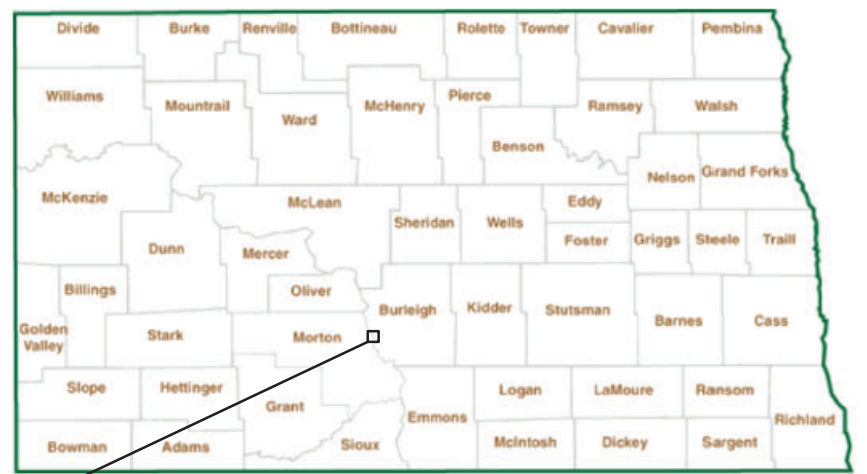


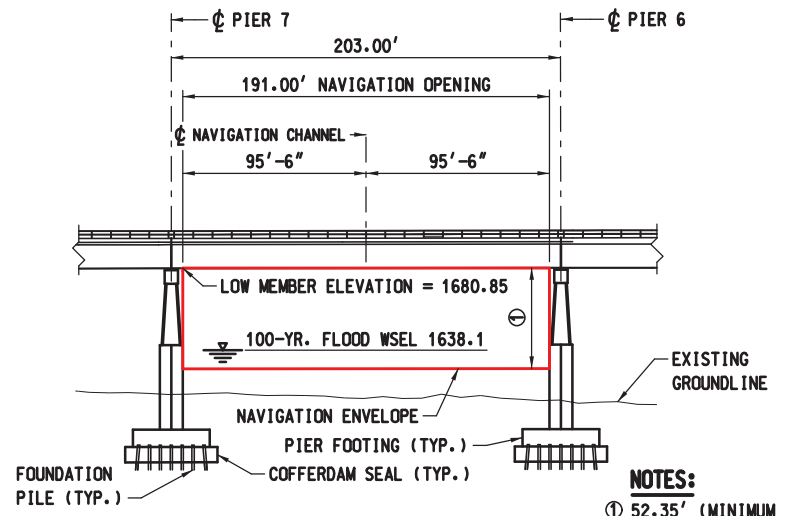
SCALE
0 1,200 2,400 4,800 7,200 9,600 Feet
VICINITY MAP

APPROVED
P(11-22-8)
22-DEC-2022
U.S.
COAST GUARD

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STATE OF NORTH DAKOTA



NAVIGATION SPAN ELEVATION
SCALE: 1" = 100.00'

NOTES:
① 52.35' (MINIMUM VERTICAL CLEARANCE ABOVE D.H.W. EL. 1625.50)

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AREMA MANUAL FOR RAILWAY ENGINEERING.

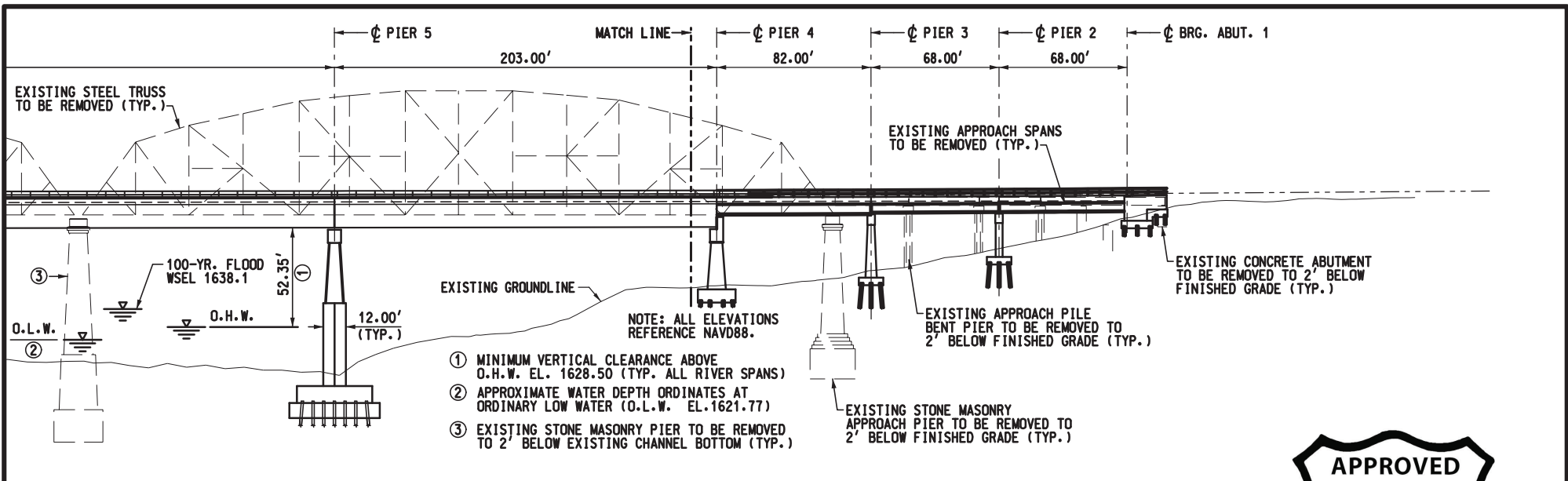
REGISTERED PROFESSIONAL ENGINEER
MANSUR ERICKSON
PE-27244
DATE 12-1-2022
NORTH DAKOTA

BNSF
RAILWAY
BRIDGE ENGINEERING KANSAS CITY, KS

PROPOSED BNSF BRIDGE NO. 196-6A
BISMARCK TO MANDAN
OVER MISSOURI RIVER, MILE POINT 1315.0
NEAR BISMARCK, ND

MORTON & BURLEIGH COUNTIES

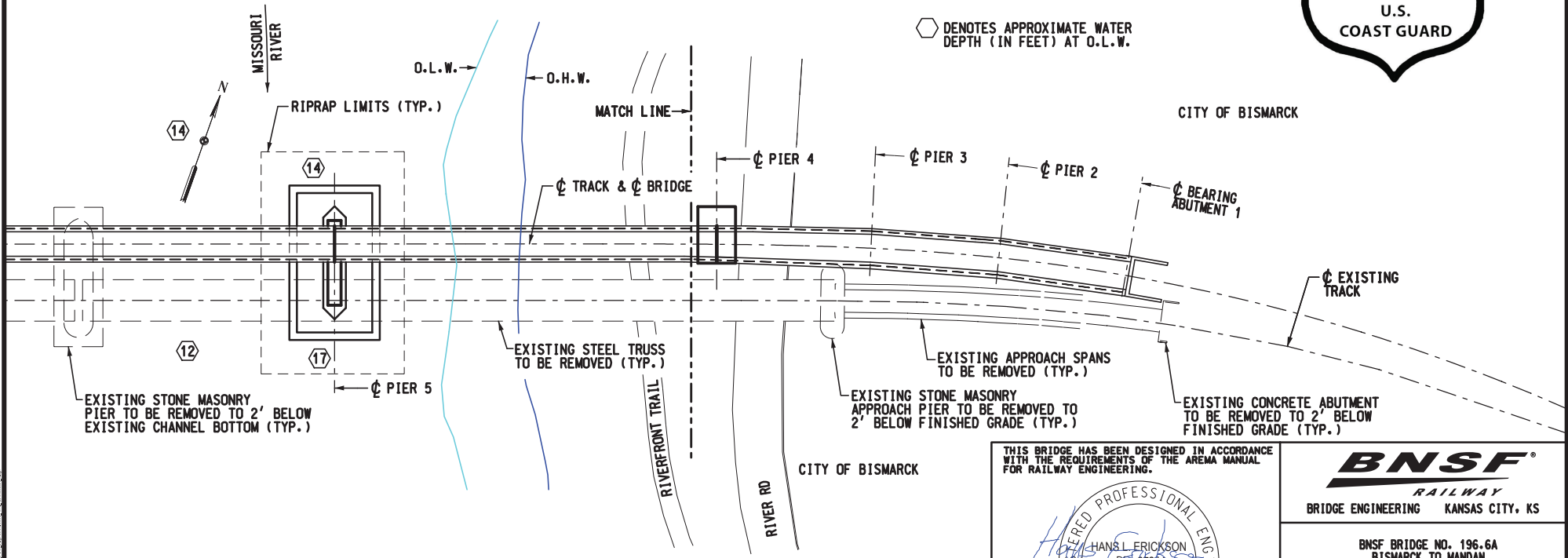
DECEMBER 2022 SHEET: 1 OF 6



ELEVATION



- ① MINIMUM VERTICAL CLEARANCE ABOVE O.H.W. EL. 1628.50 (TYP. ALL RIVER SPANS)
- ② APPROXIMATE WATER DEPTH ORDINATES AT ORDINARY LOW WATER (O.L.W. EL.1621.77)
- ③ EXISTING STONE MASONRY PIER TO BE REMOVED TO 2' BELOW EXISTING CHANNEL BOTTOM (TYP.)



PLAN



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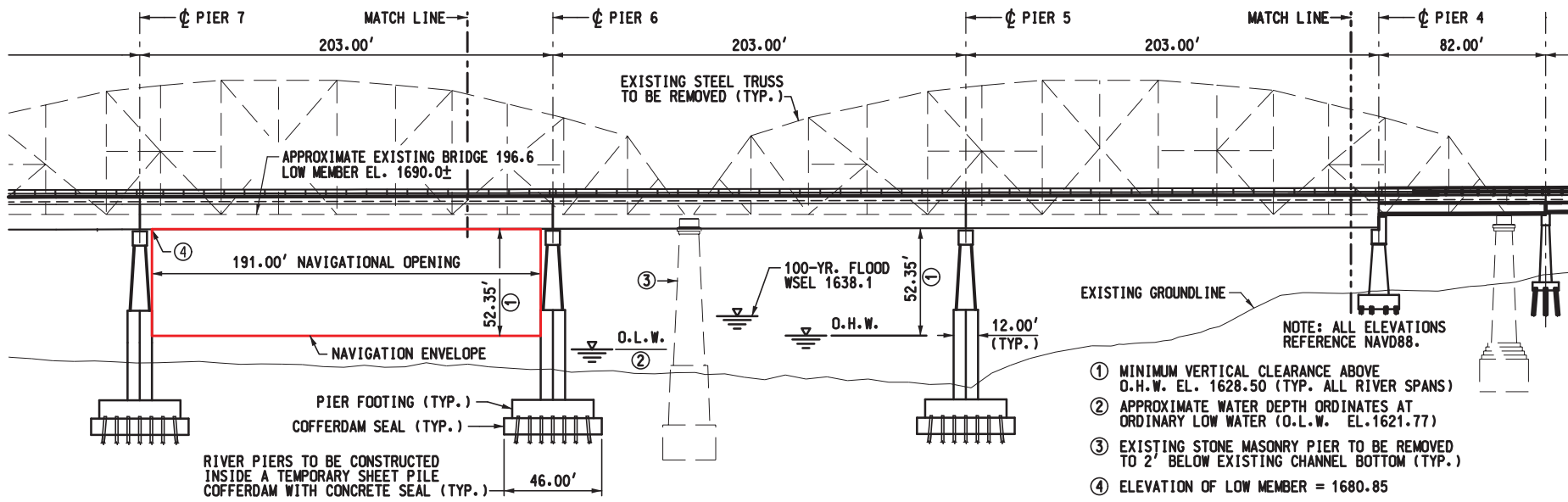


BNSF
RAILWAY
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BISMARCK TO MANDAN
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NEAR BISMARCK, ND

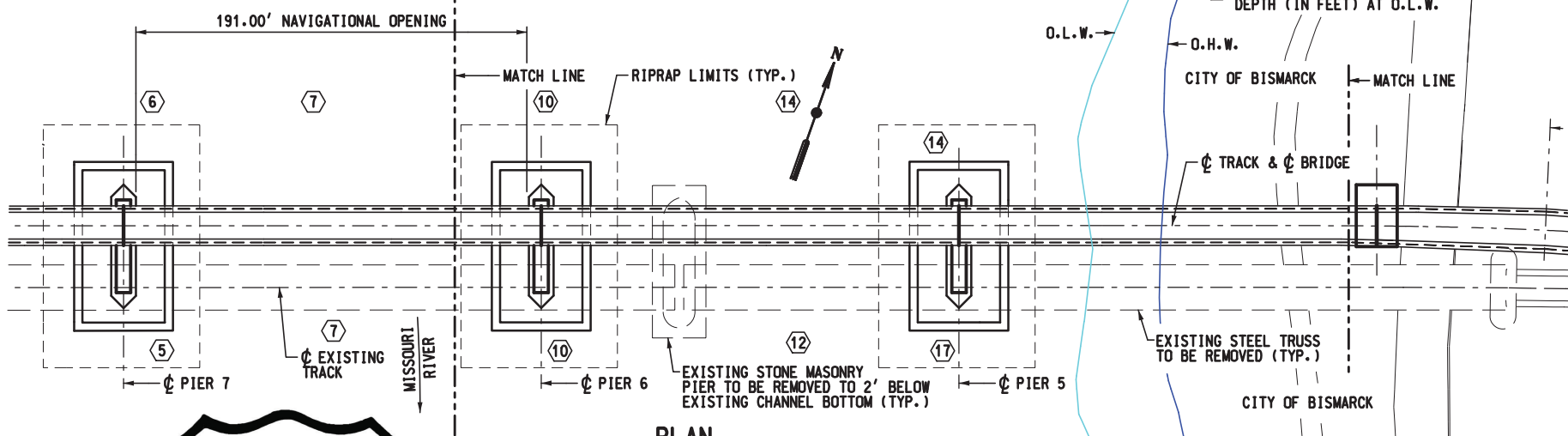
MORTON & BURLEIGH COUNTIES

DECEMBER 2022 SHEET: 2 OF 6



- NOTE: ALL ELEVATIONS REFERENCE NAVD88.
- ① MINIMUM VERTICAL CLEARANCE ABOVE O.H.W. EL. 1628.50 (TYP. ALL RIVER SPANS)
 - ② APPROXIMATE WATER DEPTH ORDINATES AT ORDINARY LOW WATER (O.L.W. EL. 1621.77)
 - ③ EXISTING STONE MASONRY PIER TO BE REMOVED TO 2' BELOW EXISTING CHANNEL BOTTOM (TYP.)
 - ④ ELEVATION OF LOW MEMBER = 1680.85

ELEVATION



PLAN



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NEAR BISMARCK, ND

MORTON & BURLEIGH COUNTIES

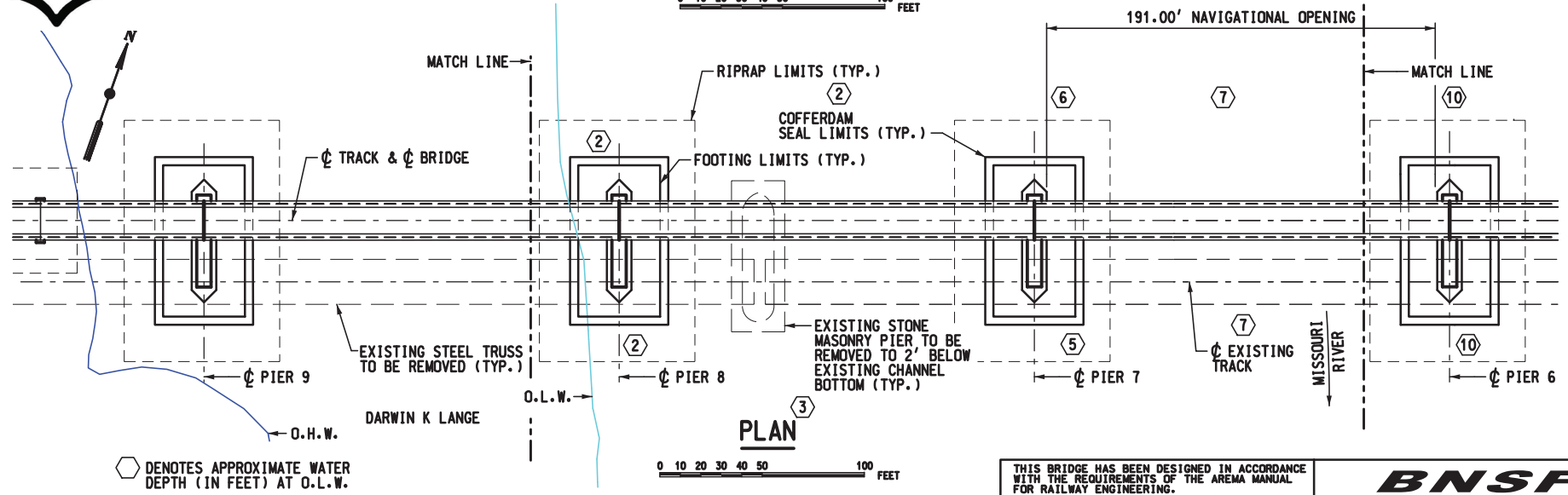
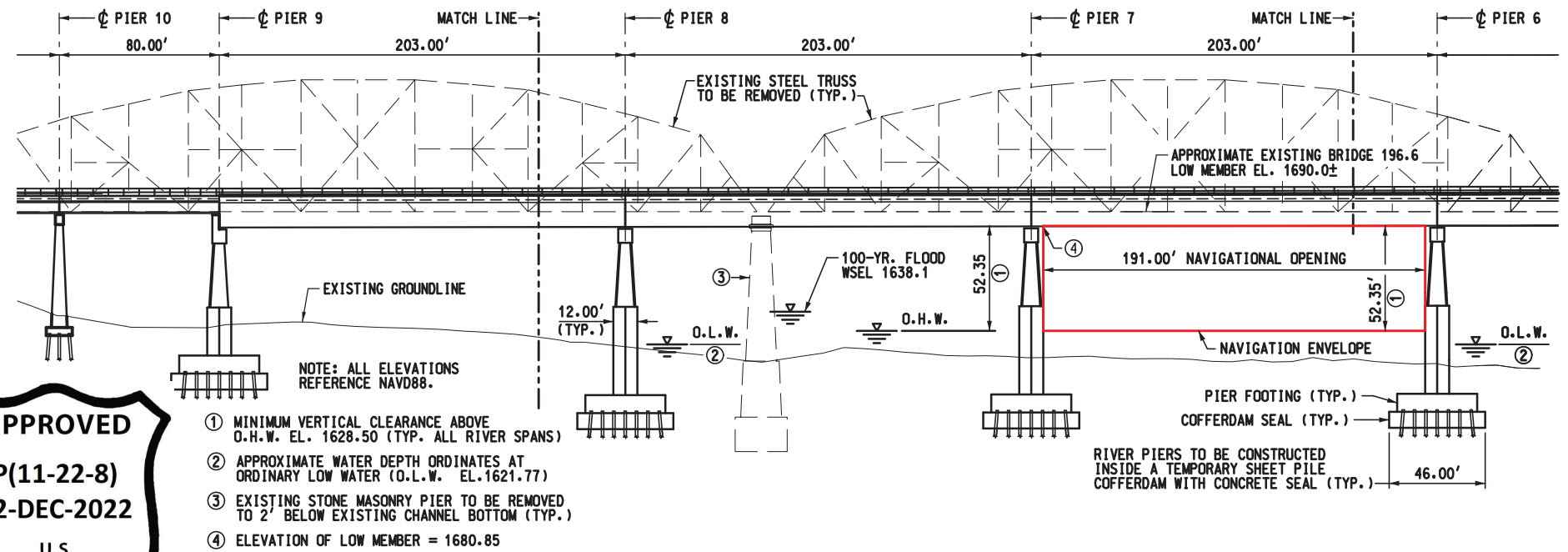
DECEMBER 2022 SHEET: 3 OF 6

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- ① MINIMUM VERTICAL CLEARANCE ABOVE O.H.W. EL. 1628.50 (TYP. ALL RIVER SPANS)
- ② APPROXIMATE WATER DEPTH ORDINATES AT ORDINARY LOW WATER (O.L.W. EL. 1621.77)
- ③ EXISTING STONE MASONRY PIER TO BE REMOVED TO 2' BELOW EXISTING CHANNEL BOTTOM (TYP.)
- ④ ELEVATION OF LOW MEMBER = 1680.85

ELEVATION



PLAN



⬡ DENOTES APPROXIMATE WATER DEPTH (IN FEET) AT O.L.W.

APPROXIMATE QUANTITIES FOR RIVER PIERS		PIER 5	PIER 6	PIER 7	PIER 8
EXCAVATION	CU. YD.	3,190	3,540	4,090	4,490
BACKFILL	CU. YD.	840	1,030	1,330	1,540

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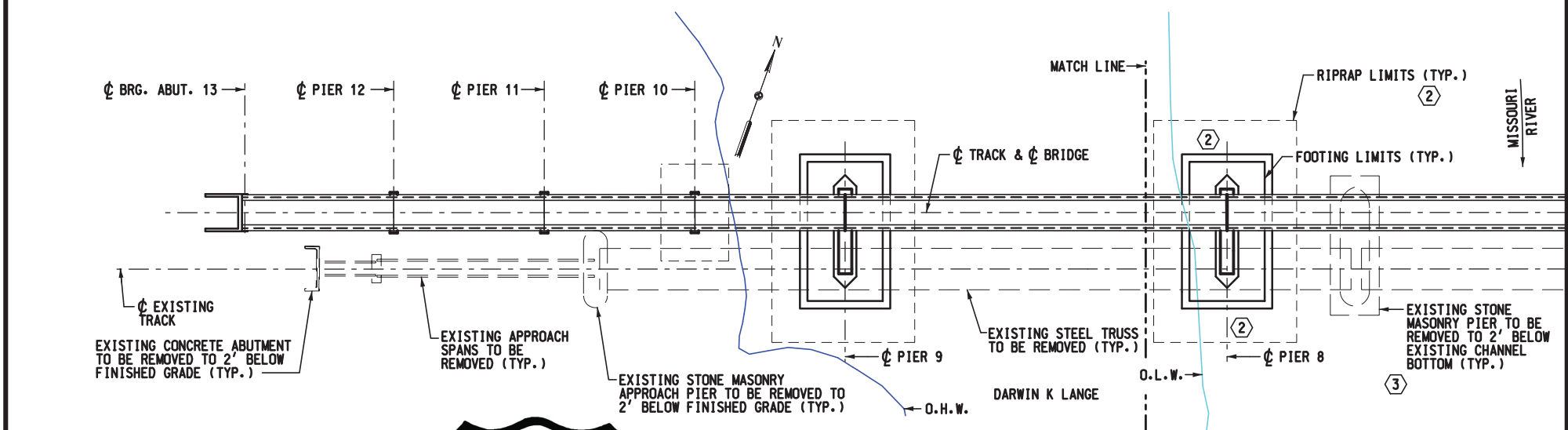
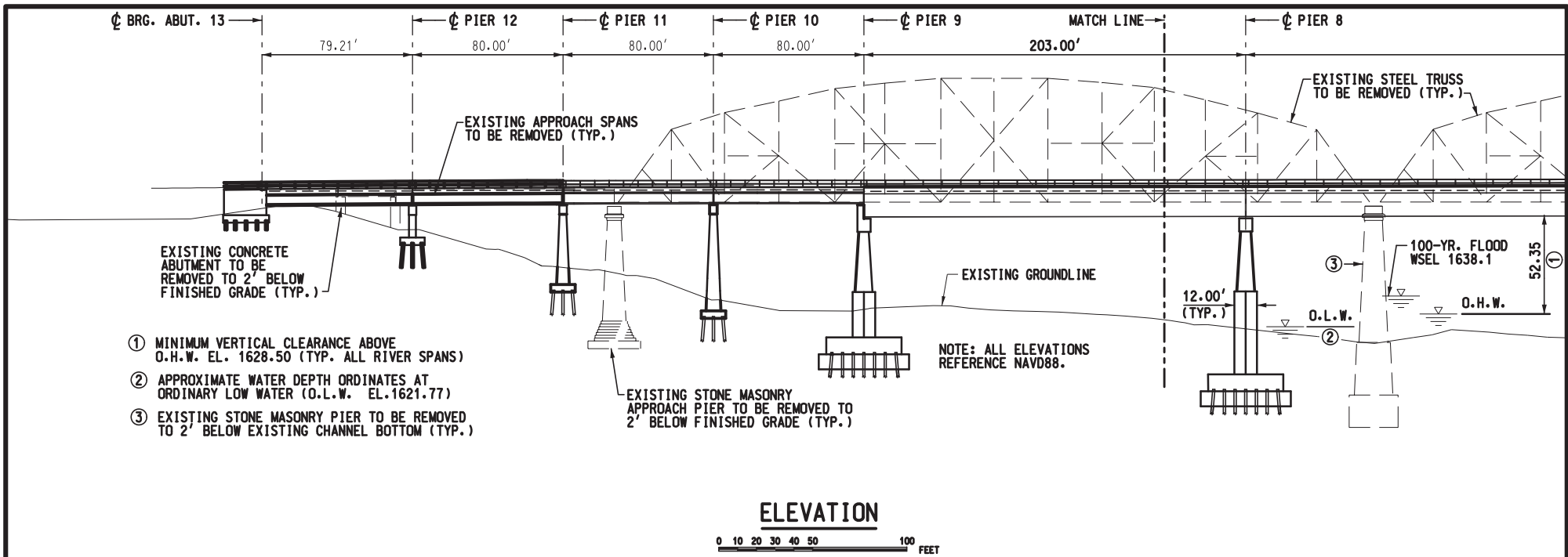


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⊡ DENOTES APPROXIMATE WATER DEPTH (IN FEET) AT O.L.W.



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BRIDGE ENGINEERING KANSAS CITY, KS

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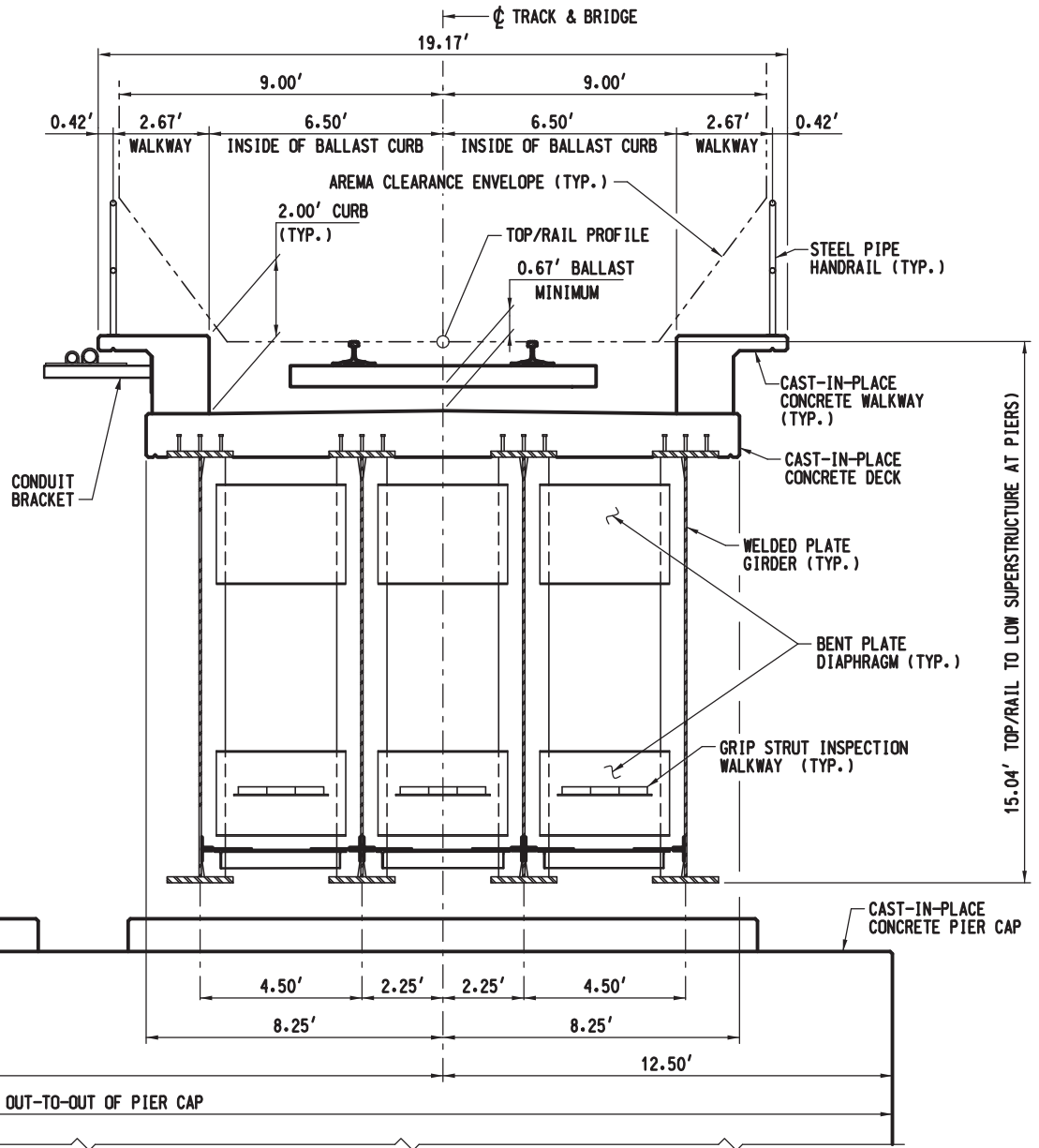
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DECEMBER 2022 SHEET: 5 OF 6


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NOTE:

WITH THE EXCEPTION OF ROUTINE MAINTENANCE, ANY FUTURE MODIFICATION TO THE BRIDGE, INCLUDING ACTIVITIES ASSOCIATED WITH ANY POTENTIAL ADDITION OF A SECOND TRACK, WOULD BE SUBJECT TO APPROVAL BY THE U.S. COAST GUARD.



**TYPICAL SECTION @ PIERS 5-9
200' WELDED PLATE GIRDER SPANS**



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DECEMBER 2022

SHEET: 6 OF 6