01/17/01

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BRIDGE DECK OVERLAYS
LETTING DATE 4-3-2001
BRFN-151-1(14)--39-48

CONVENTIONAL SIGNS

- DIVIDED HIGHWAY
- PAVED ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTH ROAD
- 000 INTERSTATE HIGHWAY
- 000 UNITED STATES HIGHWAY
- 000 STATE HIGHWAY
- 000 COUNTY HIGHWAY
- RAILROAD
- PIPLINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE LIMIT LINE
- TOWNSHIP LINE
- SECTION LINE

Iowa Department of Transportation
Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

PRIMARY ROAD SYSTEM

IOWA COUNTY

BRIDGE DECK OVERLAYS ON U.S. 151 OVER THE IOWA RIVER AND ON U.S. 151 OVER THE IOWA RIVER OVERFLOW CHANNEL

The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, series of 1997, plus current supplemental specifications and special provisions shall apply to construction work on this project.

Value Engineering Saves. Refer to General Notes on Sheets 2 & 13.

	TOTAL SHEETS
	25
PROJECT NUMBER	
BRFN-151-1(14)--39-48	
R.O.W. PROJECT NUMBER	
PROJECT IDENTIFICATION NUMBER	
99-48-010-1	

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2	DESIGN 101 BRIDGE ESTIMATE SHEET
2-6	BRIDGE DESIGN 101
7	DESIGN 101 ROAD ESTIMATE SHEET
7-12	DESIGN 101 ROAD SHEETS
~~13~~	~~DESIGN 201 BRIDGE ESTIMATE SHEET~~
~~13 19~~	~~BRIDGE DESIGN 201~~
~~20~~	~~DESIGN 201 ROAD ESTIMATE SHEET~~
~~20-25~~	~~DESIGN 201 ROAD SHEETS~~

Form 520003wd (11-03)

I hereby certify that this project was constructed in accordance with the contract documents, the "as-built" plans were prepared under my supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Carey T. Lewis — Project Engineer — 1-23-06 Date

My license renewal date is December 31, 2007

2001 Year — Cramer & Assoc., Inc. Contractor — Chris Hoffman Project Inspector

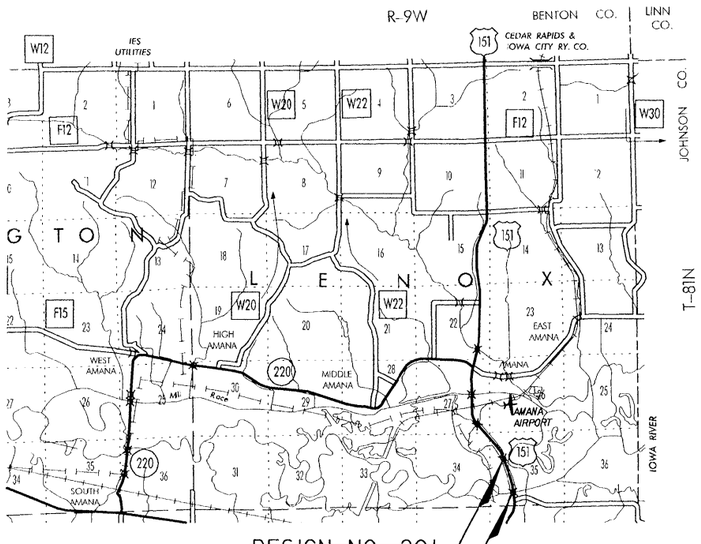
LICENSED PROFESSIONAL ENGINEER — CAREY T. LEWIS 11841 — STATE OF IOWA

STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED ON SHEETS 8 AND 21

DESIGN DATA RURAL

2001 AADT 5950 V.P.D.



~~DESIGN NO. 201~~

DESIGN NO. 101

343/88

150

LOCATION MAP

DRAWING APPROVAL

ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE APPROVED BY WHKS & CO.
ADDRESS: P.O. BOX 1467
MASON CITY, IOWA 50402-1467

REVISIONS

INDEX OF SEALS

SHEET NO.	NAME	TYPE
1	STANLEY T. STALLSMITH	PRIMARY SIGNATURE BLOCK
7	ROBERT A. WELPER	ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER — STANLEY T. STALLSMITH 12571 — IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Stanley T. Stallsmith 1/17/01

Stanley T. Stallsmith, P.E. Date

License Number 12571

My license renewal date is December 31, 2002

Pages or sheets covered by this seal:
SHEETS 1 THRU 6 AND 13 THRU 19 OF 25

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IA DUBUQUE, IA AMES, IA ROCHESTER, MN

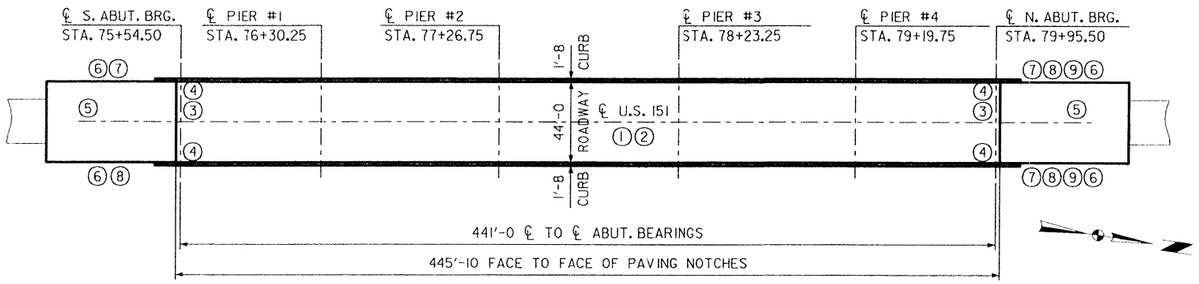
PROJECT DIRECTORY NAME: 481510I0A99

IOWA COUNTY

IOWA COUNTY - DESIGN NO.S 101 & 201

DESIGN TEAM: WHKS & Co.	ENGLISH	IOWA DOT * OFFICE OF BRIDGES AND STRUCTURES	FILE NO. 29512	IOWA COUNTY	PROJECT NUMBER BRFN-151-1(14)--39-48	SHEET NUMBER 1

01/18/2001
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SITUATION PLAN - DES. 101

GENERAL NOTES:

THIS DESIGN IS FOR REPAIRS TO THE EXISTING 441'-0 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ON U.S. 151 OVER THE IOWA RIVER. THE BRIDGE HAS PREVIOUSLY HAD RETROFIT BARRIER RAILS ADDED TO THE CURBS. COPIES OF THE ORIGINAL DESIGN AND REPAIR PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT THE OFFICE OF CONTRACTS - HIGHWAY DIVISION - IOWA D.O.T. - AMES.

REPAIR SHALL CONSIST OF:

1. BRIDGE FLOOR REPAIR, CLASS A
2. BRIDGE FLOOR OVERLAY
3. INSTALLING NEW STEEL EXTRUSIONS WITH NEOPRENE SEALS AND RAISE PLATES AT BOTH ABUTMENTS
4. REMOVING AND RECONSTRUCTING A PORTION OF THE CURB / BARRIER RAIL AT EACH CORNER TO ACCOMMODATE INSTALLATION OF THE STEEL EXTRUSIONS
5. REPLACING APPROACH PAVEMENT
6. REPLACING PORTIONS OF GUARDRAIL
7. REPLACING SHOULDER PANELS
8. SHOULDER STRENGTHENING
9. REPLACING BRIDGE END DRAINS WITH SOD BRIDGE END DRAINS

ALL DIMENSIONS AND DETAILS SHOWN ON THESE PLANS PERTINENT TO NEW CONSTRUCTION IN RELATION TO EXISTING PORTIONS OF THE STRUCTURE SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING CONSTRUCTION. ALL DIMENSIONS REQUIRED TO FABRICATE NEW STRUCTURAL STEEL SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE STARTING DATE.

PLAN QUANTITY OF FLOOR REPAIR IS BASED ON TWO TIMES THE SHADED AREAS SHOWN ON THE 'DELAMTECT LAYOUT' IN THESE PLANS. SHADED AREAS REPRESENT CLASS A BRIDGE FLOOR REPAIR FOUND BY THE DELAMTECT. ACTUAL SPALLED AND HOLLOW AREAS AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION SHALL BE REPAIRED.

THE TOP OF ABUTMENT BACKWALLS BETWEEN GUTTER LINES AS SHOWN SHALL BE REPAIRED IN ACCORDANCE WITH THE SPECIFICATIONS FOR CLASS A BRIDGE FLOOR REPAIR AND BRIDGE FLOOR OVERLAY WITH THE FOLLOWING EXCEPTIONS:

1. THE LOWER LIMIT FOR CLASS A BRIDGE FLOOR REPAIR SHALL BE TO SUITABLE EXISTING CONCRETE, AS DETERMINED BY THE ENGINEER, BUT TO AT LEAST 2 INCHES BELOW THE BOTTOM LIMIT FOR BRIDGE FLOOR OVERLAY.
2. IF MACHINE FINISHING FOR THE TOP OF BACKWALL IS NOT PRACTICAL, A MANUAL TYPE SCREED OR METAL PLATE, WITH APPROVED VIBRATORS ATTACHED, SHALL BE USED.

THE EXPOSED TOP OF BACKWALL AREAS AS SHOWN HAVE BEEN INCLUDED IN THE QUANTITIES SHOWN FOR CLASS A BRIDGE FLOOR REPAIR AND FOR BRIDGE FLOOR OVERLAY.

PRESENT FLOOR THICKNESS IS ABOUT 7½ INCHES. THE CONTRACTOR SHALL EXERCISE CARE IN REMOVING CONCRETE IN ORDER TO PREVENT UNNECESSARY UNBONDING OF REINFORCING STEEL.

SURFACE RAISE, AS SHOWN ON THE PLANS, SHALL BE CONSIDERED A MINIMUM. IN ORDER TO LIMIT THE ADDITIONAL DEAD LOAD, SURFACE RAISE SHALL BE RESTRICTED TO A MAXIMUM OF½ INCH MORE THAN SHOWN ON THE PLANS. PROFILE MAY BE ADJUSTED TO THE EXTENT POSSIBLE WITHIN THESE LIMITS.

THE PRICE BID FOR 'REMOVALS, AS PER PLAN' SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE FOLLOWING:.

-REMOVING THE EXISTING COMPRESSION SEAL AT EACH ABUTMENT
-REMOVING THE SECTIONS OF CURB / BARRIER RAIL AT EACH CORNER OF THE BRIDGE.

THE DISMANTLED MATERIAL IS TO BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE BY THE CONTRACTOR.

REMOVAL OF SCHEDULED ITEMS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE SPECIFICATIONS. ANY DAMAGE TO ANY STEEL OR CONCRETE NOT TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND REPAIRED AT NO EXTRA COST TO THE STATE

ALL CONCRETE REMOVAL LINES SHALL BE INITIATED WITH A 1 INCH SAWCUT.

EXISTING REINFORCING BARS THAT ARE EXPOSED BY CONCRETE REMOVAL SHALL BE CLEANED AND CAREFULLY INCORPORATED INTO THE NEW WORK WHERE NOTED OR SHOWN. REINFORCING BARS WHICH ARE DAMAGED OR RENDERED UNSERVICEABLE BY REMOVAL OPERATIONS SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

CONCRETE SEALER IS TO BE APPLIED IN ACCORDANCE WITH ARTICLE 2413.09 OF THE SPECIFICATIONS.

CONSTRUCTION SHALL BE DONE IN STAGES WITH AT LEAST ONE LANE TRAFFIC MAINTAINED AT ALL TIMES IN ACCORDANCE WITH 'TRAFFIC CONTROL PLAN' NOTE.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

BRIDGE QUANTITIES - DES. 101

ITEM NO.	ITEM CODE	ITEM	UNITS	QUANTITY	AS BUILT QUANTITY
1	2401-6750001	REMOVALS, AS PER PLAN	LS		1.000
2	2413-0698071	BRIDGE FLOOR OVERLAY	SY		2172.000
3	2413-0698072	BRIDGE FLOOR REPAIR, CLASS A	SY		226.750
4	2413-1200000	STEEL EXTRUSION JOINT WITH NEOPRENE	LF		92.000
5	2508-0810000	CLEANING AND PAINTING STRUCTURAL STEEL	LS		1.000
6	2508-0970000	CONTAINMENT	LS		1.000
7	2528-8400047	TEMPORARY BARRIER RAIL	LF		1725.000
8	2533-4980005	MOBILIZATION	LS		1.000

ESTIMATE REFERENCE INFORMATION

DATA LISTED BELOW IS FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT CONSTITUTE A BASIS FOR ANY EXTRA WORK ORDERS.

ITEM NO.	DESCRIPTION
2	INCLUDEDS COST OF FURNISHING & PLACING CONCRETE SEALER.
4	INCLUDES COST OF NEW EPOXY COATED REINFORCING AND CONCRETE REQUIRED IN CURBS AND BARRIER RAIL AT ENDS OF EXTRUSIONS. INCLUDES 1797 LBS. OF STRUCTURAL STEEL FOR RAISE PLATES REQUIRED.
7	ALL TEMPORARY BARRIER RAIL SHALL BE NOMINAL 12'-6 LONG CONCRETE UNITS. QUANTITY SHOWN IS FOR TWO STAGES OF CONSTRUCTION.

SPECIFICATIONS:
CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION ENGLISH STANDARD SPECIFICATIONS, SERIES OF 1997, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN STRESSES:
DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 1996, PLUS CURRENT INTERIM SPECIFICATIONS.
CONCRETE IN ACCORDANCE WITH SECTION 8, f'c = 3,500 PSI.
STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 10, ASTM A-36.

LOCATION:

MAINTENANCE NO. 4809.0S151
U.S. 151
OVER THE IOWA RIVER
T-81N, R-9W
SECTION 35
LENOX TWP.
IOWA COUNTY
FHWA # 029541

DESIGN HISTORY AT THIS SITE

DES. NO.	TYPE OF WORK
772	ORIGINAL DESIGN
190	RETROFIT RAIL
101	OVERLAY

DESIGN FOR REPAIR TO 0° SKEW
441'-0 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

75'-9 END SPANS — 96'-6 INTERIOR SPANS

SITUATION PLAN & EST. QUANTITIES

STATION: 77+75.00 — JANUARY 2001

IOWA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 5 — FILE NO. 29512 — DESIGN NO. 101

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IA DUBUQUE, IA AMES, IA ROCHESTER, MN

THE CONTRACTOR IS ENCOURAGED TO TAKE FULL ADVANTAGE OF SPECIFICATION 1105.15 -- VALUE ENGINEERING INCENTIVE PROPOSAL. A PAMPHLET AND CONCEPTUAL PROPOSAL FORM WILL BE AVAILABLE AT THE PRECONSTRUCTION CONFERENCE.

TRAFFIC CONTROL PLAN:
THE ROADWAY WILL BE OPEN TO THRU TRAFFIC. REFER TO THE TRAFFIC CONTROL PLAN SHOWN ELSEWHERE IN THESE PLANS.

NOTE:
ROADWAY QUANTITIES SHOWN ELSEWHERE IN THESE PLANS.

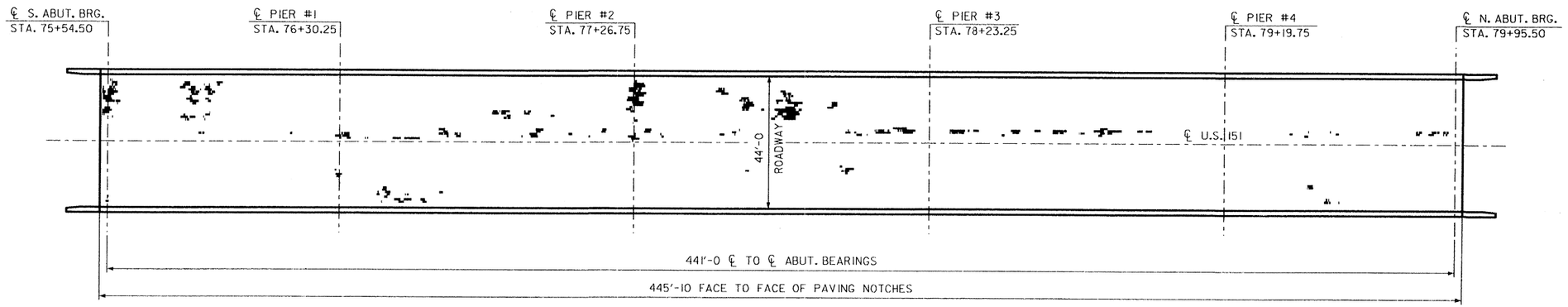
DESIGNED BY J.J.P. — CHECKED BY S.T.S.
DETAILED BY D.J.A. — CADD FILE H480101.S01

IOWA COUNTY

PROJECT NUMBER — BRFN-151-1(14)--39-48

SHEET NUMBER 2

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DELAMTECT LAYOUT

SHADES AREAS = DELAMINATION > 400 MILLIVOLTS 294 SQ. FT. 27 SQ. IN. (1.59%)

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IA DUBUQUE, IA AMES, IA ROCHESTER, MN

DESIGNED BY J.J.P. CHECKED BY S.T.S.
DETAILED BY D.J.A. CADD FILE H480101.S02

IOWA COUNTY

PROJECT NUMBER

SHEET NUMBER 3

DESIGN FOR REPAIR TO 0° SKEW

441'-0 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

75'-9 END SPANS 96'-6 INTERIOR SPANS

DELAMTECT LAYOUT

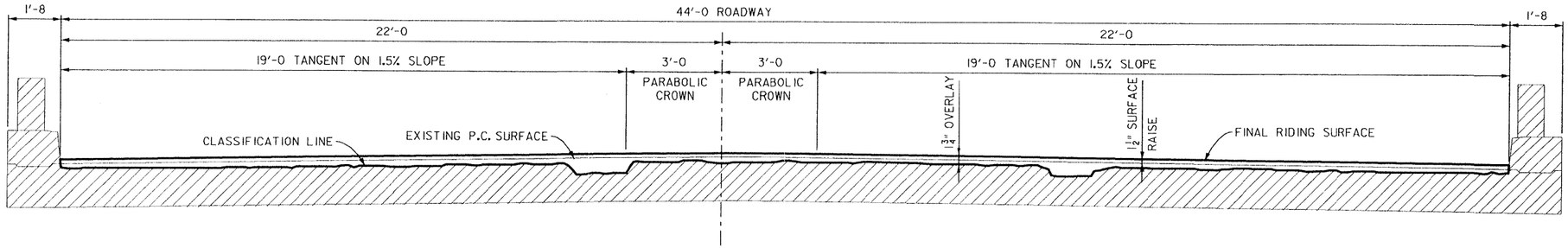
STATION: 77+75.00 JANUARY 2001

IOWA COUNTY

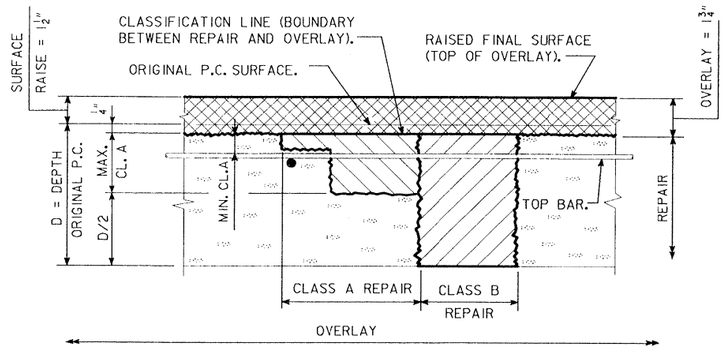
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 5 FILE NO. 29512 DESIGN NO. 101

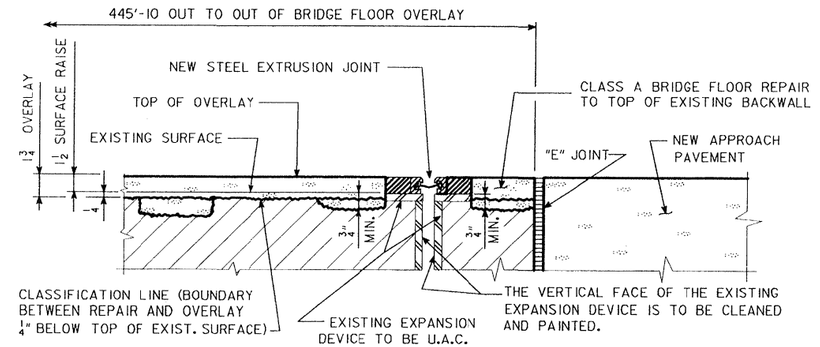
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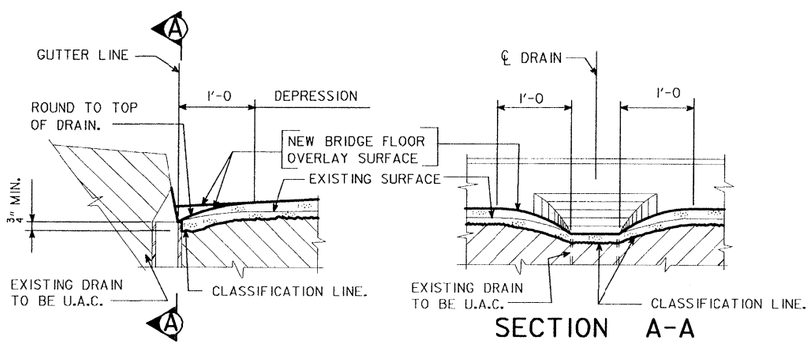
TYPICAL CROSS SECTION



REPAIR AND OVERLAY DEFINITION



PART LONGITUDINAL SECTION ALONG ROADWAY
BOTH ABUTMENTS



FLOOR REPAIR DETAIL AT DRAIN
(REQUIRED AT 20 LOCATIONS)

SECTION A-A

DESIGN FOR REPAIR TO 0° SKEW

441'-0 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

75'-9 END SPANS — 96'-6 INTERIOR SPANS

DECK REPAIR DETAILS

STATION: 77+75.00 — JANUARY 2001

IOWA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 3 OF 5 — FILE NO. 29512 — DESIGN NO. 101

WHKS & CO.
ENGINEERS — PLANNERS — LAND SURVEYORS
MASON CITY, IA — DUBUQUE, IA — AMES, IA — ROCHESTER, MN

DESIGNED BY J.J.P. — CHECKED BY S.T.S.
DETAILED BY D.J.A. — CADD FILE H480101.S03

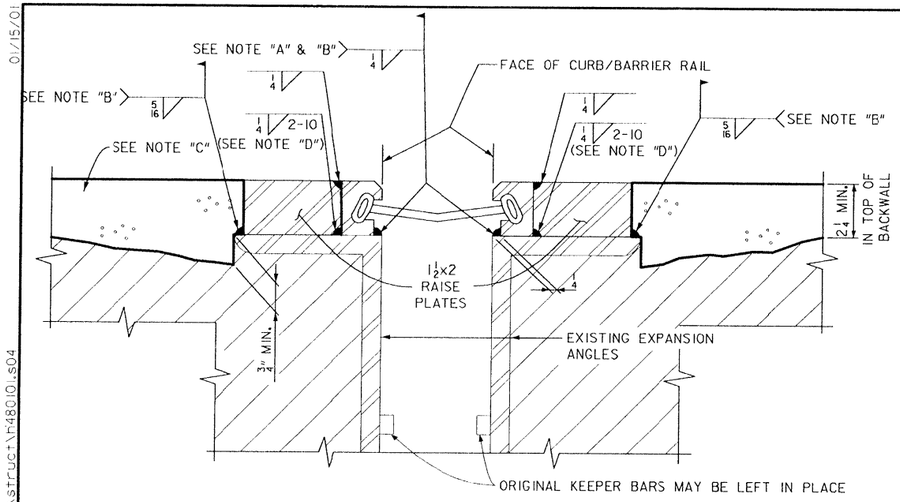
IOWA COUNTY

PROJECT NUMBER

SHEET NUMBER 4

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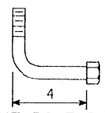
EXTRUSION DETAIL

NOTE "A":
SET THE BOTTOM INSIDE FACE OF EXTRUSIONS ¼" INSIDE THE FACE OF EXPANSION ANGLES AS SHOWN.

NOTE "B":
GALVANIZATION AT FIELD WELD LOCATIONS TO BE REMOVED PRIOR TO WELDING.

NOTE "C":
CONCRETE NEXT TO EXISTING EXPANSION ANGLES SHALL BE REPLACED AS SHOWN AND IN ACCORDANCE WITH CURRENT SPECIFICATIONS FOR BRIDGE FLOOR OVERLAY AND REPAIR.

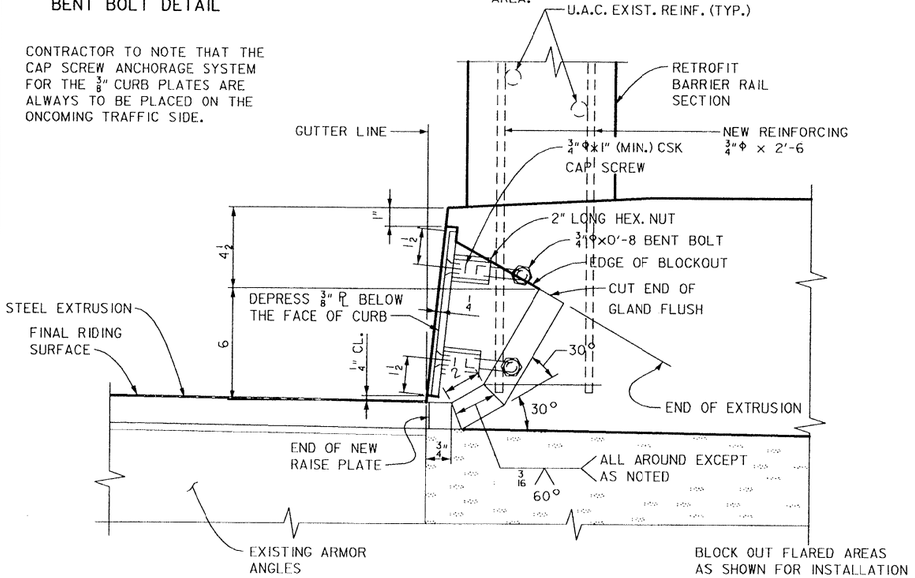
NOTE "D":
¼" INTERMITENT FILLET WELD 2" LONG - 10" ON CENTER.



BENT BOLT DETAIL

CONTRACTOR TO NOTE THAT THE CAP SCREW ANCHORAGE SYSTEM FOR THE ⅜" CURB PLATES ARE ALWAYS TO BE PLACED ON THE ONCOMING TRAFFIC SIDE.

NOTE: IT IS INTENDED THAT THE 11/16 INCH RECESSED AREA BE FORMED SO THAT WHEN THE ⅜" PLATE IS INSTALLED THE PLATE WILL BE ABLE TO MOVE FREELY IN THIS RECESSED AREA.



SECTION THROUGH CURB/BARRIER

EXPANSION DEVICE NOTES:

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS OF THE EXPANSION DEVICES SHOWING LAYOUT AND MATERIAL TO BE USED.

THE EXPANSION DEVICE IS TO BE PARALLEL TO GRADE.

CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF THE PLATE.

THE NEOPRENE GLAND IS TO BE PLACED AS ONE CONTINUOUS PIECE FROM END TO END OF THE STEEL EXTRUSIONS.

THE MINIMUM GRADE OF STRUCTURAL STEEL FOR THE EXPANSION DEVICE AND RAISE PLATE SHALL BE ASTM A-36.

THE NEOPRENE GLAND SHALL CONFORM TO ASTM D-2628 MODIFIED TO EXCLUDE RECOVERY TESTS AND COMPRESSION SET.

BLOCKOUT DETAILS MAY BE ALTERED FROM THOSE SHOWN PROVIDED THE GLAND MAY BE INSTALLED AND REMOVED IF NECESSARY.

SURFACES OF EXISTING EXPANSION DEVICE AS DETAILED IN THESE PLANS ARE TO BE CLEANED OF EXISTING CORROSION AND GALVANIZATION IN PREPARATION FOR FIELD WELDING. GALVANIZATION THAT IS INTACT MAY BE LEFT IN PLACE WHERE WELDS ARE NOT TO BE LOCATED. THE NEW STEEL EXTRUSION / RAISE PLATE ASSEMBLY TO BE PAINTED SHALL BE CLEANED AND PAINTED AFTER FIELD WELDING TO THE EXISTING EXPANSION DEVICE. THE CLEANING IS TO BE BY VACUUM BLAST OR BY A NON-BLASTING METHOD AND IS TO COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL SPECIFICATIONS SSPC-SP3. THE EXPOSED SURFACES OF THE COMPLETED EXPANSION DEVICE ARE TO BE GIVEN ONE COAT OF RUST-OLEUM PRIMER AND ONE COAT OF RUST-OLEUM FINAL COAT OR APPROVED EQUAL PRIMER AND FINAL COAT. THE COLOR OF THE DRY PAINT SHOULD APPROXIMATE THE COLOR OF CONCRETE. ONLY THOSE SURFACES OF THE EXPANSION DEVICE NOTED TO BE PAINTED ARE TO BE PAINTED. NO PAINTING OF OTHER STRUCTURAL STEEL IS REQUIRED. ALL COST ASSOCIATED WITH CLEANING AND PAINTING OF THE EXPANSION DEVICE AS NOTED IS TO BE INCLUDED IN THE BID ITEM "CLEANING AND PAINTING STRUCTURAL STEEL".

CONTAINMENT AND DISPOSAL OF WASTE SHALL BE IN ACCORDANCE WITH CURRENT SUPPLEMENTAL SPECIFICATIONS FOR "ENVIRONMENTAL PROTECTION FOR REMOVAL OF NONHAZARDOUS PAINT". WASTE MATERIAL SHALL BE DELIVERED TO THE D.O.T. CENTRAL COMPLEX EAST OF THE SIGN SHOP ON SOUTH 4th STREET IN AMES. ALL COSTS ASSOCIATED WITH HAULING AND DEPOSITING OF WASTE AT THE DESIGNATED SITE/FACILITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE CONTRACT PRICE BID FOR THE "CONTAINMENT" ITEM. PRIOR TO DELIVERY ARRANGEMENTS SHALL BE MADE WITH THE IOWA D.O.T. ENVIRONMENTAL ENGINEER AT TELEPHONE NUMBER 515-239-1798. THE CONTRACTOR IS NOT RESPONSIBLE FOR DISPOSAL OF WASTE AFTER IT HAS BEEN DELIVERED AND DEPOSITED AT THE DESIGNATED FACILITY IN AMES.

THE BID ITEM "STEEL EXTRUSION JOINT WITH NEOPRENE" SHALL INCLUDE ALL COSTS ASSOCIATED WITH FURNISHING AND INSTALLING THE EXPANSION DEVICE AS SHOWN, EXCEPT ITEMS INCLUDED IN THE BID ITEM "CLEANING AND PAINTING STRUCTURAL STEEL", "CONTAINMENT", AND "REMOVALS, AS PER PLAN". THIS WORK WILL CONSIST OF FURNISHING ALL REQUIRED MATERIALS, (INCLUDING THE ⅜" PLATES AT THE CURBS AND THEIR ANCHORAGE SYSTEMS AND THE 1½" THICK RAISE PLATES), AND THE INSTALLATION AND ADJUSTMENT OF THE EXPANSION JOINTS IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE FURNISHING AND INSTALLATION OF ALL NECESSARY HARDWARE AND ACCESSORIES AS SUPPLIED BY THE EXPANSION JOINT MANUFACTURER ARE TO BE INCLUDED IN THIS WORK, INCLUDING THE ANCHORAGE SYSTEM AND ANY TEMPORARY ERECTION MATERIAL. ALL WORK AND MATERIALS FOR THE INSTALLATION OF THE EXPANSION JOINTS ARE TO COMPLY WITH THE WRITTEN RECOMMENDATIONS OFTHE EXPANSION JOINT MANUFACTURER.

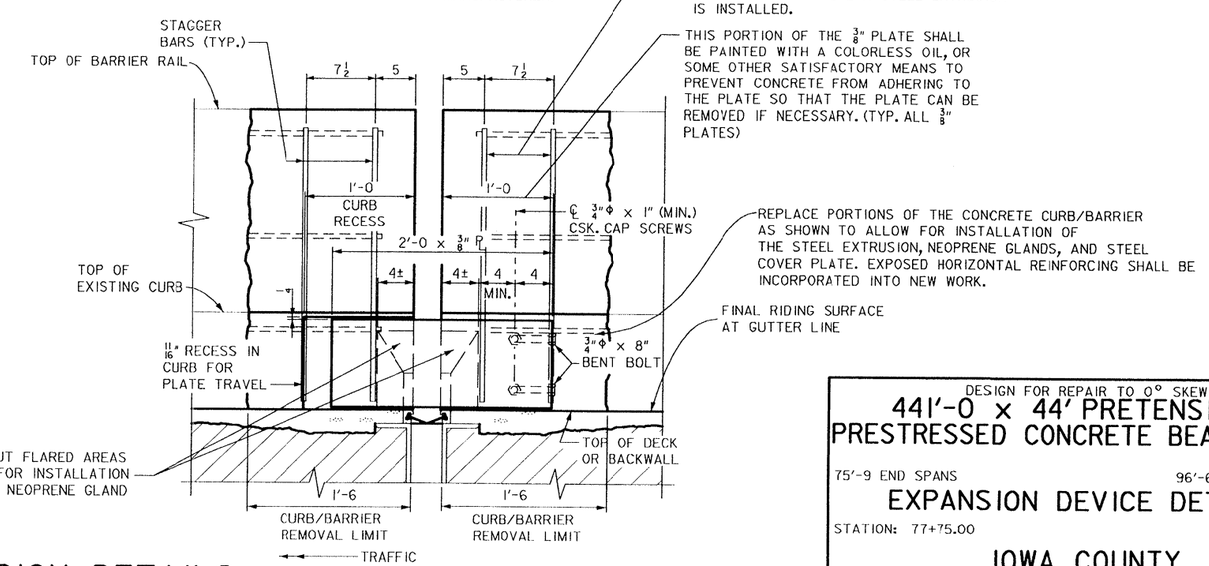
THE BID ITEM "STEEL EXTRUSION JOINT WITH NEOPRENE" SHALL ALSO INCLUDE ALL COSTS ASSOCIATED WITH REPLACING THE CONCRETE AND VERTICAL REINFORCING BARS IN THE CURBS / BARRIER RAILS AT THE ENDS OF THE EXTRUSIONS. THE CURBS / BARRIER RAILS SHALL BE RECONSTRUCTED AT THE ENDS OF THE EXTRUSIONS TO MATCH THE EXISTING SHAPE. ALL EXPOSED REINFORCING NOT NOTED FOR REPLACEMENT SHALL BE CAREFULLY INCORPORATED INTO THE NEW WORK.

SEE "GENERAL NOTES" FOR COSTS ASSOCIATED WITH THE BID ITEM "REMOVALS, AS PER PLAN.

TABLE OF APPROVED EXPANSION DEVICES

MANUFACTURER	TYPE OF STEEL EXTRUSION	NEOPRENE GLAND
WATSON BOWMAN AND ACME CORP.	E	SE-500
D.S. BROWN CO.	SSE2	A2R-500
APPROVED EQUAL		

CURB PLATE NOTE:
THE MATERIAL USED FOR THE CURB PLATES IS TO BE ASTM A-36 STEEL. THE BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A-307. THE PLATES, BOLTS, NUTS AND CAP SCREWS ARE TO BE GALVANIZED IN ACCORDANCE WITH ARTICLE 4100.07 OF THE STANDARD SPECIFICATIONS.



EXTRUSION DETAILS

DESIGN FOR REPAIR TO 0° SKEW

41'-0 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

75'-9 END SPANS — 96'-6 INTERIOR SPANS

EXPANSION DEVICE DETAILS

STATION: 77+75.00 — JANUARY 2001

IOWA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 5 — FILE NO. 29512 — DESIGN NO. 101

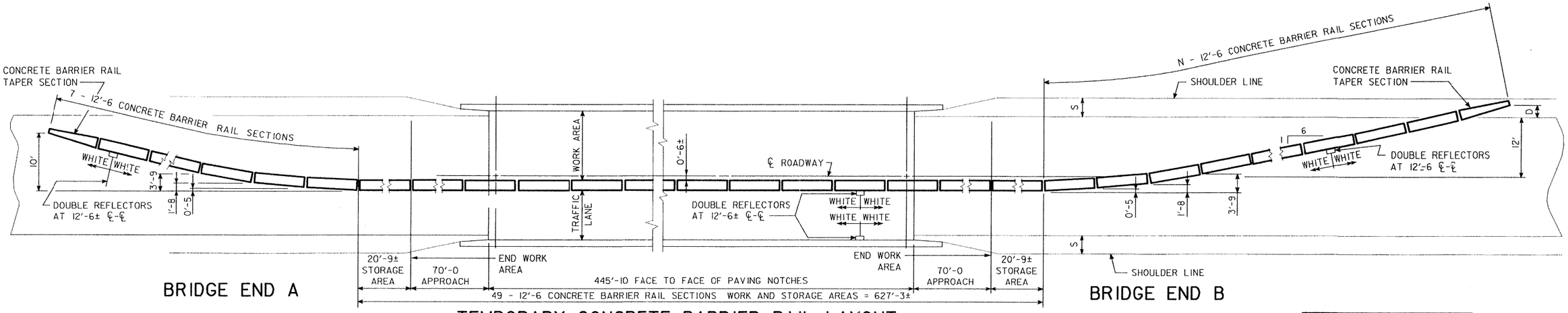
DESIGNED BY J.J.P. — CHECKED BY S.T.S.
DETAILED BY D.J.A. — CADD FILE H480101.S04

IOWA COUNTY

PROJECT NUMBER

SHEET NUMBER 5

01/15/01
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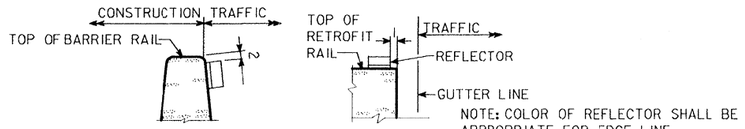


TEMPORARY CONCRETE BARRIER RAIL LAYOUT FOR TWO WAY TRAFFIC

NOTE: THE LAYOUT SHOWN IS FOR ONE STAGE OF CONSTRUCTION AND WOULD BE THE SAME FOR THE OTHER STAGE BY ROTATING 180°.

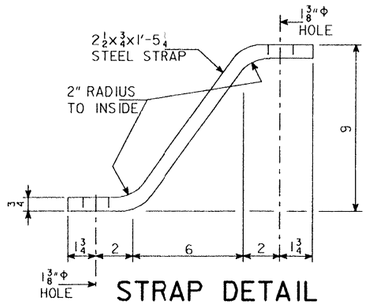
SHOULDER WIDTH (S)	NO. OF BARRIER RAIL SECT. (N)	D
4 FT.	11	4 FT.
6 FT.	12	5.5 FT.
8 FT.	12	7 FT.
10 FT.	13	9 FT.

SHOULDER WIDTHS AT THIS BRIDGE SITE ARE 10 FEET, THEREFORE 13 CONCRETE BARRIER RAIL SECTIONS ARE REQUIRED FOR BRIDGE END "B".

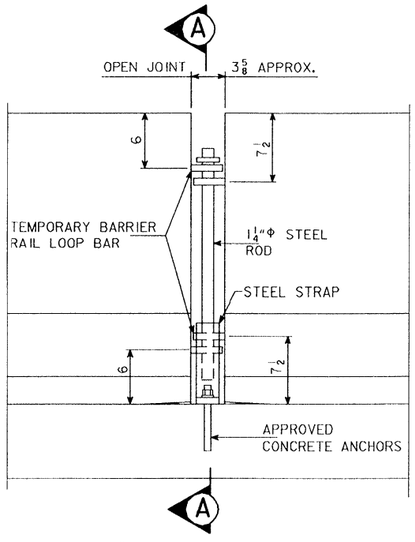


NOTE: COLOR OF REFLECTOR SHALL BE APPROPRIATE FOR EDGE LINE.

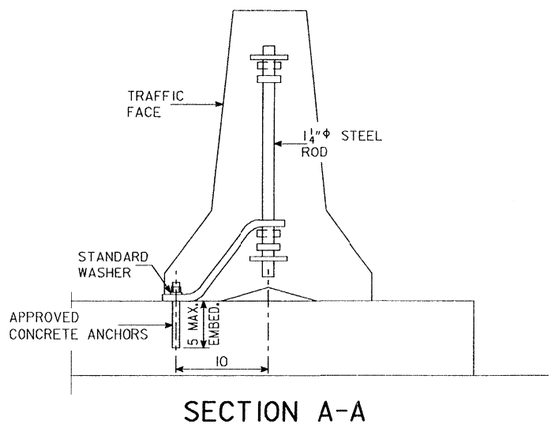
REFLECTOR DETAILS



STRAP DETAIL



PART ELEVATION



SECTION A-A

TEMPORARY BARRIER RAIL TIE DOWN DETAILS

CONCRETE TEMPORARY BARRIER RAIL NOTES:

CONCRETE TEMPORARY BARRIER RAIL SHALL BE CONSTRUCTED AS DETAILED AND NOTED ON THE ENGLISH RE-71(1), RE-71(2) AND RE-72 STANDARD ROAD PLANS.

A MIN. 12'-6 LANE SHALL BE AVAILABLE FOR TRAFFIC. SCREED EXTENSION OR OVERLAP BEYOND THE LONGITUDINAL CONSTRUCTION JOINT MAY BE LESS THAN THE 6 INCHES REQUIRED BY SUB-ARTICLE 2413.03C.1. THE ENGINEER MAY REQUIRE ADDITIONAL VIBRATION OR SPECIAL FINISHING PROCEDURES ADJACENT TO THE LONGITUDINAL CONSTRUCTION JOINT.

TRAFFIC REFLECTORS SHALL BE A RETRO-REFLECTIVE TYPE, APPROVED BY THE ENGINEER, AND THEY SHALL BE LOCATED AS SHOWN ON THIS SHEET. THE CONTRACTOR SHALL MAINTAIN THE REFLECTORS AND SHALL PROMPTLY REPLACE ANY MISSING OR DAMAGED UNITS. ALL COSTS FOR FURNISHING, INSTALLING AND MAINTAINING REFLECTORS SHALL BE INCLUDED IN THE PRICE BID FOR THE TEMPORARY BARRIER RAIL.

REFER TO OTHER DETAILS, NOTES, AND QUANTITY ITEMS ELSEWHERE IN THESE PLANS FOR TRAFFIC CONTROL TO BE ESTABLISHED IN CONJUNCTION WITH THE TEMPORARY BARRIER RAIL.

NO STATIONARY EQUIPMENT OR CONSTRUCTION MATERIAL IS TO BE PLACED IN FRONT OF THE TEMPORARY BARRIER RAIL AT ANY TIME.

TIE-DOWNS WITH CONCRETE ANCHORS ARE REQUIRED ONLY WHERE THE TEMPORARY BARRIER RAIL IS ADJACENT TO A DROP-OFF. HOLES FOR CONCRETE ANCHORS MAY BE DRILLED AFTER POSITIONING THE TEMPORARY BARRIER RAIL. IF CONCRETE ANCHORS ARE THE TYPE WHICH CAN BE SET AND REMOVED AT LEAST 1½ INCHES BELOW THE CONCRETE SURFACE WITHOUT DAMAGING THE CONCRETE (PREFERRED ANCHOR TYPE), THE REMAINING HOLES, AFTER REMOVALS, SHALL BE FILLED WITH A NEAT MIXTURE OF SAND/CEMENT GROUT. OTHER ANCHOR TYPES MAY REQUIRE COMPLETE REMOVAL OF THE ANCHOR INCLUDING CONCRETE SURROUNDING THE ANCHOR. IF THIS IS NECESSARY, THE CONCRETE SHALL BE CORED OUT WITH A 2 INCH DIAMETER CORE BIT AND THE HOLE FILLED WITH NEAT MIXTURE OF SAND/CEMENT GROUT. COST FOR THE REMOVAL OF THE CONCRETE ANCHORS INCLUDING ANY CONCRETE REMOVAL NECESSARY, AND PLACEMENT OF THE SAND/CEMENT GROUT, WILL BE INCIDENTAL TO THE COST OF THE TEMPORARY BARRIER RAIL. THE CONCRETE ANCHORS ARE TO BE REMOVED ONLY AFTER THE TEMPORARY BARRIER RAIL IS NO LONGER NEEDED AT THE PARTICULAR LOCATION.

CONCRETE ANCHORS ARE TO BE A MINIMUM OF 1" DIAMETER AND AS OTHERWISE SPECIFIED IN THE CURRENT MATERIALS I.M. 453.09, WITH A PULL- OUT STRENGTH OF 22 KIPS BASED ON 4000 PSI CONCRETE.

ALL COSTS FOR TIE DOWNS SHALL BE INCLUDED IN THE PRICE BID FOR TEMPORARY BARRIER RAIL.

QUANTITIES

ITEM	AMOUNT
TEMPORARY BARRIER RAIL	1725 L.F.

ITEM REFERENCE:
ALL TEMPORARY BARRIER RAIL SHALL BE NOMINAL 12'-6 LONG CONCRETE UNITS.

DESIGN FOR REPAIR TO 0° SKEW

441'-0 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

75'-9 END SPANS — 96'-6 INTERIOR SPANS

TEMPORARY BARRIER RAIL

STATION: 77+75.00

JANUARY 2001

IOWA COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 5 OF 5 FILE NO. 29512 DESIGN NO. 101

DESIGNED BY J.J.P. CHECKED BY S.T.S. DETAILED BY D.J.A. CADD FILE H480101.S05	TEMPORARY BARRIER RAIL-CONCRETE	STANDARD 1050	IOWA COUNTY	PROJECT NUMBER		SHEET NUMBER 6

ROADWAY QUANTITIES

100-0A
10-28-97

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2102-0425070	SPECIAL BACKFILL	TON	19	17.080
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	104	104.000
3	2121-7425020	GRANULAR SHLD, TYPE B	TON	46	10.000
4	2122-5190010	PAVED SHLD, PCC, 10"	SY	39	41.056
5	2122-5190500	PAVED SHLD, PCC (PANEL FOR RF-38/RF-39)	SY	37	35.178
6	2122-7451000	SHLD STRENGTHEN, OPTIONAL ACC/PCC, 8"	SY	207	216.000
7	2213-2713300	EXCAVATION, CL 13, WIDEN	CY	46	40.000
8	2301-0685100	BRIDGE APPROACH SECTION	SY	532	618.135
9	2401-6745065	RMVL OF BRIDGE END DRAIN	EACH	2	2.000
10	2499-0695039	BRIDGE END DRAIN, RF-39	EACH	2	2.000
11	2505-4008100	RMV G'RAIL	LF	225	225.000
12	2505-4008200	INSTALL OF G'RAIL	LF	225	225.000
13	2505-4021690	G'RAIL, END ANCHOR, BEAM, RE-69	EACH	4	4.000
14	2505-4021761	G'RAIL TERMINAL, BEAM, RE-76	EACH	4	4.000
15	2506-4984000	FLOWABLE MORTAR	CY	4	4.000
16	2510-6745850	RMVL OF PAV'T	SY	534	648.178
17	2525-2638030	SILT FENCE	LF	400	0.000
18	2527-9263110	PAINTED PAV'T MARK	STA	78.5	72.245
19	2527-9263130	REMOVABLE TAPE MARK	STA	3.3	2.920
20	2527-9263180	PAV'T MARK RMVD	STA	36.5	47.605
21	2528-8400157	TEMP FLOODLIGHTING LUMINAIRE	EACH	2	2.000
22	2528-8400256	TEMP TRAFFIC SIGNAL	EACH	1	1.000
23	2528-8445110	TRAFFIC CONTROL	LS	1	1.000
24	2528-8445112	FLAGGER	DAY	5	4.000
25	2601-2634100	MULCH	ACRE	0.18	0.188
26	2601-2636041	SEED+FERTILIZE	ACRE	0.18	0.188
27	2601-2642100	STABILIZE CROP - SEED+FERTILIZE	ACRE	0.18	0.188

REFERENCE INFORMATION

100-4B
07-15-97

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	ITEM CODE	DESCRIPTION
26	2601-2636041	Included for disturbed areas of the foreslope following the final construction as designated by the engineer. Seed Mixture Fescue, Ky 31 or Fawn — 45 lbs. per acre Ryegrass, Perennial — 35 lbs. per acre Switchgrass (Blackwell NE.28 Pathfinder or Cave-in Rock) — 5 lbs. PLS per acre Sideoats Grama (Butte, Trailway or El Reno) — 5 lbs. PLS per acre Birdsfoot Trefoil (Empire) — 5 lbs. per acre Fertilizer: Rate--750 lbs. of 13-13-13 or equivalent chemically combined commercial fertilizer per acre.
27	2601-2642100	Included for all disturbed areas as designated by the Engineer. This item may be deleted if permanent seeding is accomplished by May 31. Seed Mixture: Spring--March 1 to May 20 / Summer--May 21 to July 20 / Fall--July 21 to September 30 Oats — 2 bu. Per acre / 2 bu. Per acre / 2 bu. Per acre Annual Ryegrass — 25 lbs. per acre / 25 lbs. per acre / 25 lbs. per acre Red Clover — 5 lbs. per acre / 10 lbs. per acre / 5 lbs. per acre Timothy — 5 lbs. per acre / 5 lbs. per acre / 5 lbs. per acre Fertilizer: Rate--450 lbs. of 13-13-13 or equivalent chemically combined commercial fertilizer per acre.

REFERENCE INFORMATION

100-4B
07-15-97

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	ITEM CODE	DESCRIPTION
1	2102-0425070	Item to be used in conjunction with Paved Shoulder. See Typical Detail 7126 & Tabulation 104-8A on Sheet 9 for locations.
2	2102-2625000	See Tabulation 107-23 on Sheet 9. Approved material shall be obtained by the contractor outside of the existing right-of-way. Item includes 12 Cu. Yds. at each bridge end drain removal location.
3	2121-7425020	See Tabulation SS-1 on Sheet 10 for locations. Use on shoulder areas adjacent to shoulder strengthening. Use to backfill shoulder strengthening and restore aggregate surface as directed by the Engineer.
4	2122-5190010	See Typical Detail 7126 on Sheet 9 for location. Requires a 50' X 7' shoulder panel adjacent to the nonreinforced bridge approach section.
5	2122-5190500	Along the Bridge Approach Sections as per Tabulation 104-8A on Sheet 9. Requires 40 lin. ft. of integral sloped curb. Includes 36.9 Sq. Yds. Polymer Grid, 1.5 Square of Sod, and 1.1 Ton Macadam Stone Base.
6	2122-7451000	See Tabulation SS-1 on Sheet 10 for locations. Quantities reflect closing EB lane first.
7	2213-2713300	See Tabulation SS-1 on Sheet 10 for locations. Quantities reflect closing EB lane first.
8	2301-0685100	See Standard Road Plans RK-19A, RK-19F, and Tabulation 112-6 on Sheet 9. Requires an estimated 128.6 tons of Modified Subbase and 591.3 Sq. Yds. Polymer Grid which shall be considered incidental to this bid item.
9	2401-6745065	Remove bridge end drains at the NW and NE corners of the bridge. Includes complete removal of existing structures and 6 linear feet of pipe outlet sections.
10	2499-0695039	See Tabulation 104-8A on Sheet 9 for locations.
11	2505-4008100	See Tabulation 110-7A on Sheet 9. Stockpile existing guardrail and posts on site for pick up by IDOT Maintenance personnel. Removal of posts, nested guardrail, end anchorages, terminals, and object markers not measured for payment.
12 13 14	2505-4008200 2505-4021690 2505-4021761	See Tabulation 108-8A and on Sheet 9. Installation of posts, nested guardrail, delineators, and object markers not measured for separate payment.
15	2506-4984000	See Tabulation 110-2 on Sheet 9 for locations of bridge end drain pipes to be abandoned. Contractor shall plug outlet of pipe with concrete (incidental) and allow to cure prior to placing flowable mortar. Quantity is based on 30 feet of 18 inch pipe at each of two locations.
16	2510-6745850	See Tabulation 110-1 on Sheet 10. Pavement thickness may vary from that estimated. No additional payment shall be considered due to varying thicknesses. Disposal shall be as per Standard Notes 213-1 and 213-7.
17	2525-2638030	Silt fence shall be used to protect and restore areas disturbed by necessary construction activities, as directed by the Engineer. Item includes 100 linear feet (nominal) at each corner of bridge. Contractor parking and staging areas shall be restored by the contractor at no expense to the Department.
18 19 20	2527-9263110 2527-9263130 2527-9263180	See Tabulation 108-22 on Sheet 10. Protect existing centerline when removing No Passing zone lines.
21	2528-8400157	See Tabulation 108-27 on Sheet 10, Modified Standard Road Plan RS-5A on Sheet 12, and Detail Sheet 570-2 for locations.
22	2528-8400256	See Tabulation 108-28 on Sheet 10, Modified Standard Road Plan RS-5A on Sheet 12, and Detail Sheet 570-2 for locations.
23 24	2528-8445110 2528-8445112	See Tabulation 108-23 on Sheet 8 for Traffic Control Plan.
25 26 27	2601-2634100 2601-2636041 2601-2642100	Mulching and seeding items shall be used to protect and restore areas disturbed by necessary construction activities, as directed by the engineer. Items include 100' x 20' (nominal) area on each corner of bridge. Contractor parking and staging areas shall be restored by the contractor at no expense to the Department.
25	2601-2634100	Mulch: Rate--1-1/2 tons of dry cereal straw per acre. All mulch to be consolidated into the soil with the mulch stabilizer.

LICENSED PROFESSIONAL ENGINEER
ROBERT A. WELPER
12869
IOWA

I hereby certify that this plan was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature 2-1-01 Date

Robert A. Welper
Printed or Typed Name

My license renewal date is December 31, 2001

Pages or sheets covered by this seal: SHEETS 7 THRU 12 AND 20 THRU 25 OF 25

DESIGN NO. 101
FILE NO. 29512

DESIGN TEAM	WHKS & CO.	IOWA DOT • OFFICE OF DESIGN	IOWA	COUNTY	PROJECT NUMBER	BRFN-151-1(14)--39-48	SHEET NUMBER	7

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02/01/01

TABULATION OF STEEL BEAM GUARDRAIL AT BRIDGE END POST, CONCRETE BARRIER AND RAILROAD SIGNALS

Refer to Standard Road Plans RE-63, RE-65A and RE-65B

108-8A
04-03-01

LOCATION					STANDARD ROAD PLAN	CASE	(2) L2	LAYOUT LENGTHS				MATERIALS REQUIRED					BID ITEMS				
No.	(1) Direction of Traffic	End A=Approach T=Trailing	Side O = Outside M = Median	Station				STS (18.75')	VT	VF	ET Terminal (37.5')	STS Thrie Beam (25.0')	STS Transition Section (6.25')	(VT)+(VF)+(ET) (3) 'W' Beam	CRT Posts 6"x 8"x 6' with 6"x 8" Spacer Blocks (5)	Posts (4) 10"x 10"x 6' with 8"x 8" Spacer Blocks (3)	Posts (5) 8"x 8"x 6' with 8"x 8" Spacer Blocks	Installation of Guardrail (STS)+(VT)+(VF)+(ET)	Anchorage and Terminal Systems RE-33B	RE-69A	RE-69B	RE-76
						F or S	Feet	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	No.	No.	No.	Lin. Ft.	No.	No.	No.	No.
1	NB	A	O	77+75	RE-65A	S		18.75	---	---	37.5	25.0	6.25	37.5	5	3	3	56.25	---	---	1	1
2	NB	T	O		RE-65A	S		18.75	---	---	37.5	25.0	6.25	37.5	5	3	3	56.25	---	---	1	1
3	SB	T	O		RE-65A	S		18.75	---	---	37.5	25.0	6.25	37.5	5	3	3	56.25	---	---	1	1
4	SB	A	O		RE-65A	S		18.75	---	---	37.5	25.0	6.25	37.5	5	3	3	56.25	---	---	1	1

(1) Lane(s) to which the obstacle is adjacent.
(2) Applies to Standard Road Plan RE-63 only.
(3) Includes (2) special 12.5' sections of 'W' Beam, see Standard Road Plan RE-76.
(4) (4) 10"x 10"x 6' post required when Standard Road Plan RE-63 is specified.
(5) The last two posts of the RE-76 Terminal section are included as part of that bid item.

REMARKS
SE Corner Bridge
NE Corner Bridge
SW Corner Bridge
NW Corner Bridge

REMOVE or REMOVE AND REINSTALL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.

110-7A
10-28-97

LOCATION				STEEL BEAM GUARDRAIL		POST					END ANCHORAGE			REMARKS
No.	(1) Direction of Traffic	Station	Side	Remove	Remove & Reinstall	Remove	Remove & Reinstall 8"x 8"	10"x10"	6"x 8"	6"x 6"	Remove	Remove & Reinstall	Type	
				Lin. Ft.	Lin. Ft.	No.	No.	No.	No.	No.	No.	No.		
1	NB	77+75	RT	56.25		12					1			SE Cor. Bridge
2	NB		RT	56.25		12					1			NE Cor. Bridge
3	SB		LT	56.25		12					1			SW Cor. Bridge
4	SB		LT	56.25		12					1			NW Cor. Bridge

TABULATION OF GRADING FOR GUARDRAIL INSTALLATIONS

(1) Lane(s) to which the installation is adjacent.
(2) Refer to Standard Road Plans RL-12, RL-14, and Typicals 4303 or 4306.

107-23
04-27-99

LOCATION POINT				TYPE	DIMENSIONS (2) (BY) Feet		(Z) Feet		CLASS 10 EXCAV.	EMBANK. IN PLACE	PIPE			REMARKS
No.	(1) Direction of Traffic	Station	SIDE		A	T	A	T	Cu. Yds.	Cu. Yds.	Size Inches	Type	Length Lin. Ft.	
1	NB	77+75	RT	1	8		50			20				SE Corner
2	NB		RT	1		8		50		20				NE Corner
3	SB		LT	1		8		50		20				SW Corner
4	SB		LT	1	8		50			20				NW Corner

TABULATION OF DELINEATORS AND OBJECT MARKERS

Refer to Standard Plans RE-48A-B * and RE-29C

108-17
04-28-98

LOCATION	DELINEATOR	OBJECT MARKER				REMARKS
Station	Type*	Single White D-1W Number	Type 2 OM2-3YV Number	Type 3 OM-3L Number	Type 3 OM-3R Number	
77+75	3			1	1	NBL
	3			1	1	SBL

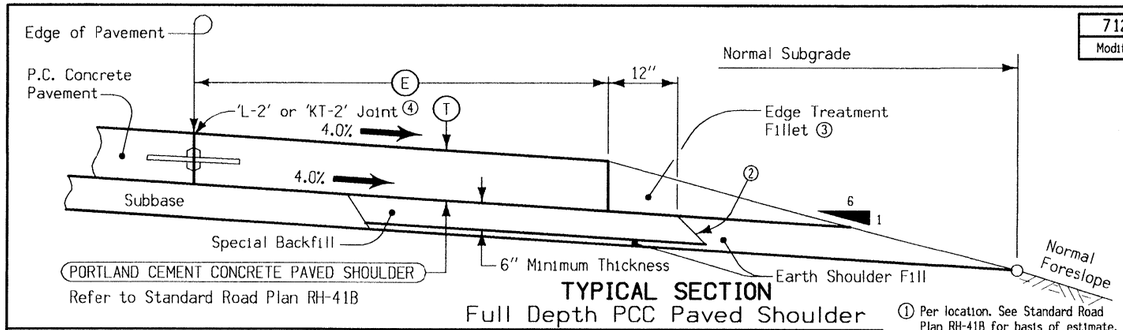
TABULATION OF BRIDGE APPROACH SECTION

(Refer to Standard Road Plan RF-19E, RK-16, RK-19A, RK-19B, RK-19C, RK-19D, RK-19E, RK-19F, RK-19G, RK-19H, or RK-19J)

(1) Not a bid item

112-6
10-03-00

LOCATION		APPROACH PAVEMENT				Fixed or Movable Abutment	SUBDRAIN				APPROACH SUBGRADE		REMARKS
Bridge Station	End	(T) Thickness Inches	Pay Length Feet	Non-Reinf. Pavement Area Sq. Yds.	Reinforced Pavement Area Sq. Yds.	F or M	Perforated Subdrain (1) 4" Lin. Ft.	Subdrain Outlet (1) Station	Side	Porous (1) Backfill Cu. Yds.	Class 'A' Crushed Stone (1) Backfill Cu. Yds.	Modified Subbase (1) Tons	Polymer Grid (1) Sq. Yds.	
77+75	South	10	70	334.667	160.667	F	55	74+92	Rt	2.7	0.5	64.3	295.7	
	North	10	70	250.734	162.667	F	55	80+58	Rt	2.7	0.5	64.3	295.7	



TYPICAL SECTION
Full Depth PCC Paved Shoulder

7126
Modified

LOCATION				DIMENSIONS		QUANTITIES (1)		
ROAD IDENTIFICATION	STATION TO STATION		SIDE	(T) Inches	(E) Feet	SURFACE (5) AREA Sq. Yds.	VOLUME Cu. Yds.	SPECIAL (5) BACKFILL Tons
US 151	77+75	SW Corner	Lt	10	7	601.056	10.8	9.06

(1) Per location. See Standard Road Plan RH-41B for basis of estimate.
(2) Approximately 1:1 Slope
(3) Refer to appropriate detail drawings.
(4) When (T) is less than 8" use 'BT-1' Joint. When (T) is equal to or more than 8" use 'L-2', 'KT-2' or modified 'BT-3'. Modified 'BT-3' requires a keyway. See Standard Road Plan RH-51 for joint details.
(5) Bid Items

TABULATION OF SOD FLUME FOR BRIDGE END DRAIN

Refer to Standard Road Plan RF-39

(1) Not a Bid Item

104-8A
Modified

LOCATION			SHOULDER		Polymer Grid (1)		MACADAM STONE BASE MATERIAL	SPECIAL BACKFILL	REMARKS
Bridge Station	Bridge Corner	Distance DI-1 or DI-2	Panels Required A B C or D	PCC Sq. Yds.	Sq. Yds.	SODDING (1) Squares	Tons (1)	Tons	
77+75	NE	21.89	A	17.54	18.44	0.75	0.57	4.01	
	NW	21.89	C	17.54	18.44	0.75	0.57	4.01	

REMOVAL OF EXISTING STRUCTURES

110-2
10-13-72

LOCATION	DESCRIPTION	DISPOSAL
77+75	BRIDGE END DRAIN, NW CORNER	213-1
	BRIDGE END DRAIN, NE CORNER	213-1

DESIGN NO. 101
FILE NO. 29512

I:\DOT\BRDG\5800.04\Iowa\101\Nyquist\H48C101.S53
02/01/01

DESIGN TEAM	WHKS & CO.		IOWA DOT • OFFICE OF DESIGN	IOWA	COUNTY	PROJECT NUMBER	BRFN-151-1(14)--39-48	SHEET NUMBER	9