

DESIGN DATA

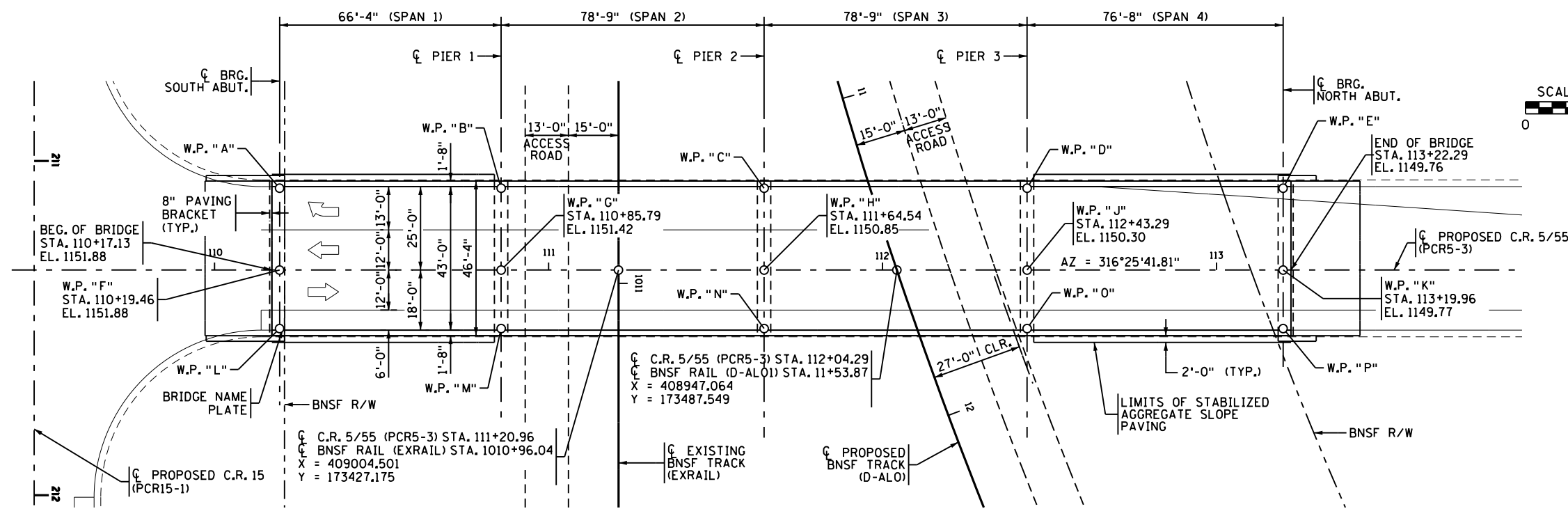
DESIGNED IN ACCORDANCE WITH 2014 AND CURRENT INTERIM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
 HL93 LIVE LOAD
 DEAD LOAD INCLUDES 20 PSF ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS.

MATERIAL DESIGN PROPERTIES:
 REINFORCED CONCRETE:
 $f'_c = 4$ KSI CONCRETE
 $f_y = 60$ KSI PLAIN AND EPOXY COATED BARS
 $n = 8$ FOR REINFORCEMENT
 PRESTRESSED CONCRETE:
 $f'_c = 9$ KSI $n = 1$
 $f_{pu} = 270$ KSI LOW RELAXATION STRANDS
 $0.75 f_{pu}$ FOR INITIAL PRESTRESS

DESIGN SPEED:
 OVER = XX MPH
 UNDER = N/A
 APPROXIMATE DECK AREA = 14,140 SQUARE FEET
 PROJECTED ADT FOR 2034 = XXXXX

LIST OF SHEETS

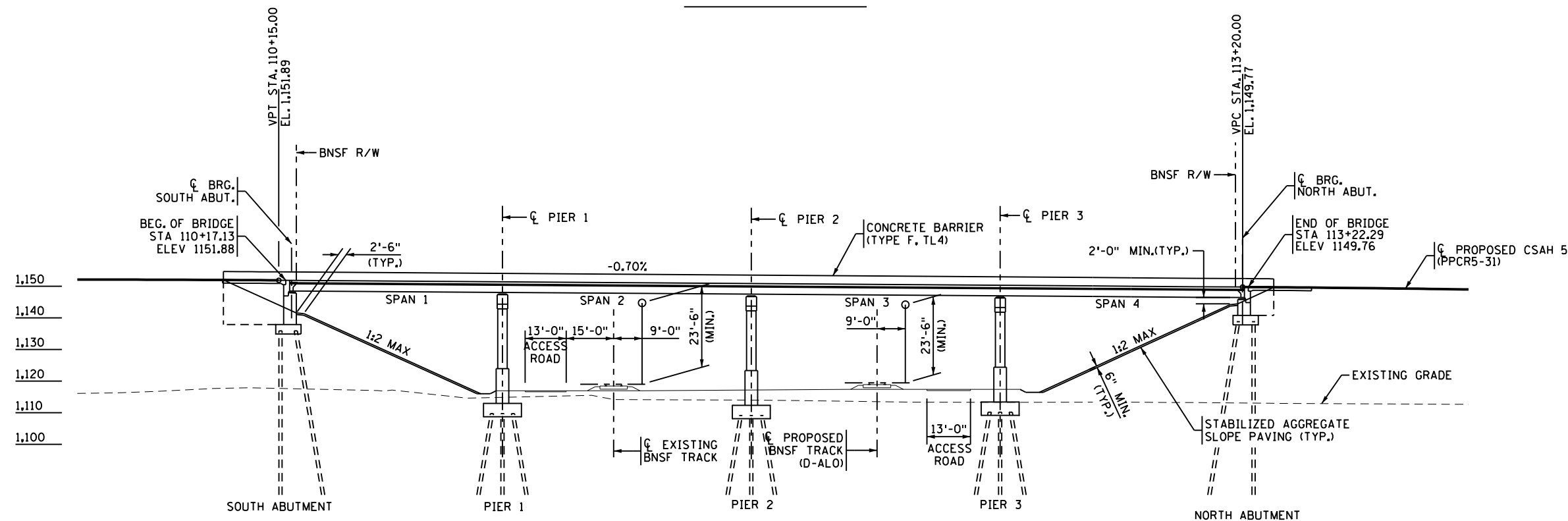
NO.	DESCRIPTION
1	GENERAL PLAN AND ELEVATION
2	TRANSVERSE SECTION THRU DECK
3	BRIDGE LAYOUT
4	AESTHETIC DETAILS
5	BRIDGE SURVEY
6	BRIDGE SURVEY - PLAN & PROFILE



GENERAL PLAN

PROPOSED TYPE OF STRUCTURE

DECK:
 27M PRESTRESSED CONCRETE BEAMS
 SEPARATE CONCRETE WEARING COURSE
 EPOXY COATED REINFORCEMENT
 SINGLE SPAN
SUBSTRUCTURE:
 PARAPET ABUTMENTS SUPPORTED ON PILE SUPPORTED FOUNDATION
AESTHETICS:
 LEVEL C



GENERAL ELEVATION

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 INFRASTRUCTURE - ENGINEERS - PLANNERS
 701 Xenia Avenue Suite 300
 Minneapolis, MN 55416
 763-541-4800
 FAX 763-541-1700

MINNESOTA DEPARTMENT OF TRANSPORTATION

**PRELIMINARY PLAN
 Bridge No. XXXX**

PROPOSED C.R. 5/55 (XXXX) OVER PROPOSED BNSF RAILROAD
 0.1 MILES WEST OF C.R. 15 AND 0.1 MILES SOUTH OF C.R. 5
 66'-4" 78'-9" 78'-9" 76'-8"
 43'-0" CLEAR ROADWAY, SKEW N/A
 TYPE F (TL-4 CONC. RAILINGS)

SPAN IDENTIFICATION NO. XXX
PLAN AND PROFILE

SEC. 29 TWP. 119N R. 35W
 WILLMAR TOWNSHIP KANDIYOHI COUNTY

APPROVED: _____ DATE _____
 STATE BRIDGE ENGINEER

NO.	DATE	BY	CHK	REVISIONS

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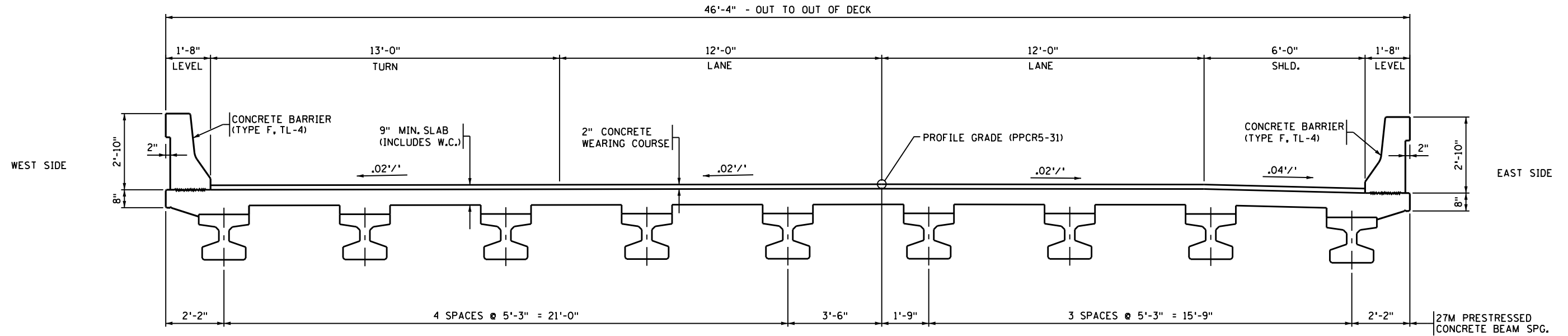
**KANDIYOHI BRIDGE
 KANDIYOHI COUNTY
 STATE PROJECT NO. XXXX-XXX**

TITLE: **GENERAL PLAN AND ELEVATION**

DES: _____ DR: SWH
 CHK: _____ CHK: CBO
 Sheet 1 of 6 Sheets

Bridge No. XXXX

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TRANSVERSE SECTION THRU DECK

CONSTRUCTION NOTES

THE PROPOSED GRADE SEPARATION PROJECT SHALL NOT INCREASE THE QUANTITY AND/OR CHARACTERISTICS OF THE FLOW IN THE RAILROAD'S DITCHES AND/OR DRAINAGE STRUCTURES.

THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE SHALL BE VERIFIED BEFORE BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RAILROAD PRIOR TO CONSTRUCTION.

THE CONTRACTOR MUST SUBMIT A PROPOSED METHOD OF EROSION AND SEDIMENT CONTROL AND HAVE THE METHOD APPROVED BY THE RAILROAD.

ALL SHORING SYSTEMS THAT IMPACT THE RAILROAD'S OPERATIONS AND/OR SUPPORTS THE RAILROAD'S EMBANKMENT SHALL BE DESIGNED AND CONSTRUCTED PER CURRENT RAILROAD GUIDELINES FOR TEMPORARY SHORING.

ALL DEMOLITIONS WITHIN THE RAILROAD'S RIGHT-OF-WAY AND/OR DEMOLITION THAT MAY IMPACT THE RAILROAD'S TRACKS OR OPERATIONS SHALL BE IN COMPLIANCE WITH THE RAILROAD'S DEMOLITION GUIDELINES.

ERECTION OVER THE RAILROAD'S RIGHT-OF-WAY SHALL BE DESIGNED TO CAUSE NO INTERRUPTION TO THE RAILROAD'S OPERATION, ENABLING THE TRACK(S) TO REMAIN OPEN TO TRAFFIC PER THE RAILROAD REQUIREMENTS.

RAILROAD REQUIREMENTS DO NOT ALLOW WORK WITHIN 50 FEET OF THE TRACK CENTERLINE WHEN A TRAIN PASSES THE WORK SITE AND ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT.

FALSE-WORK CLEARANCES SHALL COMPLY WITH MINIMUM CONSTRUCTION CLEARANCES.

ALL PERMANENT CLEARANCES SHALL BE VERIFIED BEFORE PROJECT CLOSING

DIRECT DRAINAGE ONTO THE RAILROAD RIGHT-OF-WAY IS NOT ALLOWED.

TEMPORARY HORIZONTAL AND VERTICAL CONSTRUCTION CLEARANCES SHALL MEET THE MINIMUM REQUIREMENTS OF THE UPRR GRADE SEPARATION GUIDELINES AND WILL BE PROVIDED IN THE DETAILED CONSTRUCTION PLAN.

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NO	DATE	BY	CHK	REVISIONS

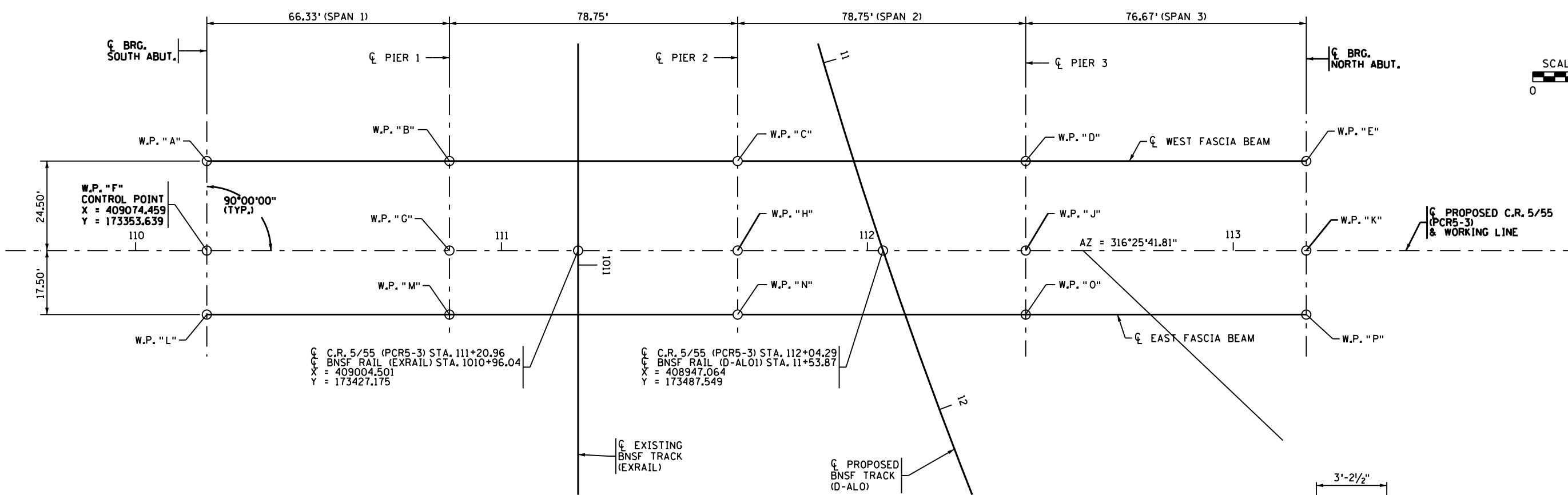
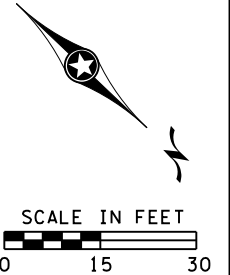
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KANDIYOHI BRIDGE
KANDIYOHI COUNTY
STATE PROJECT NO. XXXX-XXX

TITLE:
TRANSVERSE SECTION

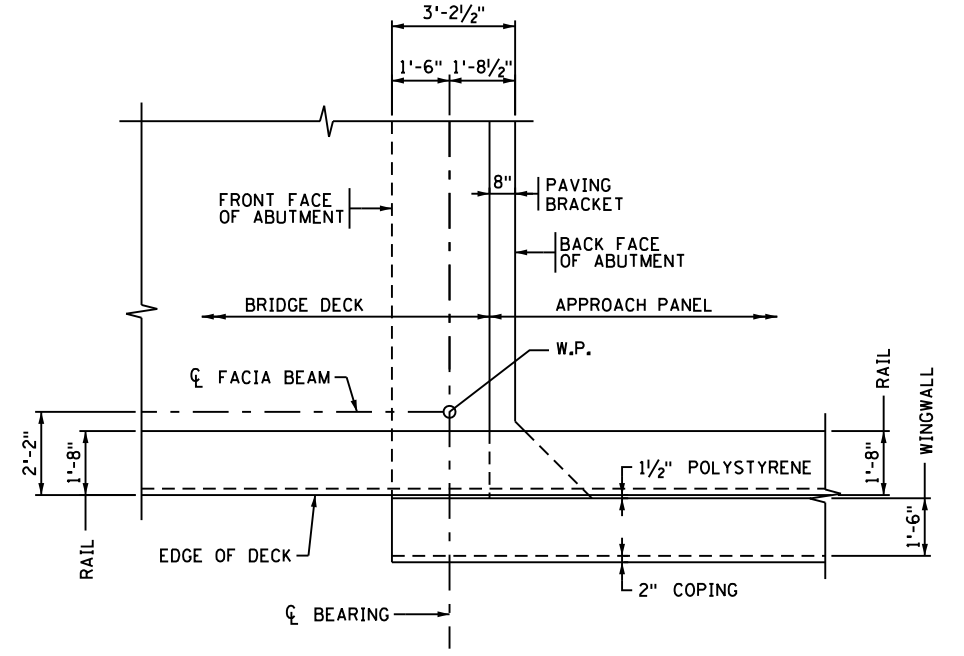
DES: DR: SWH
CHK: CHK: CBO
Sheet 2 of 6 Sheets

Bridge No.
XXXXX



WORKING POINT LAYOUT

TOP OF ROADWAY TO BRIDGE SEAT					
	SLAB THICKNESS	STOOL HEIGHT	BEAM HEIGHT	BEARING HEIGHT	TOTAL
SOUTH ABUT.	9"	3 1/2"	27"	X	X
PIER 1	9"	4"	27"	X	X
PIER 2	9"	4"	27"	X	X
NORTH ABUT.	9"	3 1/2"	27"	X	X



TYPICAL CORNER DETAIL

DIMENSIONS BETWEEN WORKING POINTS																	ELEVATIONS					
POINT	STATION	X-COORD	Y-COORD	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	TOP OF DECK	TOP OF DECK TO BRIDGE SEAT	BRIDGE SEAT	POINT
A	110+19.46	409056.708	173336.753		66.33				24.50	70.71	147.14	225.17	301.50		78.51	151.04	227.74	303.42	1151.39	X	X	A
B	110+85.79	409010.987	173384.812			78.75			70.71	24.50	82.47	159.39	235.44	78.51		89.25	163.00	237.90	1151.93	X	X	B
C	111+64.54	408956.708	173441.867				78.75		147.14	82.47	24.50	82.47	157.34	151.04	89.25		89.25	160.99	1150.36	X	X	C
D	112+43.29	408902.428	173498.923					76.67	225.17	159.39	82.47	24.50	80.49	227.74	163.00	89.25		87.42	1149.81	X	X	D
E	113+19.96	408849.585	173554.468						301.50	235.44	157.34	80.49	24.50	303.42	237.90	160.99	87.42		1149.28	X	X	E
F	110+19.46	409074.459	173353.639							66.33				17.50	68.60	146.14	224.52	301.01	1151.88			F
G	110+85.79	409028.738	173401.699								78.75			68.60	17.50	80.67	158.47	234.82	1151.42			G
H	111+64.54	408974.458	173458.754									78.75		146.14	80.67	17.50	80.67	156.40	1150.85			H
J	112+43.29	408920.179	173515.809										76.67	224.52	158.47	80.67	17.50	78.64	1150.30			J
K	113+19.96	408867.336	173571.355											301.01	234.82	156.40	78.64	17.50	1149.77			K
L	110+19.46	409087.138	173365.702												66.33				1151.42	X	X	L
M	110+85.79	409041.417	173413.761													78.75			1150.96	X	X	M
N	111+64.54	408987.137	173470.816														78.75		1150.39	X	X	N
O	112+43.29	408932.858	173527.872															76.67	1149.84	X	X	O
P	113+19.96	408880.014	173583.417																1149.31	X	X	P

NO	DATE	BY	CHK	REVISIONS



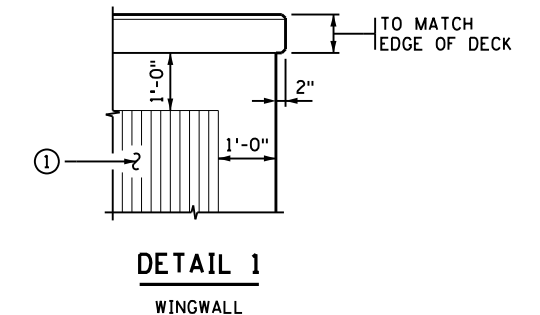
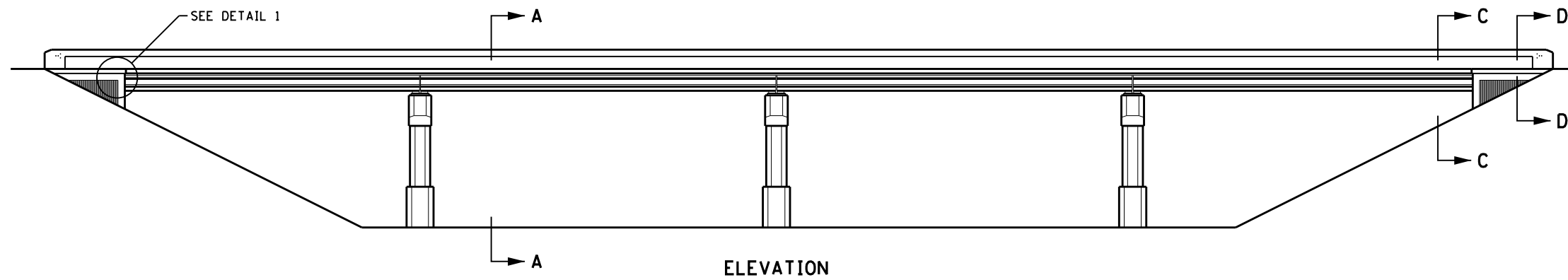
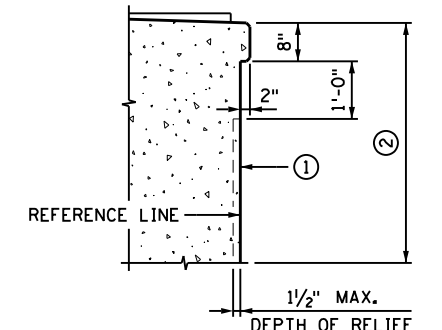
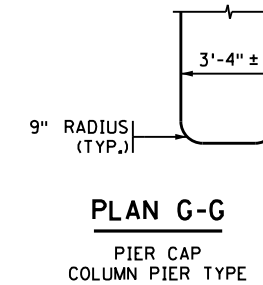
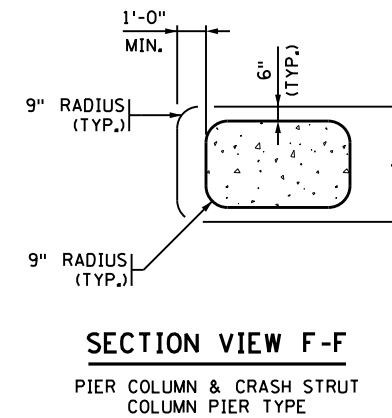
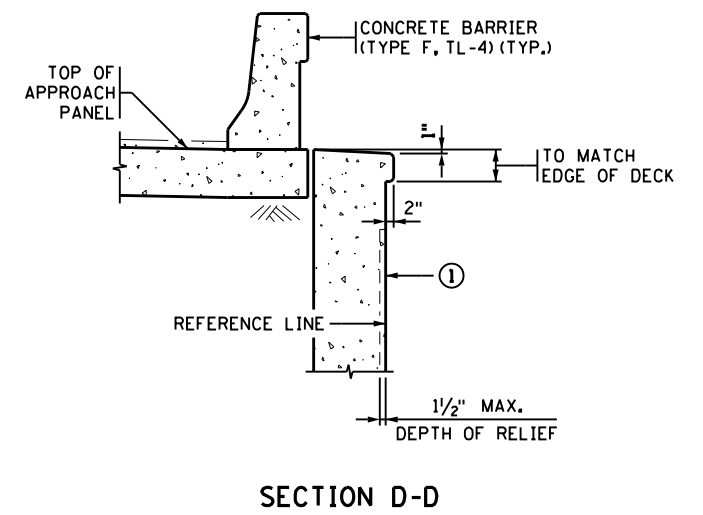
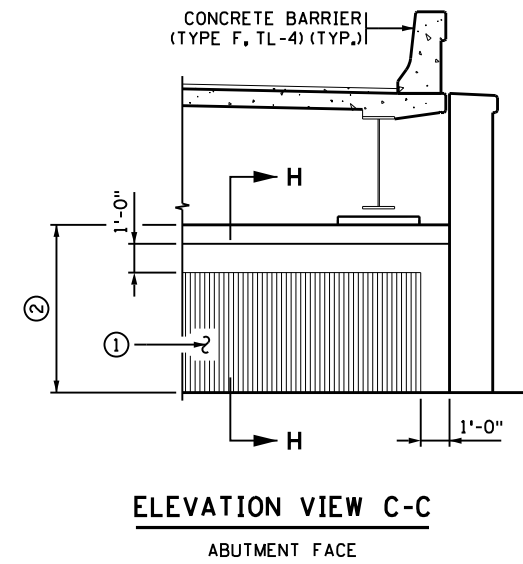
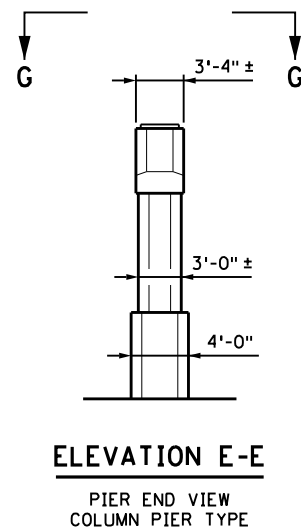
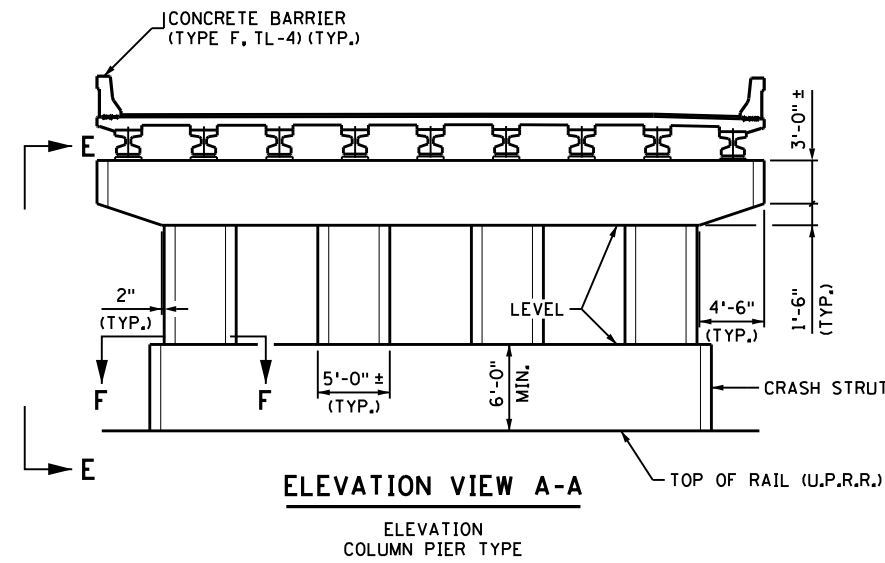
KANDIYOHI BRIDGE
KANDIYOHI COUNTY
STATE PROJECT NO. XXXX-XXX

TITLE:
BRIDGE LAYOUT

DES: DR: SWH
 CHK: CHK: CBO
Sheet 3 of 6 Sheets

Bridge No.
XXXXX

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NOTES:
 CONCRETE COLOR: MNDOT GRAY
 IF PILES ARE EXPOSED, PILE COLOR : GALVANIZED

- ① ARCHITECTURAL CONCRETE TEXTURE (FRACTURED FIN)
ARCHITECTURAL SURFACE FINISH (SINGLE COLOR)
- ② ADD ARCHITECTURAL CONCRETE TEXTURE WHEN EXPOSED HEIGHT IS 3'-0" OR GREATER.

NO	DATE	BY	CHK	REVISIONS

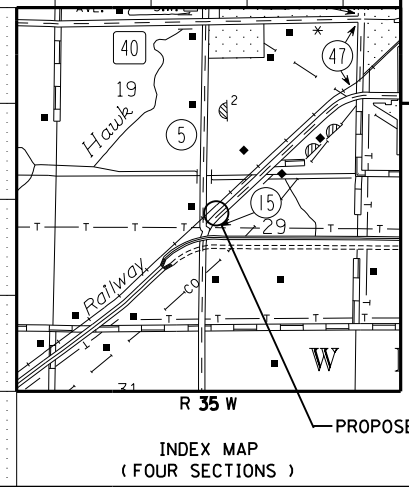
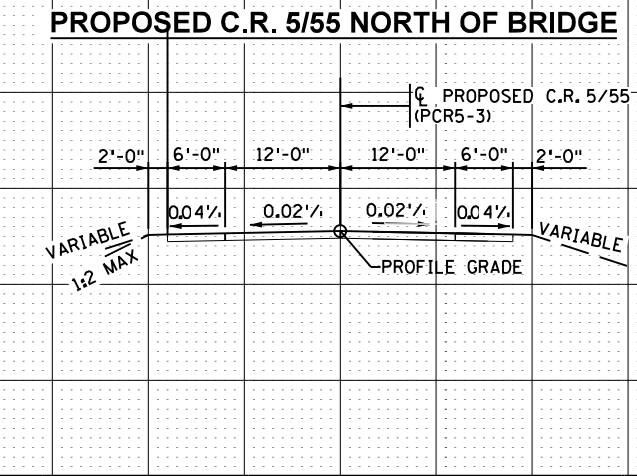
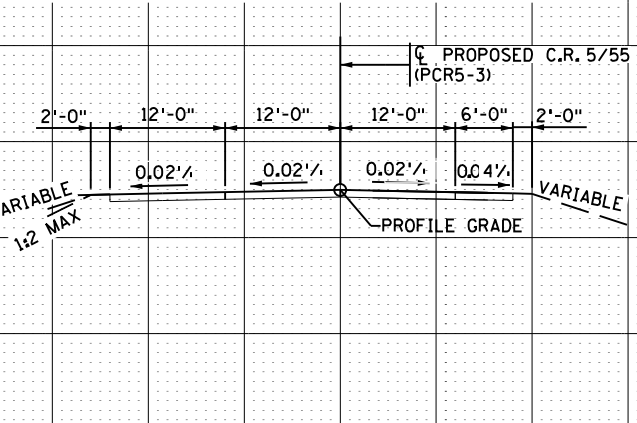
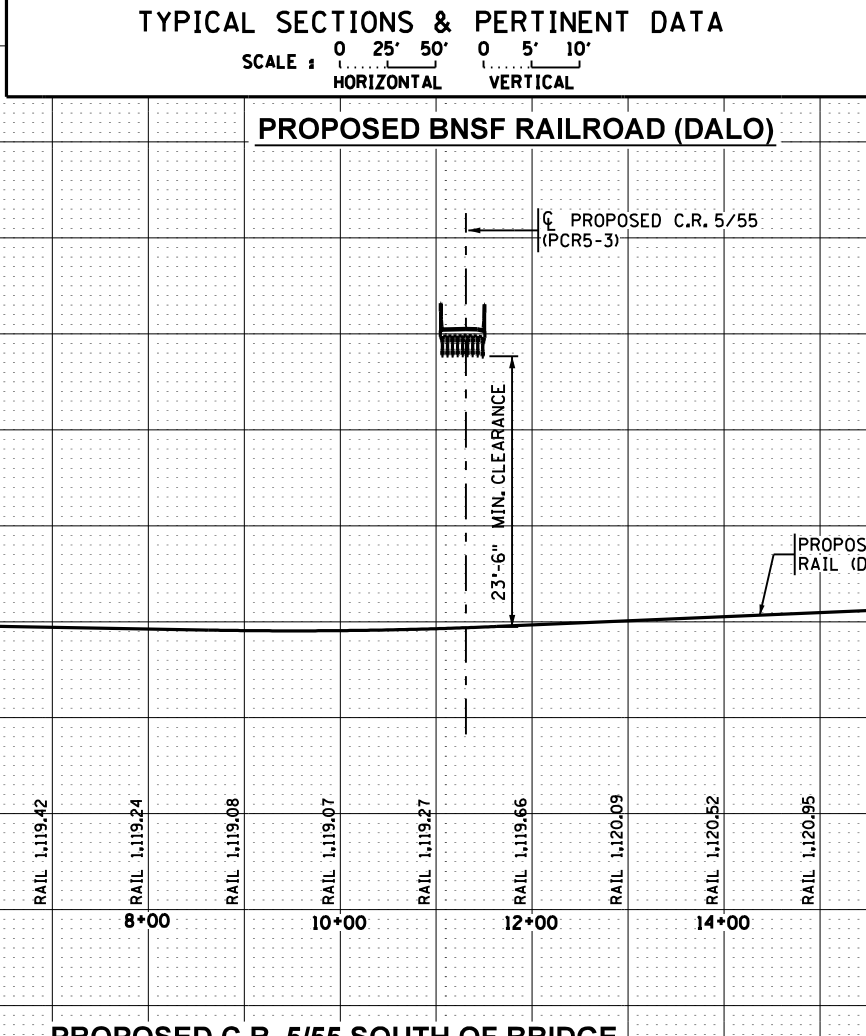
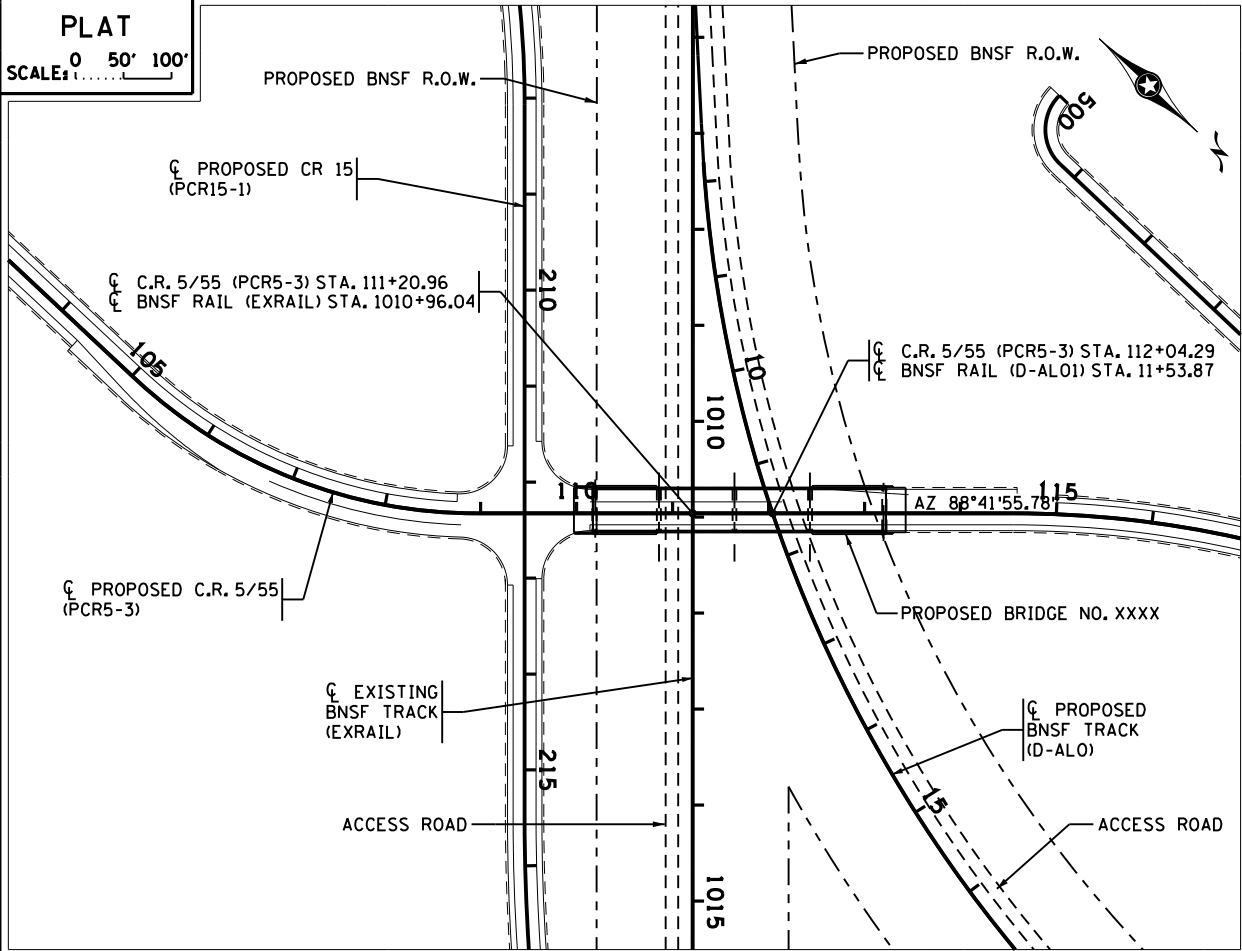
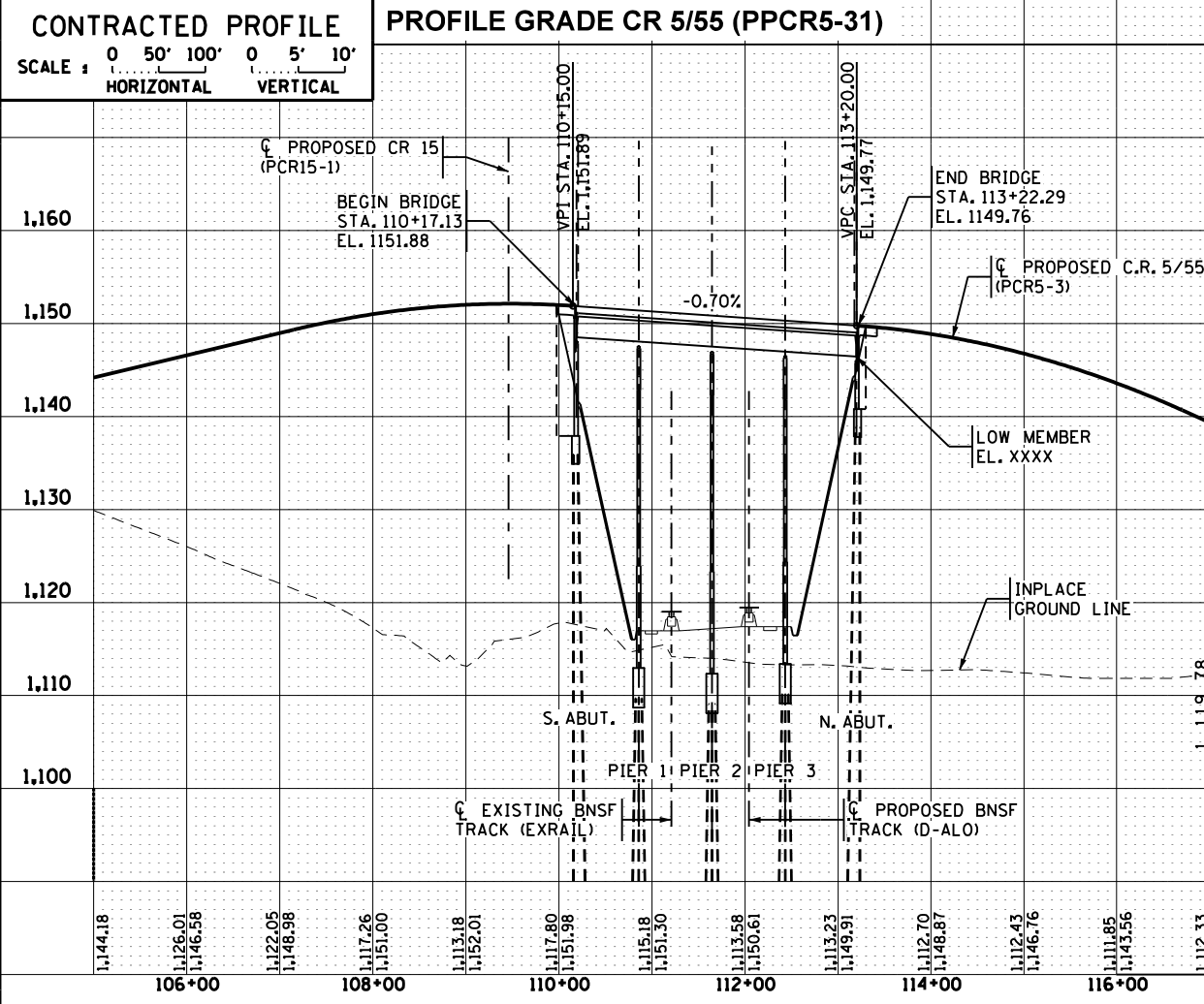
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KANDIYOHI BRIDGE
KANDIYOHI COUNTY
STATE PROJECT NO. XXXX-XXX

TITLE:
AESTHETIC DETAILS

DES:	DR: SWH
CHK:	CHK: CBO
Sheet 4 of 6 Sheets	

Bridge No.
 XXXXX



LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- SPECIAL FEATURES: NONE
- OTHER BRIDGES OR CULVERTS OVER THE SAME STREAM XXXXXXXX
- DOWN STREAM:
- APPARENT HIGHWATER ELEVATION: XXXXXXXX OBTAINED FROM: N/A
- OTHER DATA: NONE

HYDRAULIC ENGINEERS RECOMMENDATION

DATE: XX/XX/2012

STREAM OR DITCH DESIGNATION: XXXXXXXX

DRAINAGE AREA: XX.X SQ. MI.

MAX. FLOOD ON RECORD: C.F.S. XXX

MAXIMUM OBSERVED HIGHWATER ELEVATION: XXX

DESIGN FLOOD (100 YR. FREQ.): XXX C.F.S.

HEADWATER ELEVATION: XXX.X FT.

DESIGN MEAN VELOCITY THROUGH STRUCTURE: X.X F.P.S.

TOTAL STAGE INCREASE: X.X FT.

LOW MEMBER AT OR ABOVE ELEVATION: XXX.X FT.

WATERWAY AREA REQUIRED BELOW ELEV. XXX.X FT. = XXXX SQ. FT. AT RIGHT ANGLES TO CHANNEL

BASIC FLOOD (100 YR. FREQ.): XXX C.F.S.

HEADWATER ELEVATION: XXX.X FT.

TOTAL STAGE INCREASE: X.X FT.

MEAN VELOCITY THROUGH STRUCTURE: X.X F.P.S.

FLOWLINE ELEVATION: XXX.X FT. SKEW ANGLE: XX°

ESTIMATED PRELIMINARY TOTAL SCOUR AT PIER EL. N/A FT. (500 YR. FREQ.)

SCOUR CONFIRMATION RECOMMENDATION

DATE: N/A

TOTAL SCOUR AT PIER EL. N/A (500 YR. FREQ.)

SCOUR CODE: X

BRIDGE SURVEY SHEETS MADE FROM :

MNDOT SURVEY

BENCH MARK ELEVATION 1116.300 (N.A.V.D. 88 ADJ.)

LOCATION:

B.M. DISK 3405 F

3.24 MILES SOUTHWEST OF WILLMAR, 0.7 MILE WEST ALONG TRUNK HIGHWAY 12 FROM JUNCTION OF TRUNK HIGHWAY 12 AND 7TH STREET SOUTHWEST IN WILLMAR, THEN 1.2 MILES SOUTHWEST ON TRUNK HIGHWAY 40, THEN 0.5 MILE SOUTH ON TRUNK HIGHWAY 318, THEN 1.3 MILES SOUTHWEST ON COUNTY ROAD 15 SOUTHWEST, 135.2 FEET NORTHWEST OF COUNTY ROAD 15, 79.7 FEET SOUTHWEST OF TELEPHONE PEDESTAL, 45.6 FEET EAST OF COUNTY ROAD 55, 45.3 FEET SOUTHWEST OF SOUTHWEST RAIL OF RAILROAD, 0.7 FOOT SOUTHWEST OF WITNESS POST.

HORIZONTAL DATUM NAD 83 (2011 ADJ)

VERTICAL DATUM IS NAVD 88

BRIDGE SURVEY

PROPOSED BRIDGE LOCATED ON C.S.A.H. 51 1.0 MILE SOUTH OF JCT. TH 242 AND C.S.A.H. 51 OVER SAND CREEK.

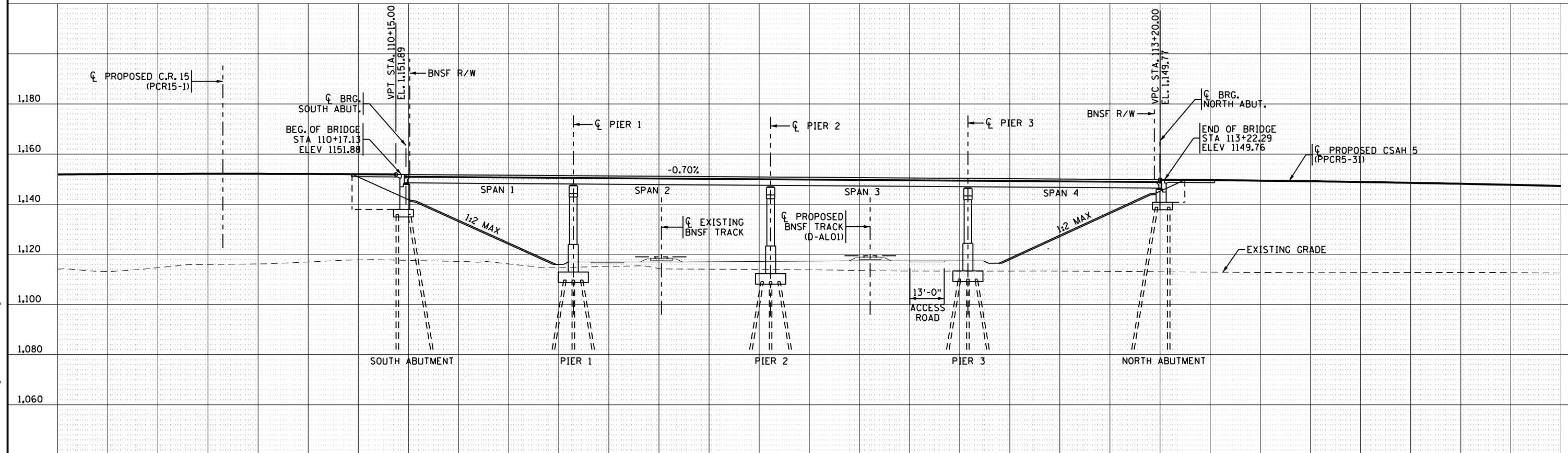
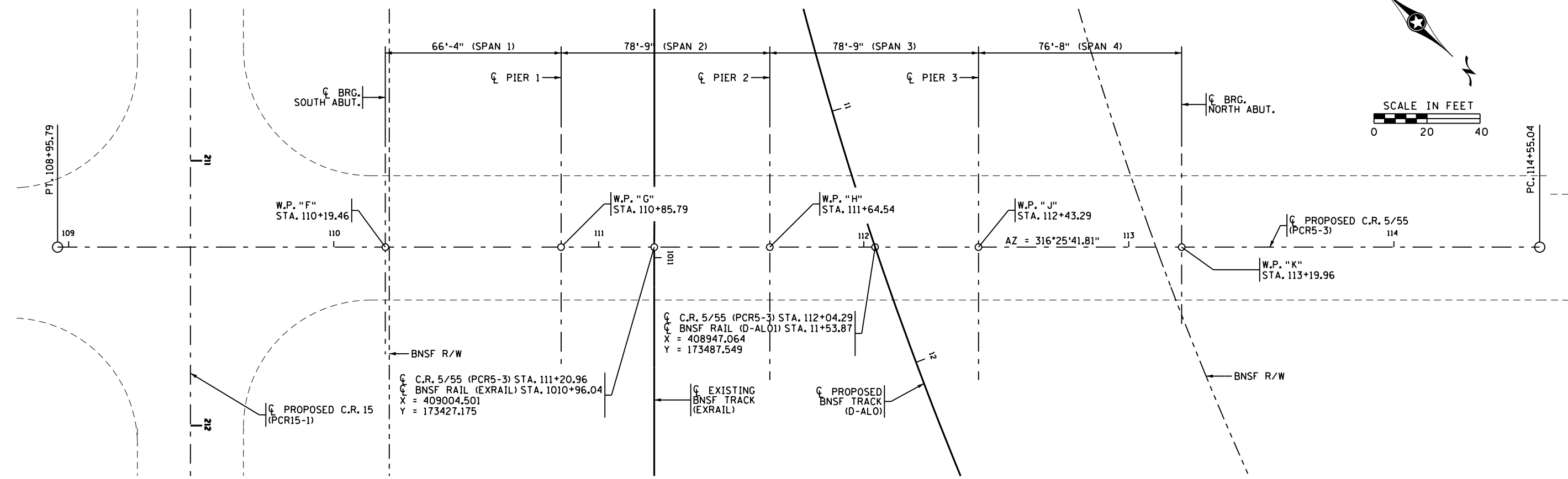
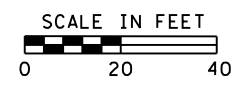
SEC 29 T 119 N R 35 W

COUNTY: KANDIYOHI

CITY: WILLMAR

BRIDGE NO. XXXXX

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BRIDGE SURVEY - PLAN AND PROFILE

STATE PROJECT NO. S.P. XXX-XXX-XXX

SHEET NO. 6 OF 6 SHEETS

BRIDGE NO. XXXXX

DR₁ SWH CHK₁ CBO

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