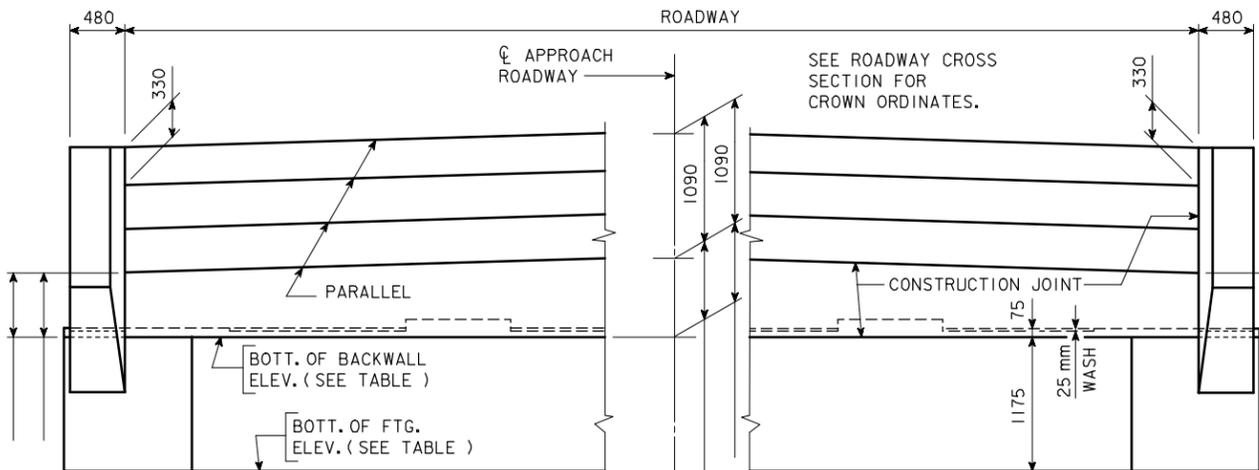
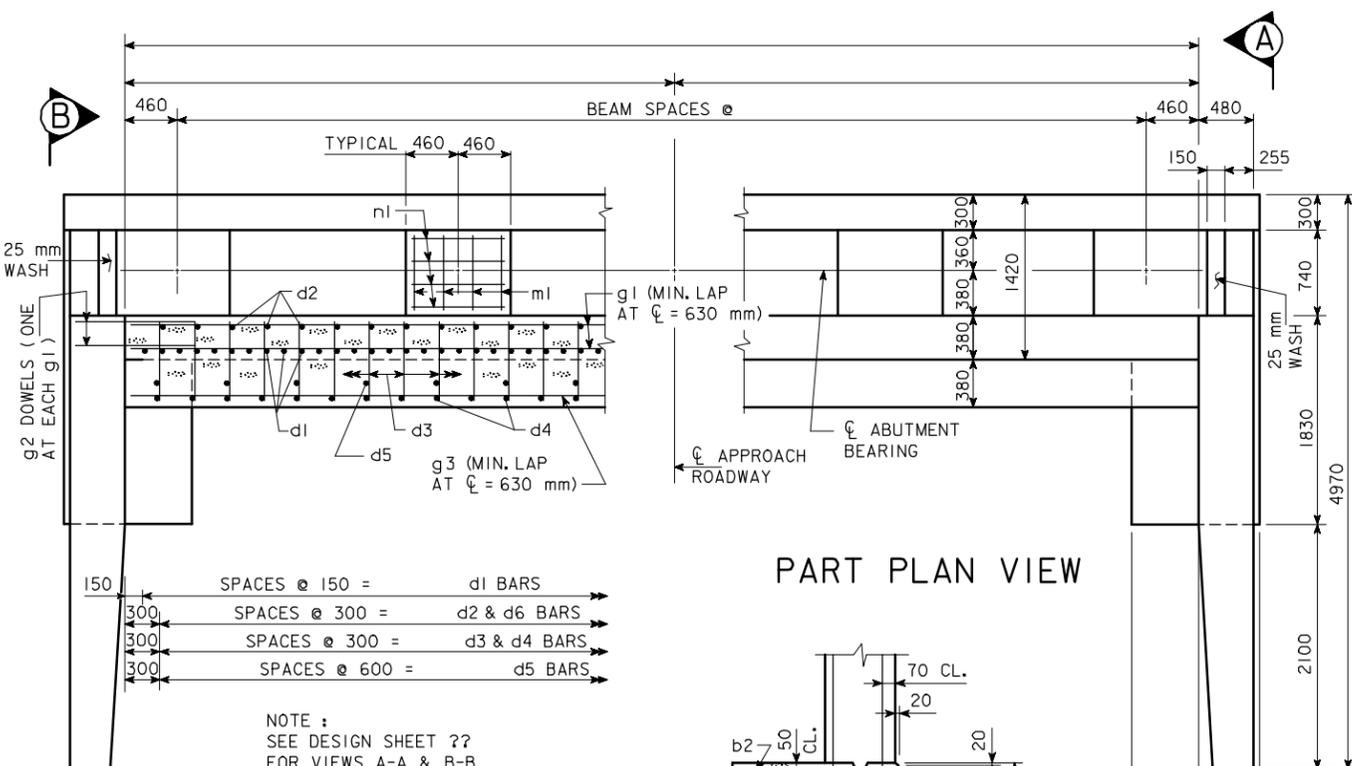


BENCH MARK :



REAR ELEVATION

NOTE :
PLACE m1 AND n1 BARS
UNDER EACH BEAM.

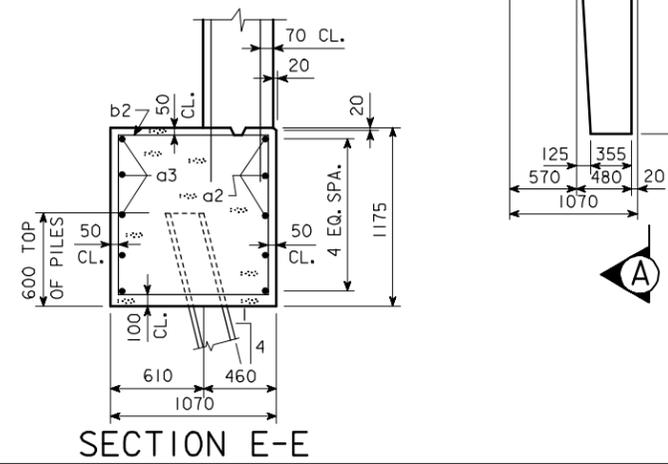


PART PLAN VIEW

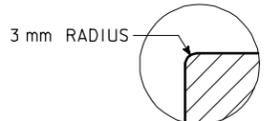


PART SECTION THROUGH BACKWALL

NOTE :
SEE DESIGN SHEET ??
FOR VIEWS A-A & B-B

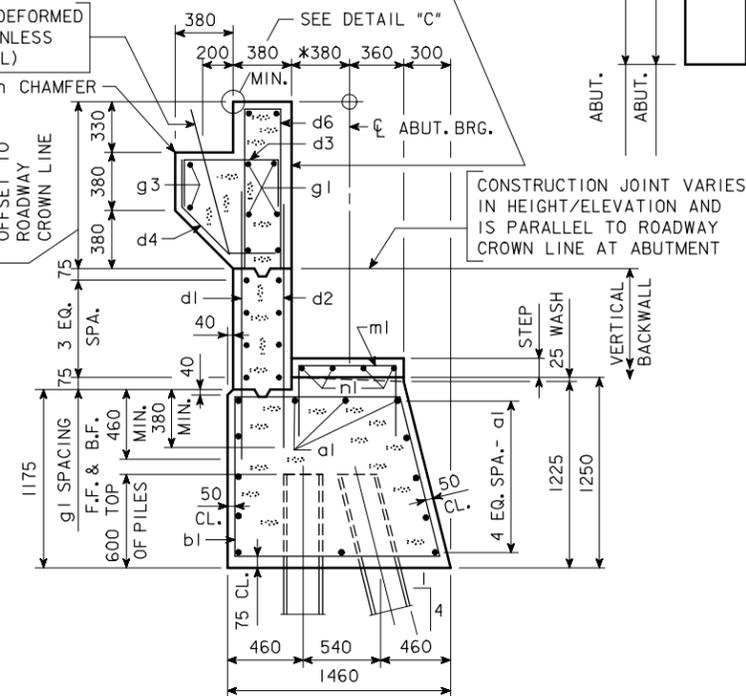


SECTION E-E

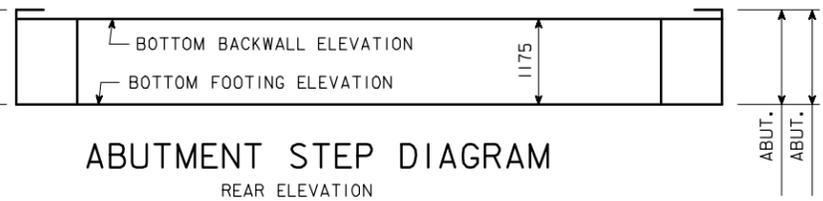


DETAIL "C"

* THIS DIMENSION MAY VARY. TILTING OF THE PAVEMENT SUPPORT SECTION DURING CONSTRUCTION MAY BE NECESSARY TO ACCOMMODATE PROPER SETTING OF THE STRIP SEAL EXPANSION DEVICE OPENING.



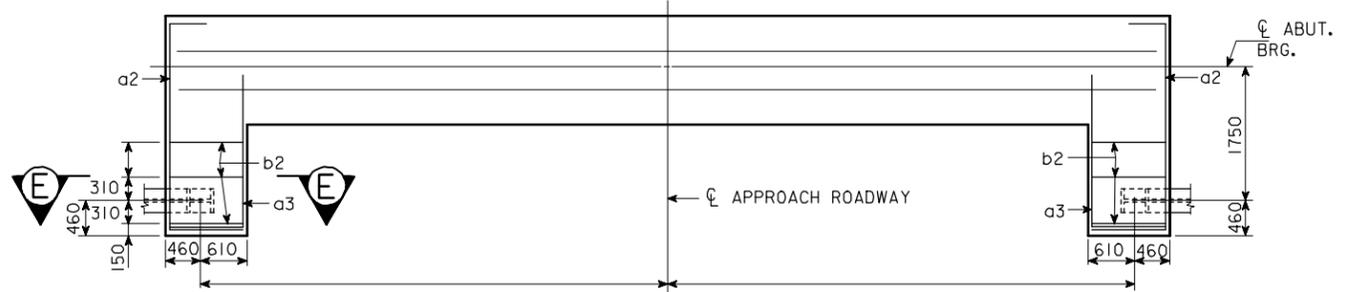
SECTION THROUGH ABUTMENT
EXPANSION DEVICE NOT SHOWN



ABUTMENT STEP DIAGRAM
REAR ELEVATION

POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT. BACKWALL ELEV.		
BOTT. FTG. ELEV.		

STEP	ABUTMENT	ABUTMENT
a		



PILING LAYOUT

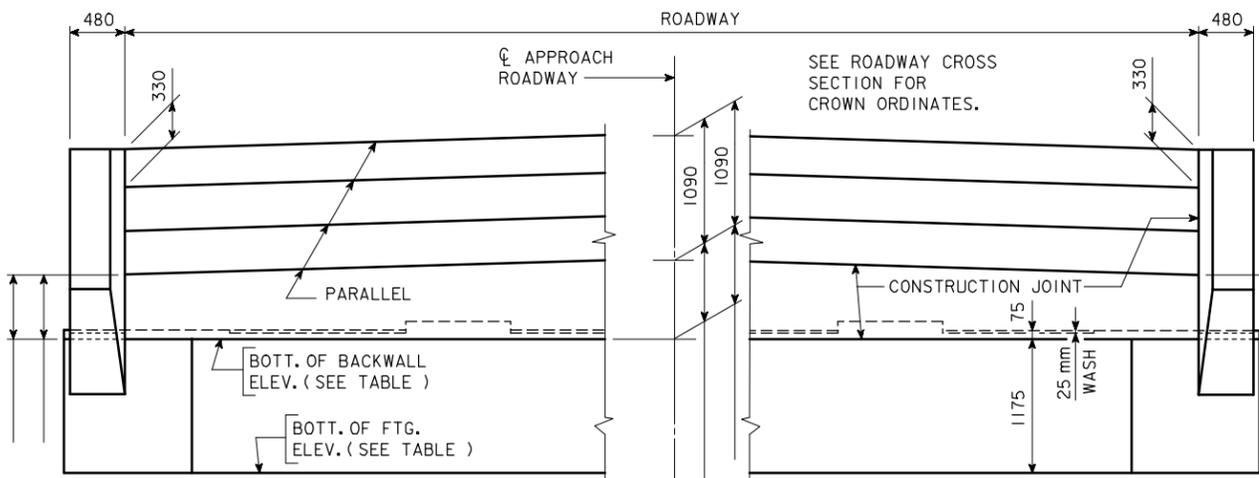
NOTE :
DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING. BATTER PILES IN THE DIRECTION SHOWN.
?? - HP250x62 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. ADDED 4x6 BAR DIMENSION TO PART SECTION THROUGH BACKWALL FOR SPACING. HM2092.S01; THIS SHEET ISSUED, 9-1-95.

BENCH MARK :



REAR ELEVATION

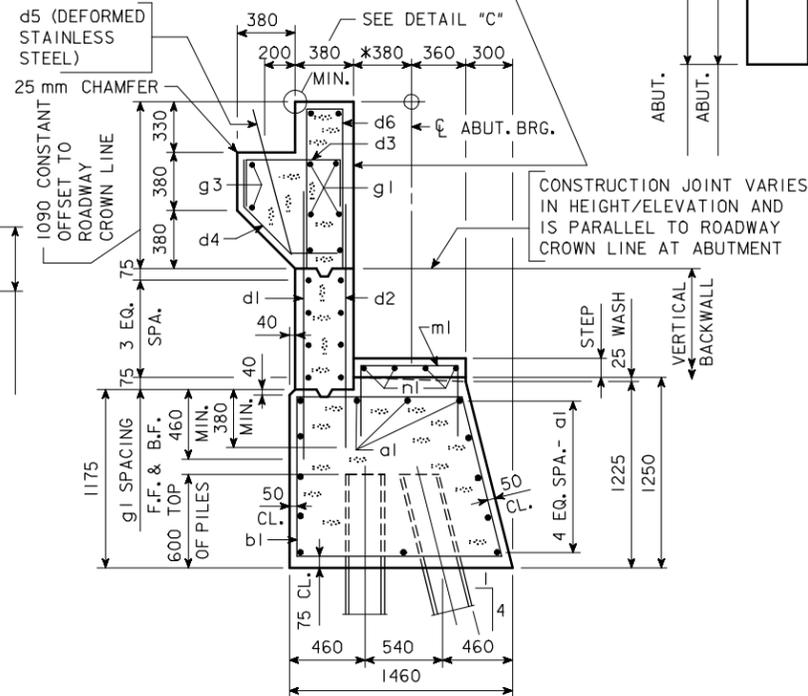
NOTE :
PLACE m1 AND n1 BARS UNDER EACH BEAM. FLARE m1 BARS AND FIELD CUT n1 BARS TO FIT STEPS AT THE EXTERIOR BEAMS.



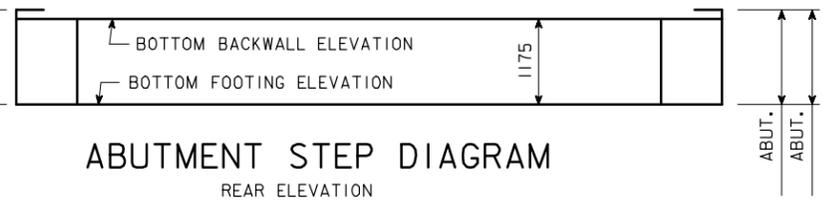
3 mm RADIUS

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DETAIL "C"



SECTION THROUGH ABUTMENT
EXPANSION DEVICE NOT SHOWN



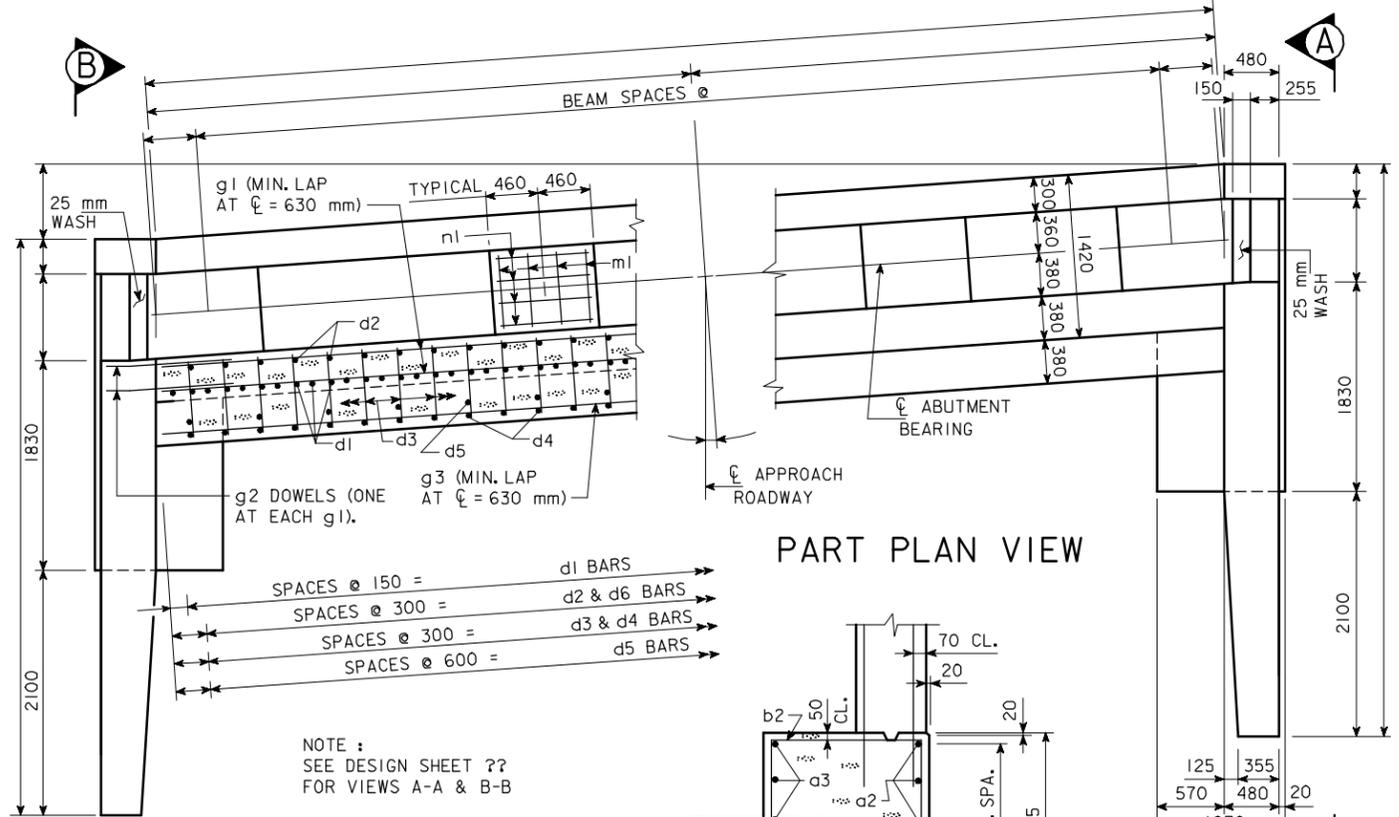
ABUTMENT STEP DIAGRAM
REAR ELEVATION

TABLE OF ABUTMENT ELEVATIONS

POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT. BACKWALL ELEV.		
BOTT. FTG. ELEV.		

TABLE OF ABUTMENT STEPS

STEP	ABUTMENT	ABUTMENT
a		



PART PLAN VIEW

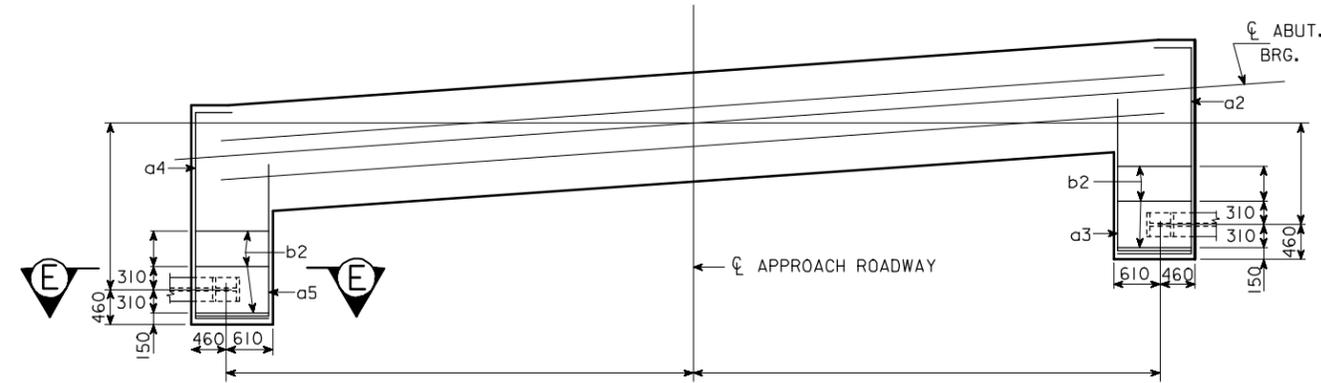
PART SECTION THROUGH BACKWALL

NOTE :
SEE DESIGN SHEET ?? FOR VIEWS A-A & B-B

- d1 BARS
- SPACES @ 150 =
- d2 & d6 BARS
- SPACES @ 300 =
- d3 & d4 BARS
- SPACES @ 300 =
- d5 BARS
- SPACES @ 600 =



SECTION E-E



PILING LAYOUT

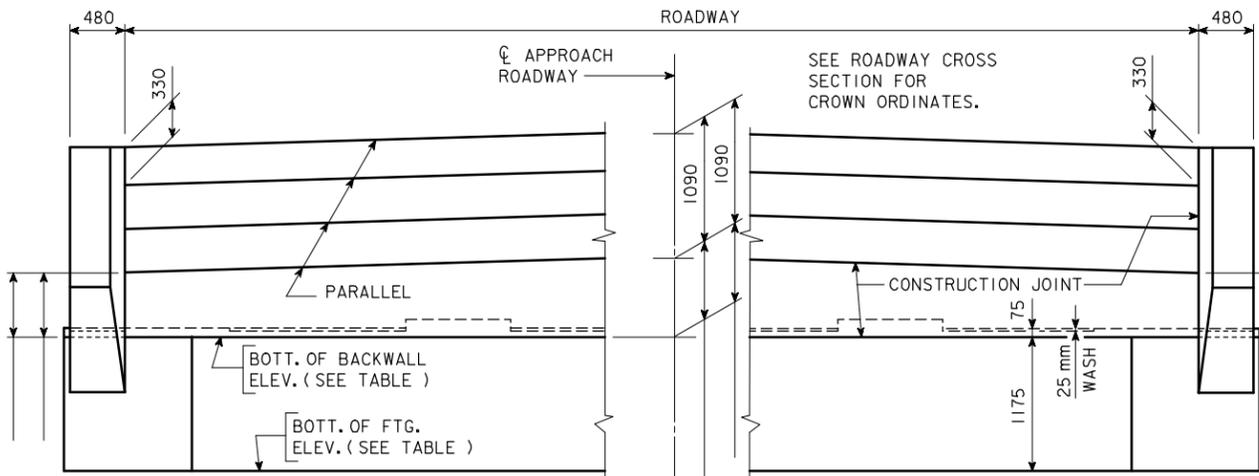
NOTE :
DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING. BATTER PILES IN THE DIRECTION SHOWN. ?? - HP250x62 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

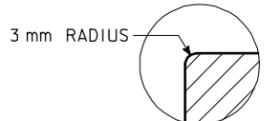
REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. ADDED 4d6 BAR DIMENSION TO PART SECTION THROUGH BACKWALL FOR SPACING. HM2093.S01; THIS SHEET ISSUED, 9-1-95.

BENCH MARK :

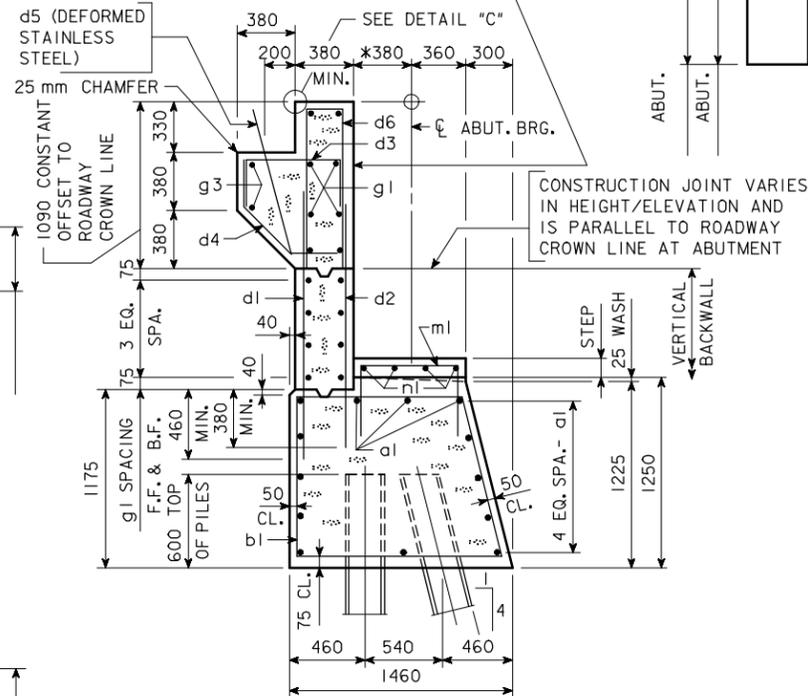


REAR ELEVATION

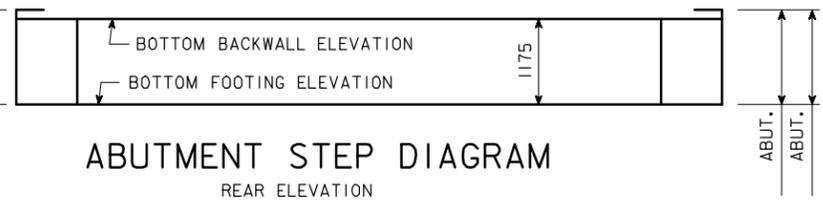
NOTE :
PLACE m1 AND n1 BARS UNDER EACH BEAM. FLARE m1 BARS AND FIELD CUT n1 BARS TO FIT STEPS AT THE EXTERIOR BEAMS.



DETAIL "C"



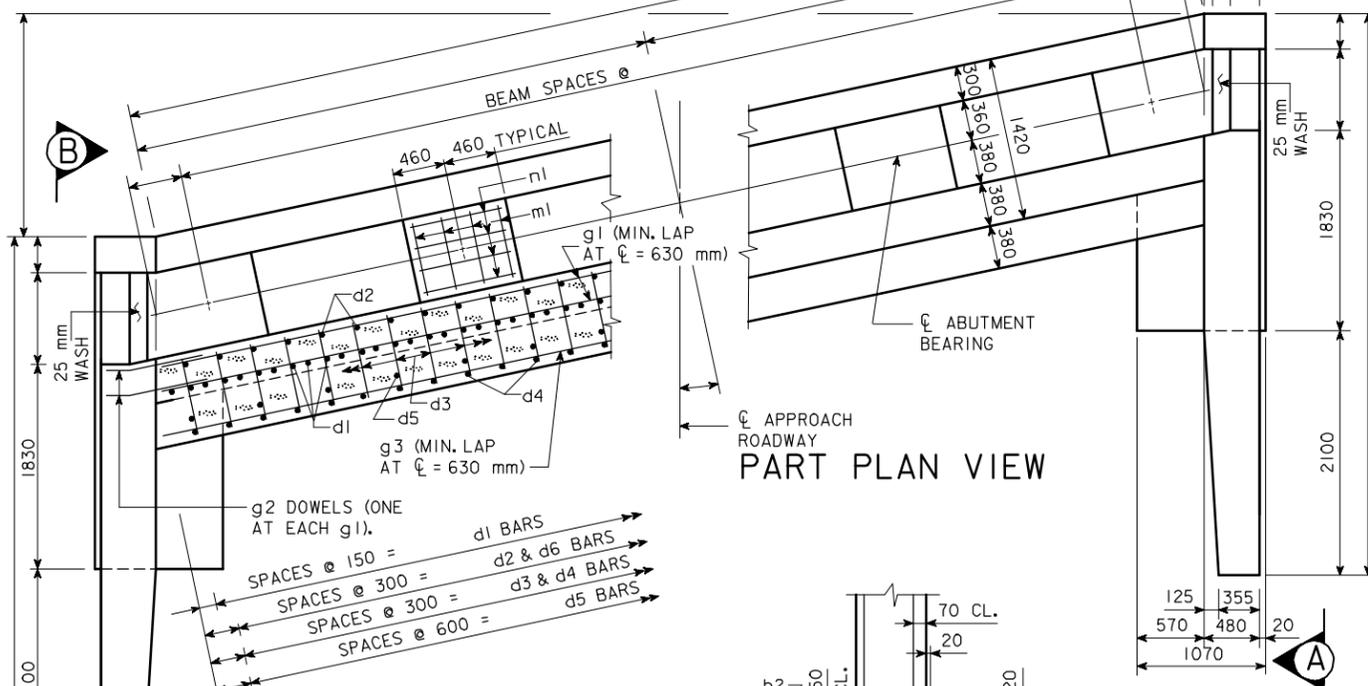
SECTION THROUGH ABUTMENT
EXPANSION DEVICE NOT SHOWN



ABUTMENT STEP DIAGRAM
REAR ELEVATION

TABLE OF ABUTMENT ELEVATIONS		
POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT. BACKWALL ELEV.		
BOTT. FTG. ELEV.		

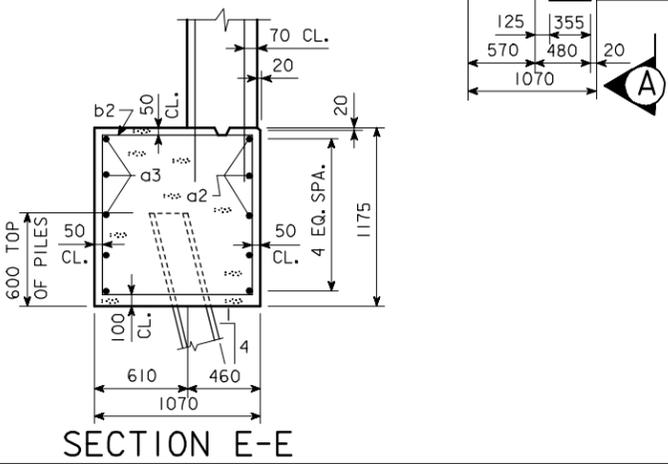
TABLE OF ABUTMENT STEPS		
STEP	ABUTMENT	ABUTMENT
a		



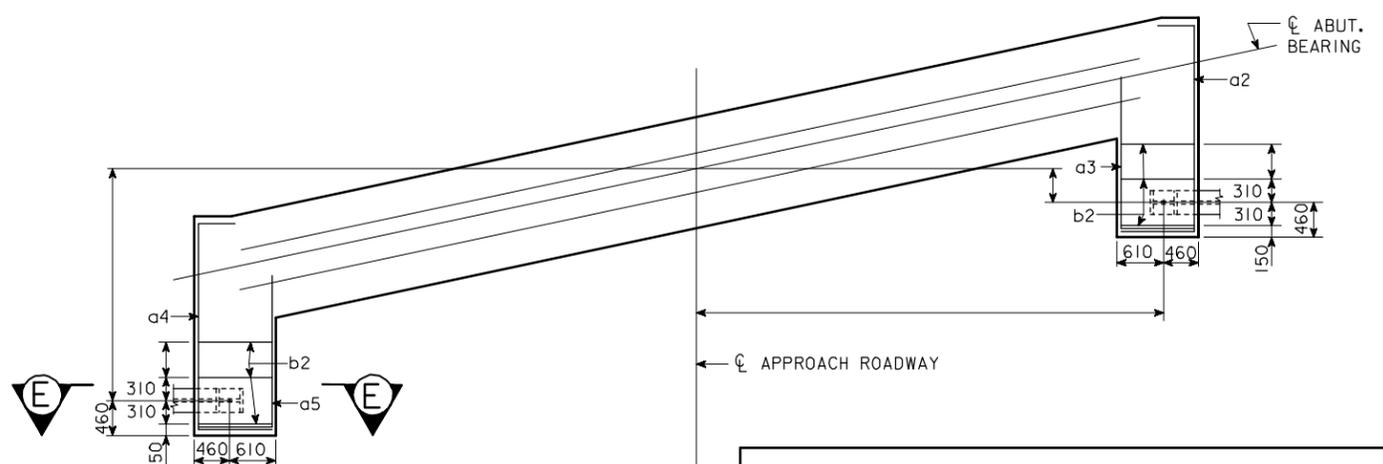
PART PLAN VIEW

PART SECTION THROUGH BACKWALL

NOTE :
SEE DESIGN SHEET ??
FOR VIEWS A-A & B-B



SECTION E-E



PILING LAYOUT

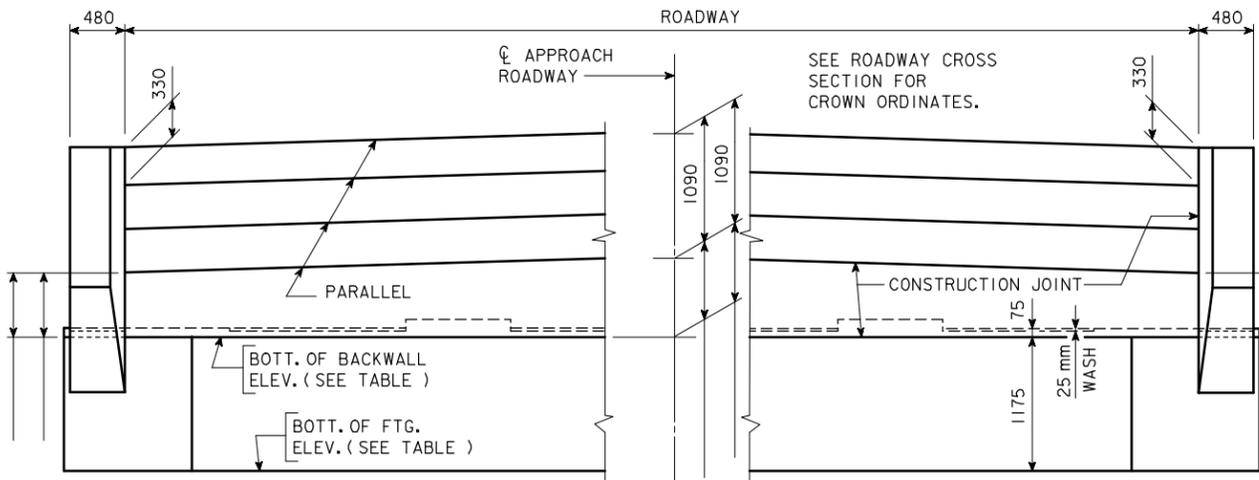
NOTE :
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?? - HP250x62 STEEL BEARING PILING REQUIRED AT EACH ABUTMENT.

NOTE: BARRIER RAIL NOT SHOWN IN DETAILS.

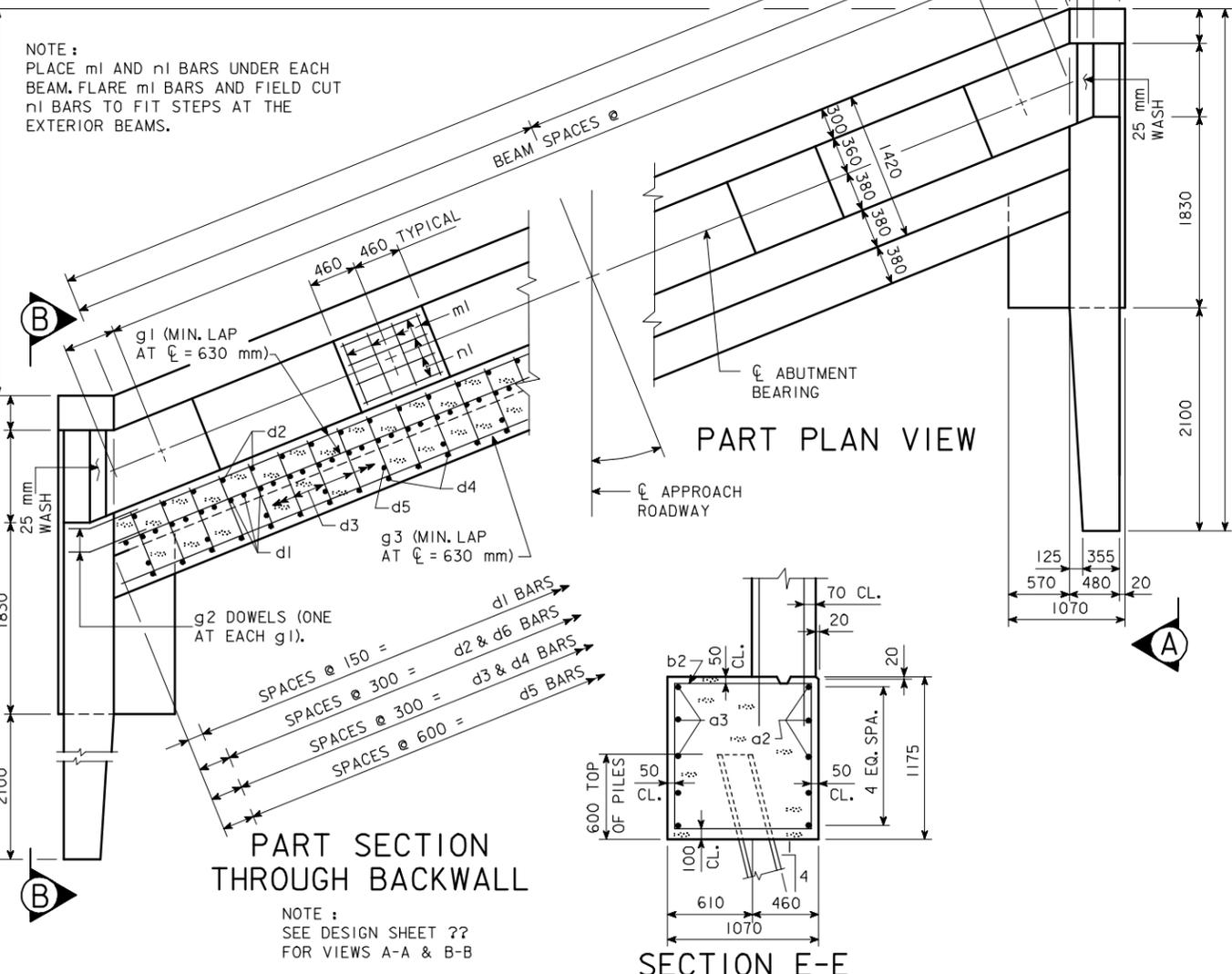
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. ADDED 4d6 BAR DIMENSION TO PART SECTION THROUGH BACKWALL FOR SPACING. HM2094.S01; THIS SHEET ISSUED, 9-1-95.

BENCH MARK :



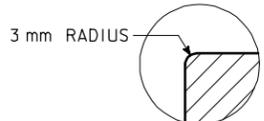
REAR ELEVATION



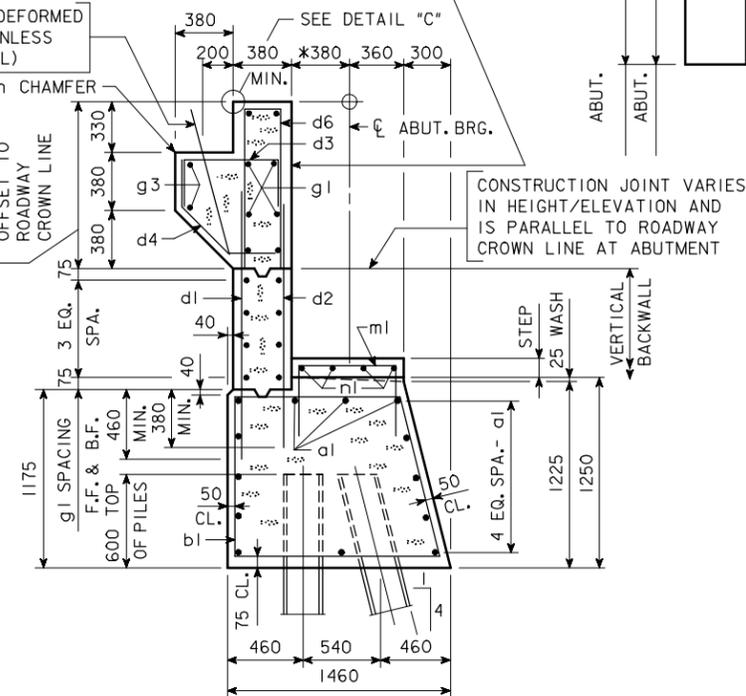
PART PLAN VIEW

PART SECTION THROUGH BACKWALL

SECTION E-E



DETAIL "C"

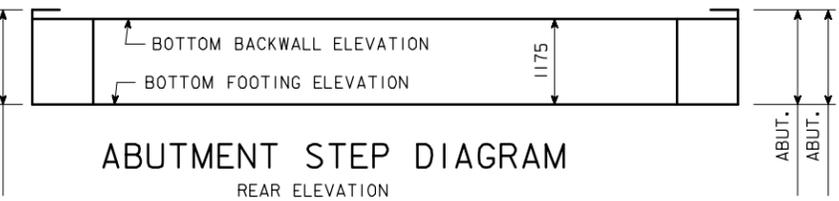


SECTION THROUGH ABUTMENT

EXPANSION DEVICE NOT SHOWN

NOTE :
DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING.
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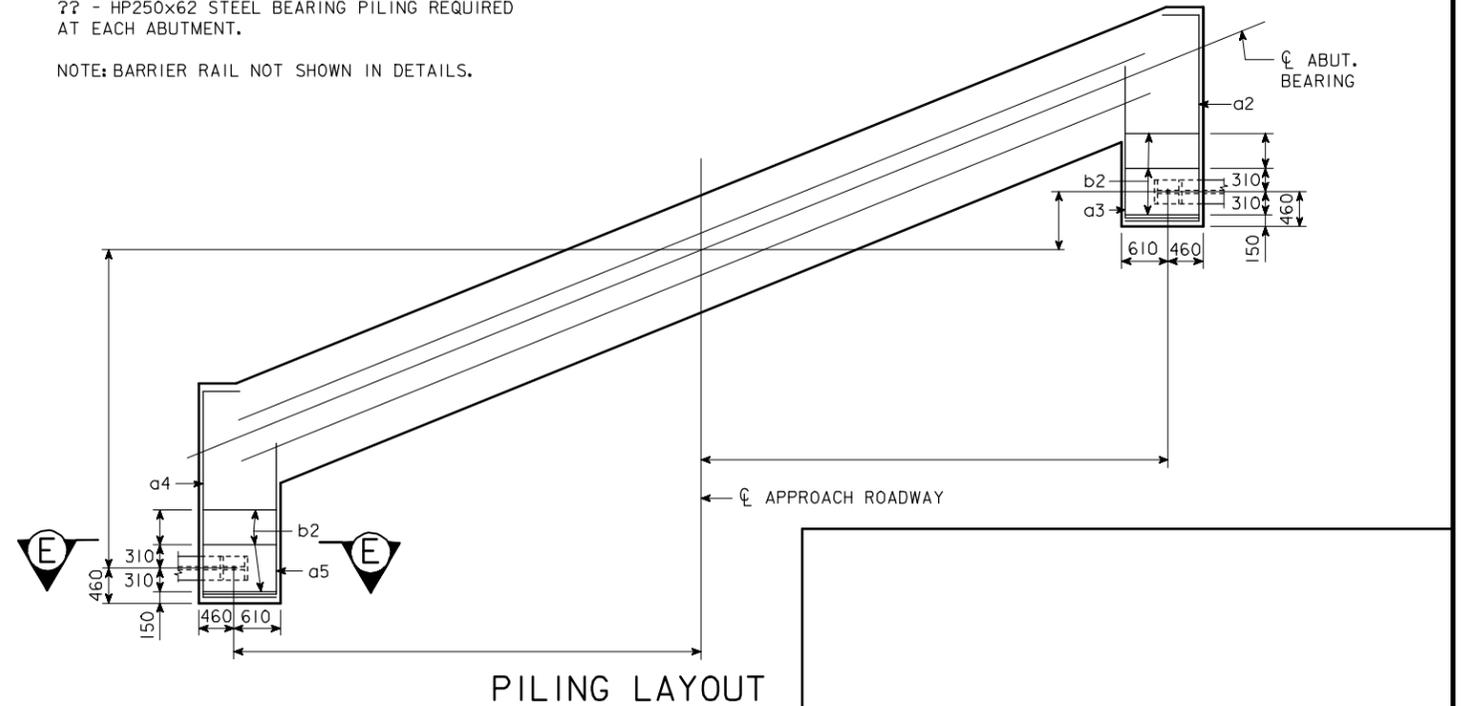


ABUTMENT STEP DIAGRAM

REAR ELEVATION

TABLE OF ABUTMENT ELEVATIONS		
POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT. BACKWALL ELEV.		
BOTT. FTG. ELEV.		

TABLE OF ABUTMENT STEPS		
STEP	ABUTMENT	ABUTMENT
a		

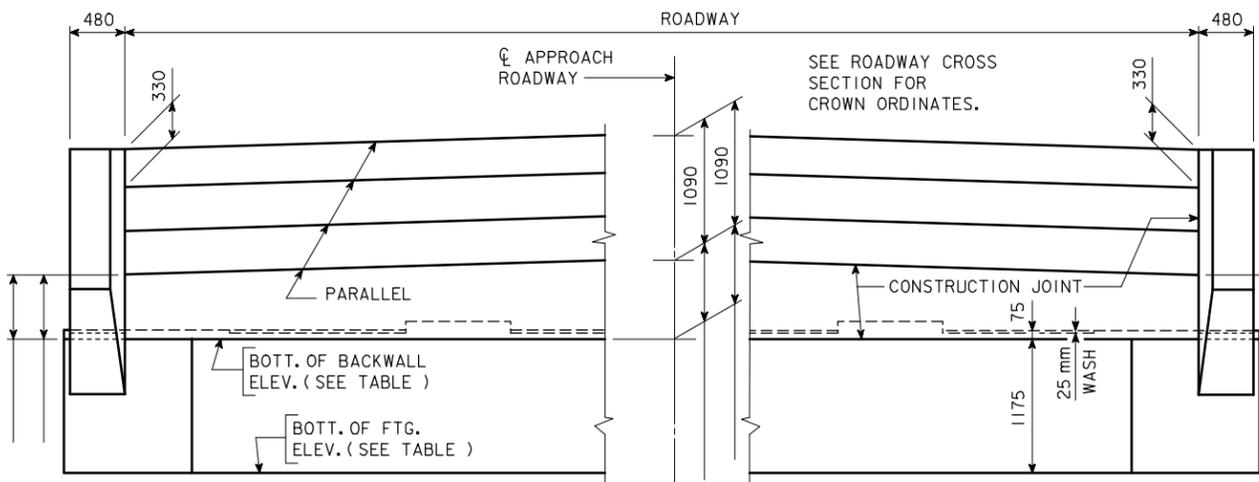


PILING LAYOUT

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

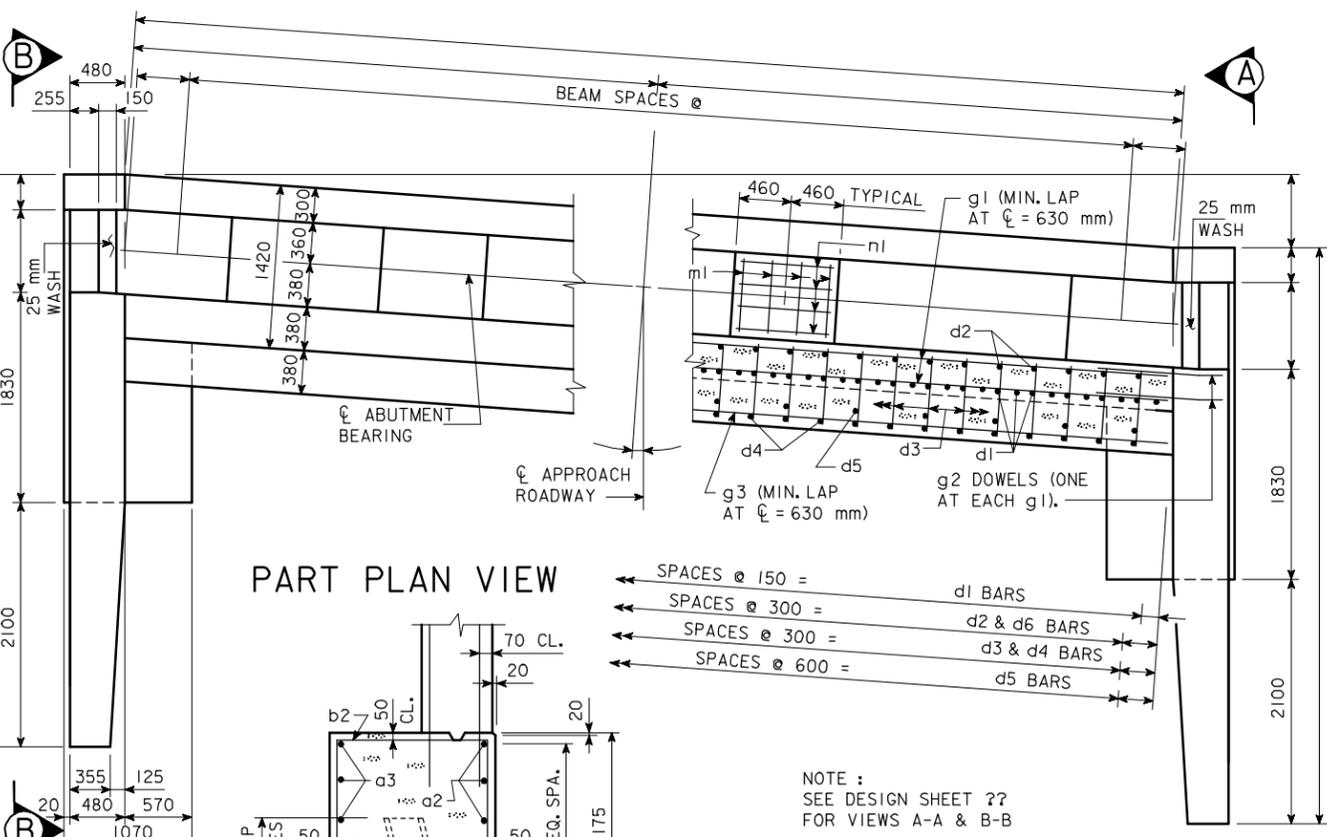
REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. ADDED 4d6 BAR DIMENSION TO PART SECTION THROUGH BACKWALL FOR SPACING. HM2095.S01 ; THIS SHEET ISSUED, 9-1-95.

BENCH MARK :



REAR ELEVATION

NOTE :
PLACE m1 AND n1 BARS UNDER EACH BEAM. FLARE m1 BARS AND FIELD CUT n1 BARS TO FIT STEPS AT THE EXTERIOR BEAMS.



PART PLAN VIEW

PART SECTION THROUGH BACKWALL

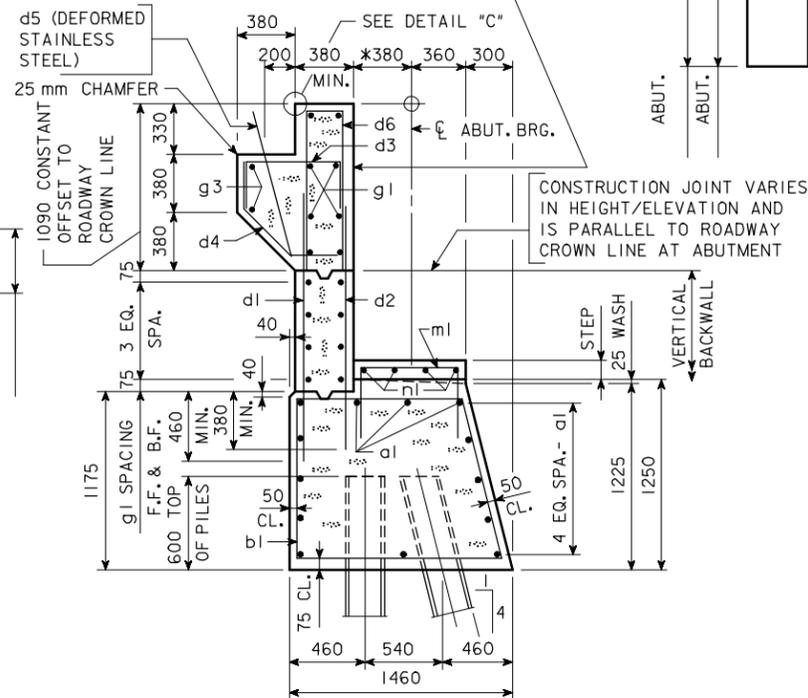
NOTE :
SEE DESIGN SHEET ??
FOR VIEWS A-A & B-B

SECTION E-E

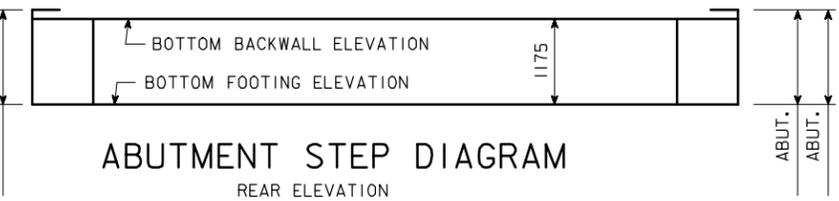
3 mm RADIUS

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DETAIL "C"



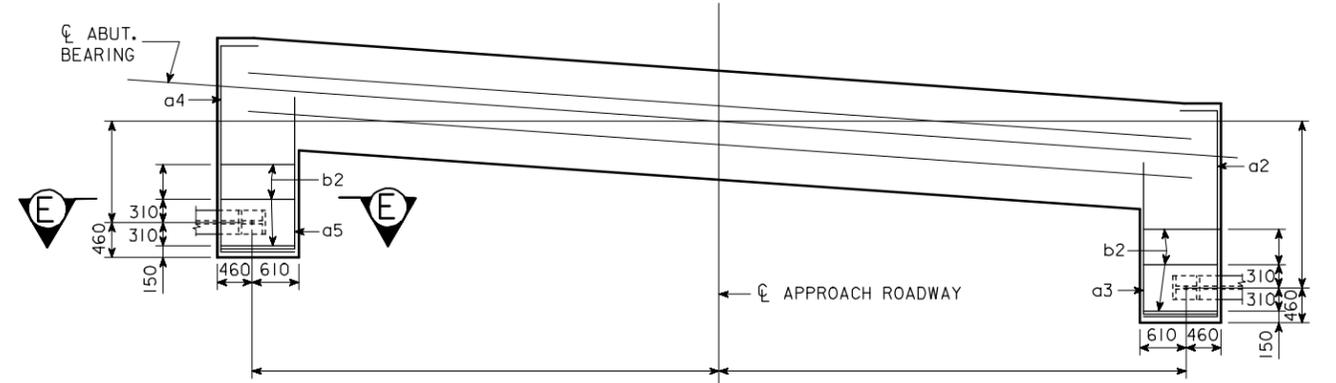
SECTION THROUGH ABUTMENT
EXPANSION DEVICE NOT SHOWN



ABUTMENT STEP DIAGRAM
REAR ELEVATION

POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT. BACKWALL ELEV.		
BOTT. FTG. ELEV.		

STEP	ABUTMENT	ABUTMENT
a		



PILING LAYOUT

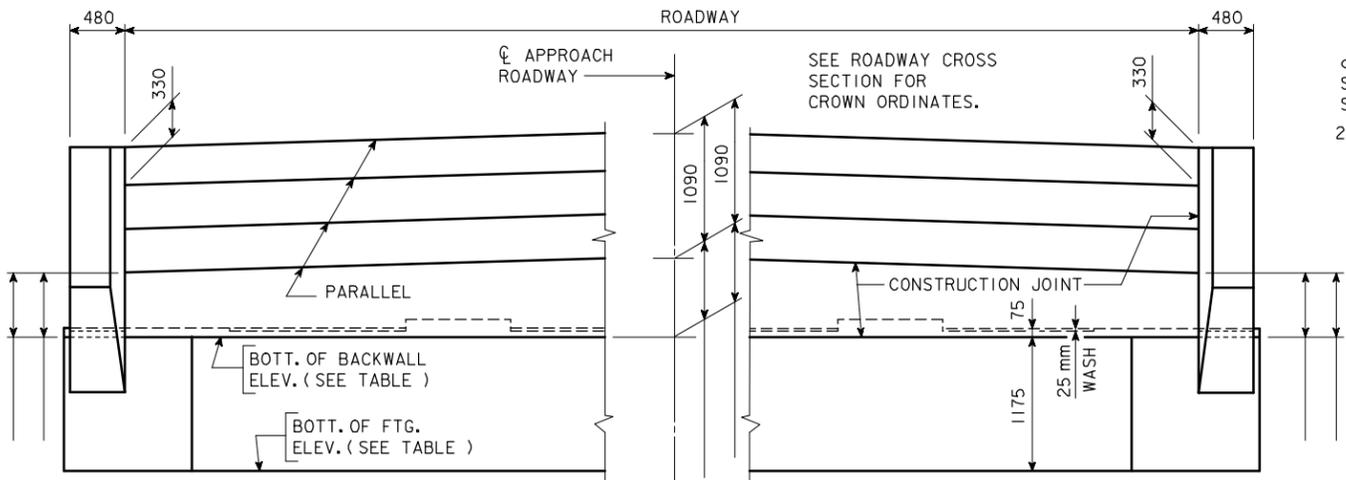
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IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

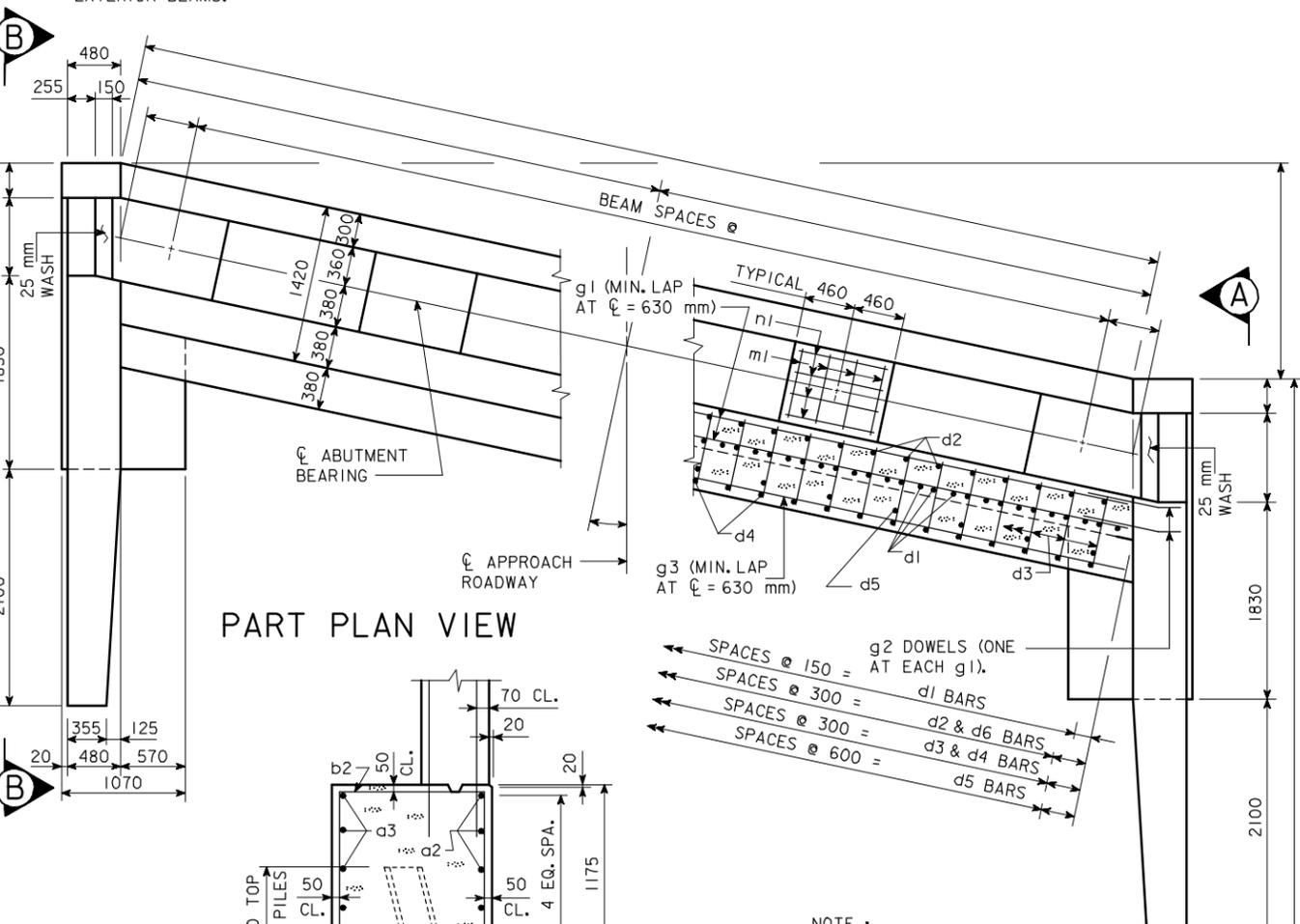
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BENCH MARK :

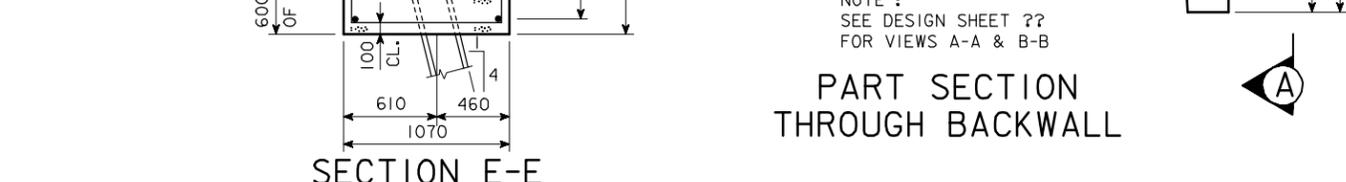


NOTE :
PLACE m1 AND n1 BARS UNDER EACH BEAM. FLARE m1 BARS AND FIELD CUT n1 BARS TO FIT STEPS AT THE EXTERIOR BEAMS.

REAR ELEVATION

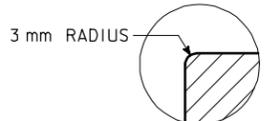


PART PLAN VIEW

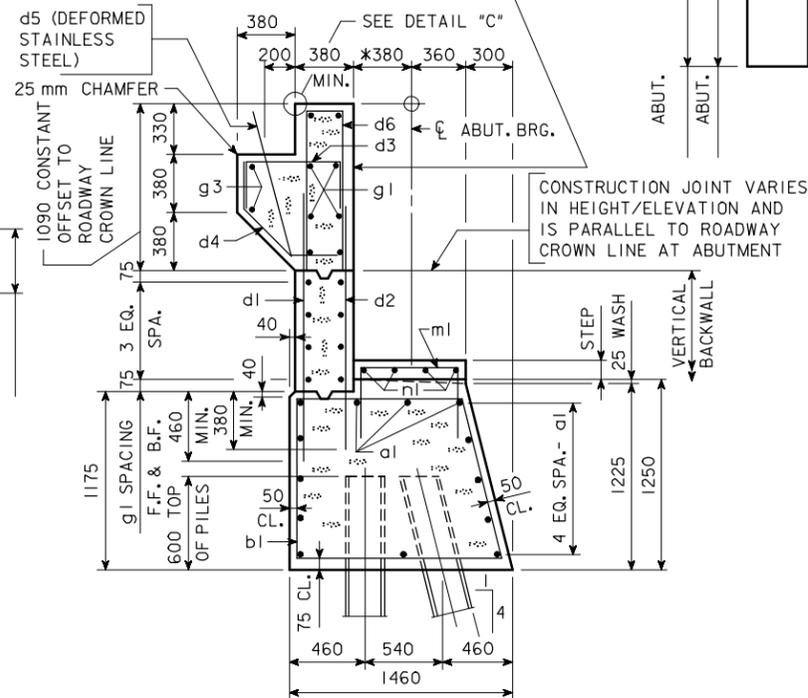


PART SECTION THROUGH BACKWALL

NOTE :
SEE DESIGN SHEET ??
FOR VIEWS A-A & B-B

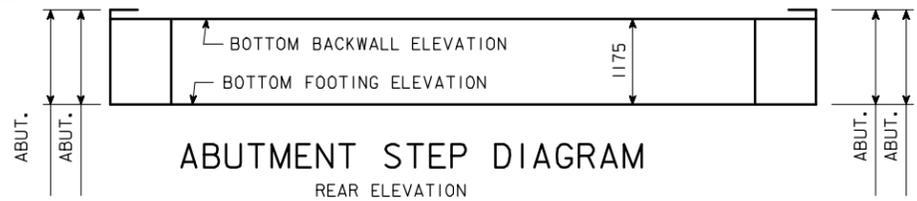


DETAIL "C"



SECTION THROUGH ABUTMENT
EXPANSION DEVICE NOT SHOWN

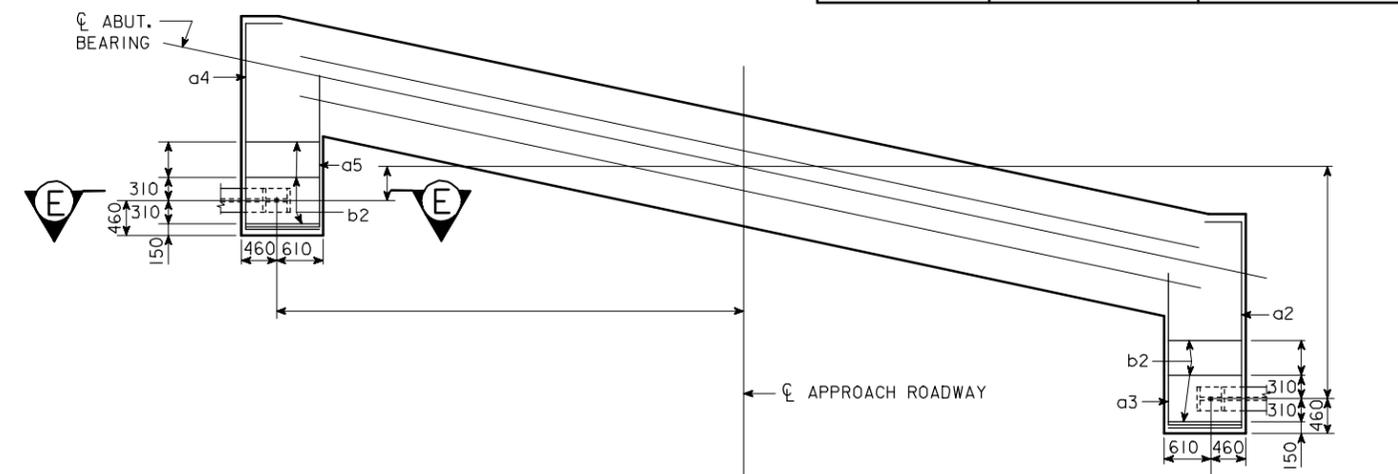
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ABUTMENT STEP DIAGRAM
REAR ELEVATION

TABLE OF ABUTMENT ELEVATIONS		
POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT. BACKWALL ELEV.		
BOTT. FTG. ELEV.		

TABLE OF ABUTMENT STEPS		
STEP	ABUTMENT	ABUTMENT
a		



PILING LAYOUT

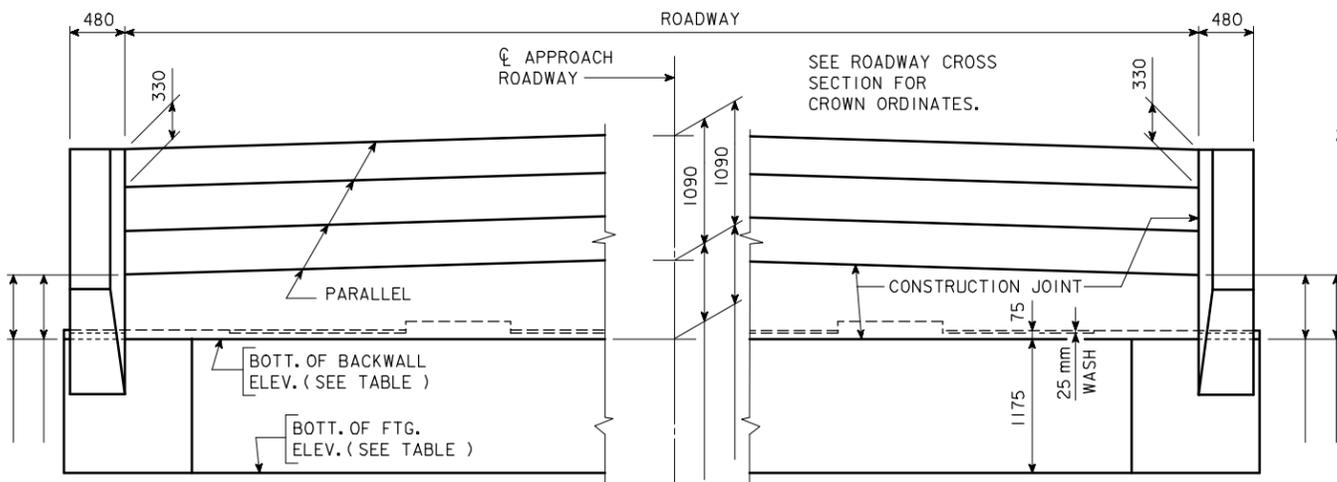
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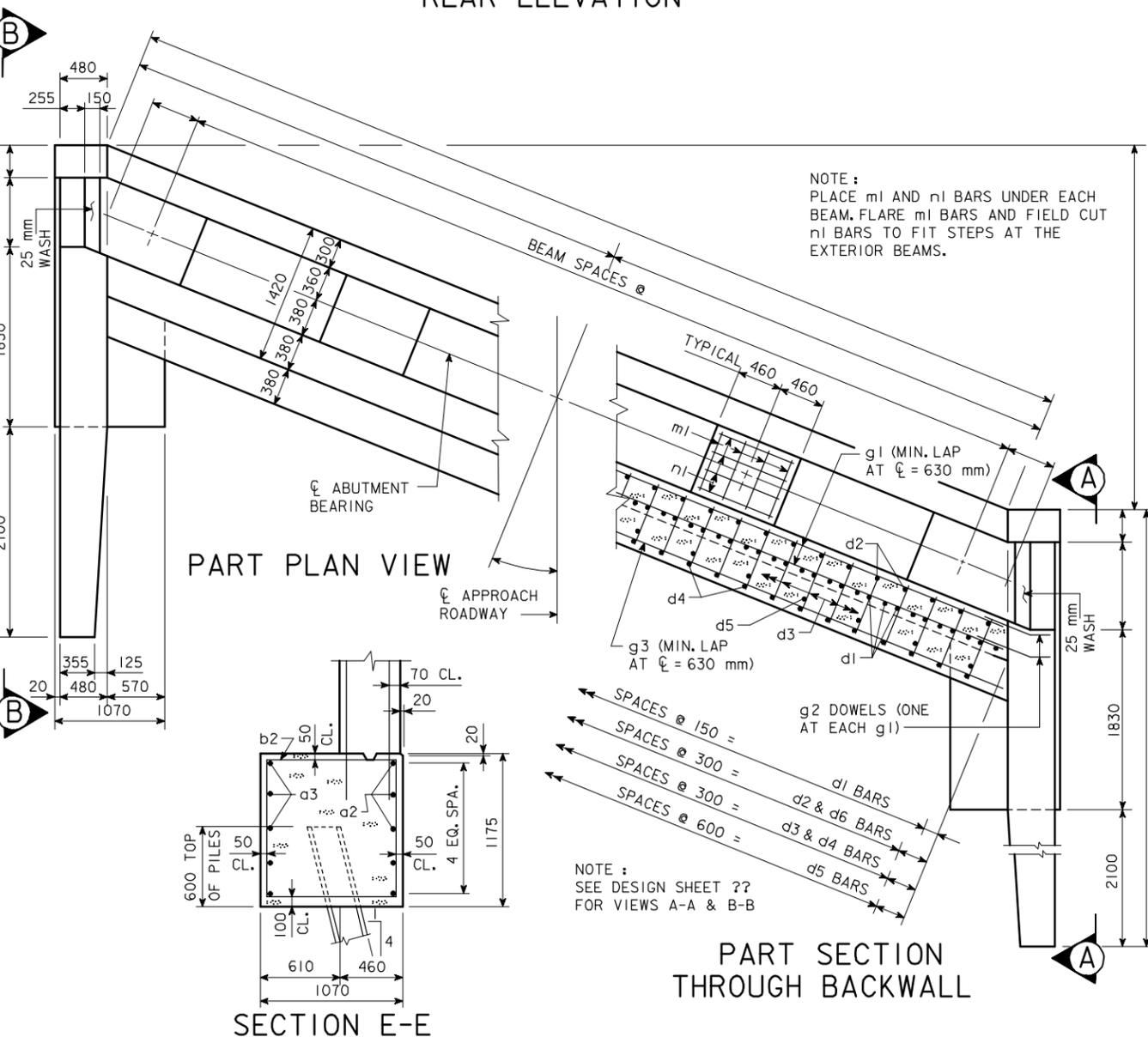
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DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. ADDED 4x6 BAR DIMENSION TO PART SECTION THROUGH BACKWALL FOR SPACING. HM2097.S01; THIS SHEET ISSUED 9-1-95.

BENCH MARK :



REAR ELEVATION

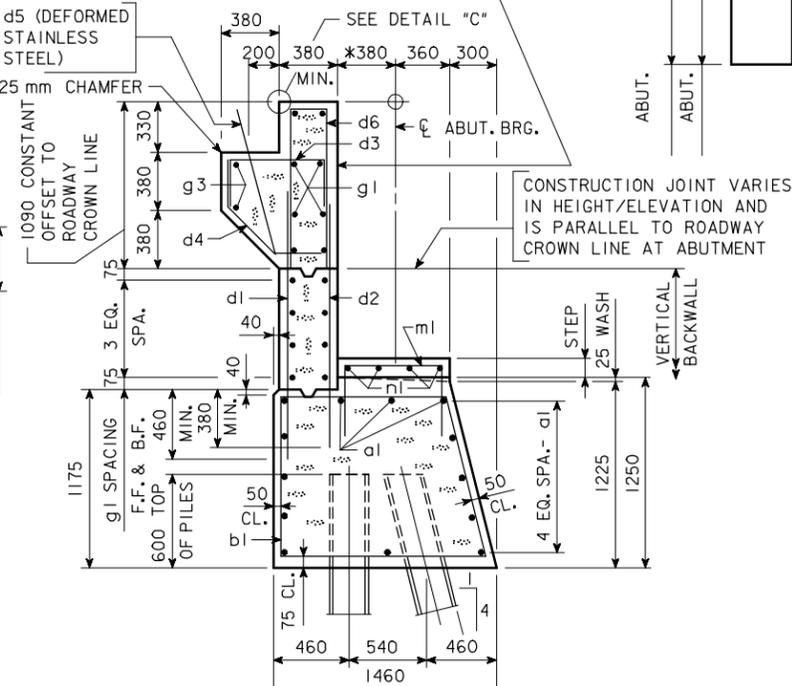


PART PLAN VIEW

PART SECTION THROUGH BACKWALL

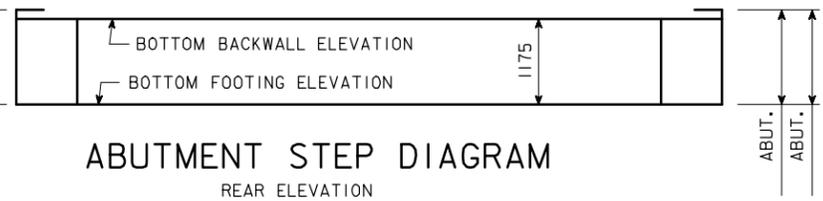
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DETAIL "C"



SECTION THROUGH ABUTMENT

EXPANSION DEVICE NOT SHOWN

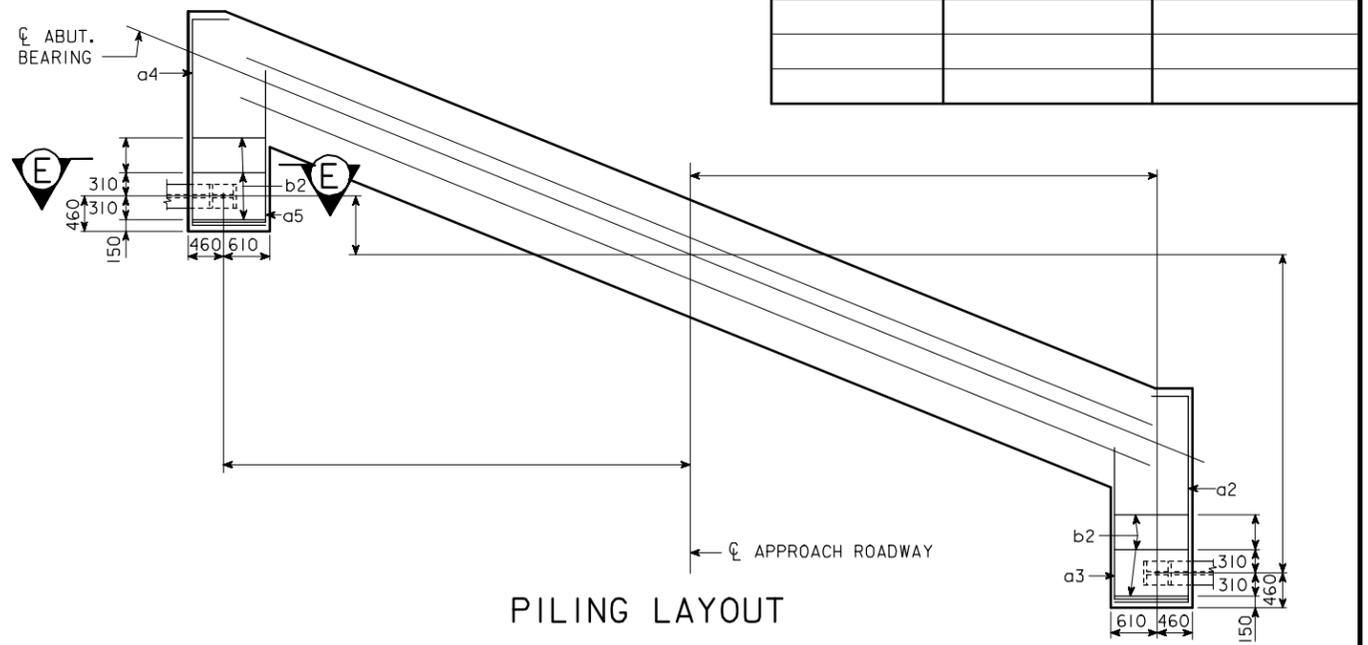


ABUTMENT STEP DIAGRAM

REAR ELEVATION

POINT	ABUTMENT	ABUTMENT
ELEV. A		
BOTT. BACKWALL ELEV.		
BOTT. FTG. ELEV.		

STEP	ABUTMENT	ABUTMENT
a		



PILING LAYOUT

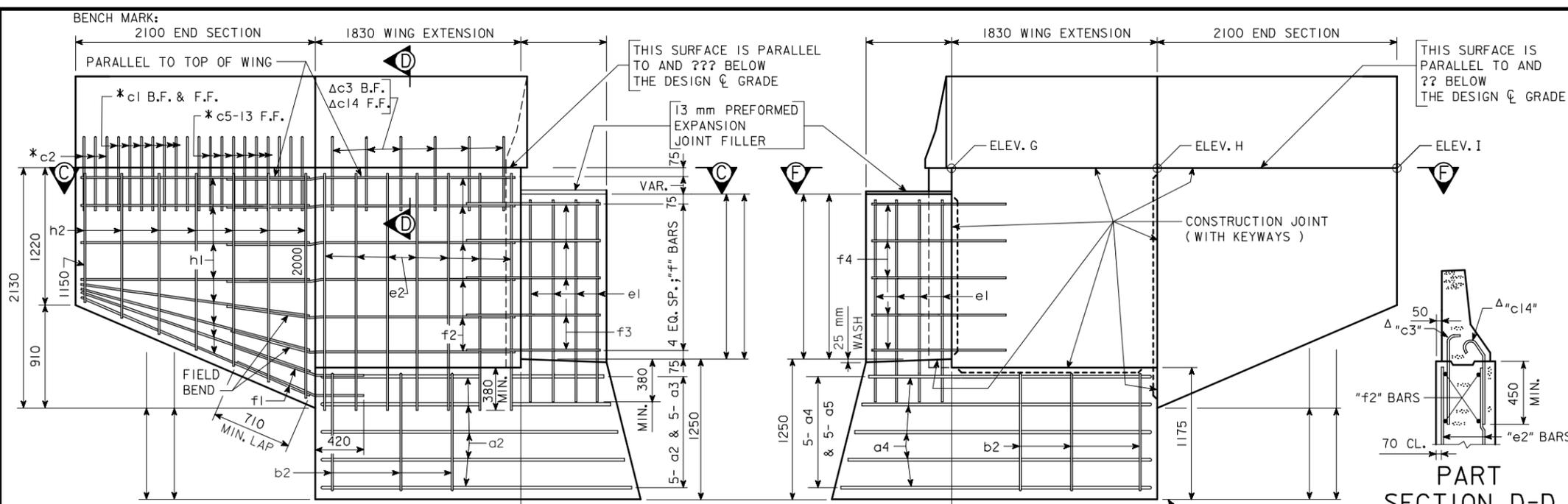
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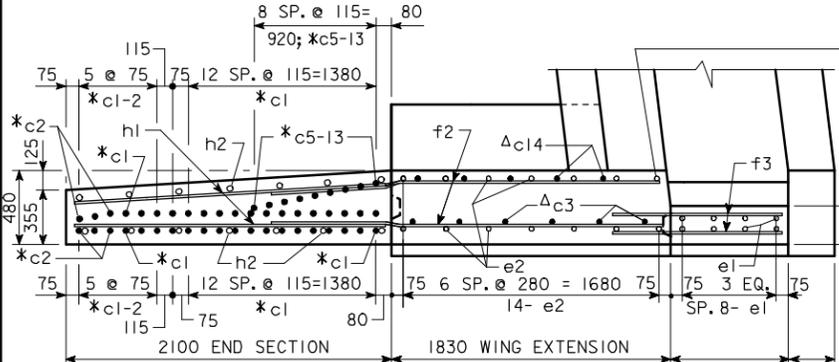
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 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. ADDED 4x6 BAR DIMENSION TO PART SECTION THROUGH BACKWALL FOR SPACING. HM2098.S01; THIS SHEET ISSUED, 9-1-95.

REVISED 12-04 - ADDED BARS TO REINFORCING BAR LIST AND BENT BAR DETAILS DUE TO CHANGE IN DESIGN OF PAVING NOTCH. STAINLESS STEEL NOTE ADDED. HM2100.S01; THIS SHEET ISSUED 9-1-95.

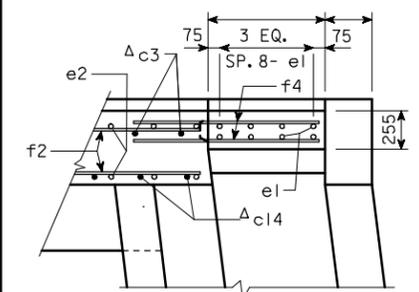


NOTE: FOR LOCATION OF VIEWS A-A & B-B SEE DESIGN SHEET ???



SECTION C-C

NOTE: d2, d3, t1 AND BARRIER RAIL NOT SHOWN IN SECTION C-C FOR CLARITY.



PART SECTION F-F

CONCRETE PLACEMENT QUANTITIES

LOCATION	ABUT.	ABUT.
FOOTING AND STEPS		
BACKWALL BELOW CONSTR. JOINT		
BACKWALL ABOVE CONSTR. JOINT		
? WINGWALL		
? WINGWALL		
? WING MASKWALL		
? WING MASKWALL		
WINGS 2 @ 1.5 m ³ /ABUT.	3.0	3.0
TOTAL - m ³		

POSITION THIS e2 BAR 50 mm CLEAR FROM FACE OF CONCRETE TO ACCOMMODATE SKEW

ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 50 mm UNLESS OTHERWISE NOTED OR SHOWN. THE MASKWALL IS TO BE POURED BEFORE THE SUPERSTRUCTURE SLAB IS POURED. CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH NOMINAL BEVELED 50 mm x 150 mm. THE PORTION OF THE BACKWALL CONTAINING THE ABUTMENT ANCHORAGE OF THE EXPANSION DEVICE IS TO BE PLACED AFTER THE BRIDGE FLOOR IS PLACED. CONCRETE SEALER IS TO BE APPLIED TO THE ABUTMENT BRIDGE SEAT IN ACCORDANCE WITH THE CURRENT IOWA D.O.T. STANDARD SPECIFICATIONS. THE COST OF PREFORMED EXPANSION JOINT FILLER, AND COST OF FURNISHING AND PLACING CONCRETE SEALER IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)". PAVING NOTCH DOWEL SHALL BE DEFORMED BAR GRADE 420 MPa, TYPE 316 LN IN ACCORDANCE WITH ASTM A955/A955M-01. THE COST AND WEIGHT OF THE STAINLESS STEEL PAVING NOTCH DOWEL IS TO BE INCIDENTAL TO THE PRICE BID FOR "REINFORCING STEEL - EPOXY COATED". THE DESIGN BEARING FOR THE ABUTMENT PILES IS ?? KN. IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

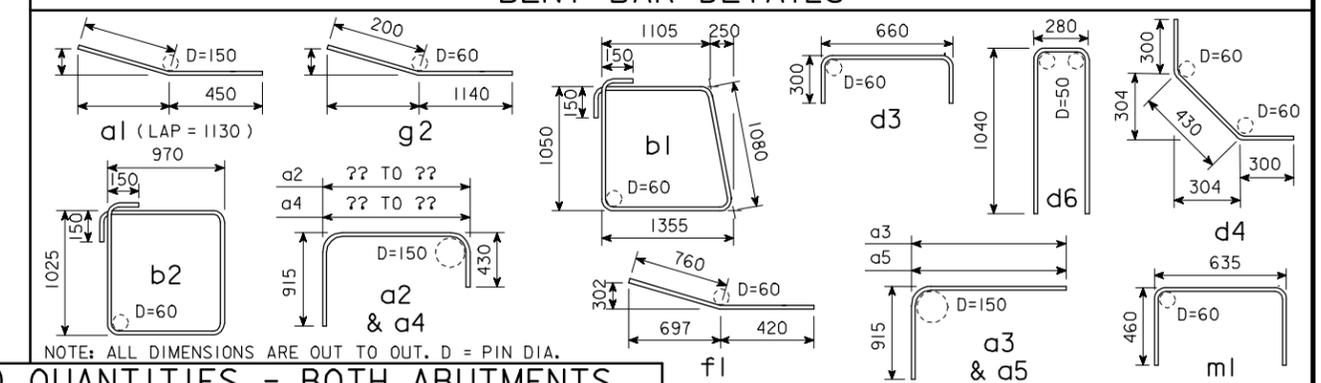
TABLE OF WINGWALL ELEVATIONS

LOCATION	ELEV. G	ELEV. H	ELEV. I

REINFORCING BAR LIST - ONE ABUTMENT

MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS
d1	20	BACKWALL VERTICAL B.F.				
d2	15	BACKWALL VERTICAL F.F.				
d3	15	PAVING NOTCH	U		1260	
d4	15	PAVING NOTCH	U		1030	
d6	10	BACKWALL VERTICAL HOOP	□		2360	
g1	15	BACKWALL LONGITUDINAL	—			
g2	15	BACKWALL DOWELS	—	28	1340	59
g3	15	PAVING NOTCH LONGITUDINAL	—			
m1	15	BEAM STEPS TRANSVERSE	┌		1560	
n1	15	BEAM STEPS LONGITUDINAL	—		820	
REINFORCING STEEL - EPOXY COATED - TOTAL kg						
d5	15	PAVING NOTCH DOWELS (STAINLESS STEEL)	—		1060	
STAINLESS STEEL - TOTAL kg						
a1	25	FOOTING LONGITUDINAL	—	26		
a2	25	WING FOOTING	—	5	VARIES	
a3	25	WING FOOTING	—	5		
a4	25	WING FOOTING	—	5	VARIES	
a5	25	WING FOOTING	—	5		
b1	15	FOOTING HOOPS	□		4890	
b2	15	WING FOOTING HOOPS	□	6	4290	40
e1	15	MASKWALL VERTICAL	—	16		
e2	15	WINGWALL VERTICAL	—	28		
f1	15	WING FOOTING TO WING DOWELS	—	8	1180	15
f2	15	WINGWALL HORIZONTAL	—	24	2540	96
f3	15	MASKWALL HORIZONTAL	—	10		
f4	15	MASKWALL HORIZONTAL	—	10		
h1	15	WING HORIZONTAL	—	32	2000	101
h2	15	WING VERTICAL	—	28	VARIES	70
REINFORCING STEEL - TOTAL kg						

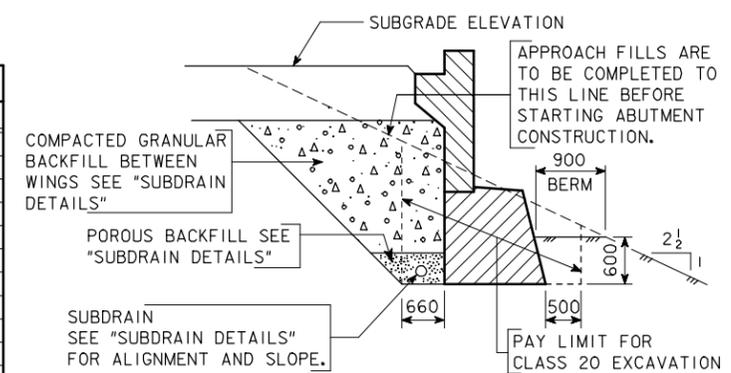
BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIA.

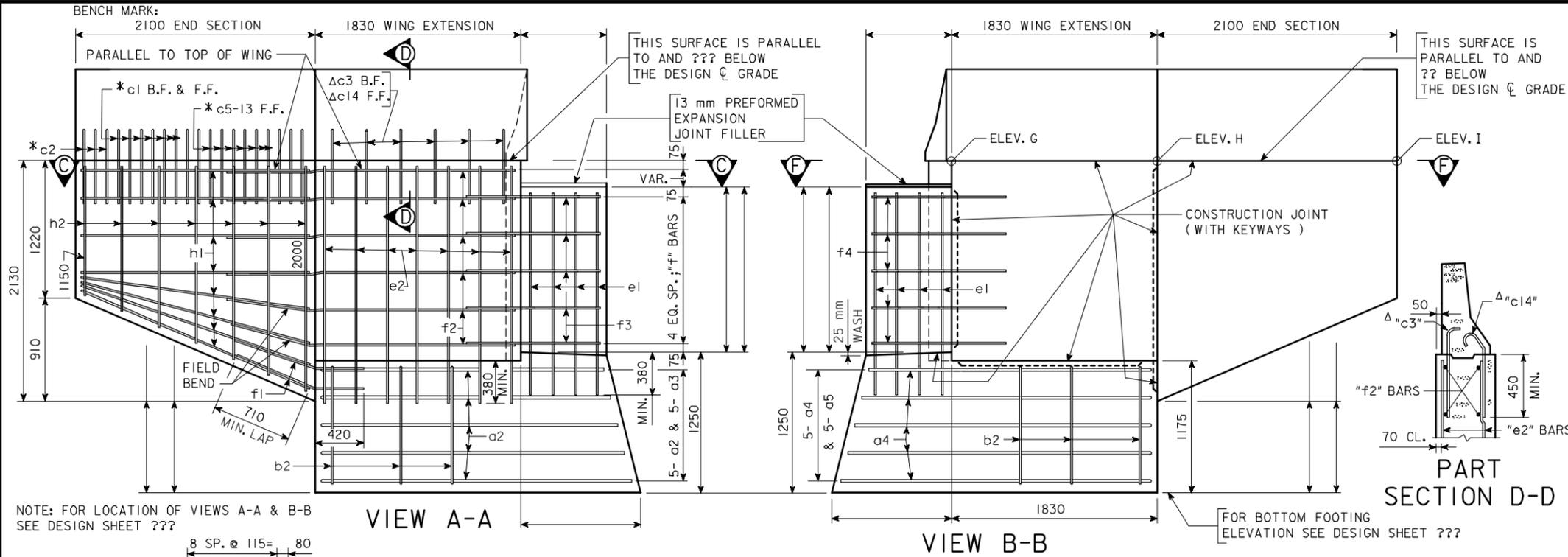
ESTIMATED QUANTITIES - BOTH ABUTMENTS

ITEM	UNIT	ABUT.	ABUT.	TOTAL
STRUCTURAL CONCRETE (BRIDGE)	m ³			
REINFORCING STEEL - EPOXY COATED	kg			
REINFORCING STEEL	kg			
CLASS 20 EXCAVATION	m ³			
FURNISH	m			
DRIVE	m			

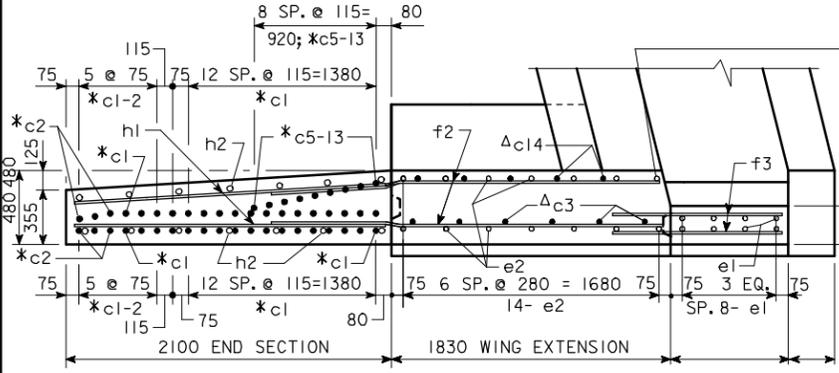


ABUTMENT EXCAVATION DETAILS

REVISED 12-04 - ADDED BARS TO REINFORCING BAR LIST AND BENT BAR DETAILS DUE TO CHANGE IN DESIGN OF PAVING NOTCH. STAINLESS STEEL NOTE ADDED. HMZ1010101; THIS SHEET ISSUED 9-1-95

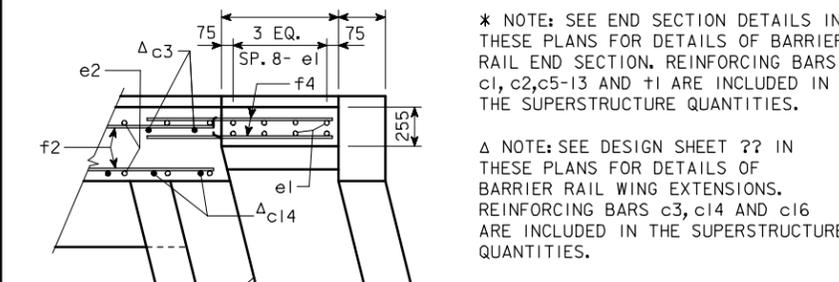


NOTE: FOR LOCATION OF VIEWS A-A & B-B SEE DESIGN SHEET ???



SECTION C-C

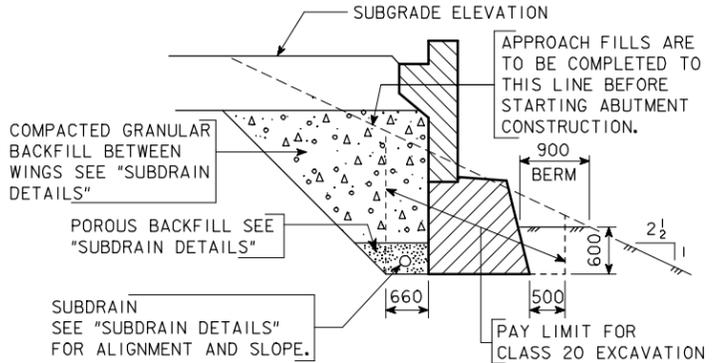
NOTE: d2, d3, t1 AND BARRIER RAIL NOT SHOWN IN SECTION C-C FOR CLARITY.



PART SECTION F-F

CONCRETE PLACEMENT QUANTITIES

LOCATION	ABUT.	ABUT.
FOOTING AND STEPS		
BACKWALL BELOW CONSTR. JOINT		
BACKWALL ABOVE CONSTR. JOINT		
? WINGWALL		
? WINGWALL		
? WING MASKWALL		
? WING MASKWALL		
WINGS 2 @ 1.5 m ³ /ABUT.	3.0	3.0
TOTAL - m ³		



ABUTMENT EXCAVATION DETAILS

ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 50 mm UNLESS OTHERWISE NOTED OR SHOWN. THE MASKWALL IS TO BE POURED BEFORE THE SUPERSTRUCTURE SLAB IS POURED. CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH NOMINAL BEVELED 50 mm x 150 mm. THE PORTION OF THE BACKWALL CONTAINING THE ABUTMENT ANCHORAGE OF THE EXPANSION DEVICE IS TO BE PLACED AFTER THE BRIDGE FLOOR IS PLACED. CONCRETE SEALER IS TO BE APPLIED TO THE ABUTMENT BRIDGE SEAT IN ACCORDANCE WITH THE CURRENT IOWA D.O.T. STANDARD SPECIFICATIONS. THE COST OF PREFORMED EXPANSION JOINT FILLER, AND COST OF FURNISHING AND PLACING CONCRETE SEALER IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)". PAVING NOTCH DOWEL SHALL BE DEFORMED BAR GRADE 420 MPa, TYPE 316 LN IN ACCORDANCE WITH ASTM A955/A955M-01. THE COST AND WEIGHT OF THE STAINLESS STEEL PAVING NOTCH DOWEL IS TO BE INCIDENTAL TO THE PRICE BID FOR "REINFORCING STEEL - EPOXY COATED". THE DESIGN BEARING FOR THE ABUTMENT PILES IS ?? KN. IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

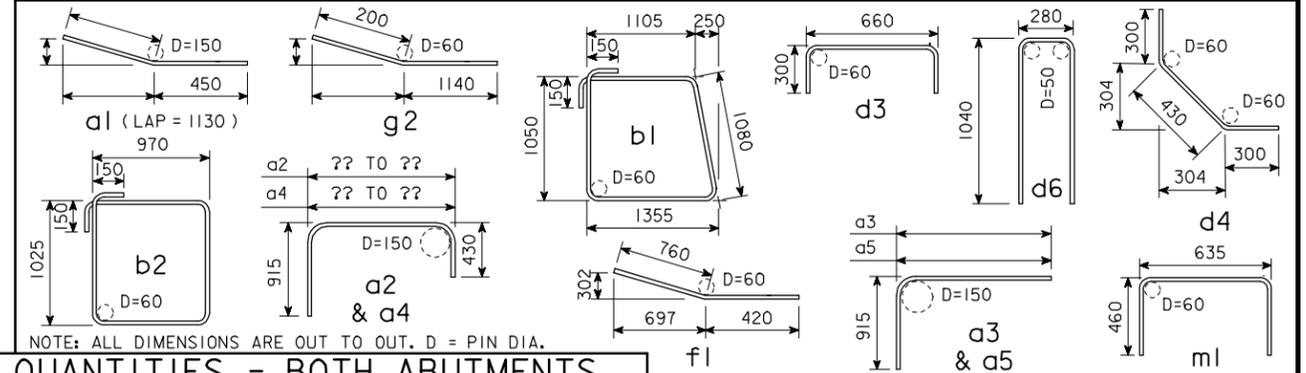
TABLE OF WINGWALL ELEVATIONS

LOCATION	ELEV. G	ELEV. H	ELEV. I

REINFORCING BAR LIST - ONE ABUTMENT

MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS
d1	20	BACKWALL VERTICAL B.F.	—			
d2	15	BACKWALL VERTICAL F.F.	—			
d3	15	PAVING NOTCH	—		1260	
d4	15	PAVING NOTCH	—		1030	
d6	10	BACKWALL VERTICAL HOOP	—		2360	
g1	15	BACKWALL LONGITUDINAL	—			
g2	15	BACKWALL DOWELS	—	28	1340	59
g3	15	PAVING NOTCH LONGITUDINAL	—			
m1	15	BEAM STEPS TRANSVERSE	—		1560	
n1	15	BEAM STEPS LONGITUDINAL	—		820	
REINFORCING STEEL - EPOXY COATED - TOTAL kg						
d5	15	PAVING NOTCH DOWELS (STAINLESS STEEL)	—		1060	
STAINLESS STEEL - TOTAL kg						
a1	25	FOOTING LONGITUDINAL	—	26		
a2	25	WING FOOTING	—	5	VARIES	
a3	25	WING FOOTING	—	5		
a4	25	WING FOOTING	—	5	VARIES	
a5	25	WING FOOTING	—	5		
b1	15	FOOTING HOOPS	—		4890	
b2	15	WING FOOTING HOOPS	—	6	4290	40
e1	15	MASKWALL VERTICAL	—	16		
e2	15	WINGWALL VERTICAL	—	28		
f1	15	WING FOOTING TO WING DOWELS	—	8	1180	15
f2	15	WINGWALL HORIZONTAL	—	24	2540	96
f3	15	MASKWALL HORIZONTAL	—	10		
f4	15	MASKWALL HORIZONTAL	—	10		
h1	15	WING HORIZONTAL	—	32	2000	101
h2	15	WING VERTICAL	—	28	VARIES	70
REINFORCING STEEL - TOTAL kg						

BENT BAR DETAILS



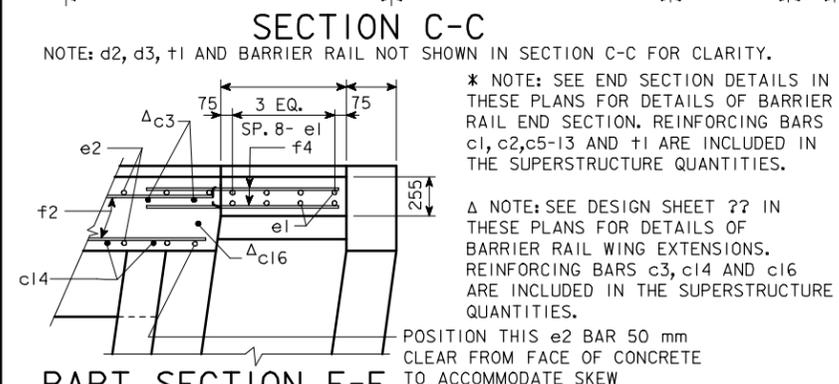
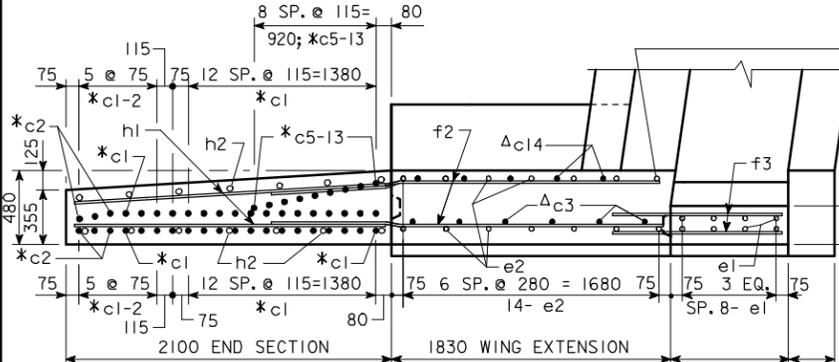
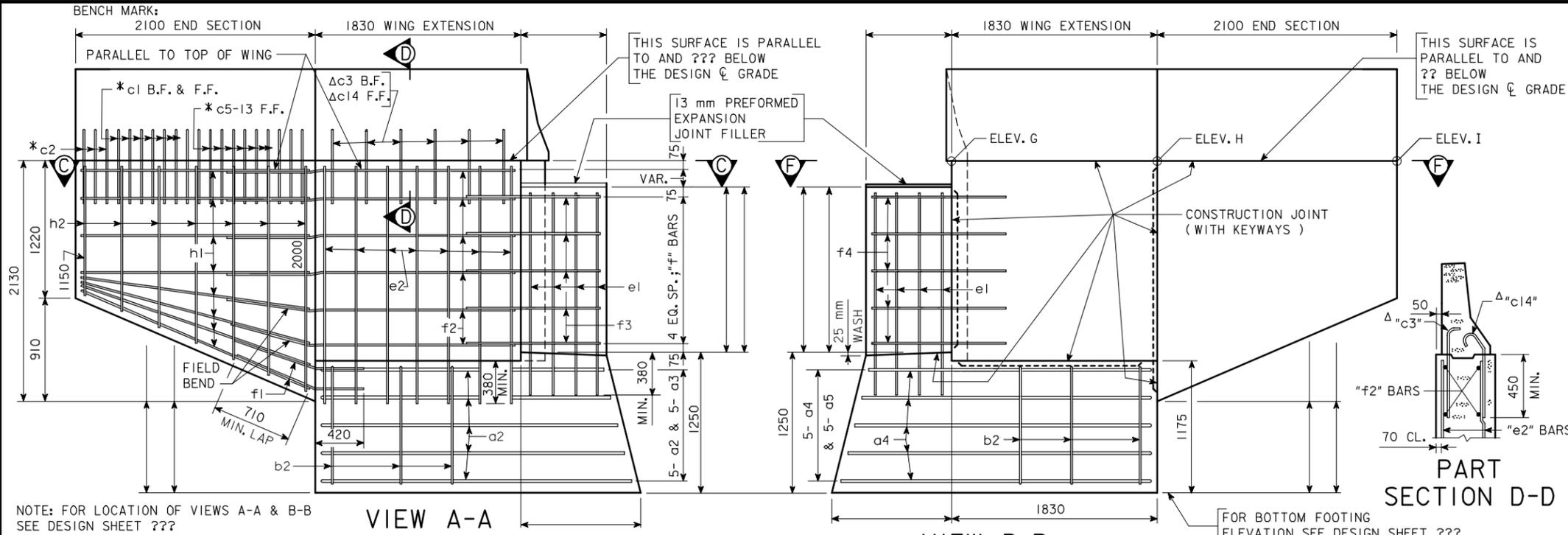
NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIA.

ESTIMATED QUANTITIES - BOTH ABUTMENTS

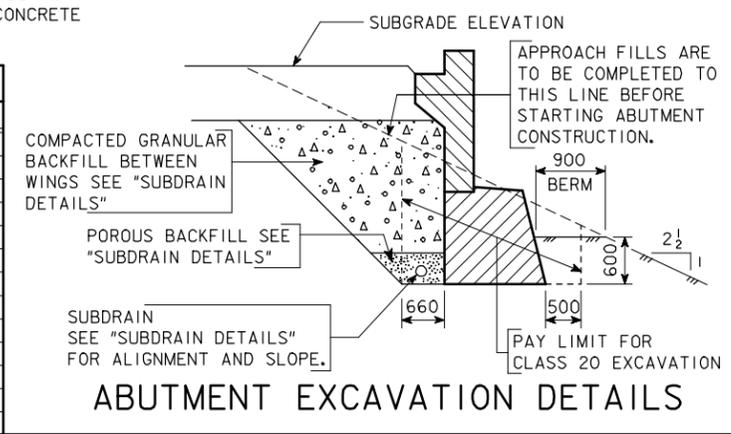
ITEM	UNIT	ABUT.	ABUT.	TOTAL
STRUCTURAL CONCRETE (BRIDGE)	m ³			
REINFORCING STEEL - EPOXY COATED	kg			
REINFORCING STEEL	kg			
CLASS 20 EXCAVATION	m ³			
FURNISH	m			
DRIVE	m			

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 12-04 - ADDED BARS TO REINFORCING BAR LIST AND BENT BAR DETAILS DUE TO CHANGE IN DESIGN OF PAVING NOTCH. STAINLESS STEEL NOTE ADDED. HNZ103.S01; THIS SHEET ISSUED 9-1-95.



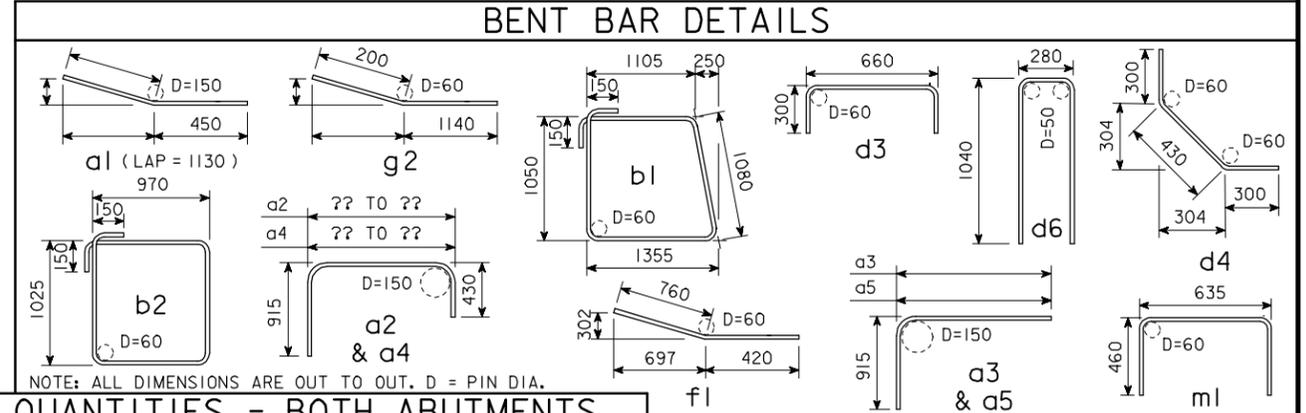
LOCATION	ABUT.	ABUT.
FOOTING AND STEPS		
BACKWALL BELOW CONSTR. JOINT		
BACKWALL ABOVE CONSTR. JOINT		
? WINGWALL		
? WINGWALL		
? WING MASKWALL		
? WING MASKWALL		
WINGS 2 @ 1.5 m ³ /ABUT.	3.0	3.0
TOTAL - m ³		



ABUTMENT NOTES:
 MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 50 mm UNLESS OTHERWISE NOTED OR SHOWN. THE MASKWALL IS TO BE POURED BEFORE THE SUPERSTRUCTURE SLAB IS POURED.
 CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH NOMINAL BEVELED 50 mm x 150 mm.
 THE PORTION OF THE BACKWALL CONTAINING THE ABUTMENT ANCHORAGE OF THE EXPANSION DEVICE IS TO BE PLACED AFTER THE BRIDGE FLOOR IS PLACED.
 CONCRETE SEALER IS TO BE APPLIED TO THE ABUTMENT BRIDGE SEAT IN ACCORDANCE WITH THE CURRENT IOWA D.O.T. STANDARD SPECIFICATIONS.
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 THE DESIGN BEARING FOR THE ABUTMENT PILES IS ?? KN.
 IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

LOCATION	ELEV. G	ELEV. H	ELEV. I

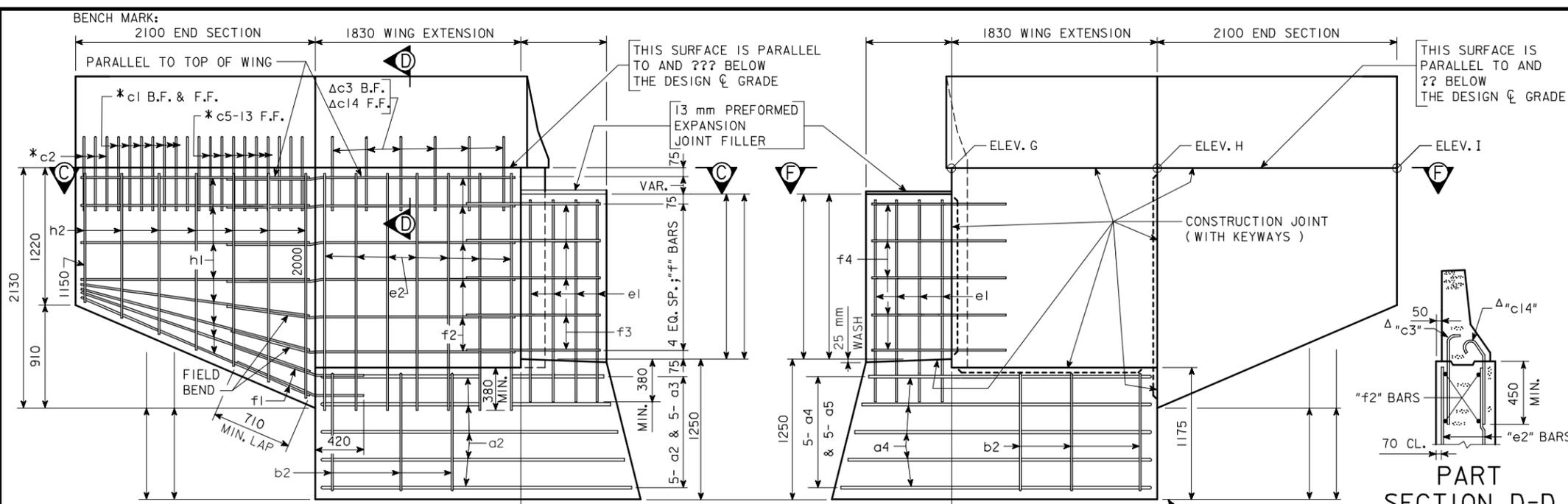
MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS
d1	20	BACKWALL VERTICAL B.F.	—			
d2	15	BACKWALL VERTICAL F.F.	—			
d3	15	PAVING NOTCH	—		1260	
d4	15	PAVING NOTCH	—		1030	
d6	10	BACKWALL VERTICAL HOOP	—		2360	
g1	15	BACKWALL LONGITUDINAL	—			
g2	15	BACKWALL DOWELS	—	28	1340	59
g3	15	PAVING NOTCH LONGITUDINAL	—			
m1	15	BEAM STEPS TRANSVERSE	—		1560	
n1	15	BEAM STEPS LONGITUDINAL	—		820	
REINFORCING STEEL - EPOXY COATED - TOTAL kg						
d5	15	PAVING NOTCH DOWELS (STAINLESS STEEL)	—		1060	
STAINLESS STEEL - TOTAL kg						
a1	25	FOOTING LONGITUDINAL	—	26		
a2	25	WING FOOTING	—	5	VARIES	
a3	25	WING FOOTING	—	5		
a4	25	WING FOOTING	—	5	VARIES	
a5	25	WING FOOTING	—	5		
b1	15	FOOTING HOOPS	—		4890	
b2	15	WING FOOTING HOOPS	—	6	4290	40
e1	15	MASKWALL VERTICAL	—	16		
e2	15	WINGWALL VERTICAL	—	28		
f1	15	WING FOOTING TO WING DOWELS	—	8	1180	15
f2	15	WINGWALL HORIZONTAL	—	24	2540	96
f3	15	MASKWALL HORIZONTAL	—	10		
f4	15	MASKWALL HORIZONTAL	—	10		
h1	15	WING HORIZONTAL	—	32	2000	101
h2	15	WING VERTICAL	—	28	VARIES	70
REINFORCING STEEL - TOTAL kg						



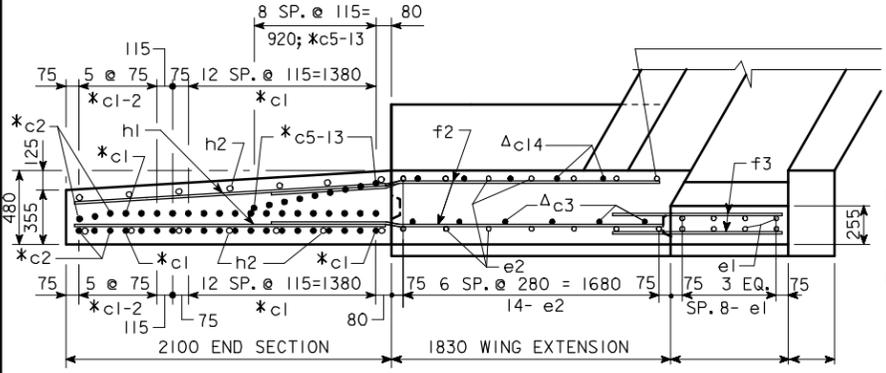
ITEM	UNIT	ABUT.	ABUT.	TOTAL
STRUCTURAL CONCRETE (BRIDGE)	m ³			
REINFORCING STEEL - EPOXY COATED	kg			
REINFORCING STEEL	kg			
CLASS 20 EXCAVATION	m ³			
FURNISH	m			
DRIVE	m			

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 12-04 - ADDED BARS TO REINFORCING BAR LIST AND BENT BAR DETAILS DUE TO CHANGE IN DESIGN OF PAVING NOTCH. STAINLESS STEEL NOTE ADDED. HM2105.S01 THIS SHEET ISSUED 9-1-95

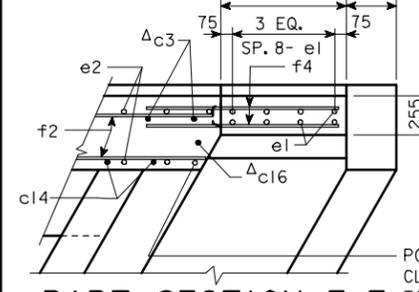


NOTE: FOR LOCATION OF VIEWS A-A & B-B SEE DESIGN SHEET ???



SECTION C-C

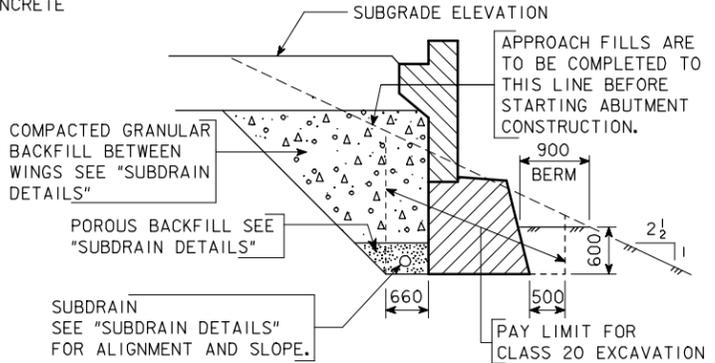
NOTE: d2, d3, t1 AND BARRIER RAIL NOT SHOWN IN SECTION C-C FOR CLARITY.



PART SECTION F-F

CONCRETE PLACEMENT QUANTITIES

LOCATION	ABUT.	ABUT.
FOOTING AND STEPS		
BACKWALL BELOW CONSTR. JOINT		
BACKWALL ABOVE CONSTR. JOINT		
? WINGWALL		
? WINGWALL		
? WING MASKWALL		
? WING MASKWALL		
WINGS 2 @ 1.5 m ³ /ABUT.	3.0	3.0
TOTAL - m ³		



ABUTMENT EXCAVATION DETAILS

ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 50 mm UNLESS OTHERWISE NOTED OR SHOWN. THE MASKWALL IS TO BE POURED BEFORE THE SUPERSTRUCTURE SLAB IS POURED. CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH NOMINAL BEVELED 50 mm x 150 mm. THE PORTION OF THE BACKWALL CONTAINING THE ABUTMENT ANCHORAGE OF THE EXPANSION DEVICE IS TO BE PLACED AFTER THE BRIDGE FLOOR IS PLACED. CONCRETE SEALER IS TO BE APPLIED TO THE ABUTMENT BRIDGE SEAT IN ACCORDANCE WITH THE CURRENT IOWA D.O.T. STANDARD SPECIFICATIONS. THE COST OF PREFORMED EXPANSION JOINT FILLER, AND COST OF FURNISHING AND PLACING CONCRETE SEALER IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)". PAVING NOTCH DOWEL SHALL BE DEFORMED BAR GRADE 420 MPa, TYPE 316 LN IN ACCORDANCE WITH ASTM A955/A955M-01. THE COST AND WEIGHT OF THE STAINLESS STEEL PAVING NOTCH DOWEL IS TO BE INCIDENTAL TO THE PRICE BID FOR "REINFORCING STEEL - EPOXY COATED". THE DESIGN BEARING FOR THE ABUTMENT PILES IS ?? KN. IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

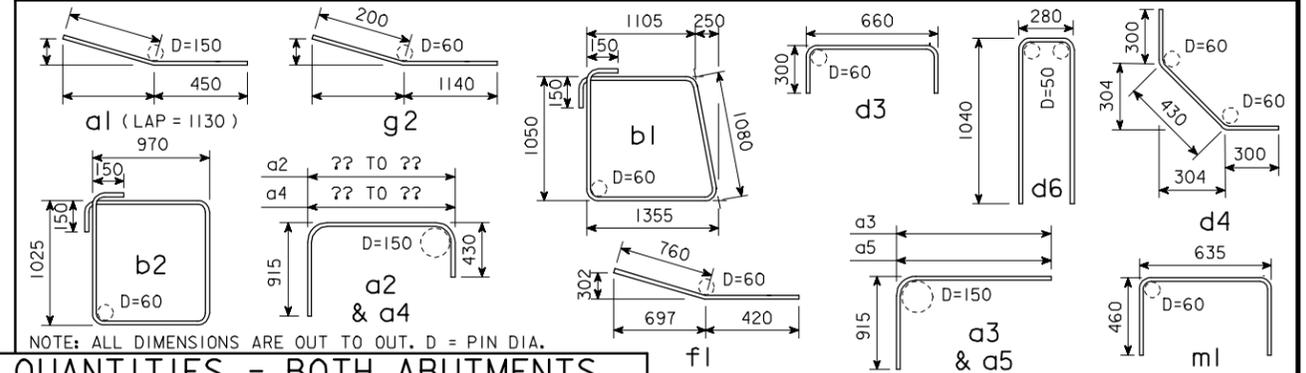
TABLE OF WINGWALL ELEVATIONS

LOCATION	ELEV. G	ELEV. H	ELEV. I

REINFORCING BAR LIST - ONE ABUTMENT

MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS
d1	20	BACKWALL VERTICAL B.F.	—			
d2	15	BACKWALL VERTICAL F.F.	—			
d3	15	PAVING NOTCH	—		1260	
d4	15	PAVING NOTCH	—		1030	
d6	10	BACKWALL VERTICAL HOOP	—		2360	
g1	15	BACKWALL LONGITUDINAL	—			
g2	15	BACKWALL DOWELS	—	28	1340	59
g3	15	PAVING NOTCH LONGITUDINAL	—			
m1	15	BEAM STEPS TRANSVERSE	—		1560	
n1	15	BEAM STEPS LONGITUDINAL	—		820	
REINFORCING STEEL - EPOXY COATED - TOTAL kg						
d5	15	PAVING NOTCH DOWELS (STAINLESS STEEL)	—		1060	
STAINLESS STEEL - TOTAL kg						
a1	25	FOOTING LONGITUDINAL	—	26		
a2	25	WING FOOTING	—	5	VARIES	
a3	25	WING FOOTING	—	5		
a4	25	WING FOOTING	—	5	VARIES	
a5	25	WING FOOTING	—	5		
b1	15	FOOTING HOOPS	—		4890	
b2	15	WING FOOTING HOOPS	—	6	4290	40
e1	15	MASKWALL VERTICAL	—	16		
e2	15	WINGWALL VERTICAL	—	28		
f1	15	WING FOOTING TO WING DOWELS	—	8	1180	15
f2	15	WINGWALL HORIZONTAL	—	24	2540	96
f3	15	MASKWALL HORIZONTAL	—	10		
f4	15	MASKWALL HORIZONTAL	—	10		
h1	15	WING HORIZONTAL	—	32	2000	101
h2	15	WING VERTICAL	—	28	VARIES	70
REINFORCING STEEL - TOTAL kg						

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIA.

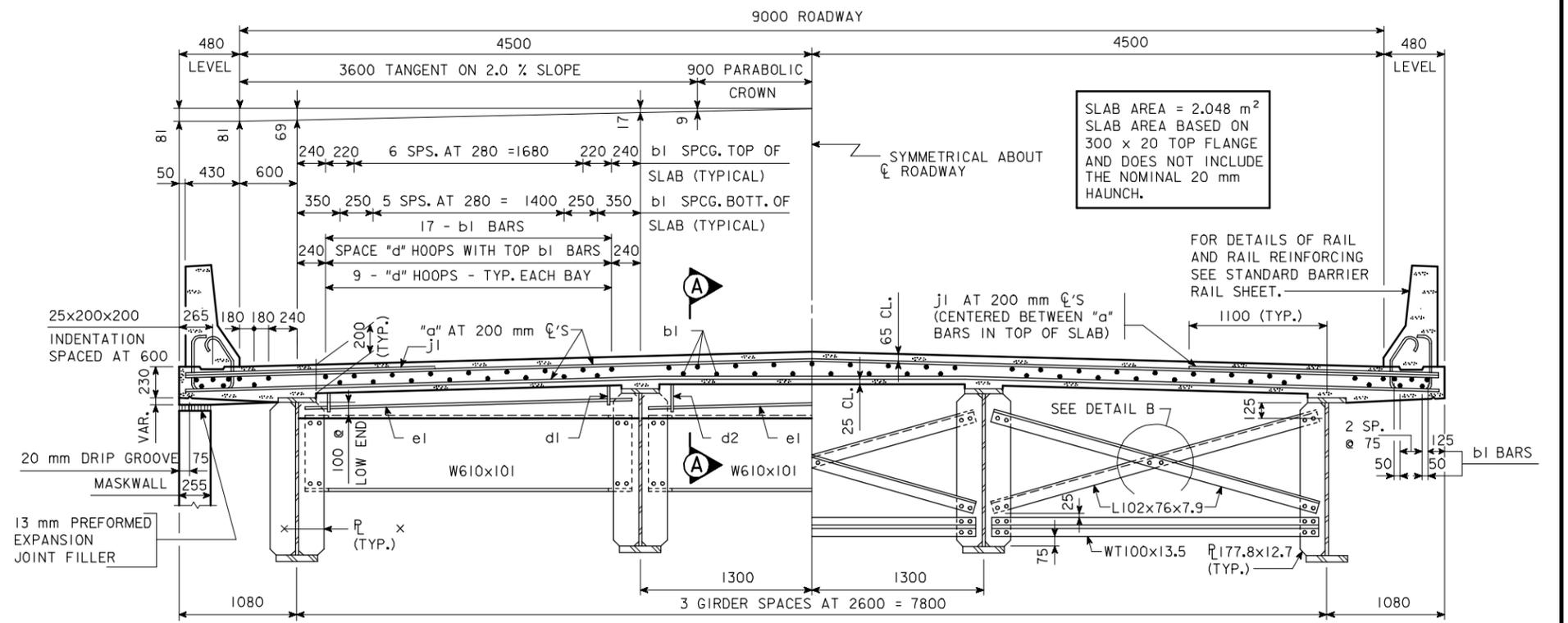
ESTIMATED QUANTITIES - BOTH ABUTMENTS

ITEM	UNIT	ABUT.	ABUT.	TOTAL
STRUCTURAL CONCRETE (BRIDGE)	m ³			
REINFORCING STEEL - EPOXY COATED	kg			
REINFORCING STEEL	kg			
CLASS 20 EXCAVATION	m ³			
FURNISH	m			
DRIVE	m			

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
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REINFORCING BAR SIZE

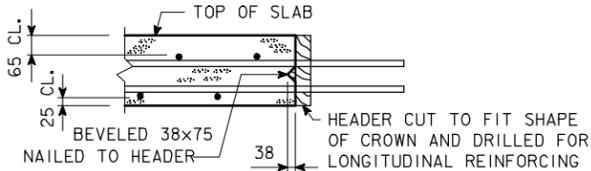
MARK	SIZE
a	20
b	20
d	15
e	15
j	20



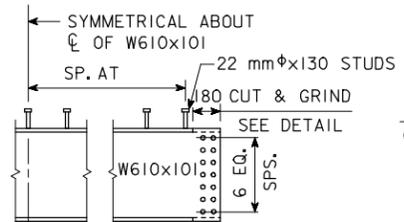
HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR INTERMEDIATE DIAPHRAGM

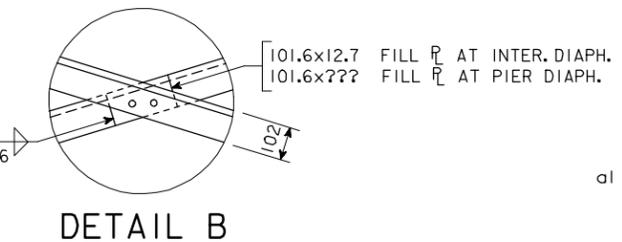
NOTE: FOR ADDITIONAL STIFFENER AND WELDING DETAILS SEE DES. SHT.



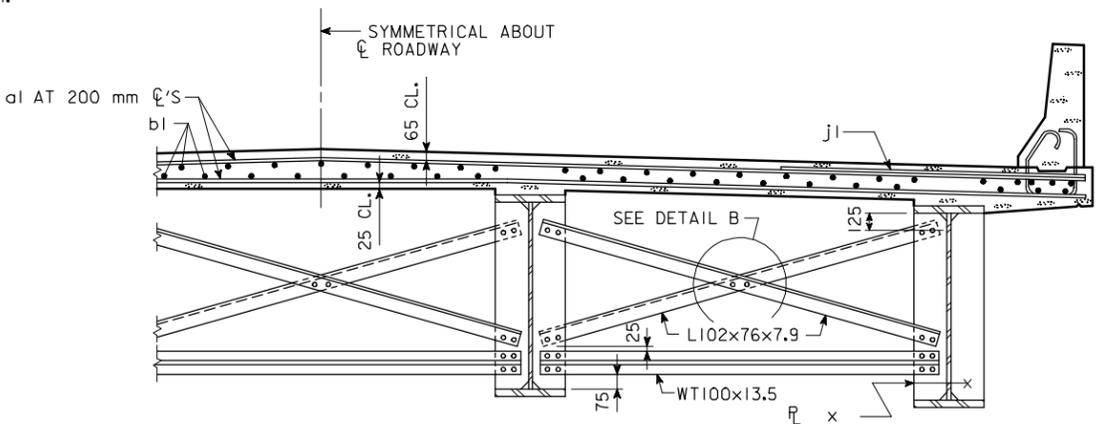
TRANSVERSE SLAB CONSTRUCTION JOINT



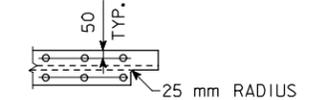
ABUT. DIAPHRAGM DETAIL



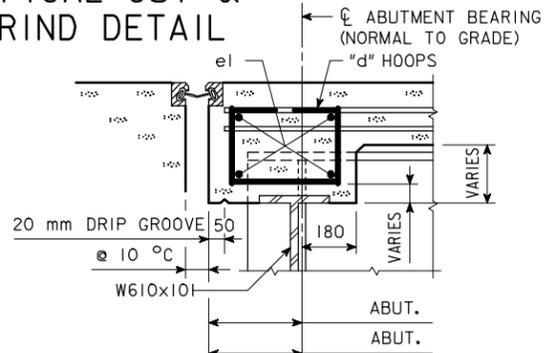
DETAIL B



PART SECTION NEAR PIER

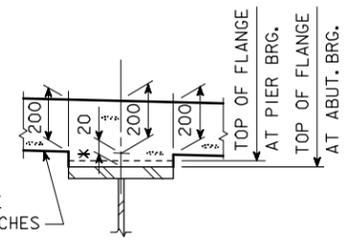


TYPICAL CUT & GRIND DETAIL



SECTION A-A (NORMAL TO ABUTMENT)

NOTE: TRANSVERSE SLAB REINFORCING NOT SHOWN. PLACE "d" HOOPS PARALLEL TO LONGIT. b1 BARS.



TYP. SLAB & HAUNCH DETAIL

* THE HAUNCH DIMENSION SHOWN IS THE NOMINAL HAUNCH DIMENSION NEAR THE ABUTMENT BEARINGS, AND IS USED AS A BASIS ALONG WITH THE DEAD LOAD DEFLECTION AND GIRDER PARAMETERS TO DETERMINE THE THEORETICAL HAUNCH THICKENING DIAGRAM. THIS HAUNCH THICKENING DIAGRAM IS USED BY THE DESIGNER TO SET BRIDGE SEAT ELEVATIONS AND ESTIMATE CONCRETE QUANTITIES. REFER TO THE HAUNCH DATA DETAIL SHEET FOR ADDITIONAL INFORMATION TO AID THE CONTRACTOR IN SETTING THE FIELD HAUNCHES REQUIRED FOR CONSTRUCTION.

SUPERSTRUCTURE NOTES:

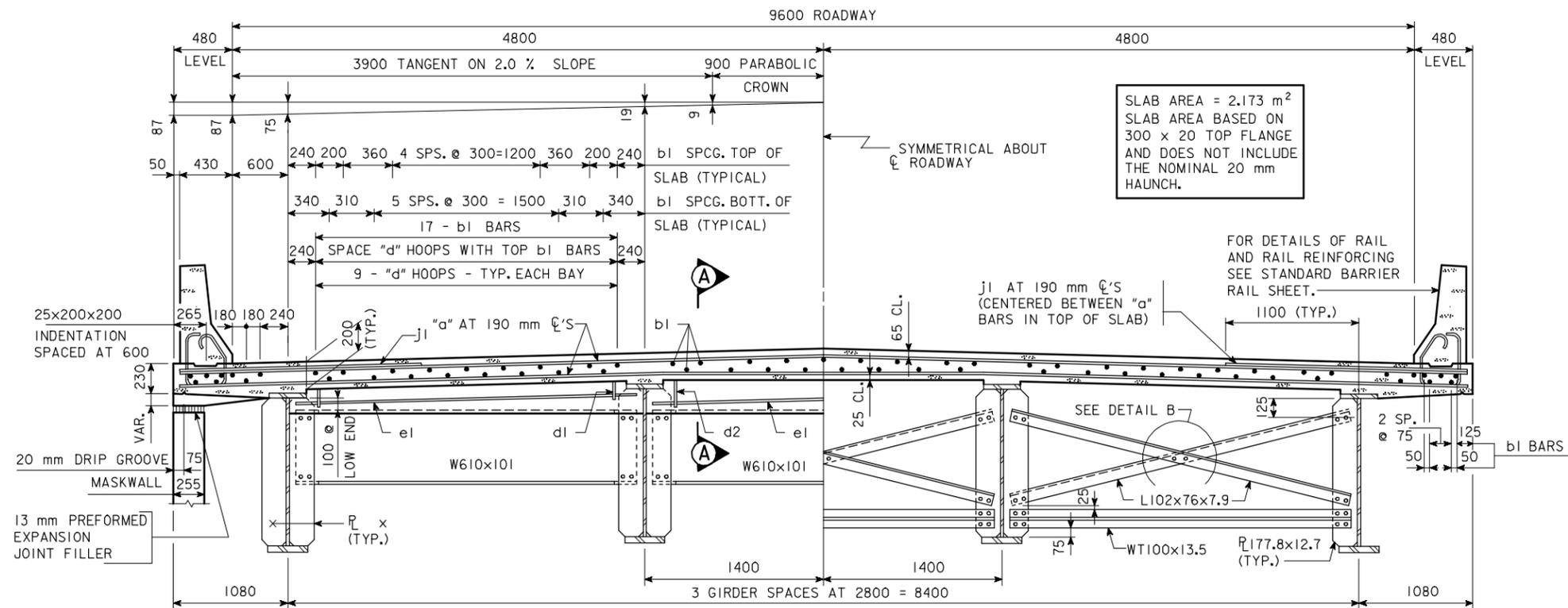
- THE FLOOR SLAB AS SHOWN INCLUDES 13 mm INTEGRAL WEARING SURFACE.
- FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE GIRDERS.
- CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 50 mm UNLESS OTHERWISE NOTED OR SHOWN.
- TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 65 mm CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 25 mm CLEAR ABOVE BOTTOM OF SLAB.
- TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 900 mm CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 1200 mm APART.
- ALL REINFORCING BARS ARE TO BE EPOXY COATED.
- ALL FIELD CONNECTIONS ARE TO BE BOLTED USING "HIGH STRENGTH BOLTS". UNLESS OTHERWISE NOTED, ALL OPEN HOLES ARE TO BE 24 mm ϕ AND ALL BOLTS ARE TO BE 22.2 mm ϕ .
- BOTTOM FLANGES ARE TO BE PERPENDICULAR TO WEBS AT THE REACTION POINTS.
- FILL PLATE THICKNESSES SHOWN ON PLANS ARE BASED ON NOMINAL GIRDER DIMENSIONS. THESE THICKNESSES ARE TO BE VERIFIED OR ADJUSTED DURING FABRICATION TO SECURE A CLOSE FIT. EACH FILL PLATE SHALL FIT TO THE NEAREST 2 mm IN THICKNESS AND SINGLE PLATES ARE REQUIRED AT EACH FILL LOCATION. GIRDERS ARE TO BE TRULY SQUARE AT SPLICE POINTS WITH FLANGES PERPENDICULAR TO WEBS.
- THE DESIGN DRAWINGS INDICATE AWS PREQUALIFIED WELDED JOINTS. ALTERNATE JOINT DETAILS MAY BE SUBMITTED FOR APPROVAL.
- MAGNETIC PARTICLE INSPECTION OF WELDS, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, WILL BE REQUIRED.

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISSED 07-04 - SLAB AND HAUNCH DETAIL NOTE CHANGED. SUPERSTRUCTURE NOTES ABOUT WELDING CHANGED. HM-305-S01: THIS SHEET ISSUED 9-1-95.

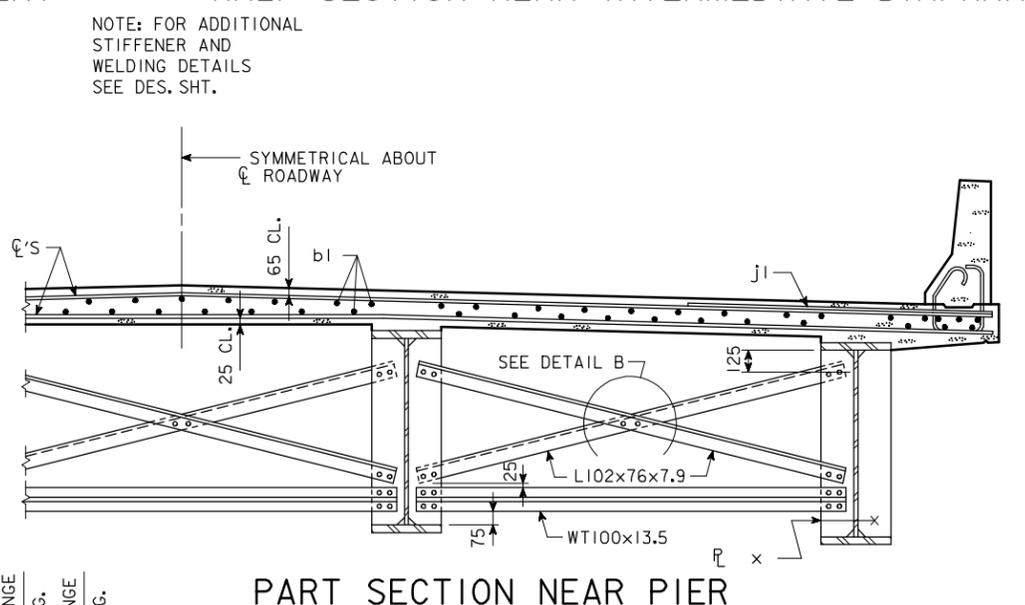
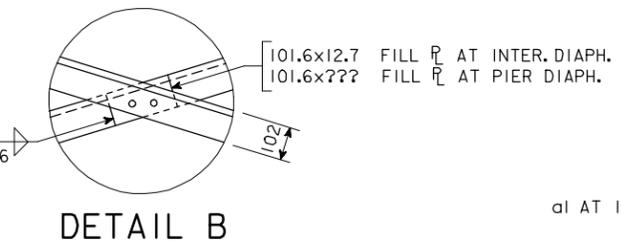
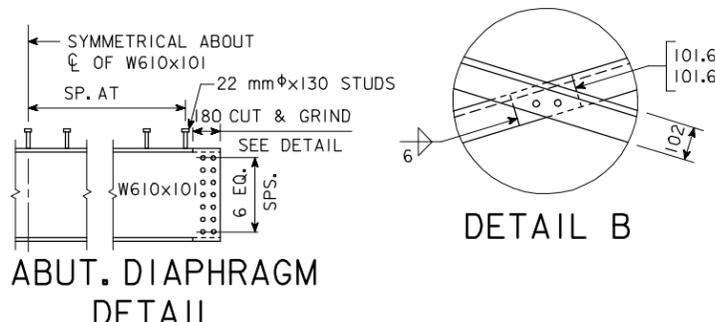
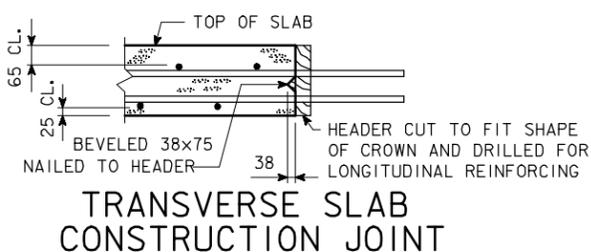
REINFORCING BAR SIZE

MARK	SIZE
a	20
b	20
d	15
e	15
j	20



HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR INTERMEDIATE DIAPHRAGM



SUPERSTRUCTURE NOTES:

THE FLOOR SLAB AS SHOWN INCLUDES 13 mm INTEGRAL WEARING SURFACE.

FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE GIRDERS.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 50 mm UNLESS OTHERWISE NOTED OR SHOWN.

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ALL REINFORCING BARS ARE TO BE EPOXY COATED.

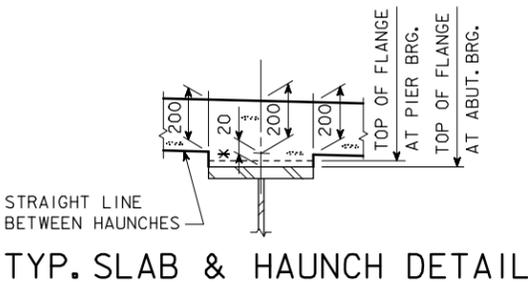
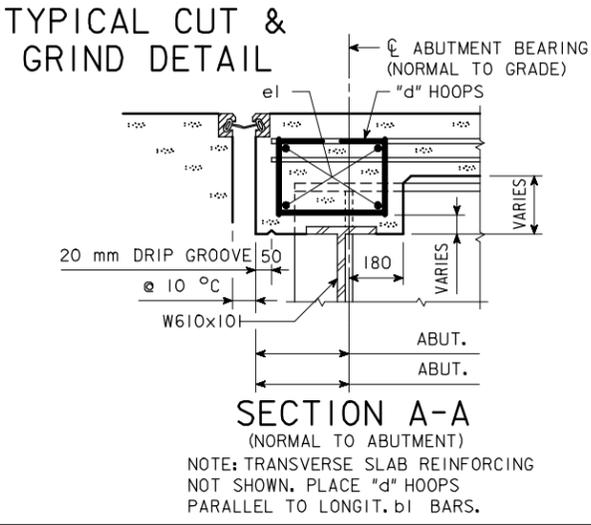
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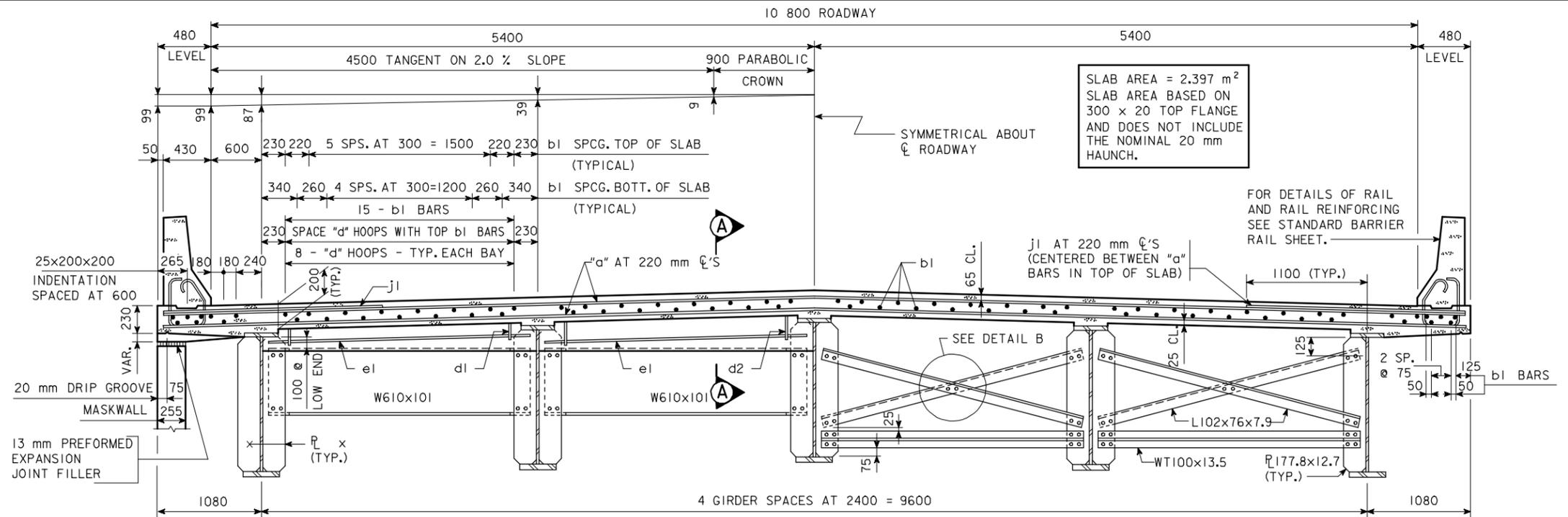
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IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-04 - SLAB AND HAUNCH DETAIL NOTE CHANGED. SUPERSTRUCTURE NOTES ABOUT WELDING CHANGED. HM4506.S01: THIS SHEET ISSUED 9-1-95.

REINFORCING BAR SIZE

MARK	SIZE
a	20
b	20
d	15
e	15
j	20

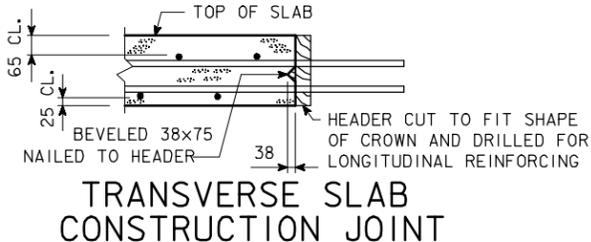


SLAB AREA = 2,397 m²
 SLAB AREA BASED ON 300 x 20 TOP FLANGE AND DOES NOT INCLUDE THE NOMINAL 20 mm HAUNCH.

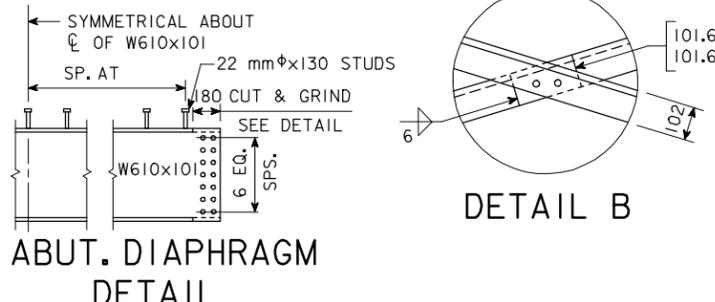
HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR INTERMEDIATE DIAPHRAGM

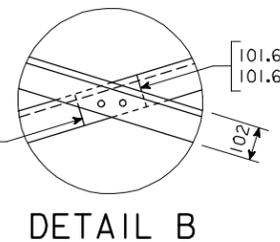
NOTE: FOR ADDITIONAL STIFFENER AND WELDING DETAILS SEE DES. SHT.



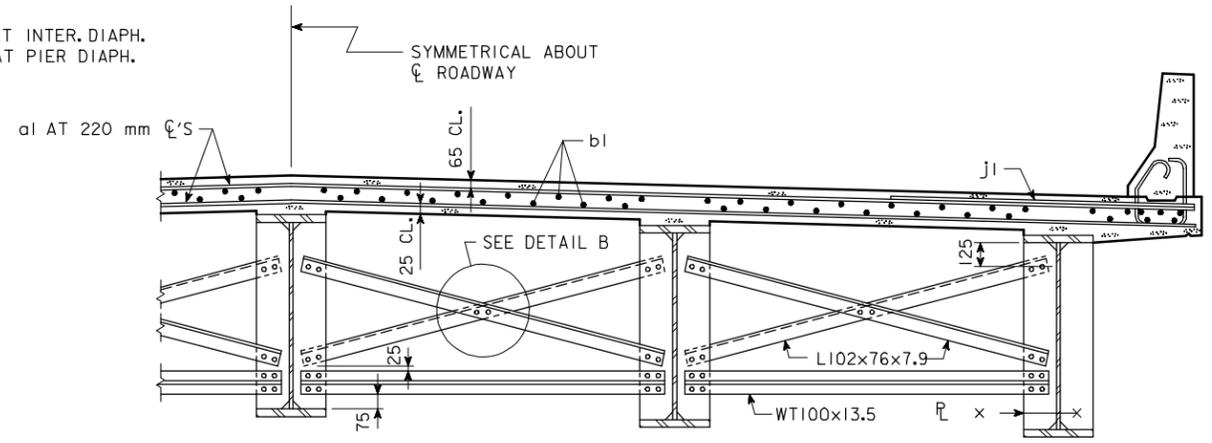
TRANSVERSE SLAB CONSTRUCTION JOINT



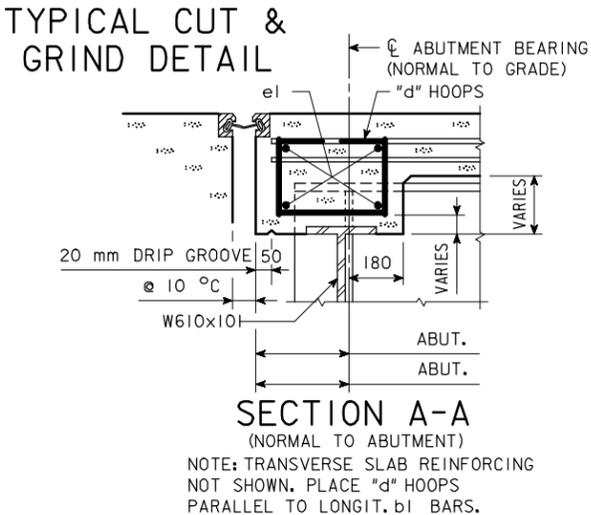
ABUT. DIAPHRAGM DETAIL



DETAIL B

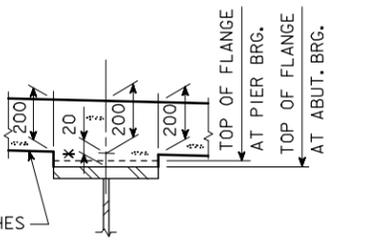


PART SECTION NEAR PIER



SECTION A-A (NORMAL TO ABUTMENT)

NOTE: TRANSVERSE SLAB REINFORCING NOT SHOWN. PLACE "d" HOOPS PARALLEL TO LONGIT. b1 BARS.



TYP. SLAB & HAUNCH DETAIL

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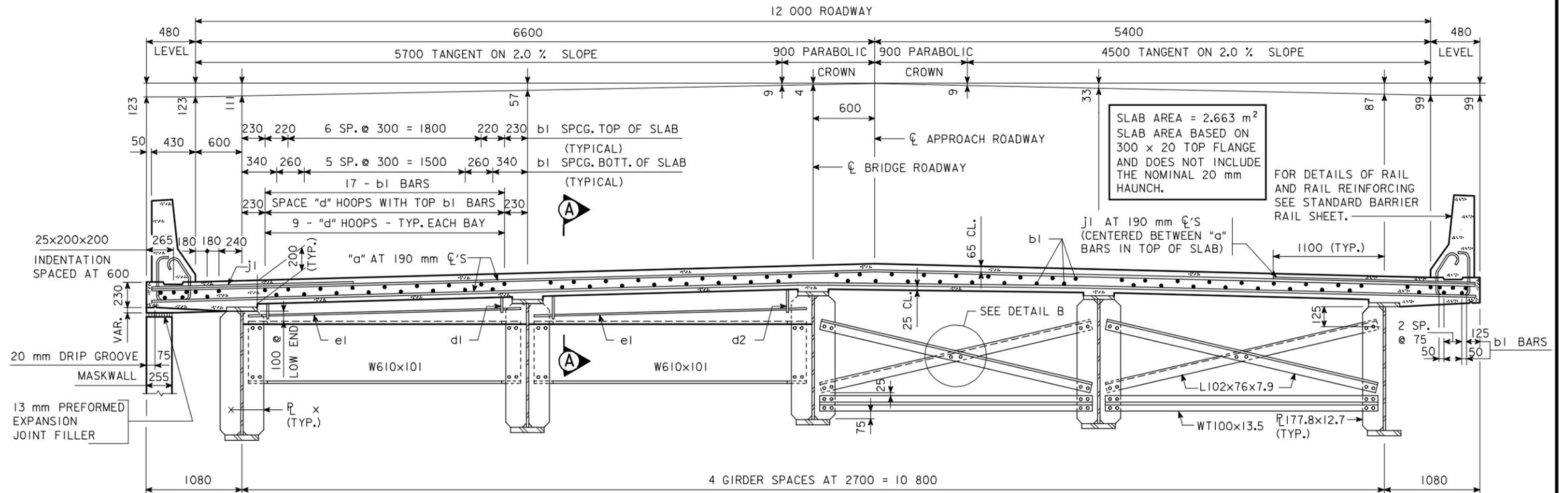
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REVISED 07-04 - SLAB AND HAUNCH DETAIL NOTE CHANGED. SUPERSTRUCTURE NOTES ABOUT WELDING CHANGED. HM4307.S01: THIS SHEET ISSUED 1-9-95.

REINFORCING BAR SIZE

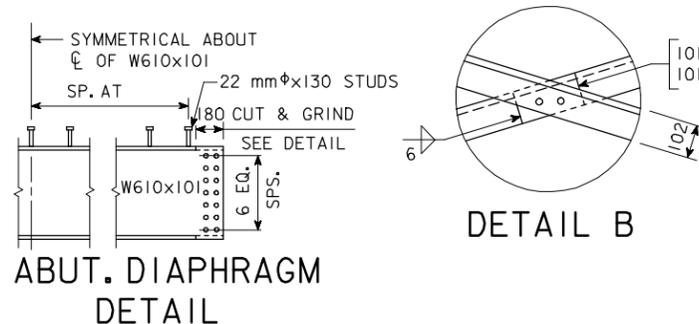
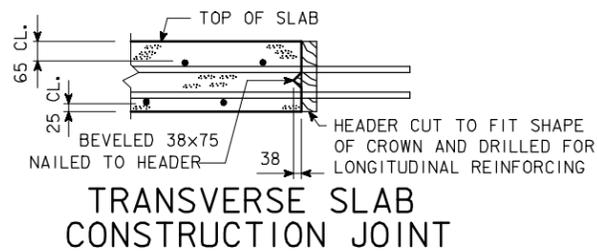
MARK	SIZE
a	20
b	20
d	15
e	15
j	20



HALF SECTION NEAR ABUTMENT

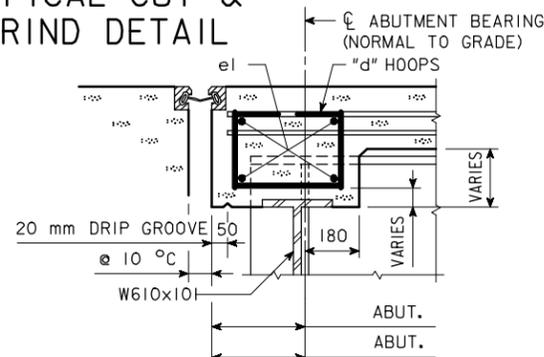
HALF SECTION NEAR INTERMEDIATE DIAPHRAGM

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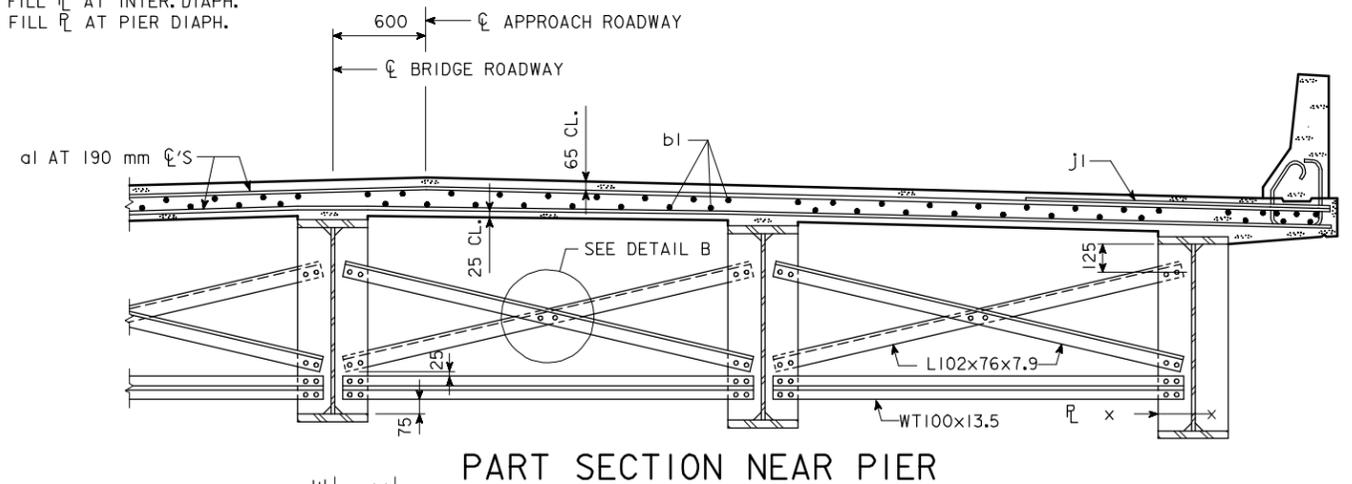
DETAIL B

TYPICAL CUT & GRIND DETAIL



SECTION A-A (NORMAL TO ABUTMENT)

NOTE: TRANSVERSE SLAB REINFORCING NOT SHOWN. PLACE "d" HOOPS PARALLEL TO LONGIT. b1 BARS.



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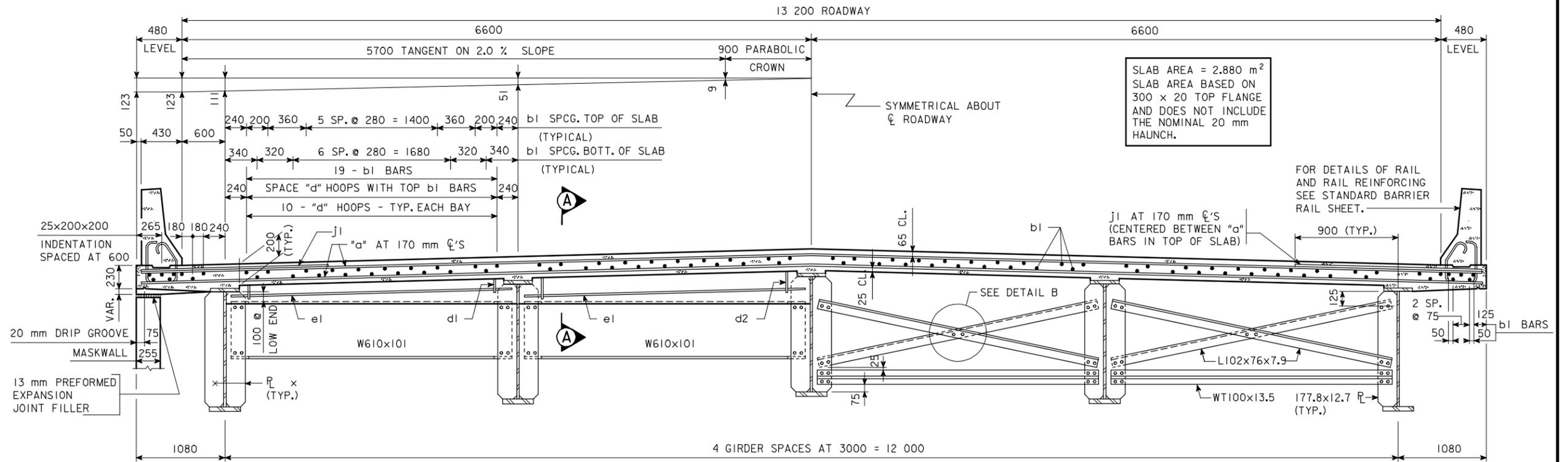
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IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISID 07-04 - SLAB AND HAUNCH DETAIL NOTE CHANGED. SUPERSTRUCTURE NOTES ABOUT WELDING CHANGED. HM4308.S01: THIS SHEET ISSUED 9-1-95.

REINFORCING BAR SIZE

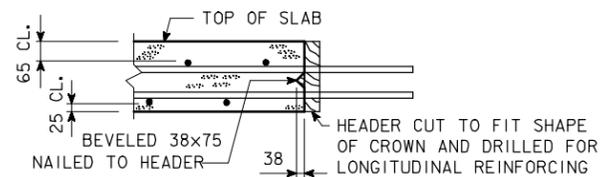
MARK	SIZE
a	20
b	20
d	15
e	15
j	20



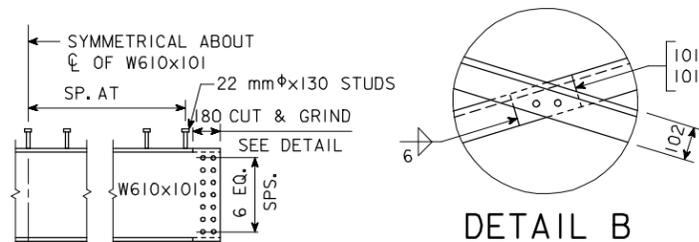
HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR INTERMEDIATE DIAPHRAGM

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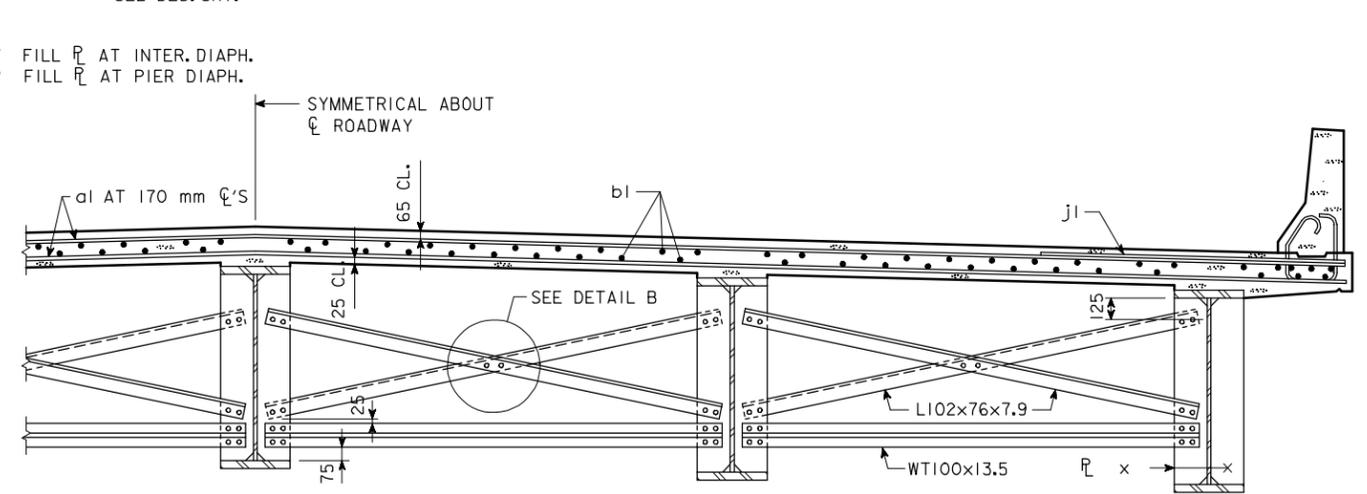


TRANSVERSE SLAB CONSTRUCTION JOINT



ABUT. DIAPHRAGM DETAIL

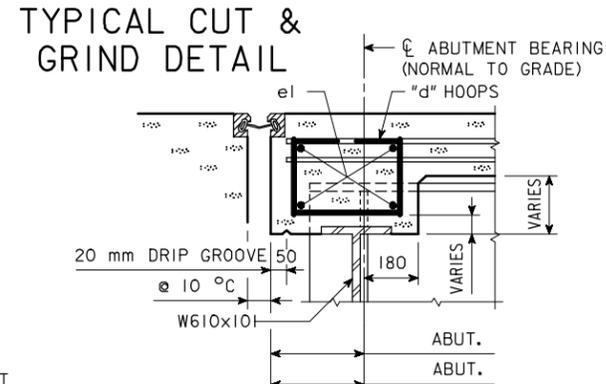
DETAIL B



PART SECTION NEAR PIER

SUPERSTRUCTURE NOTES:

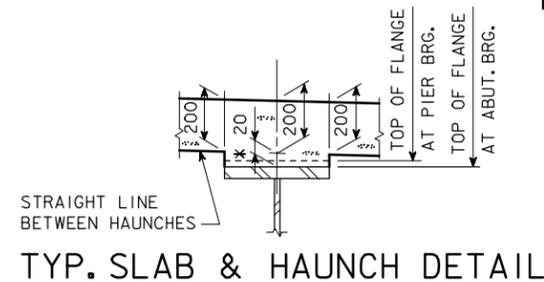
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TYPICAL CUT & GRIND DETAIL

SECTION A-A (NORMAL TO ABUTMENT)

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TYP. SLAB & HAUNCH DETAIL

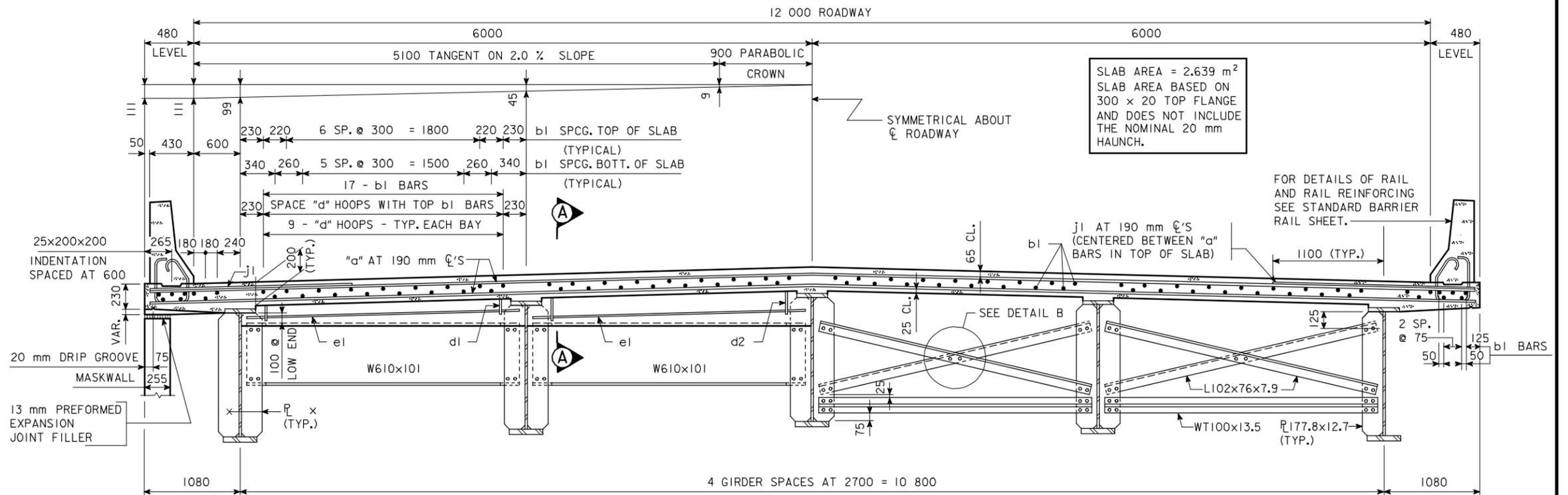
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REVISID 07-04 - SLAB AND HAUNCH DETAIL NOTE CHANGED. SUPERSTRUCTURE NOTES ABOUT WELDING CHANGED. HM4309.S01: THIS SHEET ISSUED 9-1-95.

REINFORCING BAR SIZE

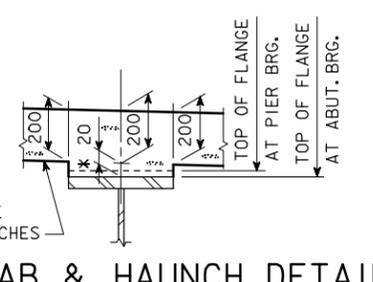
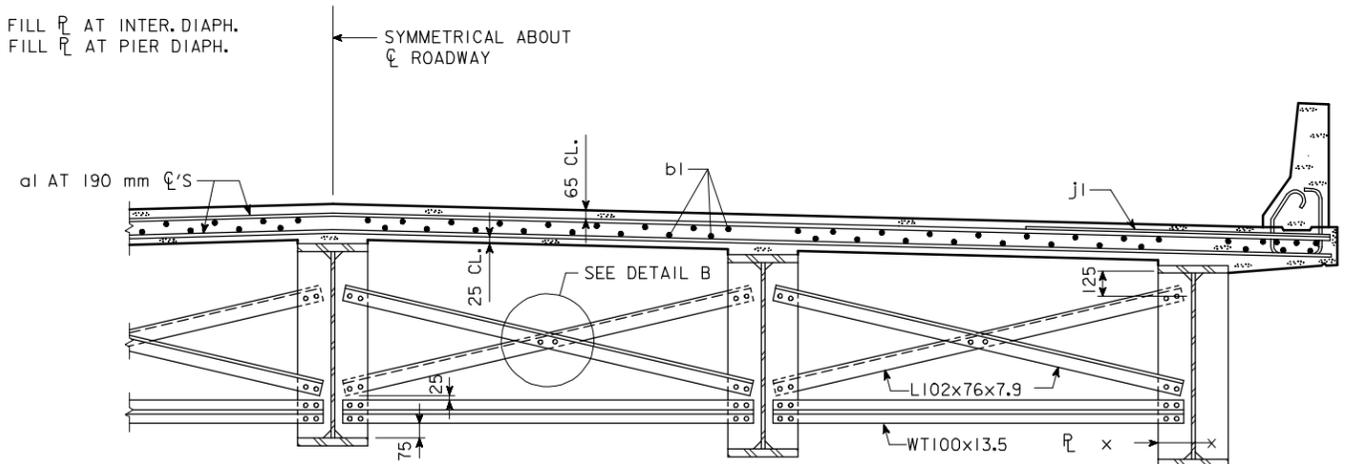
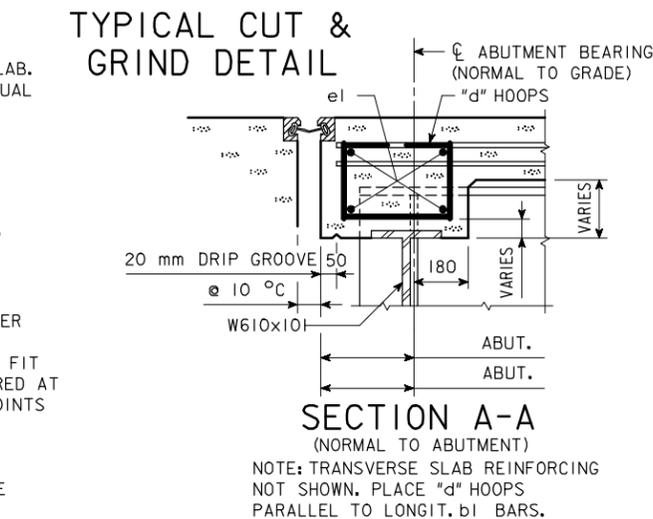
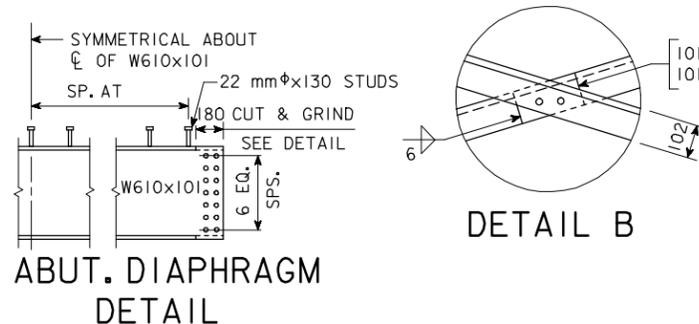
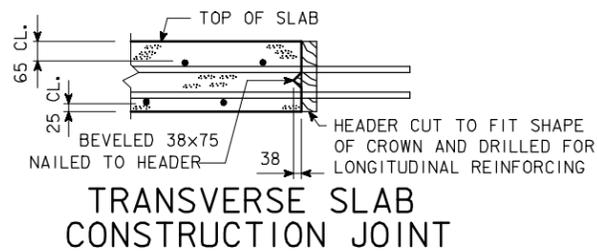
MARK	SIZE
a	20
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HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR INTERMEDIATE DIAPHRAGM

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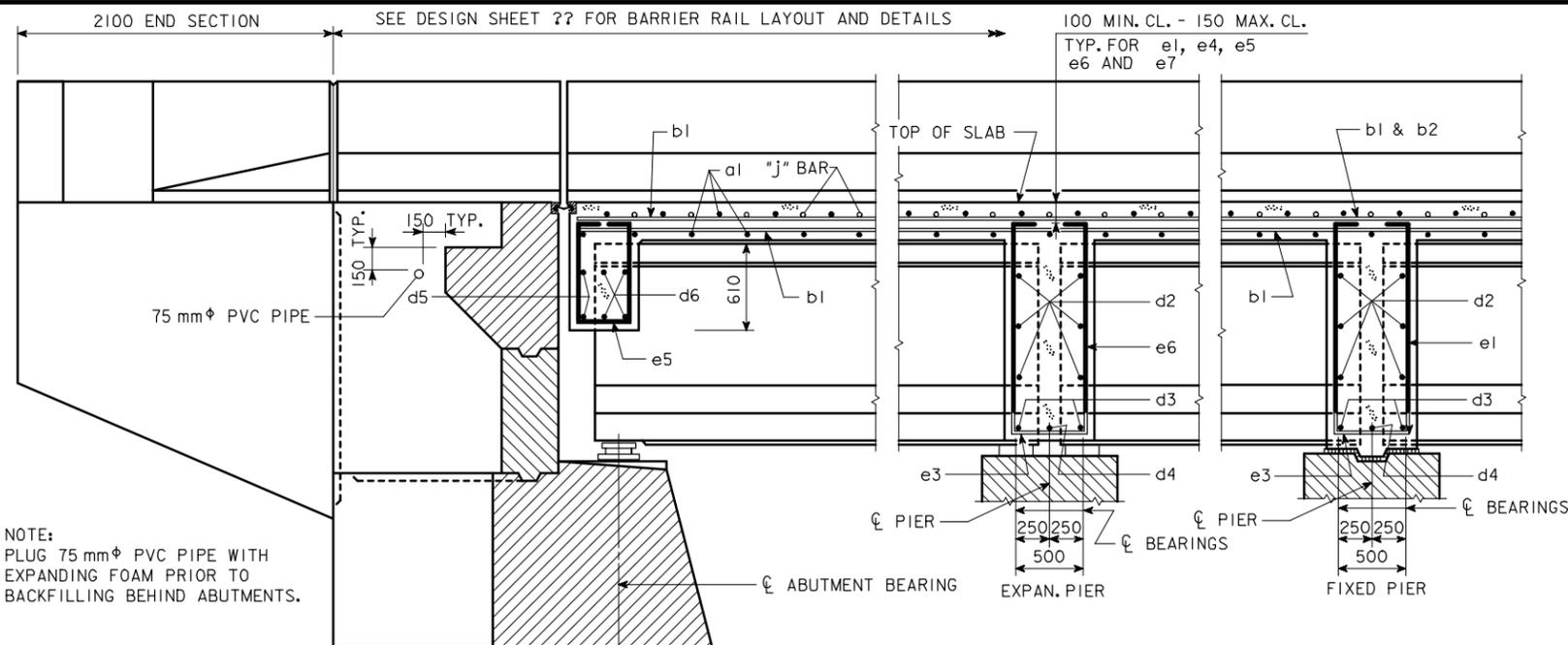
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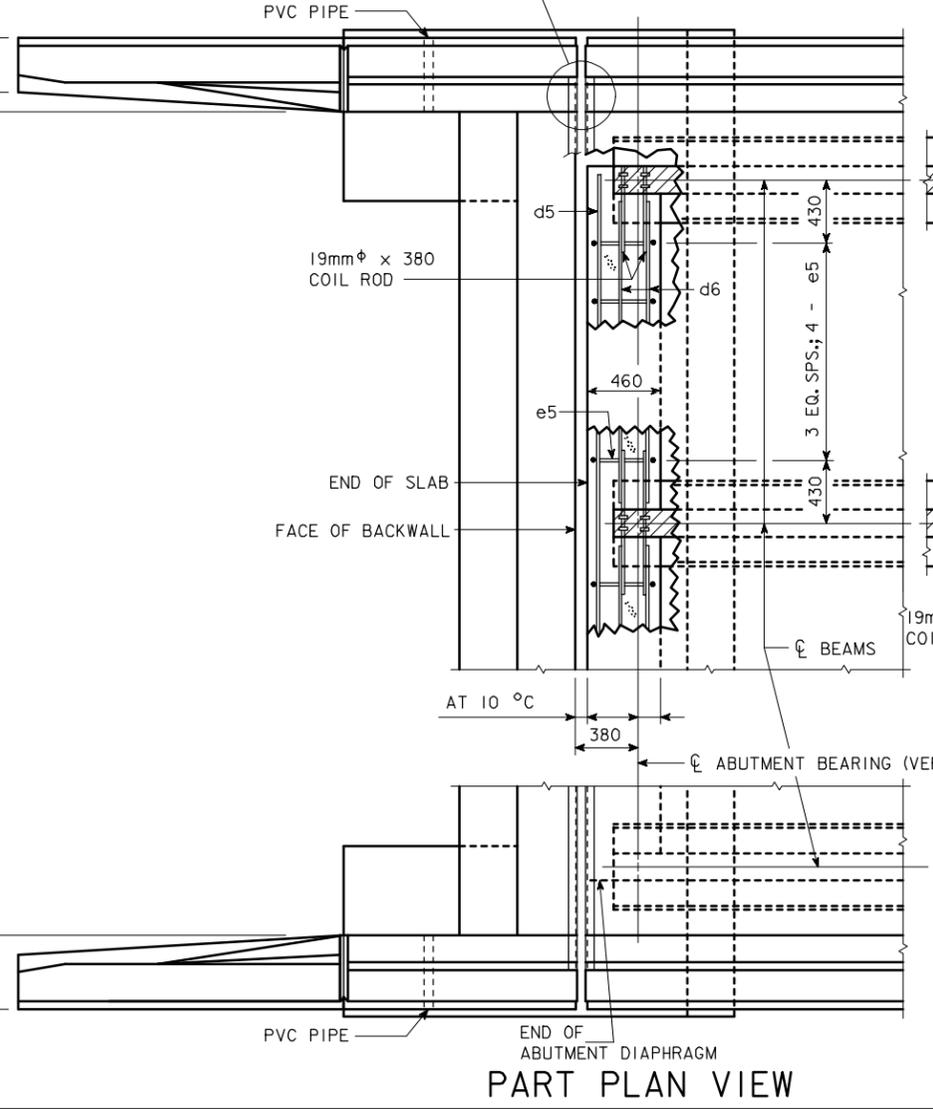
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISID 07-04 - SLAB AND HAUNCH DETAIL NOTE CHANGED. SUPERSTRUCTURE NOTES ABOUT WELDING CHANGED. HM4310.S01: THIS SHEET ISSUED 9-1-95.

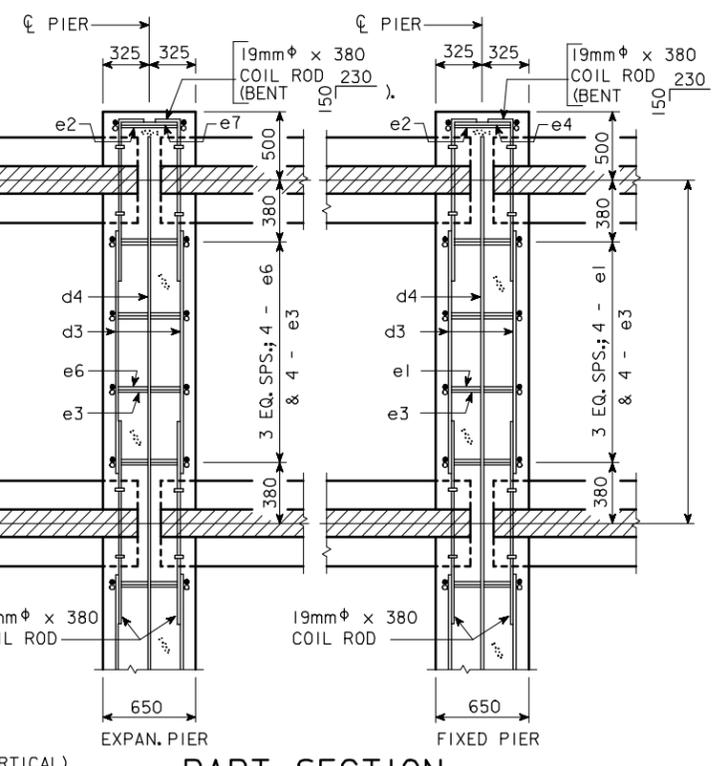


NOTE:
PLUG 75 mm ϕ PVC PIPE WITH EXPANDING FOAM PRIOR TO BACKFILLING BEHIND ABUTMENTS.

PART LONGITUDINAL SECTION NEAR GUTTER
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??).

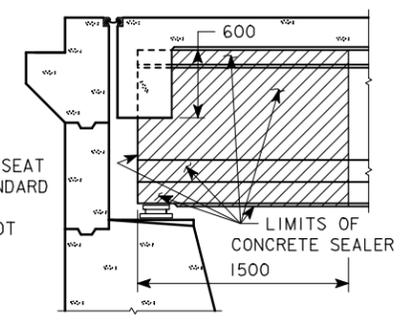


PART PLAN VIEW



PART SECTION

CONCRETE SEALER SHALL BE APPLIED TO THE ABUTMENT SEAT AND PRESTRESSED BEAM ENDS IN ACCORDANCE WITH STANDARD SPECIFICATION 2403.21 D. THE SEALING SHALL INCLUDE PORTIONS OF THE PRESTRESSED BEAM ENDS THAT ARE NOT EMBEDDED IN THE ABUTMENT DIAPHRAGMS AS DETAILED ON THIS SHEET.

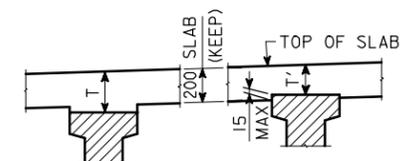


CONCRETE SEALER LIMITS FOR PRESTRESSED BEAM

BEAM CAMBER DATA

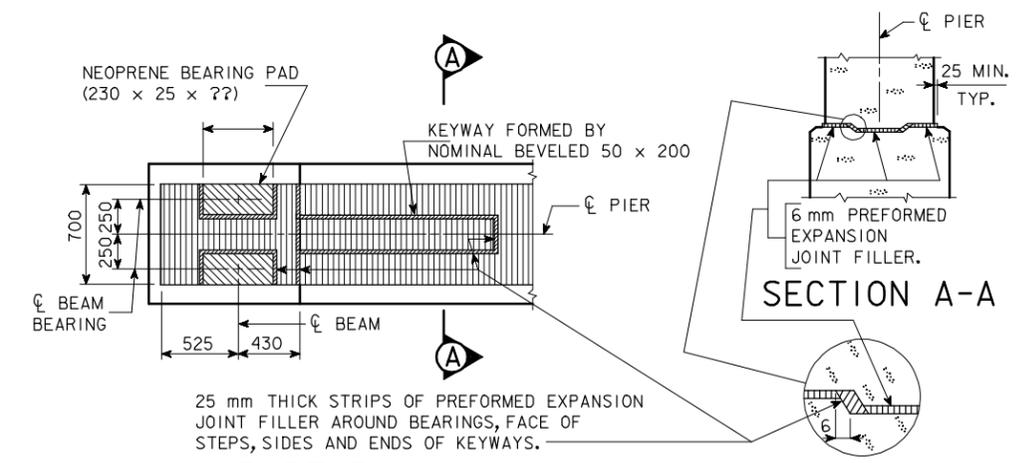
SLAB THICKNESS AT BEAMS (T)

NOMINAL SLAB THICKNESS AT BEAMS INCLUDES 200 mm SLAB + 15 mm HAUNCH



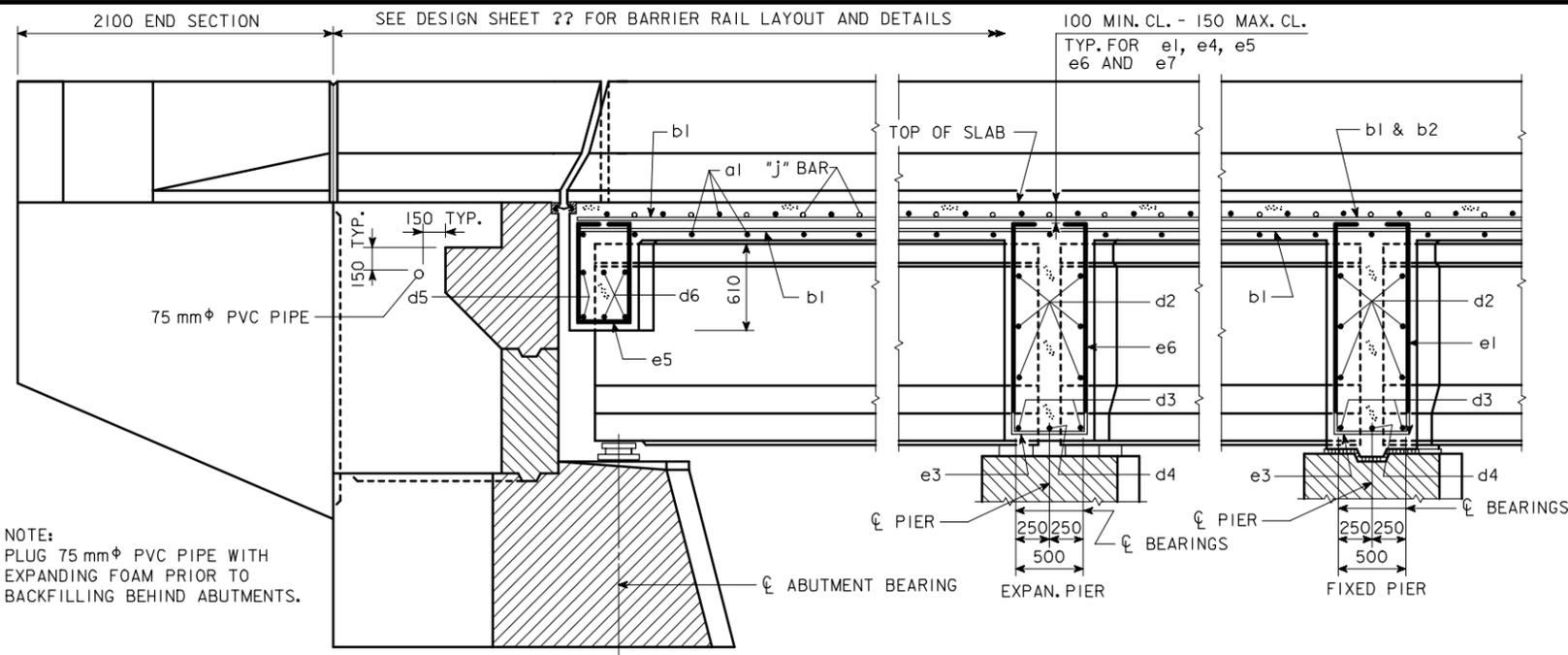
SLAB THICKNESS DETAILS

NOTE: THE SLAB THICKNESS (T) AT BEAMS IS BASED ON THE ANTICIPATED BEAM CAMBER AND DEFLECTIONS. THESE VALUES ARE USED BY THE DESIGNER TO SET BEAM ELEVATIONS AND ESTIMATE CONCRETE QUANTITIES. REFER TO HAUNCH DATA DETAIL SHEET FOR ADDITIONAL INFORMATION TO AID THE CONTRACTOR IN SETTING THE FIELD HAUNCHES REQUIRED FOR CONSTRUCTION.



PART PLAN TOP OF FIXED PIER DETAILS

REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. 75 mm PVC PIPE ADDED TO WINGS AND NOTE. HM4542.S01; THIS SHEET ISSUED, 9-1-95.

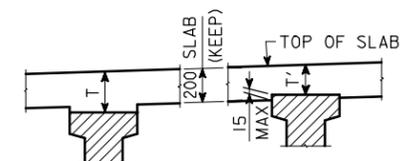


NOTE:
PLUG 75 mm ϕ PVC PIPE WITH EXPANDING FOAM PRIOR TO BACKFILLING BEHIND ABUTMENTS.

PART LONGITUDINAL SECTION NEAR GUTTER
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??).

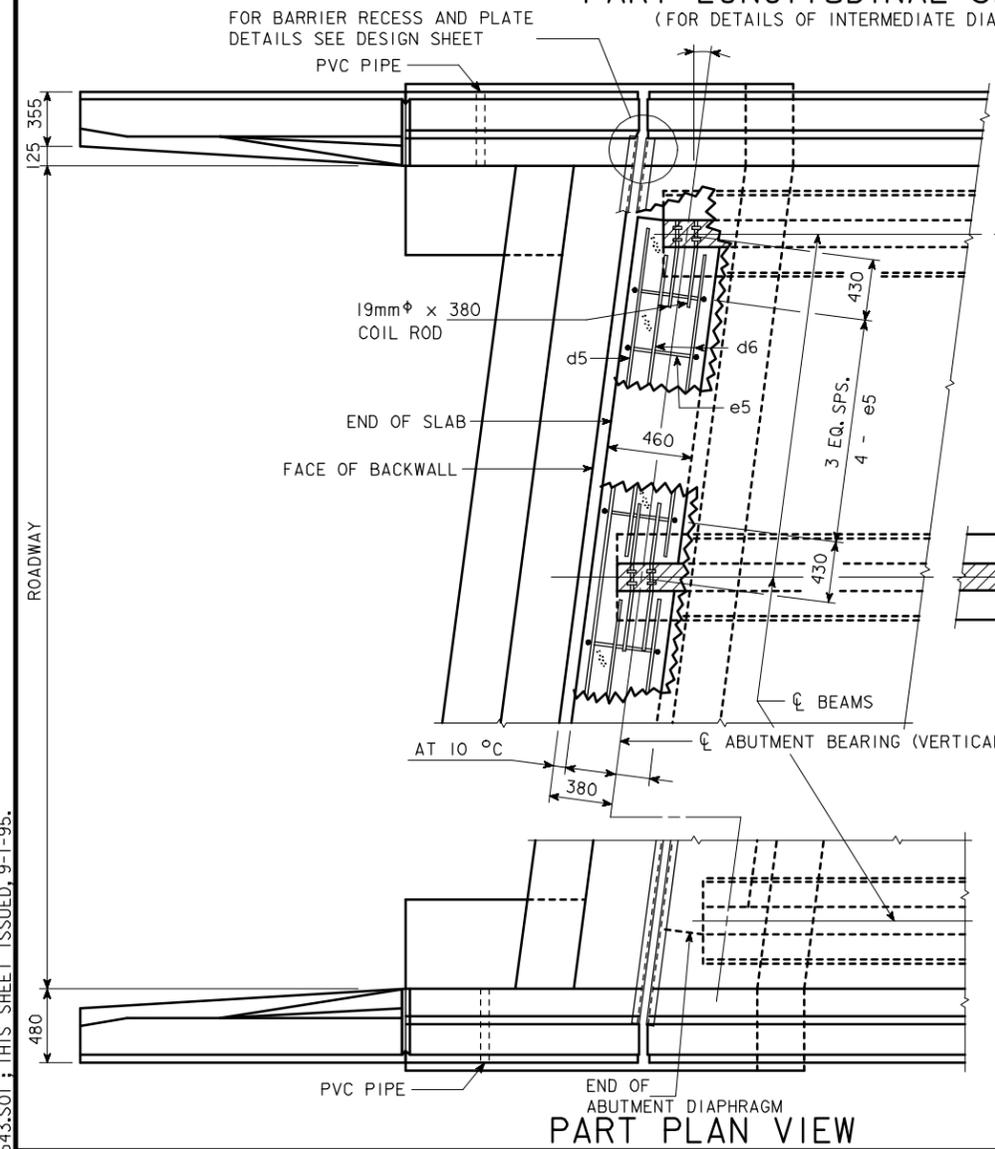
BEAM CAMBER DATA

SLAB THICKNESS AT BEAMS (T)

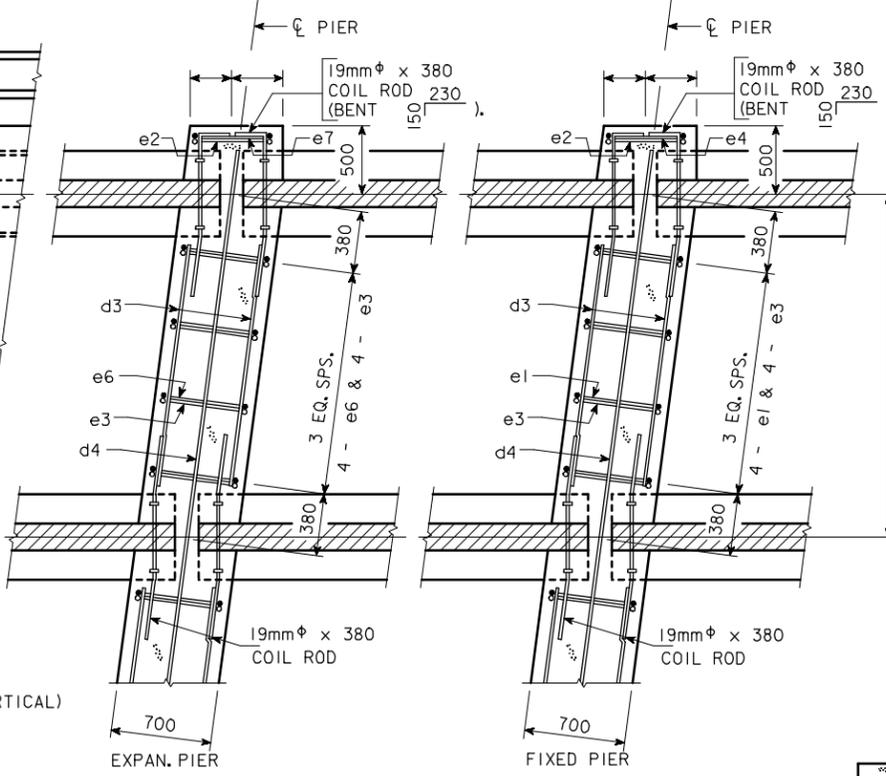


SLAB THICKNESS DETAILS

NOTE: THE SLAB THICKNESS (T) AT BEAMS IS BASED ON THE ANTICIPATED BEAM CAMBER AND DEFLECTIONS. THESE VALUES ARE USED BY THE DESIGNER TO SET BEAM ELEVATIONS AND ESTIMATE CONCRETE QUANTITIES. REFER TO HAUNCH DATA DETAIL SHEET FOR ADDITIONAL INFORMATION TO AID THE CONTRACTOR IN SETTING THE FIELD HAUNCHES REQUIRED FOR CONSTRUCTION.



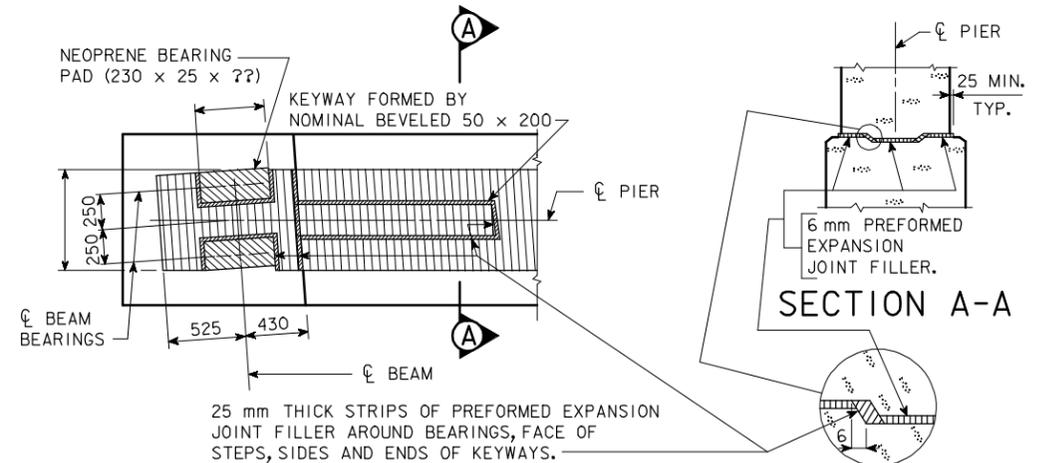
REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. 75 mm PVC PIPE ADDED TO WINGS AND NOTE. HM4543.S01; THIS SHEET ISSUED, 9-1-95.



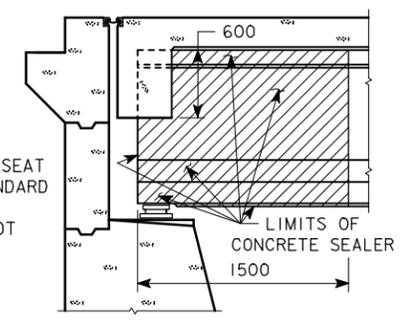
PART SECTION

CONCRETE SEALER SHALL BE APPLIED TO THE ABUTMENT SEAT AND PRESTRESSED BEAM ENDS IN ACCORDANCE WITH STANDARD SPECIFICATION 2403.21 D. THE SEALING SHALL INCLUDE PORTIONS OF THE PRESTRESSED BEAM ENDS THAT ARE NOT EMBEDDED IN THE ABUTMENT DIAPHRAGMS AS DETAILED ON THIS SHEET.

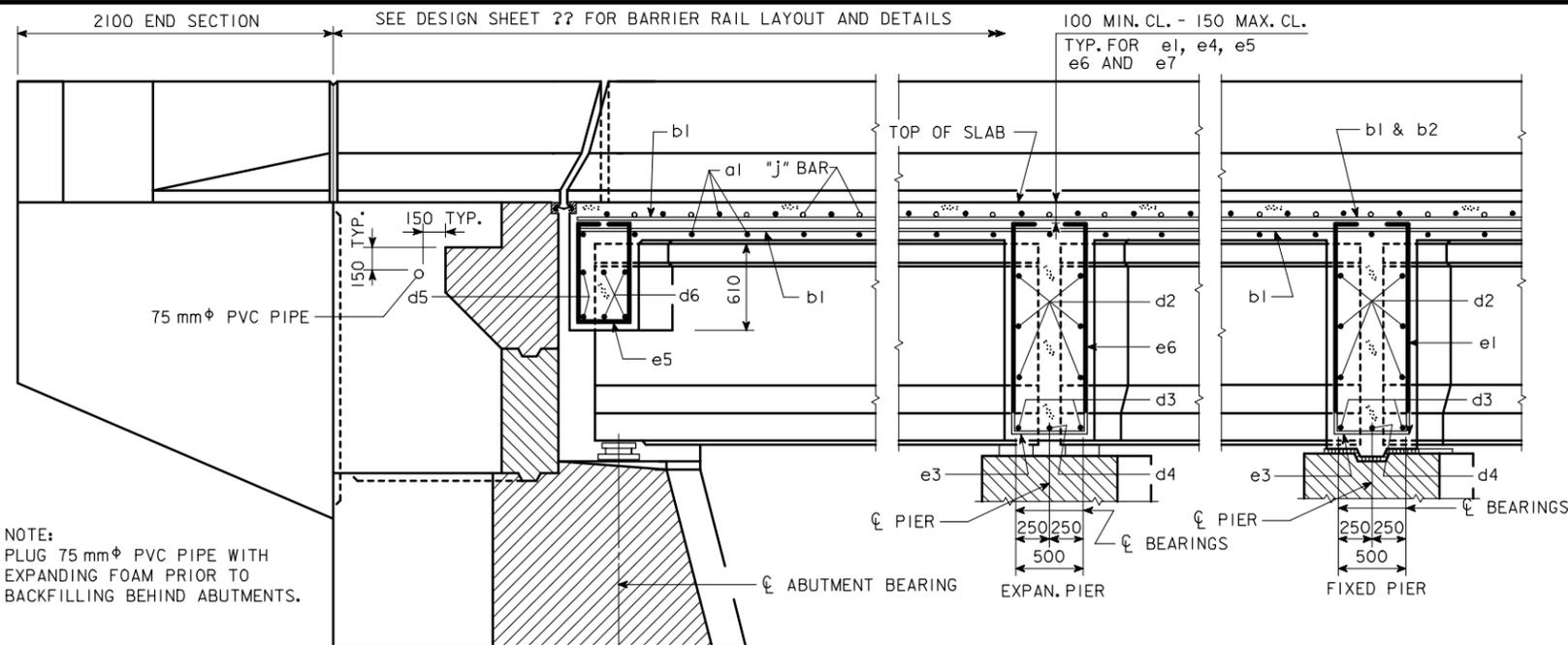
CONCRETE SEALER LIMITS FOR PRESTRESSED BEAM



PART PLAN
TOP OF FIXED PIER DETAILS

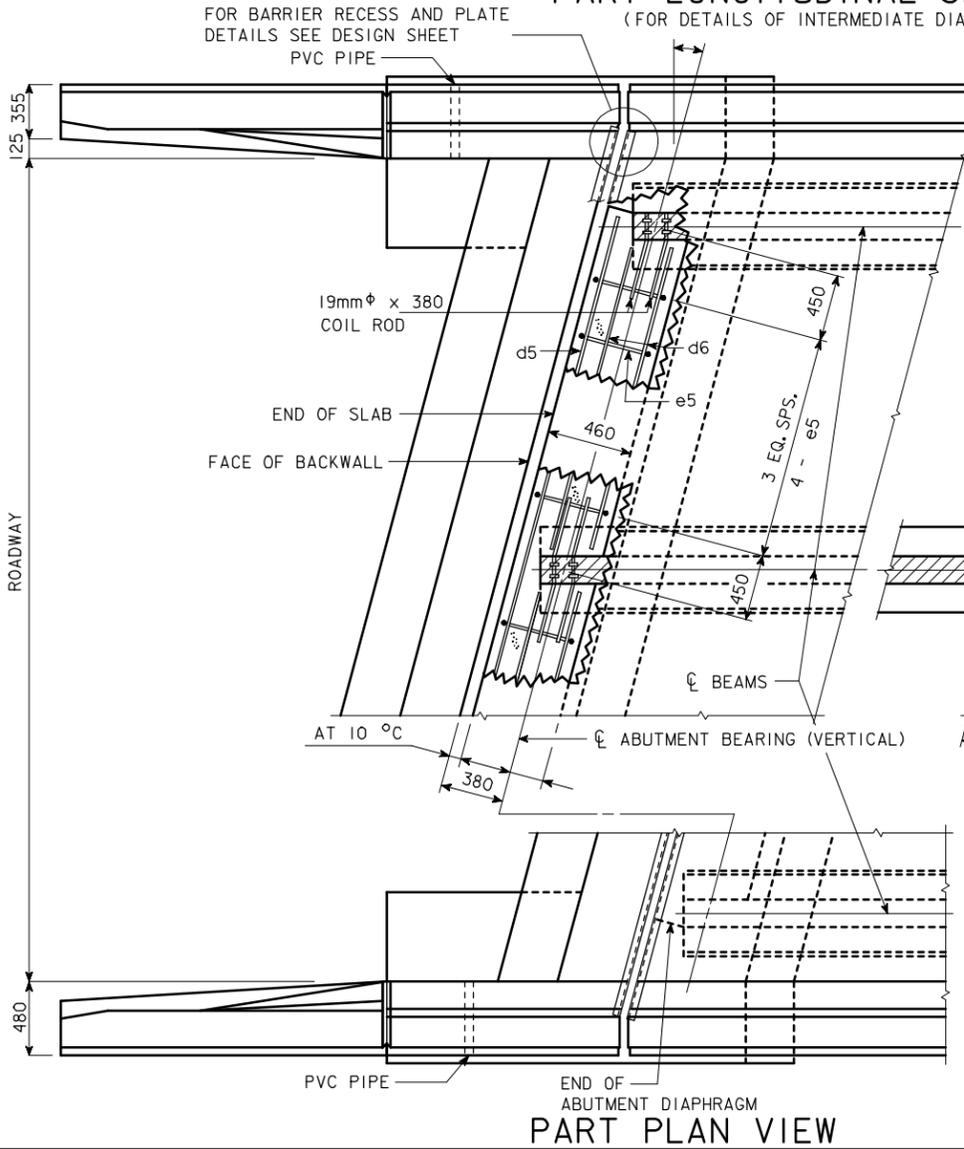


IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
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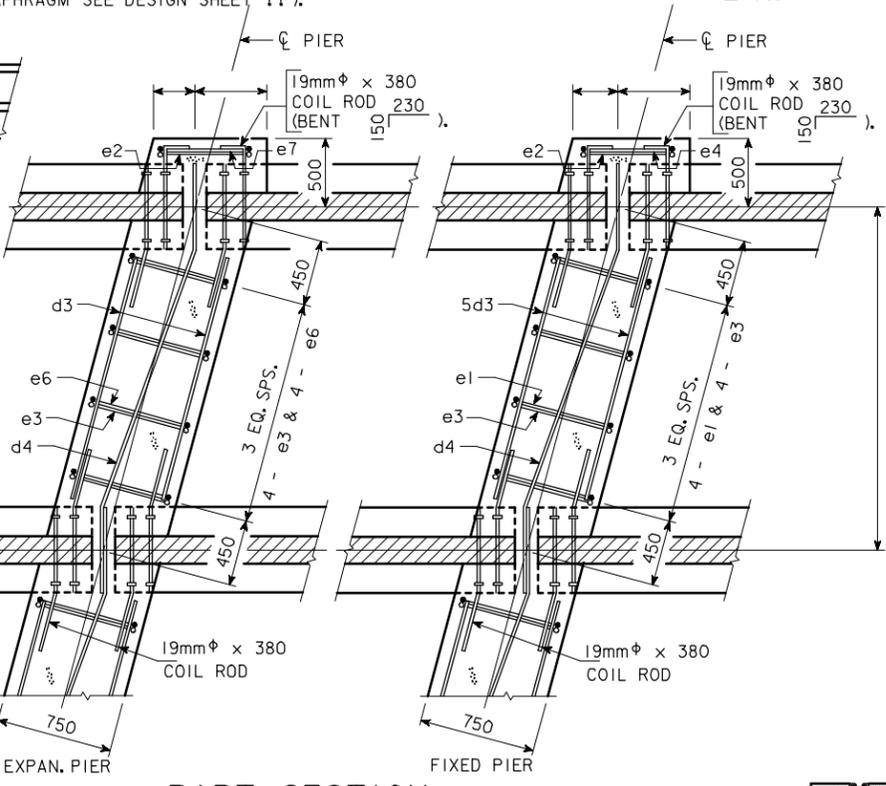


NOTE:
PLUG 75 mm ϕ PVC PIPE WITH EXPANDING FOAM PRIOR TO BACKFILLING BEHIND ABUTMENTS.

PART LONGITUDINAL SECTION NEAR GUTTER
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??).



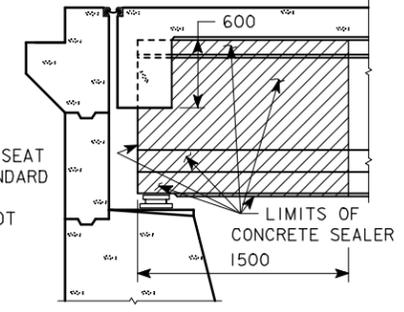
PART PLAN VIEW



PART SECTION

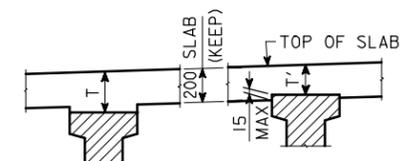
CONCRETE SEALER SHALL BE APPLIED TO THE ABUTMENT SEAT AND PRESTRESSED BEAM ENDS IN ACCORDANCE WITH STANDARD SPECIFICATION 2403.21 D. THE SEALING SHALL INCLUDE PORTIONS OF THE PRESTRESSED BEAM ENDS THAT ARE NOT EMBEDDED IN THE ABUTMENT DIAPHRAGMS AS DETAILED ON THIS SHEET.

CONCRETE SEALER LIMITS FOR PRESTRESSED BEAM



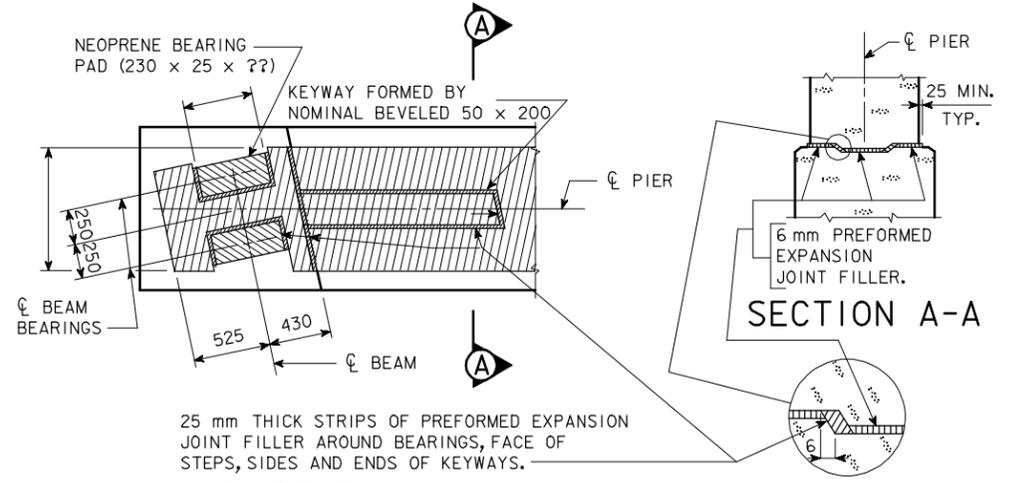
BEAM CAMBER DATA

SLAB THICKNESS AT BEAMS (T)



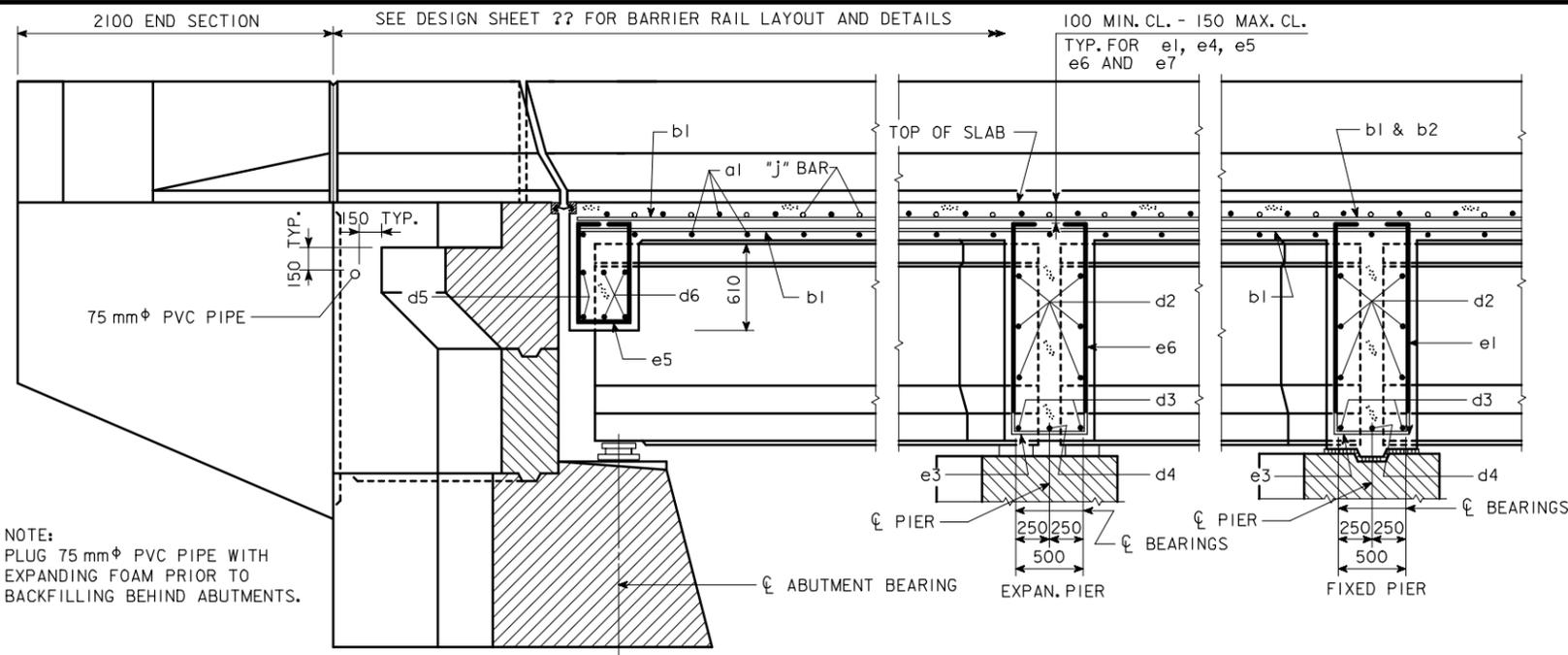
SLAB THICKNESS DETAILS

NOTE: THE SLAB THICKNESS (T) AT BEAMS IS BASED ON THE ANTICIPATED BEAM CAMBER AND DEFLECTIONS. THESE VALUES ARE USED BY THE DESIGNER TO SET BEAM ELEVATIONS AND ESTIMATE CONCRETE QUANTITIES. REFER TO HAUNCH DATA DETAIL SHEET FOR ADDITIONAL INFORMATION TO AID THE CONTRACTOR IN SETTING THE FIELD HAUNCHES REQUIRED FOR CONSTRUCTION.



PART PLAN
TOP OF FIXED PIER DETAILS

REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. 75 mm PVC PIPE ADDED TO WINGS AND NOTE. HM4544.S01; THIS SHEET ISSUED, 9-1-95.

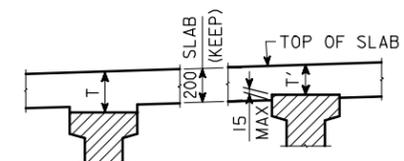


NOTE:
PLUG 75 mm ϕ PVC PIPE WITH EXPANDING FOAM PRIOR TO BACKFILLING BEHIND ABUTMENTS.

PART LONGITUDINAL SECTION NEAR GUTTER
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??).

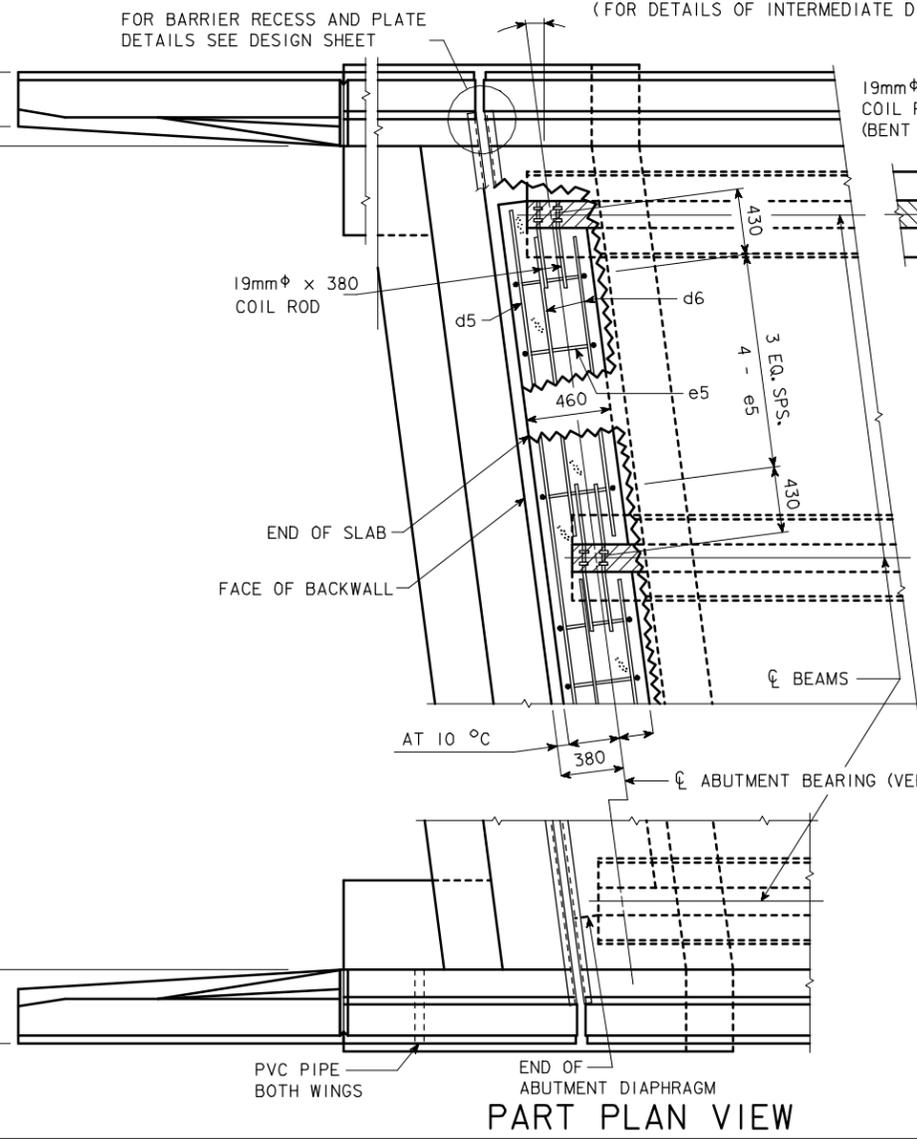
BEAM CAMBER DATA

SLAB THICKNESS AT BEAMS (T)

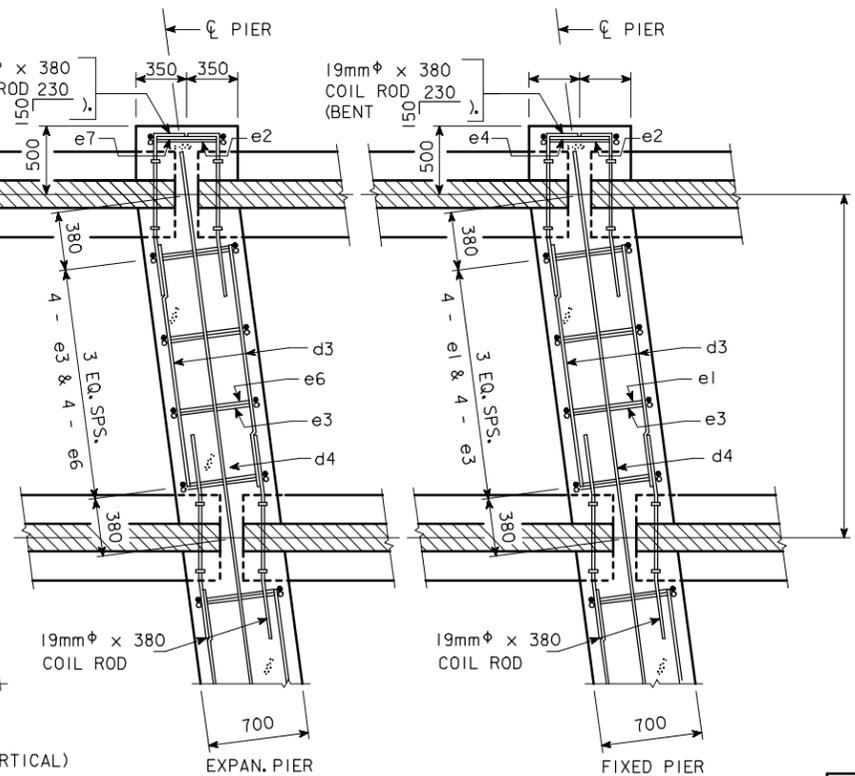


SLAB THICKNESS DETAILS

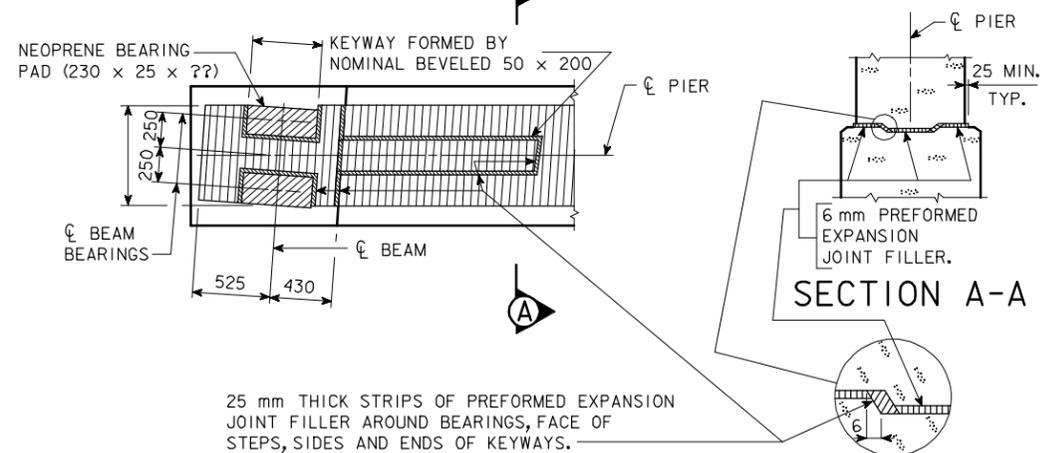
NOTE: THE SLAB THICKNESS (T) AT BEAMS IS BASED ON THE ANTICIPATED BEAM CAMBER AND DEFLECTIONS. THESE VALUES ARE USED BY THE DESIGNER TO SET BEAM ELEVATIONS AND ESTIMATE CONCRETE QUANTITIES. REFER TO HAUNCH DATA DETAIL SHEET FOR ADDITIONAL INFORMATION TO AID THE CONTRACTOR IN SETTING THE FIELD HAUNCHES REQUIRED FOR CONSTRUCTION.



REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. 75 mm PVC PIPE ADDED TO WINGS AND NOTE. HM4546.S01; THIS SHEET ISSUED, 9-1-95.

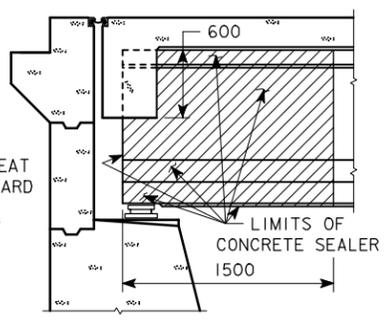


PART SECTION



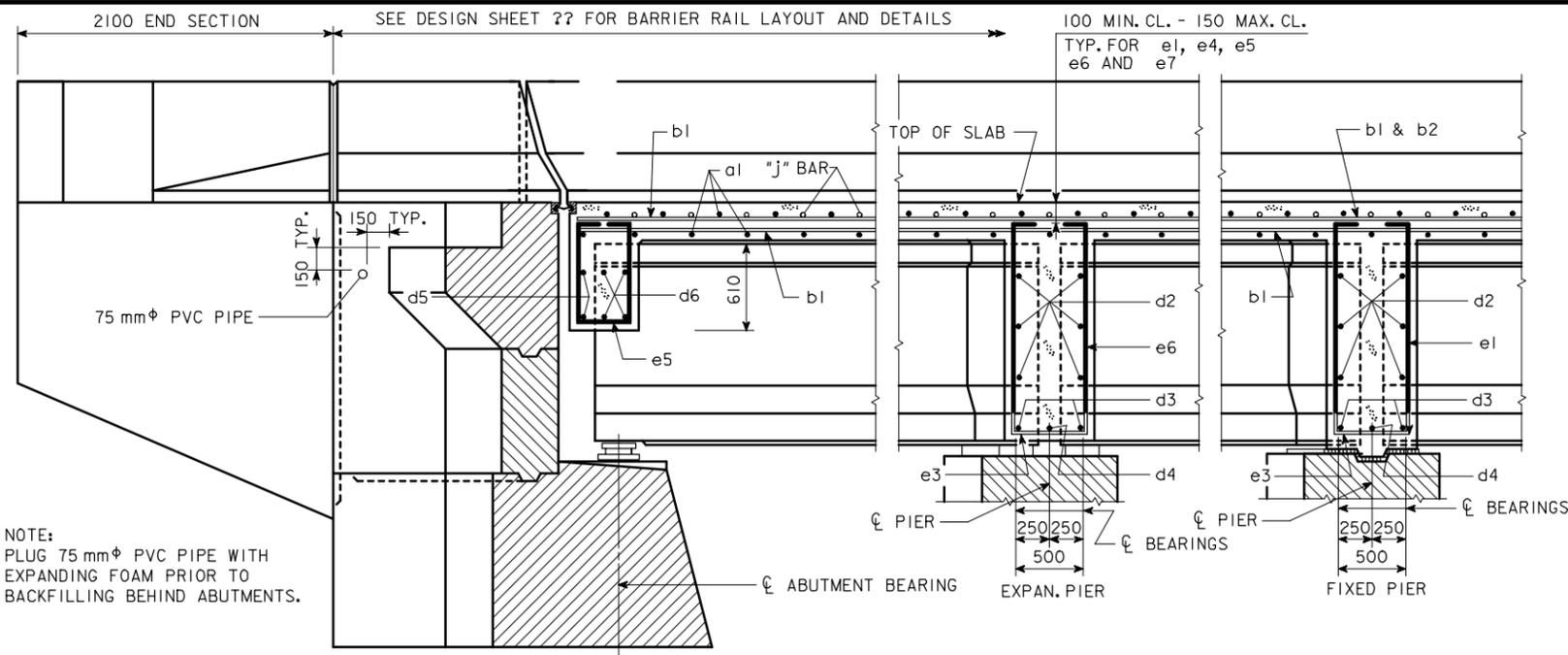
PART PLAN
TOP OF FIXED PIER DETAILS

CONCRETE SEALER SHALL BE APPLIED TO THE ABUTMENT SEAT AND PRESTRESSED BEAM ENDS IN ACCORDANCE WITH STANDARD SPECIFICATION 2403.21 D. THE SEALING SHALL INCLUDE PORTIONS OF THE PRESTRESSED BEAM ENDS THAT ARE NOT EMBEDDED IN THE ABUTMENT DIAPHRAGMS AS DETAILED ON THIS SHEET.



CONCRETE SEALER LIMITS FOR PRESTRESSED BEAM

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

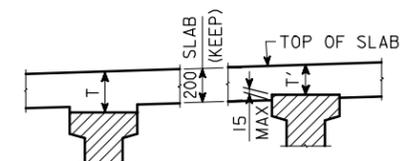


NOTE:
PLUG 75 mm ϕ PVC PIPE WITH EXPANDING FOAM PRIOR TO BACKFILLING BEHIND ABUTMENTS.

PART LONGITUDINAL SECTION NEAR GUTTER
(FOR DETAILS OF INTERMEDIATE DIAPHRAGM SEE DESIGN SHEET ??).

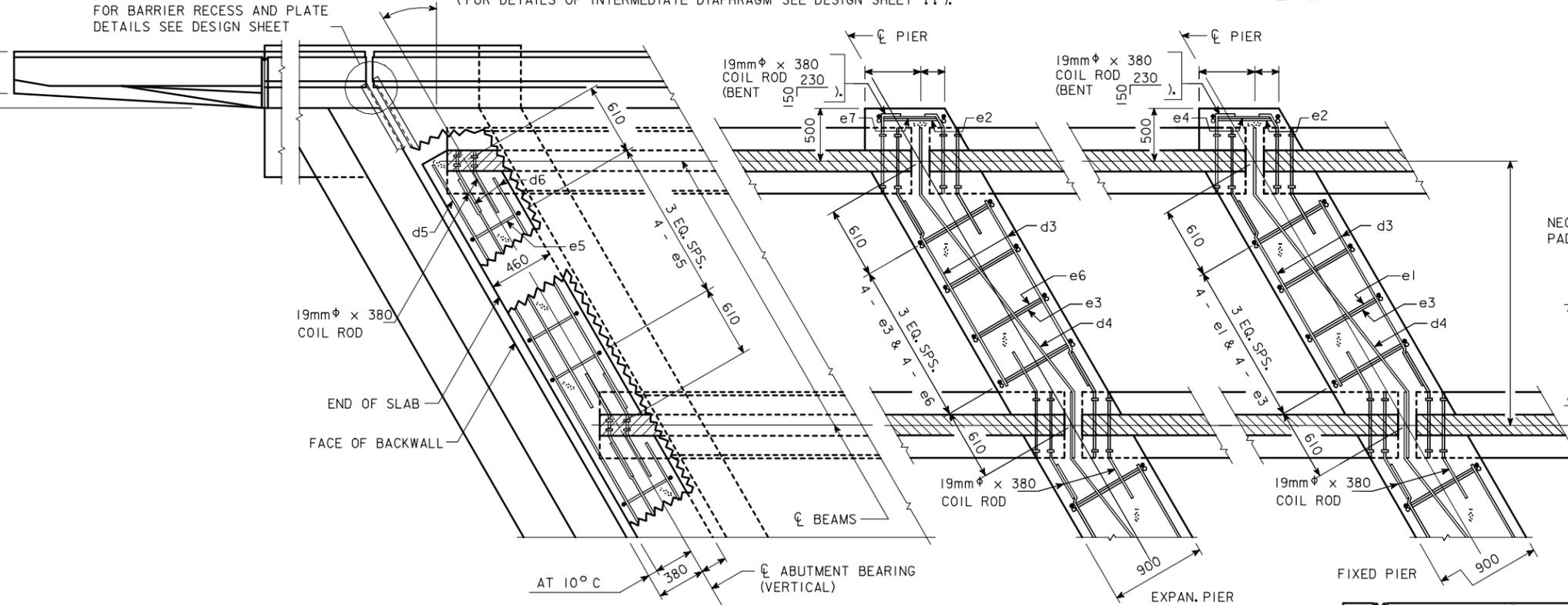
BEAM CAMBER DATA

SLAB THICKNESS AT BEAMS (T)



SLAB THICKNESS DETAILS

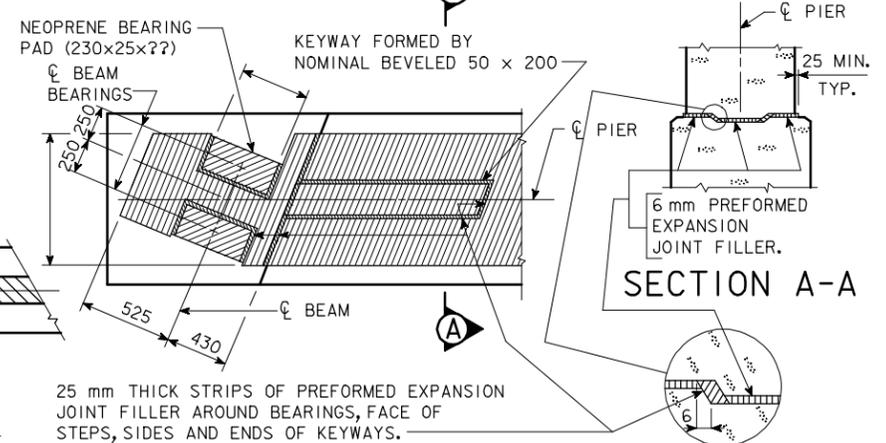
NOTE: THE SLAB THICKNESS (T) AT BEAMS IS BASED ON THE ANTICIPATED BEAM CAMBER AND DEFLECTIONS. THESE VALUES ARE USED BY THE DESIGNER TO SET BEAM ELEVATIONS AND ESTIMATE CONCRETE QUANTITIES. REFER TO HAUNCH DATA DETAIL SHEET FOR ADDITIONAL INFORMATION TO AID THE CONTRACTOR IN SETTING THE FIELD HAUNCHES REQUIRED FOR CONSTRUCTION.



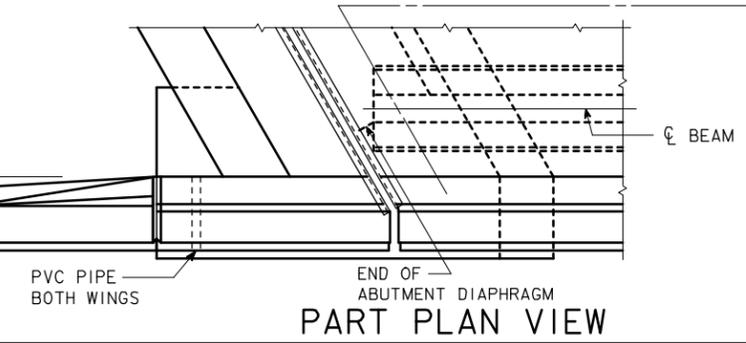
PART SECTION

CONCRETE SEALER SHALL BE APPLIED TO THE ABUTMENT SEAT AND PRESTRESSED BEAM ENDS IN ACCORDANCE WITH STANDARD SPECIFICATION 2403.21 D. THE SEALING SHALL INCLUDE PORTIONS OF THE PRESTRESSED BEAM ENDS THAT ARE NOT EMBEDDED IN THE ABUTMENT DIAPHRAGMS AS DETAILED ON THIS SHEET.

CONCRETE SEALER LIMITS FOR PRESTRESSED BEAM



PART PLAN
TOP OF FIXED PIER DETAILS



PART PLAN VIEW

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-05 - PAVING NOTCH EXTENDED TO INTERCEPT WINGS. 75 mm PVC PIPE ADDED TO WINGS AND NOTE. HM4548.S01; THIS SHEET ISSUED, 9-1-95.

REVISED: 9-23-96: PIN DIAMETERS FOR BENT BAR DETAILS CHANGED. HM4549.SOI: THIS SHEET ISSUED, 9-1-95.

REINFORCING BAR LIST-SUPERSTRUCTURE

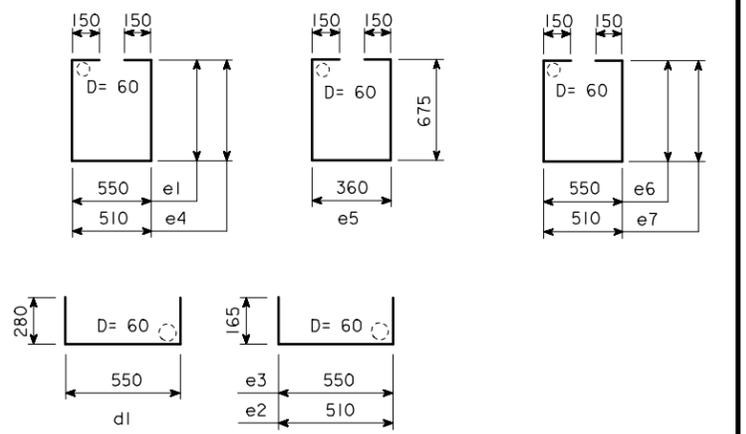
MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS
a1	15	SLAB TRANSV. TOP & BOTT.	---			
b1	15	SLAB LONGIT. TOP & BOTT.	---			
b2		SLAB LONGIT. TOP AT PIERS	---			
d5	15	ABUT. DIAPH.	---			
d6	15	ABUT. DIAPH. LONGIT.	---			
e5	15	ABUT. DIAPH. HOOPS	□		2010	
j1	15	SLAB TRANSV. TOP (AT RAIL) BARRIER RAIL - SEE DES. SHT. NO.	---		1900	
REINFORCING STEEL EPOXY COATED - TOTAL kg						
d1	15	PIER DIAPH. ENDS	□		11110	
d2	15	PIER DIAPH. LONGIT.	---			
d3	15	PIER DIAPH. LONGIT.	---			
d4	15	PIER DIAPH. LONGIT.	---			
e1	15	PIER DIAPH. HOOPS	□			
e2	15	PIER DIAPH. TIES ENDS	□		840	
e3	15	PIER DIAPH. TIES	□		880	
e4	15	PIER DIAPH. HOOPS ENDS	□			
e6	15	EXPAN. PIER DIAPH. HOOPS	□			
e7	15	EXPAN. PIER DIAPH. HOOPS ENDS	□			
INTERM. DIAPH.- SEE DES. SHT. NO.						
REINFORCING STEEL - TOTAL kg						

EPOXY COATED REINF.

NON-COATED REINF.

CONCRETE PLACEMENT QUANTITIES	
LOCATION	QUANTITY
SECTION 1, SLAB & ABUT. DIAPH.	
SECTION 2, SLAB	
SECTION 3, SLAB	
SECTION 4, SLAB	
SECTION 5, SLAB	
INTERM. DIAPH. AT	
TOTAL - m ³	

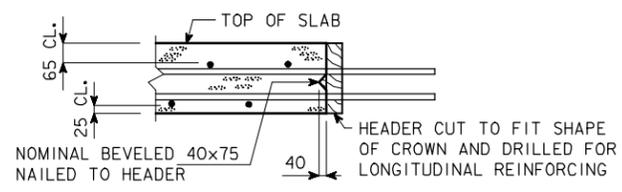
ESTIMATED QUANTITIES SUPERSTR.		
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "C"	m ³	
REINFORCING STEEL EPOXY COATED	kg	
REINFORCING STEEL	kg	
PRETENSIONED PRESTRESSED CONCRETE BEAMS	EACH	
STRUCTURAL STEEL	EACH	
STEEL EXTRUSION JOINT WITH NEOPRENE	kg	
	m	



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.
BENT BAR DETAILS

CONCRETE PLACEMENT DIAGRAM

NOTE: ROADWAY SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.



TRANSVERSE SLAB CONSTRUCTION JOINT

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED: 9-23-96: PIN DIAMETERS FOR BENT BAR DETAILS CHANGED.
HM4550.S01: THIS SHEET ISSUED, 9-1-95.

REINFORCING BAR LIST-SUPERSTRUCTURE

MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS
d1	15	SLAB TRANSV. TOP & BOTT.	—			
b1	15	SLAB LONGIT. TOP & BOTT.	—			
b2		SLAB LONGIT. TOP AT PIERS	—			
d5	15	ABUT. DIAPH.	—			
d6	15	ABUT. DIAPH. LONGIT.	—			
e5	15	ABUT. DIAPH. HOOPS	□		2010	
j1	15	SLAB TRANSV. TOP (AT RAIL) BARRIER RAIL - SEE DES. SHT. NO.	—		1900	
REINFORCING STEEL EPOXY COATED - TOTAL kg						
d1	15	PIER DIAPH. ENDS	□			
d2	15	PIER DIAPH. LONGIT.	—			
d3	15	PIER DIAPH. LONGIT.	—			
d4	15	PIER DIAPH. LONGIT.	—			
e1	15	PIER DIAPH. HOOPS	□			
e2	15	PIER DIAPH. TIES ENDS	□			
e3	15	PIER DIAPH. TIES	□		930	
e4	15	PIER DIAPH. HOOPS ENDS	□			
e6	15	EXPAN. PIER DIAPH. HOOPS	□			
e7	15	EXPAN. PIER DIAPH. HOOPS ENDS	□			
INTERM. DIAPH.- SEE DES. SHT. NO.						
REINFORCING STEEL - TOTAL kg						

EPOXY COATED REINF.

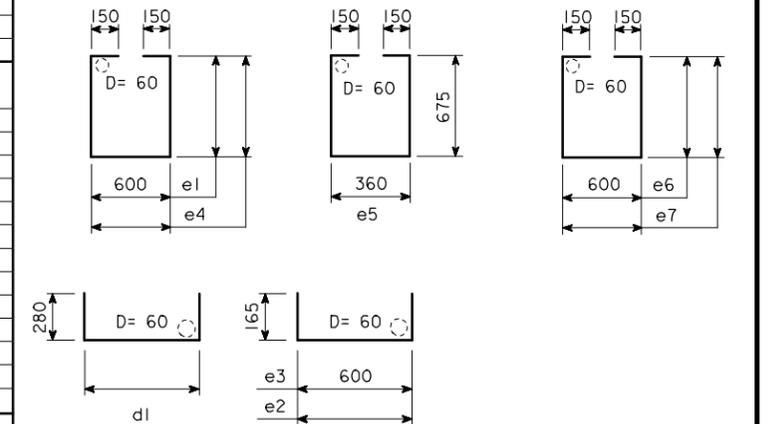
NON-COATED REINF.

CONCRETE PLACEMENT QUANTITIES

LOCATION	QUANTITY
SECTION 1, SLAB & ABUT. DIAPH.	
SECTION 2, SLAB	
SECTION 3, SLAB	
SECTION 4, SLAB	
SECTION 5, SLAB	
INTERM. DIAPH. AT	
TOTAL - m ³	

ESTIMATED QUANTITIES SUPERSTR.

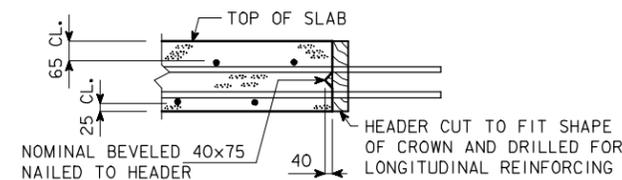
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "C"	m ³	
REINFORCING STEEL EPOXY COATED	kg	
REINFORCING STEEL	kg	
PRETENSIONED PRESTRESSED CONCRETE BEAMS	EACH	
STRUCTURAL STEEL	EACH	
STEEL EXTRUSION JOINT WITH NEOPRENE	kg	
	m	



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.
BENT BAR DETAILS

CONCRETE PLACEMENT DIAGRAM

NOTE: ROADWAY SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.



TRANSVERSE SLAB CONSTRUCTION JOINT

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

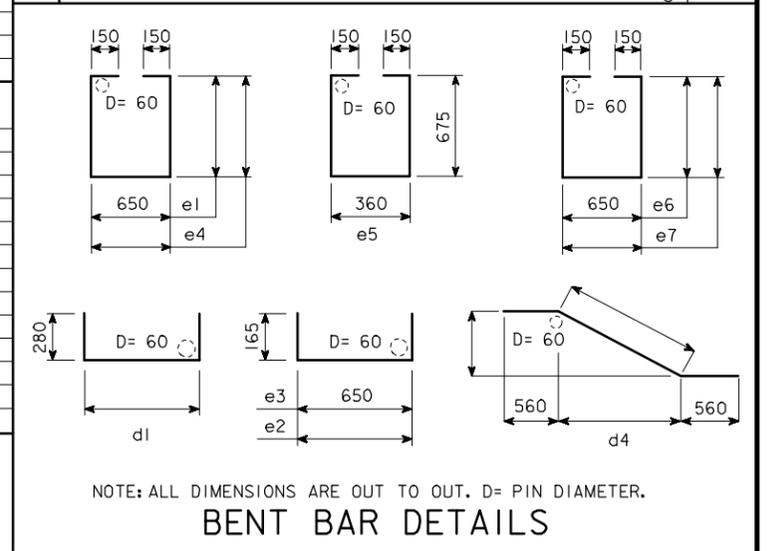
REVISED: 9-23-96: PIN DIAMETERS FOR BENT BAR DETAILS CHANGED.
HM4551.SOI: THIS SHEET ISSUED, 9-1-95.

REINFORCING BAR LIST-SUPERSTRUCTURE

MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS
d1	15	SLAB TRANSV. TOP & BOTT.	—			
d2	15	SLAB TRANSV. TOP ENDS	—			
d3	15	SLAB TRANSV. BOTT. ENDS	—			
EPOXY COATED REINF.						
b1	15	SLAB LONGIT. TOP & BOTT.	—			
b2		SLAB LONGIT. TOP AT PIERS	—			
d5	15	ABUT. DIAPH.	—			
d6	15	ABUT. DIAPH. LONGIT.	—			
e5	15	ABUT. DIAPH. HOOPS	□		2010	
j1	15	SLAB TRANSV. TOP (AT RAIL) BARRIER RAIL - SEE DES. SHT. NO.	—		1900	
NON-COATED REINF.						
d1	15	PIER DIAPH. ENDS	□			
d2	15	PIER DIAPH. LONGIT.	—			
d3	15	PIER DIAPH. LONGIT.	—			
d4	15	PIER DIAPH. LONGIT.	—			
e1	15	PIER DIAPH. HOOPS	□			
e2	15	PIER DIAPH. TIES ENDS	□			
e3	15	PIER DIAPH. TIES	□		980	
e4	15	PIER DIAPH. HOOPS ENDS	□			
e6	15	EXPAN. PIER DIAPH. HOOPS	□			
e7	15	EXPAN. PIER DIAPH. HOOPS ENDS	□			
INTERM. DIAPH.- SEE DES. SHT. NO.						
REINFORCING STEEL EPOXY COATED - TOTAL						kg
REINFORCING STEEL - TOTAL						kg

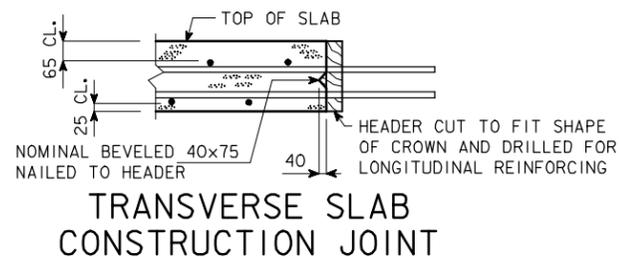
CONCRETE PLACEMENT QUANTITIES	
LOCATION	QUANTITY
SECTION 1, SLAB & ABUT. DIAPH.	
SECTION 2, SLAB	
SECTION 3, SLAB	
SECTION 4, SLAB	
SECTION 5, SLAB	
INTERM. DIAPH. AT	
TOTAL - m ³	

ESTIMATED QUANTITIES SUPERSTR.		
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "C"	m ³	
REINFORCING STEEL EPOXY COATED	kg	
REINFORCING STEEL	kg	
PRETENSIONED PRESTRESSED CONCRETE BEAMS	EACH	
STRUCTURAL STEEL	EACH	
STEEL EXTRUSION JOINT WITH NEOPRENE	kg	
	m	



CONCRETE PLACEMENT DIAGRAM

NOTE: ROADWAY SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.



IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED: 9-23-96; PIN DIAMETERS FOR BENT BAR DETAILS CHANGED. HM4552.S01; THIS SHEET ISSUED, 9-1-95.

REINFORCING BAR LIST-SUPERSTRUCTURE

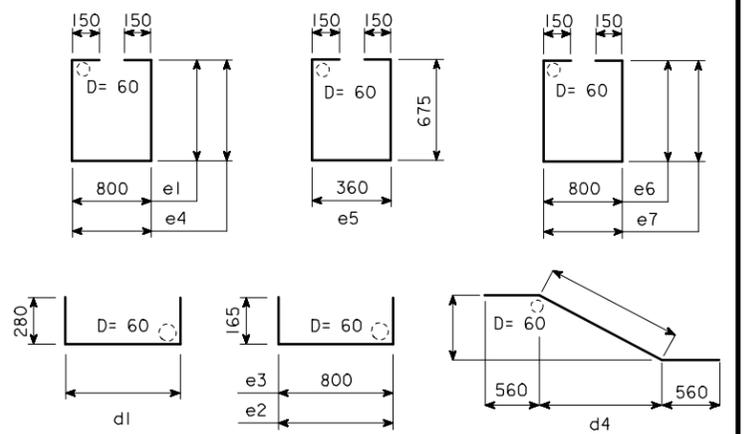
MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS
d1	15	SLAB TRANSV. TOP & BOTT.	—			
d2	15	SLAB TRANSV. TOP ENDS	—			
d3	15	SLAB TRANSV. BOTT. ENDS	—			
b1	15	SLAB LONGIT. TOP & BOTT.	—			
b2		SLAB LONGIT. TOP AT PIERS	—			
d5	15	ABUT. DIAPH.	—			
d6	15	ABUT. DIAPH. LONGIT.	—			
e5	15	ABUT. DIAPH. HOOPS	□		2010	
j1	15	SLAB TRANSV. TOP (AT RAIL)	—		1900	
		BARRIER RAIL - SEE DES. SHT. NO.				
REINFORCING STEEL EPOXY COATED - TOTAL						kg
d1	15	PIER DIAPH. ENDS	□			
d2	15	PIER DIAPH. LONGIT.	—			
d3	15	PIER DIAPH. LONGIT.	—			
d4	15	PIER DIAPH. LONGIT.	—			
e1	15	PIER DIAPH. HOOPS	□			
e2	15	PIER DIAPH. TIES ENDS	□			
e3	15	PIER DIAPH. TIES	□		1130	
e4	15	PIER DIAPH. HOOPS ENDS	□			
e6	15	EXPAN. PIER DIAPH. HOOPS	□			
e7	15	EXPAN. PIER DIAPH. HOOPS ENDS	□			
INTERM. DIAPH.- SEE DES. SHT. NO.						
REINFORCING STEEL - TOTAL						kg

EPOXY COATED REINF.

NON-COATED REINF.

CONCRETE PLACEMENT QUANTITIES	
LOCATION	QUANTITY
SECTION 1, SLAB & ABUT. DIAPH.	
SECTION 2, SLAB	
SECTION 3, SLAB	
SECTION 4, SLAB	
SECTION 5, SLAB	
INTERM. DIAPH. AT	
TOTAL - m ³	

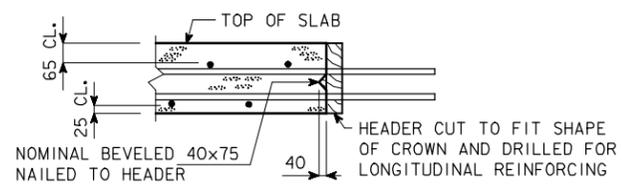
ESTIMATED QUANTITIES SUPERSTR.		
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "C"	m ³	
REINFORCING STEEL EPOXY COATED	kg	
REINFORCING STEEL	kg	
PRETENSIONED PRESTRESSED CONCRETE BEAMS	EACH	
STRUCTURAL STEEL	EACH	
STEEL EXTRUSION JOINT WITH NEOPRENE	kg	
	m	



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.
BENT BAR DETAILS

CONCRETE PLACEMENT DIAGRAM

NOTE: ROADWAY SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.

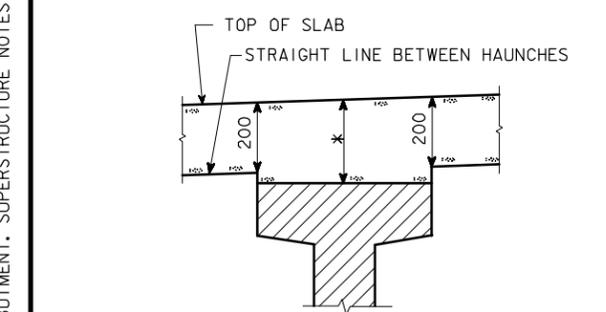
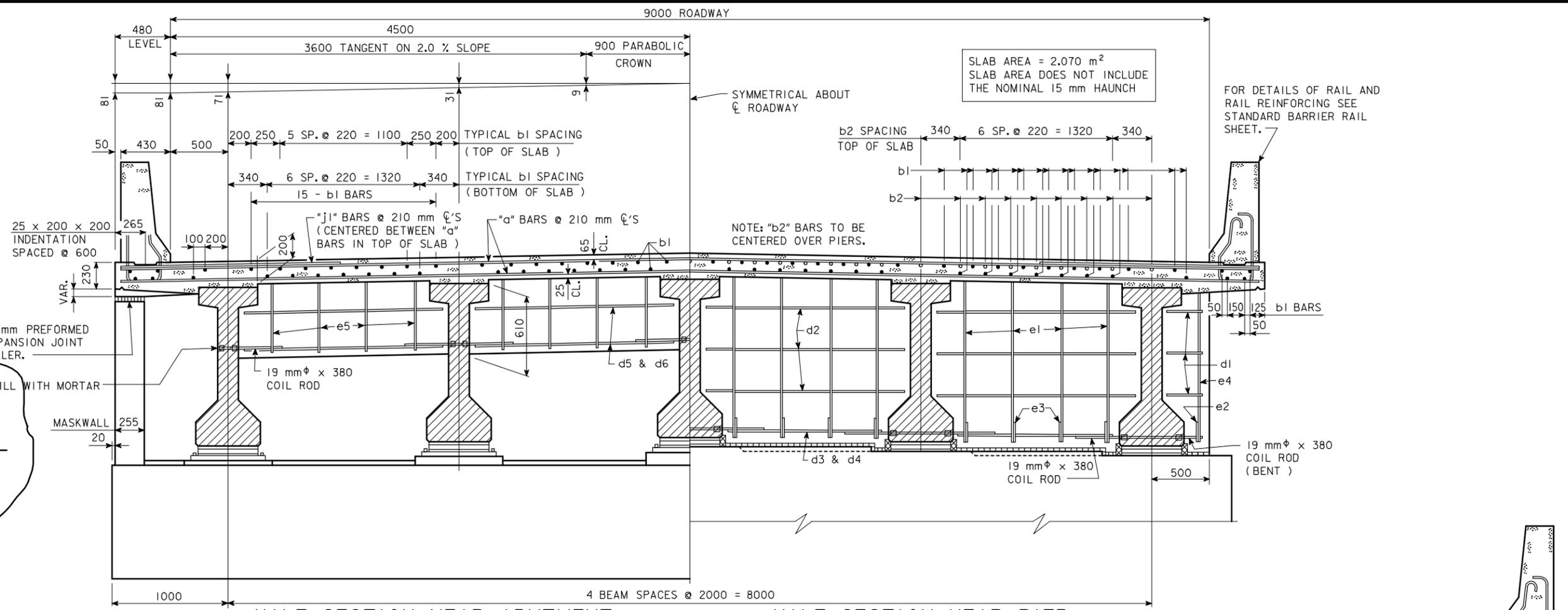


TRANSVERSE SLAB CONSTRUCTION JOINT

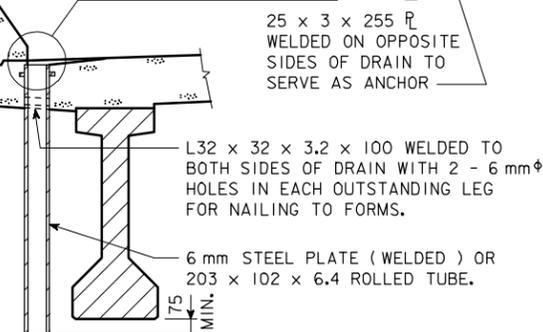
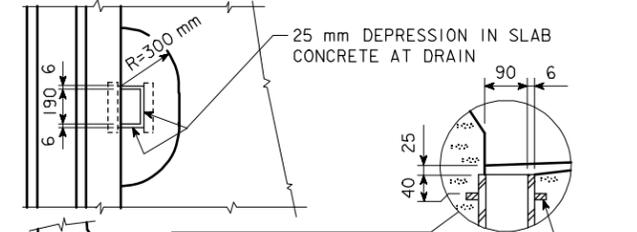
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-04 - 25 mm LIP ADDED TO HALF SECTION NEAR ABUTMENT. SUPERSTRUCTURE NOTES CHANGED. TABLE OF "b2" BARS INCREASED. HM4556.S01; THIS SHEET ISSUED, 9-1-95.

REDRAW FOR A & B BEAMS TO ALIGN FOOTING & BACKWALL FACES. DIMENSION 900 BECOMES 980.



INTERIOR BEAMS

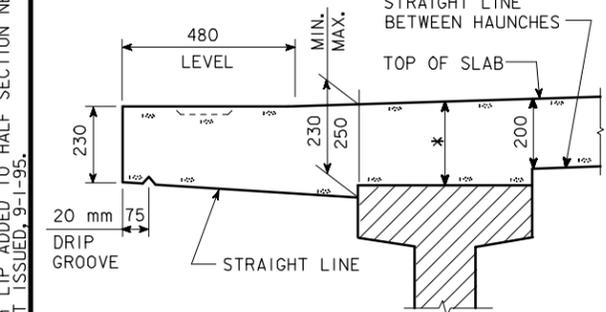


DRAIN DETAILS

NOTE : DRAINS ARE TO BE GALVANIZED. ?? DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET ?? FOR LOCATION. MASS OF DRAINS IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". MASS IS BASED ON ROLLED TUBE.

DATA FOR ONE DRAIN			
BEAM SIZE	B	C	D
MASS (kg)	37.2	41.4	47.9
LENGTH	1290	1440	1670

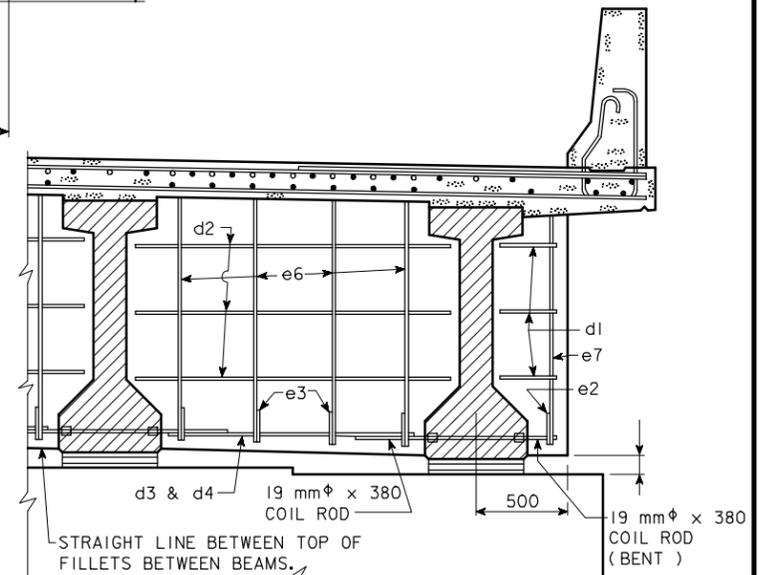
TABLE OF "b2" BAR SIZE	
LONGEST ADJACENT SPAN	BAR SIZE
9500	15
11 000	15
12 500	15
14 000	15
15 500	15
17 000	15
18 500	15
20 000	15
21 500	15
23 000	15
24 500	20
26 000	20
27 500	20
29 000	20
30 500	25
32 000	25
33 500	25
35 000	30



EXTERIOR BEAMS
TYPICAL SLAB AND HAUNCH DETAIL

* FOR SLAB THICKNESS OVER BEAMS SEE "SLAB THICKNESS DETAILS" ON DES. SH.

HALF SECTION NEAR PIER
NOTE : FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.



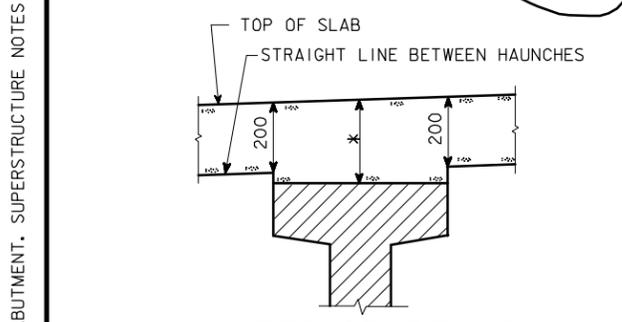
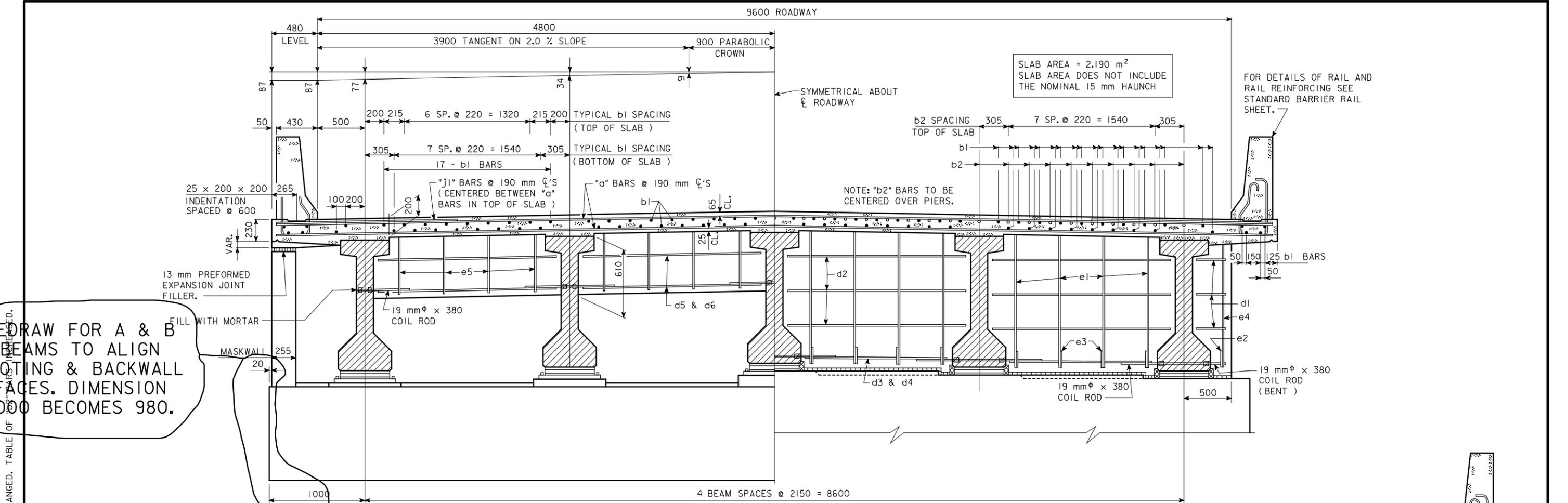
PART SECTION NEAR EXPANSION PIER

SUPERSTRUCTURE NOTES:
 THE FLOOR SLAB AS SHOWN INCLUDES 13 mm INTEGRAL WEARING SURFACE.
 THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE FLOOR SLAB.
 COST OF ALL PREFORMED EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE".
 ALL BEAMS ARE TO BE SET VERTICAL.
 FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE PRESTRESSED CONCRETE BEAMS.
 CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 50 mm UNLESS OTHERWISE NOTED OR SHOWN.
 TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 65 mm CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 25 mm CLEAR ABOVE BOTTOM OF SLAB. TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 900 mm CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 1200 mm APART.

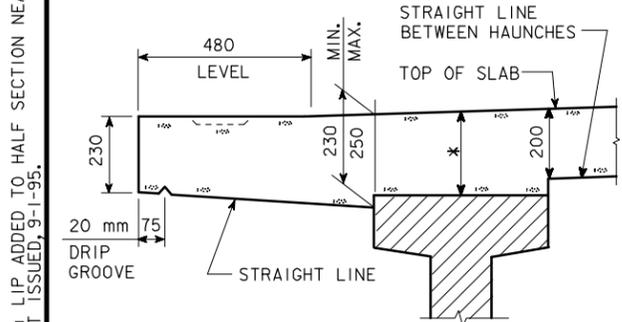
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-04 - 25 mm LIP ADDED TO HALF SECTION NEAR ABUTMENT. SUPERSTRUCTURE NOTES CHANGED. TABLE OF "b2" BAR SIZE. THIS SHEET ISSUED 9-1-95. HM4557.S01

RE-DRAW FOR A & B BEAMS TO ALIGN FOOTING & BACKWALL FACES. DIMENSION 1000 BECOMES 980.

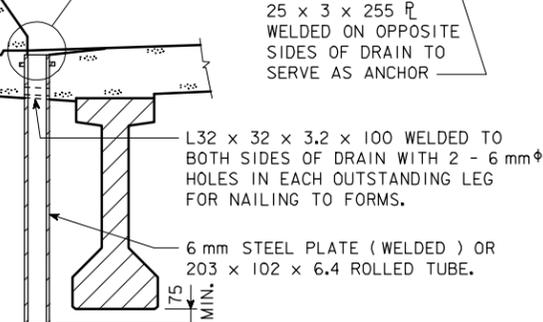
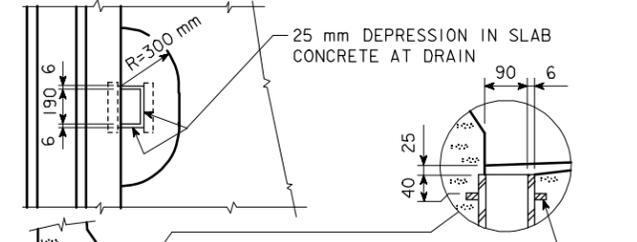


INTERIOR BEAMS



EXTERIOR BEAMS
TYPICAL SLAB AND HAUNCH DETAIL

* FOR SLAB THICKNESS OVER BEAMS SEE "SLAB THICKNESS DETAILS" ON DES. SH.



DRAIN DETAILS

NOTE : DRAINS ARE TO BE GALVANIZED. ?? DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET ?? FOR LOCATION. MASS OF DRAINS IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". MASS IS BASED ON ROLLED TUBE.

DATA FOR ONE DRAIN			
BEAM SIZE	B	C	D
MASS (kg)	37.2	41.4	47.9
LENGTH	1290	1440	1670

HALF SECTION NEAR ABUTMENT

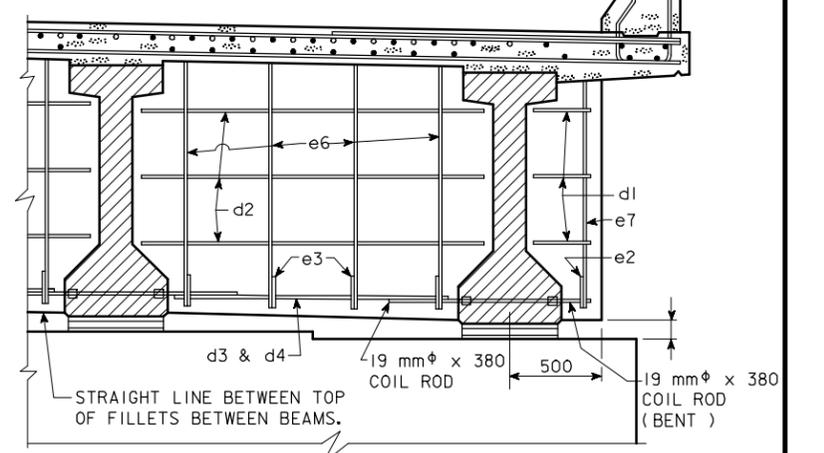
HALF SECTION NEAR PIER

NOTE : FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.

TABLE OF "b2" BAR SIZE	
LONGEST ADJACENT SPAN	BAR SIZE
9500	15
11 000	15
12 500	15
14 000	15
15 500	15
17 000	15
18 500	15
20 000	15
21 500	15
23 000	15
24 500	20
26 000	20
27 500	20
29 000	20
30 500	25
32 000	25
33 500	25
35 000	30

SUPERSTRUCTURE NOTES:

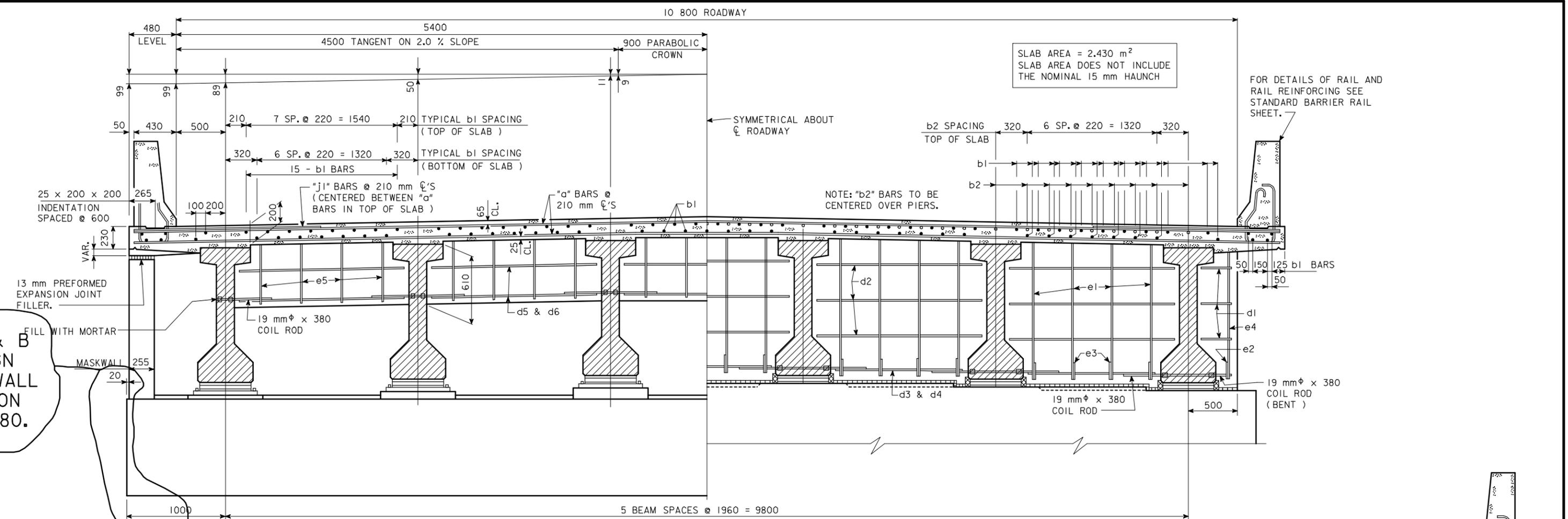
THE FLOOR SLAB AS SHOWN INCLUDES 13 mm INTEGRAL WEARING SURFACE.
 THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE FLOOR SLAB.
 COST OF ALL PREFORMED EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE".
 ALL BEAMS ARE TO BE SET VERTICAL.
 FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE PRESTRESSED CONCRETE BEAMS.
 CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 50 mm UNLESS OTHERWISE NOTED OR SHOWN.
 TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 65 mm CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 25 mm CLEAR ABOVE BOTTOM OF SLAB. TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL EPOXY COATED METAL BAR CHAIRS SPACED AT NOT MORE THAN 900 mm CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF EPOXY COATED METAL BAR HIGH CHAIRS OR SLAB BOLSTERS SPACED 1200 mm APART.



PART SECTION NEAR EXPANSION PIER

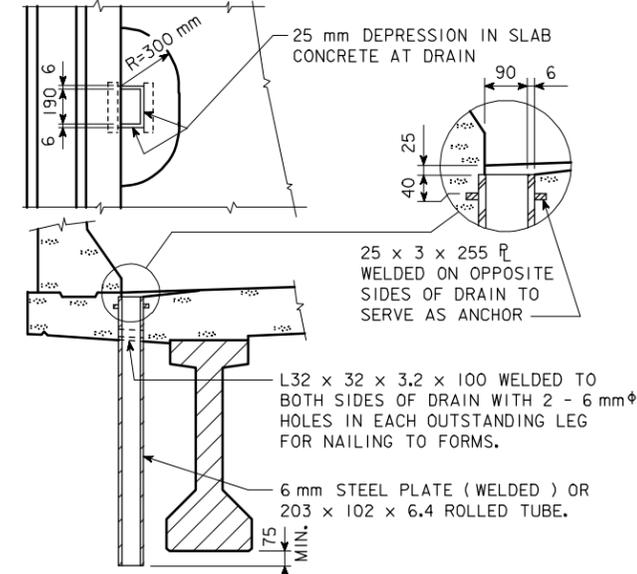
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-04 - 25 mm LIP ADDED TO HALF SECTION NEAR ABUTMENT. SUPERSTRUCTURE NOTES CHANGED. TABLE OF "b2" BAR SIZE INCREASED. THIS SHEET ISSUED 9-1-95. HM4558.SOI



R A & B
D ALIGN
BACKWALL
MENTS ON
MES. 980.

HALF SECTION NEAR ABUTMENT



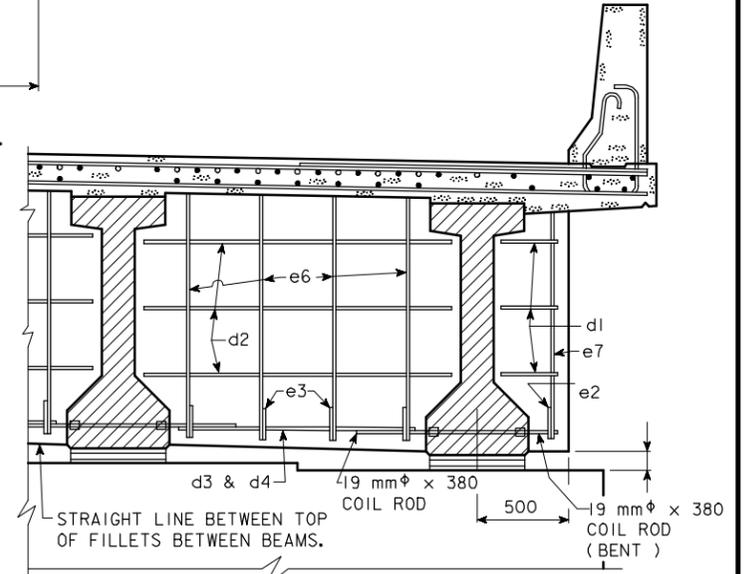
NOTE : DRAINS ARE TO BE GALVANIZED. ?? DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET ?? FOR LOCATION. MASS OF DRAINS IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". MASS IS BASED ON ROLLED TUBE.

DATA FOR ONE DRAIN

BEAM SIZE	B	C	D
MASS (kg)	37.2	41.4	47.9
LENGTH	1290	1440	1670

HALF SECTION NEAR PIER

NOTE : FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.



PART SECTION NEAR EXPANSION PIER



TABLE OF "b2" BAR SIZE

LONGEST ADJACENT SPAN	BAR SIZE
9500	15
11 000	15
12 500	15
14 000	15
15 500	15
17 000	15
18 500	15
20 000	15
21 500	15
23 000	15
24 500	20
26 000	20
27 500	20
29 000	20
30 500	25
32 000	25
33 500	25
35 000	30

SUPERSTRUCTURE NOTES:

THE FLOOR SLAB AS SHOWN INCLUDES 13 mm INTEGRAL WEARING SURFACE.

THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE FLOOR SLAB.

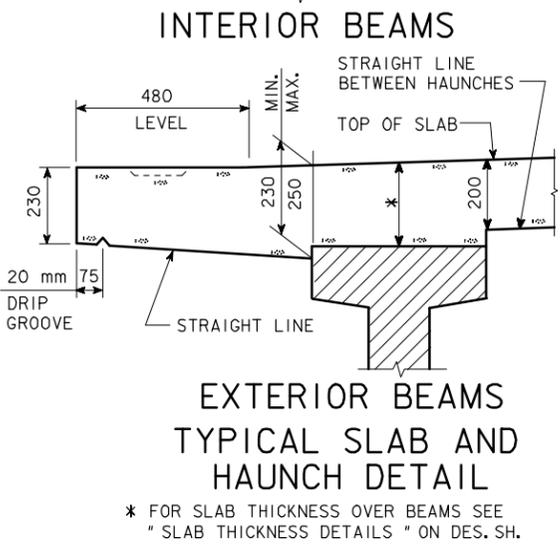
COST OF ALL PREFORMED EXPANSION JOINT FILLER MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE".

ALL BEAMS ARE TO BE SET VERTICAL.

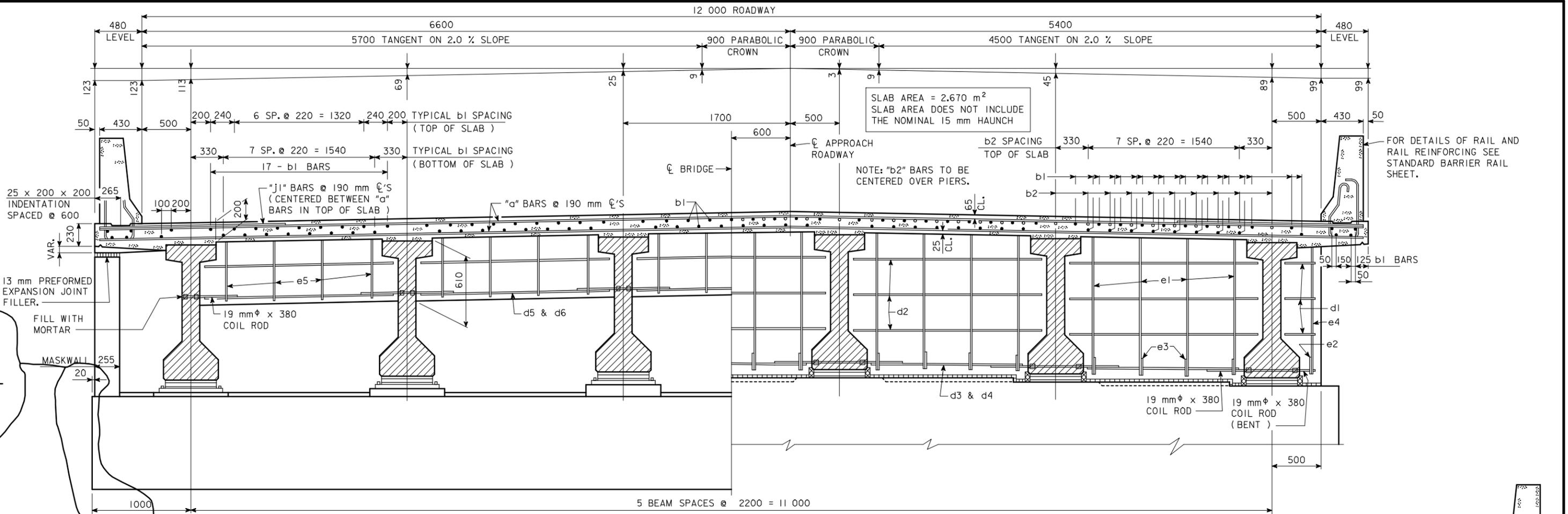
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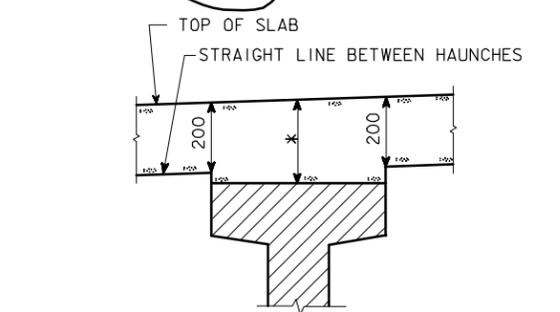
REVISED 07-04 - 25 mm LIP ADDED TO HALF SECTION NEAR ABUTMENT. SUPERSTRUCTURE NOTES CHANGED. TABLE OF "b2" BAR SIZE. DESIGN TEAM.



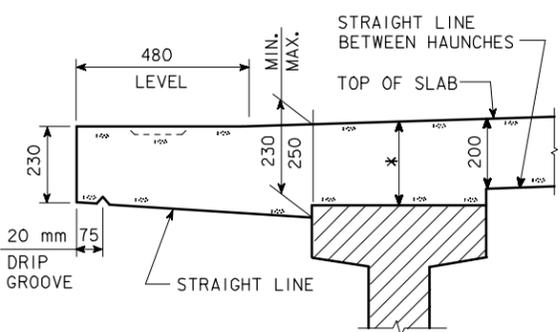
HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR PIER

NOTE: FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.

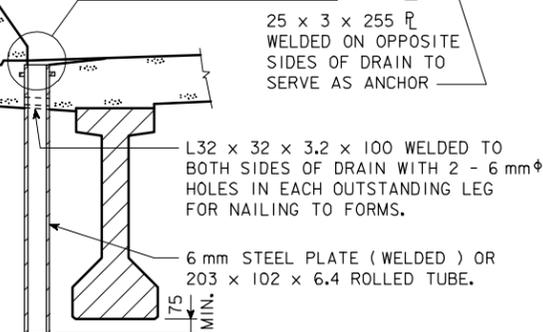
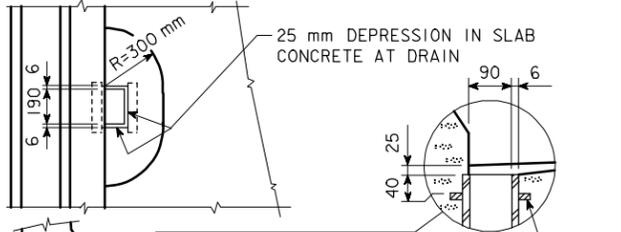


INTERIOR BEAMS



EXTERIOR BEAMS
TYPICAL SLAB AND HAUNCH DETAIL

* FOR SLAB THICKNESS OVER BEAMS SEE "SLAB THICKNESS DETAILS" ON DES. SH.



DRAIN DETAILS

NOTE: DRAINS ARE TO BE GALVANIZED. ?? DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET ?? FOR LOCATION. MASS OF DRAINS IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". MASS IS BASED ON ROLLED TUBE.

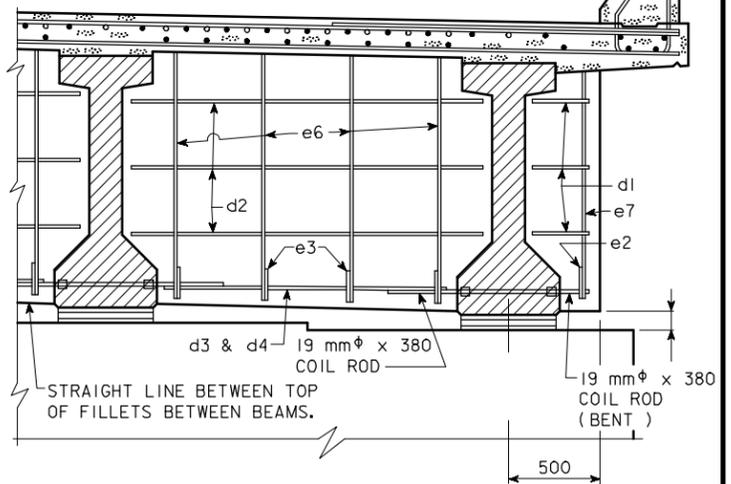
DATA FOR ONE DRAIN			
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LENGTH	1290	1440	1670

TABLE OF "b2" BAR SIZE

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21 500	15
23 000	15
24 500	20
26 000	20
27 500	20
29 000	20
30 500	25
32 000	25
33 500	25
35 000	30

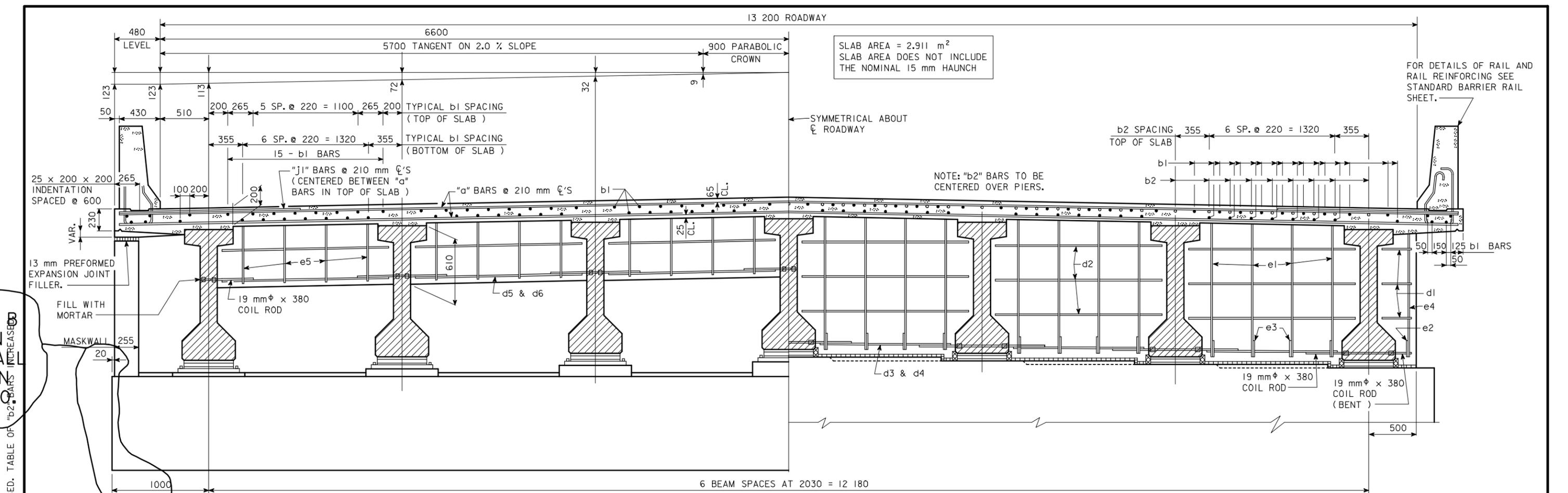
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PART SECTION NEAR EXPANSION PIER

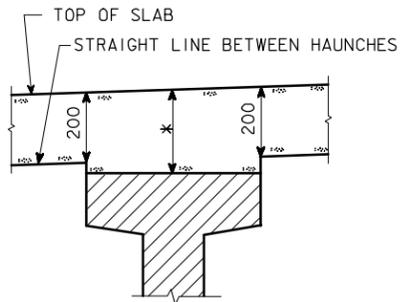
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___



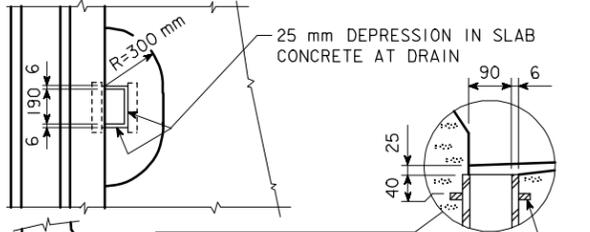
HALF SECTION NEAR ABUTMENT

HALF SECTION NEAR PIER

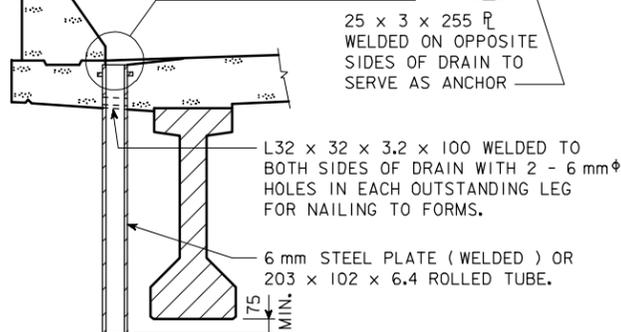
NOTE : FOR DETAILS OF INTERMEDIATE DIAPHRAGMS SEE DESIGN SHEET ??.



INTERIOR BEAMS



25 x 3 x 255 R WELDED ON OPPOSITE SIDES OF DRAIN TO SERVE AS ANCHOR



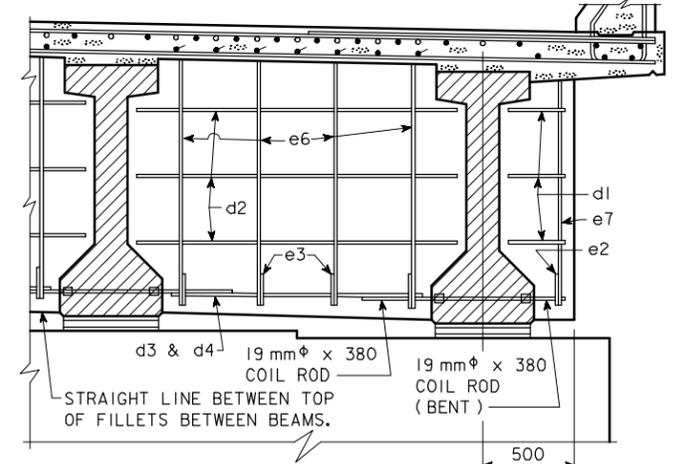
DRAIN DETAILS

NOTE : DRAINS ARE TO BE GALVANIZED. ?? DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET ?? FOR LOCATION. MASS OF DRAINS IS INCLUDED IN THE QUANTITY FOR "STRUCTURAL STEEL". MASS IS BASED ON ROLLED TUBE.

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27 500	20
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32 000	25
33 500	25
35 000	30



PART SECTION NEAR EXPANSION PIER

SUPERSTRUCTURE NOTES:

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IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. ___ OF ___ FILE NO. ___ DESIGN NO. ___

REVISED 07-04 - 25 mm LIP ADDED TO HALF SECTION NEAR ABUTMENT. SUPERSTRUCTURE NOTES CHANGED. TABLE OF "b2" BAR SIZE INCREASED FROM 450 TO 500. THIS SHEET ISSUED 9-1-95.

