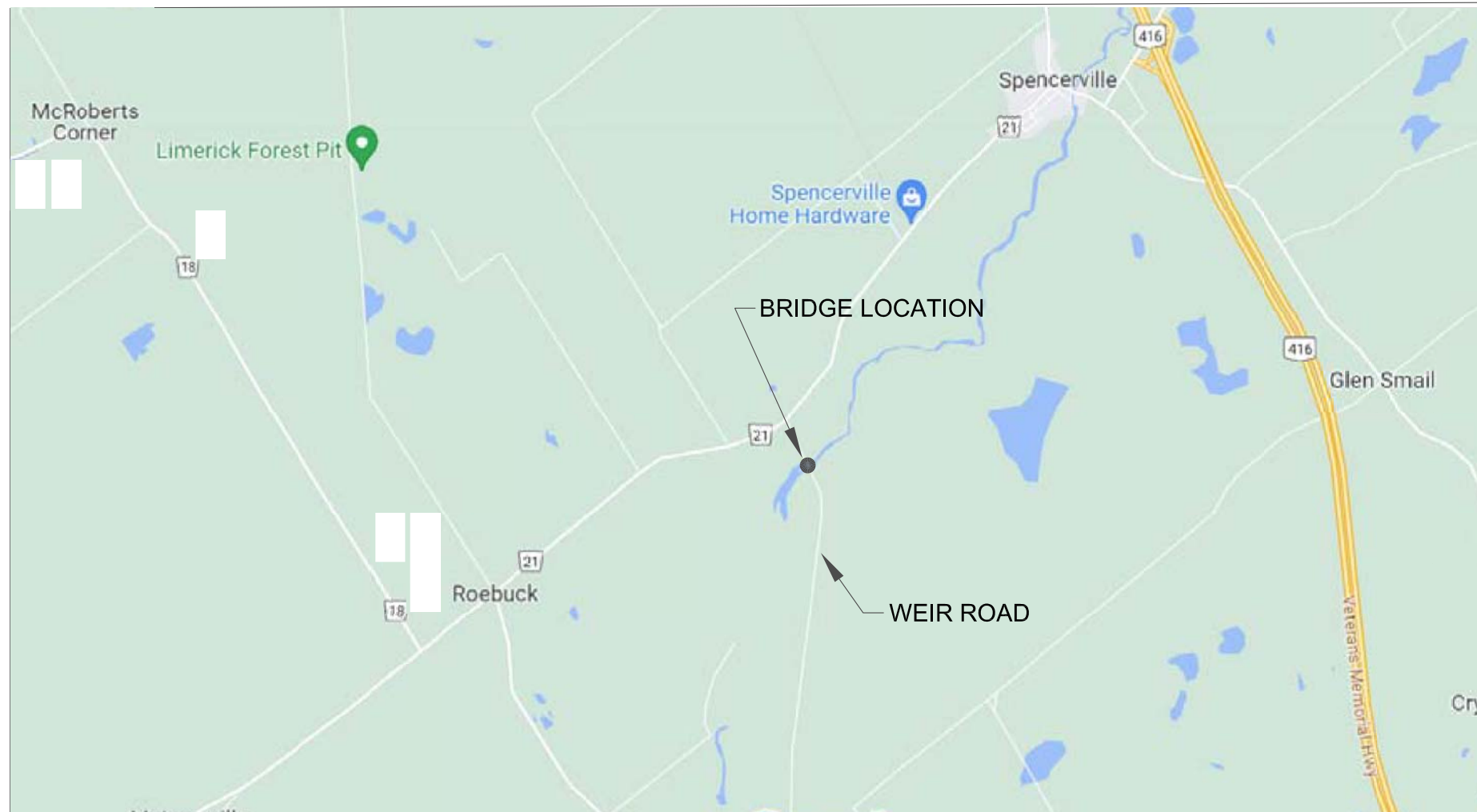


TOWNSHIP OF EDWARDSBURGH CARDINAL



WEIR ROAD BRIDGE REHABILITATION CONTRACT NO. EC-PW-24-04



**Keystone Bridge
Management Corp.**

LIST OF DRAWINGS

1. GENERAL ARRANGEMENT
2. TRAFFIC MANAGEMENT PLAN
3. SITE PLAN AND ROADWORKS ENVIRONMENTAL MANAGEMENT PLAN
4. DECK RECONSTRUCTION DETAILS
5. CURB AND WING WALL DETAILS
6. ABUTMENT WALL AND GIRDER END REPAIRS
7. SS110-39 THREE TUBE RAILING ON CURB - TL4 (WITH CONCRETE END WALL)
8. SS110-66 CONCRETE END WALL FOR BOX BEAM RAILING
9. POST AND RAILING LAYOUT DETAILS NEW ROAD PROFILE

LIST OF APPLICABLE STANDARD DRAWINGS

- OPSD 219.110 LIGHT DUTY SILT FENCE BARRIER
- OPSD 600.040 CONCRETE BARRIER CURB WITH STANDARD GUTTER.
- OPSD 605.010 45' CONCRETE OUTLET FOR CONCRETE CURB WITH GUTTER.
- OPSD 810.010 GENERAL RIP-RAP LAYOUT FOR SEWER AND CULVERT OUTLETS
- OPSD 911.150 GUIDE RAIL SYSTEM, CONCRETE BARRIER TYPE J CONNECTION, 4m LENGTH INSTALLATION - TEMPORARY
- OPSD 911.233 GUIDE RAIL SYSTEM, CONCRETE BARRIER PRECAST TEMPORARY END SECTION INSTALLATION
- OPSD 912.235 GUIDE RAIL SYSTEM, STEEL BEAM LEAVING END TREATMENT INSTALLATION.
- OPSD 912.430 GUIDE RAIL SYSTEM, STEEL BEAM STRUCTURE CONNECTION.
- OPSD 922.186 ENERGY ATTENUATOR, END TREATMENT STEEL BEAM ENERGY ATTENUATING TERMINAL MASH SEQUENTIAL KINKING TERMINAL SYSTEM-INSTALLATION
- OPSD 3370.100 DECK, WATERPROOFING HOT APPLIED ASPHALT MEMBRANE WITH PROTECTION BOARD
- OPSD 3390.100 DECK DRIP CHANNEL

METRIC
DIMENSIONS ARE IN METRES AND/OR
MILLIMETRES UNLESS OTHERWISE SHOWN
DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING



CONT No. EC-PW-24-04
WEIR ROAD BRIDGE
WEIR ROAD
GENERAL ARRANGEMENT
SHEET
1



GENERAL NOTES

THE CONTRACTOR SHALL ENSURE THAT NO DELETERIOUS MATERIALS RESULTING FROM CONSTRUCTION ACTIVITIES ENTERS THE WATERCOURSE.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE OWNER BEFORE PROCEEDING WITH THE WORK. DIMENSIONS OF EXISTING STRUCTURE ARE APPROXIMATE ONLY.

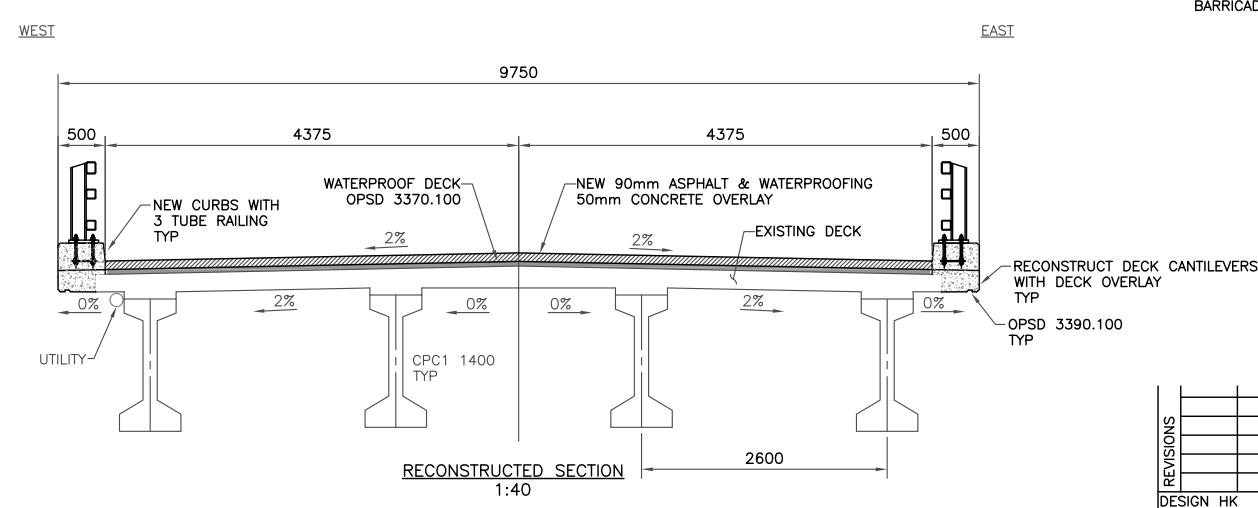
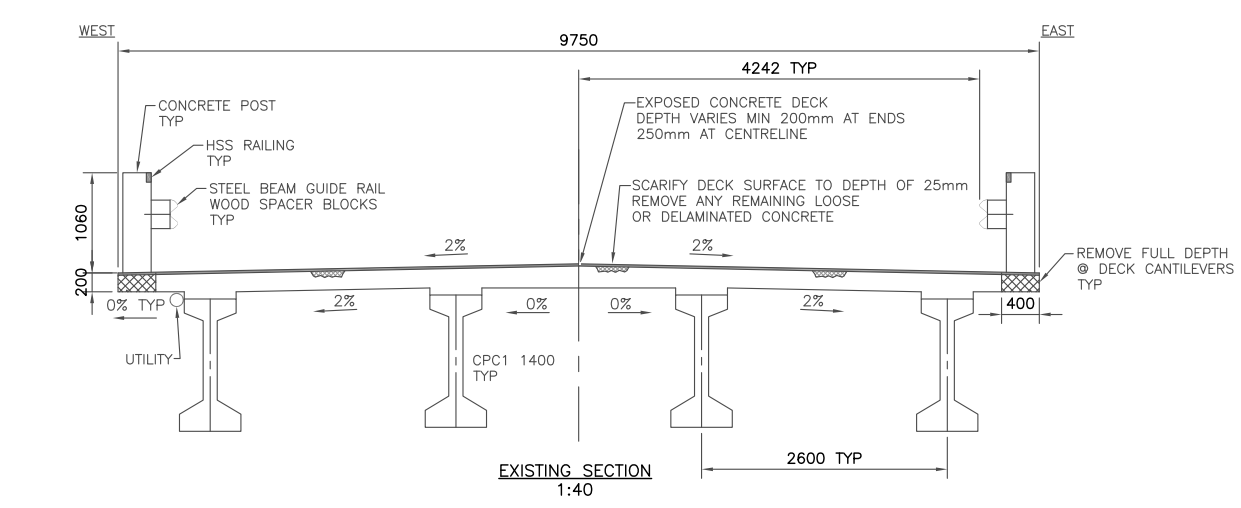
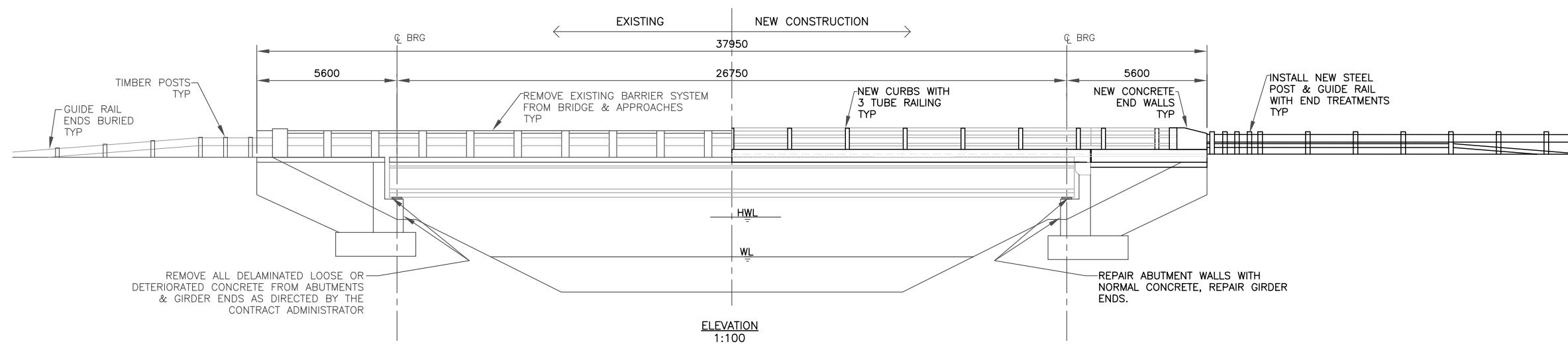
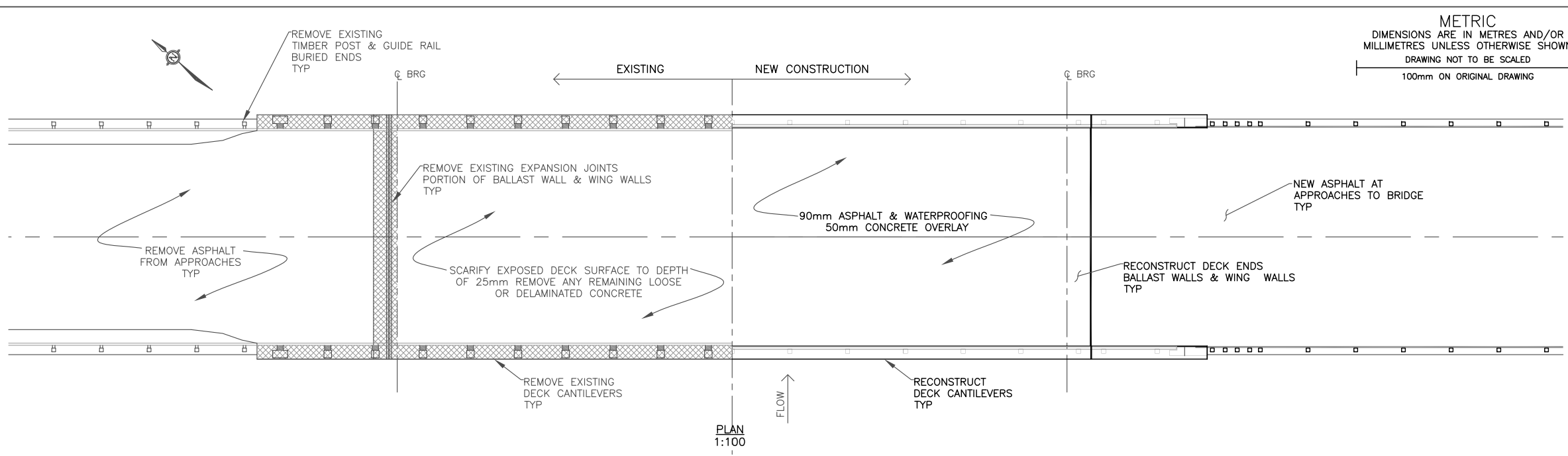
CLASS OF CONCRETE 30MPa CLASS C-1

CLEAR COVER TO BLACK REINFORCING STEEL SHALL BE 70 ± 20
CLEAR COVER TO GALVANIZED REINFORCING STEEL SHALL BE MIN 35mm

REINFORCING STEEL SHALL BE GRADE 400W UNLESS OTHERWISE NOTED
TENSION LAP SPLICES SHALL BE CLASS B

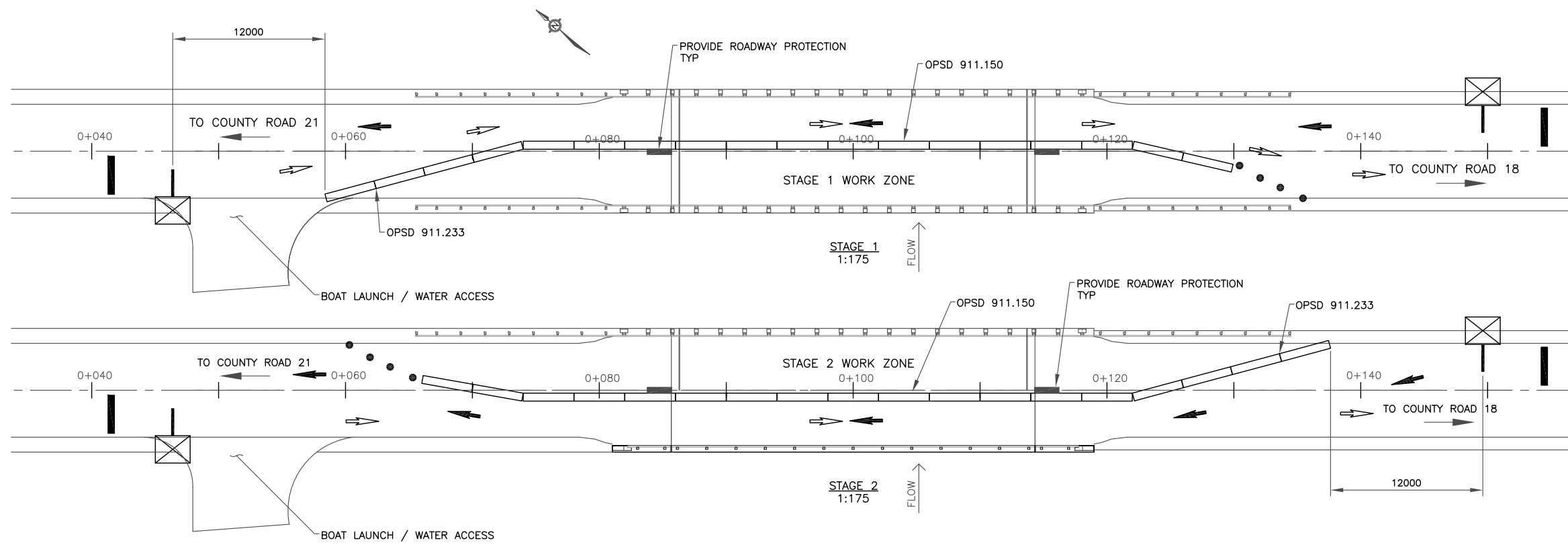
CHAMFER ALL CONCRETE CORNERS 20x20 UNLESS OTHERWISE NOTED

- SCOPE OF WORK**
- INSTALL ALL TEMPORARY PORTABLE TRAFFIC SIGNALS, SIGNAGE AND BARRICADES AS REQUIRED TO ESTABLISH STAGE 1 TRAFFIC MANAGEMENT PLAN.
 - INSTALL LIGHT DUTY SILT FENCING AROUND BRIDGE ENDS.
- STAGE 1**
- SCARIFY EXISTING EXPOSED CONCRETE BRIDGE DECK AND REMOVE ALL REMAINING LOOSE AND DETERIORATED CONCRETE FROM DECK SURFACE.
 - PARTIALLY REMOVE CONCRETE FROM DECK ENDS, DECK CANTILEVERS, BALLAST WALLS, AND WING WALLS AS DETAILED.
 - REMOVE EXISTING ASPHALT PAVEMENT AND GUIDE RAIL FROM APPROACHES.
 - RECONSTRUCT DECK ENDS, DECK CANTILEVERS, BALLAST WALLS AND WING WALLS AS DETAILED. PLACE 50mm CONCRETE OVERLAY.
 - CONSTRUCT NEW CURBS AND RAILING PLACE 50mm CONCRETE OVERLAY.
 - CONSTRUCT APPROACH CURB WITH CONCRETE OUTLET NORTH END. PLACE RIP RAP AT ENDS.
 - WATERPROOF AND PAVE BRIDGE DECK, PAVE APPROACHES.
 - INSTALL NEW GUIDE RAIL WITH END TREATMENTS.
 - RELOCATE TEMPORARY CONCRETE BARRICADES AND ESTABLISH STAGE 2 TRAFFIC MANAGEMENT PLAN.
- STAGE 2**
- REPEAT STEPS 3 - 11.
 - REMOVE ALL TEMPORARY PORTABLE TRAFFIC SIGNALS, SIGNAGE AND BARRICADES OPEN BRIDGE TO TRAFFIC



REVISIONS			
NO.	DESCRIPTION	DATE	BY

DESIGN			
CHK	CODE	DATE	BY
HK	CHBDC-14	JAN 2024	
DRAWN			
CHK	SITE	DATE	BY
SR	EC 1		

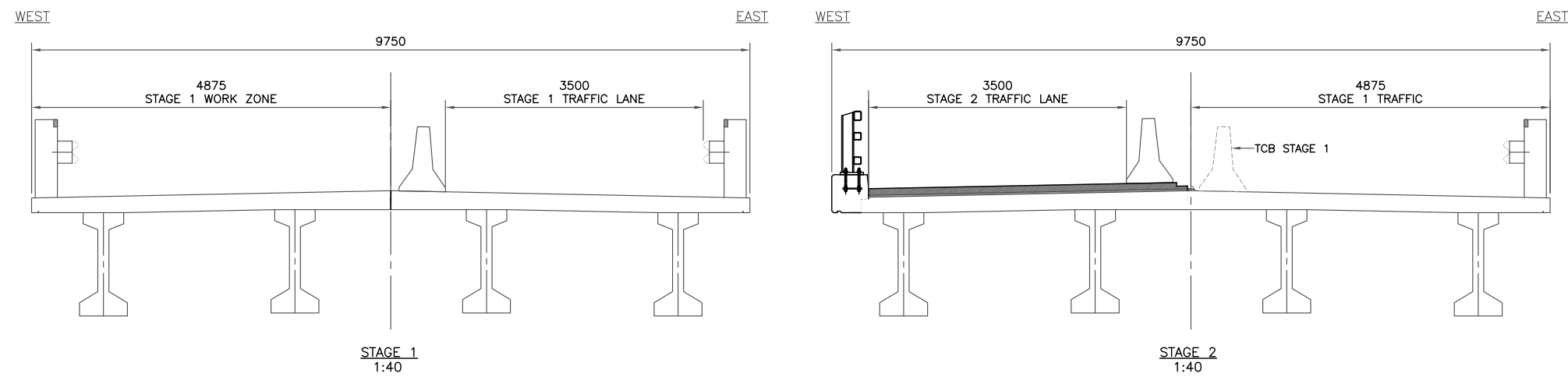


STAGING NOTES

1. ALL SIGNAGE, TEMPORARY BARRIER, AND TEMPORARY PORTABLE TRAFFIC SIGNALS TO BE SUPPLIED, INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR.
2. ALL SIGNAGE AND SETUP PROCEDURES SHALL BE IN COMPLIANCE WITH THE CURRENT VERSION OF THE ONTARIO TRAFFIC MANUAL TEMPORARY CONDITIONS, BOOK 7. THE CONTRACTOR SHALL MAINTAIN SIGNS AND TRAFFIC SIGNALS FOR THE DURATION OF CONSTRUCTION.
3. THE CONTRACTOR SHALL MAINTAIN 1 LANE OF TRAFFIC AT ALL TIMES DURING CONSTRUCTION.

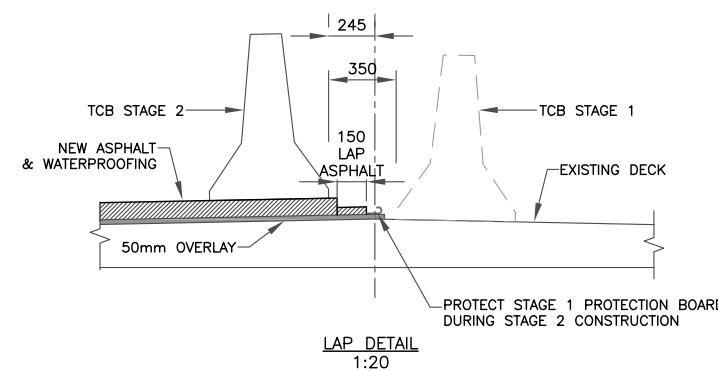
LIST OF APPLICABLE STANDARD DRAWINGS

- OPSD 911.150 GUIDE RAIL SYSTEM, CONCRETE BARRIER TYPE J CONNECTION, 4m LENGTH INTALLATION - TEMPORARY
- OPSD 911.233 GUIDE RAIL SYSTEM, CONCRETE BARRIER PRECAST TEMPORARY END SECTION INSTALLATION

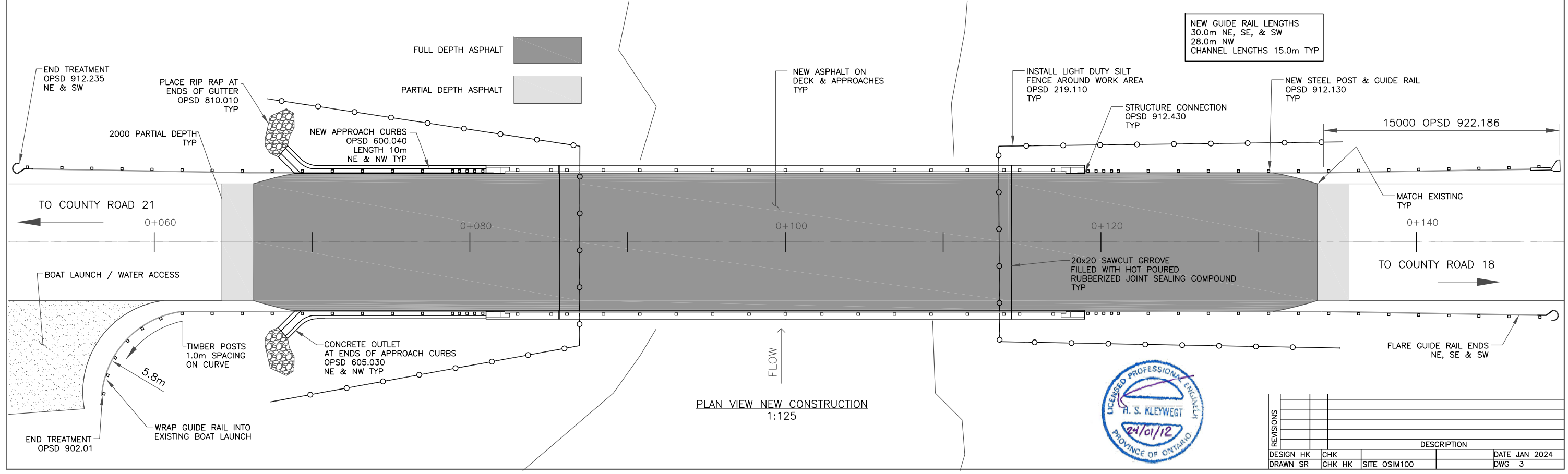
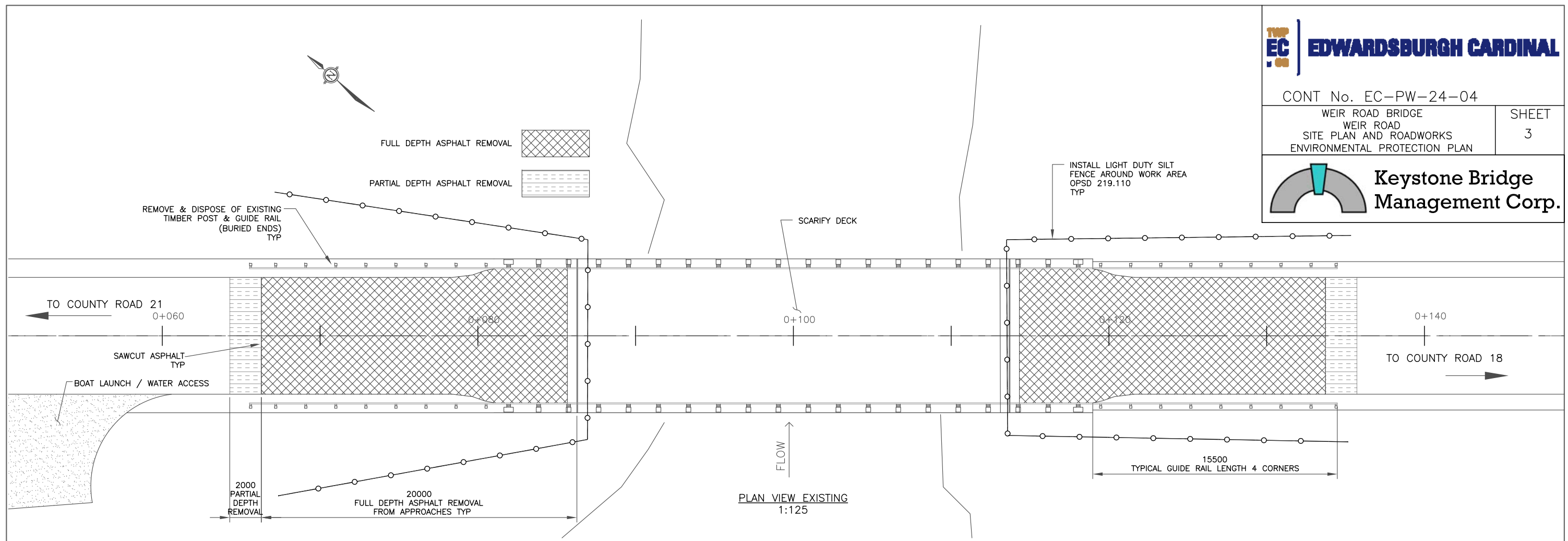
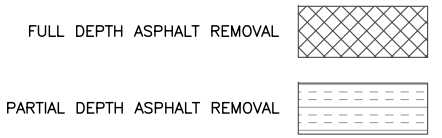


LEGEND

- TEMPORARY PORTABLE TRAFFIC SIGNAL AND STOP BAR
- TEMPORARY CONCRETE BARRIER
- TC-54'S
- TRAFFIC NORTHBOUND DIRECTION
- TRAFFIC SOUTHBOUND DIRECTION



REVISIONS				DESCRIPTION		DATE
DESIGN	HK	CHK				JAN 2024
DRAWN	SR	CHK	HK	SITE	EC 1	DWG 2



NEW GUIDE RAIL LENGTHS
30.0m NE, SE, & SW
28.0m NW
CHANNEL LENGTHS 15.0m TYP



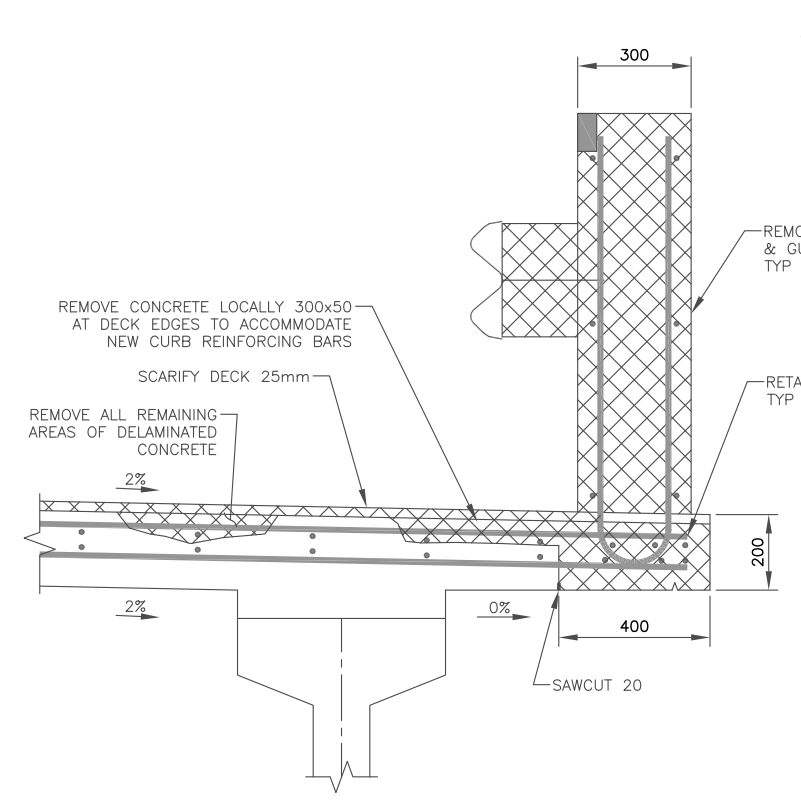
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DESIGN HK	CHK	SITE OSIM100	DATE JAN 2024
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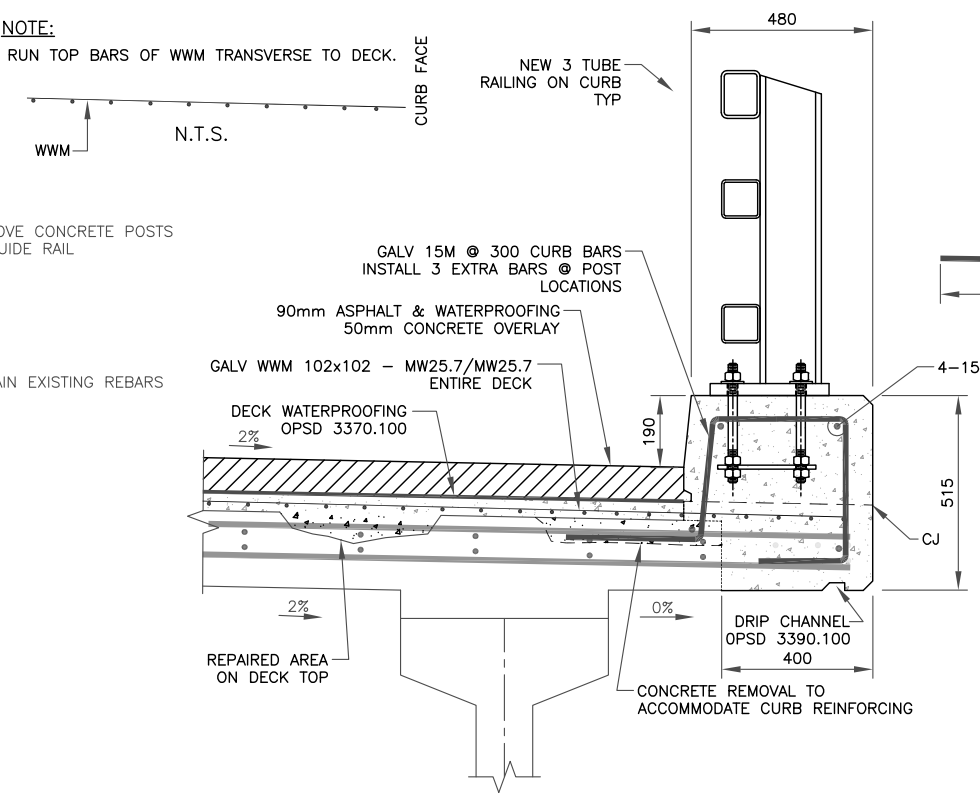
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100mm ON ORIGINAL DRAWING



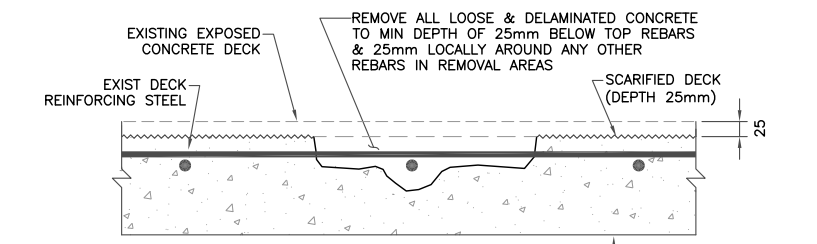
CONT No. EC-PW-24-04
WEIR ROAD BRIDGE
WEIR ROAD
DECK RECONSTRUCTION DETAILS
SHEET
4



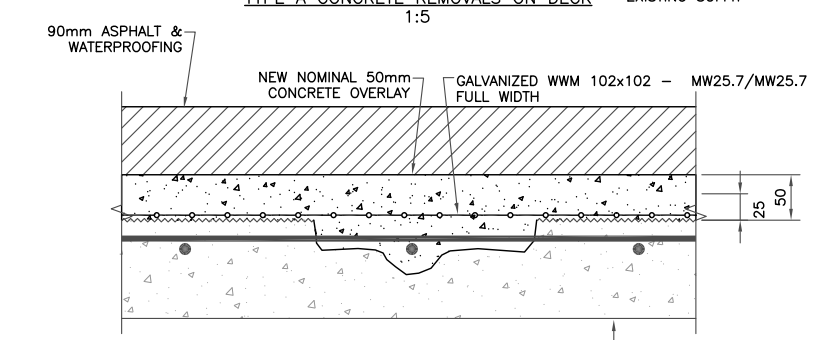
REMOVALS @ DECK END
1:10



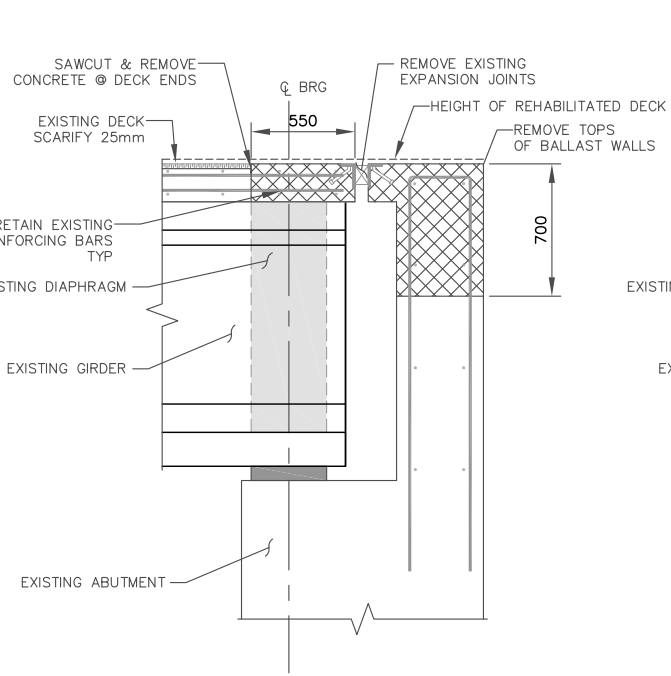
NEW CONSTRUCTION @ DECK END
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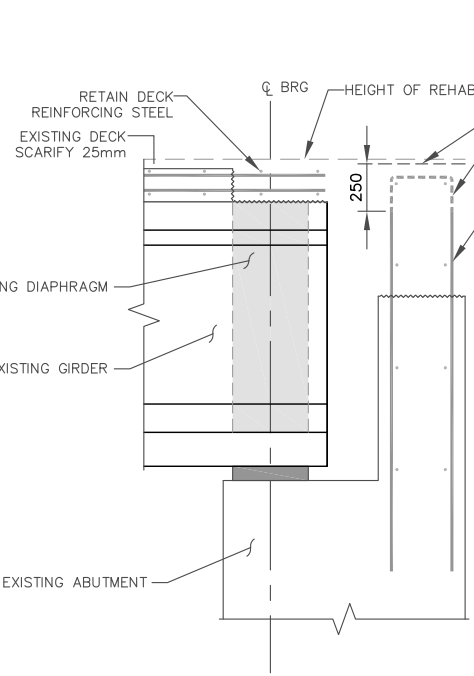
TYPE A CONCRETE REMOVALS ON DECK
1:5



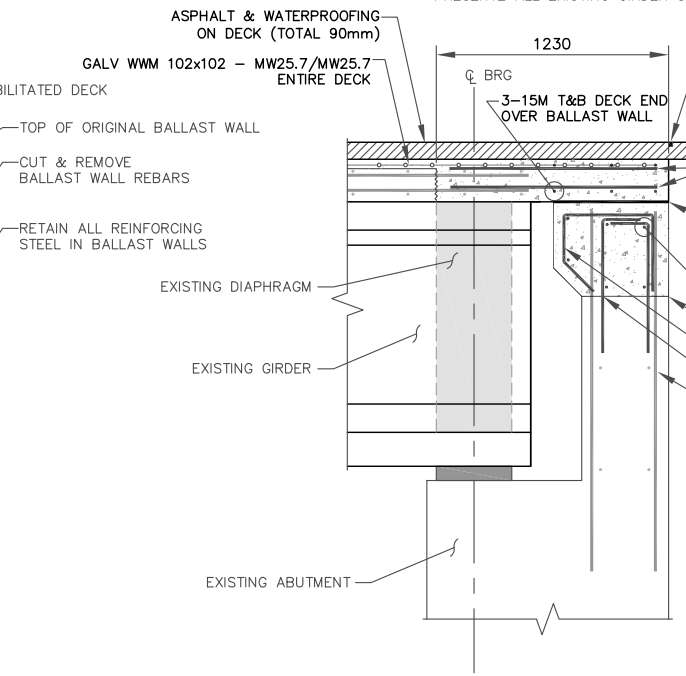
COMPLETED DECK REPAIRS
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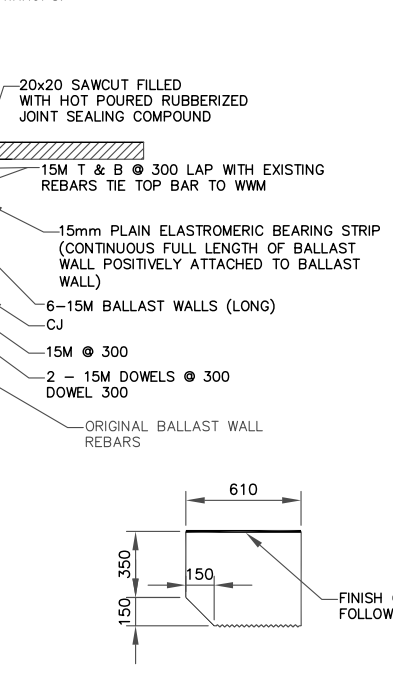
REMOVALS @ DECK & BALLAST WALLS
1:20



BLOCK OUT @ DECK & BALLAST WALLS
1:20

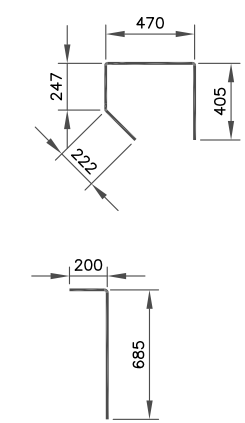


NEW CONSTRUCTION @ BALLAST WALLS
1:20



NEW CORBEL CONSTRUCTION @ BALLAST WALLS
1:20

DECK END REMOVALS
GIRDER STIRRUPS NOT SHOWN FOR CLARITY.
PRESERVE ALL EXISTING GIRDER STIRRUPS.



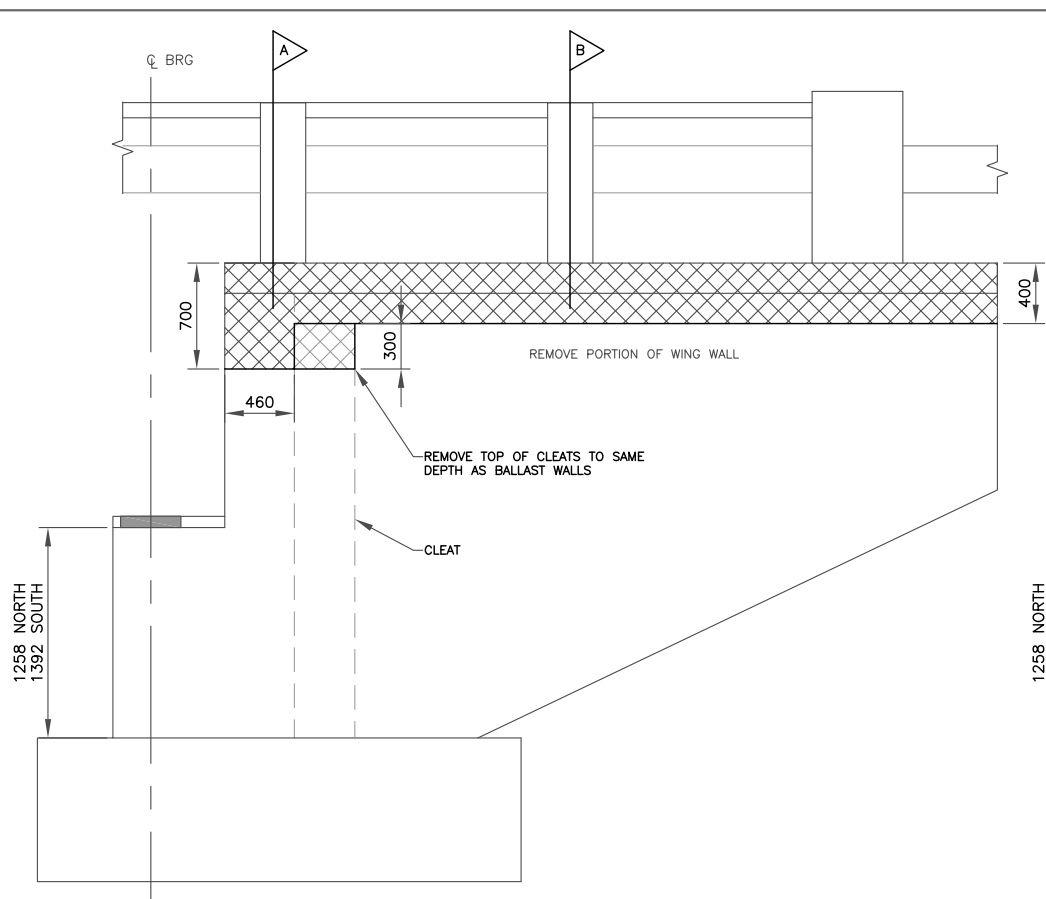
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DRAWN	CHK	SITE	DWG
SR	CHK HK	EC 1	4

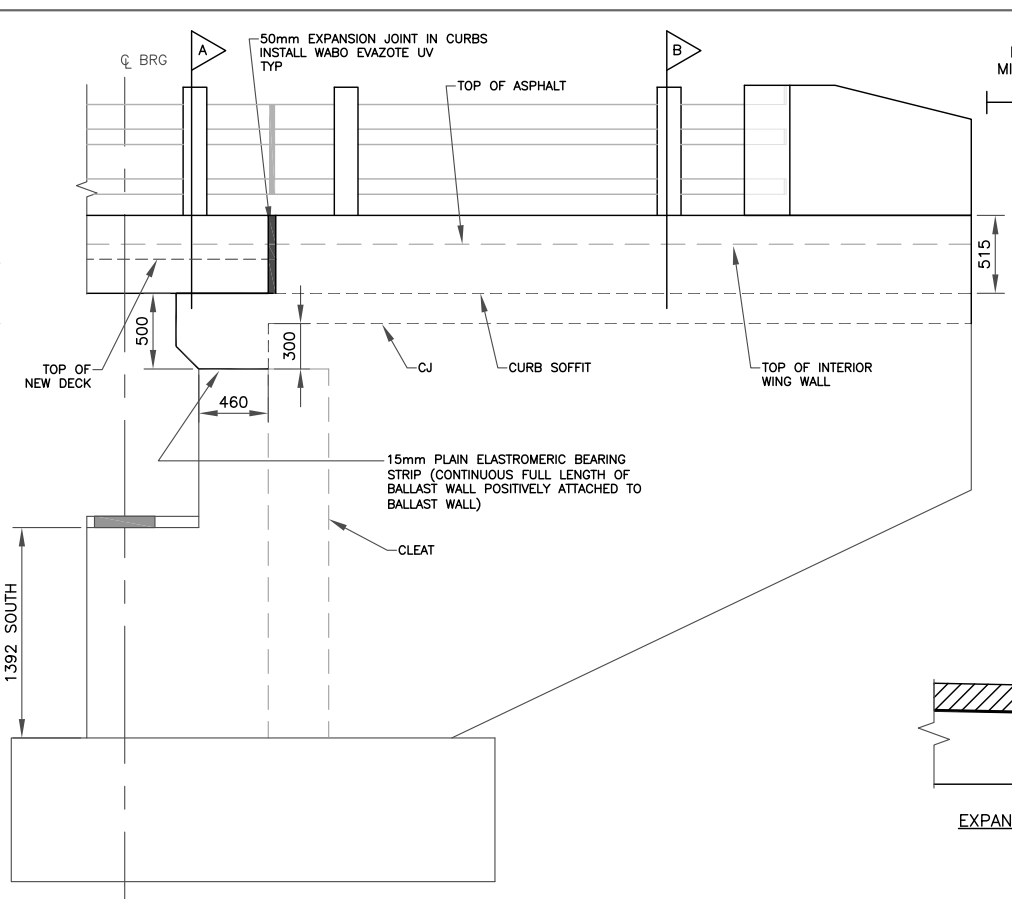


NOTE:
WHERE SAWCUTTING IS SHOWN ADJUST
DEPTH TO AVOID REBAR.

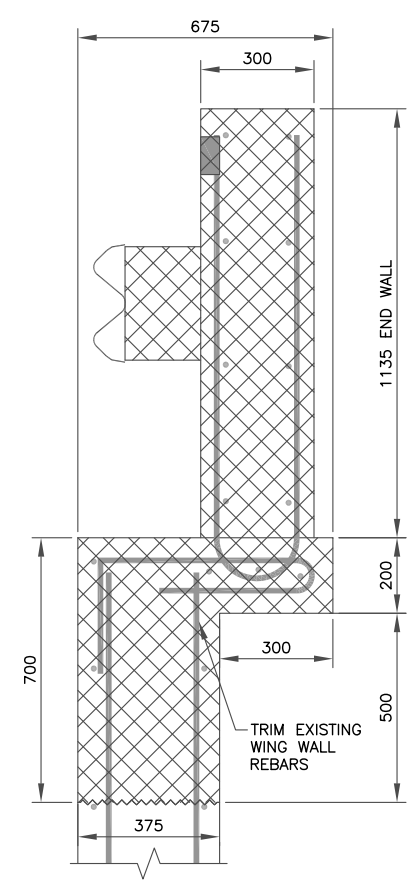
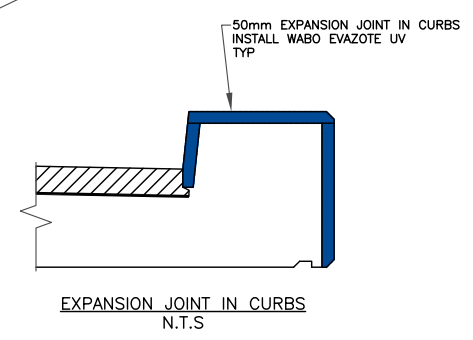
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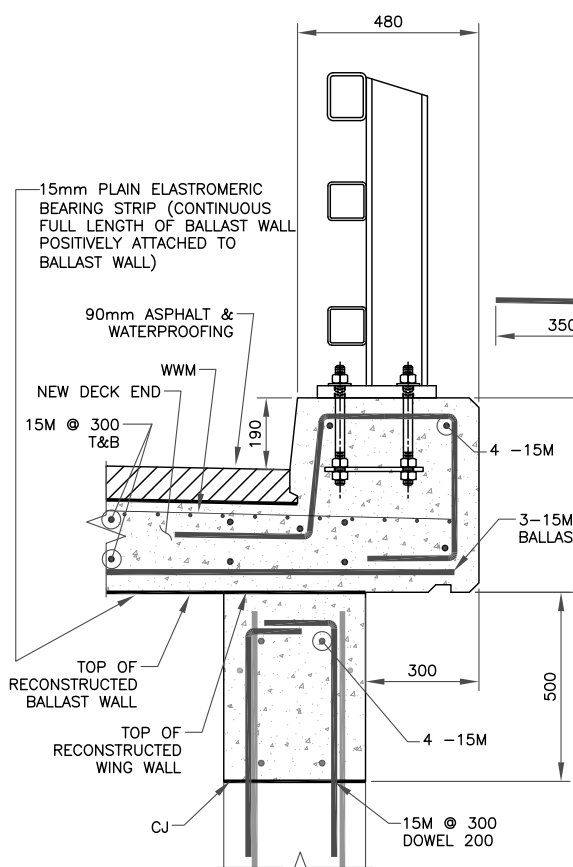
EXISTING WING WALL ELEVATION
1:25



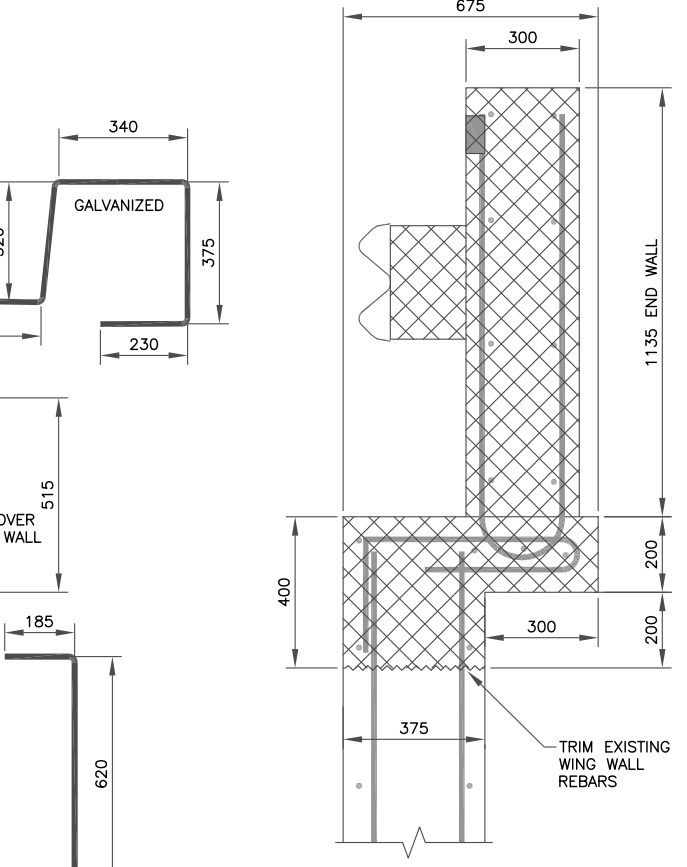
RECONSTRUCTED WING WALL ELEVATION
1:25



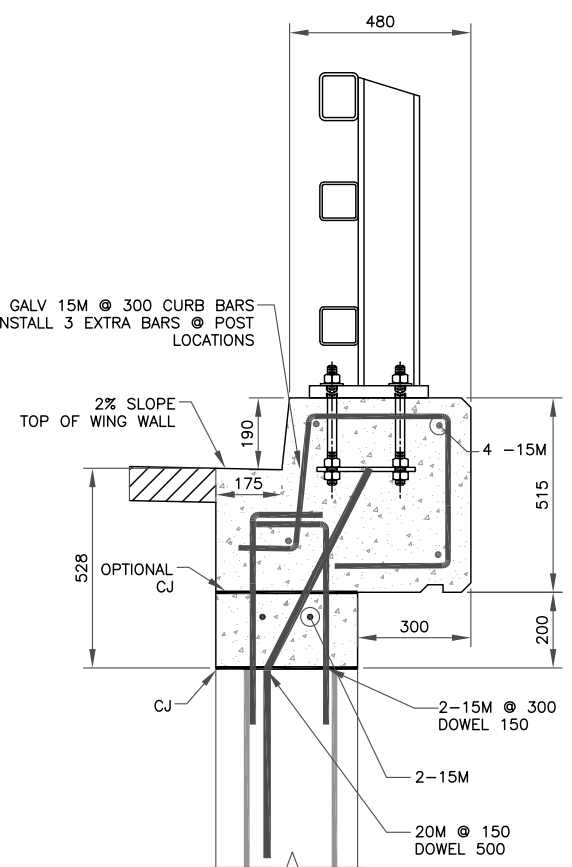
EXISTING WING WALL REMOVAL A
1:10



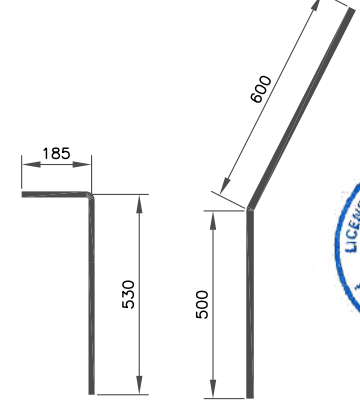
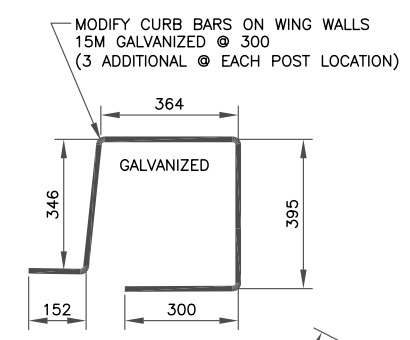
NEW CONSTRUCTION @ WING WALL A
1:10



EXISTING WING WALL REMOVAL B
1:10



NEW CONSTRUCTION @ WING WALL B
1:10

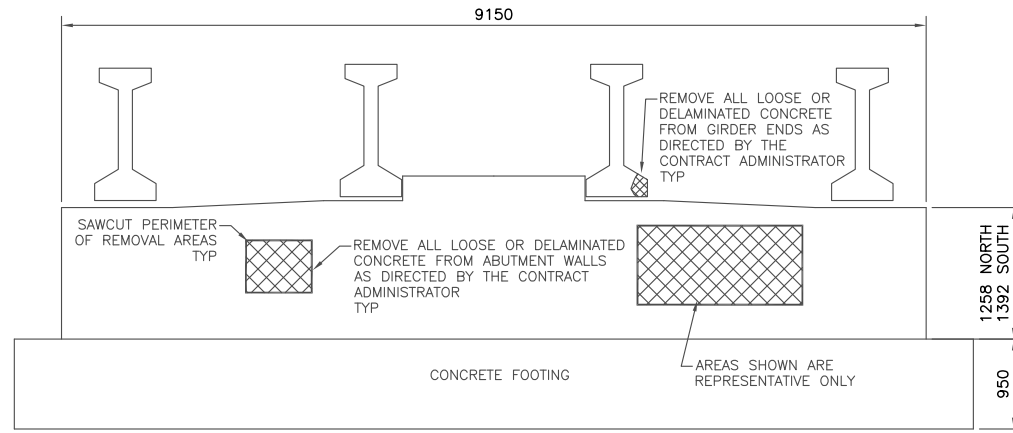


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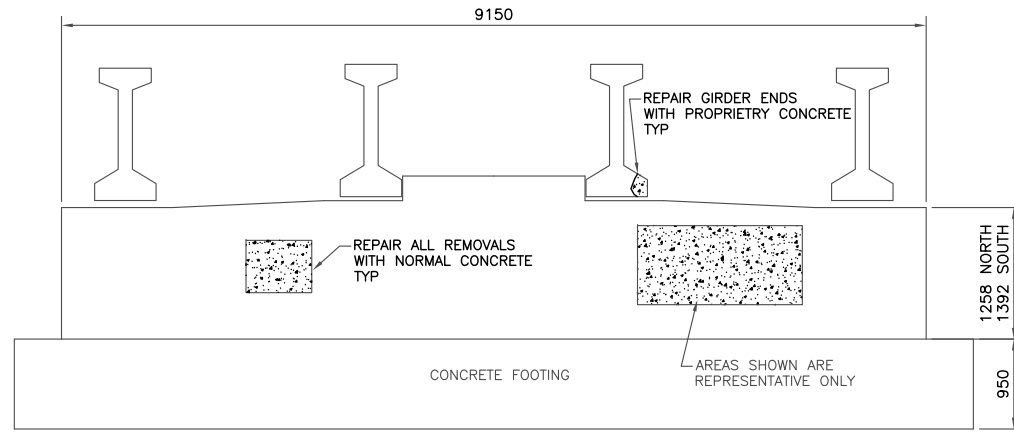
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CHK	CODE	DATE	BY
HK	CHBDC-14	JAN 2024	
SR	SITE EC 1	DWG 5	



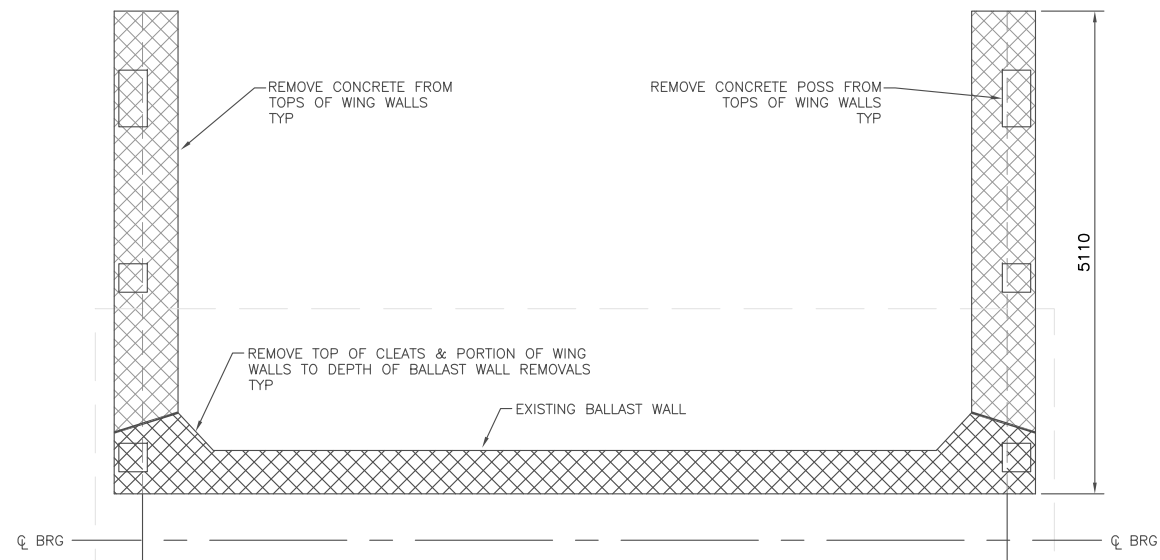
NOTE:
 WHERE SAWCUTTING IS SHOWN
 ADJUST DEPTH TO AVOID REBAR.



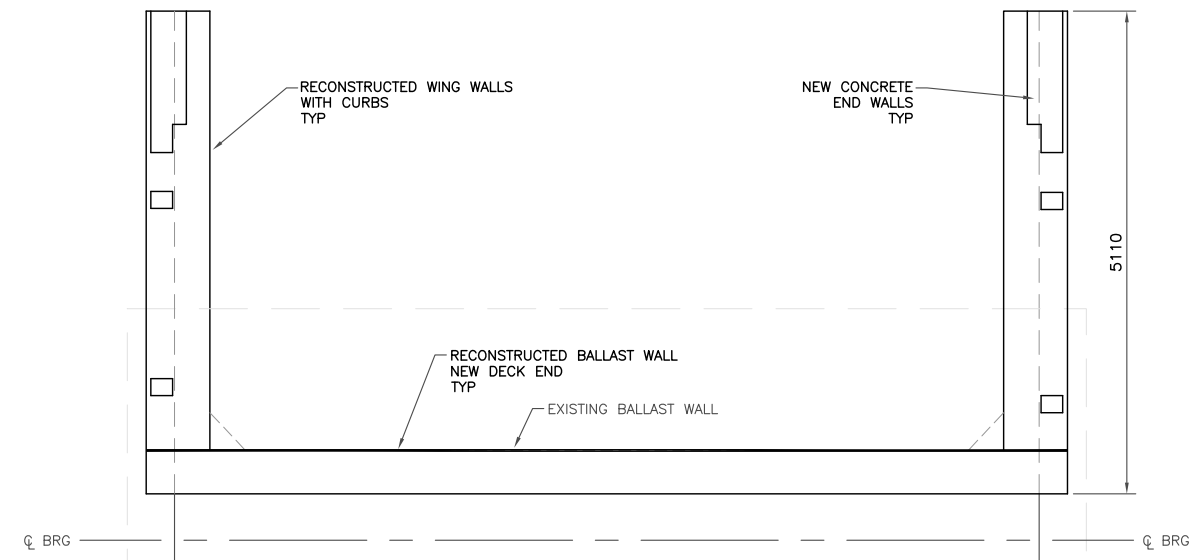
EXISTING ABUTMENT WALL ELEVATION
 1:40



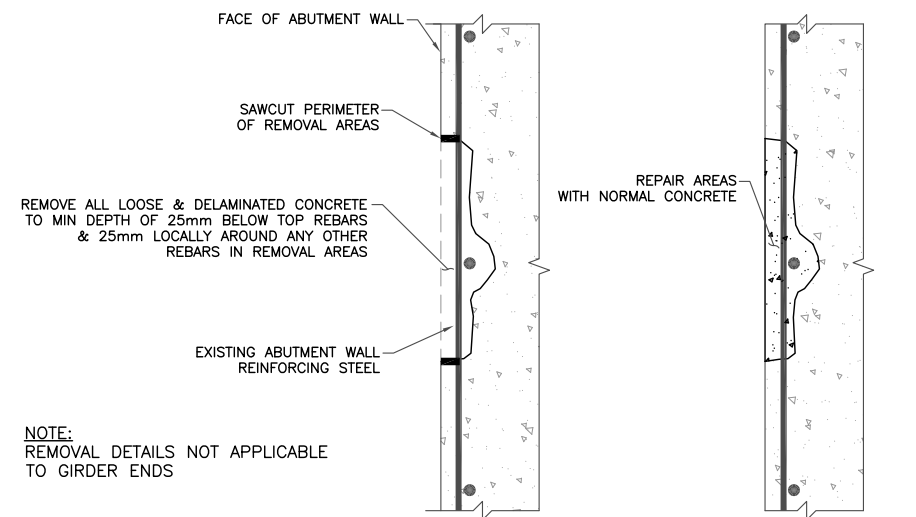
REHABILITATED ABUTMENT WALL ELEVATION
 1:40



EXISTING BALLAST/WING WALL PLAN
 NORTH & SOUTH SIMILAR
 1:40

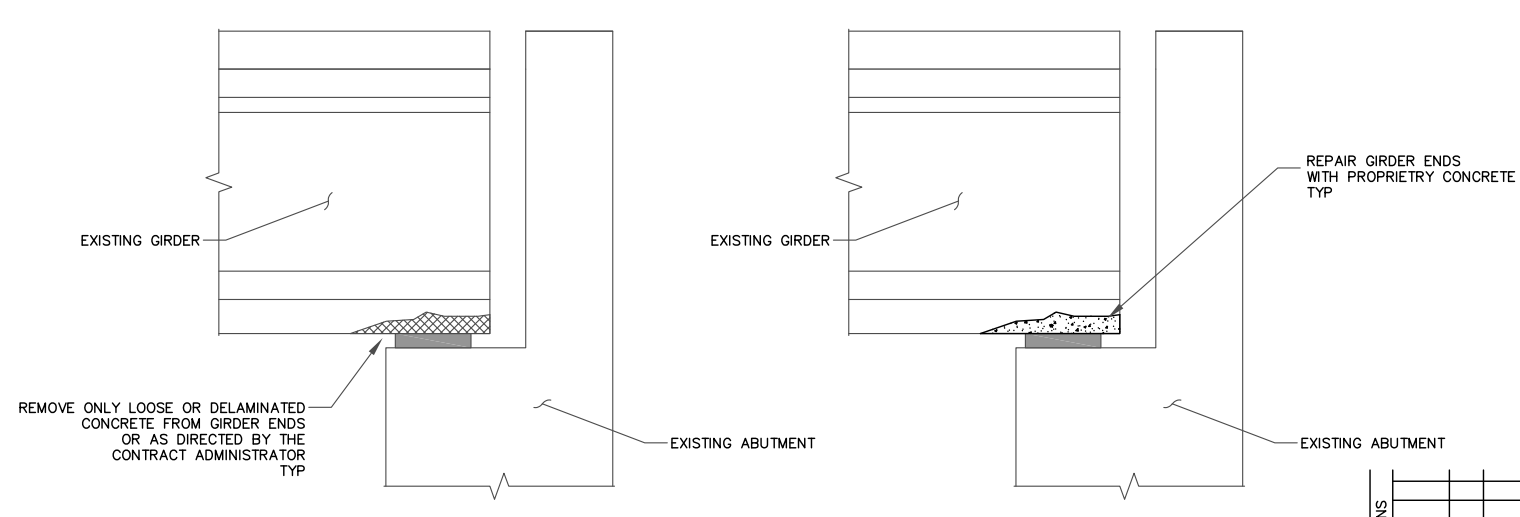


REHABILITATED BALLAST/WING WALL PLAN
 NORTH & SOUTH SIMILAR
 1:40



TYPE B CONCRETE REMOVALS AT ABUTMENT WALL
 1:5

COMPLETED DECK REPAIRS
 1:5



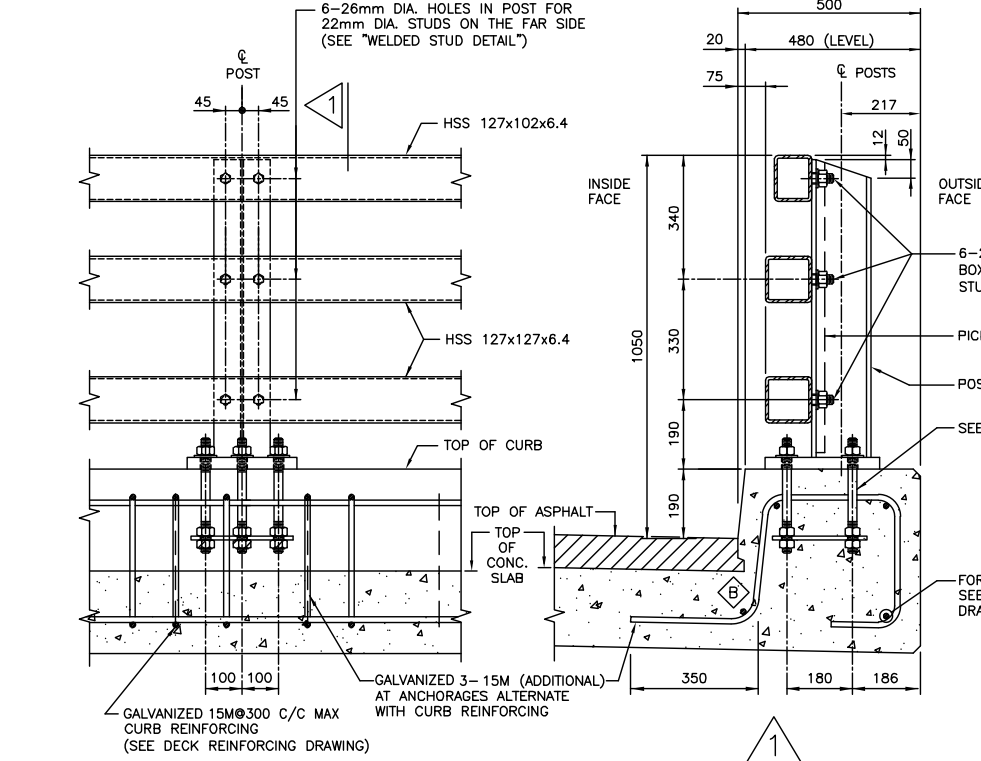
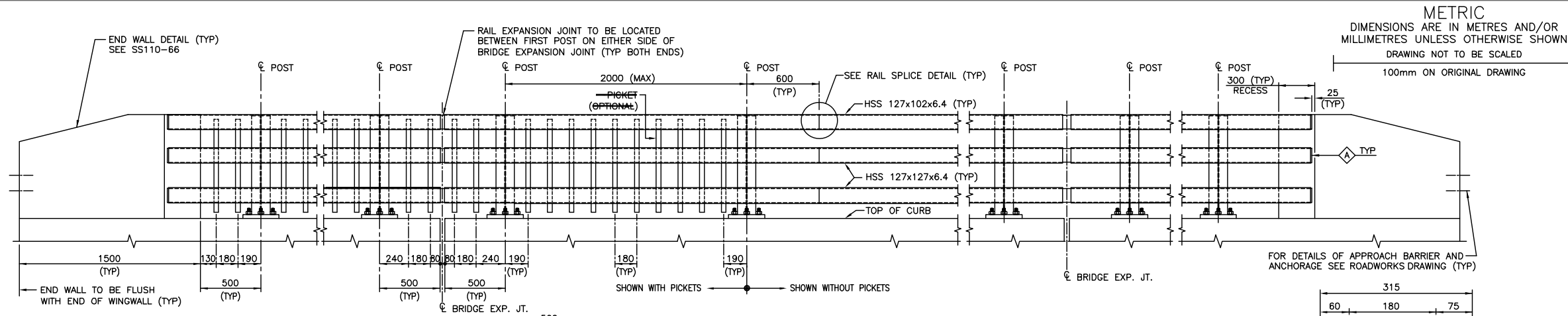
GIRDER END REMOVALS
 1:20

GIRDER END REPAIRS
 1:20

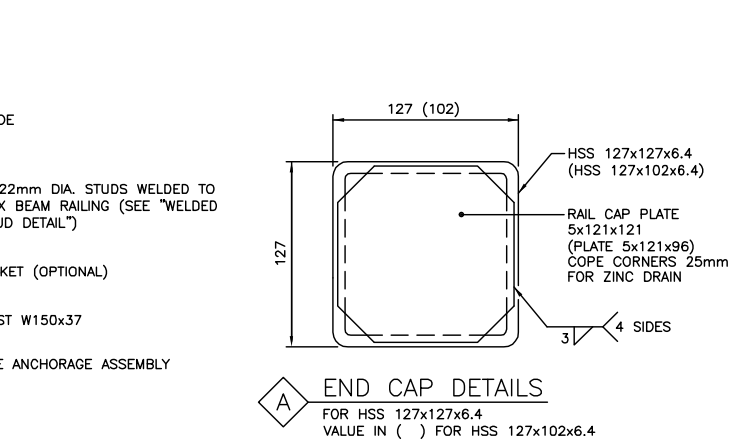


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NO.	DATE	DESCRIPTION	BY

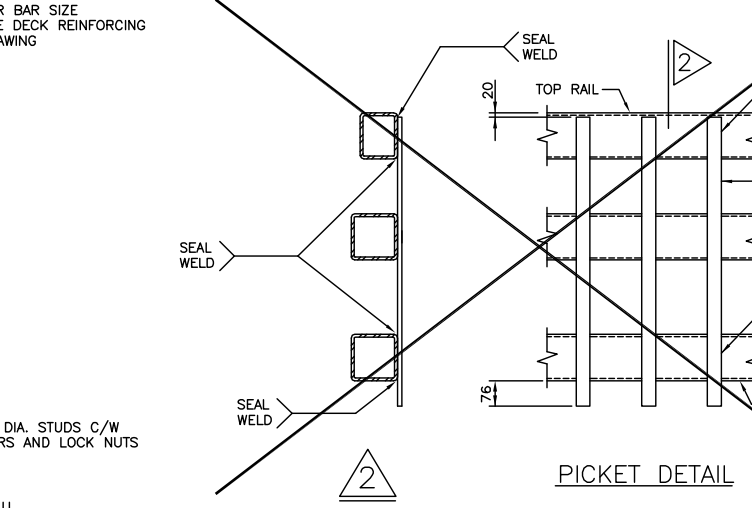
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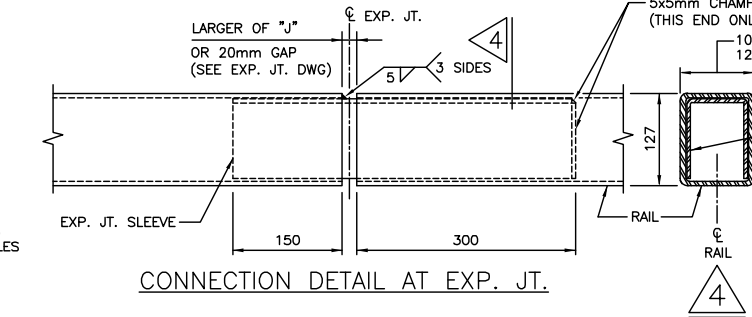
ELEVATION - RAILING ON CURB
(INSIDE FACE SHOWN)



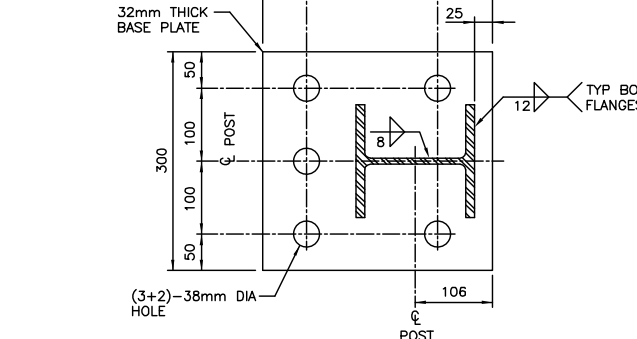
END CAP DETAILS
FOR HSS 127x127x6.4
VALUE IN () FOR HSS 127x102x6.4



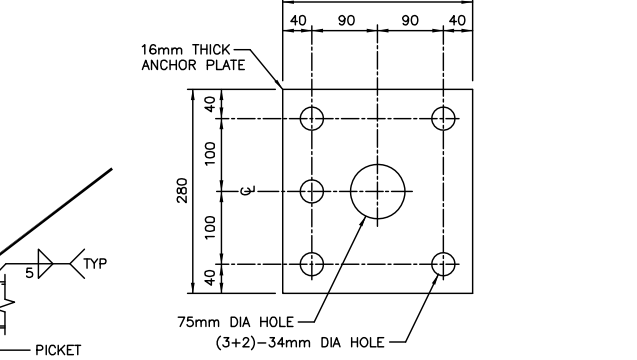
PICKET DETAIL



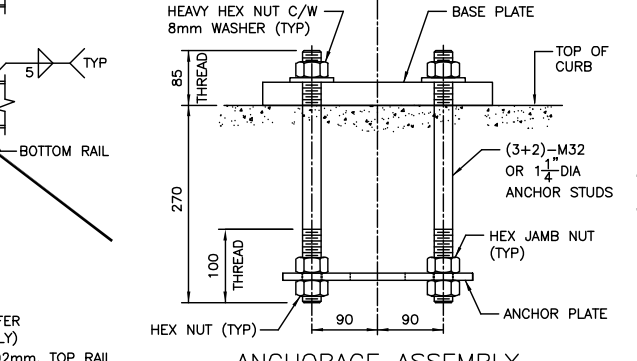
CONNECTION DETAIL AT EXP. JT.



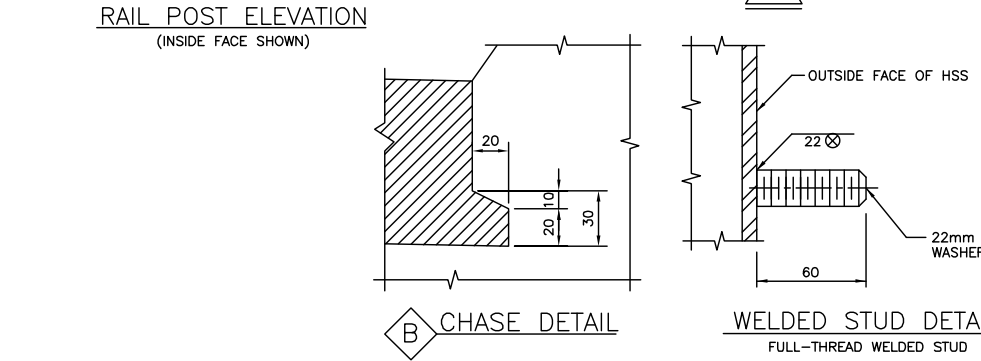
BASE PLATE



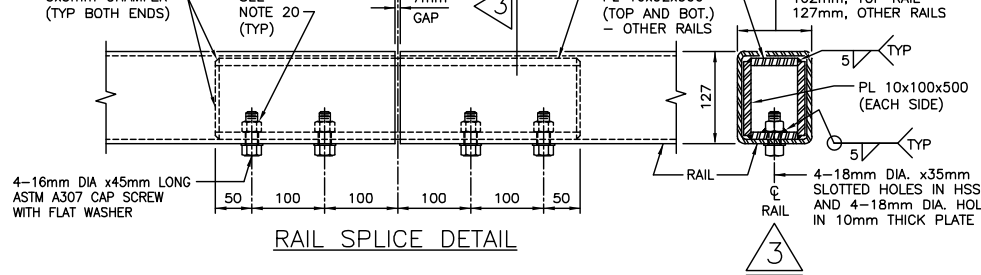
ANCHOR PLATE



ANCHORAGE ASSEMBLY



CHASE DETAIL



WELDED STUD DETAIL
FULL-THREAD WELDED STUD



RAIL SPLICE DETAIL

- 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 CHАРY V-NOTCH IMPACT TEST REQUIREMENTS OF 27 JOULES AT TEST TEMPERATURE OF -30 °C. (ASTM A500 GRADE B OR C STEEL MAY BE SUBSTITUTED FOR GRADE 350WT PROVIDED THAT THE CHАРY 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, WASHERS AND NUTS FOR FASTENING GUIDE RAILS TO POST SHALL CONFORM TO ASTM A108.
 7. RAILS SHALL BE SUPPLIED IN LENGTHS TO BE ATTACHED TO A MINIMUM OF THREE (3) RAIL POSTS EXCEPT WHEN THE WINGWALL LENGTH OF A BRIDGE WITH EXPANSION JOINTS DOES NOT PERMIT THIS. 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 150m.
 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. A 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.

MODIFIED	
STANDARD DRAWING AUGUST 2019	SS110-39
THREE TUBE RAILING ON CURB, TL-4 (WITH CONCRETE END WALL)	

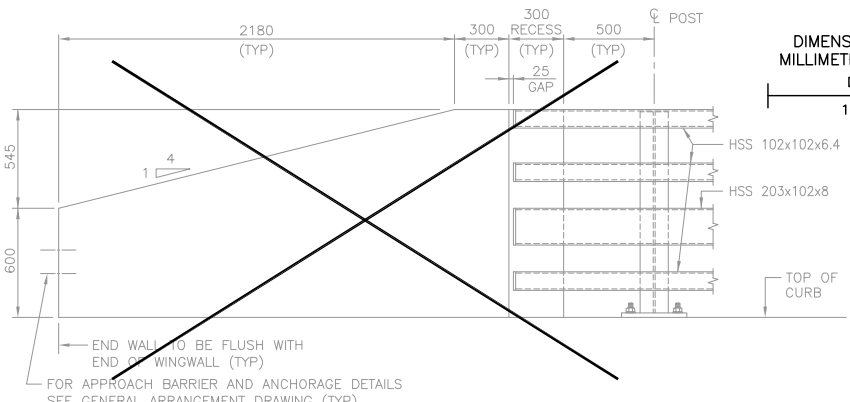
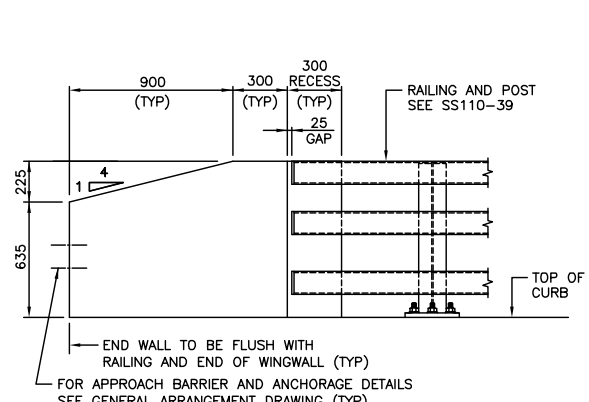
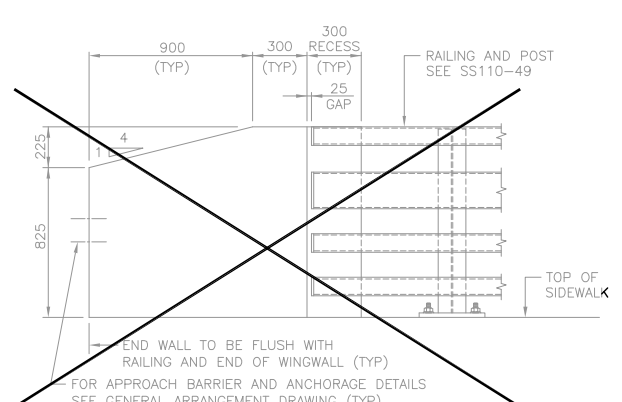
REVISIONS	DESCRIPTION	DATE

DESIGN	CHK	CODE	CHBDC-06	DATE	JAN 2024
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				DWG	7





METRIC
DIMENSIONS ARE IN METRES AND/OR
MILLIMETRES UNLESS OTHERWISE SHOWN
DRAWING NOT TO BE SCALED
100mm ON ORIGINAL DRAWING

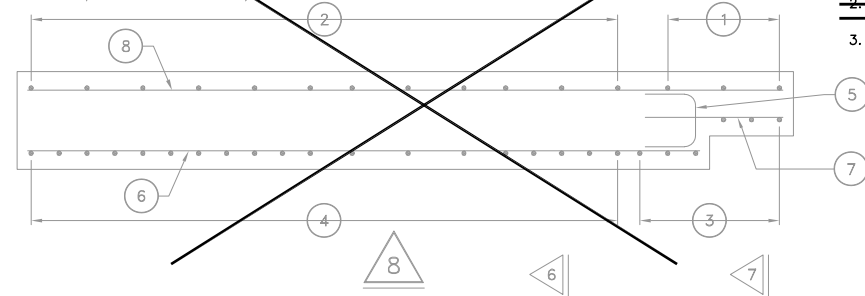
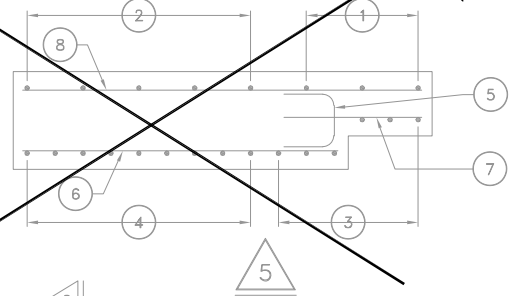


ELEVATION
END WALL ON SIDEWALK
(4 TUBE RAILING)

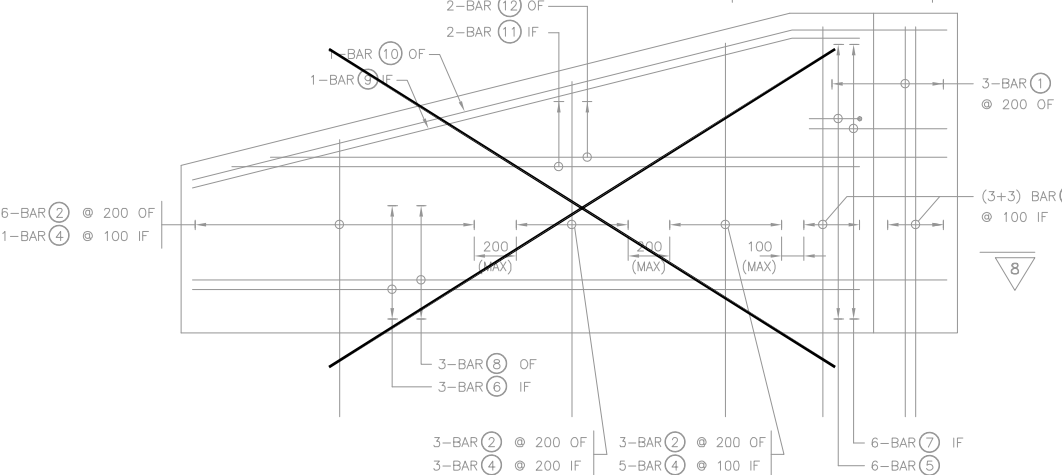
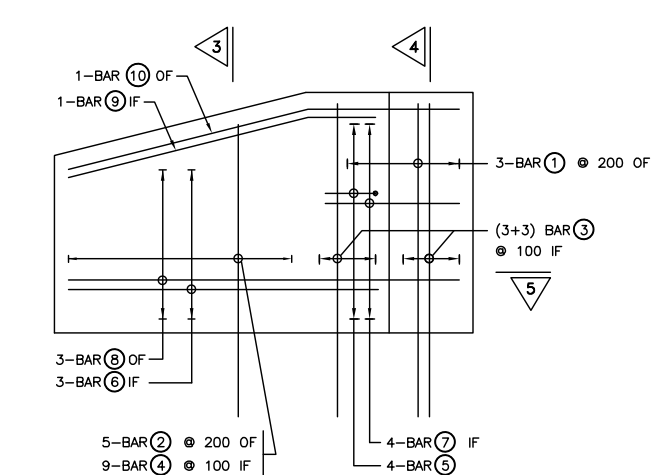
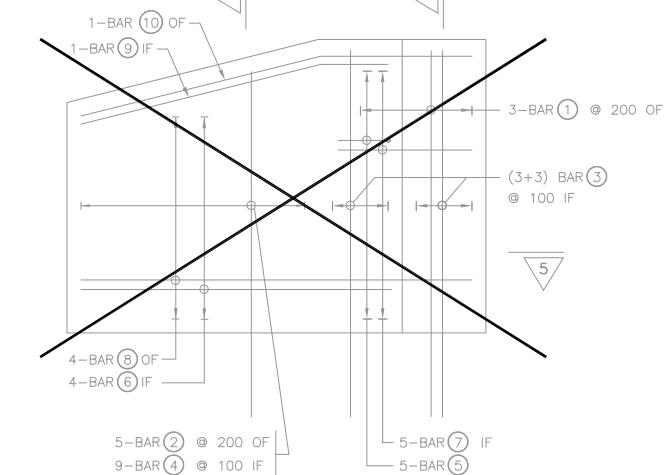
ELEVATION
END WALL ON CURB
(3 TUBE RAILING)

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

- NOTES:**
1. CONCRETE COVER TO REINFORCING STEEL 60±10mm EXCEPT AS NOTED.
 2. REINFORCING STEEL SHALL BE STAINLESS 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	\$10M	STRAIGHT
2	\$10M	STRAIGHT (VARIES)
3	\$15M	
4	\$15M	
5	\$15M	
6	\$15M	STRAIGHT
7	\$15M	STRAIGHT
8	\$15M	STRAIGHT
9	\$15M	
10	\$15M	
11	\$15M	STRAIGHT (VARIES)
12	\$15M	STRAIGHT (VARIES)

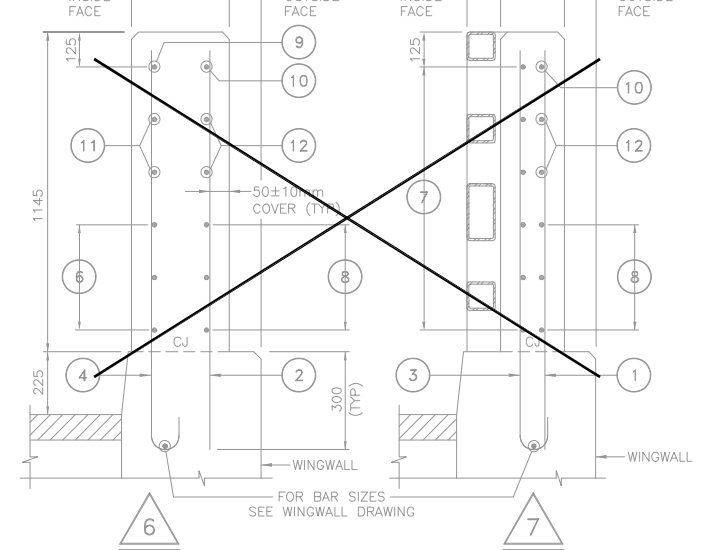
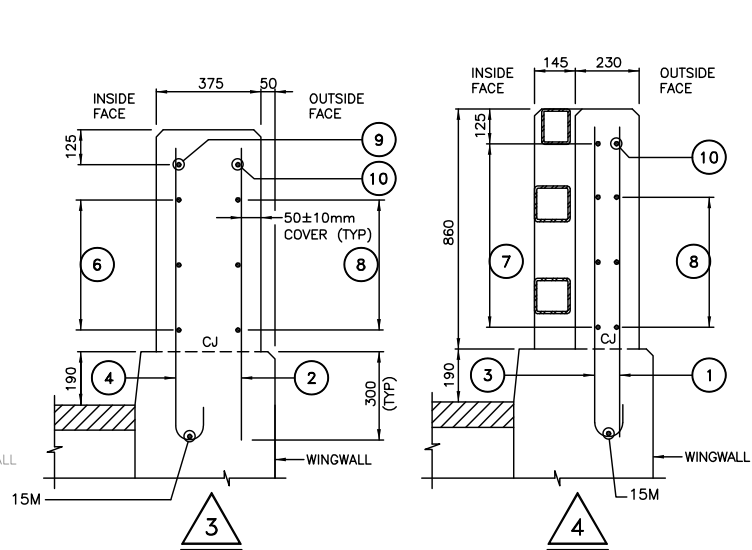
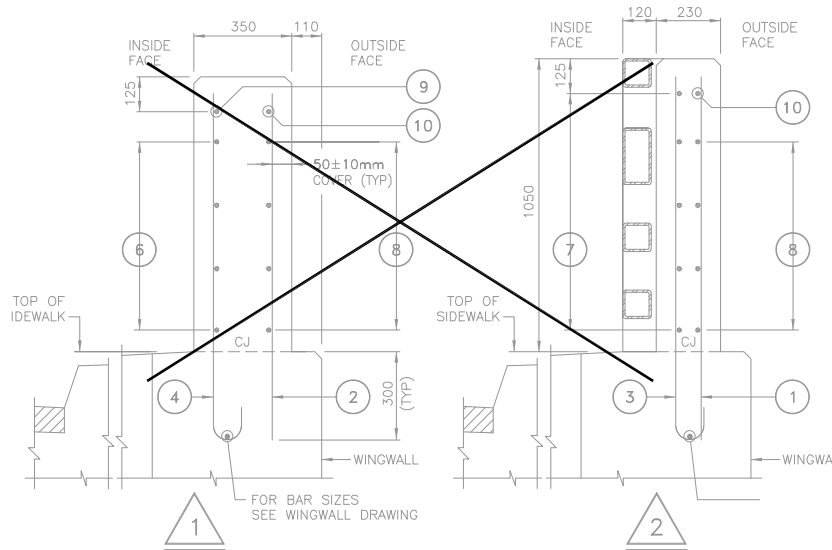


REINFORCING ARRANGEMENT - 4 TUBE RAILING
END WALL ON SIDEWALK

REINFORCING ARRANGEMENT - 3 TUBE RAILING
END WALL ON CURB

REINFORCING ARRANGEMENT - 4 TUBE RAILING
END WALL ON CURB

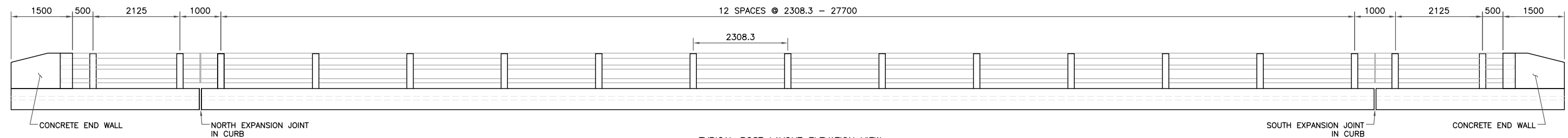
* GALVANIZE ALL BARS



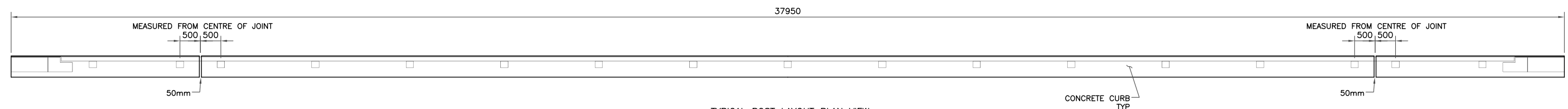
MODIFIED
STANDARD DRAWING
MAY 2018
SS110-66
CONCRETE END WALL FOR BOX BEAM RAILING
(STAINLESS STEEL REBAR)

REVISIONS	DESCRIPTION	DATE

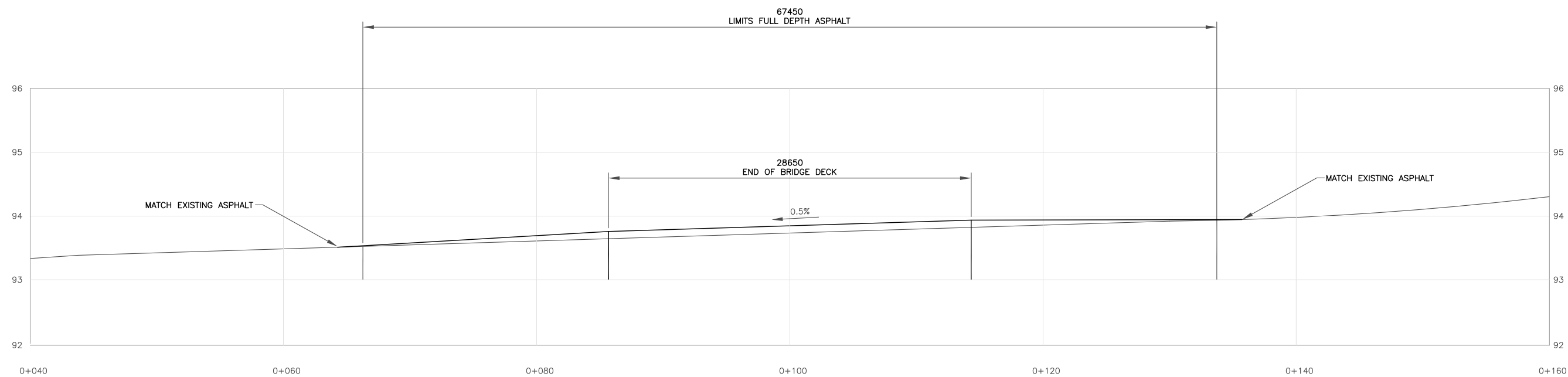
DESIGN	CHK	CODE	CHBDC-14	DATE	JAN 2024	
DRAWN	SR	CHK	HK	SITE	EC 1	
					DWG	8



TYPICAL POST LAYOUT ELEVATION VIEW
WEST SIDE SHOWN EAST SIMILAR
1:50



TYPICAL POST LAYOUT PLAN VIEW
WEST SIDE SHOWN EAST SIMILAR
1:50



NEW ROAD PROFILE
VERT EXAGGERATION x 5
1:175



REVISIONS		DESCRIPTION			
NO.	DATE	BY	CHK	CODE	DESCRIPTION

DESIGN	HK	CHK		CODE		DATE	JAN 2024
DRAWN	SR	CHK	HK	SITE	OSIM100	DWG	9

TOWNSHIP OF EDWARDSBURGH

WEIR ROAD BRIDGE

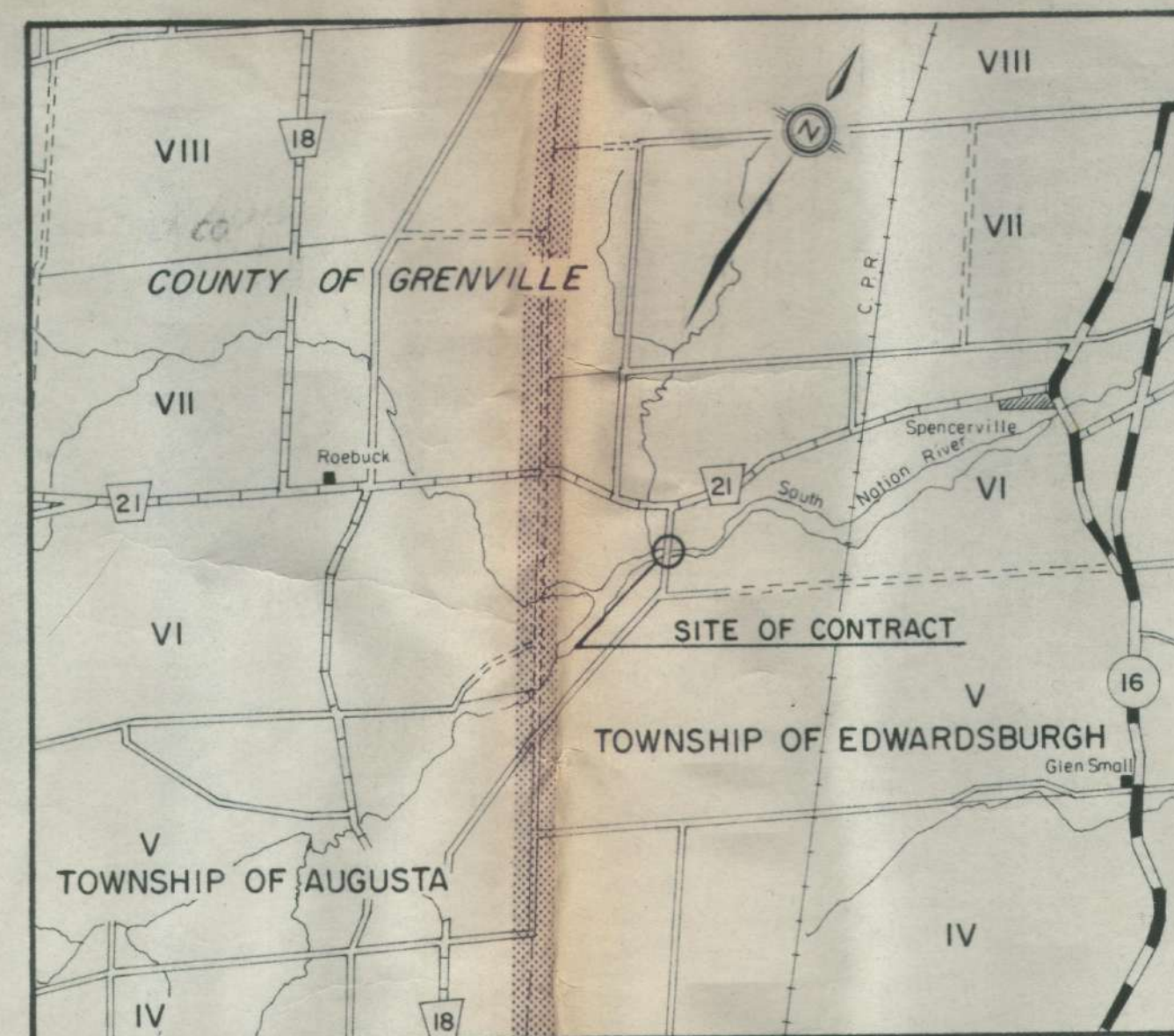
CONTRACT No. 1373

CONTRACT DRAWINGS	
DRAWING No.	DRAWINGS
D-1373-1	COVER SHEET
D-1373-2	PLAN, PROFILE & SOIL STRATA
D-1373-3	GENERAL PLAN
D-1373-4	ABUT., FOOTINGS, REINF. & DIMEN.
D-1373-5	DECK, REINF. & BEARING DETAILS
D-1373-6	PRESTRESSED GIRDERS
D-1373-7	REINFORCING STEEL SCHEDULE
D-1373-8	STANDARDS
D-1373-9	STANDARDS

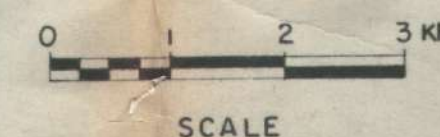
W.P. No. 1373 Contract No. 1373

Work of STRUCTURE AND APPROACHES

Location IN LOT 35, CONCESSION VI, OVER SOUTH NATION RIVER



KEY PLAN



Reeve J. IRVING
Clerk R. AUSTIN
Road Supt. R. CUMMINGS

K **KOSTUCH ENGINEERING LIMITED**
CONSULTING ENGINEERS
BROCKVILLE - OTTAWA - BELLEVILLE - CORNWALL

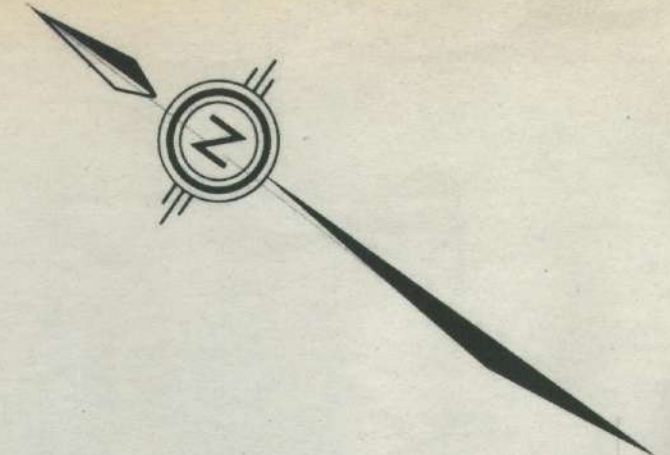
Final approved

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS
ONTARIO
M.T.C. STRUCTURE SITE NO. 16-89
FINAL DESIGN APPROVED As Noted FOR STRUCTURAL
ADEQUACY THIS DAY OCT 5 1983
A. Stear
MUNICIPAL STRUCTURAL ENGINEER

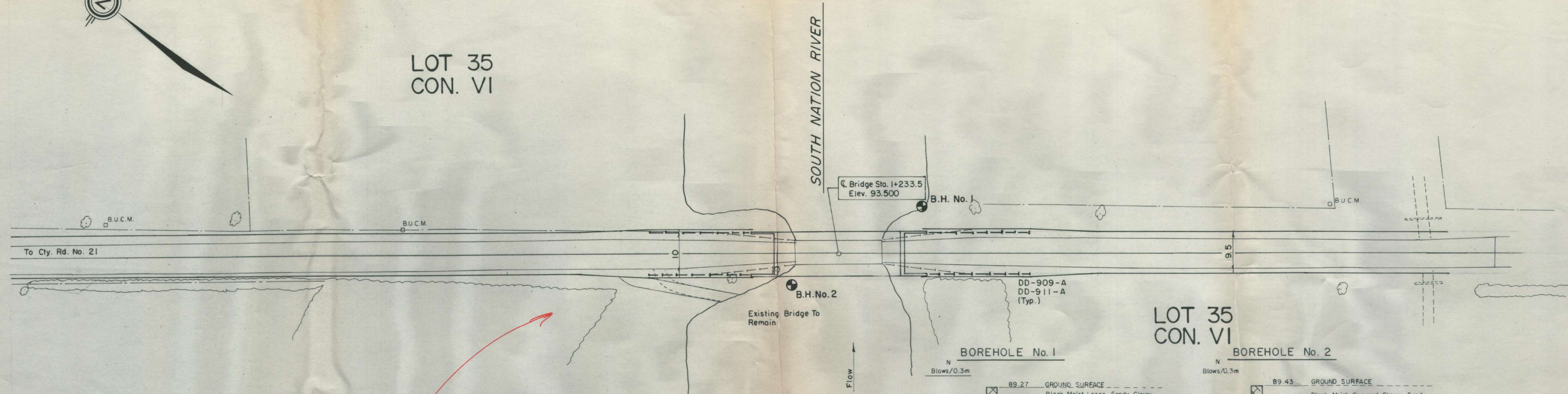
DO NOT USE FOR
CONSTRUCTION

M.T.C. DESIGN
RECEIVED
AUG 6 1983
STRUCTURAL ENGINEER
M.T.C.

STRUCTURE SITE No. 16-89



LOT 35
CON. VI



PROVIDE NOTE:

THIS ROAD MUST BE POSTED FOR MAX. SPEED LIMIT OF 60 km/h. AFTER COMPLETION

DATA CONCERNING THE VARIOUS STRATA HAVE BEEN OBTAINED AT BOREHOLE LOCATIONS ONLY THE SOIL STRATIGRAPHY BETWEEN BOREHOLES HAS BEEN INFERRED FROM GEOLOGICAL EVIDENCE AND SO MAY VARY FROM THAT SHOWN.

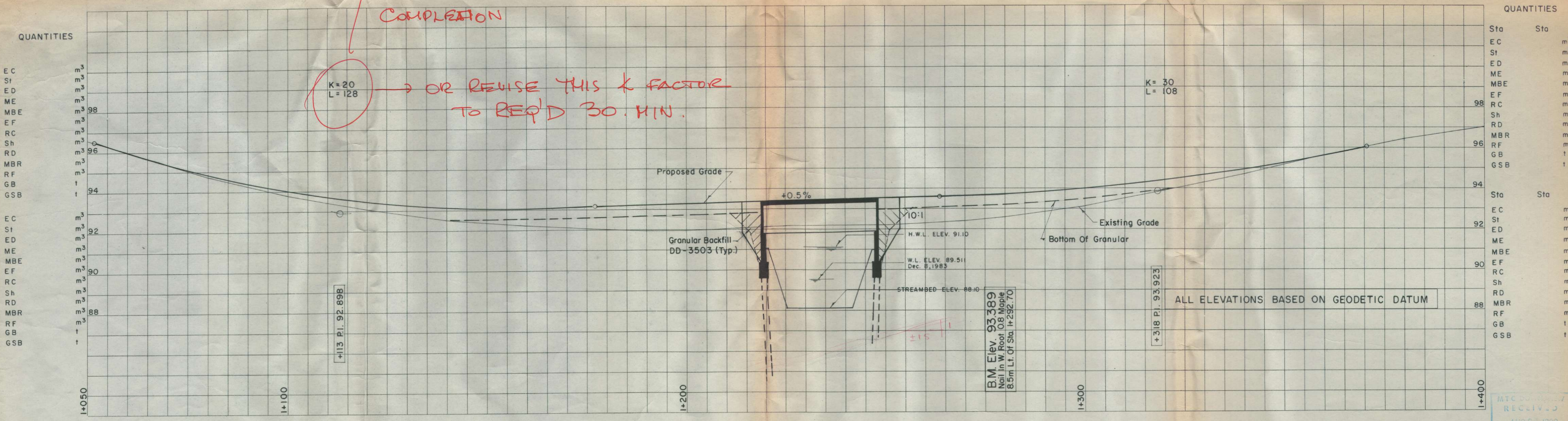
SOIL INVESTIGATION BY ST. LAWRENCE TESTING & INSPECTION CO. LTD. CORNWALL, ONTARIO, REPORT No. 3028. REPORT MAY BE SEEN AT THE OFFICE OF KOSTUCH ENGINEERING LIMITED, CONSULTING ENGINEERS 51 KING ST. W. BROCKVILLE, ONTARIO.

BOREHOLE No. 1

Blows/0.3m	Elevation	Description
	89.27	GROUND SURFACE
4	88.39	Black, Moist, Loose, Sandy, Clayey SILT FILL
25		Grey, Moist, Dense To Very Dense Clayey, Sandy SILT TILL
54	86.37	
	84.97	Sound Layered With Fissures LIMESTONE BEDROCK
		End Of Coring

BOREHOLE No. 2

Blows/0.3m	Elevation	Description
	89.43	GROUND SURFACE
12		Black, Moist, Compact, Clayey, Sandy With Occasional Gravel and Boulders SILT FILL
18	87.45	
34		Grey, Moist, Dense To Very Dense Clayey, Sandy SILT TILL
100		
24	84.71	Sound, Layered With Fissures LIMESTONE BEDROCK
	83.14	End Of Coring



**K=20
L=128**

OR REVISE THIS K FACTOR TO REQ'D 30 MIN.

**K=30
L=108**

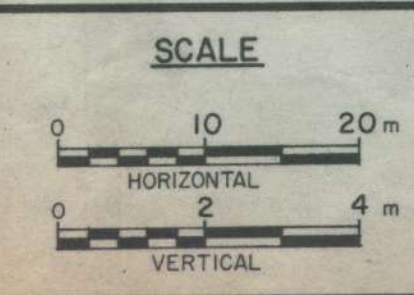
ALL ELEVATIONS BASED ON GEODETIC DATUM

QUANTITIES

Sto	Sto
EC	m ³
SI	m ³
ED	m ³
ME	m ³
MBE	m ³
EF	m ³
RC	m ³
Sh	m ³
RD	m ³
MBR	m ³
RF	m ³
GB	t
GSB	t



No.	BY	DATE	REVISION



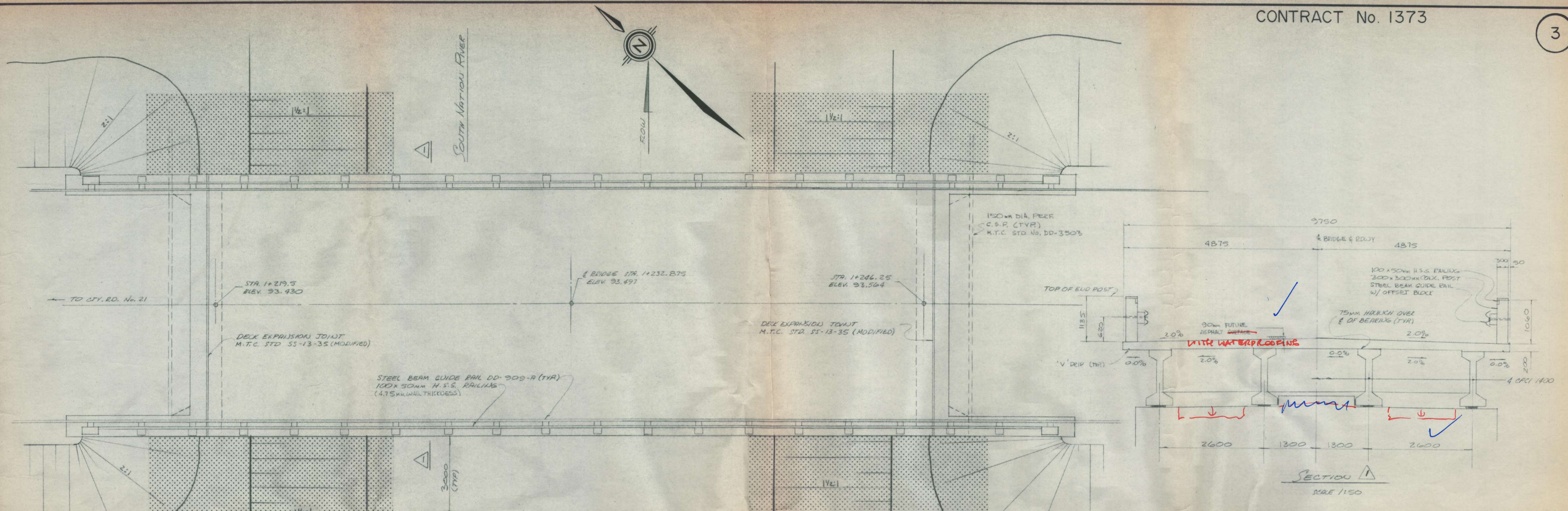
DESIGN	L.A.F./J.E.G.	CHECKED	B. R. T.
DRAWN	D.G.P.	CHECKED	B. R. T.
APPROVED	B. R. T.	DATE	July, 1983



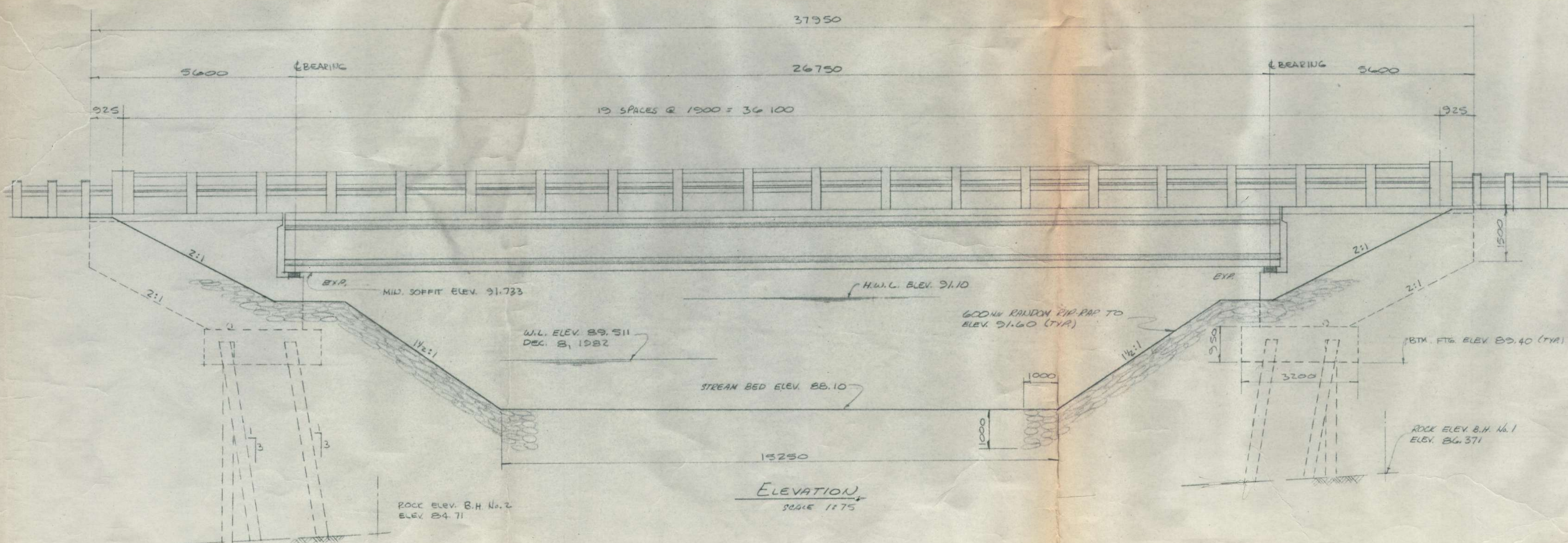
WEIR ROAD BRIDGE	
Cty. GRENVILLE	M.T.C. Site No. 16-89
Twp. EDWARDSBURGH	Lot 35 Con. VI

TOWNSHIP OF EDWARDSBURGH	
PROJECT No. 1373	CONTRACT No. 1373
PLAN & PROFILE & SOILS	
DRAWING No. D-1373-3	STRUCTURE SITE No. 16-89

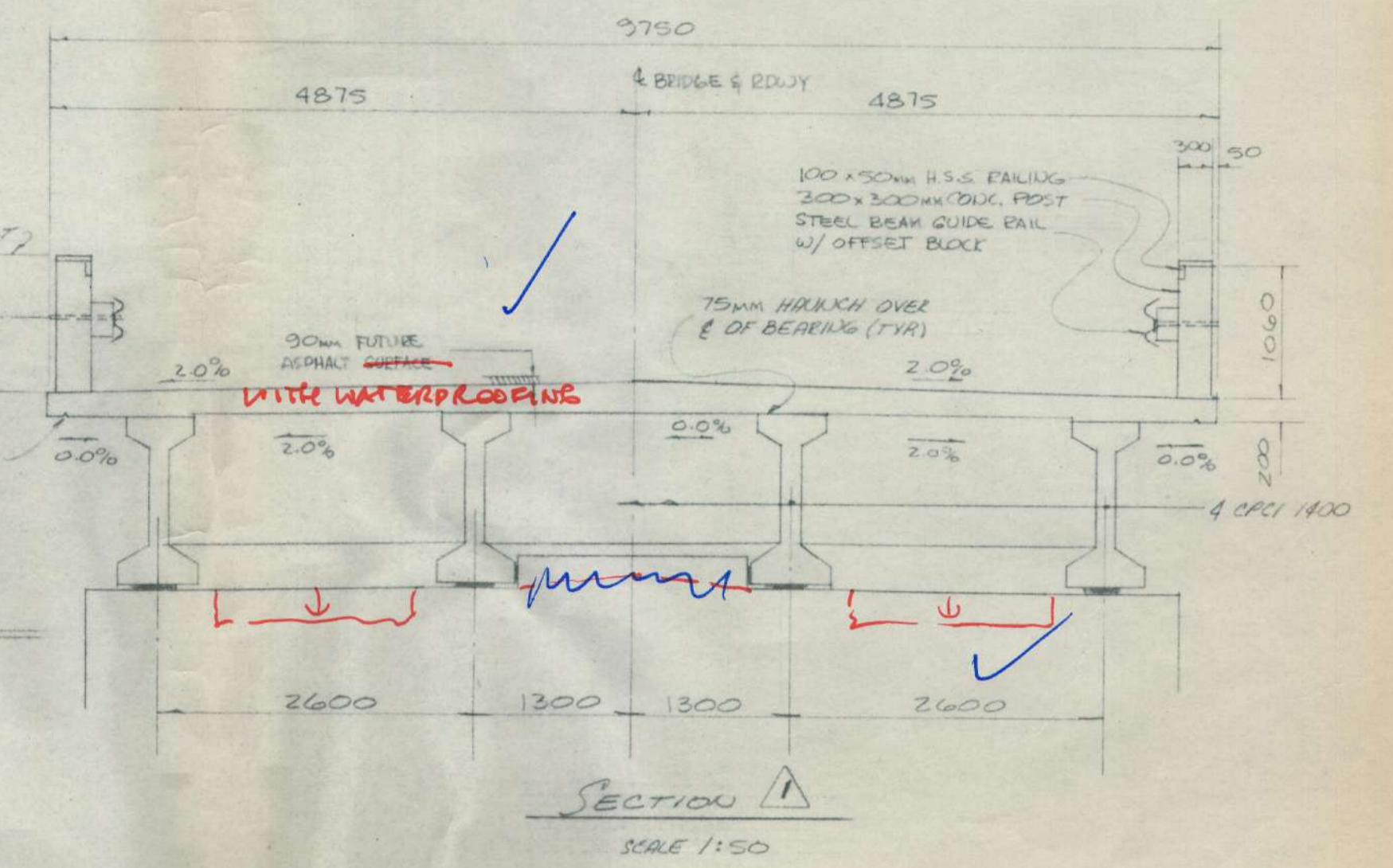




PLAN SCALE 1:75



ELEVATION SCALE 1:75



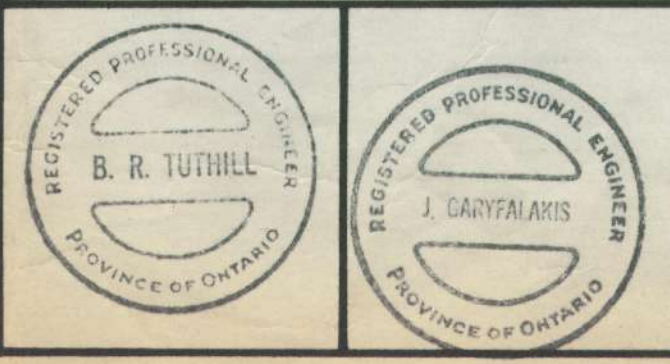
SECTION A SCALE 1:50

- GENERAL NOTES**
- CLASS OF CONCRETE
 - GENERAL - REFER TO PRESTRESSED GIRDER AUG. D-1373-G
 - DECK SLAB - 30 MPa
 - REMAINDER - 20 MPa
 - CLEAR COVER TO REINFORCING STEEL
 - POSTS - 70mm ± 20mm
 - DECK - TOP - 70mm ± 20, BTM - 40mm ± 10mm
 - ABUT. & WING WALLS - 70mm ± 20mm
 - REINFORCING STEEL
 - ALL REINFORCING STEEL TO BE C.S.A. STD. 630, 12-M7
 - GRADE 400, EXCEPT STIRRUPS WHICH ARE GRADE 300. ALL BARS WHICH ARE WITHIN 100mm DEPTH FROM THE TOP OF THE CONCRETE DECK & ALL BARS IN CONCRETE POSTS SHALL BE EPOXY COATED.
 - CONSTRUCTION NOTES
 - THE CONTRACTOR IS RESPONSIBLE FOR FINISHING ALL WORK ACCORDING TO M.T.C. FORM 3 LATEST EDITION
 - DESIGN
 - ACCORDING TO CANOC. 1979 & SUBSEQUENT AMENDMENTS PLUS 90MM AIRLIFT.
 - DECK FINISH
 - THE CONCRETE DECK WILL FORM THE FINISH SURFACE FOR TRAFFIC. DECK TO BE FINISHED AS PER M.T.C. SPEC.

VERTICAL ALIGNMENT N.T.S.

M.T.C. DESIGN RECEIVED
AUG 03 1983
STRUCTURAL OFFICE
M.T.C.

STRUCTURE SITE No. 16-89



No.	BY	DATE	REVISION
1	D.G.P.	17/6/83	Span Reduced

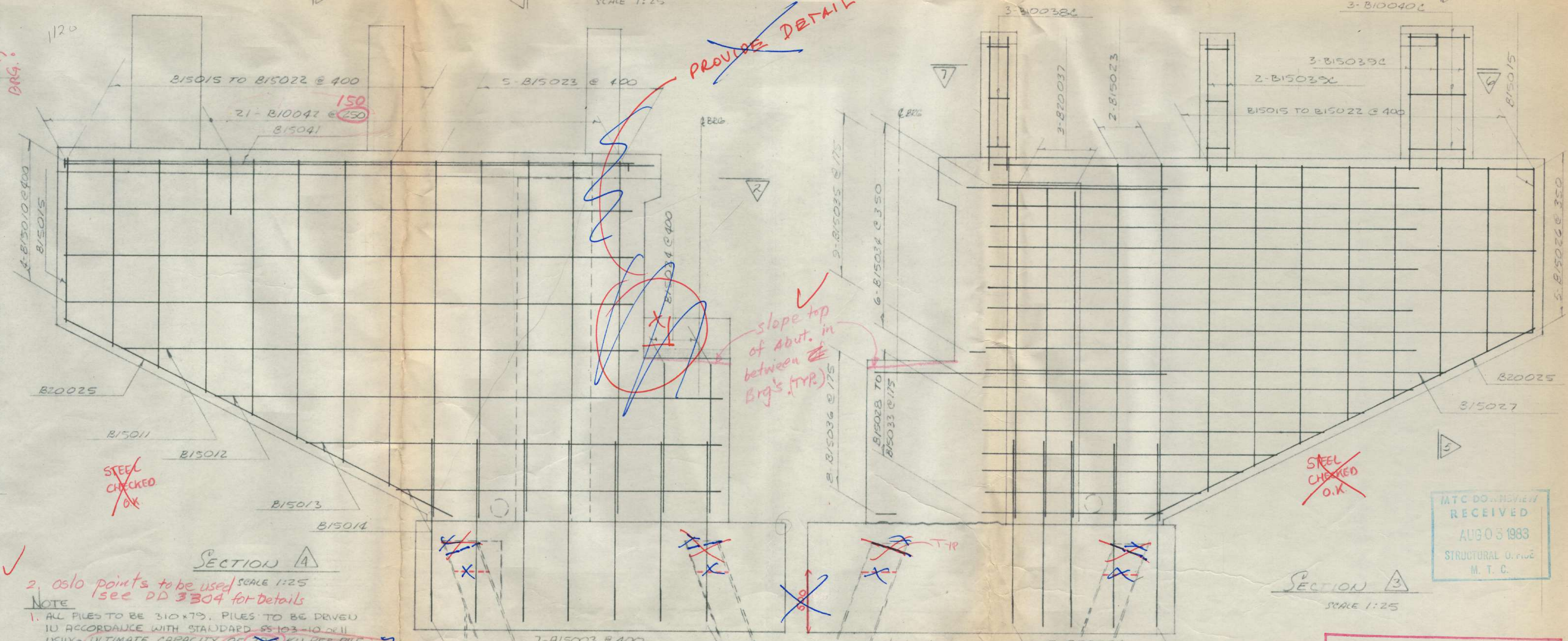
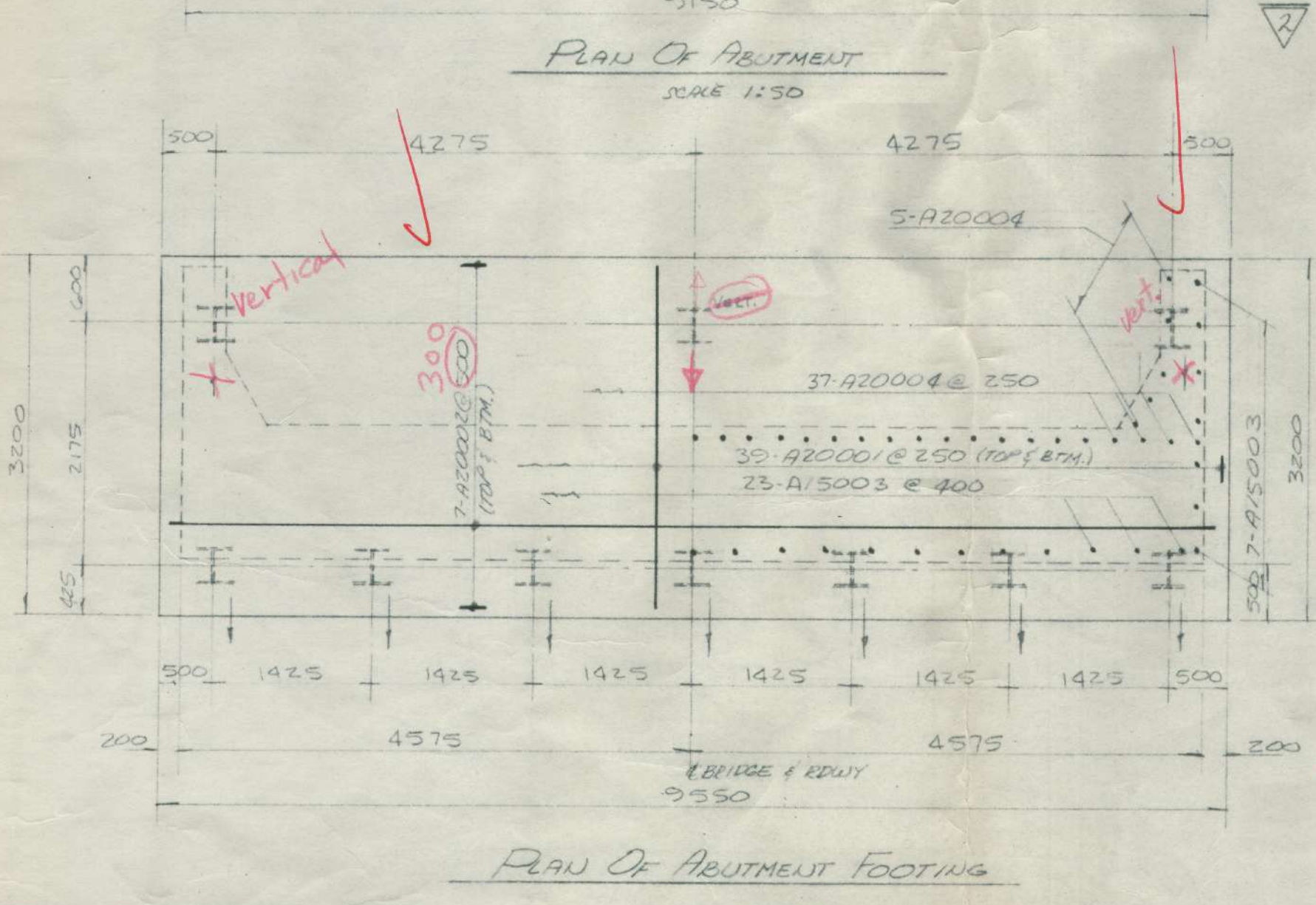
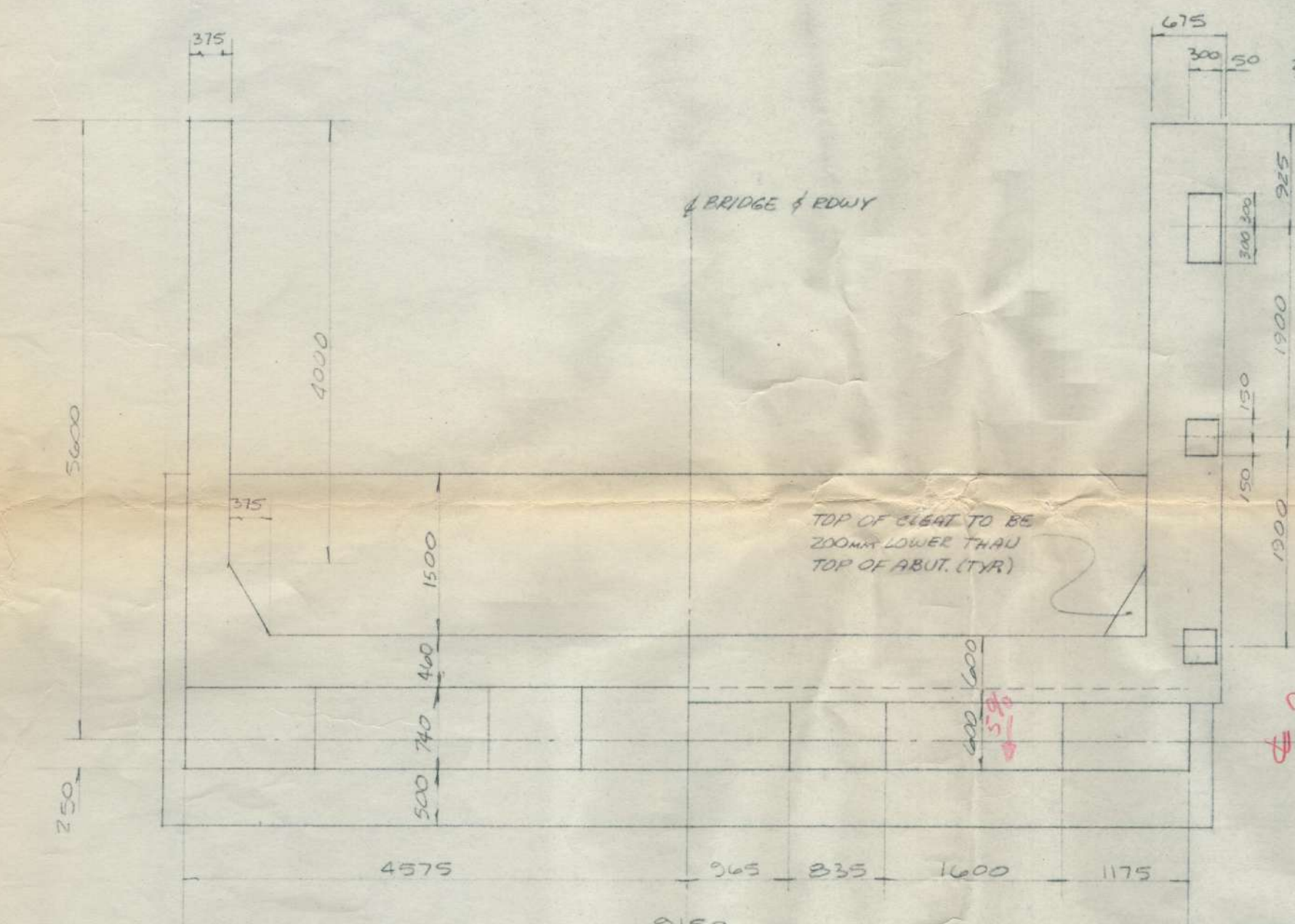
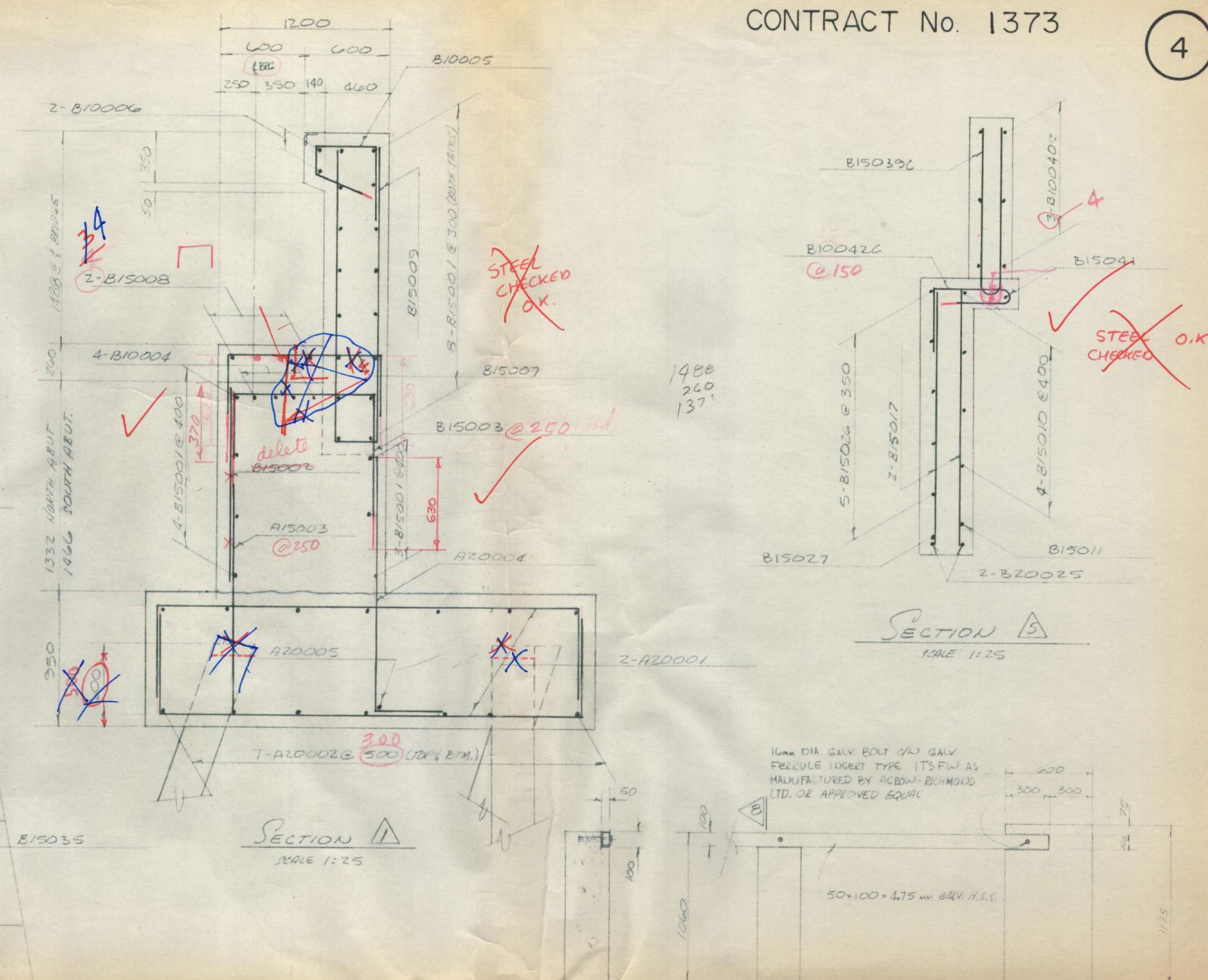
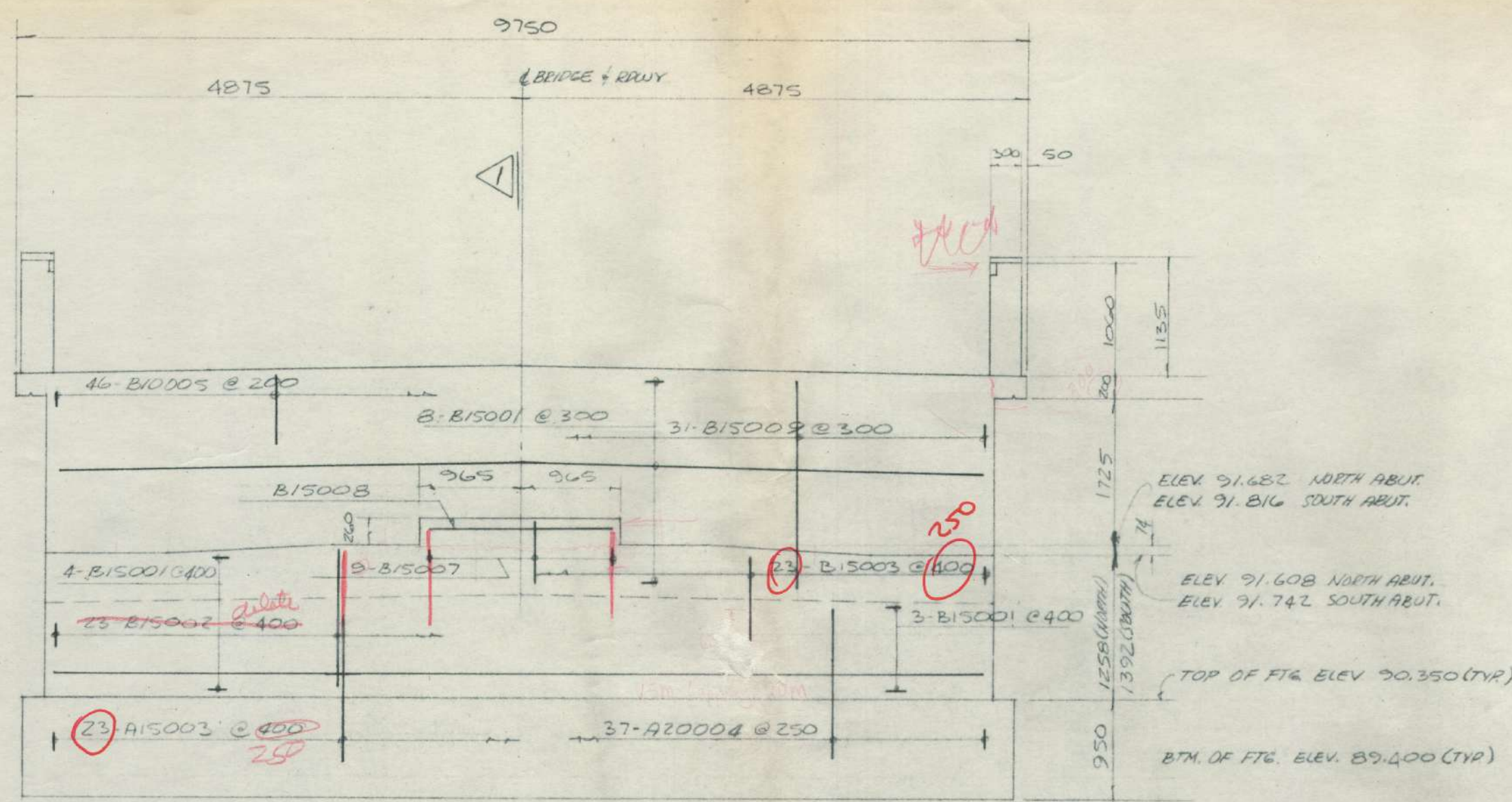
DESIGN	J.E.G.	CHECKED	B.R.T.
DRAWN	D.G.P.	CHECKED	B.R.T.
APPROVED			B.R.T.
DATE	July, 1983		

KOSTUCH ENGINEERING LIMITED
CONSULTING ENGINEERS
BROCKVILLE • OTTAWA • BELLEVILLE • CORNWALL

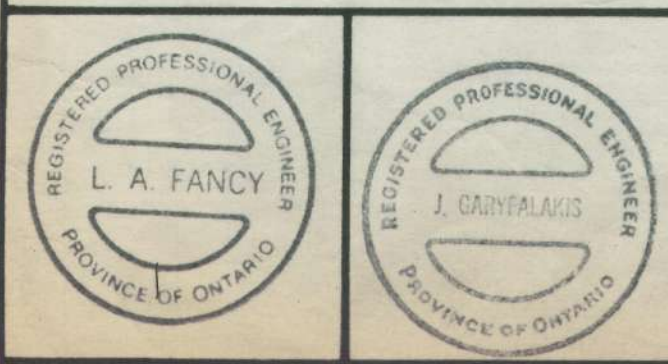
WEIR ROAD BRIDGE
Cty. GRENVILLE M.T.C. Site No. 16-89
Twp. EDWARDSBURGH Lot 35 Con. VI

TOWNSHIP OF EDWARDSBURGH
GENERAL PLAN

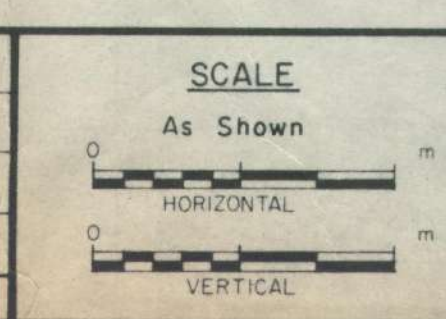
PROJECT No.	1373
CONTRACT No.	1373
DRAWING No.	D-1373-3



NOTE
1. ALL PILES TO BE 310x75. PILES TO BE DRIVEN
IN ACCORDANCE WITH STANDARD SS 103-10-2-11
USING ULTIMATE CAPACITY OF 1100 KN PER PILE
BY SOIL ENGINEER.



No	BY	DATE	REVISION



DESIGN J.E.G.	CHECKED L.A.F.
DRAWN D.G.P.	CHECKED L.A.F.
APPROVED L.A.F.	DATE July, 1983

KOSTUCH ENGINEERING LIMITED
CONSULTING ENGINEERS
BROCKVILLE • OTTAWA • BELLEVILLE • CORNWALL

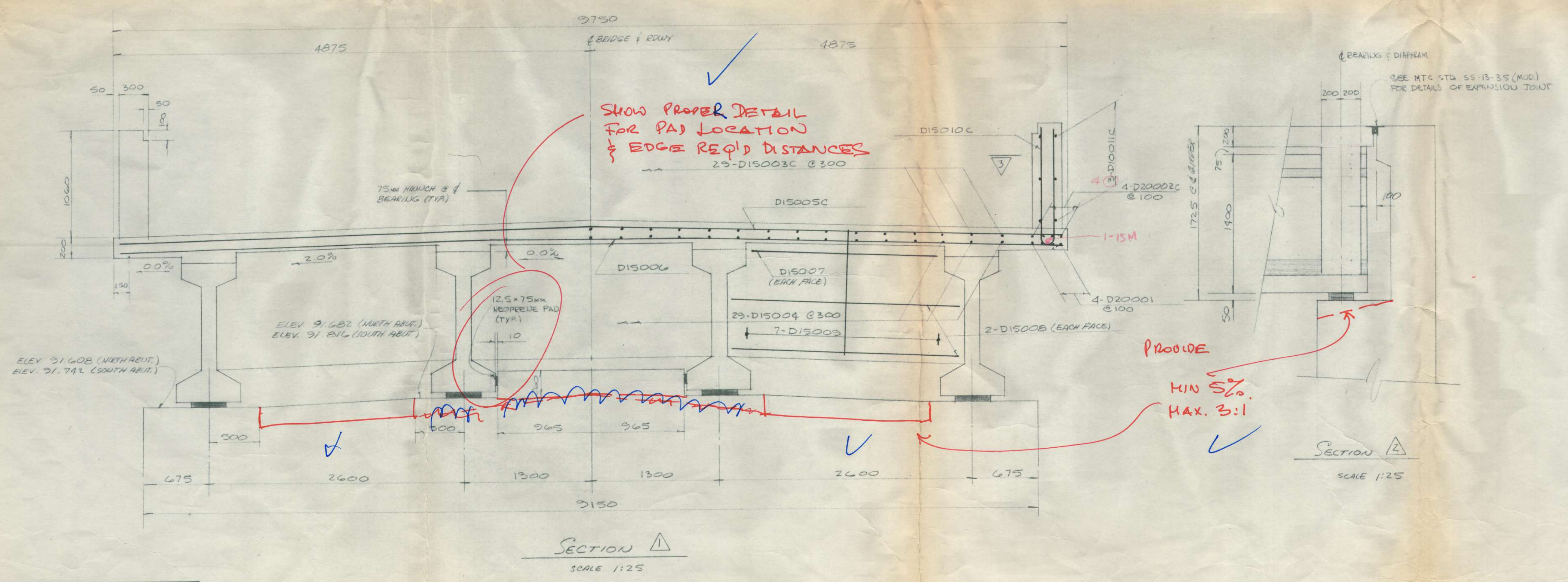
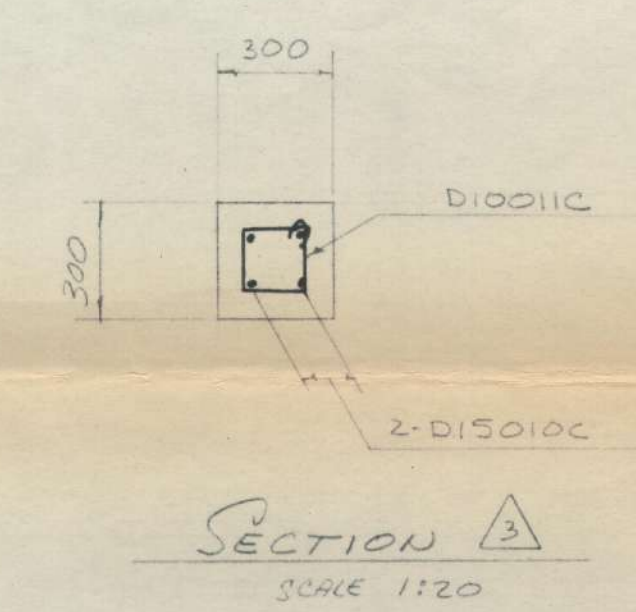
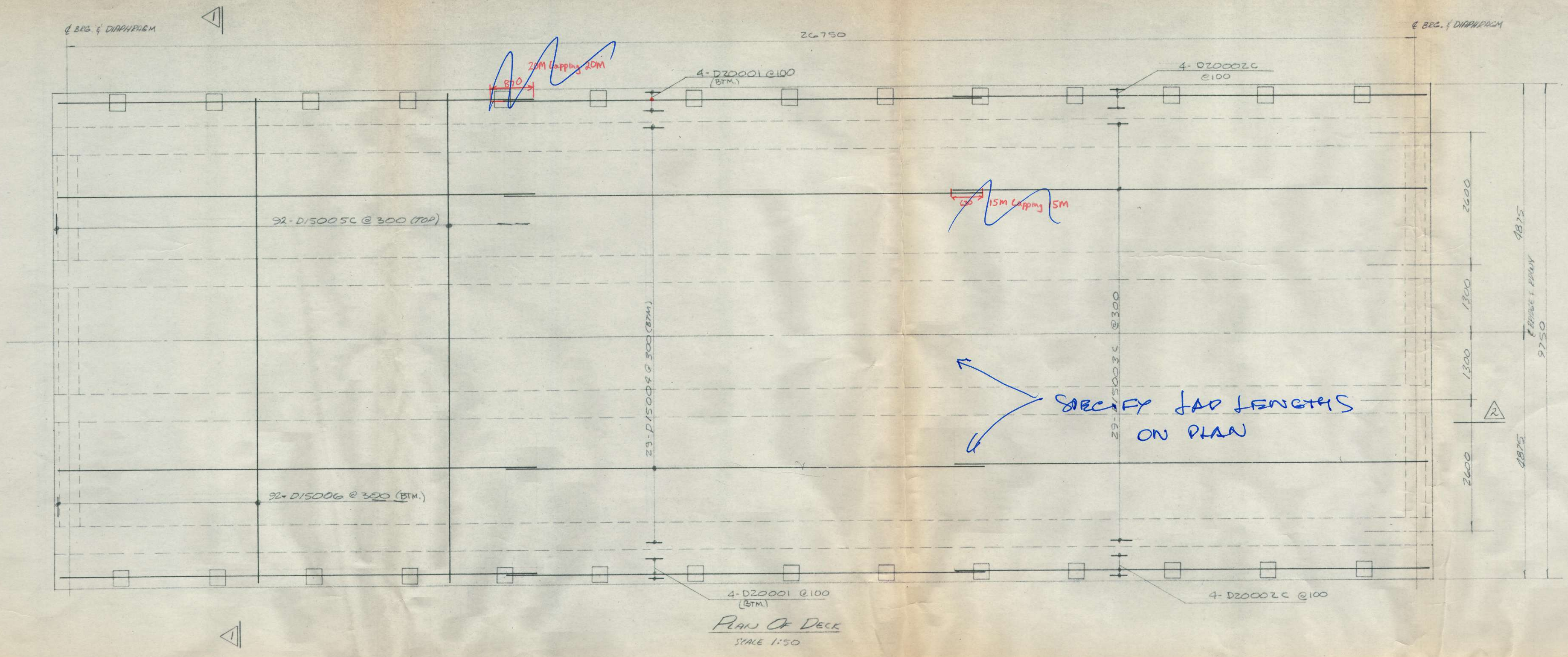
WEIR ROAD BRIDGE
City: GRENVILLE
Twp: EDWARDSBURGH
M.T.C. Site No. 16-89
Lot 35 Con. VI

TOWNSHIP OF EDWARDSBURGH
ABUT., FOOTINGS, REINF. & DIMEN.

PROJECT No. 1373
CONTRACT No. 1373
DRAWING No. D-1373-4

STRUCTURE SITE No. 16-89





SCREED ELEVATIONS	
STATIONS	ELEVATIONS
I+219.500	93.430
I+221.000	93.444
I+223.000	93.461
I+225.000	93.477
I+227.000	93.492
I+229.000	93.505
I+231.000	93.517
I+232.875	93.527
I+233.000	93.528
I+235.000	93.537
I+237.000	93.545
I+239.000	93.551
I+241.000	93.556
I+243.000	93.560
I+245.000	93.563
I+246.250	93.564

M.T.C. REVIEW RECEIVED
AUG 05 1983
STRUCTURAL OFFICE
M.T.C.

16-89

		SCALE HORIZONTAL: 1" = 10' VERTICAL: 1" = 10'	DESIGN: J.E.G. DRAWN: D.G.P. APPROVED: L.A.F. DATE: July, 1983	CHECKED: L.A.F. CHECKED: L.A.F.	KOSTUCH ENGINEERING LIMITED CONSULTING ENGINEERS BROCKVILLE • OTTAWA • BELLEVILLE • CORNWALL	PROJECT No. 1373 CONTRACT No. 1373 DRAWING No. D-1373-5
		WEIR ROAD BRIDGE M.T.C. Site No. 16-89	TOWNSHIP OF EDWARDSBURGH DECK, REINF. & BEARING DETAILS			

METRIC

CONT No. 1373
WP No. 1373

6

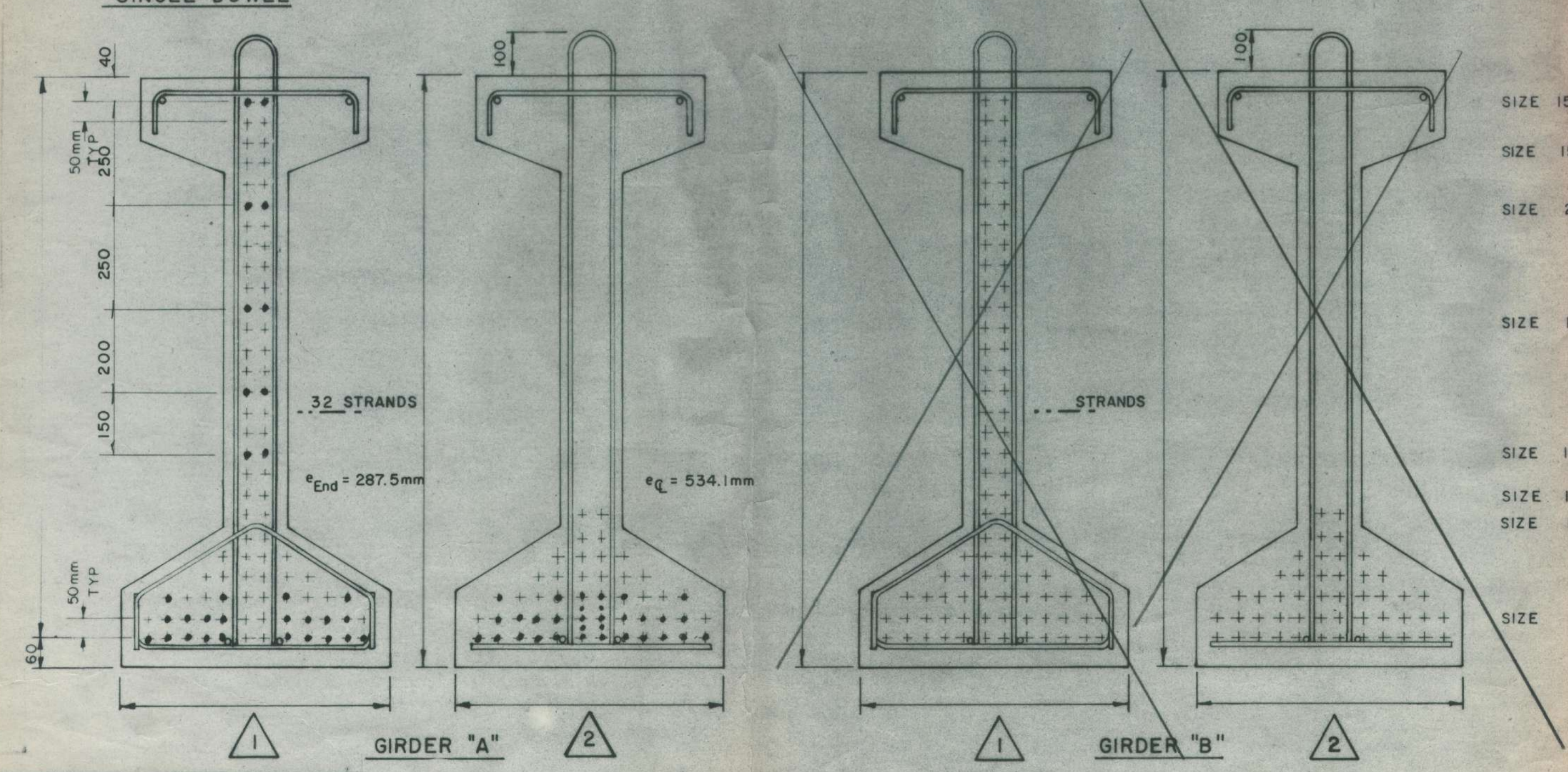
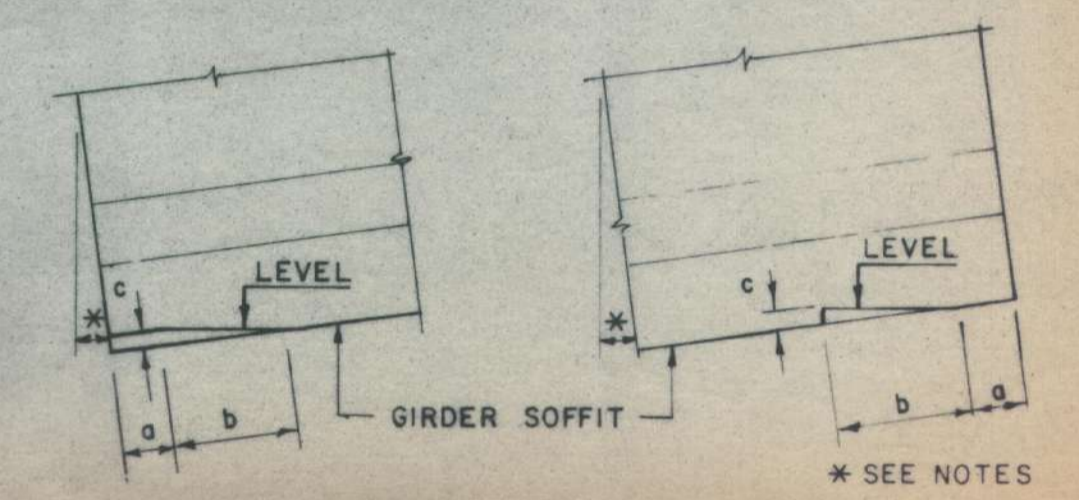
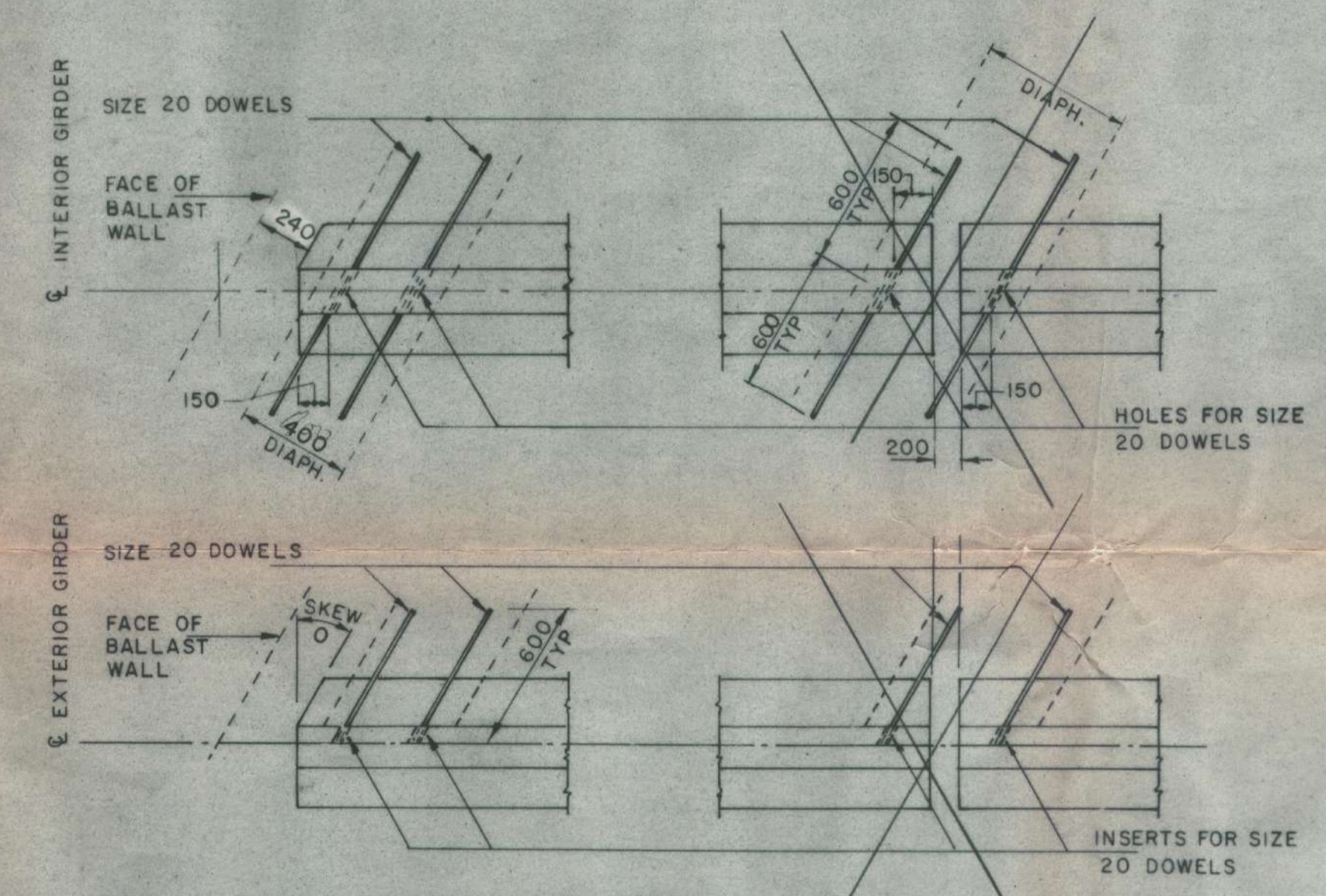
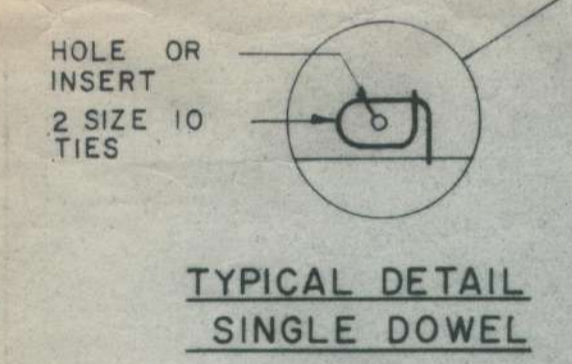
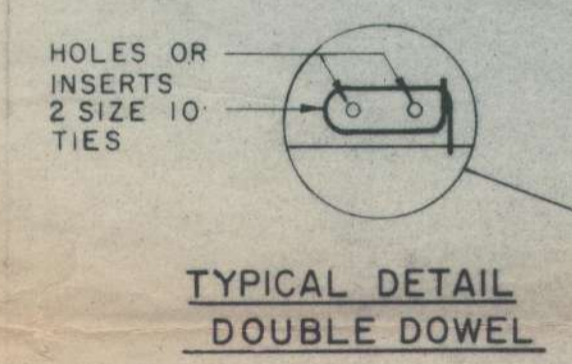
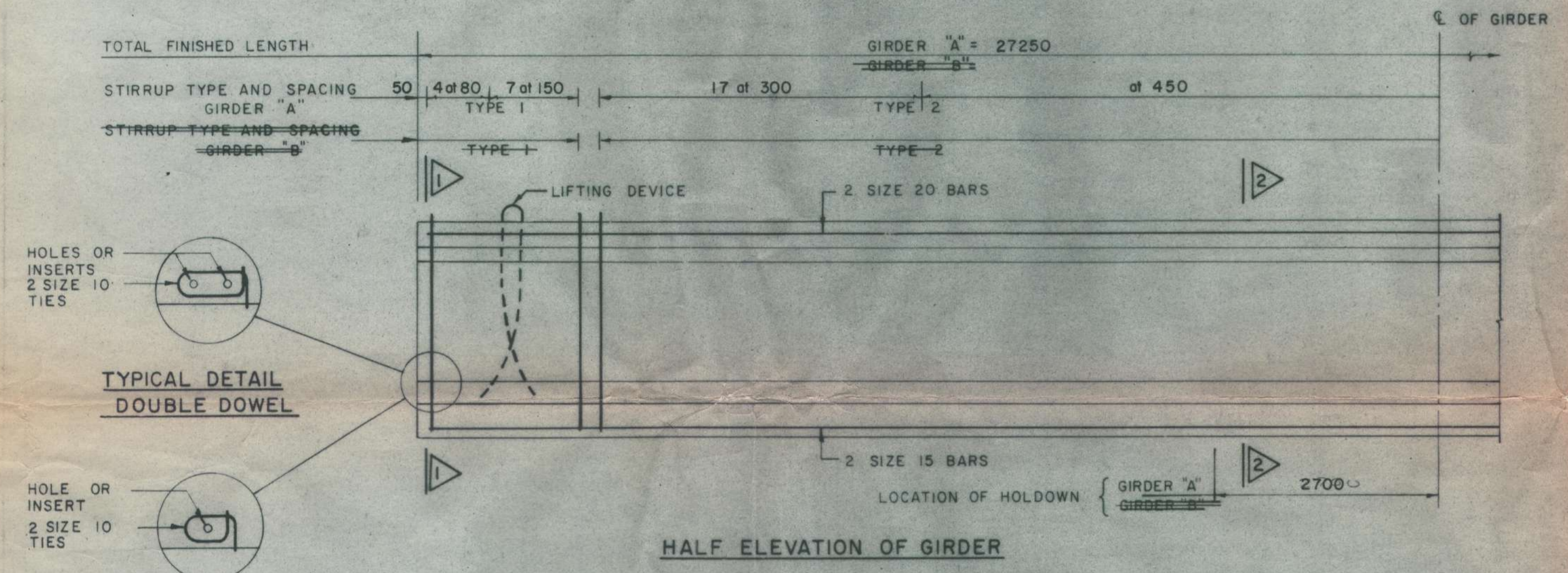
PRESTRESSED GIRDERS
AND BEARINGS

SHEET

DIMENSIONS ARE IN MILLIMETRES
UNLESS OTHERWISE SHOWN.
ELEVATIONS, COORDINATES, CURVE
AND ALIGNMENT DATA ARE IN METRES.
STATIONS ARE IN KILOMETRES + METRES.

NOTES

- CONCRETE STRENGTH AT 28 DAYS 35 MPa
- CONCRETE STRENGTH AT TRANSFER 32.5 MPa
- PRESTRESSING STEEL SHALL BE LOW-RELAXATION SEVEN WIRE STRAND, SIZE DESIGNATION 13, GRADE 1860, AND SHALL MEET THE REQUIREMENTS OF CSA STANDARD G279-75
- MINIMUM ULTIMATE STRENGTH OF STRAND 183.7 kN
- JACKING FORCE PER STRAND 145 kN
- FORCE PER STRAND AFTER ALL LOSSES 111.5 kN
- MINIMUM CLEAR COVER TO REINFORCING STEEL 28^{5mm} 3^{3mm}
- REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CSA STANDARD G30.16-M77, GRADE 400 W
- ENDS OF STRANDS SHALL BE BURNED OFF 25 mm BEYOND GIRDER ENDS. AT EXPOSED ENDS, THE STRANDS SHALL THEN BE GROUND FLUSH AND THE GIRDER ENDS COATED WITH TWO COATS OF ASPHALT PAINT
- DOWEL INSERTS SHALL BE CAPABLE OF DEVELOPING FULL STRENGTH OF DOWELS AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER
- SIZE 20 DOWELS FOR EXTERIOR GIRDERS SHALL BE THREADED AT ONE END TO MATCH INSERTS
- ENDS OF GIRDERS TO BE CAST TO BE VERTICAL FOR BRIDGES ON GRADES EXCEEDING 3%
- FOR POSITIVE MOMENT CONNECTION SEE DD 37-3



BEARING DATA

LOAD TYPES	LOCATIONS AND REQUIREMENTS AT SERVICEABILITY LIMIT STATES TYPE II ψ = 1.0	
	ABUTMENTS	PIERS
DEAD LOAD (FACT.)	472	
TOTAL LOAD (FACT.)	722	see below
TOTAL MOVEMENT	25 mm / 6	
MAXIMUM SHEAR RATE	2.6 kN/m	2.43 kN/mm
BEARING TYPE AND SIZE	250 x 350 x 50 NEOPRENE	
NUMBER REQUIRED	8	

(Use 300 x 400 x 60 (NEOPRENE))

LOAD TYPE	SERVICEABILITY LIMIT STATES TYPE II (AT ABUTMENTS)	RECEIVED
DEAD LOAD	340	AUG 6 1983
TOTAL LOAD	640	STRUCTURAL DAMAGE ETC

STANDARD DRAWING AUG 1981 SS 107-3
STRUCTURE SITE No. 16-89

REVISIONS	DATE	BY	DESCRIPTION
DESIGN	CHECK	LOADING	DATE
DRAWING	CHECK	SITE No	DWG



No.	BY	DATE	REVISION

SCALE

DESIGN J.E.G. CHECKED L.A.F.
DRAWN D.G.P. CHECKED L.A.F.
APPROVED L.A.F.
DATE July, 1983

KOSTUCH ENGINEERING LIMITED
CONSULTING ENGINEERS
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WEIR ROAD BRIDGE

Cty. GRENVILLE M.T.C. Site No. 16-89
Twp. EDWARDSBURGH Lot 35 Con. VI

TOWNSHIP OF EDWARDSBURGH

PROJECT No. 1373
CONTRACT No. 1373
DRAWING No. D-1373-6

PRESTRESSED GIRDERS