

## RECONSTRUCTION OF WEST STREET - PHASE 1 HOLDEN AVENUE TO BROOK STREET SIMCOE, ON

**CONTRACT No. EIS-ENG-23-38**

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GENERAL NOTES

- 1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST CURRENT NORFOLK COUNTY STANDARDS AND SPECIFICATIONS...
2. THE LOCATION OF UNDER/ABOVE GROUND UTILITIES AND STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY...
3. THE CONTRACTOR IS TO MEET ALL THE REQUIREMENTS OF THE OWNERS OF THE UTILITIES AND MAKE SATISFACTORY ARRANGEMENTS FOR CROSSING THEIR INSTALLATIONS...
4. DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWINGS.
5. READ ALL DRAWINGS IN CONJUNCTION WITH CONTRACT SPECIFICATIONS.
6. THE LOCATION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES ARE TO BE VERIFIED IN THE FIELD...
7. ALL SERVICES AND UTILITIES SHALL BE SUPPORTED AS PER THE REQUIREMENTS OF THE COUNTY OR UTILITY AGENCIES...
8. ALL HYDRO, POWER OR TELEPHONE POLES WITHIN 2.0m FROM PIPE TRENCHES OR OPEN EXCAVATIONS SHALL BE FULLY SUPPORTED.
9. EXTREME CARE IS REQUIRED DURING EXCAVATION IN THE VICINITY OF ANY EXISTING UNDERGROUND OR OVERHEAD UTILITY...
10. CLEARING OF ANY EXISTING VEGETATION OTHER THAN THAT DETAILED ON THE CONTRACT DRAWINGS SHALL NOT BE UNDERTAKEN WITHOUT SPECIFIC WRITTEN DIRECTIONS...
11. EXCAVATION OF ALL TRENCHES TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH & SAFETY ACT (OHS) AND REGULATIONS FOR CONSTRUCTION PROJECTS.
12. ALL ORGANIC, SUITABLE OR UNSUITABLE MATERIALS BENEATH THE ROAD ALLOWANCE MUST BE REMOVED AND THESE AREAS BACKFILLED WITH AN APPROVED FILL MATERIAL...
13. SURPLUS OR UNSUITABLE EXCAVATED MATERIAL SHALL BE REMOVED AND TRANSPORTED FOR DISPOSAL OFFSITE...
14. HANDLING AND INSTALLATION OF ALL PIPES SHALL BE IN STRICT COMPLIANCE WITH THE MANUFACTURER'S GUIDELINES.
15. ALL GEOTECHNICAL BOREHOLE (BH) LOGS SHOWN ON PLAN AND PROFILE DRAWINGS ARE SCHEMATIC ONLY UNLESS OTHERWISE NOTED.
16. PRIOR TO CLOSING ANY STREET, THE CONTRACTOR SHALL OBTAIN CLEARANCE BY FILING OUT THE COUNTY'S NOTICE OF ROAD CLOSURE FORM...
17. ACCESS TO ALL PROPERTIES SHALL BE MAINTAINED AT ALL TIMES, CONSTRUCTION STAGING ACROSS STREETS AND DRIVEWAYS SHALL BE LIMITED TO HALF AT A TIME...
18. SHOP DRAWINGS FOR SHORING, SHEETING AND BRACING SHALL BE PREPARED BY THE CONTRACTOR...
19. THE CONTRACTOR SHALL NOT BACKFILL OR BURY ANY UTILITY OR STRUCTURE WITHOUT FIRST ENSURING THAT THE ACTUAL LOCATION OF THE SERVICE...
20. MAINTENANCE HOLE AND VALVE CHAMBER COVERS ARE TO BE SET FLUSH WITH BASE COVER ASPHALT AND ADJUSTED TO FINAL GRADE PRIOR TO INSTALLING TOP LIFT ASPHALT.
21. ALL PAVEMENT OR CURB MARKINGS AND TRAFFIC STRIPING REMOVED OR DISTURBED, WHETHER PARTIALLY OR COMPLETELY...
22. ALL EXISTING SURFACE IMPROVEMENTS SHALL BE ASSESSED BY THE CONTRACTOR PRIOR TO BEGINNING WORK...
23. NO BLASTING IS PERMITTED.
24. NORFOLK COUNTY STANDARD DRAWINGS AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), AS AMENDED, SHALL CONSTITUTE PART OF THE ENGINEERING DESIGN AND CONSTRUCTION CONTRACT.
25. WHERE AS NECESSARY TO ENTER PRIVATE PROPERTY TO CONNECT THE EXISTING WATER RESULTS IN A NEGATIVE IMPACT...
26. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY MEASURES TO CONTROL SILT FROM ENTERING THE STORM DRAINAGE SYSTEM...
27. ALL TREES OR VEGETATION REMOVAL MUST BE COMPLETED IN COMPLIANCE WITH THE MIGRATORY BIRDS CONVENTION ACT...
28. PRIVATE DRAIN CONNECTIONS SHALL BE 150mm# PVC SDR 28 WITH CLASS B BEDDING TO OPSD 1006.010 AND OPSD 1006.020 AS APPLICABLE...
29. ALL CATCH BASIN LEADS SHALL BE 250mm# FOR SINGLE CATCH BASINS AND 300mm# FOR DOUBLE CATCH BASINS...
30. REINFORCED CONCRETE STORM SEWER MAIN PIPE SHALL BE CLASS 65-D UNLESS NOTED OTHERWISE.
31. POLYVINYL CHLORIDE STORM SEWER SHALL BE (PVC SDR35) IN ACCORDANCE WITH THE REQUIREMENTS OF OPSD 410.
32. HDPE PIPE SHALL BE 320 KPa IN ACCORDANCE TO CSA B182.6 (SANITARY) FOR SIZES UP TO AND INCLUDING 450mm...
33. ALL PIPE SHALL HAVE A SMOOTH INTERIOR WALL.
34. FRAME AND GRATE ON SANITARY MAINTENANCE HOLES PER OPSD 401.010 TYPE A.
35. FRAME AND GRATE FOR STORM MAINTENANCE HOLES TO OPSD 401.010 TYPE B.
36. CATCH BASIN FRAME AND GRATE WITHIN ROADWAY TO OPSD 400.100. IN VEGETATE AREAS, PROVIDE FRAME AND GRATE TO OPSD 400.120.
37. CATCH BASINS TO OPSD 705.010. DOUBLE CATCH BASINS TO OPSD 705.020.
38. CATCH BASIN INSTALLATION AT CURB AND GUTTER TO OPSD 610.010.
39. CONNECTIONS TO MAIN PER OPSD 708.010
40. MAINTENANCE HOLE RISERS AND ADJUSTMENT UNITS TO OPSD 701.031 AND 704.120.
41. SUBDRAIN UNDER CURB PER OPSD 207.041. PROVIDE SUBDRAIN CONNECTIONS AT STORM STRUCTURES PER OPSD 216.021.
42. MAINTENANCE HOLE BENCHING TO OPSD 701.021.

WATERMAIN NOTES

- 1. WATERMAIN INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS) AS AMENDED BY THE COUNTY AND AS PER THE CONTRACT DRAWINGS AND SPECIFICATIONS.
2. A MINIMUM HORIZONTAL SEPARATION OF 2.5m MUST BE MAINTAINED BETWEEN WATERMANS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS, UNLESS OTHERWISE NOTED.
3. A MINIMUM VERTICAL SEPARATION OF 0.50m BETWEEN WATERMANS AND SEWERS MUST BE MAINTAINED IF WATERMAIN IS INSTALLED ABOVE THE SEWER OR 0.50m IF SEWER IS ABOVE THE WATERMAIN.
4. ALL VALVES SHALL BE APPROVED TYPE WITH NON-RISING STEM AND SHALL HAVE 50mm SQUARE STANDARD AWWA OPERATING NUT. SEE THE COUNTY'S APPROVED MANUFACTURERS PRODUCTS LIST.
5. ALL PLUGS, CAPS, TEES AND BENDS SHALL BE PROVIDED WITH THRUST BLOCKS AS PER OPSD 1103.01 AND OPSD 1103.02. IN ADDITION, ALL PVC PIPES SHALL BE MECHANICALLY RESTRAINED AS PER MANUFACTURERS SPECIFICATIONS...
6. MINIMUM DEPTH OF COVER OVER THE WATERMAIN SHALL BE 1.7m UNLESS NOTED OTHERWISE.
7. ALL WATERMAIN FITTINGS SHALL HAVE MECHANICAL JOINTS.
8. ANODES ARE TO BE PROVIDED ON ALL METALLIC BENDS, TEES, CROSSES, VALVES, REDUCERS, ETC., AT EACH WATER SERVICE CONNECTION PER COUNTY OF NORFOLK STANDARDS...
9. 100mm COPPER TRACER WIRE TO BE INSTALLED ON ALL NEW INSTALLATIONS OF PVC WATERMAIN PIPE FOR LOCATING PURPOSES...
10. THE CONTRACTOR SHALL TEST THE TRACING WIRE FOR CONDUCTIVITY...
11. WATERMAIN FITTINGS, INCLUDING ALL STANDARD BENDS, VALVES, AND HYDRANTS, SHALL BE MECHANICAL JOINT OR PUSH-ON JOINT INSTALLED WITH NORFOLK COUNTY APPROVED MECHANICAL RESTRAINTS.
12. CHANGES IN THE VERTICAL AND HORIZONTAL ALIGNMENT OF WATERMANS ARE GENERALLY TO BE ACHIEVED BY THE USE OF STANDARD BENDS...
13. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS AND BLOW OFFS REQUIRED FOR TESTING THE NEW WATERMAIN.
14. ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE TEMPORARILY SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS IN ADVANCE...
15. FIRE HYDRANTS SHALL BE CLOW M67 BRIGADIER OR CENTURY HYDRANT BY CANADA VALVE, PAINTED RED.
16. ALL NEW RESIDENTIAL WATER SERVICES SHALL BE 25mm# CROSS-LINKED POLYETHYLENE (PEX) PIPE, CSA CERTIFIED TO CSA B137.5...
17. THE DEPTH OF WATER SERVICES AT PROPERTY LINE SHOULD BE A MINIMUM OF 1.7m AND A MAXIMUM OF 2.0m...
18. UNLESS OTHERWISE NOTED SERVICES TO BE REPLACED FROM THE MAIN TO PROPERTY LINE WITH A NEW CURB STOP AND SERVICE BOX...
19. THE CONTRACTOR SHALL NOT OPERATE ANY VALVE OR HYDRANT ON THE MUNICIPAL WATER SYSTEM...
20. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THEY HAVE A COPIES OF, AND ARE FAMILIAR WITH, THE MOST RECENT NORFOLK COUNTY DESIGN CRITERIA, CONTRACT SPECIFICATIONS AND STANDARD DRAWINGS AND SPECIFICATIONS FOR CONNECTIONS TO EXISTING WATERMANS, AND SWABING, FLUSHING, DISINFECTION, LEAKAGE TESTING AND BACTERIOLOGICAL TESTING.

ROAD WORKS NOTES

- 1. NEW AND REPLACED CURB AND GUTTER TO BE IN ACCORDANCE WITH OPSD 600.040, 605.030 AND 608.010, AS INDICATED OR AS REQUIRED TO MATCH EXISTING CONDITIONS.
2. ALL PAVEMENT DIMENSIONS MEASURED TO EDGE OF PAVEMENT.
3. SIDEWALKS TO BE IN ACCORDANCE WITH OPSD 310.010, 310.020 AND 310.030 AS INDICATED OR AS APPROPRIATE TO MATCH EXISTING CONDITIONS.
4. ALL NEW ASPHALT SHALL BE HOT MIX, HOT LAID, ASPHALTIC CONCRETE PLACED IN ACCORDANCE WITH OPSD FORMS 310 AND 1151 LATEST AMENDMENTS.
5. RESTORATION OF EXISTING DRIVEWAYS AND/OR APPROACHES DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE COMPLETED TO THE FOLLOWING STANDARDS:
A) GRAVEL DRIVEWAYS: MINIMUM 150mm LAYER OF GRANULAR A COMPACTED TO 100% SPMD.
B) ASPHALT DRIVEWAYS: 50mm HL3A COMPACTED TO 97% MARSHALL OVERLYING 150mm GRANULAR A COMPACTED TO 100% SPMD.
C) CONCRETE DRIVEWAYS: RESTORED WITH 150mm THICK 30MPa CONCRETE OVERLYING 150mm GRANULAR A COMPACTED TO 100% SPMD.
D) PAVING STONES: RESTORED WITH EXISTING SALVAGED OR AUGMENTED PAVING STONES, PROVIDE MAXIMUM 3mm JOINT WIDTHS FILLED WITH MORTAR SAND, 50mm COMPACTED DEPTH OF MORTAR SAND OR LIMESTONE SCREENINGS, AND 200mm COMPACTED DEPTH GRANULAR A COMPACTED TO 100% SPMD.
6. BOULEVARDS SHALL BE RESTORED WITH SOD OVERLYING 150mm TOPSOIL UNLESS NOTED OTHERWISE.
7. CONTINUOUS SUBDRAIN SHALL BE INSTALLED UNDER CURB. SUBDRAIN SHALL BE BOSS 2000 PERFORATED PIPE c/w KNITTED SOCK OR APPROVED EQUIVALENT.
8. CONSTRUCTION JOINTS BETWEEN EXISTING AND NEW ASPHALT SHALL BE CONSTRUCTED IN ACCORDANCE WITH OPSD 310 AND 1212. COMPLETE WITH STEP JOINT AS DETAILED AND HOT RUBBER SEALING COMPOUND.
9. ALL MAINTENANCE HOLES WITHIN THE TRAVELED PORTION OF THE ROAD AND CATCH BASINS LOCATED AT ROAD LOW POINTS SHALL BE SET FLUSH WITH THE BASE ASPHALT GRADE AND ADJUSTED TO FINAL GRADE IMMEDIATELY PRIOR TO PLACEMENT OF THE FINISH COURSE ASPHALT...
10. EXISTING STREET NAMES AND TRAFFIC CONTROL SIGNS SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION AND RELOCATED IN ACCORDANCE WITH NORFOLK COUNTY STANDARDS IMMEDIATELY UPON COMPLETION OF BASE ASPHALT INSTALLATION.
11. DIRECT PEDESTRIAN TRAFFIC AROUND WORK SITE, WHERE EXISTING SIDEWALK IS REMOVED TEMPORARY ASPHALT SIDEWALK TO BE PROVIDED.
12. CONTRACTOR TO INSTALL TACTILE WALKING SURFACE INDICATORS AS PER OPSD 310.039 AT INTERSECTIONS IDENTIFIED ON THE PLANS...
13. CONTRACTOR TO STRIP TOPSOIL FROM EXISTING DITCHES, BACKFILL WITH ONSITE SUITABLE FILL MATERIAL TO CONFORM TO GRADING PLANS...
14. PROPOSED CATCHBASINS WITHIN SOFTSCAPE AREAS TO BE FITTED WITH BIRDCAGE FRAME AND GRATE AS PER OPSD 310.039.

EROSION CONTROL NOTES

- 1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO, AND MAINTAINED DURING, THE CONSTRUCTION PART TO PREVENT ENTRY OF SEDIMENT INTO LOCAL STORM SEWERS OR THE NATURAL ENVIRONMENT.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DESIGNING AND PROVIDING ALL SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED TO PROTECT THE WORK SITE OR THE ADJACENT LANDS...
3. ALL SEDIMENT AND EROSION CONTROLS ARE TO BE INSPECTED REGULARLY, INCLUDING PRIOR TO RAIN EVENTS...
4. PERSONNEL WILL ATTEND THE SITE TO INSPECT ALL CONTROLS, ON A REGULAR BASIS...
5. ALL COLLECTED SEDIMENT TO BE REMOVED AND TRANSPORTED FOR DISPOSAL OFFSITE...
6. EROSION AND SEDIMENT CONTROL MEASURES MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE IN ORDER TO PREVENT THE RELEASE OF SEDIMENT.
7. ALL ACTIVITIES, INCLUDING EQUIPMENT MAINTENANCE AND REFUELING WILL BE CONTROLLED TO PREVENT THE ENTRY OF PETROLEUM PRODUCTS, DEBRIS, RUBBLE, CONCRETE, OR OTHER DELETERIOUS SUBSTANCES INTO THE STORM SEWER OR THE NATURAL ENVIRONMENT.
8. ALL SITE DISCHARGE, INCLUDING DEWATERING, MUST BE TREATED TO MEETING THE REQUIRED OBJECTIVES OF THE RECEIVING INFRASTRUCTURE OR WATERCOURSE...
9. PROTECT ALL CATCHBASINS, MANHOLES AND PIPE ENDS FROM SEDIMENT INTRUSION...
10. ROADS TO BE CLEANED MINIMUM ONCE A WEEK OR AS INSTRUCTED BY THE CONTRACT ADMINISTRATOR...
11. STOCKPILES TO BE ENCLOSED WITH EROSION CONTROL SILT FENCE.

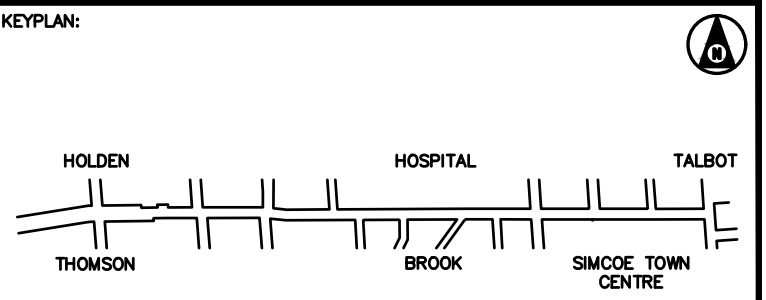
THRUST RESTRAINT TABLE

Table with columns: DIAMETER, MINIMUM LENGTH (m) TO BE RESTRAINED EACH SIDE OF FITTING (Horizontal Bend, Vertical Bend, Tee, Valve, Reducer). Rows for 150mm, 200mm, 300mm diameters.

NOTE: RESTRAINT DISTANCES WERE CALCULATED BASED ON THE USE OF EBAA SUPPLIED PRODUCTS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE DESIGN CALCULATION TO SUPPORT THE USE OF AN ALTERNATE SUPPLIER, AS PERMITTED BY THE COUNTY.

TRAFFIC MANAGEMENT NOTES

- 1. THE CONTRACTOR IS ADVISED OF HEAVY TRAFFIC VOLUMES DURING THE MORNING AND EVENING PEAK HOURS AND MUST IMPLEMENT ALL NECESSARY MEASURES SUCH AS ENGAGING ADDITIONAL CONSTRUCTION CREWS...
2. ALL OF THE CONTRACTOR'S OPERATIONS AND ACTIVITIES SHALL BE IN ACCORDANCE WITH THE MOST CURRENT VERSION OF THE ONTARIO TRAFFIC MANUAL (OTM), BOOK 7 (TEMPORARY CONDITIONS)...
3. LAYOUTS FOR SIGNING TEMPORARY LANE CLOSURES FOR CONSTRUCTION STAGES TO BE IN ACCORDANCE WITH OTM BOOK 7.
4. WHERE REQUIRED, EXISTING LANE MARKINGS ARE TO BE REMOVED AND TEMPORARY LANE MARKINGS PAINTED...
5. THE CONTRACTOR SHALL SCHEDULE THE WORK SO THAT THERE WILL BE NO OPEN EXCAVATION OVERNIGHT OR ON NON-WORKING DAYS...
6. MATERIALS SHALL NOT BE STORED WITHIN 4 METRES OF THE TRAVELED PORTION OF ANY ROAD.
7. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE COUNTY A DETAILED TRAFFIC MANAGEMENT PLAN FOR REVIEW AT LEAST 15 DAYS PRIOR TO CONSTRUCTION...
8. A TRAFFIC PROTECTION PLAN FOR WORKER SAFETY IS ALSO REQUIRED IN ACCORDANCE WITH THE OHSA.
9. WEST STREET SHALL BE KEPT OPEN TO THROUGH TRAFFIC AND MAINTAINED WITH A MINIMUM OF ONE LANE FOR LOCAL TRAFFIC ONLY...
10. THE WORK SHALL BE UNDERTAKEN IN A LOGICAL SEQUENCE THROUGHOUT THE CONSTRUCTION PERIOD...
11. THE CONTRACTOR SHALL PROVIDE TO THE COUNTY CONTACT DETAILS FOR A MINIMUM OF 3 STAFF MEMBERS...
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY APPROVALS IN ADVANCE...
13. ALL TRENCHES CONSTRUCTED IN THE EXISTING ROADWAYS SHALL BE RESTORED TO MATCH THE EXISTING ROAD STRUCTURE...
14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL SIGNS DAMAGED OR RENDERED ILLEGIBLE ARE REINSTATED, CLEANED AND/OR REPLACED IN A TIMELY MANNER.
15. ALL TRAFFIC CONTROL DEVICES AND SIGNAGE MUST BE MAINTAINED IN THEIR REQUIRED PROPER LOCATION...
16. SUBJECT TO APPROVAL BY THE COUNTY, ALL CONSTRUCTION VEHICLES MUST ENTER AND EXIT THE CONSTRUCTION ZONE VIA THE EAST AND WEST LIMITS OF WEST STREET...
17. THE CONTRACTOR SHALL PROVIDE PORTABLE VARIABLE MESSAGE SIGNS (PVMS) BOARDS AT LEAST TWO WEEKS PRIOR TO CONSTRUCTION TO ADVISE MOTORISTS OF PENDING ROAD CLOSURE/LANE RESTRICTIONS...



BENCHMARK:

Professional Engineer Seal for A. J. TULK, License No. 100072078, April 28, 2023, Province of Ontario.

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Revision table with columns: NO., BY, DATE, ISSUE / REVISION. Row 1: AT, 28/04/23, ISSUED FOR CONSTRUCTION.

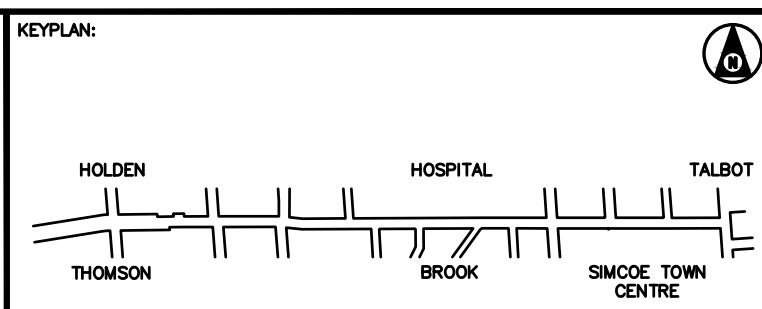
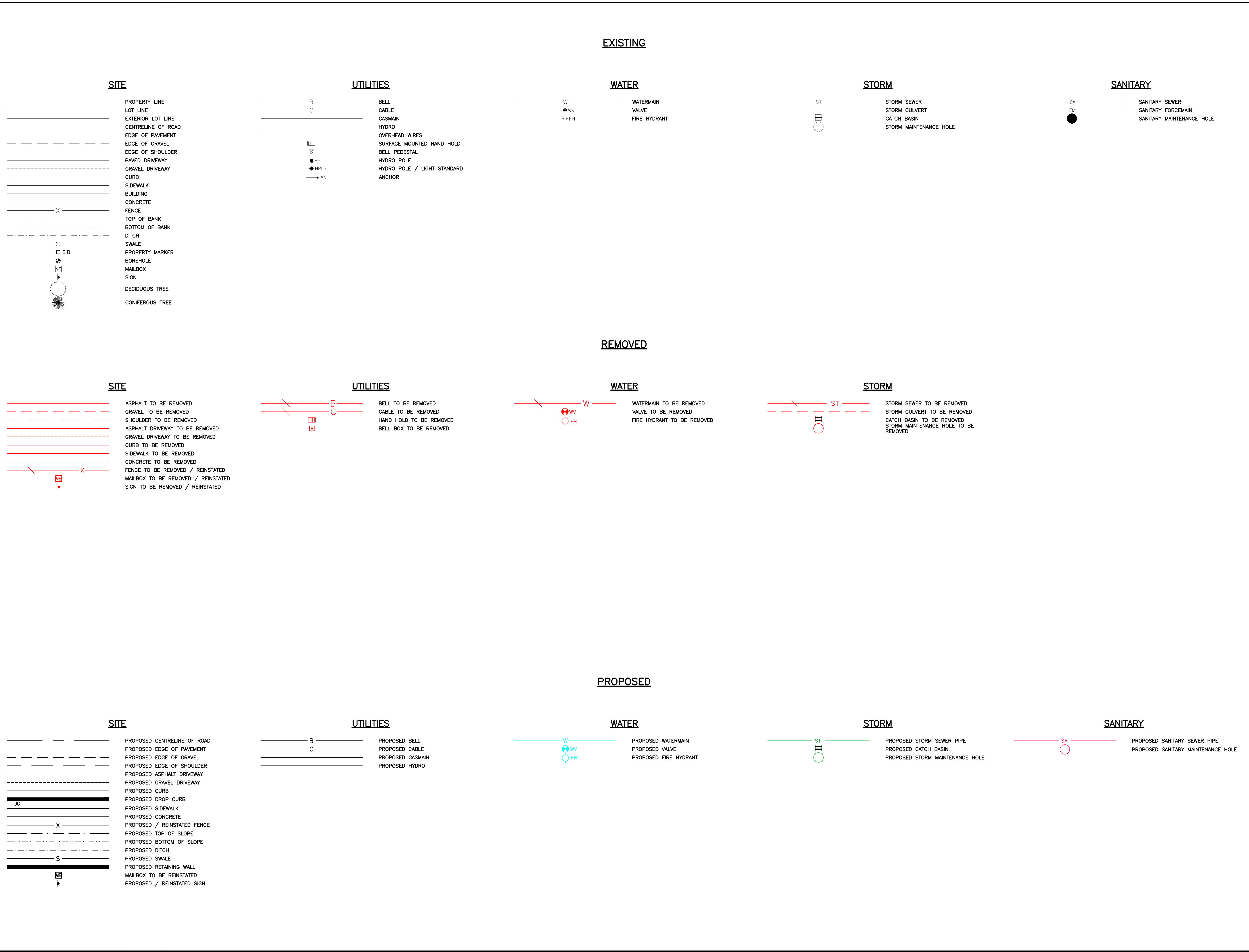


PROJECT NAME: RECONSTRUCTION OF WEST STREET - PHASE 1 HOLDEN AVENUE TO BROOK STREET

TITLE: GENERAL NOTES AND SPECIFICATIONS

Project details table including Project No. (22-2016), Date (January 2023), Scale, Designer (JA), Drawn (JW), Checked (JW), and a 25mm scale bar.





BENCHMARK:

SEAL:	SEAL:

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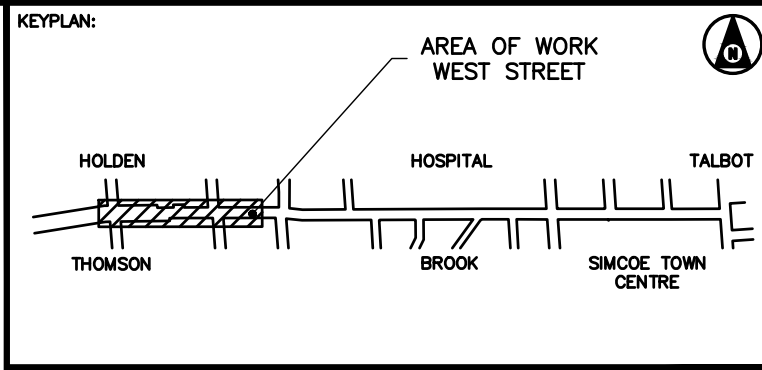
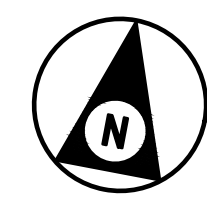
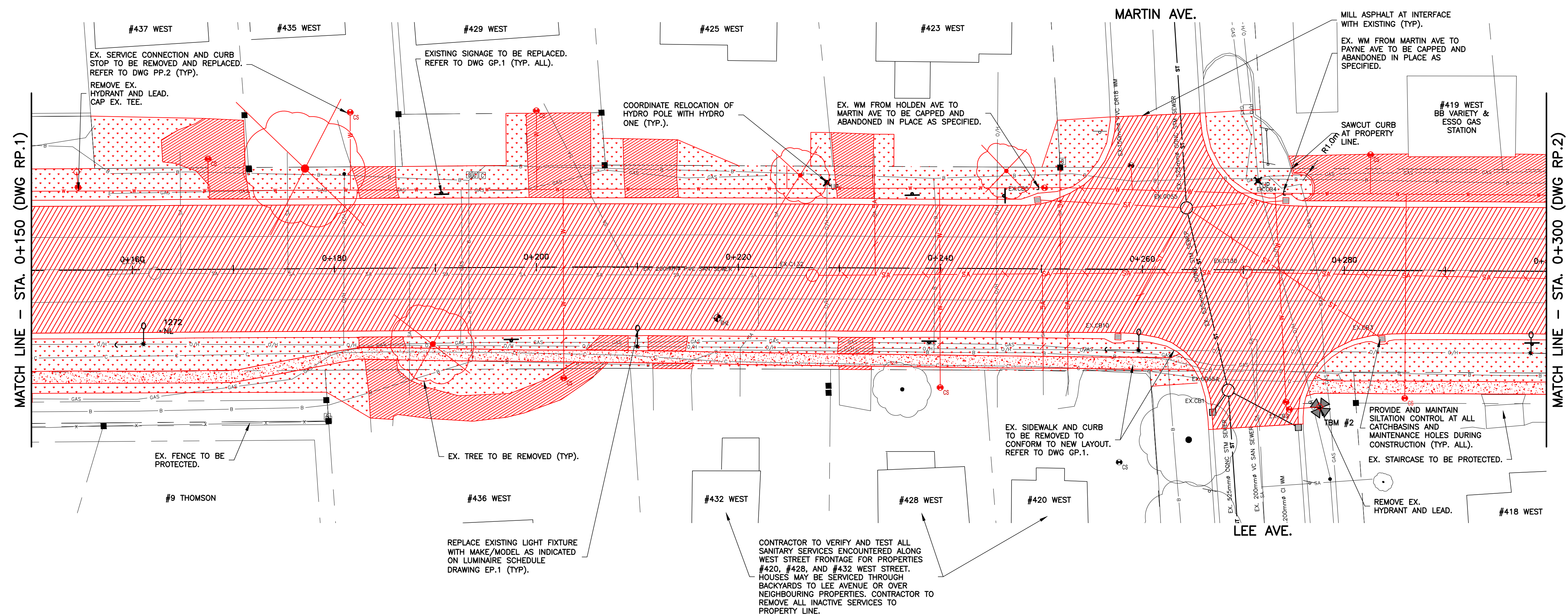
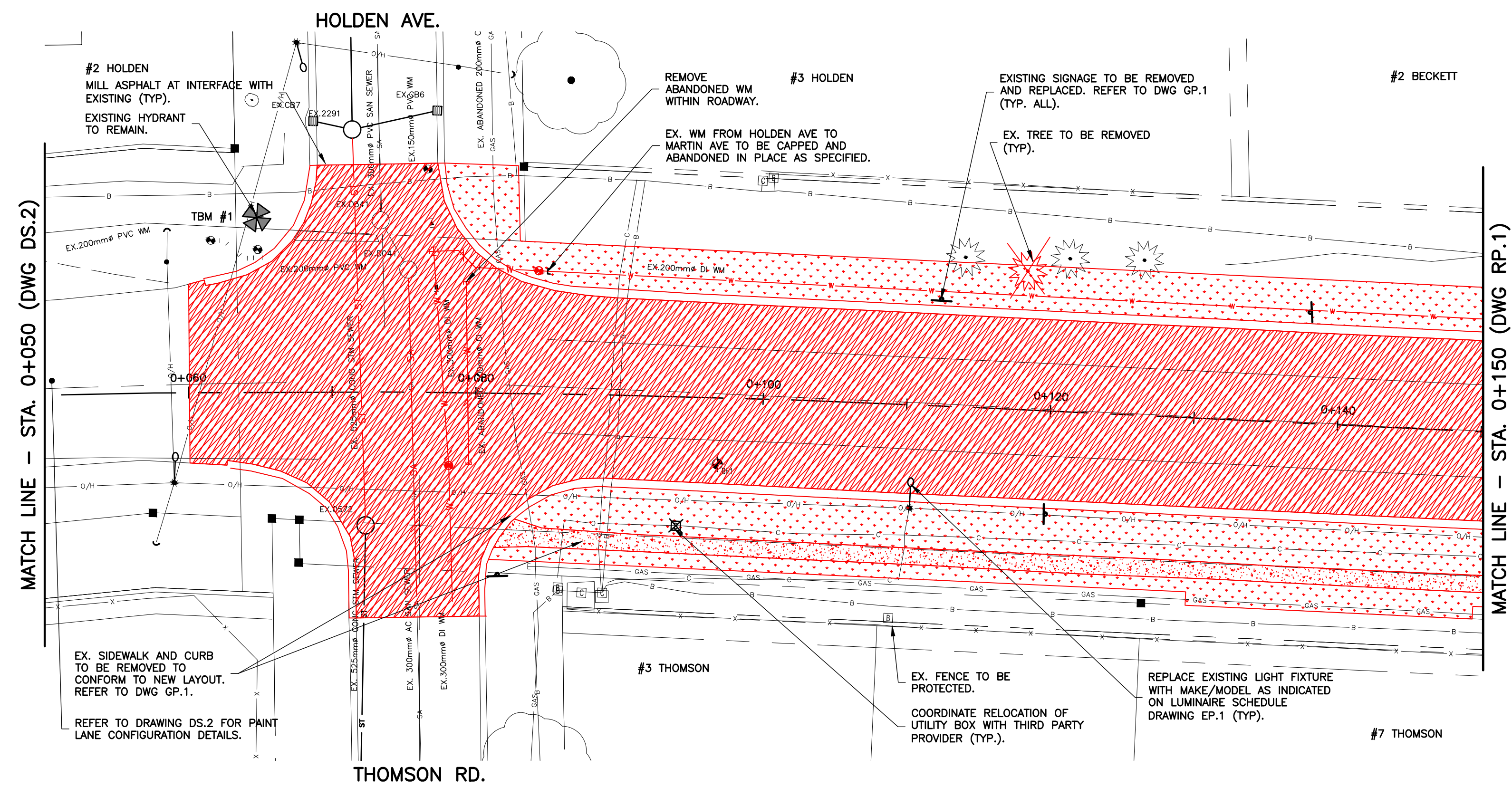
PROJECT NAME: RECONSTRUCTION OF WEST STREET - PHASE 1  
HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38

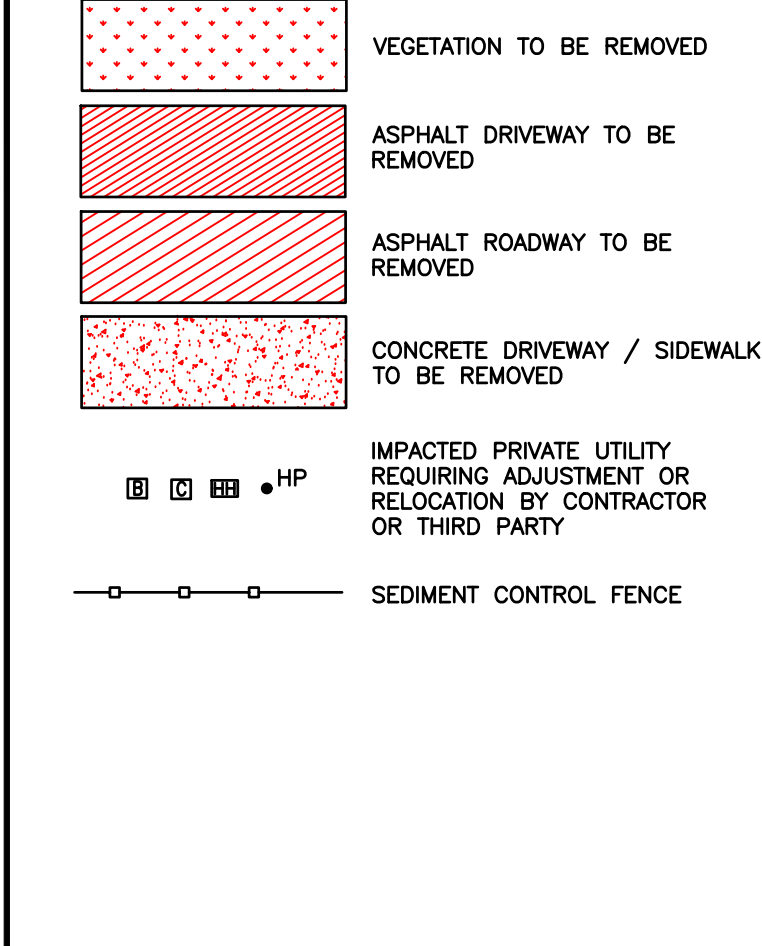
LEGEND

PROJECT NO: 22-2016	DATE: JANUARY 2023
DESIGNED BY: AT	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.  
DRAWN BY: JA	
CHECKED BY: JW	
REV: 1	





- NOTES**
- SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS.
  - CONTRACTOR TO COORDINATE THIRD PARTY SUPPORT OF ALL UTILITIES AND UTILITY POLES ADJACENT TO THE AREA OF WORK.
  - CURB STOPS FOR THE WATER SERVICE CONNECTIONS ARE TO BE LOCATED AT THE PROPERTY LINE UNLESS INDICATED OTHERWISE. EX. SERVICE CONNECTIONS ARE TO BE RECONFIGURED AS REQUIRED.
  - PROVIDE TREE PROTECTION ZONES AS SPECIFIED AND AS DETAILED IN THE ARBORIST REPORT APPENDED TO THE SPECIFICATION.
  - PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED THROUGHOUT CONSTRUCTION.



**BENCHMARK:**  
 TBM #1: TOP OF NUT ON FH AT NW CORNER OF HOLDEN AVENUE AND WEST STREET. ELEV: 234.08m.  
 TBM #2: TOP OF NUT ON FH AT SE CORNER OF LEE AVENUE AND WEST STREET. ELEV: 234.40m.

SEAL: SEAL:

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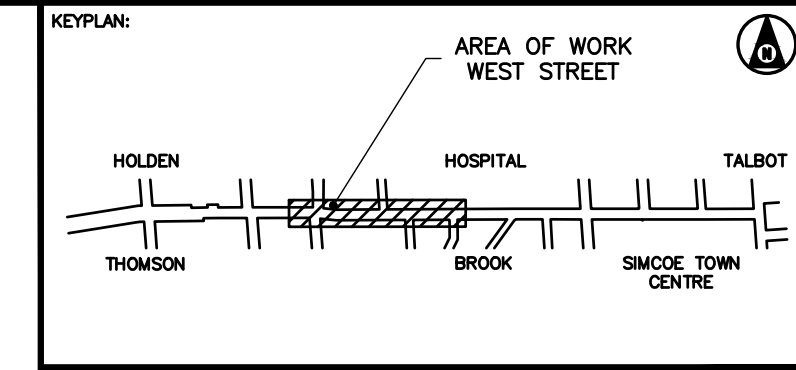
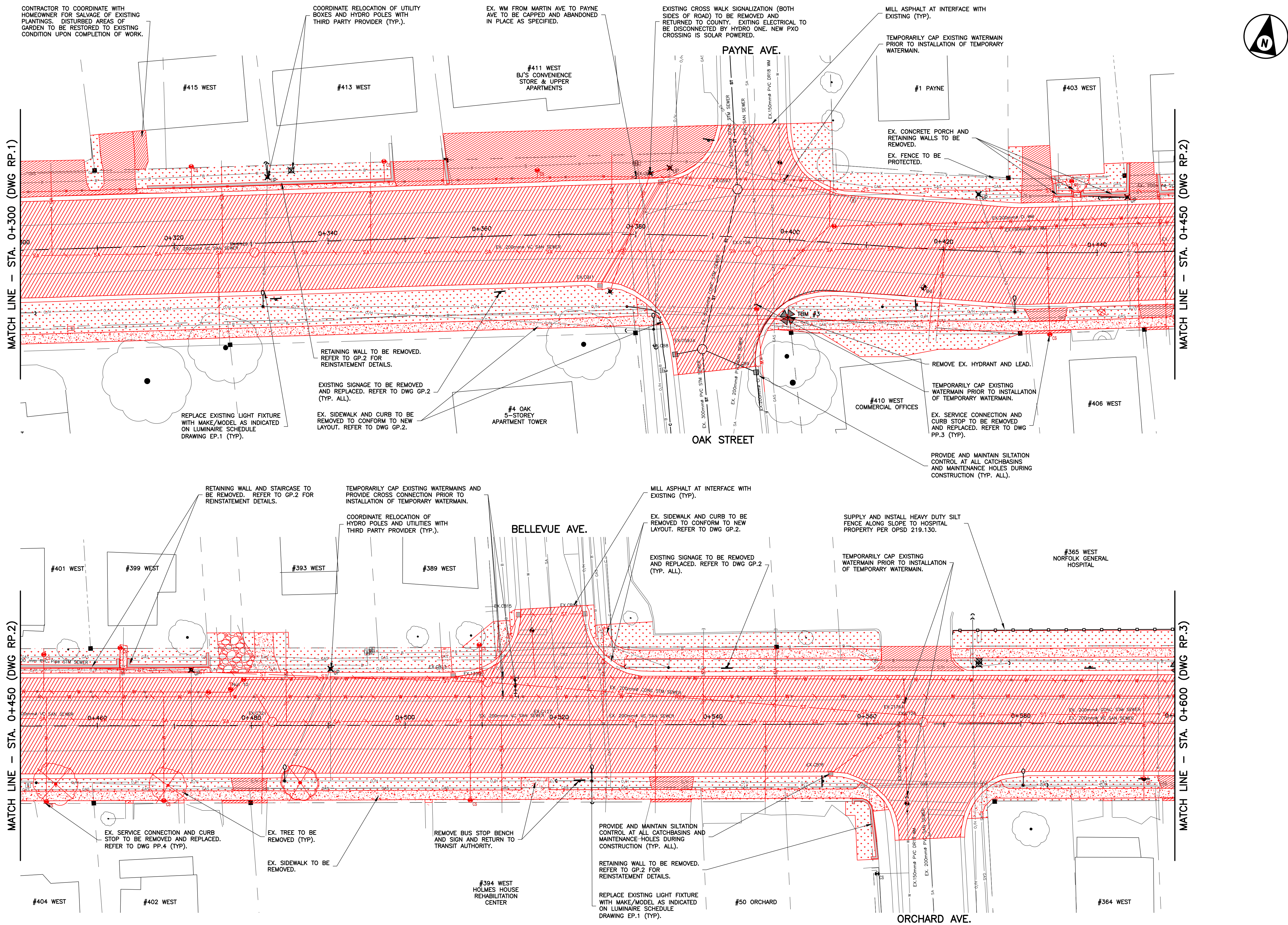


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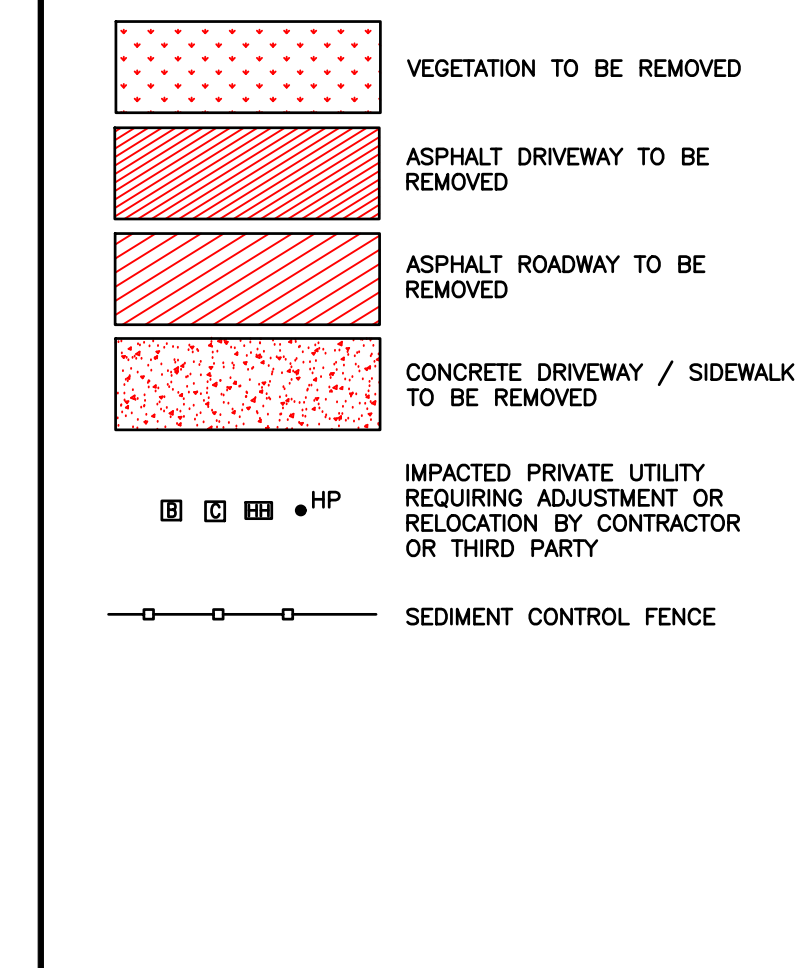
PROJECT NAME: RECONSTRUCTION OF WEST STREET - PHASE 1 HOLDEN AVENUE TO BROOK STREET  
 CLIENT REF: EIS-ENG-23-38  
 TITLE: REMOVALS PLAN STA. 0+000 TO STA. 0+300

PROJECT NO: 22-2016	DATE: JANUARY 2023
SCALE: 1:250	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
DESIGNED BY: AT	25mm
DRAWN BY: JA	
CHECKED BY: JW	

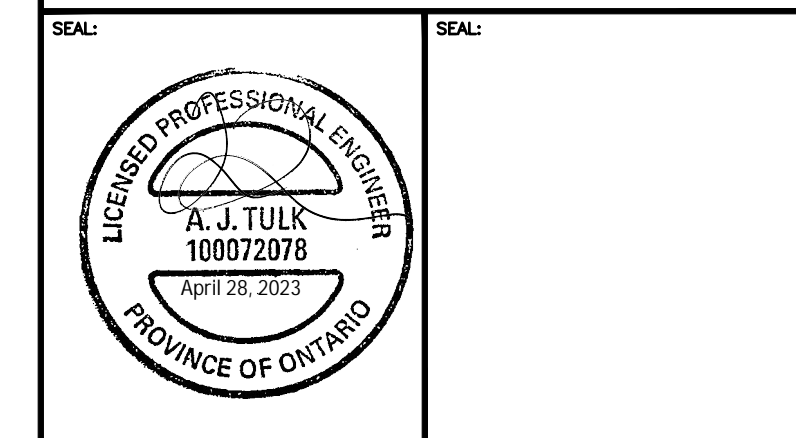




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BENCHMARK:  
TBM #3: TOP OF NUT ON FH AT SE CORNER OF OAK STREET AND WEST STREET. ELEV: 233.92m.



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CLIENT:  
**Norfolk COUNTY**

PROJECT NAME:  
**RECONSTRUCTION OF WEST STREET - PHASE 1  
HOLDEN AVENUE TO BROOK STREET**

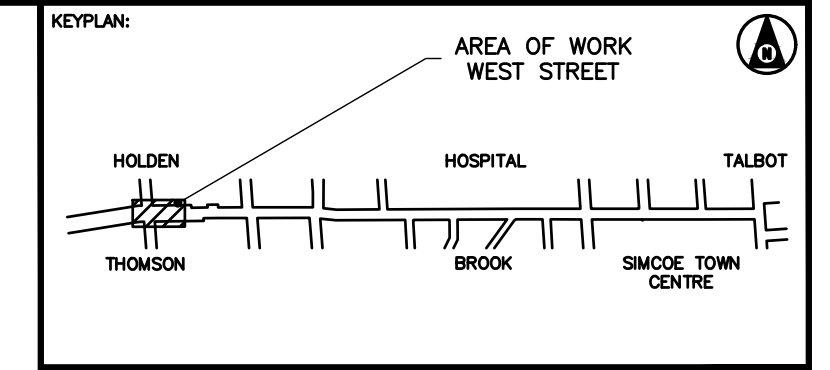
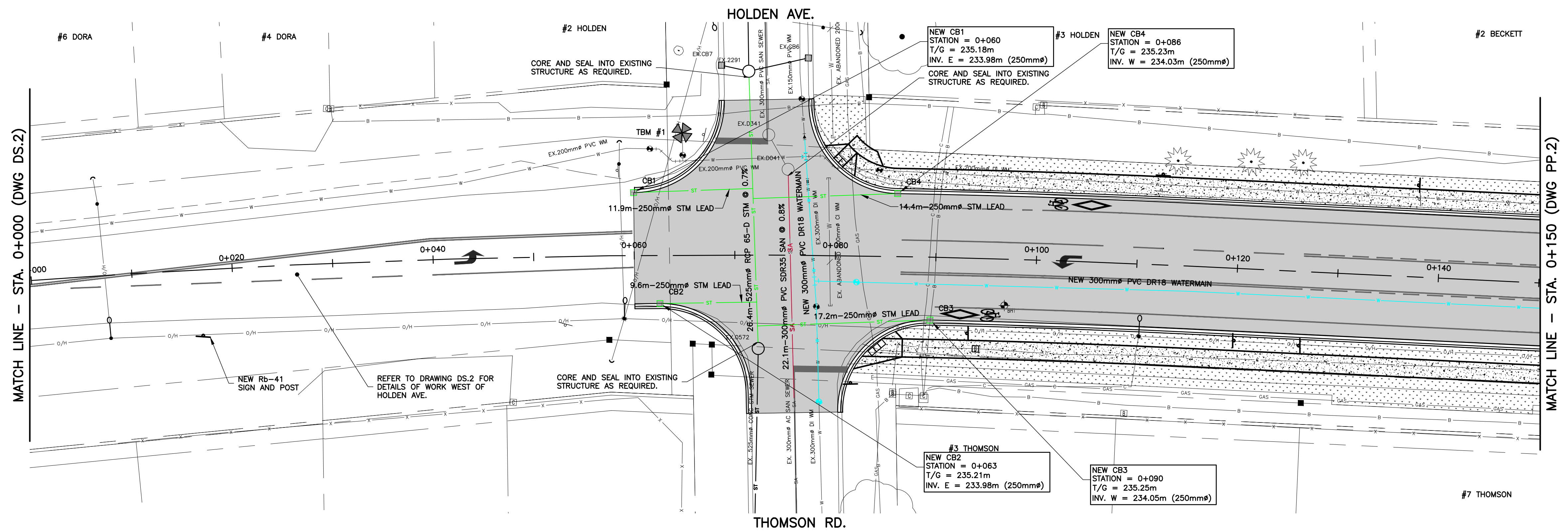
TITLE:  
**REMOVALS PLAN  
STA. 0+300 TO STA. 0+600**

PROJECT NO: 22-2016	DATE: JANUARY 2023
SCALE:	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
DESIGNED BY: AT	25mm
DRAWN BY: JA	
CHECKED BY: JW	



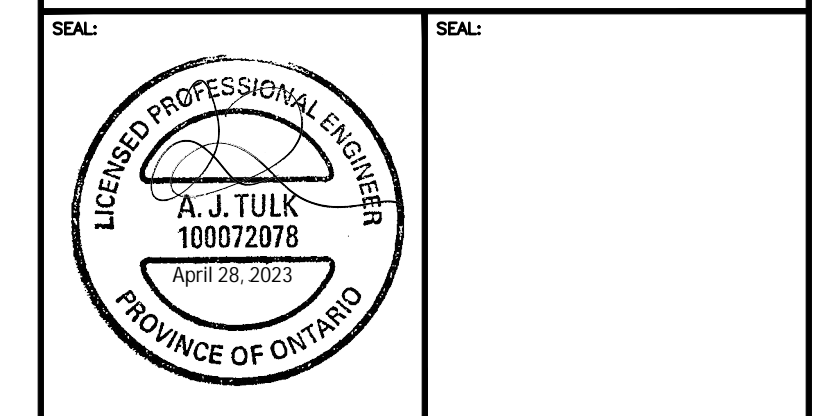






- NOTES**
- SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS.
  - CONTRACTOR TO SUPPORT ALL UTILITY POLES ADJACENT TO THE AREA OF WORK AS REQUIRED.
  - CURB STOPS FOR THE WATER SERVICE CONNECTIONS ARE TO BE LOCATED AT THE PROPERTY LINE. EXISTING SERVICE CONNECTIONS ARE TO BE RECONFIGURED AS REQUIRED. REINSTATE ASPHALT PAVEMENT PER DETAIL DWG DS-1.
  - NEW CURB AND GUTTER TO OPSD 600.040.
  - TERMINATE CURB AND GUTTER PER OPSD 608.010.
  - STANDARD BARRIER CURBS TO OPSD 600.010.
  - DRIVEWAY ENTRANCES TO OPSD 351.010. SIDEWALK AT ENTRANCES PER OPSD 310.050.
  - SIDEWALK TO OPSD 310.010 AND 310.020 AS APPLICABLE. SIDEWALK RAMP AT INTERSECTIONS TO OPSD 310.033.
  - SANITARY SERVICE CONNECTIONS TO OPSD 1006.010.
  - FRAME AND GRATE FOR STORM MAINTENANCE HOLES TO OPSD 401.010 TYPE B.
  - CATCH BASIN INSTALLATION AT CURB AND GUTTER TO OPSD 810.010.
  - CATCH BASINS TO OPSD 705.010. DOUBLE CATCH BASINS TO OPSD 705.020.
  - CATCH BASIN CONNECTIONS TO MAIN PER OPSD 708.010.
  - CATCH BASIN LEADS TO BE 250mm DIAMETER FOR SINGLE CATCH BASINS AND 300mm DIAMETER FOR DOUBLE CATCH BASINS. PIPE TO BE PVC SDR35 BEDDED WITH TYPE B BEDDING.
  - CATCH BASIN FRAME AND GRATE WITHIN ROADWAY TO OPSD 400.100. IN VEGETATE AREAS, PROVIDE FRAME AND GRATE TO OPSD 400.120.
  - PROVIDE SUBDRAIN UNDER CURB LINE, BOTH SIDES, PER OPSD 207.041. PROVIDE SUBDRAIN CONNECTIONS AT STORM STRUCTURES PER OPSD 216.021.
  - STORM STRUCTURE BENCHING TO OPSD 701.021.
  - WATER SERVICE CONNECTIONS TO OPSD 1104.010.
  - HYDRANT INSTALLATION PER OPSD 1105.010.
  - VALVE OPERATOR TO OPSD 1101.020.
  - CATHODIC PROTECTION FOR WATERMAIN AND FITTINGS PER OPSD 1109.011.
  - TRENCHING AND BEDDING PER OPSD 802.030 AND 802.031.

BENCHMARK:  
TBM #1: TOP OF NUT ON FH AT NW CORNER OF HOLDEN AVENUE AND WEST STREET. ELEV: 234.06m.



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NO.	BY	DATE	ISSUE / REVISION
1	AT	28/04/23	ISSUED FOR CONSTRUCTION



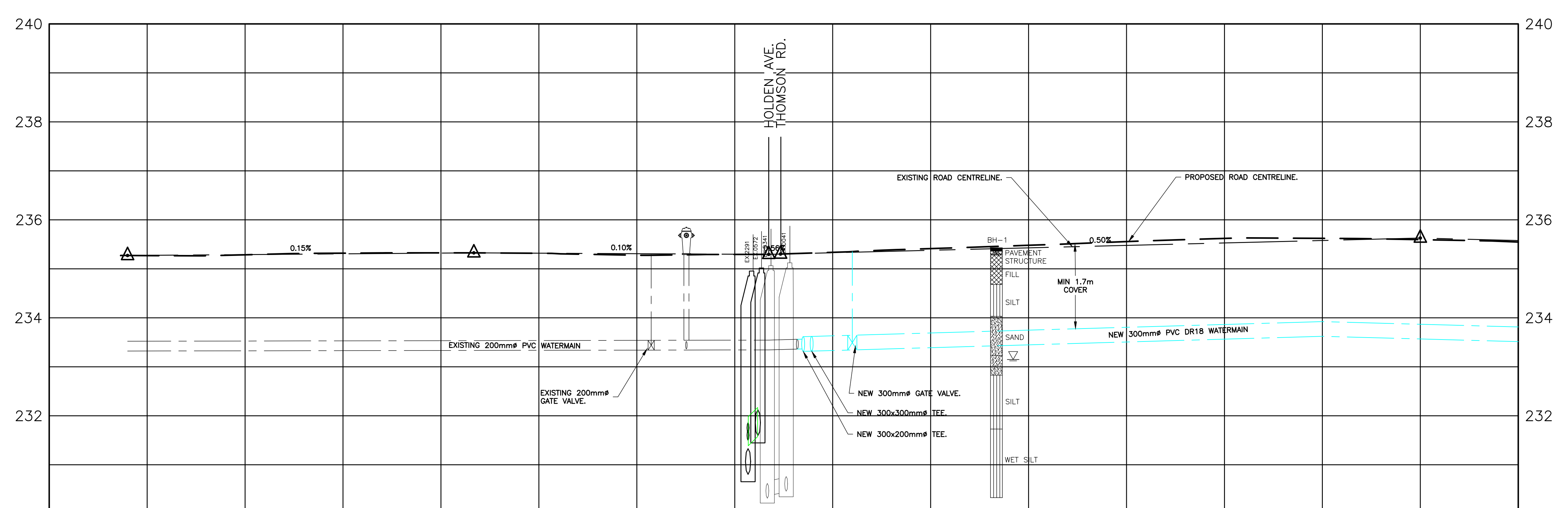
PROJECT NAME:  
RECONSTRUCTION OF WEST STREET - PHASE 1  
HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38  
TITLE:  
PLAN AND PROFILE  
STA. 0+000 TO STA. 0+150

PROJECT NO:  
22-2016  
SCALE:  
DATE:  
JANUARY 2023  
DESIGNED BY:  
AT  
DRAWN BY:  
JA  
CHECKED BY:  
JW

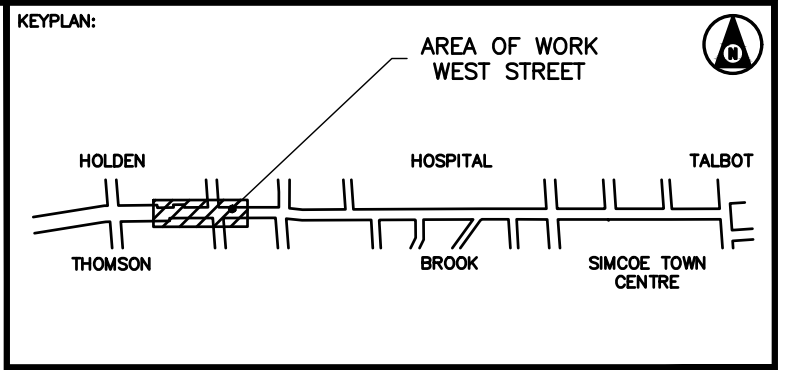
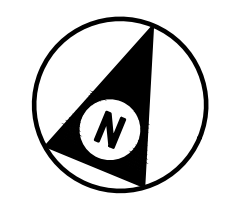
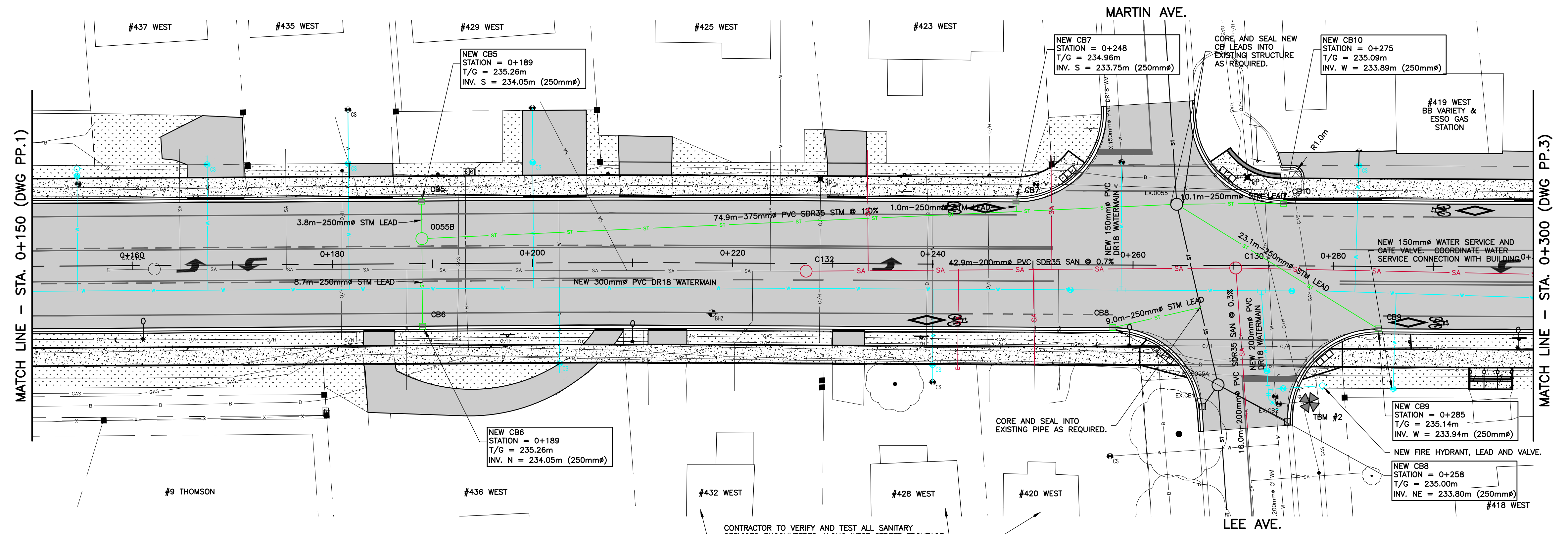
IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.  
25mm

REV: 1  
SHEET #: 7 of 23 PP.1

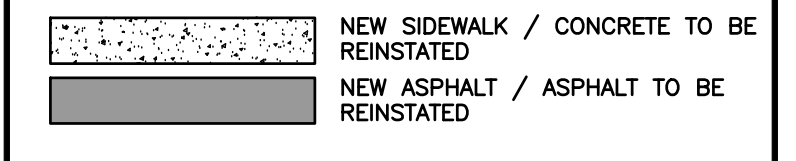


STATION	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+150	STATION
CENTERLINE GRADE	EXISTING 235.28 FINISHED 235.29	235.33 235.32	235.28 235.31	235.34 235.33	235.48 235.45	235.60 235.53	235.67 235.63	235.55 235.58	CENTERLINE GRADE
TOP OF WATERMAIN									TOP OF WATERMAIN
EXISTING STORM SEWER INVERT									EXISTING STORM SEWER INVERT
STORM SEWER INVERT									STORM SEWER INVERT
EXISTING SANITARY SEWER INVERT									EXISTING SANITARY SEWER INVERT
SANITARY SEWER INVERT									SANITARY SEWER INVERT

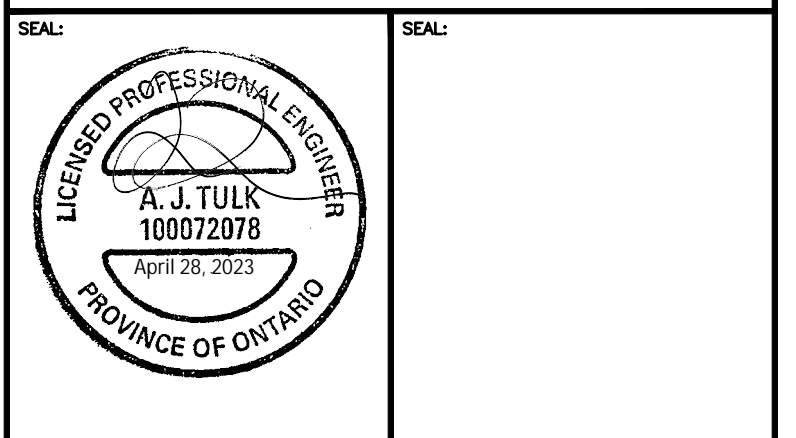




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  - TRENCHING AND BEDDING PER OPSD 802.030 AND 802.031.



**BENCHMARK:**  
TBM #2: TOP OF NUT ON FH AT SE CORNER OF LEE AVENUE AND WEST STREET. ELEV: 234.40m.



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NO.	BY	DATE	ISSUE / REVISION
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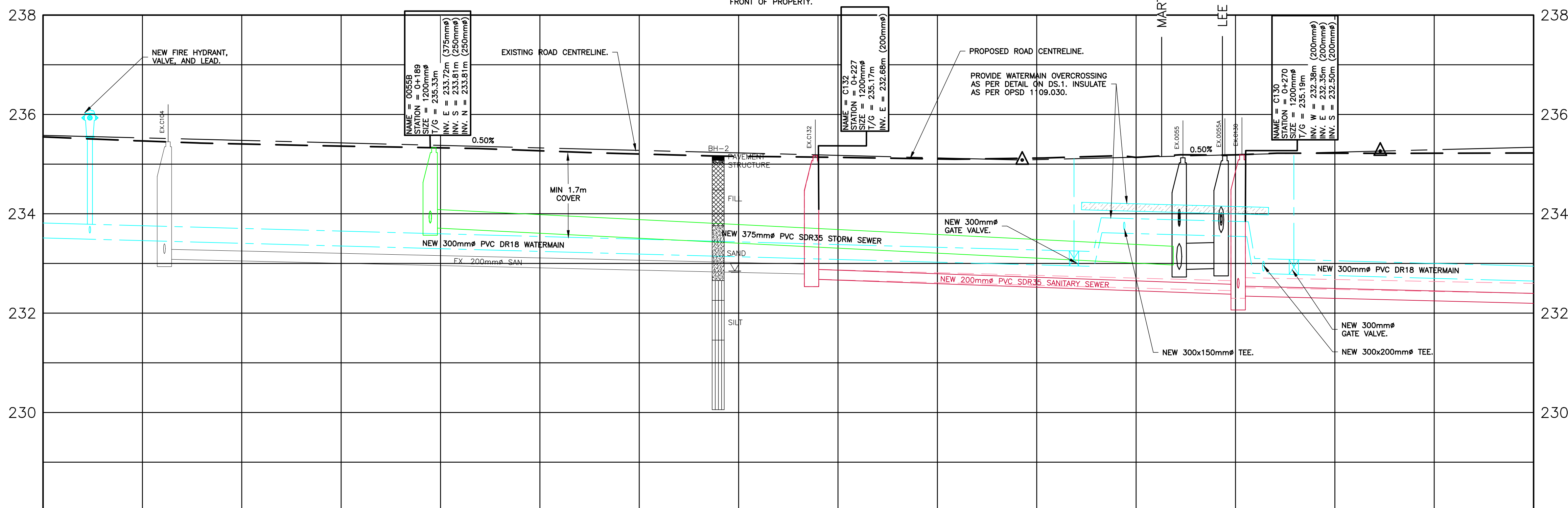
**PROJECT NAME:**  
RECONSTRUCTION OF WEST STREET - PHASE 1  
HOLDEN AVENUE TO BROOK STREET

**CLIENT REF:** EIS-ENG-23-38

**TITLE:**  
PLAN AND PROFILE  
STA. 0+150 TO STA. 0+300

<b>PROJECT NO.:</b> 22-2016	<b>DATE:</b> JANUARY 2023
<b>SCALE:</b> AS SHOWN	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
<b>DESIGNED BY:</b> AT	
<b>DRAWN BY:</b> JA	25mm
<b>CHECKED BY:</b> JW	

**REV:**  
1

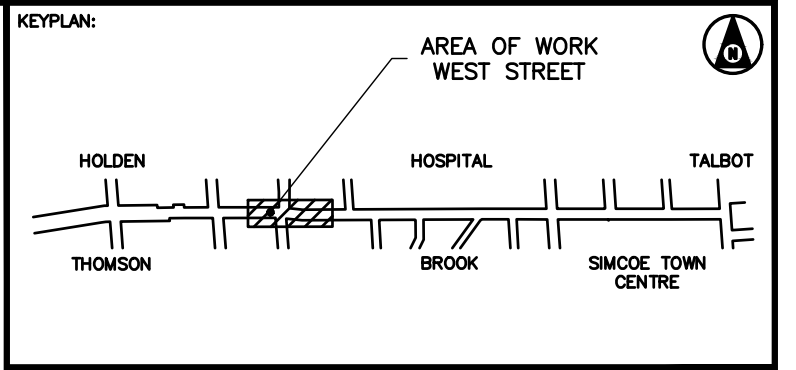
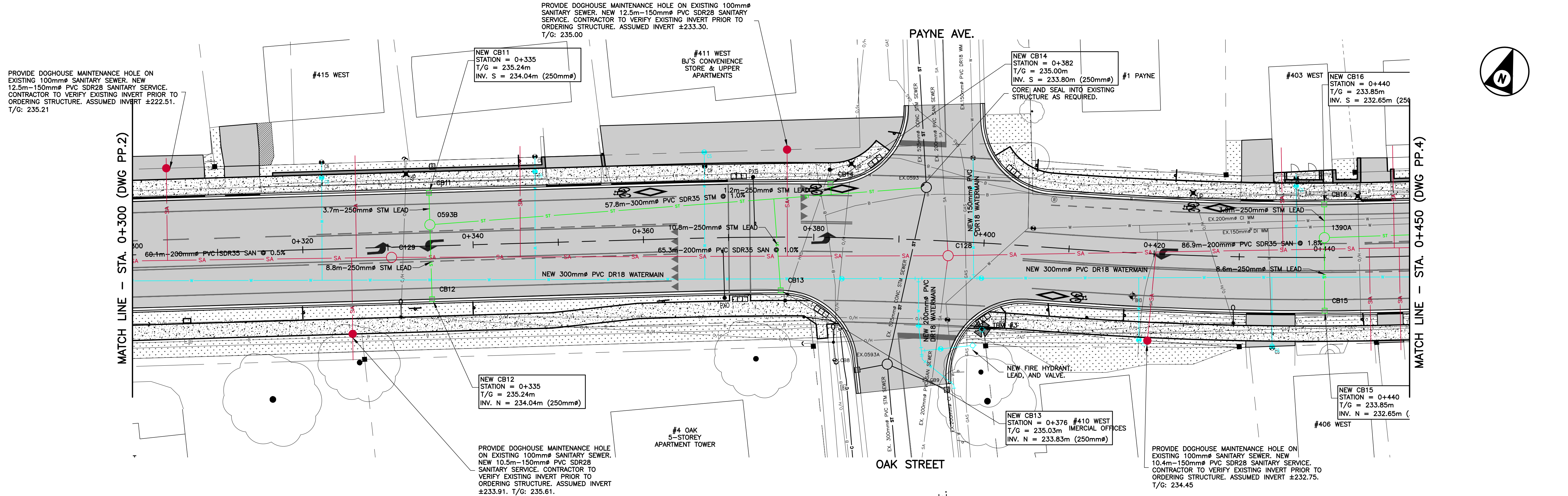


STATION	CENTERLINE GRADE	TOP OF WATERMAIN	EXISTING STORM SEWER INVERT	STORM SEWER INVERT	EXISTING SANITARY SEWER INVERT	SANITARY SEWER INVERT	STATION
0+150	235.46	233.76					0+180
0+180	235.43	233.76					0+200
0+200	235.43	233.54					0+220
0+220	235.23	233.43					0+240
0+240	235.12	233.33					0+260
0+260	235.14	233.90					0+280
0+280	235.24	233.06					0+300

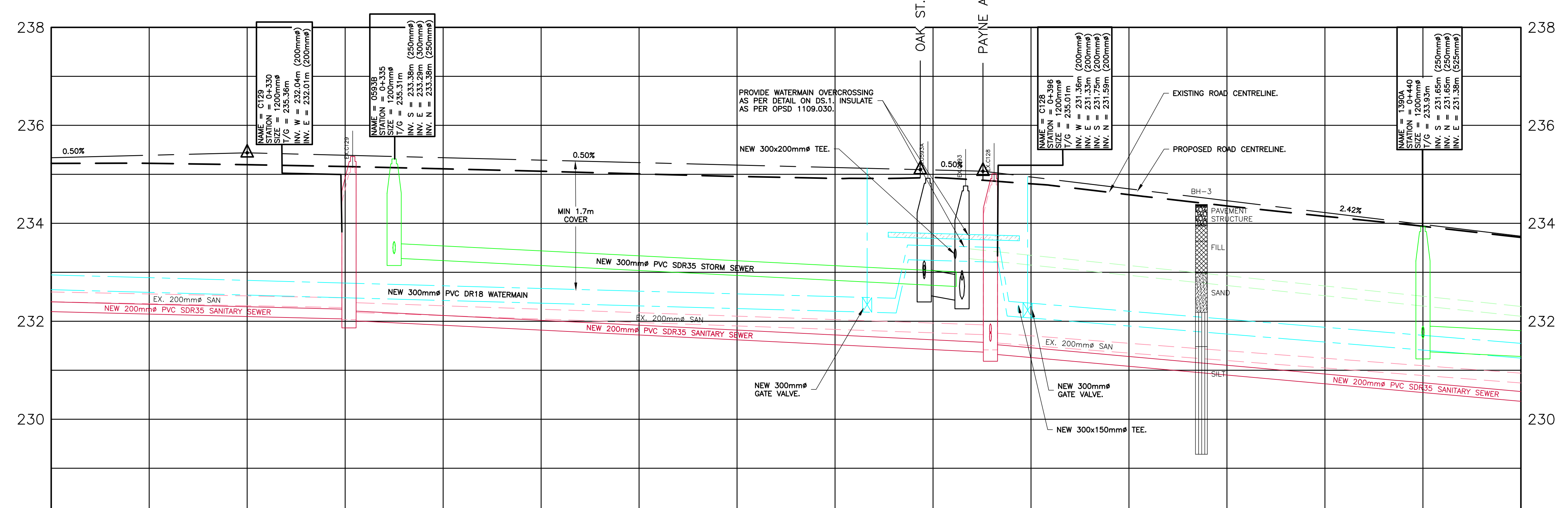
  

EXISTING STORM SEWER INVERT	232.97	232.90	232.86	232.85	232.84	232.83	232.82	232.81	232.80
STORM SEWER INVERT	232.97	232.90	232.86	232.85	232.84	232.83	232.82	232.81	232.80
EXISTING SANITARY SEWER INVERT	233.09	232.78	232.68	232.68	232.68	232.68	232.68	232.68	232.68
SANITARY SEWER INVERT	233.09	232.78	232.68	232.68	232.68	232.68	232.68	232.68	232.68





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  - TRENCHING AND BEDDING PER OPSD 802.030 AND 802.031.
- BENCHMARK:**  
TBM #3: TOP OF NUT ON FH AT SE CORNER OF OAK STREET AND WEST STREET. ELEV: 233.92m.
- SEAL:**
- NEW SIDEWALK / CONCRETE TO BE REINSTATED  
NEW ASPHALT / ASPHALT TO BE REINSTATED



STATION	STATION	STATION	STATION
0+300	0+320	0+400	0+450
CENTERLINE GRADE EXISTING FINISHED 232.95	232.84	232.50	232.04
TOP OF WATERMAIN NEW 232.95	232.84	232.50	232.04
EXISTING STORM SEWER INVERT		232.50	232.04
STORM SEWER INVERT		232.71	232.55
EXISTING SANITARY SEWER INVERT	232.52	232.72	232.24
SANITARY SEWER INVERT	232.35	232.04	229.78

**SEAL:**

**LICENSED PROFESSIONAL ENGINEER**  
A. J. TULK  
100072078  
April 28, 2023  
PROVINCE OF ONTARIO

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NO.	BY	DATE	ISSUE / REVISION
1	AT	28/04/23	ISSUED FOR CONSTRUCTION

**WT INFRASTRUCTURE**  
PRACTICAL INNOVATION

**Norfolk COUNTY**

PROJECT NAME  
RECONSTRUCTION OF WEST STREET - PHASE 1  
HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38

TITLE  
PLAN AND PROFILE  
STA. 0+300 TO STA. 0+450

PROJECT NO:  
22-2016

DATE:  
JANUARY 2023

SCALE:  
IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.

DESIGNED BY:  
AT

DRAWN BY:  
JA

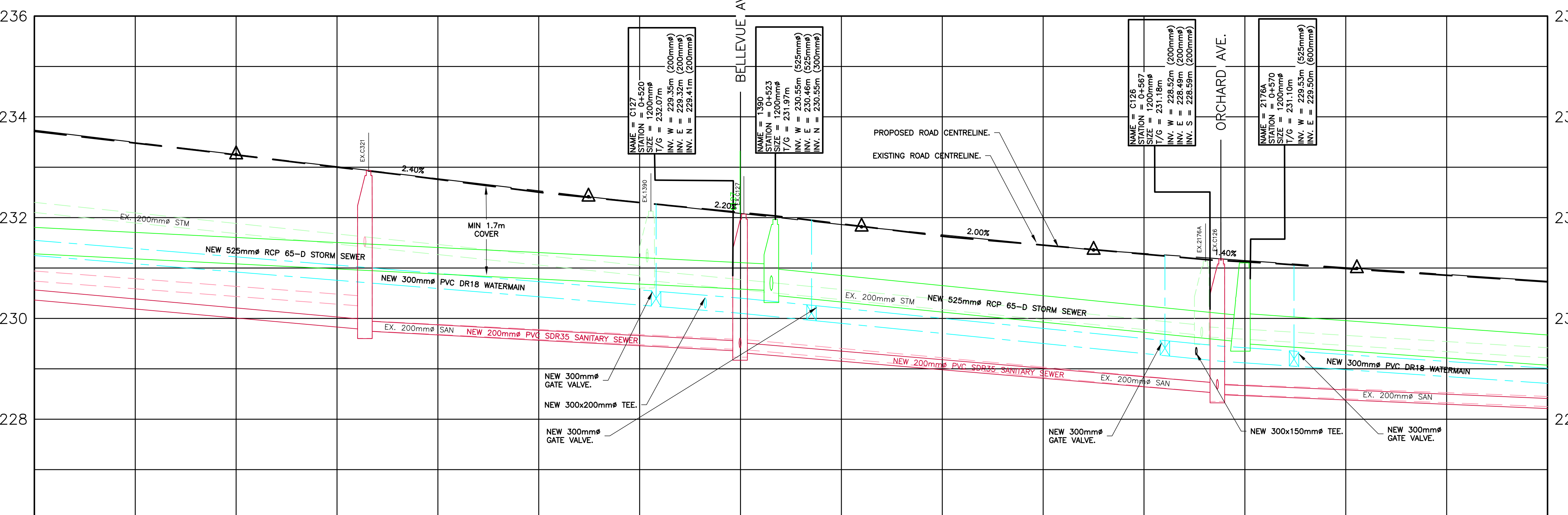
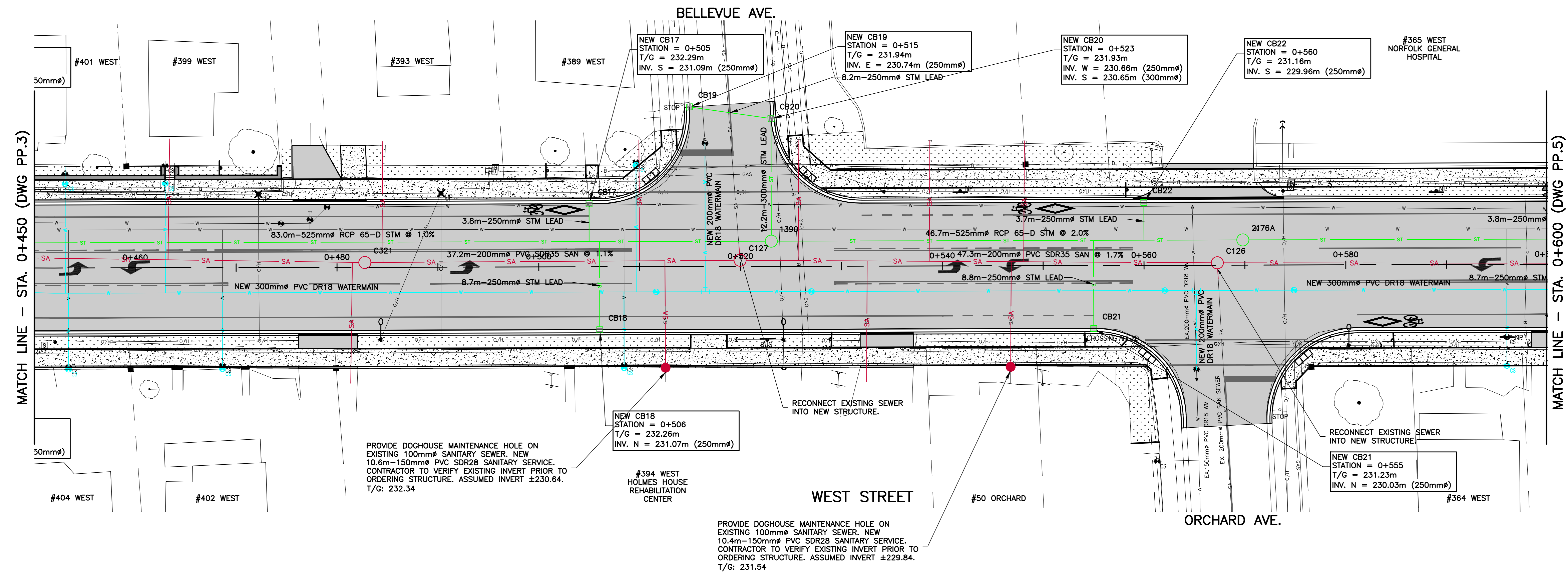
CHECKED BY:  
JW

SCALE: 25mm

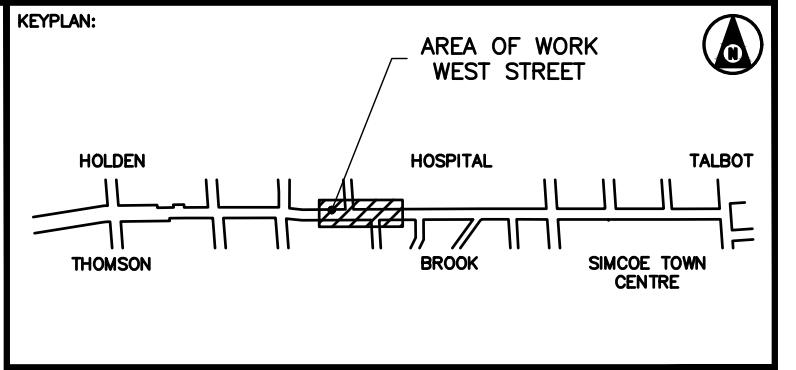
REV: 1

SHEET # 9 of 23 PP.3





STATION	0+450	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	STATION
CENTERLINE GRADE	EXISTING 233.74	FINISHED 233.49	EXISTING 233.71	FINISHED 233.01	EXISTING 232.40	FINISHED 232.08	EXISTING 231.66	FINISHED 231.29	EXISTING 231.01	FINISHED 230.74
TOP OF WATERMAIN	NEW 231.55	EXISTING 231.39	NEW 231.55	EXISTING 231.06	NEW 230.73	EXISTING 230.40	NEW 230.00	EXISTING 229.60	NEW 229.28	EXISTING 229.01
EXISTING STORM SEWER INVERT	233.29	233.29	EXISTING 117.25m 200mm <sup>Ø</sup> STORM SEWER @ 2.10%	230.73	230.73	EXISTING 55.16m 200mm <sup>Ø</sup> STORM SEWER @ 1.97%	230.00	229.60	229.28	EXISTING 86.69m 200mm <sup>Ø</sup> STORM SEWER @ 1.23%
STORM SEWER INVERT	231.38	231.38	NEW 83.0m 525mm <sup>Ø</sup> RCP 65-D STORM SEWER @ 1.0%	230.55	230.55	NEW 46.7m 525mm <sup>Ø</sup> RCP 65-D STORM SEWER @ 2.0%	229.53	229.53	228.30	NEW 64.6m 600mm <sup>Ø</sup> RCP 65-D STORM SEWER @ 1.4%
EXISTING SANITARY SEWER INVERT	231.57	231.57	EXISTING 86.9m 200mm <sup>Ø</sup> SANITARY SEWER @ 1.5%	229.75	229.75	EXISTING 37.2m 200mm <sup>Ø</sup> SANITARY SEWER @ 1.0%	228.92	228.92	228.01	EXISTING 64.5m 200mm <sup>Ø</sup> SANITARY SEWER @ 0.8%
SANITARY SEWER INVERT	231.33	231.33	NEW 86.9m-200mm <sup>Ø</sup> PVC SDR35 SANITARY SEWER @ 1.79%	229.75	229.75	NEW 37.2m-200mm <sup>Ø</sup> PVC SDR35 SANITARY SEWER @ 1.07%	228.92	228.92	228.01	NEW 67.0m-200mm <sup>Ø</sup> PVC SDR35 SANITARY SEWER @ 0.85%



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BENCHMARK:  
TBM #3: TOP OF NUT ON FH AT SE CORNER OF OAK STREET AND WEST STREET. ELEV: 233.92m.

SEAL:

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WT INFRASTRUCTURE  
PRACTICAL INNOVATION

CLIENT:  
**Norfolk COUNTY**

PROJECT NAME:  
RECONSTRUCTION OF WEST STREET - PHASE 1  
HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38

TITLE:  
PLAN AND PROFILE  
STA. 0+450 TO STA. 0+600

PROJECT NO:  
22-2016

DATE:  
JANUARY 2023

SCALE:  
AS SHOWN

DESIGNED BY:  
AT

DRAWN BY:  
JWA

CHECKED BY:  
JW

IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.

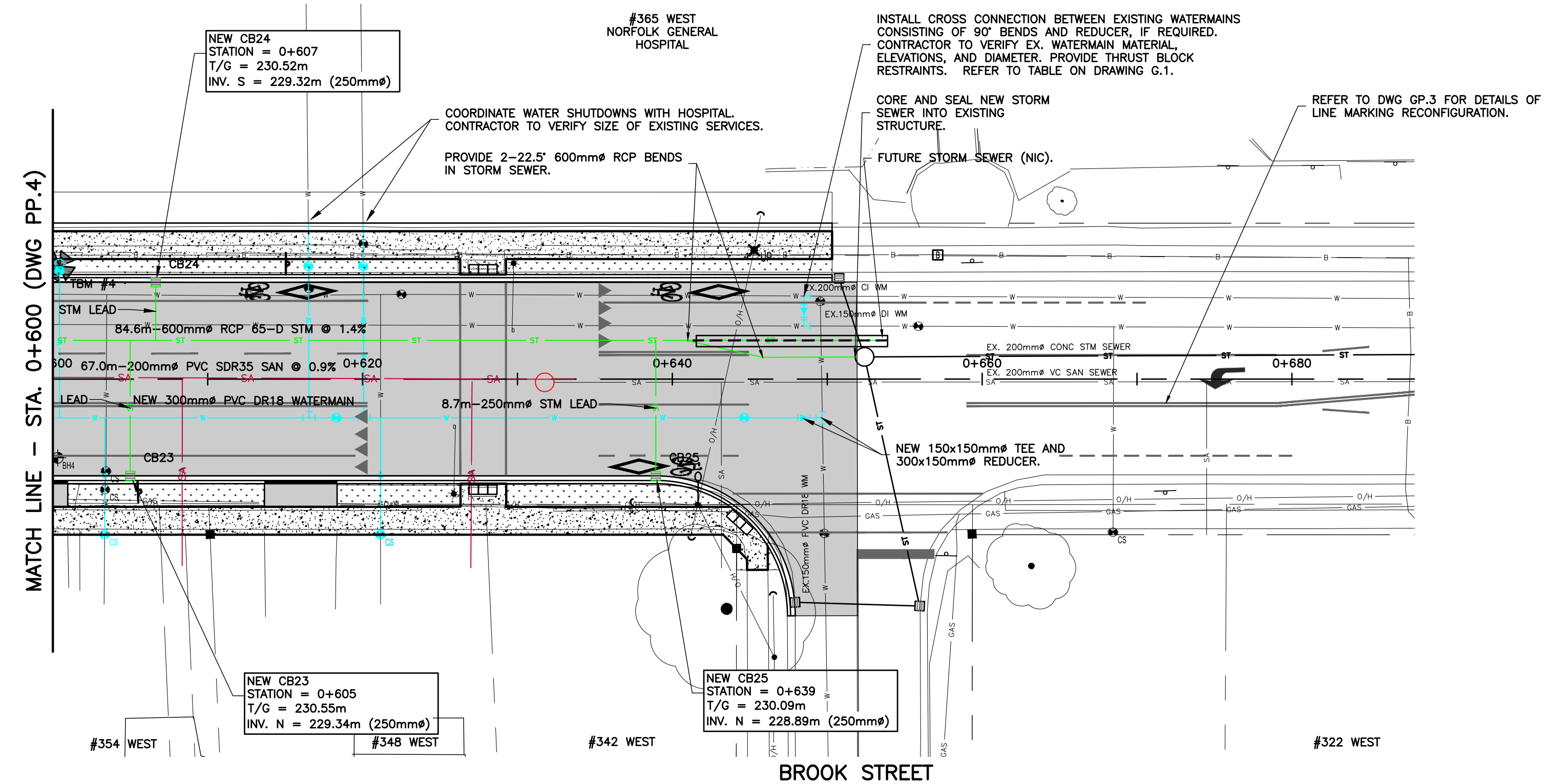
25mm

SHEET #:  
10 of 23

PP.4

REV: 1

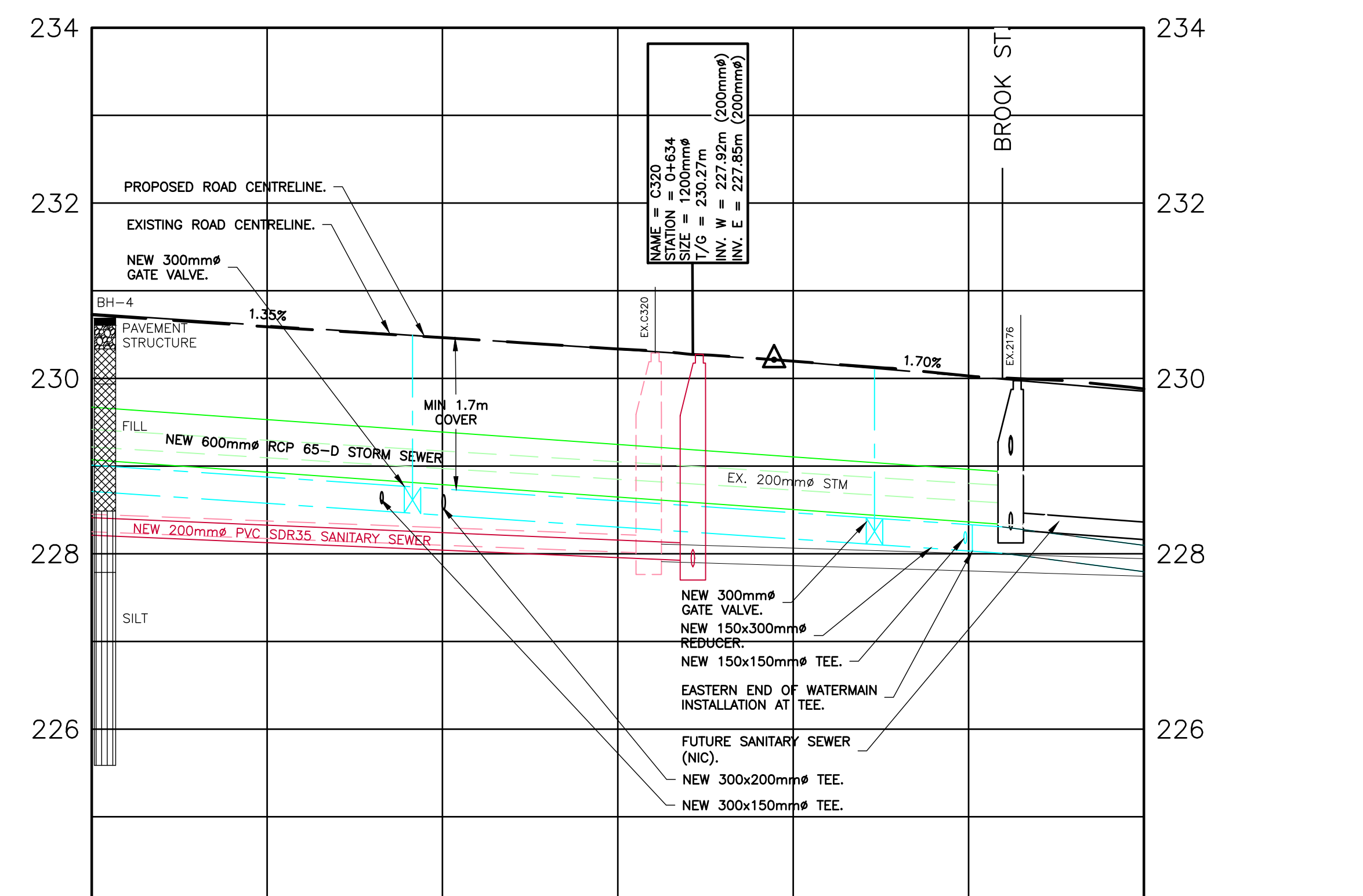




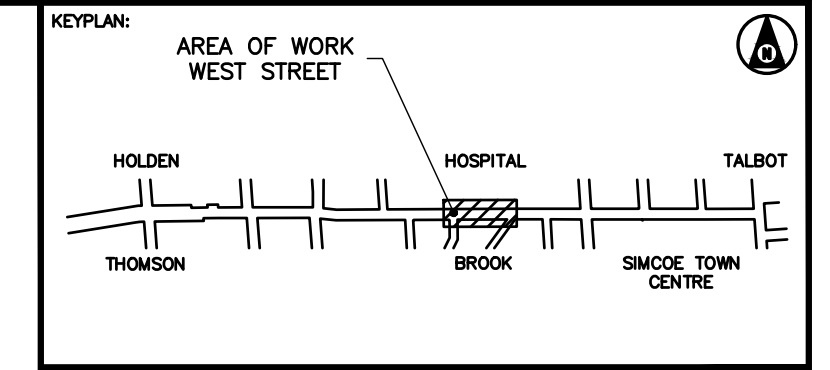
STRUCTURE NAME	LID ELEV.	INV. ELEV.	STRUCTURE HEIGHT
C126 1200mm#	231.18	200mm# 228.52 W 200mm# 228.49 E 200mm# 228.59 S	2.71m
C127 1200mm#	232.07	200mm# 229.35 W 200mm# 229.41 N 200mm# 229.32 E	2.75m
C128 1200mm#	235.01	200mm# 231.36 W 200mm# 231.75 S 200mm# 231.59 N 200mm# 231.33 E	3.68m
C129 1200mm#	235.36	200mm# 232.04 W 200mm# 232.01 E	3.35m
C130 1200mm#	235.19	200mm# 232.38 W 200mm# 232.50 S 200mm# 232.35 E	2.97m
C132 1200mm#	235.17	200mm# 232.68 E	2.49m
C321 1200mm#	232.94	200mm# 229.78 W 200mm# 229.75 E	3.19m

STRUCTURE NAME	LID ELEV.	INV. ELEV.	STRUCTURE HEIGHT
0593B 1200mm#	235.31	250mm# 233.38 S 300mm# 233.29 E 250mm# 233.38 N	2.03m
1390 1200mm#	231.97	525mm# 230.55 W 300mm# 230.55 N 525mm# 230.46 E	1.50m
1390A 1200mm#	233.93	250mm# 231.65 S 250mm# 231.65 N 525mm# 231.38 E	2.55m
2176A 1200mm#	231.10	525mm# 229.53 W 600mm# 229.50 E	1.60m

STRUCTURE NAME	LID ELEV.	INV. ELEV.	STRUCTURE HEIGHT	SUMP
CB1 750mmx750mm	235.18	250mm# 233.98 E	1.80m	0.60m
CB2 750mmx750mm	235.21	250mm# 233.98 E	1.83m	0.60m
CB3 750mmx750mm	235.25	250mm# 234.05 W	1.80m	0.60m
CB4 750mmx750mm	235.23	250mm# 234.03 W	1.80m	0.60m
CB5 750mmx750mm	235.26	250mm# 234.05 S	1.81m	0.60m
CB6 750mmx750mm	235.26	250mm# 234.05 N	1.81m	0.60m
CB7 750mmx750mm	234.96	250mm# 233.75 S	1.81m	0.60m
CB8 750mmx750mm	235.00	250mm# 233.80 NE	1.80m	0.60m
CB9 750mmx750mm	235.14	250mm# 233.94 W	1.80m	0.60m
CB10 750mmx750mm	235.09	250mm# 233.89 W	1.80m	0.60m
CB11 750mmx750mm	235.24	250mm# 234.04 S	1.80m	0.60m
CB12 750mmx750mm	235.24	250mm# 234.04 N	1.80m	0.60m
CB13 750mmx750mm	235.03	250mm# 233.83 N	1.80m	0.60m
CB14 750mmx750mm	235.00	250mm# 233.80 S	1.80m	0.60m
CB15 750mmx750mm	233.85	250mm# 232.65 N	1.80m	0.60m
CB16 750mmx750mm	233.85	250mm# 232.65 S	1.80m	0.60m
CB17 750mmx750mm	232.29	250mm# 231.09 S	1.80m	0.60m
CB18 750mmx750mm	232.26	250mm# 231.07 N	1.79m	0.60m
CB19 750mmx750mm	231.94	250mm# 230.74 E	1.80m	0.60m
CB20 750mmx750mm	231.93	250mm# 230.66 W 300mm# 230.65 S	1.88m	0.60m
CB21 750mmx750mm	231.23	250mm# 230.03 N	1.80m	0.60m
CB23 750mmx750mm	230.55	250mm# 229.34 N	1.81m	0.60m
CB24 750mmx750mm	230.52	250mm# 229.32 S	1.80m	0.60m
CB25 750mmx750mm	230.09	250mm# 228.89 N	1.80m	0.60m



STATION	0+620	0+640	0+660	STATION
CENTERLINE GRADE	EXISTING 230.73 FINISHED 230.74	EXISTING 230.47 FINISHED 230.47	EXISTING 229.85 FINISHED 229.85	CENTERLINE GRADE
TOP OF WATERMAIN	EXISTING 229.01 NEW 229.01	EXISTING 228.74 NEW 228.74	EXISTING 228.10 NEW 228.10	TOP OF WATERMAIN
EXISTING STORM SEWER INVERT	229.64	228.47	228.07	EXISTING STORM SEWER INVERT
STORM SEWER INVERT	229.50	228.30	228.30	STORM SEWER INVERT
EXISTING SANITARY SEWER INVERT	228.50	227.91	227.52	EXISTING SANITARY SEWER INVERT
SANITARY SEWER INVERT	228.49	227.92	227.92	SANITARY SEWER INVERT



- NOTES**
- SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS.
  - CONTRACTOR TO SUPPORT ALL UTILITY POLES ADJACENT TO THE AREA OF WORK AS REQUIRED.
  - CURB STOPS FOR THE WATER SERVICE CONNECTIONS ARE TO BE LOCATED AT THE PROPERTY LINE. EXISTING SERVICE CONNECTIONS ARE TO BE RECONFIGURED AS REQUIRED. REINSTATE ASPHALT PAVEMENT PER DETAIL DWG DS-1.
  - NEW CURB AND GUTTER TO OPSD 600.040.
  - TERMINATE CURB AND GUTTER PER OPSD 608.010.
  - STANDARD BARRIER CURBS TO OPSD 600.010.
  - DRIVEWAY ENTRANCES TO OPSD 351.010. SIDEWALK AT ENTRANCES PER OPSD 310.050.
  - SIDEWALK TO OPSD 310.010 AND 310.020 AS APPLICABLE. SIDEWALK RAMPS AT INTERSECTIONS PER OPSD 310.033.
  - SANITARY SERVICE CONNECTIONS TO OPSD 1006.010.
  - FRAME AND GRATE FOR STORM MAINTENANCE HOLES TO OPSD 401.010 TYPE B.
  - CATCH BASIN INSTALLATION AT CURB AND GUTTER TO OPSD 810.010.
  - CATCH BASINS TO OPSD 705.010. DOUBLE CATCH BASINS TO OPSD 705.020.
  - CATCH BASIN CONNECTIONS TO MAIN PER OPSD 708.010.
  - CATCH BASIN LEADS TO BE 250mm DIAMETER FOR SINGLE CATCH BASINS AND 300mm DIAMETER FOR DOUBLE CATCH BASINS. PIPE TO BE PVC SDR35 BEDDED WITH TYPE B BEDDING.
  - CATCH BASIN FRAME AND GRATE WITHIN ROADWAY TO OPSD 400.100. IN VEGETATE AREAS, PROVIDE FRAME AND GRATE TO OPSD 400.120.
  - PROVIDE SUBDRAIN UNDER CURB LINE, BOTH SIDES, PER OPSD 207.041. PROVIDE SUBDRAIN CONNECTIONS AT STORM STRUCTURES PER OPSD 216.021.
  - STORM STRUCTURE BENCHING TO OPSD 701.021.
  - WATER SERVICE CONNECTIONS TO OPSD 1104.010.
  - HYDRANT INSTALLATION PER OPSD 1105.010.
  - VALVE OPERATOR TO OPSD 1101.020.
  - CATHODIC PROTECTION FOR WATERMAIN AND FITTINGS PER OPSD 1109.011.
  - TRENCHING AND BEDDING PER OPSD 802.030 AND 802.031.

BENCHMARK:  
TBM #4: TOP OF NUT ON FH AT WEST END OF HOSPITAL PROPERTY. ELEV. 229.56m.  
TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV. 226.88m.

SEAL:

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NO.	BY	DATE	ISSUE / REVISION
1	AT	28/04/23	ISSUED FOR CONSTRUCTION



CLIENT:

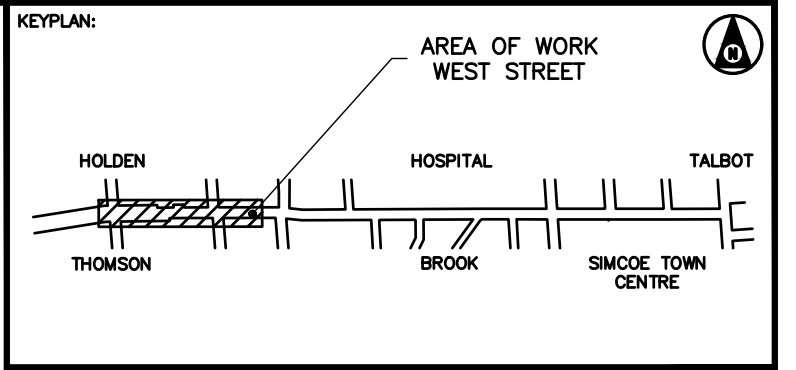
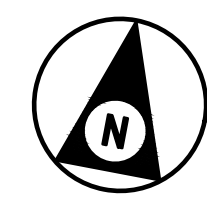
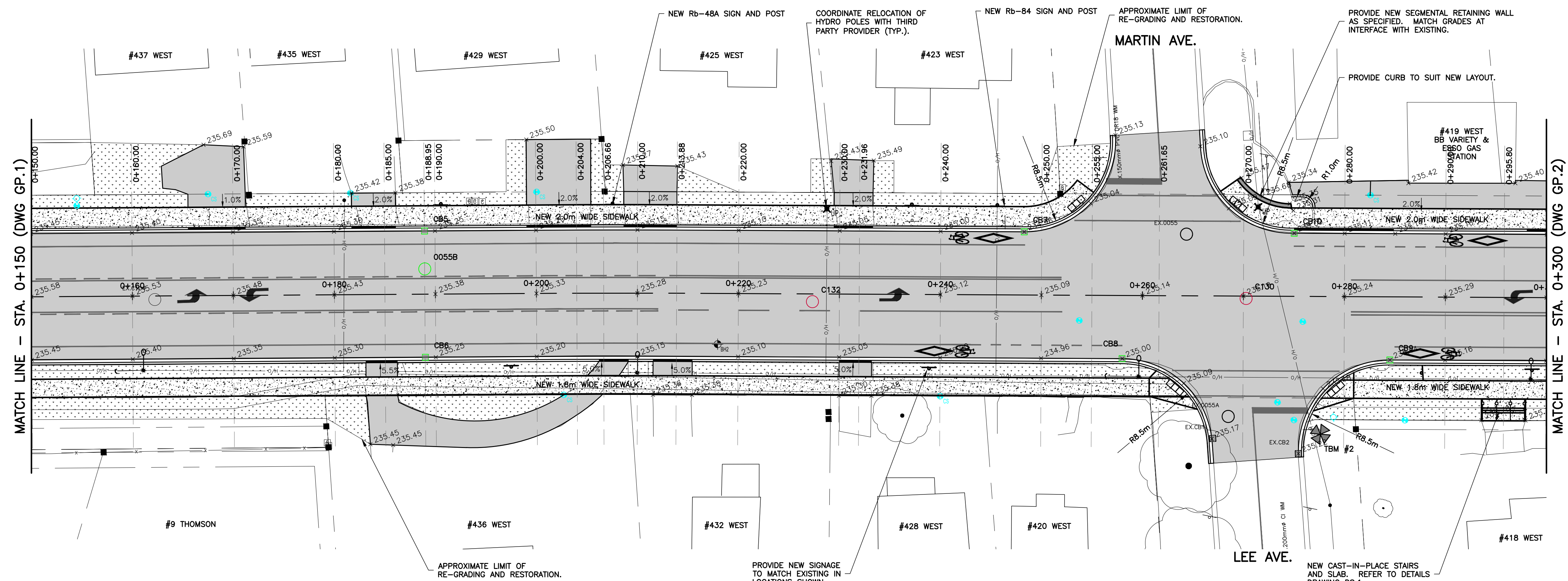
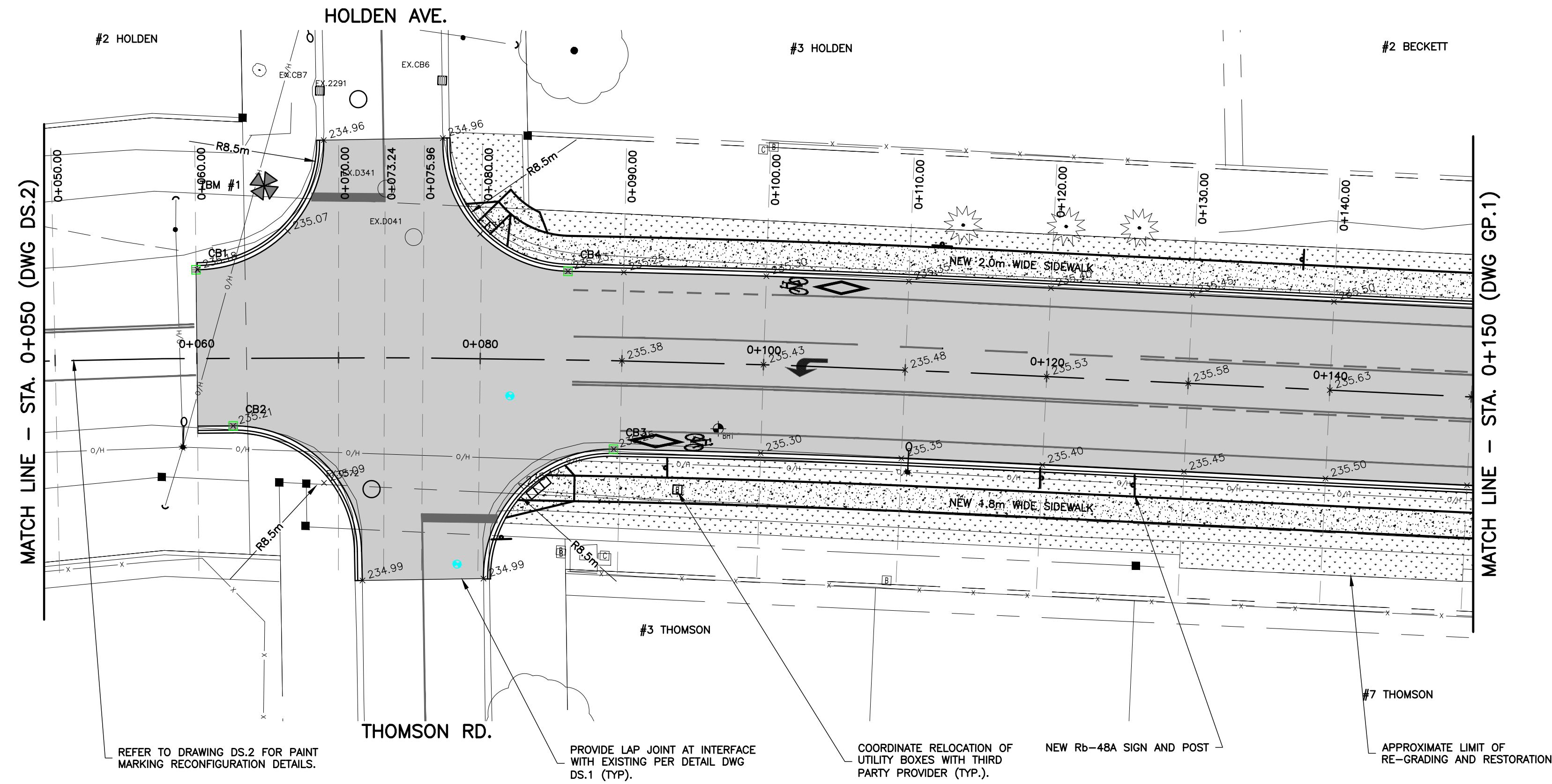
PROJECT NAME: RECONSTRUCTION OF WEST STREET - PHASE 1 HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38

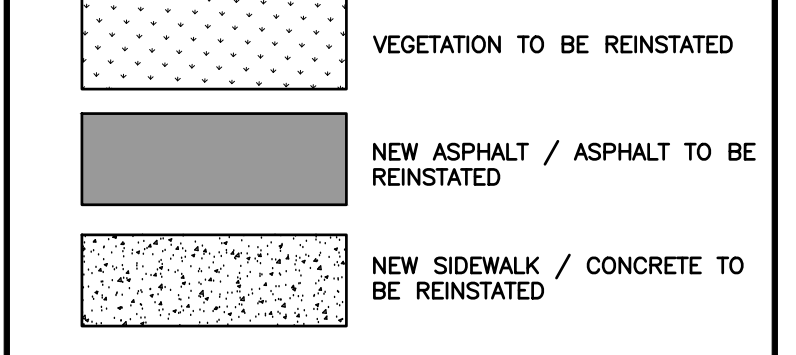
TITLE: PLAN AND PROFILE STA. 0+600 TO STA. 0+680

PROJECT NO:	DATE:
22-2016	JANUARY 2023
SCALE:	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
DESIGNED BY:	
AT	
DRAWN BY:	
JJA	
CHECKED BY:	
JW	






- NOTES**
- SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS.
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  - REINSTATE ASPHALT PAVEMENT PER DETAIL DWG DS.1.
  - PROVIDE NEW FRAME AND GRATE (TYPE A) ON SANITARY MAINTENANCE HOLES PER OPSD 401.010.
  - PROVIDE TREE PROTECTION AS SPECIFIED AND AS PER OPSD 220.010.



**BENCHMARK:**  
 TBM #1: TOP OF NUT ON FH AT NW CORNER OF HOLDEN AVENUE AND WEST STREET. ELEV: 234.08m.  
 TBM #2: TOP OF NUT ON FH AT SE CORNER OF LEE AVENUE AND WEST STREET. ELEV: 234.40m.


SEAL: 

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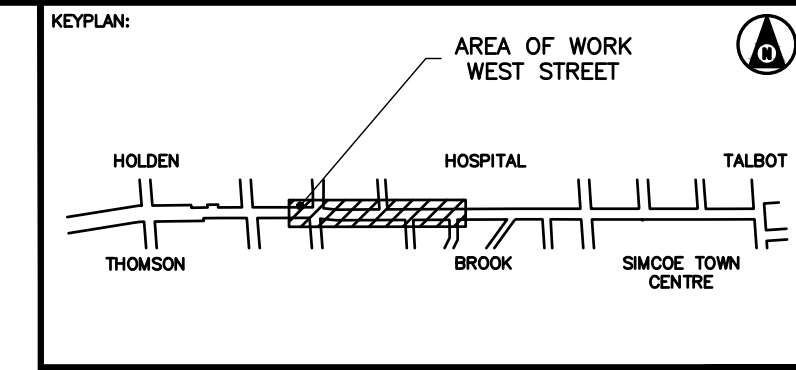
NO.	BY	DATE	ISSUE / REVISION
1	AT	28/04/23	ISSUED FOR CONSTRUCTION



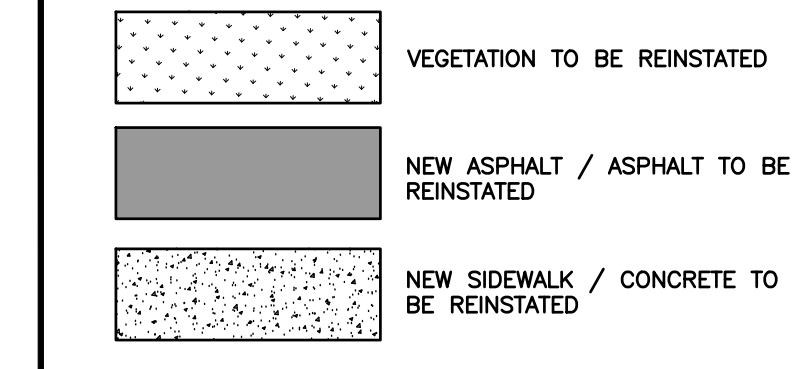
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 RECONSTRUCTION OF WEST STREET - PHASE 1  
 HOLDEN AVENUE TO BROOK STREET  
**CLIENT REF:** EIS-ENG-23-38  
**TITLE:**  
 GRADING AND REINSTATEMENT PLAN  
 STA. 0+000 TO STA. 0+300

<b>PROJECT NO:</b> 22-2016	<b>DATE:</b> JANUARY 2023
<b>SCALE:</b>	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE. 
<b>DESIGNED BY:</b> AT	
<b>DRAWN BY:</b> JA	
<b>CHECKED BY:</b> JW	





- NOTES**
- SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS.
  - CONTRACTOR TO SUPPORT ALL UTILITY POLES ADJACENT TO THE AREA OF WORK AS REQUIRED.
  - CURB STOPS FOR THE WATER SERVICE CONNECTIONS ARE TO BE LOCATED AT THE PROPERTY LINE. EXISTING SERVICE CONNECTIONS ARE TO BE RECONFIGURED AS REQUIRED.
  - REINSTATE ASPHALT PAVEMENT PER DETAIL DWG DS.1.
  - PROVIDE NEW FRAME AND GRATE (TYPE A) ON SANITARY MAINTENANCE HOLES PER OPSD 401.010.
  - PROVIDE TREE PROTECTION AS SPECIFIED AND AS PER OPSD 220.010.



**BENCHMARK:**  
TBM #3: TOP OF NUT ON FH AT SE CORNER OF OAK STREET AND WEST STREET. ELEV: 233.92m.

SEAL: SEAL:

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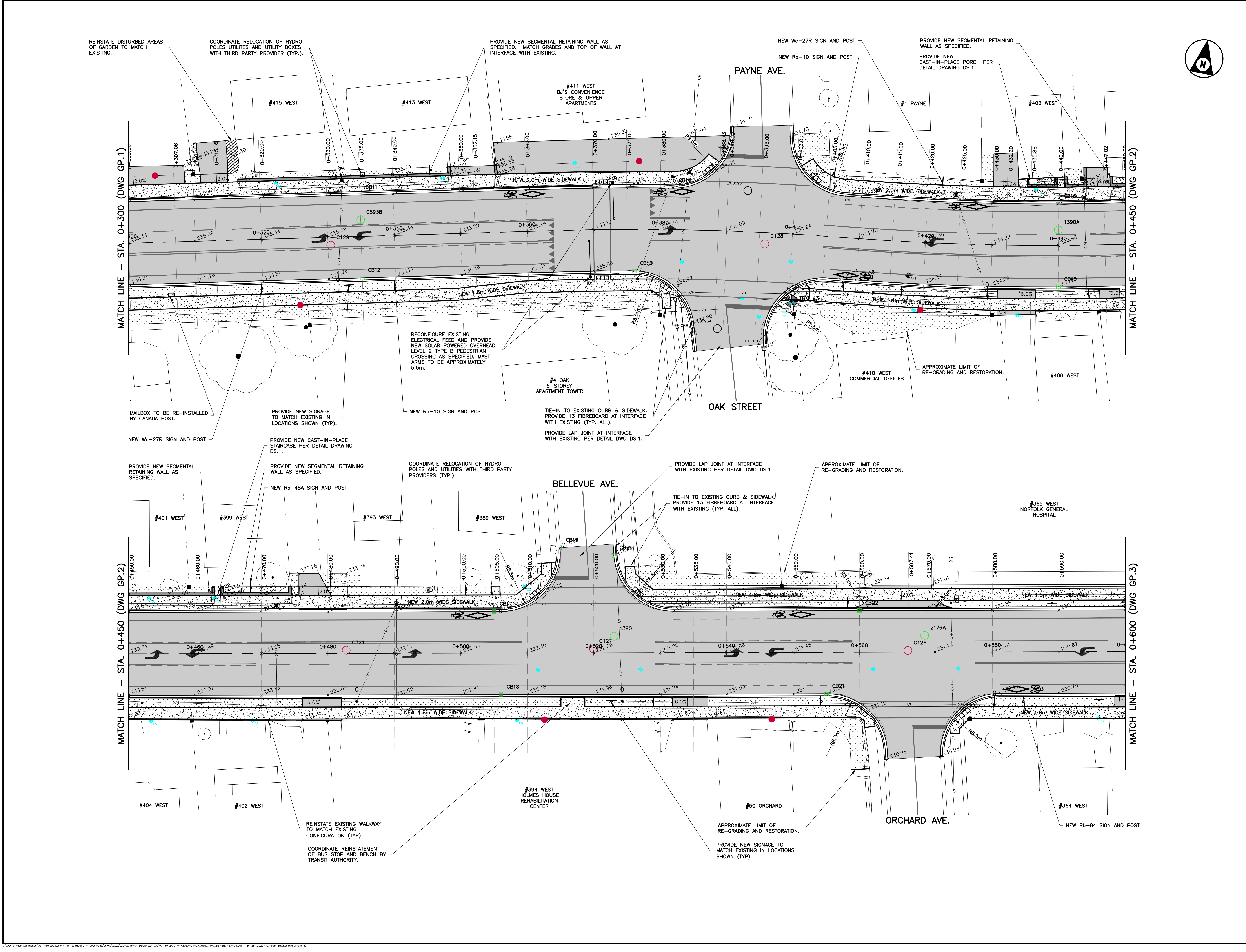
CLIENT:

PROJECT NAME:  
RECONSTRUCTION OF WEST STREET - PHASE 1  
HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38

TITLE:  
GRADING AND REINSTATEMENT PLAN  
STA. 0+300 TO STA. 0+600

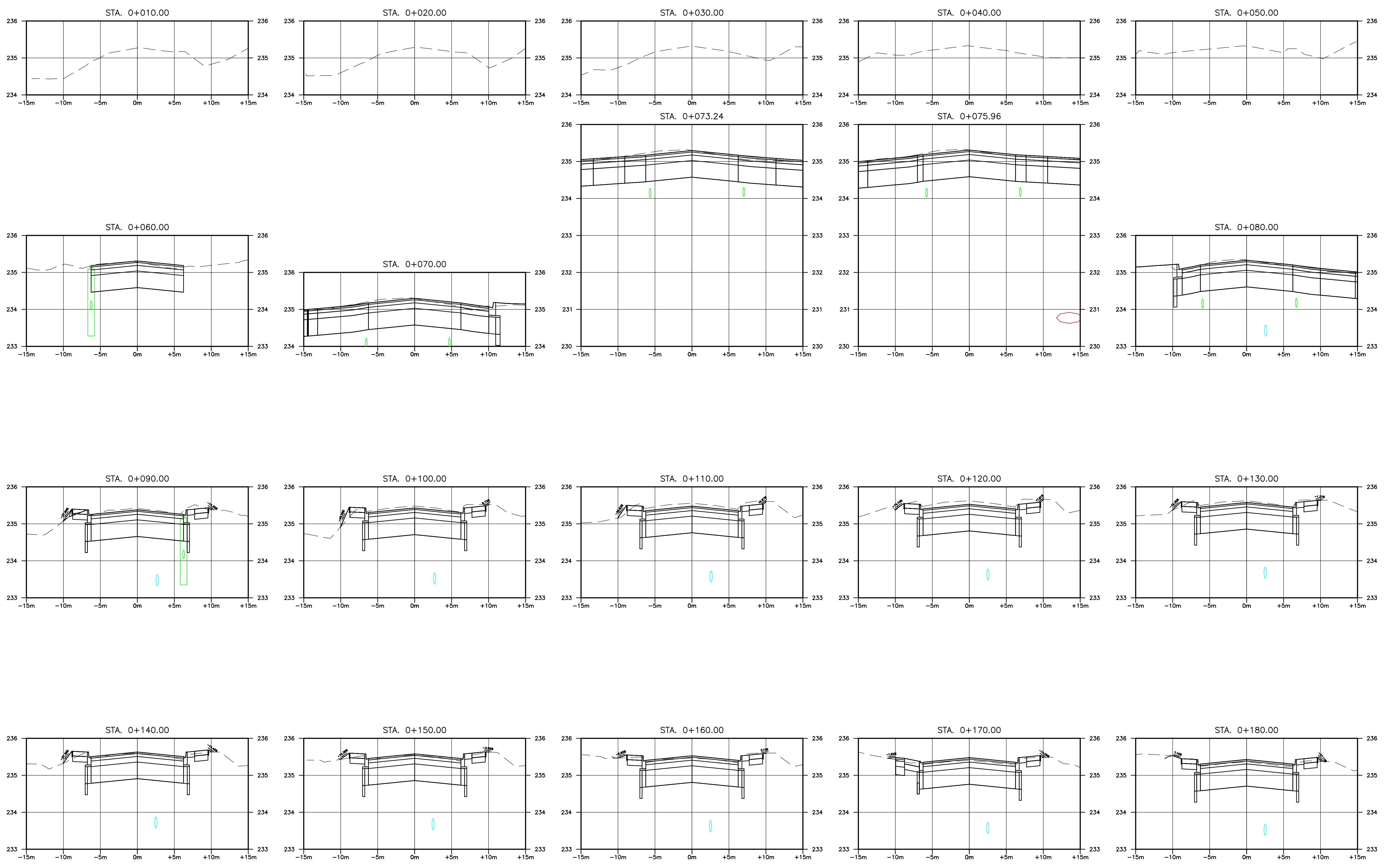
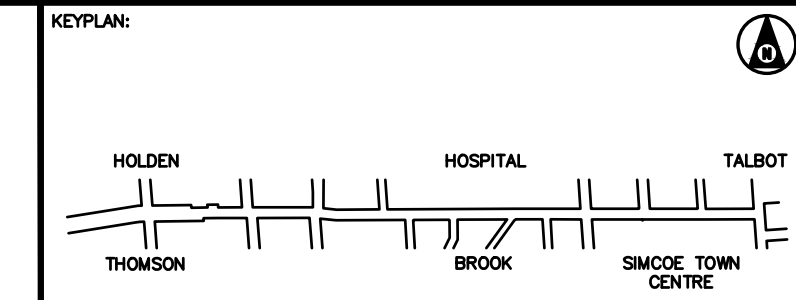
PROJECT NO: 22-2016	DATE: JANUARY 2023
SCALE:	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE. 
DESIGNED BY: AT	
DRAWN BY: JA	
CHECKED BY: JW	



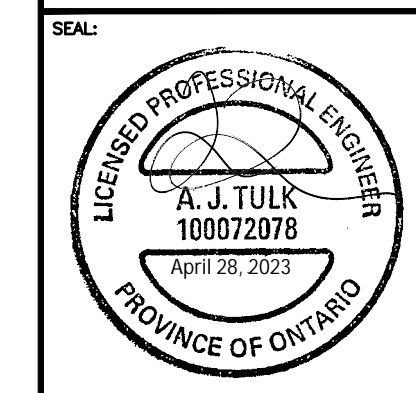








BENCHMARK:  
 TBM #4: TOP OF NUT ON FH AT WEST END OF HOSPITAL PROPERTY. ELEV. 229.56m.  
 TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV. 226.88m.



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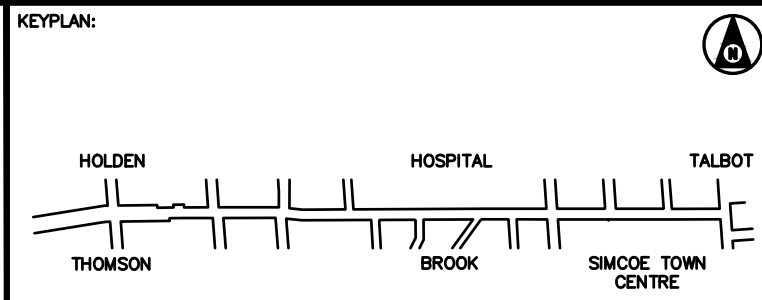
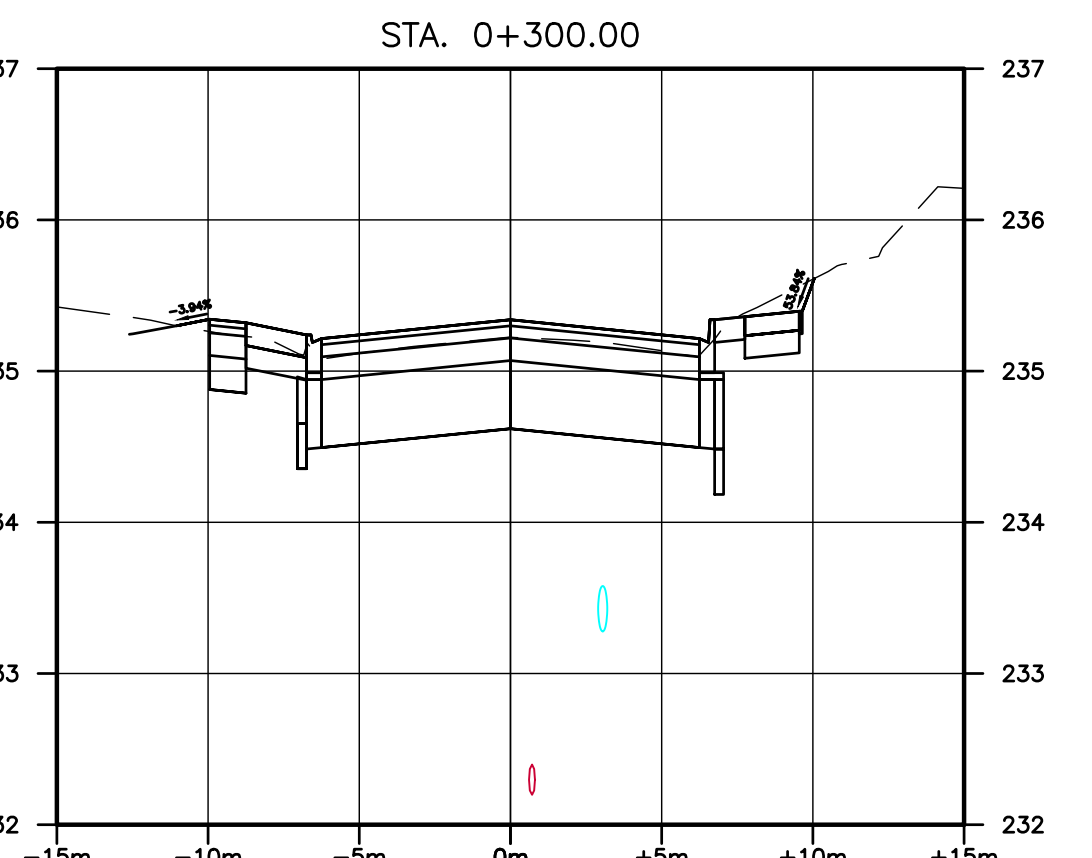
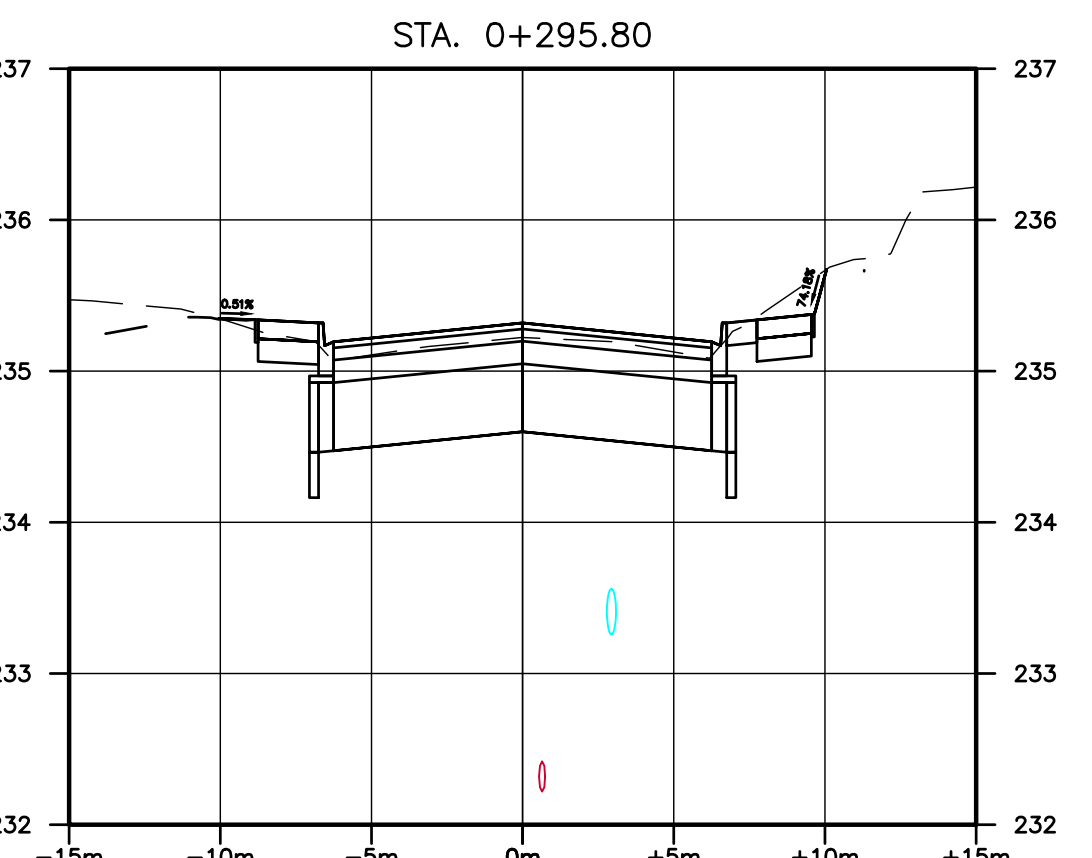
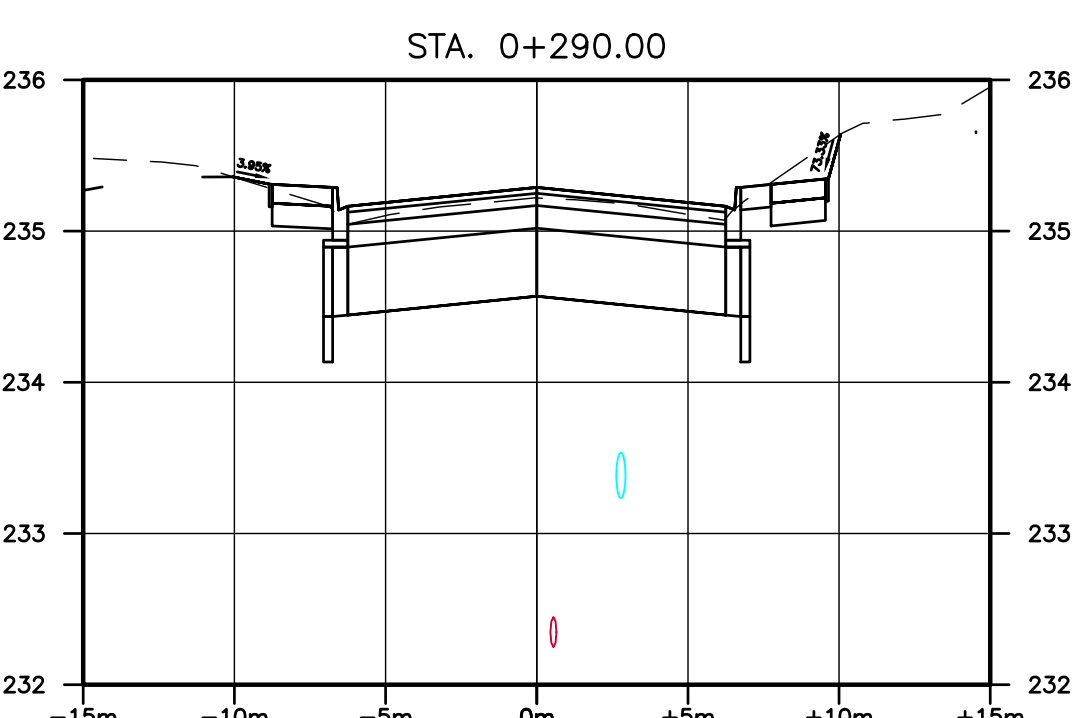
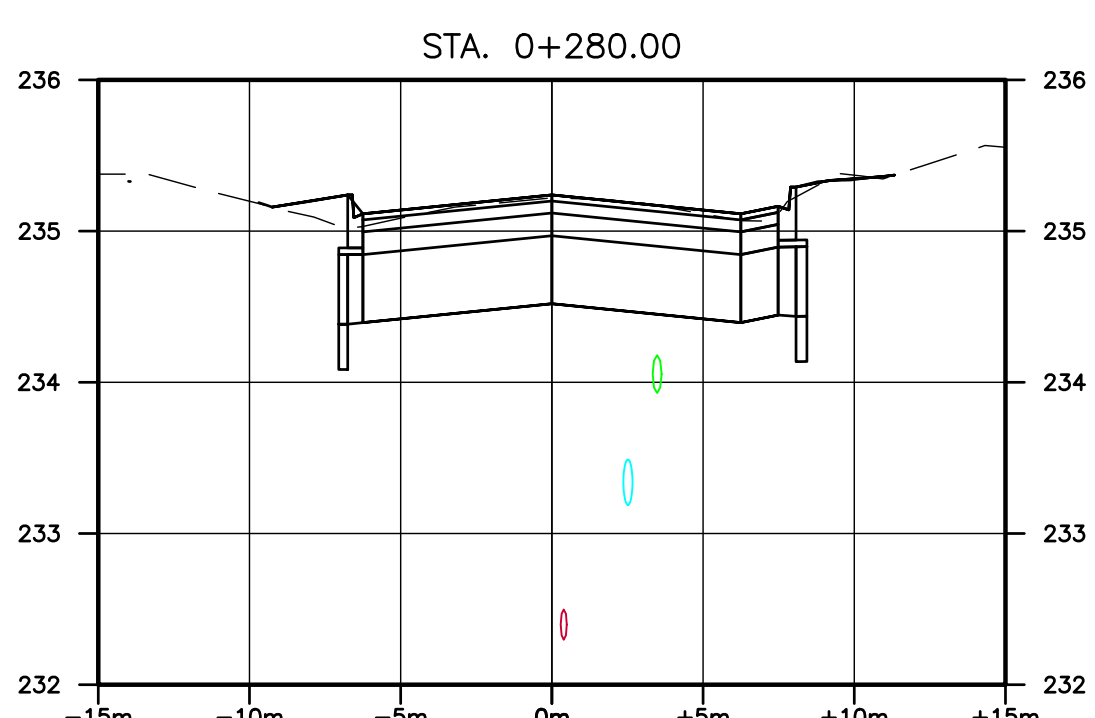
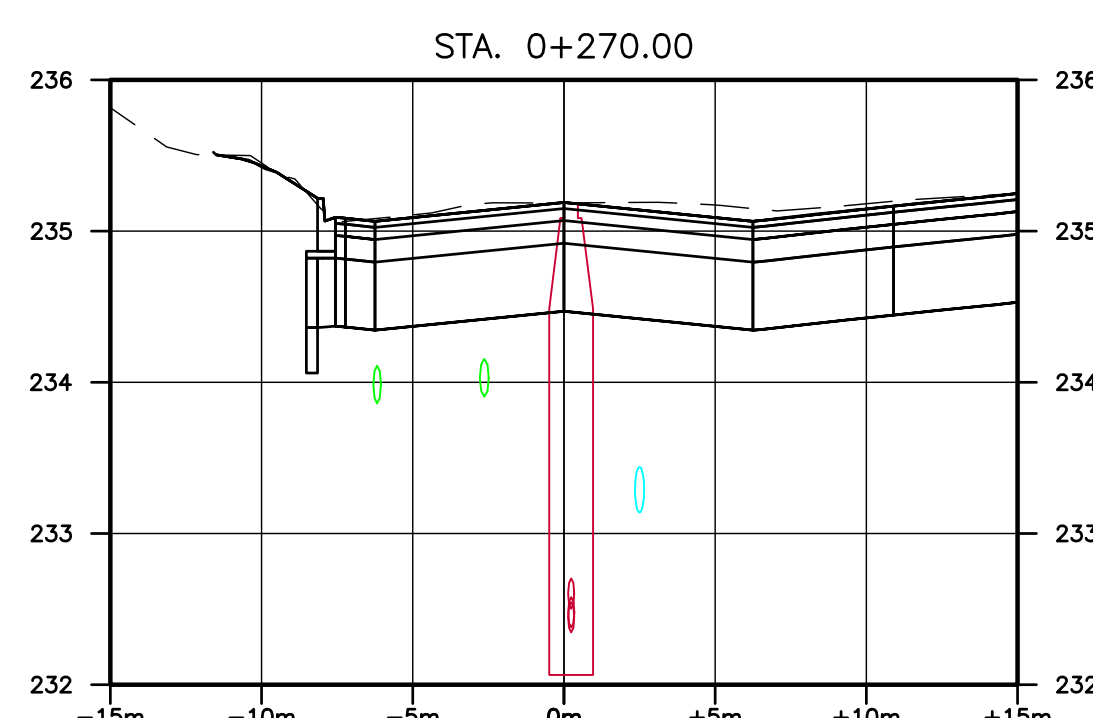
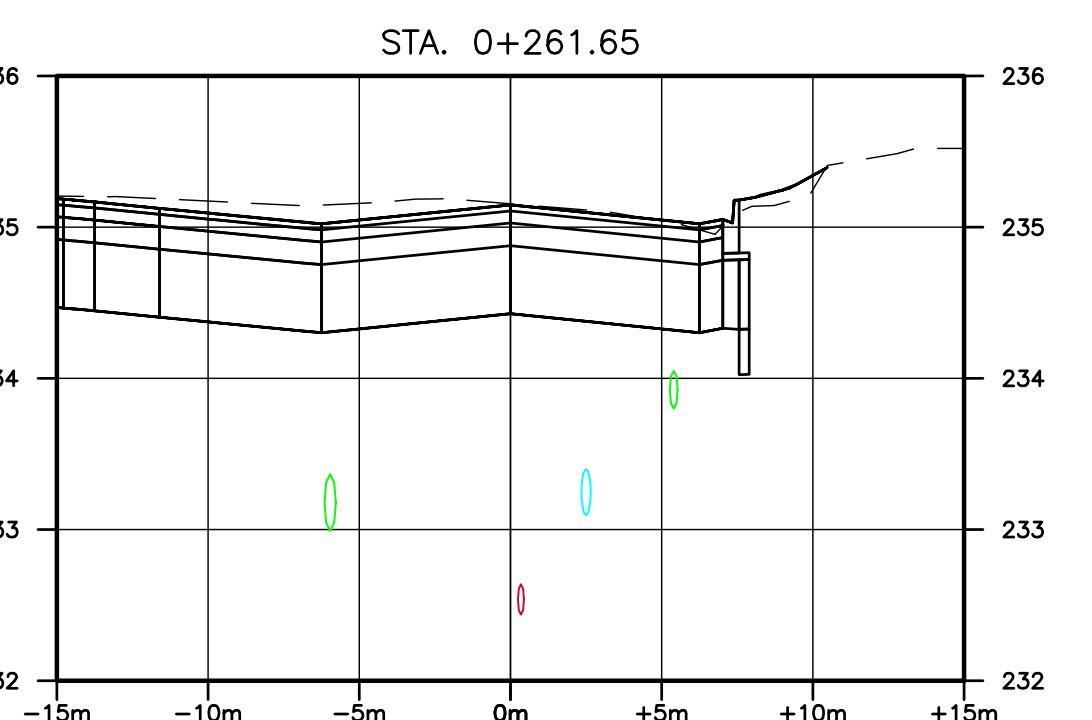
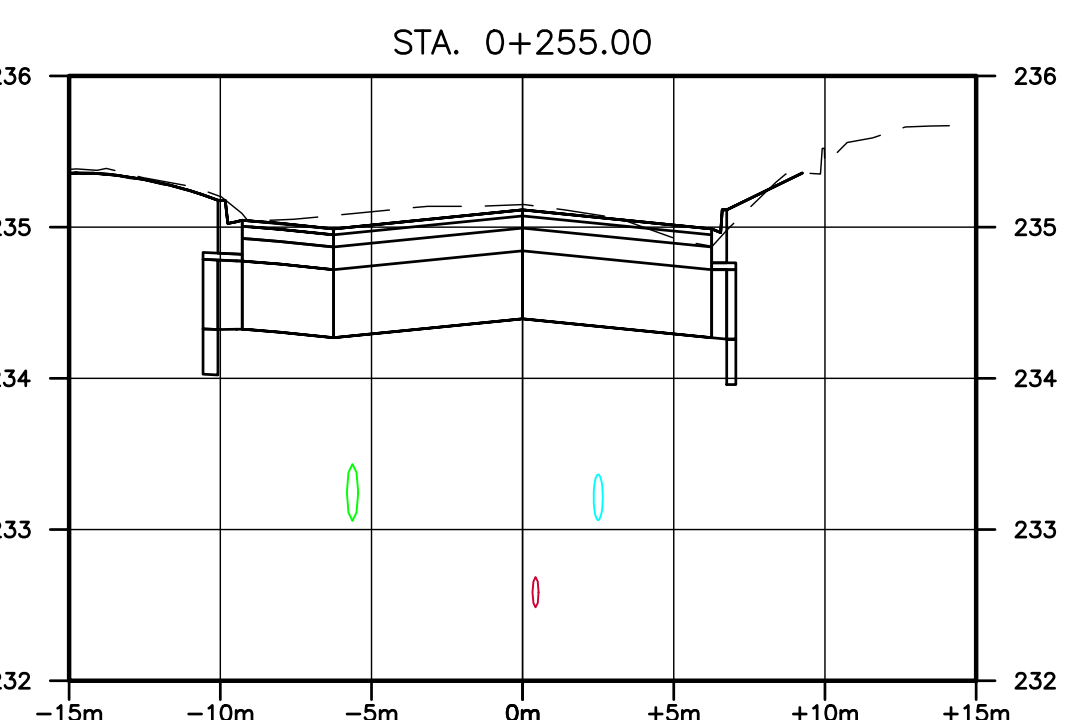
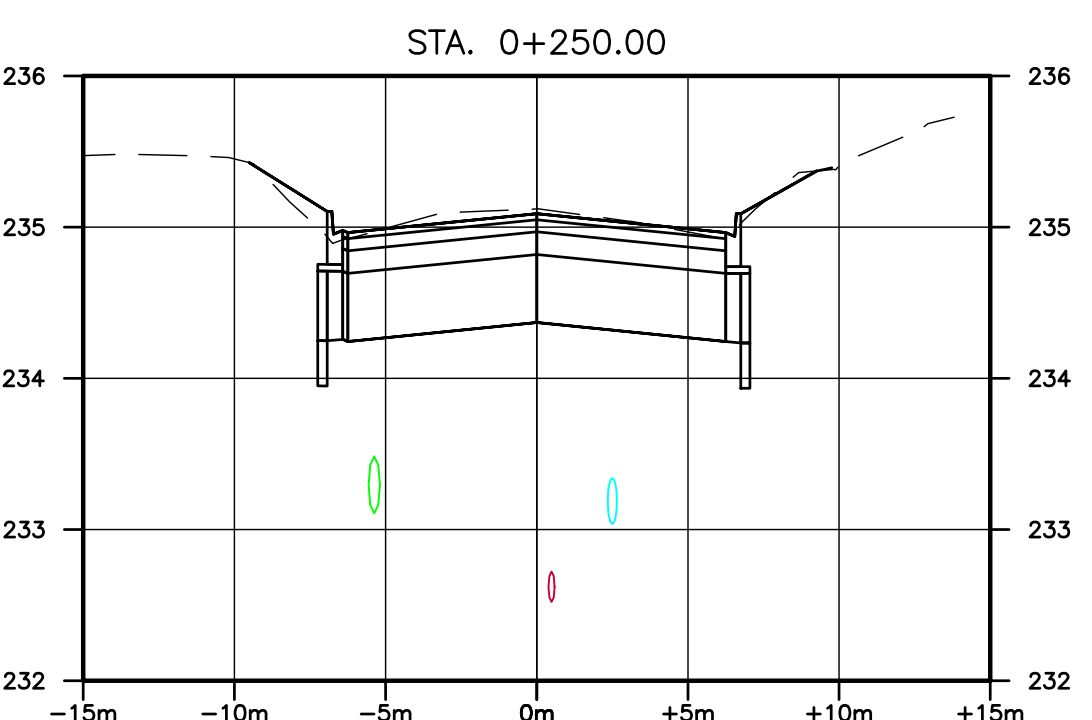
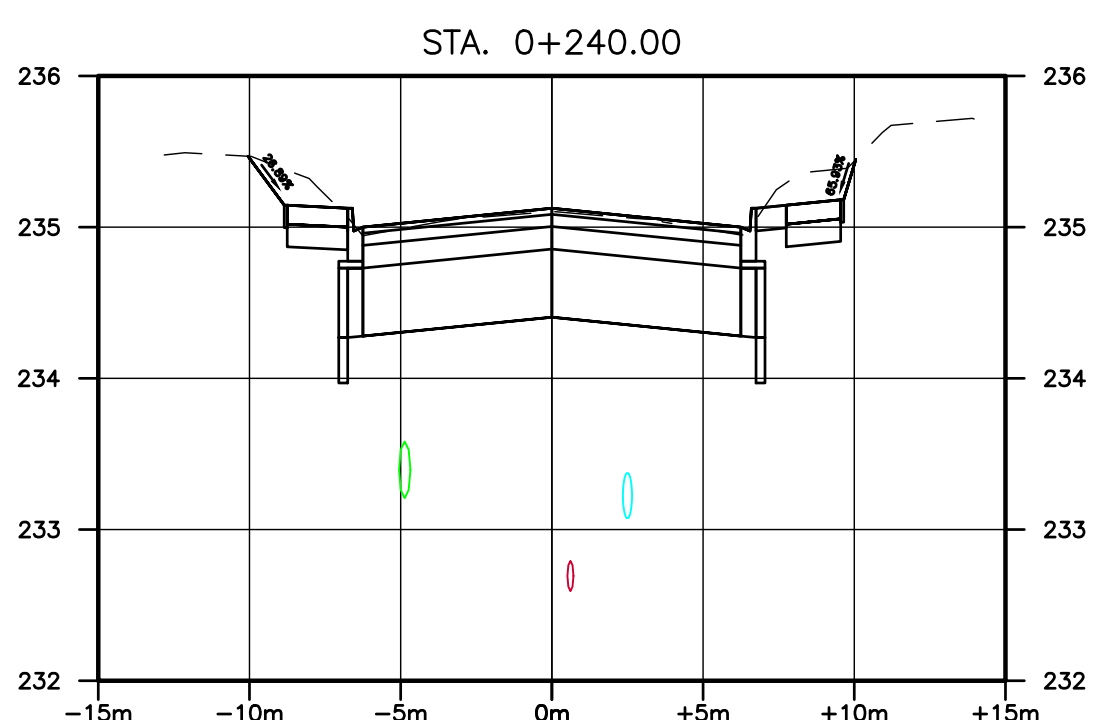
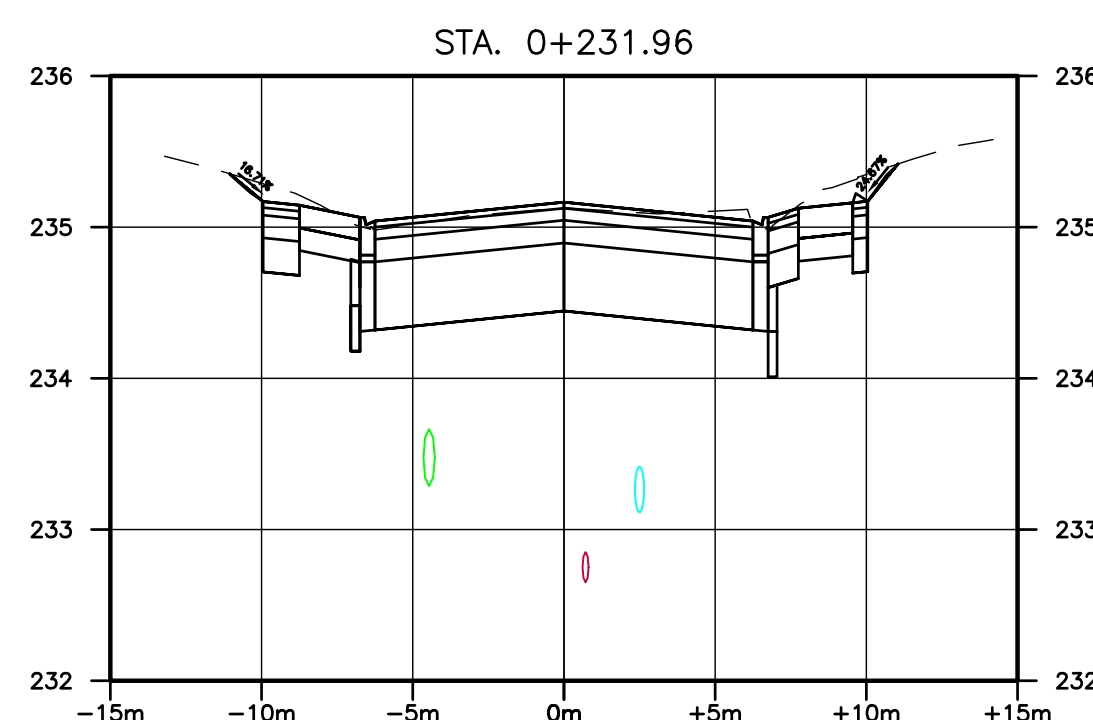
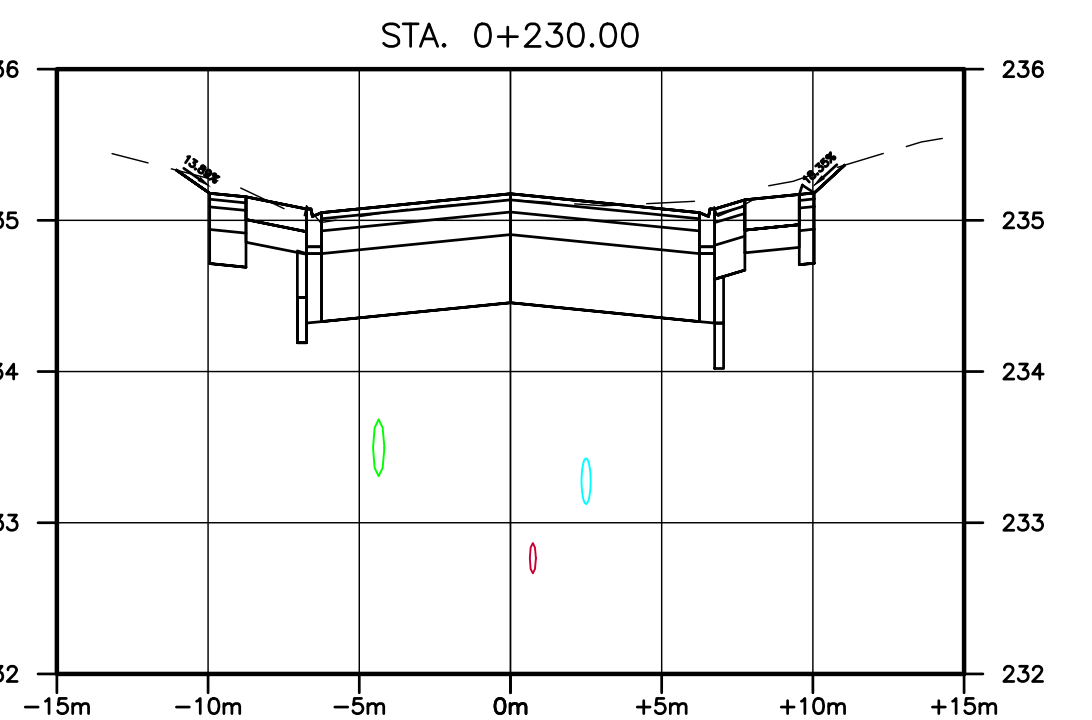
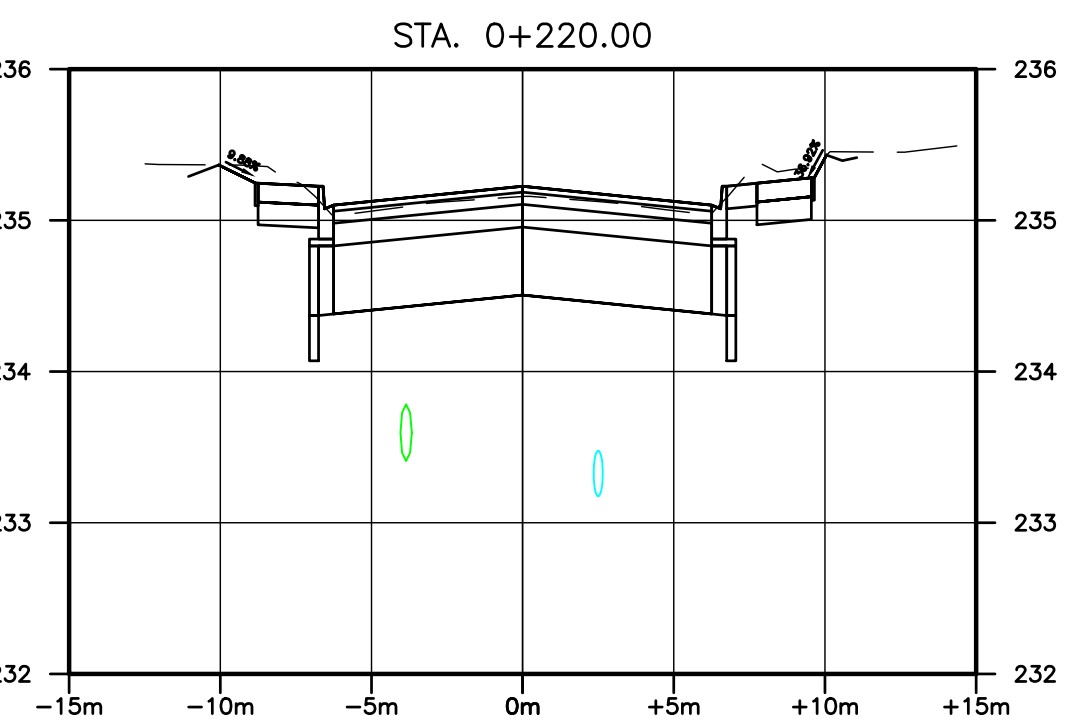
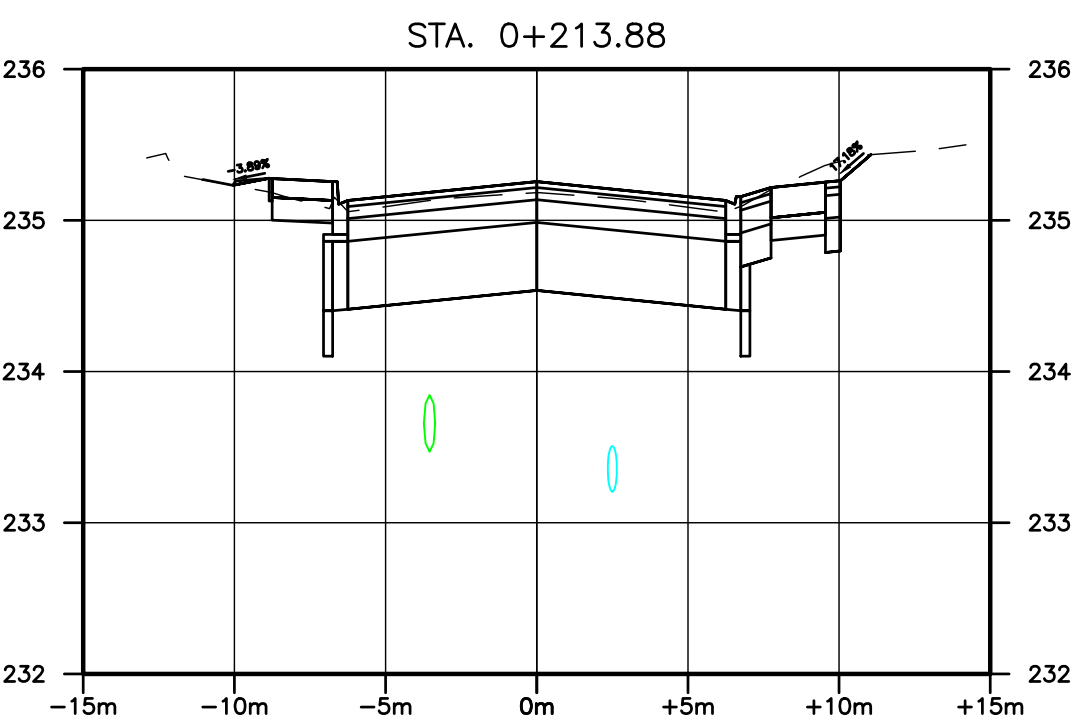
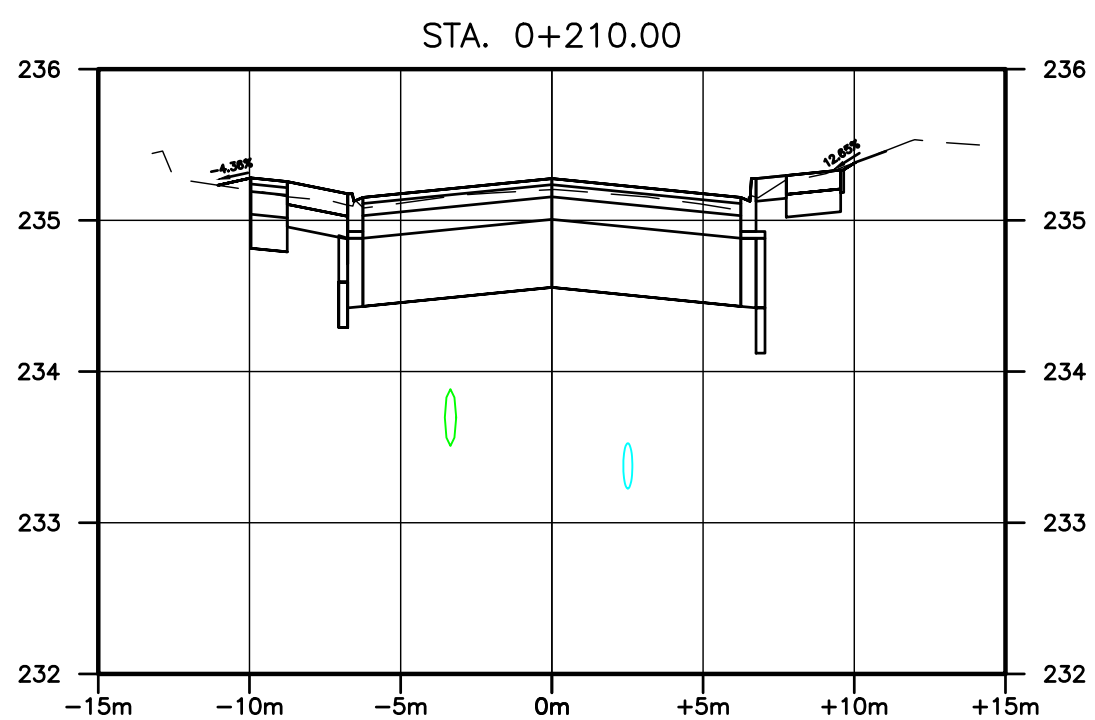
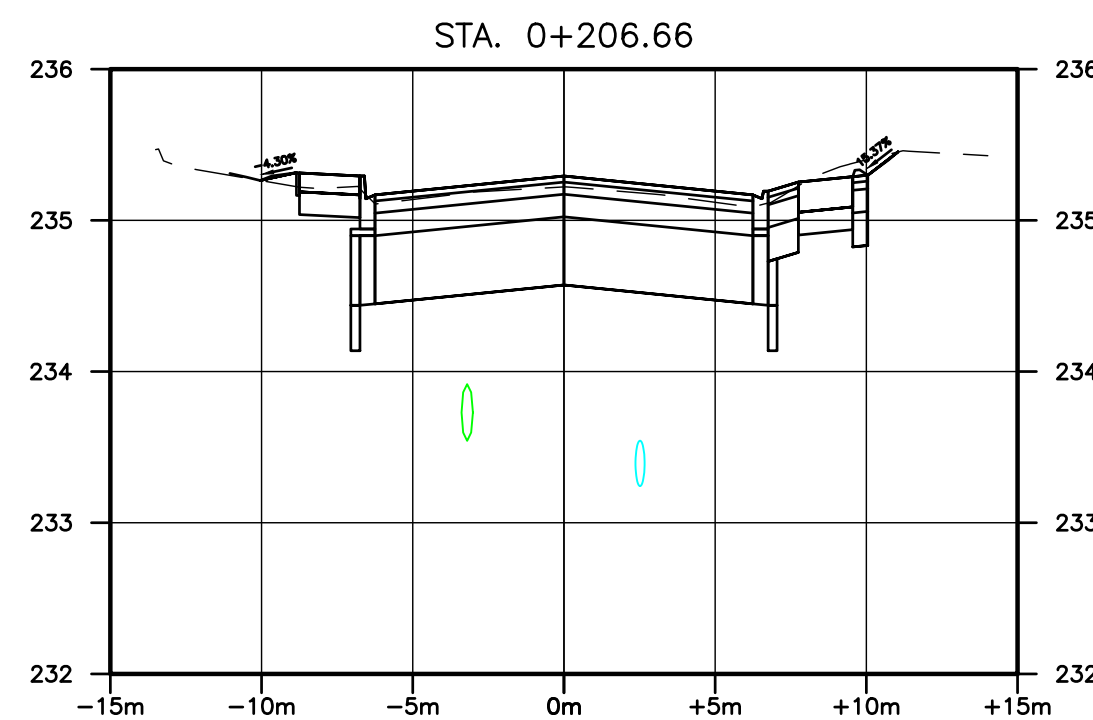
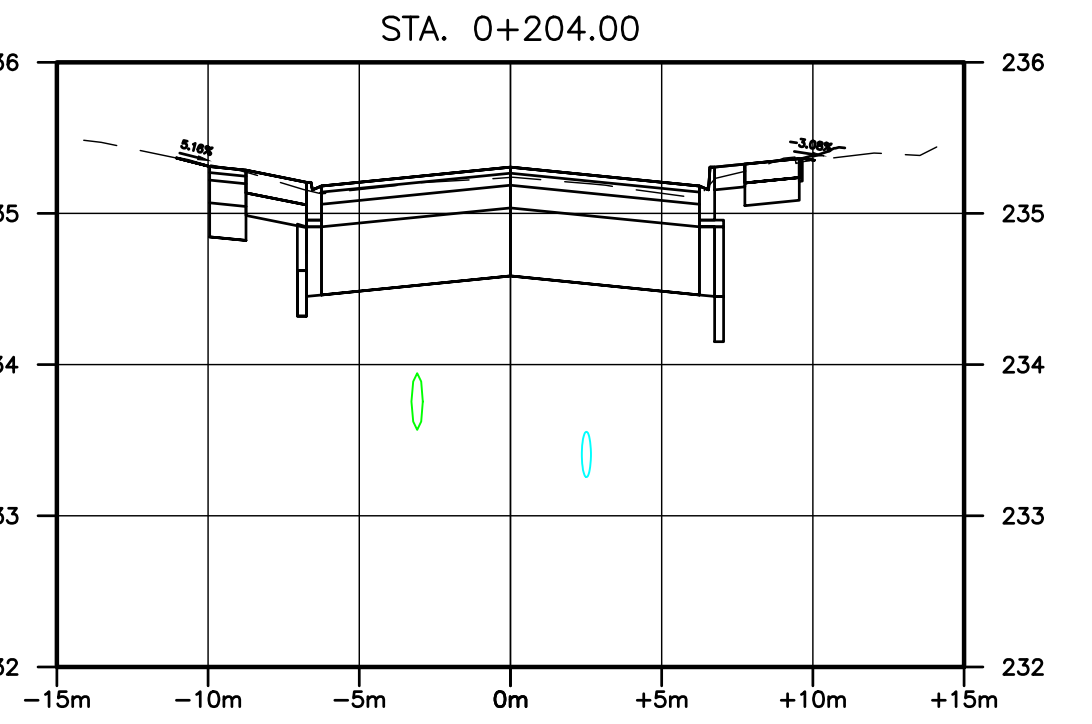
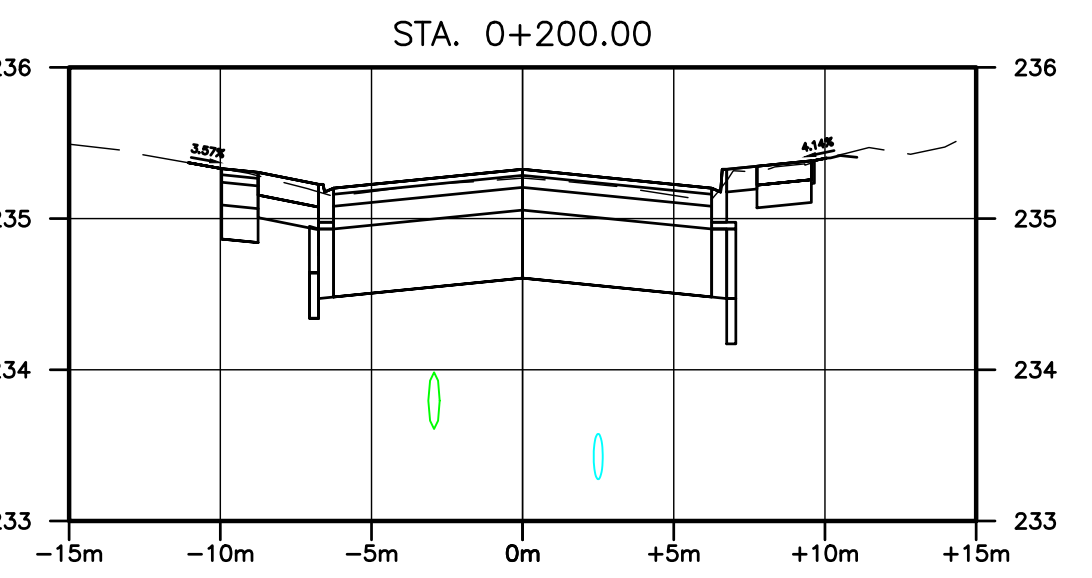
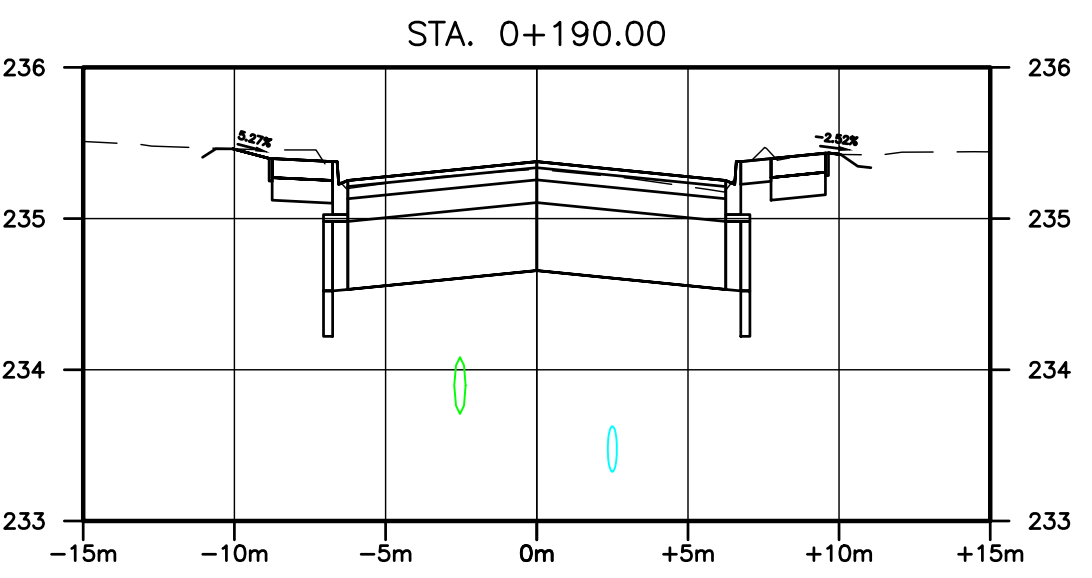
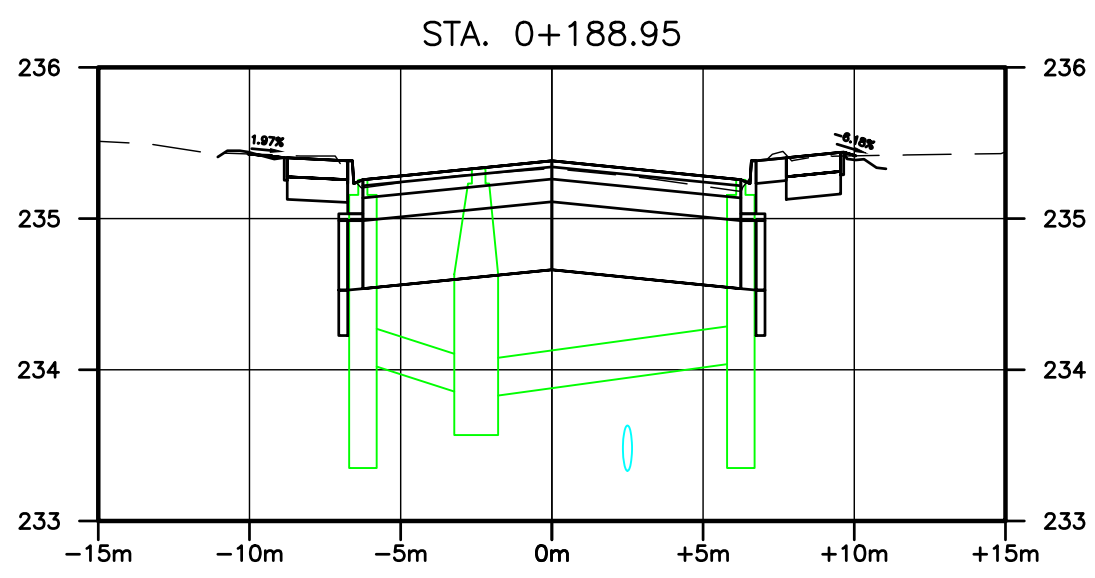
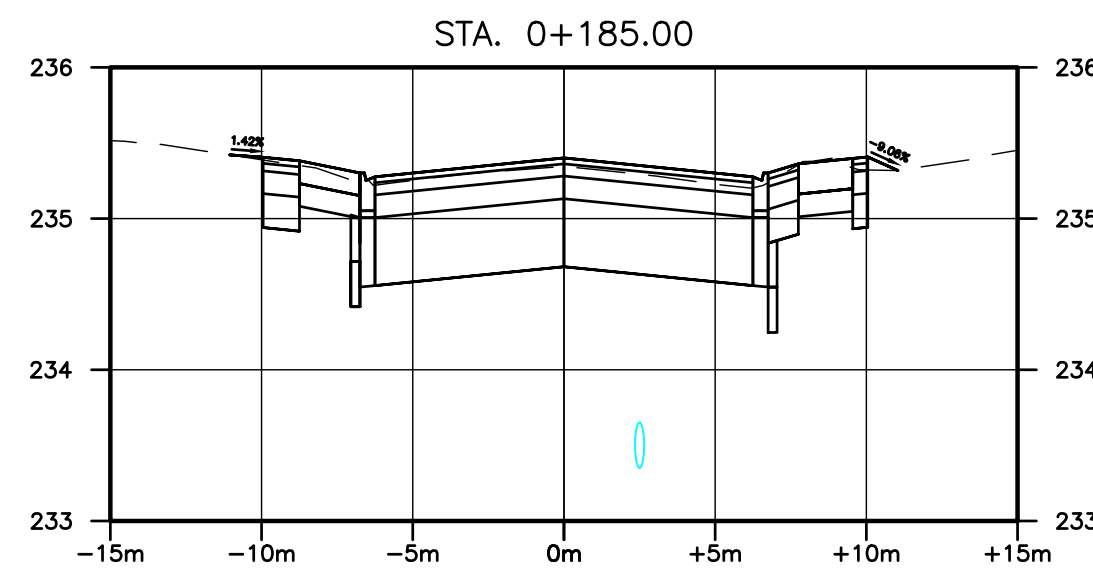


PROJECT NAME:  
**RECONSTRUCTION OF WEST STREET - PHASE 1**  
 HOLDEN AVENUE TO BROOK STREET  
 CLIENT REF: EIS-ENG-23-38

TITLE:  
**GRADING AND REINSTATEMENT PLAN**  
 STA. 0+010 TO STA. 0+180

PROJECT NO: 22-2016  
 DATE: JANUARY 2023  
 SCALE: 1:25  
 DESIGNED BY: AT  
 DRAWN BY: JA  
 CHECKED BY: JW  
 IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.  
 25mm





BENCHMARK:  
 TBM #4: TOP OF NUT ON FH AT WEST END OF HOSPITAL PROPERTY. ELEV. 229.56m.  
 TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV. 226.88m.

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NO.	BY	DATE	ISSUE / REVISION
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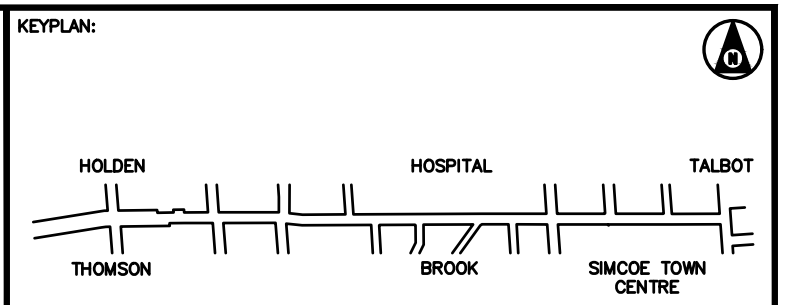
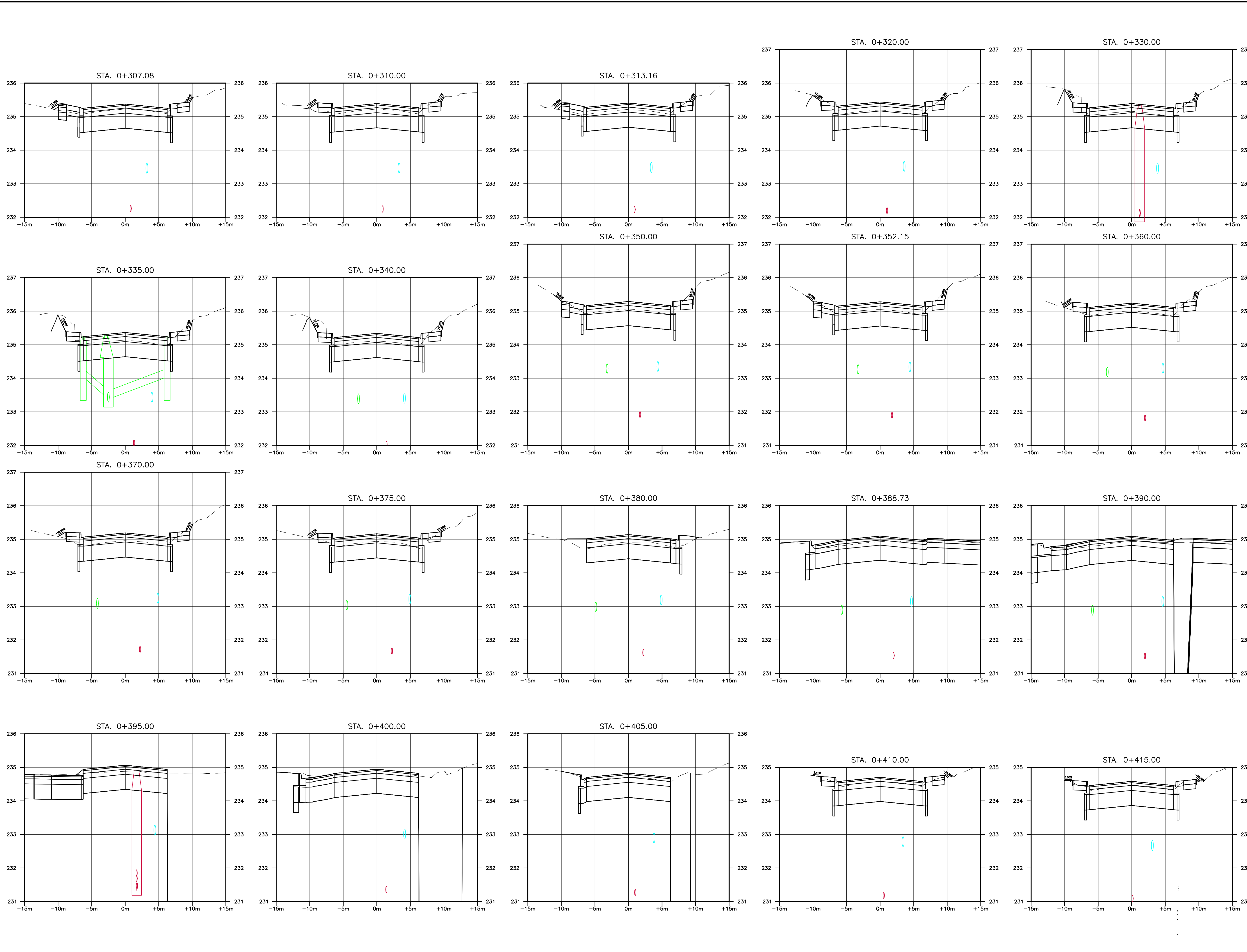


PROJECT NAME:  
 RECONSTRUCTION OF WEST STREET - PHASE 1  
 HOLDEN AVENUE TO BROOK STREET  
 CLIENT REF: EIS-ENG-23-38

TITLE:  
 GRADING AND REINSTATEMENT PLAN  
 STA. 0+185 TO STA. 0+300

PROJECT NO: 22-2016	DATE: JANUARY 2023
SCALE:	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
DESIGNED BY: AT	
DRAWN BY: JA	
CHECKED BY: JW	
25mm	





BENCHMARK:  
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 TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV. 226.88m.

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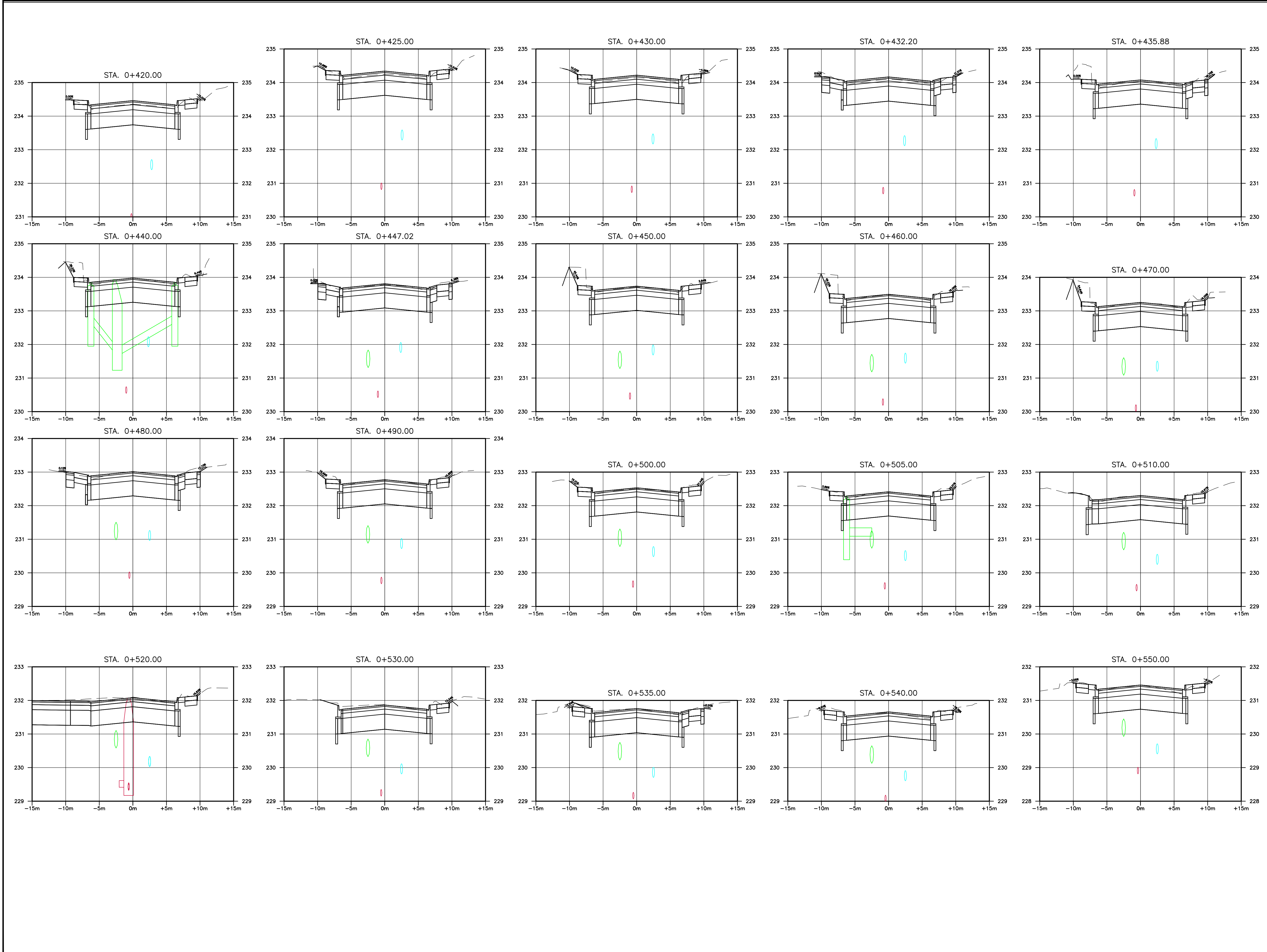


CLIENT:  
**Norfolk COUNTY**

PROJECT NAME:  
 RECONSTRUCTION OF WEST STREET - PHASE 1  
 HOLDEN AVENUE TO BROOK STREET  
 CLIENT REF: EIS-ENG-23-38  
 TITLE:  
 GRADING AND REINSTATEMENT PLAN  
 STA. 0+307.08 TO STA. 0+415

PROJECT NO: 22-2016	DATE: JANUARY 2023
SCALE:	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
DESIGNED BY: AT	
DRAWN BY: JA	
CHECKED BY: JW	





**KEYPLAN:**

**BENCHMARK:**  
 TBM #4: TOP OF NUT ON FH AT WEST END OF HOSPITAL PROPERTY. ELEV. 229.56m.  
 TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV. 226.88m.

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NO.	BY	DATE	ISSUE / REVISION
1	AT	28/04/23	ISSUED FOR CONSTRUCTION

**WT INFRASTRUCTURE**  
 PRACTICAL INNOVATION

**CLIENT:**  
**Norfolk COUNTY**

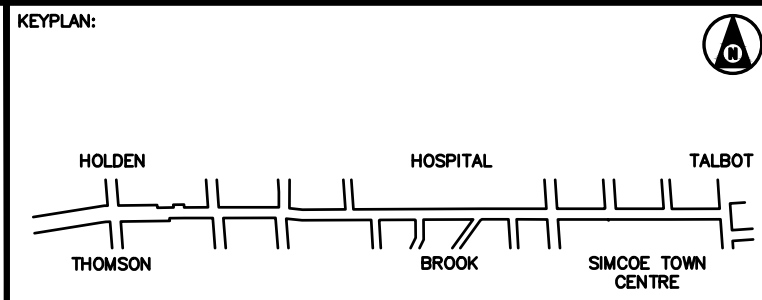
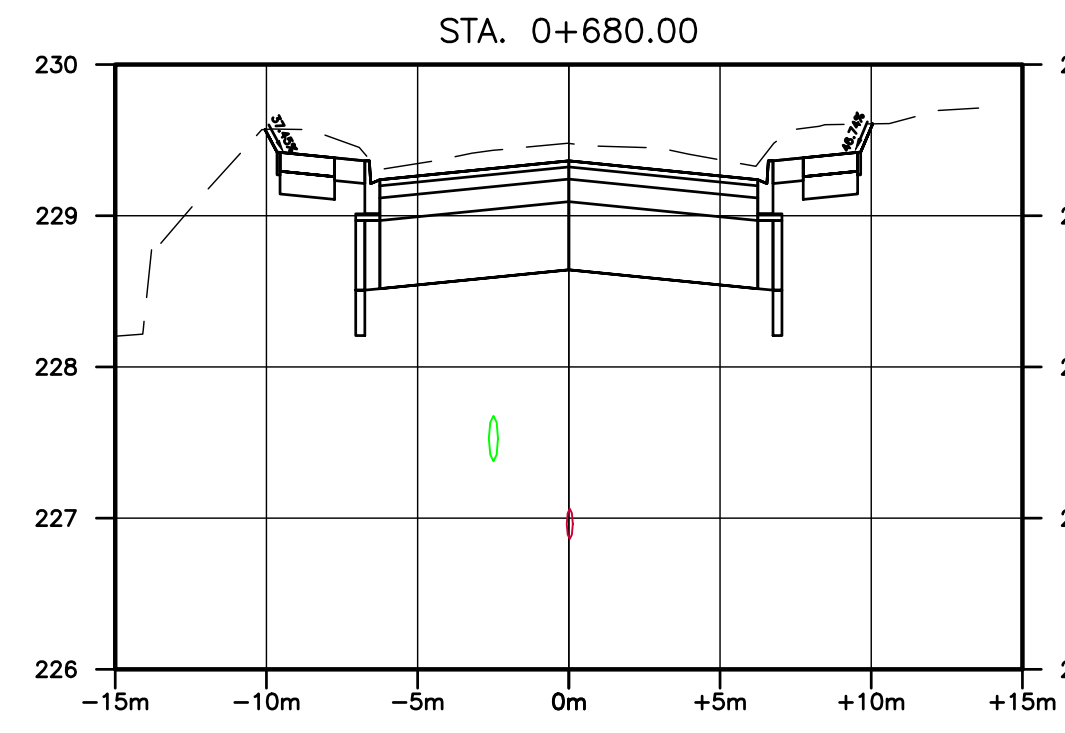
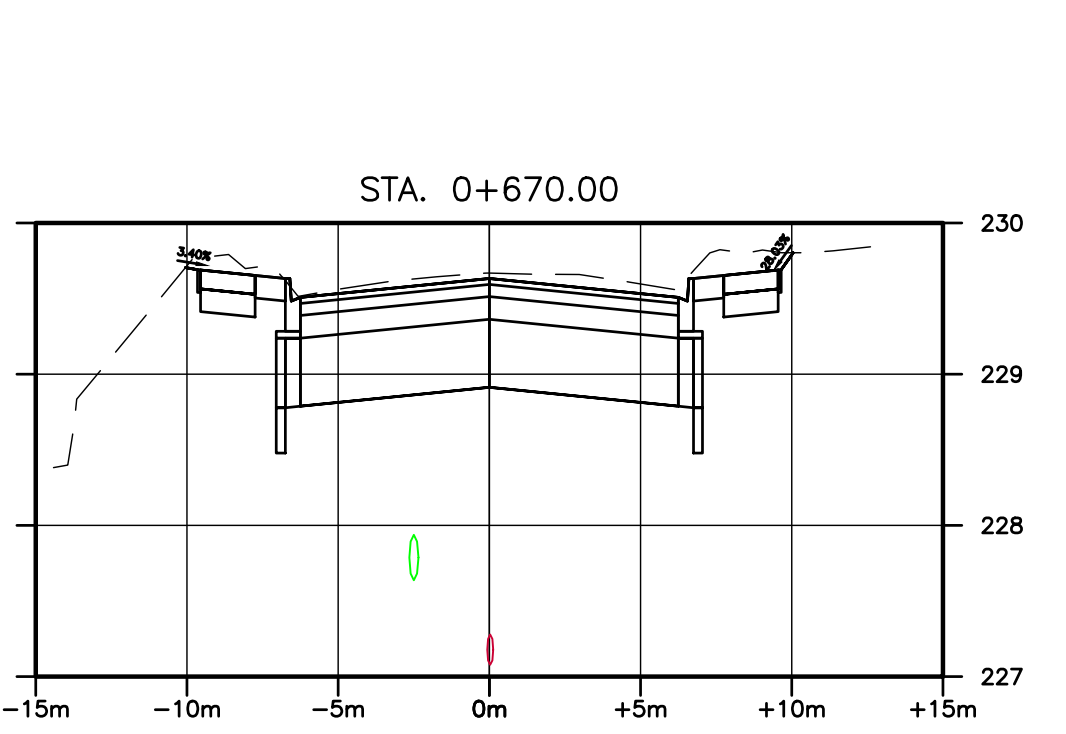
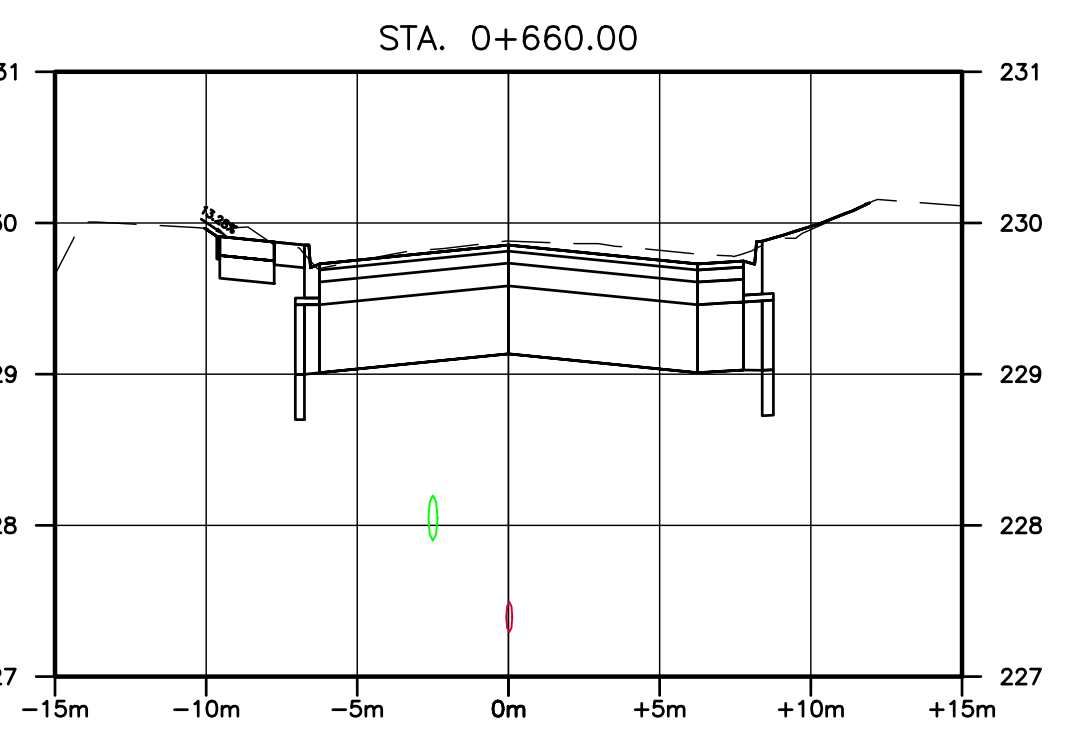
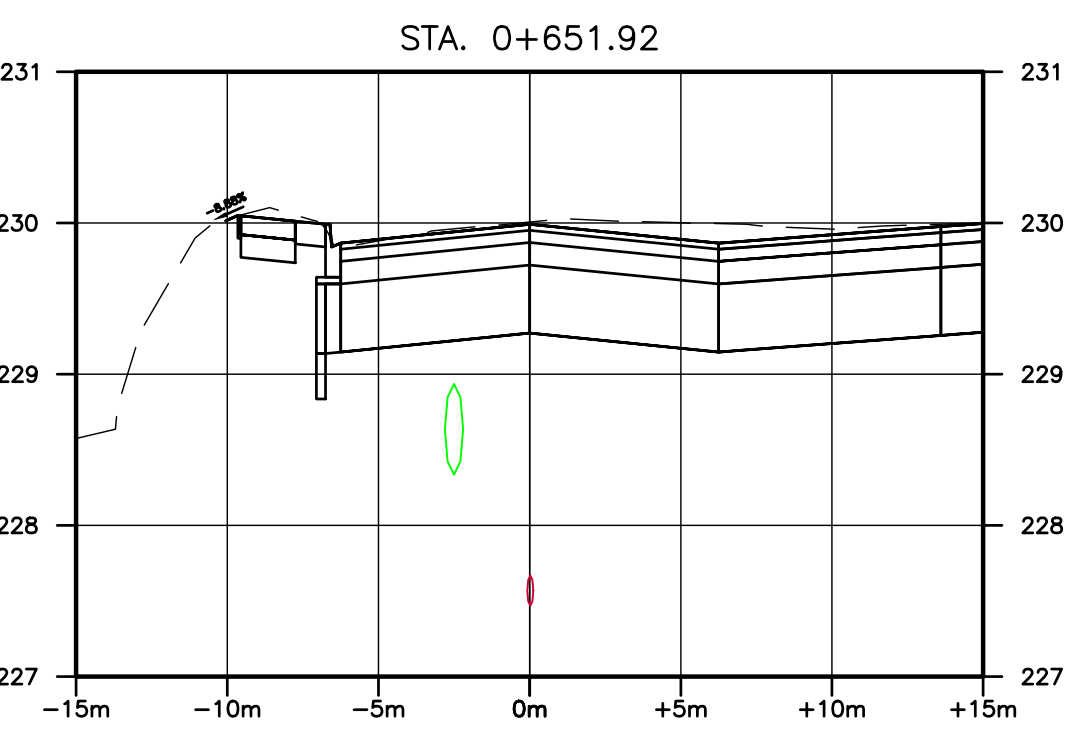
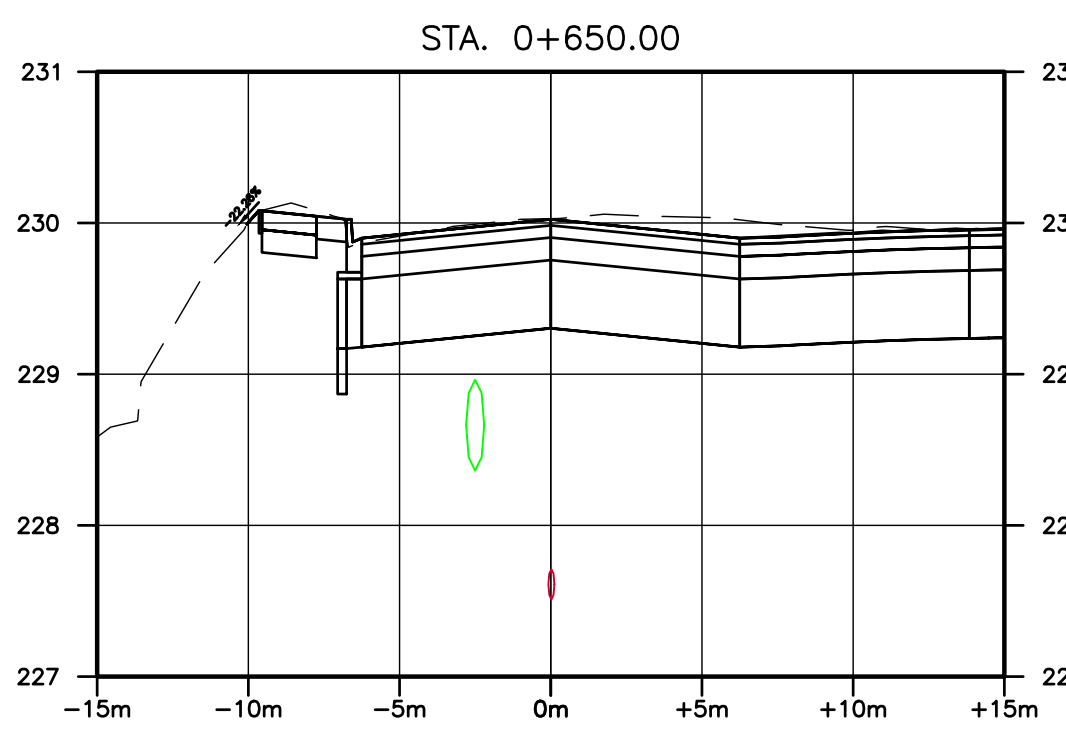
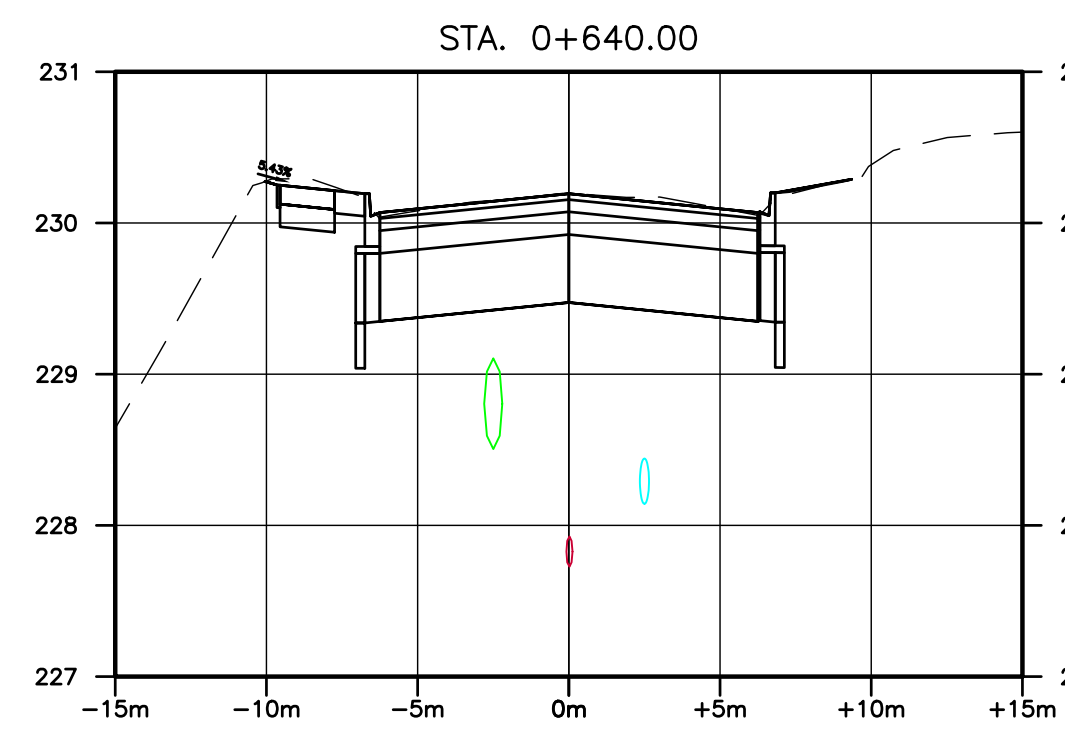
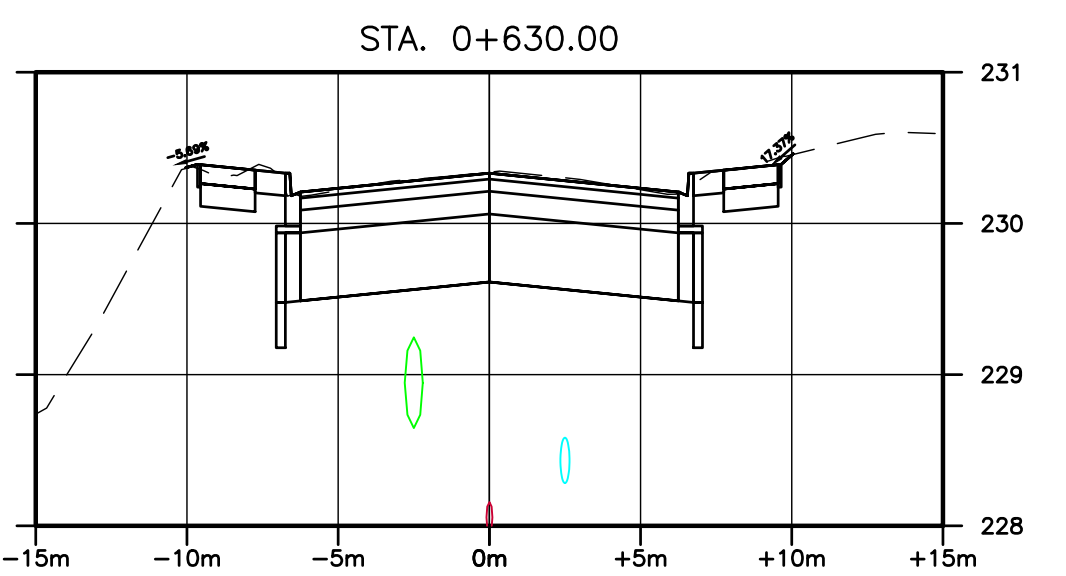
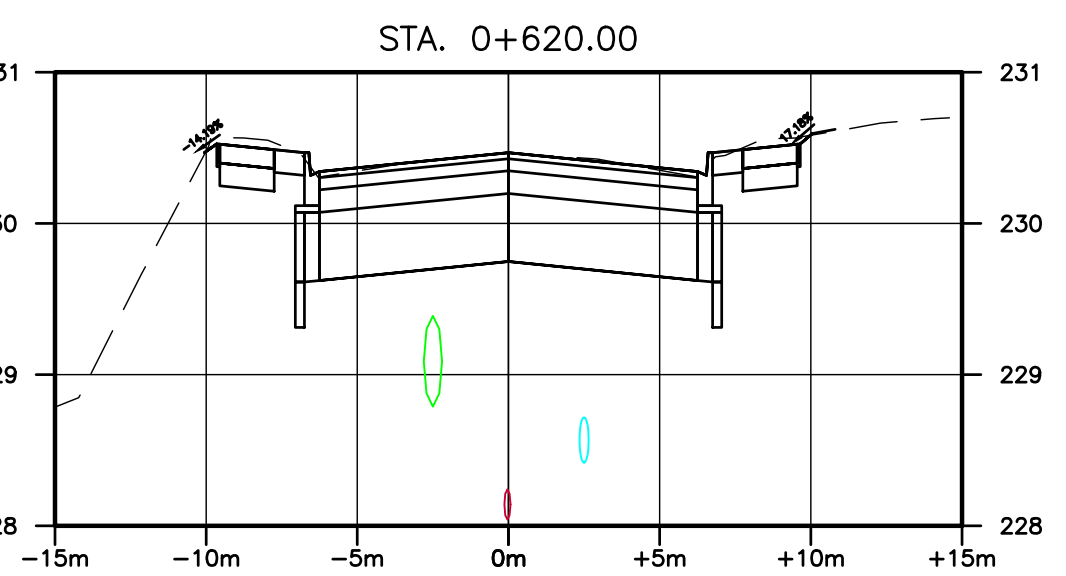
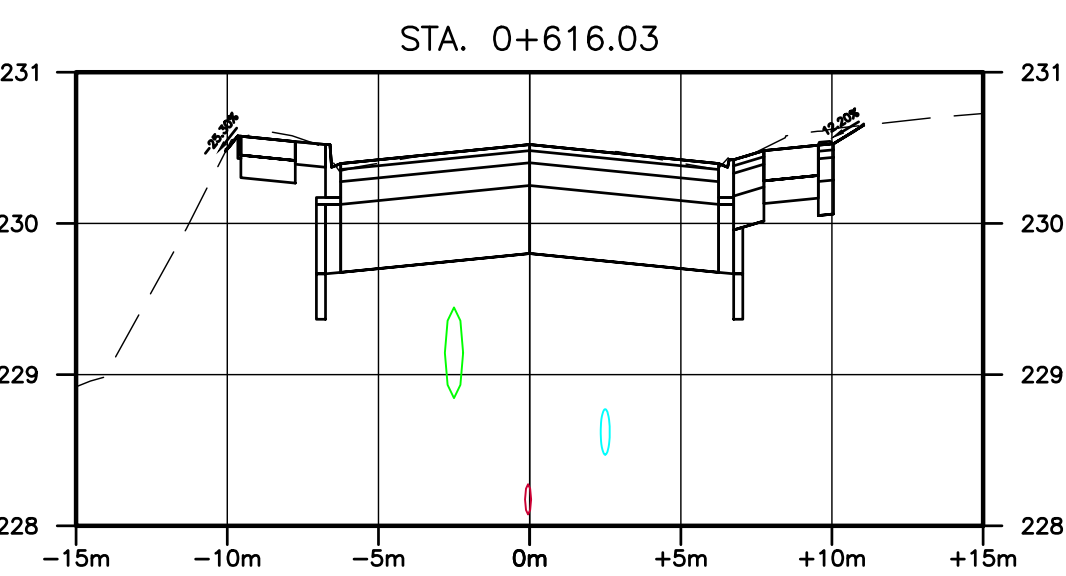
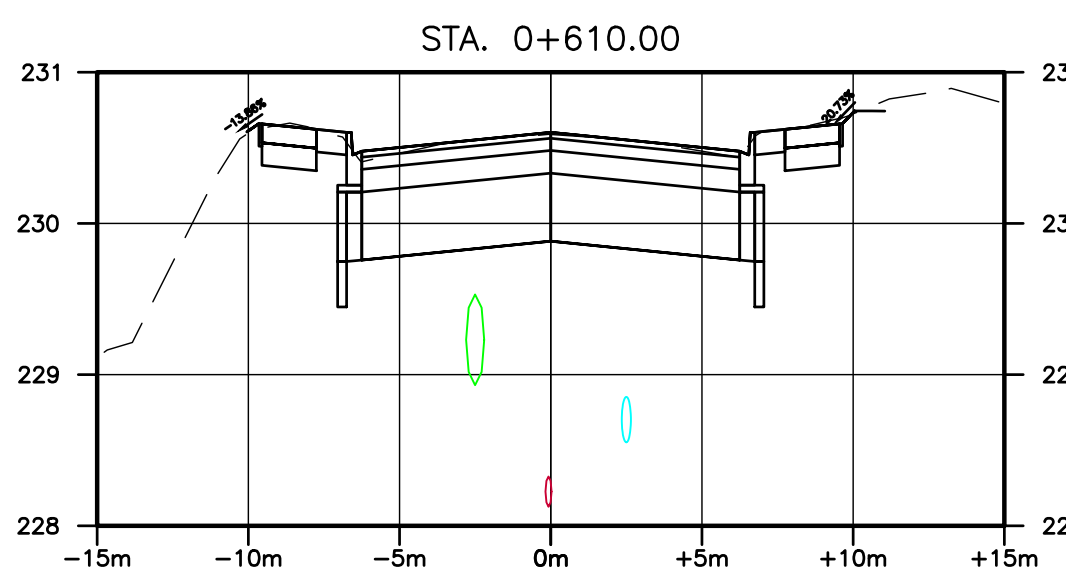
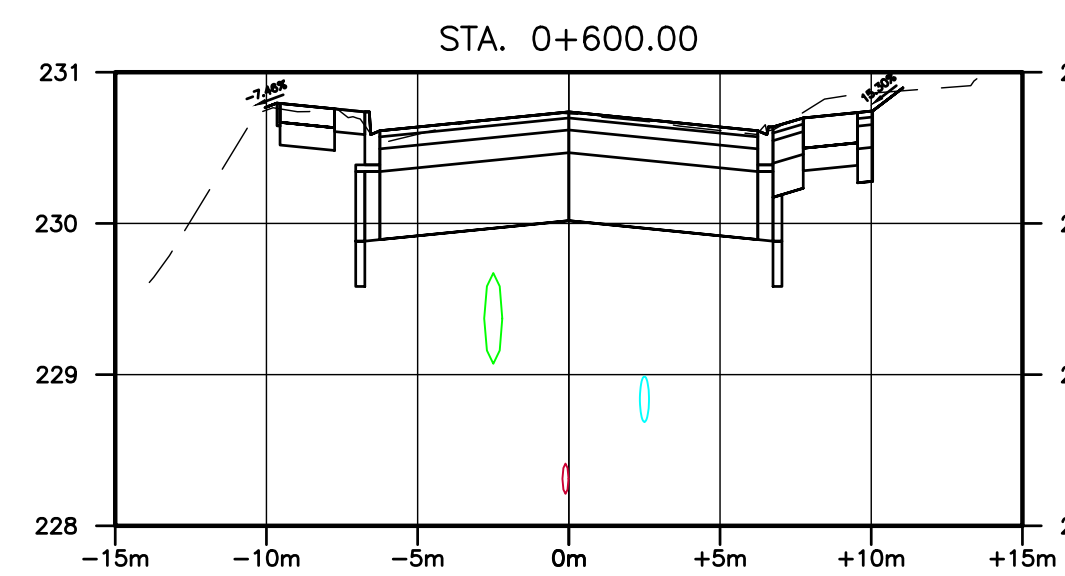
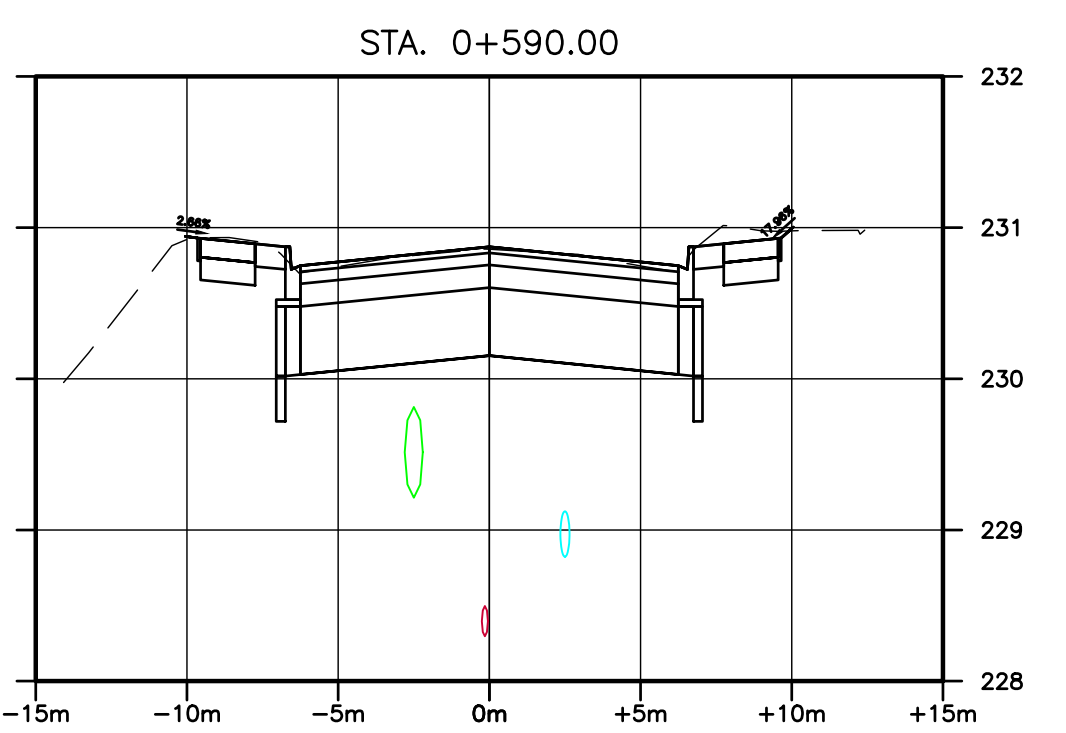
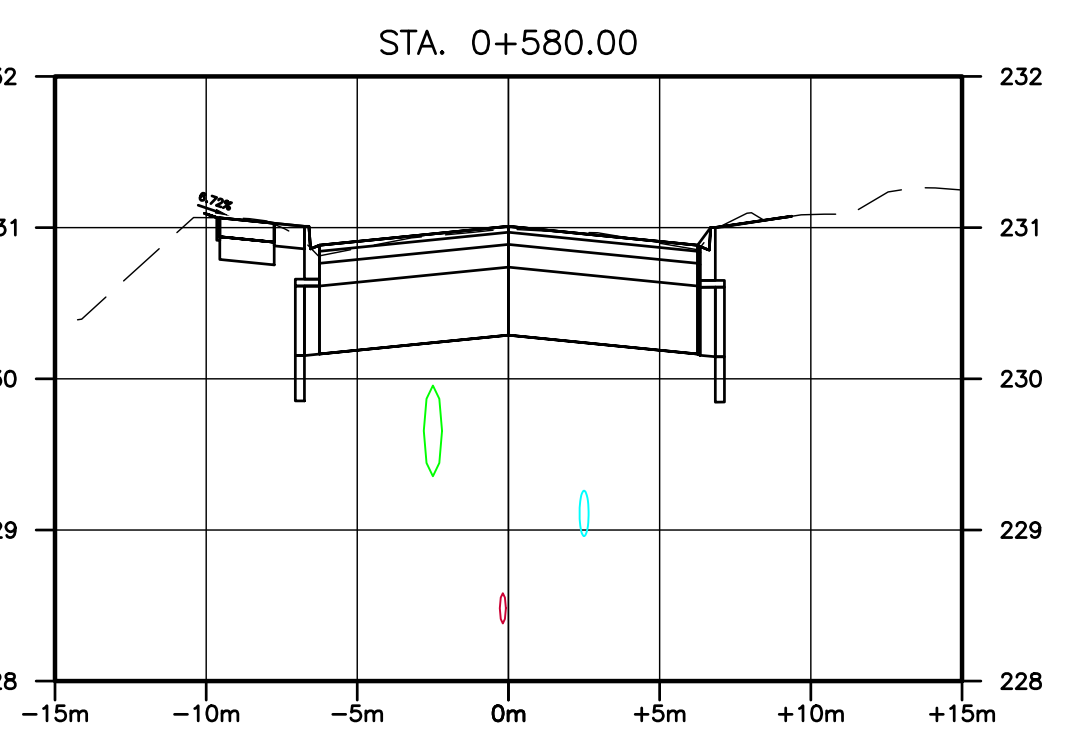
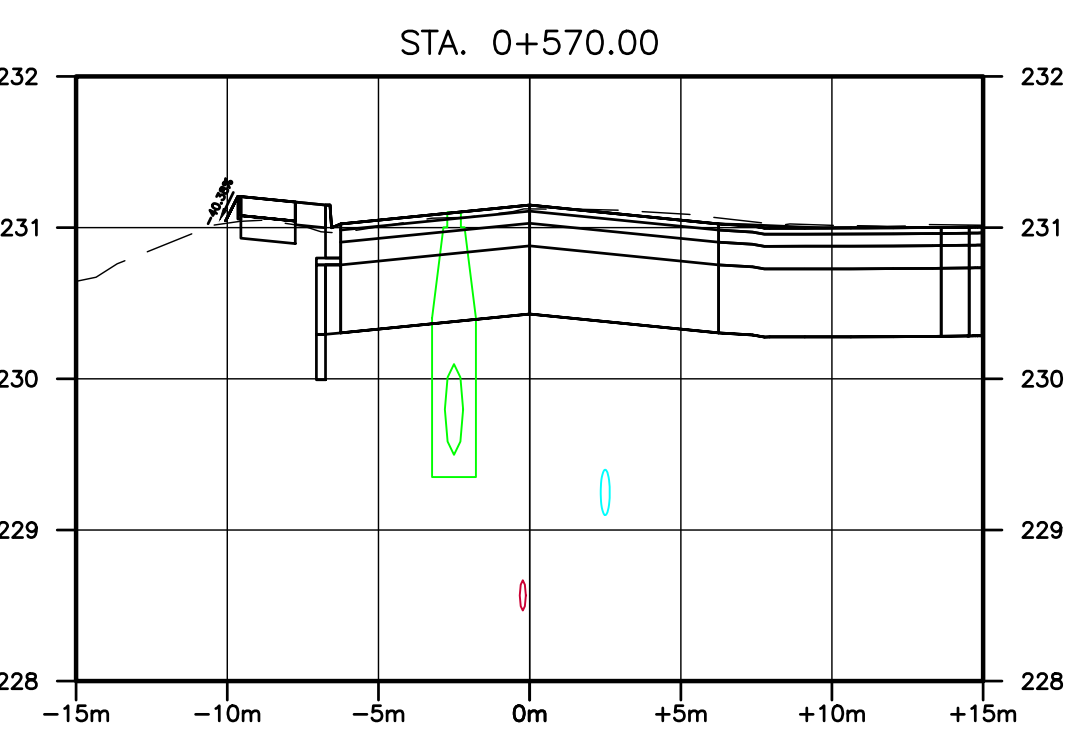
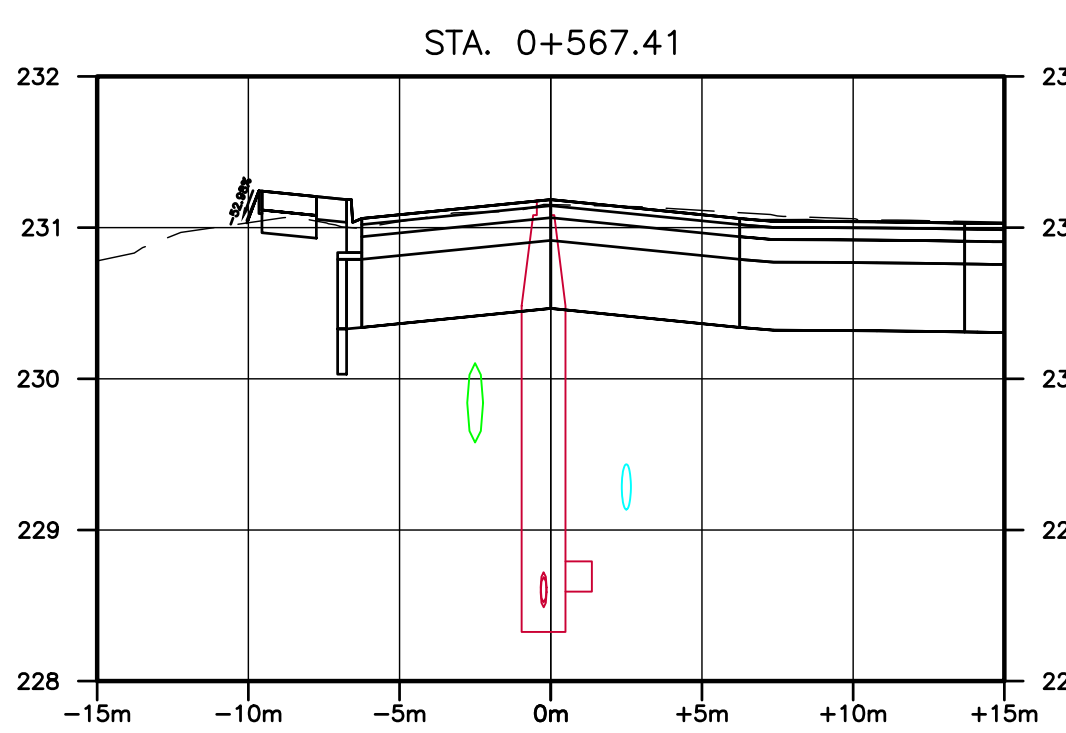
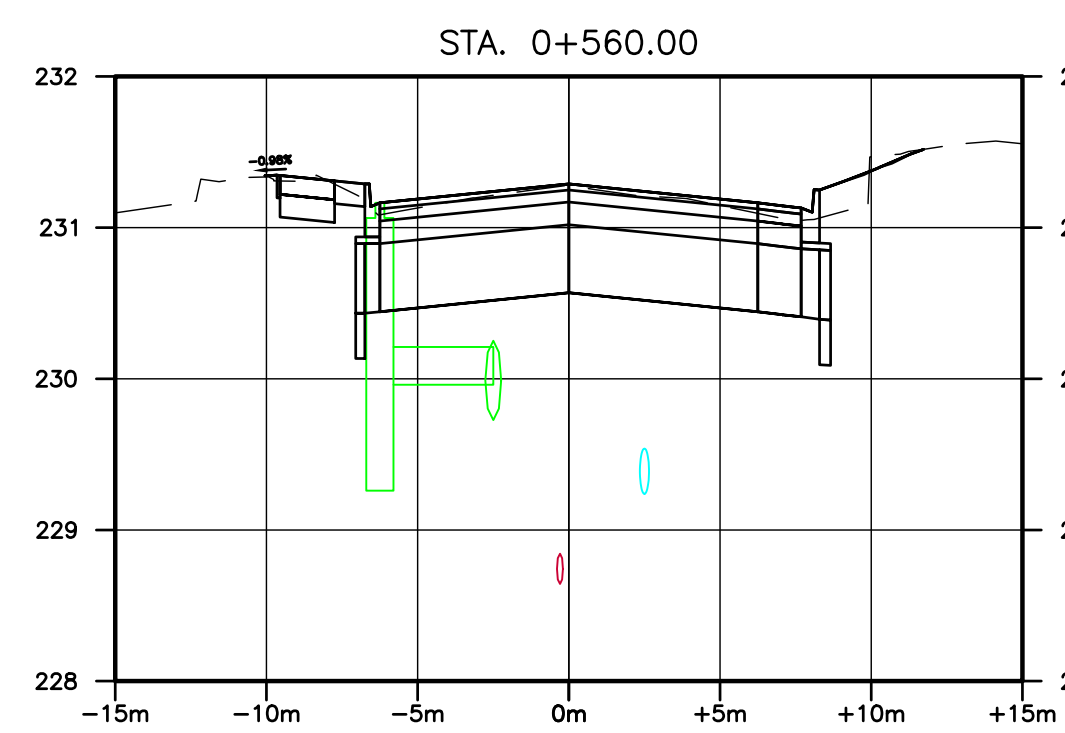
**PROJECT NAME:**  
 RECONSTRUCTION OF WEST STREET - PHASE 1  
 HOLDEN AVENUE TO BROOK STREET  
 CLIENT REF: EIS-ENG-23-38

**TITLE:**  
 GRADING AND REINSTATEMENT PLAN  
 STA. 0+420 TO STA. 0+550

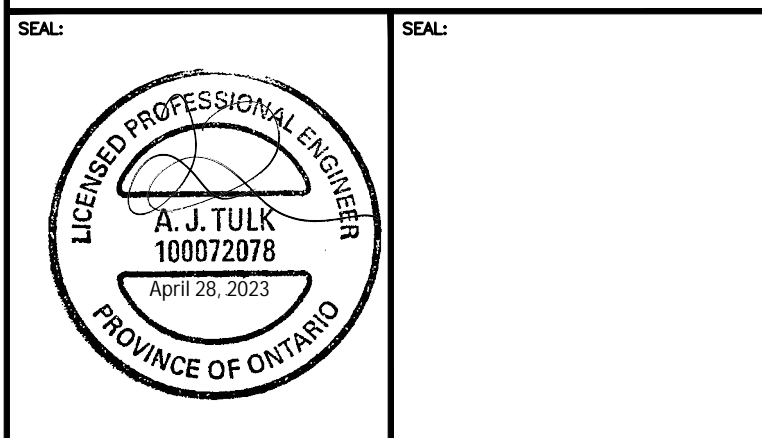
<b>PROJECT NO:</b> 22-2016	<b>DATE:</b> JANUARY 2023
<b>SCALE:</b>	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE. 
<b>DESIGNED BY:</b> AT	
<b>DRAWN BY:</b> JA	
<b>CHECKED BY:</b> JW	

**SHEET #:** 18 of 23      **CS.4**      **REV:** 1





BENCHMARK:  
 TBM #4: TOP OF NUT ON FH AT WEST END OF HOSPITAL PROPERTY. ELEV. 229.56m.  
 TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV. 226.88m.



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NO.	BY	DATE	ISSUE / REVISION
1	AT	28/04/23	ISSUED FOR CONSTRUCTION



PROJECT NAME  
 RECONSTRUCTION OF WEST STREET - PHASE 1  
 HOLDEN AVENUE TO BROOK STREET  
 CLIENT REF: EIS-ENG-23-38

TITLE  
 GRADING AND REINSTATEMENT PLAN  
 STA. 0+560 TO STA. 0+680

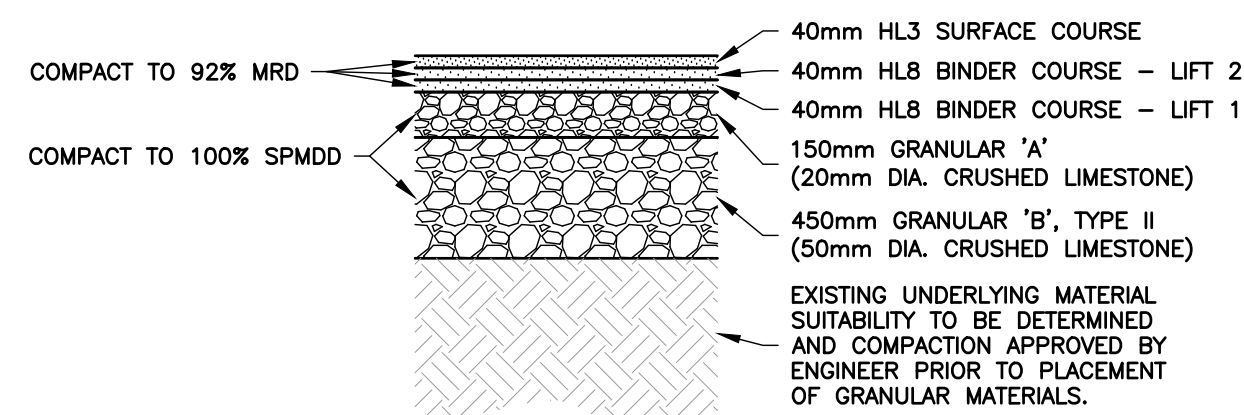
PROJECT NO: 22-2016  
 DATE: JANUARY 2023  
 SCALE:  
 DESIGNED BY:  
 AT  
 DRAWN BY:  
 JA  
 CHECKED BY:  
 JW

IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.

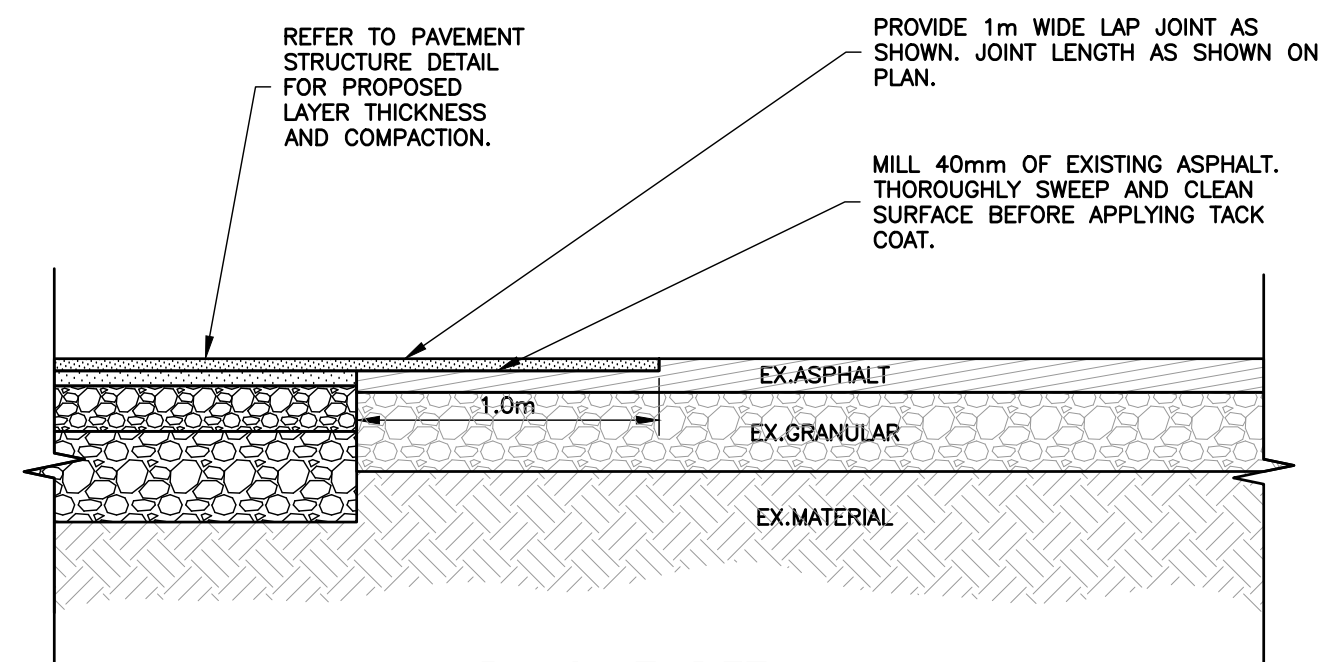


REV: 1  
 SHEET #: 19 of 23 CS.5

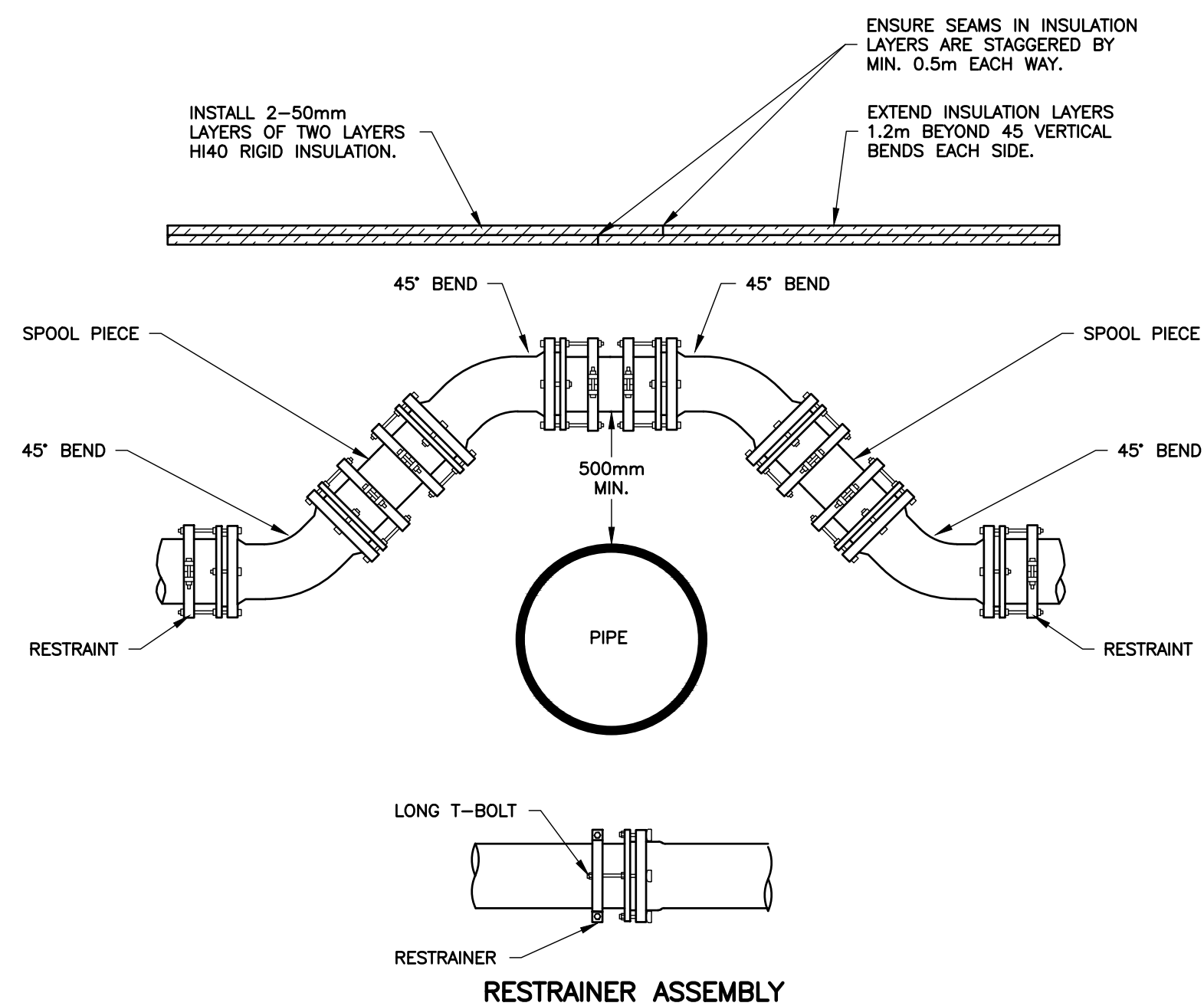




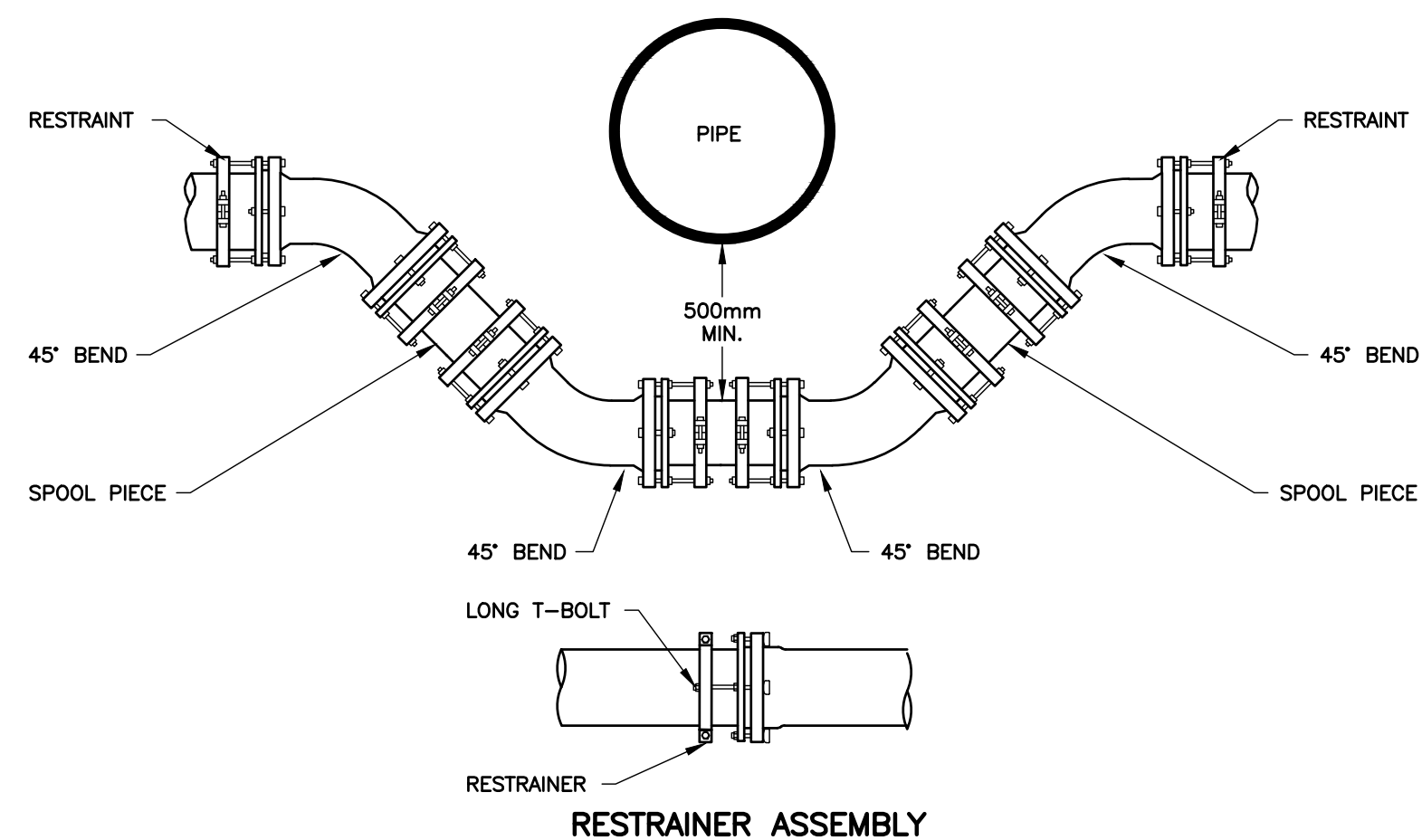
**FULL DEPTH RECONSTRUCTION PAVEMENT STRUCTURE DETAIL**  
SCALE: NTS



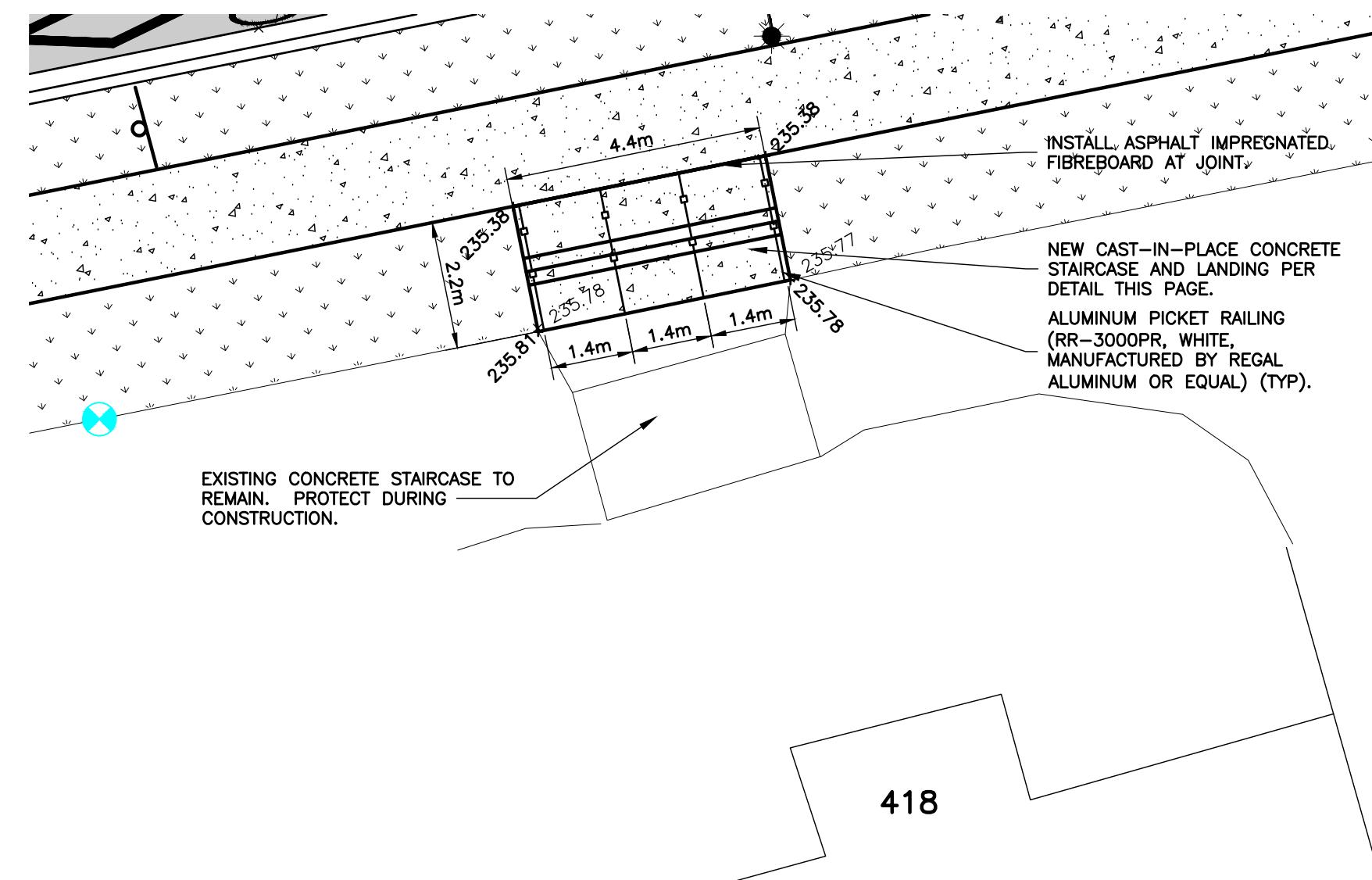
**LAP JOINT DETAIL**  
SCALE: NTS



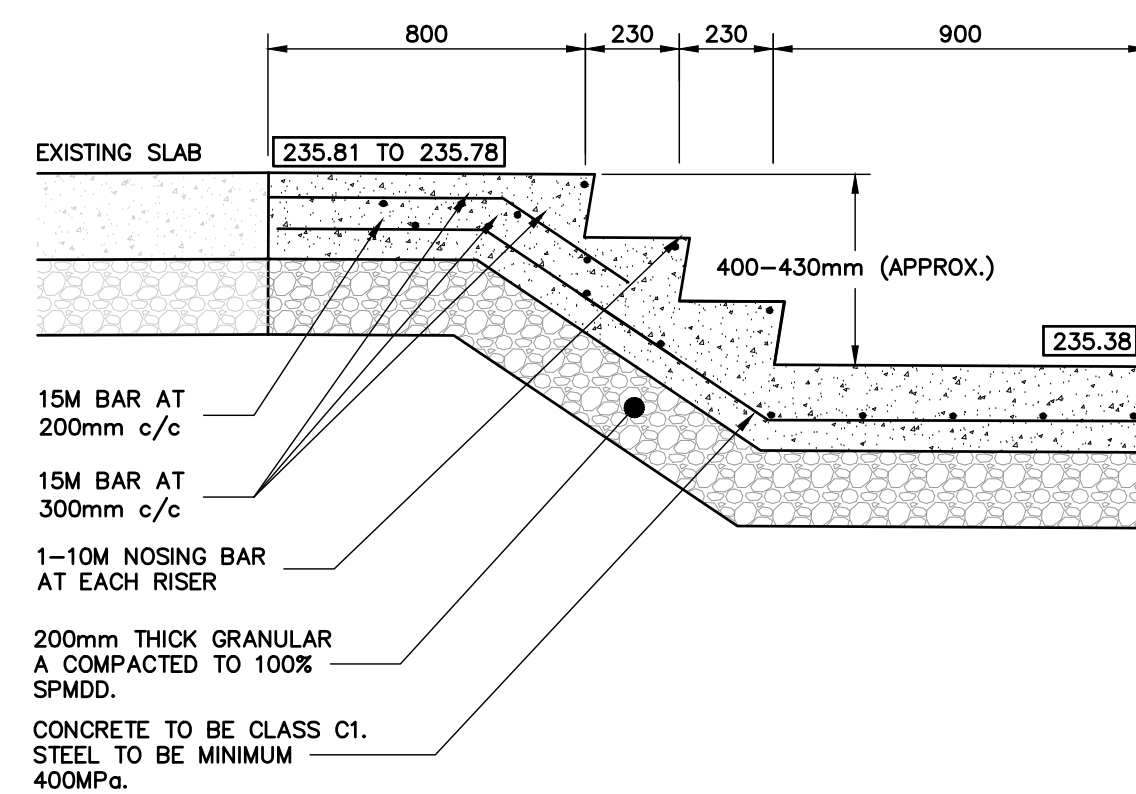
**WATERMAIN OVERCROSSING DETAIL**  
SCALE: NTS



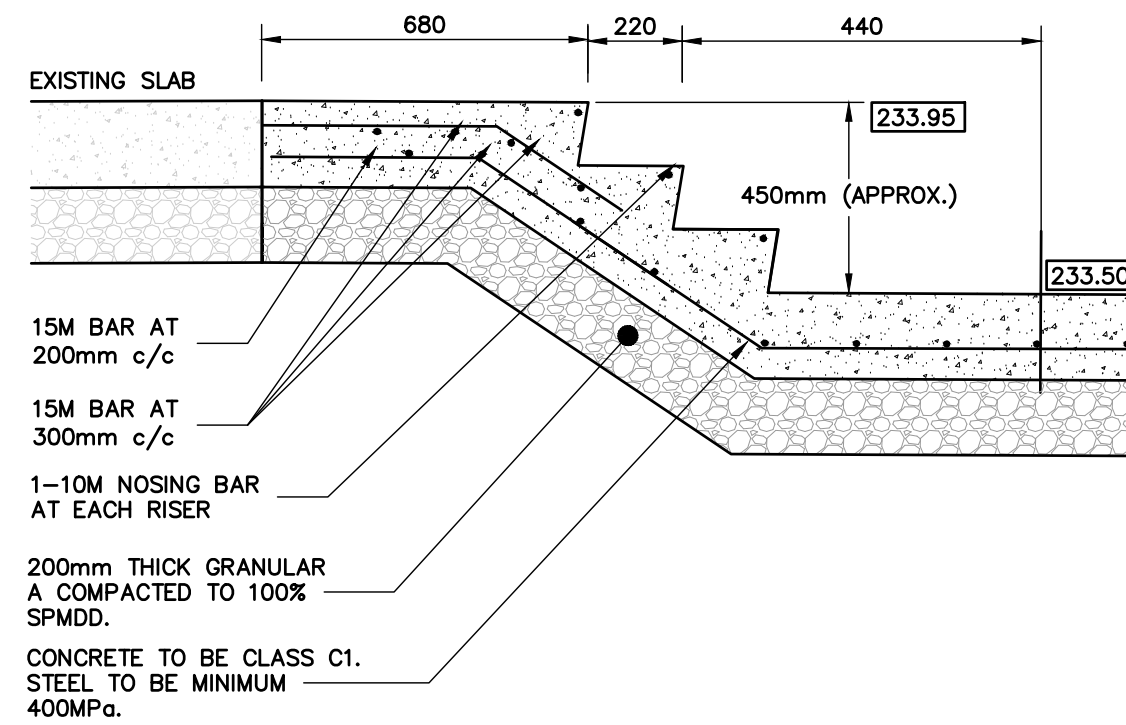
**WATERMAIN UNDERCROSSING DETAIL**  
SCALE: NTS



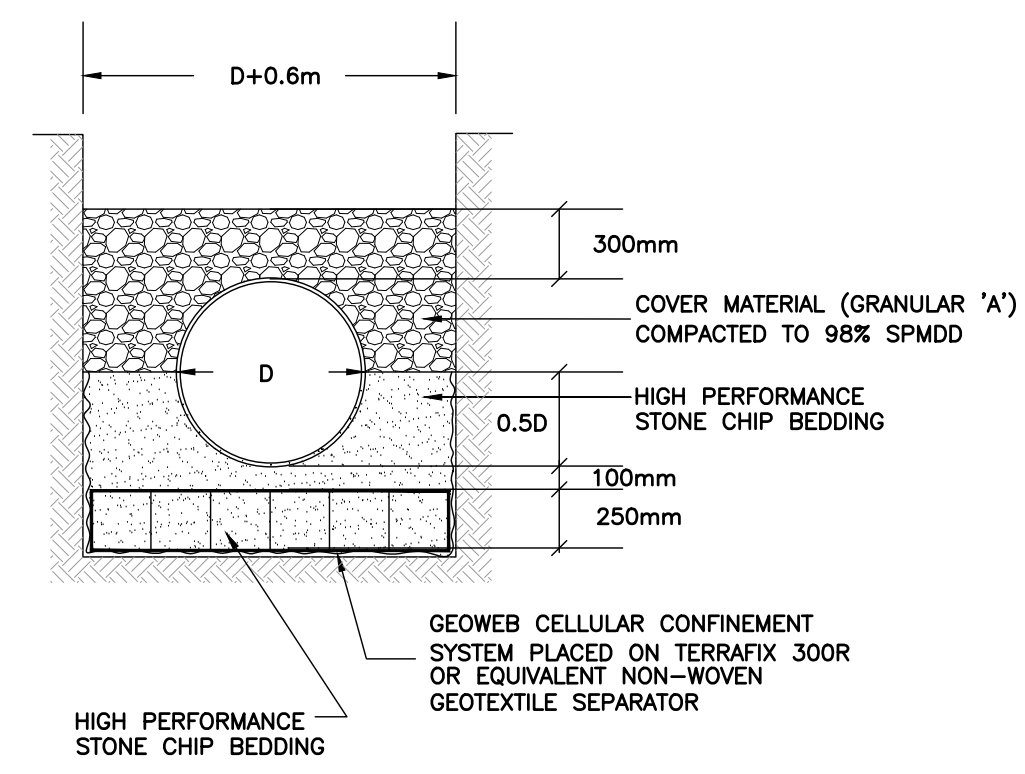
**NEW STAIR CASE - 418 WEST STREET**  
SCALE: 1:100



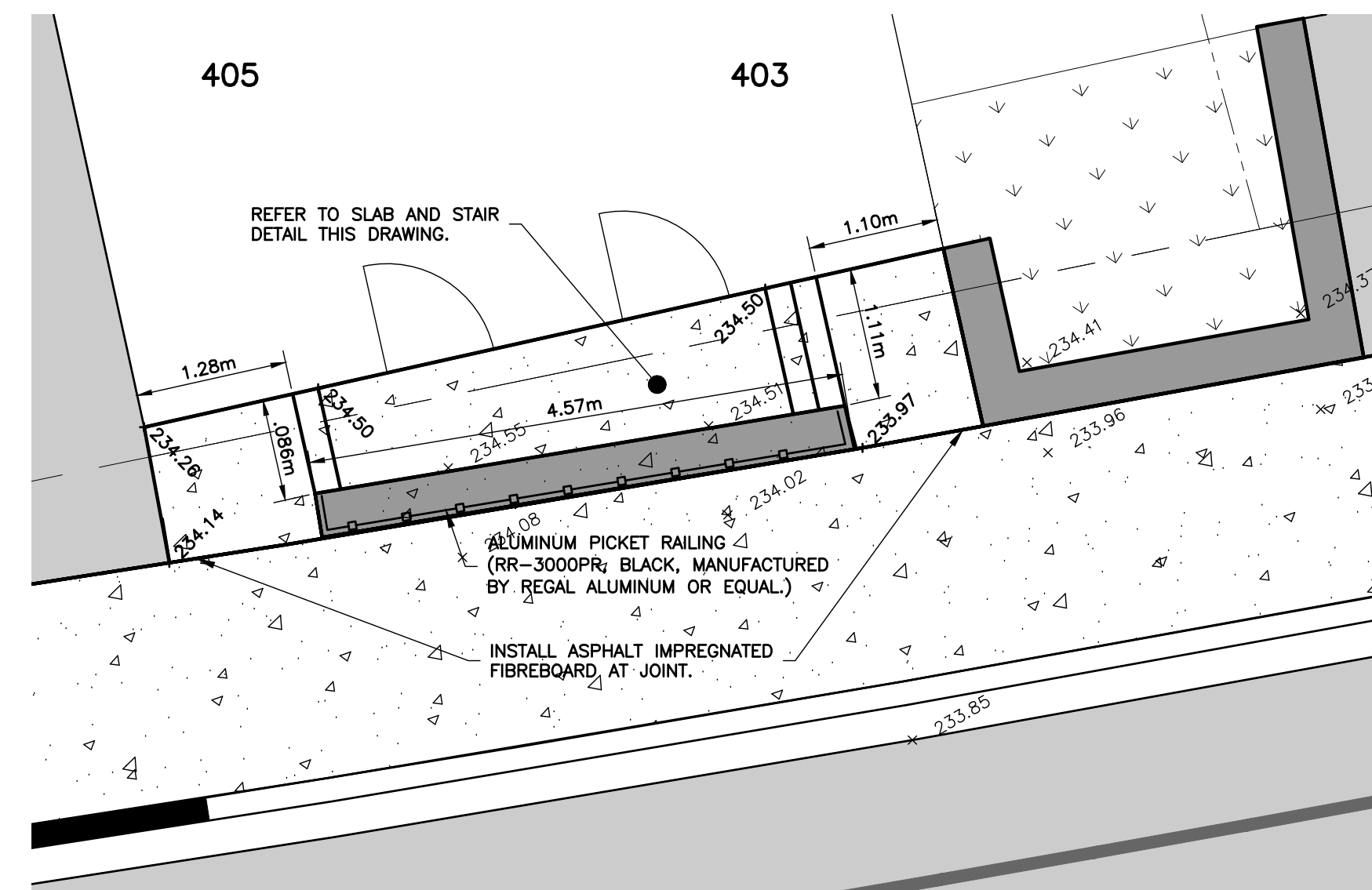
**SLAB AND STAIR DETAIL - 418 WEST STREET**  
SCALE: NTS



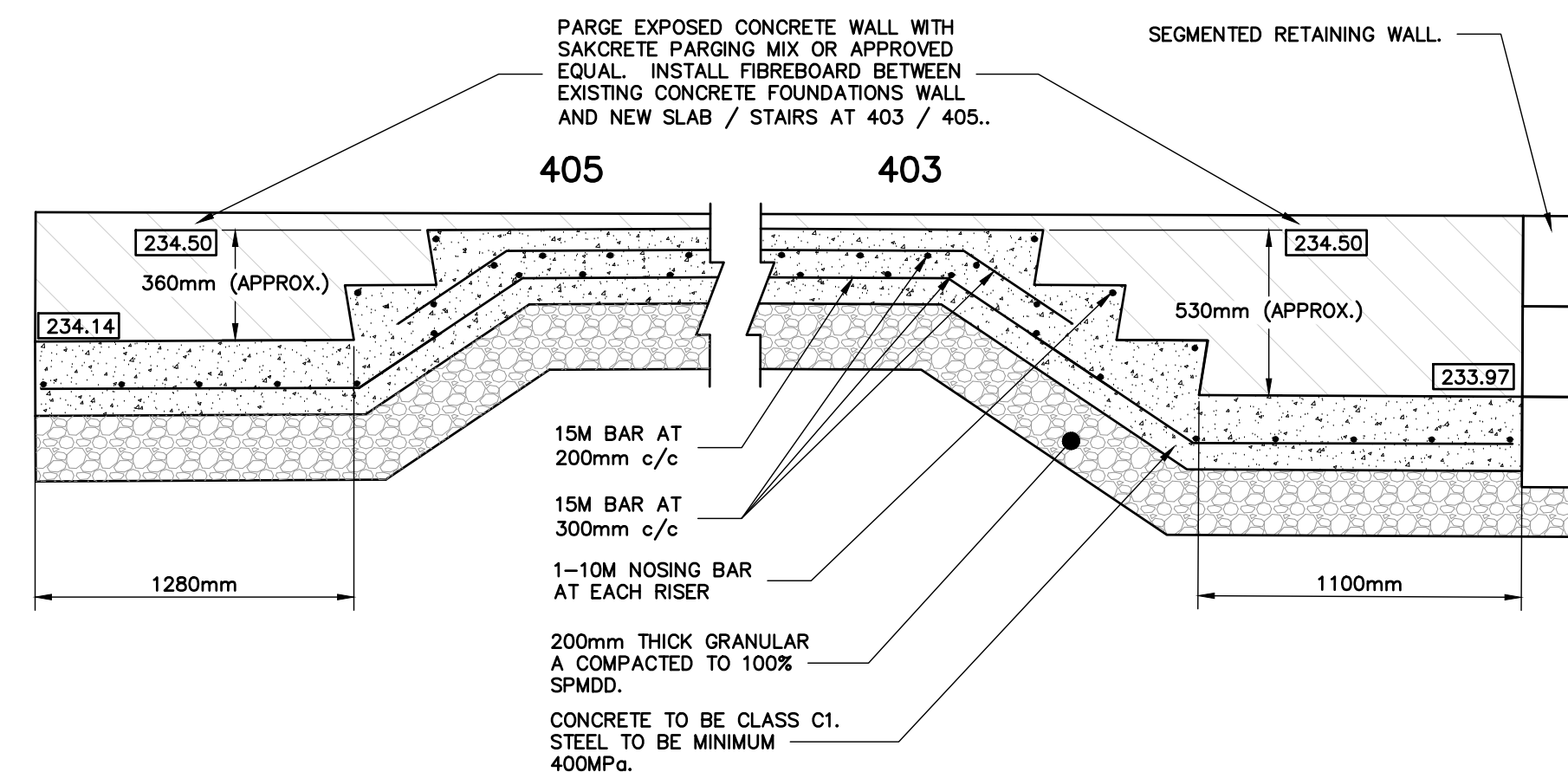
**CAST IN PLACE STAIR DETAIL - 399 WEST STREET**  
SCALE: NTS



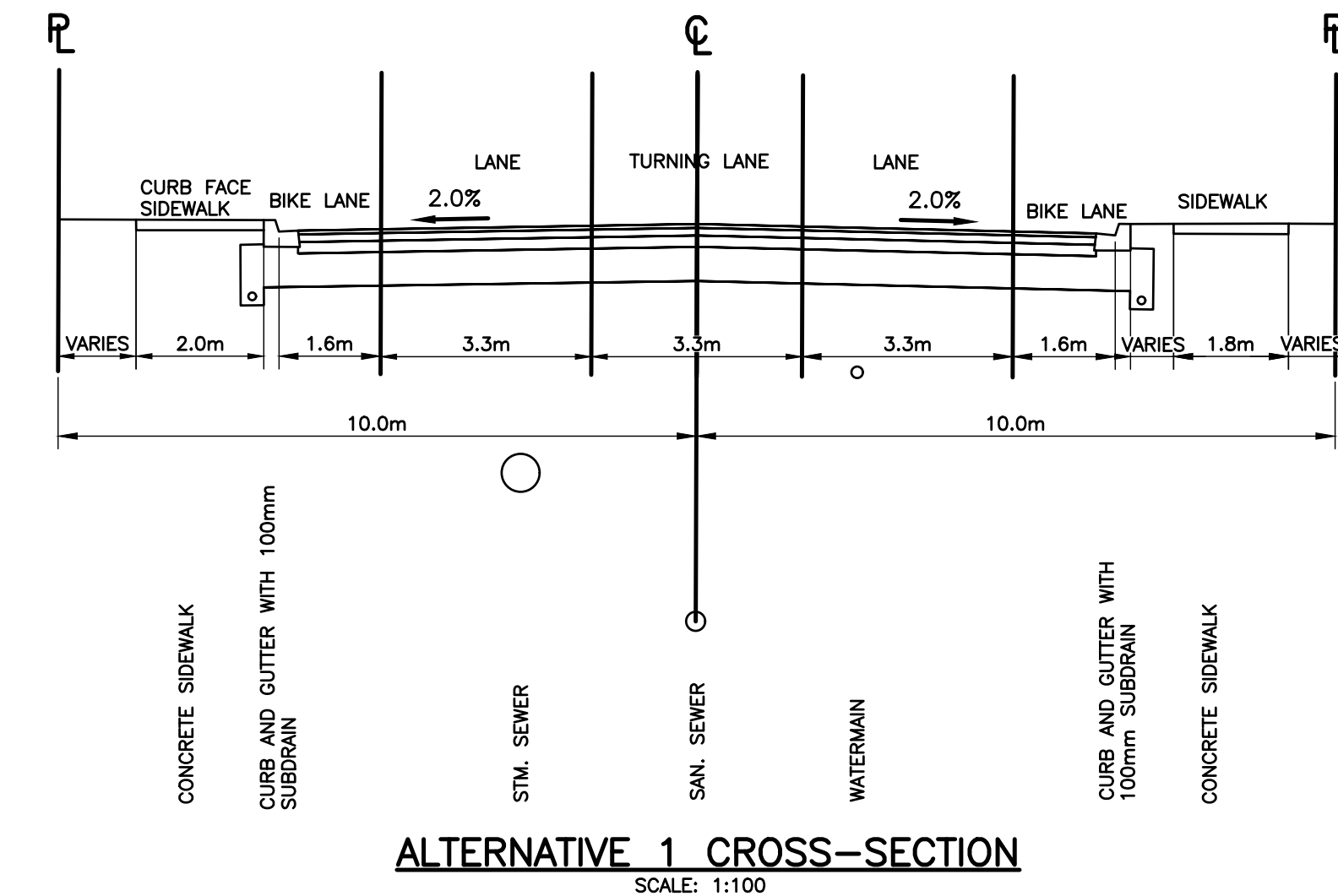
**GEOWEB PIPE BEDDING**  
SCALE: NTS



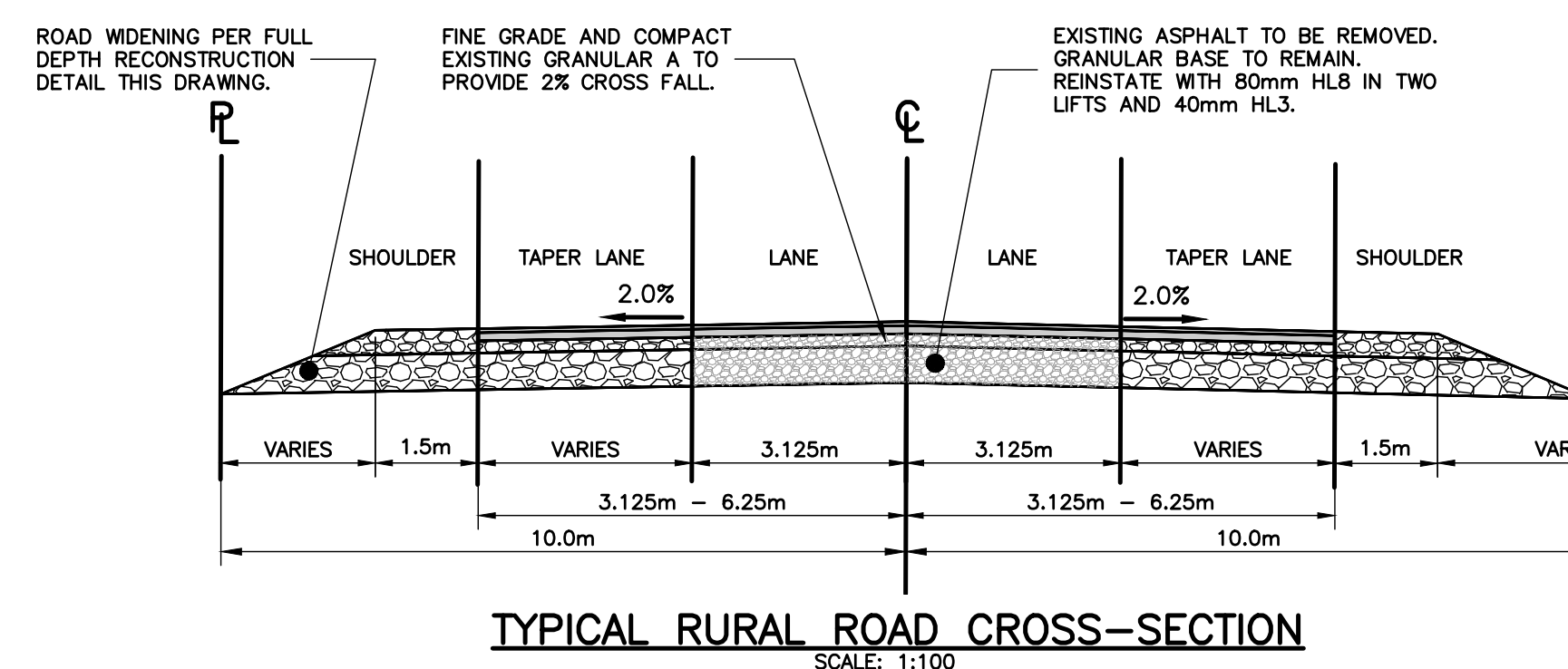
**PORCH REPLACEMENT - 403 / 405 WEST STREET**  
SCALE: 1:50



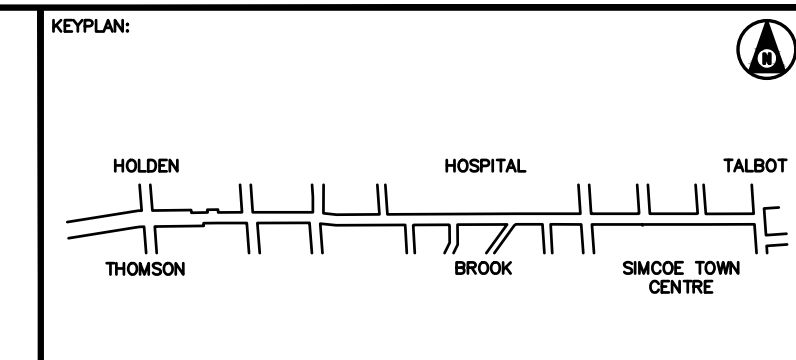
**SLAB AND STAIR DETAIL - 403 / 405 WEST STREET**  
SCALE: NTS



**ALTERNATIVE 1 CROSS-SECTION**  
SCALE: 1:100



**TYPICAL RURAL ROAD CROSS-SECTION**  
SCALE: 1:100



BENCHMARK:

SEAL: SEAL:

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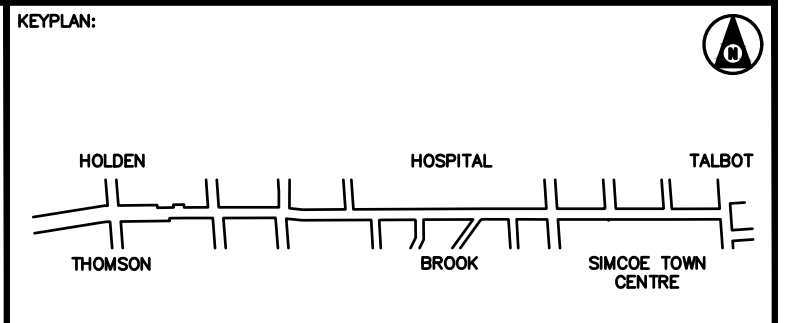
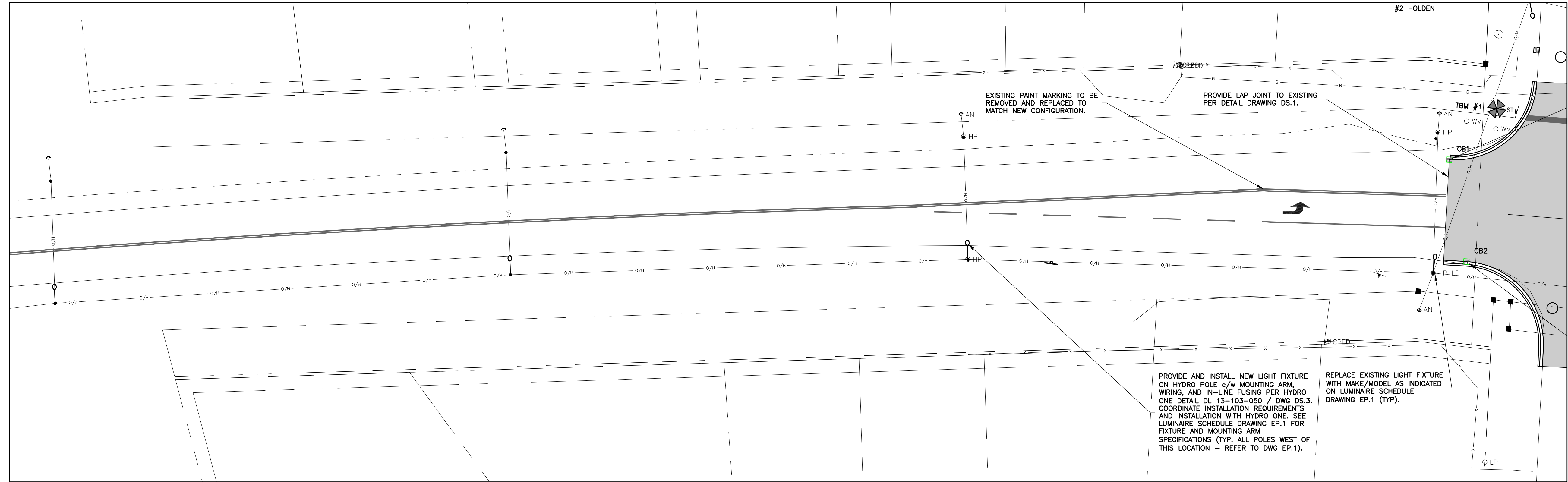
NO.	BY	DATE	ISSUE / REVISION
1	AT	28/04/23	ISSUED FOR CONSTRUCTION



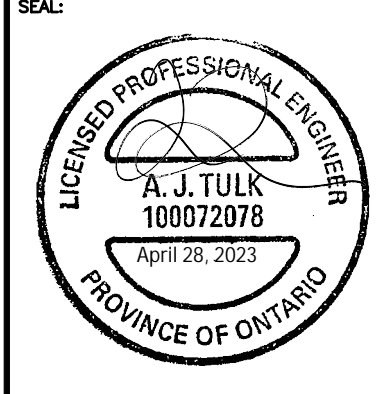
PROJECT NAME: RECONSTRUCTION OF WEST STREET - PHASE 1 HOLDEN AVENUE TO BROOK STREET  
CLIENT REF: EIS-ENG-23-38

PROJECT NO:	DATE:
22-2016	JANUARY 2023
DESIGNED BY:	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
AT	
DRAWN BY:	
JA	
CHECKED BY:	
JW	





BENCHMARK:



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 THIS DRAWING IS NOT TO BE SCALED.


1	AT	28/04/23	ISSUED FOR CONSTRUCTION
NO.	BY	DATE	ISSUE / REVISION

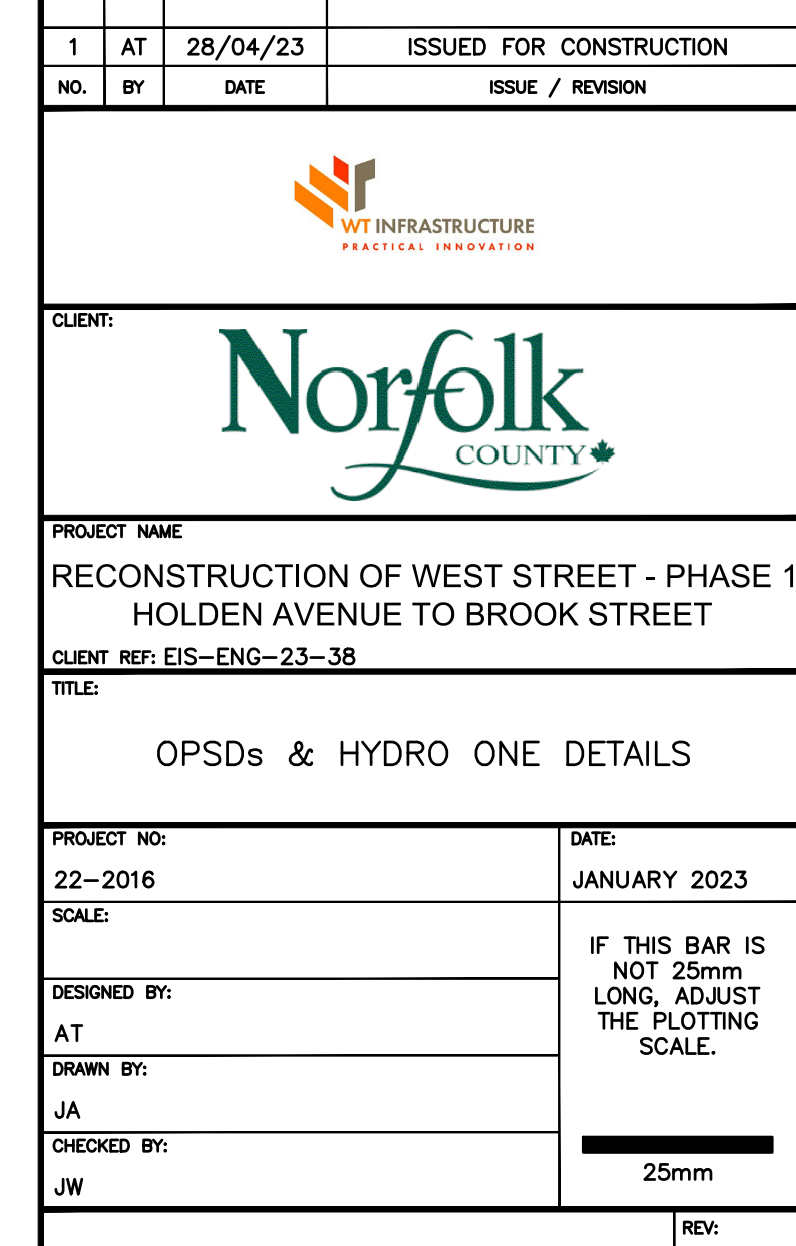
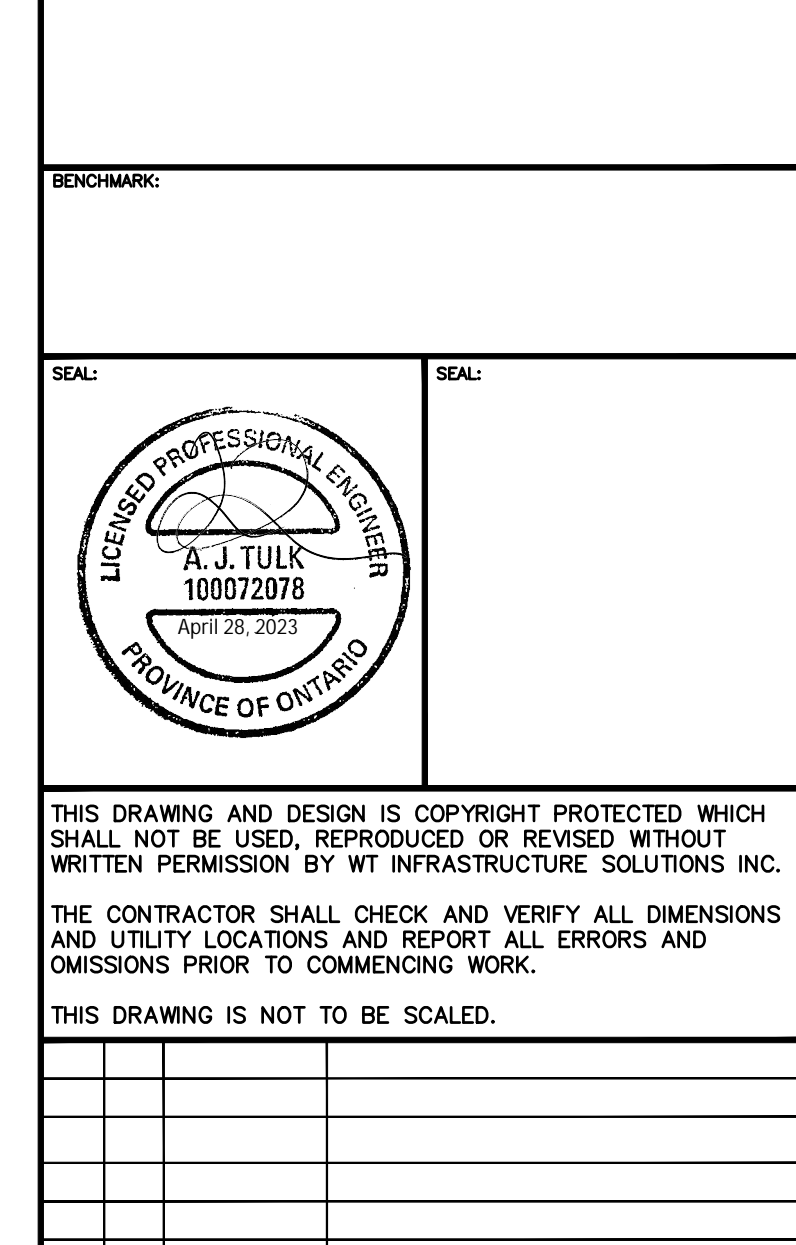
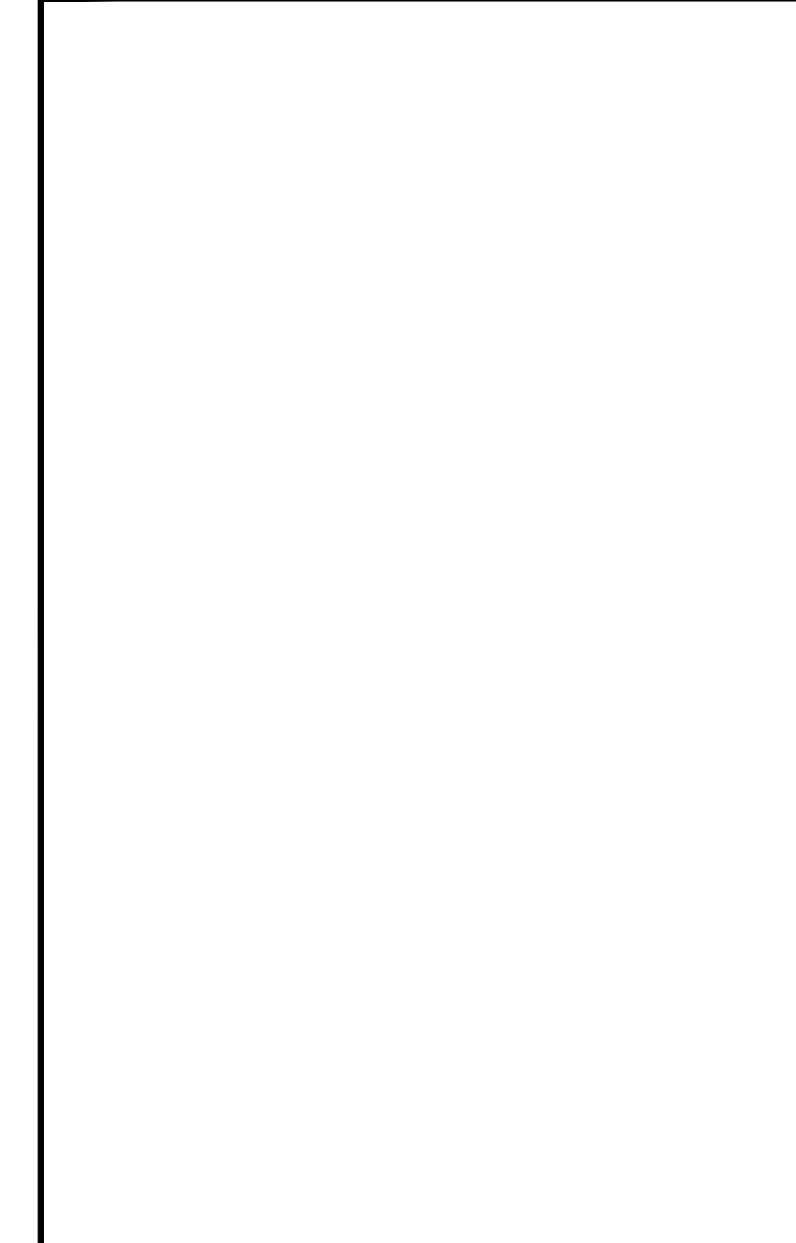
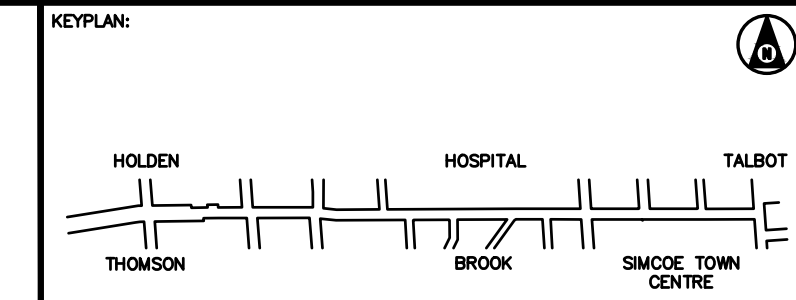
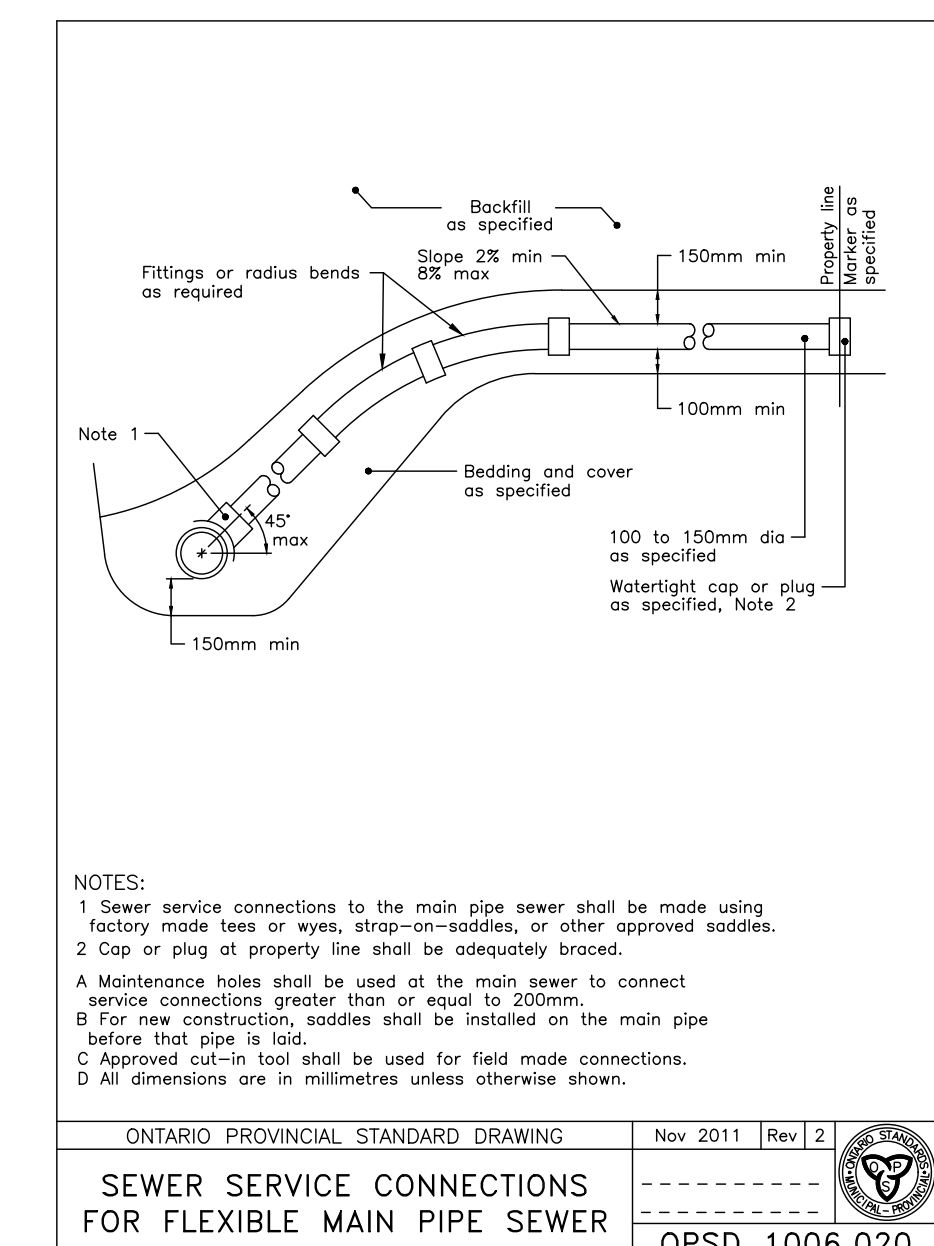
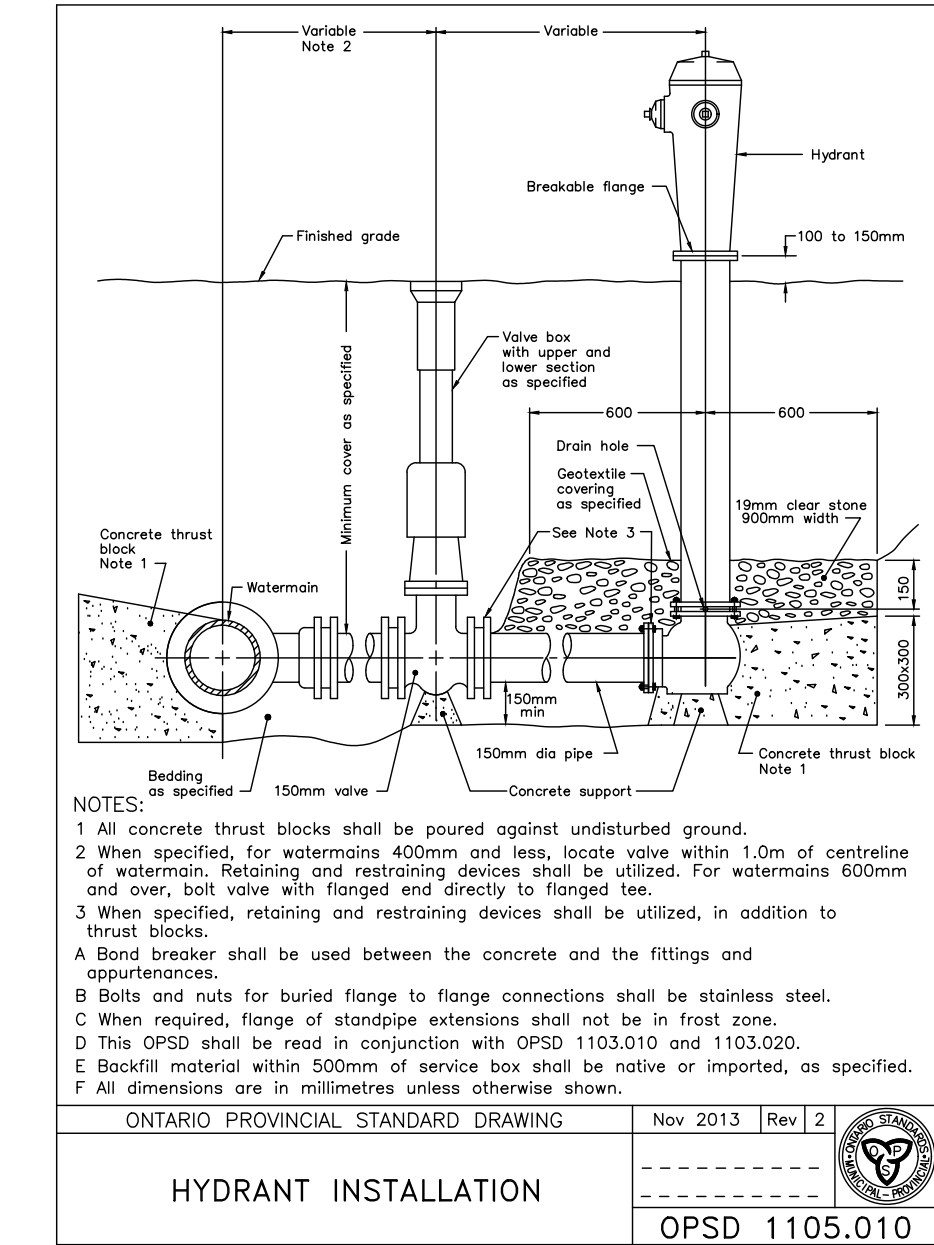
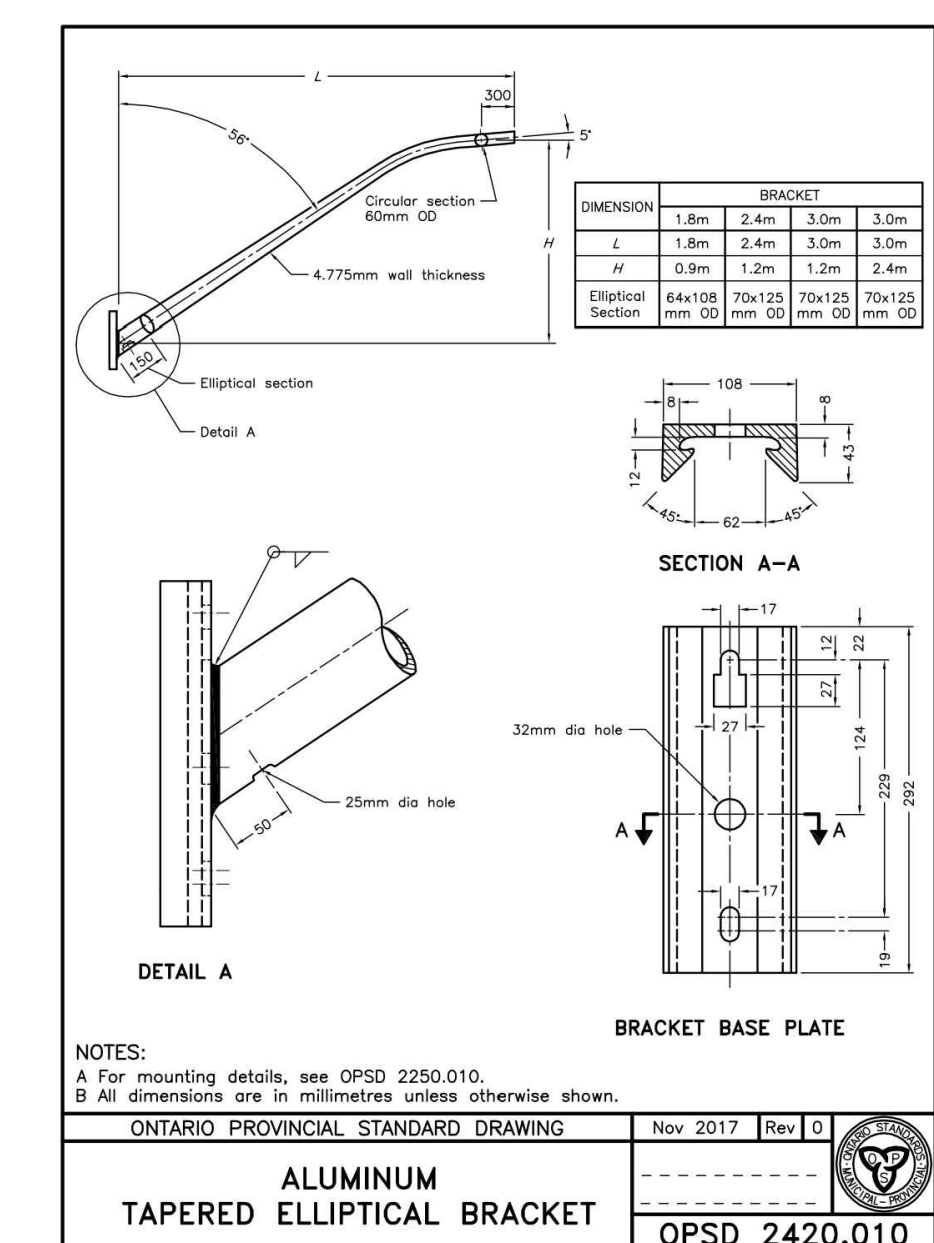
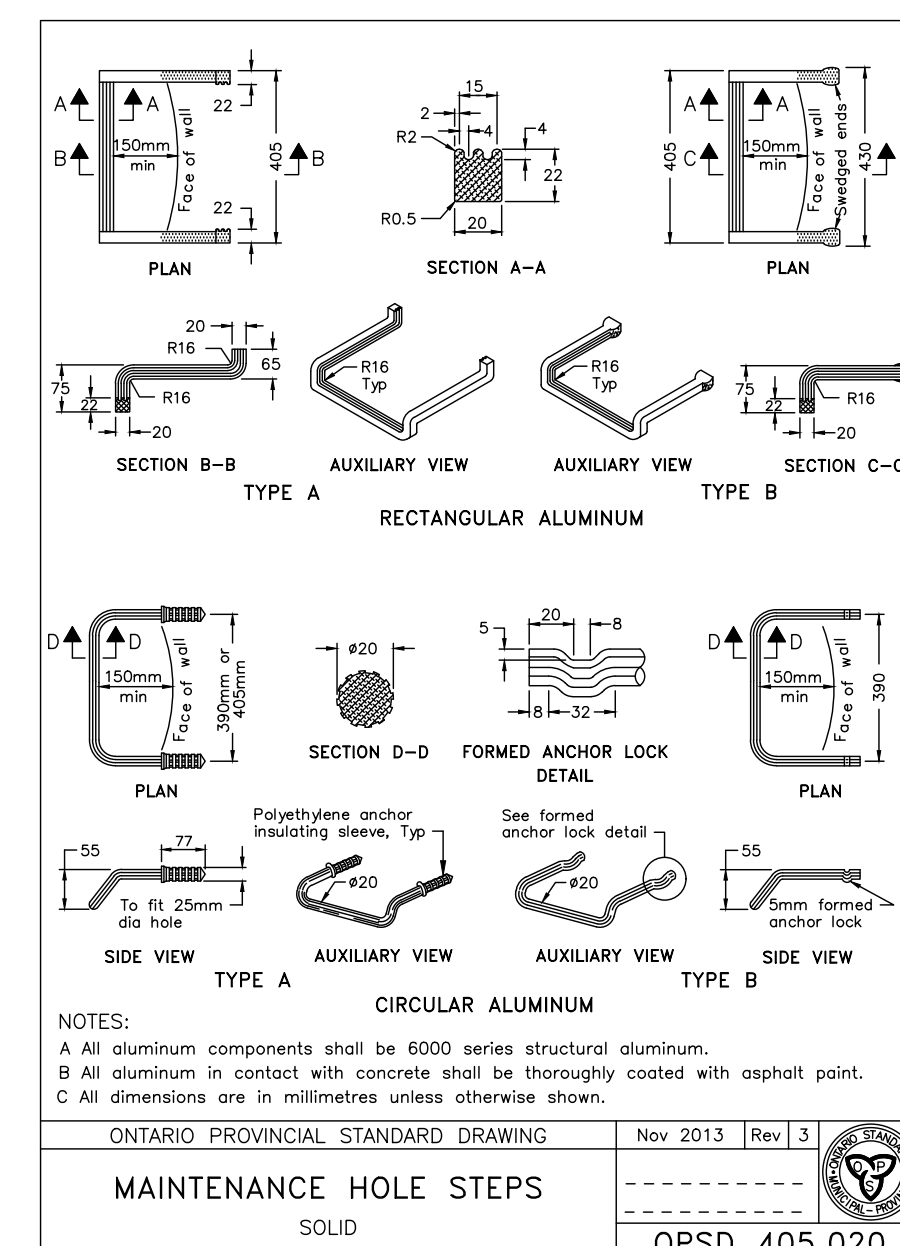
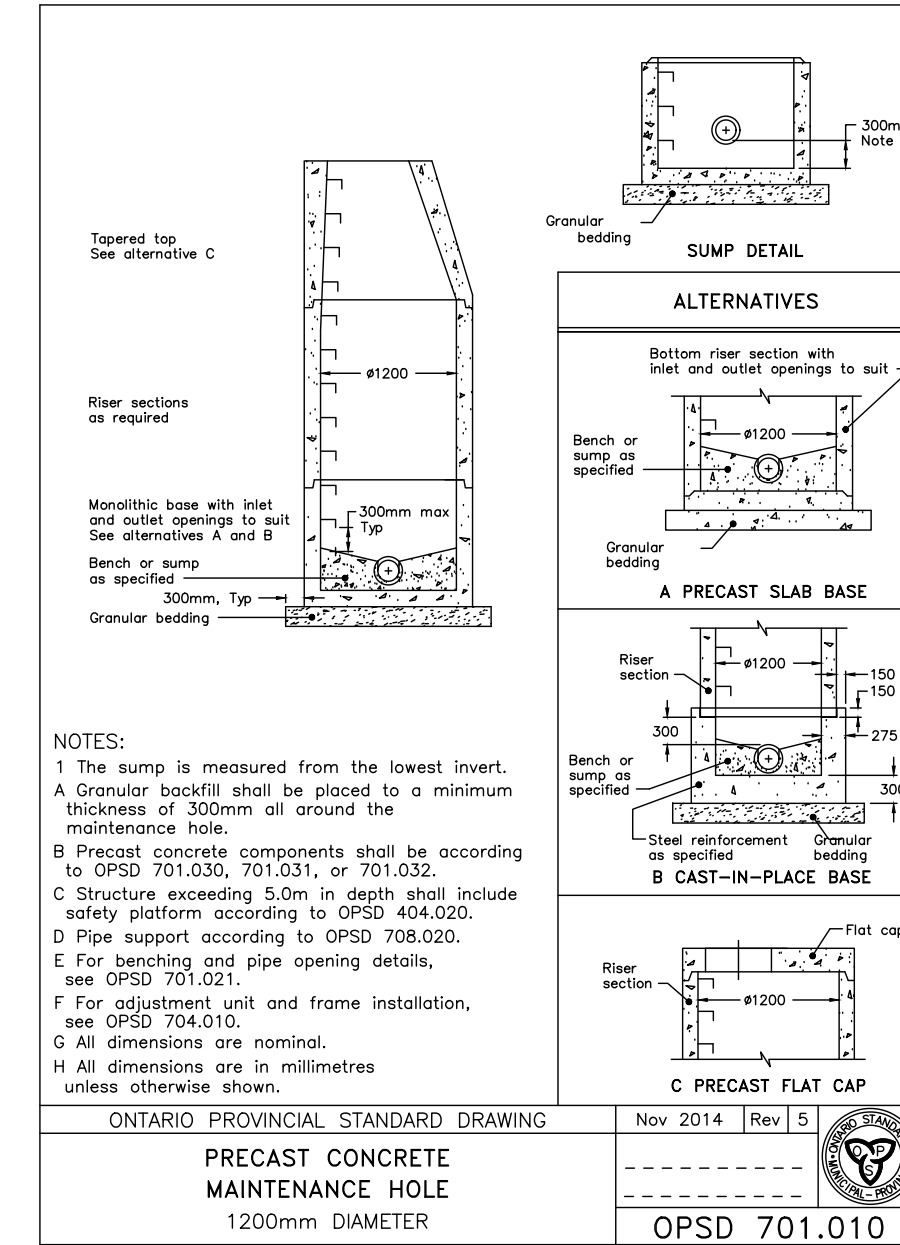
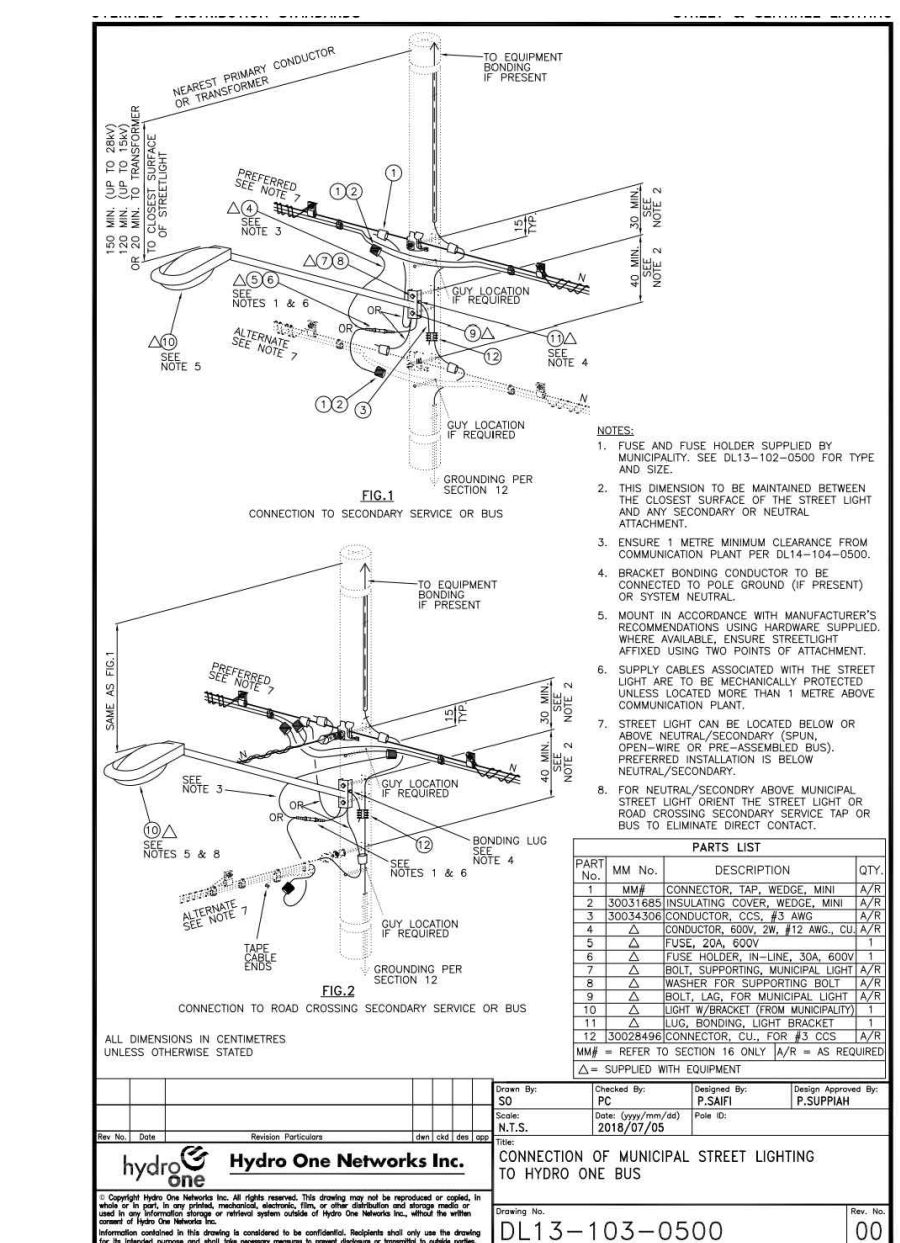
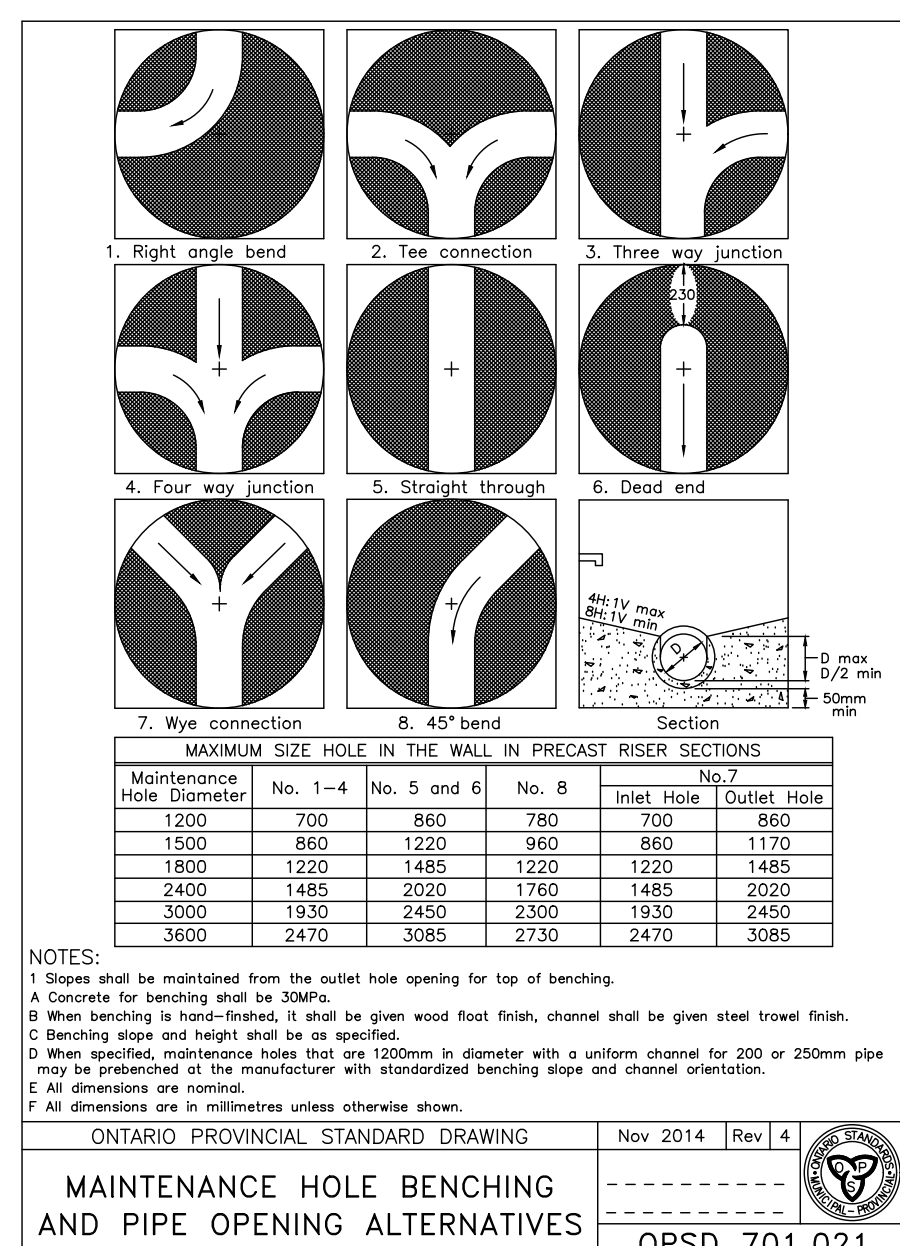
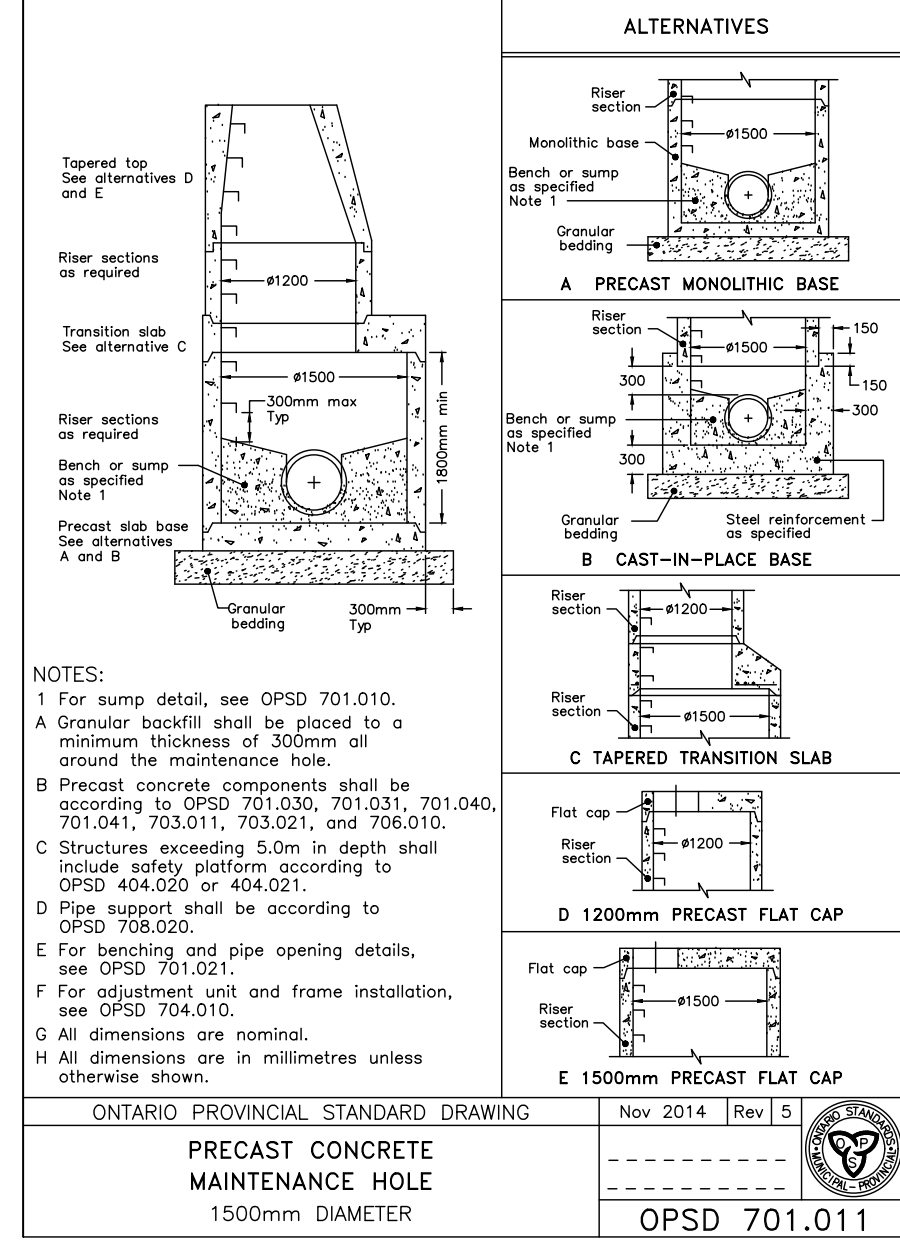
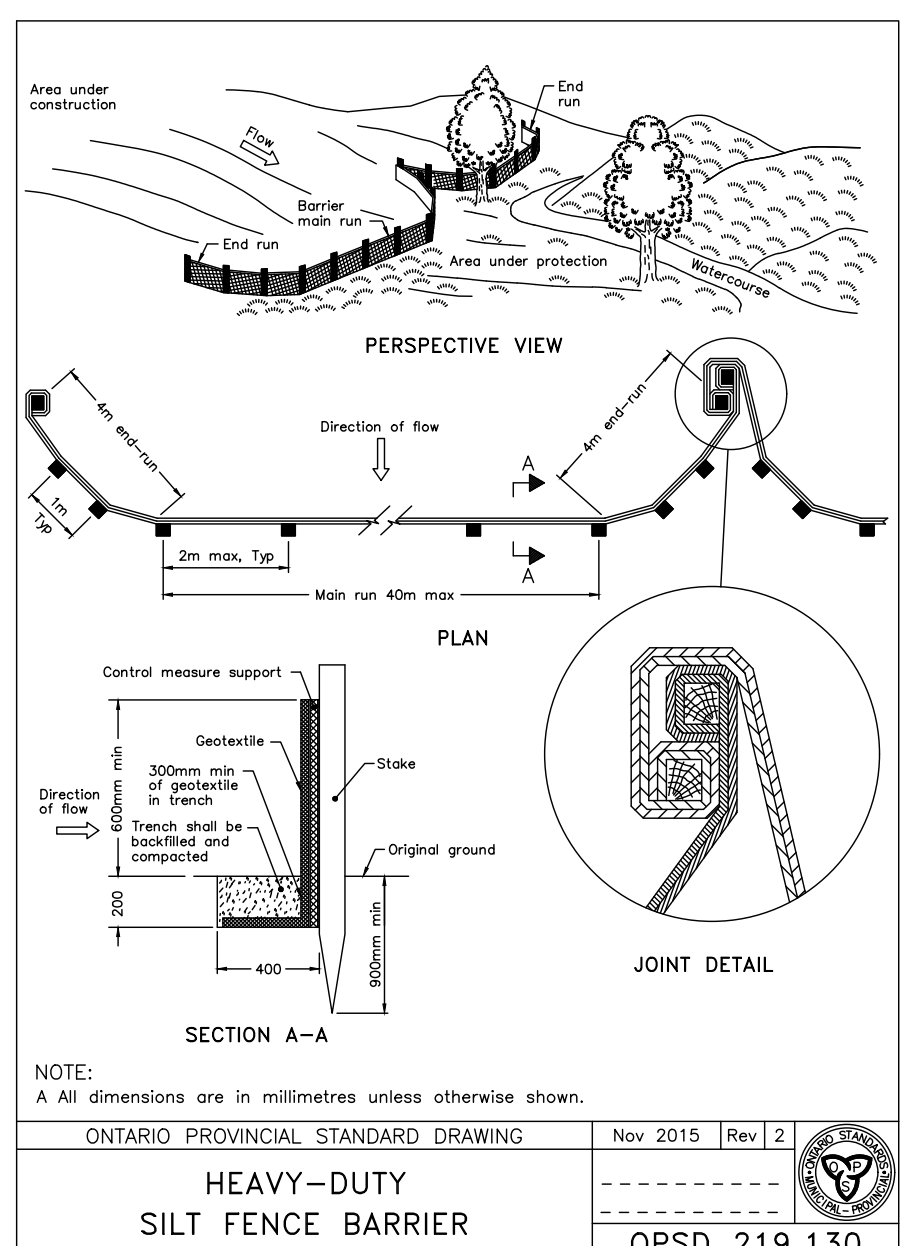
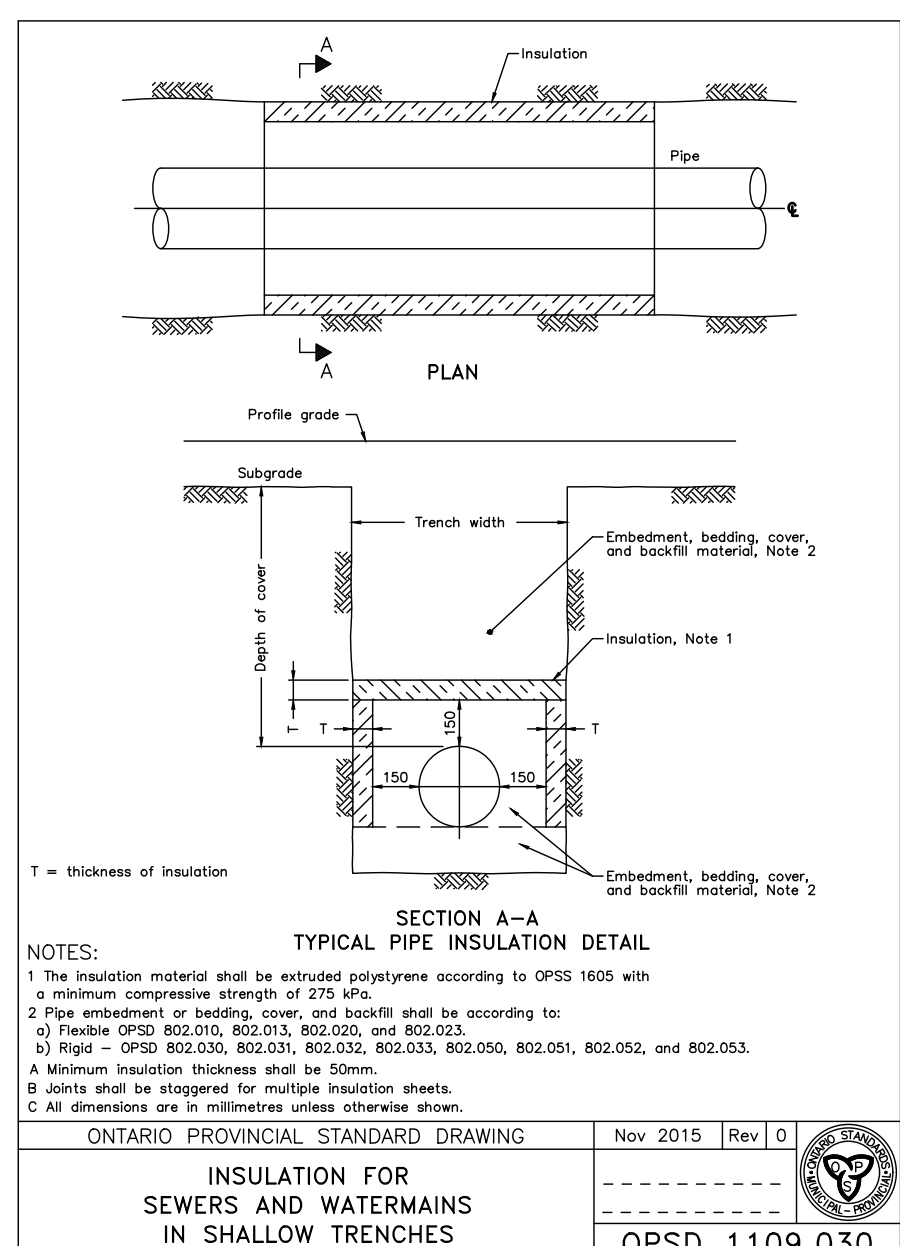
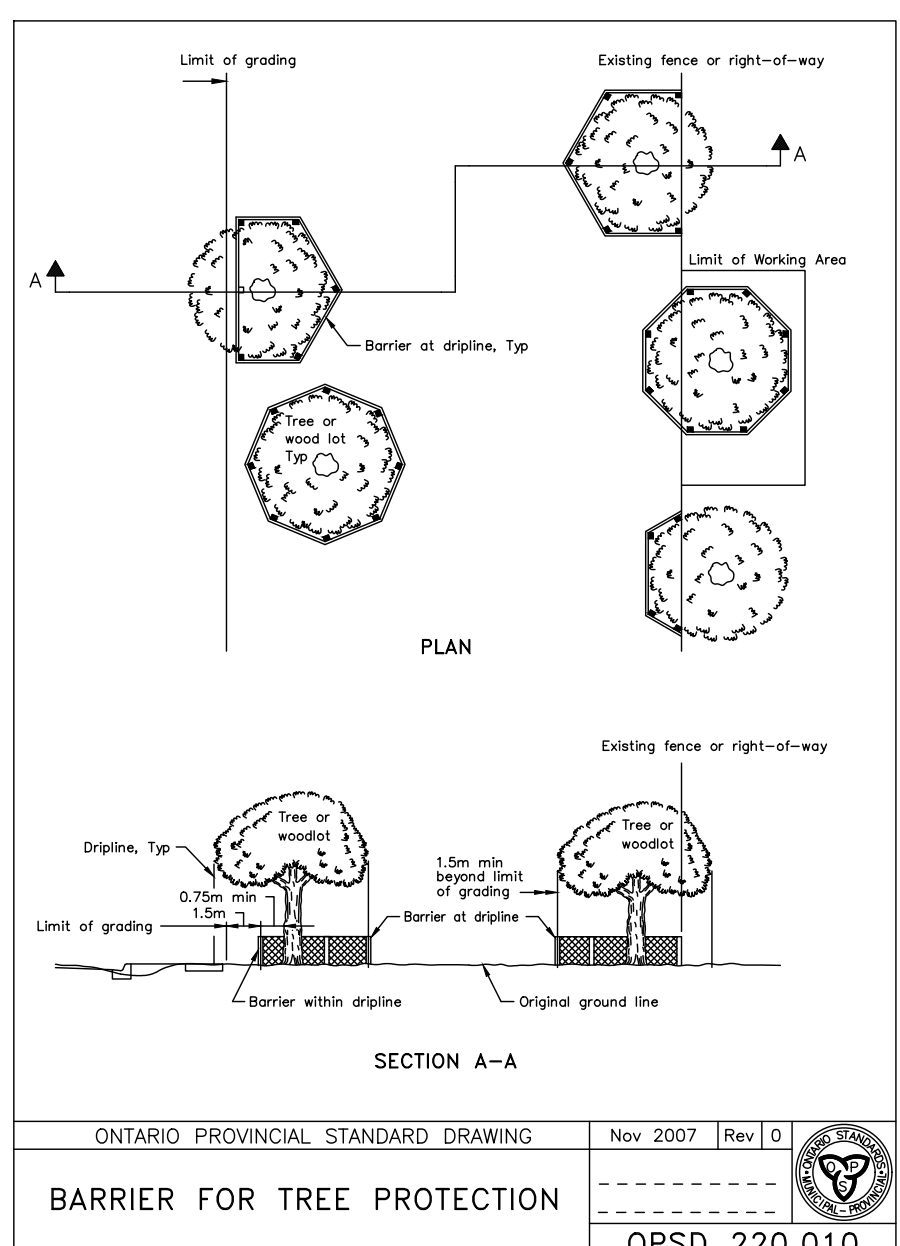
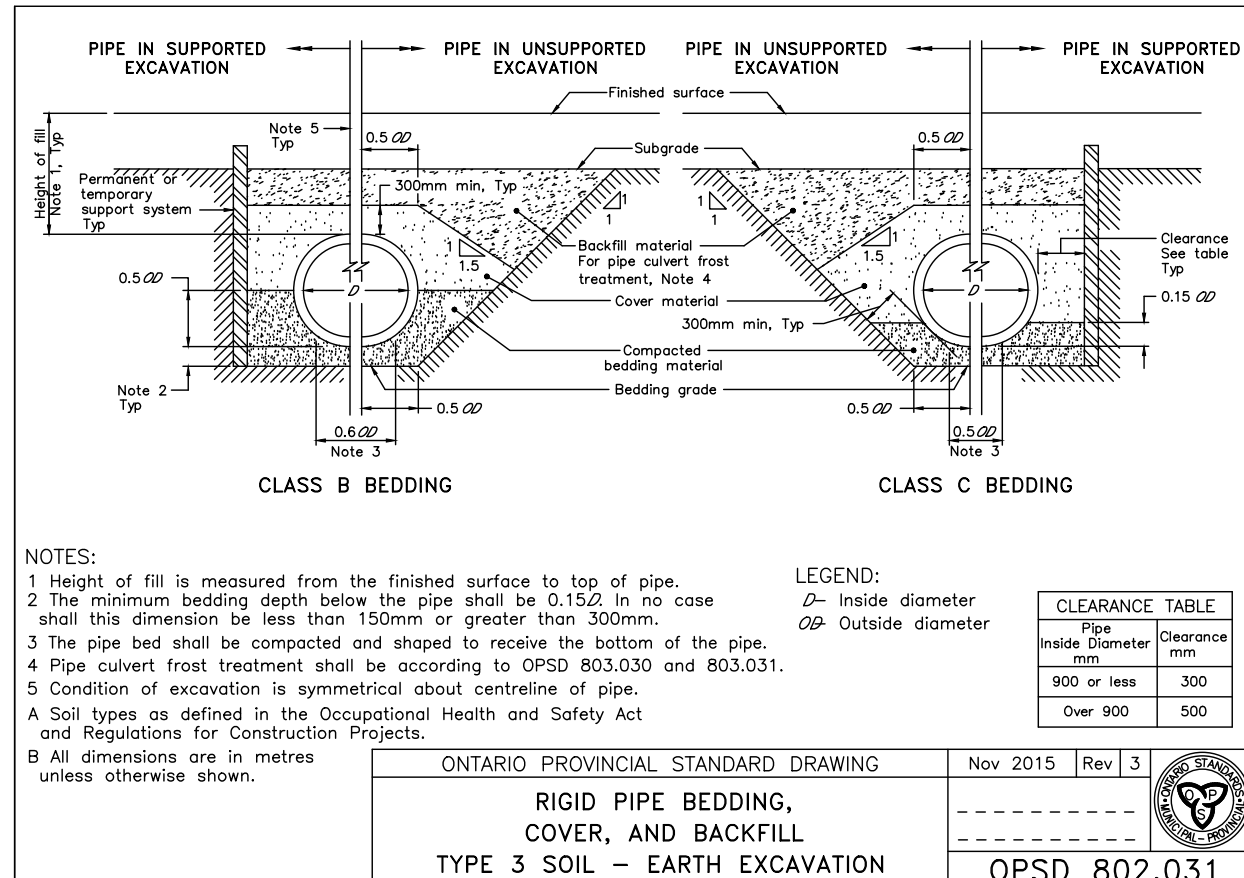
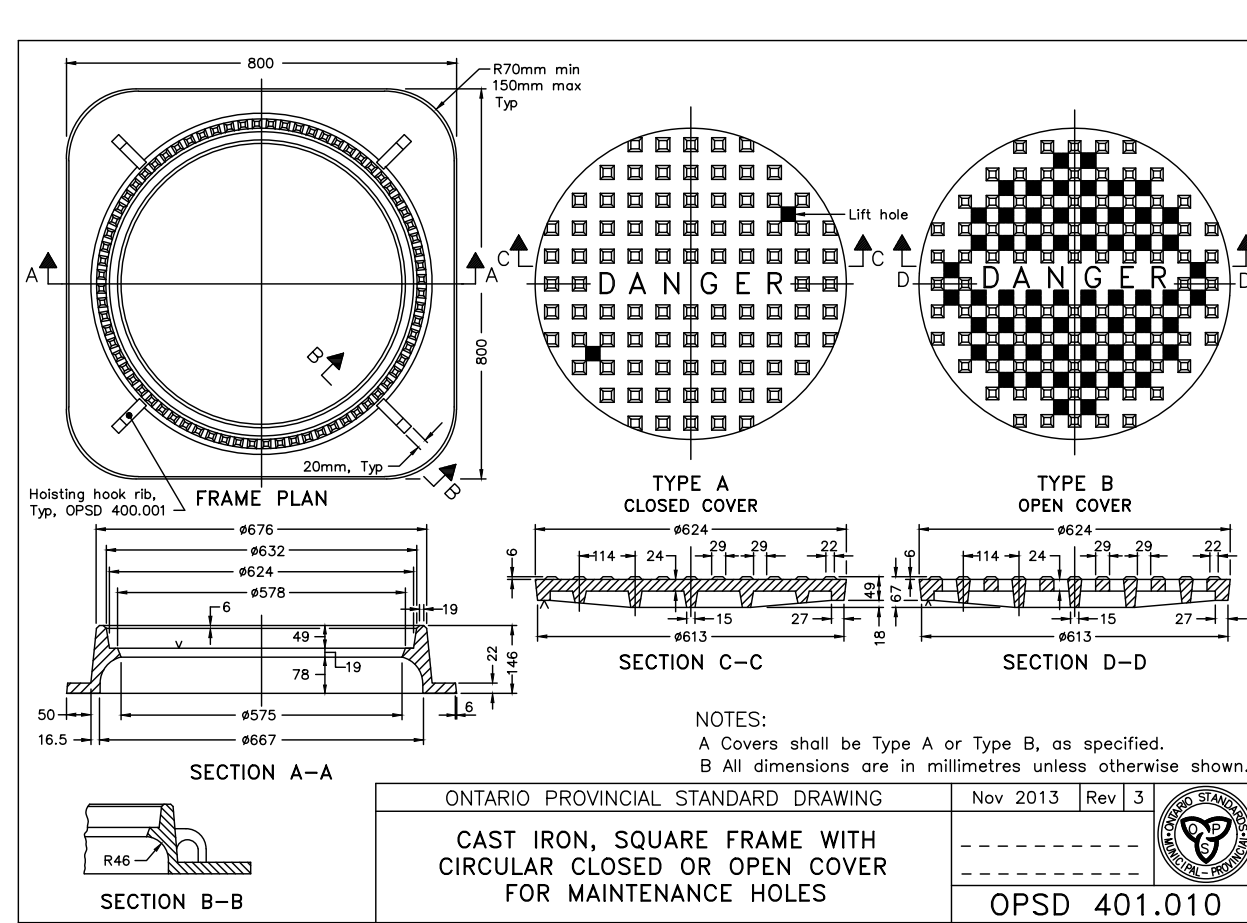
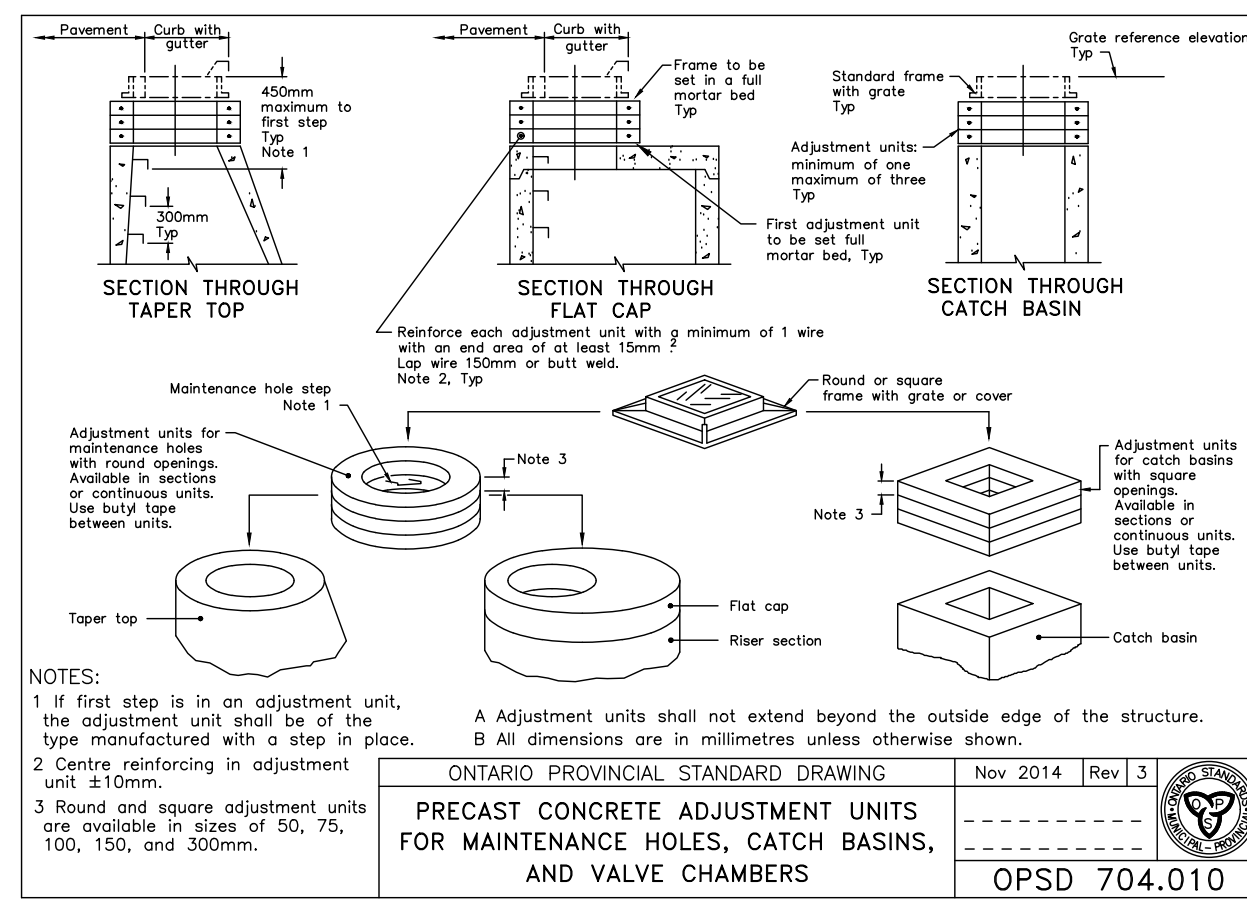
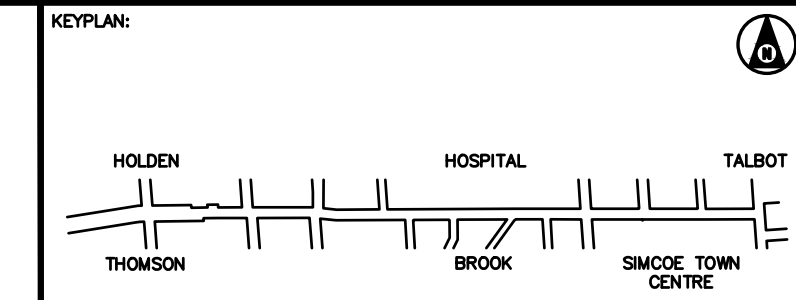


PROJECT NAME  
 RECONSTRUCTION OF WEST STREET - PHASE 1  
 HOLDEN AVENUE TO BROOK STREET  
 CLIENT REF: EIS-ENG-23-38

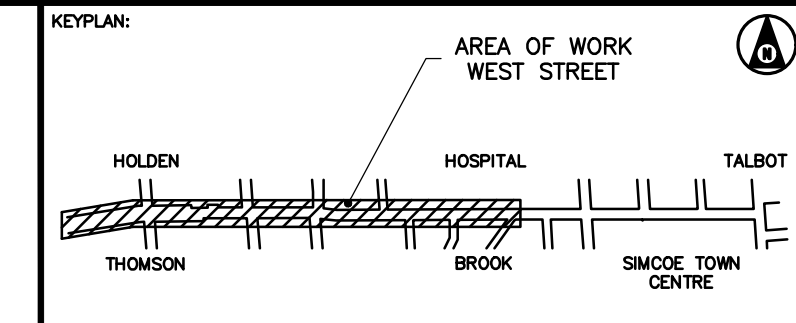
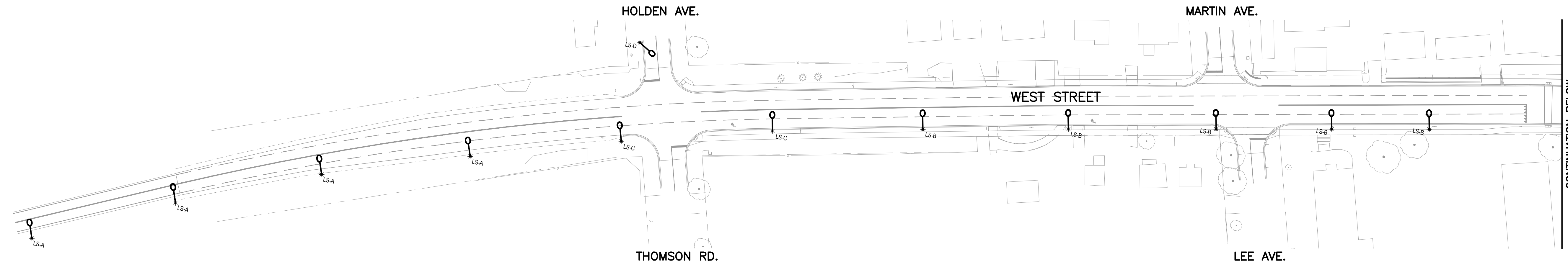
TITLE  
 WEST STREET TAPER DETAIL

PROJECT NO: 22-2016	DATE: JANUARY 2023
SCALE:	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
DESIGNED BY: AT	
DRAWN BY: JA	
CHECKED BY: JW	
25mm	



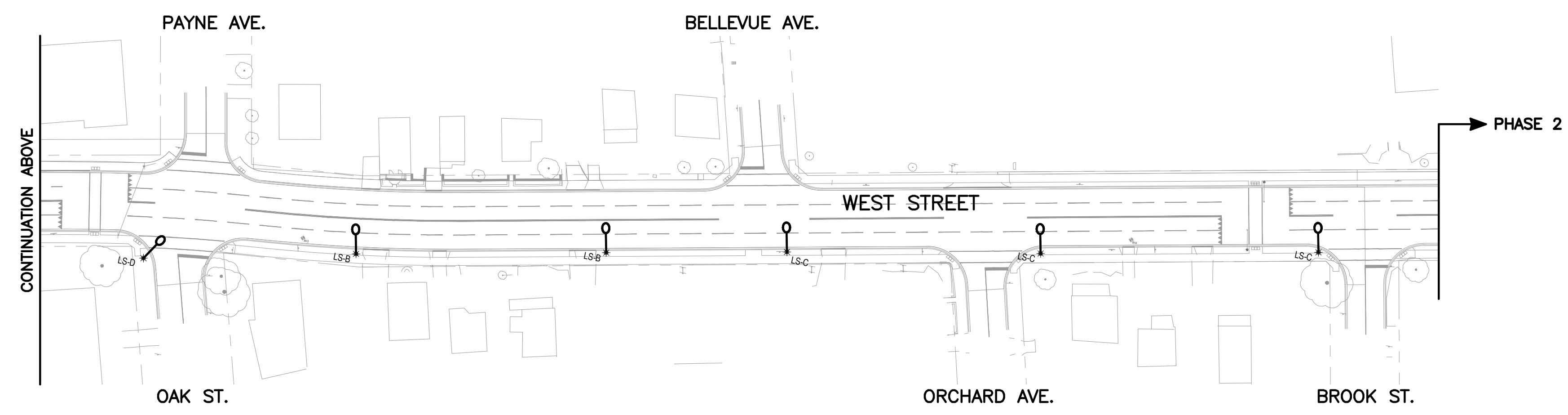






- LIGHTING SIMULATION NOTES:**
- PHOTOMETRIC SIMULATION IS A MATHEMATICAL MODEL OF A REAL LIFE SITUATION. THE CALCULATIONS ARE BASED ON THE DATA STATED, AND ACTUAL VALUES MAY VARY FROM THE RESULTS OF THIS SIMULATION DUE TO SITE CONDITIONS.
  - LUMINAIRE DETAILS:
    - TYPE: CREE XSPMD SERIES, VERSION 'D'. SEE LUMINAIRE SCHEDULE ON THIS DRAWING FOR ADDITIONAL DETAILS.
    - LUMINAIRE MOUNTING HEIGHT: 9.3m, UNLESS OTHERWISE SHOWN ON DRAWINGS.
  - LIGHTING SIMULATION ASSUMPTIONS:
    - NO CLEANING INTERVALS
    - IMMEDIATE REPLACEMENT OF DEFECTIVE LUMINAIRES
    - AVERAGE LUMINAIRE LIFE OF 10 YEAR
    - LIGHT LOSS FACTORS (LLF):
 

LUMINAIRE DIRT DEPRECIATION:	0.80
LAMP LUMEN DEPRECIATION:	0.99
OVERALL LLF:	0.79
  - SEE DWGS EV.1 THROUGH EV.4 FOR PHOTOMETRIC VISUALIZATIONS.



**PHOTOMETRIC RESULTS – ROADWAYS**

ROAD SECTION			CALCULATED VALUES			TAC / IES GUIDELINES		
FROM	TO	CALCULATION TYPE	MEAN [LUX]	UNIFORMITY RATIO (MEAN/MIN)	UNIFORMITY RATIO (MAX/MIN)	MEAN [LUX]	UNIFORMITY RATIO (MEAN/MIN)	UNIFORMITY RATIO (MAX/MIN)
APPROACH <sup>2</sup>	HOLDEN AVE <sup>2</sup>	HORIZONTAL ILLUMINANCE	6.5	2.4	7.6	> 4.0	< 6.0	< 10.0
HOLDEN AVE	MARTIN AVE	HORIZONTAL ILLUMINANCE	8.9	2.0	5.2	> 8.0	< 3.5	< 6.0
MARTIN AVE	PAYNE AVE	HORIZONTAL ILLUMINANCE	9.0	8.4 <sup>3</sup>	19.2 <sup>3</sup>			
PAYNE AVE	BELLEVUE AVE	HORIZONTAL ILLUMINANCE	8.7	2.3	6.1			
BELLEVUE AVE	ORCHARD AVE	HORIZONTAL ILLUMINANCE	9.1	2.5	5.7			
ORCHARD AVE	BROOK ST	HORIZONTAL ILLUMINANCE	8.1	3.1	8.1 <sup>3</sup>			

- NOTES:**
- ROADWAY CLASSIFICATION FOR WEST STREET: ARTERIAL ROAD
  - ROAD SECTION IS CONSIDERED A TRANSITION AREA BETWEEN A NON-LIGHTED AND FULLY-LIGHTED SECTION OF WEST STREET.
  - CALCULATED VALUE DOES NOT MEET TAC / IES GUIDELINES DUE TO THE LOCATION OF THE EXISTING UTILITY POLES WHERE FIXTURES CAN BE MOUNTED.

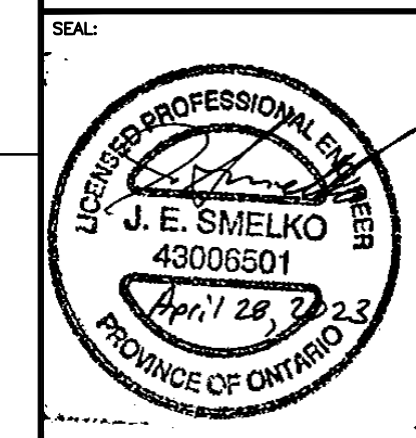
**PHOTOMETRIC RESULTS – INTERSECTIONS**

INTERSECTION		CALCULATED VALUES		TAC / IES GUIDELINES	
WEST STREET CROSSROAD	CALCULATION TYPE	MEAN [LUX]	UNIFORMITY RATIO (MEAN/MIN)	MEAN [LUX]	UNIFORMITY RATIO (MEAN/MIN)
HOLDEN AVE	HORIZONTAL ILLUMINANCE	9.9	7.1 <sup>2</sup>	> 9.0	< 3.0
MARTIN AVE / LEE AVE	HORIZONTAL ILLUMINANCE	9.5	6.8 <sup>2</sup>		
PAYNE AVE / OAK ST	HORIZONTAL ILLUMINANCE	8.7 <sup>2</sup>	4.0 <sup>2</sup>		
BELLEVUE AVE	HORIZONTAL ILLUMINANCE	12.5	5.0 <sup>2</sup>		
ORCHARD AVE	HORIZONTAL ILLUMINANCE	9.5	4.4 <sup>2</sup>		
BROOK ST	HORIZONTAL ILLUMINANCE	10.2	3.0		

- NOTES:**
- ROADWAY CLASSIFICATION OF WEST STREET: ARTERIAL ROAD
  - CALCULATED VALUE DOES NOT MEET TAC / IES GUIDELINES DUE TO THE LOCATION OF THE EXISTING UTILITY POLES WHERE FIXTURES CAN BE MOUNTED.

**LUMINAIRE SCHEDULE**

	LS-TYPE	QTY	LUMINAIRE				LUMINAIRE MOUNTING ARM		
			MANUFACTURER, MODEL & CATALOG NUMBER	LIGHT DISTRIBUTION	VOLTS / WATTS	Q-SETTING / LUMENS	NOTES	TYPE	DIMENSIONS
NEW FIXTURES TO BE INSTALLED	LS-A	4	CREE XSP SERIES – MEDIUM (XSPMD): XSPMD-D-HT-2ME-12L-40K7-UL-SV-N-Q1	TYPE II MEDIUM	120VAC / 48W	Q1 / 6,900	4000K COLOUR TEMP, PRE-CONFIGURED FIELD ADJUSTABLE OUTPUT (SEE Q-SETTING), SILVER COLOUR, FACTORY INSTALLED WATTAGE LABEL & 7-PIN PHOTOCCELL RECEPTACLE	ALUMINUM TAPERED ELLIPTICAL BRACKET PER OPSPD 2420.010	3.0m X 1.2m
EXISTING FIXTURES TO BE REPLACED	LS-B	7	CREE XSP SERIES – MEDIUM (XSPMD): XSPMD-D-HT-2ME-12L-40K7-UL-SV-N-Q5		120VAC / 74W	Q9 / 9,775		EXISTING MOUNTING BRACKET TO BE REUSED	N/A
	LS-C	5	CREE XSP SERIES – MEDIUM (XSPMD): XSPMD-D-HT-2ME-12L-40K7-UL-SV-N-Q9	120VAC / 95W	Q9 / 11,800	PROVIDE EXTENDED LIFE PHOTOCCELL FOR EACH LUMINAIRE: DARK-TO-LIGHT (DTL) DLL127-1.5-CUL, OR APPROVED EQUIVALENT.			
	LS-D	2	CREE XSP SERIES – MEDIUM (XSPMD): XSPMD-D-HT-4ME-12L-40K7-UL-SV-N-Q9	120VAC / 95W	Q9 / 11,800				



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NO.	BY	DATE	ISSUE / REVISION
2	AT	04/28/23	ISSUED FOR CONSTRUCTION
1	AT	03/02/23	ISSUED FOR TENDER



PROJECT NAME: RECONSTRUCTION OF WEST STREET – PHASE 1 HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38

TITLE: SITE PLAN & PHOTOMETRIC RESULTS TABLES

PROJECT NO:	DATE:
22-2016	JANUARY 2023
SCALE:	IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.
1:750	
DESIGNED BY:	
TS	
DRAWN BY:	
TS	
CHECKED BY:	
TS	