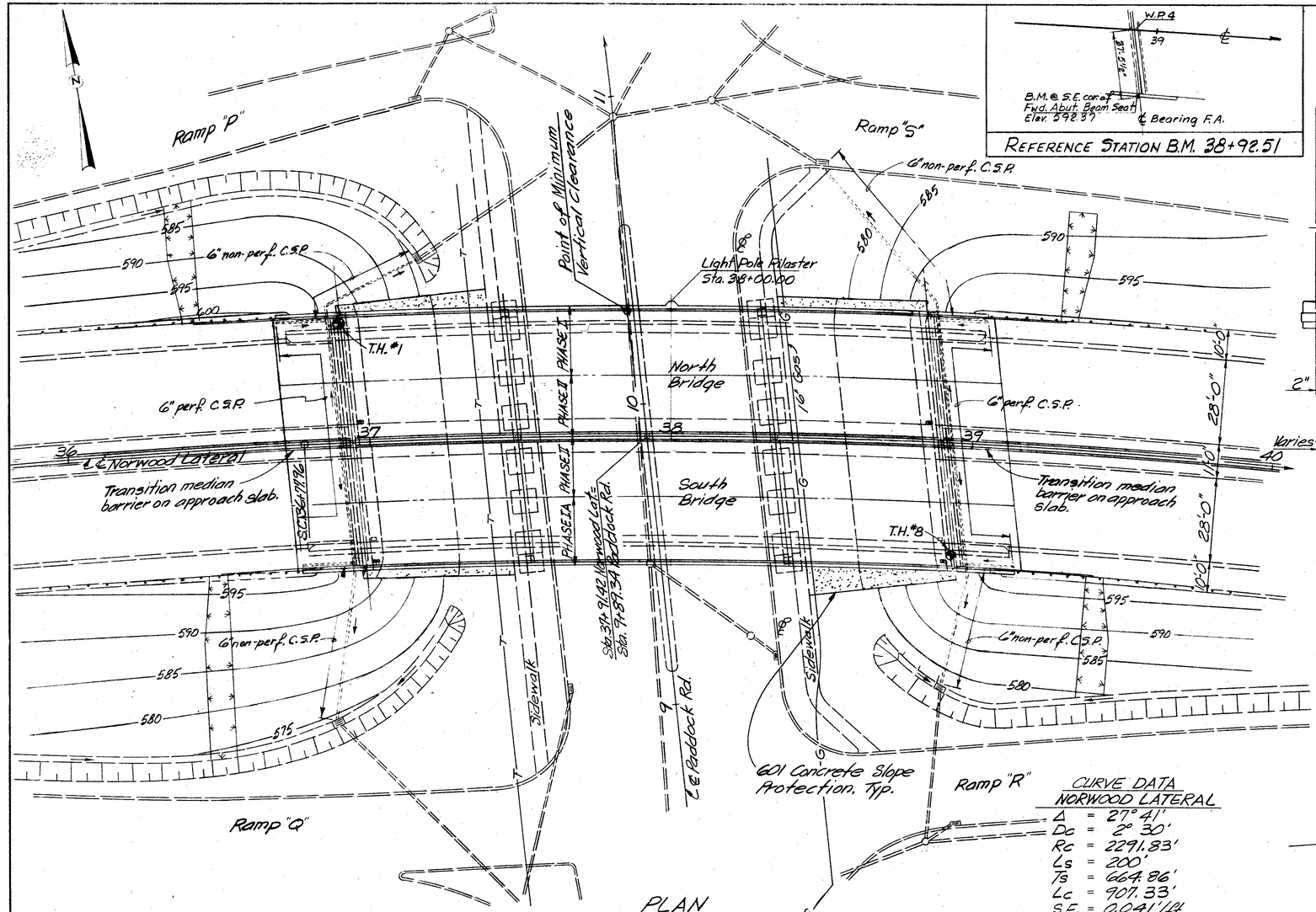
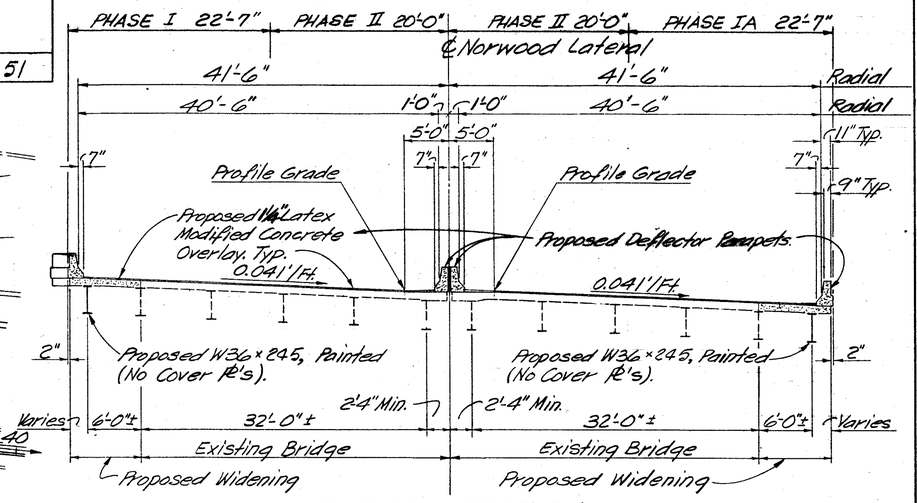
CALC. BY		HAMILTON COUNTY	OHIO	79
DATE		HAM-562-0.26	FHWA REGION 5	99
CHKD. BY				
DATE				

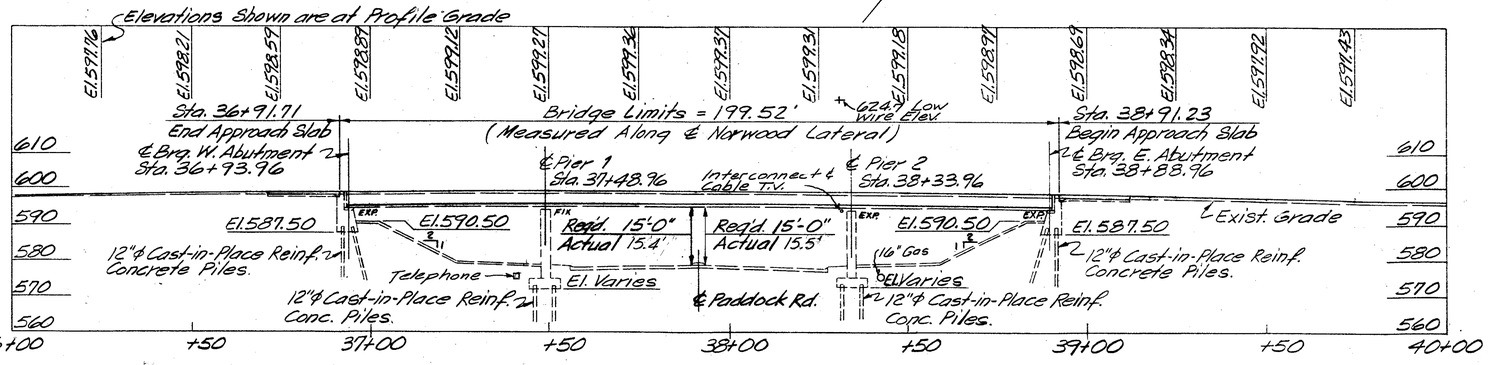


PLAN

REFERENCE STATION B.M. 38+92.51



TYPICAL SECTION
LOOKING AHEAD

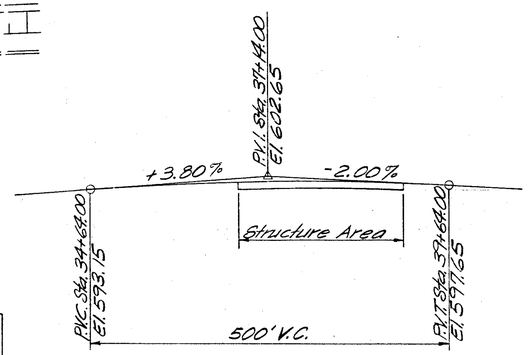


PROFILE ALONG ℄ NORWOOD LATERAL

Estimated average pay length of all new piles is 25 feet.

CURVE DATA
NORWOOD LATERAL

Δ	= 27° 41'
Dc	= 2° 30'
Rc	= 2291.83'
Ls	= 200'
Ts	= 664.86'
Lc	= 907.33'
S.E.	= 0.041'/Ft.



PROFILE GRADE
NORWOOD LATERAL

TRAFFIC DATA
S.R. 562
Current A.D.T. (1984) - 46,180
Truck Traffic - 7.7%

EXISTING STRUCTURE

TYPE: Continuous steel beams with reinf. concrete deck and substructure.
SPANS: 55'-0", 85'-0", 55'-0"
ROADWAY: 2@28'-0" with raised median of 11'0" effective width and two 2'-1" safety curbs.
LIVE LOAD: CF2000-51 "Adequate for AASHTO Alternate Loading."
SKEW: Varies
ALIGNMENT: 2°30' Curve
DECK & SUPERSTRUCTURE: Good condition
SUPERELEVATION: .041 Ft./Ft.
APPROACH SLABS: 20'-0" Long
WEARING SURFACE: 1" Monolithic Concrete.

PROPOSED MODIFICATIONS

TYPE: 3 Span continuous steel beams w/ Reinf. concrete deck and substructure.
SPANS: 55'-0", 85'-0", 55'-0"
SKEW: Varies
ROADWAY: 2 x 40'-6" Face to Face of Parapets.
LOADING: HS20-44 Case II and Alternate Military Loading.
ALIGNMENT: 2°30' Curve Right
WEARING SURFACE: 1½" Latex Modified Concrete Overlay
APPROACH SLAB: AS-1-81 20' Long.
SUPERELEVATION: .041 Ft./Ft.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

1/19

SITE PLAN

BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER PADDOCK ROAD
HAMILTON COUNTY OHIO
STA. 36+91.71 TO STA. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
BJS	WJH	~	J.S.	CRS 10/85	

OHIO BLUE PRINT NO901

REFERENCE SHALL BE MADE TO STANDARD BRIDGE DRAWINGS:

AS-1-81	DATED 11-27-81
BR-1	DATED 5-29-79
RB-1-55	DATED 2-2-59
EXJ-2-81	DATED 4-2-84
SD-1-69	DATED 6-12-69

AND TO STANDARD CONSTRUCTION DRAWINGS:

HL-3	DATED 7-27-73
HL-4	DATED 1-21-76

AND TO SUPPLEMENTAL SPECIFICATIONS:

953	DATED 8-21-80
824	DATED 10-8-82
836	DATED 11-12-85
845	DATED 1-13-84
849	DATED 10-19-81
853	DATED 6-26-78
956	DATED 6-26-78

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS 1983 INCLUDING THE 1984 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS; AND THE "BRIDGE DESIGN MANUAL" AND "CONSTRUCTION AND MATERIAL SPECIFICATIONS" OF THE OHIO DEPARTMENT OF TRANSPORTATION.

DESIGN DATA:

DESIGN LOADING:	HS 20-44 CASE II AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS C:	COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)
CONCRETE CLASS S:	COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
STRUCTURAL STEEL:	ASTM A36 YIELD STRENGTH: 36,000 PSI
REINFORCING STEEL:	ASTM A615, A616 OR A617, GRADE 60, MINIMUM YIELD STRENGTH: 60,000 PSI

DECK PROTECTION METHOD:
EPOXY-COATED REINFORCING STEEL IN PROPOSED ADDITIONS AND MODIFICATIONS TO EXISTING DECK; LATEX MODIFIED CONCRETE OVERLAY OVER PROPOSED DECK AND EXISTING DECK.

DIMENSIONS AND STATIONS:
DIMENSIONS, STATIONS AND WORK POINTS SHOWN ARE BASED ON INFORMATION TAKEN FROM ORIGINAL PLANS OF EXISTING BRIDGE. FIELD INSPECTION INDICATES THAT THE ACTUAL STRUCTURES MAY VARY FROM THE ORIGINAL PLANS. IT IS THE INTENT OF THESE NEW PLANS THAT THE PROPOSED ADDITIONS TO THESE STRUCTURES MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL PERTINENT DIMENSIONS BY CAREFUL FIELD MEASUREMENTS IN ORDER TO SATISFY HIMSELF OF THE CORRECTNESS THEREOF. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

PILE DESIGN LOAD:
THE DESIGN LOAD FOR THE ABUTMENT PILES IS 40 TONS PER PILE. THE DESIGN LOAD FOR THE PIER PILES IS 50 TONS PER PILE.

ITEM 507 - 12" CAST-IN-PLACE REINFORCED CONCRETE PILES
PILES SHALL HAVE A WALL THICKNESS THAT IS NOT LESS THAN 0.200 INCHES. THE ACTUAL PILE GAGE CHOSEN IS THE RESPONSIBILITY OF THE CONTRACTOR.

THE PILE HAMMER USED TO INSTALL THE CAST-IN-PLACE REINFORCED CONCRETE PILES SHALL HAVE A STATE'S ENERGY RATING OF NOT LESS THAN 14,500 FOOT-POUNDS. THIS REQUIREMENT DOES NOT RELIEVE THE CONTRACTOR FROM 108.05 WHICH STATES THAT THE CONTRACTOR IS TO PROVIDE SUFFICIENT EQUIPMENT FOR PROSECUTING THE REQUIRED WORK. REFER TO "O.D.O.T'S MANUAL OF PROCEDURES FOR STRUCTURES" TO OBTAIN THE STATE'S ENERGY RATING.

ITEM 202 - PORTIONS OF STRUCTURES REMOVED
THE SEQUENCE AND PROCEDURE FOR REMOVAL OF PORTIONS OF EXISTING STRUCTURE SHALL BE APPROVED BY THE ENGINEER, IN STRICT COMPLIANCE WITH ITEM 202.

THE REMOVAL OF EXISTING STRUCTURES SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

1. REMOVAL OF EXISTING ABUTMENT BACKWALLS TO THE BEAM SEAT CONSTRUCTION JOINT. EXISTING VERTICAL REBARS SHALL BE CUT AND SPLICED AS SHOWN.

2. REMOVAL OF EXISTING WINGWALLS TO THE APPROXIMATE ELEVATIONS SHOWN AND TO AT LEAST 1'-0" BELOW SUBGRADE. EXISTING WINGWALL FOOTINGS SHALL BE REMOVED AS NECESSARY TO PERMIT CONSTRUCTION OF NEW FOOTINGS.

3. REMOVAL OF 1'-0" ± OF EXISTING EXTERIOR PIER FOOTINGS TO ALLOW FOR FULL WIDTH OF NEW FOOTINGS TO BE IN CONTACT WITH EXISTING FOOTING. EXISTING FOOTING REBARS ARE TO BE CAREFULLY PRESERVED FOR PROPER MECHANICAL SPLICING AS DETAILED.

4. REMOVE EXISTING PARAPETS WITH ALUMINUM RAIL, SAFETY CURBS, THAT PORTION OF DECK SLAB BEYOND CENTERLINE OF THE EXISTING FASCIA BEAMS, AND THE RAISED MEDIANS. CAREFULLY PRESERVE EXISTING VERTICAL REBARS PROJECTING FROM EXISTING DECK SLAB INTO EXISTING RAISED MEDIANS FOR INCORPORATION INTO THE PROPOSED MEDIAN BARRIERS AS DETAILED.

5. REMOVE EXISTING DECK SLAB CAREFULLY AT CENTERLINE OF EXISTING FASCIA BEAMS PRESERVING EXISTING REBARS SO THAT MINIMUM LAPS CAN BE OBTAINED WITH PROPOSED REBARS AS DETAILED. REMOVE EXISTING REBARS NOT REQUIRED.

6. REMOVE ENDS OF EXISTING DECK SLAB AS DETAILED TO PERMIT REMOVAL OF EXISTING END DAMS AND INSTALLATION OF PROPOSED END DAMS. EXISTING DECK SLAB REBARS ARE TO BE REUSED IN RECONSTRUCTING ENDS OF SLAB.

7. REMOVE EXISTING END CROSSFRAMES AND REPLACE WITH NEW END CROSSFRAMES AS DETAILED. ENDS OF EXISTING BEAMS MAY HAVE TO BE SHORTENED TO ACCOMMODATE NEW END DAMS.

8. REMOVE EXISTING CATCH BASINS AND LIGHT POLE PULL BOX AND PLUG OPENINGS AS DETAILED. PLUG EXISTING DOWNSPOUTS AT CONCRETE SLOPE PROTECTION.

9. REMOVE EXISTING SLAB AROUND EXISTING CATCH BASINS AS DETAILED PRESERVING EXISTING REBARS SO THAT MINIMUM LAPS CAN BE OBTAINED.

ALL REMOVAL OF EXISTING STRUCTURES SHALL BE DONE IN AN ORDERLY MANNER AVOIDING DANGER TO PUBLIC SAFETY, TRAFFIC ON AND UNDER THE EXISTING BRIDGE AND TO AVOID LITTERING ROADWAYS AND ENVIRONMENT.

GENERAL NOTES

ITEM 510 - DOWEL HOLES
DRILL HOLES INTO THE EXISTING ABUTMENTS AT THE INTERFACES WITH PROPOSED ABUTMENT EXTENSIONS FOR DOWEL BARS AND CHANNEL ANCHOR BOLTS AS DETAILED.

DRILL HOLES INTO EXISTING DECK SLAB FOR THE PROPOSED MEDIAN BARRIER REBARS AS DETAILED.

ALL DRILLED HOLES SHALL BE THOROUGHLY CLEANED OF ALL DUST AND OTHER DELETERIOUS MATERIAL.

THE GROUT SHALL CONSIST OF CEMENT AND WATER USING TYPE I, TYPE III OR SHRINKAGE COMPENSATING CEMENT. CLEAN HOLES SHALL BE SATURATED THOROUGHLY WITH WATER FOR A MINIMUM OF 5 MINUTES PRIOR TO PLACING GROUT. IMMEDIATELY PRIOR TO GROUTING, ALL FREE STANDING WATER SHALL BE REMOVED FROM HOLES. AFTER INITIAL MIXING, THINNING OR RETEMPERING OF GROUT WITH EXTRA WATER SHALL NOT BE ALLOWED. HARDENED OR SET GROUT WHICH HAS BECOME TOO STIFF OR DRY TO PROVIDE A GOOD BOND SHALL BE DISCARDED. DOWELS SHALL NOT BE INSTALLED IF THE MEAN AIR OR GROUT TEMPERATURES ARE LESS THAN 45°F. FURTHERMORE, AFTER PLACING, THE FRESH GROUT SHALL BE MAINTAINED AT A TEMPERATURE OF NOT LESS THAN 45°F FOR 72 HOURS, AND AT NOT LESS THAN 40°F FOR AN ADDITIONAL 4 DAYS. THE TEMPERATURE OF THE MIXED GROUT, IMMEDIATELY BEFORE PLACING, SHALL NOT BE LESS THAN 50°F NOR MORE THAN 90°F. THE CEMENT GROUT SHALL BE CURED CONTINUOUSLY WITH EITHER WET RAGS OR A SATISFACTORY CURING COMPOUND (WHICH MUST BE SUBSEQUENTLY REMOVED) FOR A MINIMUM PERIOD OF 3 DAYS WITHOUT DISTURBING THE DOWELS.

GROUT ANCHORING USING EPOXY AS PER SS 853 AND 956 MAY BE USED IN LIEU OF THE ABOVE REQUIREMENTS WITH THE EXCEPTION THAT THE HOLE DIAMETERS WILL REMAIN AS REQUIRED ABOVE.

ITEM 516 - STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC COMPRESSION SEALS, AS PER PLAN
THE EXISTING END DAMS AND THE EXISTING END CROSSFRAMES ARE TO BE REMOVED AND REPLACED WITH PROPOSED STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC COMPRESSION SEALS AND PROPOSED END CROSSFRAMES AS DETAILED.

ITEM 518 - POROUS BACKFILL
REMOVE EXISTING POROUS BACKFILL. NEW POROUS BACKFILL OF THICKNESSES SHOWN ON DETAILS SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND LATERALLY TO THE ENDS OF THE WINGWALLS.

ITEM 845 - LATEX MODIFIED CONCRETE OVERLAY (1-1/4" MINIMUM THICKNESS)
LONGITUDINAL JOINTS IN THE CONCRETE OVERLAY ARE PERMITTED BUT ONLY TO THE EXTENT NECESSARY TO ACCOMMODATE THE WIDTH OF THE FINISHING MACHINE, TO FACILITATE CHANGES IN THE ROADWAY CROWN, AND TO PERMIT MAINTENANCE OF VEHICULAR TRAFFIC. EXCEPT AS APPROVED BY THE ENGINEER, JOINTS SHALL NOT BE USED ADJACENT TO THE CURBS.

ITEM SPECIAL - SEALING OF CONCRETE SURFACES
SURFACES TO BE SEALED ARE PARAPETS AND MEDIAN BARRIERS AS SHOWN ON PLANS, AND NEW BACKWALL FACE AND TOP.

ITEM SPECIAL - JACKING OF EXISTING SUPERSTRUCTURE
THE EXISTING SUPERSTRUCTURE, INCLUDING STEEL BEAMS, BEARING DEVICES, AND CONCRETE DECK SHALL BE RAISED APPROXIMATELY 4-1/2" TO THE NEW ELEVATIONS SHOWN ON PLANS. EACH OF THE TWO BRIDGES IS TO BE RAISED ON A SEPARATE WEEKEND. A BRIDGE MAY NOT BE CLOSED TO TRAFFIC BEFORE 6 PM ON A FRIDAY AND THE LIFTING OPERATION AND RESEATING OF BEARING DEVICES, AND THE CONSTRUCTION OF TEMPORARY ASPHALT RAMPS FOR ONE LANE OF TRAFFIC ON THE NEWLY RAISED BRIDGE MUST BE COMPLETED AND OPENED TO TRAFFIC BY 5:30 AM THE FOLLOWING MONDAY.

THE LUMP SUM BID FOR THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO RAISE, SUPPORT AND LOWER THE SUPERSTRUCTURE.

THE SUPERSTRUCTURE SHALL NOT BE RAISED MORE THAN 4" ABOVE FINAL POSITION.

THE CONTRACTOR SHALL SUBMIT DRAWINGS AND A DESCRIPTION OF THE METHODS TO BE USED TO RAISE AND SHIM THE SUPERSTRUCTURES TO THE DIRECTOR FOR APPROVAL AT LEAST 15 DAYS PRIOR TO COMMENCEMENT OF THIS OPERATION.

CONSTRUCTION CLEARANCES
A MINIMUM HORIZONTAL WIDTH OF 15'-0" SHALL BE MAINTAINED FOR TRAFFIC ON EACH BRIDGE ON THE NORWOOD LATERAL. THE MINIMUM HORIZONTAL WIDTHS TO BE MAINTAINED ON PADDOCK ROAD SHALL BE THE EXISTING ROADWAY WIDTHS. THE MINIMUM VERTICAL CLEARANCE SHALL BE THE EXISTING VERTICAL CLEARANCES PRIOR TO JACKING OF BRIDGES; AFTER JACKING, VERTICAL CLEARANCES SHALL BE 15'-0" MINIMUM.

PLANS OF THE EXISTING BRIDGES ARE AVAILABLE FOR REFERENCE AT THE OHIO DEPARTMENT OF TRANSPORTATION.

CALC. BY		HAMILTON COUNTY	OHIO	81
CHKD. BY		HAM-562-0.26	FHWA REGION 5	97
DATE				

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	REAR ABUTMENT		FORWARD ABUT.		PIER 1		PIER 2		SUPERSTRUCTURE		GENERAL
				NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	
202	Lump Sum	Lump Sum	Portions of Structures Removed	—	—	—	—	—	—	—	—	—	—	Lump Sum
503	392	Cu. Yd.	Unclassified Excavation *	79	73	79	73	23	21	23	21	—	—	—
503	Lump Sum	Lump Sum	Cofferdams, cribs and sheeting	—	—	—	—	—	—	—	—	—	—	Lump Sum
505	Lump Sum	Lump Sum	Pile Driving Equipment Mobilization	—	—	—	—	—	—	—	—	—	—	Lump Sum
507	1400	Lin. Ft.	12" Cast in Place Reinforced Concrete Piles, as per plan	200	200	200	200	150	150	150	150	—	—	—
509	17946	Lb.	Reinforcing Steel, Grade 60	2731	2319	2787	2363	1931	1942	1931	1942	—	—	—
510	358	Each	Dowel Holes	21	21	21	21	—	—	—	—	137	137	—
511	185	Cu. Yd.	Class S Concrete, Superstructure (See Proposal Note)	—	—	—	—	—	—	—	—	93	92	—
511	60	Cu. Yd.	Class C Concrete, Footings	6	6	6	6	9	9	9	9	—	—	—
511	122	Cu. Yd.	Class C Concrete, Abutments above Footings	33	28	34	27	—	—	—	—	—	—	—
511	20	Cu. Yd.	Class C Concrete, Piers above Footings	—	—	—	—	5	5	5	5	—	—	—
513	130,300	Lb.	Structural Steel (AISC Category I)	100	100	100	100	—	—	—	—	64900	65000	—
514	Lump Sum	Lump Sum	Field Painting of Existing Steel, Surface preparation, System A									LS	LS	
514	129,900	Lb.	Field Painting of New Structural Steel, System A	—	—	—	—	—	—	—	—	64900	65000	—
514	Lump Sum	Lump Sum	Field Painting of existing steel, Complete coat prime, System A									LS	LS	
514	Lump Sum	Lump Sum	Field Painting of existing steel, Complete coat finish, System A									LS	LS	
516	20	Lin. Ft.	P.V.C. Waterstop as per Plan	5	5	5	5	—	—	—	—	—	—	—
516	170	Lin. Ft.	Structural Expansion Joints Including Elastomeric Compression Seals as per Plan	—	—	—	—	—	—	—	—	85	85	—
518	237	Lin. Ft.	6" Perforated Helical Corrugated Steel Pipe 707.01	59	59	59	60	—	—	—	—	—	—	—
518	208	Lin. Ft.	6" Non-Perforated Helical Corrugated Steel Pipe including Specials, 707.01	33	51	73	45	—	—	—	—	—	—	—
518	144	Cu. Yd.	Porous Backfill	39	33	39	33	—	—	—	—	—	—	—
523	3	Hr.	Dynamic Load Test	—	—	—	—	—	—	—	—	—	—	3
601	225	Sq. Yd.	Concrete Slope Protection	57	52	48	68	—	—	—	—	—	—	—
824	38347	Lb.	Epoxy Coated Reinforcing Steel, Grade 60	1379	1390	1379	1389	—	—	—	—	16456	16354	—
845	1718	Sq. Yd.	Latex Modified Concrete Overlay (1½" Min. Thick) (See Proposal Note)	—	—	—	—	—	—	—	—	859	859	—
Special	897	Sq. Yd.	Sealing of Concrete Surfaces (See Proposal Note)	29	29	29	29	—	—	—	—	397	384	—
Special	Lump Sum	Lump Sum	Jacking of Existing Superstructure	—	—	—	—	—	—	—	—	LS	LS	

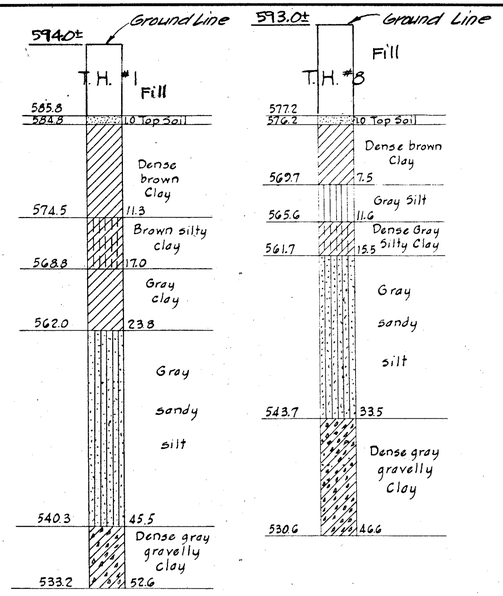
* Includes extra excavation for Porous Backfill behind Backwalls.

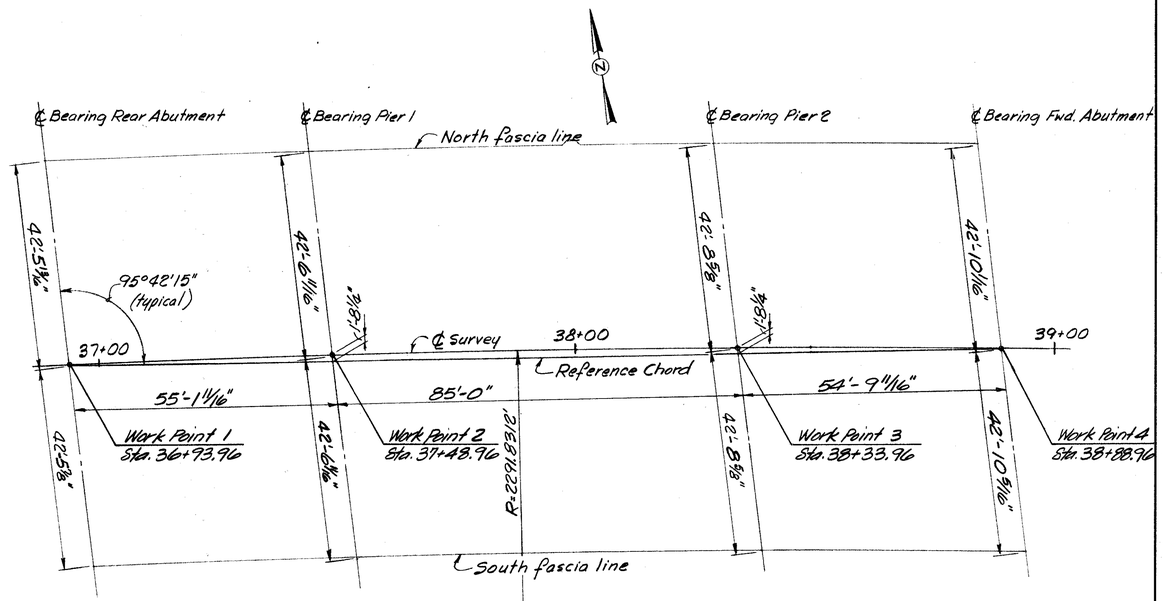
BALKE ENGINEERS	3/19
7762 READING ROAD	
CINCINNATI, OHIO 45237	

ESTIMATED QUANTITIES
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
STA. 36+91.71 TO STA. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
BJS	WJH	~	JS	CS 10/85	4-17-86

CALC. BY / DATE	HAMILTON COUNTY HAM-562-0.26	OHIO FHWA REGION 5	82 97
CHKD. BY / DATE			





STAKEOUT PLAN

Contractor must verify all Stations and Centerlines in field.

NOTE:

Test Borings were made between Sept. 4th & Oct. 17th, 1956.
See Sheet 1 of 19 for Location of Test Borings
Test Borings #2, 3, 4, 5, #6, & 7 were not drilled.

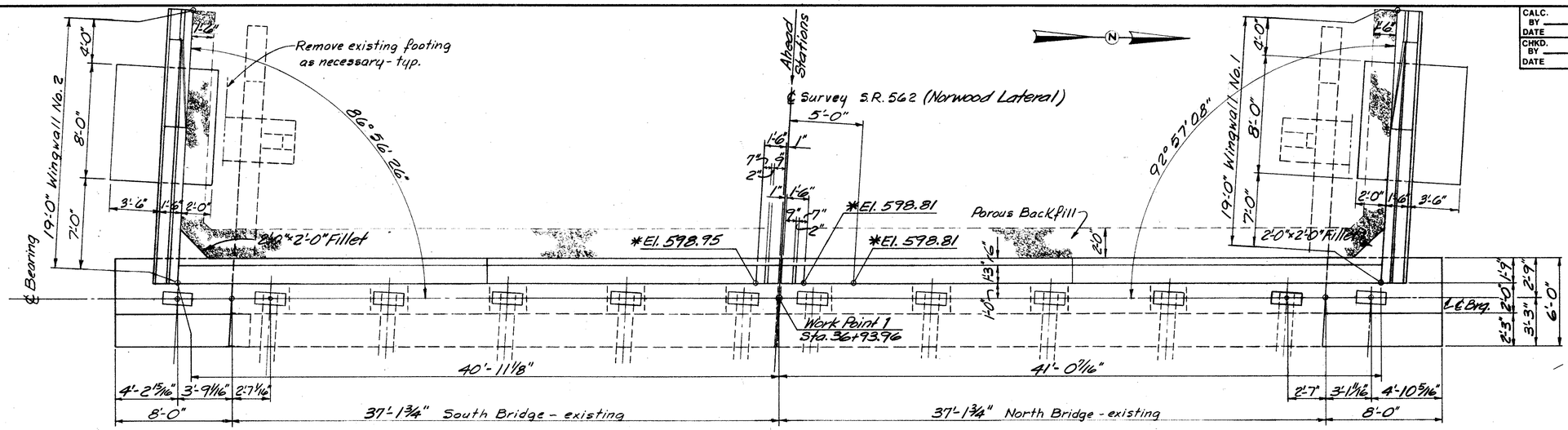
BALKE ENGINEERS 7762 READING ROAD CINCINNATI, OHIO 45237	4/19

BORINGS & STAKEOUT PLAN
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
STA. 36+91.71 TO STA. 38+91.23

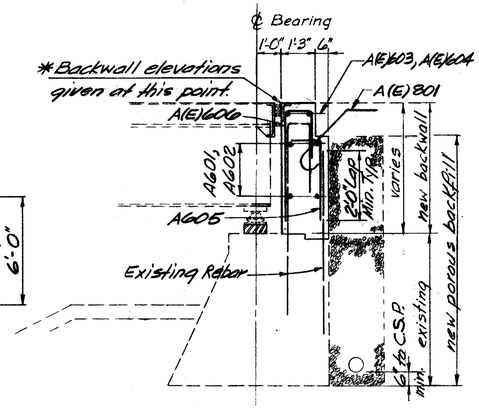
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
B.J.S.	J.R.R.	—	J.S.	C.S. 10/85	—

OHIO BLUE PRINT N2967J

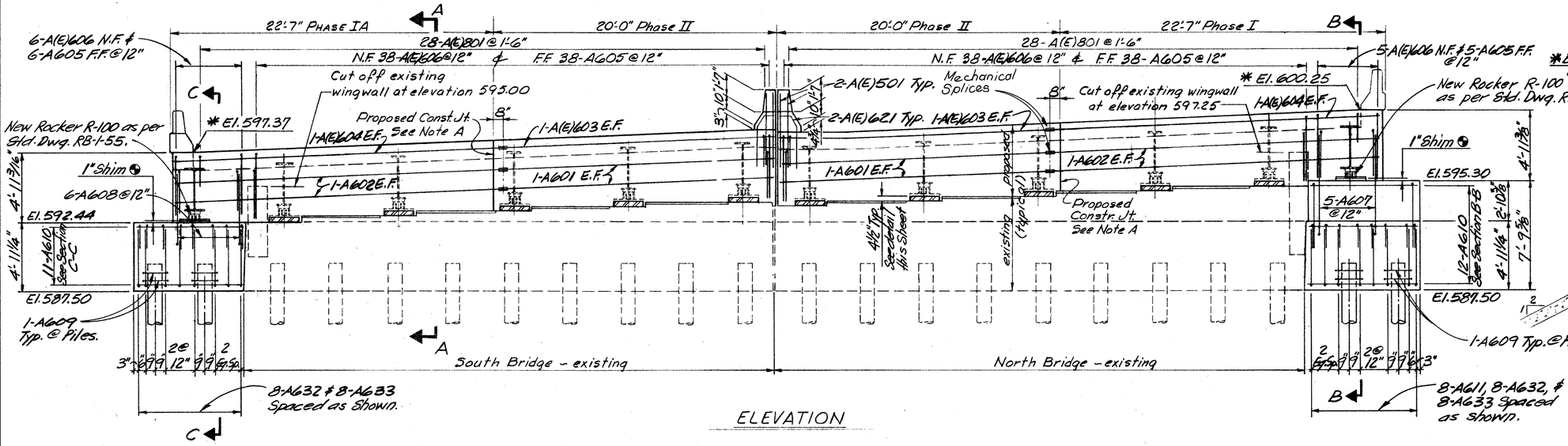
CALC. BY		HAMILTON COUNTY	OHIO	83
CHKD. BY		HAM-562-0.26	FHWA REGION 5	97
DATE				



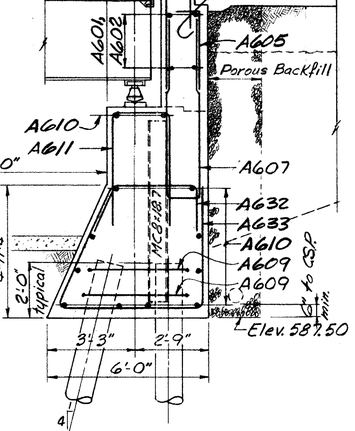
PLAN



SECTION A-A

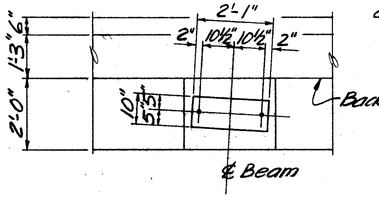


ELEVATION

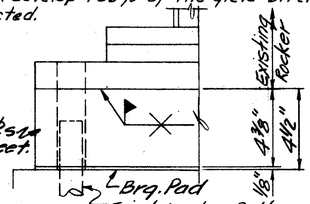


SECTION B-B

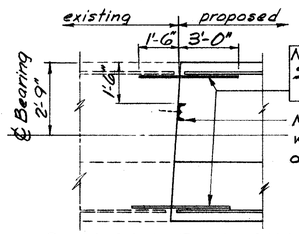
NOTE A:
The backwall shall be poured in phases as shown.
Place 6" PVC waterstop full height of joint, centered in wall.
Mechanical splices shall develop 125% of the yield strength of the bars connected.



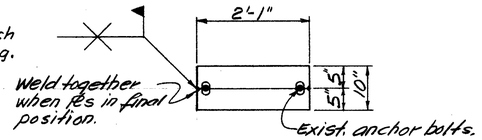
ANCHOR BOLT LAYOUT
EXISTING BEARINGS



SHIM DETAIL FOR
EXISTING BEARINGS



PLAN: ABUMENT JOINT, TYP.



SUGGESTED SHIM R's
FOR EXIST. BEARINGS

Dowel Bars A631 included with Item 509;
MC 8x18.7 & anchor bolts included with Item 513;
Drilling of holes and epoxy grout included in Item 510 for Payment.

NOTES:
1. For Section C-C see sheet 7/19.
2. For Wingwalls 1 & 2 see sheet 6/19.
3. Remove existing horizontal bars in backwall and replace as shown.
4. For reinforcing steel details see sheet 17/19.
5. Provide Shims in 1/2", 1/4", 1/8" & 1/16" thicknesses.

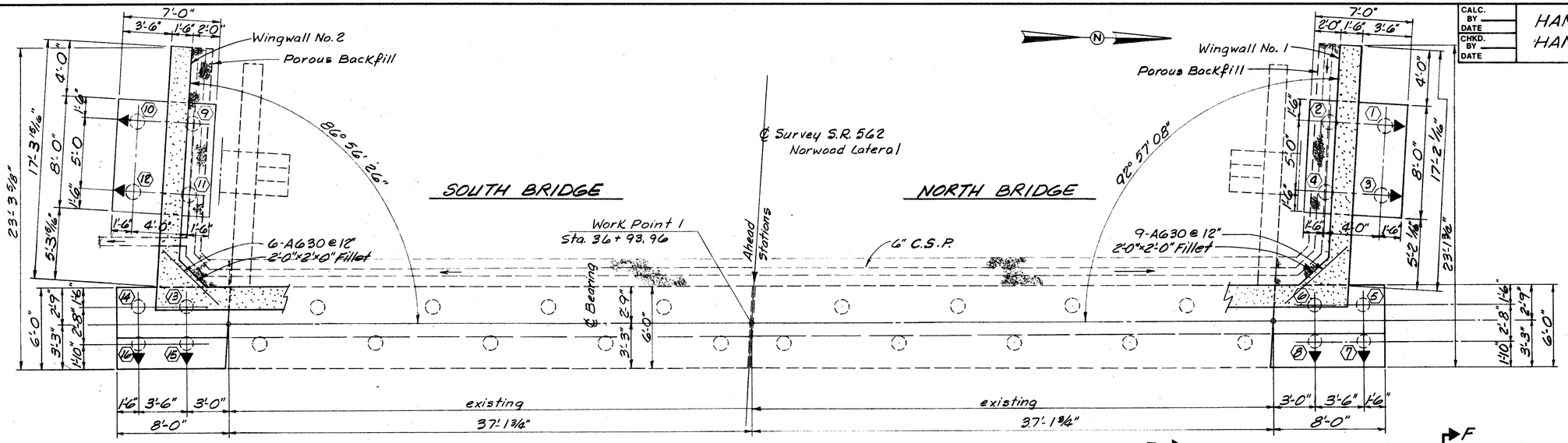
BALKE ENGINEERS	5/19
7762 READING ROAD	
CINCINNATI, OHIO 45237	

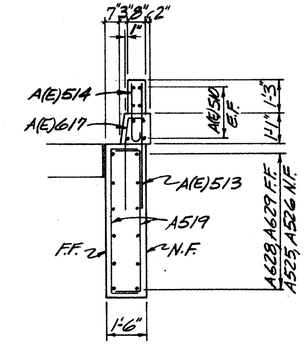
REAR ABUTMENT
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
BJS	JRR	–	JS	CS. 10/85	

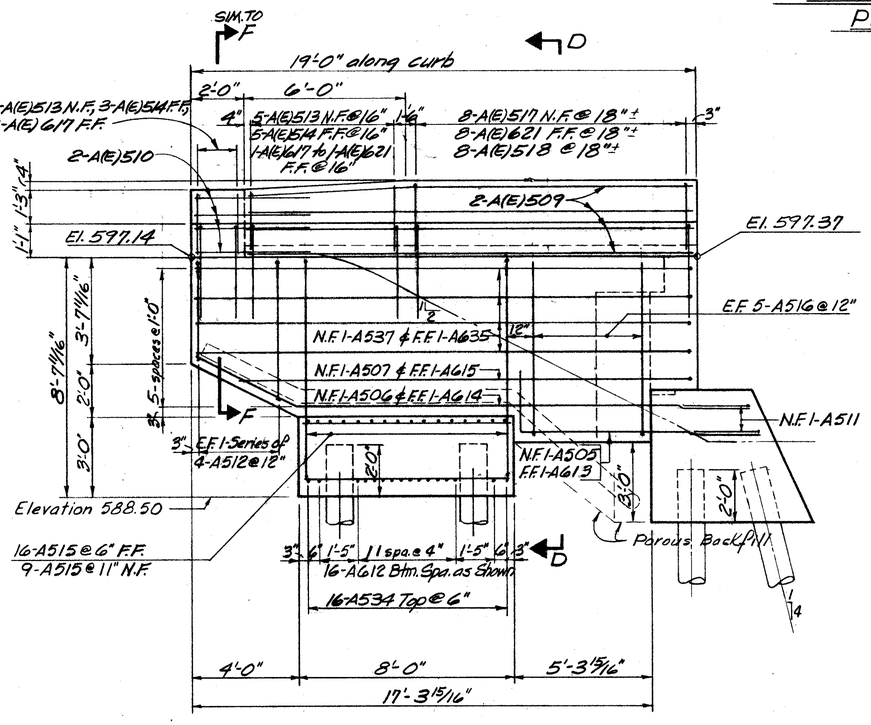
OHIO BLUE PRINT M29871

CALC. BY DATE		HAMILTON COUNTY	OHIO	84
CHKD. BY DATE		HAM-562-0.26	FHWA REGION 5	97



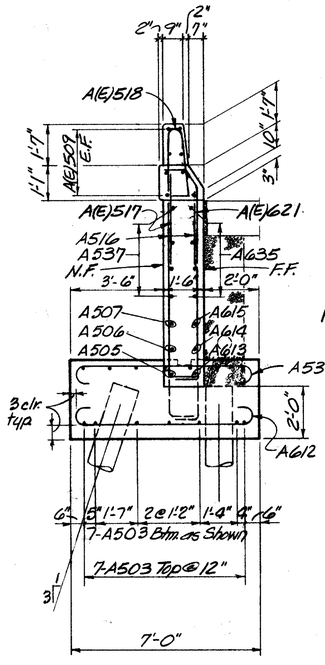


SECTION F-F

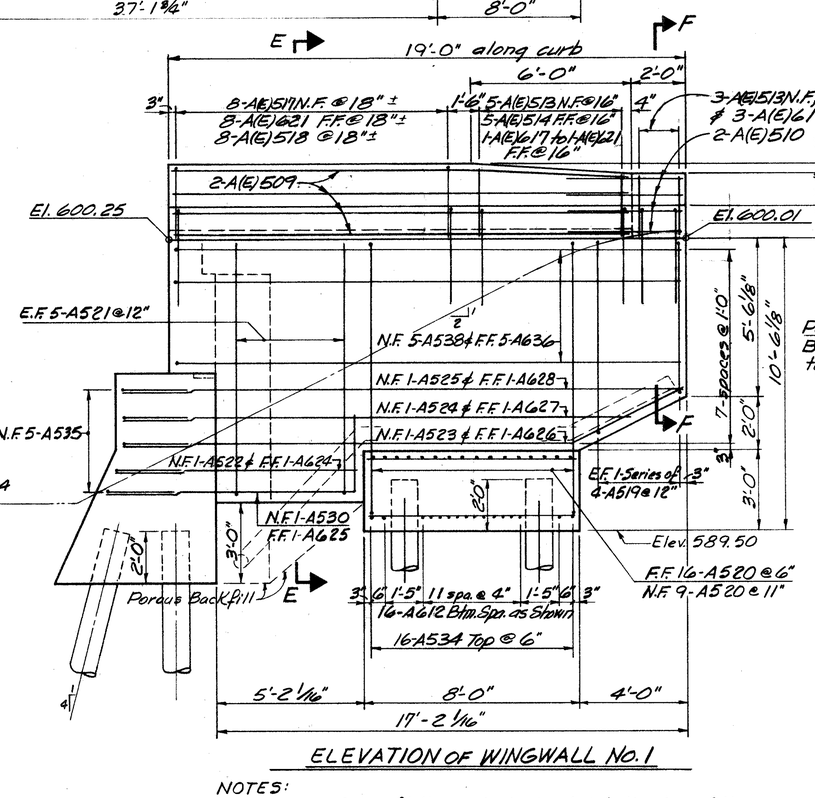


ELEVATION OF WINGWALL NO. 2

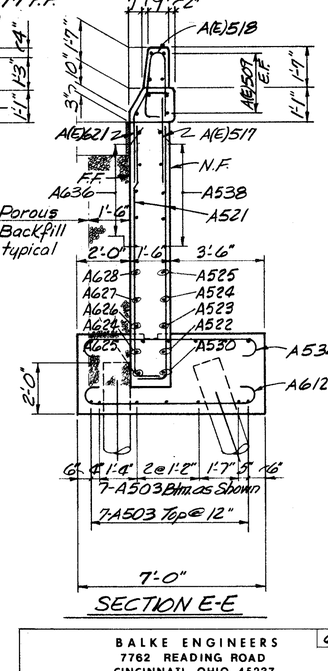
REAR ABUTMENT
PILING PLAN



SECTION D-D



ELEVATION OF WINGWALL NO. 1



SECTION E-E

NOTES:
1. Porous Backfill, 1.5 ft. thick, shall extend up to the plane of the subgrade, and laterally to the ends of the wingwalls, as shown.
2. See Standard Drawing BR-1 for Deflector Parapet details not shown.
3. For General Notes see sheet 2/19.
4. For reinforcing steel details see sheet 17/19.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

6/19

REAR ABUTMENT DETAILS

BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
B.J.S.	J.R.R.	–	J.S.	C.S. 10/85	

OHIO BLUE PRINT M29021

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DATE		HAM-562-0.26	FHWA REGION 5	97
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DATE				

PLAN

ELEVATION

ANCHOR BOLT LAYOUT
EXISTING BEARINGS

SHIM DETAIL FOR EXISTING BEARINGS

SUGGESTED SHIM Pls
FOR EXIST. BEARINGS

SECTION C-C

NOTES:
1. For General Notes see sheet 2/19.
2. For Sections A-A and B-B see sheet 5/19.
3. For Wingwalls 3 & 4 see sheet 8/19.
4. Remove existing horizontal bars in backwall and replace as shown.
5. For Plan of Abutment Joint channel & dowels see sheet 5/19.
6. For reinforcing steel details see sheet 17/19.
7. Provide shims in 1/2", 1/4", 1/8" & 1/8" thicknesses.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

7/19

FORWARD ABUTMENT
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
B.J.S.	J.R.R.	-	J.S.	C.S. 10/85	

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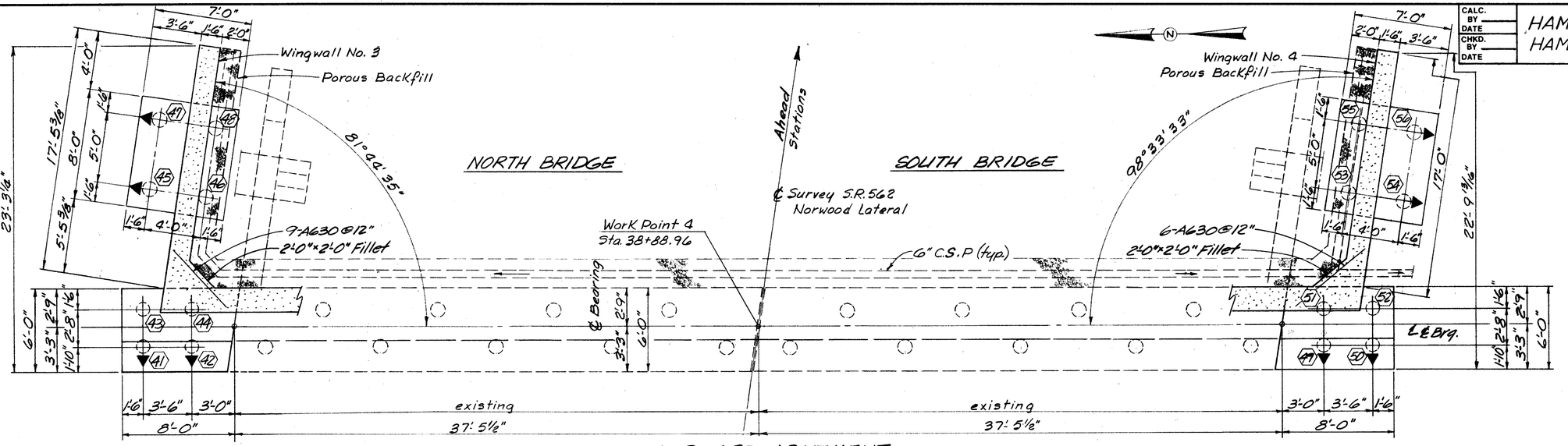
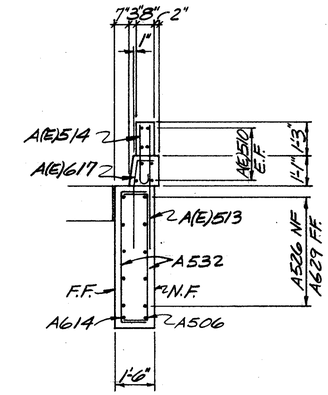
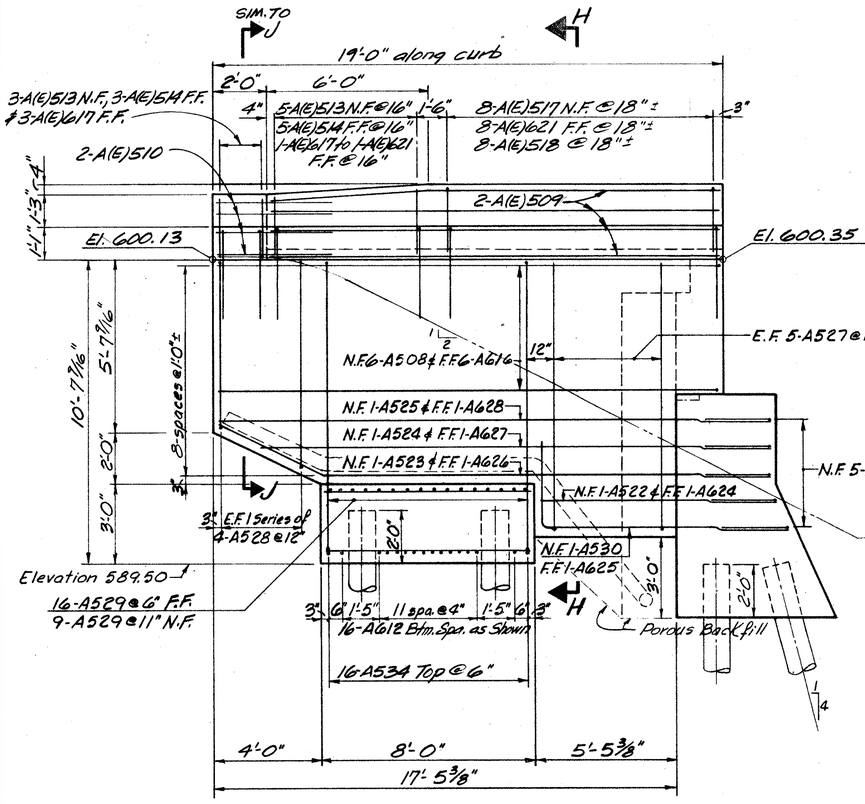
DATE				



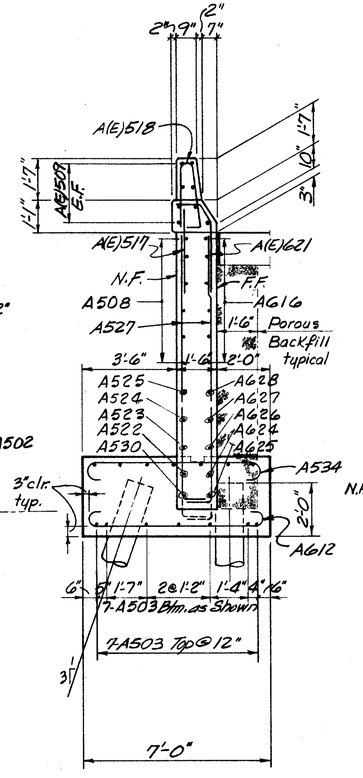
FORWARD ABUTMENT PILING PLAN



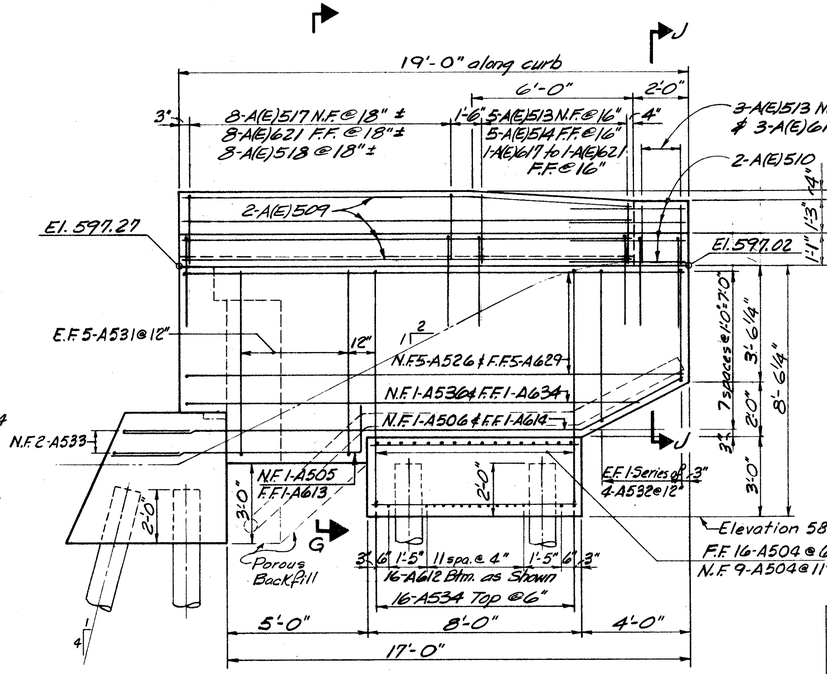
SECTION J-J



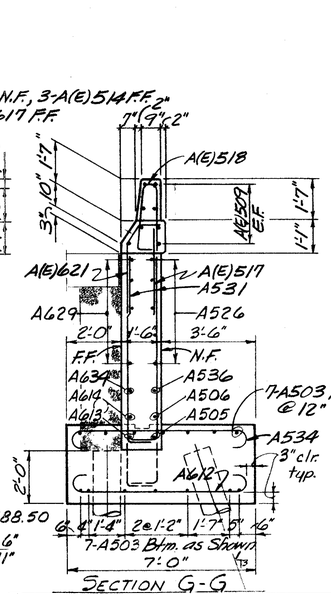
ELEVATION OF WINGWALL NO. 3



SECTION H-H



ELEVATION OF WINGWALL NO. 4



SECTION G-G

NOTES:
1. Porous Backfill, 1.5 ft. thick, shall extend up to the plane of the subgrade, and laterally to the ends of the wingwalls, as shown.
2. See Standard Drawing BR-1 for Deflector Parapet details not shown.
3. For General Notes see sheet 2/19.
4. For reinforcing steel details see sheet 17/19.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

8/19

FORWARD ABUTMENT DETAILS
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
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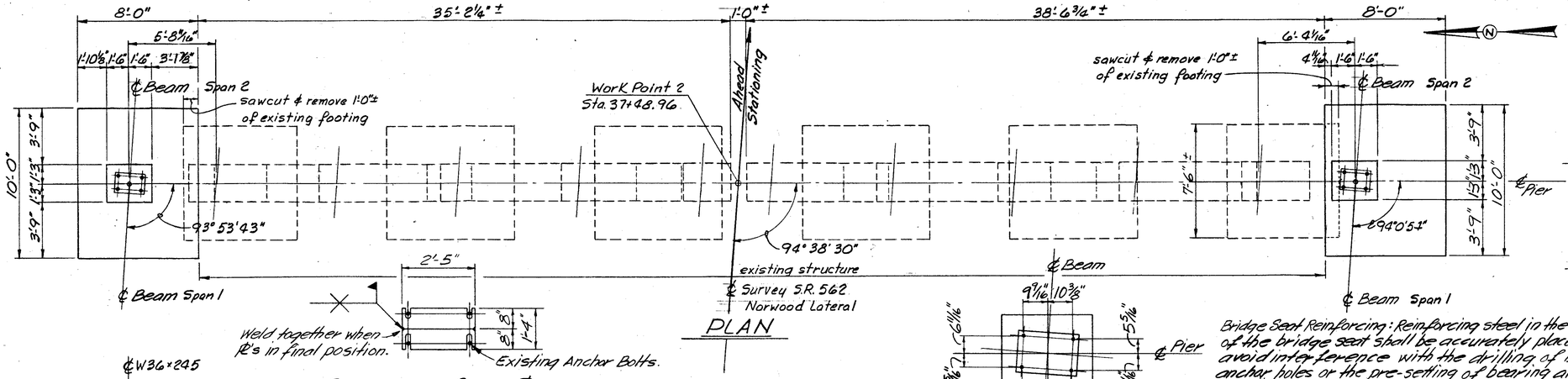
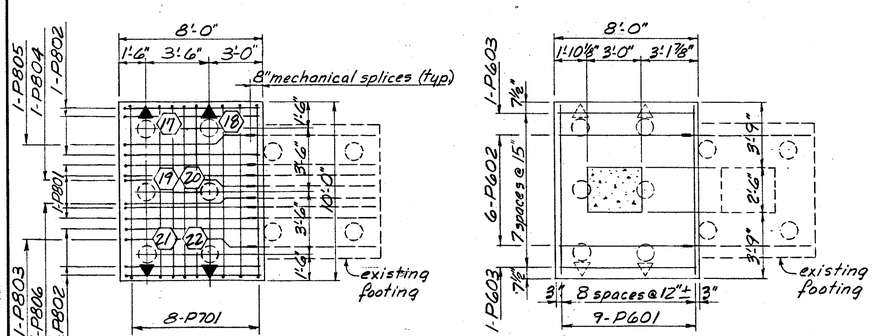
DATE		HAM-562-0.26	FHWA REGION 5	97
CHKD. BY				
DATE				





Notes:
1. ▲ indicates direction of 1:4 pile batter.
2. For General Notes see sheet 2/19.
3. For reinforcing steel list see sheet 18/19.
4. For bolster details see Std. Drg. RB-1-55.

BALKE ENGINEERS 7762 READING ROAD CINCINNATI, OHIO 45237					9/19
PIER 1					
BRIDGE NO. HAM-562-0070 NORWOOD LATERAL OVER PADDOCK ROAD					
HAMILTON COUNTY OHIO					
Sta. 36+91.71 to Sta. 38+91.23					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
B.J.S.	J.R.R.	~	J.S.	C.S. 10/85	

H2987
OHIO BLUE PRINT

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DATE		HAM-562-0.26	FHWA REGION 5	97
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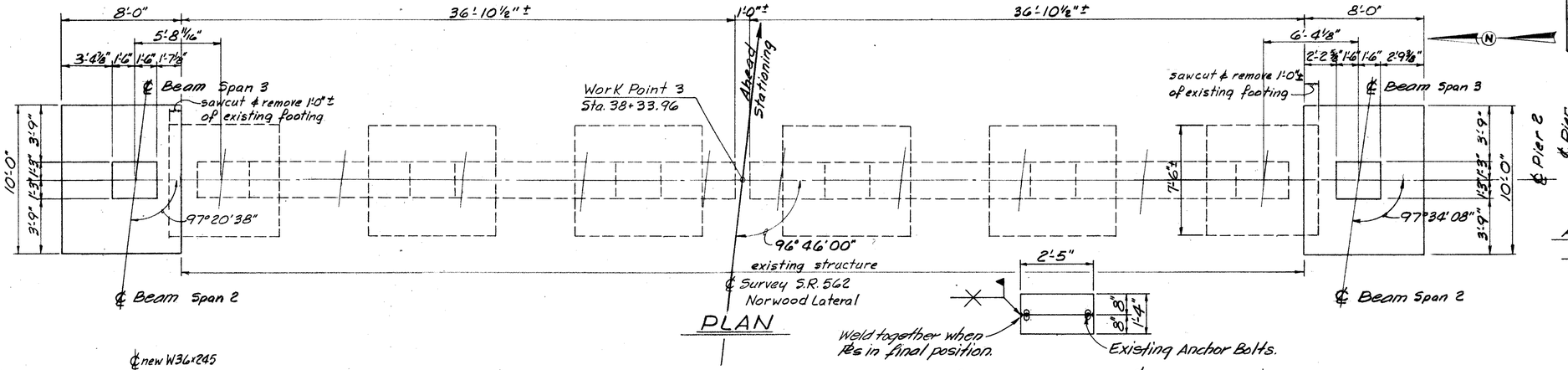
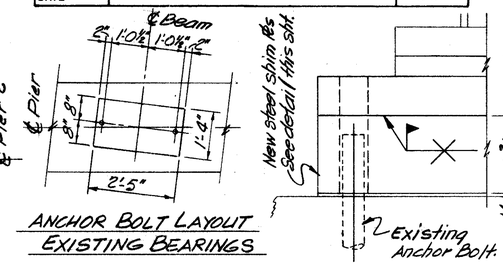
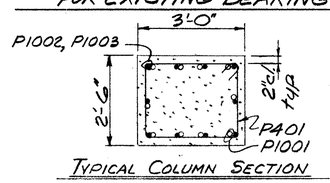
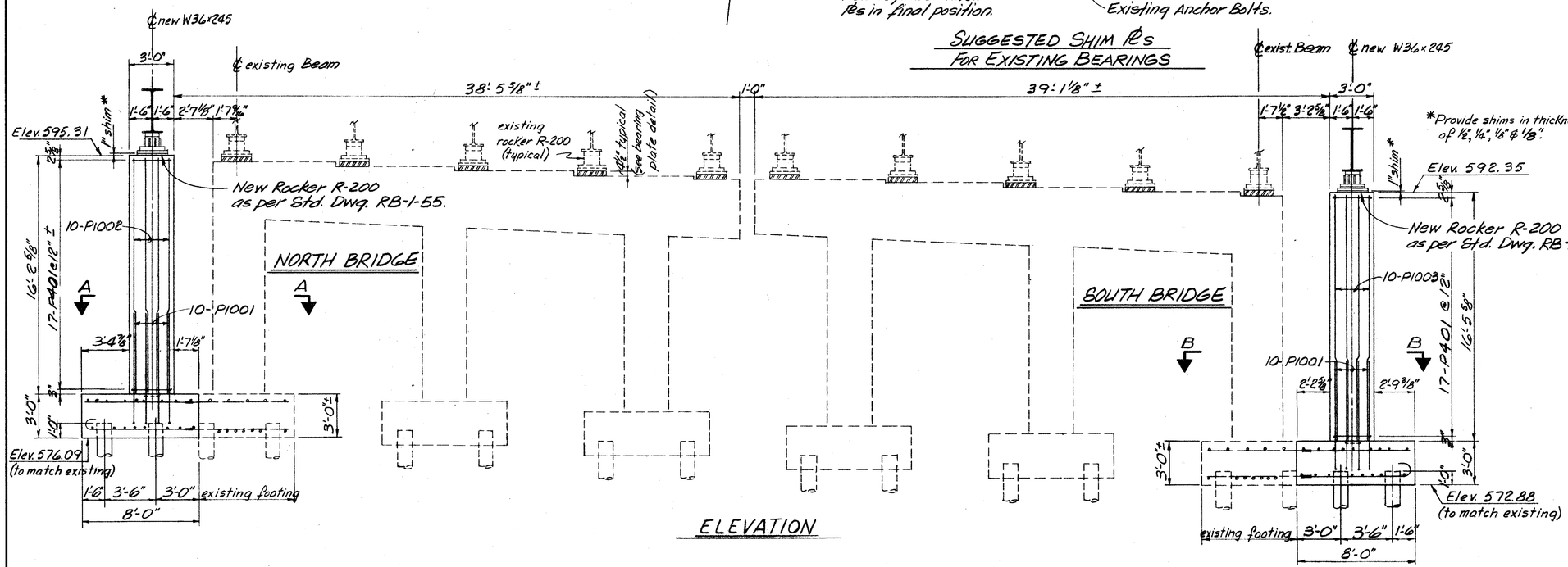
DATE				

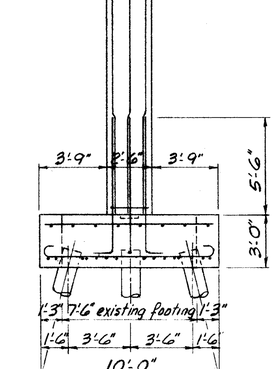


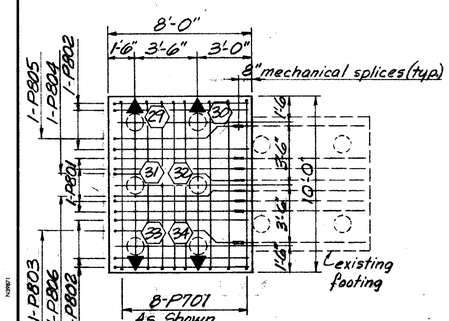


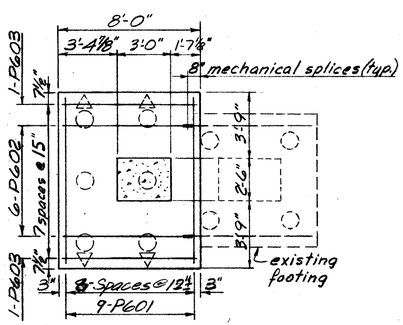


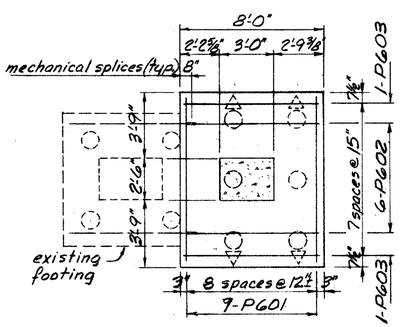
SUGGESTED SHIM Pls
FOR EXISTING BEARINGS

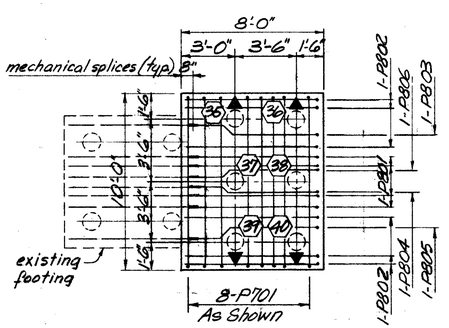










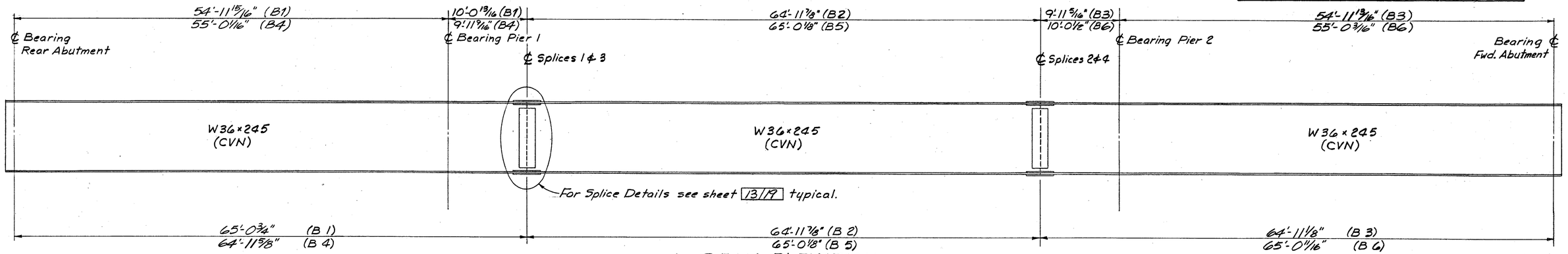


Note:
1. ▲ indicates direction of 1:4 pile batter.
2. For General Notes see sheet [2/19].
3. For reinforcing steel list see sheet [18/19].
4. For Rocker details see Std. Drg. RB-1-55.

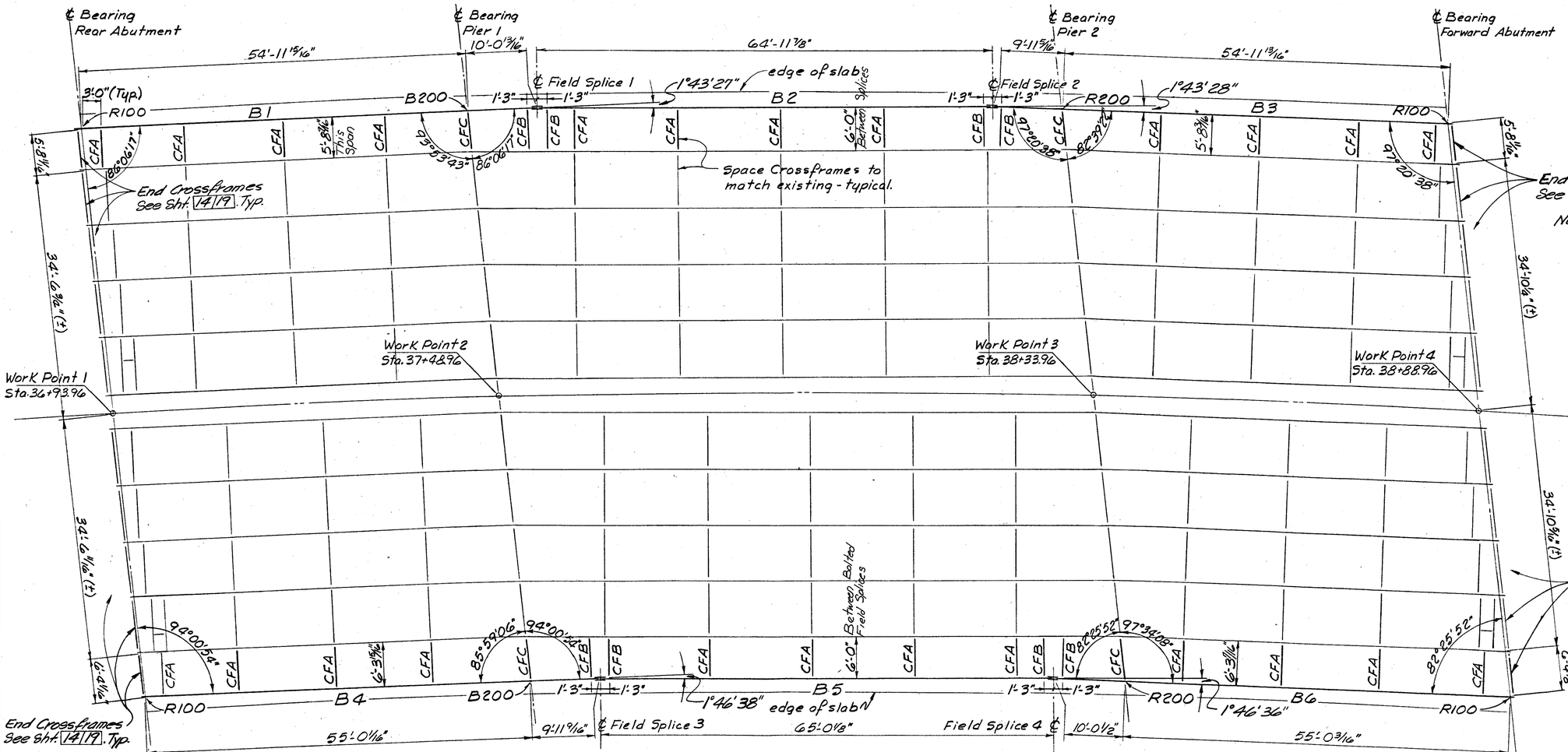
BALKE ENGINEERS 7762 READING ROAD CINCINNATI, OHIO 45237						10/19
PIER 2 BRIDGE NO. HAM-562-0070 NORWOOD LATERAL OVER PADDOCK ROAD HAMILTON COUNTY OHIO Sta 36+91.71 to Sta. 38+91.23						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
B.J.S.	J.R.R.	~	J.S.	C.S. 10/85		

OHIO BLUE PRINT N39871

CALC. BY DATE	HAMILTON COUNTY	OHIO	89
CHKD. BY DATE	HAM-562-0.26	FHWA REGION 5	97



BEAM ELEVATION



FRAMING PLAN

NOTES:

1. During the erection of crossframes, care shall be taken to ensure that stringers, bearing parts and bridge seats remain in bearing contact.
2. For details of expansion bearing Rockers R-100 & R-200 and fixed bearing Bolster B-200 see Std. Dwg. RB-1-55.
3. For General Notes see sheet 2/19.
4. For splice details see sheet 13/19.
5. Where a plate or shape is designated (CVN) the material shall meet specified minimum notch toughness requirements.
6. For Deflection, Camber & Beam Offset Diagram see 12/19.
7. For Crossframes CFA, CFB, CFC See Sht. 13/19.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

11/19

FRAMING PLAN

BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
B.J.S.	J.R.R.	–	J.S.	C.S. 10/85	

CALC. BY		HAMILTON COUNTY	OHIO	90
DATE		HAM-562-0.26	FHWA REGION 5	97
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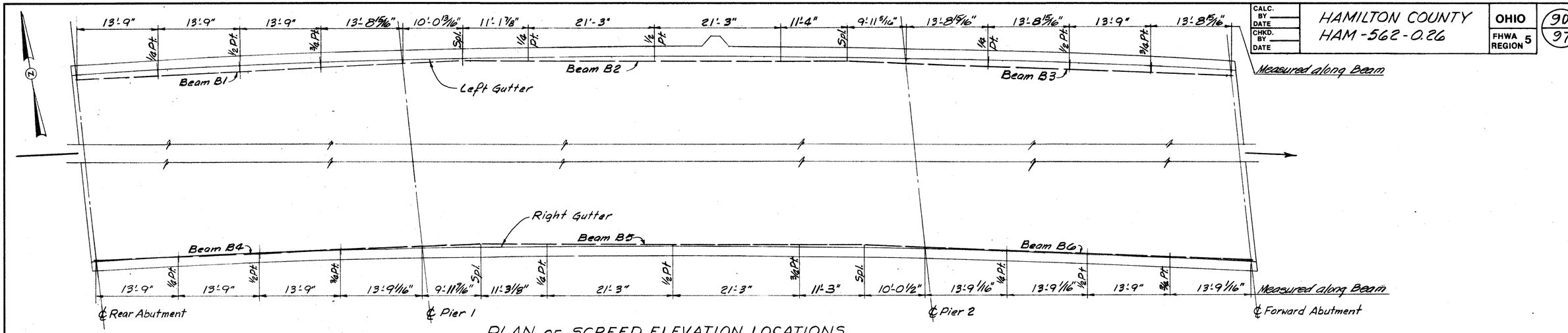


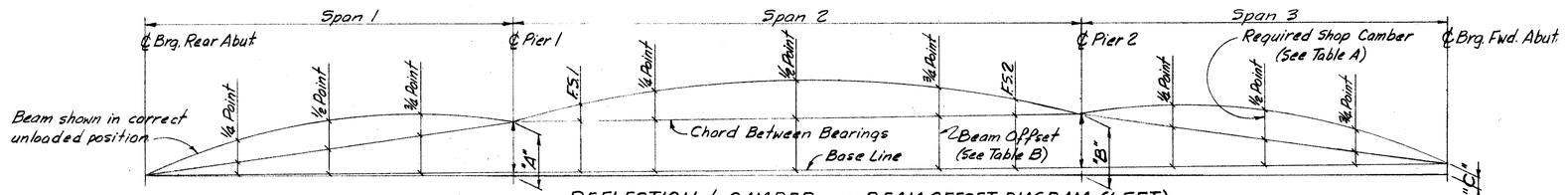
PLAN OF SCREED ELEVATION LOCATIONS

SCREED ELEVATION SCHEDULE

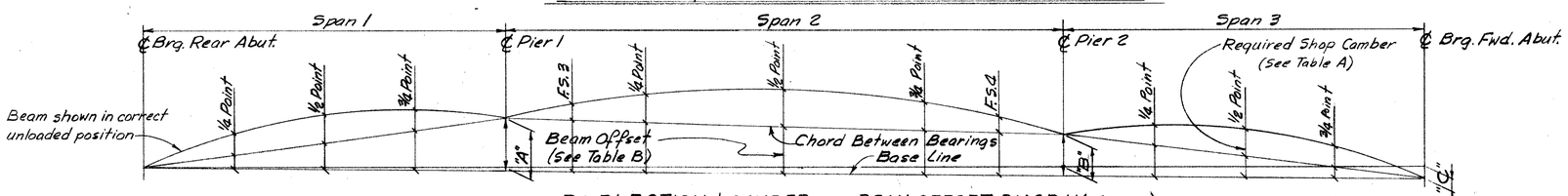
LOCATION			℄ Rear Abut.	1/4 Point	1/2 Point	3/4 Point	℄ Pier 1	Splice	1/4 Point	1/2 Point	3/4 Point	Splice	℄ Pier 2	1/4 Point	1/2 Point	3/4 Point	℄ Fwd. Abut.
LEFT	*Face of Gutter	Sta.	36+91.71	37+05.22	37+18.73	37+32.24	37+45.74	37+55.65	37+66.61	37+87.49	38+08.36	38+19.50	38+29.29	38+42.79	38+56.30	38+69.80	38+83.31
		Elev.	600.16	600.32	600.44	600.54	600.62	600.69	600.76	600.82	600.78	600.72	600.66	600.60	600.51	600.39	600.25
	Girder ℄	Sta.	36+91.70	37+05.22	37+18.73	37+32.24	37+45.75	37+55.64	37+66.61	37+87.49	38+08.37	38+19.51	38+29.28	38+42.79	38+56.30	38+69.81	38+83.32
		Elev.	600.14	600.29	600.41	600.51	600.59	600.67	600.72	600.78	600.74	600.69	600.63	600.57	600.47	600.36	600.22
RIGHT	*Face of Gutter	Sta.	36+96.33	37+10.33	37+24.34	37+38.34	37+52.34	37+62.49	37+73.94	37+95.58	38+17.22	38+28.67	38+38.90	38+52.90	38+66.90	38+80.91	38+94.91
		Elev.	597.27	597.42	597.54	597.64	597.71	597.77	597.82	597.86	597.80	597.73	597.67	597.59	597.47	597.34	597.18
	Girder ℄	Sta.	36+96.33	37+10.33	37+24.34	37+38.34	37+52.34	37+62.48	37+73.95	37+95.58	38+17.22	38+28.67	38+38.90	38+52.90	38+66.90	38+80.91	38+94.91
		Elev.	597.28	597.42	597.54	597.63	597.71	597.78	597.82	597.86	597.81	597.75	597.67	597.59	597.47	597.34	597.18
				SPAN 1				SPAN 2						SPAN 3			

* perpendicular to corresponding point on Girder ℄.

NOTE:
The screed elevations shown have been obtained by adding the dead load deflection due to concrete slab, bridge railing, latex overlay and future wearing surface to the required final elevation.



DEFLECTION & CAMBER AND BEAM OFFSET DIAGRAM (LEFT)



DEFLECTION & CAMBER AND BEAM OFFSET DIAGRAM (RIGHT)

For Framing Plan see sheet 11/19.

TABLE "A": DEFLECTION & CAMBER (in inches) - Left & Right Girders

SPANS:	1			2					3		
POINTS:	1/4	1/2	3/4	Spl.	1/4	1/2	3/4	Spl.	1/4	1/2	3/4
Deflection due to weight of steel	1/32	1/32	0	1/32	3/32	5/32	3/32	1/32	0	1/32	1/32
Deflection due to remaining dead load.	3/32	3/32	1/32	1/4	19/32	31/32	19/32	1/4	1/32	3/32	3/32
Adjustment required for vertical curve.	13/32	17/32	13/32	17/32	15/16	1 1/4	15/16	17/32	13/32	17/32	13/32
Adjustment required for horizontal curve	(-1/16)	(-3/32)	(-1/16)	1/16	0	(-1/32)	0	1/16	(-1/16)	(-3/32)	(-1/16)
Required Shop Camber	15/32	9/16	3/8	7/8	1 5/8	2 11/32	1 5/8	7/8	3/8	9/16	15/32

TABLE "B": BEAM OFFSETS (In Feet)

SPANS:	1				2						3			
POINTS:	R.A	1/4	1/2	3/4	Pier 1	Spl.	1/4	1/2	3/4	Spl.	Pier 2	1/4	1/2	3/4	F.A.
Left Beam	0	.4134	.8269	1.2403	1.6537	1.9564	1.9562	1.9558	1.9554	1.9551	1.6557	1.2419	.8279	.4140	0
Right Beam	0	.4266	.8533	1.2799	1.7065	2.0157	2.0158	2.0160	2.0163	2.0164	1.7051	1.2788	.8525	.4263	0

ELEVATION DIFFERENTIALS

	"A"	"B"	"C"
Left Beam	5 1/2"	5 15/16"	1 1/16"
Right Beam	5 1/2"	4 9/16"	(-1 1/16")

BALKE ENGINEERS 12/19
7762 READING ROAD
CINCINNATI, OHIO 45237
CAMBER & SCREED ELEVATIONS
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

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B.J.S.	J.R.R.	~	J.S.	C.S. 10/85	

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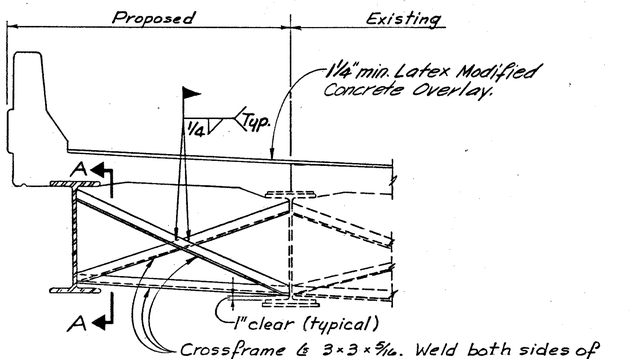
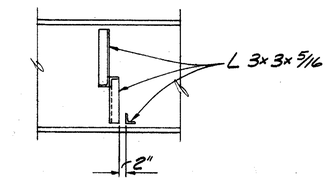


CROSSFRAME CFA

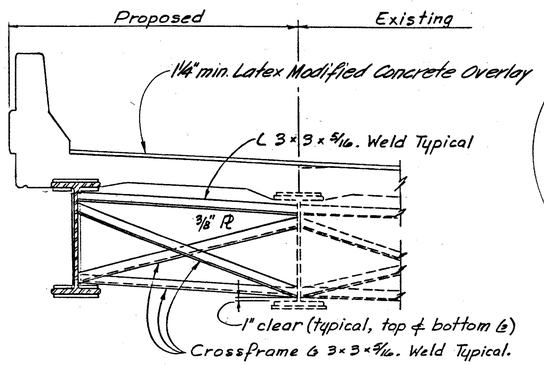
INTERMEDIATE



SECTION A-A

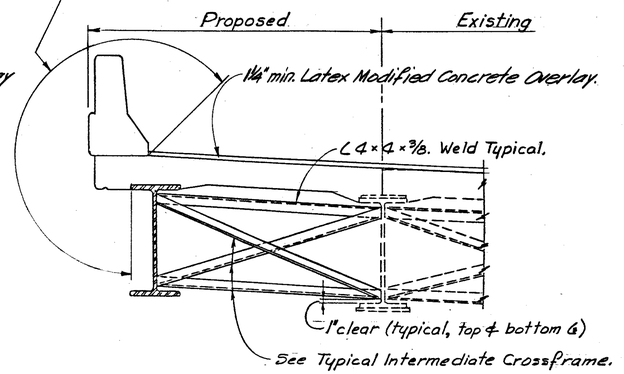
TYPICAL

Limits for Sealing Concrete Surfaces. Typical for Parapets & Median Barriers.



CROSSFRAME CFB

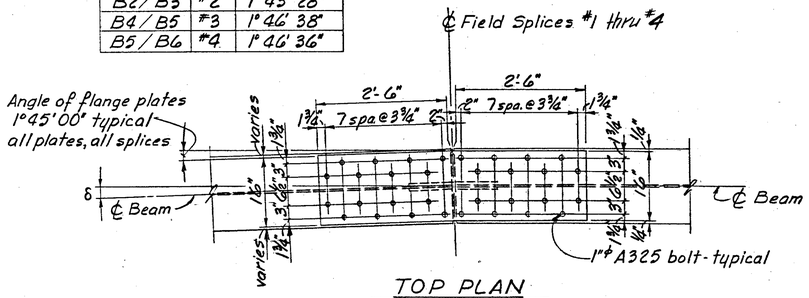
EACH SIDE OF SPLICE



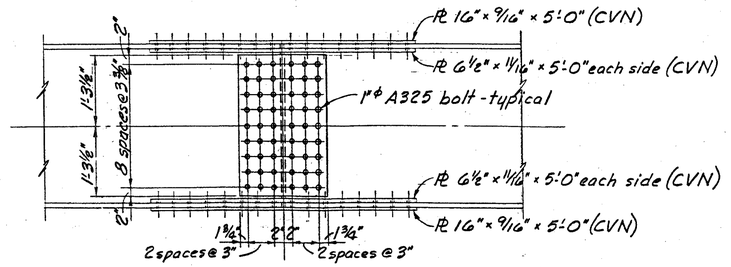
CROSSFRAME CFC

OVER PIERS

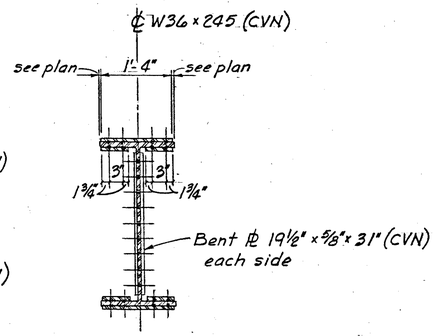
FIELD SPLICE ANGLES		
BEAMS	SPLICE	δ
B1 / B2	#1	1° 43' 27"
B2 / B3	#2	1° 43' 28"
B4 / B5	#3	1° 46' 38"
B5 / B6	#4	1° 46' 36"



TOP PLAN



ELEVATION



SECTION

NOTES:

1. For Framing Plan see sheet 11/19.
2. All bolts shall be High Strength Bolts, A.S.T.M. 1" ϕ A325 F, Type 3.
3. For End Dam and End Crossframe details see Sht. 14/19.
4. For General Notes see sheet 2/19.

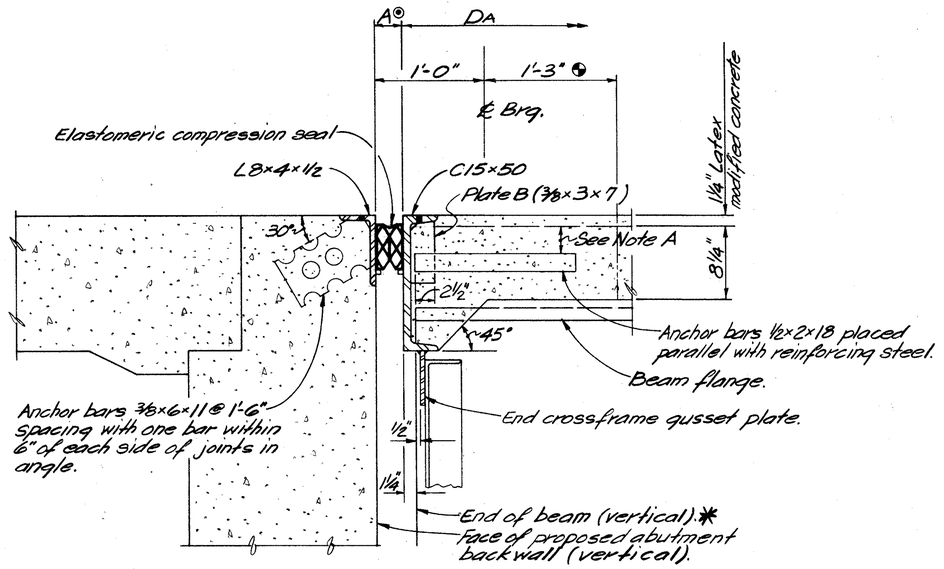
BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

13/19

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL over PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

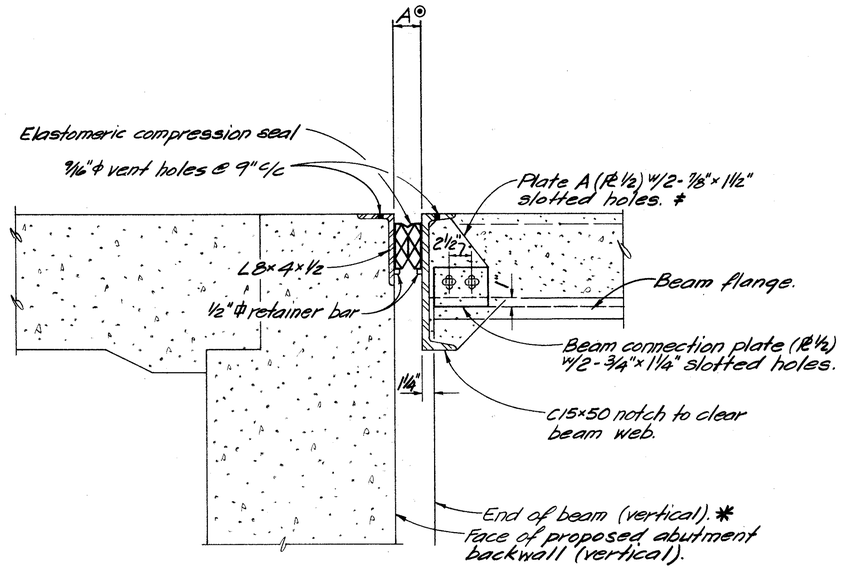
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
B.J.S.	J.R.R.	—	J.S.	C.S. 10/85	

CALC. BY		HAMILTON COUNTY	OHIO	92
CHKD. BY		HAM-562-0.26	FHWA REGION 5	97
DATE				



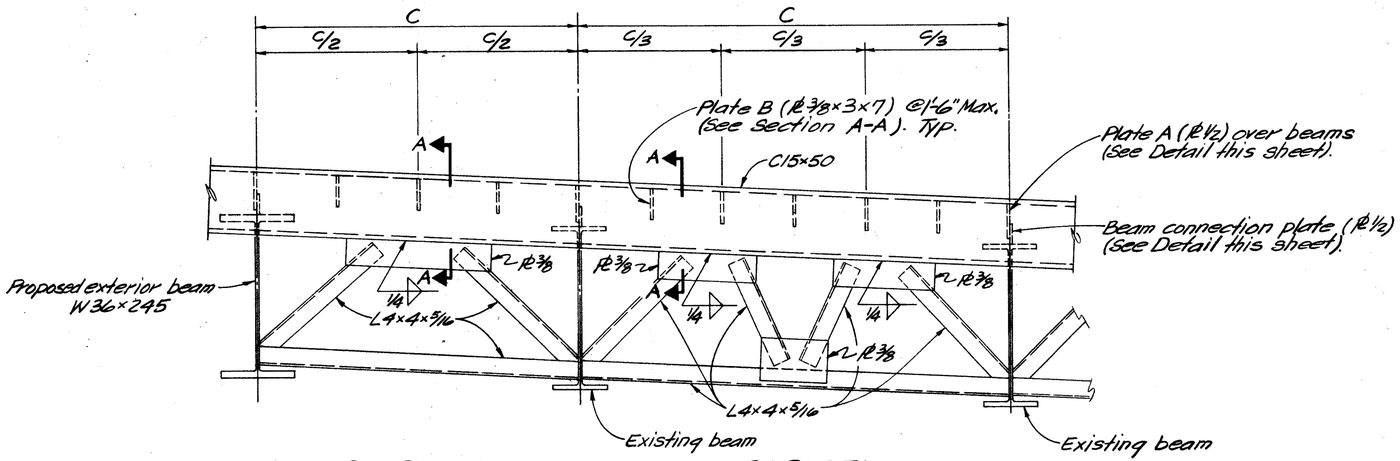
SECTION A-A

NOTE A: Locate anchors immediately below the upper deck slab reinforcing steel.



END DAM SUPPORT DETAIL
TYPICAL

¾"ϕ H.S. hex. head bolts, nuts and washers required.



PROPOSED
END CROSSFRAME
(TYPICAL FOR BRIDGE WIDENING)

PROPOSED
END CROSSFRAME
(TYPICAL REPLACEMENT FOR EXISTING END CROSSFRAMES)

Note: For additional end frame details see Standard Drawing SD-1-69.

NOTES:

1. ◔ Carefully remove existing deck slab concrete both ends of bridge to permit installation of proposed end dams. Existing slab reinforcement shall be cleaned and reused. See Plan on Sht. 15/19.
2. * Ends of existing beams may have to be shortened to conform to proposed end dam dimensions.
3. For Dimensions A⊙, DA, and additional notes and details, see Std. Dwg. EXJ-2-81, Sheets 1 & 2.

BALKE ENGINEERS
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CINCINNATI, OHIO 45237

14/19

END DAM & END CROSSFRAME
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER PADDOCK ROAD
HAMILTON COUNTY OHIO
STA. 36+91.71 TO STA. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
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DATE		HAM-562-0.26	FHWA REGION 5	97
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DATE				

℄ Bearing Rear Abutment

℄ Bearing Pier 1

℄ Bearing Pier 2

Bearing ℄ Forward Abutment

196'-5¾" measured along edge of slab

55'-9" | 84'-11⅛" | 55'-8⅜"

122-S(E)501 @ 5½" Bot. & 122-S(E)506 @ 5½" Top

186-S(E)501 @ 5½" Bot. & 186-S(E)506 @ 5½" Top

122-S(E)501 @ 5½" Bot. & 122-S(E)506 @ 5½" Top

Light Post Pilaster Sta 38+00 See details on Sht. 19/19.

1'-4" lap-typ.

1'-8" lap-typ.

Proposed Widening

Existing Bridge

7'-2⅛" | 7'-11¼" | 7'-11⅜" | 7'-2⅛"

S(E)402 | S(E)401 | S(E)503 | S(E)502 | S(E)403

9-S(E)403 over Pier See Section A-A.

9-S(E)403 over Pier See Section A-A.

86°06'17" | 84°28'50" | 82°39'22" | 82°39'22"

S(E)403 | 18'-6" | 15'-6" | 3'-0" Typ.

9" Typ. | 1'-3" Typ. | 6'-6" Typ.

NORTH BRIDGE

3-S(E)602 Top 3-S(E)602 Btm. Match exist rebars

13-S(E)402 Top & Parapet 9-S(E)503 Btm. See Section A-A.

6 Groups of 13-S(E)401 Top & Parapet 5 Groups of 9-S(E)502 Btm. See Section A-A.

Exist. catch basin to be removed.

Work Point 2 Sta. 37+48.96

Work Point 3 Sta. 38+33.96

6-Groups of 2-S(E)401 in Parapet

2-S(E)402 in Parapet

1-S(E)403 over Pier

7-S(E)515 Top 7-S(E)601 Btm. Match exist. bars

Work Point 1 Sta. 36+93.96

7'-3⅛"

196'-6⅛"

6-Groups of 2-S(E)401 in Parapet

Exist. Pull Box to be removed. 10"x18" opening to be filled in with Class S concrete.

7-S(E)515 Top 7-S(E)601 Btm. Match existing rebars

3-S(E)602 Top 3-S(E)602 Btm. Match exist. rebars

Work Point 4 Sta. 38+88.96

SOUTH BRIDGE

94°00'54" | 95°47'32" | 97°34'08" | 97°34'08"

S(E)403 | 18'-6" | 15'-6" | 3'-0" Typ.

9-S(E)403 over Pier See Section B-B.

9-S(E)403 over Pier See Section B-B.

Exist. catch basin to be removed.

Exist. catch basin to be removed.

7'-11¾" | 7'-11⅝" | 7'-11¾"

S(E)402 | S(E)401 | S(E)503 | S(E)502 | S(E)403

1'-8" lap-typ.

3-S(E)602 Top 3-S(E)602 Btm. Match exist. rebars

7-S(E)515 Top 7-S(E)601 Btm. Match exist. rebars

3-S(E)602 Top 3-S(E)602 Btm. Match exist. rebars

8'-0"

122-S(E)501 @ 5½" Bot. & 122-S(E)506 @ 5½" Top

186-S(E)501 @ 5½" Bot. & 186-S(E)506 @ 5½" Top

122-S(E)501 @ 5½" Bot. & 122-S(E)506 @ 5½" Top

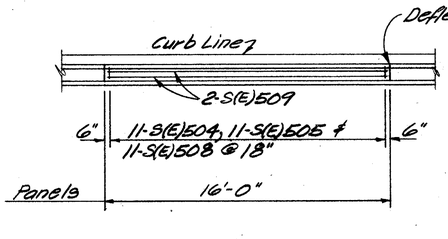
7'-3⅝" | 2 @ 16'-0" = 32'-0" | 5 @ 7'-0" = 35'-0" | 3 @ 16'-0" = 48'-0" | 5 @ 7'-0" = 35'-0" | 2 @ 16'-0" = 32'-0" | 7'-3⅝"

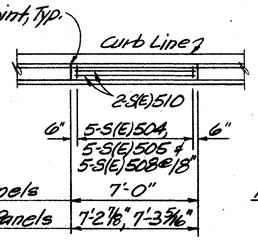
55'-9⅛" | 85'-0¼" | 55'-9⅜"

196'-6⅝" measured along edge of slab

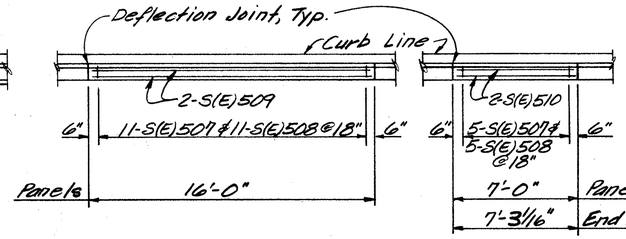
Typical Parapet & Raised Median dimensions, measured along arc of bridge.

PLAN





REINFORCEMENT: FASCIA PARAPETS



REINFORCEMENT: MEDIAN PARAPETS

NOTES:

1. For Section A-A and Section B-B see Sheet 16/19.
2. For Reinforcing Steel list see sheet 19/19.
3. For General Notes see sheet 2/19.
4. For Screed Elevations see sheet 12/19.
5. Carefully remove existing deck slab concrete, along limits shown, to permit removal of existing catch basins and the installation of the proposed end dams. Existing rebars to remain in place and/or be reused and new rebars added as shown on Plan.
6. For End Dam details see Sht. 14/19.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

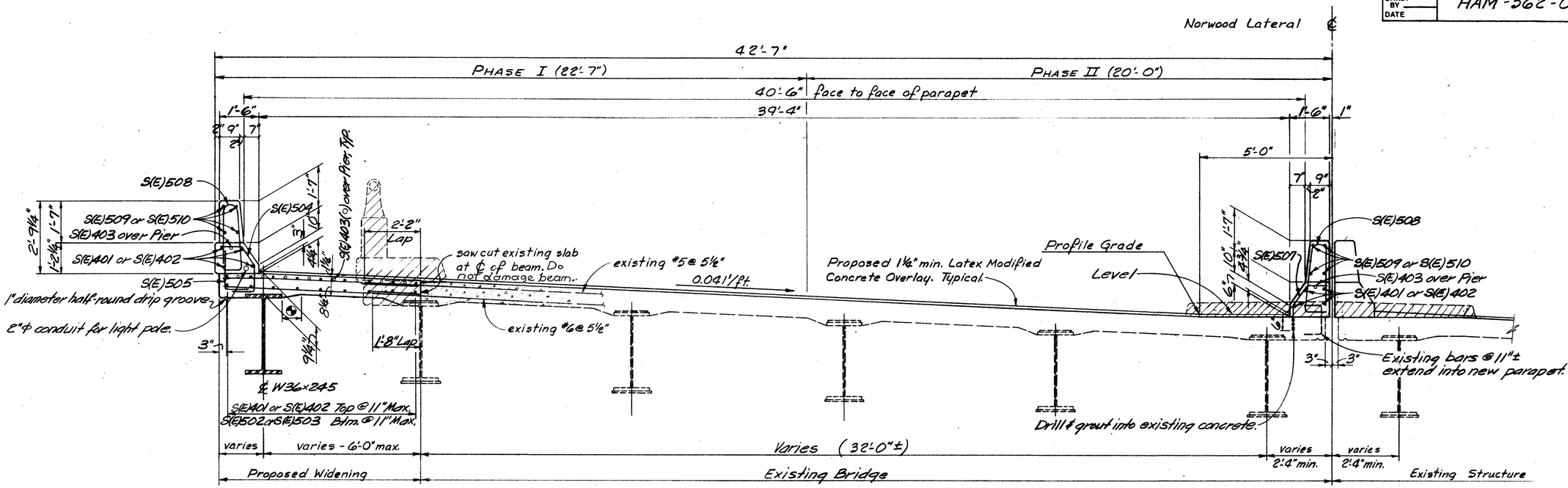
15/19

SUPERSTRUCTURE PLAN
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL over
PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
B.J.S.	J.R.R.	—	J.S.	CS 10/86	

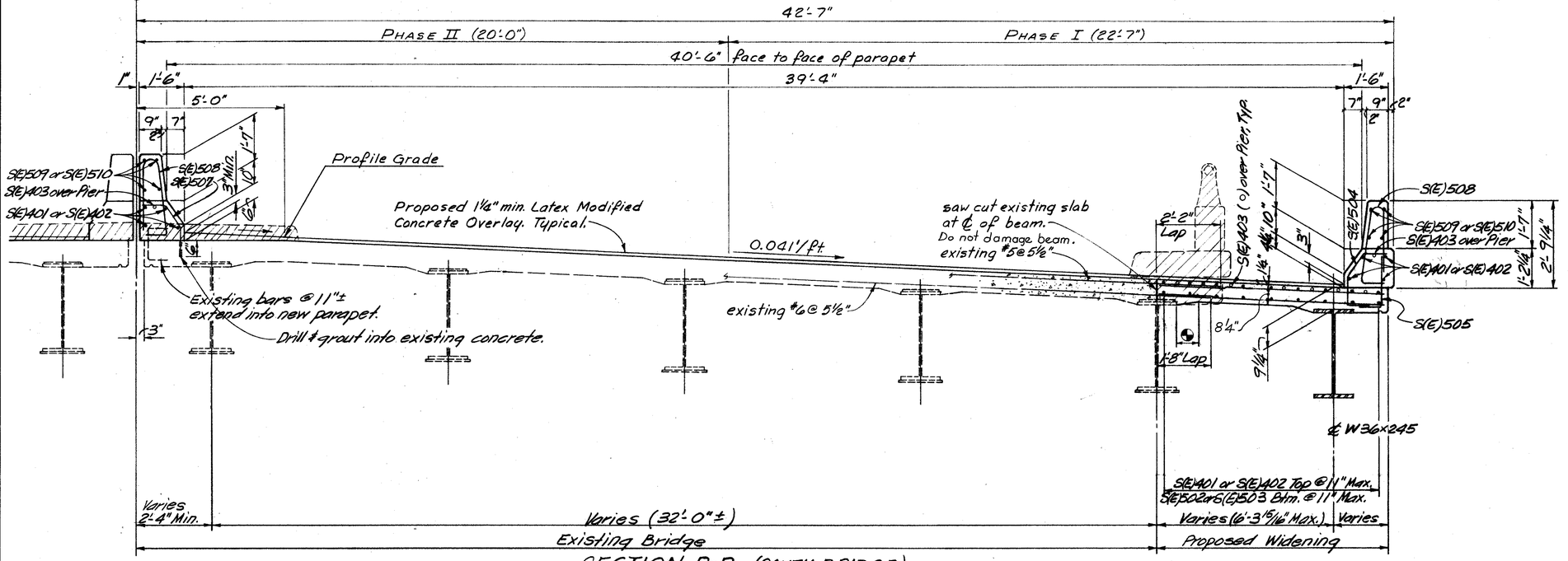
OHIO BLUE PRINT 429871

CALC. BY / DATE	HAMILTON COUNTY	OHIO	94
CHKD. BY / DATE	HAM-562-0.26	FHWA REGION 5	97



SECTION A-A (NORTH BRIDGE)

▨ Cross hatching indicates portions of Existing Superstructure to be removed.



SECTION B-B (SOUTH BRIDGE)

NOTES:
1. See Sheet 15/19 for Slab Plan.
2. All deck slab dimensions are radial to curve.
3. Deck Slab Depth: The distance shown from top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.
4. ◔ A haunch width of 9" shall be used for computing quantity of concrete. However the haunch width may vary between 6" and 12" (provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.
5. For reinforcing steel details see sheet 19/19.
6. For General Notes see sheet 2/19.
7. For limits of sealing concrete surfaces See Sheet 13/19.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

16/19

SUPERSTRUCTURE SECTIONS
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER PADDOCK ROAD
HAMILTON COUNTY OHIO
Sta. 36+91.71 to Sta. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
B.J.S	J.R.R.	—	J.S.	C.S. 10/85	

ABUTMENT STEEL LIST

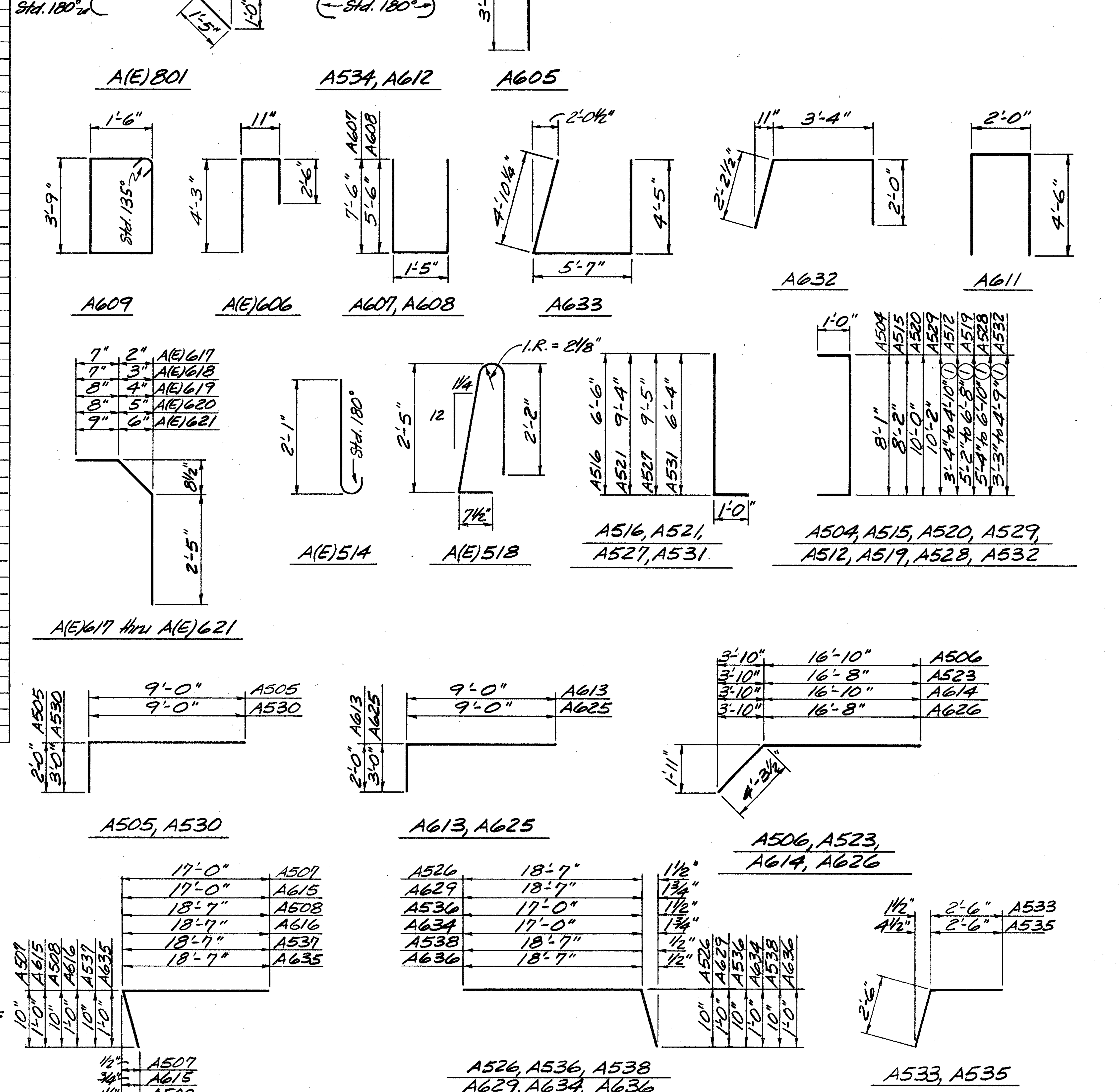
MARK	NO.	LENGTH	WEIGHT	SHP.	REAR NORTH	REAR SOUTH	FORWARD NORTH	FORWARD SOUTH
A601	16	19'-1"	459	S	4	4	4	4
A602	16	22'-11"	551	S	4	4	4	4
A605	174	3'-10"	1002	B	43	44	43	44
A607	10	16'-1"	242	B	5	—	5	—
A608	12	12'-1"	218	B	—	6	—	6
A609	16	11'-0"	264	B	4	4	4	4
A610	46	7'-6"	518	S	12	11	12	11
A611	16	10'-8"	256	B	8	—	8	—
A612	64	7'-10"	681	B	16	16	16	16
A613	2	10'-10"	33	B	—	1	—	1
A614	2	21'-1"	63	B	—	1	—	1
A615	1	17'-10"	27	B	—	1	—	—
A616	6	19'-5"	175	B	—	—	6	—
A624	2	9'-0"	27	S	1	—	1	—
A625	2	11'-10"	36	B	1	—	1	—
A626	2	20'-11"	63	B	1	—	1	—
A627	2	18'-8"	56	S	1	—	1	—
A628	2	20'-7"	62	S	1	—	1	—
A629	5	19'-5"	146	B	—	—	—	5
A630	30	5'-6"	248	S	9	6	9	6
A631	46	4'-6"	311	S	12	11	12	11
A632	32	7'-3"	348	B	8	8	8	8
A633	32	14'-6"	697	B	8	8	8	8
A634	1	17'-10"	27	B	—	—	—	1
A635	4	19'-5"	117	B	—	4	—	—
A636	5	19'-5"	146	B	5	—	—	—
A502	5	4'-11"	26	B	—	—	5	—
A503	56	7'-6"	438	S	14	14	14	14
A504	25	9'-10"	256	B	—	—	—	25
A505	2	10'-11"	23	B	—	1	—	1
A506	2	21'-1"	44	B	—	1	—	1
A507	1	17'-11"	19	B	—	1	—	—
A508	6	19'-4"	121	B	—	—	6	—
A511	2	4'-11"	10	B	—	2	—	—
	2	5'-1"				2		
A512	Series of	① to	49	B	—	Ser. of	—	—
	4	6'-7"				4		
A515	25	9'-11"	259	B	—	25	—	—
A516	10	7'-5"	77	B	—	10	—	—
	2	6'-11"			2			
A519	Series of	① to	64	B	Ser. of	—	—	—
	4	8'-5"			4			
A520	25	11'-9"	306	B	25	—	—	—
A521	10	10'-3"	107	B	10	—	—	—
A522	2	9'-0"	19	S	1	—	1	—
A523	2	20'-11"	44	B	1	—	1	—
A524	2	18'-8"	39	S	1	—	1	—
A525	2	20'-7"	43	S	1	—	1	—
A526	5	19'-4"	101	B	—	—	—	5
A527	10	10'-4"	108	B	—	—	10	—
	2	7'-1"					2	
A528	Series of	① to	65	B	—	—	Ser. of	—
	4	8'-7"					4	
A529	25	11'-11"	311	B	—	—	25	—
A530	2	11'-11"	25	B	1	—	1	—
A531	10	7'-3"	76	B	—	—	—	10
	2	5'-0"						2
A532	Series of	① to	48	B	—	—	—	Ser. of
	4	6'-6"						4
A533	2	4'-11"	10	B	—	—	—	2
A534	64	7'-8"	512	B	16	16	16	16
A535	5	4'-11"	26	B	5	—	—	—
A536	1	17'-9"	19	B	—	—	—	1
A537	4	19'-4"	81	B	—	4	—	—
A538	5	19'-4"	101	B	5	—	—	—
		TOTAL	10,200					

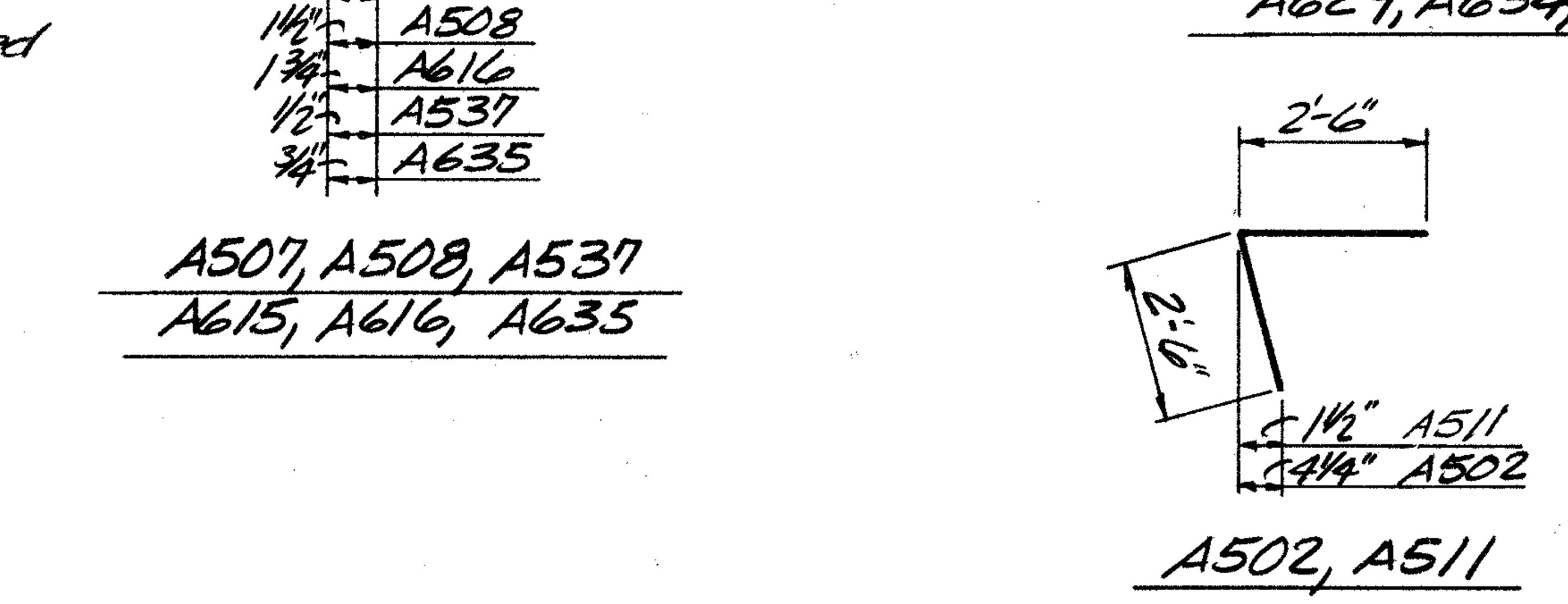
ABUTMENT STEEL LIST: EPOXY-COATED

MARK	NO.	LENGTH	WEIGHT	SHP.	REAR NORTH	REAR SOUTH	FORWARD NORTH	FORWARD SOUTH
A(E)801	112	4'-9"	1420	B	28	28	28	28
A(E)603	8	19'-1"	229	S	2	2	2	2
A(E)604	8	22'-11"	275	S	2	2	2	2
A(E)606	174	7'-4"	1917	B	43	44	43	44
A(E)617	16	3'-7"	86	B	4	4	4	4
A(E)618	4	3'-7"	22	B	1	1	1	1
A(E)619	4	3'-8"	22	B	1	1	1	1
A(E)620	4	3'-8"	22	B	1	1	1	1
A(E)621	44	3'-9"	248	B	11	11	11	11
A(E)501	16	5'-0"	83	S	4	4	4	4
A(E)509	32	16'-6"	551	S	8	8	8	8
A(E)510	32	4'-4"	145	S	8	8	8	8
A(E)513	32	4'-7"	153	S	8	8	8	8
A(E)514	32	2'-8"	89	B	8	8	8	8
A(E)517	32	3'-0"	100	S	8	8	8	8
A(E)518	32	5'-3"	175	B	8	8	8	8
		TOTAL	5,537					

① Varies by 6" increments.

NOTES:
1. Reinforcing Steel Samples: Refer to CMS sections 106.03, 700, 709.01 thru 709.05, and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.
2. All reinforcing steel shall be Grade 60.
3. (E) indicates epoxy-coated reinforcing steel.
4. Mechanical Splices: Cost of connectors is included in Item 509, Reinforcing Steel Grade 60.





BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

REINFORCING STEEL

BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER PADDOCK ROAD
HAMILTON COUNTY OHIO
STA. 36+91.71 TO STA. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
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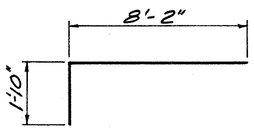
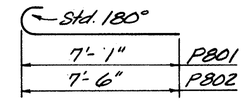
CALC. BY / DATE	HAMILTON COUNTY HAM-562-0.26	OHIO	96
CHKD. BY / DATE		FHWA REGION 5	97

PIER STEEL LIST

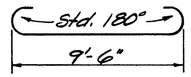
MARK	NO.	LENGTH	WEIGHT	SHP.	PIER 1 NORTH	PIER 1 SOUTH	PIER 2 NORTH	PIER 2 SOUTH
P1001	40	9'-9"	1680	B	10	10	10	10
P1002	20	16'-0"	1376	S	10		10	
P1003	20	16'-3"	1398	S		10		10
P801	16	8'-0"	340	B	4	4	4	4
P802	24	8'-5"	540	B	6	6	6	6
P803	4	8'-3"	88	B	1	1	1	1
P804	4	8'-2"	88	B	1	1	1	1
P805	4	8'-3"	88	B	1	1	1	1
P806	4	8'-2"	88	B	1	1	1	1
P701	32	11'-2"	732	B	8	8	8	8
P601	36	9'-6"	516	S	9	9	9	9
P602	24	7'-1"	256	S	6	6	6	6
P603	8	7'-6"	92	S	2	2	2	2
P401	68	10'-3"	464	B	17	17	17	17
		TOTAL	7946					



P1001



P801, P802



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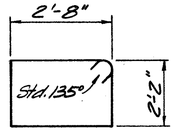
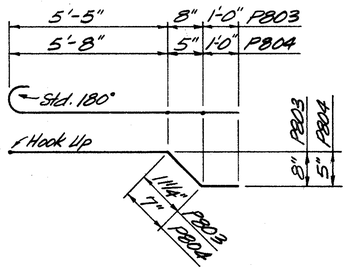
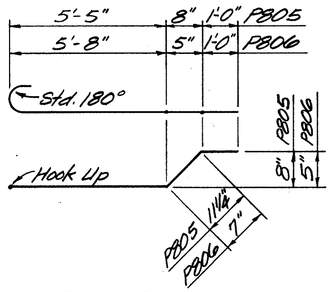


P401



P803, P804



P805, P806

NOTES:
1. Reinforcing Steel Samples: Refer to CMS sections 106.03, 700, 709.01 thru 709.05, and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.
2. All reinforcing steel shall be Grade 60.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

18/19

REINFORCING STEEL

BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER
PADDOCK ROAD
HAMILTON COUNTY OHIO
STA. 36+91.71 TO STA. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
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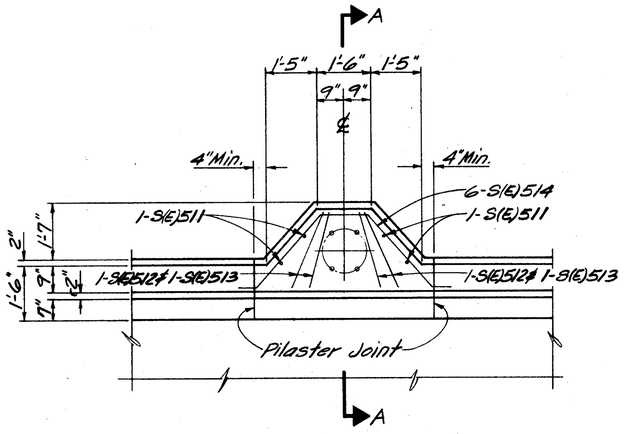
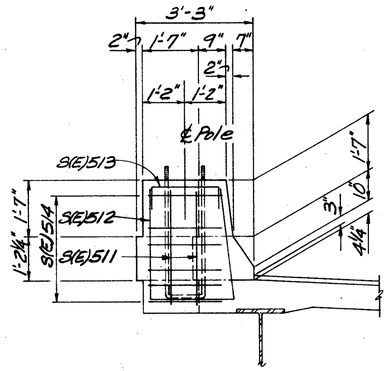


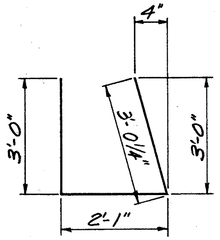
PLAN



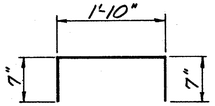
SECTION A-A

LIGHT POLE PILASTER

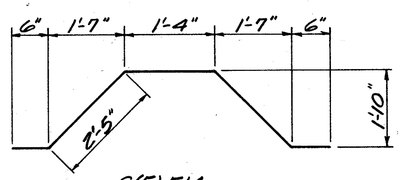
For additional details see Standard Construction Drawing HL-4.



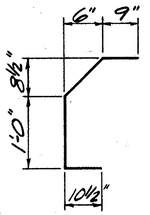
S(E)512



S(E)513



S(E)514



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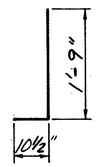
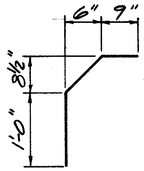
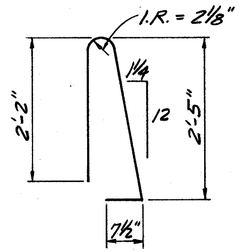


S(E)505



S(E)507



S(E)508

SUPERSTRUCTURE STEEL LIST

MARK	NO.	LENGTH	WEIGHT	SHP.	NORTH	SOUTH
S(E)501	860	7'-9"	6952	S	430	430
S(E)502	90	30'-0"	2816	S	45	45
S(E)503	36	28'-3"	1061	S	18	18
S(E)504	274	3'-3"	929	B	137	137
S(E)505	274	2'-6"	714	B	137	137
S(E)506	860	7'-9"	6952	S	430	430
S(E)507	274	2'-6"	714	B	137	137
S(E)508	548	5'-3"	3001	B	274	274
S(E)509	112	15'-6"	1811	S	56	56
S(E)510	192	6'-6"	1302	S	96	96
S(E)511	4	3'-0"	13	S	4	—
S(E)512	4	7'-10"	33	B	4	—
S(E)513	4	2'-9"	11	B	4	—
S(E)514	6	7'-2"	45	B	6	—
S(E)515	28	9'-6"	277	S	14	14
S(E)601	28	9'-6"	400	S	14	14
S(E)602	24	6'-6"	234	S	12	12
S(E)401	204	30'-0"	4088	S	102	102
S(E)402	68	12'-1"	549	S	34	34
S(E)403	40	34'-0"	908	S	20	20
		TOTAL	32810			

NOTES

1. Reinforcing Steel Samples: Refer to CMS sections 106.03, 700, 709.01 thru 709.05, and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08.
2. All reinforcing steel shall be Grade 60.
3. (E) indicates epoxy coated reinforcing steel.

BALKE ENGINEERS
7762 READING ROAD
CINCINNATI, OHIO 45237

19/19

REINFORCING STEEL
BRIDGE NO. HAM-562-0070
NORWOOD LATERAL OVER PADDOCK ROAD
HAMILTON COUNTY OHIO
STA. 36+91.71 TO STA. 38+91.23

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
BJS	WJH	~	JS	CS 10/85	

OHIO BLUE PRINT 1140053