F. H.W.A. NO. 128050

IOWA
DEPARTMENT OF TRANSPORTATION
Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

FARM TO MARKET SYSTEM
CRAWFORD COUNTY

PROJECT NO. LFB30-14N

102'-0 X 24'-0 I-BEAM BRIDGE
WITH WOOD FLOOR

SCALES AS NOTED

THE STANDARD SPECIFICATIONS, SERIES OF 1984, OF THE IOWA DEPARTMENT OF TRANSPORTATION, SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

PLUS CURRENT SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS

CONVENTIONAL SIGNS

- State Line
- Co. Line
- Twp. Line
- Sec. Line
- Corp. Line
- Urban Bdry
- R.O.W. Lines — Old / New
- Survey Line — Sta / Ref. Point
- Sec. Corner
- Profile Grade
- Railroad
- Field Tile — Old / New
- Underground Lines — G Gas / T Tel
- Culverts — Old / New
- Utility Poles — Power / Tel
- Fence — Barb / Mesh
- Trees Or Brush
- Stream
- Dike — Old / New
- County Road No
- Primary Road No
- U.S. Road No
- Interstate Road No

LOCATION MAP SCALE
0 1 2 3
miles

STA. 27+41.0 ℄ 102'-0 X 24'-0 I-BEAM BRIDGE
PROJECT NO. LFB30-14N OVER PARADISE CREEK

1980 AADT 43 V.P.D.
1984 AADT 10 V.P.D.

INDEX OF SHEETS

NO.	DESCRIPTION
1.	TITLE SHEET
2.	PLAN AND PROFILE
3.	CONSTRUCTION DETAILS
4.	CONSTRUCTION DETAILS

MILEAGE SUMMARY

DIV	LOCATION	LIN. FT.	MILES

STANDARD PLANS

The following Standard Plans shall be considered applicable to construction work on this project.

IDENT	DATE	IDENT	DATE	IDENT	DATE

APPROVED

BOARD OF SUPERVISORS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY SUPERVISION AND THAT ENGINEERING DECISIONS WITH REGARD TO THE DESIGN WERE MADE BY ME OR BY OTHER DULY REGISTERED PROFESSIONAL ENGINEERS UNDER THE LAWS OF THE STATE OF IOWA.

H. Dale Wright 2-2-88
IOWA REGISTRATION NUMBER 5798 DATE

DEPARTMENT OF TRANSPORTATION IOWA
Highway Division

AUTHORIZED FOR LETTING

DEPUTY CHIEF ENGINEER DATE

U.S. DEPT. TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ENGINEER DATE

CRAWFORD COUNTY

LETTING DATE

LFB 30-14N
102' x 24' I-Beam
over Paradise

128051

Para. 11-14
1988
local

1988 CONSTRUCTION BY CRAWFORD COUNTY BRIDGE CREW

CRAWFORD COUNTY PROJECT NO. LFB30-14N SHEET NO 1 OF 4

Sta. 0+00
N1/4 Cor. Sec. 15-83-40

Paradise Township
T-83N R-40W
Sec. 10

Top Steel Posts
4" Box elder
Sta. 20+00

36" Cottonwood
Cor. Po.
Sta. 26+41.3 Sec. Cor.
1/2" bolt 4" deep over C.M.
Defl. = 0°13' Rt.
W. Gate Po.
E. Gate Po.
Bridge
County Road
Jetties
Creek
cultivated

Paradise Township
T-83N R-40W
Sec. 11
W. Gate Po.
E. Gate Po.
Fe. Po.
Sta. 28+50 P.O.T.
1/2" Re-bar 3" deep
Sta. 32+28 P.O.T.
1/2" Re-bar 3" deep
cultivated

Sta. 27+61 ℄ 70'X 16' Pin-connected Truss with 38'X 17' I-Beam Approach.
Crawford County to remove, and Construct 102'-0 X 24'-0 I-Beam Bridge, also construct jetty's upstream as shown.

Hay
Paradise
Feed Lot
shed
Tele. Cable
cultivated
Sec. 14
Sec. 15

B.M. No. 1 SPK in fence post 37' Lt., Sta. 7+25 Elev. - 1337.40
B.M. No. 2 SPK in Power Pole 66' Rt., Sta. 29+02 Elev. - 1204.94

-9.00% Future Grade

307' Vertical curve required
Sta. 29+50
1211.00
VC = 400'
m.o. = 4.21

Sta. 31+00
1208.03
V.C. = 400'
m.o. = 0.74

-0.57429%
+0.90%

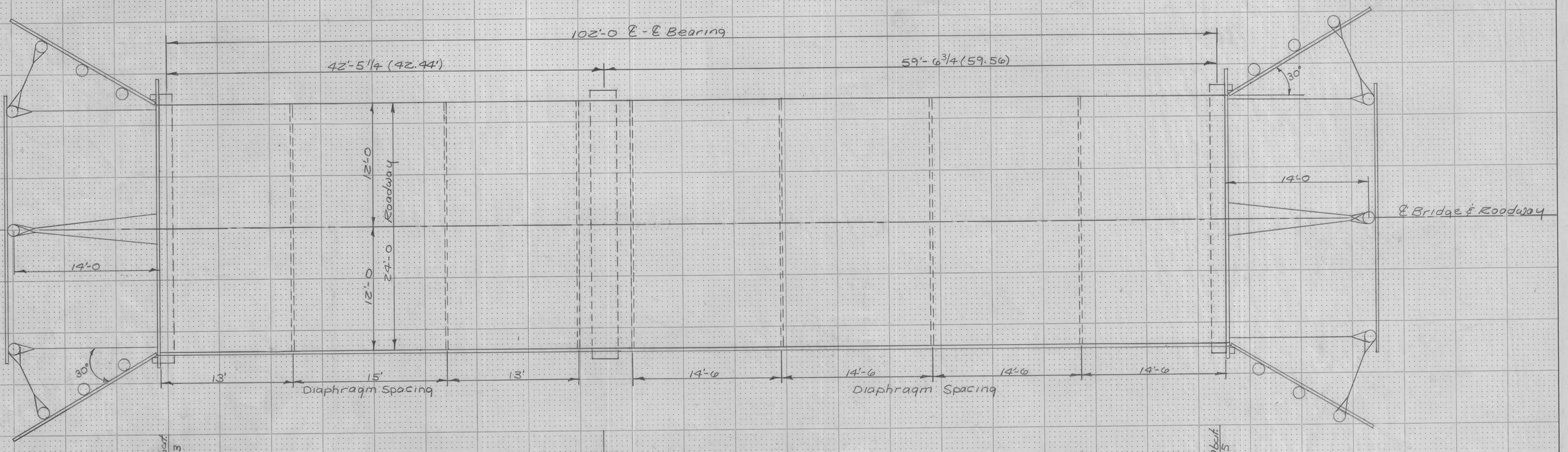
PLATE 1 - PLAN - PROFILE O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

Crawford County - Bridge Project No. LFB30-14N Sheet No. 2 of 4

Hydraulic Data:
DA = 21.97 Sq. mi.
Design Discharge = 8,481 c.f.s.
Design High Water - 1202.6
Reach Slope = 19.04 ft/mi.
Basin Slope = 31.28 ft./mi.
Bridge Waterway Area = 1,079 Sq. ft.
Design Velocity = 7.86 f.p.s.
Q50 = 6,769 c.f.s. Stage - 1202.6
Q100 = 8,149 c.f.s. Stage - 1203.3
Q500 = 12,861 c.f.s. Stage - 1206.5

Bridge rated by H. Gene McKeown and Associates (Consulting Engineer's) Feb. 1, 1988.
Operating rating of this Bridge: H-15 Single Lane Loading
H-15 - 15 T (Legal)
Type 3 - 23 Ton
Type 3S2 - 32 Ton
School Bus - Legal
Motor Grader - Legal
This bridge not designed to take complete legal loading because of the 1984, 10 V.P.D. Traffic count.

Crawford County
Bridge
Between Secs. 11 & 14
Paradise Township



Note:
Use Salvaged piling & Planks from existing Bridge To Construct, wings, backwalls, and Deadmen.

Sta. 26+90.00, West Abut.
Top steel cap - 1207.05
Piling cut off - 1207.01

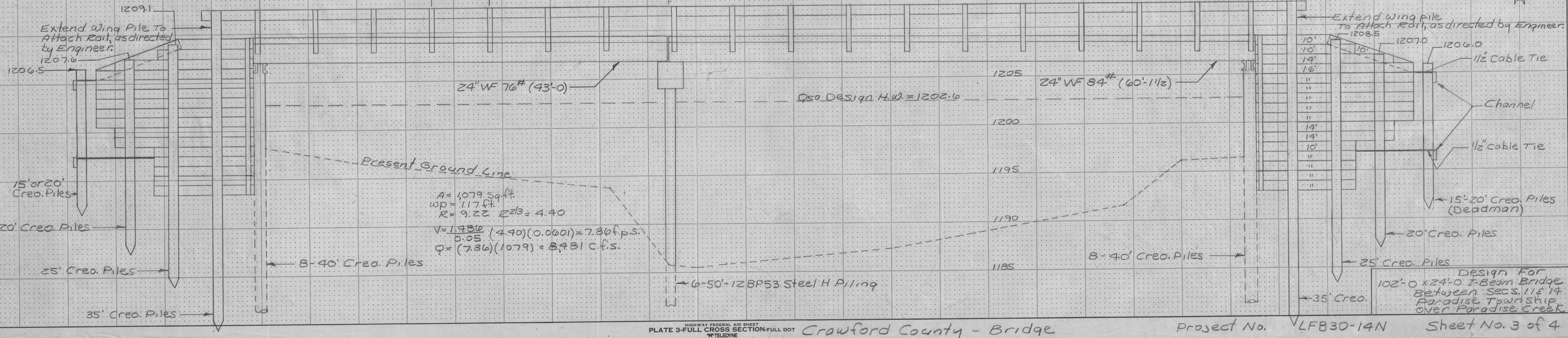
Sta. 26+90.00 ℄ West Abut
℄ Grade elev. - 1209.63

Sta. 27+32.44 ℄ Pier
℄ Grade elev. - 1209.39

Sta. 27+32.44 Pier
Top Pier - 1206.76
Piling cut off - 1205.51

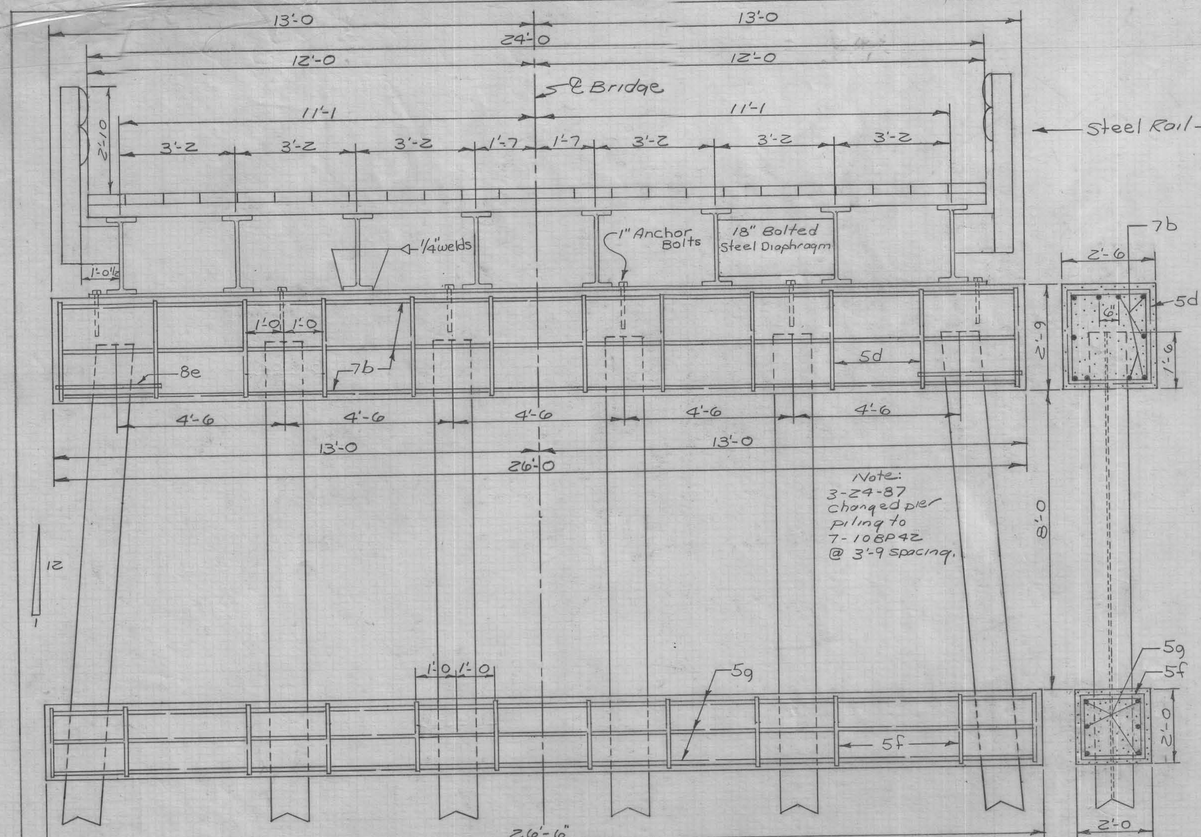
Sta. 27+92.00 ℄ East Abut
℄ Grade elev. - 1209.05

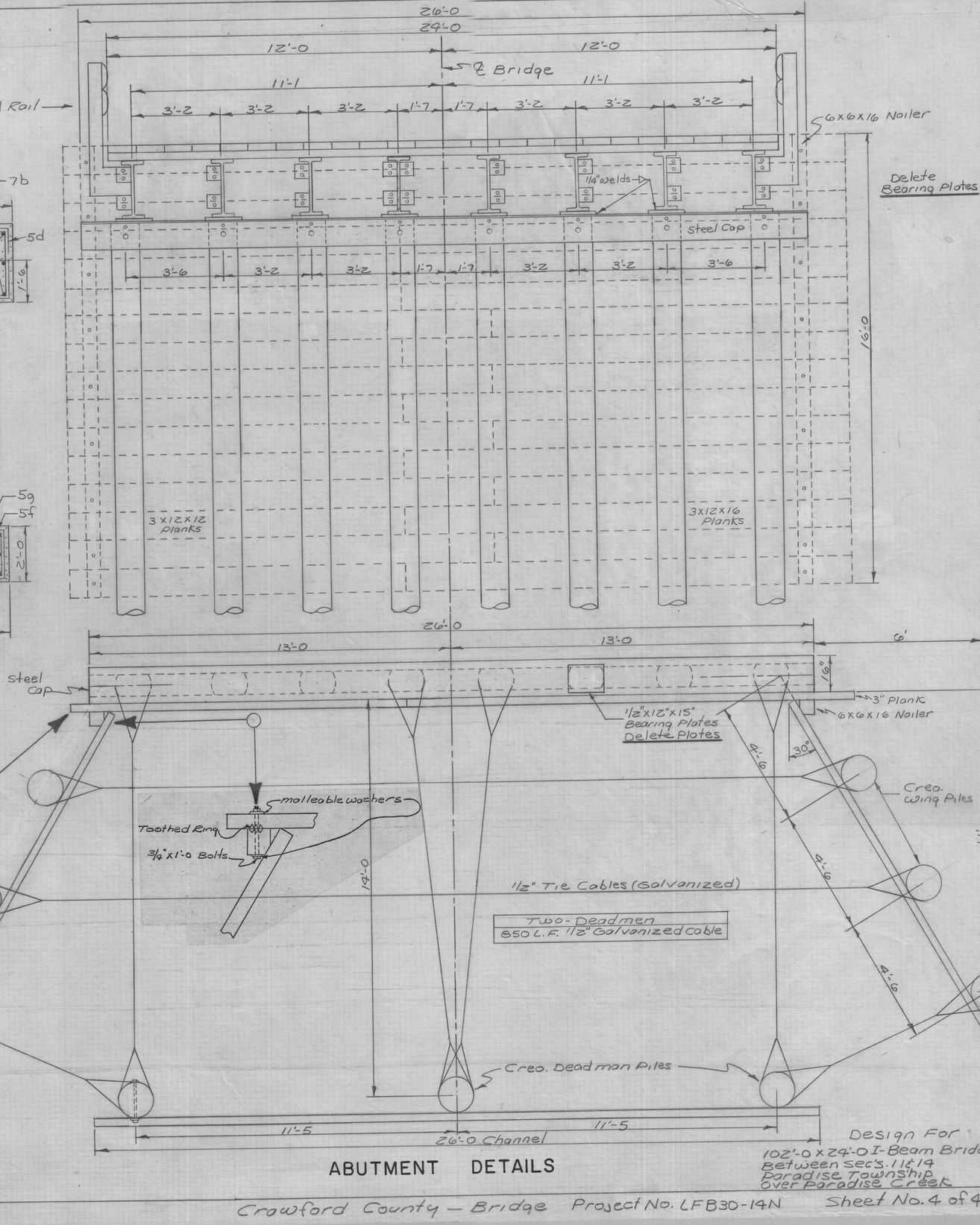
Sta. 27+92.00, East Abut.
Top steel cap - 1206.47
Piling cut off - 1206.43



N

Design For
102'-0 x 24'-0 I-Beam Bridge
Between Secs. 11 & 14
Paradise Township
over Paradise Creek.



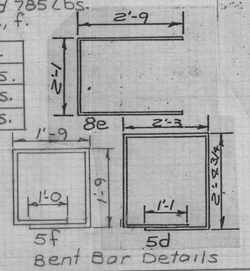


PIER DETAILS

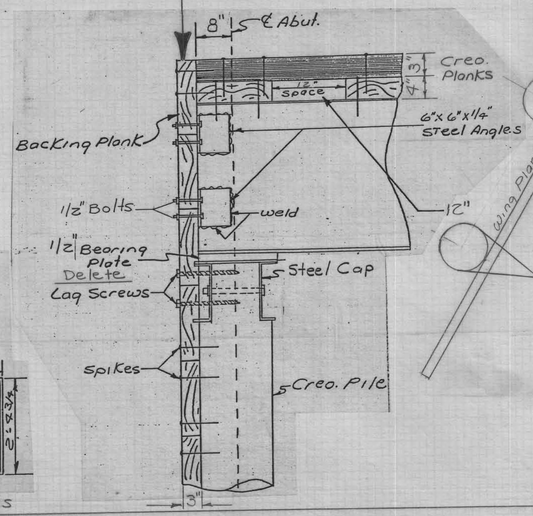
Reinforcing Steel — Pier					
Bar	Size	Shape	No.	Length	Weight
b	7	——	10	25'-9	526
d	5	□	12	10'-4½	130
e	8	⊏	2	7'-7	41
f	5	□	12	7'-0	88
*g	5	——	6	26'-3	164
Total Weight (Lbs.)					949

* To be furnished from County Stock. Total weight to be ordered 785 Lbs. Bars to be ordered b, d, e, f.

Class "C" Structural Concrete	
Pier Cap	6.62 cu. yds.
Pier Stablizer	3.93 cu. yds.
Total	10.55 cu. yds.



Bent Bar Details

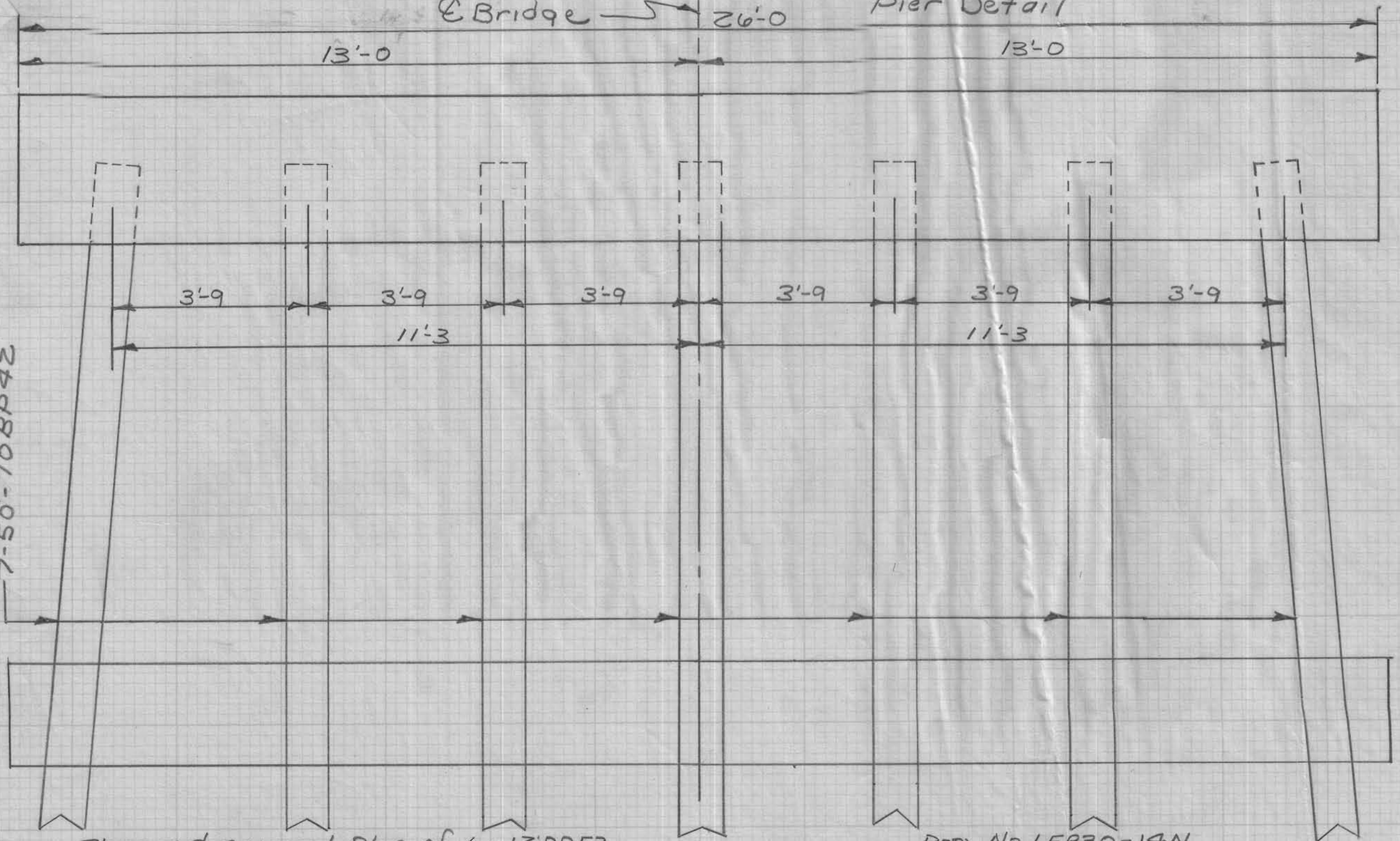


ABUTMENT DETAILS

Design For
102'-0 x 24'-0 I-Beam Bridge
Between Sec's. 11 & 14
Paradise Township
over Paradise Creek

Crawford County — Bridge Project No. LFB30-14N Sheet No. 4 of 4

Pier Detail



Changed original Plan of 6-12BP53
TO 7-10BP42 as shown. 3/24/88

Proj. No. LFB30-14N
Bet. sec's. 11 & 14 Paradise Twp.