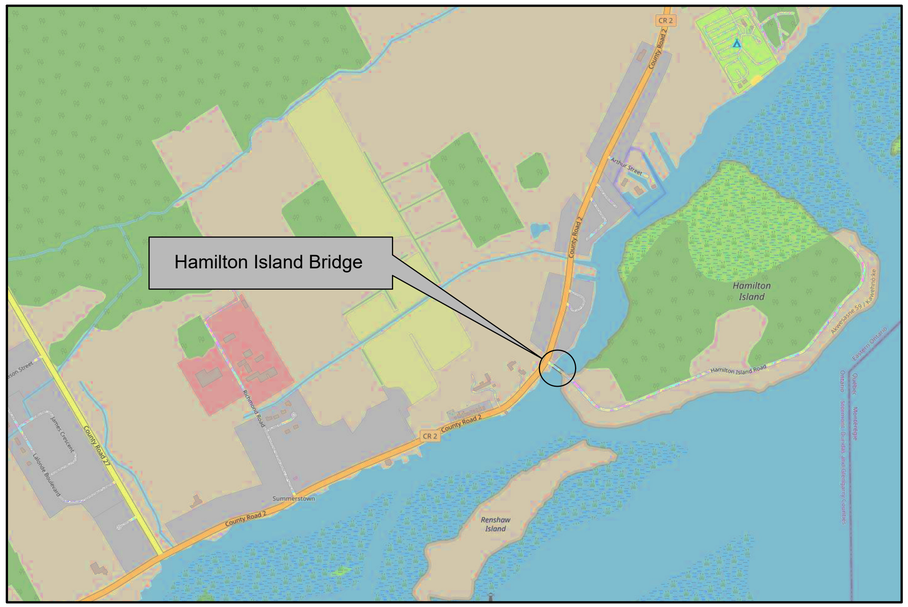
MOHAWK COUNCIL OF AKWESASNE

Jacobs

DIRECTOR OF PUBLIC WORKS AND ENGINEERING

NOVEMBER 2026



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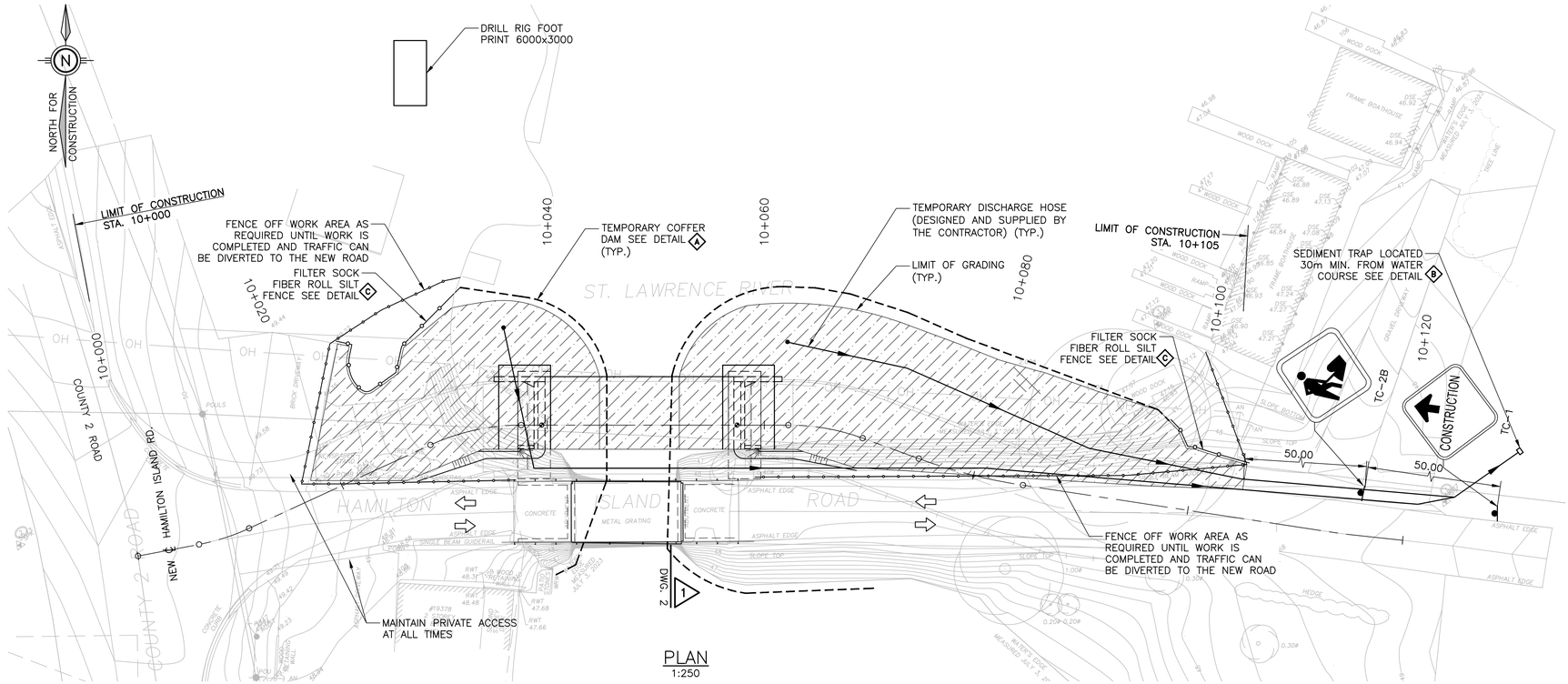
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1. CONSTRUCTION STAGING I
2. CONSTRUCTION STAGING II
3. REMOVALS
4. ROADWAY NEW CONSTRUCTION
5. ROADWAY TYPICAL SECTIONS
6. GENERAL ARRANGEMENT I
7. GENERAL ARRANGEMENT II
8. FOUNDATION LAYOUT AND DETAILS
9. ABUTMENT DETAILS
10. ABUTMENT REINFORCING
11. WINGWALL DETAILS
12. BEARING DETAILS
13. STRUCTURAL STEEL I
14. STRUCTURAL STEEL II
15. DECK DETAILS
16. DECK REINFORCING I
17. DECK REINFORCING II
18. THREE TUBE RAILING ON CURB TL-4
19. END CONNECTION FOR THREE TUBE RAILING
20. APPROACH SLAB
21. STANDARD DETAILS

REPLACEMENT OF HAMILTON ISLAND BRIDGE

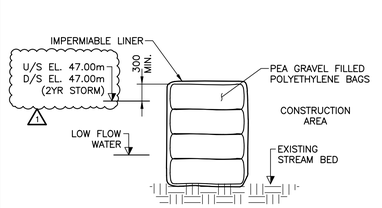
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CONTRACT No. 26-4001A

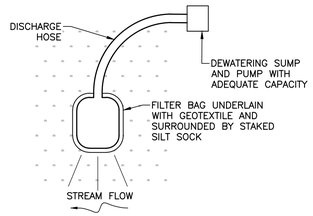
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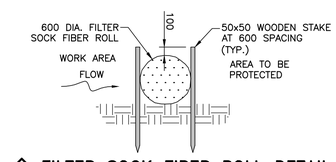
PLAN
1:250



A **TEMPORARY COFFERDAM DETAIL**
CONCEPTUAL ONLY. CONTRACTOR RESPONSIBLE FOR THE DESIGN OF THE COFFERDAM
N.T.S.



B **DEWATERING/SEDIMENT TRAP DETAIL**
N.T.S.



C **FILTER SOCK FIBER ROLL DETAIL**
N.T.S.

ENVIRONMENTAL NOTES:

1. EROSION AND SEDIMENT CONTROL (ESC) MEASURES WILL BE IMPLEMENTED PRIOR TO, AND MAINTAINED DURING THE CONSTRUCTION PHASES, TO PREVENT ENTRY OF SEDIMENTS INTO THE WATER. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IMPLEMENTED UNTIL THE SITE HAS BEEN FULLY RESTORED AND STABILIZED. THE CONTRACTOR WILL REVIEW AND SUBMIT FOR REVIEW AND APPROVAL TO THE REGION'S CONSTRUCTION ADMINISTRATOR FOR ANY RECOMMENDED ADDITIONS OR ESC PLANS TO MEET THE STAGING REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE TO HAVE THE WORK ZONE FULLY PROTECTED FOR EROSION AND SEDIMENT CONTROL PRIOR TO COMMENCEMENT OF WORK.
2. ALL ACCESS TO THE WORKS SHALL BE FROM EITHER SIDE OF THE WATERCOURSE. NO EQUIPMENT OR VEHICLES ARE PERMITTED TO CROSS THROUGH THE WATERCOURSE.
3. ALL DEWATERING/UNWATERING OUTLETS SHALL BE LOCATED AT LEAST 30 METRES FROM THE WATERCOURSE TO A FILTER BAG (15 METRES LONG TERRAFIX ENVIROBAG OR EQUIVALENT)/SPLASH PAD, AND THEN ALLOWED TO DRAIN OVERLAND BY SHEET FLOW ACROSS RIPARIAN VEGETATION AT LEAST 30 METRES AWAY FROM THE WATERCOURSE. NO DEWATERING EFFLUENT SHALL BE DISCHARGED DIRECTLY TO ANY WATERCOURSE OR ALLOWED TO DRAIN INTO A DISTURBED AREA (E.G. EXPOSED DITCH) WITHIN THE WORK AREA. THESE CONTROL MEASURES SHALL BE MONITORED FOR EFFECTIVENESS AND MAINTAINED OR REVISED TO MEET THE OBJECTIVE OF PREVENTING SEDIMENT FROM ENTERING THE WATERCOURSE.
4. THE CONTRACTOR SHALL CONTINUALLY MONITOR THE WEATHER SEVERAL DAYS IN ADVANCE TO ENSURE THAT WORKS ARE CONDUCTED DURING FAVORABLE WEATHER CONDITIONS. SHOULD AN UNEXPECTED STORM ARISE, THE PROPONENT/CONTRACTOR SHALL IMPLEMENT A CONTINGENCY EVACUATION PLAN AS DEVELOPED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. REMOVE ALL ITEMS FROM THE REGIONAL STORM FLOODPLAIN THAT WOULD HAVE THE CAPACITY TO CAUSE AN OBSTRUCTION TO FLOW OR A SPILL (E.G. FUEL TANKS, UNFIXED EQUIPMENT, ETC.). ANY DAMAGES TO EQUIPMENT ON SITE NOT REMOVED DURING THE EVENT SHALL NOT BE COMPENSATED BY THE OWNER.
5. TO PROTECT LOCAL FISH POPULATIONS DURING THEIR SPAWNING, NURSERY AND MIGRATORY PERIODS, NO IN-WATER ACTIVITIES OR WORKS NEAR THE WATERCOURSE SHALL OCCUR FROM MARCH 15 TO JULY 15 NEAR WATER WORKS ARE DEFINED AS EARTH GRADING/FILL PLACEMENT, STRUCTURAL WORKS, OR OTHER ACTIVITIES IN CLOSE PROXIMITY TO THE WATERCOURSE THAT HAVE THE POTENTIAL TO RESULT IN DELETERIOUS MATERIALS ENTERING THE WATERCOURSE.
6. TIMING WINDOW FOR MIGRATORY BIRDS IS FROM APRIL 1 TO AUGUST 31. ALL VEGETATED REMOVALS TO BE INSPECTED BY A QUALIFIED AVIAN BIOLOGIST PRIOR TO WORK COMMENCING.
7. ALL ACTIVITIES, INCLUDING MAINTENANCE PROCEDURES, WILL BE CONTROLLED TO PREVENT THE ENTRY OF PETROLEUM PRODUCTS, DEBRIS, RUBBLE, CONCRETE OR OTHER DELETERIOUS SUBSTANCES INTO THE WATER. VEHICULAR REFUELING AND MAINTENANCE WILL BE CONDUCTED 30 METRES FROM THE WATER.
8. ALL IN-WATER AND NEAR WATER WORKS WILL BE CONDUCTED IN THE DRY (I.E. ISOLATION AND PROTECTION OF WATERCOURSE/WATERBODY) WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
9. ALL GRADES WITHIN THE REGIONAL STORM FLOODPLAINS WILL BE MAINTAINED OR MATCHED.
10. THE EROSION AND SEDIMENT CONTROL STRATEGIES OUTLINED IN THE PLANS ARE NOT STATIC AND MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE TO MINIMIZE SEDIMENT LADEN RUNOFF FROM LEAVING THE WORK AREA. IF THE PRESCRIBED MEASURES ON THE PLANS ARE NOT EFFECTIVE IN PREVENTING THE RELEASE OF A DELETERIOUS SUBSTANCE, THEN ALTERNATIVE MEASURES WILL BE IMPLEMENTED IMMEDIATELY TO MINIMIZE POTENTIAL ECOLOGICAL IMPACTS. THE CONSTRUCTION ADMINISTRATOR WILL BE IMMEDIATELY CONTACTED.
11. ALL DISTURBED VEGETATION AREAS WILL BE STABILIZED AND RESTORED WITH NATIVE/NON-INVASIVE SPECIES UPON COMPLETION OF THE WORK. TOPSOIL THICKNESS SHALL BE 100mm, EXCEPT AT ROCK PROTECTION STONE THEN TOPSOIL THICKNESS SHALL BE 200mm. FOR SEED MIX COMPOSITION AND APPLICATION RATE REFER TO TABLE 1 – SEED SCHEDULE.
12. THE WATERCOURSE WILL BE PROTECTED WITH ADEQUATE EROSION AND SEDIMENT CONTROLS DURING REMOVAL OF ANY STRUCTURE IN CLOSE PROXIMITY TO THE WATERCOURSE (I.E. FILTREXX SOXX, ETC.).
13. A QUALIFIED ENVIRONMENTAL INSPECTOR WILL MONITOR THE WORKS WITHIN THE REGULATED AREA DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO EROSION AND SEDIMENT CONTROLS (ESC) AND ANY DEWATERING/UNWATERING AND WATERCOURSE FLOW DIVERSION METHOD. AS A MINIMUM, ALL ESC'S WILL BE MONITORED ON A DAILY BASIS, PARTICULARLY BEFORE AND AFTER RAIN EVENTS. ANY NECESSARY REPAIRS OF ESC MEASURES SHALL BE COMPLETED IMMEDIATELY.
14. ADDITIONAL ESC SUPPLIES ARE TO BE STOCKPILED ON SITE IN ORDER TO UPGRADE ESC DEVICES AS NECESSARY.
15. SITE ACCESS AND STAGING WILL MINIMIZE DISTURBANCE TO THE WATERCOURSE AND THE NATURAL AREA. ANY MATERIAL STOCKPILED ON SITE WILL BE PROPERLY ISOLATED.
16. FISH STRANDED WITHIN THE WORK AREA/WATERCOURSE TO BE ISOLATED BY A COFFERDAM, OR OTHER FLOW DIVERSION METHOD, SHALL BE CAPTURED AND RELEASED ALIVE IN A SUITABLE HABITAT DOWNSTREAM UNDER THE SUPERVISION OF A QUALIFIED FISHERIES BIOLOGIST. A LICENSE TO COLLECT FISH FOR SCIENTIFIC PURPOSES WILL HAVE TO BE OBTAINED FROM MNRF TO RELOCATE FISH. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE LICENSE AND FOR RETAINING THE SERVICES OF A QUALIFIED FISHERIES BIOLOGIST. THE LICENSE SHOULD BE APPLIED FOR IMMEDIATELY FOLLOWING PROJECT START UP MEETING.
17. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON SITE AT ALL TIMES; CONSTRUCT TEMPORARY AND DIVERSION DITCHES AS NEEDED OR REQUIRED BY REGION'S INSPECTOR.
18. THE CONTRACTOR TO CONFIRM LOCATION OF THE CONCRETE WASHOUT WITH CONSTRUCTION ADMINISTRATOR ON SITE PRIOR TO CONSTRUCTION. CONCRETE WASHOUT SHALL BE SETBACK A MINIMUM OF 30 METRES FROM WATER FEATURES, THESE INCLUDE WATERCOURSES AND WETLANDS.
19. ALL DISTURBED AND EXPOSED AREAS TO BE COVERED PRIOR TO NEXT RAIN EVENT AND WITHIN 24 HOURS REGARDLESS OF ANY RAIN EVENT.
20. ALL SPILLS, REGARDLESS OF VOLUME OR CONTENT, WILL BE REPORTED TO THE CONSTRUCTION ADMINISTRATOR AND WILL BE REPORTED TO THE ONTARIO MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARK'S SPILLS ACTION CENTRE (SAC) AND AN INCIDENT NUMBER WILL BE PROVIDED IMMEDIATELY AFTER THE COMMUNICATION WITH MECP TO THE CONSTRUCTION ADMINISTRATOR.
21. FILTER SOCK FIBER ROLL SHALL BE STAKED IN ACCORDANCE WITH DETAIL 'C' WITH REFERENCE TO OPSD 219.120 (NOV 2021) AND OPSD 219.191 (NOV 2021)

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

CONSTRUCTION STAGING 1

CONTRACT NO. 26-4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN METRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

LEGEND

PROPOSED WORK ZONE

TRAFFIC FLOW

NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING No. 6 GENERAL ARRANGEMENT I.
2. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES AND FACILITIES PRIOR TO COMMENCEMENT OF WORK AND SHALL ASSUME LIABILITY FOR DAMAGES.
3. ALL TEMPORARY SIGNAGE AND TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ONTARIO TRAFFIC MANUAL (OTM) BOOK 7, TEMPORARY CONDITIONS. MAINTAIN EXISTING SIGNAGE UNLESS OTHERWISE NOTED IN THE DRAWING. MAINTAIN EXISTING SIGNAGE UNLESS OTHERWISE NOTED IN THE DRAWING.
4. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IS MAINTAINED AT ALL TIMES.
5. A TRAFFIC CONTROL PLAN WITH APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES CONFORMING TO THE SPECIFICATIONS/CONTRACT SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED PRIOR TO THE COMMENCEMENT OF WORK.
6. THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AND HAMILTON ISLAND RESIDENTS AT ALL TIMES. CONTRACTOR SHALL MAINTAIN ACCESS FOR EMS AND PUBLIC SERVICES TO HAMILTON ISLAND AT ALL TIMES.
7. WHERE LANE RESTRICTION IS REQUIRED TO CARRY OUT WORK, TRAFFIC SHALL BE MAINTAINED USING TRAFFIC CONTROL PERSONS.
8. THE CONTRACTOR SHALL RESTORE WORK AREA TO ORIGINAL CONDITION AFTER COMPLETION OF WORK.
9. SURFACE AND PILED BOULDERS SHALL BE REMOVED WITHIN LIMITS OF GRADING.
10. 10 MINUTE ROLLING ROAD CLOSURES ARE PERMITTED FOR GIRDER INSTALLATION UNDER FLAGGED CONDITIONS.
11. TURBIDITY CURTAINS SHALL BE INSTALLED WHEN CONSTRUCTION ACTIVITIES WILL DISTURB SEDIMENT IN THE RIVER BED.

CONSTRUCTION NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ROADWAY AND STRUCTURAL DRAWINGS.

THE DEWATERING SHOWN ON THIS DRAWING IS SCHEMATIC ONLY. DETAILED DEWATERING PLAN SHALL BE SUBMITTED TO CONTRACT ADMINISTRATOR AND OBTAIN APPROVAL PRIOR TO IMPLEMENTATION.

THE COFFERDAMS SHALL BE DESIGNED TO ACCOMMODATE A MINIMUM OF THE 5 YEAR STORM.

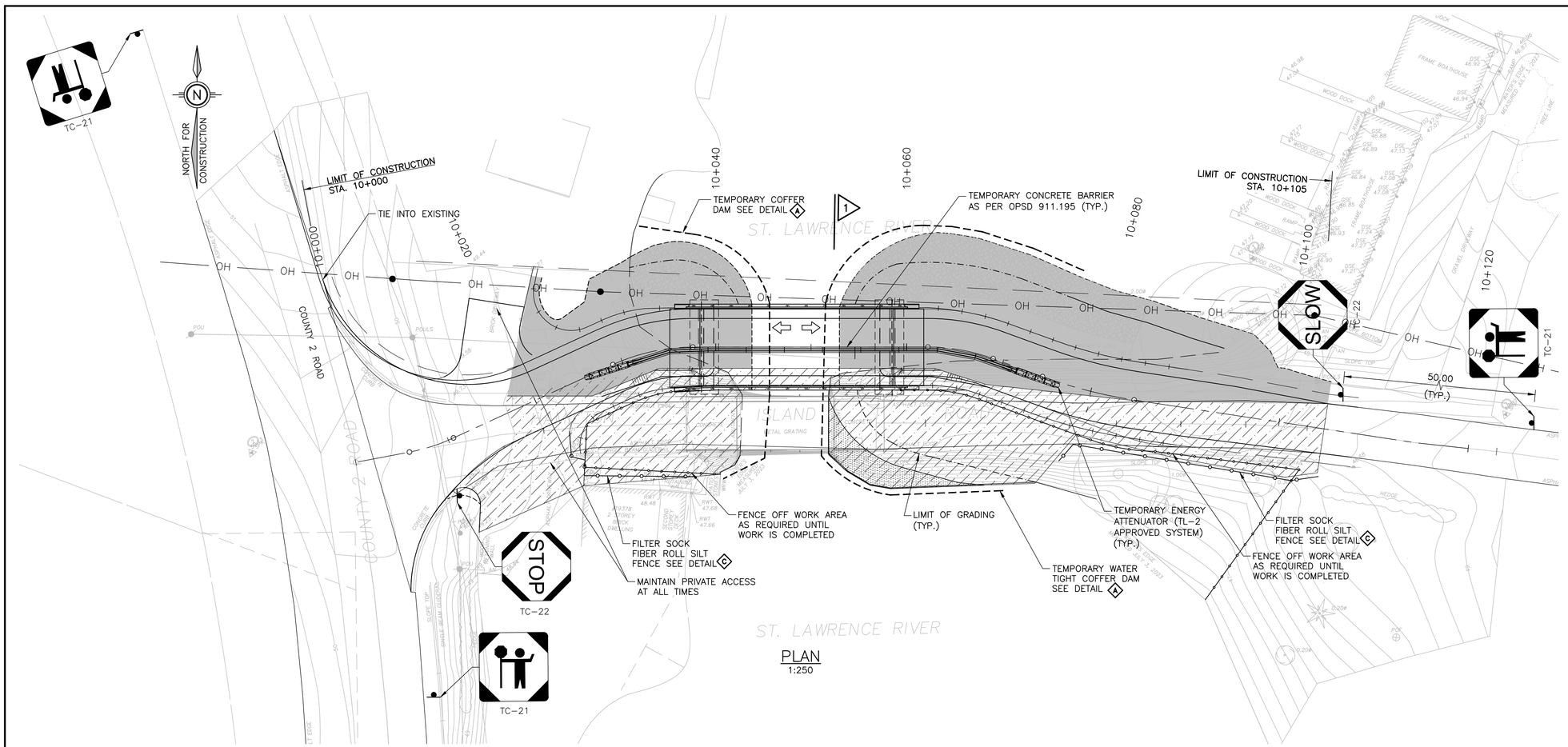
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R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
PROVINCE OF ONTARIO

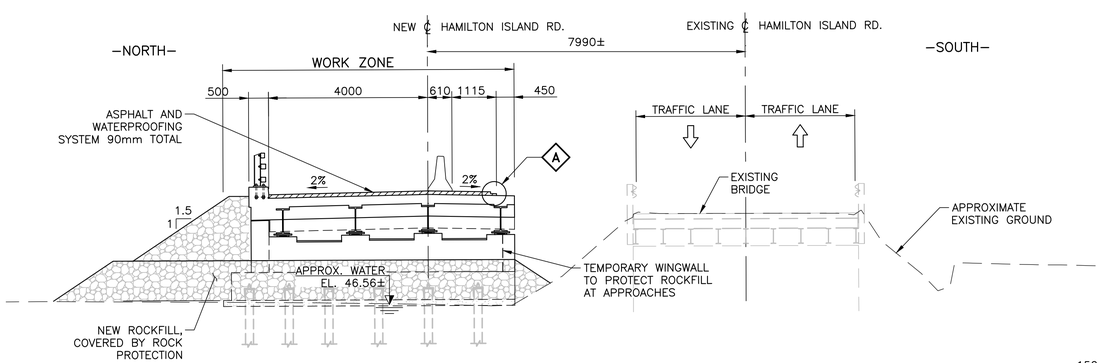
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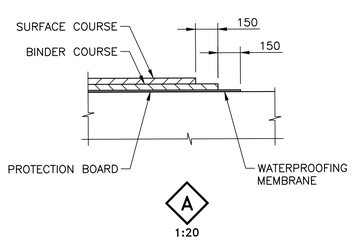
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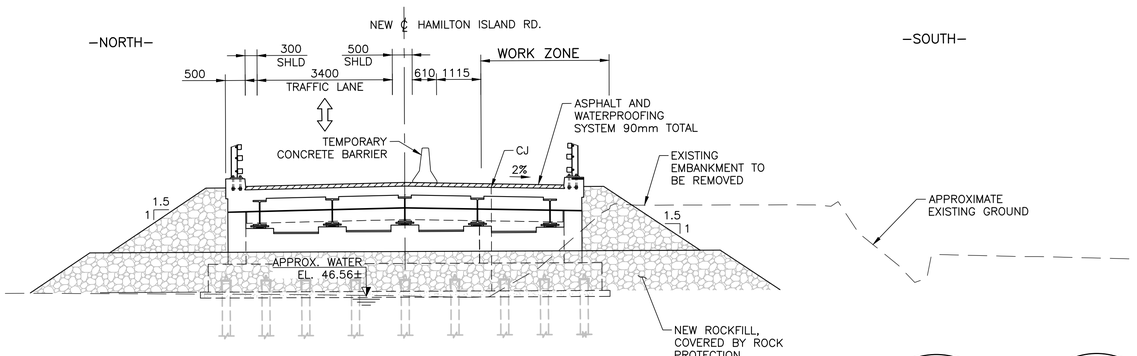
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1 STAGE 1
1:75 DWG. 1



A
1:20



1 STAGE 2
1:75

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

CONSTRUCTION STAGING II

CONTRACT NO. 26-4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN METRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

LEGEND

- PROPOSED WORK ZONE
- COMPLETED CONSTRUCTION
- TRAFFIC FLOW

NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING No. 6 GENERAL ARRANGEMENT I.
2. CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES AND FACILITIES PRIOR TO COMMENCEMENT OF WORK AND SHALL ASSUME LIABILITY FOR DAMAGES.
3. ALL TEMPORARY SIGNAGE AND TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ONTARIO TRAFFIC MANUAL (OTM) BOOK 7, TEMPORARY CONDITIONS.
4. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IS MAINTAINED AT ALL TIMES.
5. A TRAFFIC CONTROL PLAN WITH APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES CONFORMING TO THE SPECIFICATIONS/CONTRACT SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED PRIOR TO THE COMMENCEMENT OF WORK.
6. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AND HAMILTON ISLAND RESIDENTS AT ALL TIMES. CONTRACTOR SHALL MAINTAIN ACCESS FOR EMS AND PUBLIC SERVICES TO HAMILTON ISLAND AT ALL TIMES.
7. CONTRACTOR SHALL MAINTAIN A MINIMUM 3.3m SINGLE THROUGH LANE AT ALL TIMES UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS.
8. WHERE LANE RESTRICTION IS REQUIRED TO CARRY OUT WORK, TRAFFIC SHALL BE MAINTAINED USING TRAFFIC CONTROL PERSONS.
9. CONTRACTOR SHALL RESTORE WORK AREA TO ORIGINAL CONDITION AFTER COMPLETION OF WORK.

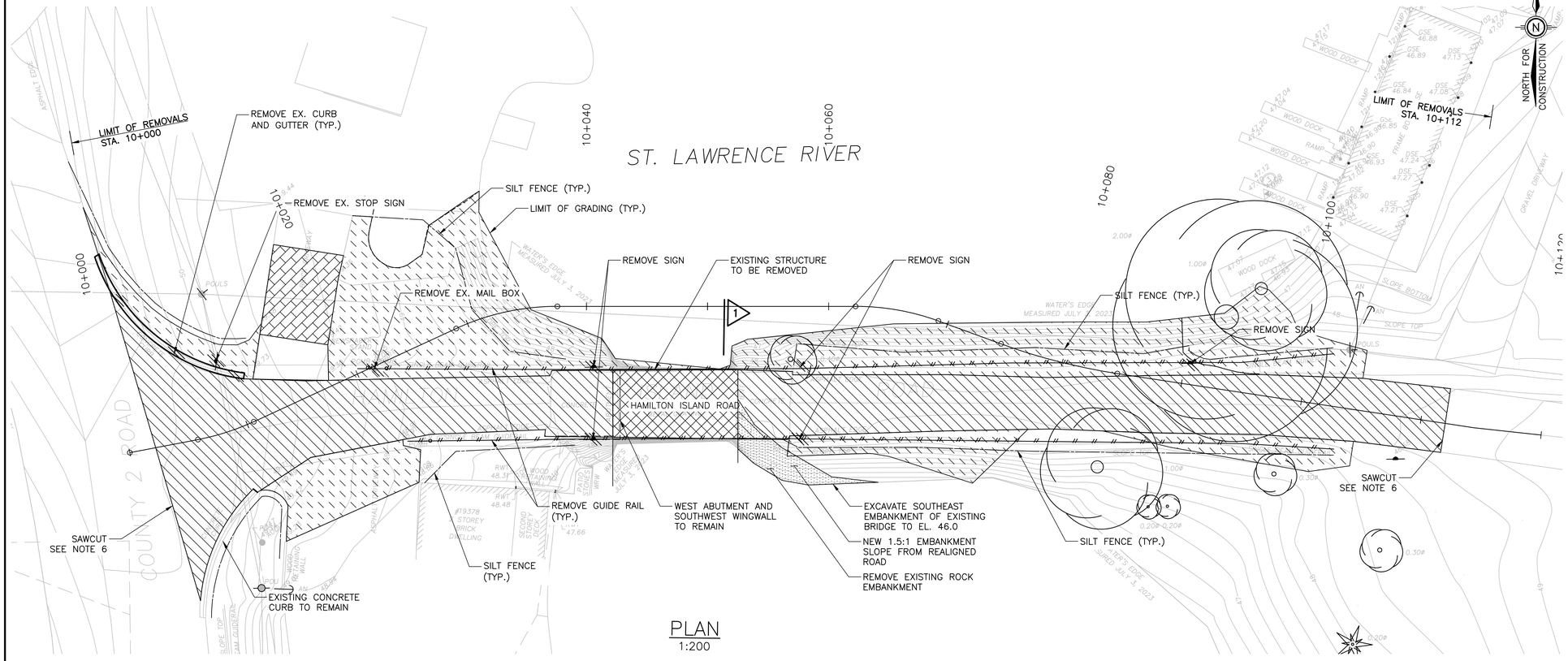
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R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
PROVINCE OF ONTARIO

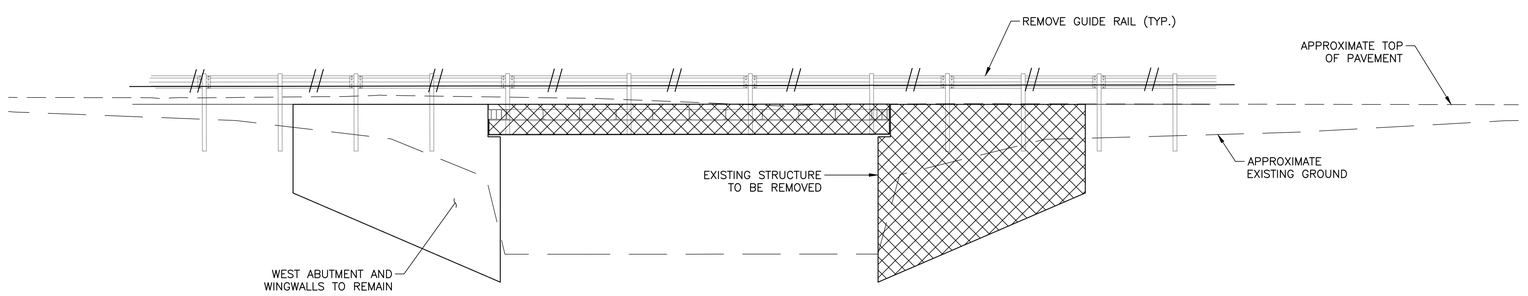
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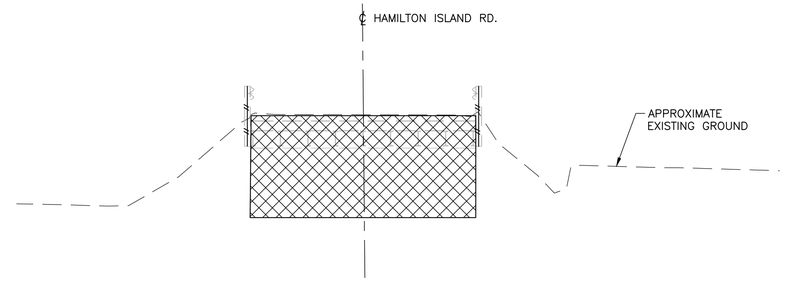
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PLAN
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ELEVATION
1:75



1 SECTION
1:75

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

REMOVALS

CONTRACT NO. 26-4001A

Jacobs

METRIC
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LEGEND

- GUIDE RAIL REMOVAL
- CURB REMOVAL
- SILT FENCE
- BRIDGE REMOVAL
- ASPHALT REMOVAL (FULL DEPTH)
- BRICK REMOVAL (SEE NOTE 7)
- AREA TO BE GRUBBED
- ROCK EMBANKMENT REMOVAL

NOTES

1. THE LOCATION OF UTILITIES IS APPROXIMATE ONLY. CONSULT THE RESPECTIVE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES TO DETERMINE THE EXACT LOCATION OF THEIR UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES AND SHALL ADEQUATELY PROTECT AND SUPPORT THEM DURING CONSTRUCTION.
2. ALL REGULATORY SIGNS TO BE KEPT IN USE AT ALL TIMES DURING CONSTRUCTION.
3. EROSION AND SEDIMENT CONTROL PLAN CONFORMING TO THE SPECIFICATIONS/CONTRACT SHALL BE SUBMITTED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
4. INSTALL EROSION AND SEDIMENT CONTROL PRIOR TO CONSTRUCTION.
5. PROVIDE TREE FENCING FOR TREES THAT ARE NOT TO BE REMOVED. TREE REMOVAL SHALL BE CONDUCTED OUTSIDE THE APRIL 1 TO SEPTEMBER 30 WINDOW IN ACCORDANCE WITH MIGRATORY BIRD CONVENTION ACT (MBCA) AND BAT ROOSTING WINDOW. CONFIRM RESTRICTIVE TIME WINDOW WITH PROJECT ARBORIST BEFORE TREE REMOVALS.
6. MILL 50mm DEEP x 300mm WIDE ASPHALT KEY AT LIMITS OF ASPHALT REMOVAL
7. CONTRACTOR SHALL SALVAGE AND REINSTATE THE BRICK DRIVEWAY.

LICENSED PROFESSIONAL ENGINEER
R.MEISAMIAN
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2026-11-09
PROVINCE OF ONTARIO

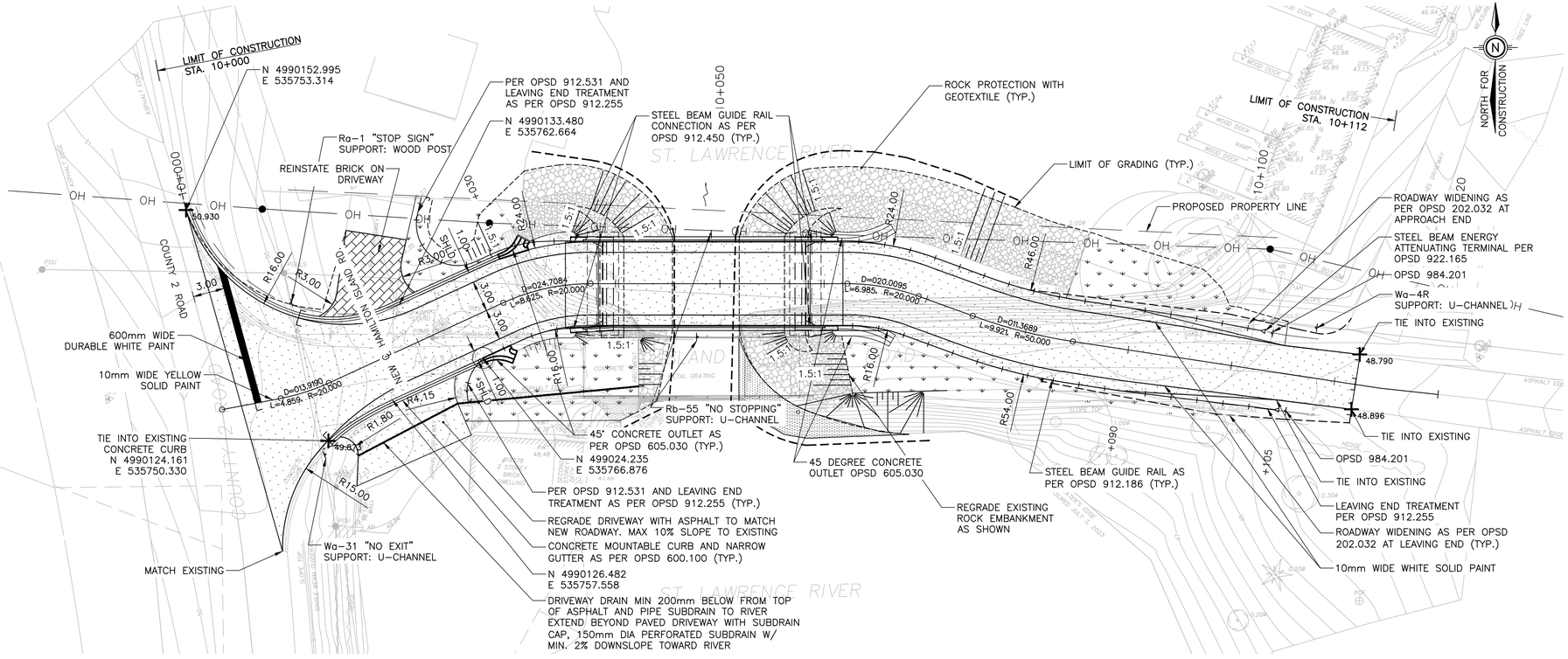
LICENSED PROFESSIONAL ENGINEER
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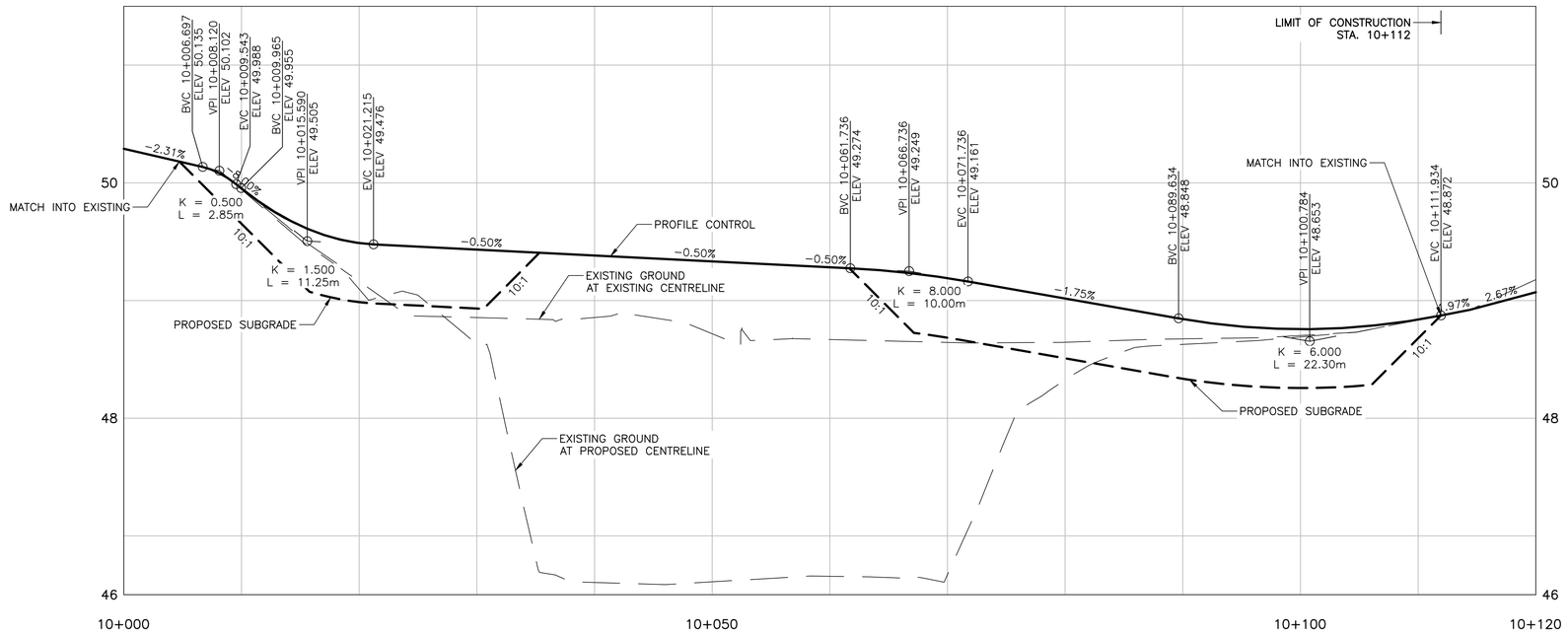
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PROFILE OF NEW HAMILTON ISLAND ROAD

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

ROADWAY NEW CONSTRUCTION

CONTRACT NO. 26-4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN METRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

LEGEND

- PROPOSED GUIDE RAIL
- PROPOSED CURB
- PROPOSED ASPHALT
- PROPOSED ASPHALT SHOULDER
- TOPSOIL AND SEED
- ROCK PROTECTION
- BRICK

NOTES

1. ALL REGULATORY SIGNS TO BE KEPT IN USE AT ALL TIMES DURING CONSTRUCTION.
2. EROSION AND SEDIMENT CONTROL PLAN CONFORMING TO THE SPECIFICATIONS/CONTRACT SHALL BE SUBMITTED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
3. INSTALL EROSION AND SEDIMENT CONTROL PRIOR TO CONSTRUCTION.
4. PROVIDE TREE FENCING FOR TREES THAT ARE NOT TO BE REMOVED. TREE REMOVAL SHALL BE CONDUCTED OUTSIDE THE APRIL 1 TO SEPTEMBER 30 IN ACCORDANCE WITH MIGRATORY BIRD CONVENTION ACT (MBCA) AND BAT ROOSTING WINDOW. CONFIRM RESTRICTIVE TIME WINDOW WITH PROJECT ARBORIST BEFORE TREE REMOVALS.
5. INSTALL Wa-33 "OBJECT MARKER" AND Wz-2 "SNOW PLOW MARKER" AT EACH ENERGY ATTENUATOR OPSS 730.

TABLE 1 – SEED SCHEDULE

BOTANICAL NAME	COMMON NAME	% OF MIX
NATIVE SEED MIX		
APPLICATION RATE: 30kg/ha		
APPLICATION METHOD: PNEUMATIC BLOWER		
ELYMUS RIPARIUS	RIVERBANK RYE	25%
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	25%
PANICUM VIRGATUM	SWITCH GRASS	15%
GLYCERIA STRIATA	FOWL MANNA-GRASS	10%
CAREX VULPINOIDEA	FOX SEDGE	5%
ASCLEPIAS INCARNATA	SWAMP MILKWEED	5%
RUDBECKIA LACINIATA	CUT-LEAVED CONEFLOWER	5%
VERBENA HASTATA	BLUE VERVAIN	5%
EUPATORIUM MACULATUM	JOE-PYE WEED	5%
		100%
COVER CROP		
APPLICATION RATE: 25kg/ha		
AVENA SATIVA	CRIMSON CLOVER	100%
		100%

LICENSED PROFESSIONAL ENGINEER
V.V. MANALASTAS
100072979
2026-11-09
PROVINCE OF ONTARIO

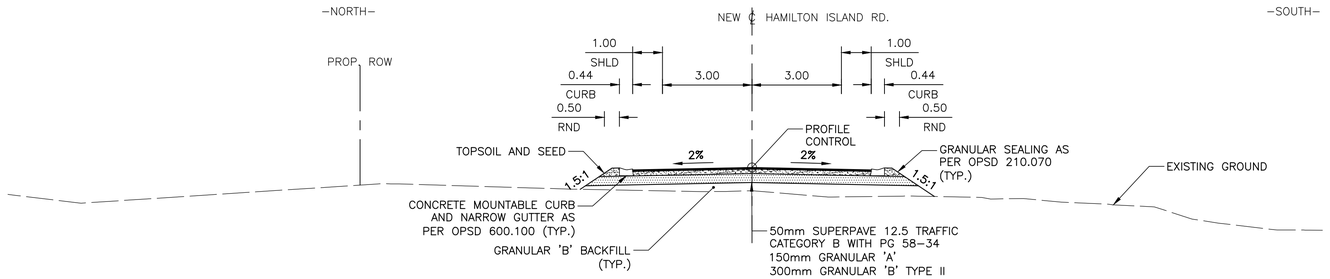
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DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

REVISIONS

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TYPICAL SECTION
(FROM STA. 10+002 TO STA. 10+028)

DRIVEWAY
ASPHALT DRIVEWAY STRUCTURE
50mm HL3
150mm GRANULAR 'A' COMPACTED TO 100% S.P.D.
300mm GRANULAR 'B' TYPE 2 COMPACTED TO 95% S.P.D. (CUT AREAS) OR 98% S.P.D (FILL AREAS)

BRICK DRIVEWAY STRUCTURE
PAVER UNIT SURFACE
25mm LEVELING BED OF COARSE SAND
150mm GRANULAR 'A' COMPACTED TO 100% S.P.D.
SUBGRADE COMPACTED TO 95% S.P.D.

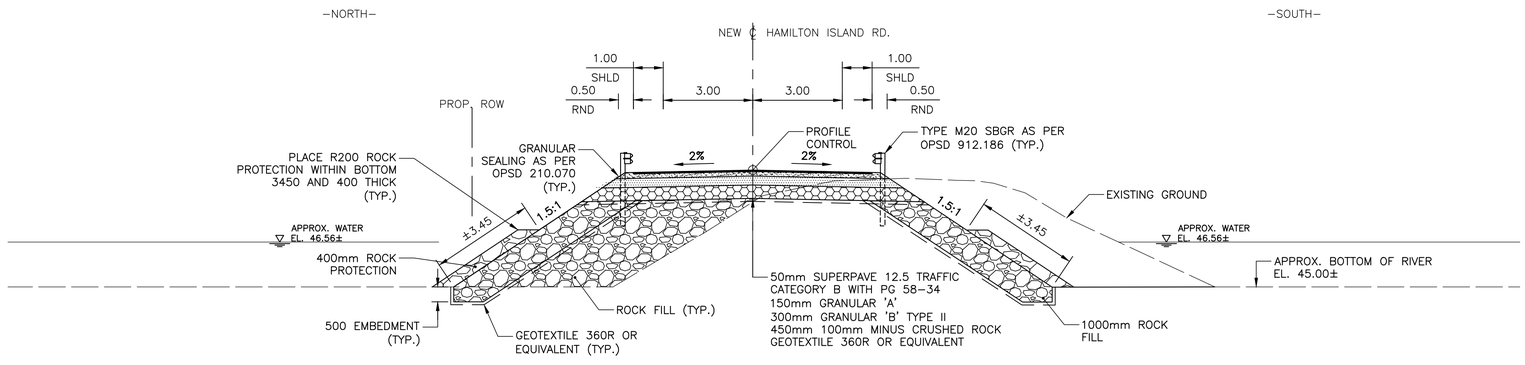
EXCAVATE TO 500mm MINIMUM DEPTH OR DEEPER, AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF ANY UNSUITABLE SUBGRADE MATERIAL SUCH AS TOPSOIL. ALL SOFT SPOTS AND/OR ORGANIC MATTER AND REPLACEMENT WITH CLEAN SUBSOIL FILL. SUBGRADE SHALL BE CONSOLIDATED TO A 98% S.P.D. REMOVE EXCAVATED MATERIAL OFF SITE UNLESS OTHERWISE DIRECTED

ASPHALT EDGE TO BE 45 DEGREES WELL TAMPED TO FORM UNIFORMLY SMOOTH, CLEAN EDGES WITHOUT LATERAL DEVIATIONS.

SOD TO BE FEATHERED IN WITH EXISTING SOD AND GRADES AT MAXIMUM SLOPE OF 4:1. ALL SODDED AREAS SHALL BE 25mm BELOW THE ASPHALT SURFACE.

REPLACE ALL TOPSOIL AND SOD AS DIRECTED IN CUT AND FILL SITUATIONS.

ALL DISTURBED AREAS ALONG DRIVEWAYS SHALL BE SODDED OVER 150mm TOPSOIL FOR A MINIMUM DISTANCE OF 900mm



TYPICAL SECTION
(STA. 10+028 TO STA. 10+035 AND
STA. 10+061 STA. 10+105)

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

ROADWAY
TYPICAL SECTIONS

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN METRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES

1. PROFILE CONTROL FOR VERTICAL ALIGNMENT IS TOP OF SURFACE ELEVATION AT CENTRELINE.
2. ROCK PROTECTION SHALL EXTEND TO EL. 248.2m OR 500mm BELOW EDGE OF PAVEMENT ELEVATION.
3. THE EXISTING EMBANKMENT AND RIVERBED IS PERMEABLE, ROBUST COFFERDAMS ARE REQUIRED TO ISOLATE THE WORK ZONE FROM THE RIVER.
4. SOFT, WET, DELETERIOUS MATERIAL, OR ORGANIC SOIL SHALL BE REMOVED TO THE DESIGN SUBGRADE ELEVATION OR A COMPETENT BEARING SURFACE, AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
5. NEW OR REPLACEMENT SUBGRADE MATERIALS SHALL BE GRANULAR 'B' TYPE II. ALL IMPORTED GRANULAR MATERIALS SHOULD BE PLACED IN MAXIMUM 150mm THICK LIFTS AND SHALL BE COMPACTED TO AT LEAST 99 PERCENT OF THE STANDARD PROCTOR DRY DENSITY.
6. WHERE NEW PAVEMENT AREAS JOIN WITH THE EXISTING PAVEMENTS, THE GRANULAR DEPTHS SHOULD TAPER UP OR DOWN AT 5 HORIZONTAL TO 1 VERTICAL (5H:1V), OR FLATTER, TO MATCH THE EXISTING PAVEMENT STRUCTURE.
7. PRIOR TO PLACING GRANULAR MATERIAL, THE SUBGRADE SURFACE SHALL BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER (10 TONNE OR LARGER) UNDER DRY CONDITIONS, IN THE PRESENCE OF THE CONTRACT ADMINISTRATOR. SOFT AREAS SHALL BE SUB–EXCAVATED AND REPLACED WITH GRANULAR 'B' TYPE II AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
8. ROCK FILL SHALL BE A MIXTURE OF R–50 RIP–RAP AND GRANULAR 'B' TYPE II MEETING THE GRADATION REQUIREMENTS IN TABLE 1.

TABLE 1

ROCK FILL GRADATION REQUIREMENT	
APPROXIMATE DIMENSION (mm)	% PASSING
305	100
265	70 TO 90
210	40 TO 60
100	40 TO 50
26.5	25 TO 50
4.75	10 TO 25
1.18	5 TO 20
300um	5 TO 10
75um	0 TO 5

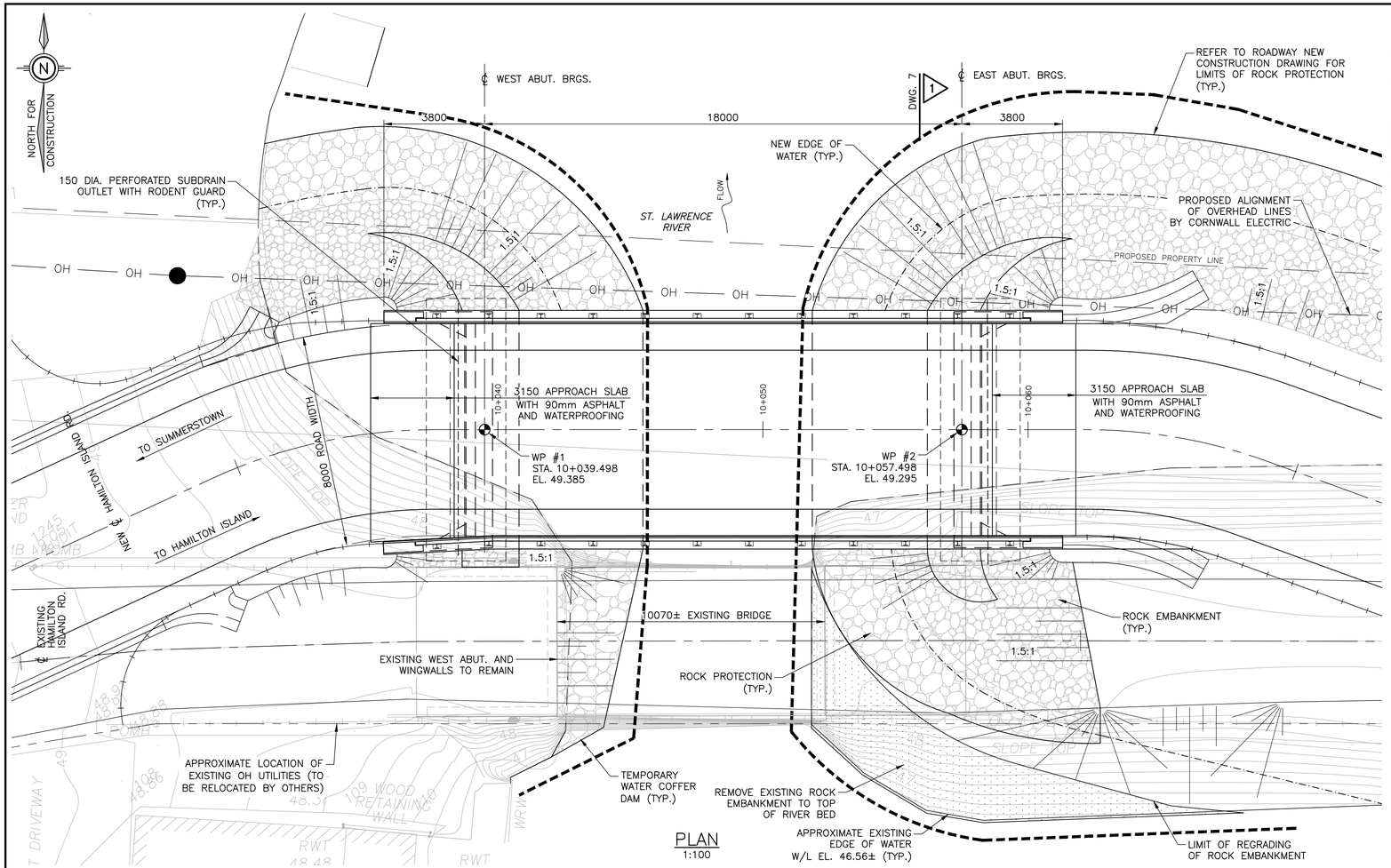


2m 0 2 4 6
1:100

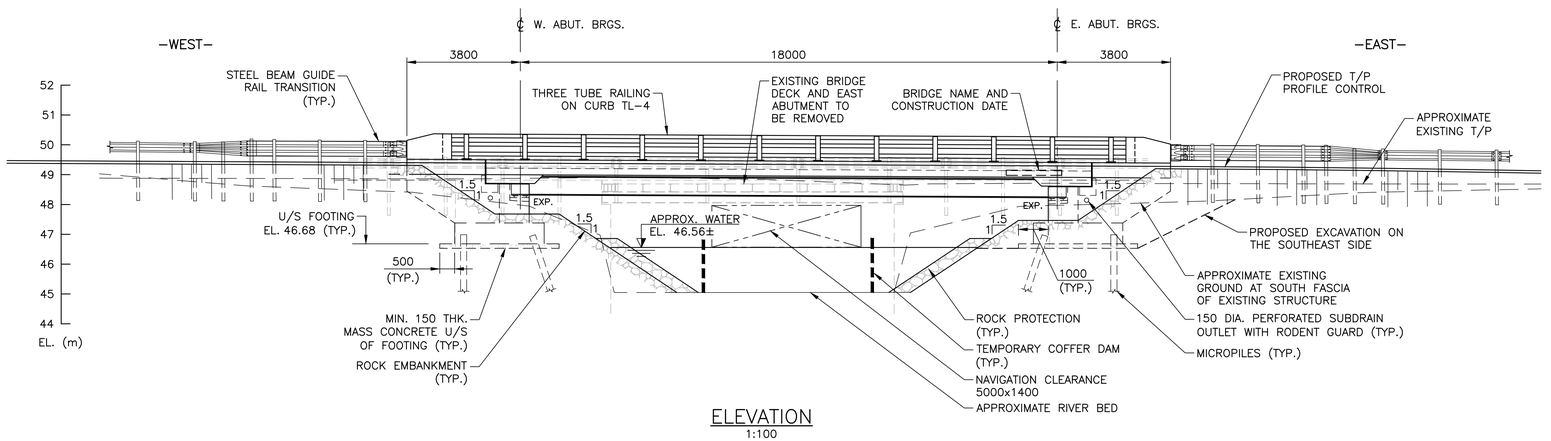
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PLAN
1:100



ELEVATION
1:100

ABBREVIATIONS:

T/P	TOP OF PAVEMENT
U/S	UNDERSIDE
WP	WORKING POINT
C.J.	CONSTRUCTION JOINT
SBGR	STEEL BEAM GUIDE RAIL
SHLD	SHOULDER
F.F.	FAR FACE
N.F.	NEAR FACE
E.F.	EACH FACE
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
EQ.SPCD	EQUALLY SPACED

WORKING POINTS		
NO.	NORTHING	EASTING
1	4990122.275	535780.865
2	4990111.127	535794.997

CONSTRUCTION NOTES

THE EXISTING BRIDGE IS TRIPLE LOAD POSTED. THE CONTRACTOR SHALL ADHERE TO LOAD LIMITS AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE TO DESIGN, IMPLEMENT AND REMOVE TEMPORARY MEASURES REQUIRED TO TRANSPORT EQUIPMENT EXCEEDING THE LOAD RATING OF THE EXISTING BRIDGE. THE TEMPORARY PLANS SHALL BE SIGNED AND SEALED BY TWO LICENSED PROFESSIONAL ENGINEERS IN THE PROVINCE OF ONTARIO AND THE DESIGN SHALL BE REVIEWED BY THE CONTRACT ADMINISTRATOR PRIOR TO IMPLEMENTATION.

THE EXISTING BRIDGE CONTAINS LEAD PAINT, THE CONTRACTOR IS RESPONSIBLE TO DEMOLISH AND DISPOSE OF THE BRIDGE IN ACCORDANCE WITH FEDERAL AND PROVINCIAL REGULATIONS.

A BIOLOGIST SHALL SCREEN THE AREAS WHERE ROCK EMBANKMENT IS PLACED A MAXIMUM OF 24 HOURS PRIOR TO PLACEMENT OF MATERIAL. AVIAN AND AQUATIC SPECIES SHALL BE PERMITTED TO LEAVE THE AREA ON THEIR TERMS PRIOR TO PLACING MATERIAL.

POWER LINES ARE PRESENT NORTH OF THE NEW BRIDGE LOCATION. THE CONTRACTOR SHALL USE SUITABLE MEANS AND METHODS TO INSTALL THE GIRDERS MAINTAINING A SAFE WORKING OFFSET FROM THEM OR DE–ENERGIZE THE POWER LINES AT THEIR OWN COST.

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

GENERAL ARRANGEMENT I

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

GENERAL NOTES

1. CLASS OF CONCRETE

CLASS OF CONCRETE SHALL BE 30 MPa

2. CLEAR COVER TO REINFORCING STEEL

FOOTING: 100 ± 25

DECK: TOP 70 ± 20

BOTTOM 40 ± 10

REMAINDER (UNLESS NOTED OTHERWISE) 70 ± 20

3. REINFORCING STEEL

REINFORCING STEEL SHALL BE GRADE 500W.

UNLESS SHOWN OTHERWISE, TENSION LAP SPLICES FOR REINFORCING STEEL BARS SHALL BE CLASS B.

STAINLESS REINFORCING STEEL SHALL BE TYPE 316LN OR DUPLEX 2205 AND HAVE A MINIMUM YIELD STRENGTH OF 500 MPa, UNLESS OTHERWISE SPECIFIED.

BAR MARKS WITH PREFIX 'S' DENOTE STAINLESS STEEL BARS.

BAR HOOKS SHALL HAVE STANDARD HOOK DIMENSIONS USING MINIMUM BEND DIAMETERS, WHILE STIRRUPS AND TIES SHALL HAVE MINIMUM HOOK DIMENSIONS. ALL HOOKS SHALL BE IN ACCORDANCE WITH THE STRUCTURAL STANDARD DRAWING SS112–1, UNLESS INDICATED OTHERWISE.

4. CONSTRUCTION NOTES

THE CONTRACTOR SHALL ESTABLISH THE BEARING SEAT ELEVATIONS BY DEDUCTING THE ACTUAL BEARING THICKNESSES FROM THE TOP OF BEARING ELEVATIONS. IF THE ACTUAL BEARINGS THICKNESSES ARE DIFFERENT FROM THOSE GIVEN WITH THE BEARING DESIGN DATA, THE CONTRACTOR SHALL ADJUST THE REINFORCING STEEL TO SUIT.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DETAILS AND ELEVATIONS OF THE EXISTING STRUCTURE THAT ARE RELEVANT TO THE WORK SHOWN ON THE DRAWINGS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE CONTRACT ADMINISTRATOR AND THE PROPOSED ADJUSTMENT OF THE WORK REQUIRED TO MATCH THE EXISTING STRUCTURE SHALL BE SUBMITTED FOR APPROVAL.

THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL TEMPORARY STRUCTURES, CONSTRUCTION PLATFORMS AND DEBRIS CONTAINMENT SYSTEMS ETC.

BACKFILL SHALL NOT BE PLACED AGAINST ANY CONCRETE COMPONENT UNTIL CONCRETE HAS REACHED 70% OF ITS DESIGN STRENGTH.

ALL EXPOSED CONCRETE EDGES SHALL HAVE A 20mm x 20mm CHAMFER.

EVA FOAM SHALL CONFORM TO OPSS 804 AND AMENDMENT TO OPSS 904, NOVEMBER 2024 – USE OF ETHYLENE VINYL ACETATE (EVA) FOAM SPECIAL PROVISION No. 109S18 JUNE 2025.

THE EXISTING BRIDGE LOAD LIMIT IS 10 TONNES. NO CONSTRUCTION EQUIPMENT OR MATERIALS SHALL BE PERMITTED TO CROSS THE EXISTING BRIDGE IF IT EXCEEDS THIS LOAD LIMIT.

THE BRIDGE NAME AND CONSTRUCTION DATE SHALL BE PLACED ON THE EXTERIOR OF THE BRIDGE DECK IN ACCORDANCE WITH OPSD 3941.200 AND SHALL CONSIST OF "HAMILTON ISLAND BRIDGE 2026"

INWATER WORKS ARE RESTRICTED FROM MARCH 15TH TO JULY 15TH (I.E. IN WATER WORKS CANNOT OCCUR DURING THIS PERIOD).

STRUCTURAL BACKFILL AND ROCK EMBANKMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH OPSS MUNI. 206.

LICENSED PROFESSIONAL ENGINEER
R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

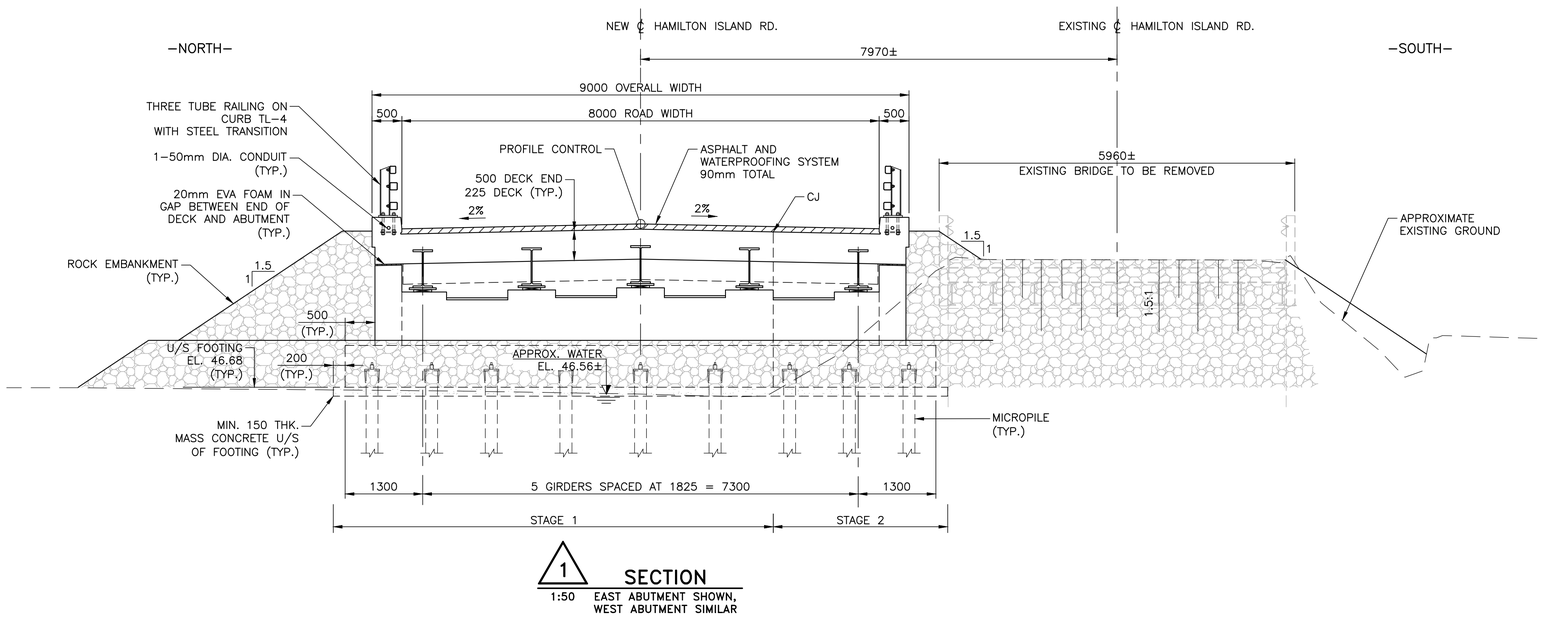
LICENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
PROVINCE OF ONTARIO

DRAWING NOT TO BE SCALED
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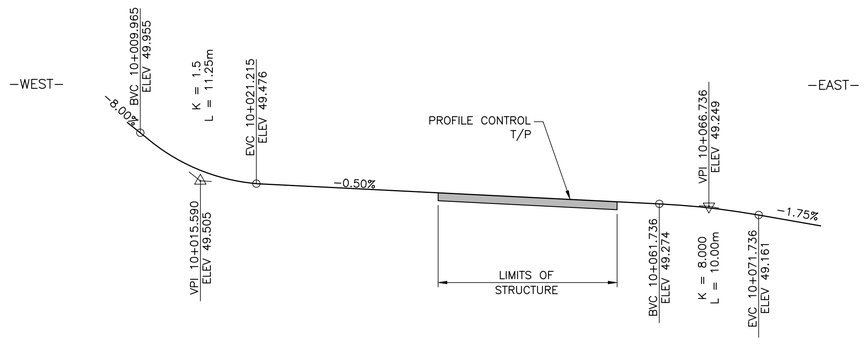
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1 **SECTION**

1:50 EAST ABUTMENT SHOWN, WEST ABUTMENT SIMILAR



PROFILE OF HAMILTON ISLAND ROAD

N.T.S.

APPLICABLE STANDARD DRAWINGS

OPSD 912.430	GUIDE RAIL SYSTEM, STEEL BEAM, STRUCTURE CONNECTION
OPSD 3101.200	WALLS ABUTMENT, BACKFILL ROCK
OPSD 3102.100	WALLS ABUTMENT, BACKFILL DRAIN
OPSD 3311.100	DECK, GIRDERS, STEEL, METHOD OF OBTAINING SCREED ELEVATIONS
OPSD 3329.100	DECK, REINFORCEMENT, SUPPORTS FOR REINFORCING STEEL, FOR SLAB DEPTH 300mm OR LESS
OPSD 3390.100	DECK DRIP CHANNEL
OPSD 3370.100	DECK, WATERPROOFING HOT APPLIED ASPHALT MEMBRANE WITH PROTECTION BOARD
OPSD 3370.101	DECK, WATERPROOFING HOT APPLIED ASPHALT MEMBRANE AT CRACKS GREATER THAN 2mm WIDE AND CONSTRUCTION JOINTS
OPSD 3419.100	BARRIERS AND RAILINGS, STEEL BEAM, GUIDE RAIL AND CHANNEL ANCHORAGE
OPSD 3941.200	FIGURES IN CONCRETE SITE NUMBER AND DATE LAYOUT
OPSD 3950.100	JOINTS CONCRETE EXPANSION AND CONSTRUCTION ON STRUCTURE

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

GENERAL ARRANGEMENT II

CONTRACT NO. 26–4001A

Jacobs

METRIC

DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING No. 6, GENERAL ARRANGEMENT I.
2. FOR GENERAL NOTES, REFER TO DRAWING No. 6, GENERAL ARRANGEMENT I.

SCOPE OF WORK SUMMARY

THE FOLLOWING SCOPE OF WORK IS NOT INTENDED TO BE AN EXHAUSTIVE LIST OF ALL ITEMS REQUIRED TO COMPLETE THE CONSTRUCTION ACTIVITIES.

STAGE 1

1. INSTALL TRAFFIC CONTROL MEASURES, CONSTRUCTION SIGNAGE AND EROSION AND SEDIMENT CONTROL MEASURES.
2. INSTALL COFFERDAMS AND DEWATER SITE.
3. CONSTRUCT ROCK EMBANKMENT AND REGRADE AS NEEDED WITHIN THE STAGE 1 CONSTRUCTION LIMITS AS SHOWN IN THE CONTRACT DRAWINGS.
4. CONSTRUCT NEW BRIDGE INCLUDING FOUNDATION, ABUTMENT AND SUPERSTRUCTURE.
5. PLACE WORKING SLAB AND CONSTRUCT THE NORTH PORTION OF THE BRIDGE WITHIN THE STAGE 1 CONSTRUCTION LIMITS AS SHOWN IN THE CONTRACT DRAWINGS.
6. INSTALL TEMPORARY CONCRETE BARRIERS AND ENERGY ATTENUATORS WITHIN THE STAGE 1 CONSTRUCTION LIMITS AS SHOWN IN THE CONTRACT DRAWINGS.
7. DIRECT TRAFFIC ONTO NEW BRIDGE.

STAGE 2

8. DEMOLISH EXISTING BRIDGE AND REGRADE ROADWAY EMBANKMENT IN ACCORDANCE WITH CONTRACT DRAWINGS.
9. COMPLETE ROCK EMBANKMENT GRADING.
10. PLACE WORKING SLAB CONSTRUCT THE REST OF FOUNDATION, ABUTMENT AND SUPERSTRUCTURE FOR STAGE 2.
11. REMOVE TEMPORARY CONCRETE BARRIERS AND ENERGY ATTENUATORS.
12. REMOVE EROSION AND SEDIMENT CONTROL MEASURES.
13. REMOVE TRAFFIC CONTROL MEASURES AND CONSTRUCTION SIGNAGE.

LICENSED PROFESSIONAL ENGINEER
R.MEISAMIAN
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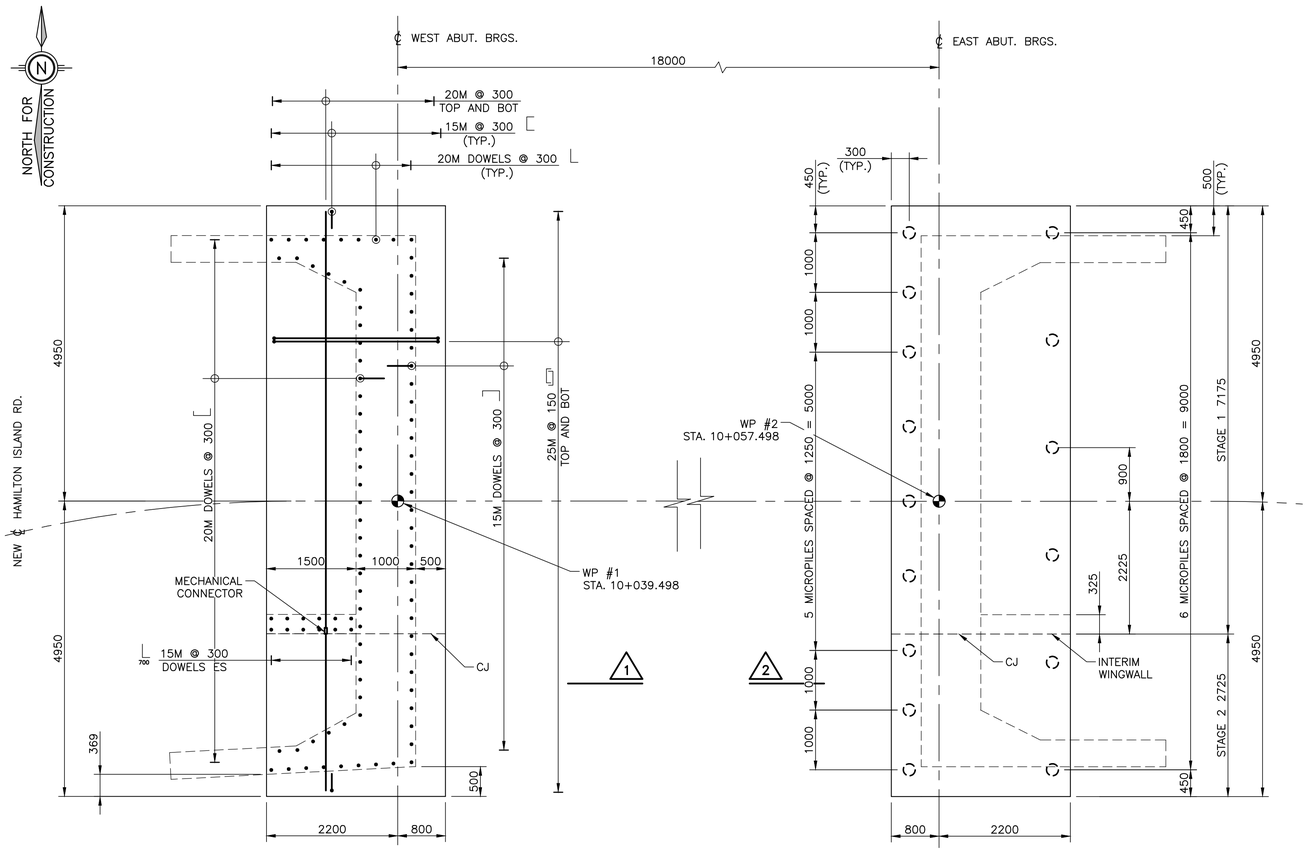
LICENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
PROVINCE OF ONTARIO

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WEST ABUTMENT REINFORCING PLAN

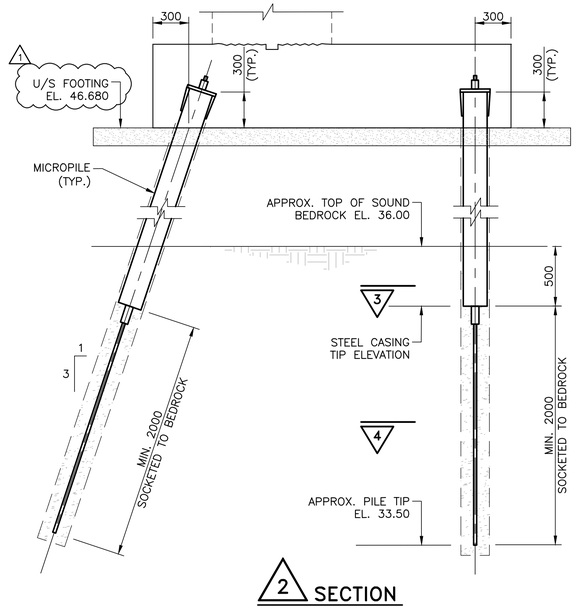
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PLAN

1:50

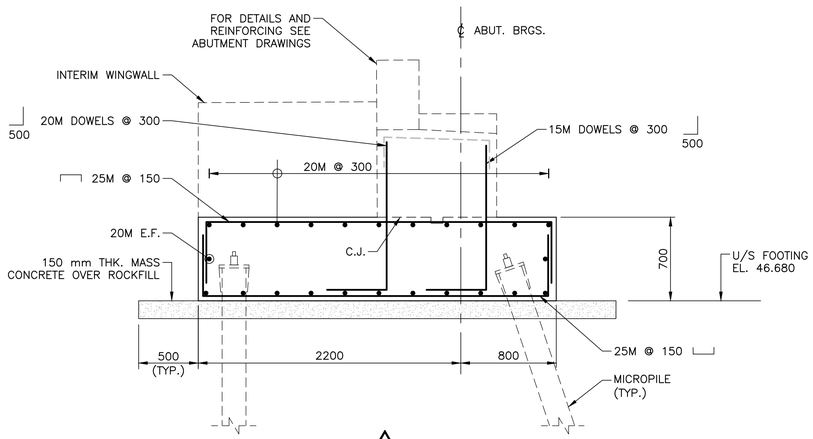
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NOTE: EAST ABUTMENT SHOWN, WEST ABUTMENT SIMILAR



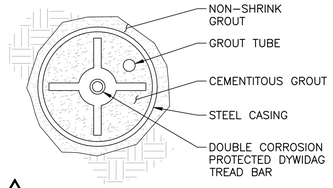
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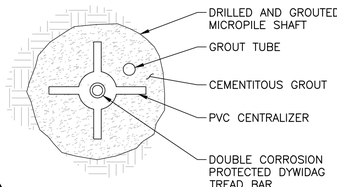
1 SECTION

1:25



3 CASED MICROPILE

1:5



4 UNCASED MICROPILE

1:5

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

FOUNDATION LAYOUT AND DETAILS

CONTRACT NO. 26-4001A

Jacobs

METRIC

DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH SHEET 6, 7, 9, 10, &11.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, SUPPLY AND INSTALLATION OF MICROPILES.
3. MICROPILE PERMANENT CASING SHALL CONFORM TO ASTM A519, MINIMUM FY = 241 MPA. ALL SPLICES SHALL BE MECHANICAL, VIA API THREADFORM PIN AND BOX THREADED JOINTS OR FLUSH THREADFORM PIN & BOX THREADED JOINTS. THE THICKNESS OF THE CASING SHALL BE 2MM GREATER THAN THE THICKNESS REQUIRED BY DESIGN.
4. MICROPILE CENTRAL REINFORCEMENT SHALL BE A SINGLE DOUBLE CORROSION PROTECTED DYWIDAG THREAD BAR, GRADE 520 MPa, CONFORMING TO CSA G30.18 / ASTM A615.
5. THREADED BAR HARDWARE SHALL BE CAPABLE OF WITHSTANDING 125% OF BAR YIELD STRENGTH.
6. CENTRALIZERS SHALL BE ARRANGED TO PROVIDE CONCENTRICITY OF THREADED BAR THROUGH BOTH CASED AND UNCASED PORTIONS OF THE MICROPILE. CENTRALIZERS SHALL BE MADE FROM PVC PIPE OR APPROVED EQUIVALENT.
7. MICROPILE GROUT SHALL BE CEMENTITIOUS AT MAXIMUM W/C (BY WEIGHT) 0.45. THE GROUT SHALL HAVE THE FOLLOWING PHYSICAL PROPERTIES:
   - A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa AT 7 DAYS.
   - A MINIMUM COMPRESSIVE STRENGTH OF 35 MPa AT 28 DAYS.
   - NO SEGREGATION AND A BLEED OF LESS THAN 2 PERCENT WHEN ALLOWED TO STAND FOR 1 HOUR.
8. BEARING PLATE AND STIFFENER PLATES SHALL BE STEEL CONFORMING TO CSA G40.21, GRADE 350W.
9. DESIGN LOAD:

MICROPILES FORCE	ULS (kN)
AXIAL FORCE	630
HORIZONTAL FORCE AT TOP	100







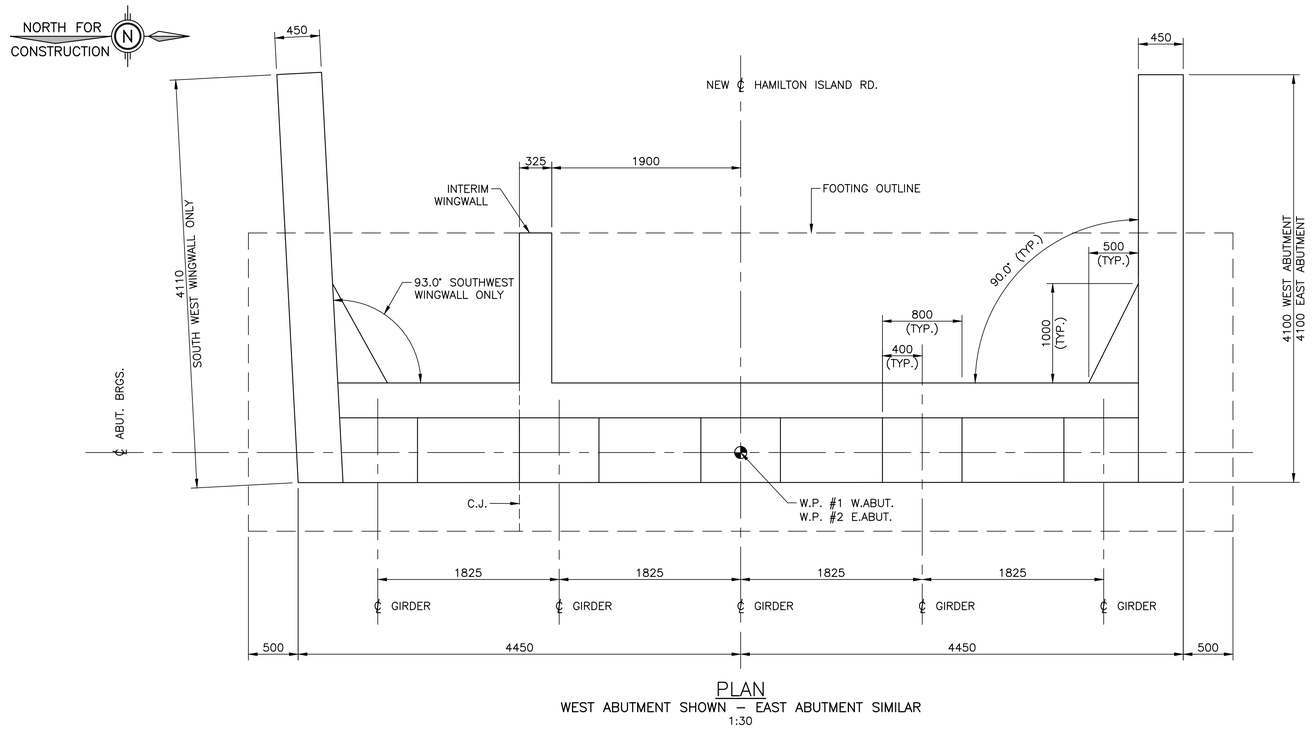
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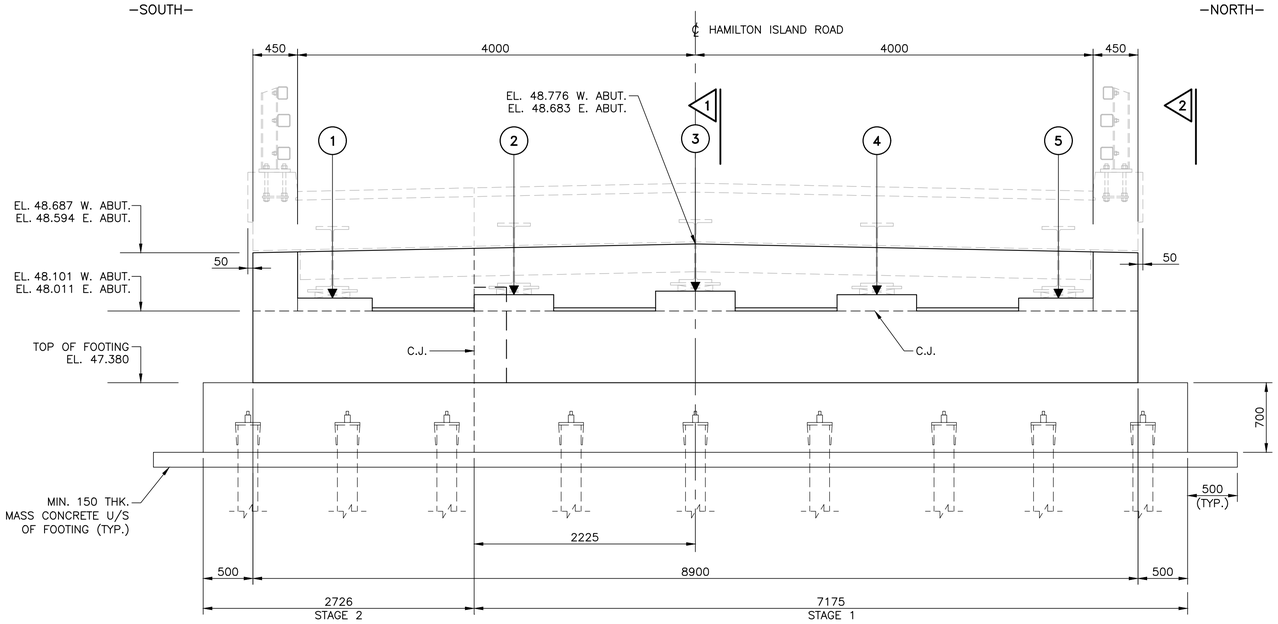
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DATE NOV 2026

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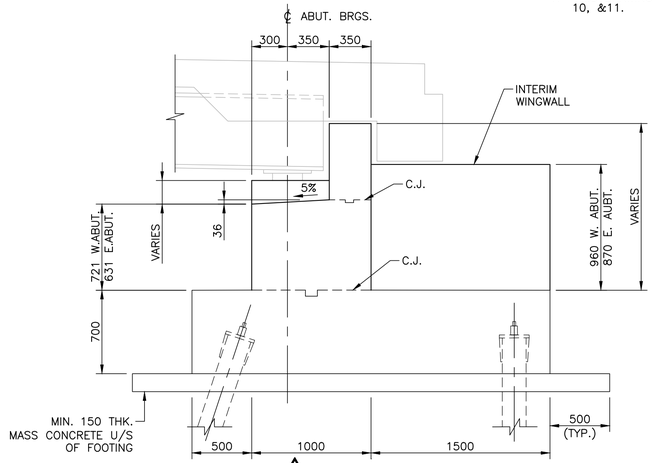
PLAN
WEST ABUTMENT SHOWN – EAST ABUTMENT SIMILAR
1:30



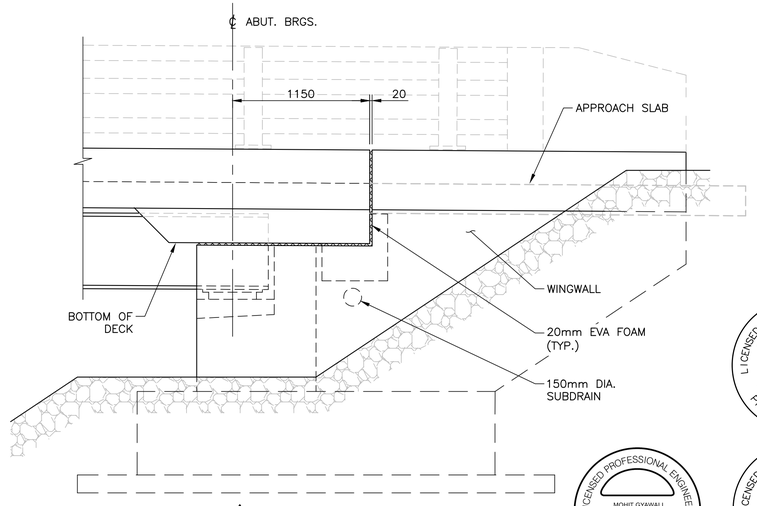
ELEVATION
WEST ABUTMENT SHOWN – EAST ABUTMENT SIMILAR
1:30

PEDESTAL ELEVATIONS			
LOCATION	GIRDER No.	U/S GIRDER	TOP OF PEDESTAL
WEST ABUTMENT	1	48.315	48.229
	2	48.349	48.263
	3	48.385	48.299
	4	48.349	48.263
	5	48.315	48.229

PEDESTAL ELEVATIONS			
LOCATION	GIRDER No.	U/S GIRDER	TOP OF PEDESTAL
EAST ABUTMENT	1	48.225	48.139
	2	48.259	48.173
	3	48.295	48.209
	4	48.259	48.173
	5	48.225	48.139



1 SECTION
1:25



2 SECTION
1:25

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

ABUTMENT LAYOUT

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH SHEET 8, 10, &11.

LICENSED PROFESSIONAL ENGINEER
J. S. YUN
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2026-11-09
PROVINCE of ONTARIO

LICENSED PROFESSIONAL ENGINEER
MOHIT GYAWALI
100553261
2026-11-09
PROVINCE OF ONTARIO

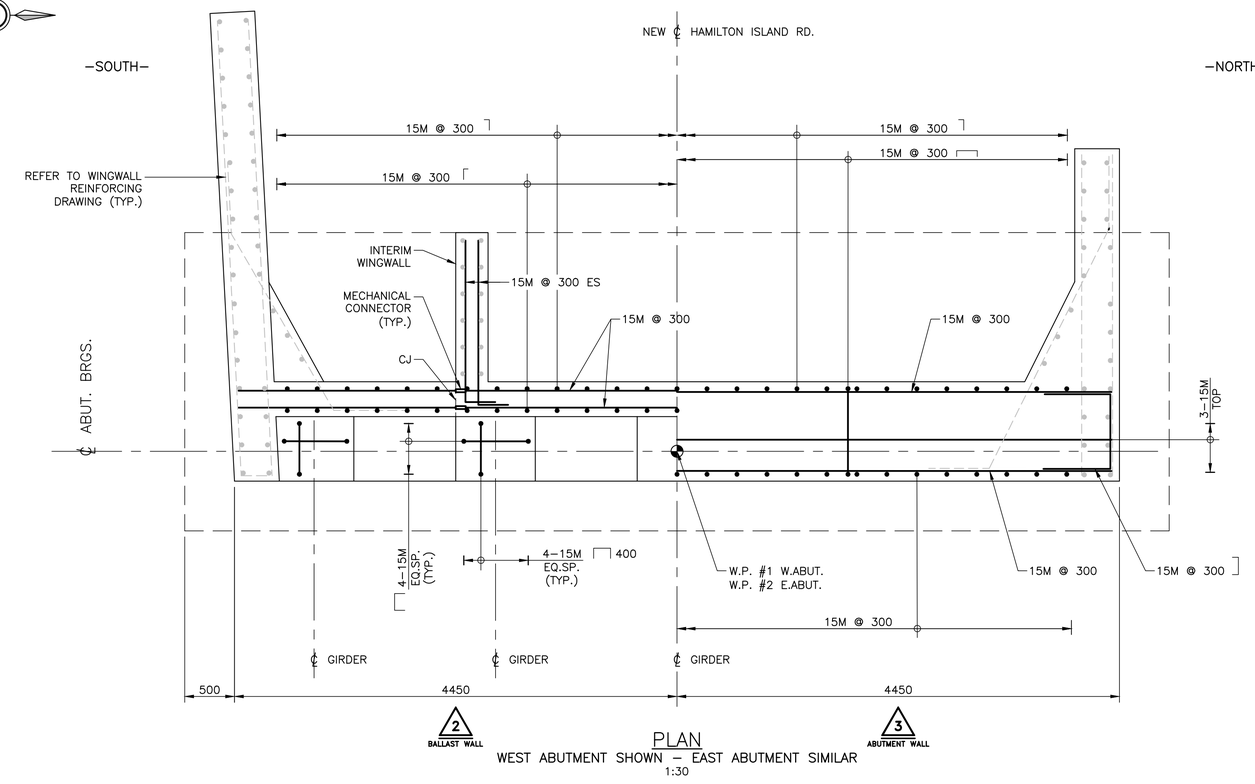
LICENSED PROFESSIONAL ENGINEER
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100226846
2026-11-09
PROVINCE of ONTARIO

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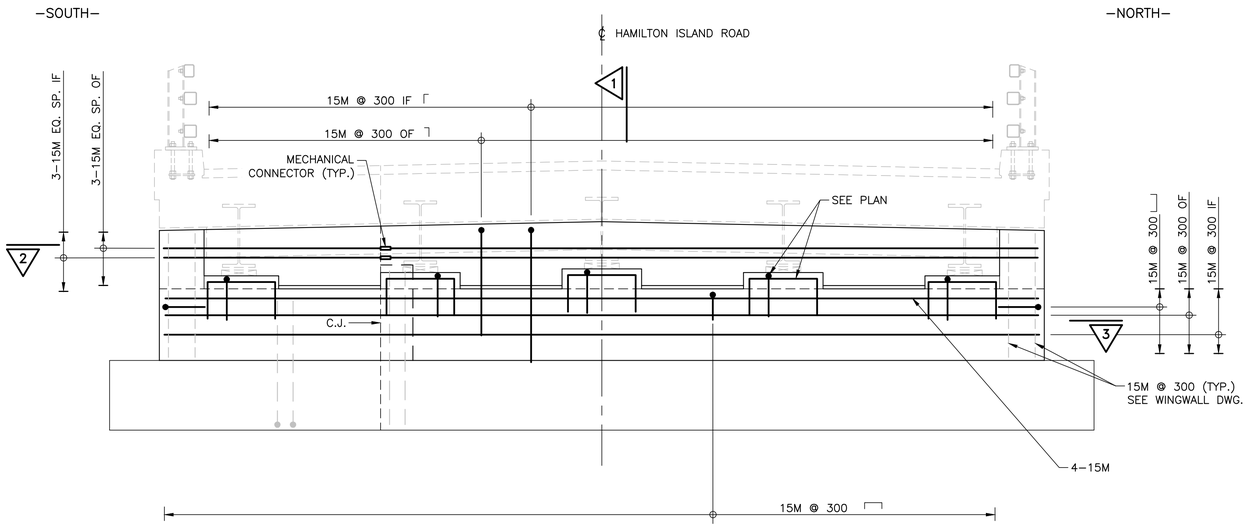
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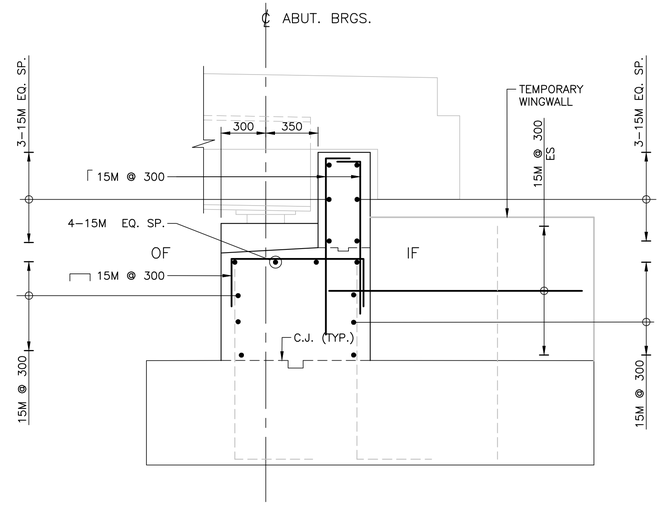
NORTH FOR CONSTRUCTION



PLAN
WEST ABUTMENT SHOWN – EAST ABUTMENT SIMILAR
1:30



ELEVATION
WEST ABUTMENT SHOWN – EAST ABUTMENT SIMILAR
1:30



1 SECTION
1:20

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

ABUTMENT REINFORCING

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

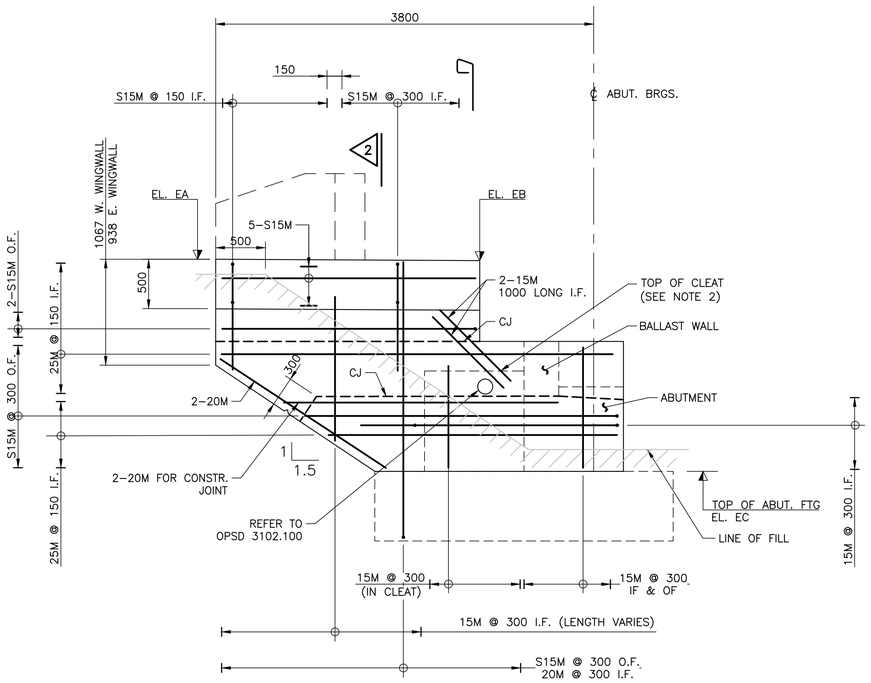
LICENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
MOHIT GYAWALI
100553261
2026-11-09
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

REVISIONS	DESCRIPTION					
DESIGN MG	CHK RM	CODE S6:25	LOAD CL–625–ONT	DATE SEP 2026		
DRAWN ME	CHK RM	SITE	STRUCT	SCHEME	DWG 10	

FILE NAME: C:\pw_workdir\jacobs-americas\d0163326\CE867300-010_Abutment-Reinforcing.dwg
MODIFIED: 2026-09-15 15:36



ELEVATION OF WINGWALL WITH NON–INTEGRAL ABUTMENT

TABLE 1 – DIMENSIONS AND ELEVATIONS

LOCATION	DIMENSIONS (mm)		ELEVATIONS (m)		
	L	F	EA	EB	EC
NE	2100	500	49.386	49.399	47.380
SE	2100	500	49.386	49.399	47.380
NW	2100	500	49.511	49.500	47.380
SW	2100	500	49.514	49.500	47.380

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

WINGWALL DETAILS

CONTRACT NO. 26–4001A

Jacobs

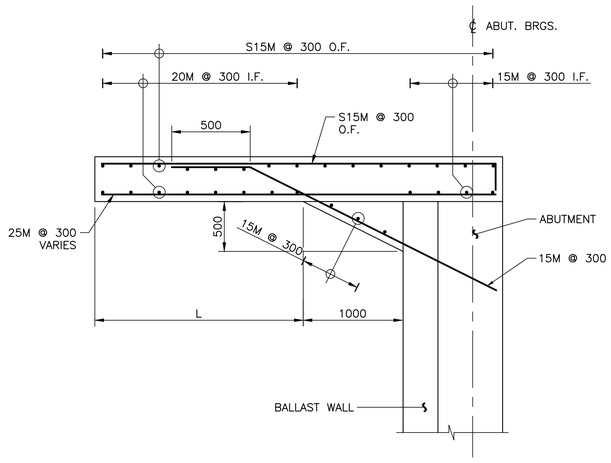
METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

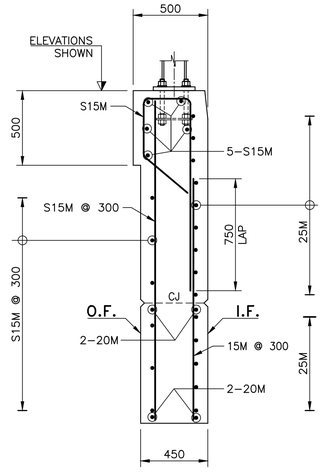
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ABUTMENT AND BARRIER/PARAPET WALL DRAWINGS.
2. TOP OF CLEAT TO BE CAST 35mm BELOW APPROACH SLAB LEDGE.
3. REINFORCING STEEL SHALL BE GRADE 500W UNLESS OTHERWISE SPECIFIED. STAINLESS STEEL BARS SHALL BE TYPE 316LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500 MPa.

LEGEND:

*TL–4, TL–5 DENOTE BARRIER TEST LEVELS
O.F. DENOTES OUTSIDE FACE
I.F. DENOTES INSIDE FACE
E.F. DENOTES EACH FACE
EL. DENOTES ELEVATION
U/S DENOTES UNDERSIDE
CJ DENOTES CONSTRUCTION JOINT



1 GENERAL WINGWALL SHOWN
1:30
(SOUTHWEST WINGWALL SIMILAR)



WINGWALL WITH CURB

2 SECTION
1:20

APPLICABLE STANDARD DRAWINGS:

OPSD 3102.100 WALLS. ABUTMENT BACKFILL DRAIN
OPSD 3950.100 JOINTS. CONCRETE EXPANSION AND CONSTRUCTION ON STRUCTURE

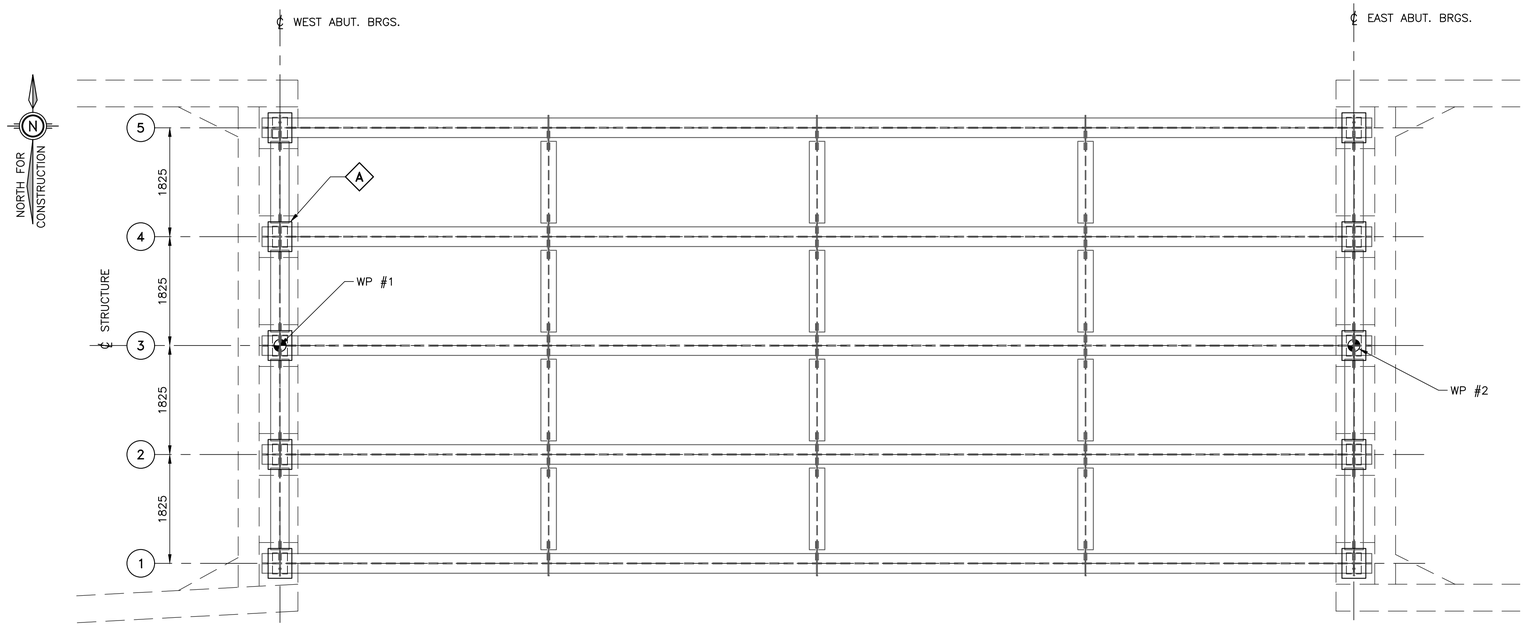
MODIFIED	
STANDARD DRAWING APRIL 2025	SS105–11
WINGWALL WITH NON–INTEGRAL ABUTMENT	

J. S. YUN 100079999 2026-11-09 PROVINCE OF ONTARIO
MOHIT GYAWALI 100553261 2026-11-09 PROVINCE OF ONTARIO
R.MEISAMIAN 100226846 2026-11-09 PROVINCE OF ONTARIO

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

REVISIONS	DESCRIPTION					
DESIGN MG	CHK RM	CODE S6:25	LOAD CL–625–ONT	DATE SEP 2026		
DRAWN ME	CHK RM	SITE	STRUCT	SCHEME	DWG 11	

FILE NAME: C:\pw_workdir\jacobs-americas\d0163326\CE867300-011_Wingwall-Reinforcing.dwg
MODIFIED: 2026-09-29 13:32



PLAN – BEARING LAYOUT
1:50

BEARING DATA	ABUTMENTS
DEAD LOAD (kN) – SLS	230
TOTAL LOAD (kN) – SLS	485
DEAD LOAD (kN) – ULS	290
TOTAL LOAD (kN) – ULS	775
MOVEMENT (mm)	10 EAST / 3 WEST
MAXIMUM SHEAR RATE (kN/mm)	2.29
MINIMUM SHEAR RATE (kN/mm)	3.39
BEARING SIZE (mm)	350x250x60
NUMBER REQUIRED	10
BEARING TYPE	MULTI–DIRECTIONAL LAMINATED ELASTOMERIC

* THE SHEAR RATES PROVIDED ARE MAXIMUM AND MINIMUM ALLOWABLE STIFFNESS THAT CORRESPOND TO TEMPERATURES OF –25°C AND 20°C, RESPECTIVELY, AND AN AVERAGE HARDNESS OF 55 DUROMETER.

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

BEARING DETAILS

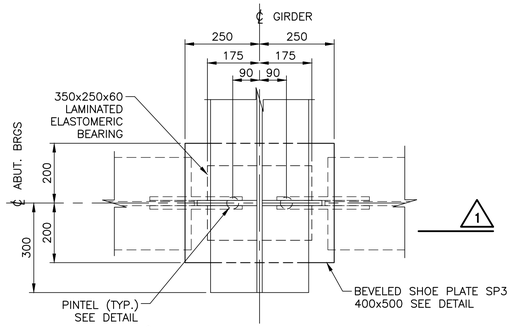
CONTRACT NO. 26–4001A

Jacobs

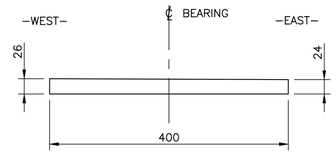
METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

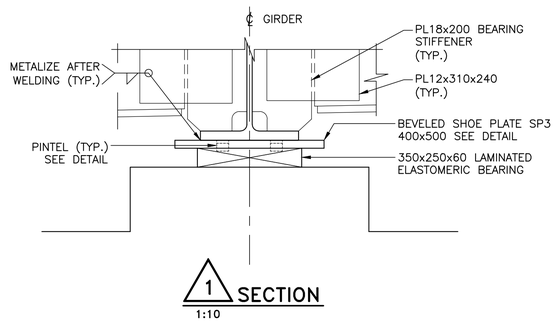
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS 13 & 14.
2. FOR GENERAL NOTES REFER TO DRAWING 6.
3. FOR STRUCTURAL STEEL NOTES REFER TO DRAWING 13.
4. ANCHOR BOLTS TO BE PLACED IN 50 DIA. HOLES IN PEDESTALS PRIOR TO PLACEMENT OF GIRDERS.
5. ANCHOR BOLTS TO BE GROUTED IN PLACE AFTER PLACEMENT OF GIRDERS USING A NON–SHRINK GROUT.
6. THREADED ANCHOR RODS SHALL BE GALVANIZED AND CONFORM TO ASTM A307 GRADE A (TYP.)
7. THE SHOE PLATE WELDING SHALL BE CARRIED OUT AFTER THE PLACEMENT OF THE CONCRETE DECK. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY BRACING AND STABILITY OF THE GIRDERS BEFORE WELDING OF SHOE PLATES TO GIRDERS.



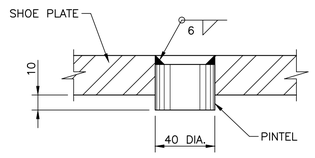
A DETAIL
TYPICAL ABUTMENT BEARINGS
1:10



BEVELED SHOE PLATE DETAIL
1:5



1 SECTION
1:10



PINTEL DETAIL
1:2

J. S. YUN
100079999
2026-11-09
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

G. L. CHANG
100578480
2026-11-09
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

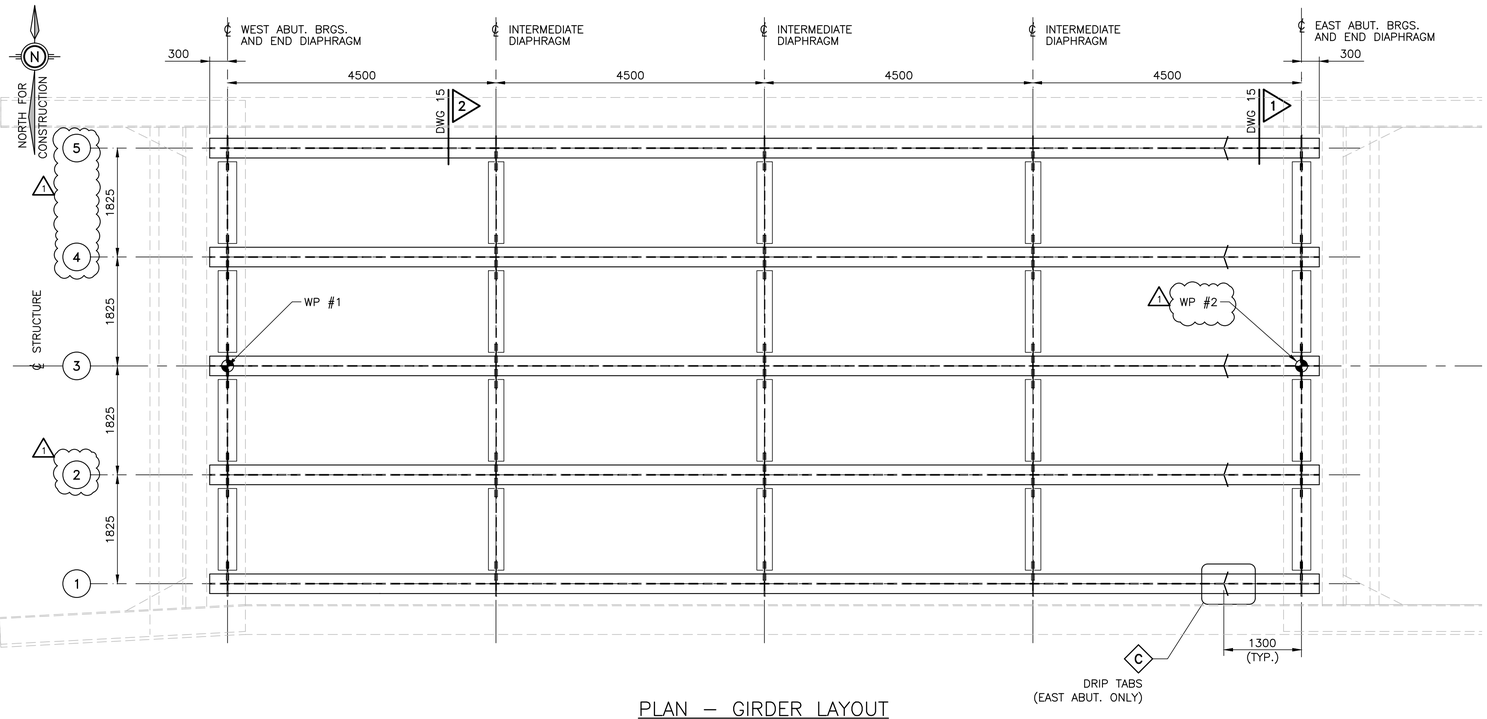
R.MEISAMIAN
100226846
2026-11-09
LICENSED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

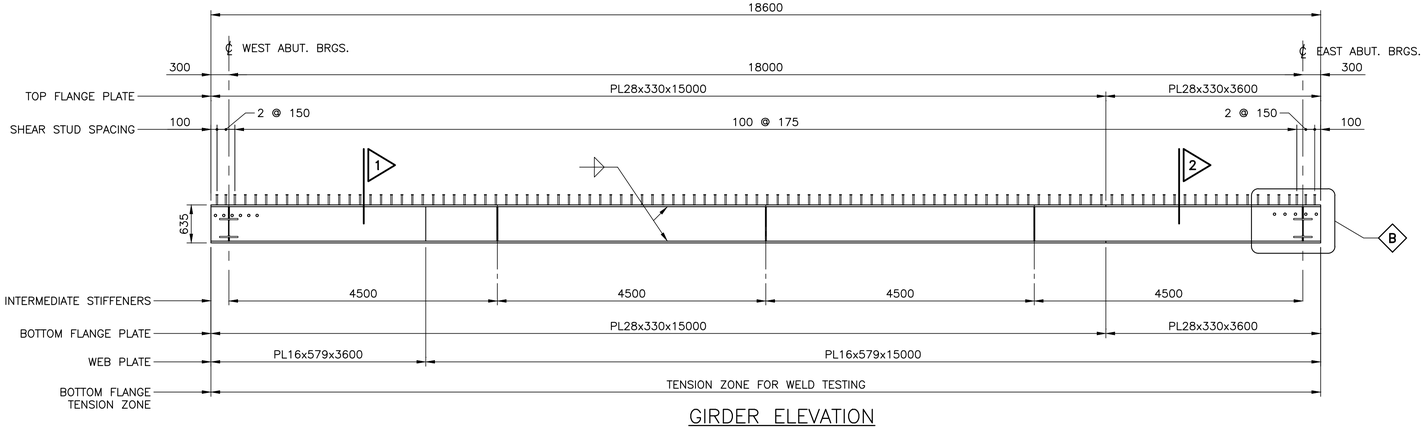
REVISIONS			DESCRIPTION

DESIGN	GC	CHK	RM	CODE	S6:25	LOAD	CL–625–ONT	DATE	SEP 2026
DRAWN	ME	CHK	RM	SITE		STRUCT		SCHEME	DWG 12

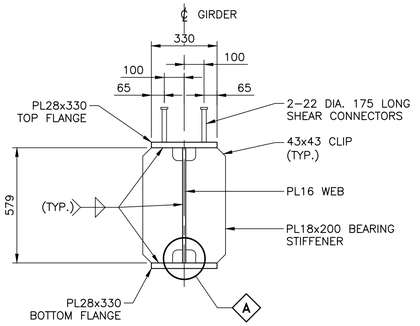
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MODIFIED: 2026-09-15 09:55



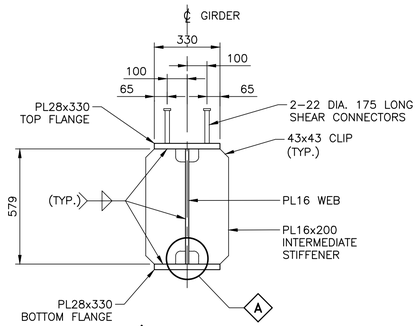
PLAN – GIRDER LAYOUT
1:50



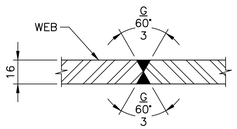
GIRDER ELEVATION
1:50



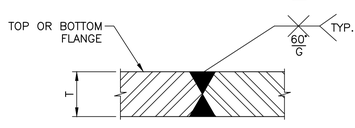
1 SECTION
1:15



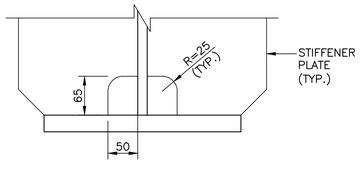
2 SECTION
1:15



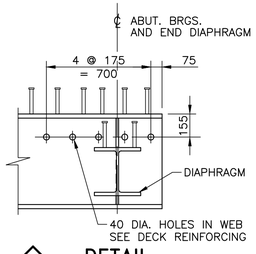
WEB SHOP SPLICE DETAIL (IF REQUIRED)
N.T.S.



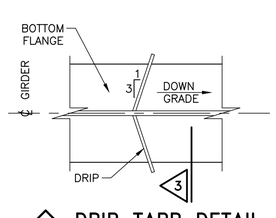
FLANGE SHOP SPLICE DETAIL (IF REQUIRED)
N.T.S.



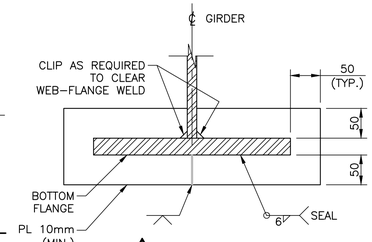
A DETAIL
1:5



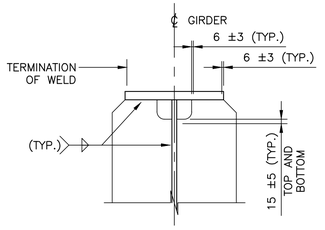
B DETAIL
TYPICAL EACH END OF EACH GIRDER
1:20



C DRIP TAPB DETAIL
1:10



3 SECTION
1:5



WELD TERMINATION DETAIL
N.T.S.

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

STRUCTURAL STEEL I

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. ALL STRUCTURAL STEEL SHALL CONFORM TO CSA STANDARD G40.20/G40.21 GRADE 350AT. THE CHARPY IMPACT ENERGY REQUIREMENTS SHALL BE 27 JOULES AND THE TEST TEMPERATURE SHALL BE –20°C. ROLLED SECTIONS SHALL CONFORM TO CSA STANDARD G40.20/G40.21 OR ASTM SPECIFICATION A588.
2. BOLTS ON ATMOSPHERIC CORROSION RESISTANT STEEL SHALL BE ASTM A325M TYPE 3, M22. BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANES.
3. STUD SHEAR CONNECTORS SHALL BE 22mm DIA. x 152mm LONG, AND CONFORM TO ASTM STANDARD A108 AND CSA W59.
4. SHOE PLATES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH CSA STANDARD CAN/CSA G164M.
5. ALL LENGTHS SHOWN ARE IN THE HORIZONTAL PLANE AND MEASURED AT 20°C.
6. GIRDERS SHALL BE CAMBERED TO VALUES SHOWN IN THE RELAXED CAMBER DIAGRAM.
7. RELAXED CAMBER ORDINATES INCLUDE AN ALLOWANCE FOR GIRDER SELF–WEIGHT, CONCRETE DECK, SUPERIMPOSED DEAD LOADS AND PROFILE OF ROADWAY.
8. THE ENDS OF GIRDERS AND BEARING STIFFENERS SHALL BE TRULY VERTICAL UNDER FULL DEAD LOAD.
9. ALL BUTT WELDS IN FLANGE AND WEB SHOP SPLICES SHALL BE FINISHED FLUSH OR SMOOTH AS INDICATED, BY GRINDING WHERE NECESSARY IN THE DIRECTION OF APPLIED STRESSES. IF RELOCATION OR ADDITIONAL SHOP SPLICES ARE REQUIRED, THEIR LOCATION SHALL BE APPROVED BY THE ENGINEER.
10. FLANGE SHOP SLICES, WHERE REQUIRED, SHALL BE GROUND 'FLUSH' IN TENSION ZONES AND GROUND 'SMOOTH' IN COMPRESSION ZONES.
11. WEB SHOP SPLICES, WHERE REQUIRED, SHALL BE GROUND 'FLUSH' FOR A DISTANCE OF 1/3 THE WEB DEPTH FROM THE TENSION FLANGE. THE REMAINDER OF THE SPLICE SHALL BE GROUND 'SMOOTH'.
12. UNLESS OTHERWISE NOTED THE MINIMUM FILLET WELD SHALL BE AS FOLLOWS:

MATERIAL THICKNESS OF THICKER PART JOINED (mm)	MINIMUM SIZE OF SINGLE PASS FILLET WELD (mm)
TO 12 INCLUSIVE	5
OVER 12 TO 20	6
OVER 20 TO 40	8
OVER 40 TO 60	10
OVER 60 TO 120	12

13. ALL STRUCTURAL STEEL SURFACES, EXCEPT DIAPHRAGMS, SHALL BE COATED FROM THE ENDS OF THE GIRDERS TO 600mm BEYOND THE FRONT FACE OF THE ABUTMENT. THE COLOUR OF THE TOPCOAT SHALL BE 10045 BROWN ACCORDING TO FEDERAL STANDARD 595C COLOURS.
14. THE CONTRACTOR SHALL ENSURE THE STABILITY OF ALL COMPONENTS DURING HANDLING, TRANSPORTATION AND ERECTION AND UNTIL THE STRUCTURAL STEEL IS IN ITS FINAL LOCATION WITH ALL PERMANENT BRACING, CONNECTIONS AND SUPPORTS IN PLACE AND THE CONCRETE IN THE DECK HAS REACHED 75% OF ITS SPECIFIED STRENGTH.

LICENSED PROFESSIONAL ENGINEER — J. S. YUN — 100079999 — 2026-11-09 — PROVINCE OF ONTARIO

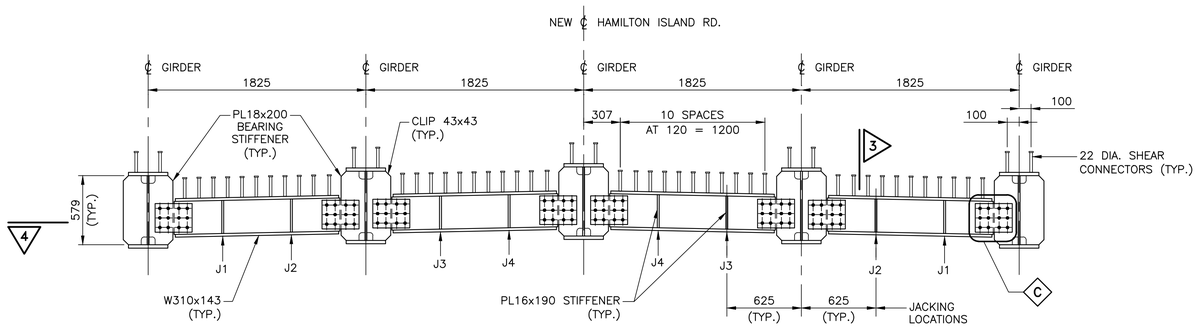
LICENSED PROFESSIONAL ENGINEER — G. L. CHANG — 100579480 — 2026-11-09 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — R.MEISAMIAN — 100226846 — 2026-11-09 — PROVINCE OF ONTARIO

REVISIONS		
11/09/26	1	ISSUED FOR ADDENDUM 2
DATE	REV	DESCRIPTION

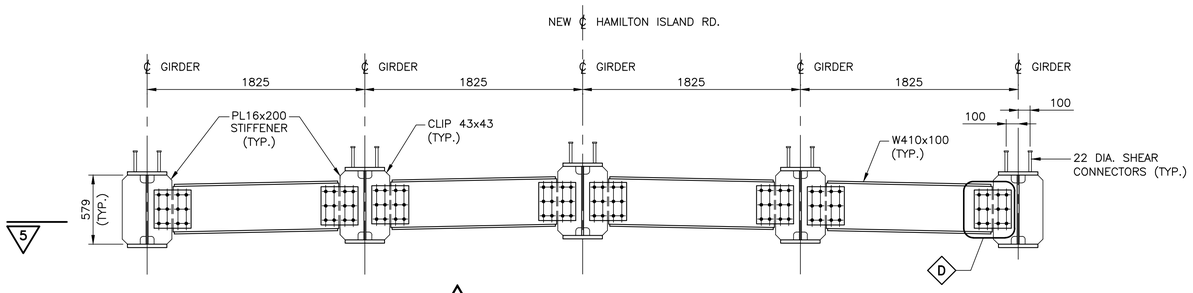
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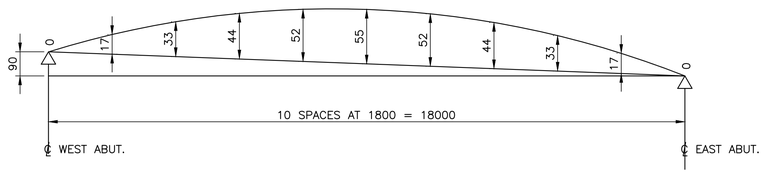


1 BEARING DIAPHRAGM
1:25 DWG. 14

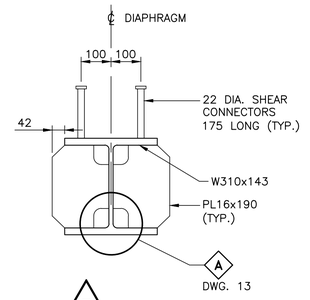
JACKING LOADS AT ABUTMENT DIAPHRAGM				
	J1	J2	J3	J4
SLS DL (kN)	280	25	80	105
SLS DL+LL (kN)	680	65	200	270
ULS DL+LL (kN)	1100	100	320	430



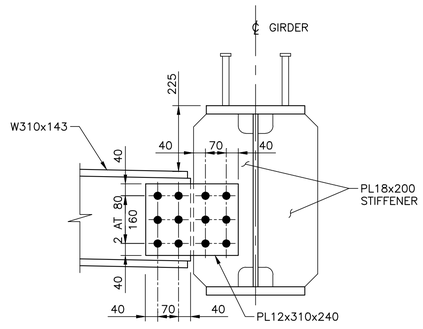
2 INTERMEDIATE DIAPHRAGM
1:25 DWG. 14



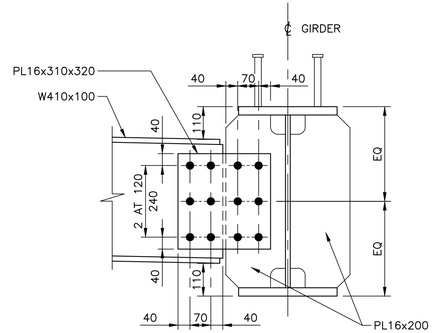
RELAXED CAMBER DIAGRAM
N.T.S.



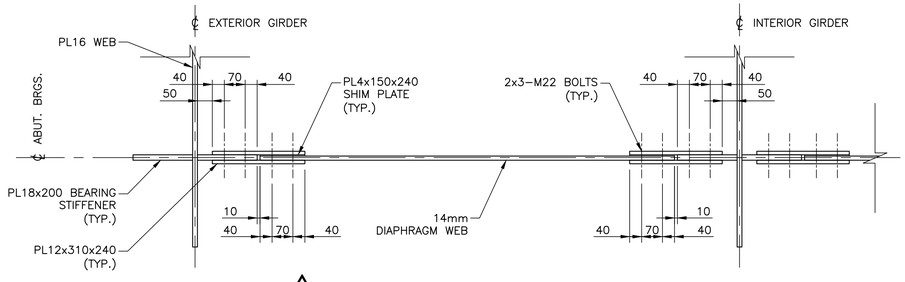
3 SECTION
1:10



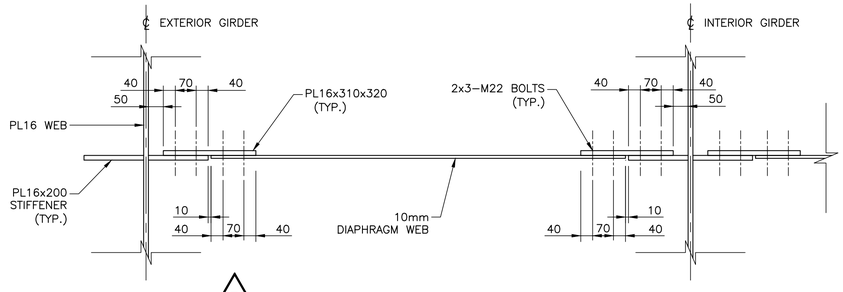
C DETAIL
1:10



D DETAIL
1:10



4 ABUTMENT DIAPHRAGM DETAIL
1:10



5 INTERMEDIATE DIAPHRAGM DETAIL
1:10

TOP OF GIRDER ELEVATIONS			
LOCATION	WEST ABUT.	MID–SPAN	EAST ABUT.
GIRDER '1'	48.947	48.948	48.857
GIRDER '2'	48.983	48.985	48.893
GIRDER '3'	49.020	49.021	48.930
GIRDER '4'	48.983	48.985	48.893
GIRDER '5'	48.947	48.948	48.857

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING No. 13.
2. FOR GENERAL NOTES REFER TO DRAWING No. 6, GENERAL ARRANGEMENT.
3. FOR STRUCTURAL STEEL NOTES REFER TO DRAWING No. 13.

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

STRUCTURAL STEEL II

SHEET

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

LICENSED PROFESSIONAL ENGINEER
J. S. YUN
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2026-11-09
PROVINCE OF ONTARIO

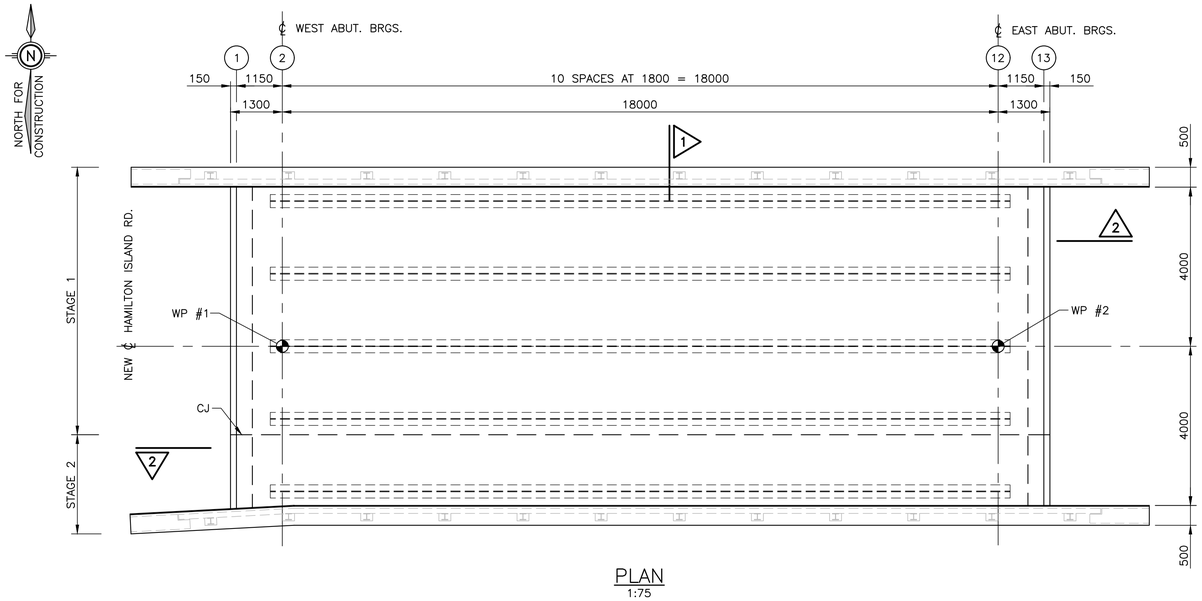
LICENSED PROFESSIONAL ENGINEER
G. L. CHANG
100579480
2026-11-09
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

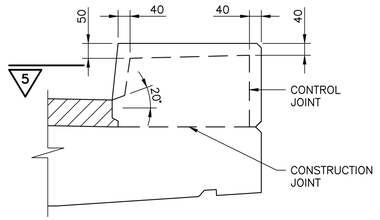
DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

REVISIONS			DESCRIPTION					
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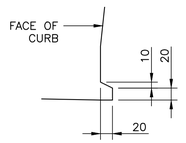
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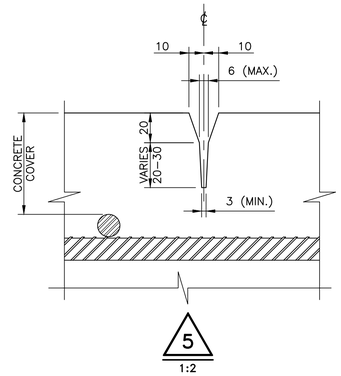
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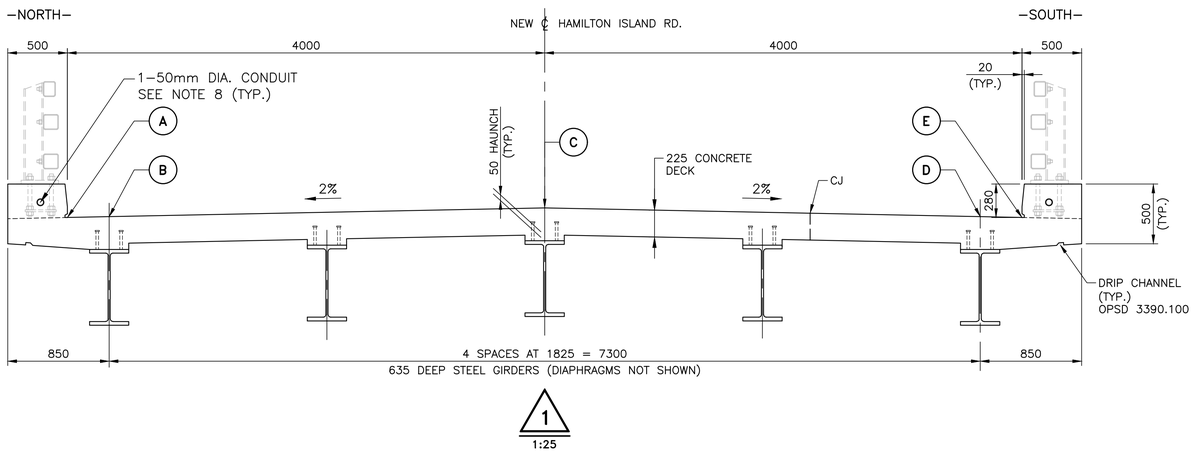
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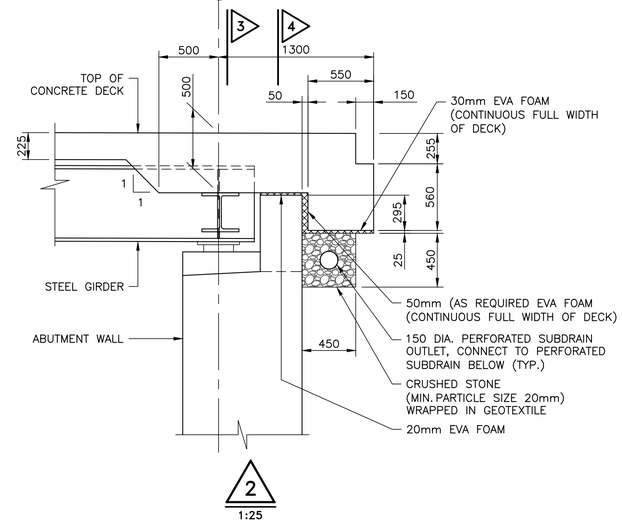
CHASE DETAIL
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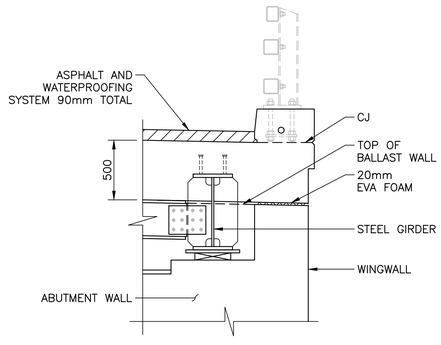
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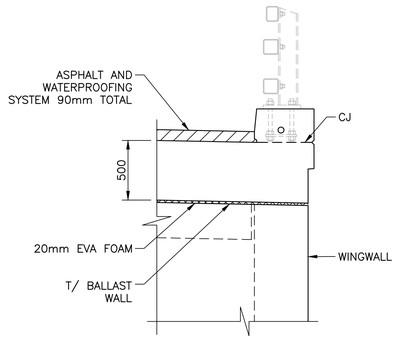
1:25



1:25



1:25



1:25

SCREED ELEVATIONS

SCREED LINE	1	2 (W.ABUT.)	3	4	5	6	7	8	9	10	11	12 (E.ABUT.)	13
A	49.220	49.215	49.219	49.222	49.222	49.218	49.211	49.200	49.186	49.168	49.147	49.125	49.119
B	49.227	49.222	49.226	49.229	49.229	49.225	49.218	49.207	49.193	49.175	49.154	49.132	49.126
C	49.300	49.295	49.299	49.302	49.302	49.298	49.291	49.280	49.266	49.248	49.227	49.205	49.199
D	49.227	49.222	49.226	49.229	49.229	49.225	49.218	49.207	49.193	49.175	49.154	49.132	49.126
E	49.220	49.215	49.219	49.222	49.222	49.218	49.211	49.200	49.186	49.168	49.147	49.125	49.119

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

DECK DETAILS

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. SCREED ELEVATIONS ARE TO TOP OF CONCRETE.
2. SCREED ELEVATIONS SHOWN IN TABLE INCLUDE AN ALLOWANCE FOR ROADWAY PROFILE, WEIGHT OF DECK SLAB AND SUPERIMPOSED DEAD LOAD.
3. CONCRETE IN DECK SLABS AND DIAPHRAGMS SHALL BE RETARDED USING A TYPE B OR D ADMIXTURE TO ENSURE THAT THE CONCRETE REMAINS PLASTIC FOR THE DURATION OF EACH PLACEMENT.
4. CONCRETE SHALL REMAIN PLASTIC IN POURING OF SEGMENTS WITH THE SAME SEQUENCE NUMBER.
5. MINIMUM CONCRETE STRENGTH OF PREVIOUS DECK PLACEMENT SHALL BE 20 MPa BEFORE PROCEEDING WITH THE PLACEMENT.
6. CONCRETE IN BARRIER WALLS SHALL NOT BE PLACED UNTIL ALL CONCRETE IN DECK SLAB HAS REACHED A STRENGTH OF 20 MPa.
7. ASSUMED DEAD LOAD FROM DECK FORM SYSTEM: 0.80 kPa.
   ASSUMED BRIDGE DECK FINISHING MACHINE BIASED (HEAVY SIDE) LOAD ON ONE RAIL: 42 kN.
   ASSUMED WORK BRIDGE LOAD ON ONE RAIL: 11 kN.
8. REQUIREMENT FOR 50mm DIA. CONDUIT TO BE CONFIRMED BY THE CONTRACT ADMINISTRATOR.

LICENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
PROVINCE OF ONTARIO

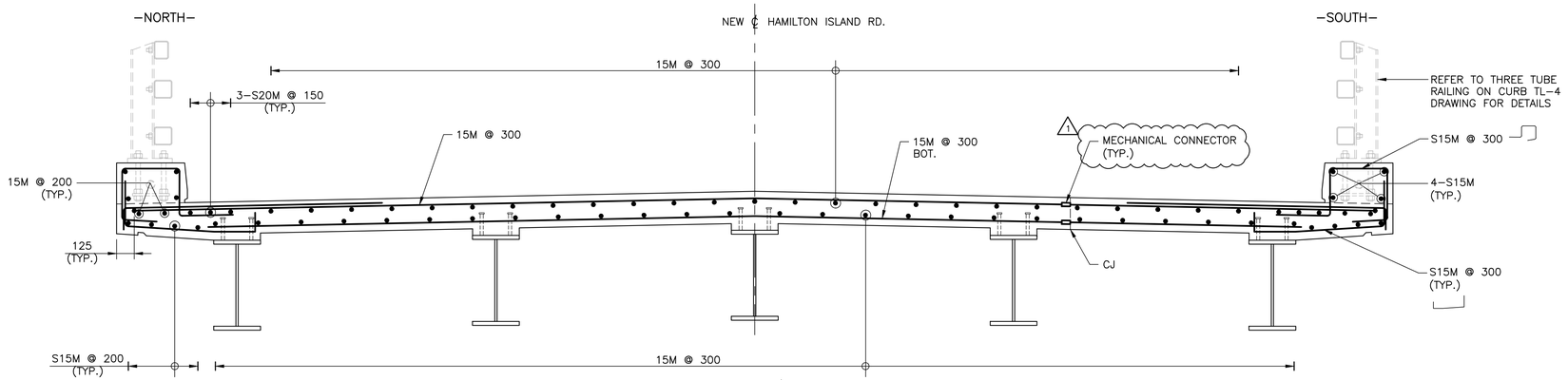
LICENSED PROFESSIONAL ENGINEER
G. L. CHANG
100579480
2026-11-09
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

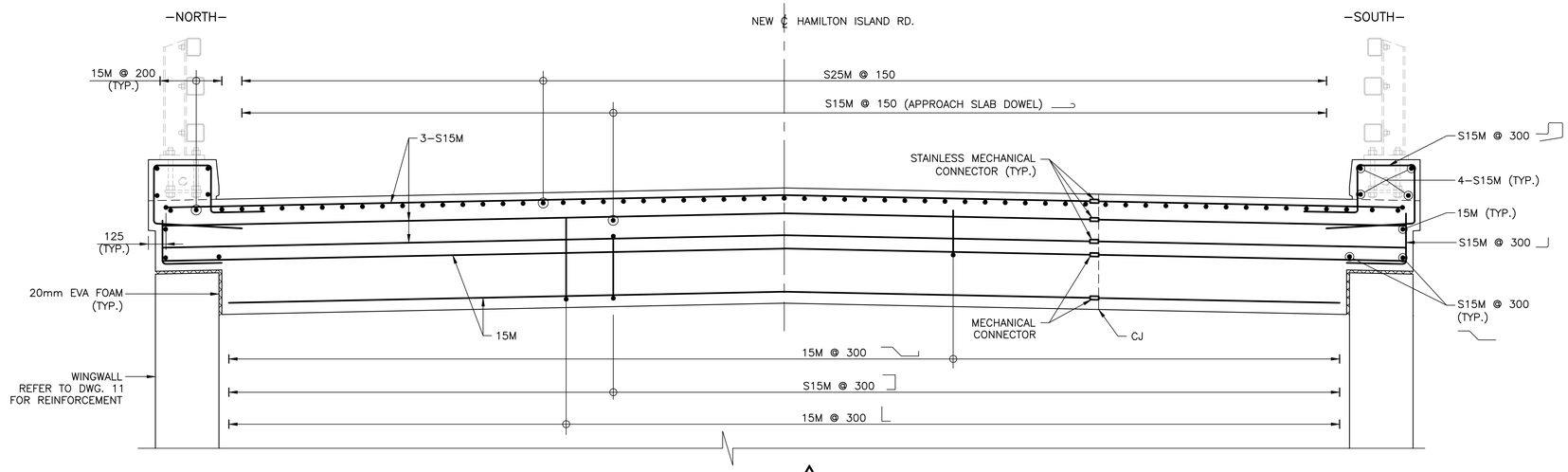
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DRAWN	ME	CHK	RM	SITE		STRUCT	SCHEME	DWG	15

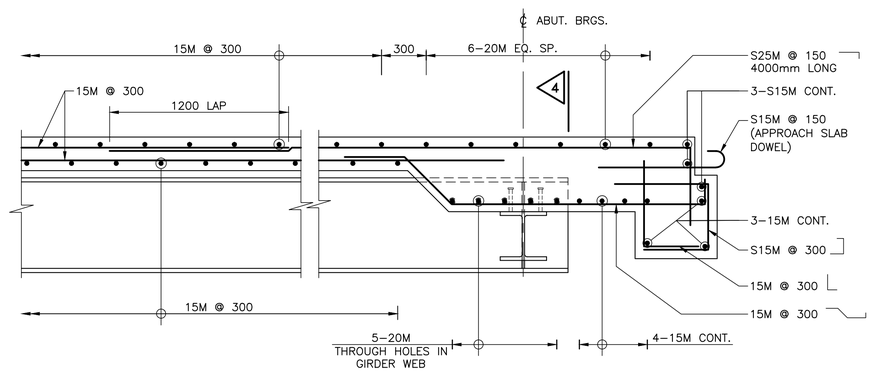
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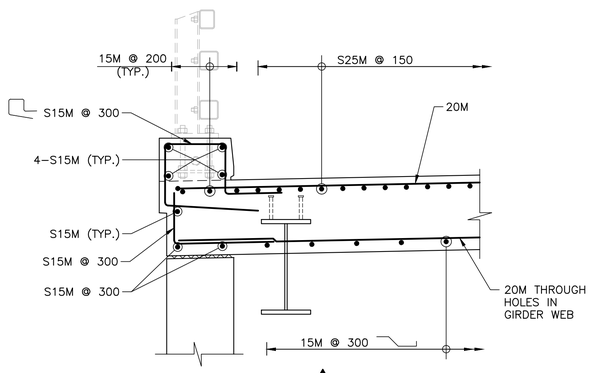
1 SECTON
1:20 DWG. 17



2 SECTION
1:20 DWG. 17



3 SECTION
1:20 DWG. 18



4 SECTION
1:20

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

DECK REINFORCING I

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING No. 17.
2. FOR GENERAL NOTES REFER TO DRAWING No. 6, GENERAL ARRANGEMENT.
3. THE CONTRACTOR HAS THE OPTION TO PROPOSE FOR REVIEW AND APPROVAL TO THE CONTRACT ADMINISTRATOR DIFFERENT SPLICE ARRANGEMENT FOR THE 25M THROUGH HOLES IN THE GIRDER WEBS TO FACILITATE REINFORCING INSTALLATION.

LICENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
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LICENSED PROFESSIONAL ENGINEER
G. L. CHANG
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2026-11-09
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LICENSED PROFESSIONAL ENGINEER
R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

REVISIONS		
11/09/26	1	ISSUED FOR ADDENDUM 2
DATE	REV	DESCRIPTION

DESIGN	GC	CHK	RM	CODE	S6:25	LOAD	CL–625–ONT
DRAWN	ME	CHK	RM	SITE		STRUCT	SCHEME

DATE NOV 2026
DWG 16

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MODIFIED: 2026-09-29 13:42

NORTH FOR CONSTRUCTION

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

DECK REINFORCING II

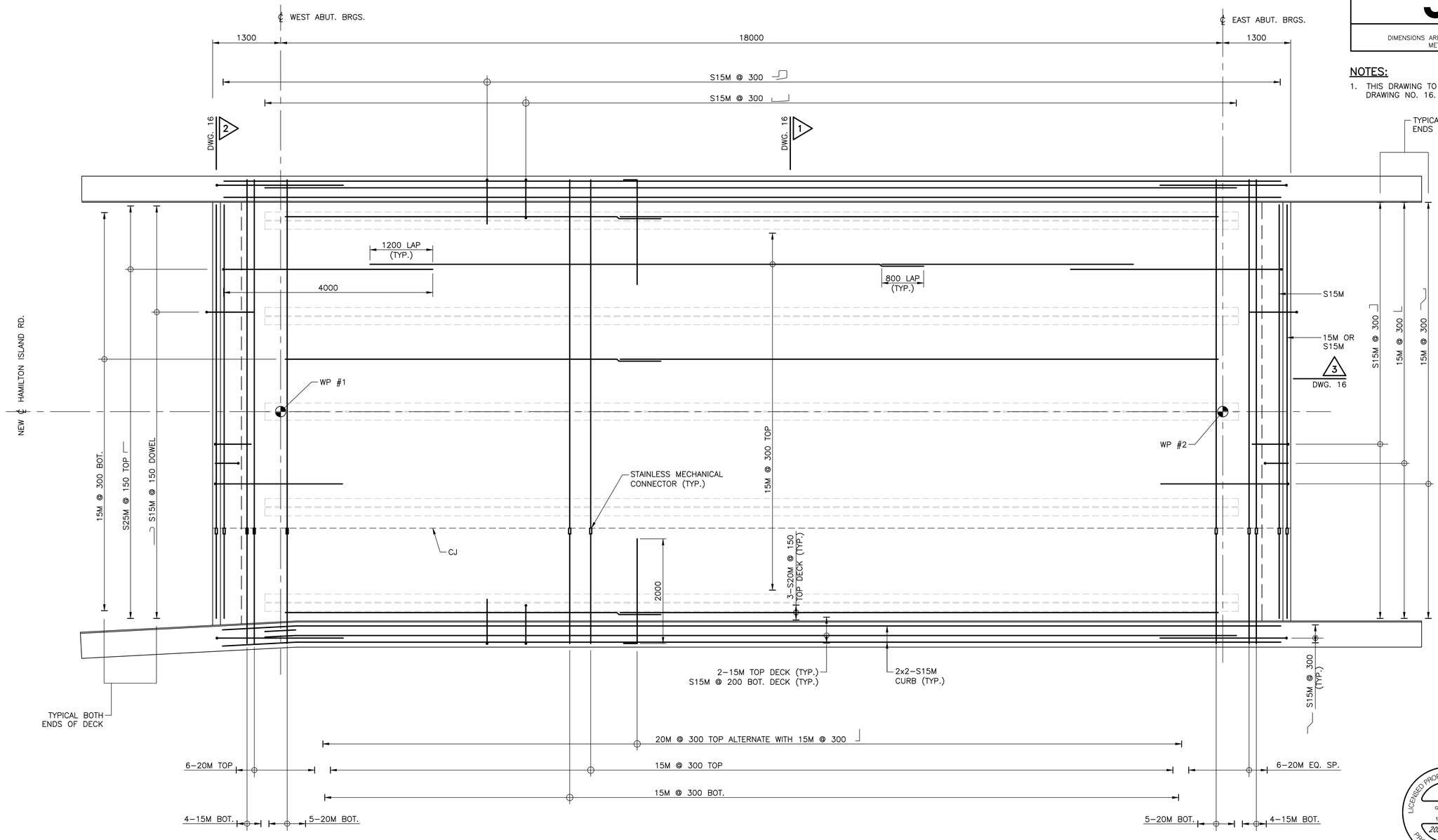
CONTRACT NO. 26-4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NO. 16.



PLAN
1:40



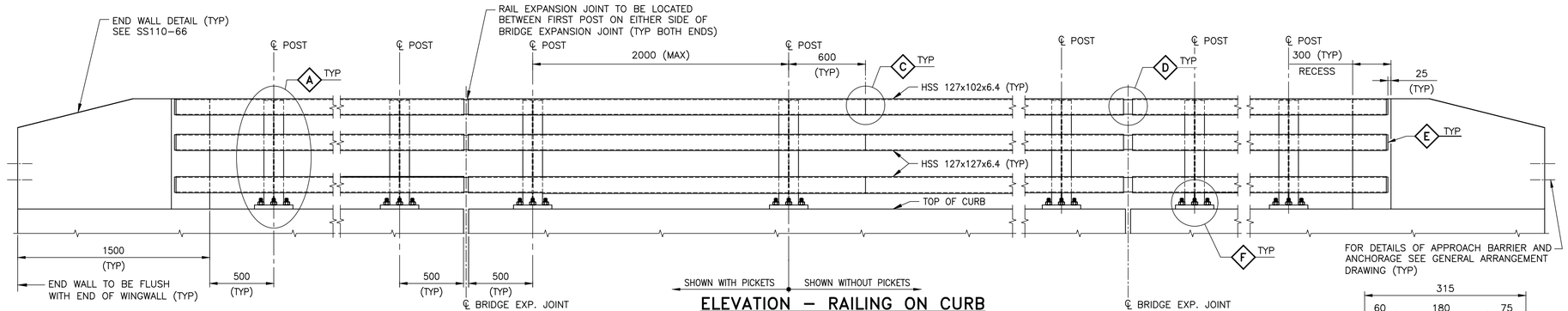




DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

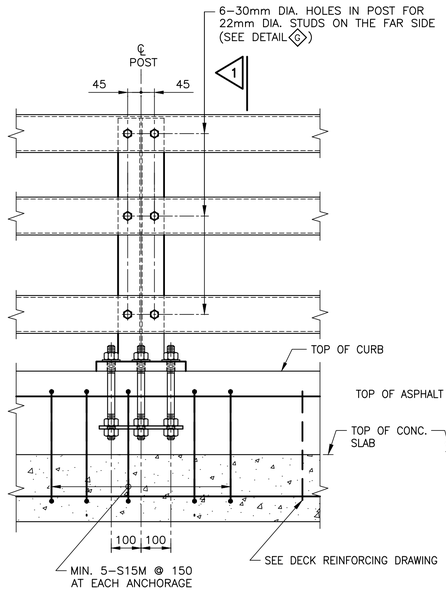
REVISIONS			DESCRIPTION					
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DRAWN ME	CHK RM	SITE	STRUCT	SCHEME	DWG 17			

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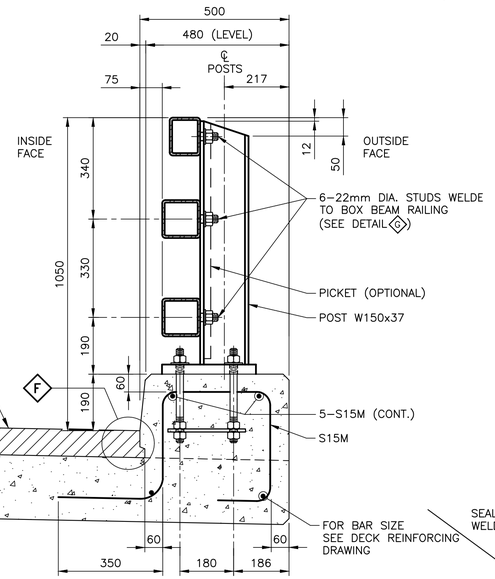
ELEVATION – RAILING ON CURB

(INSIDE FACE SHOWN)

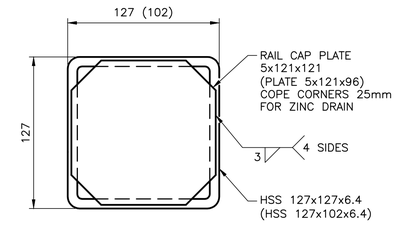


A RAIL POST ELEVATION

(INSIDE FACE SHOWN)

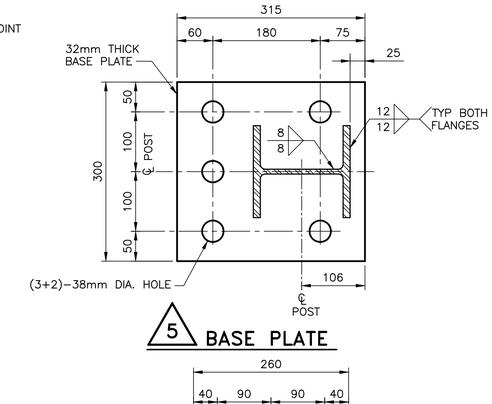


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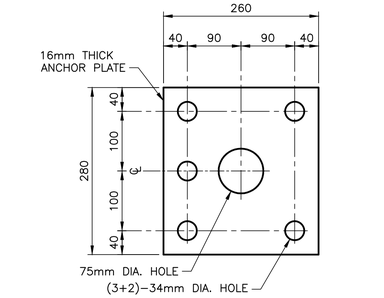


E END CAP DETAILS

FOR HSS 127x127x6.4
VALUE IN ( ) FOR HSS 127x102x6.4

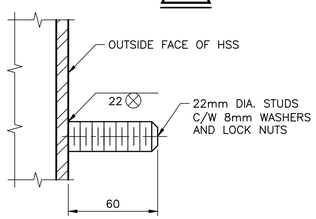


5 BASE PLATE



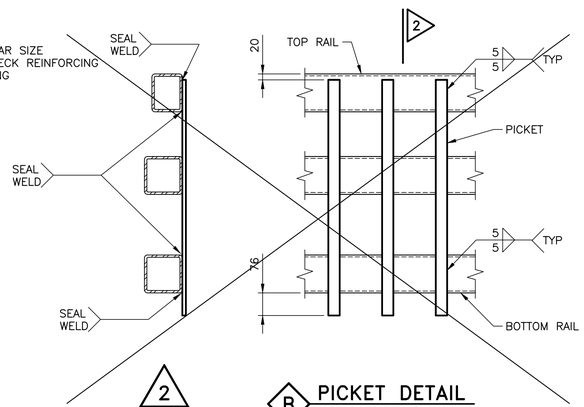
6 ANCHOR PLATE

F CHASE DETAIL



G WELDED STUD DETAIL

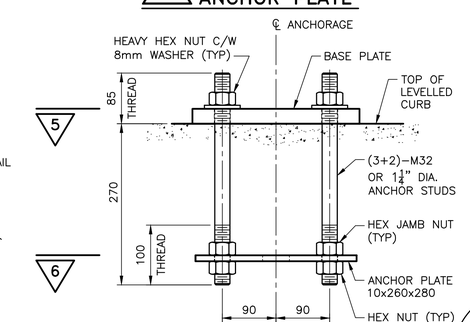
FULL–THREAD WELDED STUD



2

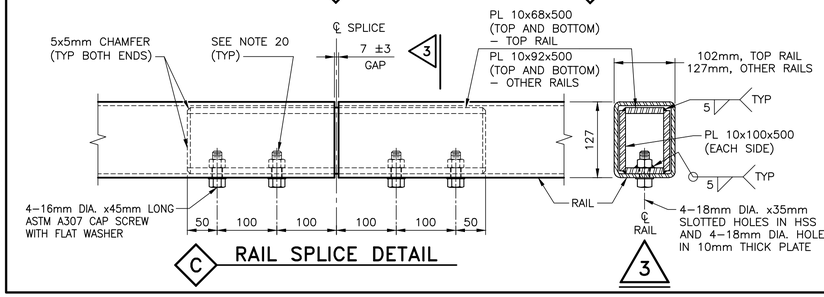
B PICKET DETAIL

(OPTIONAL)



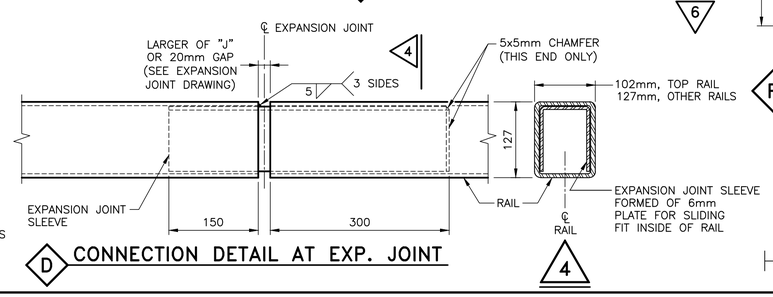
F ANCHORAGE ASSEMBLY

(SIDE SHOWN)



C RAIL SPLICE DETAIL

3



D CONNECTION DETAIL AT EXP. JOINT

4

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

THREE TUBE RAILING ON CURB TL–4

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. SYSTEM CONFIGURATION MEETS THE REQUIREMENTS OF NCHRP 350.
2. RAIL ELEMENTS SHALL BE HOLLOW STRUCTURAL SECTIONS GRADE 350WT, CLASS C. RAIL ELEMENT SHALL MEET THE LONGITUDINAL CHARPY V–NOTCH IMPACT TEST REQUIREMENTS OF 27 JOULES AT TEST TEMPERATURE OF –20° C. (ASTM A500 GRADE B OR C STEEL MAY BE SUBSTITUTED FOR GRADE 350WT PROVIDED THAT THE CHARPY V–NOTCH IMPACT TEST REQUIREMENTS ARE VERIFIED BY THE SUBMISSION OF TEST DOCUMENTATION).
3. POSTS AND PLATES SHALL BE GRADE 350WT.
4. THE NOTCH TOUGHNESS REQUIREMENTS FOR POSTS AND PLATES SHALL BE THE SAME AS THOSE SPECIFIED IN NOTE 2.
5. ANCHOR STUDS, WASHERS, AND NUTS SHALL CONFORM TO ASTM A449.
6. FULL THREAD STUDS FOR FASTENING GUIDE RAILS TO POST SHALL CONFORM TO ASTM A108. LOCK NUTS SHALL BE ACCORDING TO ASTM A563. WASHERS SHALL BE ACCORDING TO ASTM F436.
7. RAILS SHALL BE SUPPLIED IN LENGTHS TO BE ATTACHED TO A MINIMUM OF THREE (3) POSTS EXCEPT WHEN THE WINGWALL LENGTH OF A BRIDGE WITH EXPANSION JOINTS DOES NOT PERMIT. IN THIS CASE, THE RAIL LENGTH SHALL BE ATTACHED TO TWO (2) POSTS ON THE WINGWALL.
8. GALVANIZING ON MATING SURFACES OF RAILS TO HAVE UNIFORM THICKNESS NOT EXCEEDING 0.15mm TO ENSURE SLIDING FIT.
9. RAILS, POSTS, RAIL SPLICES, AND END CAPS SHALL BE HOT–DIP GALVANIZED AFTER FABRICATION.
10. BOLTS, ANCHOR STUDS, PLATES, WASHERS, AND NUTS SHALL BE HOT–DIP GALVANIZED. LOCK NUTS SHALL BE ZINC PLATED ACCORDING TO ASTM–B695.
11. RAILS SHALL BE PREBENT TO FOLLOW ROAD CURVATURE WHERE RADIUS IS LESS THAN 150 METRES.
12. RAIL POSTS SHALL BE SET PERPENDICULAR TO GRADE.
13. RAILS MAY BE CUT AS REQUIRED IN THE FIELD, CUT TO BE SURFACE TREATED WITH A ZINC TOUCH–UP SOLDER, GALVAGUARD OR AN APPROVED EQUIVALENT.
14. WHEN CONNECTING TO EXISTING RAILING, RAILS MUST BE MADE CONTINUOUS AND POST SPACINGS TO BE DETERMINED WITH REFERENCE TO EXISTING POSTS.
15. GROUT SHALL NOT BE USED UNDER BASE PLATES. THIN PAD OF EPOXY GROUT MAY BE USED WHEN REQUIRED FOR FILLING THE VOIDS UNDER THE BASE PLATE.
16. POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT CONDITION AND GIVEN AN ADDITIONAL 1/3 OF A TURN.
17. BOLTS IN RAIL SPLICES SHALL BE TIGHTENED TO A CONDITION THAT WILL ALLOW RAIL MOVEMENT.
18. STAINLESS STEEL BARS SHALL BE TYPE 316 LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500 MPA.
19. CHASES ARE REQUIRED ON HIGH AND LOW SIDE OF CROSS FALL.
20. PRIOR TO ASSEMBLY, APPLY LOCTITE 242, OR APPROVED EQUIVALENT THREAD–LOCKING FLUID, TO THE BOLT THREADS AT THE NUT ENGAGEMENT AREA, PER MANUFACTURER'S SPECIFICATION.

ADDITIONAL NOTES FOR PICKET:

1. PICKET SHALL BE 38x12 STEEL BAR GRADE 300W.
2. HOT DIP GALVANIZING OF RAILING SHALL BE AFTER ADDITION OF PICKET.

STANDARD DRAWING NOVEMBER 2024	SS110–39
THREE TUBE RAILING ON CURB, TL–4 (WITH CONCRETE END WALL)	

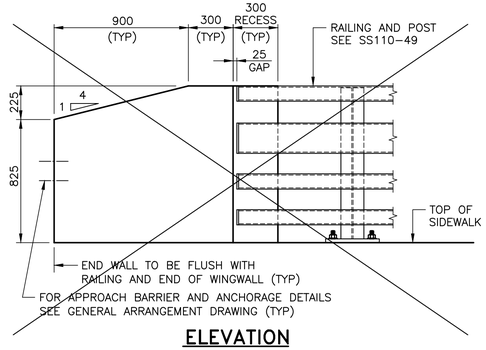
L. I. CENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
G. L. CHANG
100579480
2026-11-09
PROVINCE OF ONTARIO

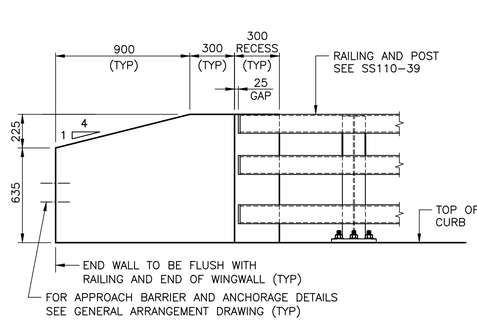
L. I. CENSED PROFESSIONAL ENGINEER
R. MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

REVISIONS						
			DESCRIPTION			
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DRAWN ME	CHK RM	SITE	STRUCT	SCHEME	DWG 18	

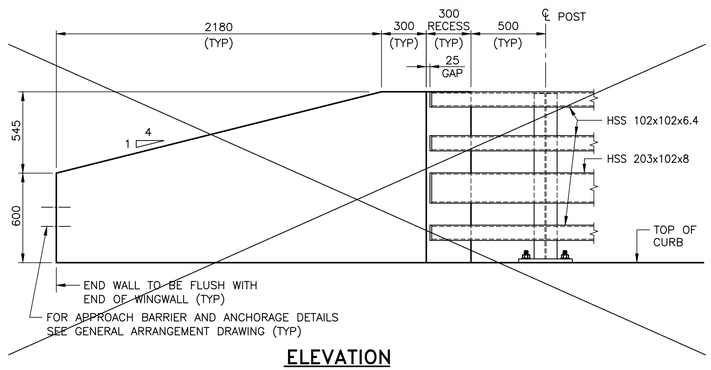
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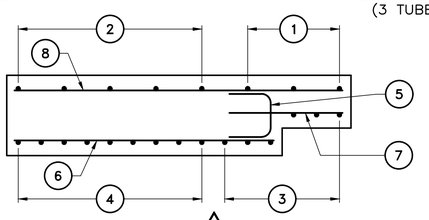
ELEVATION
END WALL ON SIDEWALK
(4 TUBE RAILING)

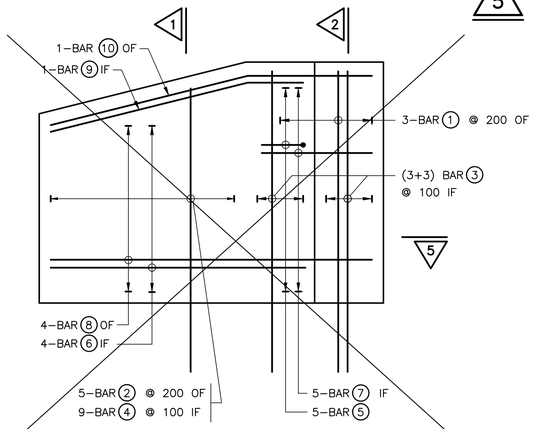


ELEVATION
END WALL ON CURB
(3 TUBE RAILING)

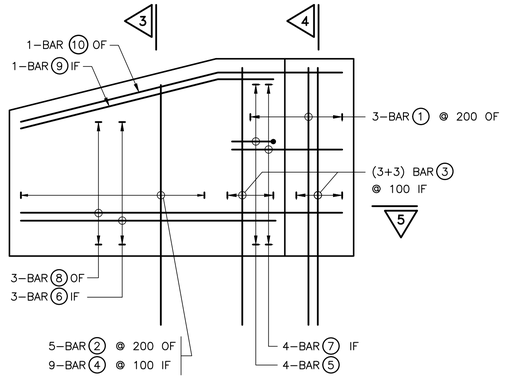


ELEVATION
END WALL ON CURB
(4 TUBE TRAFFIC/BICYCLE RAILING)

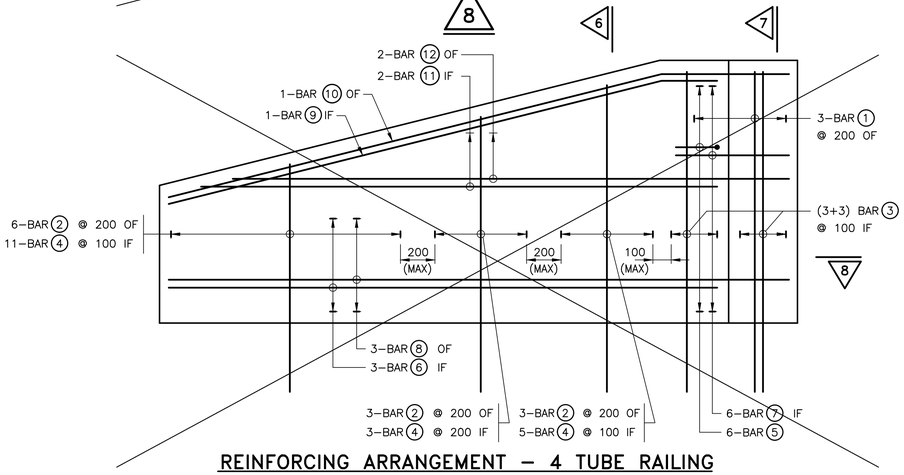




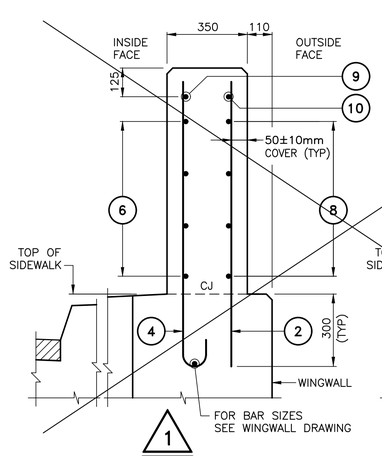
REINFORCING ARRANGEMENT – 4 TUBE RAILING
END WALL ON SIDEWALK

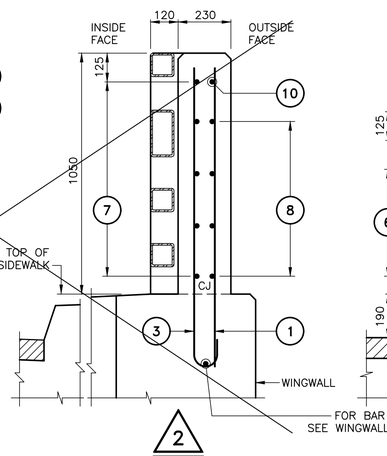


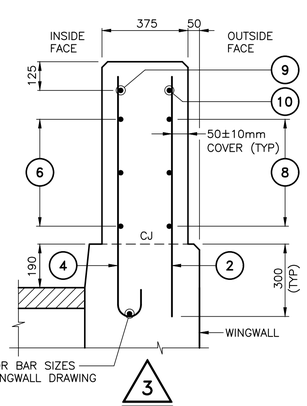
REINFORCING ARRANGEMENT – 3 TUBE RAILING
END WALL ON CURB

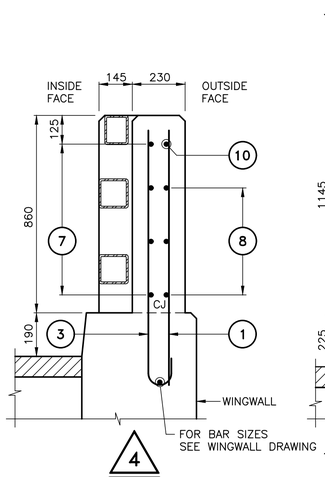


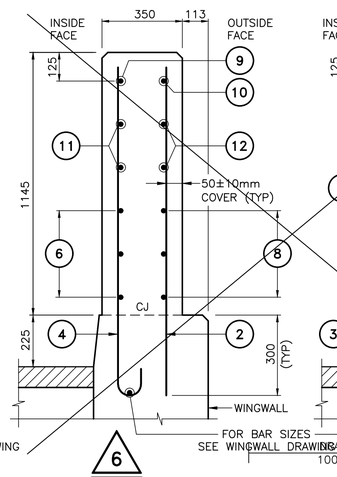
REINFORCING ARRANGEMENT – 4 TUBE RAILING
END WALL ON CURB

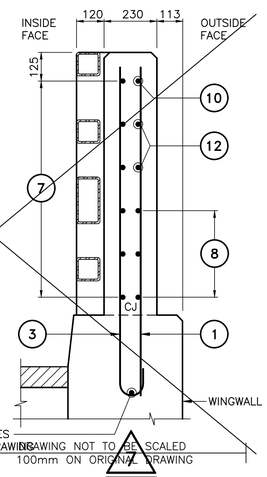












MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

END CONNECTION FOR THREE TUBE RAILING

CONTRACT NO. 26-4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:
1. CONCRETE COVER TO REINFORCING STEEL 60±10mm EXCEPT AS NOTED.
2. REINFORCING STEEL SHALL BE STATINLESS TYPE 316LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500 MPa.
3. LEGEND:
   EF –DENOTES EACH FACE OF –DENOTES OUTSIDE FACE
   IF –DENOTES INSIDE FACE CJ –DENOTES CONSTRUCTION JOINT

BAR MARK	SIZE	SHAPE
1	S10M	STRAIGHT
2	S10M	STRAIGHT (VARIES)
3	S15M	130, 65
4	S15M	130, 65, VARIES
5	S15M	180
6	S15M	STRAIGHT
7	S15M	STRAIGHT
8	S15M	STRAIGHT
9	S15M	250
10	S15M	550
11	S15M	STRAIGHT (VARIES)
12	S15M	STRAIGHT (VARIES)

STANDARD DRAWING
MAY 2018

SS110-66

CONCRETE END WALL FOR BOX BEAM RAILING (STAINLESS STEEL REBAR)

LICENSED PROFESSIONAL ENGINEER
J. S. YUN
100079999
2026-11-09
PROVINCE OF ONTARIO

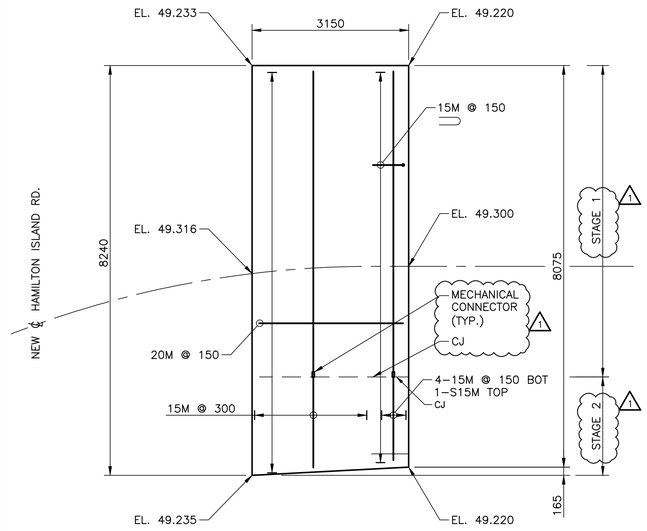
LICENSED PROFESSIONAL ENGINEER
G. L. CHANG
100579480
2026-11-09
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

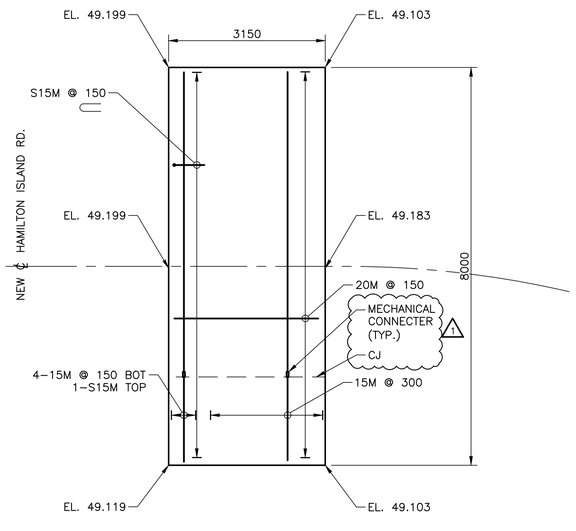
REVISIONS	DESCRIPTION

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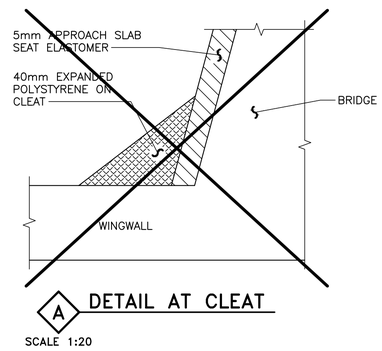
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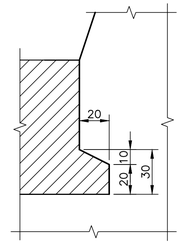
PLAN – WEST APPROACH SLAB
1:60



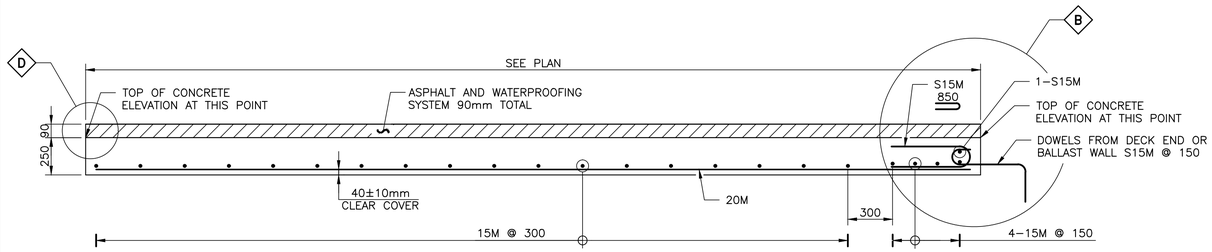
PLAN – EAST APPROACH SLAB
1:60



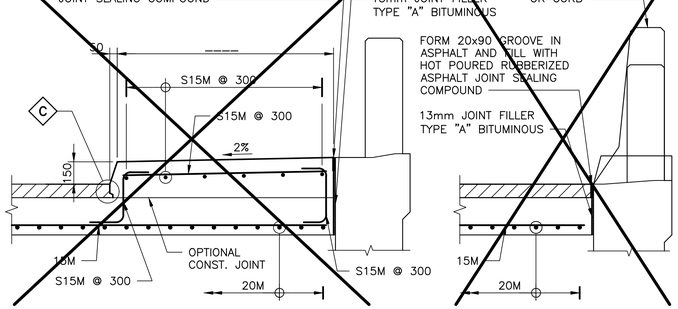
A DETAIL AT CLEAT
SCALE 1:20



C CHASE
SCALE 1:2



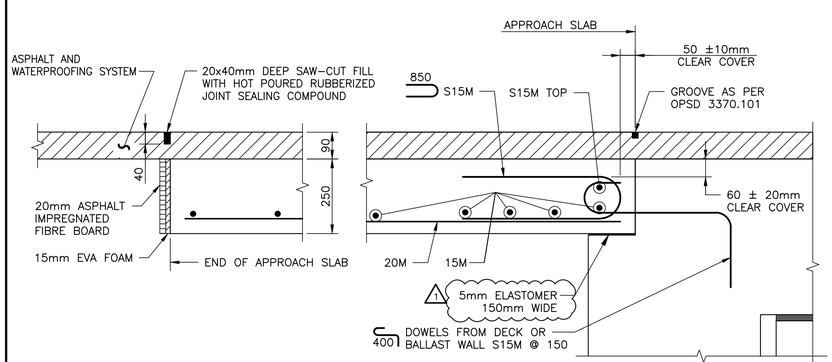
LONGITUDINAL SECTION
SCALE 1:20



4 WITH SIDEWALK
SCALE 1:20

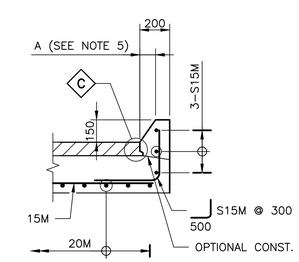
2 WITHOUT SIDEWALK
SCALE 1:20

SECTION BESIDE WINGWALL

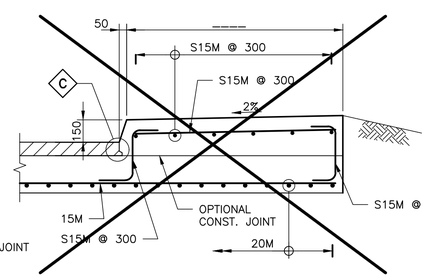


D END OF APPROACH SLAB WITH INTEGRAL/SEMI–INTEGRAL ABUTMENT
SCALE 1:10

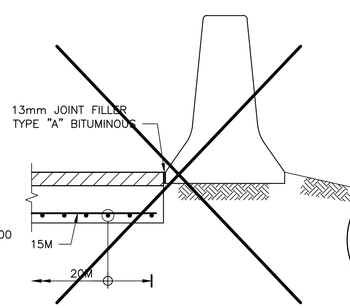
B
SCALE 1:10



1 SECTION AT CURB
SCALE 1:20



3 WITH SIDEWALK
SCALE 1:20



WITH ROADSIDE BARRIER

SECTION BEYOND WINGWALL

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

APPROACH SLAB

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

NOTES:

1. CLEAR COVER TO REINFORCING STEEL 70±20mm EXCEPT AS NOTED.
2. REINFORCING STEEL SHALL BE GRADE 500W UNLESS SHOWN OTHERWISE ON GENERAL ARRANGEMENT.
3. STAINLESS STEEL BARS SHALL BE TYPE 316 LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500 MPa.
4. WATERPROOFING AT JOINT BETWEEN BRIDGE AND APPROACH SLAB TO BE IN ACCORDANCE WITH OPSD 3370.100.
5. DIMENSION "A" SHALL BE 50mm FOR TRANSITION BETWEEN SIDEWALK OR CURB ON BRIDGE TO CURB AND GUTTER AT APPROACH AND 105mm FOR TRANSITION FROM CONCRETE SAFETY–SHAPE BARRIER ON BRIDGE TO STEEL BEAM GUIDE RAIL AT APPROACHES.

APPLICABLE STANDARD DRAWINGS:

OPSD 3370.100	DECK, WATERPROOFING HOT APPLIED ASPHALT MEMBRANE WITH PROTECTION BOARD.
OPSD 3370.101	DECK, WATERPROOFING HOT APPLIED ASPHALT MEMBRANE AT ACTIVE CRACKS GREATER THAN 2mm WIDE AND CONSTRUCTION JOINTS.

MODIFIED	
STANDARD DRAWING JULY 2025	SS105–15
APPROACH SLAB	

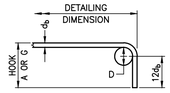
J. S. YUN 100079999 2026-11-09 PROVINCE OF ONTARIO
G. L. CHANG 100578480 2026-11-09 PROVINCE OF ONTARIO
R.MEISAMIAN 100226846 2026-11-09 PROVINCE OF ONTARIO

REVISIONS		
11/09/26	1	ISSUED FOR ADDENDUM 2
DATE	REV	DESCRIPTION

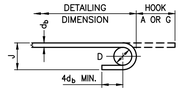
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DATE NOV 2026
DWG 20

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STANDARD 90° HOOK



STANDARD 180° HOOK

MINIMUM BENDING PIN DIAMETER, D, mm

BAR SIZE	STEEL GRADE	
	400R (2)	400W OR 500W
10M	70	60
15M	100	90
20M	120	100
25M	150	150
30M	250	200
35M	300	250
45M	450 (1)	400
55M	600 (1)	550

(1) Special fabrication is required for bends exceeding 90° for bars of these sizes and grade.
(2) For stainless steel, with Fy = 500, the same D as for 400R.

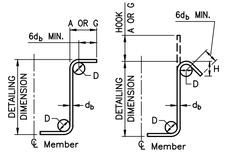
STANDARD HOOK DIMENSIONS

BAR SIZE	90° HOOKS		180° HOOKS			
	A OR G (mm)		A OR G (mm)		J (mm)	
	400R	400W OR 500W	400R	400W OR 500W	400R	400W OR 500W
10M	180	180	140	130	90	80
15M	260	250	180	170	130	120
20M	310	300	220	200	160	140
25M	400	400	280	280	200	200
30M	510	490	400	350	310	260
35M	610	590	480	430	370	320
45M	790	770	680	630	540	490
55M	1030	1010	900	850	710	660

NOTE: All Hook Dimensions are according to the CHBDC–2019.

MINIMUM STIRRUP AND TIE HOOK DIMENSIONS

BAR SIZE	BAR DIAM. d_b(mm)	PIN DIAM. D(mm)	90°	135°	
			A OR G (mm)	A OR G (mm)	H (approx.) (mm)
10M	11.3	45	100	100	70
15M	16.0	65	140	140	100
20M	19.5	100	190	190	115
25M	25.2	150	280		



MIN. 90° HOOK

MIN. 135° HOOK

HOOK DIMENSIONS
FOR REINFORCING STEEL BARS

Ontario Ministry of Transportation

SS112–1

Date OCTOBER 2022 Rev –

MOHAWK COUNCIL OF AKWESASNE

HAMILTON ISLAND BRIDGE REPLACEMENT

SHEET

STANDARD DETAILS

CONTRACT NO. 26–4001A

Jacobs

METRIC
DIMENSIONS ARE SHOWN IN MILLIMETRES AND ELEVATIONS IN METRES, UNLESS NOTED OTHERWISE

LICENSED PROFESSIONAL ENGINEER
J. S. YUN
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LICENSED PROFESSIONAL ENGINEER
G. L. CHANG
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R.MEISAMIAN
100226846
2026-11-09
PROVINCE OF ONTARIO

DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

REVISIONS			DESCRIPTION

DESIGN	GC	CHK	RM	CODE	S6:25	LOAD	CL–625–ONT
DRAWN	ME	CHK	RM	SITE		STRUCT	SCHEME

DATE SEP 2026
DWG 21

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