

KEY PLAN  
N.T.S.

- GENERAL NOTES**
- CLASS OF CONCRETE 35MPa C-1 UNLESS NOTED OTHERWISE ON DRAWINGS.
  - REINFORCING STEEL SHALL BE GRADE 400 UNLESS OTHERWISE SPECIFIED. UNLESS SHOWN OTHERWISE, TENSION LAP LENGTHS NOT INDICATED ON THE CONTRACT DRAWINGS SHALL BE CLASS B. BAR HOOKS SHALL BE MINIMUM LENGTH AND STIRRUPS SHALL HAVE MINIMUM HOOKS, UNLESS INDICATED OTHERWISE.
  - GFRP BARS TO BE 60 GPa GRADE III GLASS FIBRE REINFORCED POLYMER. BARS MARKED WITH PREFIX 'GFRP' DENOTE GFRP BARS.
  - STAINLESS REINFORCING STEEL SHALL BE TYPE 316LN OR DUPLEX 2205 AND HAVE A MINIMUM YIELD STRENGTH OF 420 MPa. BARS MARKED WITH PREFIX 'S' DENOTE STAINLESS STEEL BARS.
  - ALL ELEVATIONS ARE IN METRES MEASURED FROM BENCH MARK SIB #1 EL. 174.411.
  - CLEAR COVER TO REINF. STEEL SHALL BE AS FOLLOWS:
 

DECK	TOP	70 ± 20
	BOT	50 ± 10
	GFRP	60 ± 10
CAST AGAINST EARTH		100 ± 25
EXPOSED TO EARTH		70 ± 20
REMAINER		70 ± 20
  - UNLESS OTHERWISE NOTED
  - ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT AS SHOWN OTHERWISE.
  - BRIDGE AND ROAD CONSTRUCTION IS TO BE AS PER THE ONTARIO PROVINCIAL STANDARDS FOR ROADS AND MUNICIPAL SERVICES AND AS PER DETAILS PROVIDED.
  - THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF THE EXIST. CONDITIONS AND ALL DETAILS ON SITE AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE REPLACEMENT WORK. THE CONTRACTOR ALSO SHALL VERIFY ALL RELEVANT DIMENSIONS AND ELEVATIONS OF THE EXISTING CONDITIONS PRIOR TO CONSTRUCTION TO SUIT PROPOSED WORK.

- SUGGESTED SEQUENCE OF CONSTRUCTION**
- PRE-CONSTRUCTION SURVEY.
  - MOBILIZATION.
  - UTILITY LOCATIONS AND COORDINATION WITH UTILITY PROVIDERS.
  - INSTALLATION OF SEDIMENT AND EROSION CONTROL SYSTEMS TO CONTAIN ALL MATERIAL DURING REMOVALS AND NEW CONSTRUCTION.
  - INSTALL TEMPORARY BRIDGE AND BUILD TEMPORARY BYPASS ROADWAYS.
  - REMOVE EXISTING BRIDGE SUPERSTRUCTURE, AND CUT OFF TOPS OF ABUTMENTS AND WINGWALLS.
  - INSTALL PILES.
  - CONSTRUCT NEW INTEGRAL ABUTMENTS AND WINGWALLS.
  - SUPPLY AND INSTALL STEEL GIRDERS AND BRACING.
  - CONSTRUCT BRIDGE DECK OVERLAY AND PARAPET WALLS.
  - RECONSTRUCT APPROACH ROADWAY SIDE SLOPES AND BACKFILL ABUTMENTS.
  - CONSTRUCT APPROACH SLABS INTEGRAL WITH BRIDGE DECK.
  - WATERPROOF BRIDGE DECK.
  - GRADE APPROACHES.
  - PAVE BRIDGE DECK AND APPROACHES.
  - REMOVE BRIDGE DECK AND APPROACHES.

- DEWATERING & ENVIRONMENTAL NOTES**
- ALL WORK SHALL BE COMPLETED AS PER THE NPCA PERMIT. ALL WORK MUST BE DONE IN THE DRY WITH THE WORK AREA FULLY ISOLATED FROM THE WATERWAY.
  - DEWATERING WORK SHALL INCLUDE THE INSTALLATION OF TEMPORARY COFFERDAMS AND DEWATERING THE WORK AREA BY PUMPING. COFFERDAMS SHALL CONSIST OF STEEL SHEET PILE WALLS, SUITABLE COARSE AGGREGATE FILLED BAGS, OR APPROVED EQUAL.
  - INFILTRATION WATER FROM WITHIN THE WORK AREA MUST BE DISCHARGED THROUGH A SEDIMENT BAG OR SETTLEMENT POND LOCATED 30m AWAY FROM THE WATERCOURSE. THE INFILTRATION WATER MUST THEN BE ALLOWED TO TRAVEL OVERLAND THROUGH A WELL VEGETATED AREA BEFORE IT IS DISCHARGED BACK INTO THE WATERWAY.
  - CONTAINMENT AND CONSTRUCTION PROCEDURES FOR WATERWAY PROTECTION SHALL BE SUBJECT TO THE REQUIREMENTS OF OPSS/MUNI 152 "GENERAL SPECIFICATION FOR ENVIRONMENTAL PROTECTION FOR CONSTRUCTION IN WATERBODIES AND ON WATERBODY BANKS".
  - CONTAINMENT AND CONSTRUCTION PROCEDURES FOR EROSION AND SEDIMENT CONTROL WILL BE SUBJECT TO THE REQUIREMENTS OF OPSS 805 "CONSTRUCTION SPECIFICATION FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES".
- ENVIRONMENTAL MITIGATION NOTES**
- ALL MITIGATION AND ESC MEASURES SHALL BE INSTALLED PRIOR TO START OF CONSTRUCTION.
  - ALL EQUIPMENT SHALL BE CLEAN AND FREE OF PETROLEUM PRODUCTS.
  - ALL MAINTENANCE, REFUELING AND STORAGE OF EQUIPMENT SHALL BE CONTROLLED SO AS TO PREVENT AND DISCHARGE OF PETROLEUM PRODUCTS.
  - VEHICULAR MAINTENANCE AND REFUELING SHALL BE CONDUCTED AWAY FROM WATERCOURSES.
  - CONSTRUCTION MATERIALS SHALL BE STORED AWAY FROM WATERCOURSES.
  - DURING CONSTRUCTION ALL VEGETATION ADJACENT TO THE WORK AREA IS TO BE PROTECTED. WHERE IT IS DISTURBED, IT SHALL BE RESTORED TO ORIGINAL CONDITION.
  - SEDIMENT CONTROLS SHALL BE INSPECTED DAILY TO ENSURE THAT THEY ARE IN GOOD REPAIR AND FUNCTIONING AS INTENDED.
  - EROSION AND SEDIMENT CONTROLS MUST BE MAINTAINED DURING AND AFTER CONSTRUCTION UNTIL THE SITE IS DEEMED TO BE STABLE BY THE CONTRACT ADMINISTRATOR.
  - ADDITIONAL EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IF PROPOSED CONTROLS ARE NOT ADEQUATELY PREVENTING EROSION AND RELEASE OF SEDIMENT OFF SITE.

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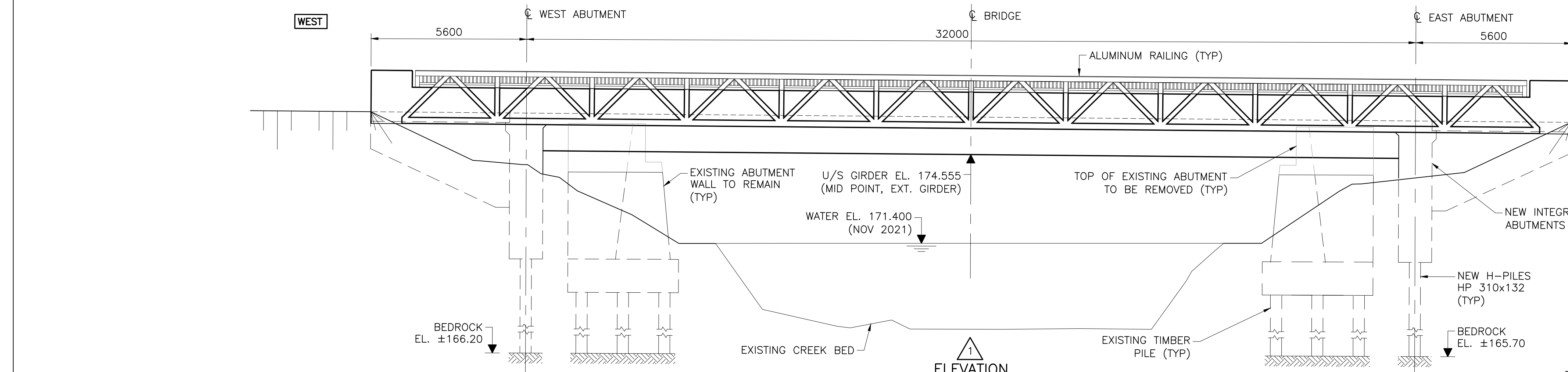
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**WORK POINTS COORDINATES (m)**

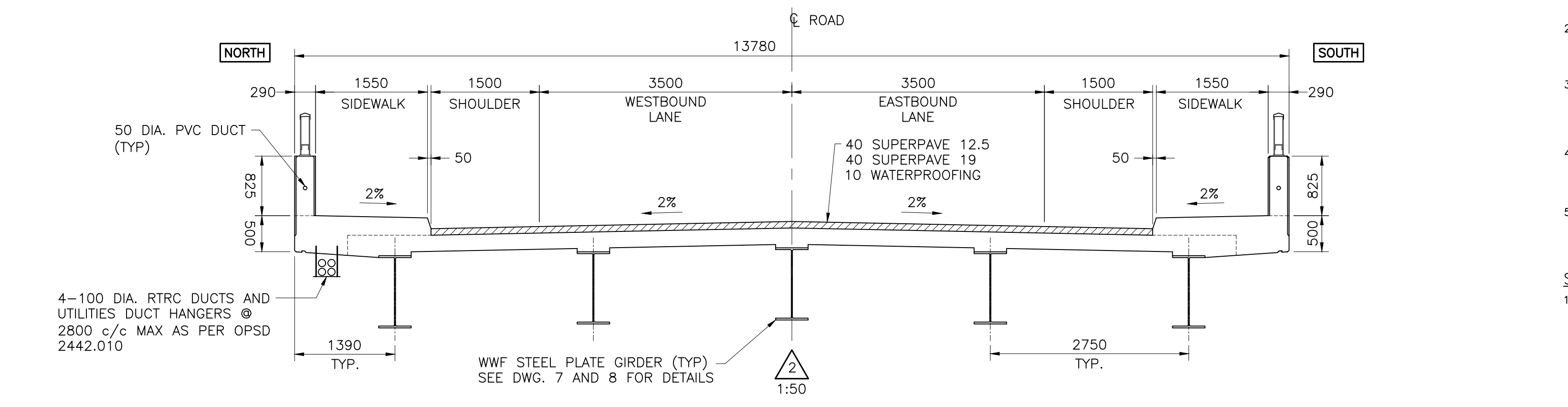
W.P.	NORTHING	EASTING
1	4770812.404	645466.568
2	4770827.896	645494.567

- BENCH MARKS**
- SIB #1: 16.9m NW CENTRELINE OF WEST APPROACH SLAB EL. 174.411  
N4770815.908 , E645446.045
  - SIB #2: 46.1m NW CENTRELINE OF WEST APPROACH SLAB EL. 177.327  
N4770824.163 , E645416.689
  - SIB #3: 17.1m SE CENTRELINE OF EAST APPROACH SLAB EL. 174.686  
N4770824.163 , E645515.367
  - SIB #4: 24.6m NE CENTRELINE OF EAST APPROACH SLAB EL. 174.372  
N4770812.404 , E645504.254

**NOTES/LEGEND**

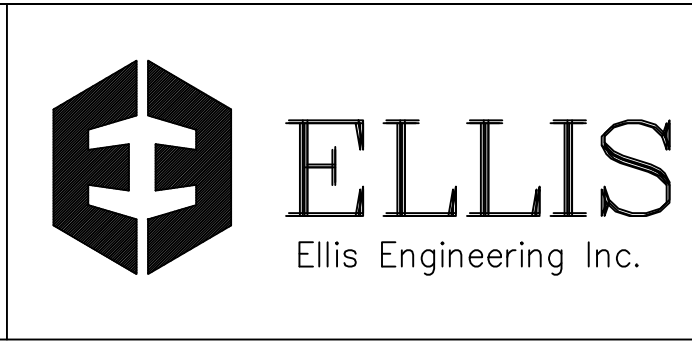
- THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWER AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
- PROPERTY LINES WERE PLOTTED USING REGISTERED PLANS AND BARS LOCATED IN THE FIELD, TO VERIFY THE ACCURACY OF THESE PROPERTY LINES, A LEGAL SURVEY SHOULD BE PERFORMED PRIOR TO CONSTRUCTION.

NO.	REVISION	DATE	INIT.
0	ISSUED FOR PUBLIC INFORMATION CENTRE	2023-02-16	DB



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DRAFTING  
JM  
DESIGN  
DB  
CHECKED BY  
DV  
APPROVED BY



**REPLACEMENT OF HIGHWAY 20 BRIDGE  
(STRUCTURE NO. 020220)  
REGIONAL ROAD 20 (HIGHWAY 20)  
OVER OPG WATER WORKS RACE  
IN THE CITY OF THOROLD  
GENERAL ARRANGEMENT**

CONSULTANT FILE NO. 1030	REV.
DATE 2023-01-11	0
SCALE AS NOTED	
REF. No. 2022-T-234	
DWG No. 1	