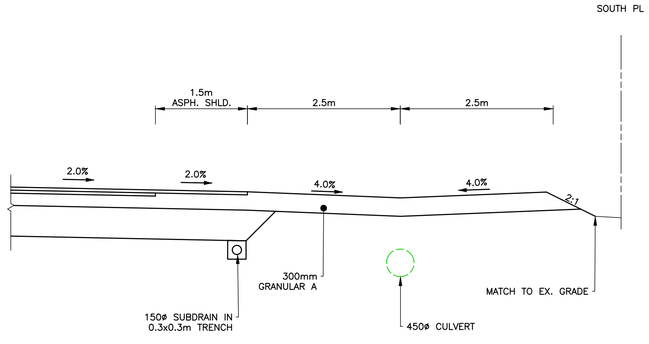
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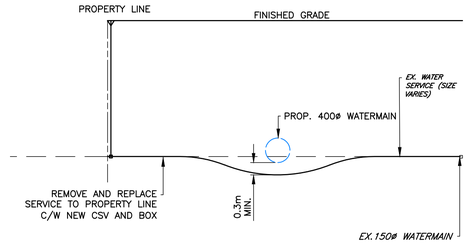
TYPICAL SECTION – CHOLETTE STREET
STA. 3+000 TO 3+300



TYPICAL SECTION – WALLACE ROAD
STA. 6+040 TO 6+323

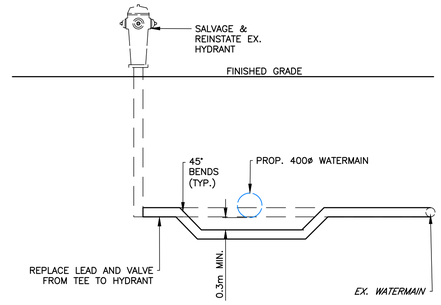


GRAVEL PARKING AREA CROSS SECTION
STA. 2+020 TO 2+060



NOTES:
1. WATER SERVICE SHALL BE TYPE 'K' COPPER.
2. THE COPPER SERVICE SHALL BE BEDDED IN SAND COMPACTED TO 95% SPMDD.
3. THE REPLACEMENT SERVICE SHALL BE THE SAME DIAMETER AS EXISTING.
4. INSTALL NEW ANODE ON REINSTATED HYDRANT AND NEW VALVE PER TABLE ON DE.2

WATER SERVICE LOWERING



NOTES:
1. NEW HYDRANT LEAD SHALL BE 150mm DIA. DR18 PVC.
2. INSTALL NEW ANODE ON REINSTATED HYDRANT AND NEW VALVE PER TABLE ON DE.2

HYDRANT LEAD LOWERING

ELEMENT	ANODE SIZE	ANODE MATERIAL	NOTES
TRACER WIRE	5.4 kg	ZINC	ANODE PER 1,000 METRES
VALVE (NON-FERROUS)	5.4 kg	ZINC	
VALVE (FERROUS)	14.5 kg	ZINC	
HYDRANT (NON-FERROUS)	5.4 kg	ZINC	
HYDRANT (FERROUS)	14.5 kg	ZINC	
HYDRANT (NON-FERROUS)	5.4 kg	ZINC	
RESTRAINING GLAND			TAPE COATING SYSTEM
METALLIC SERVICE	5.4 kg	ZINC	APPLICABLE TO SERVICES 25ø OR SMALLER AND LESS THAN 20m LENGTH
WATERMAIN	14.5 kg	MAGNESIUM	ANODE CONNECTED TO FERROUS WATERMAIN ONLY WHEN CONNECTING A NON-FERROUS WATERMAIN TO A FERROUS WATERMAIN

CATHODIC PROTECTION REQUIREMENTS

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 00111982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNRIDGE
100120585
JULY 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
JULY 4, 2025
PROVINCE OF ONTARIO

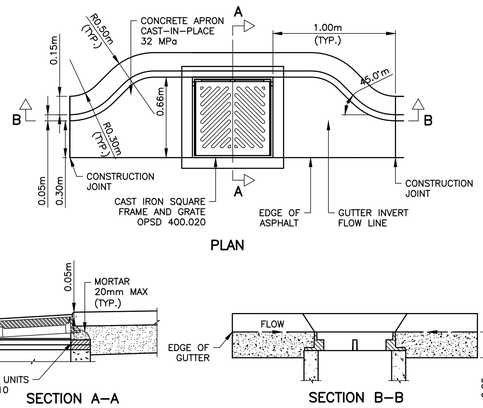
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

TYPICAL SECTIONS & DETAILS
SHEET 2

TATHAM ENGINEERING

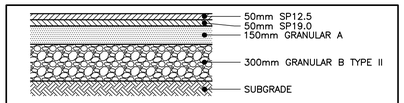
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Drawing Name: 124112-DE01.dwg, Plotted: Jul 04, 2025



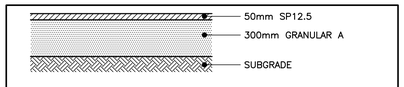
NOTE: IN CASE OF UNRESOLVED UTILITY CONFLICT, USE ALTERNATE CURB INSTALLATION LOCATION TO OPSD 610.010 OR 705.002, OR BOULEVARD INSTALLATION WITH HORIZONTAL GRATE TO OPSD 403.010 COMPLETE WITH CURB SPILLWAY TO OPSD 604.010. REVIEW ALL STRUCTURE LOCATION ADJUSTMENTS WITH CITY/ENGINEER.

CATCH BASIN INSTALLATION AT CURB RECESS
SCALE 1:25



NOTES:
1. GRANULAR MATERIAL TO BE COMPACTED TO A DENSITY OF 98% SPMDD IN ACCORDANCE WITH OPSS.MUNI 501. ASPHALT TO BE COMPACTED IN ACCORDANCE WITH OPSS.MUNI 310.
2. SAWCUT EXISTING ASPHALT AND APPLY TACK COAT ALONG EDGE PRIOR TO PLACING SURFACE ASPHALT.

MIN. ASPHALT DRIVEWAY RESTORATION COMMERCIAL/INDUSTRIAL
SCALE 1:25



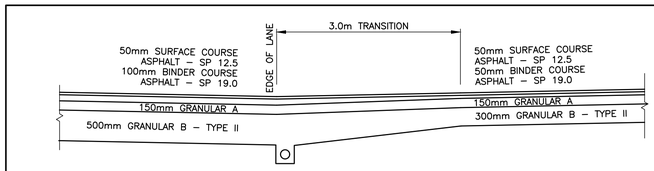
NOTES:
1. GRANULAR MATERIAL TO BE COMPACTED TO A DENSITY OF 98% SPMDD IN ACCORDANCE WITH OPSS.MUNI 501. ASPHALT TO BE COMPACTED IN ACCORDANCE WITH OPSS.MUNI 310.
2. SAWCUT EXISTING ASPHALT AND APPLY TACK COAT ALONG EDGE PRIOR TO PLACING SURFACE ASPHALT.

MIN. ASPHALT DRIVEWAY RESTORATION RESIDENTIAL
SCALE 1:25

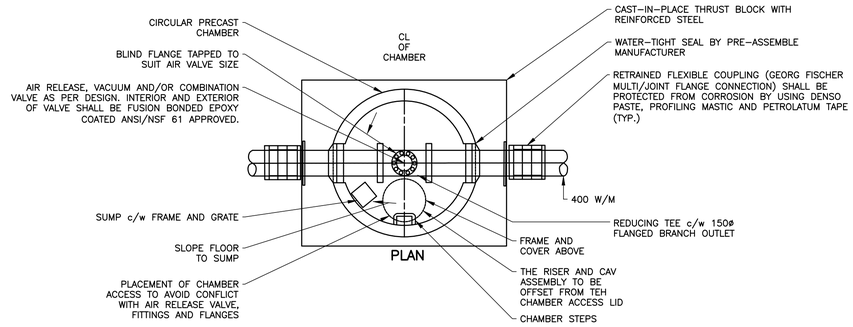


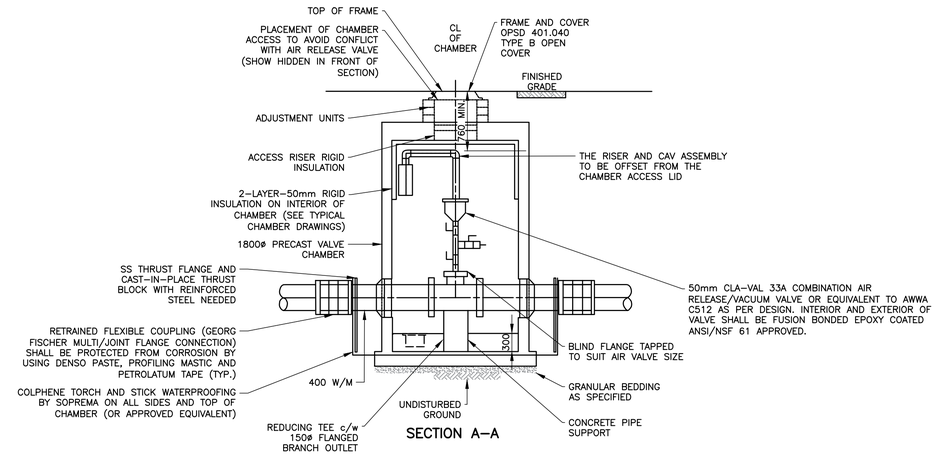
NOTES:
1. TOPSOIL IN ACCORDANCE WITH OPSS 802.
2. SEED IN ACCORDANCE WITH OPSS.MUNI 804.

MIN. SEED RESTORATION
SCALE 1:25



ROAD STRUCTURE DEPTH TRANSITION AT SIDE STREET
SCALE 1:50

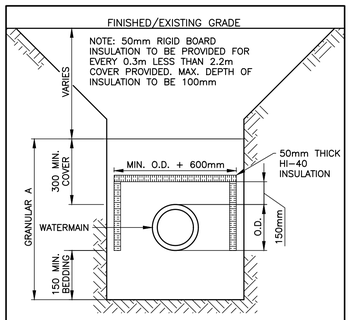




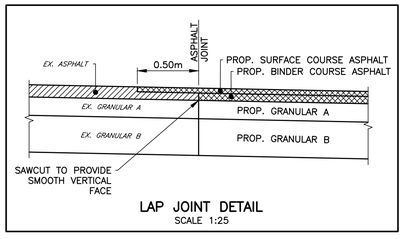
NOTE

1. ALL VALVES TO BE RESILIENT SEAT TO AWWA C509, FUSION BONDED EPOXY (FBE) SHOP COAT FINISH ON INTERIOR AND EXTERIOR OF VALVE TO AWWA C550. INTERIOR COATING TO BE FBE ANSI/NSF 61 APPROVED.
2. INTERIOR OF ALL STEEL (NOT STAINLESS STEEL) PIPE SHALL BE LIQUID COATED TO AWWA C210 AND BE ANSI/NSF 61 APPROVED. ALL EXTERIOR SURFACES SHALL BE LIQUID EPOXY COATED TO AWWA C210.
3. INTERIOR OF ALL DUCTILE IRON PIPE AND FITTINGS IN CONTACT WITH POTABLE WATER SHALL BE CEMENT MORTAR LINED TO AWWA C104.
4. FOR 25mm AND 50mm AIR VALVES MUST USE I.P.T. THREADED OUTLET WITH STAINLESS STEEL NIPPLES AS REQUIRED.
5. AIR RELEASE VALVE TO AWWA C512, FUSION BONDED EPOXY (FBE) SHOP COAT FINISH ON INTERIOR AND EXTERIOR OF VALVE TO AWWA C550. INTERIOR COATING TO BE FBE ANSI/NSF 61 APPROVED.
6. ALL NUTS, BOLTS AND WASHERS TO BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
7. ALL PIPING, FITTINGS, VALVES, APPURTENANCES AND MECHANICAL RESTRAINTS TO BE c/w DENSO PASTE, DENSO MASTIC AND DENSO TAPE OR APPROVED EQUAL, APPLIED TO MANUFACTURER'S RECOMMENDATIONS.

AIR RELEASE/VACUUM CHAMBER
SCALE 1:50



WATERMAIN INSULATION DETAIL
SCALE 1:20

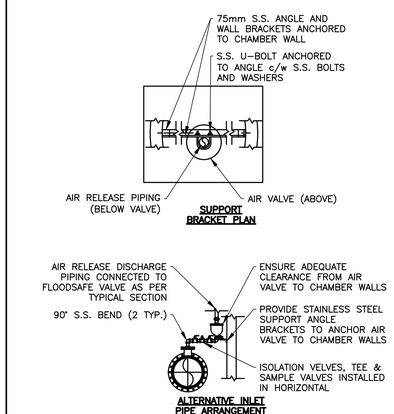


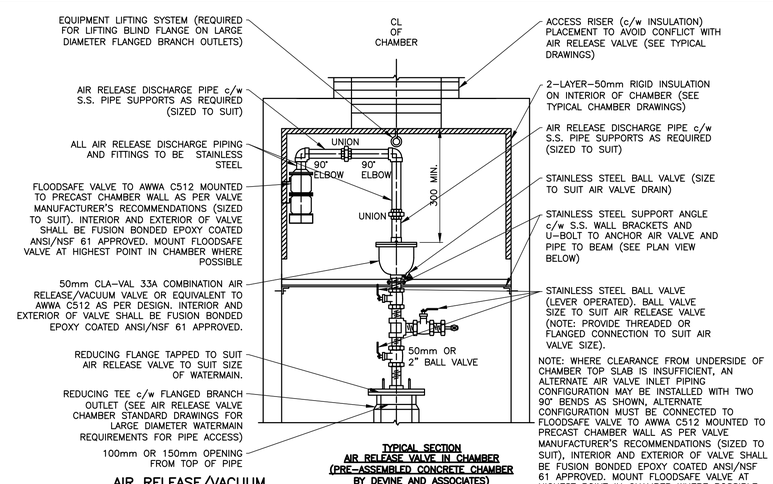
LAP JOINT DETAIL
SCALE 1:25



NOTES:
1. GRANULAR MATERIAL TO BE COMPACTED TO A DENSITY OF 98% SPMDD IN ACCORDANCE WITH OPSS.MUNI 501.

MIN. GRAVEL DRIVEWAY RESTORATION
SCALE 1:25





AIR RELEASE/VACUUM VALVE DETAIL
N.T.S.

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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No.	REVISION DESCRIPTION	DATE
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ADDENDUM 1	MAY 2025
8.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120565 July 4/25 PROVINCE OF ONTARIO
LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO
LICENSED PROFESSIONAL ENGINEER July 4, 2025 S. SRIDHAR 100548047 PROVINCE OF ONTARIO

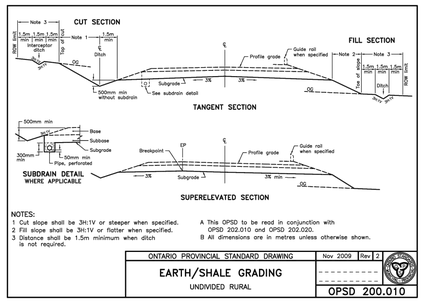
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

TYPICAL SECTIONS & DETAILS SHEET 3

TATHAM ENGINEERING

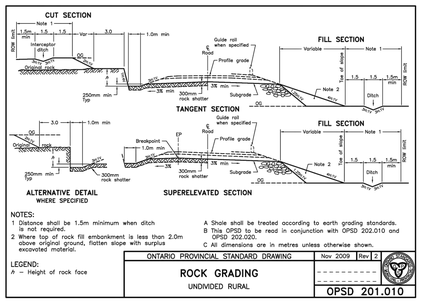
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: AS SHOWN	Sheet No. 60 of 80

Drawing Name: 124112–DE01.dwg, Plotted: Jul 04, 2025



NOTES:
1 Cut slope shall be 3H:1V or steeper when specified.
2 Fill slope shall be 3H:1V or flatter when specified.
3 Distance shall be 1.5m minimum when ditch is not required.
A This OPSD to be read in conjunction with OPSD 202.010 and OPSD 202.020.
B All dimensions are in metres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2009	Rev 2
EARTH/SHALE GRADING UNDIVIDED RURAL		OPSD 200.010

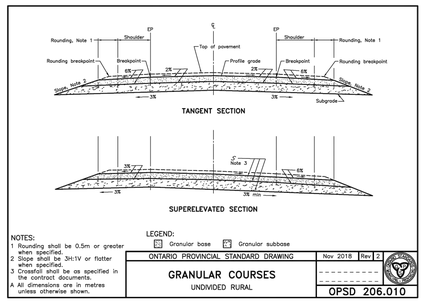


NOTES:
1 Distance shall be 1.5m minimum when ditch is not required.
2 Where top of rock fill embankment is less than 2.0m above original ground, flatten slope with surplus excavated material.

LEGEND:
h – Height of rock face

A Shale shall be treated according to earth grading standards.
B This OPSD to be read in conjunction with OPSD 202.010 and OPSD 202.020.
C All dimensions are in metres unless otherwise shown.

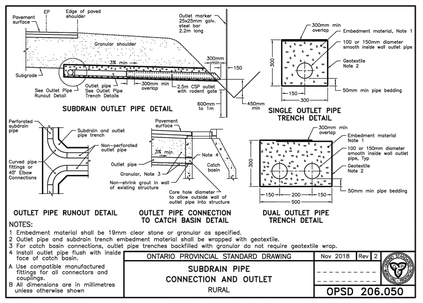
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2009	Rev 2
ROCK GRADING UNDIVIDED RURAL		OPSD 201.010



NOTES:
1 Rounding shall be 0.5m or greater when specified.
2 Slope shall be 3H:1V or flatter when specified.
3 Crossfall shall be as specified in the contract documents.
A All dimensions are in metres unless otherwise shown.

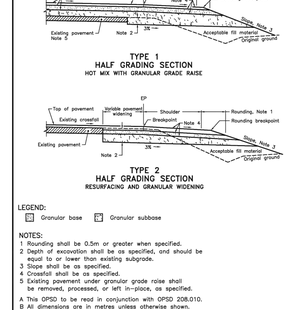
LEGEND:
Granular base Granular subbase

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
GRANULAR COURSES UNDIVIDED RURAL		OPSD 206.010



NOTES:
1 Embedment material shall be 19mm clear stone or granular as specified.
2 Outlet pipe and subdrain trench embedment material shall be wrapped with geotextile.
3 For catch basin connections, outlet pipe trenches backfilled with granular do not require geotextile wrap.
4 Install outlet pipe flush with inside face of catch basin.
A Use compatible manufactured fittings for all connectors and couplings.
B All dimensions are in millimetres unless otherwise shown.

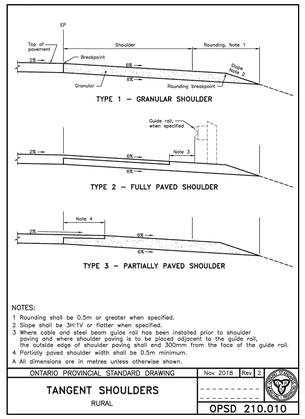
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
SUBDRAIN PIPE CONNECTION AND OUTLET RURAL		OPSD 206.050



LEGEND:
Granular base Granular subbase

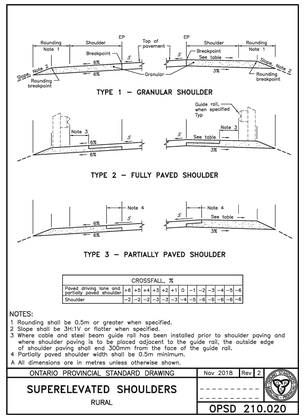
NOTES:
1 Rounding shall be 0.5m or greater when specified.
2 Depth of excavation shall be as specified, and should be equal to or lower than existing subgrade.
3 Slope shall be as specified.
4 Crossfall shall be as specified.
5 Existing pavement under granular grade raise shall be removed, processed, or left in-place, as specified.
A This OPSD to be read in conjunction with OPSD 208.010.
B All dimensions are in metres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
RURAL PAVEMENT WIDENING		OPSD 209.010



NOTES:
1 Rounding shall be 0.5m or greater when specified.
2 Slope shall be 3H:1V or flatter when specified.
3 Where cable and steel beam guide rail has been installed prior to shoulder paving and where shoulder paving is to be placed adjacent to the guide rail, the outside edge of shoulder paving shall end 300mm from the face of the guide rail.
4 Partially paved shoulder width shall be 0.5m minimum.
A All dimensions are in metres unless otherwise shown.

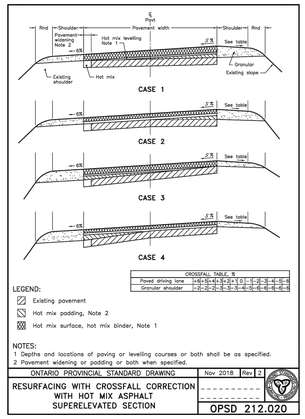
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
TANGENT SHOULDERS RURAL		OPSD 210.010



CROSSFALL, %											
Paved driving lane and paveable paved shoulder	+8	+7	+6	+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5	-6
Shoulder	-3	-3	-3	-3	-3	-3	-3	-3	-3	-4	-5	-6	-6	-6	-6

NOTES:
1 Rounding shall be 0.5m or greater when specified.
2 Slope shall be 3H:1V or flatter when specified.
3 Where cable and steel beam guide rail has been installed prior to shoulder paving and where shoulder paving is to be placed adjacent to the guide rail, the outside edge of shoulder paving shall end 300mm from the face of the guide rail.
4 Partially paved shoulder width shall be 0.5m minimum.
A All dimensions are in metres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
SUPERELEVATED SHOULDERS RURAL		OPSD 210.020

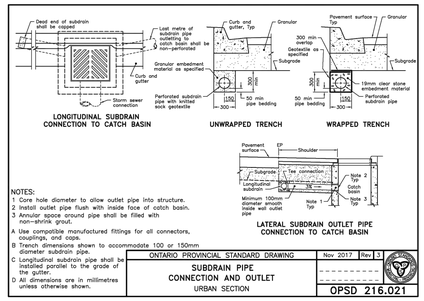


CROSSFALL TABLE, %											
Paved driving lane	+6	+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5	-6
Granular shoulder	+2	+2	+2	+2	+2	+3	+4	+5	+6	+6	+6	+6	+6

LEGEND:
Existing pavement
Hot mix padding, Note 2
Hot mix surface, hot mix binder, Note 1

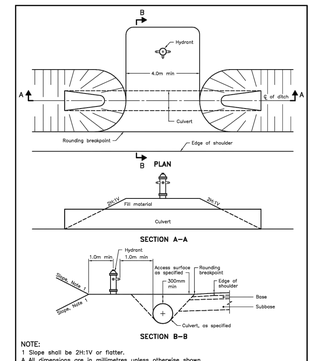
NOTES:
1 Depths and locations of paving or levelling courses or both shall be as specified.
2 Pavement widening or padding or both when specified.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
RESURFACING WITH CROSSFALL CORRECTION WITH HOT MIX ASPHALT SUPERELEVATED SECTION		OPSD 212.020



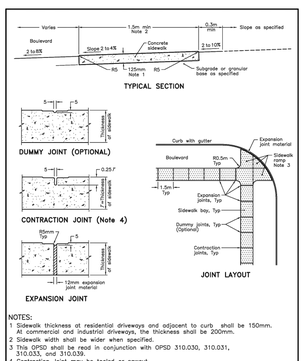
NOTES:
1 Core hole diameter to allow outlet pipe into structure.
2 Install outlet pipe flush with inside face of catch basin.
3 Annular space around pipe shall be filled with non-shrink grout.
A Use compatible manufactured fittings for all connectors, couplings, and caps.
B Trench dimensions shown to accommodate 100 or 150mm diameter subdrain pipe.
C Longitudinal subdrain pipe shall be installed parallel to the grade of the gutter.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2017	Rev 3
SUBDRAIN PIPE CONNECTION AND OUTLET URBAN SECTION		OPSD 216.021



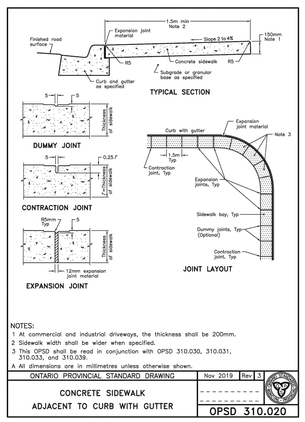
NOTE:
1 Slope shall be 2H:1V or flatter.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2011	Rev 2
ACCESS TO HYDRANT ACROSS DITCH		OPSD 217.050



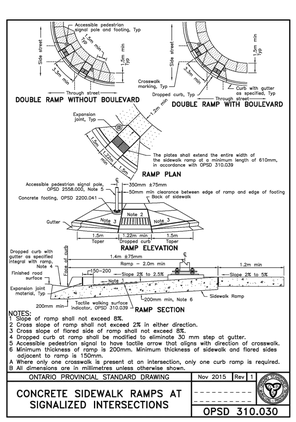
NOTES:
1 Sidewalk thickness at residential driveways and adjacent to curb shall be 150mm. At commercial and industrial driveways, the thickness shall be 200mm.
2 Sidewalk width shall be wider when specified.
3 This OPSD shall be read in conjunction with OPSD 310.030, 310.031, 310.033, and 310.039.
4 Contraction Joint may be tooled or sawcut.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev 3
CONCRETE SIDEWALK		OPSD 310.010



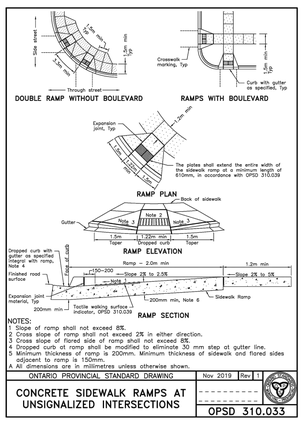
NOTES:
1 At commercial and industrial driveways, the thickness shall be 200mm.
2 Sidewalk width shall be wider when specified.
3 This OPSD shall be read in conjunction with OPSD 310.030, 310.031, 310.033, and 310.039.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev 3
CONCRETE SIDEWALK ADJACENT TO CURB WITH GUTTER		OPSD 310.020



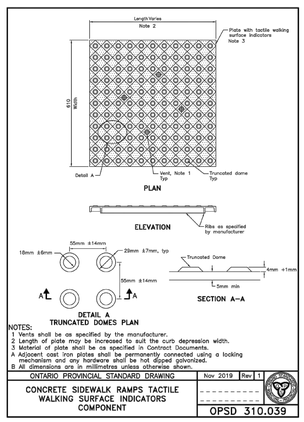
NOTES:
1 Slope of ramp shall not exceed 8%.
2 Cross slope of ramp shall not exceed 2% in either direction.
3 Cross slope of flared side of ramp shall not exceed 8%.
4 Dropped curb at ramp shall be modified to eliminate 30 mm step at gutter.
5 Accessible pedestrian signal to have tactile arrow that aligns with direction of crosswalk.
6 Minimum clear width of ramp is 200mm. Minimum thickness of sidewalk and flared sides adjacent to ramp is 150mm.
A Where only one crosswalk is present at an intersection, only one curb ramp is required.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 1
CONCRETE SIDEWALK RAMPS AT SIGNALIZED INTERSECTIONS		OPSD 310.030



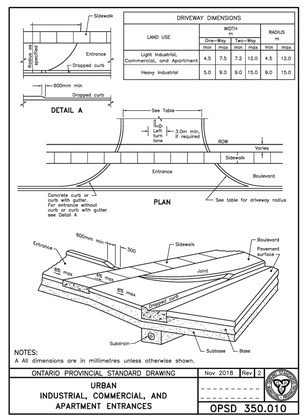
NOTES:
1 Slope of ramp shall not exceed 8%.
2 Cross slope of ramp shall not exceed 2% in either direction.
3 Cross slope of flared side of ramp shall not exceed 8%.
4 Dropped curb at ramp shall be modified to eliminate 30 mm step at gutter line.
5 Minimum thickness of ramp is 200mm. Minimum thickness of sidewalk and flared sides adjacent to ramp is 150mm.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev 1
CONCRETE SIDEWALK RAMPS AT UNSIGNALIZED INTERSECTIONS		OPSD 310.033



NOTES:
1 Vents shall be as specified by the manufacturer.
2 Length of plate may be increased to suit the curb depression width.
3 Material of plate shall be as specified in Contract Documents.
4 Adjacent cast iron plates shall be permanently connected using a locking mechanism and any hardware shall be hot dipped galvanized.
B All dimensions are in millimetres unless otherwise shown.

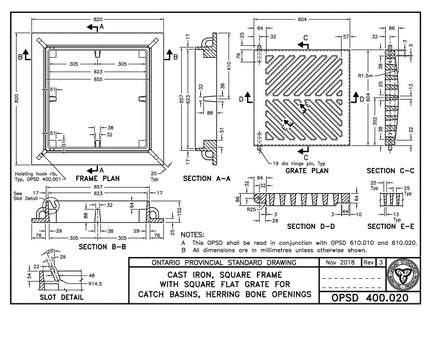
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev 1
CONCRETE SIDEWALK RAMPS TACTILE WALKING SURFACE INDICATORS COMPONENT		OPSD 310.039



LAND USE	WIDTH m				RADIUS m	
	One-Way		Two-Way			
	min	max	min	max	min	max
Light Industrial, Commercial, and Apartment	4.5	7.5	7.2	12.0	4.5	12.0
Heavy Industrial	5.0	8.0	9.0	15.0	9.0	15.0

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

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
URBAN INDUSTRIAL, COMMERCIAL, AND APARTMENT ENTRANCES		OPSD 350.010



NOTES:
A This OPSD shall be read in conjunction with OPSD 610.010 and 610.020.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
CAST IRON, SQUARE FRAME WITH SQUARE FLAT GRATE FOR CATCH BASINS, HERRING BONE OPENINGS		OPSD 400.020

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.E. BROWNRIDGE
100120565
July 4/25
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
M. J. FIGUEROA
100543417
July 4, 2025
PROVINCE OF ONTARIO

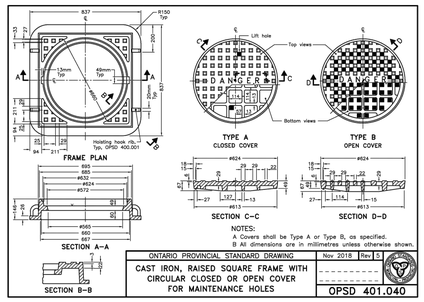
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

STANDARD DETAILS
SHEET 1

TATHAM ENGINEERING

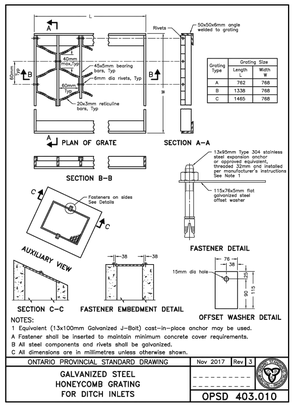
DESIGN: MJF	FILE: 124112	DWG: **DE.4**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: NTS	Sheet No. 61 of 80

Drawing Name: 124112-DE01.dwg, Plotted: Jul 04, 2025



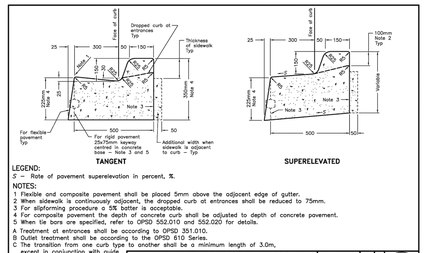
NOTES:
A Covers shall be Type A or Type B, as specified.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 5
CAST IRON, RAISED SQUARE FRAME WITH CIRCULAR CLOSED OR OPEN COVER FOR MAINTENANCE HOLES		OPSD 401.040



NOTES:
1 Equivalent (13x100mm Galvanized J-Bolt) cast-in-place anchor may be used.
A Fastener shall be inserted to maintain minimum concrete cover requirements.
B All steel components and rivets shall be galvanized.
C All dimensions are in millimetres unless otherwise shown.

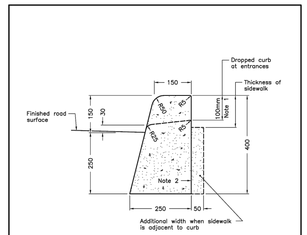
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2017	Rev 3
GALVANIZED STEEL HONEYCOMB GRATING FOR DITCH INLETS		OPSD 403.010



LEGEND:
S – Rate of pavement superelevation in percent, %.

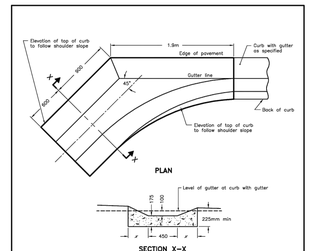
NOTES:
1 Flexible and composite pavement shall be placed 5mm above the adjacent edge of gutter.
2 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
3 For slipforming procedure a 5% batter is acceptable.
4 For composite pavement the depth of concrete curb shall be adjusted to depth of concrete pavement.
5 When tie bars are specified, refer to OPSD 552.010 and 552.020 for details.
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 WITH STANDARD GUTTER		OPSD 600.040



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.

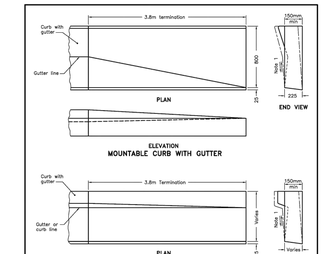
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB		OPSD 600.110



CURB with GUTTER Type	ℓ
Barrier	200
Semi-Mountable	300
Mountable	400

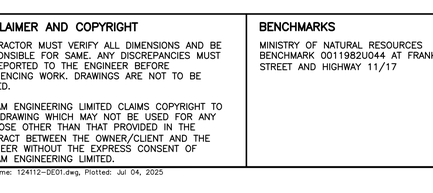
NOTES:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
45° CONCRETE OUTLET FOR CONCRETE CURB WITH GUTTER AT END OF RUN		OPSD 605.030



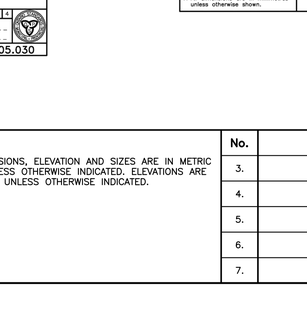
NOTES:
1 Slope shall match existing shoulder.
A This drawing shall be read in conjunction with OPSD 600 series curb with gutter drawings.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
METHOD OF TERMINATION FOR CONCRETE CURB WITH GUTTER		OPSD 608.010



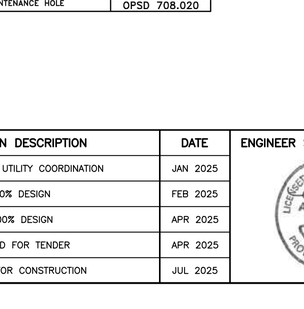
NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 2
CATCH BASIN FRAME WITH GRATE INSTALLATION AT CURB WITH GUTTER		OPSD 610.010



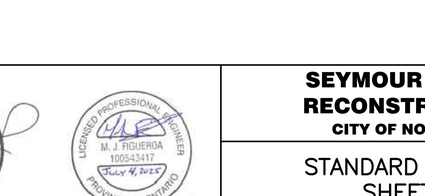
NOTES:
1 The sump is measured from the lowest invert.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 5
PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER		OPSD 701.010



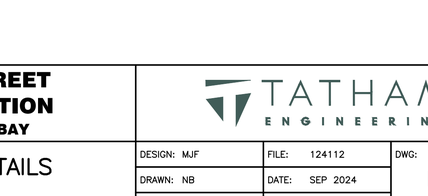
NOTES:
1 For sump detail, see OPSD 701.010.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.070, 701.071, 703.014, 703.024, 706.040 and 706.041.
C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support shall be according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 4
PRECAST CONCRETE MAINTENANCE HOLE 3000mm DIAMETER		OPSD 701.014



NOTES:
1 Depth of frost strap shall be as specified.
A Frost straps shall be placed so they do not interfere with sewer pipe openings and the steps.
B Frost straps shall be placed when specified.
C Galvanizing shall be according to CAN/CSA G164.
D All dimensions are in millimetres unless otherwise shown.

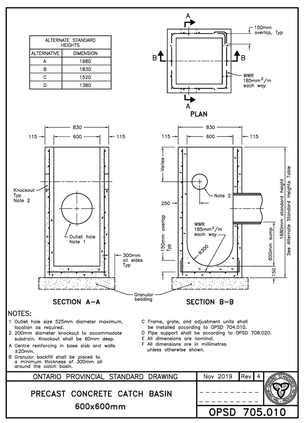
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3
FROST STRAP INSTALLATION		OPSD 701.100



NOTES:
1 If first step is in an adjustment unit, the adjustment unit shall be of the type manufactured with a step in place.
2 Centre reinforcing in adjustment unit ±10mm.
3 Round and square adjustment units are available in sizes of 50, 75, 100, 150, and 300mm.

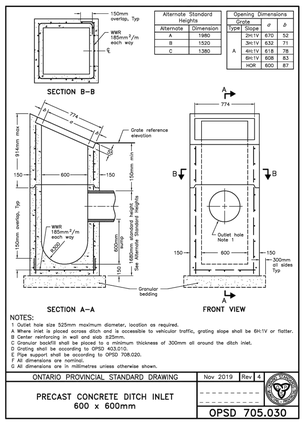
A Adjustment units shall not extend beyond the outside edge of the structure.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 3
PRECAST CONCRETE ADJUSTMENT UNITS FOR MAINTENANCE HOLES, CATCH BASINS, AND VALVE CHAMBERS		OPSD 704.010



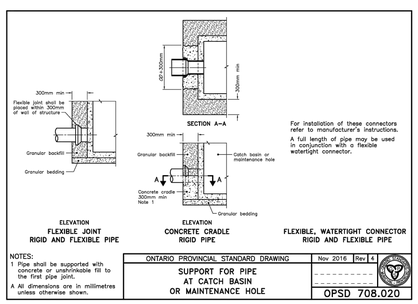
NOTES:
1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 80mm deep.
A Centre reinforcing in base slab and walls Typ.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev 4
PRECAST CONCRETE CATCH BASIN 600x600mm		OPSD 705.010



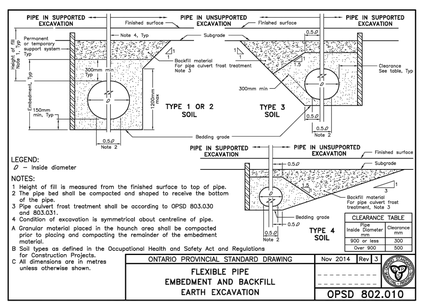
NOTES:
1 Outlet hole size 525mm maximum diameter, location as required.
A Where inlet is placed across ditch and is accessible to vehicular traffic, grating slope shall be 6H:1V or flatter. Where not accessible, 4H:1V or flatter.
B Granular backfill shall be placed to a minimum thickness of 300mm all around the ditch inlet.
C Grating shall be according to OPSD 403.010.
D Pipe support shall be according to OPSD 708.020.
E All dimensions are nominal.
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev 4
PRECAST CONCRETE DITCH INLET 600 x 600mm		OPSD 705.030



NOTES:
1 Pipe shall be supported with concrete or unshrinkable fill to the first pipe joint.
A All dimensions are in millimetres unless otherwise shown.

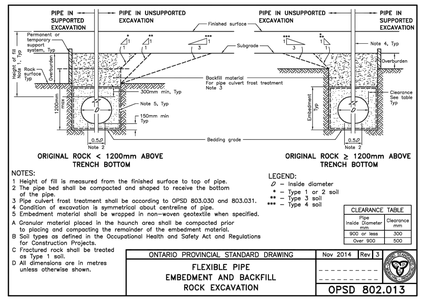
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2016	Rev 4
SUPPORT FOR PIPE AT CATCH BASIN OR MAINTENANCE HOLE		OPSD 708.020



LEGEND:
Ø – Inside diameter

NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
3 Pipe cutout frost treatment shall be according to OPSD 803.030 and 803.031.
4 Condition of excavation is symmetrical about centreline of pipe.
A Granular material placed in the haunch area shall be compacted prior to placing and compacting the remainder of the embedment material.
B Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
C All dimensions are in metres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 3
FLEXIBLE PIPE EMBEDMENT AND BACKFILL EARTH EXCAVATION		OPSD 802.010



NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
3 Pipe cutout frost treatment shall be according to OPSD 803.030 and 803.031.
4 Condition of excavation is symmetrical about centreline of pipe.
5 Embedment material shall be wrapped in non-woven geotextile when specified.
A Granular material placed in the haunch area shall be compacted prior to placing and compacting the remainder of the embedment material.
B Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
C Frost strap shall be treated as Type 1 soil.
D All dimensions are in metres unless otherwise shown.

LEGEND:
Ø – Inside diameter
* – Type 1 or 2 soil
** – Type 3 soil
*** – Type 4 soil

CLEARANCE TABLE
Pipe Inside Diameter | Clearance mm
900 or less | 300
Over 900 | 500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 3
FLEXIBLE PIPE EMBEDMENT AND BACKFILL ROCK EXCAVATION		OPSD 802.013

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

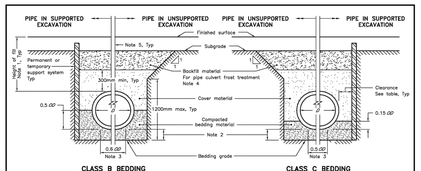
CITY OF NORTH BAY

STANDARD DETAILS SHEET 2

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: **DE.5**
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: NTS	Sheet No. 62 of 80

Drawing Name: 124112–DE01.dwg, Plotted: Jul 04, 2025

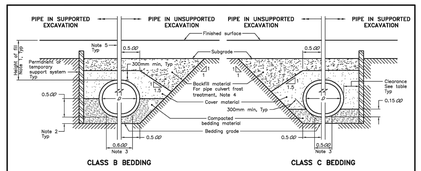


NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The minimum bedding depth below the pipe shall be 0.15*D* in no case shall this dimension be less than 150mm or greater than 300mm.
3 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
4 Pipe culvert frost treatment shall be according to OPSD 803.030 and 803.031.
5 Condition of excavation is symmetrical about centreline of pipe.
A Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
B All dimensions are in metres unless otherwise shown.

LEGEND:
D – Inside diameter
OD– Outside diameter

CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 3
RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 1 OR 2 SOIL – EARTH EXCAVATION		
	OPSD 802.030	

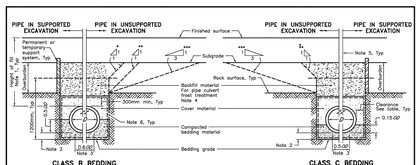


NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The minimum bedding depth below the pipe shall be 0.15*D*1 in no case shall this dimension be less than 150mm or greater than 300mm.
3 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
4 Pipe culvert frost treatment shall be according to OPSD 803.030 and 803.031.
5 Condition of excavation is symmetrical about centreline of pipe.
A Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
B All dimensions are in metres unless otherwise shown.

LEGEND:
D – Inside diameter
OD– Outside diameter

CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 3
RIGID PIPE BEDDING, COVER, AND BACKFILL TYPE 3 SOIL – EARTH EXCAVATION		
	OPSD 802.031	

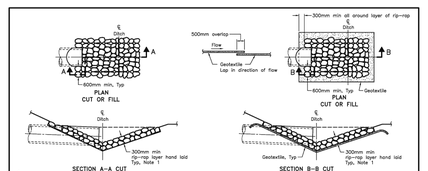


NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The minimum bedding depth below the pipe shall be 0.25*D* in no case shall this dimension be less than 150mm or greater than 300mm.
3 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
4 Pipe culvert frost treatment shall be according to OPSD 803.030 and 803.031.
6 Embedment material shall be wrapped in non-woven geotextile when specified.
A Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
B Fractured rock shall be treated as Type 1 soil.
C All dimensions are in metres unless otherwise shown.

LEGEND:
D – Inside diameter
OD – Outside diameter
* – Type 1 or 2 soil
** – Type 2 soil
*** – Type 4 soil

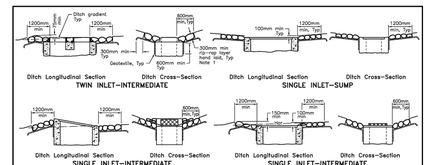
CLEARANCE TABLE	
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 3
RIGID PIPE BEDDING, COVER, AND BACKFILL ROCK EXCAVATION		
	OPSD 802.033	



NOTES:
1 The thickness of the rip-rap layer shall be at least 1.5 times the rip-rap mean diameter.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3
GENERAL RIP-RAP LAYOUT FOR SEWER AND CULVERT OUTLETS		
	OPSD 810.010	



NOTES:
1 The thickness of the rip-rap layer shall be at least 1.5 times the rip-rap mean diameter.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3
GENERAL RIP-RAP LAYOUT FOR DITCH INLETS		
	OPSD 810.020	

NOTES:
1 Slope shall be flatter when specified.
2 Mounting height to top of steel beam shall be measured vertically at face of rail.
A System configuration meets AASHTO MASH TL–3.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2016	Rev 0
GUIDE RAIL SYSTEM, STEEL BEAM TYPE M20 INSTALLATION		
	OPSD 912.185	

NOTES:
1 This OPSD shows right shoulder installation. The MSKT shall be inverted for left shoulder installation.
2 The system length shall be installed in a straight line at a 50:1 flare rate or parallel to roadway when specified
3 Type M SBGR includes Type M20 and Type M30.
4 Imperial size steel sections referenced.
5 This OPSD shows right shoulder approach end installation with rail element adjoining lowest in direction of traffic. For leaving end installation, rail element adjoining lowest in direction of traffic. For leaving end installation, rail element splices shall be lapped in direction of traffic.
A Delineation shall be according to OPSD 984.201 and 984.202.
B The system depicted here is a proprietary product.
C System configuration meets AASHTO MASH TL–3.
D This OPSD shall be read in conjunction with OPSD 202.031 or 202.032 as specified.
E All dimensions are in millimetres unless otherwise shown.

Table 1		
Hinged Steel End Posts, Note 4		
Post	1	2
Lower	W6x15 1.8m long	W6x9 1.8m long

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 1
ENERGY ATTENUATOR, END TREATMENT STEEL BEAM ENERGY ATTENUATING TERMINAL MASH SEQUENTIAL KINKING TERMINAL SYSTEM – INSTALLATION		
	OPSD 922.186	

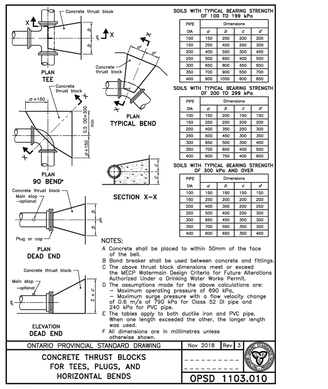
NOTES:
1 For footing details and line post cap detail refer to OPSD 972.132
A Fence as viewed from the roadway.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
FENCE, CHAIN–LINK INSTALLATION – ROADWAY		
	OPSD 972.130	

SIGN SUPPORT REQUIREMENTS						
Structural Design Depth	Dressed Post Size and Hole Diameter		Note 2 Min. Sign Dimensions		Max. Sign Area	Galvanized Leg Bolt Size
F	w	h	Hole Dia.	B cm	H cm	A_s m^2	Inch
925	89	89	N/A	120	90	0.41	3/8 X 3
1000	89	140	38	120	120	0.90	3/8 X 3
1000	140	140	51	120	180	1.08	3/8 X 4
1200	140	184	76	120	180	1.80	3/8 X 4

NOTES:
1 Minimum vertical clearance of 2.1m shall be provided between the finished grade and the bottom of the lowest sign or tab.
2 Dressed post size (w and b) shall be selected to accommodate sign sizes specified in the Contract Documents so that maximum dimensions for sign size (B and H) and total sign area (A) including tabs shall not exceed values in the table.
3 When curb is present, minimum 0.3m from face of curb.
When guide rail is present, minimum 1.0m behind face of guide rail.
4 When holes are drilled prior to pressure treatment of post, additional treatment of holes is not required. When holes are drilled after pressure treatment of post, additional field treatment of holes is required.
5 When top of post is not cut after pressure treatment, it does not require to be bevelled as shown.
When top of post is cut after pressure treatment, it shall be bevelled at 15 to 30° angle and treated in the field.
A When Wo–33 is specified below a Rb–125, the bottom of the Wo–33 shall be 1.2m above finished grade.
B System configuration meets NCHRP Report 350 TL–3.
C Wooden dressed post shall be S–P–F species No. 1 or No. 2 grade.
D Wooden dressed post shall be stamped for grade, species, and treatment.
E All dimensions are in millimetres unless otherwise shown.

SMALL SIGN SUPPORT SYSTEM SINGLE BREAKAWAY WOODEN POST 89x89mm, 89x140mm, 140x140mm, AND 140x184mm INSTALLATION–SINGLE POST ASSEMBLY		
	OPSD 985.110	



SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 kPa

PIPE	Note 1 Dimensions				
DIA	*d*	*A*	*c*	*d'*	*e*
100	150	200	150	150	150
150	250	250	200	200	200
200	400	350	300	300	300
250	500	450	350	350	350
300	600	550	400	400	400
350	700	650	450	450	450
400	800	750	500	500	500

SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 kPa

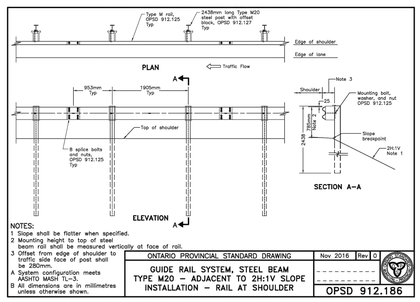
PIPE	Note 1 Dimensions				
DIA	*d*	*A*	*c*	*d'*	*e*
100	150	200	150	150	150
150	250	250	200	200	200
200	400	350	300	300	300
250	500	450	350	350	350
300	600	550	400	400	400
350	700	650	450	450	450
400	800	750	500	500	500

SOILS WITH TYPICAL BEARING STRENGTH OF 300 kPa AND OVER

PIPE	Note 1 Dimensions				
DIA	*d*	*A*	*c*	*d'*	*e*
100	150	150	150	150	150
150	250	200	200	200	200
200	400	300	300	300	300
250	500	350	350	350	350
300	600	400	400	400	400
350	700	450	450	450	450
400	800	500	500	500	500

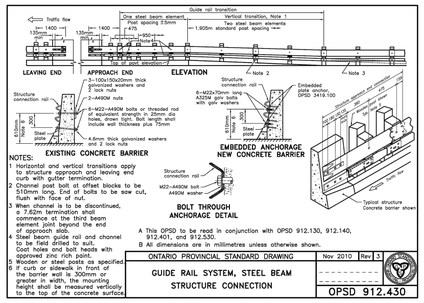
NOTES:
A Concrete shall be placed to within 50mm of the face of the bell.
B Bond breaker shall be used between concrete and fittings.
C The above thrust block dimensions meet or exceed the MECP Watermain Design Criteria for Future Alterations Authorized Under a Drinking Water Works Permit.
D The assumptions 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 760 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 2
CONCRETE THRUST BLOCKS FOR TEES, PLUGS, AND HORIZONTAL BENDS		
	OPSD 1103.010	



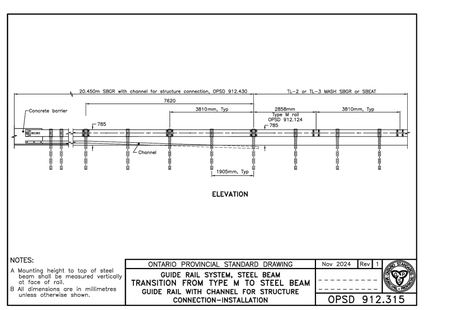
NOTES:
1 Slope shall be flatter when specified.
2 Mounting height to top of steel beam rail shall be measured vertically at face of rail.
3 Offset from edge of shoulder to traffic side face of post shall be 280mm.
A System configuration meets AASHTO MASH TL–3.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2016	Rev 0
GUIDE RAIL SYSTEM, STEEL BEAM TYPE M20 – ADJACENT TO 2H:1V SLOPE INSTALLATION – RAIL AT SHOULDER		
	OPSD 912.186	



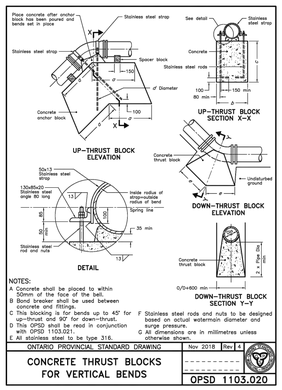
A This OPSD to be read in conjunction with OPSD 912.130, 912.140, 912.401, and 912.530.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2010	Rev 3
GUIDE RAIL SYSTEM, STEEL BEAM STRUCTURE CONNECTION		
	OPSD 912.430	



NOTES:
A Mounting height to top of steel beam shall be measured vertically at face of rail.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2024	Rev 1
GUIDE RAIL SYSTEM, STEEL BEAM TRANSITION FROM TYPE M TO STEEL BEAM GUIDE RAIL WITH CHANNEL FOR STRUCTURE CONNECTION–INSTALLATION		
	OPSD 912.315	



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 1103.020.
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	

SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 kPa

PIPE	Note 1 Dimensions				
DIA	*d*	*A*	*c*	*d'*	*e*
100	450	800	750	13	150
150	600	900	900	13	300
200	800	900	1500	13	450
250	900	900	1500	20	600
300	1200	900	1850	20	800
350	1200	1200	1850	25	1000
400	1300	1300	1750	30	1000

SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 kPa

PIPE	Note 1 Dimensions				
DIA	*d*	*A*	*c*	*d'*	*e*
100	450	800	750	13	150
150	600	900	900	13	300
200	800	900	1500	13	450
250	900	900	1500	20	600
300	1200	900	1850	20	800
350	1200	1200	1850	25	1000
400	1300	1300	1750	30	1000

SOILS WITH TYPICAL BEARING STRENGTH OF 300 kPa AND OVER

PIPE	Note 1 Dimensions				
DIA	*d*	*A*	*c*	*d'*	*e*
100	450	600	750	13	150
150	600	900	900	13	300
200	800	900	1500	13	450
250	900	900	1500	20	600
300	1200	900	1850	20	800
350	1200	1200	1850	25	1000
400	1300	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	

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A.E. BROWNRIDGE 100120585 JULY 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 JULY 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

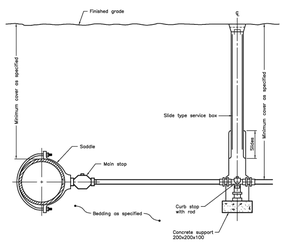
CITY OF NORTH BAY

STANDARD DETAILS SHEET 3

TATHAM ENGINEERING

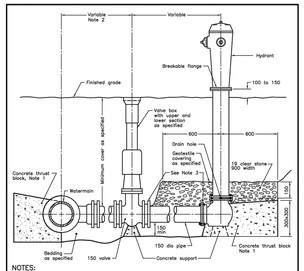
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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: NTS	Sheet No. 63 of 80

Drawing Name: 124112–DE01.dwg, Plotted: Jul 04, 2025



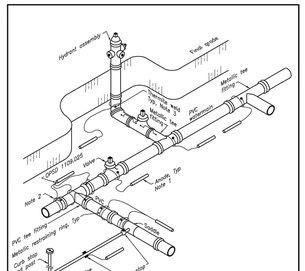
NOTES:
A Couplings shall not be permitted unless the service length exceeds 20m between the main stop and curb stop.
B All water services shall be installed 90° to the longitudinal axis of the watermain.
C Backfill material within 500mm of service box shall be native or imported, as specified.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3
WATER SERVICE CONNECTION 32, 38, and 50mm DIAMETER SIZES		OPSD 1104.020



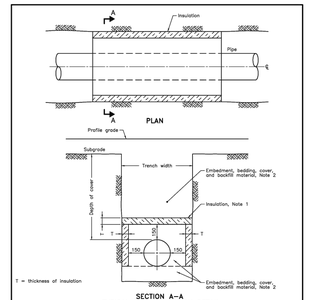
NOTES:
1 All concrete thrust blocks shall be poured against undisturbed ground.
2 When specified, for watermains 400mm and less, locate valve within 1.0m of centreline of watermain. Retaining and restraining devices shall be utilized. For watermains 600mm and over, bolt valve with flanged end directly 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 Trocer 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



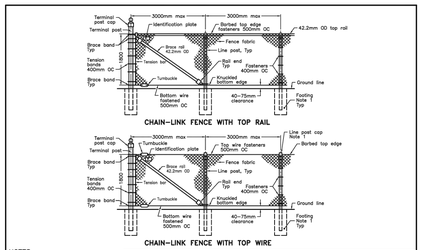
NOTES:
1 Anode shall be placed at least 1.0m away from the water system pipe and appurtenances and as deep as the bottom of the pipe and appurtenances or as specified in Contract Documents.
2 Anode connecting wire shall be loosely wrapped around pipes and fittings and knotted.
3 Protective coating shall be applied to all thermite welds.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2020	Rev 3
CATHODIC PROTECTION FOR PVC WATERMAIN SYSTEMS		OPSD 1109.011



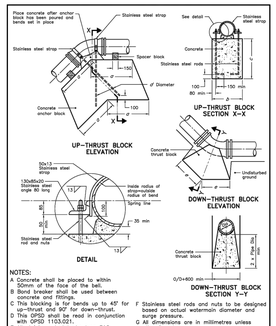
NOTES:
1 The insulation material shall be extruded polystyrene according to OPSS 1605 with a minimum compressive strength of 275 kPa.
2 Pipe embedment or bedding, cover, and backfill shall be according to:
a) Flexible OPSD 802.010, 802.013, 802.020, and 802.023.
b) Rigid – OPSD 802.030, 802.031, 802.032, 802.033, 802.050, 802.051, 802.052, and 802.053.
A Minimum insulation thickness shall be 50mm.
B Joints shall be staggered for multiple insulation sheets.
C This OPSD is to be read in conjunction with OPSD 3090.100 and 3090.101.
D All dimensions are in millimetres, unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2020	Rev 1
INSULATION FOR SEWERS AND WATERMAINS IN SHALLOW TRENCHES		OPSD 1109.030



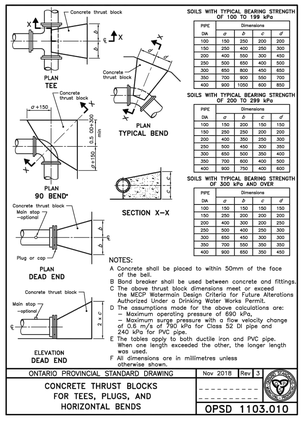
NOTES:
1 For footing details and line post cap detail refer to OPSD 972.132.
A Fence as viewed from the roadway.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
FENCE, CHAIN–LINK INSTALLATION – ROADWAY		OPSD 972.130



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



SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 kPa

PIPE DIA	Dimensions a	b	c	d'
100	150	250	200	200
150	250	400	250	300
200	400	550	300	450
250	550	650	400	500
300	650	800	450	600
350	700	900	550	700
400	900	1100	600	850

SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 kPa

PIPE DIA	Dimensions 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	800	400	500
400	900	750	600	800

SOILS WITH TYPICAL BEARING STRENGTH OF 300 kPa AND OVER

PIPE DIA	Dimensions 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	850	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 DIA	Note 1 a	b	c	d'	e
100	450	600	750	13	150
150	600	900	800	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 DIA	Note 1 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 DIA	Note 1 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

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

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK OO11982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
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5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

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LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

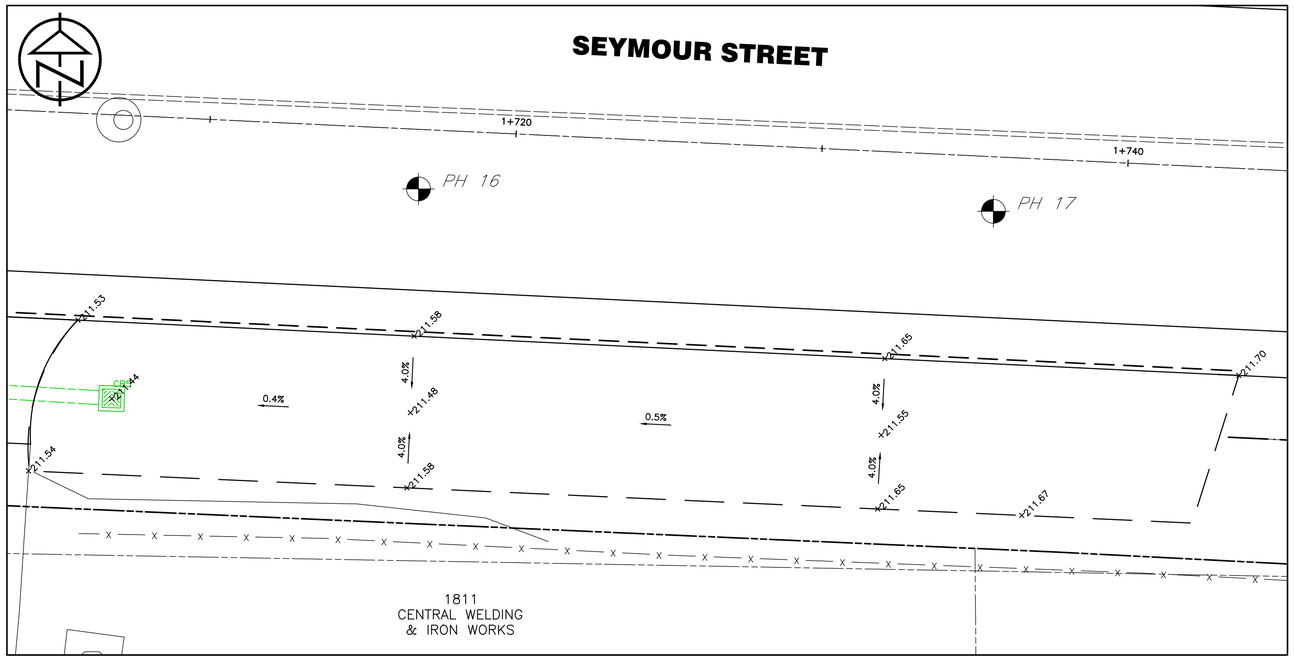
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

STANDARD DETAILS
SHEET 4

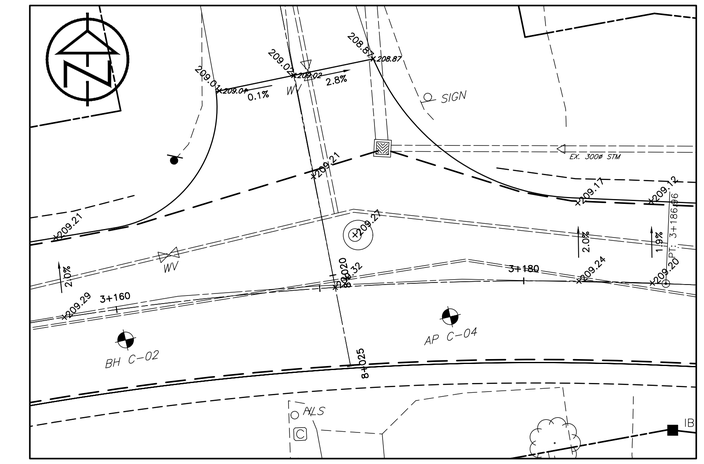
TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: DE.7
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: NTS	Sheet No. 64 of 80

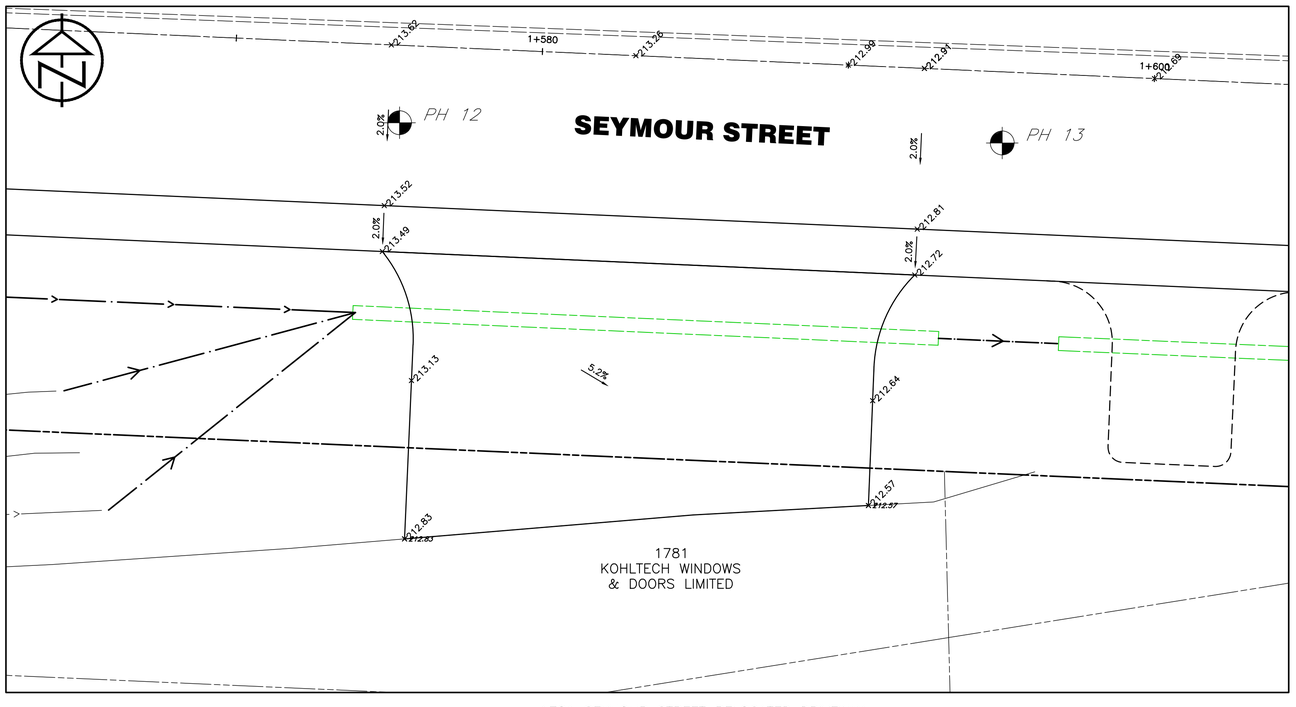
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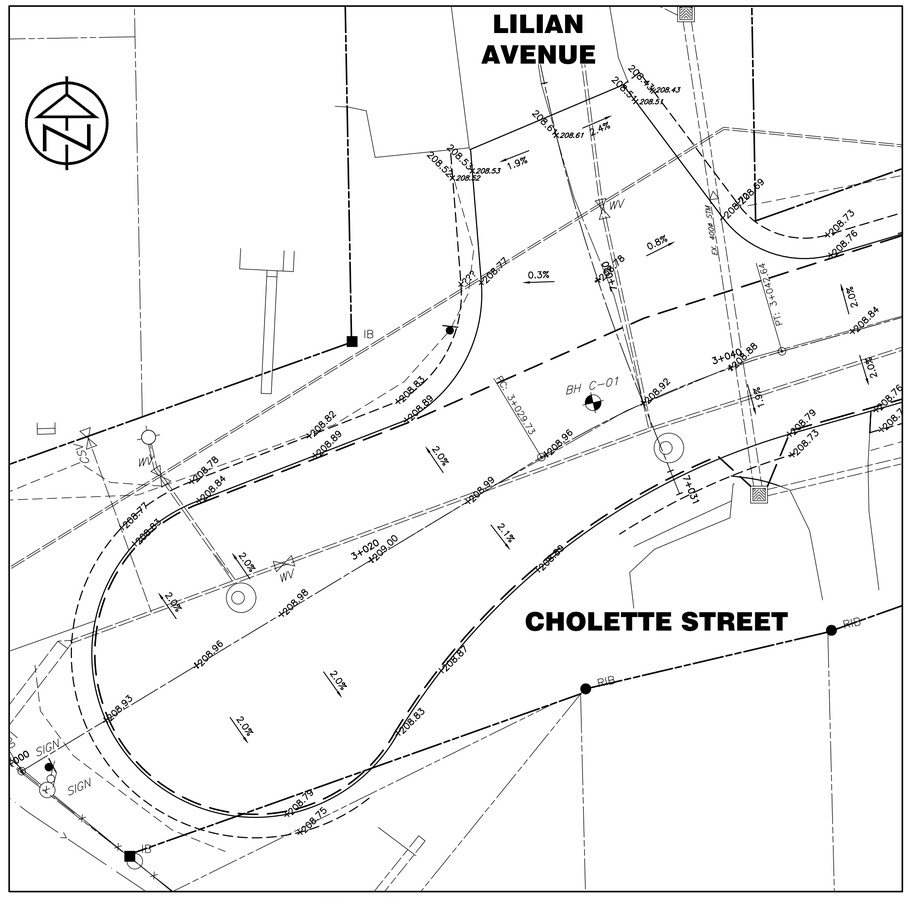
1811 SEYMOUR STREET GRAVEL PARKING AREA
GRADING PLAN
SCALE 1:100



PATTON STREET & CHOLETTE STREET INTERSECTION
GRADING PLAN
SCALE 1:100



1781 SEYMOUR STREET RELOCATED DRIVEWAY
GRADING PLAN
SCALE 1:100



CHOLETTE STREET CUL-DE-SAC & LILIAN AVENUE
GRADING PLAN
SCALE 1:150

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

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July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

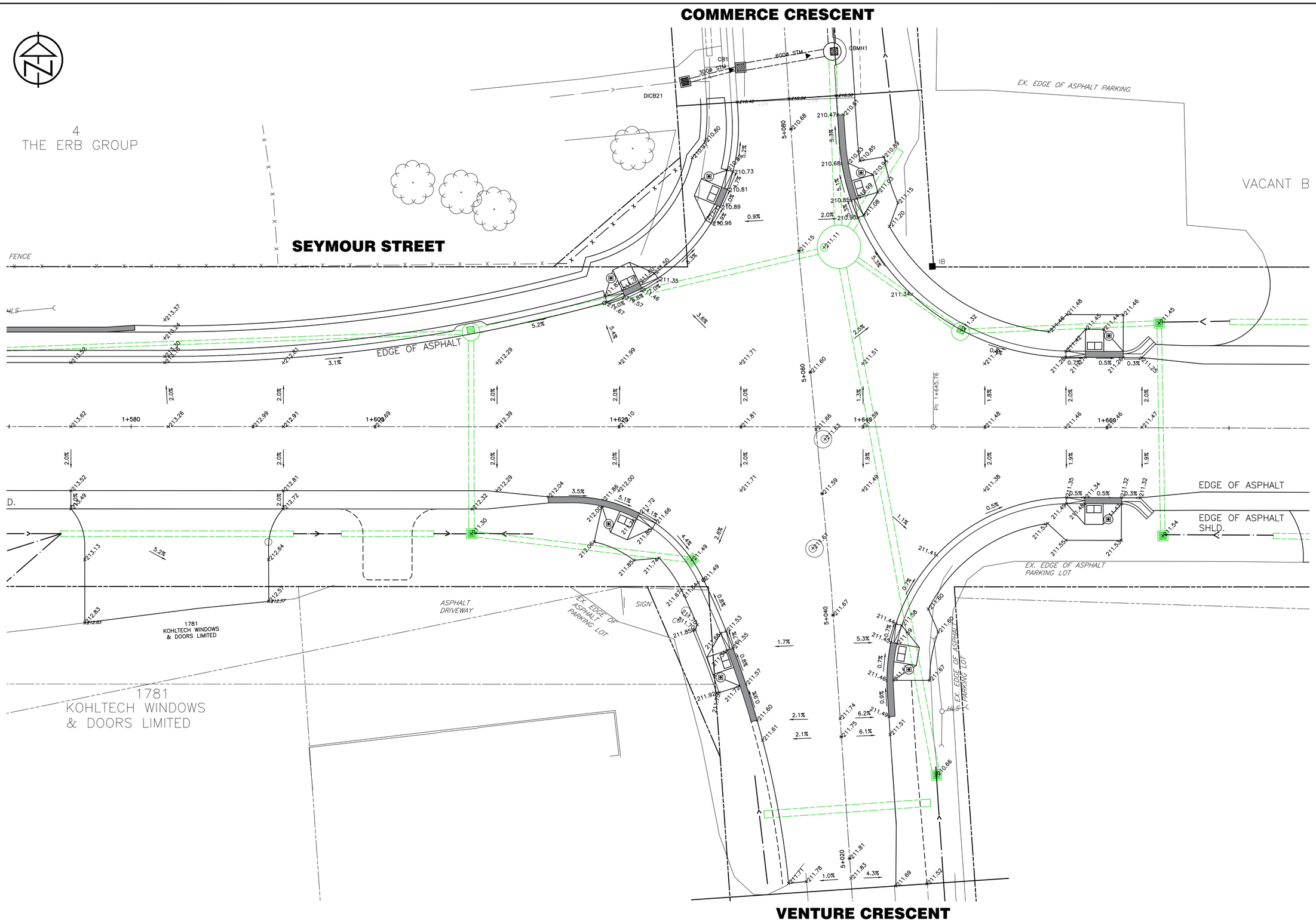
CITY OF NORTH BAY

GRADING DETAILS
SHEET 1

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DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: AS SHOWN	Sheet No. 65 of 80

Drawing Name: 124112-DE01.dwg, Plotted: Jul 04, 2025



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No.	REVISION DESCRIPTION	DATE
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5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

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M. J. FIGUEROA
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SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

GRADING DETAILS
SHEET 2

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: DE.9
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:150	Sheet No. 66 of 80

Drawing Name: 124112-DE01.dwg, Plotted: Jul 04, 2025

TABLE 1: PERMANENT TRAFFIC SIGNAL AND LIGHT EQUIPMENT ON POLES

POLE No.	SIGNAL HEAD							SIGNAL HEAD MOUNTING					VEHICLE DETECTION				PEDESTRIAN SIGNAL HEAD			PEDESTRIAN SIGNAL HEAD MTG BRKT				PEDESTRIAN ACTUATION					LUMINAIRE					LUMINAIRE MOUNTING				NOTES
	INST'N	No.	DIREC.	HEAD	TYPE	CONFIG (cm)	BACKB'D	INST'N	MTD ON	LENGTH	CLEAR'C	HARDWARE	INST'N	DIREC.	TYPE	MTD ON	INST'N	DIREC.	TYPE	INST'N	MAT'L	LENGTH	CLEAR'C	INST'N	TYPE	FACE OF POLE	DIREC.	CAT No.	INST'N	WATT/VOLTS	TYPE	PC	CAT No.	INST'N	TYPE	LENGTH	MAT'L	
P1	NEW	1	NB	SEC.	OS HWY	30/30/30	YES	NEW	MAST	2.4m	5.2m	VERSA-BRAC					NEW	WB	LED CD	NEW	AL.	0.4m	2.75m	NEW	APS	SOUTH	EB	POLARA iNS	NEW	105W/120V	LED	YES	SEE DWG.: E1.5	NEW	ARM	2.4m	AL	
P2	NEW	1	NB	PRIM.	OS HWY	30/30/30	YES	NEW	MAST	3.6m	5.2m	VERSA-BRAC					NEW	EB	LED CD	NEW	AL.	0.4m	2.75m	NEW	APS	SOUTH	WB	POLARA iNS										
P3	NEW	1	EB	SEC.	9A	30/30/30/30	YES	NEW	MAST	1.2m	5.2m	VERSA-BRAC					NEW	NB	LED CD	NEW	AL.	0.4m	2.75m	NEW	APS	WEST	SB	POLARA iNS										
P4	NEW	1	EB	PRIM.	OS HWY	30/30/30	YES	NEW	MAST	4.6m	5.2m	VERSA-BRAC					NEW	SB	LED CD	NEW	AL.	0.4m	2.75m	NEW	APS	WEST	NB	POLARA iNS	NEW	105W/120V	LED	YES	SEE DWG.: E1.5	NEW	ARM	2.4m	AL	
P5	NEW	1	SB	SEC.	OS HWY	30/30/30	YES	NEW	MAST	2.4m	5.2m	VERSA-BRAC					NEW	EB	LED CD	NEW	AL.	0.4m	2.75m	NEW	APS	NORTH	WB	POLARA iNS										
P6	NEW	1	SB	PRIM.	OS HWY	30/30/30	YES	NEW	MAST	6.1m	5.2m	VERSA-BRAC					NEW	WB	LED CD	NEW	AL.	0.4m	2.75m	NEW	APS	NORTH	EB	POLARA iNS	NEW	105W/120V	LED	YES	SEE DWG.: E1.5	NEW	ARM	2.4m	AL	
P7	NEW	1	WB	SEC.	OS HWY	30/30/30	YES	NEW	MAST	2.4m	5.2m	VERSA-BRAC					NEW	SB	LED CD	NEW	AL.	0.4m	2.75m	NEW	APS	EAST	NB	POLARA iNS	NEW	105W/120V	LED	YES	SEE DWG.: E1.5	NEW	ARM	2.4m	AL	
P8	NEW	1	WB	PRIM.	OS HWY	30/30/30	YES	NEW	MAST	7.6m	5.2m	VERSA-BRAC					NEW	NB	LED CD	NEW	AL.	0.4m	2.75m	NEW	APS	EAST	SB	POLARA iNS										PRE-EMPTION DETECTOR

TABLE 2: HANDWELL SUMMARY

HW No.	INST'N	GRD.	MAT'L	DIA./DIMENSIONS	OPSD	COORD.	NOTES
HW1	NEW	1	CONC.	ø675mm	2112.03	N. 5 129 844.08 E. 620 937.75	
HW2	NEW	1	CONC.	ø675mm	2112.03	N. 5 129 836.91 E. 620 961.28	
HW3	NEW	1	CONC.	ø675mm	2112.03	N. 5 129 814.47 E. 620 962.03	
HW4	NEW	1	CONC.	ø675mm	2112.03	N. 5 129 813.47 E. 620 937.61	

TABLE 3: DETECTOR ZONES

LOCATION	VEHICLE DETECTOR No.	DESCRIPTION
COMMERCE CRES.	DET1	PUCK
VENTURE CRES.	DET2	PUCK
SEYMOUR ST.	DET3	PUCK

TABLE 4: PERMANENT TRAFFIC SIGNAL, LIGHTING, PEDESTRIAN POLES

POLE No.	LOCATION	POLE				SETTING		COORD.	NOTES
	ROAD NAME	INST'N	MAT'L	LENGTH	CLASS	OPSD	MAT'L		
P1	COMMERCE CRESCENT	NEW	SEC. STEEL	10.5m	HD	2200.01	CONC.	N. 5 129 847.00 E. 620 941.93	
P2	COMMERCE CRESCENT	NEW	SEC. STEEL	7.5m	HD	2200.01	CONC.	N. 5 129 546.76 E. 620 954.39	
P3	SEYMOUR STREET	NEW	SEC. STEEL	7.5m	HD	2200.01	CONC.	N. 5 129 832.51 E. 620 974.11	
P4	SEYMOUR STREET	NEW	SEC. STEEL	10.5m	HD	2200.01	CONC.	N. 5 129 817.48 E. 620 973.40	
P5	VENTURE CRESCENT	NEW	SEC. STEEL	7.5m	HD	2200.01	CONC.	N. 5 129 805.89 E. 620 956.53	
P6	VENTURE CRESCENT	NEW	SEC. STEEL	10.5m	HD	2200.01	CONC.	N. 5 129 805.92 E. 620 941.08	
P7	SEYMOUR STREET	NEW	SEC. STEEL	10.5m	HD	2200.01	CONC.	N. 5 129 818.89 E. 620 932.45	
P8	SEYMOUR STREET	NEW	SEC. STEEL	7.5m	HD	2200.01	CONC.	N. 5 129 839.01 E. 620 933.53	

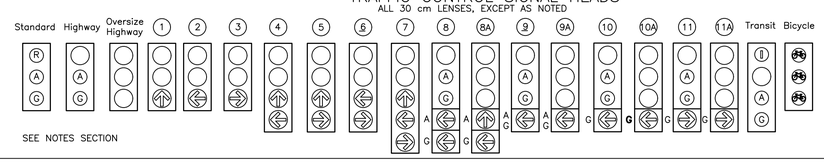
LEGEND

- HIGHWAY SIGNAL HEAD (30 cm RED) WITH BACKBOARD AND MAST ARM
- HIGHWAY SIGNAL HEAD (30 cm RED) WITH BACKBOARD AND OVERHEAD CABLE
- OVERSIZE HIGHWAY SIGNAL HEAD WITH BACKBOARD AND MAST ARM (ALL 30 cm LENSES)
- SPECIAL HEAD WITH ARROW INDICATION AND BACKBOARD (EXAMPLE SHOWS TYPE 9a HEAD)
- SPECIAL HEAD WITH BACKBOARD AND ONE OR MORE PROGRAMMABLE LENSES (EXAMPLE SHOWS TYPE 9a HEAD)
- STANDARD SIGNAL HEAD WITH BACKBOARD AND MAST ARM (ALL 20 cm LENSES)
- STANDARD SIGNAL HEAD WITH MAST ARM, WITHOUT BACKBOARD
- BICYCLE SIGNAL HEAD (ALL 20 cm LENSES)
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD WITH COUNT DOWN
- PEDESTRIAN PUSH BUTTON
- VIDEO DETECTION CAMERA
- NON-INTRUSIVE SENSOR (RADAR)
- ACCESSIBLE PEDESTRIAN PUSH BUTTON WITH AUDIBLE TONE
- POWER PEDESTAL (UNMETERED)

- P1 — PROPOSED TRAFFIC SIGNAL POLE WITH CONCRETE BASE
- HW1 — ELECTRICAL HANDWELL
- G — GROUND ROD AND CONDUCTOR
- DET# — VEHICLE DETECTOR PUCK
- VEHICLE PASSAGE LOOP DETECTOR
- DIAMOND LOOP DETECTOR
- VEHICLE LOOP DETECTOR
- NON-INTRUSIVE DETECTION ZONE
- DUPLEX LOOP DETECTOR
- EV# — EMERGENCY VEHICLE PRE-EMPTION DETECTOR MICRO-WAVE DETECTOR
- TRAFFIC CONTROLLER
- TRAFFIC SIGN
- TRAFFIC SIGN WITH FLASHING BEACON
- ILLUMINATED TRAFFIC SIGN
- ACCESSIBLE PEDESTRIAN SHORT POLE
- CURB RAMP (1.22 m WIDTH) PROVIDING ACCESS TO SINGLE CROSSWALK
- UNDERGROUND CONDUIT
- LUMINAIRE AND ARM

TRAFFIC CONTROL SIGNAL HEADS

ALL 30 cm LENSES, EXCEPT AS NOTED



SEE NOTES SECTION

NOTES:
(8) (9) AMBER ARROW MUST BE USED IN A PROTECTED/PERMISSIVE SIMULTANEOUS LEFT TURN OPERATION.
NOTE: -FOR SPECIAL ARROW HEADS (8), (9), (10) AND (11), 20 cm AMBER BALL AND 20 cm GREEN BALL LENSES SHOULD BE USED
-BICYCLE SYMBOL IN ACCORDANCE TO O. REG. 626 H.T.A.

CLASSIFICATION OF ROADWAY	TRAFFIC SIGNAL HEADS				LOCATION	
		TYPE	SIZE	BACKBOARD	MOUNTING HT.	OFFSET FROM POLE
ROADWAY SEYMOUR STREET		PRIMARY	300/300/300	YES	5.2m	SEE TABLE 1 ABOVE
		SECONDARY	300/300/300/300	YES	5.2m	SEE TABLE 1 ABOVE
CLASSIFICATION COLLECTOR		AUXILIARY				
MULTILANE ☐	SEPARATE LEFT TURN ARROWS	PRIMARY				
TWO-LANE ☒		SECONDARY				
ROADWAY COMMERCE CRES./ VENTURE CRESCENT		PRIMARY	300/300/300	YES	5.2m	SEE TABLE 1 ABOVE
		SECONDARY	300/300/300	YES	5.2m	SEE TABLE 1 ABOVE
CLASSIFICATION COLLECTOR		AUXILIARY				
MULTILANE ☐	SEPARATE LEFT TURN ARROWS	PRIMARY				
TWO-LANE ☒		SECONDARY				

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BENCHMARKS

CITY TO PROVIDE BENCHMARKS PRIOR TO CONSTRUCTION.

NOTES

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No.	REVISION DESCRIPTION	DATE
1.	90% DESIGN	FEB 2025
2.	100% DESIGN	MAR 2025
3.	ISSUED FOR TENDER	APR 2025
4.	ISSUED FOR CONSTRUCTION	JUL 2025

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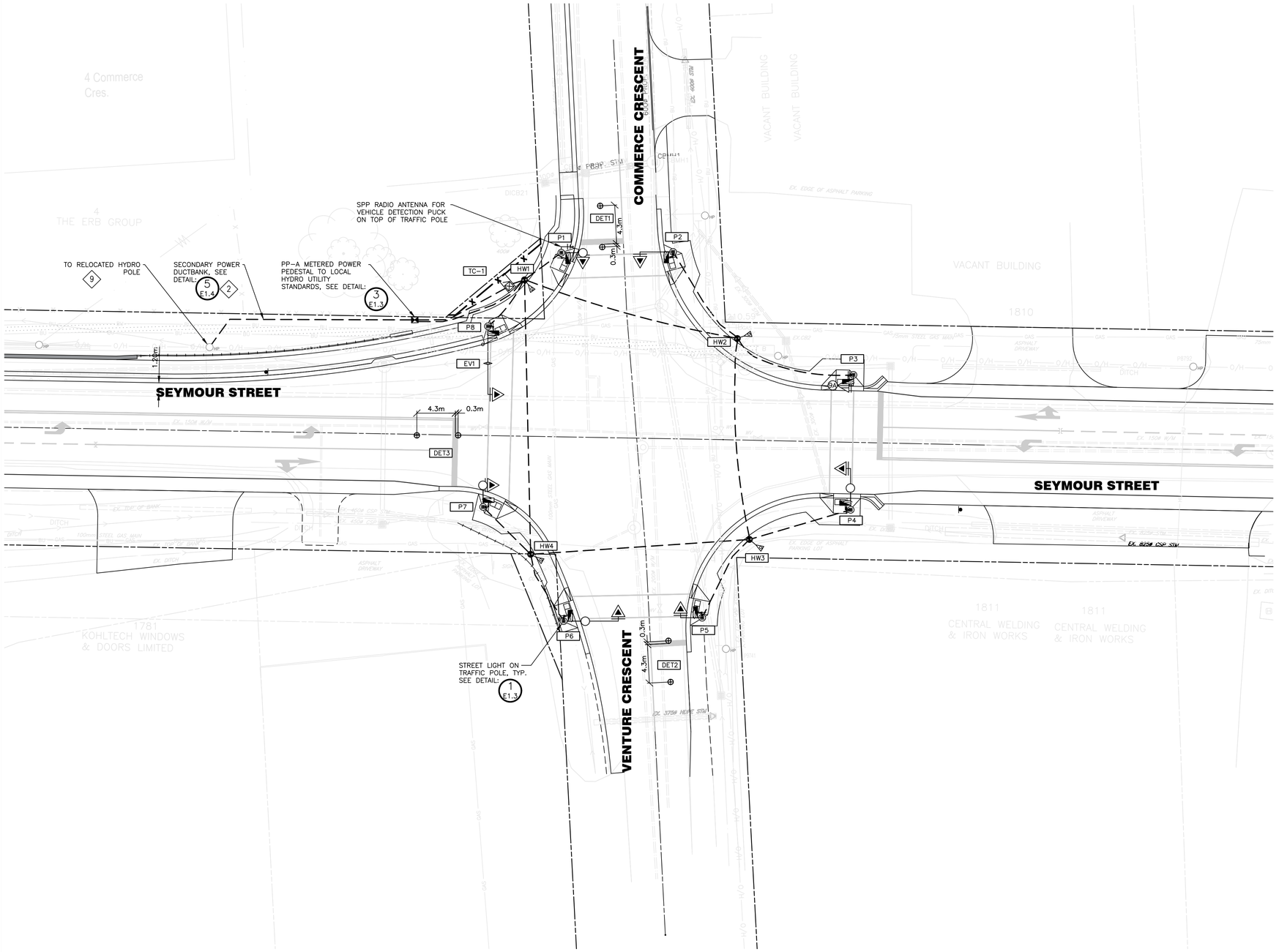
LICENSED PROFESSIONAL ENGINEER
A.DIXON
100223176
04JUL'25
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

TRAFFIC SIGNAL SUMMARY TABLE

TATHAM ENGINEERING

DESIGN: RW	FILE: 124112	DWG: E1.0
DRAWN: RW	DATE: FEB 2025	
CHECK: AD	SCALE: AS SHOWN	



1 E1.1 **TRAFFIC SIGNAL LAYOUT**

SCALE 1:250

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR ALL LOCATES: UNDERGROUND HYDRO, TRAFFIC SIGNAL DUCTS, BELL FIBRE OPTIC CABLES, WATER MAIN, CABLE TV CABLES, ETC.
2. PROVIDE 78mmø DUCT BETWEEN POWER PANEL AND CONTROLLER LOCATION.
3. ALL DUCTING TO BE MINIMUM OF 600mm DEPTH IN NON-VEHICULAR AREAS OR 760mm IN VEHICULAR AREAS.
4. STAKE EQUIPMENT LOCATION AND REVIEW WITH ENGINEER & CITY STAFF PRIOR TO CONSTRUCTION.
5. FIRST PUCK TO BE LOCATED 0.3m INFRONT OF STOP BAR. SECOND PUCK TO BE LOCATED 4.3m BEHIND STOP BAR, TYP.
6. ENSURE APPROPRIATE CLEARANCES TO OVERHEAD AND UNDERGROUND UTILITIES, AS REQUIRED. CONSULT ENGINEER IF ISSUES ARE EXPERIENCED.
7. ALL COMPONENTS AND INSTALLATIONS TO MEETING CITY OF NORTH BAY & LOCAL HYDRO UTILITY STANDARDS, AS APPLICABLE.
8. CONTRACTOR TO HAND DIG POLE LOCATION WHEN WITHIN 300mm FROM EXISTING UTILITIES. TYP.
9. THE CONTRACTOR SHALL COORDINATE WITH LOCAL HYDRO AUTHORITY AND PROVIDE 10m SERVICE COIL, RISER CONDUIT AND WEATHERHEAD AT BASE OF THE POLE FOR SERVICE CONNECTION BY LOCAL HYDRO AUTHORITY.

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

CITY TO PROVIDE BENCHMARKS PRIOR TO CONSTRUCTION.

NOTES

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2.	100% DESIGN	MAR 2025
3.	ISSUED FOR TENDER	APR 2025
4.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.DIXON
100223176
04JUL'25
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

TRAFFIC SIGNAL LAYOUT

TATHAM ENGINEERING

DESIGN: RW	FILE: 124112	DWG: **E1.1**
DRAWN: RW	DATE: FEB 2025	
CHECK: AD	SCALE: AS SHOWN	

HW1 CONTROL CABLE SCHEDULE

CC01	1–2C#14AWG PB5, 1–2C#14AWG PB6 1–2C#14AWG PB7
CC02	1–20C#14AWG TS2, 1–12C#14AWG PED2, 1–2C#6AWG SL2
CC03	1–2C#6AWG SL1
CC04	1–20C#14AWG TS2, 1–2C#14AWG PB8, 1–12C#14AWG PED2, 1–CAT 5/6
CC05	1–20C#14AWG TS1, 1–2C#14AWG PB1, 1–12C#14AWG PED1, 1–DETECTOR CABLE EV1
CC06	1–20C#14AWG TS1, 1–12C#14AWG PED1
CC07	1–2C#14AWG PB2, 1–2C#14AWG PB3 1–2C#14AWG PB4
CC08	1–2C#6AWG SL2

HW2 CONTROL CABLE SCHEDULE

CC16	1–2C#14AWG PB6
CC17	1–20C#14AWG TS2, 1–2C#14AWG PB7, 1–12C#14AWG PED2,
CC18	1–20C#14AWG TS2, 1–12C#14AWG PED2
CC19	1–20C#14AWG TS2, 1–12C#14AWG PED2,
CC20	1–2C#6AWG SL2, 1–2C#14AWG PB5

HW4 CONTROL CABLE SCHEDULE

CC9	1–2C#14AWG PB3
CC10	1–20C#14AWG TS1, 1–2C#14AWG PB2, 1–12C#14AWG PED1, 1–2C#6AWG SL1
CC11	1–20C#14AWG TS1, 1–12C#14AWG PED1, 1–2C#6AWG SL1
CC12	1–20C#14AWG TS1, 1–12C#14AWG PED1
CC13	1–2C#14AWG PB4

HW3 CONTROL CABLE SCHEDULE

CC14	1–20C#14AWG TS1, 1–2C#14AWG PB4, 1–12C#14AWG PED1
CC15	1–20C#14AWG TS2, 1–2C#14AWG PB5, 1–12C#14AWG PED2, 1–2C#6AWG SL2

GENERAL NOTES:

1. ALL CONNECTIONS BETWEEN HANDWELLS AND CONCRETE POLE BASES FOR TRAFFIC SIGNAL POLES OR PEDESTRIAN POLES ARE TO BE MADE WITH MINIMUM 78mmø RIGID PVC CONDUIT UNLESS OTHERWISE INDICATED.
2. MATERIAL REMOVED FROM TUNNELING UNDER EXISTING CURB AND GUTTER OR SIDEWALK MUST BE REPLACED BY TAMPING INTERMITTENTLY TO ENSURE PROPER COMPACTION WITH NO CAVITIES.
3. POLES ARE TO BE PLACED SUCH THAT THE POLE "HANDHOLES" ARE ON THE "HOUSE SIDE" OF POLES. MEDIAN POLES ARE TO BE PLACED SUCH THAT THE HANDHOLE IS FACING AWAY FROM THE INTERSECTION.
4. MINIMUM CLEARANCE BETWEEN THE TRAFFIC SIGNAL HEADS AND THE PAVEMENT IS 5.0m AND THE MAXIMUM CLEARANCE IS 5.3m.
5. ALL BURIED CABLE CONNECTIONS ARE TO BE MADE IN HANDHOLES OF THE STEEL POLES UNLESS OTHERWISE SPECIFIED. NO CABLE SPLICES ARE PERMITTED BELOW GROUND LEVEL, EXCEPT DETECTION LOOPS.
6. THE CONTRACTOR IS TO CONTACT THE APPROPRIATE HYDRO AUTHORITY FOR ALL CONNECTIONS TO AND/OR DISCONNECTIONS FROM POWER (AS REQUIRED).
7. WHERE PROPOSED CONDUIT WILL CONFLICT WITH THE EXISTING INFRASTRUCTURE, ADJUST THE BURIAL DEPTH OF THE CONDUIT.
8. GROUND OR BOND ALL PROPOSED POLES AND HANDWELL FRAMES USING #6AWG RWU90 GREEN GROUND WIRE. POLES ARE TO BE CONNECTED TO SYSTEM GROUND WIRE AT NEAREST HANDWELL. CONNECTION IS TO BE MADE USING COMPRESSION CONNECTION SUITABLE FOR BELOW GRADE. ALSO MEASURE RESISTANCE TO GROUND. RESISTANCE TO GROUND SHALL NOT EXCEED 25Ω.
9. THE POLES ARE TO BE INSTALLED DIRECTLY ON TOP OF CONCRETE BASES AND LEVELED WITH GALVANIZED STEEL SHIMS, AS REQUIRED. DOUBLE NUTTING OF POLES WILL NOT BE ALLOWED.
10. ALL ABANDONED CONDUIT UNDER EXISTING ROAD MUST BE SEALED USING THE CONDUIT MANUFACTURER'S PLUGS.
11. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THEY HAVE AN UP–TO–DATE SET OF CITY OF NORTH BAY STANDARD DRAWINGS. CONTACT THE CITY OF NORTH BAY, ENGINEERING DEPARTMENT FOR A FULL SET OF DRAWINGS. ALL WORKS INDICATED HEREIN SHALL BE SUPPLIED, INSTALLED, TESTED AND COMMISSIONED IN STRICT ACCORDANCE WITH THE CITY OF NORTH BAY ENGINEERING STANDARDS UNLESS AUTHORIZED OTHERWISE.
12. FOR TYPICAL WIRING DETAILS, SEE OPSD STANDARD DRAWINGS.
13. EXPOSED TRAFFIC SIGNAL HEADS MOUNTED WITH PLUMBIZERS, WHICH ARE NOT OPERATIONAL, ARE TO BE ROTATED SO THE HEAD IS PARALLEL TO THE PAVEMENT WITH THE FRONT OF THE HEAD FACING DOWN. EXPOSED TRAFFIC SIGNAL HEADS ON MEDIAN POLES MOUNTED WITH VERTICAL BRACKETS, WHICH ARE NOT OPERATIONAL, ARE TO BE SECURELY COVERED AND TURNED TO THE LEFT OF APPROACHING TRAFFIC. EXPOSED PEDESTRIAN HEADS MOUNTED WITH VERTICAL BRACKETS, WHICH ARE NOT OPERATIONAL, ARE TO BE SECURELY COVERED AND TURNED TO FACE THE POLE ON WHICH THEY ARE MOUNTED.
14. STOP LINES AND CROSSWALK LINES ARE TO BE PLACES WITHIN A 24 HOUR PERIOD PRIOR TO THE TRAFFIC SIGNAL TURN ON.
15. LOCATES: THE CONTRACTOR IS RESPONSIBLE TO DETERMINE EXACT LOCATION OF ALL UTILITIES, INCLUDING: UNDERGROUND POWER CABLES, BELL AND ROGERS COMMUNICATION CABLES, GAS LINES (ENBRIDGE) AND MUNICIPAL LINES PRIOR TO CONSTRUCTION.
16. CONTRACTOR TO CONFIRM INCOMING SERVICE DUCT AND CABLE SIZING WITH LOCAL HYDRO UTILITY.
17. FOR PHASE SEQUENCE DATA SEE SIGNAL TIMING PLAN.

GROUND RODS AND CONNECTIONS NOT SHOWN FOR CLARITY

COMMERCE CRES.

SEYMOUR STREET

VENTURE CRES.

1 E1.2 TRAFFIC SIGNAL WIRING DIAGRAM

NTS

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BENCHMARKS

CITY TO PROVIDE BENCHMARKS PRIOR TO CONSTRUCTION.

NOTES

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ENGINEER STAMP

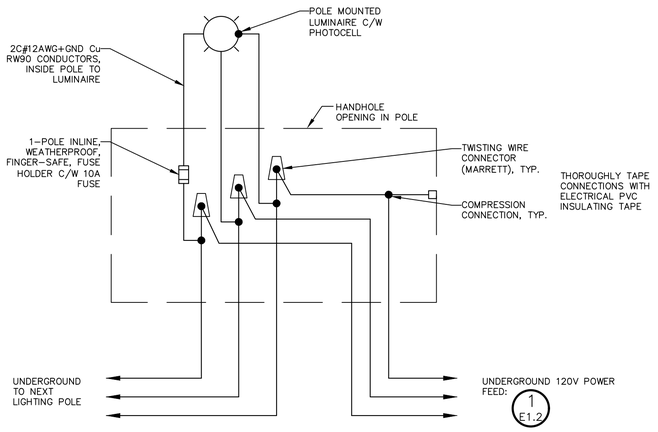
LICENSED PROFESSIONAL ENGINEER
A.DIXON
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04JUL'25
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

TRAFFIC SIGNAL WIRING DIAGRAM

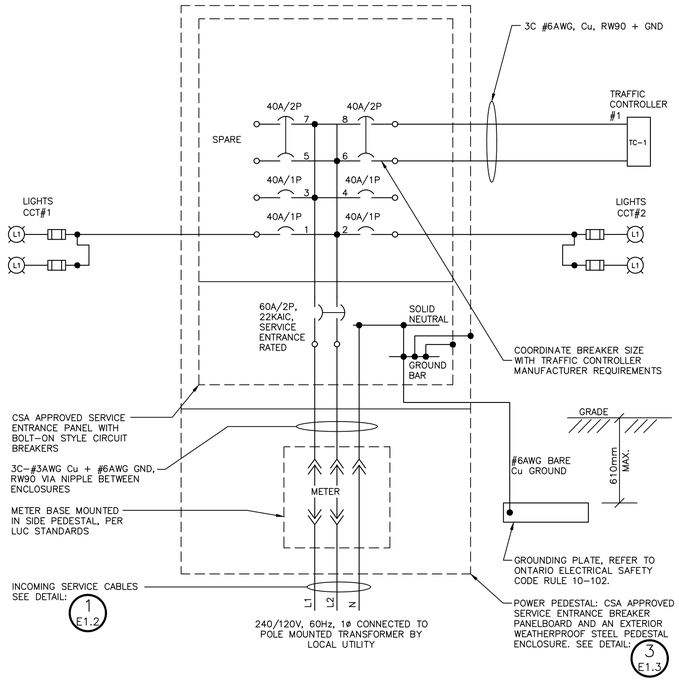
TATHAM ENGINEERING

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DRAWN: RW	DATE: FEB 2025	
CHECK: AD	SCALE: AS SHOWN	



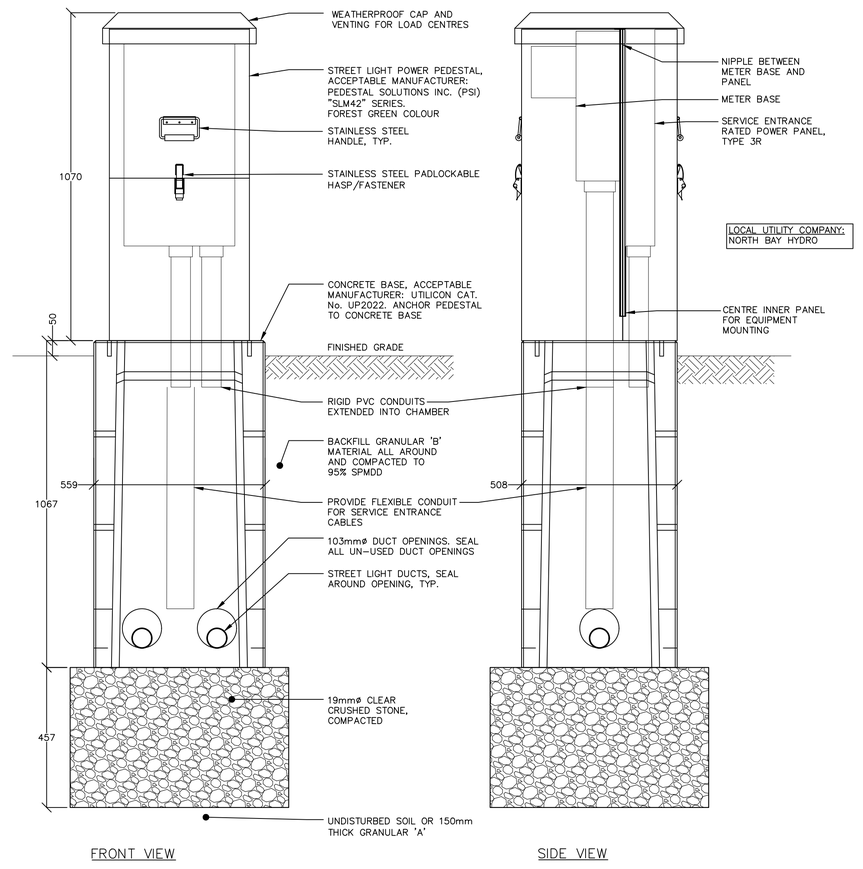
1 E1.3 TYPICAL STREET LIGHT WIRING

NTS



2 E1.3 "PP–A" – POWER PEDESTAL WIRING DETAIL

– NTS, DIMENSIONS SHOWN IN MILLIMETERS (mm)



3 E1.3 METERED (SLM–42) POWER PEDESTAL – INSTALLATION DETAIL

– DIMENSIONS SHOWN IN MILLIMETERS (mm)

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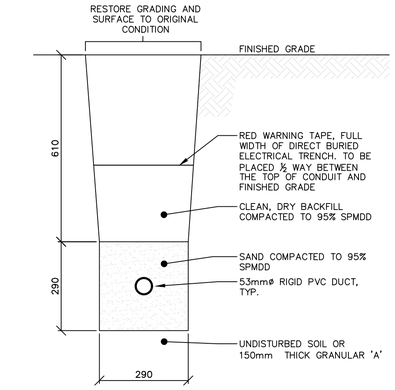
LICENSED PROFESSIONAL ENGINEER
A.DIXON
100223176
04-JUL'25
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

TRAFFIC SIGNAL SPECIFICATIONS/WIRING DETAILS

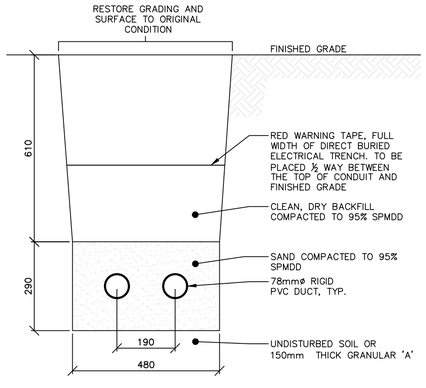
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DRAWN: RW	DATE: FEB 2025	
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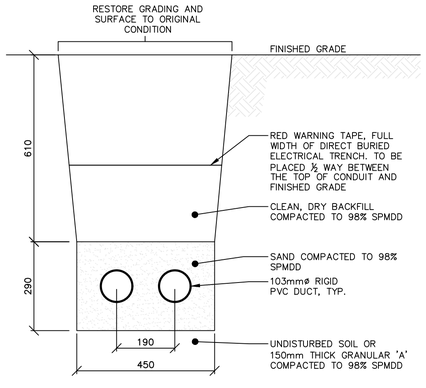
1 E1.4 STREET LIGHTING DUCTBANK, 1W1H

NTS, DIMENSIONS IN mm ◇1



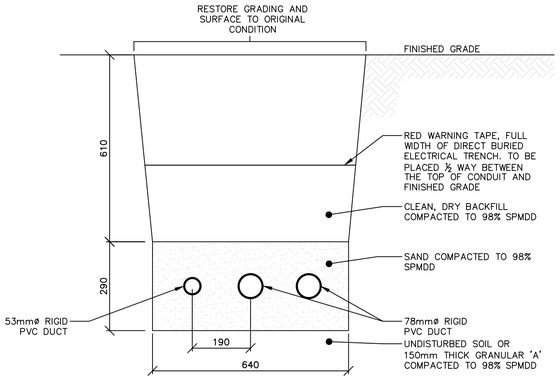
2 E1.4 TRAFFIC SIGNAL DUCTBANK, 2W1H

NTS, DIMENSIONS IN mm ◇1



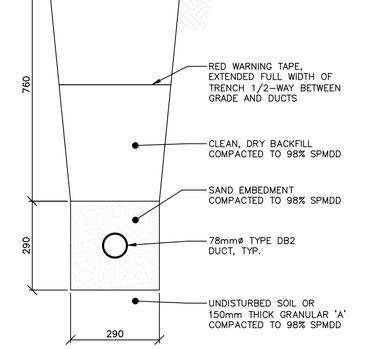
3 E1.4 TRAFFIC SIGNAL DUCTBANK, 2W1H

NTS, DIMENSIONS IN mm ◇1



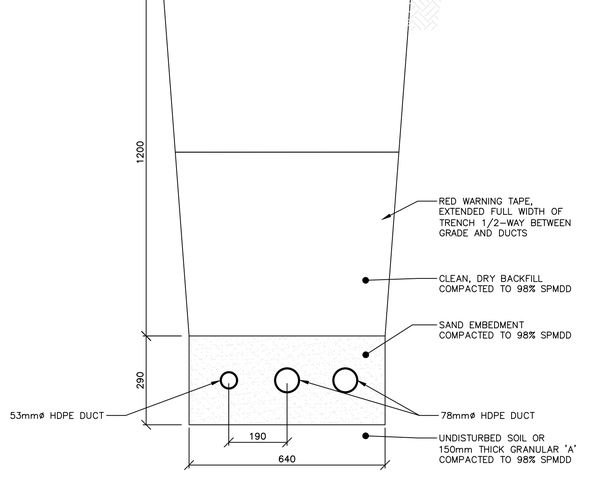
4 E1.4 TRAFFIC SIGNAL DUCTBANK, 3W1H

NTS, DIMENSIONS IN mm ◇1



5 E1.4 SECONDARY DUCTBANK, 1W1H

NTS, DIMENSIONS IN mm ◇1



6 E1.4 ROAD CROSSING DUCTBANK, 3W1H

NTS, DIMENSIONS IN mm ◇1

DUCTBANK NOTES:

◇1

- DIMENSIONS SHOWN IN mm.
- ALL DUCTS ARE 103mmø TYPE PVC DB2, UNLESS OTHERWISE NOTED
- PROVIDE 915mm "LONG SWEEP BENDS" FOR ALL BENDS: 90°, 45°, AND 22.5° BENDS
- PROVIDE FISH ROPE IN EACH SPARE DUCT
- INSTALL SPACERS EVERY 1524mm TO ASSEMBLE CONCRETE ENCASED DUCTBANKS. OFFSET OR STAGGER SPACERS
- GLUE ALL PVC JOINTS
- PROVIDE END-BELLS WHEN FINISHING DUCTS IN CHAMBER OR WALLS

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TRAFFIC SIGNAL DETAILS

TATHAM ENGINEERING

DESIGN: RW	FILE: 124112	DWG: **E1.4**
DRAWN: RW	DATE: FEB 2025	
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LUMEC

Roadway

RoadStar

GPLS (small)



Lumec **RoadStar LED** architectural roadway luminaire combines the look of a decorative product with the performance of a roadway or site/area luminaire, resulting in highly effective illumination and a stylish appearance. Featuring two different sizes, RoadStar offers a consistent look across pedestrian, general, and street lighting areas Includes Service Tag, innovative way to provide assistance throughout the life of the product

Project:

Location:

Cat./No:

Type:

Qty:

Notes:

Ordering guide

example: GPLS-32L700NW-G3-R3M-UNV-RCD-HS-GY3

Series	LED Module	Board Generation	Optical System	Ballast	Driver & Dimming*	Luminaire Options	Accessories*	Finish
GPLS RoadStar LED roadway luminaire, small	Neutral White 16L530NW[1] 16L700NW[1] 16L1050NW[1] 32L530NW[1] 32L700NW[1] 32L1050NW[1] 48L530NW[1] 48L700NW[1] 48L1050NW[1] Warm White 16L530WW[1] 16L700WW[1] 16L1050WW[1] 32L530WW[1] 32L700WW[1] 32L1050WW[1] 48L530WW[1] 48L700WW[1] 48L1050WW[1]	G3 Gen 3	R2S Type II short (ASYM) R2M Type II Medium (ASYM) R3S Type III short (ASYM) R3M Type III Medium (ASYM) R3W Type III Wide (ASYM) 4 Type IV (ASYM) 51 Type V (SYMM)	UNV 120-277VAC HVU 347-480VAC HVK 277-480VAC	Standard DMG Dimmable driver 0-10V Optional DALI Digitally Addressable Lighting Interface DAI Zhaga-DAI certified SRD Sensor ready driver	Standard RCD7* Receptacle for twist-lock photocell or shorting cap, 7-pin (standard) PH8/347 Twist-lock Photoelectric Cell, HVU (347VAC) Optional FAWS* Field adjustable wattage switch HS House Side Shield, shield, 1 per 16 LED light engine SP2 20kV / 20kA Surge Protector (optional) SP1K Fail-Off 10kV/5kA Surge protector SP2K Fail-Off 20kV/10kA Surge protector TLSB8 † SR receptacle BAC* Meets the requirements of the Buy American Act of 1933 (BAA)	OMS* Outdoor Multi-Sensor PH8 Twist-lock Photoelectric Cell, UNV (120-277VAC) PH8/480 Twist-lock Photoelectric Cell, HVU (480VAC) PH8/347 Twist-lock Photoelectric Cell, HVU (347VAC) PH10 Shorting cap Textured Finishes: BKTX Black BRTX Bronze GY3TX Grey WHTX White	BK Black finish BR Bronze finish GY3 Grey finish WH White finish Textured Finishes: BKTX Black BRTX Bronze GY3TX Grey WHTX White

1. No available with HVU-D4i, HVU-DALI, HVU-SRD.
2. Not available with HS option
3. Dimming choices: Select either DMG or one of the other options.
4. Use of photoelectric cell or shorting cap is required to ensure proper illumination.
5. Only available with DMG driver option.
6. Only available on D4i or SRD driver options.
7. TLSB8 must be selected with D4i Driver option.
8. TLSB8 Option and D4i Driver option must be selected with OMS.
9. Consult Signify to confirm whether specific accessories are BAA-compliant.

* Failure to properly select the "BAC" suffix could result in you receiving product that is not BAA-compliant product with no recourse for an RMA or refund. This BAC designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies.

† Not available in G3 or SRD driver options.

Note: GPLS is compatible to accept the Interact City wireless lighting control device.

GPLS RoadStar LED luminaire (small)

Roadway

3000K LED Lumen Values

Ordering Code	LED QTY	System Current (mA)	Avg System Wattage (W)	R2M			R2S			R3M			R3S		
				Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
GPLS-16L530NW-G3	16	530	27	3872	B1-U0-G1	142	3929	B1-U0-G1	146	3845	B1-U0-G1	142	3892	B1-U0-G1	144
GPLS-16L700NW-G3	16	700	38	4871	B1-U0-G1	128	4943	B1-U0-G1	130	4837	B1-U0-G1	127	4896	B1-U0-G1	129
GPLS-16L1050NW-G3	16	1050	55	6672	B2-U0-G1	121	6771	B2-U0-G1	123	6626	B2-U0-G1	120	6707	B1-U0-G2	122
GPLS-32L530NW-G3	32	530	53	7718	B2-U0-G2	146	7831	B2-U0-G1	148	7664	B2-U0-G2	145	7758	B1-U0-G2	146
GPLS-32L700NW-G3	32	700	71	9694	B2-U0-G2	137	9837	B2-U0-G1	139	9627	B2-U0-G2	136	9744	B2-U0-G2	137
GPLS-32L1050NW-G3	32	1050	110	13799	B3-U0-G2	120	13394	B3-U0-G2	122	13108	B3-U0-G2	119	13268	B2-U0-G2	121
GPLS-48L530NW-G3	48	530	78	11536	B3-U0-G2	148	11706	B3-U0-G2	150	11456	B3-U0-G2	147	11596	B2-U0-G2	149
GPLS-48L700NW-G3	48	700	107	14459	B3-U0-G3	135	14672	B3-U0-G3	137	14359	B3-U0-G3	134	14534	B2-U0-G3	136
GPLS-48L1050NW-G3	48	1050	161	19545	B3-U0-G3	121	19833	B3-U0-G2	123	19409	B3-U0-G3	121	19646	B3-U0-G3	122

Ordering Code	LED QTY	System Current (mA)	Avg System Wattage (W)	R3W			4			5		
				Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
GPLS-16L530NW-G3	16	530	27	3800	B1-U0-G1	141	3871	B1-U0-G2	143	3886	B2-U0-G1	144
GPLS-16L700NW-G3	16	700	38	4784	B1-U0-G1	126	4853	B1-U0-G2	128	4892	B3-U0-G1	129
GPLS-16L1050NW-G3	16	1050	55	6553	B1-U0-G2	119	6647	B1-U0-G2	121	6701	B3-U0-G1	122
GPLS-32L530NW-G3	32	530	53	7580	B1-U0-G2	143	7689	B1-U0-G3	145	7751	B3-U0-G2	146
GPLS-32L700NW-G3	32	700	71	9520	B1-U0-G2	134	9658	B2-U0-G3	136	9735	B3-U0-G2	137
GPLS-32L1050NW-G3	32	1050	110	12963	B2-U0-G2	118	13150	B2-U0-G3	120	13256	B4-U0-G2	121
GPLS-48L530NW-G3	48	530	78	11329	B2-U0-G2	145	11493	B2-U0-G3	147	11585	B4-U0-G2	149
GPLS-48L700NW-G3	48	700	107	14200	B2-U0-G3	133	14405	B2-U0-G4	135	14521	B4-U0-G2	136
GPLS-48L1050NW-G3	48	1050	161	19196	B3-U0-G3	119	19472	B2-U0-G4	121	19628	B4-U0-G2	122

4000K LED Lumen Values

Ordering Code	LED QTY	System Current (mA)	Avg System Wattage (W)	R2M			R2S			R3M			R3S		
				Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
GPLS-16L530NW-G3	16	530	27	4042	B1-U0-G1	150	4102	B1-U0-G1	152	4014	B1-U0-G1	149	4063	B1-U0-G1	150
GPLS-16L700NW-G3	16	700	38	5085	B1-U0-G1	134	5160	B1-U0-G1	136	5050	B1-U0-G1	133	5112	B1-U0-G1	135
GPLS-16L1050NW-G3	16	1050	55	6966	B2-U0-G1	127	7069	B2-U0-G1	129	6918	B2-U0-G2	126	7002	B1-U0-G2	127
GPLS-32L530NW-G3	32	530	53	9057	B2-U0-G2	152	9176	B2-U0-G1	154	8002	B2-U0-G2	151	8099	B2-U0-G2	153
GPLS-32L700NW-G3	32	700	71	10120	B2-U0-G2	143	10269	B2-U0-G2	145	10050	B2-U0-G2	142	10173	B2-U0-G2	143
GPLS-32L1050NW-G3	32	1050	110	13780	B3-U0-G2	125	13983	B3-U0-G2	127	13685	B3-U0-G2	124	13851	B2-U0-G2	126
GPLS-48L530NW-G3	48	530	78	12043	B3-U0-G2	154	12221	B3-U0-G2	157	11960	B3-U0-G2	153	12106	B2-U0-G2	155
GPLS-48L700NW-G3	48	700	107	15095	B3-U0-G3	141	15318	B3-U0-G2	143	14991	B3-U0-G2	140	15173	B2-U0-G2	142
GPLS-48L1050NW-G3	48	1050	161	20405	B3-U0-G3	127	20705	B3-U0-G2	129	20263	B3-U0-G3	126	20510	B2-U0-G3	127

Ordering Code	LED QTY	System Current (mA)	Avg System Wattage (W)	R2M			R2S			R3M		
				Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
GPLS-16L530NW-G3	16	530	27	3970	B1-U0-G1	147	4027	B1-U0-G2	149	4059	B2-U0-G1	150
GPLS-16L700NW-G3	16	700	38	4994	B1-U0-G1	131	5066	B1-U0-G2	133	5107	B3-U0-G1	134
GPLS-16L1050NW-G3	16	1050	55	6841	B1-U0-G2	124	6940	B1-U0-G3	126	6996	B3-U0-G2	127
GPLS-32L530NW-G3	32	530	53	7913	B1-U0-G1	149	8027	B2-U0-G3	151	8092	B3-U0-G2	153
GPLS-32L700NW-G3	32	700	71	9939	B2-U0-G2	140	10083	B2-U0-G3	142	10164	B3-U0-G2	143
GPLS-32L1050NW-G3	32	1050	110	13533	B2-U0-G2	123	13728	B2-U0-G3	125	13839	B4-U0-G2	126
GPLS-48L530NW-G3	48	530	78	11826	B2-U0-G2	152	11998	B2-U0-G3	154	12095	B4-U0-G2	155
GPLS-48L700NW-G3	48	700	107	14825	B2-U0-G3	139	15039	B2-U0-G4	141	15160	B4-U0-G2	142
GPLS-48L1050NW-G3	48	1050	161	20039	B3-U0-G3	124	20328	B3-U0-G4	126	20492	B4-U0-G3	127

1. L_p = 100,000 hrs (at ambient temperature = 25°C).
2. System wattage or total luminaire wattage includes the LED module and the LED driver.

Notes: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Signify.
IES files with HS house side shield and/or Warm White options are also available – contact the factory.

GPLS RoadStar LED luminaire (small)

Roadway

Field Adjustable Wattage (FAWS) Multiplier Chart

For all configurations EXCEPT the ones on the right

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage
1	0.31	0.28
2	0.53	0.50
3	0.62	0.58
4	0.70	0.67
5	0.78	0.75
6	0.83	0.81
7	0.89	0.87
8	0.92	0.91
9	0.96	0.95
10	1.00	1.00

Note: Typical value accuracy +/- 5%

Predicted Lumen Depreciation Data

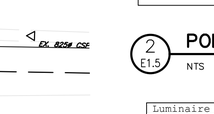
Derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-21.

Ambient Temperature	Driver mA	Calculated L70 hours	L70 per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1050mA	>100,000 hrs	>60,000 hrs	>84%

Dimensions

Side View

Bottom View



Weight: 17.0 lbs (7.7 kg)
EPA: 0.65 sq. ft.

Specifications

Housing

The upper grid and lower part of the housing are made of a low copper die cast Aluminum alloy (A360), 0.100" (2.5mm) minimum thickness. Fits on a 1.66" (42mm) O.D. (1.25" NPS), 1.9" (48mm) O.D. (1.5" NPS) or 2.3/8" (60mm) O.D. (2" NPS) by 7.3/4" (197mm) minimum long tenon. Comes with two zinc plated clamps fixed by 4 zinc plated hexagonal bolts 3/8-16 UNC for ease of installation. Provides an easy step adjustment of +/- 5° tilt in 2.5° increments. Includes integral bubble level standard (always included). A quick release, tool less entry, single latch, hinged, removable door opens downward to provide access to electronic components and to a terminal block. Door is secured to prevent accidental dropping or disengagement. Complete with a bird guard protecting against birds and similar intruders. ANSI label to identify wattage and source included in box.

Light Engine

Composed of 4 main components: Heat Sink / LED Module / Optical System / Driver

Electrical components are RoHS compliant. IP66 sealed light engine. LEDs tested by ISO 17025 2005 accredited lab in accordance with IESNA LM 80 guidelines in compliance with EPA ENERGY STAR, extrapolations in accordance with IESNA TM 21. Metal core board ensures greater heat transfer and longer lifespan.

Heat Sink: Built in the housing, designed to ensure high efficacy and superior cooling by natural convection air flow pattern always close to LEDs and driver optimising their efficiency and life. Product does not use any cooling device with moving parts (only passive cooling). Entire luminaire is rated for operation in ambient temperature of 40°C / 40°F up to +40°C / +104°F.

LED Module: Composed of high performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K +/ 275Kor 3710K to 4260K), CRI 70 Min. 75 Typical. 3000 Kelvin also available.

GPLS RoadStar LED luminaire (small)

Roadway

Specifications (continued)

Light Engine (continued)

Optical System: Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. System is rated IP66. Performance shall be tested per LM 63, LM 79 and TM 15 (IESNA) certifying its photometric performance. 0% uplight and U0 per IESNA TM-15. Dark Sky compliant when 3000K option selected.

Driver: High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC or 347 to 480 VAC rated for both application line to line or line to neutral. Class I or II, THD of 20% max. **Driver comes with dimming compatible 0-10 volts.**

The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after over-protection. Standard built in driver surge protection of 2.5kV (min).

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Luminaire Options

HS: House side shield, 1 per 16 LED light engine.

FAWS: Field Adjustable Wattage Selector, pre-set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level - see the FAWS multiplier chart for more details.

SP2: 20kV / 20kA surge protection device provides extra protection beyond the SP1 10kV/10kA level.

SP1K: Fail-Off Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/ IEEE C62.41.2 Scenario I Category C High Exposure 10kV/5kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground.

SP2K: Fail-Off 20kV /10kA surge protection device that provides extra protection beyond the SP1K 10kV/5kA level.

RCD7*: (standard): Receptacle with 7 pins enabling dimming and additional functionality (to be determined), can be used with a twist lock Starsense node or photoelectric cell or a shorting cap.

Please note: Additional hardware will be required to utilize the additional 2 pins on NEMA receptacle.

* Use of photoelectric cell or shorting cap is required to ensure proper illumination.

Driver Options

D4i: Zhaga-D4i compliant fixture

DALI: Pre-set driver compatible with the DALI control system.

SRD: Sensor Ready Driver including SR communication (used for dimming and other functionalities), 24V auxiliary supply and a logical signal input (LSI) and UO per IESNA TM-15. Dark Sky compliant when 3000K option selected.

Driver: High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC or 347 to 480 VAC rated for both application line to line or line to neutral. Class I or II, THD of 20% max. **Driver comes with dimming compatible 0-10 volts.**

The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after over-protection. Standard built in driver surge protection of 2.5kV (min).

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Luminaire Options

HS: House side shield, 1 per 16 LED light engine.

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SP1K: Fail-Off Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/ IEEE C62.41.2 Scenario I Category C High Exposure 10kV/5kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground.

SP2K: Fail-Off 20kV /10kA surge protection device that provides extra protection beyond the SP1K 10kV/5kA level.

RCD7*: (standard): Receptacle with 7 pins enabling dimming and additional functionality (to be determined), can be used with a twist lock Starsense node or photoelectric cell or a shorting cap.

Please note: Additional hardware will be required to utilize the additional 2 pins on NEMA receptacle.

* Use of photoelectric cell or shorting cap is required to ensure proper illumination.

Finish

In accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 3000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

LED products manufacturing standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

Vibration Resistance

The GPLS meets the ANSI C136.31, American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications (Tested for 3G over 100 000 cycles by an independent lab).

Certifications and Compliance

cULus Listed for Canada and USA. Luminaire meets DOE and MSSLC Model Specification for LED Roadway Luminaires. RoadStar LED roadway luminaires are DesignLights Consortium qualified. Luminaire complies with or exceeds the following ANSI C136 standards:
2, 3, 10, 14, 15, 22, 25, 31, 37, 41.

Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Service Tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime.
Just download the APP and register your product right away.
For more details visit: **signify.com/serviceteg**

Limited Warranty

10-year limited warranty.
See **signify.com/warranties** for details and restrictions.

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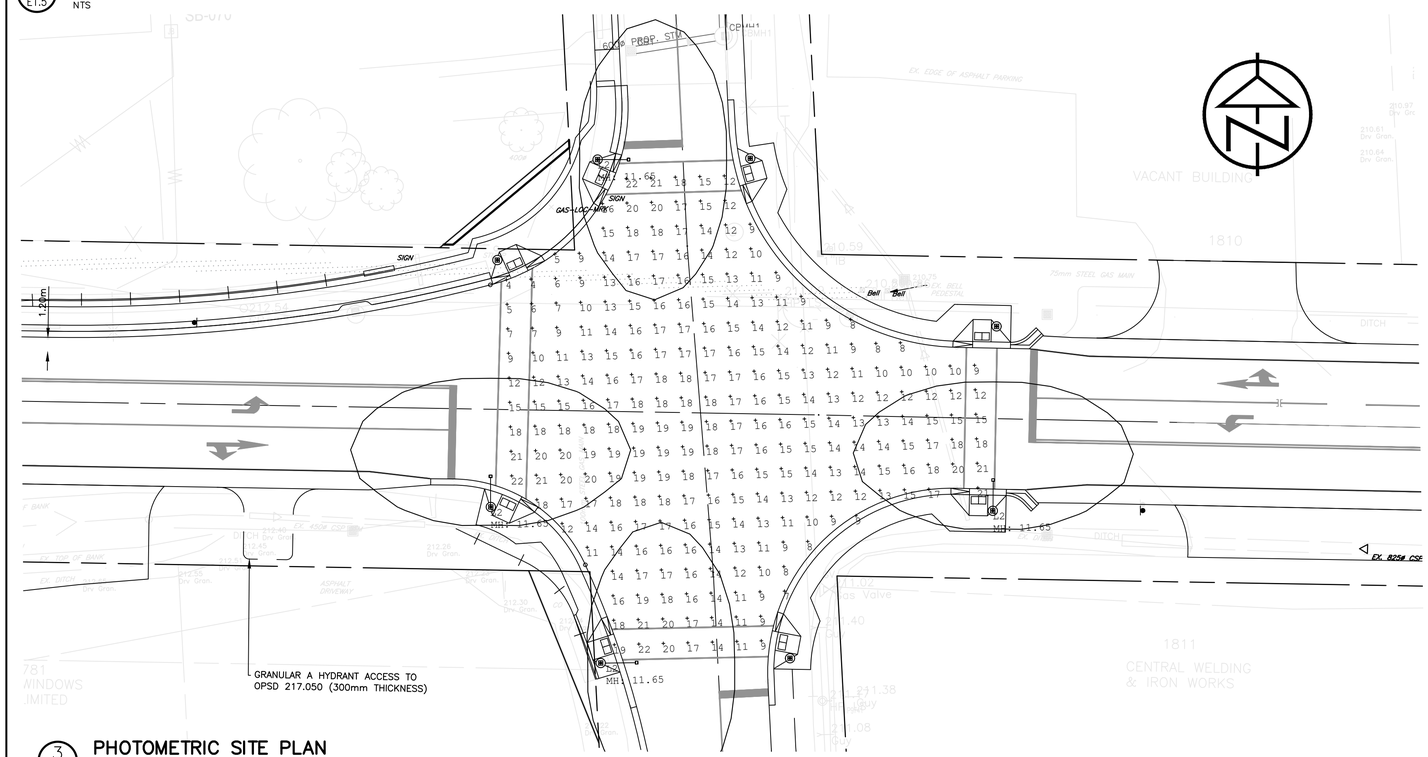
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1 E1.5

LUMINAIRE SPECIFICATION SHEET

NTS



3 E1.5

PHOTOMETRIC SITE PLAN

SCALE 1:250

ANSI / IES RP-8-22
Table 12-1: Intersection Illuminance Recommended Values
Functional Classification: Collector / Collector
Pedestrian Conflict Area: Low
Average Maintained Illuminance: 12.0 Lux
Uniformity Ratio Max. (Avg / Min): 4.0

POLE ASSEMBLY DESCRIPTION AND CATALOG NUMBERS

TYPE L1 ASSEMBLY

LUMINAIRE: Philips Lumec, RoadStar GPLM
MODEL GPLS-48L530NW-G3-R2M
- 120VAC
- 78 WATTS
- 4000 DEG. CCT
- COLOUR GREY/SILVER
- FUSE
- INTERNAL BUBBLE LEVEL
- IP66 RATED
- 10kV / 5kA SPD
- DIMMABLE
- 7 PIN RECEPTICALE
- UNIVERSAL PHOTOELECTRIC CELL

POLE: INSTALLED ON TRAFFIC POLE

ARM: ALUMINUS
- MODEL ALP-RE8 ALUMINUM ALLOY
- 8' (2438mm)
- SATIN FINISH

2 E1.5

POLE ASSEMBLY DESCRIPTION

NTS

Luminaire Schedule

Symbol	Qty	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height
——▫	4	GPLS-48L530NW-G3-R2M	L2	0.840	12043	78	312	11.65

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
INT - Seymour Street	Illuminance	Lux	14.54	22	4	3.64	5.50

4 E1.5

CALCULATION SUMMARY/ LUMINAIRE SCHEDULE

NTS

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BENCHMARKS

CITY TO PROVIDE BENCHMARKS PRIOR TO CONSTRUCTION.

NOTES

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No.	REVISION DESCRIPTION	DATE
1.	90% DESIGN	FEB 2025
2.	100% DESIGN	MAR 2025
3.	ISSUED FOR TENDER	APR 2025
4.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

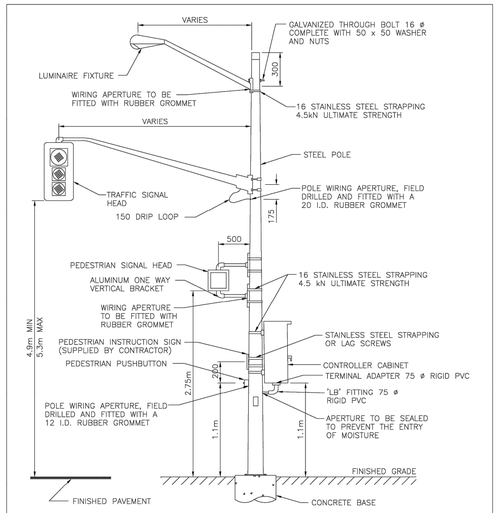
LICENSED PROFESSIONAL ENGINEER
A.DIXON
100223176
04JUL'25
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

PHOTOMETRIC ANALYSIS

TATHAM ENGINEERING

DESIGN: RW	FILE: 124112	DWG: E1.5
DRAWN: RW	DATE: FEB 2025	
CHECK: AD	SCALE: AS SHOWN	



NOTES

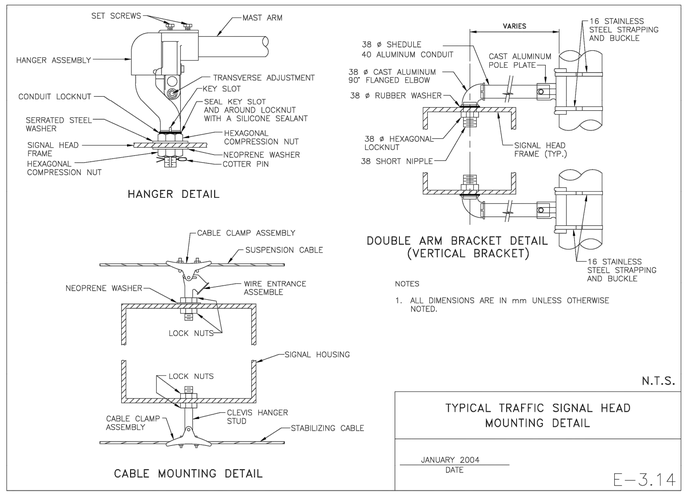
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
2. WIRING APERTURE IS TO BE 25 BELOW OVERLAPPING SECTIONAL STEEL JOINTS WHEN SECTION STEEL POLES ARE SPECIFIED.
3. ALL WIRING APERTURES ARE TO BE DE-BURRED & PROTECTED WITH GREY ZINC RICH PAINT.
4. FOR ORIENTATION AND LOCATION OF POLES AND EQUIPMENT SEE LAYOUT DRAWINGS.

N.T.S.

TRAFFIC SIGNAL EQUIPMENT ON STEEL POLES (BURIED INSTALLATION)

JANUARY 2004
DATE

E-3.06



NOTES

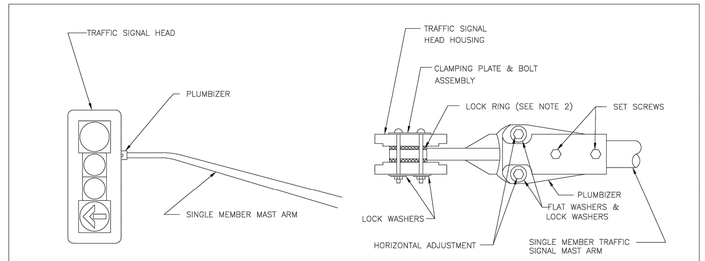
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.

N.T.S.

TYPICAL TRAFFIC SIGNAL HEAD MOUNTING DETAIL

JANUARY 2004
DATE

E-3.14



NOTES

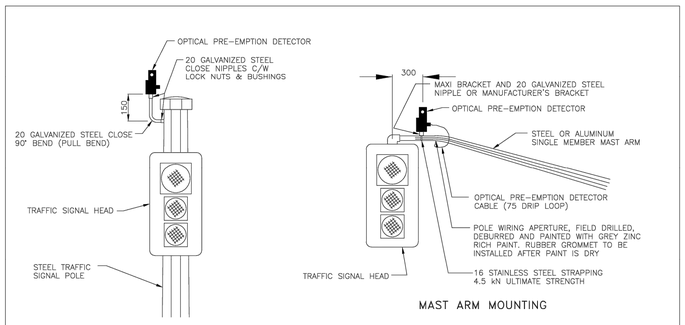
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
2. LOCK RING OR ADAPTER RING SHALL BE USED WITH HEADS WITHOUT INTEGRALLY CAST MATCHING SERRATIONS. RINGS ARE TO BE OF BRASS OR BRONZE, WITH SUFFICIENT CONTACT AREA TO COVER FLANGE ON SIGNAL HOUSING.
3. THE PLUMBIZER IS TO BE INSTALLED BETWEEN THE RED AND AMBER SECTIONS OF THE TRAFFIC SIGNAL HEAD, UNLESS OTHERWISE SPECIFIED.

N.T.S.

ELEVATOR PLUMBIZER (ADJUSTABLE) ATTACHMENT DETAIL

JANUARY 2004
DATE

E-3.15



N.T.S.

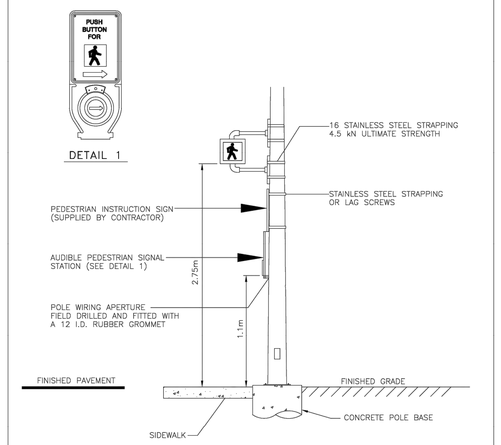
INSTALLATION DETAIL FOR OPTICAL PRE-EMPTION DETECTOR

JANUARY 2004
DATE

E-3.17

NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.



NOTES

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
2. ALL WIRING APERTURES ARE TO BE DE-BURRED & PROTECTED WITH GREY ZINC RICH PAINT.
3. THE CONTRACTOR SHALL REVIEW THE LAYOUT DRAWINGS FOR THE ORIENTATION AND LOCATION OF THE AUDIBLE PEDESTRIAN SIGNAL STATION TO THE APPROPRIATE DIRECTION OF THE PEDESTRIAN CROSSWALK.

N.T.S.

AUDIBLE PEDESTRIAN SIGNAL STATION MOUNTING DETAILS

NOVEMBER 2004
DATE

E-3.30

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BENCHMARKS

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NOTES

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No.	REVISION DESCRIPTION	DATE
1.	90% DESIGN	FEB 2025
2.	100% DESIGN	MAR 2025
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ENGINEER STAMP

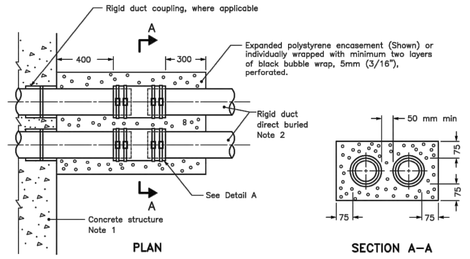
LICENSED PROFESSIONAL ENGINEER
A.DIXON
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04-JUL'25
PROVINCE OF ONTARIO

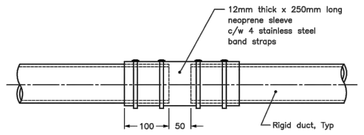
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

STANDARD DETAILS
SHEET 1

TATHAM ENGINEERING

DESIGN: RW	FILE: 124112	DWG: **E1.6**
DRAWN: RW	DATE: FEB 2025	
CHECK: AD	SCALE: AS SHOWN	

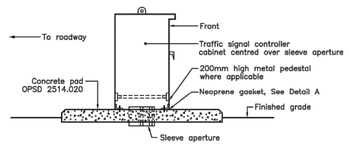




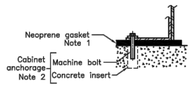
DETAIL A
WOBBLE JOINT

NOTES:
1 Concrete structures include bridge structure, concrete footing, electrical maintenance hole, concrete duct bank, etc.
2 For number, sizes, and orientation of ducts, refer to Contract Drawings.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Apr 2021	Rev 2
UNDERGROUND RIGID DUCT CONNECTION AT CONCRETE STRUCTURE		OPSD 2102.010



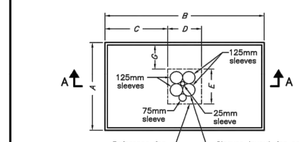
SIDE VIEW



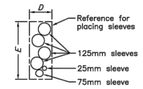
DETAIL A

NOTES:
1 Cabinet shall be sealed around bottom perimeter with a 10mm thick by 65mm wide neoprene gasket. Gasket shall have a durometer hardness of 45 and shall be provided with adhesive backing for attachment to the cabinet.
2 Cabinet shall be secured to the pad, accurately aligned, with chuck end concrete anchors and 16mm dia x 38mm long stainless steel hexagonal head machine bolts and lockwashers. Location of anchors shall be according to manufacturer's instructions.
A For numbers, sizes, and orientation of conduits entering sleeves in concrete pad, refer to Contract Drawings.
B For location and orientation of cabinet and concrete pad, refer to Contract Drawings.
C All dimensions are in millimetres unless otherwise shown.

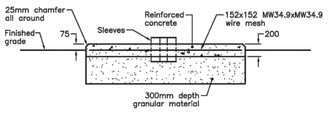
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 0
CONTROLLER CABINET ON PAD		OPSD 2514.010



PLAN



DETAIL A

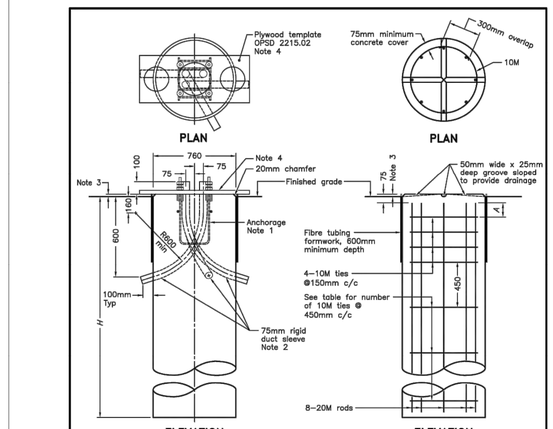


SECTION A–A

PAD DIMENSIONS						
Cabinet Type	Dimensions mm					
	A	B	C	D	E	G
332	1000	2000	725	380	380	310
M	1000	1650	400	250	660	170
P	1250	1950	400	250	660	295
R	1500	1950	400	250	660	420

NOTES:
A This OPSD shall be read in conjunction with OPSD 2514.010.
B Maintain 75mm minimum cover over reinforcing steel.
C Aperture for sleeves shall be filled with expandable foam.
D Sleeves in concrete pad shall protrude 50mm above top of pad.
E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 0
CONCRETE PAD FOR CONTROLLER CABINET		OPSD 2514.020

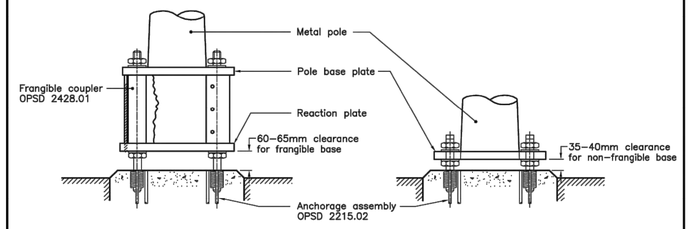


NOTES:
1 For anchorage assembly see OPSD 2215.02.
2 Minimum of two sleeves required for each concrete footing. Three sleeves as specified.
3 Top of footing shall be installed at 40mm ±15mm above finished grade in paved or concrete areas and 75mm ±25mm above finished grade in earth or granular areas.
4 Plywood template set level. Remove to finish concrete after initial set.
A For pole mounting details see OPSD 2215.03.
B All dimensions are in millimetres unless otherwise shown.

POLE LENGTH m	BURIAL DEPTH H m	ROD LENGTH m	A mm	NO. OF 10M TIES @ 450 c/c	BOLT CIRCLE DIA FOR METAL POLES Aluminum	Steel	Sectional Steel
5.6	2.15	2.00	100	3	N/A	N/A	449
7.0	2.15	2.00	100	3	N/A	N/A	449
7.5	2.15	2.00	100	3	406	406	N/A
8.7	2.45	2.30	250	3	N/A	N/A	449
9.0	2.45	2.30	0	4	406	406	N/A
10.5	2.60	2.45	100	4	406	406	449
12.0	2.75	2.60	150	4	406	406	N/A
13.6	2.90	2.75	0	5	406	406	N/A
15.1	3.05	2.90	100	5	406	406	N/A

N/A – Not applicable

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE FOOTING FOR BASE MOUNTED LIGHTING AND SIGNAL POLES		OPSD 2200.01

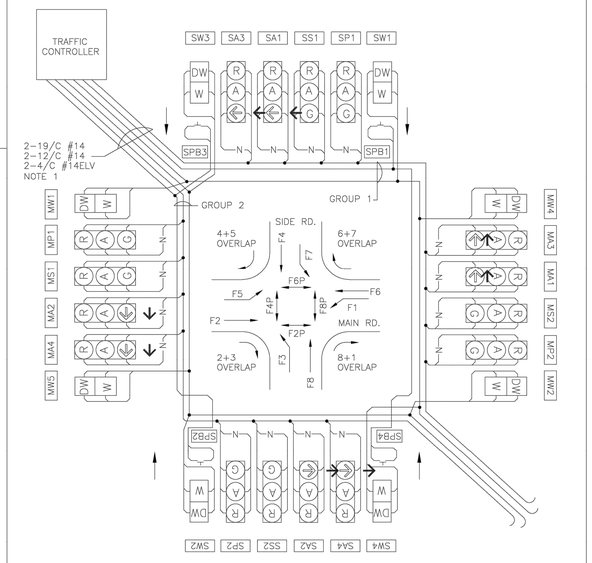


FRANGIBLE BASE – FRANGIBLE COUPLER

NON–FRANGIBLE BASE

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

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 4
POLE MOUNTING DETAILS FOR BASE MOUNTED METAL POLE		OPSD 2215.03



TYPICAL TRAFFIC SIGNAL WIRING DETAILS TWO TO EIGHT PHASE SYSTEMS

NB-E-101

DISCLAIMER AND COPYRIGHT

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

TATHAM ENGINEERING LIMITED CLAIMS COPYRIGHT TO THIS DRAWING WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE ENGINEER WITHOUT THE EXPRESS CONSENT OF TATHAM ENGINEERING LIMITED.

BENCHMARKS

CITY TO PROVIDE BENCHMARKS PRIOR TO CONSTRUCTION.

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
1.	90% DESIGN	FEB 2025
2.	100% DESIGN	MAR 2025
3.	ISSUED FOR TENDER	APR 2025
4.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A.DIXON
100223176
04-JUL'25
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

STANDARD DETAILS SHEET 2

TATHAM ENGINEERING

DESIGN: RW	FILE: 124112	DWG: E1.7
DRAWN: RW	DATE: FEB 2025	
CHECK: AD	SCALE: AS SHOWN	

GENERAL NOTES

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS PREPARED BY ALL CONSULTANTS PRIOR TO CONSTRUCTION. REPORT DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
2. ALL DIMENSIONS ARE IN mm EXCEPT AS NOTED.
3. FOLLOW ALL SECTIONS, DETAILS, AND STATEMENTS NOTED AS "TYPICAL", UNLESS OTHERWISE NOTED ON DRAWINGS. TYPICAL DETAILS SHOW STRUCTURAL INTENT RATHER THAN ACTUAL CONDITIONS FOR THE PROJECT. TYPICAL DETAILS APPLY TO SIMILAR CONDITIONS THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.
4. USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISIONS COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR PERMIT AND/OR CONSTRUCTION"
5. DO NOT USE INFORMATION ON THESE DRAWINGS FOR ANY OTHER PROJECT OR WORKS.
6. THE CONTRACTOR SHALL REVIEW ALL DRAWINGS AND CONTRACT DOCUMENTS PRIOR TO AND DURING CONSTRUCTION TO ENSURE THAT THE ASSUMPTIONS MADE IN THE DRAWINGS REFLECT THE REQUIREMENTS OF CONSTRUCTION AND FIELD CONDITIONS ENCOUNTERED. WHERE DISCREPANCIES ARISE OR THE CONTRACTOR FINDS AN ERROR OR OMISSION RELATING TO THE CONTRACT, THE CONTRACTOR SHALL PROMPTLY REPORT IT TO THE ENGINEER AND SHALL NOT PROCEED WITH THE ACTIVITY AFFECTED UNTIL RECEIVING DIRECTION FROM THE CONSULTANT.
7. THE DRAWINGS SHOW THE COMPLETED STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON THE JOB SITE AND FOR DESIGN, INSTALLATION AND SUPERVISION OF ALL TEMPORARY BRACING AND FALSEWORK TO SUIT THE CONSTRUCTION METHODS AND TO SUPPORT THE SUPERIMPOSED CONSTRUCTION LOADS. DESIGN AND FIELD REVIEW OF ALL TEMPORARY WORKS TO BE CARRIED OUT BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR, LICENSED AND INSURED IN THE PROVINCE OF ONTARIO.
8. ALL WORK AND MATERIALS SHALL CONFORM TO REQUIREMENTS SET OUT IN THE 2024 ONTARIO BUILDING CODE.
9. ALL CODES AND STANDARDS REFERENCED SHALL BE THE LATEST EDITION REFERENCED BY THE 2024 ONTARIO BUILDING CODE (DIV. B, 1.3.1.2).
10. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT OF ONTARIO.
11. ALL DESIGN LOADS NOTED ON DRAWINGS ARE SPECIFIED LOADS (UNFACTORED) TO BE USED FOR ULS (FACTORED) DESIGN, UNLESS OTHERWISE NOTED:
    A) TRAFFIC SURCHARGE = 12 kPa
    B) COMBINATION TRAFFIC/CYCLIST BARRIER = TL-4 LOADING

    CLIMATIC DATA (NORTH BAY):

    SNOW:
    Ss = 2.2 kPa
    Sr = 0.4 kPa

    WIND:
    q(1/50) = 0.34 kPa
12. SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO COMMENCEMENT OF FABRICATION. DIGITAL DRAWING FILES OF THE STRUCTURAL PLANS WILL NOT BE MADE AVAILABLE TO THE CONTRACTOR FOR THE PURPOSE OF PREPARING SHOP DRAWINGS. THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL:
    A) CONCRETE MIX DESIGN
    B) PROPOSED CONSTRUCTION AND CONTROL JOINT LOCATIONS IN CONCRETE ELEMENTS
    C) CONCRETE REINFORCING STEEL
    D) PEDESTRIAN/CYCLIST GUARD (P.ENG SEAL REQUIRED)
    E) TEMPORARY SHORING (P.ENG SEAL REQUIRED)
    F) ROAD PROTECTION ((P.ENG SEAL REQUIRED)
13. SUBMITTED SHOP DRAWINGS SHALL:
    - BEAR THE CONTRACTOR'S REVIEW STAMP
    - BE SEALED, SIGNED AND DATED BY AN ENGINEER AS REQUIRED BY SPECIFICATIONS
    - INCLUDE ALL CORRECTIONS REQUIRED BY PREVIOUS REVIEWS BEFORE ANY RESUBMISSION. ALL CHANGES AND ADDITIONS TO BE CLEARLY INDICATED SUBMISSIONS NOT CONFORMING WILL BE MARKED "RESUBMIT" AND RETURNED WITHOUT BEING REVIEWED.
14. REVIEW OF SHOP DRAWINGS DOES NOT IMPLY ANY CHANGE IN ANY OTHER CONSULTANTS' OR PROFESSIONALS' RESPONSIBILITIES RELATED TO DESIGN OF SPECIFIC ITEMS AS OUTLINED BY THE SPECIFICATIONS.
15. REVIEW OF SHOP DRAWINGS IS ON A RATIONAL SAMPLING BASIS, FOR GENERAL CONFORMITY WITH THE INTENT OF THE STRUCTURAL CONTRACT DOCUMENTS. IT IS NOT A DETAILED CHECK AND MUST NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF RESPONSIBILITY FOR MAKING THE WORK ACCURATE AND IN CONFORMITY WITH THE CONTRACT DOCUMENTS.
16. ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW OF EACH SUBMISSION OF SHOP DRAWINGS IN THE STRUCTURAL OFFICE. ALLOW MORE TIME WHEN LARGE QUANTITIES OF SHOP DRAWINGS ARE SUBMITTED ALONG WITH A PRIORITY LIST OF SUBMITTALS. SUBMIT IN ORDER WITH THE INTENDED SEQUENCE OF CONSTRUCTION.
17. DO NOT COMMENCE FABRICATION UNTIL RETURNED SHOP DRAWINGS HAVE BEEN EXAMINED.
18. PROVIDE FINAL RECORD SHOP DRAWINGS AFTER ALL CORRECTIONS ARE MADE.
19. ALL PROPRIETARY PRODUCTS SPECIFIED ON THESE DRAWINGS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS. ALTERNATIVE PRODUCTS MAY ONLY BE USED WITH THE PRIOR APPROVAL OF THE STRUCTURAL CONSULTANT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING WRITTEN DOCUMENTATION AND SPECIFICATIONS AS REQUIRED BY STRUCTURAL CONSULTANT FOR EVALUATION OF SUITABILITY OF ALTERNATE PRODUCTS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING LOCATES FOR ALL UTILITIES AND UNDERGROUND SERVICES PRIOR TO COMMENCING WORK AND SHALL COORDINATE WORK WITH SERVICES AND UTILITIES ADJACENT TO OR WITHIN THE AREA OF WORK.
21. DO NOT CUT OR DRILL ANY OPENINGS IN STRUCTURAL MEMBERS WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL CONSULTANT UNLESS SPECIFICALLY NOTED ON THE STRUCTURAL DRAWINGS.
22. THE GROUND WATER TABLE SHALL BE CONTROLLED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, MAINTENANCE, AND REMOVAL OF ALL DE-WATERING OPERATIONS.

CONCRETE

1. ALL CONCRETE SHALL CONFORM TO CAN/CSA-A23.1 AND BE READY MIX TYPE.
2. CONCRETE SHALL BE PROPORTIONED IN ACCORDANCE WITH CAN/CSA A23.1 AS FOLLOWS:

COMPONENT	EXPOSURE CLASS	MIN. 28 DAY COMPRESSIVE STRENGTH (MPa)
A) RETAINING WALLS & PARAPETS	C-1	35
B) FOOTINGS	F-1	30

3. ALL CONCRETE ADDITIVES SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT.
4. NO CONCRETE SHALL BE POURED WITHOUT PRIOR REVIEW OF THE STRUCTURAL CONSULTANT. THE CONTRACTOR SHALL REQUEST THE REVIEW TO THE CONSULTANT 48 HOURS MINIMUM PRIOR TO THE INTENDED CONCRETE POUR TIME.
5. ALL CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CAN/CSA-A23.2.
6. ALL CONCRETE SHALL BE TESTED BY A CSA CERTIFIED OR IAS ACCREDITED CONCRETE TESTING LABORATORY.
7. FOR COMPRESSIVE STRENGTH TESTING OF CONCRETE, A MINIMUM OF 3-150MM X 600MM CYLINDERS ARE REQUIRED:
    A) EACH TYPE OF GRADE OF CONCRETE
    B) FROM EACH CHANGE OF SUPPLIER
    C) EACH 50 CU M OR FRACTION THEREOF FOR FOOTINGS, FOUNDATION WALLS, SLABS AND BEAMS
    D) ADDITIONAL TEST SPECIMENS SHALL BE TAKEN WHENEVER REQUESTED BY THE ENGINEER OR THE SUPERVISOR TO VERIFY THE CONCRETE QUALITY
8. ALL CONCRETE SHALL BE WET CURED FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT OF CONCRETE. CURING SHALL CONFORM TO CAN/CSA-A23.1.
9. UNLESS OTHERWISE NOTED ON THE DRAWINGS THE FOLLOWING COVER TO REINFORCEMENT, INCLUDING STIRRUPS AND TIES, SHALL BE PROVIDED:

CONCRETE ELEMENT	BOTTOM COVER (mm)	TOP COVER (mm)	SIDE COVER (mm)
RETAINING WALL FOOTINGS	75	50	INSIDE FACE 70 ±20 OUTSIDE FACE 50 ±10

10. ALL EXPOSED CORNERS OF CONCRETE SURFACES TO HAVE 19mm X 19mm CHAMFER.
11. ALL DOWELS, ANCHOR BOLTS, AND OTHER CAST-IN-PLACE HARDWARE SHALL BE POSITIONED PRIOR TO COMMENCING CONCRETE POUR. WET-SETTING IS NOT PERMITTED.
12. USE HIGH FREQUENCY VIBRATION TO PLACE ALL CONCRETE. EXTRA CARE SHALL BE TAKEN WHEN PLACING AND VIBRATING CONCRETE TO ENSURE HOMOGENEOUS DISTRIBUTION OF CONCRETE MIX IN COLUMN AND WALLS.
13. CONSTRUCTION JOINTS SHALL BE LOCATED AS TO NOT IMPAIR THE STRENGTH OF THE STRUCTURE. REINFORCEMENT SHALL BE CONTINUOUS FOR A MINIMUM OF 650MM EACH SIDE OF JOINT. PROVIDE A 50MM X 100MM SHEAR KEY WHERE REINFORCEMENT IS NOT PRESENT.
14. SUBMIT DRAWINGS SHOWING CONSTRUCTION JOINT LOCATIONS OF WALLS TO THE STRUCTURAL CONSULTANT FOR APPROVAL BEFORE SUBMISSION OF REINFORCING STEEL SHOP DRAWINGS.
15. AT LEAST 48 HOURS SHALL ELAPSE BETWEEN THE CASTING OF ADJACENT WALL UNITS.
16. PROTECT CONCRETE FROM EXCESSIVE HEAT AND DRYING. USE HOT WEATHER CONCRETING METHODS IN ACCORDANCE WITH CAN/CSA-A23.1.
17. THE CONCRETE SUPPLIER TO BE CERTIFIED BY "CONCRETE ONTARIO" (FORMERLY RMCAO CERTIFICATION)

RETAINING WALLS

1. REFER TO THE GEOTECHNICAL FOR INFORMATION ON GEOTECHNICAL CONDITIONS, FOUNDATION RECOMMENDATIONS, AND FOR ALL EARTHWORK INCLUDING EXCAVATION, BACKFILL, AND SUBGRADE PREPARATION.
2. ALL FOUNDATION STRUCTURES TO BE FOUNDED ON DRY UNDISTURBED NATIVE SOIL HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 150 KPA (SLS), AND 250 KPA (ULS). U.N.O.
3. THE SOIL PARAMETERS ASSUMED FOR THE DESIGN OF THE RETAINING WALL ARE AS FOLLOWS:
    A) SOIL UNIT WEIGHT: 20.0 kN/m³
    B) ANGLE OF INTERNAL FRICTION OF SOIL: 30 DEGREES
    C) ANGLE OF FRICTION BETWEEN SOIL-STRUCTURE: 20 DEGREES

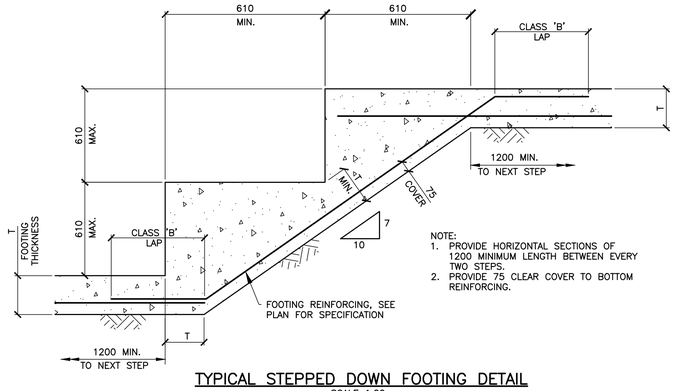
    IF THE CONDITIONS ENCOUNTERED DURING CONSTRUCTION DIFFER FROM THOSE SHOWN, THE CONTRACTOR SHALL INFORM THE STRUCTURAL CONSULTANT BEFORE CONTINUING WITH THE WORK.
4. WALL FOOTING SHALL NOT BE INSTALLED DIRECTLY ON BEDROCK. MINIMUM 300mm LAYER OF ENGINEERED FILL SHALL BE PROVIDED BETWEEN FOOTING AND BEDROCK. BEDROCK MAY REQUIRE REMOVAL TO ALLOW FOR CUSHION LAYER. REFER TO GEOTECHNICAL REPORT FOR BLAST REQUIREMENTS IF REQUIRED.
5. BEDROCK SHALL HAVE BEARING SURFACES CLEANED AND FREE OF OVERBURDEN SOIL, LOOSE ROCK, DELETERIOUS MATERIAL, WATER, SNOW AND ICE PRIOR TO FILL PLACEMENT.
6. GRANULAR BASE AND BACKFILL SHALL BE PLACED AND COMPACTED IN MAXIMUM 200MM LIFTS AS INDICATED ON THE DRAWINGS.
7. ONLY HAND OPERATED COMPACTION EQUIPMENT SHALL BE USED WITHIN 1.0M OF THE RETAINING WALL. HEAVY EQUIPMENT SHALL NOT BE OPERATED ON THE RETAINED SIDE OF THE WALL WITHIN A 7:10 ANGLE OF REPOSE.
8. RETAINING WALL DESIGN ASSUMES ADEQUATE DRAINAGE SO THAT NO HYDROSTATIC FORCES WILL DEVELOP BEHIND THE WALL.
9. DRAINAGE COLLECTION SHALL BE 100mm DIAMETER, PERFORATED, HDPE PIPE WITH A MINIMUM STIFFNESS OF 150kPa, COMPLETE WITH A NON-WOVEN GEOTEXTILE COVERING. DAYLIGHT OUTLETS SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 15.0m
10. NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE DRAINAGE AGGREGATE AND RETAINED SOIL TO PREVENT THE MIGRATION OF FINES.
11. NON-WOVEN GEOTEXTILE SHALL BE TERRAFIX 270R OR REVIEWED EQUIVALENT.
12. KEEP EXCAVATION DRAINED AND FREE OF WATER AT ALL TIMES. REFER TO GEOTECHNICAL FOR DEWATERING PROCESS.
13. SUBGRADE PREPARATION, FILL PLACEMENT AND COMPACTION SHALL BE REVIEWED BY A GEOTECHNICAL ENGINEER.
14. FILL GRANULAR MATERIAL SHALL BE PLACED IN MAXIMUM 200 MM LOOSE LIFTS. SUB-BASE UNDER SLABS ON GRADE SHALL BE COMPACTED TO 98% STANDARD PROCTOR DENSITY UNLESS NOTED OTHERWISE. COMPACTION SHALL BE VERIFIED IN WRITING BY THE SOILS ENGINEER PRIOR TO POURING OF SLABS.

FORMWORK

1. DESIGN, SUPPLY, CONSTRUCTION AND REMOVAL OF FORMWORK AND FALSEWORK FRAMING SUPPORTS TO CONFORM TO REQUIREMENTS SPECIFIED IN CAN/CSA-A23.1, AND CSA S269.1. PROVIDE FINISHED POURED CONCRETE SURFACES WITHIN SPECIFIED TOLERANCES.
2. ALLOWABLE TOLERANCES TO REQUIREMENTS OF CAN/CSA-A23.1.
3. PROVIDE 19mm X 19mm CHAMFER AT ALL EXPOSED EDGES AND CORNERS UNLESS OTHERWISE SHOWN ON THE DRAWINGS. ALL INSIDE EDGES AND CORNERS MUST BE CHAMFERED.
4. INSTALL ITEMS SUPPLIED BY OTHERS SUCH AS INSERTS, ANCHORS, BOLTS, MISCELLANEOUS FRAMES, REGLETS, RECESSES, HOLES, SLEEVES, DOVETAIL ANCHOR SLOTS AND OTHER COMPONENTS AS SHOWN ON THE DRAWINGS.
5. APPLY FORM RELEASE AGENT IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. CLEAN FORMS PRIOR TO PLACING CONCRETE AND REMOVE ICE AND SNOW WITHIN FORMS DURING COLD WEATHER.
6. DO NOT REMOVE FORMS OR SHORES, WITHOUT PRIOR APPROVAL OF THE STRUCTURAL CONSULTANT
7. DO NOT REMOVE FORMWORK BEFORE THE CONCRETE HAS SET AND REACHED 70% OF ITS 28 DAY DESIGN STRENGTH.
8. LOCATE CONSTRUCTION JOINTS SO AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND TO THE STRUCTURAL CONSULTANT'S APPROVAL. KEY CONSTRUCTION JOINTS WITH 15M DOWELS X 1050MM LONG AT 600MM C/C. DO NOT INTERRUPT REINFORCING.
9. REMOVE ALL FINS FROM VISIBLE SURFACES. REMOVE ALL PLASTIC PLUGS FROM FORM TIES HOLES. FILL ALL HOLES WITH NON-SHRINK GROUT.

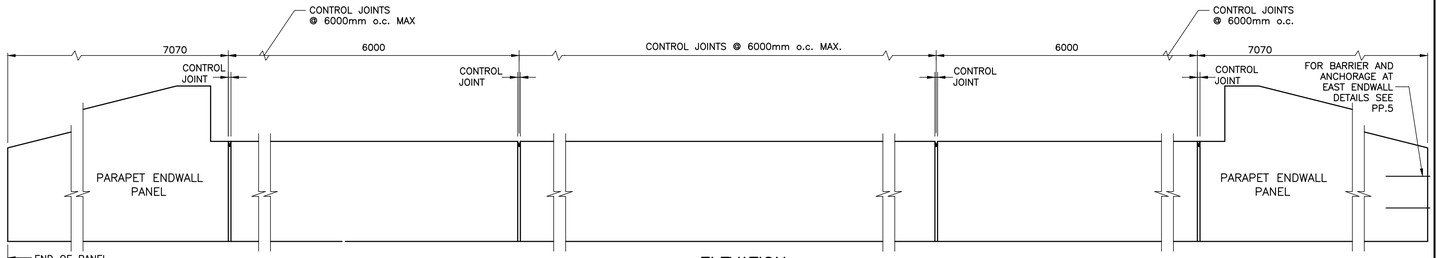
CONCRETE REINFORCEMENT

1. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 400 MPA AND SHALL CONFORM TO CAN/CSA G30.18.
2. ALL REINFORCING STEEL SHALL BE DETAILED, FABRICATED, PLACED AND SUPPORTED ACCORDANCE WITH REINFORCING STEEL MANUAL OF STANDARD PRACTICE BY THE REINFORCING STEEL INSTITUTE OF CANADA AND CAN/CSA-A23.3.
3. UNLESS NOTED OTHERWISE, REINFORCING BARS SHALL BE LAPPED AS FOLLOWS WHEN SPLICED:
    - 10M 450MM
    - 15M 630MM
    - 20M 840MM
4. THE CONTRACTOR SHALL PROVIDE CONTINUOUS SUPERVISION DURING PLACEMENT OF CONCRETE TO ENSURE THAT THE REINFORCING STEEL IS MAINTAINED IN ITS CORRECT POSITION THROUGHOUT THE PREPARATION AND PLACEMENT OF CONCRETE.
5. REINFORCING STEEL THAT IS STORED ON SITE IS TO BE PLACED ON BLOCKS SO THAT IT IS NOT IN DIRECT CONTACT WITH THE GROUND AND SHALL BE PROTECTED FROM RAIN AND SNOW WITH THE USE OF TARPAULINS.
6. CUTTING OR WELDING OF REINFORCEMENT IS NOT PERMITTED WITHOUT THE APPROVAL OF THE STRUCTURAL CONSULTANT
7. ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED IN ITS CORRECT POSITION DURING CONCRETE PLACEMENT BY APPROVED BAR CHAIRS, SPACERS OR SUPPORT BARS AT 1000MM MAXIMUM CENTERS. THE CHAIR MATERIAL SELECTED SHALL SUIT THE EXPOSURE CONDITIONS.
8. PROVIDE MIN. 48-HOURS NOTICE PRIOR TO CLOSING FORMS OR PLACING CONCRETE TO ALLOW FOR FIELD REVIEW OF THE REINFORCING STEEL BY THE STRUCTURAL CONSULTANT.
9. ALL REINFORCING STEEL IS TO BE CLEAN, FREE OF LOOSE SCALE, OIL, DIRT, RUST, AND ANY OTHER FOREIGN COATING THAT COULD AFFECT BONDING CAPACITY.
10. CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS, AND TIE WIRE SHALL COMPLY WITH THE REQUIREMENTS OF THE REINFORCING STEEL MANUAL OF STANDARD PRACTICE AND SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE REINFORCING STEEL IN ITS CORRECT POSITION THROUGHOUT THE CONCRETE PLACEMENT PROCESS.
11. SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR REVIEW BY STRUCTURAL CONSULTANT. PREPARE REINFORCEMENT DRAWINGS IN ACCORDANCE WITH REINFORCING STEEL MANUAL OF STANDARD PRACTICE BY THE REINFORCING STEEL INSTITUTE OF CANADA.



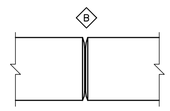
NOTE:
1. PROVIDE HORIZONTAL SECTIONS OF 1200 MINIMUM LENGTH BETWEEN EVERY TWO STEPS.
2. PROVIDE 75 CLEAR COVER TO BOTTOM REINFORCING.

TYPICAL STEPPED DOWN FOOTING DETAIL
SCALE 1:20

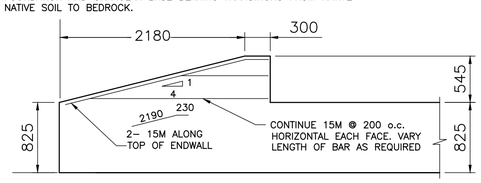


ELEVATION

NOTES:
1. PROVIDE 50% OF HORIZONTAL STEEL THROUGH ACROSS CONTROL JOINT
2. BAR LAP SPLICE FOR HORIZONTAL REINFORCEMENT MUST NOT LAP THROUGH CONTROL JOINT.
3. LENGTH OF HORIZONTAL BAR TO SUIT CONTRACTOR'S OPERATIONS. BAR LENGTHS NEED NOT MATCH DISTANCE BETWEEN CONTROL JOINTS.
4. CONTROL JOINT TO BE FORMED.
5. SAWCUTS NOT PERMITTED.
6. CONTROL JOINT FORM HARDWARE NOT TO BE LEFT IN PLACE.
7. CONTROL JOINTS SHALL BE PROVIDED IN WALL AT LOCATIONS WHERE FOUNDATION AND GRANULAR BASE BEARING TRANSITIONS FROM NATIVE NATIVE SOIL TO BEDROCK.

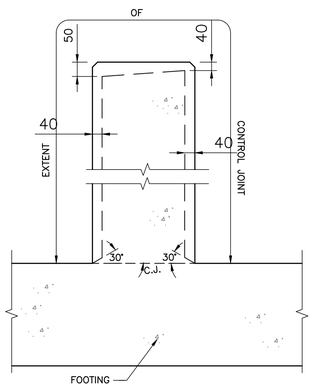


TYPICAL
CONTROL JOINT

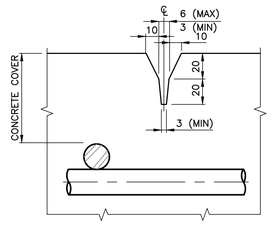


ELEVATION OF PARAPET ON ENDWALL

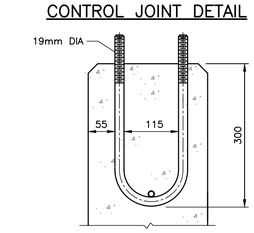
TYPICAL BARRIER DETAILS
NOT TO SCALE



EXTENT OF CONTROL JOINT
IN FOUNDATION WALL



B
CONTROL JOINT DETAIL



C
POST ANCHORAGE DETAIL

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES BENCHMARK 001198210044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

No.	REVISION DESCRIPTION	DATE
1.	90% DESIGN	MAR 2025
2.	ISSUED FOR TENDER	APR 2025
3.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A. K. JOBST
100505401
July 4, 2025
PROVINCE OF ONTARIO

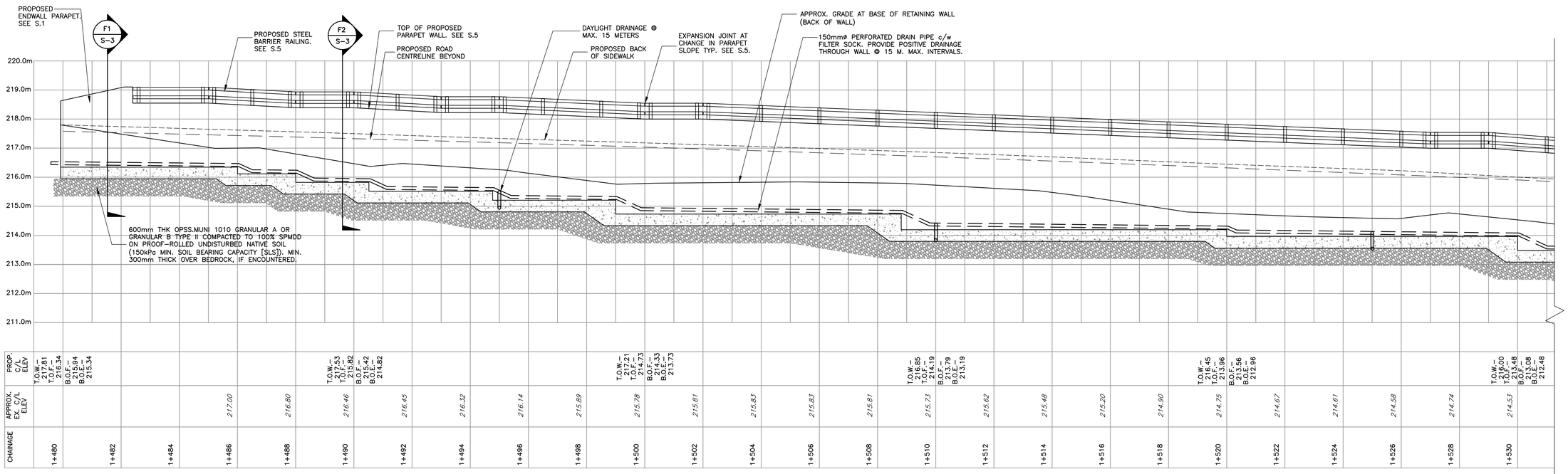
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

GENERAL NOTES & TYPICAL DETAILS

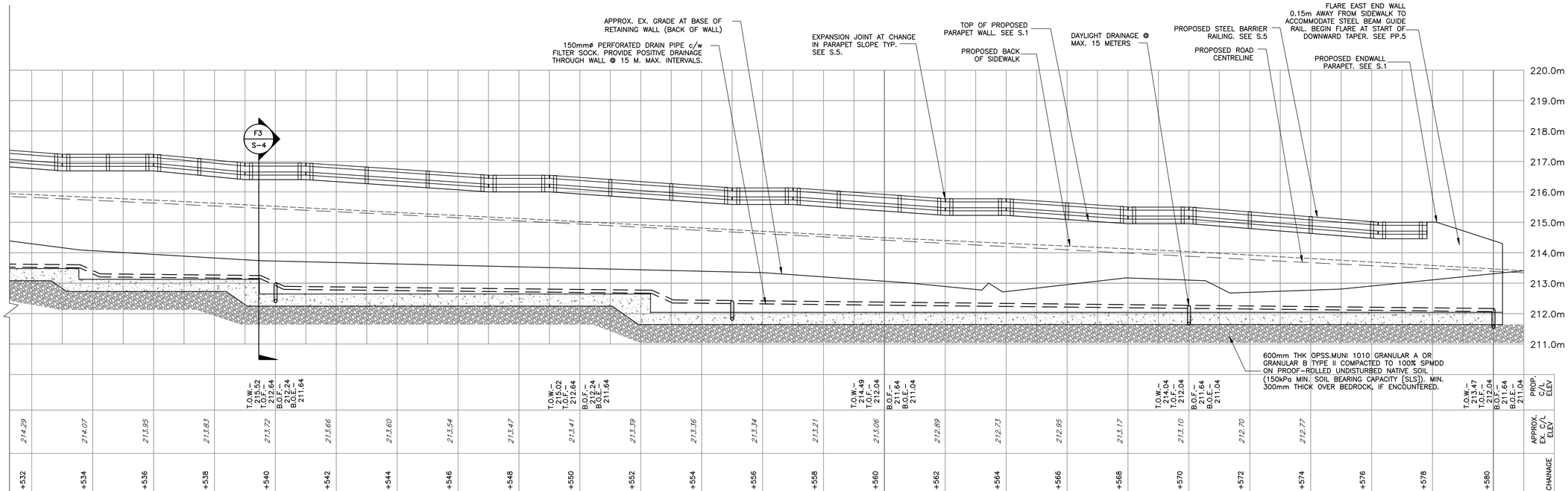
TATHAM ENGINEERING

DESIGN: AAJ	FILE: 124112	DWG: S.1
DRAWN: MPG	DATE: FEB/2025	
CHECK: LV/JJ	SCALE: AS NOTED	

Drawing Name: TAT_124112- SEYMOUR ST RET WALL_S_2025 07 04.dwg, Plotted: Jul 04, 2025



ELEVATION PROFILE 1
1:75 H, 1:75V



ELEVATION PROFILE 2
1:75 H, 1:75V

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

No.	REVISION DESCRIPTION	DATE
1.	90% DESIGN	MAR 2025
2.	ISSUED FOR TENDER	APR 2025
3.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A. A. JOBST
100505401
July 4, 2025
PROVINCE OF ONTARIO

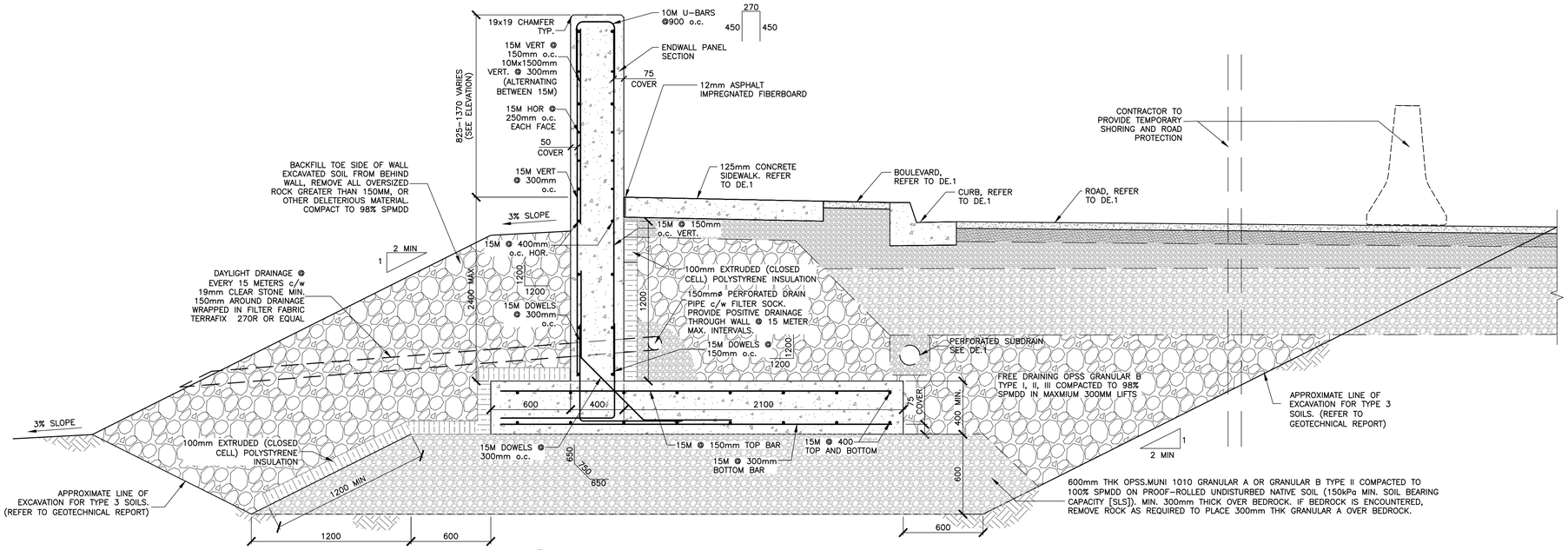
SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

RETAINING WALL PROFILE ELEVATIONS

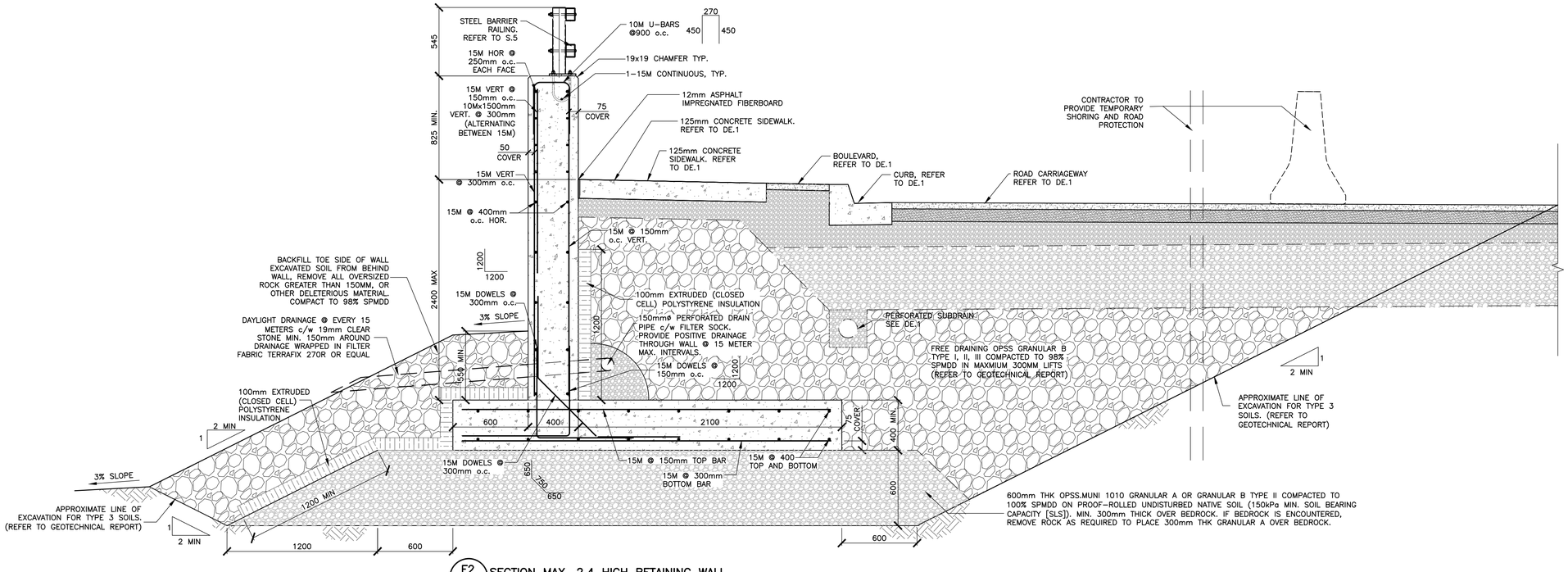
TATHAM ENGINEERING

DESIGN: AAJ	FILE: 124112	DWG: S.2
DRAWN: MPG	DATE: FEB/2025	
CHECK: LV/JJ	SCALE: AS NOTED	

Drawing Name: TAT_124112- SEYMOUR ST RET WALL_S_2025 07 04.dwg, Plotted: Jul 04, 2025



F1 / S-2 TYP. SECTION ALONG ENDWALL PANELS (1+480 TO 1+482 & 1+578 TO 1+580)
1:20



F2 / S-2 SECTION MAX. 2.4 HIGH RETAINING WALL (BETWEEN 1+483 1+499 & 1+562 TO 1+578)
1:20

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A. K. JOBST
100505401
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

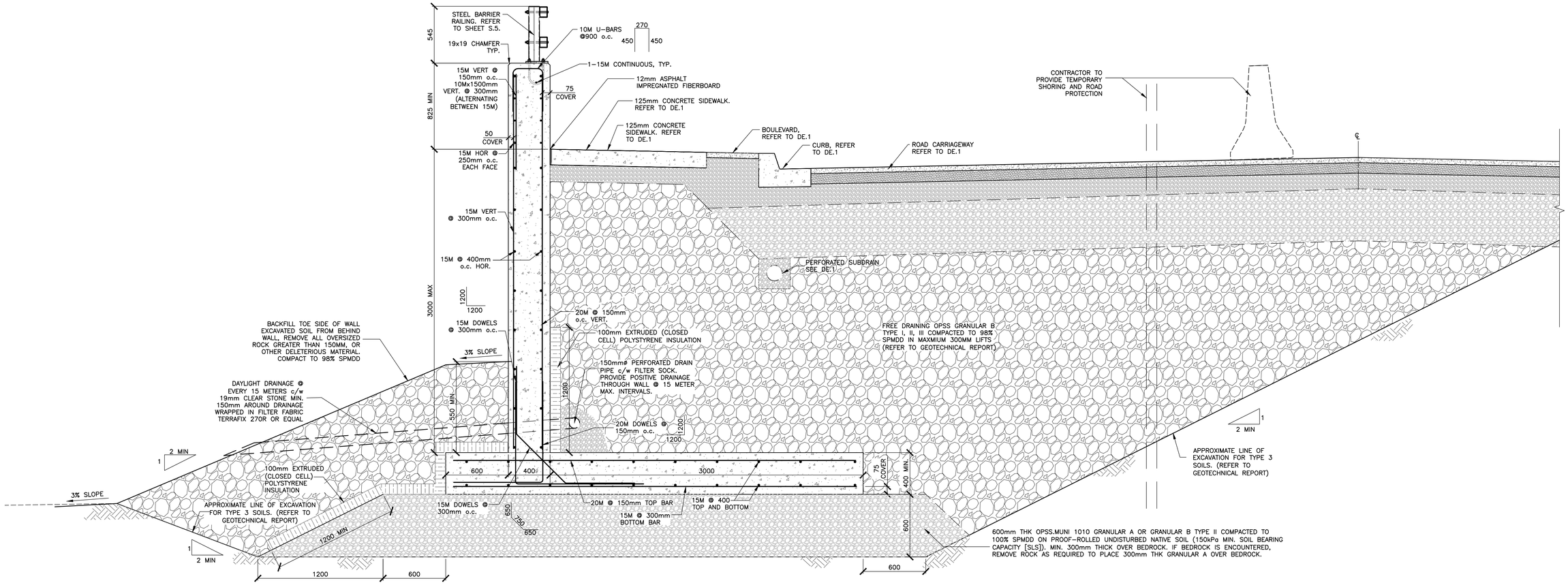
CITY OF NORTH BAY

RETAINING WALL PROFILE SECTIONS

TATHAM ENGINEERING

DESIGN: AAJ	FILE: 124112	DWG:	S.3
DRAWN: MPG	DATE: FEB/2025		
CHECK: LY/JJ	SCALE: AS NOTED		

Drawing Name: TAT_124112- SEYMOUR ST RET WALL_S_2025 07 04.dwg, Plotted: Jul 04, 2025



F3 / S-2 SECTION MAX. 3.0 HIGH RETAINING WALL (BETWEEN 1+499 TO 1+1562)

1:20

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES BENCHMARK 001198200044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

No.	REVISION DESCRIPTION	DATE
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ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A. K. JOBST
100505401
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

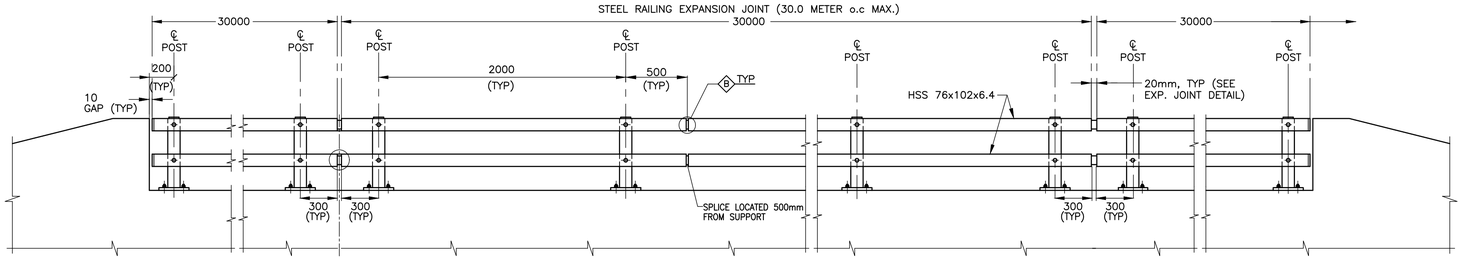
CITY OF NORTH BAY

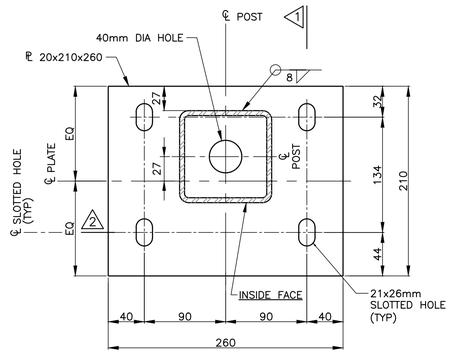
RETAINING WALL PROFILE SECTIONS

TATHAM ENGINEERING

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DRAWN: MPG	DATE: FEB/2025		S.4
CHECK: LV/JJ	SCALE: AS NOTED		

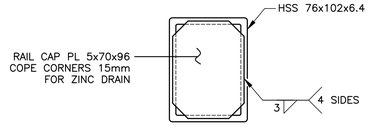
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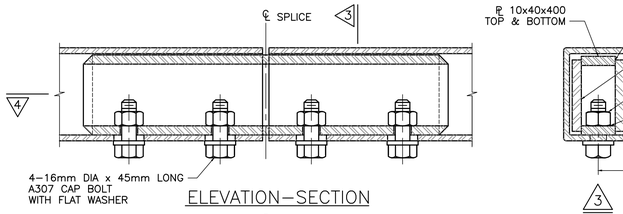


BASE PLATE

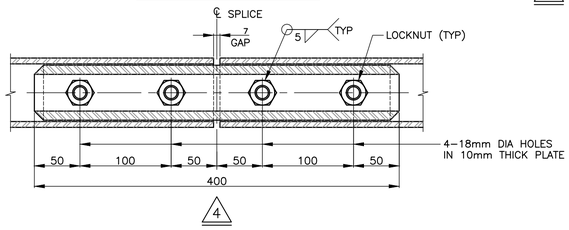
ELEVATION
(INSIDE FACE SHOWN)



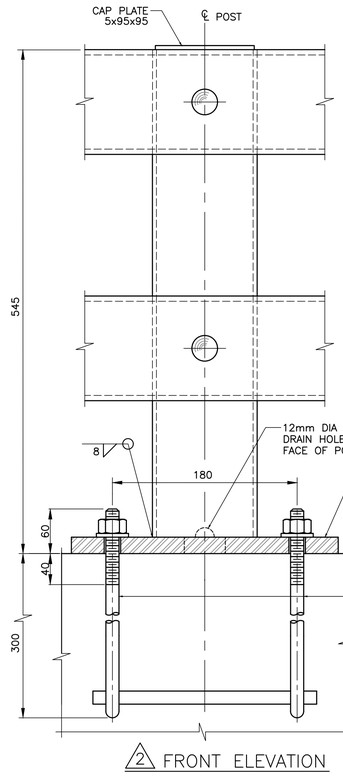
RAIL CAP



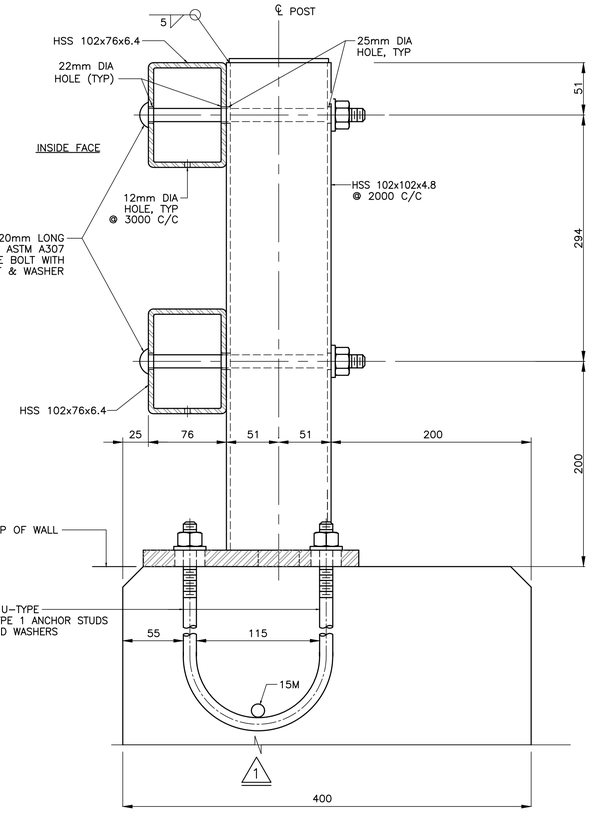
ELEVATION–SECTION

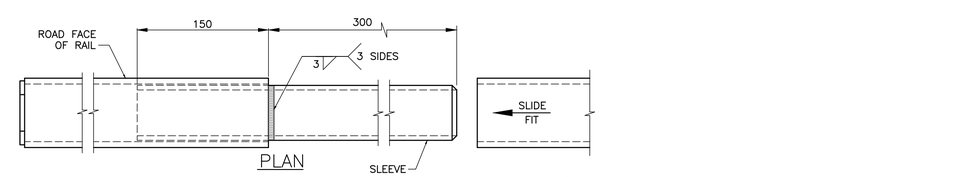


B RAIL SPLICE DETAIL

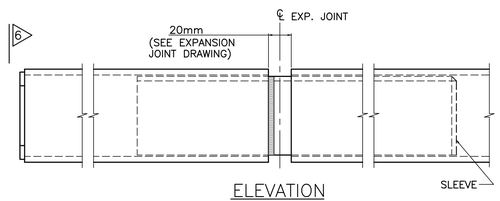


2 FRONT ELEVATION



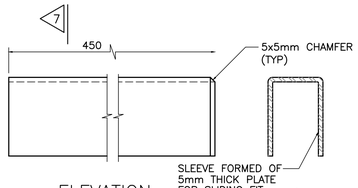


PLAN



ELEVATION

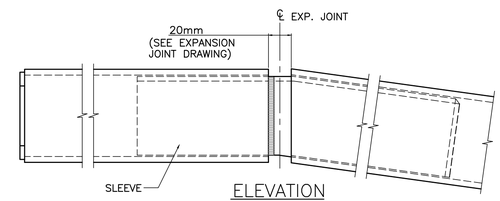
A EXPANSION JOINT ASSEMBLY



ELEVATION

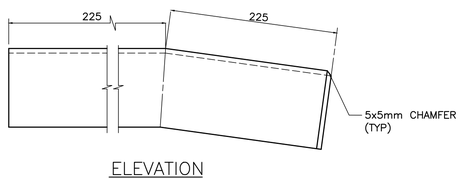
EXPANSION JOINT SLEEVE

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING



ELEVATION

JOINT ASSEMBLY BETWEEN CHANGE IN SLOPE



ELEVATION

EXPANSION JOINT SLEEVE

NOTES:

1. RAIL ELEMENTS AND POSTS SHALL BE HOLLOW STRUCTURAL SECTIONS GRADE 350W, CLASS C.
2. STEEL PLATES SHALL BE GRADE 350W.
3. ANCHOR STUDS, WASHERS AND NUTS SHALL BE ACCORDING TO ASTM A449.
4. BOLTS, WASHERS AND NUTS FOR FASTENING GUIDE RAILS TO POST SHALL CONFORM TO ASTM A307.
5. RAIL SHALL BE SUPPLIED IN LENGTHS TO BE ATTACHED TO A MINIMUM OF THREE (3) POSTS.
6. GALVANIZING ON MATING SURFACES OF RAILS TO HAVE UNIFORM THICKNESS NOT EXCEEDING 0.15 mm TO ENSURE SLIDING FIT.
7. RAIL, POSTS AND RAIL SPLICES SHALL BE HOT DIP GALVANIZED. ALL GALVANIZING SHALL BE DONE AFTER FABRICATION.
8. BOLTS, ANCHOR STUDS, PLATES, WASHERS AND NUTS SHALL BE HOT DIP GALVANIZED. LOCKNUTS SHALL BE ZINC PLATED ACCORDING TO ASTM–B695.
9. RAILS SHALL BE PREBENT TO FOLLOW ROAD CURVATURE WHERE RADIUS IS LESS THAN 150 METRES.
10. RAIL POSTS SHALL BE SET PERPENDICULAR TO GRADE.
11. RAIL MAY BE CUT AS REQUIRED IN FIELD. CUT TO BE SURFACE TREATED WITH A ZINC TOUCH–UP SOLDER, GALVAGUARD OR APPROVED EQUIVALENT.
12. WHEN CONNECTING TO EXISTING RAILING, RAIL MUST BE MADE CONTINUOUS AND POST SPACING DETERMINED WITH REFERENCE TO EXISTING POSTS.
13. GROUT SHALL NOT BE USED UNDER BASE PLATES. THIN PAD OF OF EPOXY GROUT MAY BE USED WHEN REQUIRED FOR FILLING THE VOIDS UNDER THE BASE PLATE.
14. BOLTS IN RAIL SPLICES SHALL BE TIGHTENED TO A CONDITION THAT WILL ALLOW RAIL MOVEMENT.
15. HOLES FOR HSS RAILING SHALL BE DRILLED IN FIELD
16. POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT CONDITION AND GIVEN AN ADDITIONAL 1/3 OF A TURN

DISCLAIMER AND COPYRIGHT

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BENCHMARKS

MINISTRY OF NATURAL RESOURCES BENCHMARK
0011982U044 AT FRANKLIN STREET AND
HIGHWAY 11/17

NOTES

No.	REVISION DESCRIPTION	DATE
1.	90% DESIGN	MAR 2025
2.	ISSUED FOR TENDER	APR 2025
3.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
A. A. JOBST
100505401
July 4, 2025
PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION
CITY OF NORTH BAY

TYPICAL BARRIER RAILING DETAILS

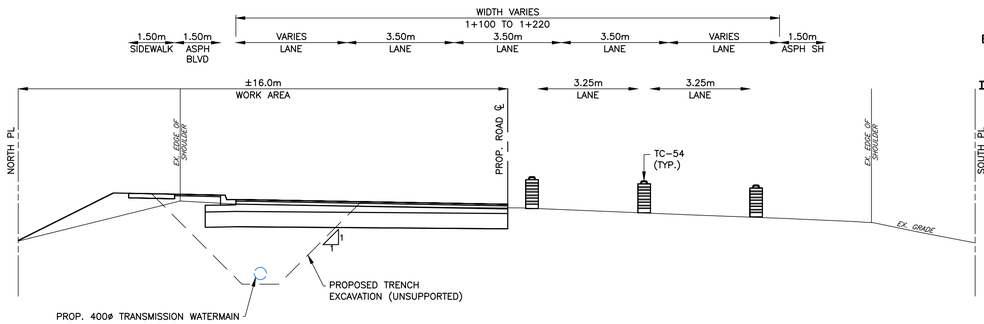
TATHAM ENGINEERING

DESIGN: AAJ	FILE: 124112	DWG: S.5
DRAWN: MPG	DATE: FEB/2025	
CHECK: LV/JJ	SCALE: AS NOTED	

Drawing Name: TAT_124112– SEYMOUR ST RET WALL_S_2025 07 04.dwg, Plotted: Jul 04, 2025

MILLING & FULL DEPTH EXCAVATION
STA. 1+100 – STA. 1+220

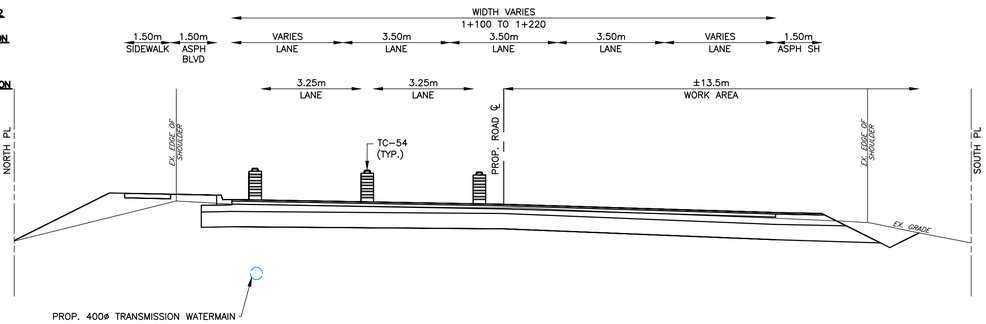
- MAINTAIN 2 LANES OF TRAFFIC AT ALL TIMES (ONE LANE IN EACH DIRECTION).
- SECTION IS SCHEMATIC ONLY. CONTRACTOR TO SUBMIT DETAILED TRAFFIC CONTROL AND STAGING PLAN FOR CONTRACT ADMINISTRATOR REVIEW.



STAGE 1 | STAGE 2

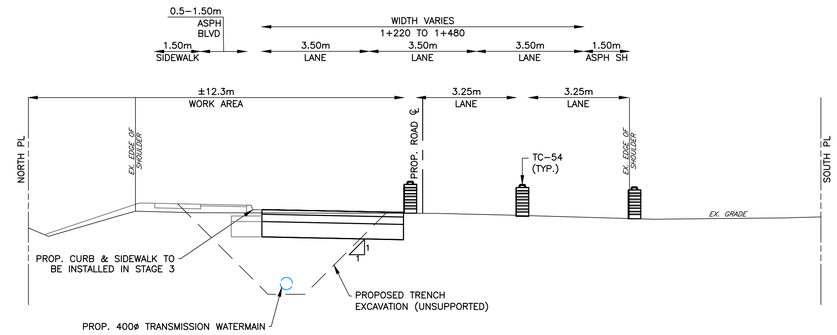
PROPOSED CONDITION

TEMPORARY CONDITION



FULL DEPTH EXCAVATION
STA. 1+220 – STA. 1+480

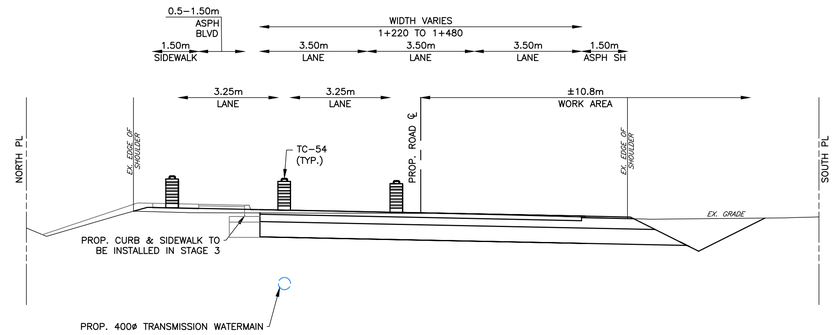
- MAINTAIN 2 LANES OF TRAFFIC AT ALL TIMES (ONE LANE IN EACH DIRECTION).
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STAGE 1 | STAGE 2

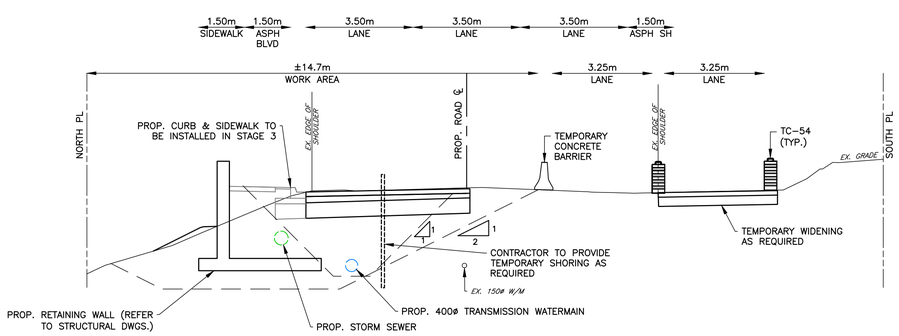
PROPOSED CONDITION

TEMPORARY CONDITION



FULL DEPTH EXCAVATION
STA. 1+480 – STA. 1+610

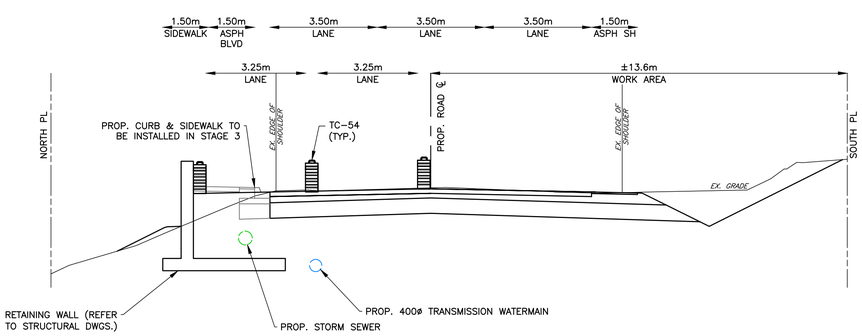
- MAINTAIN 2 LANES OF TRAFFIC AT ALL TIMES (ONE LANE IN EACH DIRECTION).
- SECTION IS SCHEMATIC ONLY. CONTRACTOR TO SUBMIT DETAILED TRAFFIC CONTROL AND STAGING PLAN FOR CONTRACT ADMINISTRATOR REVIEW.
- NEED FOR SHORING AND TEMPORARY WIDENING TO BE DETERMINED BY CONTRACTOR. LOCATION AND TYPE OF SHORING TO BE DETERMINED BY CONTRACTOR.



STAGE 1 | STAGE 2

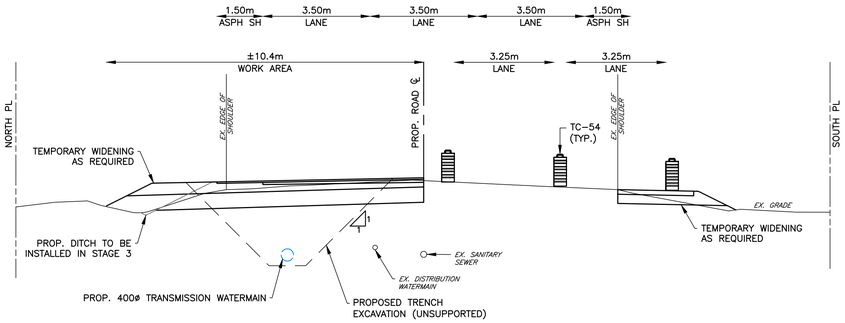
PROPOSED CONDITION

TEMPORARY CONDITION



FULL DEPTH EXCAVATION
STA. 1+660 – STA. 2+020

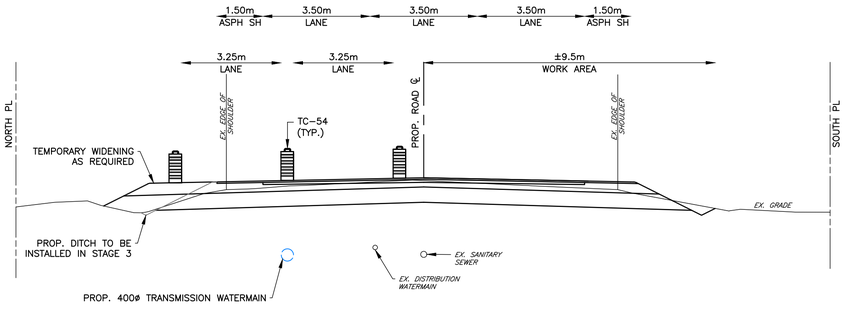
- MAINTAIN 2 LANES OF TRAFFIC AT ALL TIMES (ONE LANE IN EACH DIRECTION).
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STAGE 1 | STAGE 2

PROPOSED CONDITION

TEMPORARY CONDITION



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BENCHMARKS

MINISTRY OF NATURAL RESOURCES
BENCHMARK 0011982U044 AT FRANKLIN STREET AND HIGHWAY 11/17

NOTES

ALL DIMENSIONS, ELEVATION AND SIZES ARE IN METRIC UNITS UNLESS OTHERWISE INDICATED. ELEVATIONS ARE IN METRES UNLESS OTHERWISE INDICATED.

No.	REVISION DESCRIPTION	DATE
3.	ISSUED FOR UTILITY COORDINATION	JAN 2025
4.	90% DESIGN	FEB 2025
5.	100% DESIGN	APR 2025
6.	ISSUED FOR TENDER	APR 2025
7.	ISSUED FOR CONSTRUCTION	JUL 2025

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER A. E. BROWNRIDGE 100120585 July 4/25 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER M. J. FIGUEROA 100543417 July 4, 2025 PROVINCE OF ONTARIO

SEYMOUR STREET RECONSTRUCTION

CITY OF NORTH BAY

CONSTRUCTION STAGING PLAN

TATHAM ENGINEERING

DESIGN: MJF	FILE: 124112	DWG: CS.1
DRAWN: NB	DATE: SEP 2024	
CHECK: AEB	SCALE: 1:100	Sheet No. 80 of 80

Drawing Name: 124112-CS01.dwg, Plotted: Jul 04, 2025