

TOWN OF BLIND RIVER

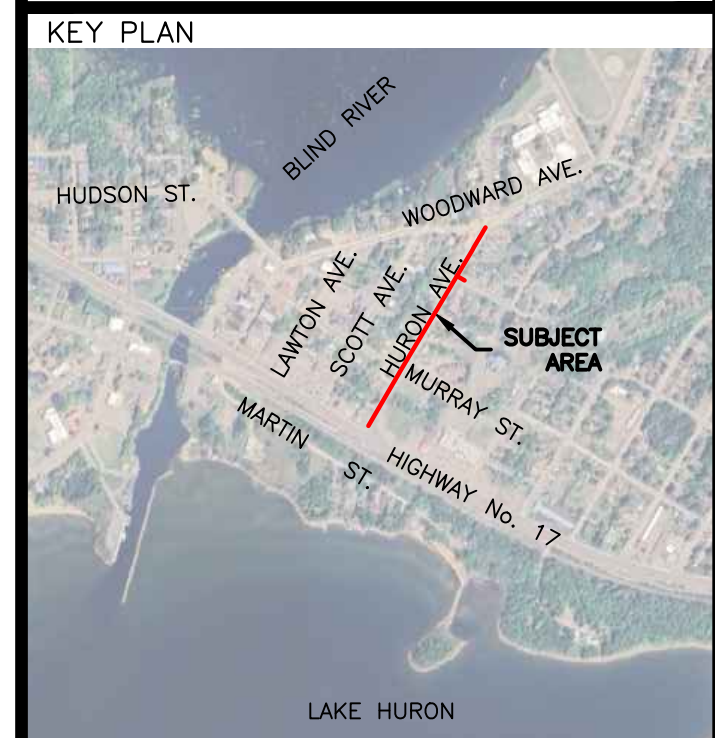
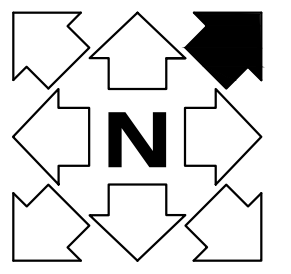
NEW WATER INTAKE & HURON STREET RECONSTRUCTION PHASE I


 ISSUED FOR CONSTRUCTION
 JULY 16, 2024



KEY PLAN

LIST OF DRAWINGS		
No.	Rev.	DRAWING DESCRIPTION
C1	1	LEGENDS AND GENERAL NOTES
C2	1	REMOVALS PLAN
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C4	1	PLAN & PROFILE 10+350 to 10+500
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C6	1	PLAN & PROFILE MURRAY AND BERTHELOT STREET
C7	1	PAVEMENT MARKINGS
C8	1	TYPICAL SECTIONS AND DETAILS
C9	1	STRUCTURE & RESTRAINT SCHEDULES



ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
24/07/16	1	Issued For Construction	DAS	CLK
24/06/18	0	Issued For Tender	DAS	CLK
24/06/14	B	Issued For Review	DAS	CLK
24/02/22	A	Issued For Review	DAS	CLK

CLIENT:

CONSULTANT:

PROJECT TITLE:

**NEW WATER INTAKE
&
HURON STREET
RECONSTRUCTION**

PHASE I

DRAWING TITLE:

**LEGENDS AND GENERAL
NOTES**

DAS	DAS	CLK	CLK
DRAWN	DESIGNED	CHECKED	APPROVED
JUL. 16, 2024			
SCALE		DATE	
24-1094	1	C1	
PROJECT No.	REVISION	DRAWING	

LEGEND - EXISTING

INDEX CONTOUR (0.5m INTERVAL)	— 14.3 —
INTERMEDIATE CONTOUR (0.1m INTERVAL)	— — —
PROPERTY LINE	— — —
SURVEY MONUMENT	■ SIB
EDGE OF ASPHALT	— — —
EDGE OF GRAVEL	- - - - -
CONCRETE SIDEWALK	[Hatched Box]
PAVING STONES	[Grid Pattern Box]
GATE	[X Symbol]
DITCH LINE	— — —
EDGE OF WATER	— — —
WOOD OUTLINE	— — —
AERIAL HYDRO	— HCA —
AERIAL BELL	— BCA —
AERIAL BELL & HYDRO	— B&H —
UNDERGROUND GAS	— G —
UNDERGROUND BELL	— BCU —
UTILITY POLE	○ B&H
UTILITY ANCHOR	• AN
MAINTENANCE HOLE	○ MH
CATCH BASIN	□ CB
TERMINAL BOX	□ TB
FIRE HYDRANT	[Fire Hydrant Symbol]
WATER VALVE	● WV
WATERMAIN	— W —
SANITARY SEWER	— SAN —
STORM SEWER	— ST —

LEGEND - REMOVALS

ASPHALT	[Red Box]
CONCRETE CURB	[Red Box]
CONCRETE GUTTER	[Red Box]
CONCRETE SIDEWALK	[Red Box]
PAVING STONE SIDEWALK	[Red Box]
WATERMAIN	— W —
FIRE HYDRANT	[Red X Symbol]
GATE VALVE	● WV
WATER SHUTOFF	[Red X Symbol]
STORM SEWER	— ST —
SANITARY SEWER	— SAN —
MAINTENANCE HOLE	○ MH
CATCH BASIN	□ CB

LEGEND - PROPOSED

CENTRELINE	— — —
ASPHALT	[Red Box]
GUTTER LINE	— — —
CURB OUTLINE	— — —
CONC. SIDEWALK	[Red Box]
DROP CURB	[Red Box]
ASPHALT APRON/DRIVEWAY	[Red Box]
GRAVEL DRIVEWAY	[Red Box]
CONC. WALKWAY/STEP	[Red Box]
TOPSOIL/SOD	[Red Box]
WATERMAIN	— W —
RAW WATER LINE	— — —
GATE VALVE	WV
CURB STOP	[Blue Symbol]
ELBOWS, TEES & COUPLERS	[Blue Symbol]
FIRE HYDRANT	[Blue Symbol]
AIR RELEASE VALVE	AV
SANITARY SEWER	— SAN —
SAN. MAINTENANCE HOLE	○ SAMH
STORM SEWER	— ST —
CATCH BASIN	□ CB
ST. MAINTENANCE HOLE	○ STMH
GRADING LIMITS	— — —

LEGEND - PROFILE

EXISTING GRADE	— — —
INFERRED ROCK	- - - - -
PROPOSED GRADE	— — —
GRANULARS	- - - - -
WATERMAIN	— W —
RAW WATER LINE	— — —
SANITARY SEWER	— SAN —
STORM SEWER	— ST —

GENERAL NOTES:

- ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARD DRAWINGS TO APPLY UNLESS OTHERWISE NOTED.
- ALL EROSION AND SEDIMENT CONTROLS SHALL FOLLOW AND BE IN ACCORDANCE WITH GENERAL BEST MANAGEMENT PRACTICES PRIOR TO UNDERTAKING WORKS.
- NOTIFY ALL UTILITY DEPARTMENTS 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. UTILITY PERSONNEL TO BE ON SITE WHEN EXCAVATING ADJACENT TO UNDERGROUND UTILITIES.
- SUPPORT UTILITIES IN ACCORDANCE WITH THE DIRECTIONS AND GUIDELINES OF THE IMPACTED UTILITY.
- COMPLETE ALL TRENCHING IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH & SAFETY ACT.
- THE LOCATION OF UTILITIES SHOWN ON DRAWINGS IS APPROXIMATE AND MAY BE INCOMPLETE. CONFIRM EXACT LOCATION OF UTILITIES WITH MINISTRY, MUNICIPALITY OR UTILITIES. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION AND WILL BE RESPONSIBLE FOR PROTECTING AGAINST DAMAGE. THE CONTRACTOR ASSUMES ALL LIABILITY FOR DAMAGE TO UTILITY AND ROAD WORKS.
- COMPLY WITH THE REQUIREMENTS OF THE TOWN OF BLIND RIVER IN REGARDS TO TRAFFIC FLOW ON MUNICIPAL STREETS. MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES. SHORT TERM FULL CLOSURE PERMITTED TO FACILITATE WORKS.
- PROVIDE NOTICE TO RESIDENTS WHEN VEHICLE ACCESS WILL BE IMPACTED.
- ALL INSTALLATIONS ARE TO BE COMPLETED TO THE SATISFACTION OF THE ENGINEER AND THE TOWN OF BLIND RIVER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- CONSTRUCTION SHALL ADHERE TO THE ASSOCIATE WORK WINDOWS FOR WORKS IN OR NEAR WATER BODIES AND WETLANDS.
- COMPLETE ALL WORKS NEAR ENBRIDGE GAS LINE IN ACCORDANCE WITH ENBRIDGE THIRD-PARTY REQUIREMENTS IN THE VICINITY OF NATURAL GAS FACILITIES STANDARD, 2024.01.31.

STREET RECONSTRUCTION NOTES:

- INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED. ADDITIONAL MEASURES MAY BE REQUIRED DURING CONSTRUCTION BASED ON SITE CONDITIONS.
- ALL REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 510. LIMITS TO BE SAWCUT.
- ROADWAY ASPHALT AND SIDEWALK SURFACES TO BE REMOVED SEPARATELY FROM GRANULARS.
- EXCAVATION TO BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 206. EXCAVATIONS TO ALLOW FOR RECONSTRUCTION OF STREET TO DESIGN GRADES AND ELEVATIONS. EXCAVATION TO INCLUDE FOR SUBGRADE TAPERS AT INTERSECTING STREETS. ENSURE POSITIVE DRAINAGE ACROSS THE SUBGRADE.
- COMPLETE EARTH TO ROCK TRANSITION TREATMENTS PER OPSS 205.020, OPSS 205.030, OPSS 205.040 AND 205.050 AS REQUIRED. TRANSITION AREAS TO BE REVIEWED IN THE FIELD WITH ENGINEER OR ENGINEER'S REPRESENTATIVE TO DETERMINE LIMITS, GEOTEXTILE REQUIREMENTS AND SUBGRADE ELEVATION IMPACTS.
- PROOF ROLL SUBGRADE PRIOR TO PLACING GEOTEXTILE AND GEOGRID.
- PLACE GEOTEXTILE - LAYFIELD LPH OR EQUIVALENT, OPSS.MUNI 1860.
- PLACE GEOGRID - TERRAFIX TBX2500 OR EQUIVALENT, OPSS.MUNI 1860.
- INSTALL 150mmØ SOCKED SUBDRAINS, IN GEOTEXTILE WRAPPED CLEARSTONE TRENCH, IN ROADWAY - OPSS.MUNI 405. CONNECT TO CATCH BASINS PER OPSS 216.021.
- PLACE & COMPACT GRANULAR "B" AND GRANULAR "A" - OPSS.MUNI 314 & OPSS.MUNI 501.
- INSTALL CONCRETE GUTTER PER OPSS.MUNI 353.
- INSTALL CONCRETE SIDEWALK PER OPSS.MUNI 351.
- PLACE 50mm HL8 BASE ASPHALT, 40mm HL3 SURFACE ASPHALT, AND 50mm HL3 BOULEVARD & ENTRANCE ASPHALT - OPSS.MUNI 310. TACK COATING OF ALL CONCRETE FACES AND BETWEEN BASE AND SURFACE COURSES REQUIRED.
- RESTORE ENTRANCES TO PRECONSTRUCTION CONDITIONS. SALVAGE AND RESET PAVING STONES - OPSS 561.010. ASPHALT TO BE PLACED BETWEEN EXISTING PAVING STONE LIMITS AND SIDEWALK. EXISTING GRAVEL ENTRANCES TO BE PAVED 1m BEYOND BACK OF SIDEWALK.
- INSTALL PEDESTRIAN CROSSOVER SYSTEM, TYPE B, COMPLETE WITH OVERHEAD SIGNS, FLASHING LIGHTS AND ASSOCIATED TRAFFIC SIGNAGE.
- INSTALL TOPSOIL AND SOD TO ALL DISTURBED AREAS AND REINSTATE TO EXISTING CONDITIONS OR BETTER.
- APPLY PAVEMENT MARKINGS PER OPSS.MUNI 710.
- CONTRACTOR TO PREPARE TRAFFIC PLAN FOR REVIEW BY THE CONSULTANT AND TOWN OF BLIND RIVER IN ADVANCE OF CONSTRUCTION. SHORT TERM CLOSURES FROM INTERSECTION TO INTERSECTION MAY BE PERMITTED TO FACILITATE INSTALLATIONS.

WATERMAIN INSTALLATION NOTES:

- WATERMAIN AND RAW WATER LINE SHALL BE INSTALLED ACCORDING TO OPSS.MUNI 441.
- THE CONTRACTOR SHALL LOCATE THE EXISTING WATERMAINS, DISTRIBUTION AND RAW WATER INTAKE, AND SUPPLY THE NECESSARY MANUFACTURER APPROVED COUPLERS TO MAKE THE CONNECTIONS.
- THE 250mmØ WATERMAIN SHALL BE INSTALLED WITH A MINIMUM OF 1.8m OF COVER. 300mmØ TWIN RAW WATER LINE SHALL BE INSTALLED BELOW THE WATERMAIN.
- PROVIDE INSULATION PROTECTION IN AREAS <2.1m COVER, AT THE DIRECTION OF THE ENGINEER. INSTALL 25mm THICKNESS OF DOW H-LOAD-60 ABOVE WATERMAIN OR WATER SERVICE FOR EACH 300mm OF COVER REQUIRED (OR PART THEREOF) TO ACHIEVE MINIMUM 2.1m EQUIVALENT COVER.
- MAINTAIN MINIMUM CLEAR SEPARATION OF 2.5m HORIZONTAL BETWEEN SEWERS AND WATERMAIN. WHERE WATERMAIN SEPARATION TO SANITARY SEWER IS LESS THAN 2.5m HORIZONTALLY, INVERT OF WATERMAIN SHALL BE LOCATED A MINIMUM OF 0.5m ABOVE THE CROWN OF THE SANITARY SEWER. SUCH SEPARATION SHALL BE IN-SITU MATERIAL OR COMPACTED BACKFILL.
- WHERE VERTICAL SEPARATION CANNOT BE OBTAINED, THE SEWER SHALL BE CONSTRUCTED OF MATERIALS AND JOINTS THAT ARE EQUIVALENT TO WATERMAIN STANDARDS OF CONSTRUCTION WITH THE LENGTH OF WATER PIPE TO BE CENTERED ON THE CROSSING.
- WATERMAIN PIPE SHALL BE AWWA C900 PVC CLASS 235 DR18 AND BE CERTIFIED TO CSA 137.3. FITTINGS SHALL BE PVC CONFORMING TO AWWA C907.
- A CONTINUOUS RWJ No. 12 SOLID COPPER HMWPE TRACING WIRE SHALL BE INSTALLED WITH PVC WATERMAIN, VALVES AND HYDRANT LEADS AND BROUGHT TO THE SURFACE AND STRAPPED TO THE BARREL OF EACH HYDRANT.
- ALL JOINTS INCLUDING CONNECTIONS, CAPS, VALVES, TEES AND BENDS SHALL BE RESTRAINED BY MECHANICAL JOINTS.
- INSTALL JOINT RESTRAINTS SHALL BE IN ACCORDANCE WITH THE RESTRAINED LENGTH TABLES. JOINT RESTRAINTS ON NEW PVC SHALL BE UNI-FLANGE SERIES 1390 OR APPROVED EQUIVALENT. ON EXISTING CAST IRON CLASS 250 PIPE USE NSF CERTIFIED CLAMP.
- FIRE HYDRANTS SHALL BE NEW, MUELLER HYDRANT OR M67 M&VITY BRIGADIER. HYDRANTS MUST BE ABLE TO RECEIVE STORZ FITTINGS FOR FIRE HOSES. FINAL ELEVATION SHALL BE 100mm - 150mm ABOVE FINISHED GRADE. ALL JOINTS BETWEEN WATERMAIN AND HYDRANT TO BE MECHANICALLY RESTRAINED. INSTALL ACCORDING TO OPSS 1105.010. ANODES SHALL BE ZINC ANODES Z-24-48. ANODES SHALL BE CADWELDED TO ALL IRON FITTINGS ACCORDING TO OPSS 1109.011.
- GATE VALVES SHALL BE MUELLER EQUIPPED WITH VALVE OPERATOR TO OPSS 1101.020. VALVE BOXES SHALL BE MUELLER FOR PVC PIPES. ANODES SHALL BE ZINC ANODES Z-24-48. ANODES SHALL BE CADWELDED TO ALL IRON FITTINGS ACCORDING TO OPSS 1109.011.
- REPLACE ALL WATER SERVICES TO THE LOT LINES OR LIMITS INDICATED WITH 19mmØ OR 50mmØ TYPE K COPPER LINE UNLESS SPECIFIED OTHERWISE, COMPLETE WITH CIRCLE MAIN STOP AND CURB STOP, PER OPSS 1104.010. CATHODIC PROTECTION PER OPSS 1109.010. HORIZONTAL GOOSENECKS.
- EMBEDMENT AND COVER OF WATERMAIN ACCORDING TO OPSS 441 & OPSS 802.010. EMBEDMENT MATERIAL TO BE GRANULAR "A" OR 19mm CLEAR STONE TO SPRING LINE OF PIPE. COVER MATERIAL TO BE GRANULAR "A" OR 19mmØ CLEAR STONE. BACKFILL TO SUBGRADE WITH SUITABLE NATIVE MATERIAL.
- NO CONNECTION TO THE MUNICIPAL DISTRIBUTION SYSTEM SHALL BE MADE UNTIL THE NEW WATERMAIN HAS PASSED REQUIRED TESTING. THE CONNECTION OF NEW WATERMAIN TO EXISTING WATERMAIN SHALL BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE ALGOMA PUBLIC HEALTH UNIT AND THE TOWN OF BLIND RIVER.

SANITARY SEWER NOTES:

- SANITARY SEWERS SHALL BE INSTALLED IN IN ACCORDANCE WITH OPSS 401, 402 AND 410.
- SANITARY SEWER PIPE SHALL BE DR35 PVC PIPE MATERIAL IN ACCORDANCE WITH OPSS 1841.
- EMBEDMENT AND COVER OF SEWER - OPSS 802.010 & 802.013. GRANULAR "A" OR 19mm CLEARSTONE TO SPRING LINE OF PIPE. COVER MATERIAL TO BE GRANULAR "A" OR 19mmØ CLEAR STONE. BACKFILL TO SUBGRADE WITH SUITABLE NATIVE MATERIAL.
- MAINTENANCE HOLES SHALL BE 1200mmØ - OPSS 701.010.
- ALL MAINTENANCE HOLES SHALL HAVE TYPE A-CLOSED COVER - (OPSS 401.010), MAINTENANCE HOLE STEPS (OPSS 405.020) AND FROST STRAPS (OPSS 701.100).
- THE CONTRACTOR MUST MAINTAIN SANITARY SEWER SERVICES TO ALL BUILDINGS AT ALL TIMES FOR THE DURATION OF CONSTRUCTION.
- MAINTAIN MINIMUM CLEAR SEPARATION OF 2.5m HORIZONTAL AND 0.5m VERTICAL BETWEEN SANITARY SEWER AND WATERMAIN UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- SANITARY SEWER BEDDING FOR FLEXIBLE PIPE SHALL BE AS PER OPSS 802.01. (GRANULAR "A" OR 19mm CLEAR STONE BEDDING) COVER MATERIAL TO BE GRANULAR "A" AND BACKFILL IS TO BE SUITABLE APPROVED NATIVE MATERIAL. BEDDING AND BACKFILL TO BE COMPACTED TO MINIMUM 98% STANDARD PROCTOR DENSITY.
- SEWER SERVICE SHALL BE MINIMUM 150mmØ, DR35 PVC PIPE MATERIAL, INSTALL IN ACCORDANCE WITH OPSS 1006.010.
- THE CONTRACTOR SHALL LOCATE THE EXISTING SANITARY SEWERS AND SUPPLY NECESSARY MANUFACTURER APPROVED COUPLERS TO MAKE THE CONNECTIONS AT PROPERTY LINE.

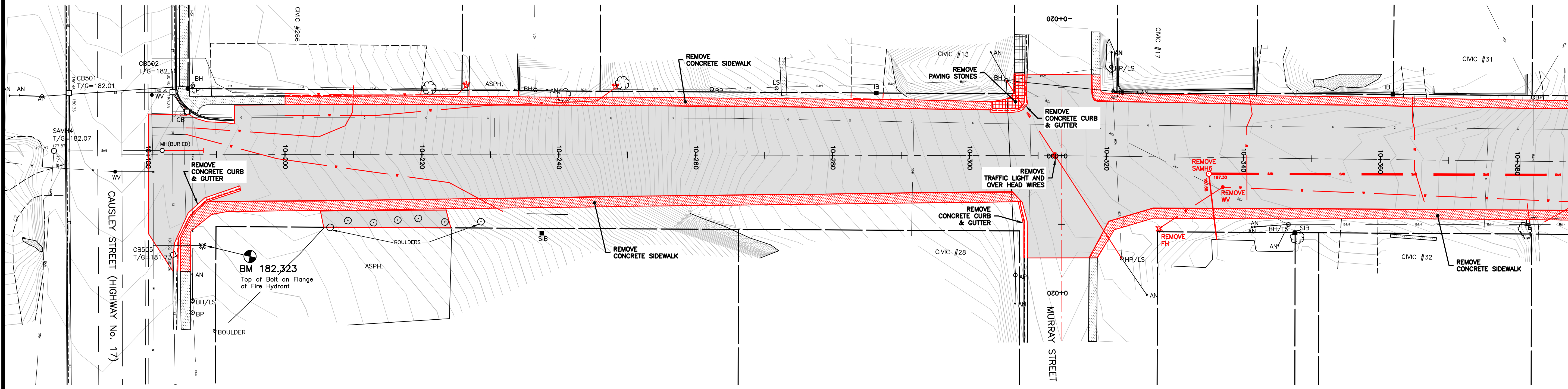
STORM SEWER NOTES:

- STORM SEWERS SHALL BE CONSTRUCTED TO OPSS.MUNI 410.
- STORM SEWER PIPE AND FITTINGS SHALL BE ADS-N-12 WT IB HDPE STORM SEWER PIPE, OR PVC CLASS 165 DR25 CLASS 135 WHERE SPECIFIED, OR EQUIVALENT - OPSS 1841
- EMBEDMENT AND COVER OF STORM SEWER - OPSS 802.010 & 802.013. GRANULAR "A" OR 19mm CLEARSTONE TO SPRING LINE OF PIPE. COVER MATERIAL TO BE GRANULAR "A" OR 19mmØ CLEAR STONE. BACKFILL TO SUBGRADE WITH SUITABLE NATIVE MATERIAL.
- STORM SEWER STRUCTURES TO BE CONSTRUCTED TO OPSS 407
- CATCH BASINS SHALL BE 600mm X 600mm - OPSS 705.010, FRAMES & GRATES OPSS 400.020. MINIMUM SUMP OF 600mm. FROST STRAPS PER OPSS 701.100 FOR MULTIPIECE STRUCTURES.
- MAINTENANCE HOLE CATCH BASIN SHALL BE 1200mm Ø - OPSS 700.010, FRAMES & GRATES OPSS 400.020. MINIMUM SUMP OF 300mm. FROST STRAPS PER OPSS 701.100, STEPS PER OPSS 405.020.
- CONNECT EXISTING ROOF DRAINS AND WEeping TILES WITH 100mmØ NON-PERFORATED SUBDRAINS OPSS.MUNI 405.

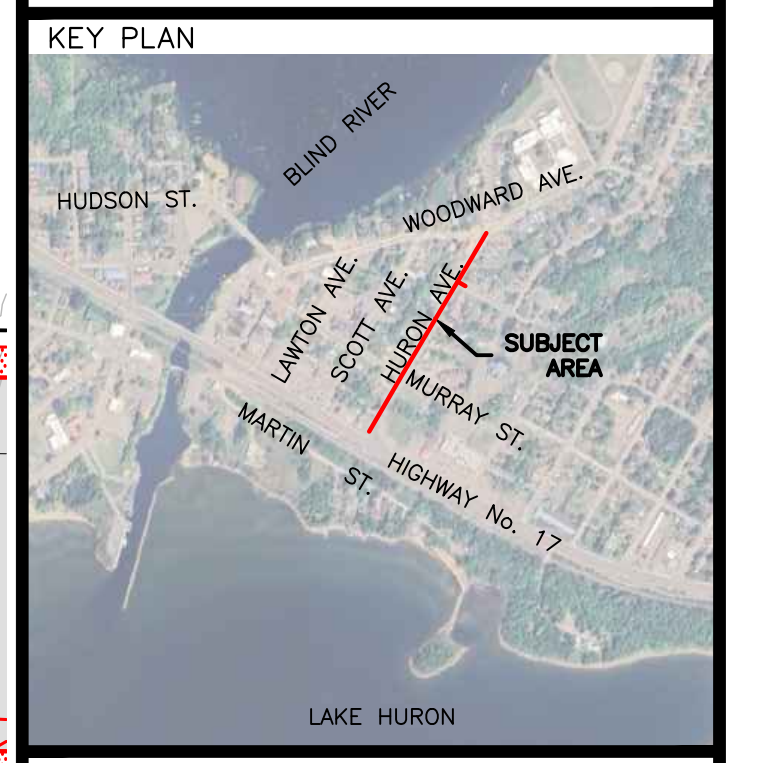
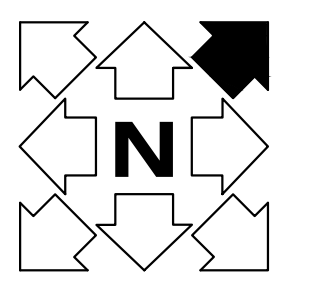
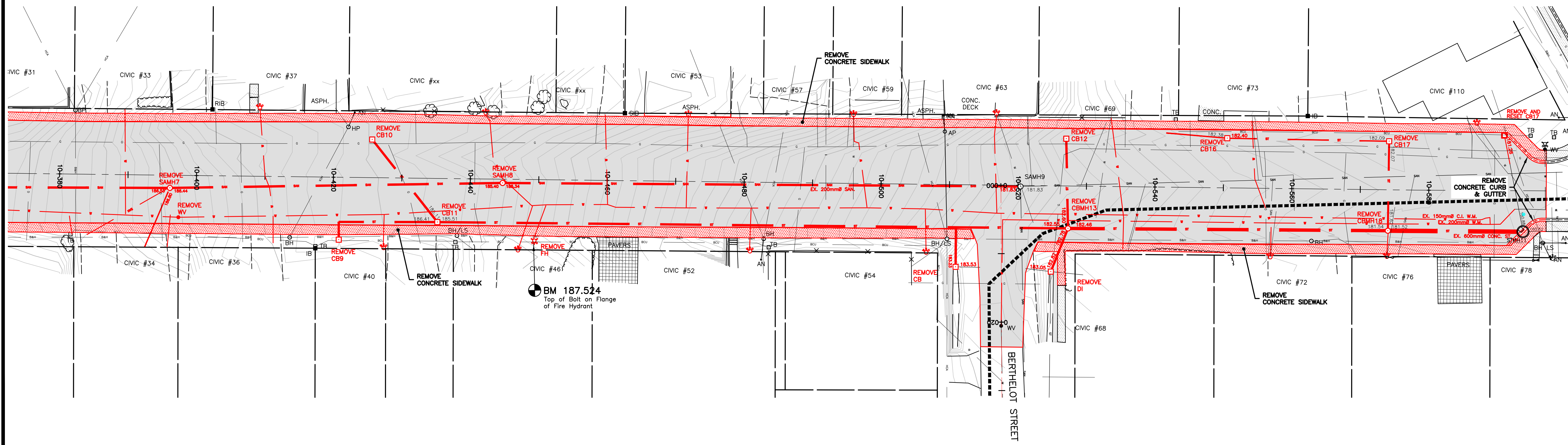
EROSION & SEDIMENT CONTROL NOTES:


- ALL REQUIRED SILTATION AND EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO CONSTRUCTION TO PREVENT EROSION AND THE MIGRATION OF SEDIMENT DURING CONSTRUCTION. ALL SILTATION AND EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL GROUND COVER IS RE-ESTABLISHED TO THE ORIGINAL CONDITION OR BETTER AS DETERMINED BY THE ENGINEER OR THE ENGINEER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND INSTALLING ALL REQUIRED EROSION & SEDIMENT CONTROL MEASURES BASED ON THEIR CONSTRUCTION ACTIVITIES. THE MEASURES LISTED ON THESE DRAWINGS ARE THE MINIMUM REQUIRED, HOWEVER ADDITIONAL MEASURES MAY BE NECESSARY.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICATION PRECIPITATION EVENT AND MAINTAINED, REPAIRED OR REPLACED AS NECESSARY. THE CONTRACTOR OR CONTRACTOR'S REPRESENTATIVE SHALL MAINTAIN A WEEKLY REPORT ON SEDIMENT CONTROL MEASURES INCLUDING ALL CORRECTIVE ACTION TAKEN DURING THE REPORTING PERIOD TO ENSURE CONTROL MEASURES ARE WORKING EFFECTIVELY. IF THE SEDIMENT AND EROSION CONTROL MEASURES ARE NOT FUNCTIONING PROPERLY, THE CONTRACTOR WILL SUSPEND CONSTRUCTION UNTIL THE ISSUES ARE ADDRESSED.
- WHEN POSSIBLE, THE CONTRACTOR SHALL MINIMIZE EARTHWORKS DURING WET WEATHER CONDITIONS.
- SILT FENCING TO BE INSTALLED AT THE BOTTOM OF ALL FILL SLOPES AND DOWN GRADIENT OF ANY STOCKPILED MATERIAL WHEN THERE IS THE POSSIBILITY OF SEDIMENT MIGRATING TO ADJACENT PROPERTIES.
- SOILS PRONE TO EROSION WILL BE RESTORED AS SOON AS POSSIBLE BY SEEDING AND IF NECESSARY SEEDING AND MULCHING OR INSTALLING EROSION CONTROL BLANKET.
- WHEN WORK IS COMPLETED AND AREAS ARE STABILIZED AS DEEMED ACCEPTABLE BY THE ENGINEER, TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED FROM THE WORK SITE.
- LIGHT DUTY SILT FENCE BARRIER TO BE INSTALLED IN ACCORDANCE WITH OPSS 805 AND OPSS 219.110.
- STRAW BALE CHECK DAMS TO BE INSTALLED IN ACCORDANCE WITH OPSS 805 AND OPSS 219.180.
- THE CONTRACTOR SHALL KEEP DUST TO A MINIMUM BY USE OF DUST SUPPRESSANT AS PER OPSS 506.
- FILTER FABRIC TO BE PLACED UNDER GRATES ON ALL CATCH BASINS TO TRAP SEDIMENT. SILT STRAPS ARE TO BE CLEANED REGULARLY AND ARE NOT TO BE REMOVED UNTIL ALL CONSTRUCTION ACTIVITY IS COMPLETE. FILTER FABRIC FOR SILT CONTROL TO BE TERRAFIX 270R OR APPROVED EQUIVALENT.
- STREET SWEEPING, CATCHBASIN CLEANING AND DUST CONTROL ARE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE KEPT UNDER CONTROL OF ALL ROADWAYS TO THE SATISFACTION OF THE ENGINEER AND THE TOWN OF BLIND RIVER.

CAUTION
 UNDER GROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. UTILITIES ARE TO BE LOCATED PRIOR TO CONSTRUCTION.



Horizontal Datum:
 GPS Observations Using The Precise Point Positioning (PPP) Service, UTM Zone 17, NAD83 (CSRS) (2010)
 Vertical Datum:
 GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations



ENGINEER'S SEAL:


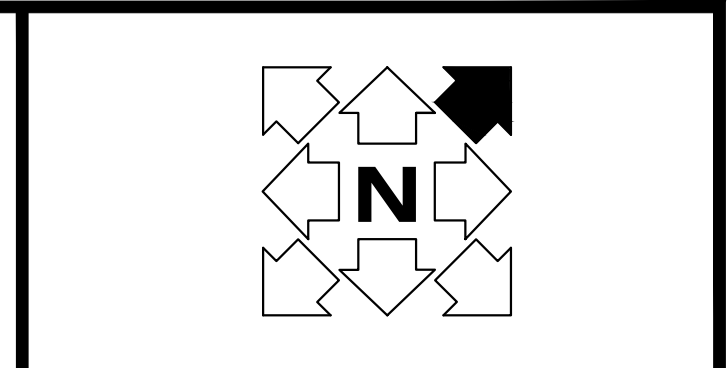
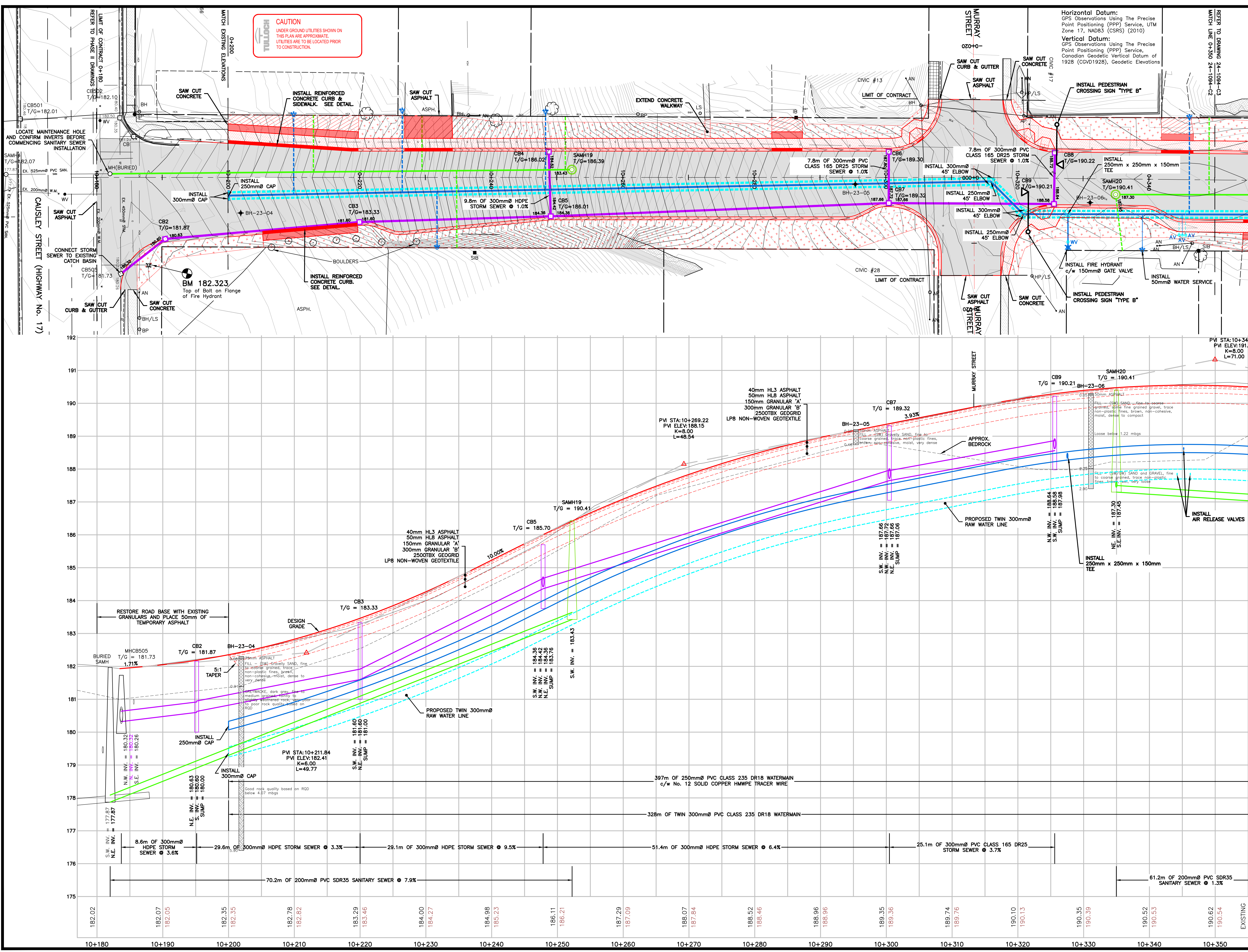
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PROJECT TITLE:
NEW WATER INTAKE & HURON STREET RECONSTRUCTION
PHASE I

DRAWING TITLE:
REMOVALS PLAN

DAS	DAS	CLK	CLK
DRAWN	DESIGNED	CHECKED	APPROVED
HOR-1:300		VER-1:30	JUL. 16, 2024
SCALE		DATE	
24-1094	1	C2	
PROJECT No.	REVISION	DRAWING	



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24/02/22	A	Issued For Review	DAS	CLK

CLIENT:

Blind River

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW WATER INTAKE & HURON STREET RECONSTRUCTION

PHASE I

DRAWING TITLE:

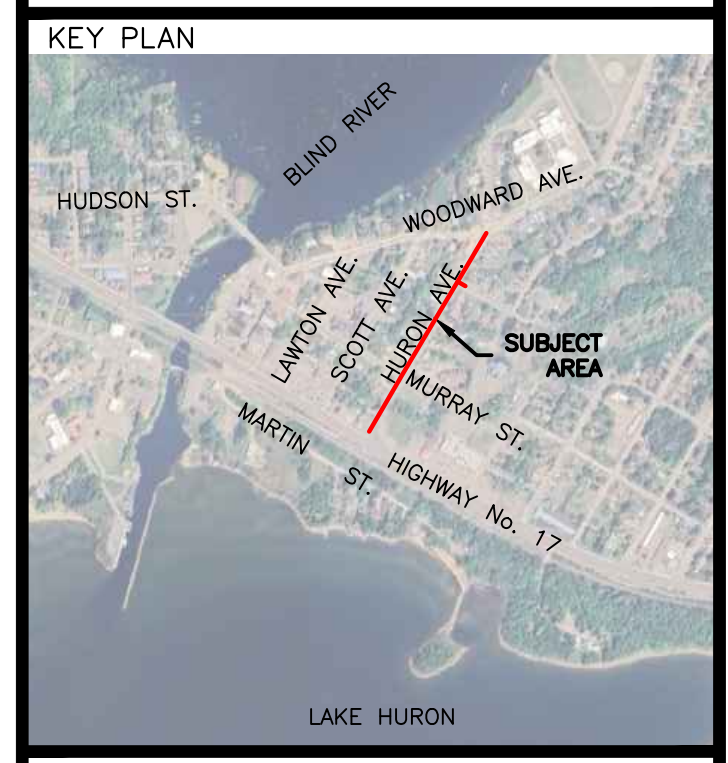
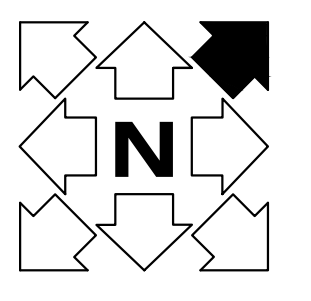
PLAN & PROFILE 10+180 to 10+350

DAS	DAS	CLK	CLK
DRAWN	DESIGNED	CHECKED	APPROVED
H-1:250		V-1:50	
JUL. 16, 2024			
SCALE		DATE	
24-1094	1	C3	
PROJECT No.	REVISION	DRAWING	

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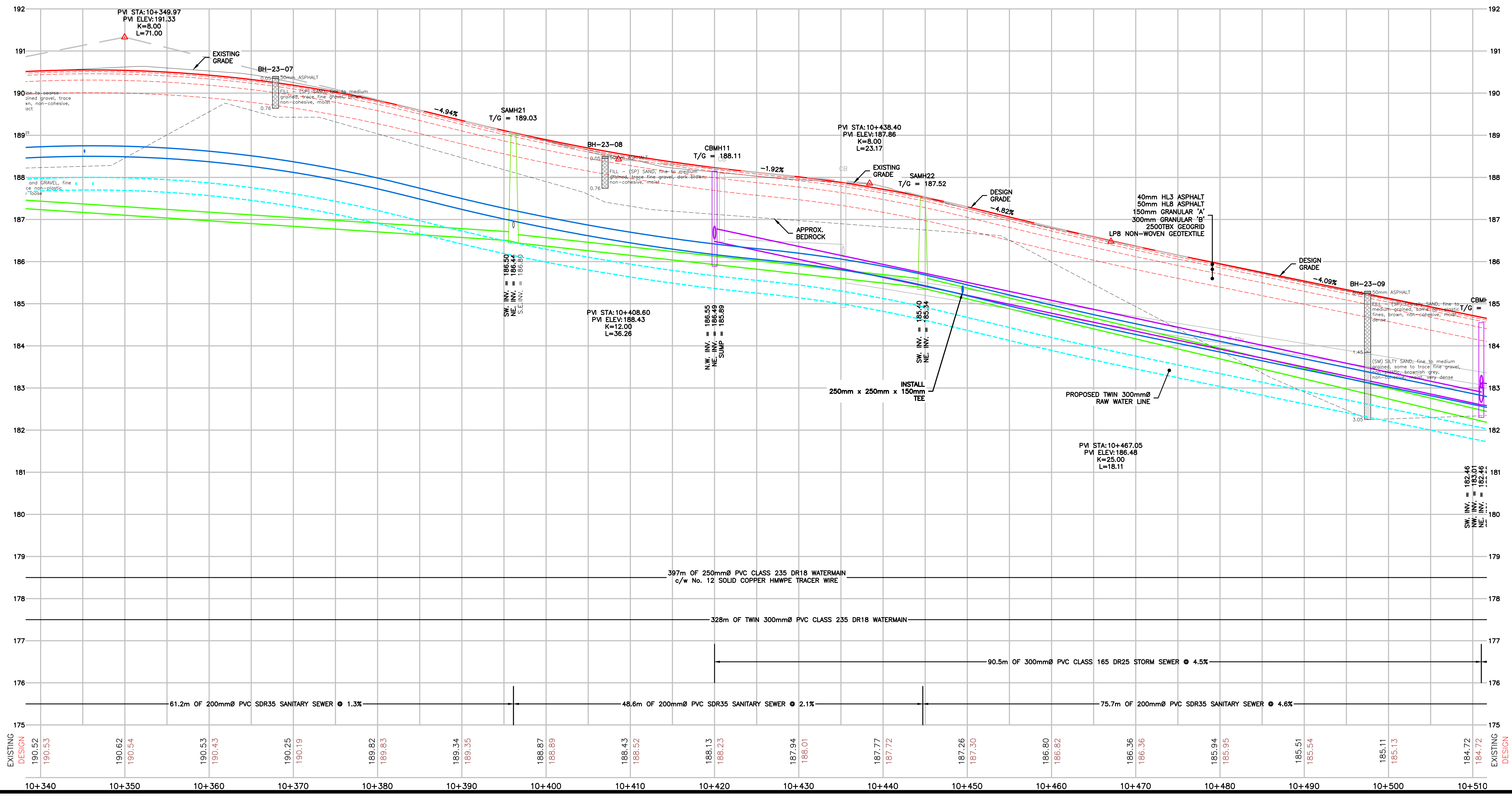
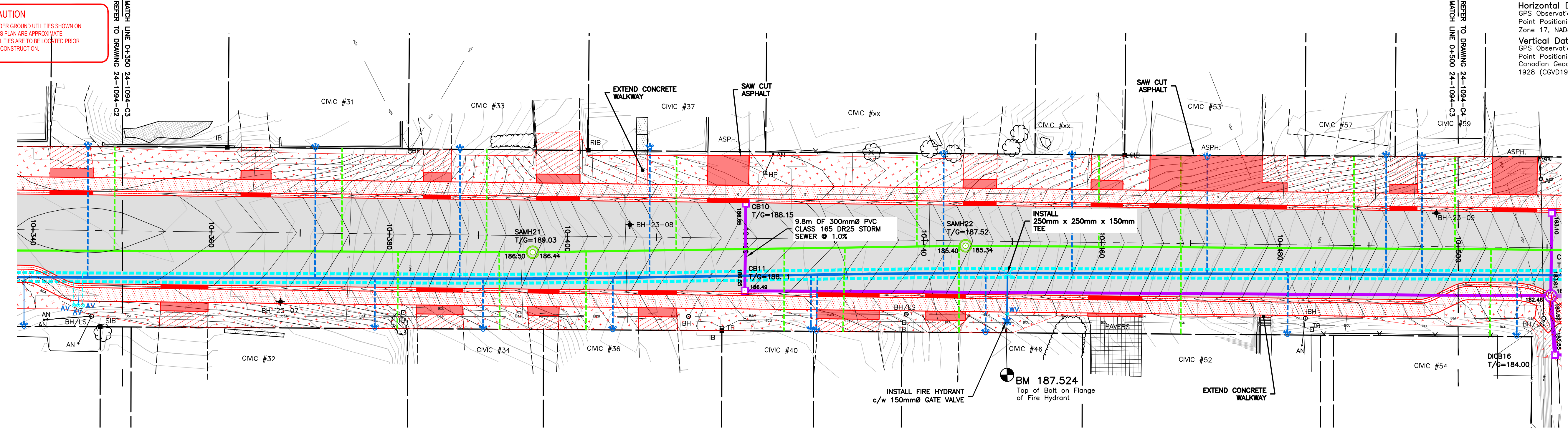
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 Vertical Datum:
 GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations



ENGINEER'S SEAL:

 LICENSED PROFESSIONAL ENGINEER
 JUL. 16/24
 C.L. KIRBY
 10011792
 PROVINCE OF ONTARIO



DATE	REV.	REVISION	BY	APP'D
24/07/16	1	Issued For Construction	DAS	CLK
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NEW WATER INTAKE & HURON STREET RECONSTRUCTION
 PHASE I

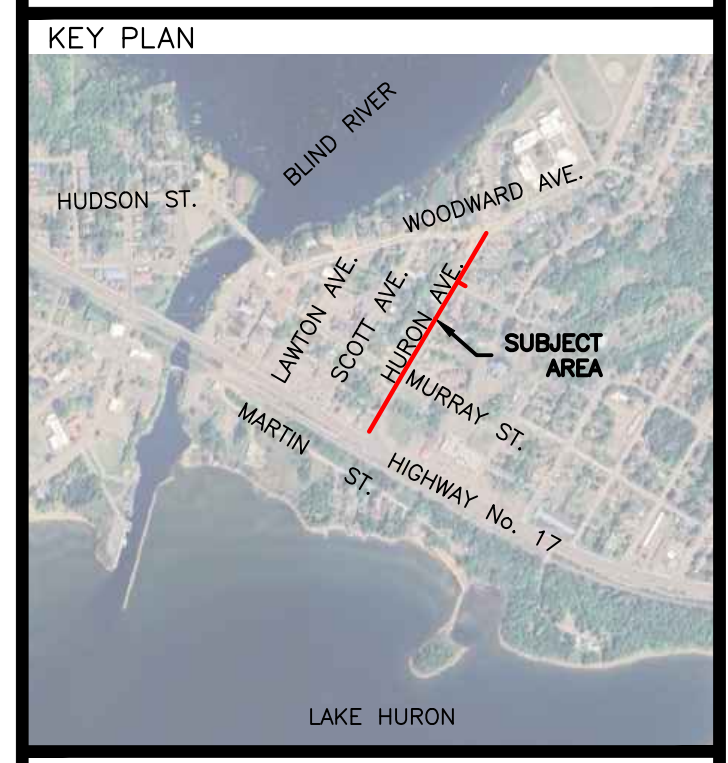
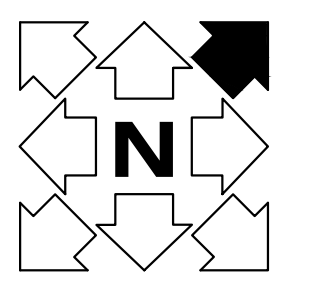
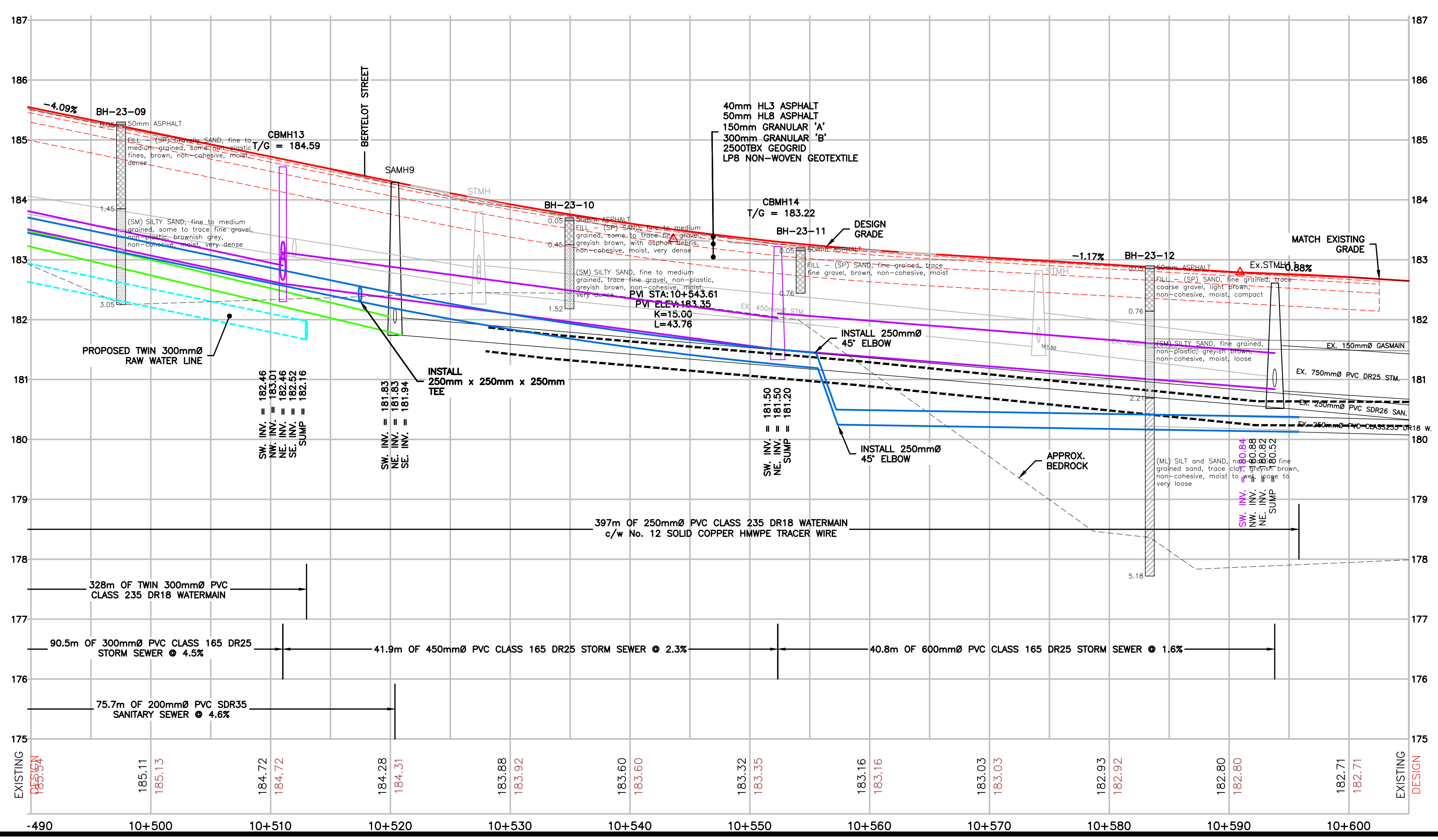
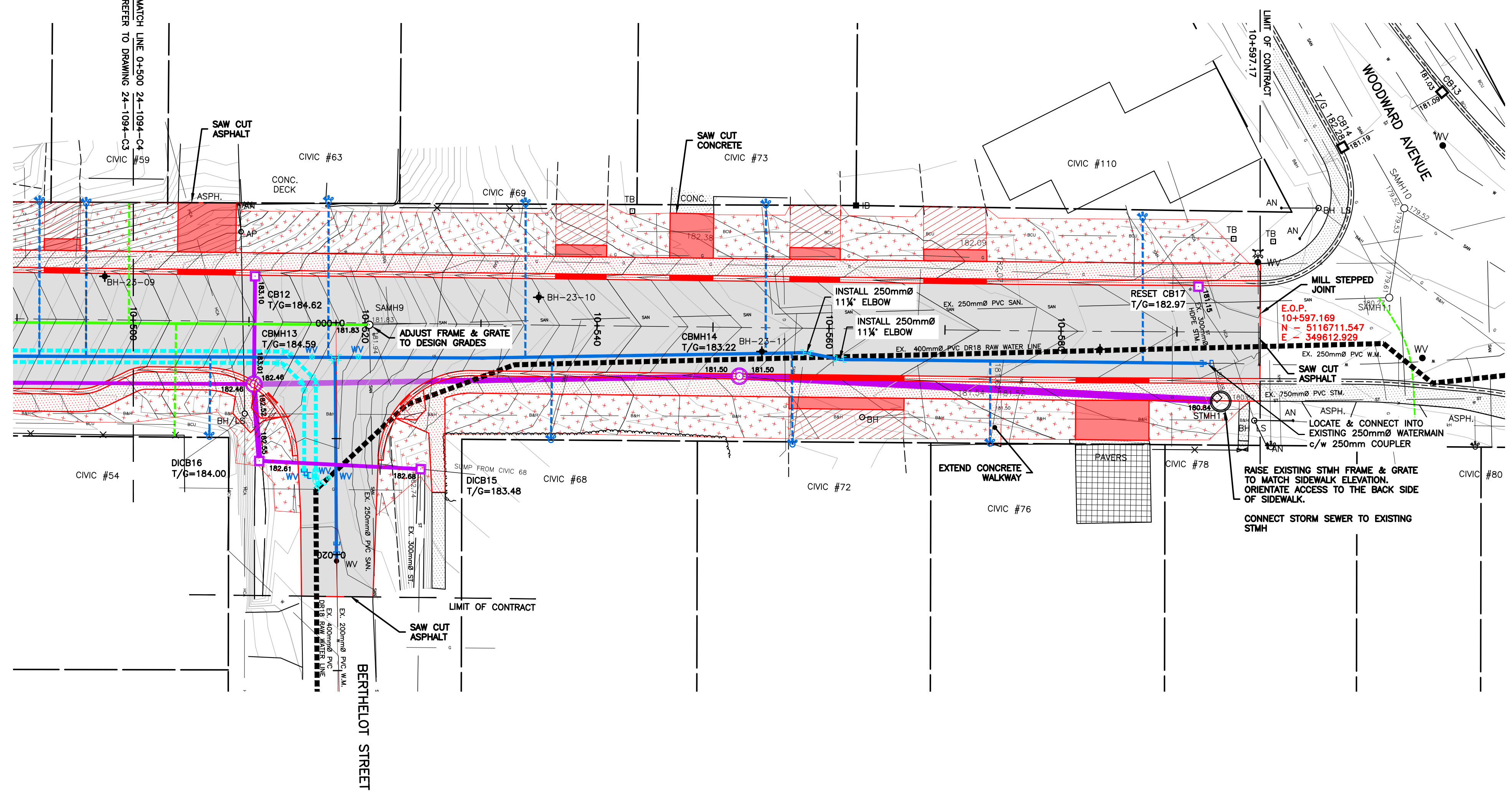
DRAWING TITLE:
PLAN & PROFILE 10+350 to 10+500

DAS	DAS	CLK	CLK
DRAWN	DESIGNED	CHECKED	APPROVED
H-1:250	V-1:50	JUL. 16, 2024	
SCALE		DATE	
24-1094	1	C4	
PROJECT No.	REVISION	DRAWING	

CAUTION
 UNDER GROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. UTILITIES ARE TO BE LOCATED PRIOR TO CONSTRUCTION.

Horizontal Datum:
 GPS Observations Using The Precise Point Positioning (PPP) Service, UTM Zone 17, NAD83 (CSRS) (2010)

Vertical Datum:
 GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations



ENGINEER'S SEAL:
 LICENSED PROFESSIONAL ENGINEER
 JUL 16/24
 C.L. KIRBY
 10011792
 Province of Ontario

DATE	REV.	REVISION	BY	APP'D
24/07/16	1	Issued For Construction	DAS	CLK
24/06/18	0	Issued For Tender	DAS	CLK
24/06/14	B	Issued For Review	DAS	CLK
24/02/22	A	Issued For Review	DAS	CLK

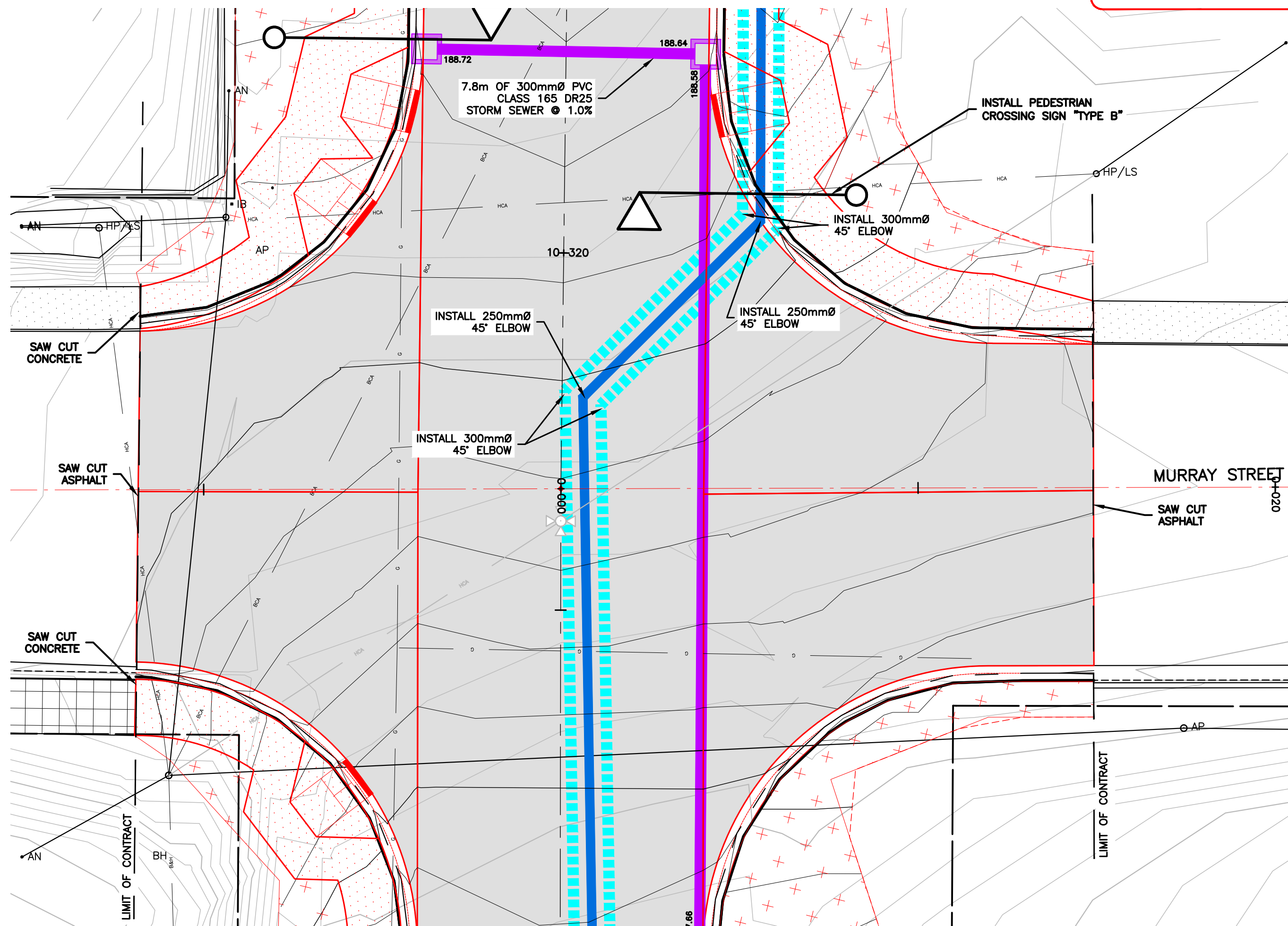


PROJECT TITLE:
NEW WATER INTAKE & HURON STREET RECONSTRUCTION
 PHASE I

DRAWING TITLE:
PLAN & PROFILE 10+500 to 10+600

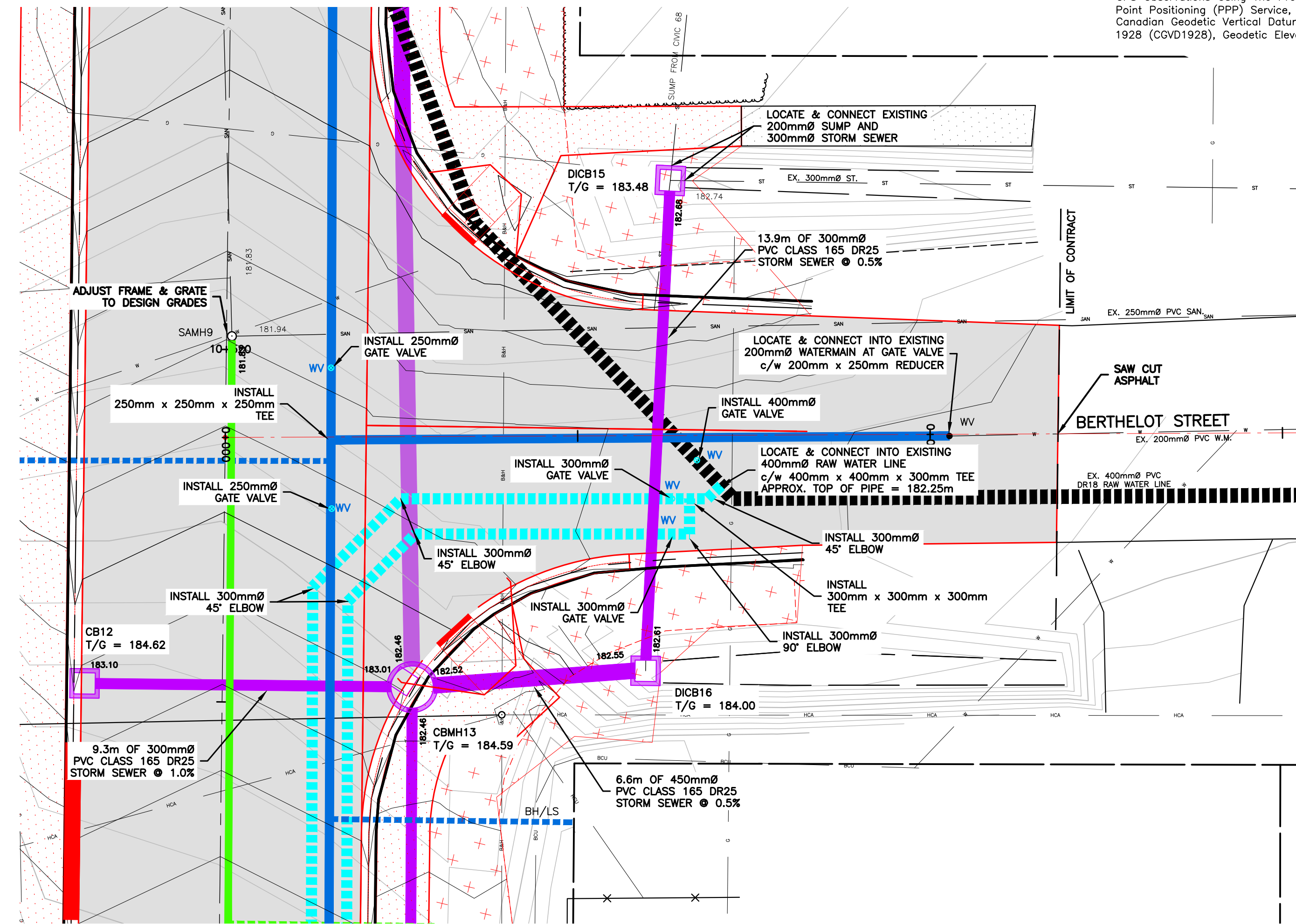
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DRAWN	DESIGNED	CHECKED	APPROVED
H-1:250	V-1:50	JUL. 16, 2024	
SCALE		DATE	
24-1094	1	C5	
PROJECT No.	REVISION	DRAWING	

MURRAY STREET

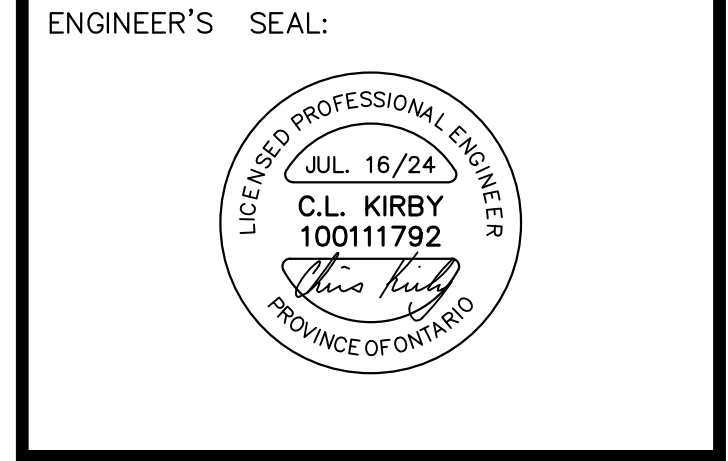
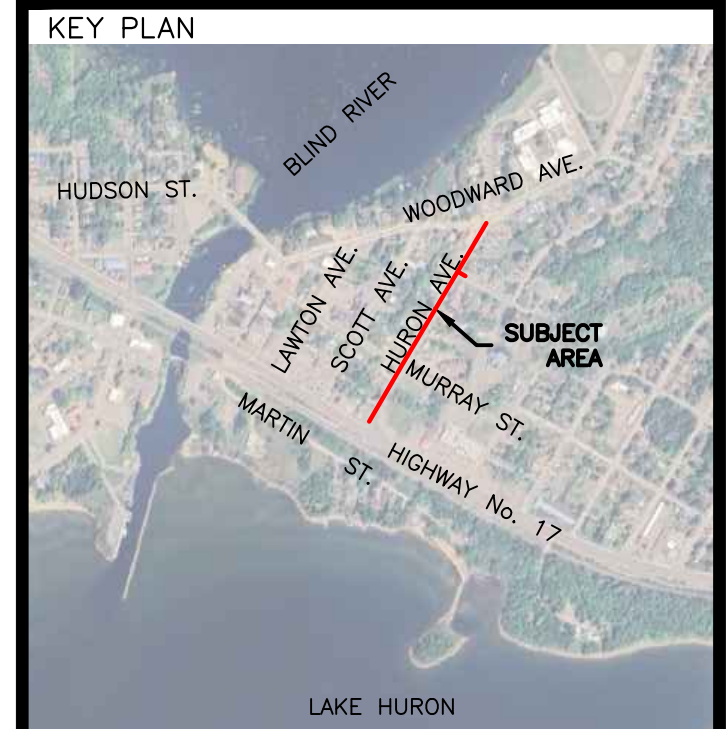
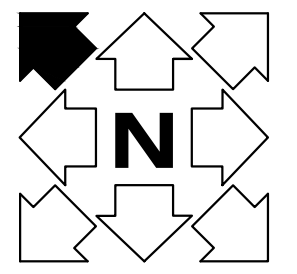


CAUTION
 UNDER GROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. UTILITIES ARE TO BE LOCATED PRIOR TO CONSTRUCTION.

BERTHELOT STREET



Horizontal Datum:
 GPS Observations Using The Precise Point Positioning (PPP) Service, UTM Zone 17, NAD83 (CSRS) (2010)
Vertical Datum:
 GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations



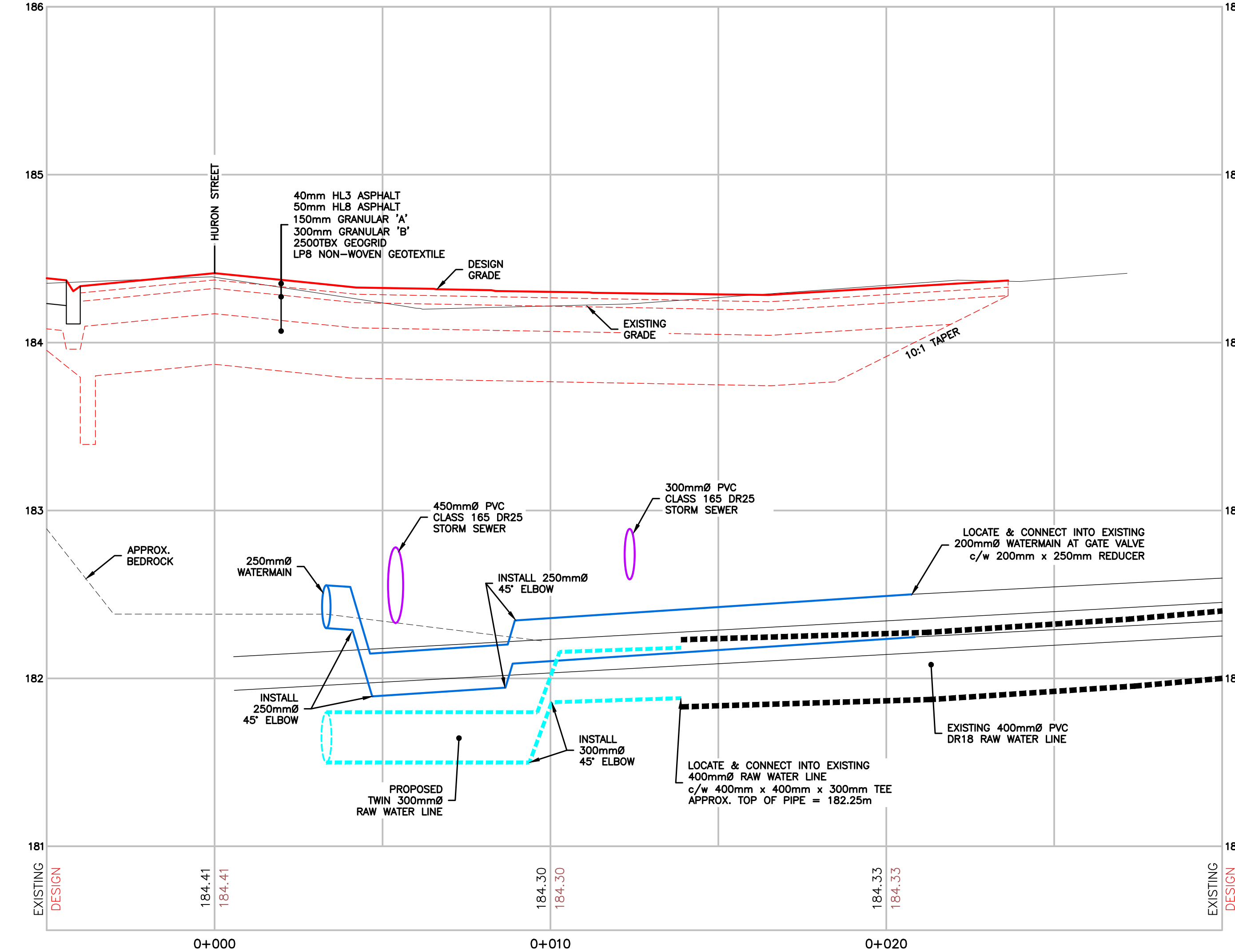
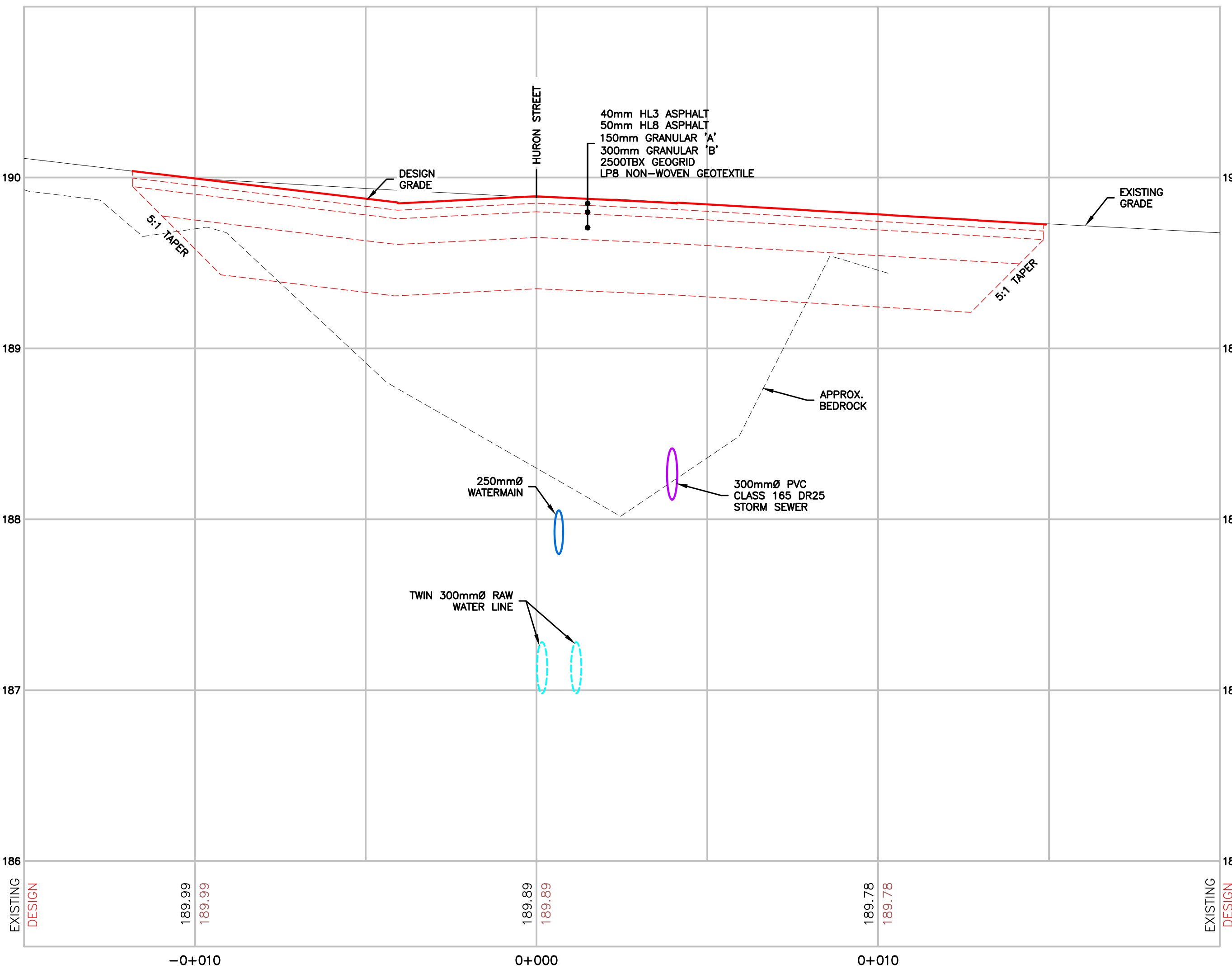
DATE	REV.	REVISION	BY	APP'D
24/07/16	1	Issued For Construction	DAS	CLK
24/06/18	0	Issued For Tender	DAS	CLK
24/06/14	B	Issued For Review	DAS	CLK
24/02/22	A	Issued For Review	DAS	CLK



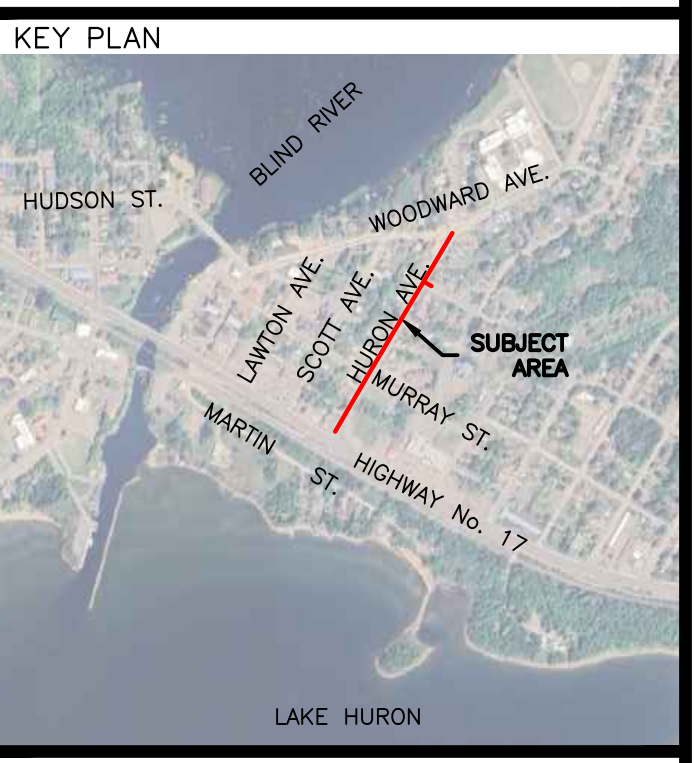
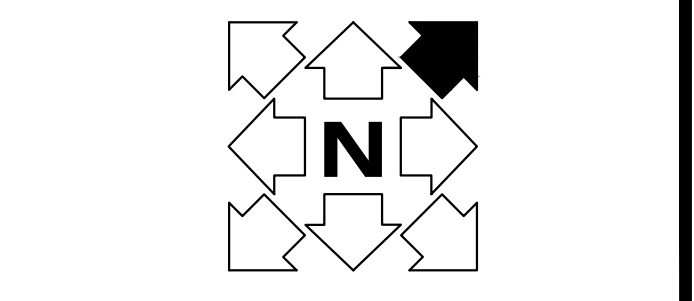
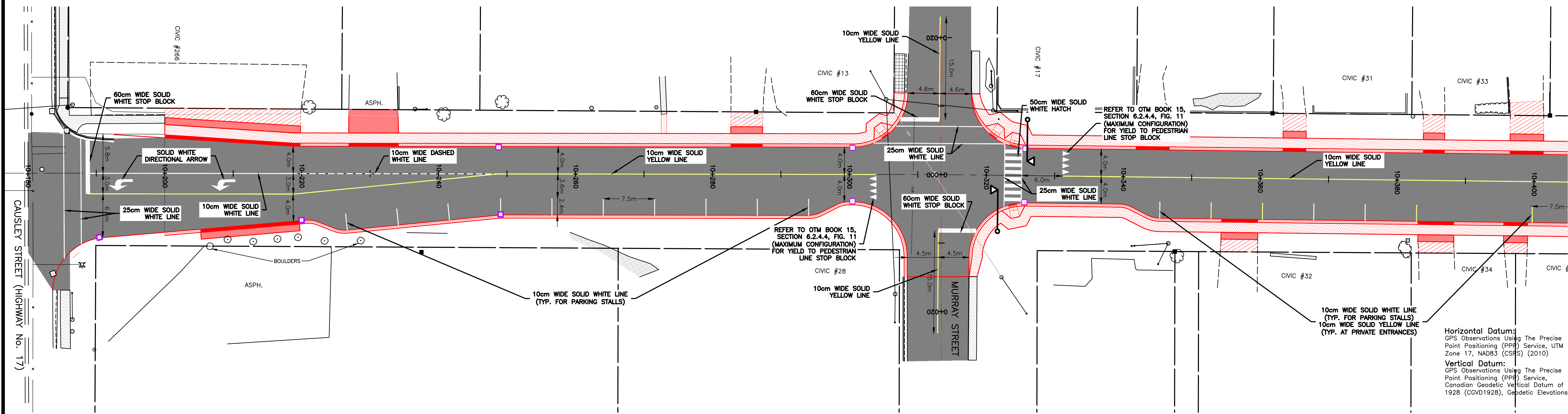
PROJECT TITLE:
NEW WATER INTAKE & HURON STREET RECONSTRUCTION
 PHASE I

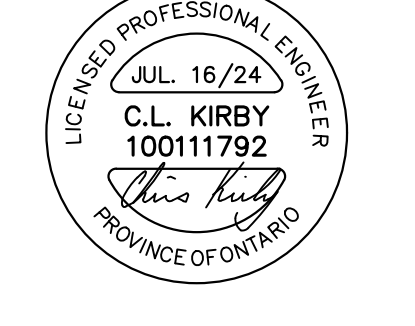
DRAWING TITLE:
MURRAY STREET & BERTHELOT STREET
PLAN & PROFILE

DAS	DAS	CLK	CLK
DRAWN	DESIGNED	CHECKED	APPROVED
H-1:100		V-1:20	
SCALE		DATE	
24-1094	1	JUL. 16, 2024	
PROJECT No.	REVISION	DRAWING	



CAUTION
 UNDER GROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. UTILITIES ARE TO BE LOCATED PRIOR TO CONSTRUCTION.



ENGINEER'S SEAL:


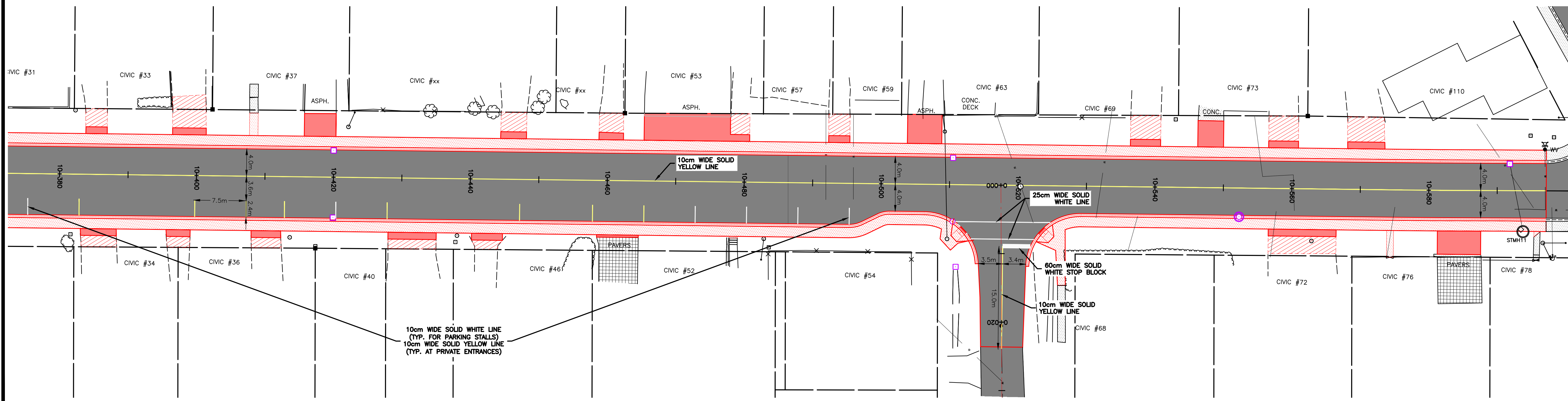
DATE	REV.	REVISION	BY	APP'D
24/07/16	1	Issued For Construction	DAS	CLK
24/06/18	0	Issued For Tender	DAS	CLK
24/06/14	B	Issued For Review	DAS	CLK
24/02/22	A	Issued For Review	DAS	CLK



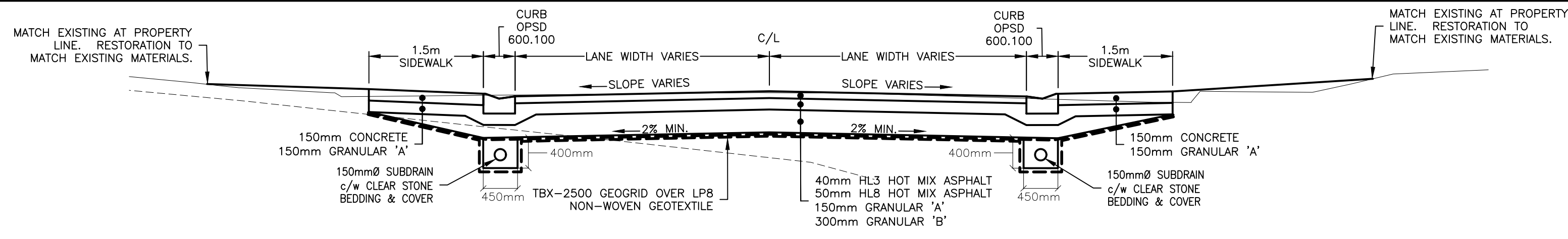
PROJECT TITLE:
NEW WATER INTAKE & HURON STREET RECONSTRUCTION
 PHASE I

DRAWING TITLE:
PAVEMENT MARKINGS PLAN

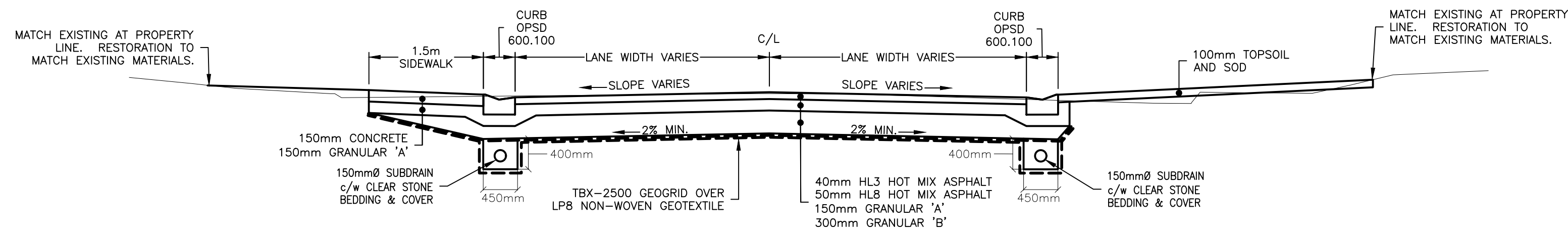
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DRAWN	DESIGNED	CHECKED	APPROVED
HOR-1:300		VER-1:30	
SCALE		DATE	
24-1094	1	C7	
PROJECT No.	REVISION	DRAWING	



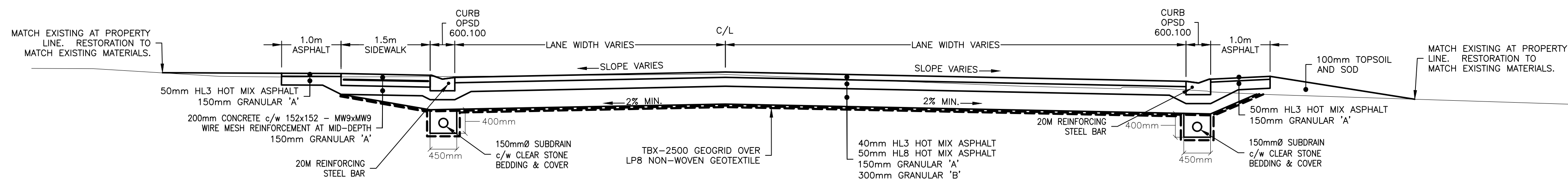
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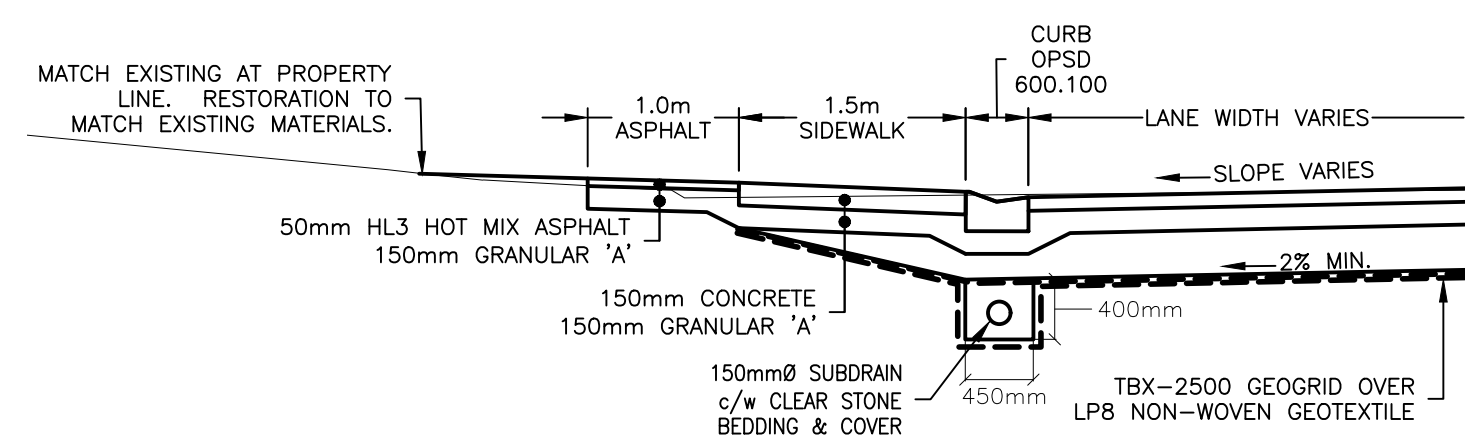
TYPICAL CROSS SECTION - DOUBLE SIDEWALK
1:50



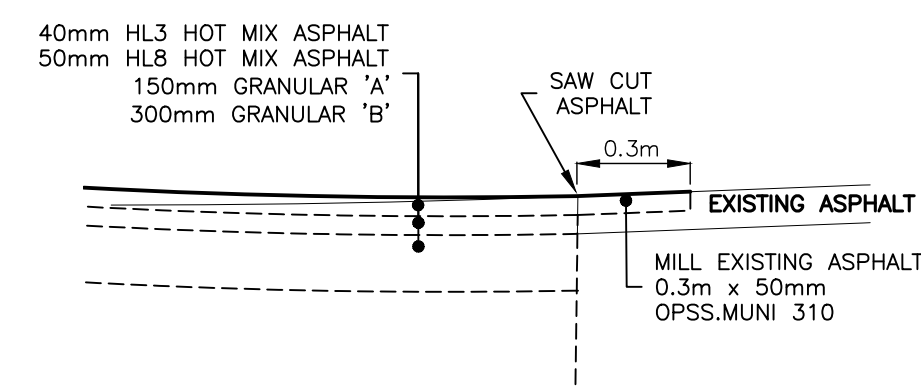
TYPICAL CROSS SECTION - SINGLE SIDEWALK
1:50



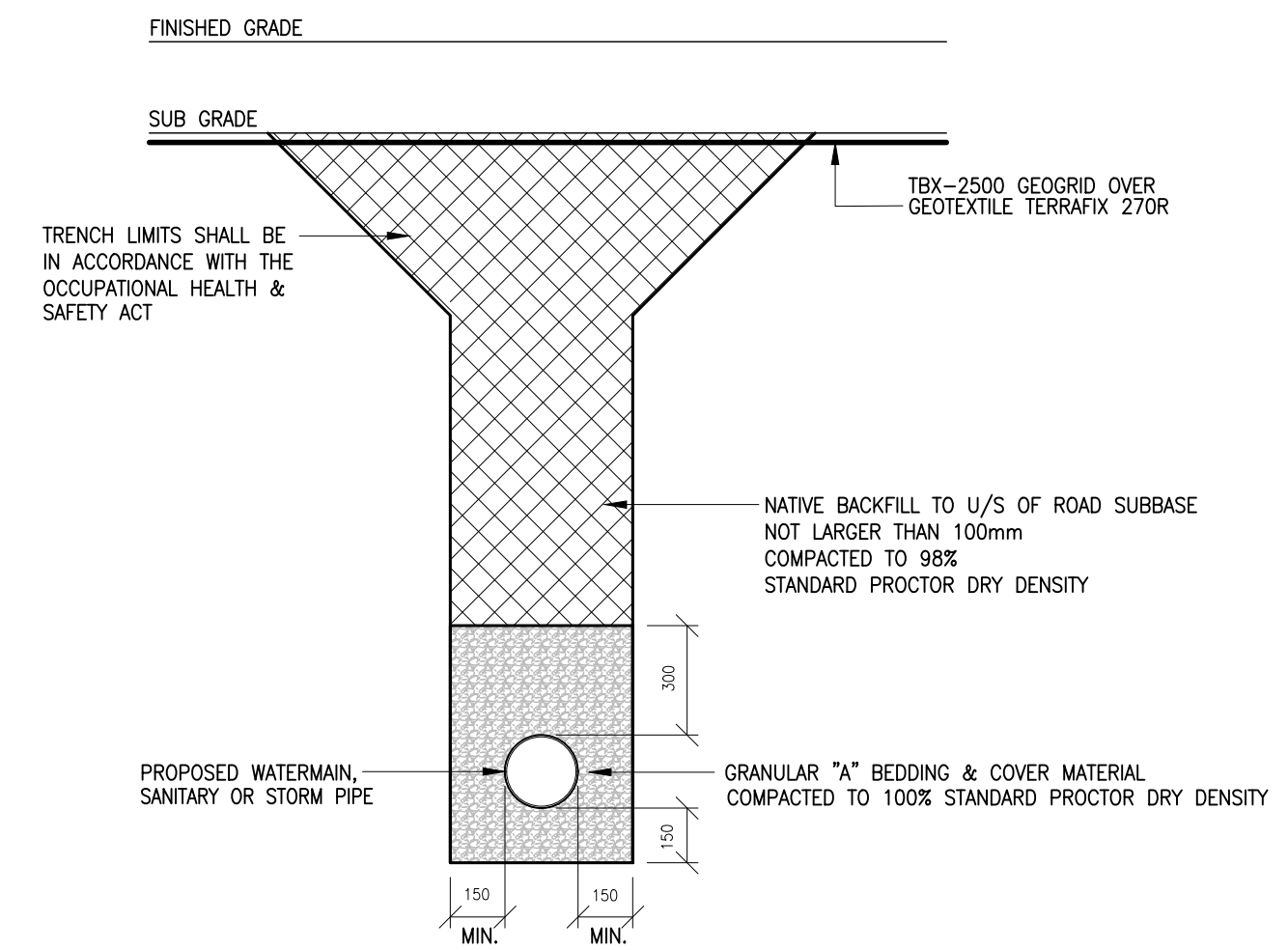
TYPICAL COMMERCIAL ENTRANCE SECTION
N.T.S.



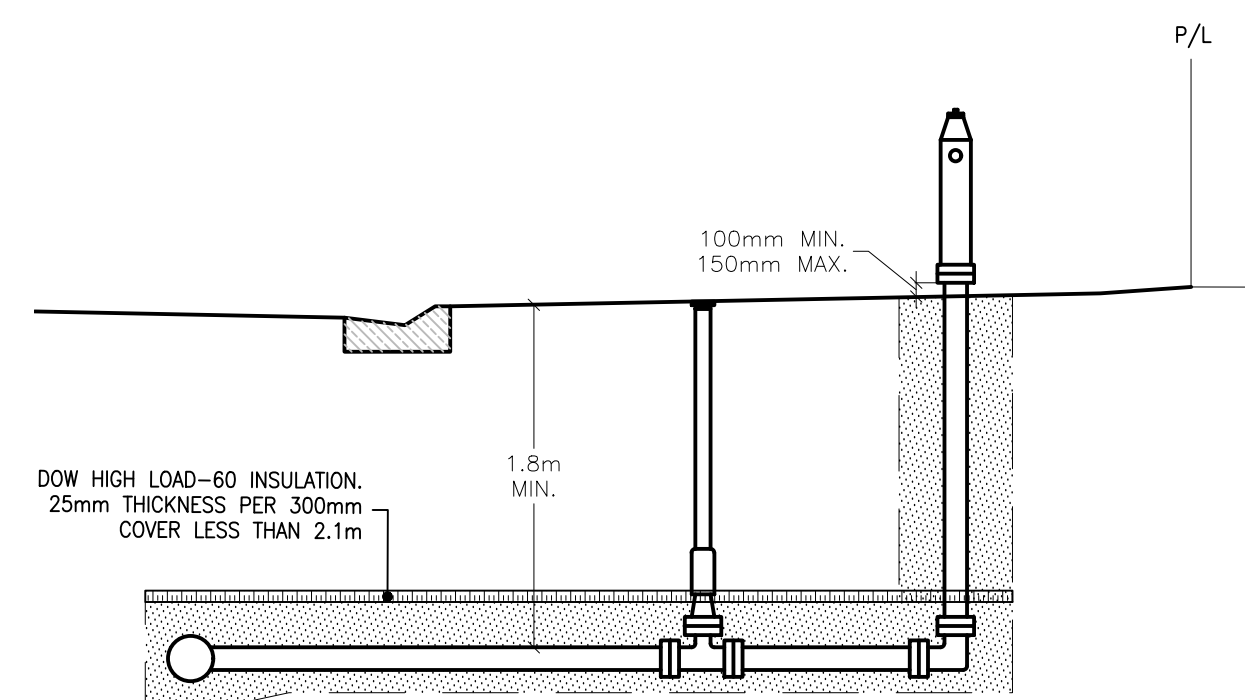
TYPICAL RESIDENTIAL ENTRANCE SECTION
N.T.S.



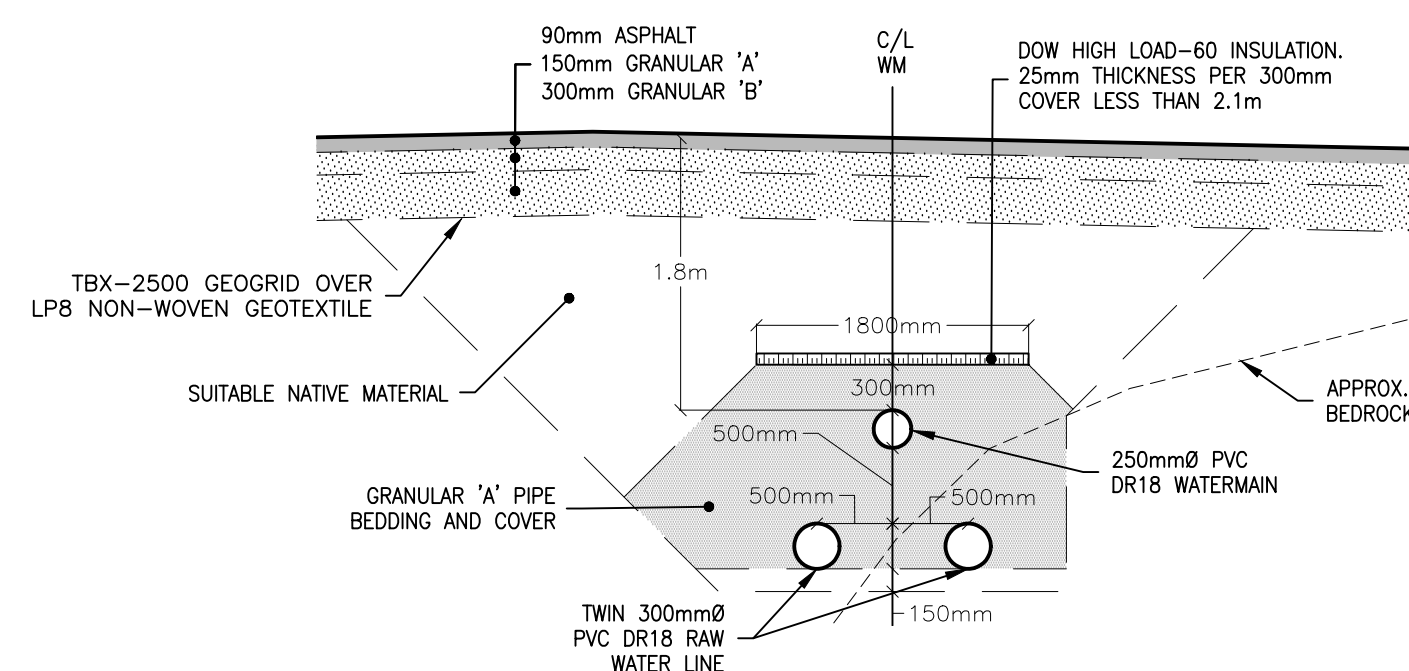
ASPHALT STEP JOINT DETAIL
N.T.S.



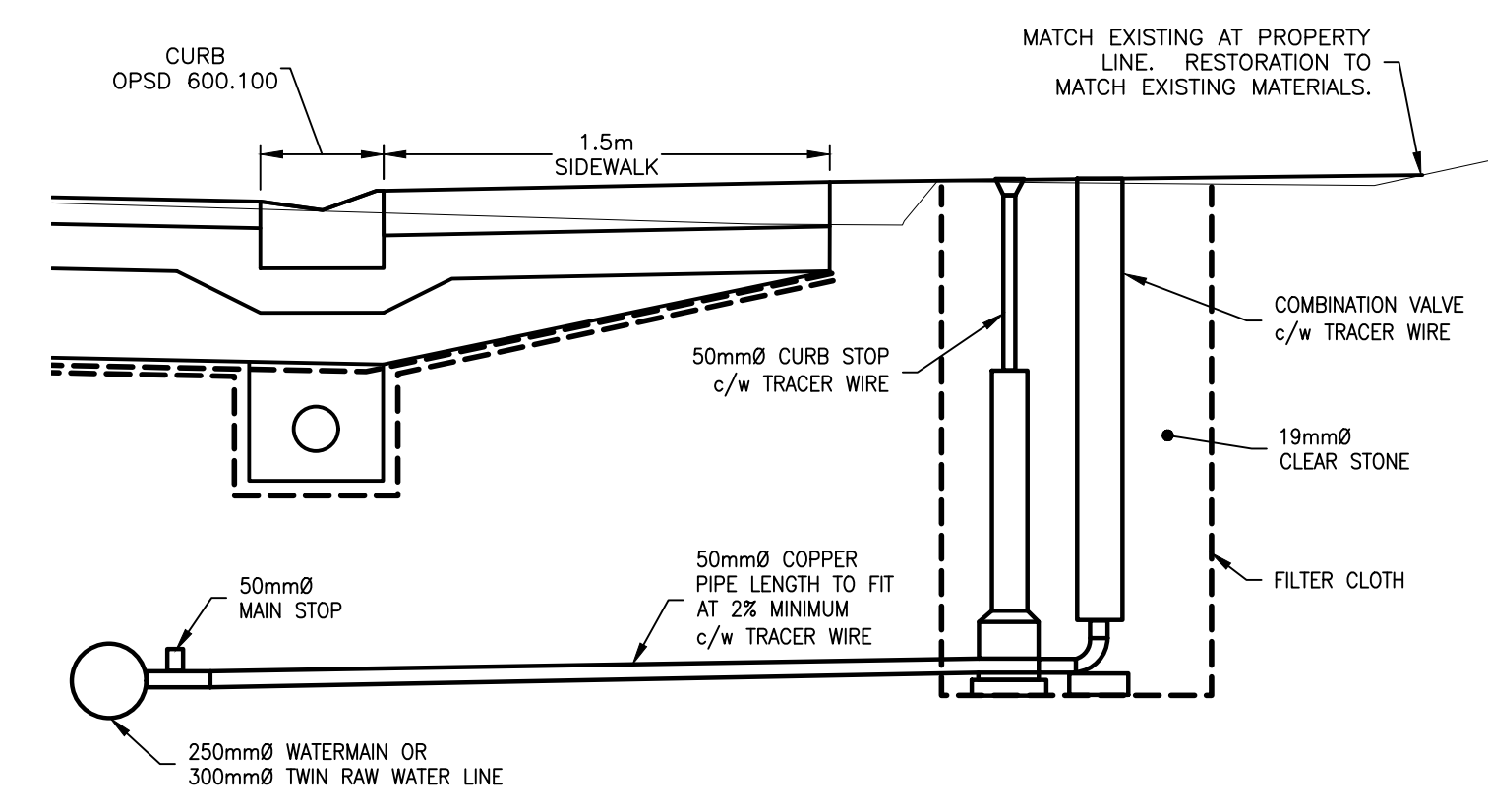
TYPICAL PIPE TRENCH - WATERMAIN, SANITARY OR STORM SEWER PIPE
1:50



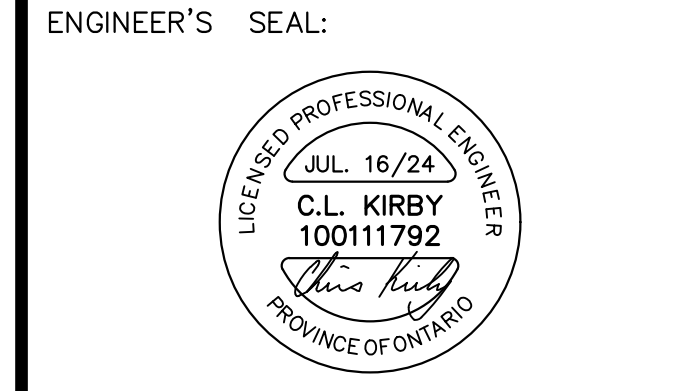
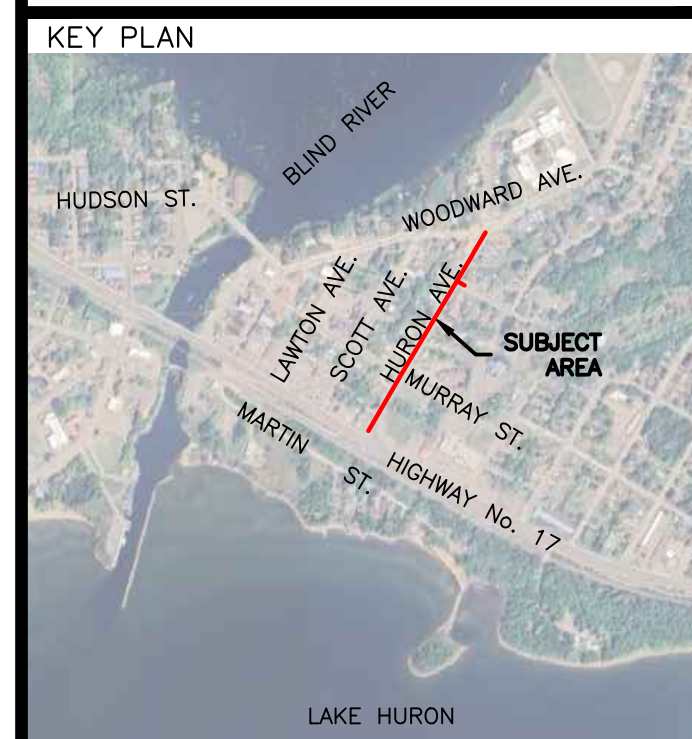
TYPICAL FIRE HYDRANT DETAIL
1:50



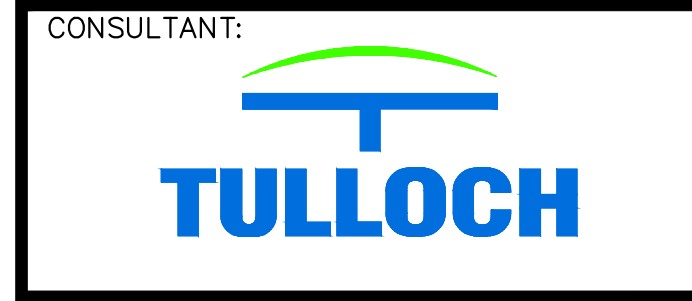
TYPICAL WATERMAIN AND RAW WATER LINE INSTALLATION DETAIL
N.T.S.



AIR RELEASE VALVE DETAIL
N.T.S.



DATE	REV.	REVISION	BY	APP'D
24/07/16	1	Issued For Construction	DAS	CLK
24/06/18	0	Issued For Tender	DAS	CLK
24/06/14	B	Issued For Review	DAS	CLK
24/02/22	A	Issued For Review	DAS	CLK



PROJECT TITLE:
**NEW WATER INTAKE
&
HURON STREET
RECONSTRUCTION**

PHASE I

DRAWING TITLE:
**TYPICAL SECTIONS AND
DETAILS**

DAS	DAS	CLK	CLK
DRAWN	DESIGNED	CHECKED	APPROVED
HOR-1:300		VER-1:30	
SCALE		DATE	
24-1094		1	
PROJECT No.		REVISION	
		DRAWING	

P:\2024\241094 - Blind River - Huron Street - CA\Civil\DWG\241094-Phase1\JFC.dwg

SANITARY MAINTENANCE HOLE SCHEDULE

MH NO.	DIAMETER (mm)	OPSD	STATION	OFFSET	PIPE SIZE (mm)								INVERT ELEVATION (m)								GRATE ELEVATION (m)	DEPTHS (mm)			SAFETY PLATFORM	FROST STRAP	FRAME & GRATE
					NORTH	NORTHEAST	EAST	SOUTHEAST	SOUTH	SOUTHWEST	WEST	NORTHWEST	NORTH	NORTHEAST	EAST	SOUTHEAST	SOUTH	SOUTHWEST	WEST	NORTHWEST		SUMP	SAMBH				
SAMH20	1200	701.010	10+334.97	2.4RT	-	200	-	150	-	-	-	-	-	187.30	-	-	-	-	-	-	190.41	0	3110	NO	YES	401.010 Type 'A'	
SAMH21	1200	701.010	10+396.13	1.9RT	-	200	-	-	-	200	-	-	-	186.44	-	-	-	-	-	189.03	0	2590	NO	YES	401.010 Type 'A'		
SAMH22	1200	701.010	10+444.72	0.6RT	-	200	-	-	-	200	-	-	-	185.34	-	-	-	-	187.52	0	2180	NO	YES	401.010 Type 'A'			

STORM MAINTENANCE HOLE SCHEDULE

MH NO.	DIAMETER (mm)	OPSD	STATION	OFFSET	PIPE SIZE (mm)								INVERT ELEVATION (m)								GRATE ELEVATION (m)	DEPTHS (mm)			SAFETY PLATFORM	FROST STRAP	FRAME & GRATE
					NORTH	NORTHEAST	EAST	SOUTHEAST	SOUTH	SOUTHWEST	WEST	NORTHWEST	NORTH	NORTHEAST	EAST	SOUTHEAST	SOUTH	SOUTHWEST	WEST	NORTHWEST		SUMP	CBMH				
CBMH13	1200	701.010	10+510.49	5.4RT	-	450	-	450	-	300	-	300	-	182.46	-	182.52	-	182.46	-	183.01	184.59	300	2430	NO	YES	400.020	
CBMH14	1200	701.010	10+552.32	4.21RT	-	600	-	-	-	450	-	-	-	181.50	-	-	-	181.50	-	183.22	300	2020	NO	YES	400.020		

CATCH BASIN SCHEDULE

CB NO.	SIZE (mm)	OPSD	STATION	OFFSET	PIPE SIZE (mm)								INVERT ELEVATION (m)								GRATE ELEVATION (m)	DEPTHS (mm)			FRAME & GRATE
					NORTH	NORTHEAST	EAST	SOUTHEAST	SOUTH	SOUTHWEST	WEST	NORTHWEST	NORTH	NORTHEAST	EAST	SOUTHEAST	SOUTH	SOUTHWEST	WEST	NORTHWEST		SUMP	CB	OPSD	
CB1	600x600	705.010	10+188.16	5.8 LT	-	-	-	-	-	300	-	-	-	-	-	-	-	-	-	181.91	600	2050	400.020		
CB2	600x600	705.010	10+190.46	9.4 RT	-	300	-	-	300	-	-	-	-	180.63	-	-	180.60	-	-	181.87	600	1870	400.020		
CB3	600x600	705.010	10+220.00	6.8RT	-	300	-	-	-	300	-	-	-	181.60	-	-	181.60	-	-	183.33	600	2330	400.020		
CB4	600x600	705.010	10+248.77	3.9LT	-	-	-	300	-	-	-	-	-	-	-	-	184.52	-	-	186.02	600	2100	400.020		
CB5	600x600	705.010	10+249.07	5.9RT	-	300	-	-	-	300	-	300	-	184.36	-	-	184.36	-	184.42	186.01	600	2250	400.020		
CB6	600x600	705.010	10+300.46	3.9LT	-	-	-	300	-	-	-	-	-	-	-	-	187.80	-	-	189.30	600	2100	400.020		
CB7	600x600	705.010	10+300.46	3.9RT	-	300	-	-	-	300	-	300	-	187.66	-	-	187.66	-	187.72	189.32	600	2260	400.020		
CB8	600x600	705.010	10+325.67	3.9LT	-	-	-	300	-	-	-	-	-	-	-	-	188.72	-	-	190.22	600	2100	400.020		
CB9	600x600	705.010	10+325.67	3.9RT	-	-	-	-	-	300	-	300	-	-	-	-	188.58	-	188.64	190.21	600	2230	400.020		
CB10	600x600	705.010	10+420.00	3.9LT	-	-	-	300	-	-	-	-	-	-	-	-	186.65	-	-	188.15	600	2100	400.020		
CB11	600x600	705.010	10+420.00	5.9RT	-	300	-	-	-	-	-	300	-	186.49	-	-	-	-	186.55	188.11	600	2220	400.020		
CB12	600x600	705.010	10+510.48	3.9LT	-	-	-	300	-	-	-	-	-	-	-	-	183.10	-	-	184.62	600	2120	400.020		
DICB15	600x600	705.030 (3:1)			-	-	-	300	-	300	-	-	-	-	-	-	182.74	-	182.68	183.48	600	1400	403.010 TYPE 'A'		
DICB16	600x600	705.030 (3:1)			-	300	-	-	-	-	-	450	-	182.61	-	-	-	-	182.55	184.00	600	2050	403.010 TYPE 'A'		

WATERMAIN JOINT RESTRAINT REQUIREMENTS

TEE OR HYDRANT LEAD

MAIN LINE DIAMETER (mm)	BRANCH DIAMETER (mm)	DEPTH OF BURY (m)	RESTRAINED LENGTH (m)
400	300	2.1	11.9
300	300	2.6	11
250	250	1.8	12.2
250	150	1.8	5.2
200	250	1.8	12.8

PLUG END OR VALVE

MAIN LINE DIAMETER (mm)	DEPTH OF BURY (m)	RESTRAINED LENGTH (m)
400	1.8	20
300	2.6	13.4
250	1.6	14.9

REDUCER

MAIN LINE DIAMETER (mm)	REDUCED DIAMETER (mm)	DEPTH OF BURY (m)	RESTRAINED LENGTH (m)
250	200	1.6	4.6

HORIZONTAL BENDS

MAIN LINE DIAMETER (mm)	BEND ANGLE (DEGREES)	DEPTH OF BURY (m)	RESTRAINED LENGTH (m)
300	45	2.6	1.8
300	22.5	2.6	0.9
300	11.25	2.6	0.6
250	45	1.8	2.1
250	22.5	1.8	1.2
250	11.25	1.8	0.6

VERTICAL BENDS

MAIN LINE DIAMETER (mm)	HIGH SIDE			LOW SIDE		
	BEND ANGLE (DEGREES)	DEPTH OF BURY (m)	RESTRAINED LENGTH (m)	BEND ANGLE (DEGREES)	DEPTH OF BURY (m)	RESTRAINED LENGTH (m)
300	45	2.1	6.4	45	2.4	1.8
250	45	1.8	6.4	45	2.4	1.5

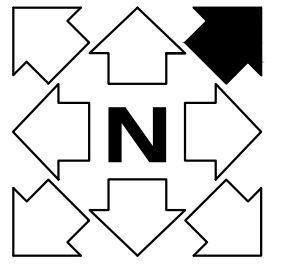
FIRE HYDRANT SCHEDULE

HYDRANT NO.	PROPOSED STATION	PROPOSED OFFSET	OPSD
1	10+327.81	10.4RT	1105.010
2	10+449.46	8.9RT	1105.010

SUMMARY OF BOREHOLE INFORMATION

Borehole No.	Borehole Type	Easting (m)	Northing (m)	Ground Surface Elevation (m)	Depth of Borehole (m)
BH-23-01	Geotechnical	349 247	5 116 261	178.6	7.12
BH-23-02	Geotechnical	349 299	5 116 307	180.9	5.12
BH-23-03	Geotechnical	349 344	5 116 361	182.7	8.99
BH-23-04	Geotechnical	349 409	5 116 373	182.3	5.90
BH-23-05	Geotechnical	349 454	5 116 455	189.2	0.46
BH-23-06	Geotechnical	349 475	5 116 484	190.3	2.90
BH-23-07	Environmental	349 498	5 116 513	190.4	0.76
BH-23-08	Environmental	349 511	5 116 551	188.5	0.76
BH-23-09	Geotechnical	349 557	5 116 629	185.3	3.05
BH-23-10	Geotechnical	349 578	5 116 660	183.7	1.52
BH-23-11	Environmental	349 592	5 116 674	183.2	0.76
BH-23-12	Geotechnical	349 607	5 116 699	182.9	5.18

Note(s): *meters below ground surface.



KEY PLAN



ENGINEER'S SEAL:



DATE	REV.	REVISION	BY	APP'D
24/07/16	1	Issued For Construction	DAS	CLK
24/06/18	0	Issued For Tender	DAS	CLK
24/06/14	B	Issued For Review	DAS	CLK
24/02/22	A	Issued For Review	DAS	CLK

CLIENT:



CONSULTANT:



PROJECT TITLE:
NEW WATER INTAKE & HURON STREET RECONSTRUCTION

PHASE I

DRAWING TITLE:

STRUCTURE SCHEDULES

DAS	DAS	CLK	CLK
DRAWN	DESIGNED	CHECKED	APPROVED

HOR-1:300 VER-1:30 JUL. 16, 2024

SCALE DATE

24-1094 1 C9

PROJECT No. REVISION DRAWING