BRIDGE REPLACEMENT - PPCB
LETTING DATE: DECEMBER 15, 2026
PROJECT NO. BROS-3052(602)--8J-69
MONTGOMERY COUNTY

STANDARD ROAD PLANS
STANDARD ROAD PLANS ARE LISTED ON SHEET 13.

SECTION 404 PERMIT AND CONDITIONS	281-1 MODIFIED
CONSTRUCT THIS PROJECT ACCORDING TO THE REQUIREMENTS OF U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT 14. NATIONWIDE PERMIT 14 CONDITIONS CAN BE FOUND AT http://www.mvr.usace.army.mil/Missions/Regulatory/Permits/. THE U.S. ARMY CORPS OF ENGINEERS RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.	

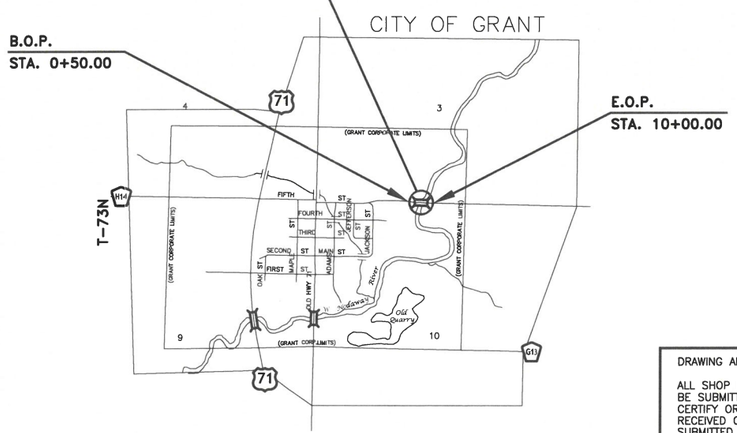
THIS PROJECT IS COVERED BY IOWA DNR FLOODPLAIN CONSTRUCTION PERMIT NO. FP 2025-1257FP-01, DATED: 09-11-2025

MILEAGE SUMMARY		
LOCATION	LIN.FT.	MILES
STA. 0+50.00 TO STA. 10+00.00	950.00	0.1799
BRIDGE AT STA. 5+15.00	246.46	0.0467
TOTAL NET LENGTH OF PROJECT (GRADING)	703.54	0.1332

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
7	DAVID LOGEMANN	SOILS
BRIDGE STANDARDS	NORM MCDONALD	STRUCTURAL DESIGN

B.O.P. STA. 0+50.00
E.O.P. STA. 10+00.00
FHWA NO. 005620
STATION 5+15.00
PROPOSED 243'-0 x 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
30° SKEW, LT. AHEAD

R-36W





PROJECT LOCATION

¼ MI. 0 ¼ MI. ½ MI.

N

IOWA | DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

URBAN ROAD SYSTEM

MONTGOMERY COUNTY

CITY OF GRANT

PROJECT NO. BROS-3052(602)--8J-69

BRIDGE REPLACEMENT - PPCB

IN THE CITY OF GRANT, ON 5TH ST, OVER WEST NODAWAY RIVER, S3 T73 R36

REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS.

THIS PROJECT IS COVERED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF GENERAL PERMIT NO. 2 AND THE STORM WATER POLLUTION PREVENTION PLAN WHICH IS A PART OF THESE CONTRACT DOCUMENTS. REFER TO SECTION 2602 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.

2022, TRAFFIC COUNT = 58 V.P.D.

UTILITY CONTACTS				
COMPANY	UTILITY	CONTACT	PHONE #	EMAIL
GRISWOLD COOPERATIVE TELEPHONE	COMMUNICATIONS	BRIAN COOK	712-778-2121	brian.c@griswoldcommunications.com
SIRWA	WATER	CHAD MAHAN	641-782-5744	cmahan@sirwa.org

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

DRAWING APPROVAL

ALL SHOP DRAWINGS AND FALSEWORK DRAWINGS THAT REQUIRE APPROVAL SHALL BE SUBMITTED TO AND APPROVED BY THE CONTRACTOR, WHO SHALL STAMP, CERTIFY OR PROVIDE OTHER SUCH EVIDENCE ON THE DRAWINGS THAT THEY HAVE RECEIVED CONTRACTOR APPROVAL. THE APPROVED DRAWINGS SHALL THEN BE SUBMITTED TO CALHOUN-BURNS AND ASSOCIATES, FOR REVIEW AND APPROVAL.

ADDRESS : 6775 VISTA DRIVE
WEST DES MOINES, IOWA 50266
TELEPHONE : (515) 224-4344
FAX : (515) 224-1385

SHOP DRAWINGS SHALL BE INDEPENDENT DRAWINGS WITH ADEQUATE DIMENSIONING FOR FABRICATION OF INDIVIDUAL PIECES OF EACH COMPONENT. PHOTOCOPIES OF PLAN DRAWINGS AND NON-CONTRACTOR APPROVED PLANS WILL BE REJECTED.

THESE DRAWINGS SHALL NOT BE SENT TO IOWA D.O.T. OFFICE OF BRIDGES AND STRUCTURES.

PROJECT NO. BROS-3052(602)--8J-69
FHWA NO. 005620
COUNTY BR. NO. DO 1003

TOTAL SHEETS 21

INDEX OF SHEETS

1. TITLE SHEET
2.-3. QUANTITY SUMMARY
4. SITUATION PLAN
5. GENERAL NOTES
6. POLLUTION PREVENTION PLAN
7.-9. SOUNDING DATA
10. WEST PIER DETAILS
11.-12. SUPERSTRUCTURE DETAILS
13. TYPICAL SECTIONS AND TABULATIONS
14.-15. TABULATIONS
16. PLAN & PROFILE
17.-20. CROSS SECTIONS
21. TRAFFIC CONTROL PLAN

IOWA DEPARTMENT OF TRANSPORTATION STANDARDS REQUIRED	
STANDARD	LATEST REVISION
H24-01-06	05-13
H24-01A-06	05-13
H24-02-06	05-13
H24-03-06	06-12
H24-04-06	06-12
H24-19-06	10-16
H24-21-06	01-12
H24-22-06	07-15
H24-23-06	12-10
H24-24-06	-
H24-36-06	12-10
H24-37-06	01-10
H24-38-06	01-10
H24-39-06	07-10
H24-40-06	12-10
H24-41-06	09-12
H24-64-06	10-16
H24-68-06	09-16
H24-80-06	09-14

THESE SHEETS MAY BE OBTAINED AT THE ELECTRONIC REFERENCE LIBRARY WEBSITE. http://www.erl.iowadot.gov

LICENSED PROFESSIONAL ENGINEER
JULI A. REDMOND
17384
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.

Juli Redmond DATE: 7-7-26
JULI A. REDMOND
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026
PAGES OR SHEETS COVERED BY THIS SEAL:
1-6 AND 10-21 OF 21

APPROVED
MONTGOMERY COUNTY ENGINEER 7/29/26 DATE

CITY OF GRANT, IOWA

MAYOR	CLAY AMOS
COUNCIL	ERIN AMOS DAWN CHALMERS LYN SLIGER ZELDA SWARTZ REBECCA WESTOVER
CLERK	BRITTANY KARWAL

APPROVED: MAYOR	ATTEST: CLERK
Clay AMOS	Brittany Karwal
CLAY AMOS	BRITTANY KARWAL

BOARD OF SUPERVISORS DATE

CRA CALHOUN-BURNS & ASSOCIATES, CONSULTING ENGINEERS
WEST DES MOINES, IOWA 50266 (515) 224-4344

JOB NO. 969-003

DESIGNED BY : SJB
DRAWN BY : JML
CHECKED BY : JAR

MONTGOMERY COUNTY

PROJECT NO. BROS-3052(602)--8J-69

TOTAL ESTIMATED QUANTITIES:
243'–0 x 24'–6 P.P.C.B. BRIDGE

REF. NO.	CODE NO.	ITEM	UNIT	2 ABUTS	2 PIERS	SUPER	TOTAL
1	2101–0850001	CLEARING AND GRUBBING	ACRE	–	–	–	0.8
2	2102–2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	–	–	–	3,500
3	2102–2710090	EXCAVATION, CLASS 10, WASTE	CY	–	–	–	2,290
4	2104–2710020	EXCAVATION, CLASS 10, CHANNEL	CY	–	–	–	5,000
5	2105–8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	–	–	–	1,700
6	2312–8260081	GRANULAR SURFACING ON ROAD, CLASS D CRUSHED STONE	TON	–	–	–	300
7	2401–6745625	REMOVAL OF EXISTING BRIDGE	LS	–	–	–	1
8	2402–2720000	EXCAVATION, CLASS 20	CY	198	193	–	391
9	2402–2721000	EXCAVATION, CLASS 21	CY	–	400	–	400
10	2402–2722000	EXCAVATION, CLASS 22	CY	–	35	–	35
11	2403–0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	34.9	243.9	244.6	523.4
12	2404–7775000	REINFORCING STEEL	LB	7,016	31,249	69,602	107,867
13	2407–0551380	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, C80	EACH	–	–	12	12
14	2408–7800000	STRUCTURAL STEEL	LB	–	–	3,344	3,344
15	2414–6424124	CONCRETE OPEN RAILING, TL–4	LF	–	–	540.0	540.0
16	2417–1040018	CULVERT, CORRUGATED METAL ENTRANCE PIPE, 18 IN. DIA.	LF	–	–	–	26
17	2501–0201057	PILES, STEEL, HP 10 X 57 ; 9 @ 35', 9 @ 65', 11 @ 30'	LF	900	330	–	1,230
18	2501–6335010	PREBORED HOLES ; 18 @ 10'	LF	180	–	–	180
19	2505–4008300	STEEL BEAM GUARDRAIL	LF	–	–	–	50
20	2505–4008420	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA–221	EACH	–	–	–	4
21	2505–4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	–	–	–	4
22	2505–4021722	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA–225	EACH	–	–	–	4

REF. NO. ESTIMATE REFERENCE INFORMATION

1. SEE PLAN AND PROFILE, SHEET 16, FOR LIMITS.

2. SEE TABULATIONS CBA-100 AND CBA-101 ON SHEET 15 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
TYPE "A" COMPACTION WILL BE REQUIRED.
EXCEPT WHERE NOTED OTHERWISE ON THE PLANS, ALL ENTRANCE AND ROADWAY CULVERTS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AS PART OF "EXCAVATION, CLASS 10, ROADWAY AND BORROW".

3. SEE TABULATIONS CBA-100 AND CBA-101 ON SHEET 15 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
INCLUDES ALL COST TO REMOVE UNSUITABLE OR EXCESS MATERIAL FROM SITE. THE UNSUITABLE OR EXCESS MATERIAL SHALL BE WASTED AT A LOCATION PROVIDED BY THE CONTRACTOR AND NOTED TO THE ENGINEER.

4. SEE TABULATIONS CBA-100 AND CBA-101 ON SHEET 15 FOR BREAKDOWN OF EXCAVATION QUANTITIES.
INCLUDES COSTS TO CLEAR THE CHANNEL TO THE SHAPE, DEPTH, AND EXTENT SHOWN IN THE "LONGITUDINAL SECTION ALONG CENTERLINE OF ROADWAY" AND THE LIMITS SHOWN ON THE SITUATION PLAN, SHEET 4.
INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02, D, 2 OF THE STANDARD SPECIFICATIONS.

5. IN ORDER TO MEET NPDES PERMIT REQUIREMENTS TOPSOIL STRIP, SALVAGE AND SPREAD SHALL BE REQUIRED ON THIS PROJECT. QUANTITY PERTAINS TO WORK WITHIN THE PROJECT LIMITS. SIX INCHES OF TOPSOIL SHALL BE STRIPPED FROM WITHIN THE PROJECT LIMITS AND SPREAD UNIFORMLY (6" TARGET WITH 4" MIN. DEPTH) OVER ALL AREAS THAT ARE NOT COVERED BY PAVEMENT OR GRANULAR MATERIAL. AREAS SHALL BE UNDERCUT PRIOR TO PLACING TOPSOIL. CROSS-SECTIONS SHOW FINISHED GRADELINE.

6. SURFACING TO BE FURNISHED AND PLACED BY THE CONTRACTOR IN TWO PASSES (1400 AND 600 TONS /MILE). INCLUDES CEMETERY ENTRANCE AT STA 1+39.5.
SEE TYPICAL SECTION CBA-503 ON SHEET 13.
CLASS 'D' CRUSHED STONE SURFACING SHALL MEET THE QUANTITY REQUIREMENTS OF CLASS 'A' CRUSHED STONE AND THE GRADATION REQUIREMENTS OF MODIFIED SUBBASE.

7. THE EXISTING BRIDGE AT STATION 5+02 IS A 140' x 15' STEEL PONY TRUSS BRIDGE WITH STEEL I-BEAM APPROACHES, HIGH CONCRETE ABUTMENTS, CONCRETE DIAPHRAGM PIERS AND A CONCRETE DECK BUILT IN 1924. EXISTING EAST PIER IS ANTICIPATED TO INTERFERE WITH THE CONSTRUCTION OF THE PROPOSED EAST PIER AND SHALL BE COMPLETELY REMOVED TO THE BOTTOM OF FOOTING. EXISTING EAST PIER PILES WHICH ARE DETERMINED TO BE IN THE WAY OF CONSTRUCTION SHALL BE REMOVED AS NECESSARY FOR CONSTRUCTION OF PROPOSED EAST PIER.
AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED AND NO SUSPECT MATERIALS WERE FOUND. IF ADDITIONAL MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE DISCOVERED DURING DEMOLITION OF THE BRIDGE, WORK SHALL BE STOPPED IMMEDIATELY AND THE ENGINEER NOTIFIED.
THE LUMP SUM BID FOR "REMOVAL OF EXISTING BRIDGE" SHALL INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE. ALL SALVAGEABLE MATERIAL AND UNSALVAGEABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. THE EXISTING STRUCTURE SHALL BE REMOVED TO AN ELEVATION AT LEAST 1 FOOT BELOW FINISHED GROUNDLINE AND TO THE EXTENT THAT IT WILL NOT INTERFERE WITH THE NEW CONSTRUCTION.
BROKEN CONCRETE FROM THE EXISTING BRIDGE WITH SIMILAR GRADATION TO CLASS 'E' REVETMENT MAY BE PLACED ON THE BANKS OUTSIDE THE LIMITS SHOWN FOR SPECIAL REVETMENT, AS DIRECTED BY THE ENGINEER, AND OUTSIDE THE LIMITS OF POTENTIAL WETLANDS. ALL REINFORCING SHALL BE CUT OFF FLUSH WITH THE CONCRETE. H.M.A. MATERIAL IS SPECIFICALLY EXCLUDED. ALTERNATELY, THE CONTRACTOR MAY DISPOSE OF THE BROKEN CONCRETE OFF SITE AT A LOCATION PROVIDED BY THE CONTRACTOR AND NOTED TO THE ENGINEER.
SEE HAZARDOUS MATERIALS NOTES ON SHEET 5 FOR PAINT SCRAPE SAMPLE RESULTS.

8. QUANTITY IS BASED ON THE ASSUMPTION THAT CHANNEL EXCAVATION AND NECESSARY BERM CONSTRUCTION HAVE BEEN COMPLETED.
INCLUDES COST OF USING SUITABLE MATERIAL FOR CONSTRUCTION ELSEWHERE ON THIS PROJECT. SUITABLE SOILS SHALL BE AS DEFINED BY ARTICLE 2102.02, D, 2 OF THE STANDARD SPECIFICATIONS.

9.-10. QUANTITY IS BASED ON THE ASSUMPTION THAT CHANNEL EXCAVATION AND NECESSARY BERM CONSTRUCTION HAVE BEEN COMPLETED.

11. CONCRETE QUANTITY HAS BEEN INCREASED BY 1.3 C.Y. AND 1.0 C.Y. AT THE WEST AND EAST ABUTMENTS, RESPECTIVELY, AND BY 0.9 C.Y. AT THE EAST PIER BASED ON H24-24-06.
INCLUDES COST OF TAR PAPER AND PREFORMED JOINT MATERIAL.
THE 'CONCRETE SEALER LIMITS FOR OPEN RAIL' DETAIL SHOWN IN THE BRIDGE STANDARD SHALL BE OMITTED.
THE SUBDRAIN AND ENGINEERING FABRIC SHOWN ON THE WING ARMORING DETAILS IN THE H STANDARDS SHALL BE OMITTED.
THE MACADAM STONE SHOWN ON THE WING ARMORING DETAILS IN THE H STANDARDS SHALL EXTEND ACROSS THE BERM AS SHOWN IN DETAIL 'B' ON THE SITUATION PLAN, SHEET 4. THE COST OF MACADAM STONE ON THE BERMS AND FOR WING ARMORING SHALL BE INCIDENTAL TO STRUCTURAL CONCRETE.
NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.
CERTIFIED PLANT INSPECTION IS REQUIRED.
ARTICLE 2428 REGARDING BRIDGE DECK SMOOTHNESS DOES NOT APPLY TO THIS PROJECT.
FLY ASH NOT ALLOWED.

12. ALL REINFORCING SHALL BE GRADE 60.
EAST PIER CAP STEP REINFORCING SHALL BE PER H24-24-06 FOR GRADE (G): 1.2%<G<=4.1%. 112 LBS OF STEP REINFORCING HAS BEEN INCLUDED WITH THE PIER QUANTITY.
THE REINFORCING STEEL QUANTITY HAS BEEN INCREASED BY 3,968 LBS FOR THE INCLUSION OF HAUNCH REINFORCING. SEE SHEET 12 FOR DETAILS.

13. INCLUDES COST OF BEARING MATERIAL, COIL TIES AND COIL RODS.
ON 'PIER BEARING DETAILS,' SHEET H24-41-06, DIMENSION D=1/8" FOR THE CENTER SPAN AND D=0" FOR THE EAST SPAN AT THE EAST PIER.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING STABILITY OF PRESTRESSED CONCRETE BEAMS DURING ERECTION AND CONSTRUCTION UP THROUGH THE CONCRETE BRIDGE DECK REACHING ITS FULL 28-DAY STRENGTH. THE CONTRACTOR SHALL PROVIDE SUFFICIENT TEMPORARY ANCHOR BRACING AT BEAM ENDS AND TEMPORARY INTERMEDIATE BRACING AS NEEDED TO ENSURE PRESTRESSED BEAM STABILITY. PARTIALLY OR FULLY INSTALLED PERMANENT BRACING AS SHOWN IN THESE DESIGN PLANS SHALL NOT BE ASSUMED SUFFICIENT TO BRACE PRESTRESSED BEAMS DURING ERECTION AND CONSTRUCTION. TEMPORARY BRACING SHALL NOT BE WELDED TO PRESTRESSED BEAM STIRRUPS.
SEE MATERIALS IM 570 APPENDIX I FOR ALLOWABLE BEARING SUBSTITUTES AT INTEGRAL ABUTMENTS.

14. INCLUDES WEIGHT OF STEEL DIAPHRAGMS, SEE STANDARD SHEET H24-38-06.

15. CERTIFIED PLANT INSPECTION IS REQUIRED.
FLY ASH NOT ALLOWED.
ALL STRUCTURAL CONCRETE FOR THE RAIL IS TO BE CLASS C; SUBSTITUTION OF CLASS D IS NOT ALLOWED.
NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR HEATING AND PROTECTION OF CONCRETE, IF NECESSARY.

16. SEE TABULATION 102-3 ON SHEET 14, TYPICAL SECTION CBA-700 ON SHEET 13 AND STANDARD ROAD PLANS DR-101 AND DR-104.
ALL PIPE SHALL BE STANDARD CORRUGATIONS, NO HELICALLY CORRUGATED PIPE WILL BE ALLOWED. ALL CONNECTING BANDS SHALL BE 24" WIDE.

17. SEE PILE NOTES ON SHEET 5. THE PILE DRIVING DATA SHEET FOR COMPLETION OF THE WAVE EQUATION IS TO BE PROVIDED TO THE ENGINEER AT LEAST 20 CALENDAR DAYS PRIOR TO DRIVING PILES. THE HAMMER FOR PILES SHALL MEET REQUIREMENTS OF TABLE 2501.03,A,10.
INCLUDES COST OF DRIVING POINTS FOR WEST ABUTMENT PILES IN ORDER TO DRIVE PILES THROUGH WEATHERED BEDROCK LAYER INTO HARDER LIMESTONE BELOW. PILE TIPS SHALL NOT BE USED AT THE EAST PIER. PILE TIPS AT EAST ABUTMENT ARE NOT REQUIRED BUT MAY BE ADDED AT THE CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO CONTRACTING AUTHORITY TO ACHIEVE REQUIRED END BEARING.

18. THE BRIDGE CONTRACTOR SHALL PREBORE HOLES FOR ABUTMENT PILES. HOLES SHALL BE BORED TO THE ELEVATIONS SHOWN ON THE "LONGITUDINAL SECTION ALONG CENTERLINE ROADWAY" ON THE SITUATION PLAN. PILES SHALL BE DRIVEN THROUGH THE HOLES TO AT LEAST THE SPECIFIED DESIGN BEARING.

19.-22. SEE TABULATIONS 108-8A AND 107-23 ON SHEET 14.

243'–0 x 24'–6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
80'–9 END SPANS — **81'–6 INTERIOR SPAN**

QUANTITY SUMMARY

STATION 5+15.00 — **30° SKEW, LT. AHEAD**
MONTGOMERY COUNTY, — **IOWA**

TOTAL ESTIMATED QUANTITIES:
243'–0 x 24'–6 P.P.C.B. BRIDGE

REF. NO.	CODE NO.	ITEM	UNIT	2 ABUTS	2 PIERS	SUPER	TOTAL
23	2507–6850053	REVETMENT, SPECIAL	TON	–	–	–	1,700
24	2526–8285010	CONSTRUCTION SURVEY, MONUMENT PRESERVATION	LS	–	–	–	1
25	2526–8285020	CONSTRUCTION SURVEY, CONTROL POINT SURVEY	LS	–	–	–	1
26	2526–8285030	CONSTRUCTION SURVEY, RIGHT OF WAY	LS	–	–	–	1
27	2526–8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	–	–	–	1
28	2528–2518000	SAFETY CLOSURE	EACH	–	–	–	2
29	2528–8445110	TRAFFIC CONTROL	LS	–	–	–	1
30	2533–4980005	MOBILIZATION	LS	–	–	–	1
31	2601–2634100	MULCHING	ACRE	–	–	–	4.2
32	2601–2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	–	–	–	2.1
33	2601–2642100	STABILIZING CROP – SEEDING AND FERTILIZING	ACRE	–	–	–	2.1
34	2602–0000020	SILT FENCE	LF	–	–	–	725
35	2602–0000030	SILT FENCE FOR DITCH CHECKS	LF	–	–	–	574
36	2602–0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	–	–	–	1,299
37	2602–0000160	ROCK CHECK DAM	LF	–	–	–	72
38	2602–0000170	MAINTENANCE OF ROCK CHECK DAM	EACH	–	–	–	4
39	2602–0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	–	–	–	385
40	2602–0010010	MOBILIZATIONS, EROSION CONTROL	EACH	–	–	–	1
41	2602–0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	–	–	–	1

REF. NO. ESTIMATE REFERENCE INFORMATION

23. REVETMENT IS TO BE PLACED AT A THICKNESS OF 1'-6. SEE SITUATION PLAN, SHEET 4, AND PLAN AND PROFILE, SHEET 16, FOR LIMITS. ENGINEERING FABRIC AND SUBDRAIN SHOWN ON SHEET H24-80-06 SHALL BE ELIMINATED.

REVETMENT SHALL BE DOLOMITE OR QUARTZITE FROM AN APPROVED SOURCE AS DESCRIBED IN MATERIALS I.M. 409 AND MEETING THE REQUIREMENTS OF SECTION 4130 OF THE STANDARD SPECIFICATIONS FOR CLASS 'E' REVETMENT. MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE PROJECT PLANS AND SECTION 2507 OF THE STANDARD SPECIFICATIONS FOR CLASS 'E' REVETMENT. METHOD OF MEASUREMENT AND BASIS OF PAYMENT SHALL BE IN ACCORDANCE WITH SECTION 2507 OF THE STANDARD SPECIFICATIONS FOR CLASS 'E' REVETMENT.

SPECIAL REVETMENT SHALL NOT BE USED BY THE CONTRACTOR TO FACILITATE CONSTRUCTION ELSEWHERE ON THE PROJECT. REVETMENT MATERIAL PLACED TO FACILITATE CONSTRUCTION AND THEN RECLAIMED WILL NOT BE MEASURED OR INCLUDED IN THE QUANTITY PLACED FOR THIS BID ITEM. RECLAIMED REVETMENT USED FOR TEMPORARY STREAM CROSSING MAY BE PLACED ON CHANNEL BANKS OUTSIDE THE LIMITS OF POTENTIAL WETLANDS AND BEYOND THE LIMITS OF SPECIAL REVETMENT SHOWN ON THE PLAN AND PROFILE, SHEET 16, OR IN THE BOTTOM OF THE NW DITCH BUT WILL NOT BE MEASURED AND WILL NOT BE INCLUDED IN THE QUANTITY OR PAYMENT FOR SPECIAL REVETMENT BID ITEM.

24.-27. THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING AN INDEPENDENT CHECK OF ALL CONSTRUCTION STAKES PLACED FOR THE PROJECT. THIS INDEPENDENT CHECK SHALL BE SUFFICIENT TO UNDERSTAND THE PLACEMENT AND INTENT OF THE STAKES.

SEE TABULATION CBA-300 ON SHEET 15, FOR FIELD TIES TO THE SITE SURVEY.

THE BID PRICE FOR CONSTRUCTION SURVEY SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, DATA PREPARATION, COORDINATION, FILE CONVERSION, AND OTHER INCIDENTAL WORK NECESSARY TO PERFORM THE REQUIRED CONSTRUCTION SURVEY. ANY DIGITAL TERRAIN MODELING, SURFACE PREPARATION, OR OTHER MODELING NEEDED BY THE CONTRACTOR FOR MACHINE CONTROL GRADING SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION SURVEY BID ITEM AND SHALL BE INCLUDED IN THE BID PRICE. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR SUCH MODELING. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.

28. SEE TABULATION 108-13A ON SHEET 13.

29. SEE TRAFFIC CONTROL PLAN ON SHEET 21. INCLUDES ALL COSTS FOR PADDLE ROUTE SIGNAGE. SEE SHEET 13 FOR DETAILS.

31.-33. THE CONTRACTOR IS TO RESHAPE, FERTILIZE, SEED AND MULCH ANY AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION. THIS SHALL BE INCLUDED IN THE PRICES BID FOR "MULCHING" AND "SEEDING AND FERTILIZING (RURAL)". SEE POLLUTION PREVENTION PLAN, SHEET 6 FOR STABILIZING CROP REQUIREMENT.

34.-41. SEE POLLUTION PREVENTION PLAN, SHEET 6, TABULATIONS 100-17, 100-18 AND 100-19 ON SHEET 15, AND TABULATION 100-32 ON SHEET 14.

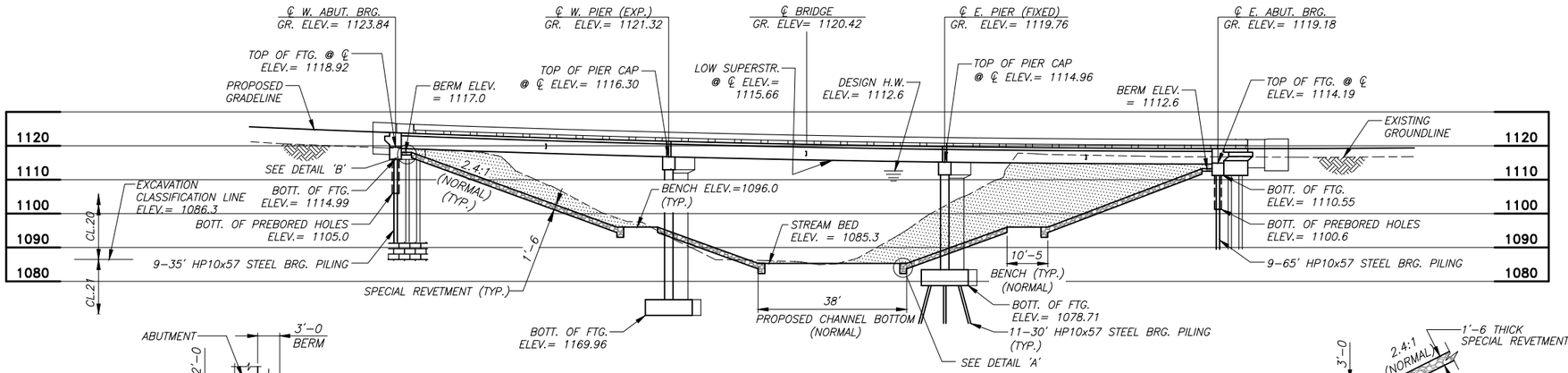
243'–0 x 24'–6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — TEE PIERS
80'–9 END SPANS — 81'–6 INTERIOR SPAN

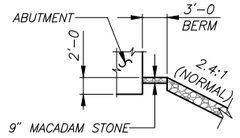
QUANTITY SUMMARY

STATION 5+15.00 — 30° SKEW, LT. AHEAD
MONTGOMERY COUNTY, — IOWA

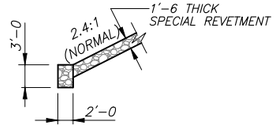
BENCH MARK: RR SPIKE IN P.P., STA. 1+98, 32' RT., ELEV.= 1137.30



LONGITUDINAL SECTION ALONG ℄ ROADWAY



DETAIL 'B'



DETAIL 'A'

V.P.I. STA. 6+05.00
ELEV.= 1107.72
L.V.C.= 790'
M.O.= 11.5735
K= 67.41
40 MPH DESIGN
SSD= 305'

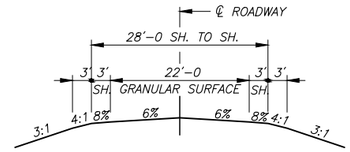
V.P.C. STA. 2+10.00 ELEV.= 1133.16

TIE–IN & V.P.T. STA. 10+00.00 ELEV.= 1128.58

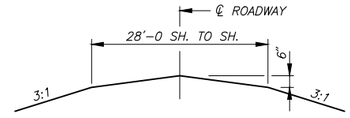
-6.44%

+5.28%

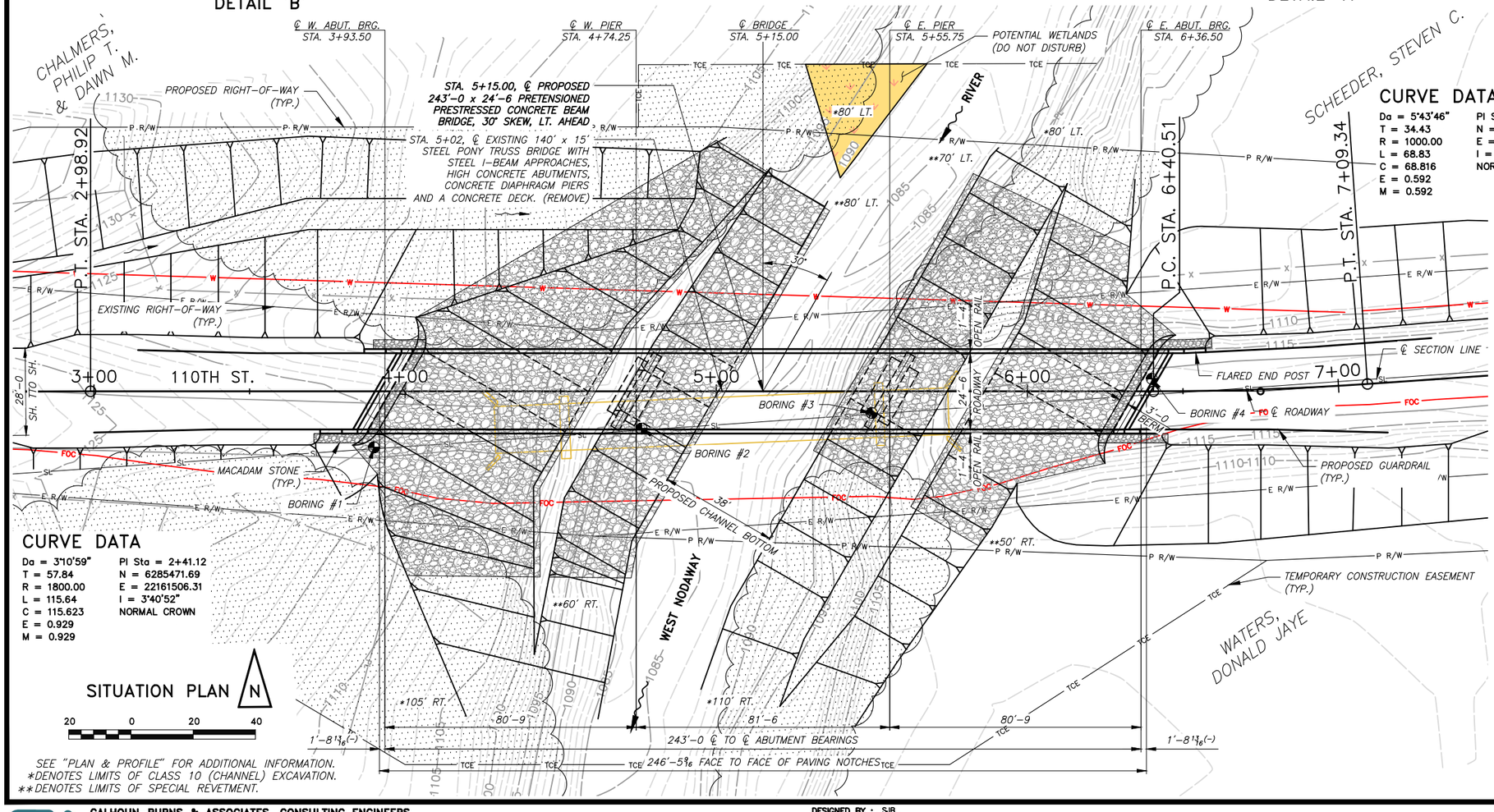
PROPOSED GRADE



TYPICAL APPROACH SECTION STA. 2+00 TO 10+00



TYPICAL APPROACH SECTION STA. 0+50 TO 1+65



CURVE DATA

Da = 3°10'59"
T = 57.84
R = 1800.00
L = 115.64
C = 115.623
E = 0.929
M = 0.929

PI Sta = 2+41.12
N = 6285471.69
E = 22161506.31
I = 3°40'52"
NORMAL CROWN

CURVE DATA

Da = 5°43'46"
T = 34.43
R = 1000.00
L = 68.83
C = 68.816
E = 0.592
M = 0.592

PI Sta = 6+74.93
N = 6285435.00
E = 22161938.61
I = 3°56'37"
NORMAL CROWN

SEE "PLAN & PROFILE" FOR ADDITIONAL INFORMATION.
*DENOTES LIMITS OF CLASS 10 (CHANNEL) EXCAVATION.
**DENOTES LIMITS OF SPECIAL REVETMENT.

LOCATION

MONTGOMERY COUNTY
T–73N, R–36W
SECTION 10
DOUGLAS TOWNSHIP
OVER WEST NODAWAY RIVER

HYDRAULIC DATA

DRAINAGE AREA = 131 SQ. MI.
DESIGN DISCHARGE = 17,100 C.F.S.
DESIGN HIGH WATER ELEV. = 1112.6
MANNING SLOPE = 0.00047 FT./FT.
BRIDGE WATERWAY AREA = 3,046 SQ. FT.
DESIGN VELOCITY = 5.6 F.P.S.
Q25 = 14,100 C.F.S. STAGE ELEV. = 1110.9
Q50 = 17,100 C.F.S. STAGE ELEV. = 1112.6 (DESIGN)
Q100 = 20,200 C.F.S. STAGE ELEV. = 1114.2
Q200 = 23,500 C.F.S. STAGE ELEV. = 1115.7
Q500 = 27,400 C.F.S. STAGE ELEV. = 1117.4
EXT. H.W. ELEV. = UNKNOWN
ANTICIPATED Q100 SCOUR ELEVATION = 1077.1
ANTICIPATED Q200 SCOUR ELEVATION = 1076.8

243'–0 x 24'–6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
80'–9 END SPANS

TEE PIERS
81'–6 INTERIOR SPAN

SITUATION PLAN

STATION 5+15.00
30° SKEW, LT. AHEAD

MONTGOMERY COUNTY, IOWA

SPECIFICATIONS

DESIGN: AASHTO LRFD 4TH EDITION, SERIES OF 2007.

CONSTRUCTION: THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2023, PLUS GENERAL SUPPLEMENTAL SPECIFICATIONS; AND APPLICABLE SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS, SHALL APPLY TO THE CONSTRUCTION ON THIS PROJECT.

DESIGN STRESSES

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, SERIES 2007.

REINFORCING STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 5, GRADE 60.

STRUCTURAL STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 6. ASTM A709 GRADE 36 (AASHTO M270 GRADE 36).

CONCRETE IN ACCORDANCE WITH LRFD AASHTO SECTION 5, F'C=3,500 PSI EXCEPT PRESTRESSED BEAM CONCRETE AS NOTED.

PRESTRESSING STEEL SEE STANDARD SHEET H24-36-06

PRESTRESSED CONCRETE SEE STANDARD SHEET H24-36-06

WEST PIER SPECIFICATIONS

DESIGN: AASHTO LRFD 8TH EDITION, SERIES OF 2017, EXCEPT AS NOTED IN THE CURRENT IOWA BRIDGE DESIGN MANUAL.

CONSTRUCTION: THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2023, PLUS GENERAL SUPPLEMENTAL SPECIFICATIONS; AND APPLICABLE SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS, SHALL APPLY TO THE CONSTRUCTION ON THIS PROJECT.

WEST PIER DESIGN STRESSES

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, SERIES 2017, EXCEPT AS NOTED IN THE CURRENT IOWA BRIDGE DESIGN MANUAL.

REINFORCING STEEL IN ACCORDANCE WITH LRFD AASHTO SECTION 5, GRADE 60.

CONCRETE IN ACCORDANCE WITH LRFD AASHTO SECTION 5, F'C=3,500 PSI.

GENERAL NOTES

THIS DESIGN IS FOR A 243'-0 x 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ON 110TH STREET OVER THE WEST NODAWAY RIVER IN THE CITY OF GRANT, MONTGOMERY COUNTY, IOWA.

THIS BRIDGE IS DESIGNED FOR HL-93 LOADING PLUS 20 LBS. PER SQ. FT. OF ROADWAY FOR FUTURE WEARING SURFACE.

ACCESS SHALL BE MAINTAINED TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

THE PRIME CONTRACTOR SHALL EMPLOY CONTROLS TO REDUCE THE EROSIVENESS OF LAND ADJACENT TO SURFACE WATERS AND WETLANDS, INCLUDING ESTABLISHMENT AND MAINTENANCE OF EROSION CONTROL DURING AND AFTER CONSTRUCTION AND REVEGETATION OF ALL DISTURBED AREAS UPON PROJECT COMPLETION. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL EROSION CONTROL MEASURES.

STANDARD ROAD PLAN EW-401 IS LISTED IN TABULATION 105-4; HOWEVER, IT IS INCLUDED FOR INFORMATION PURPOSES ONLY SINCE IT IS AN OPTION. NO QUANTITIES ASSOCIATED WITH CONSTRUCTING EW-401 ARE INCLUDED IN ANY BID ITEMS.

STANDARD ROAD PLANS ARE AVAILABLE FROM THE IOWA DEPARTMENT OF TRANSPORTATION WEBSITE: http://erl.iowadot.gov.

UTILITY NOTES

SEE SECTION 1107.15 OF THE STANDARD SPECIFICATION REGARDING UTILITY COORDINATION.

WASTE AND DISPOSAL NOTES

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT AREAS (INCLUDING HAUL ROADS) SELECTED FOR WASTE OR DISPOSAL NOT IMPACT 1) CULTURALLY SENSITIVE SITES OR GRAVES OR 2) WETLANDS OR "WATERS OF THE U.S.", INCLUDING STREAMS OR STREAM BANKS BELOW THE "ORDINARY HIGH WATER MARK", WITHOUT AN APPROVED U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY STATED IN THE PLANS OR APPROVED BY THE ENGINEER.

ELECTRONIC FILES

AFTER AWARD OF THE CONTRACT, AN ELECTRONIC VERSION OF THE CIVIL 3D AND LAND XML FILES WILL BE AVAILABLE, UPON REQUEST, FOR THE SUCCESSFUL BIDDER'S USE DURING CONSTRUCTION. ANY ELECTRONIC VERSIONS PROVIDED ARE FOR INFORMATION ONLY. THE CERTIFIED PLAN SET SHALL GOVERN OVER ANY ELECTRONIC FILES PROVIDED.

THE ELECTRONIC FILE, IF REQUESTED, WILL BE PROVIDED IN THE 2026 VERSION OF CIVIL 3D. PRIOR TO RELEASE OF THE ELECTRONIC FILES, THE CONTRACTOR WILL BE REQUIRED TO SIGN AN ELECTRONIC MEDIA TRANSFER AGREEMENT AS PROVIDED BY CALHOUN-BURNS AND ASSOCIATES.

THE LIMITED MODELING WITHIN THE CIVIL 3D FILE HAS BEEN COMPLETED FOR THE PREPARATION OF THE PLAN SET. ADDITIONAL MANIPULATION BY THE CONTRACTOR MAY BE REQUIRED TO CREATE A MODEL ADEQUATE FOR CONSTRUCTION USE.

CONTRACTOR TO PROVIDE ENGINEER WITH TOP OF BEAM SHOTS, AS ERECTED, PER SPECIFICATION 2526.03.E.3.h. THE ENGINEER SHALL CALCULATE HAUNCH THICKNESSES AND DETERMINE IF ADJUSTMENTS ARE NECESSARY.

HAZARDOUS MATERIALS NOTES

AN INSPECTION FOR THE PRESENCE OF ASBESTOS CONTAINING MATERIALS WAS COMPLETED BY:

SCOTT BROWN OF IOWA ENVIRONMENTAL SERVICES
IA LICENSE NUMBER: 23-11045I
DATE INSPECTED: 08/16/2024
PHONE: 515-279-8042

A SCRAPE SAMPLE OF THE EXISTING PAINT WAS TAKEN FROM THE RAIL/TRUSS/BEAM OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE AND OF THE LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. ANALYSIS OF TOTAL LEAD ON THIS SAMPLE WAS 19,100 PART PER MILLION (PPM). ANALYSIS OF TOTAL CHROMIUM ON THIS SAMPLE WAS 38,400 PPM. THESE ANALYSES SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER CONSTITUENTS WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE COUNTY'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS IN SUCH A MANNER THAT ANY PAINT REMOVED DURING REMOVAL IS CONTAINED, COLLECTED, AND DISPOSED OF IN ACCORDANCE WITH SECTION 2508 OF THE STANDARD SPECIFICATIONS.

BEFORE DELIVERY OF ANY SCRAP STEEL THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE RECEIVING FACILITY. THIS NOTICE SHALL AT A MINIMUM INCLUDE:

1. A NOTICE THAT THE SCRAP STEEL IS COATED WITH PAINT THAT HAS REGULATED MATERIALS AT LEVELS THAT COULD BE HAZARDOUS TO EMPLOYEES OR THE ENVIRONMENT.
2. A COPY OF THE SCRAPE SAMPLE PROVIDED IN THE CONTRACT DOCUMENTS.
3. A SIGNATURE BLOCK FOR THE RECEIVING FACILITY TO CONFIRM THEIR RECEIPT OF THIS INFORMATION.

A COPY OF THIS NOTICE, SIGNED BY THE RECEIVING FACILITY, SHALL BE RETURNED TO THE ENGINEER BEFORE ANY SCRAP STEEL IS REMOVED FROM THE PROJECT.

ALL COSTS ASSOCIATED WITH COMPLIANCE WITH THE ABOVE REMOVAL AND DISPOSAL REQUIREMENTS WILL BE INCIDENTAL TO "REMOVAL OF EXISTING BRIDGE."

PILE NOTES

SOUNDING AND TEST BORING DATA SHOWN ON PLANS WERE ACCUMULATED FOR DESIGNING AND ESTIMATING PURPOSES. THEIR APPEARANCE ON THE PLAN DOES NOT CONSTITUTE A GUARANTEE THAT CONDITIONS OTHER THAN THOSE INDICATED WILL NOT BE ENCOUNTERED.

THIS PROJECT USES THE LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHODOLOGY FOR DETERMINING PILE CONTRACT LENGTH AND NOMINAL AXIAL BEARING RESISTANCE. A WEAP ANALYSIS AND BEARING GRAPH WILL BE PROVIDED BY THE ENGINEER THAT GIVES THE RELATIONSHIP BETWEEN REQUIRED NOMINAL AXIAL BEARING RESISTANCE AND BLOW COUNT.

WEST ABUTMENT PILE

THE CONTRACT LENGTH OF 35 FEET FOR THE WEST ABUTMENT PILES IS BASED ON A NON-COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 127 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55 FOR SOIL AND 0.70 FOR ROCK END BEARING.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A NON-COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55 FOR SOIL AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF PREBORE.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR THE WEST ABUTMENT PILES IS 94 TONS AT END OF DRIVE (EOD) OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

WEST ABUTMENT PILES SHALL INCLUDE DRIVING POINTS IN ORDER TO DRIVE THROUGH WEATHERED ROCK INTO HARDER UNDERLYING LIMESTONE.

EAST ABUTMENT PILE

THE CONTRACT LENGTH OF 65 FEET FOR THE EAST ABUTMENT PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 127 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF PREBORE.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR THE EAST ABUTMENT PILES IS 91 TONS AT END OF DRIVE (EOD) OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

PILE POINTS ARE NOT REQUIRED AT EAST ABUTMENT BUT MAY BE ADDED AT CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO CONTRACTING AUTHORITY TO ACHIEVE REQUIRED END BEARING.

EAST PIER PILE

THE CONTRACT LENGTH OF 30 FEET FOR THE EAST PIER PILES IS BASED ON A COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 211 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING. PILES WERE ALSO DESIGNED FOR A FACTORED TENSION FORCE OF 42 KIPS.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.65 FOR SOIL AND 0.70 FOR ROCK END BEARING. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF FOOTING. DESIGN SCOUR (50-YEAR) WAS ASSUMED TO AFFECT THE UPPER 2 FEET OF EMBEDDED PILE LENGTH AND CAUSE 2 KIPS OF DRIVING RESISTANCE.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR THE PIER PILES IS 152 TONS AT END OF DRIVE (EOD) OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. PILES SHALL BE EMBEDDED NO LESS THAN 4 FEET INTO BEDROCK. CONSTRUCTION CONTROL REQUIRES A WEAP ANALYSIS WITH BEARING GRAPH.

PILE POINTS SHALL NOT BE USED AT THE EAST PIER.

CONCRETE AND REINFORCING STEEL NOTES

ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED. BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTERS IN EITHER DIRECTION SHALL BE USED TO SUPPORT ALL REINFORCING IN ACCORDANCE WITH THE SECTION 2404 OF THE STANDARD SPECIFICATIONS.

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

ALL EXPOSED CORNERS 90 DEGREES OR SHARPER ARE TO BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.

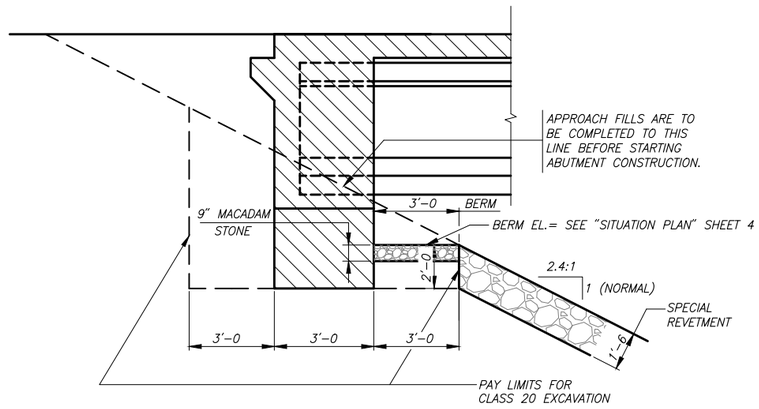
ALL REINFORCING BARS AND BARS NOTED AS DOWELS SUPPLIED FOR THIS STRUCTURE SHALL BE DEFORMED REINFORCEMENT UNLESS OTHERWISE NOTED OR SHOWN.

KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM THE VERTICAL.

CONCRETE PAVING BLOCKS ARE REQUIRED AND ARE TO REMAIN IN PLACE AFTER CONSTRUCTION.

CONTRACTOR'S WORK AREA

THE CONTRACTOR'S WORK AND MATERIAL STORAGE AREA SHALL BE DEFINED BY THE CONTRACTOR AND NOTED TO THE ENGINEER. THE CONTRACTOR SHALL SHAPE, FERTILIZE, AND SEED THIS CONTRACTOR'S AREA IN ORDER TO RETURN IT TO ITS ORIGINAL CONDITION. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR "SEEDING AND FERTILIZING (RURAL)" AND "MULCHING" BID ITEMS. AREAS OUTSIDE THE CONTRACTOR'S AREA DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THEIR ORIGINAL CONDITION, AS DETERMINED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE AUTHORIZED FOR THIS WORK.



ABUTMENT EXCAVATION DETAIL

243'-0 x 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
80'-9 END SPANS

TEE PIERS
81'-6 INTERIOR SPAN

GENERAL NOTES

STATION 5+15.00
MONTGOMERY COUNTY,

30° SKEW, LT. AHEAD
IOWA

POLLUTION PREVENTION PLAN

THIS PROJECT IS REGULATED BY THE REQUIREMENTS OF THE IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT NO. 2 OR AN IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) INDIVIDUAL STORM WATER PERMIT. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF THIS PERMIT AND THE POLLUTION PREVENTION PLAN (PPP).

THIS BASE PPP INCLUDES INFORMATION ON ROLES AND RESPONSIBILITIES, PROJECT SITE DESCRIPTION, CONTROLS, MAINTENANCE PROCEDURES, INSPECTION REQUIREMENTS, NON-STORM WATER CONTROLS, POTENTIAL SOURCES OF OFF RIGHT-OF-WAY POLLUTION, AND DEFINITIONS. THIS PLAN REFERENCES OTHER DOCUMENTS RATHER THAN REPEATING THE INFORMATION CONTAINED IN THE DOCUMENTS. A COPY OF THIS BASE POLLUTION PREVENTION PLAN, AMENDED AS NEEDED DURING CONSTRUCTION, WILL BE READILY AVAILABLE FOR REVIEW.

ALL CONTRACTORS SHALL CONDUCT THEIR OPERATIONS IN A MANNER THAT CONTROLS POLLUTANTS, MINIMIZES EROSION, AND PREVENTS SEDIMENTS FROM ENTERING WATERS OF THE STATE AND LEAVING THE HIGHWAY RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE AND IMPLEMENTATION OF THE PPP FOR THEIR ENTIRE CONTRACT. THIS RESPONSIBILITY SHALL BE FURTHER SHARED WITH SUBCONTRACTORS WHOSE WORK IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP.

I. ROLES AND RESPONSIBILITIES
- A. DESIGNER:
  1. PREPARES BASE PPP INCLUDED IN THE PROJECT PLAN.
- B. OWNER
  1. PREPARES NOTICE OF INTENT (NOI) SUBMITTED TO IOWA DNR.
  2. IS SIGNATURE AUTHORITY ON THE BASE PPP.
- C. CONTRACTOR:
  1. SIGNS A CO-PERMITTEE CERTIFICATION STATEMENT ADHERING TO THE REQUIREMENTS OF THE NPDES PERMIT AND THIS PPP. ALL CO-PERMITTEES ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE IOWA ADMINISTRATIVE CODE TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PPP.
  2. DESIGNATES A WATER POLLUTION CONTROL MANAGER (WPCM), WHO HAS THE DUTIES AND RESPONSIBILITIES AS DEFINED IN SPECIFICATIONS SECTION 2602 OF THE STANDARD SPECIFICATIONS.
  3. SUBMITS AN EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND ECIP UPDATES ACCORDING TO SPECIFICATIONS SECTION 2602 OF THE STANDARD SPECIFICATIONS.
  4. INSTALLS AND MAINTAINS APPROPRIATE CONTROLS. THIS WORK MAY BE SUBCONTRACTED AS DOCUMENTED THROUGH SUBCONTRACTOR REQUEST FORMS (FORM 830231).
  5. SUPERVISES AND IMPLEMENTS GOOD HOUSEKEEPING PRACTICES ACCORDING TO PARAGRAPH III, C, 2.
  6. CONDUCTS JOINT REQUIRED INSPECTIONS OF THE SITE WITH INSPECTION STAFF. WHEN CONTRACTOR IS NOT MOBILIZED ON SITE, CONTRACTOR MAY DELEGATE THIS RESPONSIBILITY TO A TRAINED OR CERTIFIED SUBCONTRACTOR. CONTRACTING AUTHORITY ALSO MAY WAIVE JOINT INSPECTION REQUIREMENT DURING WINTER SHUTDOWN. IN BOTH CIRCUMSTANCES, WPCM (OR TRAINED OR CERTIFIED DELEGATE FROM THE CONTRACTOR) IS STILL RESPONSIBLE TO REVIEW AND SIGN INSPECTION REPORTS.
  7. COMPLIES WITH TRAINING AND CERTIFICATION REQUIREMENTS OF SECTION 2602 OF THE STANDARD SPECIFICATIONS.
  8. SUBMITS AMENDED PPP SITE MAP ACCORDING TO SECTION 2602 OF THE STANDARD SPECIFICATIONS.
- D. SUBCONTRACTORS:
  1. SIGN A CO-PERMITTEE CERTIFICATION STATEMENT ADHERING TO THE REQUIREMENTS OF THE NPDES PERMIT AND THIS PPP IF RESPONSIBLE FOR SEDIMENT OR EROSION CONTROLS; INVOLVED IN LAND DISTURBING ACTIVITIES; OR PERFORMING WORK THAT IS A SOURCE OF POTENTIAL POLLUTION AS DEFINED IN THIS PPP. SUBCONTRACTED WORK ITEMS ARE IDENTIFIED IN SUBCONTRACTOR REQUEST FORMS (FORM 830231). ALL CO-PERMITTEES ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE IOWA ADMINISTRATIVE CODE TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PPP.
  2. IMPLEMENT GOOD HOUSEKEEPING PRACTICES ACCORDING TO PARAGRAPH III, C, 2.
- E. RCE/PROJECT ENGINEER:
  1. IS PROJECT STORM WATER MANAGER.
  2. TAKES ACTIONS NECESSARY TO ENSURE COMPLIANCE WITH STORM WATER REQUIREMENTS INCLUDING, WHERE APPROPRIATE, ISSUING STOP WORK ORDERS, AND DIRECTING ADDITIONAL INSPECTIONS AT CONSTRUCTION PROJECT SITES THAT ARE EXPERIENCING PROBLEMS WITH ACHIEVING PERMIT COMPLIANCE.
  3. ORDERS THE TAKING OF MEASURES TO CEASE, CORRECT, PREVENT, OR MINIMIZE THE CONSEQUENCES OF NON-COMPLIANCE WITH THE STORM WATER REQUIREMENTS OF THE APPLICABLE PERMIT.
  4. SUPERVISES ALL WORK NECESSARY TO MEET STORM WATER REQUIREMENTS AT THE PROJECT, INCLUDING WORK PERFORMED BY CONTRACTORS AND SUBCONTRACTORS.
  5. REQUIRES EMPLOYEES, CONTRACTORS, AND SUBCONTRACTORS TO TAKE APPROPRIATE RESPONSIVE ACTION TO COMPLY WITH STORM WATER REQUIREMENTS, INCLUDING REQUIRING ANY SUCH PERSON TO CEASE OR CORRECT A VIOLATION OF STORM WATER REQUIREMENTS, AND TO ORDER OR RECOMMEND SUCH OTHER ACTIONS AS NECESSARY TO MEET STORM WATER REQUIREMENTS.
  6. IS FAMILIAR WITH THE PROJECT PPP AND STORM WATER SITE MAP.
  7. IS THE POINT OF CONTACT FOR THE PROJECT FOR REGULATORY OFFICIALS, INSPECTOR, CONTRACTORS, AND SUBCONTRACTORS REGARDING STORM WATER REQUIREMENTS.
  8. IS SIGNATURE AUTHORITY ON NOTICE OF DISCONTINUATION.
  9. MAINTAINS AN UP-TO-DATE RECORD OF CONTRACTORS, SUBCONTRACTORS, AND SUBCONTRACTED WORK ITEMS THROUGH SUBCONTRACTOR REQUEST FORMS (FORM 830231).
  10. MAKES INFORMATION TO DETERMINE PERMIT COMPLIANCE AVAILABLE TO THE DNR UPON THEIR REQUEST.
- F. INSPECTOR:
  1. UPDATES PPP THROUGH FIELDBOOK ENTRIES AND STORM WATER SITE INSPECTION REPORTS IF THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE WHICH HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS FROM THE PROJECT.
  2. MAKES INFORMATION TO DETERMINE PERMIT COMPLIANCE AVAILABLE TO THE DNR UPON THEIR REQUEST.
  3. CONDUCTS JOINT REQUIRED INSPECTIONS OF THE SITE WITH THE CONTRACTOR/SUBCONTRACTOR.
  4. COMPLETES AN INSPECTION REPORT AFTER EACH INSPECTION.
  5. IS SIGNATURE AUTHORITY ON STORM WATER INSPECTION REPORTS.

II. PROJECT SITE DESCRIPTION
- A. THIS POLLUTION PREVENTION PLAN (PPP) IS FOR THE CONSTRUCTION OF A 243'-0 X 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ON 110TH STREET OVER WEST NODAWAY RIVER IN MONTGOMERY COUNTY, IOWA.
- B. THIS PPP COVERS APPROXIMATELY 3.1 ACRES WITH AN ESTIMATED 3.1 ACRES BEING DISTURBED. THE PORTION OF THE PPP COVERED BY THIS CONTRACT HAS 3.1 ACRES DISTURBED.
- C. THE PPP IS LOCATED IN AN AREA OF TWO SOIL ASSOCIATIONS (SHARPSBURG-SHELBY-ADAIR AND MARSHALL-SHELBY). THE ESTIMATED WEIGHTED AVERAGE RUNOFF COEFFICIENT NUMBER FOR THIS PPP AFTER COMPLETION WILL BE 0.24.
- D. STORM WATER SITE MAP - MULTIPLE SOURCES OF INFORMATION COMPRISE THE BASE STORM WATER SITE MAP INCLUDING:
  1. DRAINAGE PATTERNS – SITUATION PLAN AND PLAN AND PROFILE.
  2. PROPOSED SLOPES – CROSS SECTIONS.
  3. AREAS OF SOIL DISTURBANCE – CONSTRUCTION LIMITS SHOWN ON SITUATION PLAN AND PLAN AND PROFILE.
  4. LOCATION OF STRUCTURAL CONTROLS – TABULATIONS.
  5. LOCATIONS OF NON-STRUCTURAL CONTROLS – TABULATIONS.
  6. LOCATIONS OF STABILIZATION PRACTICES – GENERALLY WITHIN CONSTRUCTION LIMITS SHOWN ON SITUATION PLAN AND PLAN AND PROFILE.
  7. SURFACE WATERS (INCLUDING WETLANDS) – PROJECT LOCATION MAP AND SITUATION PLAN AND PLAN AND PROFILE.
  8. LOCATIONS WHERE STORM WATER IS DISCHARGED – SITUATION PLAN AND PLAN AND PROFILE.
- E. THE BASE STORM WATER SITE MAP IS AMENDED BY CONTRACT MODIFICATIONS AND PROGRESS PAYMENTS (FIELDBOOK ENTRIES) OF COMPLETED EROSION CONTROL WORK. ALSO, DUE TO PROJECT PHASING, EROSION AND SEDIMENT CONTROLS SHOWN ON PROJECT PLANS MAY NOT BE INSTALLED UNTIL NEEDED, BASED ON SITE CONDITIONS. FOR EXAMPLE, SILT FENCE DITCH CHECKS WILL TYPICALLY NOT BE INSTALLED UNTIL THE DITCH HAS BEEN INSTALLED. INSTALLED LOCATIONS WILL BE DOCUMENTED BY FIELDBOOK ENTRIES AND AMENDED PPP SITE MAP.
- F. RUNOFF FROM THIS WORK WILL FLOW INTO WEST NODAWAY RIVER.

III. CONTROLS
- A. THE CONTRACTOR'S ECIP SPECIFIED IN ARTICLE 2602.03 OF THE STANDARD SPECIFICATIONS FOR ACCOMPLISHMENT OF STORM WATER CONTROLS SHOULD CLEARLY DESCRIBE THE INTENDED SEQUENCE OF MAJOR ACTIVITIES AND FOR EACH ACTIVITY DEFINE THE CONTROL MEASURE AND THE TIMING DURING THE CONSTRUCTION PROCESS THAT THE MEASURE WILL BE IMPLEMENTED.
- B. PRESERVE VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION.
- C. SECTIONS 2601 AND 2602 OF THE STANDARD SPECIFICATIONS DEFINE REQUIREMENTS TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES. ACTUAL QUANTITIES USED AND INSTALLED LOCATIONS MAY VARY FROM THE BASE PPP AND AMENDMENT OF THE PLAN WILL BE DOCUMENTED VIA FIELDBOOK ENTRIES, AMENDED PPP SITE MAP, OR BY CONTRACT MODIFICATION. ADDITIONAL EROSION AND SEDIMENT CONTROL ITEMS MAY BE REQUIRED AS DETERMINED BY THE INSPECTOR AND/OR CONTRACTOR DURING STORM WATER SITE INSPECTIONS. IF THE WORK INVOLVED IS NOT APPLICABLE TO ANY CONTRACT ITEMS, THE WORK WILL BE PAID FOR ACCORDING TO ARTICLE 1109.03 PARAGRAPH B OF THE STANDARD SPECIFICATIONS.
  1. EROSION AND SEDIMENT CONTROLS
     - a. STABILIZATION PRACTICES
       1) SITE PLANS WILL ENSURE THAT EXISTING VEGETATION OR NATURAL BUFFERS ARE PRESERVED WHERE ATTAINABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED.
       2) INITIALIZE STABILIZATION OF DISTURBED AREAS IMMEDIATELY AFTER CLEARING, GRADING, EXCAVATING, OR OTHER EARTH DISTURBING ACTIVITIES HAVE:
          a) PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR
          b) TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
       3) STAGED PERMANENT AND/OR TEMPORARY STABILIZING SEEDING AND MULCHING SHALL BE COMPLETED AS THE DISTURBED AREAS ARE COMPLETED. INCOMPLETE AREAS SHALL BE STABILIZED ACCORDING TO PARAGRAPH III, C, 1, a, 2, b ABOVE.
       4) PERMANENT AND TEMPORARY STABILIZATION PRACTICES TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION LOCATED IN THE PLANS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE PRACTICES TO BE USED ON THIS PROJECT ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION.
       5) PRESERVATION OF EXISTING VEGETATION WITHIN RIGHT-OF-WAY OR EASEMENTS WILL ACT AS VEGETATIVE BUFFER STRIPS.
       6) PRESERVATION OF TOPSOIL: BID ITEMS TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION LOCATED IN THE PLANS. ADDITIONAL INFORMATION MAY BE FOUND IN TABULATIONS OF THE PLANS OR IS REFERENCED IN STANDARD SECTION 2105 OF THE STANDARD SPECIFICATIONS.
     - b. STRUCTURAL PRACTICES
       1) STRUCTURAL PRACTICES WILL BE IMPLEMENTED TO DIVERT FLOWS FROM EXPOSED SOILS AND DETAIN OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. ADDITIONALLY, STRUCTURAL PRACTICES MAY INCLUDE: SILT BASINS THAT PROVIDE 3600 CUBIC FEET OF STORAGE PER ACRE DRAINED OR EQUIVALENT SEDIMENT CONTROLS, OUTLET STRUCTURES THAT WITHDRAW WATER FROM SURFACE WHEN DISCHARGING BASINS, AND CONTROLS TO DIRECT STORM WATER TO VEGETATED AREAS.
       2) STRUCTURAL PRACTICES TO BE USED FOR THIS PROJECT ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION, AS WELL AS ALL OTHER ITEM SPECIFIC TABULATIONS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE DEVICES TO BE USED ON THIS PROJECT CAN BE FOUND IN THE PLANS OR ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION.
     - c. STORM WATER MANAGEMENT
       1) MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. THIS MAY INCLUDE VELOCITY DISSIPATION DEVICES AT DISCHARGE LOCATIONS AND ALONG LENGTH OF OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSION VELOCITY FLOW FROM STRUCTURE TO WATER COURSE. IF INCLUDED WITH THIS PROJECT, THESE ITEMS ARE LOCATED IN THE ESTIMATED PROJECT QUANTITIES AND ESTIMATE REFERENCE INFORMATION, AS WELL AS ALL OTHER ITEM SPECIFIC TABULATIONS. TYPICAL DRAWINGS DETAILING CONSTRUCTION OF THE PRACTICES TO BE USED ON THIS PROJECT ARE REFERENCED IN THE STANDARD ROAD PLANS TABULATION. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT.
  2. OTHER CONTROLS
     - a. CONTRACTOR DISPOSAL OF UNUSED CONSTRUCTION MATERIALS AND CONSTRUCTION MATERIAL WASTES SHALL COMPLY WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS. IN THE EVENT OF A CONFLICT WITH OTHER GOVERNMENTAL LAWS, RULES AND REGULATIONS, THE MORE RESTRICTIVE APPLICABLE LAWS, RULES OR REGULATIONS SHALL APPLY.
       1) VEHICLE ENTRANCES AND EXITS - CONSTRUCT AND MAINTAIN ENTRANCES AND EXITS TO PREVENT TRACKING OF SEDIMENTS ONTO ROADWAYS.
       2) MATERIAL DELIVERY, STORAGE AND USE - IMPLEMENT PRACTICES TO PREVENT DISCHARGE OF CONSTRUCTION MATERIALS DURING DELIVERY, STORAGE, AND USE.
       3) STOCKPILE MANAGEMENT - INSTALL CONTROLS TO REDUCE OR ELIMINATE POLLUTION OF STORM WATER FROM STOCKPILES OF SOIL AND PAVING.
       4) WASTE DISPOSAL - DO NOT DISCHARGE ANY MATERIALS, INCLUDING BUILDING MATERIALS, INTO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
       5) SPILL PREVENTION AND CONTROL - IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES TO CONTAIN AND CLEAN-UP SPILLS AND PREVENT MATERIAL DISCHARGES TO THE STORM DRAIN SYSTEM AND WATERS OF THE STATE.
       6) CONCRETE RESIDUALS AND WASHOUT WASTES - WASTE SHALL NOT BE DISCHARGED TO A SURFACE WATER AND IS NOT ALLOWED TO ADVERSELY AFFECT A WATER OF THE STATE. DESIGNATE TEMPORARY CONCRETE WASHOUT FACILITIES FOR RINSING OUT CONCRETE TRUCKS. PROVIDE DIRECTIONS TO TRUCK DRIVERS WHERE DESIGNATED WASHOUT FACILITIES ARE LOCATED. DESIGNATED WASHOUT AREAS SHOULD BE LOCATED AT LEAST 50 FEET AWAY FROM STORM DRAINS, STREAMS OR OTHER WATER BODIES. CARE SHOULD BE TAKEN TO ENSURE THESE FACILITIES DO NOT OVERFLOW DURING STORM EVENTS.
       7) CONCRETE GROOVING/GRINDING SLURRY – DO NOT DISCHARGE SLURRY TO A WATERBODY OR STORM DRAIN. SLURRY MAY BE APPLIED ON FORESLOPES OR REMOVED FROM THE PROJECT.
       8) VEHICLE AND EQUIPMENT STORAGE AND MAINTENANCE AREAS - PERFORM ON SITE FUELING AND MAINTENANCE IN ACCORDANCE WITH ALL ENVIRONMENT LAWS SUCH AS PROPER STORAGE OF ONSITE FUELS AND PROPER DISPOSAL OF USED ENGINE OIL OR OTHER FLUIDS ON SITE. EMPLOY WASHING PRACTICES THAT PREVENT CONTAMINATION OF SURFACE AND GROUND WATER FROM WASH WATER. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
       9) LITTER MANAGEMENT - ENSURE EMPLOYEES PROPERLY DISPOSE OF LITTER. MINIMIZE EXPOSURE OF TRASH IF EXPOSURE TO PRECIPITATION OR STORM WATER WOULD RESULT IN A DISCHARGE OF POLLUTANTS.
       10) DEWATERING – PROPERLY TREAT WATER TO REMOVE SUSPENDED SEDIMENT BEFORE IT RE-ENTERS A WATERBODY OR DISCHARGES OFF-SITE. MEASURES ARE ALSO TO BE TAKEN TO PREVENT SCOUR EROSION AT DEWATERING DISCHARGE POINT.
  3. APPROVED STATE OR LOCAL PLANS
     DURING THE COURSE OF THIS CONSTRUCTION, IT IS POSSIBLE THAT SITUATIONS WILL ARISE WHERE UNKNOWN MATERIALS WILL BE ENCOUNTERED. WHEN SUCH SITUATIONS ARE ENCOUNTERED, THEY WILL BE HANDLED ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS IN EFFECT AT THE TIME.

IV. MAINTENANCE PROCEDURES
THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN PROPER WORKING ORDER, INCLUDING CLEANING, REPAIRING, OR REPLACING THEM THROUGHOUT THE CONTRACT PERIOD. THIS SHALL BEGIN WHEN THE FEATURES HAVE LOST 50% OF THEIR CAPACITY.

V. INSPECTION REQUIREMENTS
- A. INSPECTIONS SHALL BE MADE JOINTLY BY THE CONTRACTOR AND THE CONTRACTING AUTHORITY AT LEAST ONCE EVERY SEVEN CALENDAR DAYS. STORM WATER SITE INSPECTIONS WILL INCLUDE:
  1. DATE OF THE INSPECTION.
  2. SUMMARY OF THE SCOPE OF THE INSPECTION.
  3. NAME AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION.
  4. REVIEW OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN DISTURBED AREAS FOR THE EFFECTIVENESS IN PREVENTING IMPACTS TO RECEIVING WATERS.
  5. MAJOR OBSERVATIONS RELATED TO THE IMPLEMENTATION OF THE PPP.
  6. IDENTIFICATION OF CORRECTIVE ACTIONS REQUIRED TO MAINTAIN OR MODIFY EROSION AND SEDIMENT CONTROL MEASURES.
- B. INCLUDE STORM WATER SITE INSPECTION REPORTS IN THE AMENDED PPP. INCORPORATE ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DETERMINED AS A RESULT OF THE INSPECTION. IMMEDIATELY BEGIN CORRECTIVE ACTIONS ON ALL DEFICIENCIES FOUND WITHIN 3 CALENDAR DAYS OF THE INSPECTION AND COMPLETE WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION. IF IT IS DETERMINED THAT MAKING THE CORRECTIONS LESS THAN 72 HOURS AFTER THE INSPECTION IS IMPRACTICABLE, IT SHOULD BE DOCUMENTED WHY IT IS IMPRACTICABLE AND INDICATE AN ESTIMATED DATE BY WHICH THE CORRECTIONS WILL BE MADE.

VI. NON-STORM WATER DISCHARGES
THIS INCLUDES SUBSURFACE DRAINS (I.E. LONGITUDINAL AND STANDARD SUBDRAINS) AND SLOPE DRAINS. THE VELOCITY OF THE DISCHARGE FROM THESE FEATURES MAY BE CONTROLLED BY THE USE OF HEADWALLS OR BLOCKS, CLASS A STONE, EROSION STONE OR OTHER APPROPRIATE MATERIALS. THIS ALSO INCLUDES UNCONTAMINATED GROUNDWATER FROM DEWATERING OPERATIONS, WHICH WILL BE CONTROLLED AS DISCUSSED IN SECTION III OF THE PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION
SILTS, SEDIMENT, AND OTHER FORMS OF POLLUTION MAY BE TRANSPORTED ONTO HIGHWAY RIGHT-OF-WAY (ROW) AS A RESULT OF A STORM EVENT. POTENTIAL SOURCES OF POLLUTION LOCATED OUTSIDE HIGHWAY ROW ARE BEYOND THE CONTROL OF THIS PPP. POLLUTION WITHIN HIGHWAY ROW WILL BE CONVEYED AND CONTROLLED PER THIS PPP.

VIII. DEFINITIONS
- A. BASE PPP - INITIAL POLLUTION PREVENTION PLAN.
- B. AMENDED PPP – BASE PPP AMENDED DURING CONSTRUCTION. MAY INCLUDE PLAN REVISIONS OR CONTRACT MODIFICATIONS FOR NEW ITEMS, STORM WATER SITE INSPECTION REPORTS, FIELDBOOK ENTRIES MADE BY THE INSPECTOR, AMENDED PPP SITE MAP BY THE CONTRACTOR, ECIP, NOI, CO-PERMITTEE CERTIFICATIONS, AND SUBCONTRACTOR REQUEST FORMS. ITEMS AMENDING THE PPP ARE STORED ELECTRONICALLY AND ARE READILY AVAILABLE UPON REQUEST.
- C. FIELDBOOK ENTRIES – THIS CONTAINS THE INSPECTOR'S DAILY DIARY AND BID ITEM POSTINGS.
- D. CONTROLS - METHODS, PRACTICES, OR MEASURES TO MINIMIZE OR PREVENT EROSION, CONTROL SEDIMENTATION, CONTROL STORM WATER, OR MINIMIZE CONTAMINANTS FROM OTHER TYPES OF WASTE OR MATERIALS ALSO CALLED BEST MANAGEMENT PRACTICES (BMPS).
- E. SIGNATURE AUTHORITY - REPRESENTATIVE AUTHORIZED TO SIGN VARIOUS STORM WATER DOCUMENTS.

CERTIFICATION STATEMENT

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE

Karen Albert
PRINTED OR TYPED NAME

POLLUTION PREVENTION PLAN

MONTGOMERY COUNTY, IOWA

BORING LOG NO. 1 STATION 3+90, 18'RT | CBA Job No.: 969-003 | Project No.: 251387

Project: 110th St (5th St) over W Nodaway River
Section 10, Douglas Township
Montgomery County, IA

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA

Surface Elevation: 1119.6' | Date Drilled: 11/20/2025 | Drilling Method: HSA
Datum: Exist W Abut at CL Road Elev. = 1118.58' | Drilling Depth, ft.: 36.5 | Page: 1 of 1

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Relative Density %	Material Description*	Graphic Log	USCS	Water Level	Depth ft.	Elevation ft.
								Crushed Rock (9"±)				0.8	
								Dark brown and brown sandy lean to fat clay, trace gravel, damp to moist		CL-CH			1118.8
1116	0	1	ST		14.6	112	6460						
	6							FILL					
1110		2	SSA	11	15.5			Brown-gray after 8.5'					
	12												
		3	SSA		15.8	111	4640						
1104												16	
								Brown-gray sandy lean clay, moist		CL			1103.6
	18							COHESIVE ALLUVIUM				18.5	
		4	SSA	9	12.0			(Stiff Silty Clay)		SC			1101.1
								Brown-gray clayey medium sand, trace gravel, saturated				20	
1098								GRANULAR ALLUVIUM					1099.6
	24							(Silty Sand)					
		5	SSA	34	16.9			Tan fractured limestone, damp					
								WEATHERED BEDROCK					
1092								(Granular Material)				28	
								Tan limestone, damp					1091.6
	30	6	SSA	150	12.1								
								Shale seams from 31' to 35'					
1086								BEDROCK					
		7	SSA	200	-								
	36							Very dark gray after 35.5'					36.5
		8	SSA	50/1.5"	14.2			End of Boring					1083.1
1080													
	42												

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: 18.5 ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

BORING LOG NO. 2 STATION 4+76, 12'RT | CBA Job No.: 969-003 | Project No.: 251387

Project: 110th St (5th St) over W Nodaway River
Section 10, Douglas Township
Montgomery County, IA

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA

Surface Elevation: 1118.5' | Date Drilled: 12/10/2025 | Drilling Method: HSA
Datum: Exist W Abut at CL Road Elev. = 1118.58' | Drilling Depth, ft.: 57 | Page: 1 of 2

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Relative Density %	Material Description*	Graphic Log	USCS	Water Level	Depth ft.	Elevation ft.
								Reinforced PCC (8"±)				0.8	
	0												1117.7
1116													
	6												
1110													
	12												
1104								Air					
	18												
1098													
	24												
1092												27	
													1091.5
	30							Water					
1086													
	36											35	
								Dark brown-gray sandy lean clay, trace gravel, very moist		CL			1083.5
1080		1	SSA	8	24.8								
		2	SSA	18	22.4			Brown-gray after 40'					
	42							COHESIVE ALLUVIUM					

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: 27 ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

BORING LOG NO. 2 STATION 4+76, 12'RT | CBA Job No.: 969-003 | Project No.: 251387

Project: 110th St (5th St) over W Nodaway River
Section 10, Douglas Township
Montgomery County, IA

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA

Surface Elevation: 1118.5' | Date Drilled: 12/10/2025 | Drilling Method: HSA
Datum: Exist W Abut at CL Road Elev. = 1118.58' | Drilling Depth, ft.: 57 | Page: 2 of 2

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Relative Density %	Material Description*	Graphic Log	USCS	Water Level	Depth ft.	Elevation ft.
								(Firm Silty Clay)					
1074		3	SSA	14	24.8								
		4	SSA	170	17.8								46
								Very dark gray shale, moist					1072.5
	48				12.3	112	2630psi	Core Run 1: 47' to 52'					
		CR1	NX		10.2	117	2500psi	Recovery = 95% RQD = 79%					
1068								Coal seam near 49.5'					
					13.2	122	115psi	Limestone from 50' to 50.5'					
					13.2	122	150psi	Gray shale after 50.5'					
	54							BEDROCK					
		CR2	NX					Core Run 2: 52' to 57'					
					11.9	126	130psi	Recovery = 103% RQD = 76%					
1062					11.9	126	120psi						57
								End of Boring					1061.5
	60												
1056													
	66												
1050													
	72												
1044													
	78												
1038													
	84												

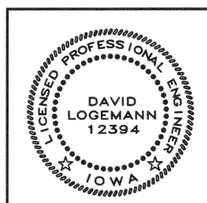
*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: 27 ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

SOUNDING DATA

(SEE "SITUATION PLAN", SHEET 4, FOR BORING LOCATIONS)



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.

DATE: 9/15/26

DAVID LOGEMANN, P.E.

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2027 .

PAGES OR SHEETS COVERED BY THIS SEAL:
7-9 OF 21

243'-0 x 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
80'-9 END SPANS

TEE PIERS
81'-6 INTERIOR SPAN

SOUNDING DATA

STATION 5+15.00
MONTGOMERY COUNTY,

30° SKEW, LT. AHEAD
IOWA

BORING LOG NO. 3 STATION 5+50, 7'RT | CBA Job No.: 969-003 | Project No.: 251387

Project: 110th St (5th St) over W Nodaway River
Section 10, Douglas Township
Montgomery County, IA

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA

Surface Elevation: 1118.5'
Datum: Exist W Abut at CL Road Elev. = 1118.58'

Date Drilled: 12/09/2025
Drilling Depth, ft.: 68

Drilling Method: HSA
Page: 1 of 2

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Relative Density %	Material Description*	Graphic Log	USCS	Water Level Depth	Water Level Elevation ft.
								Reinforced PCC (8"±)				0.8
1116	0											1117.7
	6							Air				
1110												
	12											
1104												
	18											
1098												21
	24	1	SSA	11	20.9			Brown and dark brown sandy lean clay, trace gravel, damp to moist FILL		CL		1097.5
		2	SSA	5	19.0							
1092		3	SSA	9	31.3							
	30	4	SSA	44	9.4			With crushed stone at 31'				32
1086		5	SSA	4	21.1			Dark gray-brown sandy lean clay, very moist COHESIVE ALLUVIUM (Stiff Silty Clay)		CL		1086.5
	36	6	SSA	8	25.8							
		7	SSA	12	12.6							
1080												39
		8	SSA	5	14.1			Gray silty fine to medium sand, saturated GRANULAR ALLUVIUM (Silty Sand)		SM		1079.5
	42											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: ____ ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

BORING LOG NO. 3 STATION 5+50, 7'RT | CBA Job No.: 969-003 | Project No.: 251387

Project: 110th St (5th St) over W Nodaway River
Section 10, Douglas Township
Montgomery County, IA

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA

Surface Elevation: 1118.5'
Datum: Exist W Abut at CL Road Elev. = 1118.58'

Date Drilled: 12/09/2025
Drilling Depth, ft.: 68

Drilling Method: HSA
Page: 2 of 2

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Relative Density %	Material Description*	Graphic Log	USCS	Water Level Depth	Water Level Elevation ft.
		9	SSA	13	28.5							43.5
1074		10	SSA	2	23.5			Gray lean clay, moist to very moist COHESIVE ALLUVIUM (Stiff Silty Clay)		CL		1075
	48	11	SSA	5	32.5							
1068		12	SSA	10	33.0							
		13	SSA	16	24.9							
	54											
		14	SSA	46	15.7			Saturated sand seam near 54.5'		SM		55
1062								Gray clay shale, moist WEATHERED BEDROCK (Cohesive Material)				1063.5 57
		15	SSA	150	21.9							1061.5
					12.8	122	240psi	Dark gray shale, moist Core Run 1: 58' to 62.5' Recovery = 100% RQD = 95% BEDROCK				
	60	CR1	NX		11.4	126	160psi					
1056												
					1.7	159	4190psi	Core Run 1: 62.5' to 68' Recovery = 98% RQD = 89% Light gray limestone after 62.5' With interbedded shale seams from 64.5' to 66.5'				
	66	CR2	NX		5.7	145	1510psi					
					12.7	131	570psi					68
1050								End of Boring				1050.5
	72											
1044												
	78											
1038												
	84											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: ____ ft. ____ ft. ____ ft.

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

SOUNDING DATA

(SEE "SITUATION PLAN", SHEET 4, FOR BORING LOCATIONS)

243'–0 x 24'–6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — TEE PIERS
80'–9 END SPANS — 81'–6 INTERIOR SPAN

SOUNDING DATA

STATION 5+15.00 — 30° SKEW, LT. AHEAD
MONTGOMERY COUNTY, — IOWA

BORING LOG NO. 4 STATION 6+40, 4'LT | CBA Job No.: 969-003 | Project No.: 251387

Project: 110th St (5th St) over W Nodaway River
Section 10, Douglas Township
Montgomery County, IA

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA

Surface Elevation: 1116.4'
Datum: Exist W Abut at CL Road Elev. = 1118.58'

Date Drilled: 11/20/2025
Drilling Depth, ft.: 64.6

Drilling Method: HSA
Page: 1 of 2

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Relative Density %	Material Description*	Graphic Log	USCS	Water Level Depth	Elevation ft.
1116	0							Crushed Rock (6"±)				0.5
								Dark brown and brown sandy lean clay, trace gravel, moist		CL		1115.9
		1	ST		24.5	98	3520	FILL				
1110	6											
		2	ST		21.3	98	2670					11
1104	12							Very dark gray-brown sandy lean clay, moist to very moist		CL		1105.4
		3	ST		26.4	96	2030					
1098	18											
		4	ST		25.9	95	1090	COHESIVE ALLUVIUM (Stiff Silty Clay)				
1092	24	5	ST		31.7	88	990				▽	
1086	30	6	SSA	4	23.1							
												34.5
1080	36	7	SSA	7	18.5			Gray silty sand, saturated		SM		1081.9
								GRANULAR ALLUVIUM (Silty Sand)				
		8	SSA	4	18.7							
1074	42											42

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: 25 ft. ▽ ____ ft. ▽ ____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

BORING LOG NO. 4 STATION 6+40, 4'LT | CBA Job No.: 969-003 | Project No.: 251387

Project: 110th St (5th St) over W Nodaway River
Section 10, Douglas Township
Montgomery County, IA

Client: Calhoun-Burns & Associates
6775 Vista Drive
West Des Moines, IA

Surface Elevation: 1116.4'
Datum: Exist W Abut at CL Road Elev. = 1118.58'

Date Drilled: 11/20/2025
Drilling Depth, ft.: 64.6

Drilling Method: HSA
Page: 2 of 2

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Relative Density %	Material Description*	Graphic Log	USCS	Water Level Depth	Elevation ft.
								Dark gray lean clay, moist		CL		1074.4
		9	SSA	3	31.2							
1068	48											
		10	SSA	7	31.2			COHESIVE ALLUVIUM (Stiff Silty Clay)				
1062	54											
		11	SSA	22	24.5							
												59.5
1056	60	12	SSA	170	10.7			Gray shale, moist				1056.9
								Gray limestone after 61' BEDROCK				
												64.6
1050	66	13	SSA	50/1"	7.0			End of Boring				1051.8
1044	72											
1038	78											
1032	84											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion ____ hrs. ____ days
Depth to water: 25 ft. ▽ ____ ft. ▽ ____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical - Environmental - Construction Q.C.

SOUNDING DATA

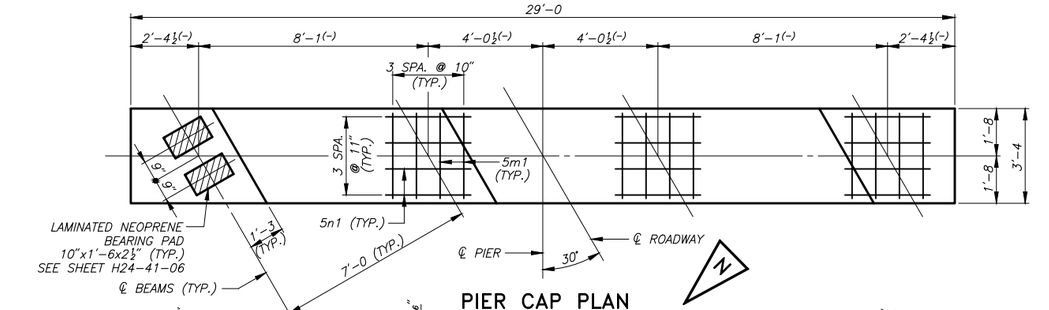
(SEE "SITUATION PLAN", SHEET 4, FOR BORING LOCATIONS)

243'–0 x 24'–6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

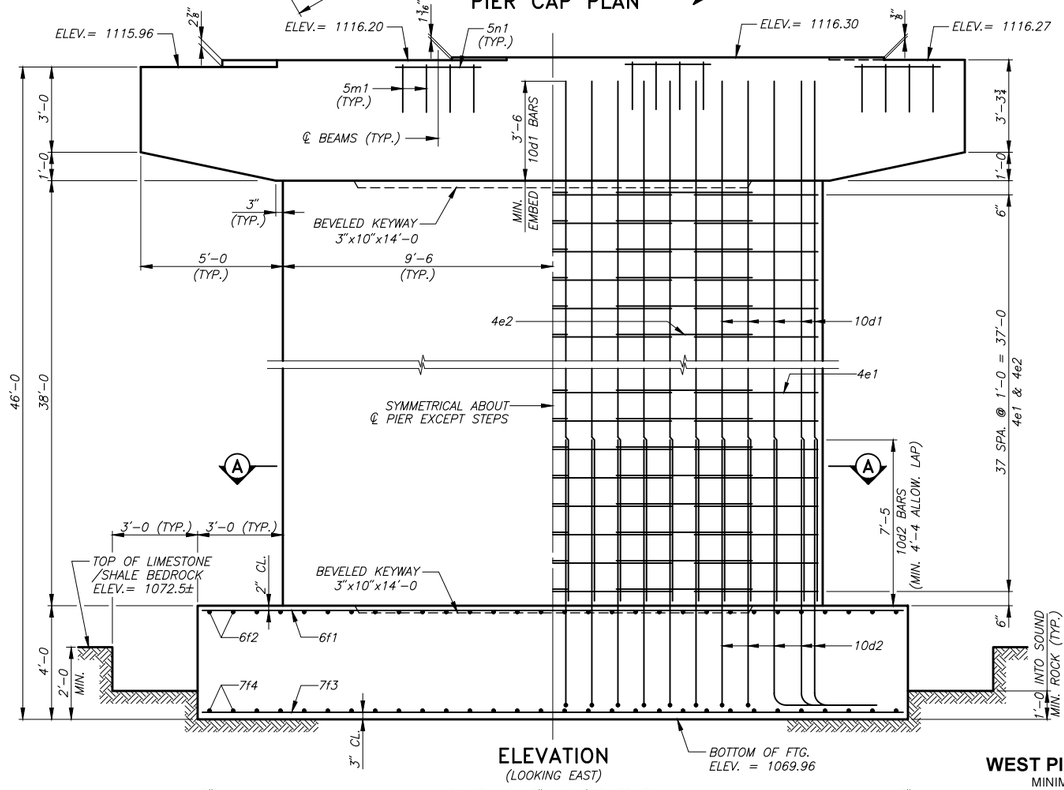
INTEGRAL ABUTMENTS — TEE PIERS
80'–9 END SPANS — 81'–6 INTERIOR SPAN

SOUNDING DATA

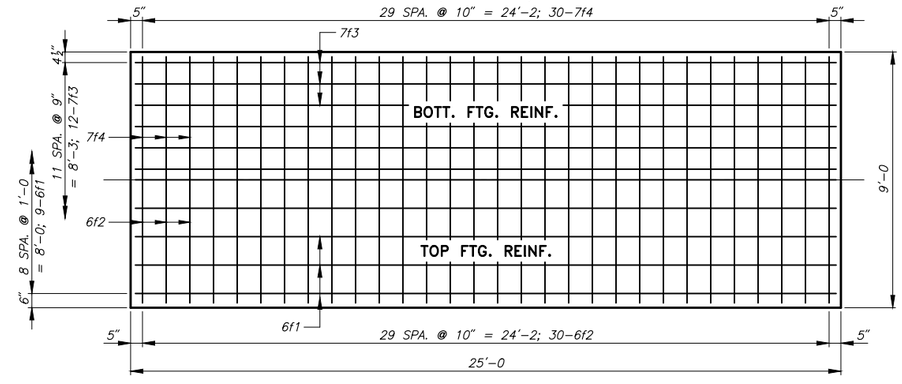
STATION 5+15.00 — 30° SKEW, LT. AHEAD
MONTGOMERY COUNTY, IOWA



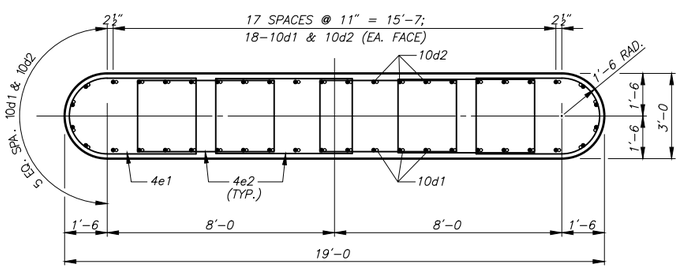
PIER CAP PLAN



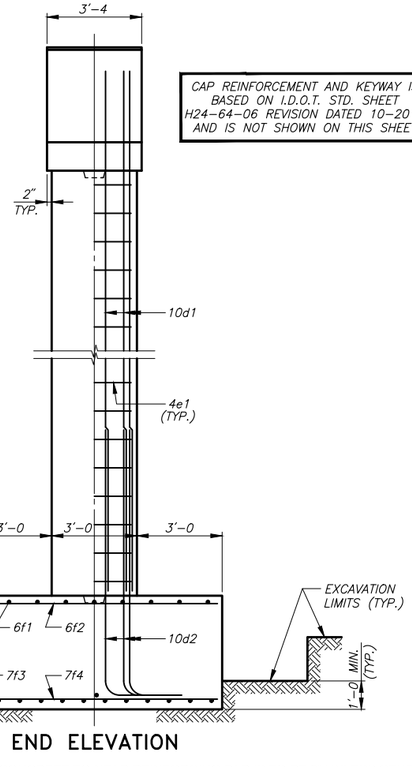
ELEVATION
(LOOKING EAST)



FOOTING PLAN



SECTION A-A



END ELEVATION

CAP REINFORCEMENT AND KEYWAY IS BASED ON I.D.O.T. STD. SHEET H24-64-06 REVISION DATED 10-2016, AND IS NOT SHOWN ON THIS SHEET.

WEST PIER NOTES

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

ALL REINFORCING STEEL TO BE SECURELY WIRED IN PLACE AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS POURED.

ALL REINFORCING STEEL IS TO BE GRADE 60.

ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A ¾" DRESSED AND BEVELED STRIP.

CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2 x 8'S.

FORMS FOR PIER CAPS ON THE WEST PIER SHALL BE REMOVED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. EARLY FORM REMOVAL IS PROHIBITED.

THE FOOTING SHALL BE FOUNDED IN SOLID SHALE/LIMESTONE BEDROCK AS DETAILED IN THE PLANS. THE FOUNDATION ROCK SHALL HAVE A MINIMUM LRFD NOMINAL BEARING RESISTANCE OF 42 KIPS PER SQUARE FOOT (ALLOWABLE SERVICE LOAD BEARING VALUE OF AT LEAST 14 KIPS PER SQUARE FOOT). FOOTING DESIGNED TO MINIMIZE UPLIFT.

EXCAVATION FOR PIER FOOTINGS AND PLACEMENT OF PIER FOOTING CONCRETE ARE TO BE PERFORMED IN AS DRY OF CONDITIONS AS PRACTICABLE, USING COFFERDAMS, PUMPS, OR OTHER SUITABLE MEASURES TO ASSURE SUCH CONDITIONS IN ACCORDANCE WITH SECTION 2405 AND SUPPLEMENTAL SPECIFICATIONS. THE COST OF ALL PIER EXCAVATION AND DEWATERING IS TO BE INCLUDED IN THE BID FOR "EXCAVATION, CLASS 21". THE NEW PIER FOOTING SHALL BE KEYED A MINIMUM OF 1'-0 INTO SOUND BEDROCK. THE FINAL 1'-0 OF BEDROCK EXCAVATION IS TO BE NEAT LINES AS SHOWN IN THE PLANS AND IS TO BE PERFORMED WITHIN 24 HOURS OF THE PLACEMENT OF FOOTING CONCRETE ON THE EXPOSED BEDROCK BEARING SURFACE.

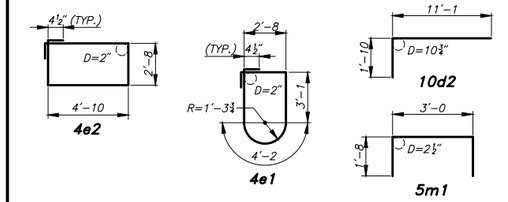
THE CONTRACTOR AND ENGINEER ARE TO VERIFY THAT THE BEDROCK IS LOCATED AS SHOWN ON THE SOUNDING DATA DETAILED ON THE PLANS. DIFFERENCES WHICH CAUSE CHANGES IN BOTTOM OF FOOTING ELEVATIONS MAY BE CAUSE FOR DESIGN CHANGES. THE ENGINEER WILL RETAIN A QUALIFIED GEOTECHNICAL ENGINEER FOR REVIEW. AFTER EXCAVATING TO WITHIN 6" OF THE DESIGN FOOTING ELEVATION, AT LEAST TWO (2) PROBE HOLES ARE TO BE DRILLED BY THE CONTRACTOR INTO ROCK AT THE BASE OF THE FOOTING EXCAVATION UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER. THE PROBE HOLES SHOULD EXTEND AT LEAST 3'-0 INTO THE ROCK. IF LAYERS UNABLE TO WITHSTAND THE DESIGN BEARING ARE ENCOUNTERED WITHIN THE PROBE LIMITS, THE FOOTING MAY NEED TO BE LOWERED TO SUITABLE BEDROCK. THE PROBE HOLES SHALL BE GROUTED BY THE CONTRACTOR AFTER THE GEOTECHNICAL ENGINEER HAS COMPLETED VERIFICATION OF THE BEARING CAPACITY. COST OF DRILLING THE PROBE HOLES AND GROUTING, INCLUDING EQUIPMENT AND ALL LABOR IS TO BE INCLUDED IN PRICE BID FOR "EXCAVATION, CLASS 22".

BENCH MARK: RR SPIKE IN P.P., STA. 1+98, 32' RT., ELEV.= 1137.30

REINFORCING BAR LIST - WEST PIER

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
10d1	COLUMN, VERTICAL	——	44	41'-6	7,857
10d2	COLUMN, VERTICAL, DOWELS	⌐	44	12'-11	2,446
4e1	COLUMN, HOOPS, ENDS	▭	76	13'-9	698
4e2	COLUMN, HOOPS	▭	152	15'-9	1,599
6f1	FOOTING, LONGITUDINAL, TOP	——	9	24'-8	333
6f2	FOOTING, TRANSVERSE, TOP	——	30	8'-8	391
7f3	FOOTING, LONGITUDINAL, BOTTOM	——	12	24'-8	605
7f4	FOOTING, TRANSVERSE, BOTTOM	——	30	8'-8	532
5m1	STEP, TRANSVERSE	⌐	12	6'-4	79
5n1	STEP, LONGITUDINAL	——	12	2'-8	33
CAP REINFORCEMENT, SEE SHEET H24-64-06					2,005
				TOTAL (LBS.)	16,578

BENT BAR DETAILS



ALL DIMENSIONS ARE OUT TO OUT. D=DIAMETER OF PIN. RADII ARE TO ℄ BAR.

CONC. PLACEMENT QUANT. - WEST PIER

LOCATION	QUANTITY
FOOTING	33.3
COLUMN	77.5
CAP	14.7
TOTAL (CU.YDS.)	125.5

ESTIMATED QUANTITIES - WEST PIER

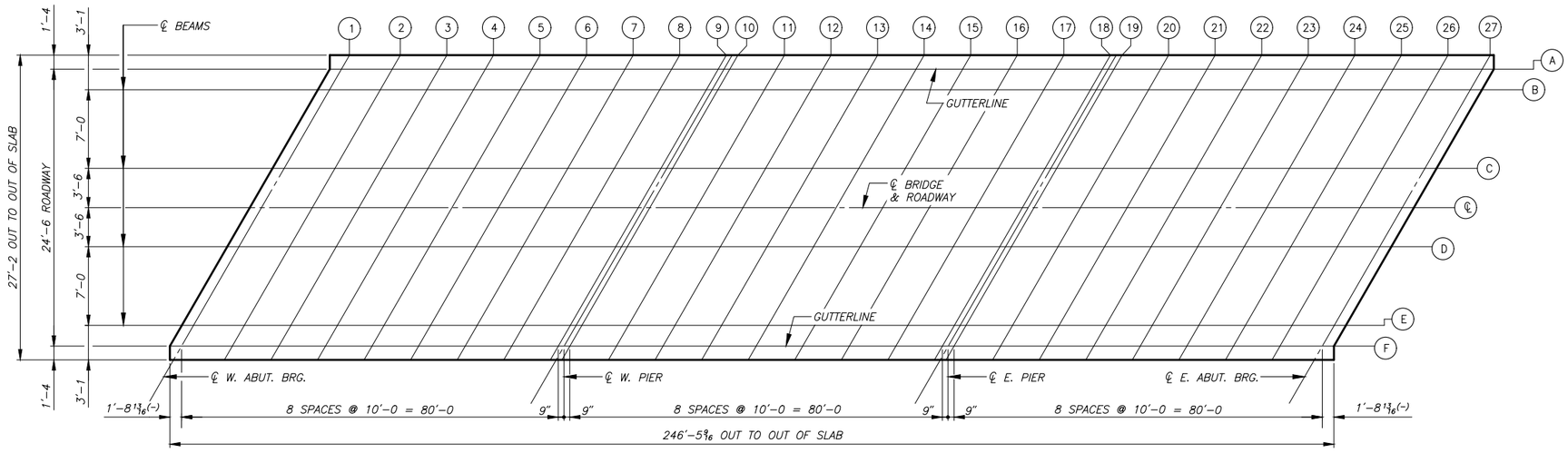
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (BRIDGE)	CU.YDS.	125.5
REINFORCING STEEL	LBS.	16,578
EXCAVATION, CLASS 20	CU.YDS.	116
EXCAVATION, CLASS 21	CU.YDS.	238
EXCAVATION, CLASS 22	CU.YDS.	35

243'-0 x 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
80'-9 END SPANS — **81'-6 INTERIOR SPAN**

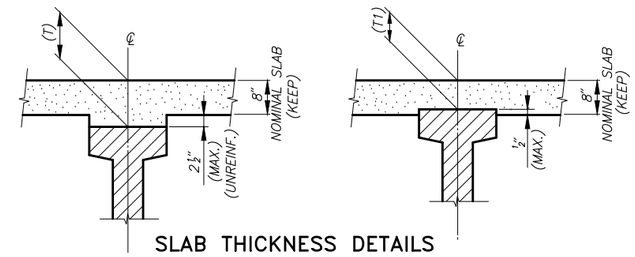
WEST PIER DETAILS

STATION 5+15.00 — **30° SKEW, LT. AHEAD**
MONTGOMERY COUNTY, — **IOWA**



TOP OF SLAB ELEVATIONS

BENCH MARK: RR SPIKE IN P.P., STA. 1+98, 32' RT., ELEV.= 1137.30



SLAB THICKNESS DETAILS

NOTE: THE SLAB THICKNESS (T) AT BEAMS IS BASED ON THE ANTICIPATED BEAM CAMBER REMAINING AFTER PLACING THE SLAB, BUT IS NOT GUARANTEED FOR CONSTRUCTION. IF BEAM IS UNDER CAMBERED, INCREASE SLAB THICKNESS (T) AT BEAMS TO COMPENSATE. IF BEAM IS OVER CAMBERED, THE SLAB THICKNESS (T) MAY BE DECREASED A MAXIMUM OF 1/2" EMBEDMENT AT THE BEAM (T1). IF MORE THAN 1/2" EMBEDMENT IS REQUIRED, OR IF THE HAUNCH EXCEEDS 2½" AND IS UNREINFORCED, THE GRADE LINE IS TO BE REVISED. THE ABOVE DIAGRAMS DO NOT APPLY TO THE CANTILEVERED SLAB SIDE OF THE EXTERIOR BEAM.

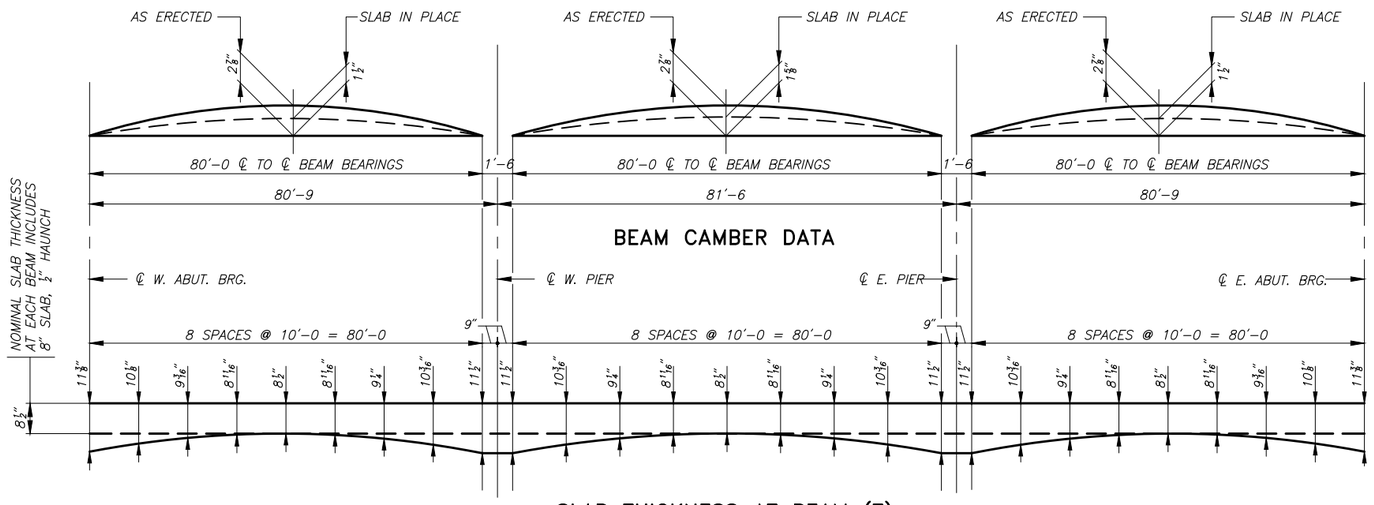
SEE SHEET 12 FOR HAUNCH REINFORCING DETAILS.

EAST PIER NOTES:
H=36' PER H24-64-06. PILING LAYOUT '11A' PER H24-68-06.

WEST PIER TO BE EXPANSION AND EAST PIER TO BE FIXED.

WING	ELEV. A	ELEV. B	ELEV. C
SW	1123.79	1124.11	1124.39
NW	1123.28	1123.58	1123.85
SE	1118.96	1118.94	1118.94
NE	1118.94	1118.94	1118.95

SEE SHEET H24-21-06 FOR LOCATION OF ELEV. A, B AND C. ELEVATIONS SHOWN ARE AT OUTSIDE FACE.



BEAM CAMBER DATA

SLAB THICKNESS AT BEAM (T)

NOTE : HAUNCH THICKNESSES ARE SHOWN FOR ESTIMATING ONLY AND ARE NOT GUARANTEED FOR CONSTRUCTION.

BRIDGE COORDINATES

LOCATION	NORTH EDGE OF DECK	C.L. APPROACH ROADWAY	SOUTH EDGE OF DECK
WEST ABUTMENT	N = 6285471.67 E = 22161667.15	N = 6285458.80 E = 22161658.19	N = 6285445.93 E = 22161649.23
WEST PIER	N = 6285464.84 E = 22161747.61	N = 6285451.97 E = 22161738.65	N = 6285439.10 E = 22161729.69
EAST PIER	N = 6285457.95 E = 22161828.82	N = 6285445.08 E = 22161819.86	N = 6285432.21 E = 22161810.90
EAST ABUTMENT	N = 6285451.12 E = 22161909.28	N = 6285438.25 E = 22161900.32	N = 6285425.38 E = 22161891.36

LOCATION	℄ W. ABUT. BRG.	2	3	4	5	6	7	8	℄ W. BRG. W. PIER	℄ E. BRG. W. PIER	11	12	13	14	15	16	17	℄ W. BRG. E. PIER	℄ E. BRG. E. PIER	20	21	22	23	24	25	26	℄ E. ABUT. BRG.	LOCATION
A	1123.36	1123.01	1122.67	1122.34	1122.03	1121.74	1121.46	1121.19	1120.94	1120.91	1120.67	1120.46	1120.25	1120.06	1119.89	1119.73	1119.59	1119.46	1119.44	1119.33	1119.23	1119.15	1119.08	1119.03	1118.99	1118.97	1118.96	A
B	1123.44	1123.08	1122.74	1122.41	1122.10	1121.81	1121.53	1121.26	1121.01	1120.97	1120.74	1120.52	1120.31	1120.12	1119.95	1119.79	1119.64	1119.51	1119.49	1119.38	1119.28	1119.20	1119.13	1119.07	1119.03	1119.01	1119.00	B
C	1123.72	1123.36	1123.02	1122.68	1122.37	1122.07	1121.78	1121.51	1121.25	1121.21	1120.97	1120.74	1120.53	1120.34	1120.16	1119.99	1119.84	1119.70	1119.68	1119.56	1119.46	1119.37	1119.29	1119.23	1119.19	1119.16	1119.14	C
℄	1123.84	1123.47	1123.12	1122.79	1122.47	1122.16	1121.87	1121.60	1121.34	1121.30	1121.06	1120.83	1120.62	1120.42	1120.23	1120.06	1119.91	1119.77	1119.75	1119.63	1119.52	1119.43	1119.35	1119.28	1119.24	1119.20	1119.18	℄
D	1123.87	1123.51	1123.15	1122.82	1122.49	1122.19	1121.89	1121.61	1121.35	1121.31	1121.07	1120.83	1120.62	1120.42	1120.23	1120.06	1119.90	1119.76	1119.74	1119.61	1119.50	1119.40	1119.32	1119.26	1119.21	1119.17	1119.15	D
E	1123.89	1123.51	1123.15	1122.81	1122.48	1122.17	1121.87	1121.58	1121.32	1121.28	1121.02	1120.79	1120.56	1120.36	1120.16	1119.98	1119.82	1119.67	1119.65	1119.52	1119.40	1119.30	1119.21	1119.14	1119.08	1119.04	1119.01	E
F	1123.88	1123.51	1123.15	1122.80	1122.47	1122.16	1121.86	1121.57	1121.30	1121.26	1121.01	1120.77	1120.54	1120.34	1120.14	1119.96	1119.80	1119.65	1119.62	1119.49	1119.37	1119.27	1119.18	1119.11	1119.05	1119.01	1118.98	F

243'-0 x 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
80'-9 END SPANS

TEE PIERS
81'-6 INTERIOR SPAN

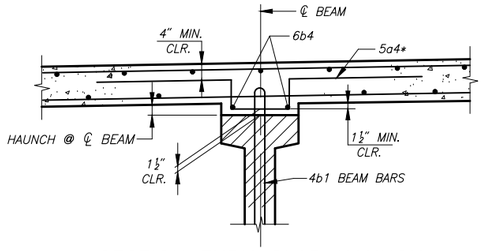
SUPERSTRUCTURE DETAILS

STATION 5+15.00
MONTGOMERY COUNTY,

30° SKEW, LT. AHEAD
IOWA

HAUNCH REINFORCING

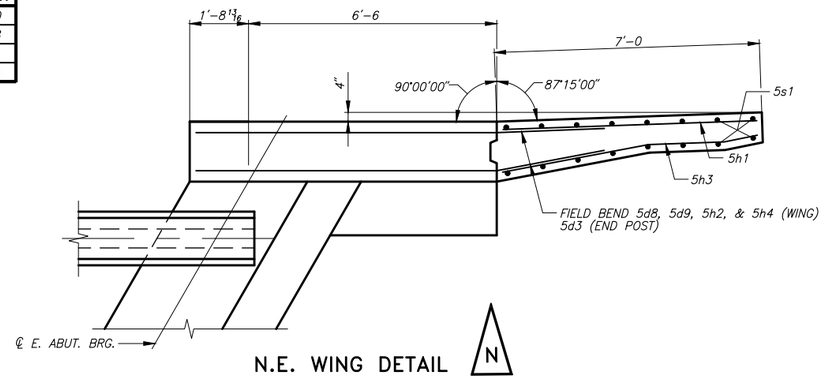
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
5a4	SLAB HAUNCH, TRANSVERSE	⌐¬	456	4'-11	2,340
6b4	SLAB HAUNCH, LONGITUDINAL	—	48	22'-7	1,628
INCLUDE WITH SUPERSTRUCTURE REINFORCING			TOTAL (LBS.)		3,968



SECTION THRU SLAB HAUNCH

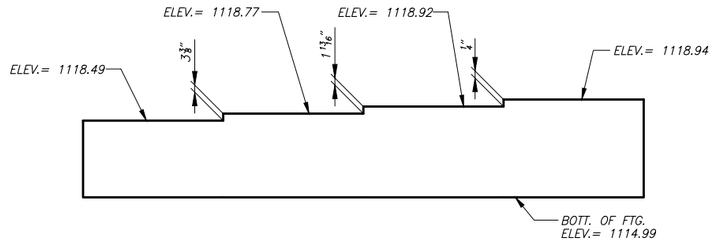
NOTE: TYPICAL EACH BEAM LINE WHERE HAUNCH EXCEEDS 2". SEE "HAUNCH REINFORCING LAYOUT" FOR PLACEMENT LOCATIONS. IF HAUNCH EXCEEDS 4", GRADELINE MAY NEED TO BE REVISED.

* STIRRUPS MAY BE TILTED AS NEEDED TO PROVIDE NECESSARY CLEARANCES.



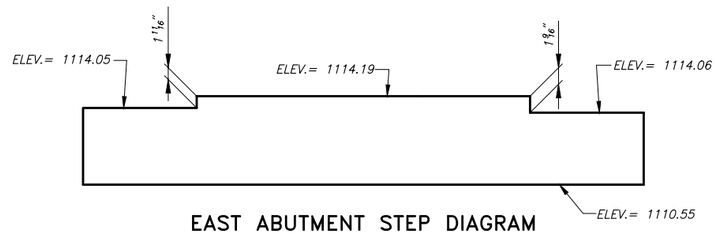
N.E. WING DETAIL

NOTE: REFER TO H30 STANDARDS FOR ADDITIONAL DETAILS.



WEST ABUTMENT STEP DIAGRAM

LOOKING UPSTATION (EAST)



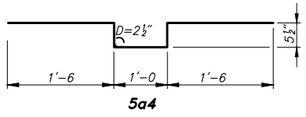
EAST ABUTMENT STEP DIAGRAM

LOOKING UPSTATION (EAST)

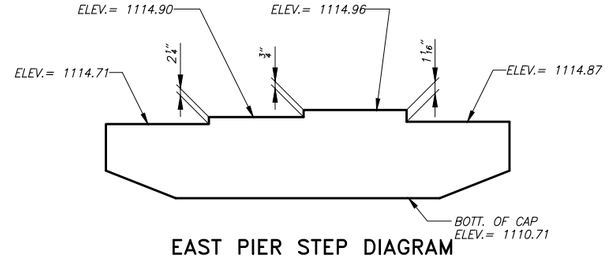
HAUNCH REINFORCING LAYOUT

(TYPICAL EACH BEAM)

NOTE: 1-5a4 BAR IS TO BE PLACED ADJACENT TO 4b1 BEAM TIE BARS THAT EXTEND FROM THE BEAMS INTO SLAB IN THE AREA SHOWN.



5a4



EAST PIER STEP DIAGRAM

LOOKING UPSTATION (EAST)

SEE SHEET 10 FOR WEST PIER STEP INFORMATION.

243'-0 x 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

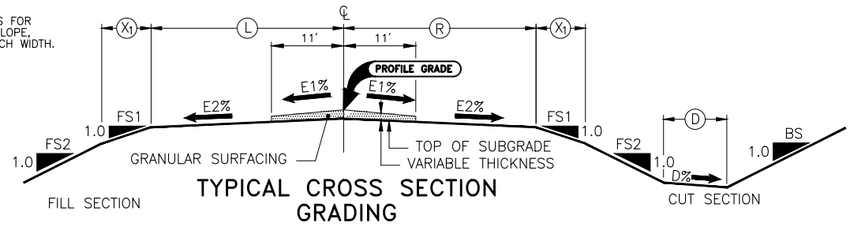
INTEGRAL ABUTMENTS — **TEE PIERS**
80'-9 END SPANS — **81'-6 INTERIOR SPAN**

SUPERSTRUCTURE DETAILS

STATION 5+15.00 — **30° SKEW, LT. AHEAD**
MONTGOMERY COUNTY, — **IOWA**

CBA–503

NOTE:
SEE CROSS SECTIONS FOR VARIATIONS IN FORESLOPE, BACKSLOPE, AND DITCH WIDTH.



TYPICAL CROSS SECTION GRADING

LOCATION			L	R	E1%	E2%	FS1	X1	FS2	D%	BS	D_L	D_R
ROAD IDENT.	STATION TO STATION		Feet	Feet				Feet				Feet	Feet
110TH ST.	0+50.00	1+00.00	TRANSITION FROM EXISTING										
110TH ST.	1+00.00	1+65.00	14.0	14.0	3.57	3.57	3	–	–	2	2	4	4
110TH ST.	1+65.00	2+00.00	TRANSITION TO NORMAL CROWN										
110TH ST.	2+00.00	BRIDGE	14.0	14.0	6	8	4	3	3	2	2	4	–
110TH ST.	BRIDGE	7+50.00	14.0	14.0	6	8	4	3	3	2	–	–	–
110TH ST.	7+50.00	8+50.00	14.0	14.0	6	8	4	3	3	2	2	–	4
110TH ST.	8+50.00	9+50.00	14.0	14.0	6	8	4	3	VAR.	2	2	4	4
110TH ST.	9+50.00	10+00.00	TRANSITION TO EXISTING										

NOTE:
NORMAL SECTIONS SHOWN MAY BE MODIFIED APPROPRIATELY IN AREAS OF SUPERELEVATION CURVES OR OTHER LOCATIONS SPECIFICALLY DESIGNATED BY THE ENGINEER. SEE CROSS SECTIONS AND STANDARD ROAD PLAN EW–301 FOR MODIFICATION AND/OR ADDITIONAL INFORMATION.

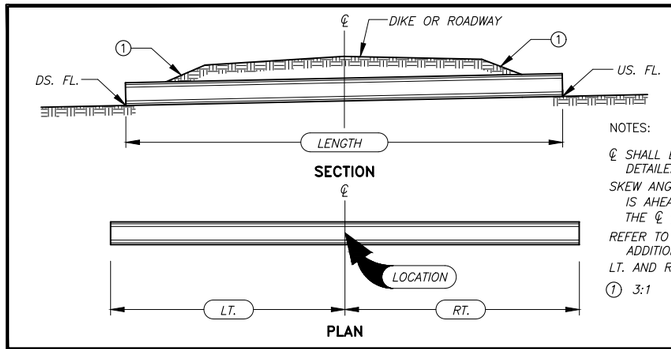
105_04
10/20/26

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BA-200	10-20-26	Steel Beam Guardrail Components
BA-202	10-20-26	Steel Beam Guardrail Bolted End Anchor
BA-221	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-2)
BA-225	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-2)
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-302	10-18-22	Rock Check Dam
EW-301	10-20-26	Guardrail Grading
EW-401	10-20-15	Temporary Stream Crossing, Causeway, or Equipment Pad
EW-501	10-17-23	Rural Entrance
LS-635	10-18-22	Steel Beam Guardrail Installation At Concrete Barrier Or Bridge Rail End Section (MASH TL-2)
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
TC-252	10-20-26	Routes Closed to Traffic

CBA–700



NOTES:

℄ SHALL BE ℄ OF ROADWAY, DIKE, SURVEY, OR OTHER; AS DETAILED ON PLANS.

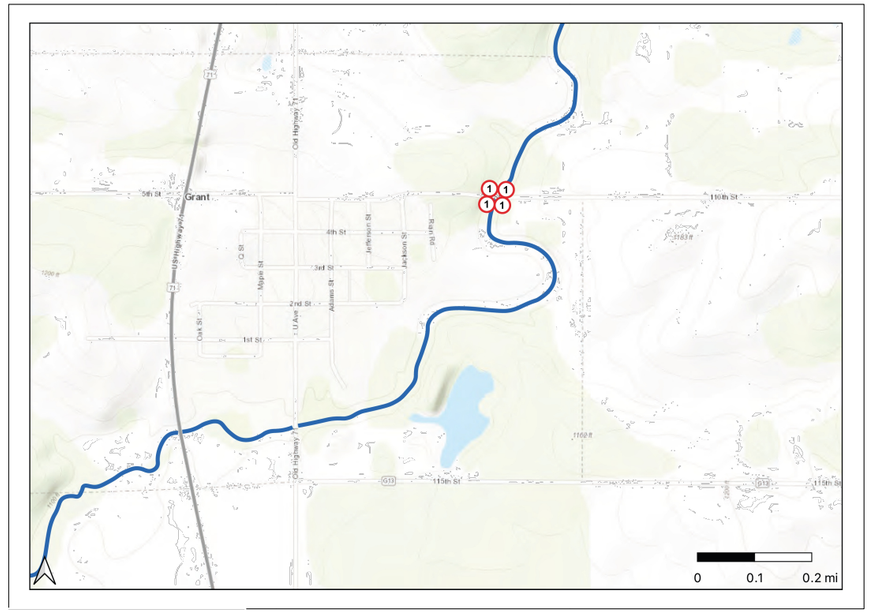
SKEW ANGLE IS THE ANGLE WHICH ONE END OF THE PIPE IS AHEAD (BY STATIONING) OF LINE PERPENDICULAR TO THE ℄ (EXAMPLE SKEW RT. AHEAD 30').

REFER TO TABULAR LISTING AND OTHER PLANS FOR ADDITIONAL INFORMATION.

LT. AND RT. ARE LOOKING TOWARD MAINLINE ON EW–501.

(1) 3:1

ENTRANCE PIPE CULVERT



Sign # on Map	Quantity	Style	Minimum Letter Height	Language	Location Orientation
(1)	4	Red/Danger	4”	No Thru Traffic	At bridge site, opposite sides of the river, 1 pair facing upstream, 1 pair facing downstream; OR, 2 signs placed near center of channel 12 feet above regular water level, one facing upstream, one facing downstream.

NAVIGABLE WATER CONDITIONS

THE IOWA DNR HAS BEEN NOTIFIED THAT PADDLING ACCESS ON THE WEST NODAWAY RIVER WILL BE INTERRUPTED DURING A PORTION OF THE CONSTRUCTION FOR THIS PROJECT. THE CONTRACTOR SHALL MEET THE FOLLOWING REQUIREMENTS:

1. INSTALL THE SIGNAGE SYSTEM AS DETAILED ON THIS SHEET. SIGNS SHOULD BE PLACED PRIOR TO OBSTRUCTING THE RIVER AND BE REMOVED AFTER THE OBSTRUCTION IS COMPLETE.
2. CONTRACTOR TO NOTIFY JOHN WENCK AT JOHN.WENCK@DNR.IOWA.GOV NO LESS THAN ONE WEEK PRIOR TO PLACING AND REMOVING CHANNEL OBSTRUCTION.
3. NOTIFY AND COORDINATE WITH CONSERVATION OFFICER AUSTIN DURNAN AT AUSTIN.DURNAN@DNR.IOWA.GOV OR 712-520-0507 FOR ADVICE ON PLACEMENTS AS CREWS INSTALL SIGNS.
4. CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS FROM RIVER CHANNEL.
5. CONTRACTOR SHALL MINIMIZE TIME THE RIVER IS OBSTRUCTED.

ALL SIGNS SHALL USE COLOR CODING STYLE ACCORDING TO THE WATER TRAIL DEVELOPMENT MANUAL (HTTPS://WWW.IOWADNR.GOV/THINGS-TO-DO/CANOEING-KAYAKING/WATER-TRAIL-DEVELOPMENT) SIGNS SHALL BE INSTALLED ACCORDING TO TABLE ON THIS SHEET.

MAINTENANCE OF PADDLE ROUTE SIGNAGE SHALL MEET THE SAME REQUIREMENTS AS ROADWAY TRAFFIC CONTROL PER STANDARD SPECIFICATIONS ARTICLES 2528.01C, 2528.02 AND 2528.03. SIGNS SHALL BE MAINTAINED BY APPLICANTS AND/OR THEIR CONTRACTOR SO AS TO BE VISIBLE THROUGHOUT THE PERIOD THE CHANNEL IS OBSTRUCTED. WHEN OBSTRUCTIONS TO THE CHANNEL ARE NOT NEEDED FOR A PERIOD OF 30 DAYS OR GREATER, SIGNAGE SHOULD BE TEMPORARILY REMOVED.

CONTRACTOR SHALL PROVIDE MEANS TO ATTACH/HANG THE SIGNS. WELDING OR DRILLING OF STRUCTURAL STEEL WILL NOT BE ALLOWED. ANY CONCRETE ANCHORS SHALL BE FULLY REMOVED AND HOLES FILLED WITH MORTAR. ATTACHMENTS SHALL NOT PROJECT INTO VEHICULAR TRAVELED WAY.

LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PLACE AND MAINTAIN SIGNAGE SHALL BE INCIDENTAL TO THE “TRAFFIC CONTROL” BID ITEM.

108_13A
3/27/25

SAFETY CLOSURES

Station	Road Closure Qty.	Hazard Closure Qty.	Remarks
0+00.00	1		WEST END
11+00.00	1		EAST END

243'–0 x 24'–6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
80'–9 END SPANS — **81'–6 INTERIOR SPAN**

TYPICAL SECTION & TABULATIONS

STATION 5+15.00 — **30° SKEW, LT. AHEAD**
MONTGOMERY COUNTY, — **IOWA**

102_03
10/15/24

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.
(1) Refer to MI-210.
(2) Refer to EW-501.
(3) Refer to EW-501 or EW-502.
*Predetermined for access point not constructed with this project.

Line No.	Station	Side	Access Type	Descriptor	Case	Curb Type	Curb Length (1) (LF)	Width (FT)	PR (1) (2) (FT)	SR (2) (FT)	Pipe Culvert (H) (3) (FT)	Pipe Culvert Size (3) (IN)	Culvert Length (3) (LF)	Pipe Culvert Lt. (3) (LF)	Pipe Culvert Rt. (3) (LF)	Culvert Aprons (3) (No.)	Driveway Surface Type	Driveway Surface Area (SY)	Driveway Surfacing Material (TON)	Remarks
1.0	1+39.50	Right	D					15.0		10.0	1.0	18.0	26.0	13.00	13.00		Granular	30.0	10.000	SURFACING = TYPE D

107_23
8/15/22

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

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

Line No.	Direction of Traffic (1)	Station	Side	Foreslope at Guardrail	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	X3 (FT)	Y3 (FT)	X4 (FT)	Y4 (FT)	Z (FT)	Excavation Class 10 (CY) *	Embankment-in-Place (CY)	Remarks
1.0	EB	3+72.84	Right	3:1	36.9	3.3					72.0	4.3	36.2	30.0		LS-635
2.0	WB	3+86.70	Left	3:1	36.9	3.3					72.0	4.3	36.2	45.0		LS-635
3.0	EB	6+43.30	Right	3:1	36.9	3.4					72.0	7.0	46.2	165.0		LS-635
4.0	WB	6+57.16	Left	3:1	36.9	3.5					72.0	4.3	36.2	110.0		LS-635

** DO NOT INCLUDE SHRINKAGE. INCLUDED IN CLASS 10 ROADWAY AND BORROW.*

108_08A
4/25/25

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-209, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

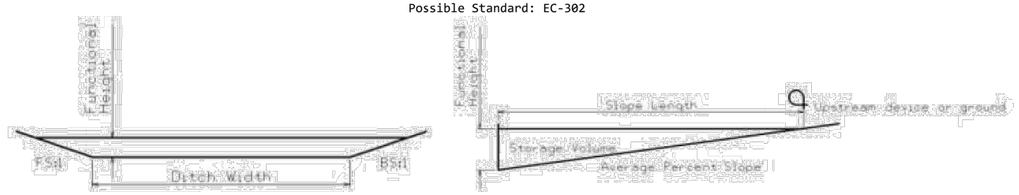
(1) Lane(s) to which the obstacle is adjacent.
(2) Not a bid item. Incidental to guardrail installation.

Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	BA-211 Station	BA-211 (Type)	SI-211 (Type) (2)	Delineator SI-172 Type 1 (EA) (2)	Object Marker Type 2 (EA) (2)	Object Marker Type 3 Lt (EA)(2)	Object Marker Type 3 Rt (EA)(2)	Bolted End Anchor BA-202 (Type)	Bolted End Anchor BA-202 (EA)	Post Adapter BA-210 (EA)	Steel Beam Guardrail BA-200 (LF)	Remarks
EB	Right	3+72.84	12.8	BA-221	1	BA-225	1	37.500			35.20			1		2		1	A	1		12.5	WEST END, RT.
WB	Left	3+86.70	12.8	BA-221	1	BA-225	1	37.500			35.20			1		2	1		A	1		12.5	WEST END, LT.
EB	Right	6+43.30	12.8	BA-221	1	BA-225	1	37.500			35.20			1		2	1		A	1		12.5	EAST END, RT.
WB	Left	6+57.16	12.8	BA-221	1	BA-225	1	37.500			35.20			1		2		1	A	1		12.5	EAST END, LT.

100_32
8/15/22

ROCK CHECK DAM

Possible Standard: EC-302



* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in EC-302.
* Volume equation: [0.5*Spacing*(0.5*H2*FS+DW*H+0.5*H2*BS)]

Basin No.	Station	Side	Offset	Installation (LF)	Maintenance (Each)	Removal (Each)	Foreslope (FS:1)	Backslope (BS:1)	Ditch Width (FT)	Avg. % Slope	Volume (CF)	Remarks
4	9+20.00	Left		18.0	1		2.5	2.0	4.0	10.0	144.90	NE DITCH
4	9+40.00	Left		18.0	1		2.5	2.0	4.0	10.0	144.90	NE DITCH
4	9+60.00	Left		18.0	1		2.5	2.0	4.0	10.0	144.90	NE DITCH
4	9+80.00	Left		18.0	1		2.5	2.0	4.0	10.0	144.90	NE DITCH
Total				72.0	4						579.60	

243'–0 x 24'–6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
80'–9 END SPANS

TEE PIERS
81'–6 INTERIOR SPAN

TABULATIONS

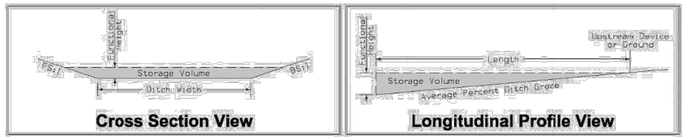
STATION 5+15.00
MONTGOMERY COUNTY,

30° SKEW, LT. AHEAD
IOWA

100_18
8/15/22

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Station	Side	Installation (LF)	Maintenance (LF)	Removal (LF)	Foreslope (FS:1)	Backslope (BS:1)	Ditch Width (FT)	Avg. % Slope Ditch Grade	Volume (CF)	Remarks
2	Type 1	1+10.00	Right	15.0	15.0		3.0	2.0	5.0	0.5	1767.15	SW DITCH
2	Type 1	1+65.00	Right	14.0	14.0		3.0	2.0	4.0	0.5	1556.10	SW DITCH
2	Type 1	1+85.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
2	Type 1	2+05.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
2	Type 1	2+25.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
2	Type 1	2+45.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
2	Type 1	2+65.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
2	Type 1	2+85.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
2	Type 1	3+05.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
2	Type 1	3+25.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
2	Type 1	3+45.00	Right	14.0	14.0		3.0	2.0	4.0	8.6	98.80	SW DITCH
3	Type 1	1+20.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	1+40.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	1+60.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	1+80.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	2+00.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	2+20.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	2+40.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	2+60.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	2+80.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	3+00.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	3+20.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	3+40.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	3+60.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	3+80.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	4+00.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	4+20.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	4+40.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
3	Type 1	4+55.00	Left	14.0	14.0		3.0	2.0	4.0	9.0	98.80	NW DITCH
1	Type 1	7+60.00	Right	14.0	14.0		3.0	2.0	4.0	4.0	197.60	SE DITCH
1	Type 1	8+00.00	Right	14.0	14.0		3.0	2.0	4.0	4.0	197.60	SE DITCH
1	Type 1	8+40.00	Right	14.0	14.0		3.0	2.0	4.0	4.0	197.60	SE DITCH
1	Type 1	8+80.00	Right	14.0	14.0		3.0	2.0	4.0	4.0	197.60	SE DITCH
1	Type 1	9+00.00	Right	14.0	14.0		3.0	2.0	4.0	8.0	98.80	SE DITCH
1	Type 1	9+20.00	Right	14.0	14.0		3.0	2.0	4.0	8.0	98.80	SE DITCH
1	Type 1	9+40.00	Right	14.0	14.0		3.0	2.0	4.0	8.0	98.80	SE DITCH
1	Type 1	9+60.00	Right	14.0	14.0		3.0	2.0	4.0	8.0	98.80	SE DITCH
1	Type 1	9+80.00	Right	14.0	14.0		3.0	2.0	4.0	8.0	98.80	SE DITCH
4	Type 1	8+60.00	Left	14.0	14.0		2.7	2.0	4.0	6.4	96.10	NE DITCH
4	Type 1	8+80.00	Left	14.0	14.0		2.6	2.0	4.0	6.4	95.20	NE DITCH
4	Type 1	9+00.00	Left	13.0	13.0		2.5	2.0	4.0	10.0	94.30	NE DITCH
Total:				**574**	**574**						**7560.85**	

100_17
8/15/22

TABULATION OF SILT FENCES

Refer to EC-201

Station From	Station To	Side	Length (FT)	Remarks
3+50.00	3+90.00	Right	60.00	TOE OF SW FORESLOPE
3+90.00	4+20.00	Right	100.00	TOP OF SW BANK
5+45.00	5+85.00	Right	90.00	TOP OF SE BANK
5+85.00	7+50.00	Right	190.00	TOE OF SE FORESLOPE
6+35.00	6+35.00	Left	40.00	TOP OF NE BANK
6+35.00	8+50.00	Left	245.00	TOE OF NE FORESLOPE
Total:			**725**	

SURVEY CONTROL POINTS

CBA-300

Description	Northing	Easting	Approx. Station	Approx. Offset	Elevation
CHISELED "X" TOP OF LIMESTONE SOUTH 1/4 COR. OF SW1/4 SEC. 3-73-36	*6285447.29*	*22161215.59*	*-0+49*	*30' RT.*	*1137.82*
1/2" REBAR IN 4" X 4" CONCRETE MONUMENT, SOUTH 1/4 COR. SEC. 3-73-36.	*6285427.53*	*22162524.53*	*12+61*	*2' LT.*	*1134.88*
Coordinate System				**Vertical Datum**	
(NAD83)	*NAD83(2011) / Iowa RCS Zone 12 (Red Oak-Ottumwa)*			*NAVD88*	

100_19
10/15/24

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
4+60.00	5+35.00		Perimeter and Slope	12 inch	185.00	TOE OF WEST BANK, LT. & RT.
4+95.00	5+90.00		Perimeter and Slope	12 inch	200.00	TOE OF EAST BANK, LT. & RT.
Total:					**385**	

CBA-100

SUMMARY OF ROADWAY EXCAVATION

STATION	AREAS CUT SF	AREAS FILL SF	RAW VOLUMES CUT CY	RAW VOLUMES ADD'L CUT CY	RAW VOLUMES FILL CY	RAW VOLUMES ADD'L FILL CY
0+50	0	0				
1+00	4	3	4		3	
1+40	98	17	76		15	
2+00	253	47	390		71	12
2+50	311	80	522		118	
3+00	304	134	569		198	
3+70	229	225	691		465	75
BRIDGE	-	-	-	894	-	190
6+60	0	333	-		-	285
7+35	0	324	0		913	275
8+00	2	284	2		732	
9+00	94	114	178		737	
10+00	0	0	174		211	
SUBTOTALS			2,606	894	3,463	837
TOTALS			3,500		4,300	

CBA-101

SUMMARY OF EARTHWORK QUANTITIES

EXCAVATION TYPE	RAW CUT CY	RAW FILL CY	WASTE ** CY	USABLE CUT CY	SHRINKAGE FACTOR	FILL +35% SHRINKAGE CY	PAYMENT QUANTITY CY
CLASS 10, ROADWAY AND BORROW	3,500	4,300	0	3,500	35%	5,805	3,500
CLASS 10, CHANNEL	5,000	300	2,290	2,710	35%	405	5,000
TOTALS			2,290	6,210		6,210	

** *ASSUMES SOME MATERIAL WILL BE UNSUITABLE OR EXCESS AND WILL NEED TO BE WASTED OFF-SITE.*

243'-0 x 24'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS
80'-9 END SPANS

TEE PIERS
81'-6 INTERIOR SPAN

TABULATIONS

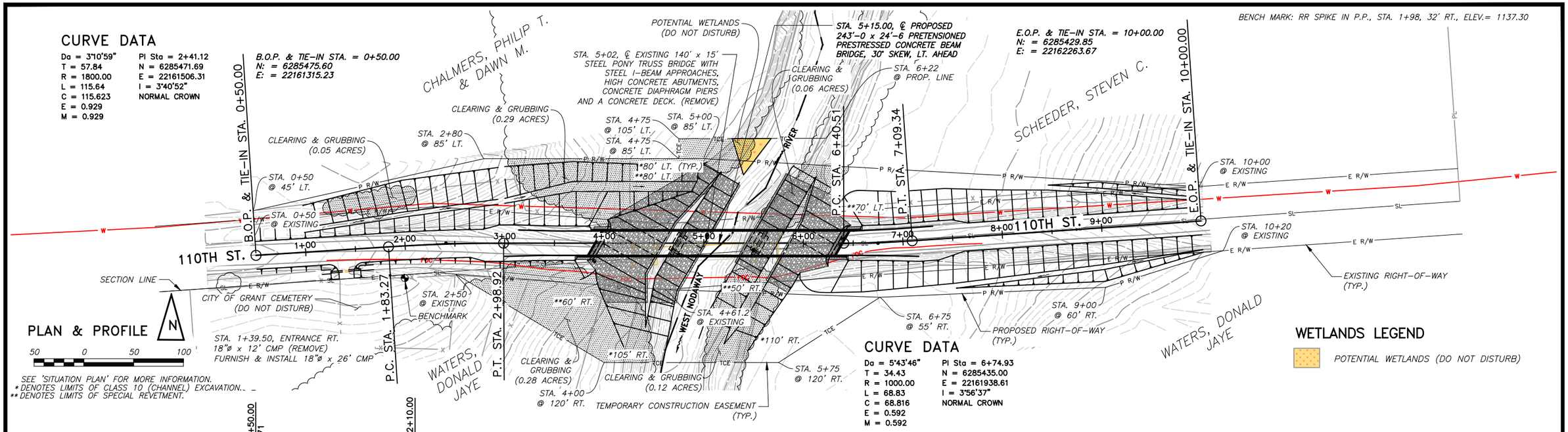
STATION 5+15.00

30° SKEW, LT. AHEAD

MONTGOMERY COUNTY, IOWA

CURVE DATA

Da = 3°10'59" | PI Sta = 2+41.12
T = 57.84 | N = 6285471.69
R = 1800.00 | E = 22161506.31
L = 115.64 | I = 3°40'52"
C = 115.623 | NORMAL CROWN
E = 0.929
M = 0.929

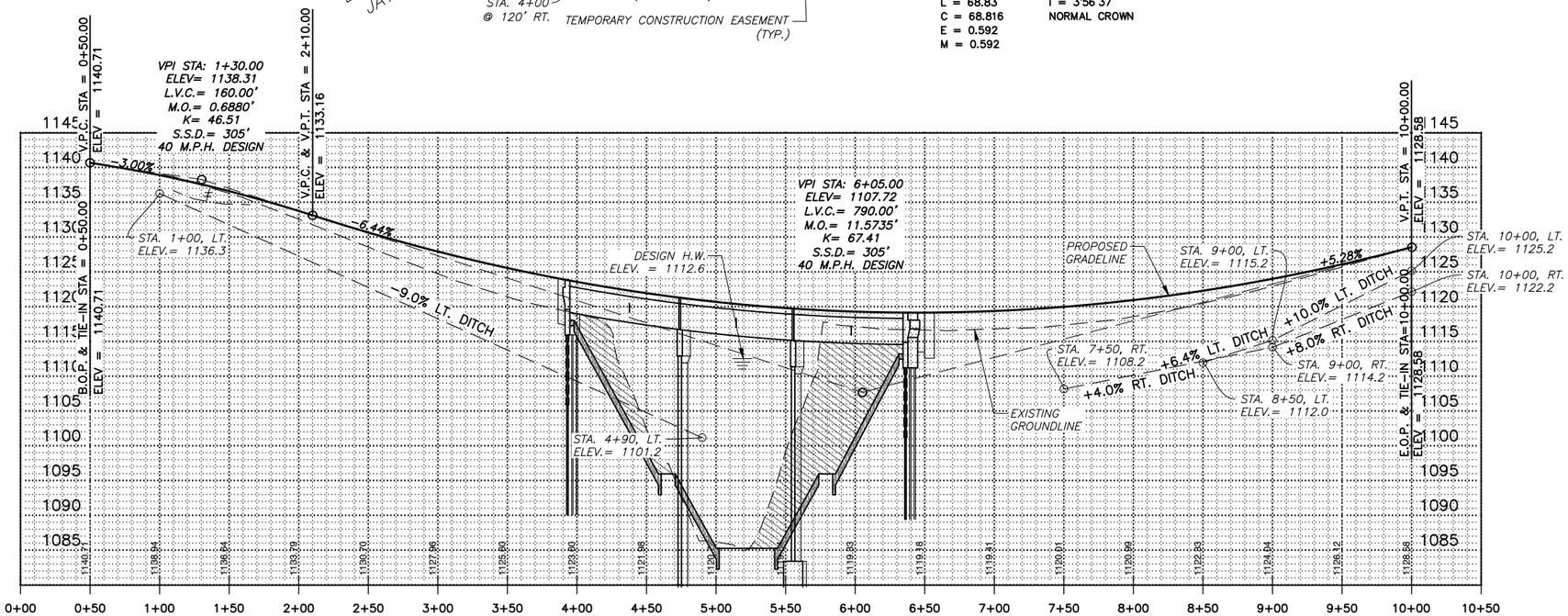


CURVE DATA

Da = 5°43'46" | PI Sta = 6+74.93
T = 34.43 | N = 6285435.00
R = 1000.00 | E = 22161938.61
L = 68.83 | I = 3°56'37"
C = 68.816 | NORMAL CROWN
E = 0.592
M = 0.592

WETLANDS LEGEND

POTENTIAL WETLANDS (DO NOT DISTURB)



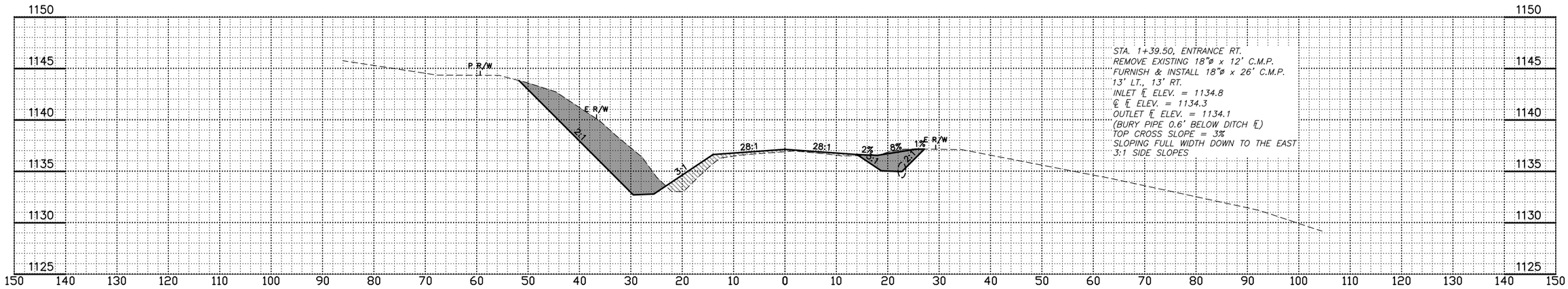
≠SW DITCH GRADE

BEGIN STA.	END STA.	BEGIN ELEV.	END ELEV.	DITCH %
1+10	1+25	1136.7	1135.5	−7.8%
1+25	1+45	1135.5	1134.8	−3.5%
1+45	1+65	1134.8	1134.7	−0.5%

PLAN & PROFILE

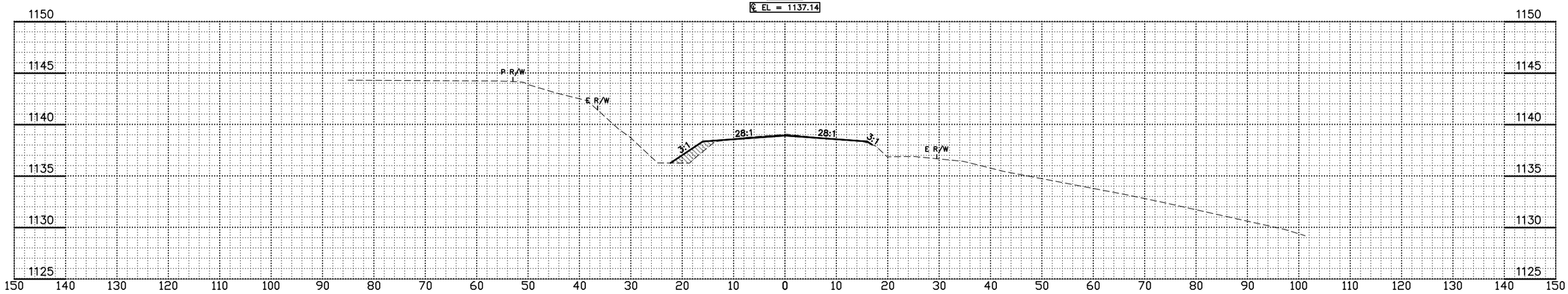
MONTGOMERY COUNTY, IOWA

BENCH MARK: RR SPIKE IN P.P., STA. 1+98, 32' RT., ELEV.= 1137.30



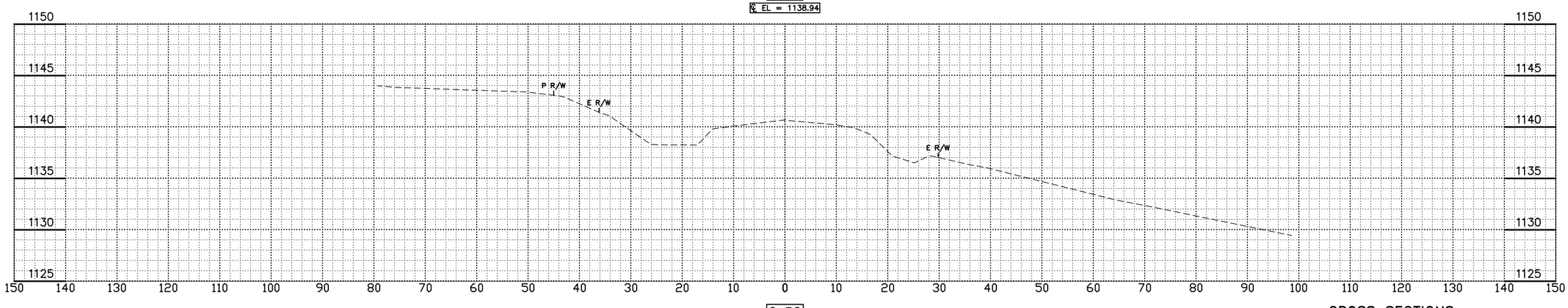
1+40

℄ EL = 1137.14



1+00

℄ EL = 1138.94

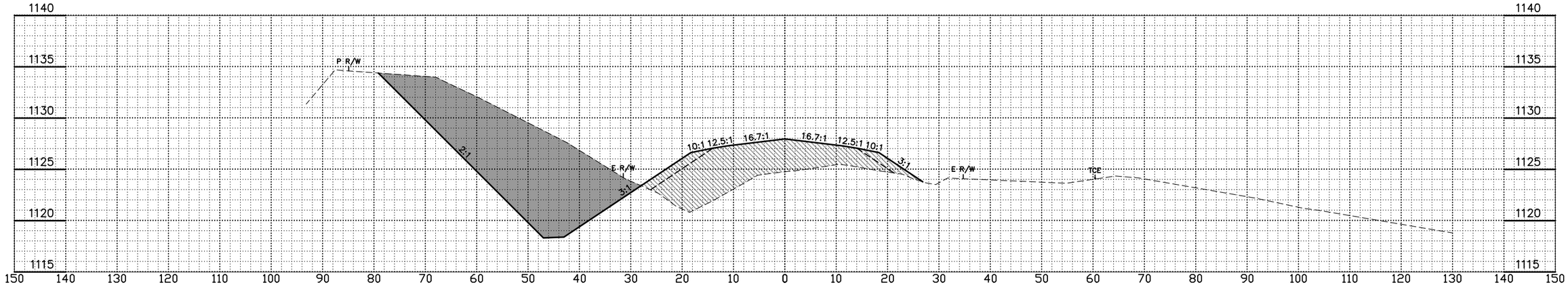


0+50

CROSS SECTIONS

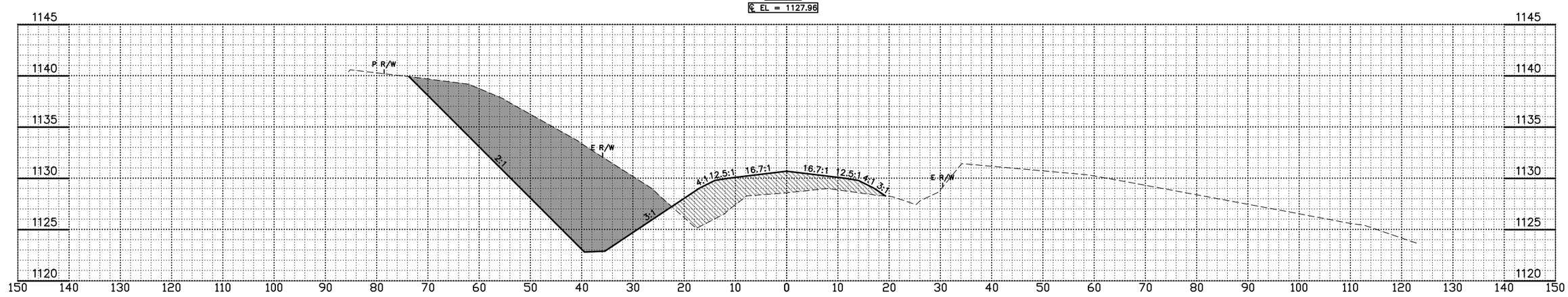
MONTGOMERY COUNTY, IOWA

BENCH MARK: RR SPIKE IN P.P., STA. 1+98, 32' RT., ELEV.= 1137.30



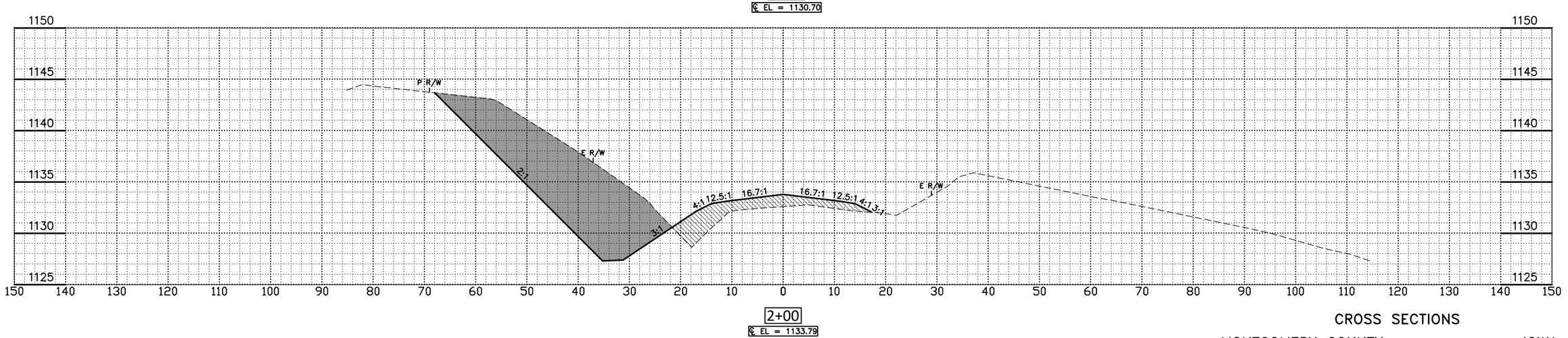
3+00

℄ EL = 1127.98



2+50

℄ EL = 1130.70



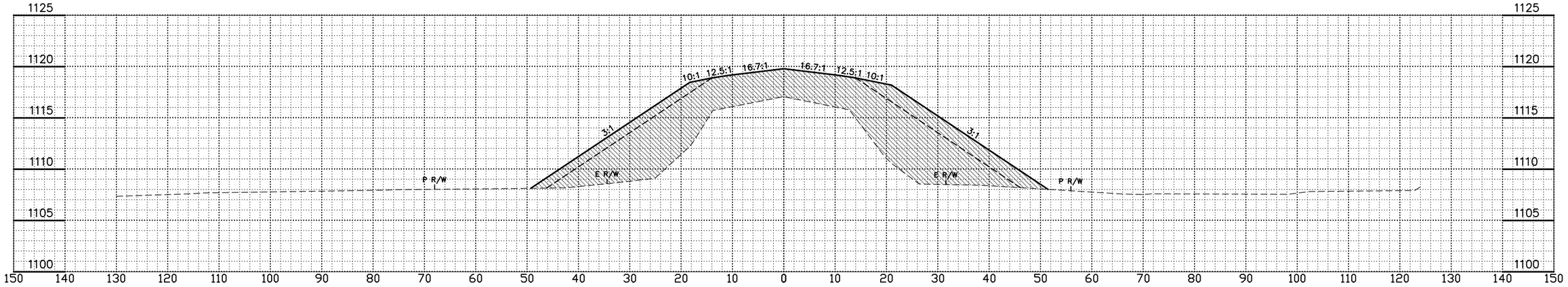
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CROSS SECTIONS

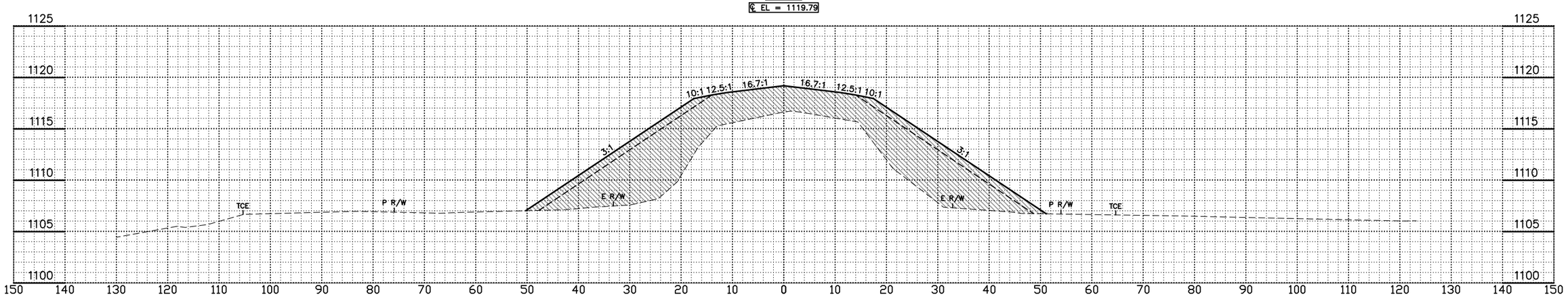
MONTGOMERY COUNTY, IOWA

BENCH MARK: RR SPIKE IN P.P., STA. 1+98, 32' RT., ELEV.= 1137.30



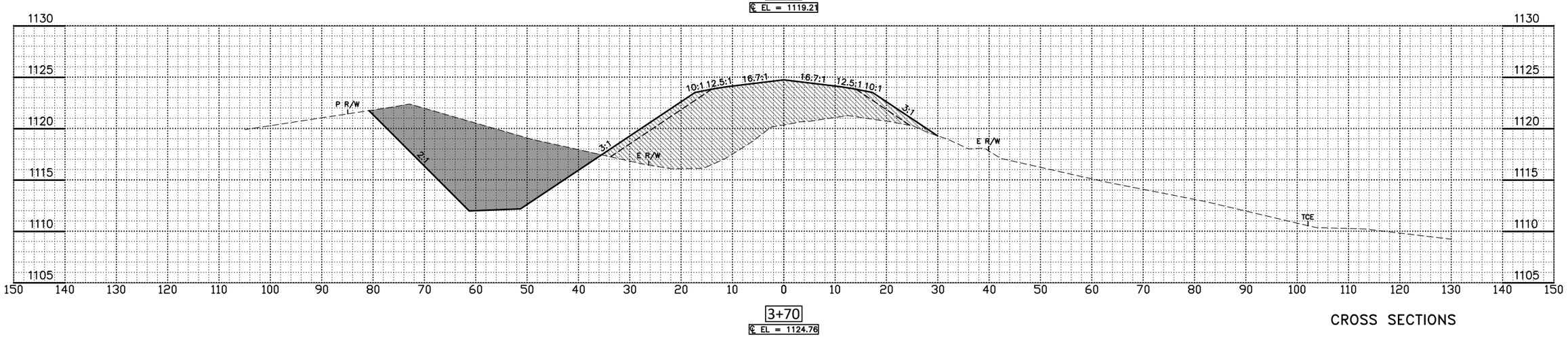
7+35

℄ EL = 1119.79



6+60

℄ EL = 1119.21



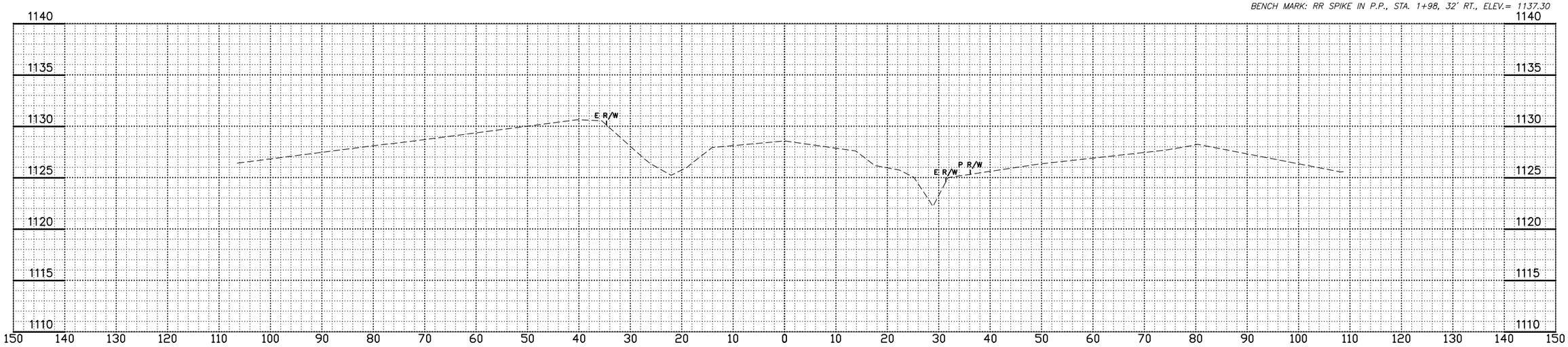
3+70

℄ EL = 1124.76

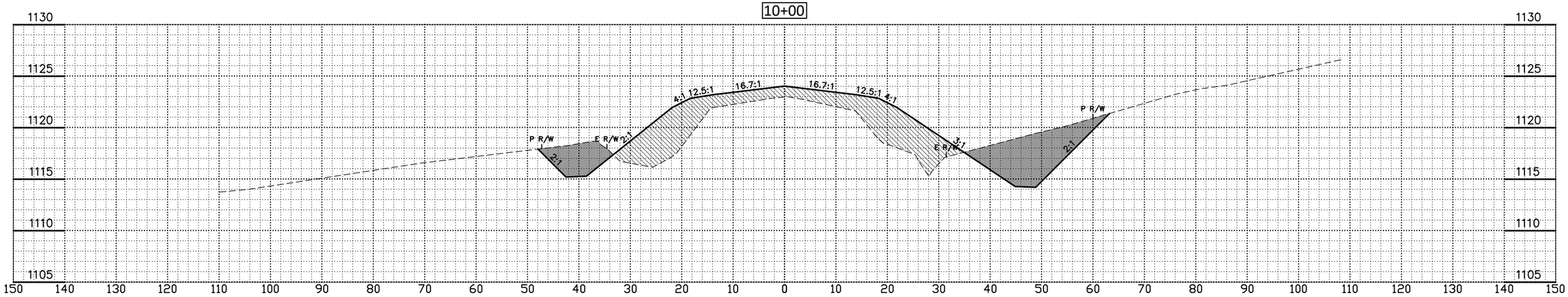
CROSS SECTIONS

MONTGOMERY COUNTY, IOWA

BENCH MARK: RR SPIKE IN P.P., STA. 1+98, 32' RT., ELEV.= 1137.30

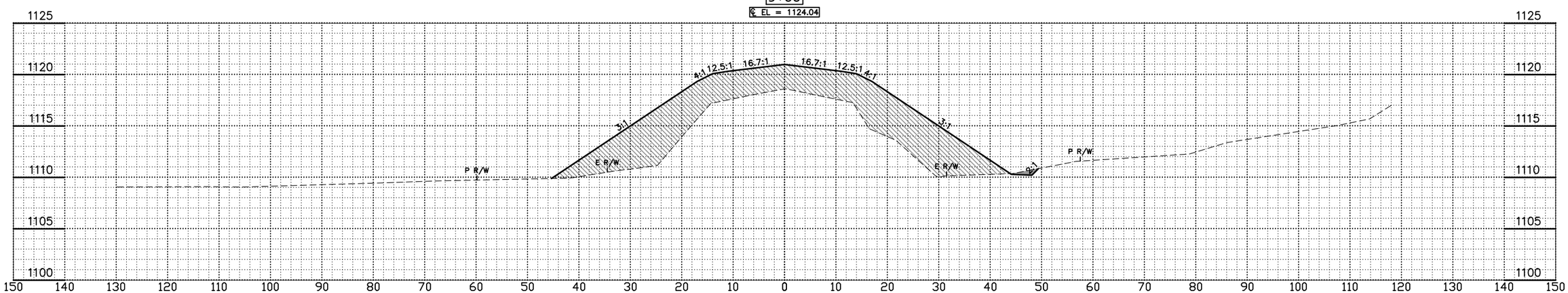


10+00



9+00

℄ EL = 1124.04

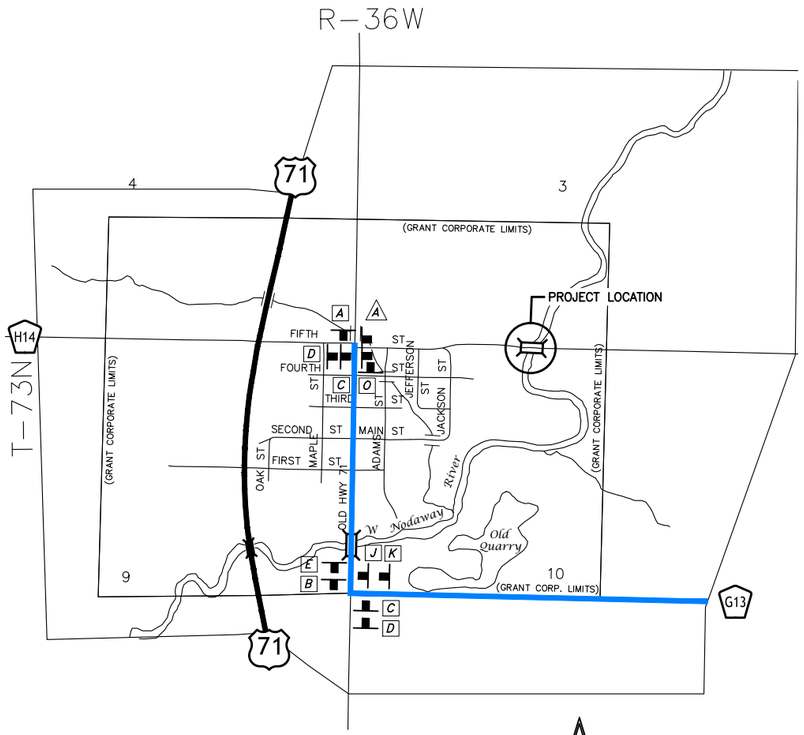


8+00

℄ EL = 1120.99

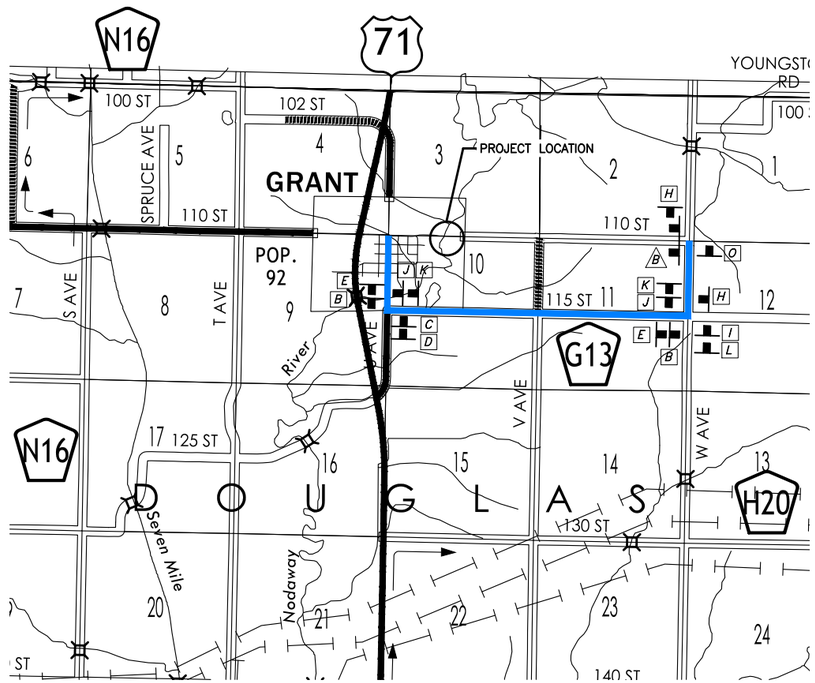
CROSS SECTIONS

MONTGOMERY COUNTY, IOWA



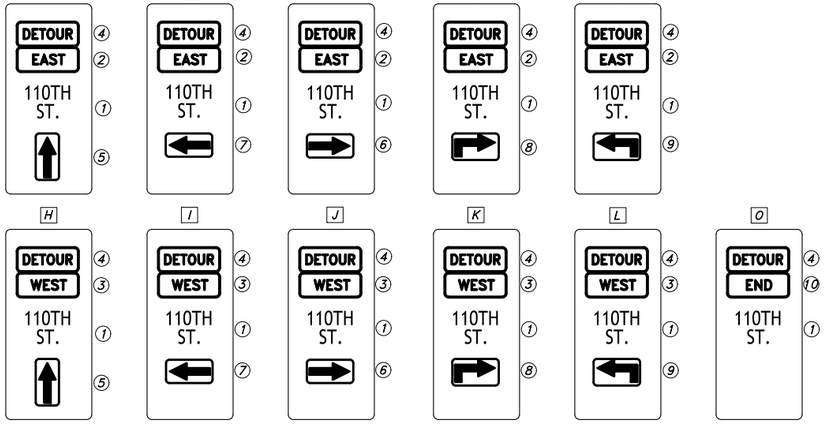
CITY OF GRANT

(NOT TO SCALE)



DETOUR SIGNAGE LAYOUT

(NOT TO SCALE)



TYPICAL SIGN CONFIGURATIONS

(1) *INDICATE SIGN NUMBER (SEE TABULATION)*

LEGEND

- A — *LOCATION AND SIGN CONFIGURATION*
- *DETOUR ROUTE*
- *TYPE III BARRICADE*

GENERAL NOTES

THIS SHEET ILLUSTRATES TRAFFIC CONTROL NECESSARY TO DETOUR THE PROJECT ROUTE.

ALL "STOP" OR OTHER REGULATORY SIGNS ON SIDE ROADS ARE NOT TO BE DISTURBED. IF A "STOP" OR OTHER REGULATORY SIGN MUST BE MOVED, IT WILL BE RELOCATED BY THE CONTRACTING AUTHORITY.

TRAFFIC CONTROL PLAN

1. *TRAFFIC CONTROL ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE DETOUR ROUTE SHOWN ON THIS SHEET AND STANDARD ROAD PLAN TC–252. THE PROJECT ROUTE WILL BE CLOSED TO TRAFFIC. TRAFFIC CONTROL DEVICES, PROCEDURES, AND LAYOUTS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATION CODE (IAC) CHAPTER 130.*
2. *ROUTE WILL BE CLOSED TO VEHICULAR TRAFFIC DURING CONSTRUCTION.*
3. *THIS LAYOUT MAY NOT INCLUDE ALL BARRICADES AS MAY BE REQUIRED BY SECTION 2518 OF THE STANDARD SPECIFICATIONS OR ROAD STANDARD TC–252, HOWEVER, TRAFFIC CONTROL AT THE PROJECT LOCATION IS TO BE IN ACCORDANCE WITH SECTION 2518 OF THE STANDARD SPECIFICATIONS AND/OR ROAD STANDARD TC–252 AS REQUIRED.*
4. *ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR. ALL SIGNS SHALL BE FURNISHED, ERECTED AND MAINTAINED BY THE CONTRACTOR. EXACT LOCATIONS MAY BE FIELD ADJUSTED, PER ENGINEER'S APPROVAL, TO FIT CONDITIONS.*
5. *ALL SIGNS SHALL BE POST MOUNTED UNLESS NOTED OR OTHERWISE APPROVED BY THE ENGINEER. ALL TYPE III BARRICADES SHALL HAVE A MINIMUM OF 4 SAND BAGS.*
6. *WHERE POSSIBLE, ALL TRAFFIC CONTROL SIGNS SHALL BE PLACED A MINIMUM OF 8 FEET CLEAR OF THE ROADWAY IN RURAL AREAS. WHERE CARS AND GUTTER IS PRESENT, SIGNS SHALL BE PLACED A MINIMUM OF 2 FEET CLEAR OF BACK OF CURB. SIGNS SHALL BE PLACED A MINIMUM OF 4 FEET CLEAR AT THE CEMETERY, IF REQUIRED.*
7. *PROPOSED SIGN SPACING MAY BE MODIFIED, AS APPROVED BY THE ENGINEER, TO MEET EXISTING FIELD RESTRICTIONS, OR TO PREVENT OBSTRUCTION OF THE MOTORISTS VIEW OF PERMANENT SIGNING.*
8. *PROPOSED CHANGES IN THE TRAFFIC CONTROL PLAN SHALL BE REVIEWED WITH THE ENGINEER BEFORE CHANGES ARE MADE.*
9. *SAFETY CLOSURES SHALL BE PLACED IN ACCORDANCE WITH SECTION 2518 OF THE STANDARD SPECIFICATIONS AT THE LOCATIONS SPECIFIED IN THE "TABULATION OF SAFETY CLOSURE."*
10. *THE BID ITEM "TRAFFIC CONTROL" SHALL INCLUDE THE COST FOR ALL TRAFFIC CONTROL MEASURES REQUIRED OF THE CONTRACTOR EXCEPT FOR THOSE WHICH ARE SEPARATE BID ITEMS OR ARE INCIDENTAL TO OTHER BID ITEMS.*
11. *ALL CONTRACTOR FURNISHED TRAFFIC CONTROL SIGNS USED ON THIS PROJECT SHALL BE SHEETED WITH ENCAPSULATED LENS SHEETING.*
12. *TYPE C STEADY BURN WARNING LIGHTS ARE NOT REQUIRED FOR VERTICAL PANELS, BARRICADES, AND DRUMS WHEN THESE TRAFFIC CONTROL DEVICES ARE SHEETED WITH ENCAPSULATED LENS SHEETING.*
13. *POINTS OF ACCESS LOCATED WITHIN THE PROJECT LIMITS SHALL REMAIN ACCESSIBLE THROUGHOUT THE PROJECT. IF DUE TO CONSTRUCTION A POINT OF ACCESS MUST BE BLOCKED THE CONTRACTOR IS TO PROVIDE AN ALTERNATE POINT OF ACCESS APPROVED BY THE ENGINEER. ALL ALTERNATE ACCESS POINTS ARE INCIDENTAL TO THE BID ITEM "TRAFFIC CONTROL."*

TABULATION OF DETOUR TRAFFIC SIGNS

NO.	DESCRIPTION	TYPE	QUANT.	SIZE
(1)	*110TH ST. (BLACK ON WHITE)*	*D3–1*	*19*	*24"x12"*
(2)	*EAST (BLACK ON WHITE)*	*M3–2*	*9*	*24"x12"*
(3)	*WEST (BLACK ON WHITE)*	*M3–4*	*8*	*24"x12"*
(4)	*DETOUR (BLACK ON ORANGE)*	*M4–8*	*19*	*24"x12"*
(5)	*↑ (BLACK ON WHITE))*	*M6–3*	*3*	*21"x15"*
(6)	*→ (BLACK ON WHITE))*	*M6–1R*	*4*	*21"x15"*
(7)	*← (BLACK ON WHITE))*	*M6–1L*	*3*	*21"x15"*
(8)	*↱ (BLACK ON WHITE)*	*M5–1R*	*4*	*21"x15"*
(9)	*↰ (BLACK ON WHITE))*	*M5–1L*	*3*	*21"x15"*
(10)	*END (BLACK ON ORANGE)*	*M4–8b*	*2*	*24"x12"*
(11)	*→ DETOUR (ORANGE ON BLACK)*	*M4–10R*	*1*	*48"x18"*
(12)	*← DETOUR (ORANGE ON BLACK)*	*M4–10L*	*1*	*48"x18"*
(13)	*ROAD CLOSED, 0.3 MILES AHEAD, LOCAL TRAFFIC ONLY*	*R11–3A*	*1*	*60"x30"*
(14)	*ROAD CLOSED, 1.6 MILES AHEAD, LOCAL TRAFFIC ONLY*	*R11–3A*	*1*	*60"x30"*
A / B	*TYPE III BARRICADE*	–	*2*	–

243'–0 x 24'–6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

INTEGRAL ABUTMENTS — **TEE PIERS**
80'–9 END SPANS — **81'–6 INTERIOR SPAN**

TRAFFIC CONTROL PLAN

STATION 5+15.00 — **30° SKEW, LT. AHEAD**
MONTGOMERY COUNTY, — **IOWA**