

LONGITUDINAL SECTION ALONG APPROACH ROADWAY

TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS 0.52' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

PROPOSED PROFILE GRADE W.B. I-80

VPI STA = 691+14.94 VPI ELEV = 713.57 VC = 750'
VPI STA = 698+61.38 VPI ELEV = 713.57 VC = 450'

TYPICAL BRIDGE SECTION

W.B. I-80 OVER R.R.
OVERHEAD STATION = 691+27.81, OFFSET 81.00' LT.
OVERHEAD ELEVATION = 711.01
DEPTH OF SUPERSTRUCTURE = 6.01'
UNDERPASS ELEVATION (TOP OF RAIL) = 681.52
MINIMUM VERTICAL CLEARANCE = 23.48'

W.B. I-80 OVER U.S. 6
OVERHEAD STATION = 692+56.42, OFFSET 81.00' LT.
OVERHEAD ELEVATION = 712.54
DEPTH OF SUPERSTRUCTURE = 6.13
UNDERPASS ELEVATION (EXISTING PAVEMENT) = 679.07
MINIMUM VERTICAL CLEARANCE = 27.34'

TRAFFIC ESTIMATE

Year	ADT	V.P.D.
2020	32,430	
2040	43,890	
2020	DHV	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALS	-	

UTILITIES LEGEND:

- F0 - FIBER OPTIC - STATE OF IOWA (ICN)
- F02 - FIBER OPTIC - SOUTH SLOPE COOP. TEL. CO.
- F03 - FIBER OPTIC - U.S. WEST
- F06 - FIBER OPTIC
- F07 - FIBER OPTIC
- TV - TELEVISION
- G2-HP - GAS
- W - WATER - CITY OF NORTH LIBERTY
- W2 - WATER

SITUATION PLAN

NOTES:

- BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.
- TL-5 BRIDGE RAIL PROPOSED.
- PIER TYPE: T-PIERS & TWO COLUMN FRAME PIERS ON TWO 4'-6" DIAM. DRILLED SHAFTS. CRASH WALL AT PIER 2.
- BEAM TYPE: WELDED PLATE GIRDER.
- SUPERSTRUCTURE DEPTH FOR PROPOSED WIDENING IN SPAN 2 TO BE 7.21' OR LESS TO MAINTAIN EXISTING VERT. CL. OVER R.R.
- NON-TYPICAL ABUTMENT WING LENGTHS.
- MAINTAIN EXISTING VERTICAL AND HORIZONTAL CLEARANCES.
- RETAINING WALL (DESIGN 2317) TO BE LET WITH THIS DESIGN.
- PROPOSED DECK DRAINS SHALL BE CONNECTED TO A CLOSED DRAINAGE SYSTEM ATTACHED TO THE STRUCTURE AND DISCHARGE TO ROCK SPLASH BASINS AT RAILROAD ROW.

LOCATION

W.B. I-80 OVER US 6 AND IATS R.R.
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
BRIDGE MAINT. NO. 5240.0L080
FRA NO. 608007G
LATITUDE 41.694367°
LONGITUDE -91.620565°

PRELIMINARY

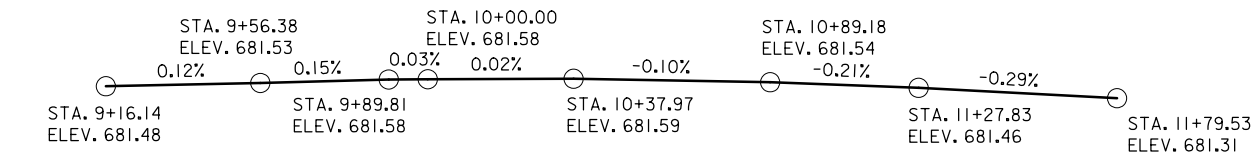
DESIGN FOR WIDENING 45° SKEW
562'-0" X 78'-0" CONTINUOUS WELDED GIRDER BRIDGE
93'-0" & 137'-0" END SPANS 132'-0" & 200'-0" INTERIOR SPAN
SITUATION PLAN
STATION 692+86.43, 49'-0" LEFT CL CONST. I-80
JANUARY 2019
JOHNSON COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 1617

TOP OF RAIL ELEVATIONS

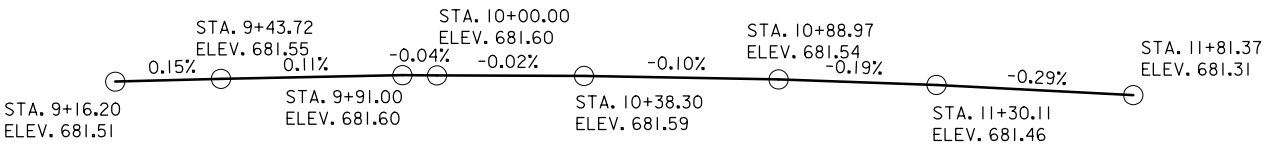
(STATIONS INCREASE WITH MILEPOST INCREASE)

MAIN LINE			
ALIGNMENT: LEFT RAIL		ALIGNMENT: RIGHT RAIL	
STATION	ELEVATION	STATION	ELEVATION
9+16.14	681.48	9+16.20	681.51
9+56.38	681.53	9+43.72	681.55
9+89.81	681.58	9+91.00	681.60
① 10+00	681.58	① 10+00	681.60
10+37.97	681.59	10+38.30	681.59
10+89.18	681.54	10+88.97	681.54
11+27.83	681.46	11+30.11	681.46
11+79.53	681.31	11+81.37	681.31

① EXISTING TRACK STA 10+00.00 = STA. 691+81.40, OFFSET 49' LT. (CL W.B. I-80)



LEFT RAIL PROFILE



RIGHT RAIL PROFILE

PRELIMINARY

DESIGN FOR WIDENING 45° SKEW

562'-0 X 78'-0 CONTINUOUS
WELDED GIRDER BRIDGE

93'-0 & 137'-0 END SPANS 132'-0 & 200'-0 INTERIOR SPAN

SITUATION PLAN

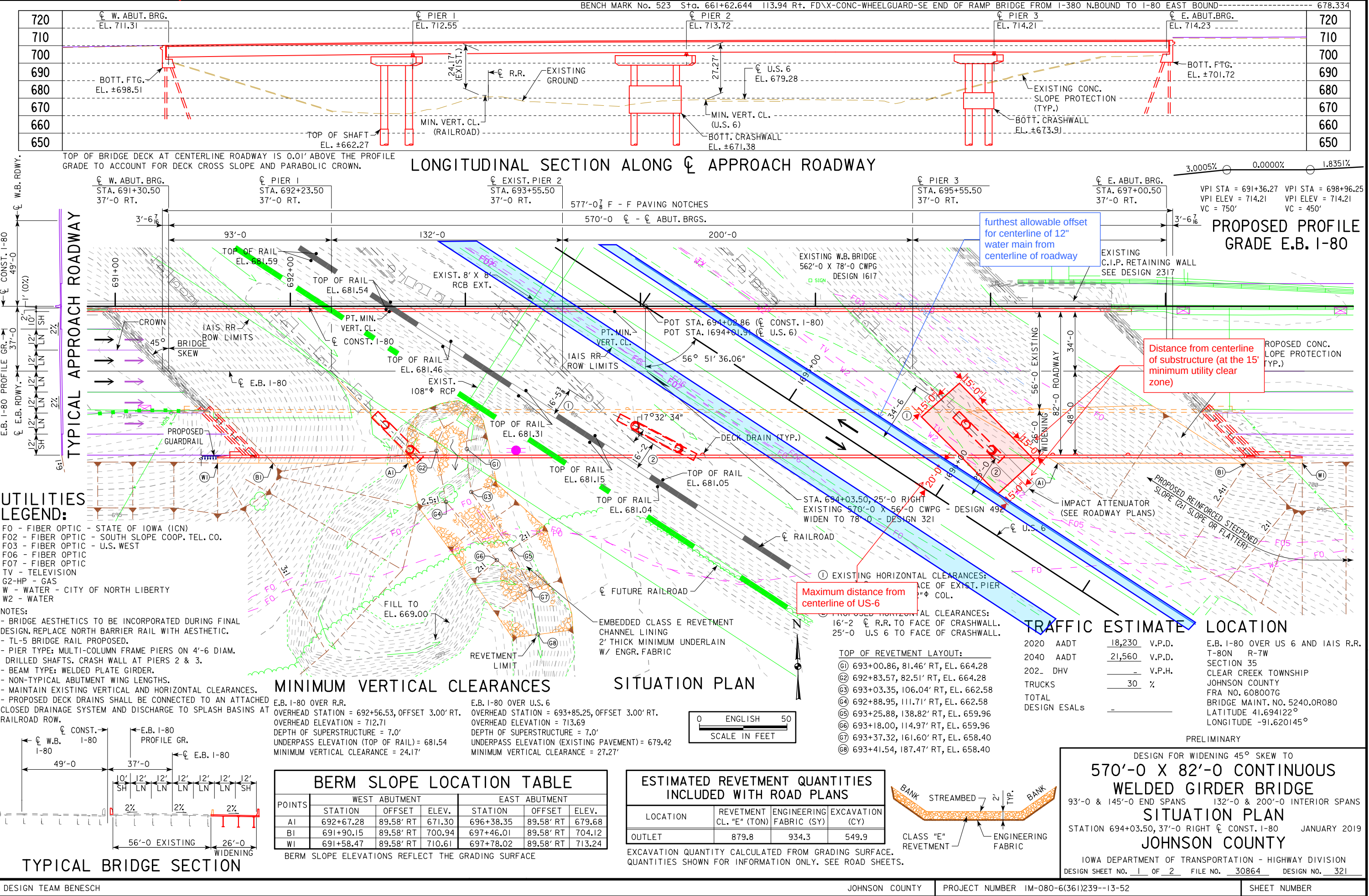
STATION 692+86.43, 49'-0 LEFT CL CONST. I-80 JANUARY 2019

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 1617

Relocation Envelope at I-80 and US-6

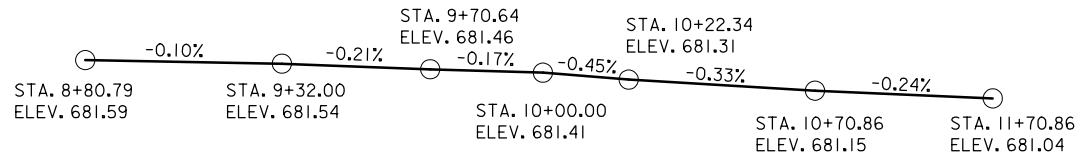


TOP OF RAIL ELEVATIONS

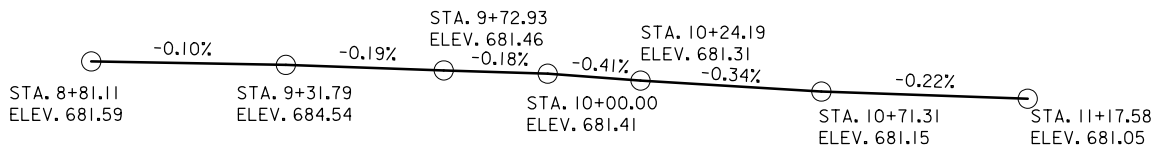
(STATIONS INCREASE WITH MILEPOST INCREASE)

MAIN LINE			
ALIGNMENT: LEFT RAIL		ALIGNMENT: RIGHT RAIL	
STATION	ELEVATION	STATION	ELEVATION
8+80.79	681.59	8+81.11	681.59
9+32.00	681.54	9+31.79	681.54
9+70.64	681.46	9+72.93	681.46
① 10+00	681.41	① 10+00	681.41
10+22.34	681.31	10+24.19	681.31
10+70.86	681.15	10+71.31	681.15
11+17.18	681.04	11+17.58	681.05

① EXISTING TRACK STA 10+00.00 = STA. 693+13.11, OFFSET 37' RT. (℄ E.B. 1-80)



LEFT RAIL PROFILE



RIGHT RAIL PROFILE

PRELIMINARY

DESIGN FOR WIDENING 45° SKEW TO

570'-0 X 82'-0 CONTINUOUS
WELDED GIRDER BRIDGE

93'-0 & 145'-0 END SPANS 132'-0 & 200'-0 INTERIOR SPANS

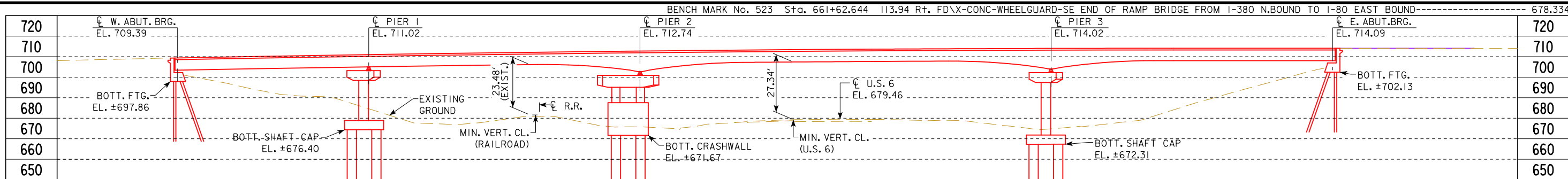
SITUATION PLAN

STATION 694+03.50, 37'-0 RIGHT ℄ CONST. 1-80 JANUARY 2019

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 321



TOP OF BRIDGE DECK AT CENTERLINE ROADWAY IS 0.52' ABOVE THE PROFILE GRADE TO ACCOUNT FOR DECK CROSS SLOPE AND PARABOLIC CROWN.

LONGITUDINAL SECTION ALONG CL APPROACH ROADWAY

3.0004% 0.0000% 1.8351%

VPI STA = 691+14.94 VPI STA = 698+61.38
VPI ELEV = 713.57 VPI ELEV = 713.57
VC = 750' VC = 450'

PROPOSED PROFILE GRADE W.B. I-80

EXISTING CONC. SLOPE PROTECTION REMOVE AND REPLACE AS NEEDED FOR CONSTRUCTION (TYP.)

EXISTING 60'-0" L. C.I.P. RETAINING WALL TO BE REMOVED

PROPOSED C.I.P. RETAINING WALL SEE DESIGN 2317

LOCATION

W.B. I-80 OVER US 6 AND IAIS R.R.
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
BRIDGE MAINT. NO. 5240.0L080
FRA NO. 608007G
LATITUDE 41.694367°
LONGITUDE -91.620565°

PRELIMINARY

DESIGN FOR WIDENING 45° SKEW

562'-0" X 78'-0" CONTINUOUS WELDED GIRDER BRIDGE

93'-0" & 137'-0" END SPANS 132'-0" & 200'-0" INTERIOR SPAN

SITUATION PLAN

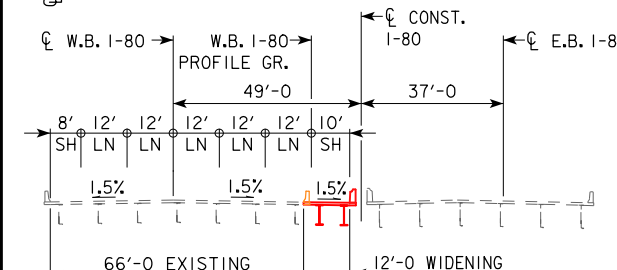
STATION 692+86.43, 49'-0" LEFT CL CONST. I-80 JANUARY 2019

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 1617

W.B. I-80 PROFILE GR.
W.B. RDWY.
CL CONST. I-80
CL E.B. RDWY.

TYPICAL APPROACH ROADWAY



TYPICAL BRIDGE SECTION

MINIMUM VERTICAL CLEARANCES

W.B. I-80 OVER R.R.
OVERHEAD STATION = 691+27.81, OFFSET 81.00' LT.
OVERHEAD ELEVATION = 711.01
DEPTH OF SUPERSTRUCTURE = 6.01'
UNDERPASS ELEVATION (TOP OF RAIL) = 681.52
MINIMUM VERTICAL CLEARANCE = 23.48'

W.B. I-80 OVER U.S. 6
OVERHEAD STATION = 692+56.42, OFFSET 81.00' LT.
OVERHEAD ELEVATION = 712.54
DEPTH OF SUPERSTRUCTURE = 6.13
UNDERPASS ELEVATION (EXISTING PAVEMENT) = 679.07
MINIMUM VERTICAL CLEARANCE = 27.34'

TRAFFIC ESTIMATE

2020 AADT	32,430	V.P.D.
2040 AADT	43,890	V.P.D.
202_ DHV		V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALS		

UTILITIES LEGEND:

F0 - FIBER OPTIC - STATE OF IOWA (ICN)
F02 - FIBER OPTIC - SOUTH SLOPE COOP. TEL. CO.
F03 - FIBER OPTIC - U.S. WEST
F06 - FIBER OPTIC
F07 - FIBER OPTIC
TV - TELEVISION
G2-HP - GAS
W - WATER - CITY OF NORTH LIBERTY
W2 - WATER

SITUATION PLAN



NOTES:

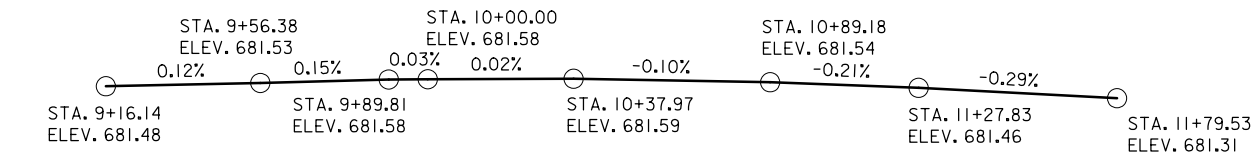
- BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.
- TL-5 BRIDGE RAIL PROPOSED.
- PIER TYPE: T-PIERS & TWO COLUMN FRAME PIERS ON TWO 4'-6" DIAM. DRILLED SHAFTS. CRASH WALL AT PIER 2.
- BEAM TYPE: WELDED PLATE GIRDER.
- SUPERSTRUCTURE DEPTH FOR PROPOSED WIDENING IN SPAN 2 TO BE 7.21' OR LESS TO MAINTAIN EXISTING VERT. CL. OVER R.R.
- NON-TYPICAL ABUTMENT WING LENGTHS.
- MAINTAIN EXISTING VERTICAL AND HORIZONTAL CLEARANCES.
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- PROPOSED DECK DRAINS SHALL BE CONNECTED TO A CLOSED DRAINAGE SYSTEM ATTACHED TO THE STRUCTURE AND DISCHARGE TO ROCK SPLASH BASINS AT RAILROAD ROW.

TOP OF RAIL ELEVATIONS

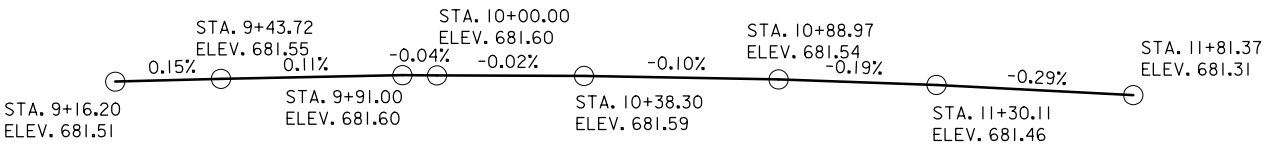
(STATIONS INCREASE WITH MILEPOST INCREASE)

MAIN LINE			
ALIGNMENT: LEFT RAIL		ALIGNMENT: RIGHT RAIL	
STATION	ELEVATION	STATION	ELEVATION
9+16.14	681.48	9+16.20	681.51
9+56.38	681.53	9+43.72	681.55
9+89.81	681.58	9+91.00	681.60
① 10+00	681.58	① 10+00	681.60
10+37.97	681.59	10+38.30	681.59
10+89.18	681.54	10+88.97	681.54
11+27.83	681.46	11+30.11	681.46
11+79.53	681.31	11+81.37	681.31

① EXISTING TRACK STA 10+00.00 = STA. 691+81.40, OFFSET 49' LT. (CL W.B. I-80)



LEFT RAIL PROFILE



RIGHT RAIL PROFILE

PRELIMINARY

DESIGN FOR WIDENING 45° SKEW

562'-0 X 78'-0 CONTINUOUS
WELDED GIRDER BRIDGE

93'-0 & 137'-0 END SPANS 132'-0 & 200'-0 INTERIOR SPAN

SITUATION PLAN

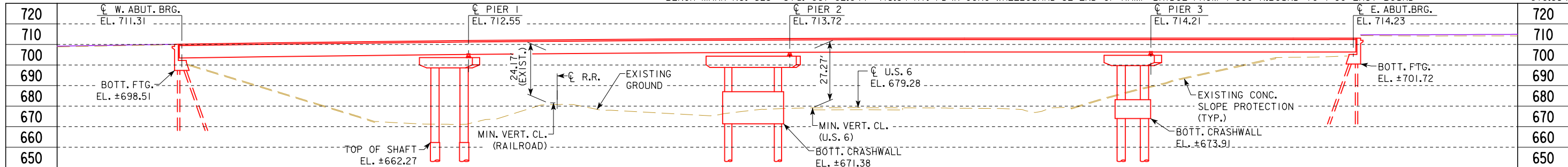
STATION 692+86.43, 49'-0 LEFT CL CONST. I-80 JANUARY 2019

JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

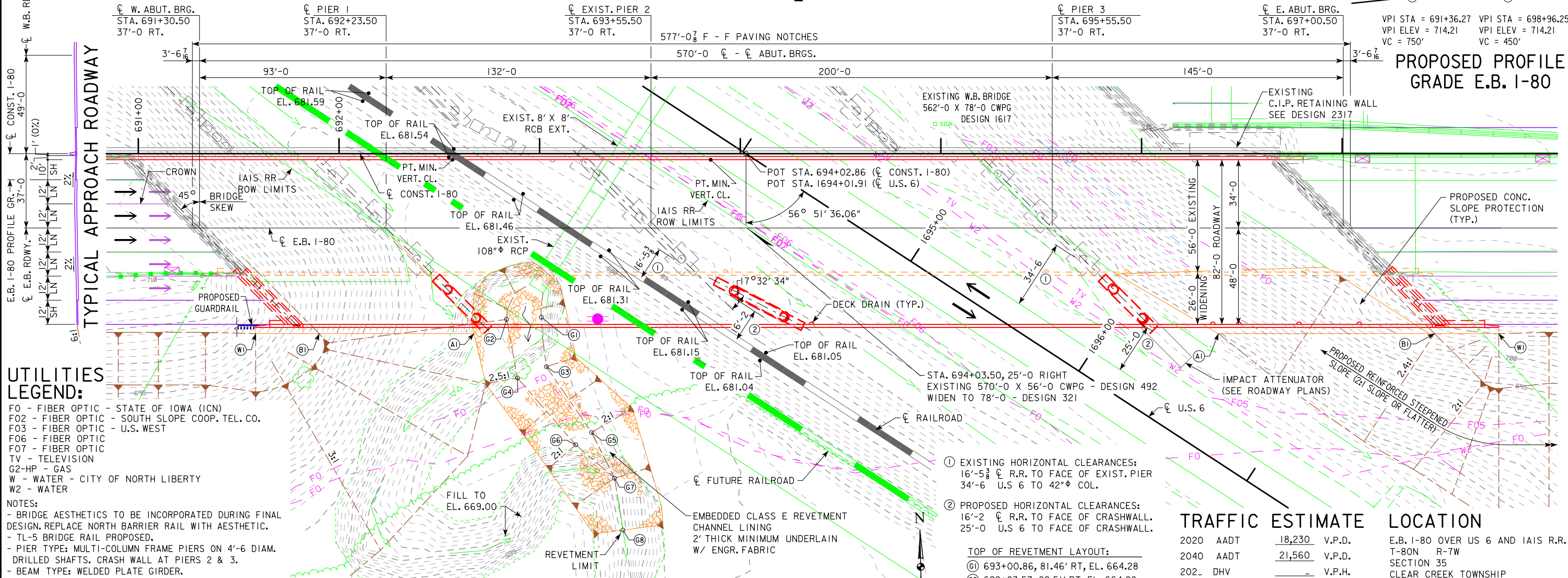
DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 1617

BENCH MARK No. 523 Sta. 661+62.644 113.94 Rt. FD\X-CONC-WHEELGUARD-SE END OF RAMP BRIDGE FROM I-380 N.BOUND TO I-80 EAST BOUND----- 678.334



LONGITUDINAL SECTION ALONG $\varnothing$ APPROACH ROADWAY

PROPOSED PROFILE GRADE E.B. I-80



UTILITIES LEGEND:

- FO - FIBER OPTIC - STATE OF IOWA (ICN)
- FO2 - FIBER OPTIC - SOUTH SLOPE COOP. TEL. CO.
- FO3 - FIBER OPTIC - U.S. WEST
- FO6 - FIBER OPTIC
- FO7 - FIBER OPTIC
- TV - TELEVISION
- G2-HP - GAS
- W - WATER - CITY OF NORTH LIBERTY
- W2 - WATER

- NOTES:
- BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN. REPLACE NORTH BARRIER RAIL WITH AESTHETIC.
 - TL-5 BRIDGE RAIL PROPOSED.
 - PIER TYPE: MULTI-COLUMN FRAME PIERS ON 4'-6" DIAM. DRILLED SHAFTS. CRASH WALL AT PIERS 2 & 3.
 - BEAM TYPE: WELDED PLATE GIRDER.
 - NON-TYPICAL ABUTMENT WING LENGTHS.
 - MAINTAIN EXISTING VERTICAL AND HORIZONTAL CLEARANCES.
 - PROPOSED DECK DRAINS SHALL BE CONNECTED TO AN ATTACHED CLOSED DRAINAGE SYSTEM AND DISCHARGE TO SPLASH BASINS AT RAILROAD ROW.

MINIMUM VERTICAL CLEARANCES

E.B. I-80 OVER R.R.
OVERHEAD STATION = 692+56.53, OFFSET 3.00' RT.
OVERHEAD ELEVATION = 712.71
DEPTH OF SUPERSTRUCTURE = 7.0'
UNDERPASS ELEVATION (TOP OF RAIL) = 681.54
MINIMUM VERTICAL CLEARANCE = 24.17'

E.B. I-80 OVER U.S. 6
OVERHEAD STATION = 693+85.25, OFFSET 3.00' RT.
OVERHEAD ELEVATION = 713.69
DEPTH OF SUPERSTRUCTURE = 7.0'
UNDERPASS ELEVATION (EXISTING PAVEMENT) = 679.42
MINIMUM VERTICAL CLEARANCE = 27.27'

SITUATION PLAN



- ① EXISTING HORIZONTAL CLEARANCES:
16'-5 3/4" $\varnothing$ R.R. TO FACE OF EXIST. PIER
34'-6" U.S. 6 TO 42" $\varnothing$ COL.
- ② PROPOSED HORIZONTAL CLEARANCES:
16'-2" $\varnothing$ R.R. TO FACE OF CRASHWALL.
25'-0" U.S. 6 TO FACE OF CRASHWALL.

TOP OF REVETMENT LAYOUT:

⑥	693+00.86, 81.46' RT, EL. 664.28
⑦	692+83.57, 82.51' RT, EL. 664.28
⑧	693+03.35, 106.04' RT, EL. 662.58
⑨	692+88.95, 111.71' RT, EL. 662.58
⑩	693+25.88, 138.82' RT, EL. 659.96
⑪	693+18.00, 114.97' RT, EL. 659.96
⑫	693+37.32, 161.60' RT, EL. 658.40
⑬	693+41.54, 187.47' RT, EL. 658.40

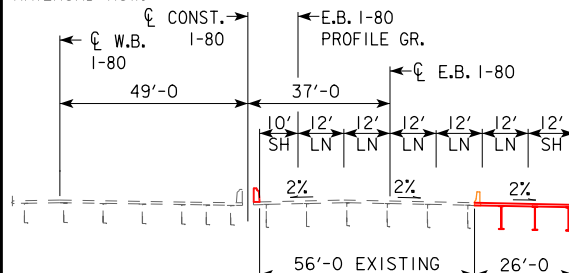
TRAFFIC ESTIMATE

2020 AADT	18,230	V.P.D.
2040 AADT	21,560	V.P.D.
2021 DHV	-	V.P.H.
TRUCKS	30	%
TOTAL DESIGN ESALS	-	

LOCATION

E.B. I-80 OVER US 6 AND IAIS R.R.
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
FRA NO. 608007G
BRIDGE MAINT. NO. 5240.0R080
LATITUDE 41.694122°
LONGITUDE -91.620145°

PRELIMINARY



TYPICAL BRIDGE SECTION

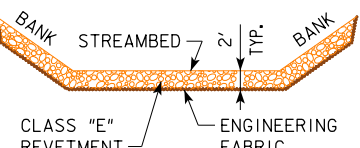
BERM SLOPE LOCATION TABLE					
POINTS	WEST ABUTMENT			EAST ABUTMENT	
	STATION	OFFSET	ELEV.	STATION	OFFSET
AI	692+67.28	89.58' RT	671.30	696+38.35	89.58' RT
BI	691+90.15	89.58' RT	700.94	697+46.01	89.58' RT
WI	691+58.47	89.58' RT	710.61	697+78.02	89.58' RT

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVTMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
OUTLET	879.8	934.3	549.9

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.



DESIGN FOR WIDENING 45° SKEW TO 570'-0" X 82'-0" CONTINUOUS WELDED GIRDER BRIDGE

93'-0" & 145'-0" END SPANS 132'-0" & 200'-0" INTERIOR SPANS
SITUATION PLAN
STATION 694+03.50, 37'-0" RIGHT $\varnothing$ CONST. I-80
JOHNSON COUNTY
JANUARY 2019

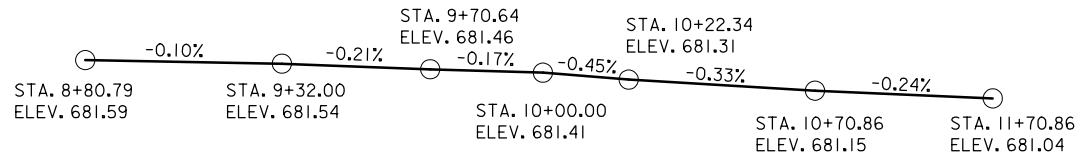
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 2 FILE NO. 30864 DESIGN NO. 321

TOP OF RAIL ELEVATIONS

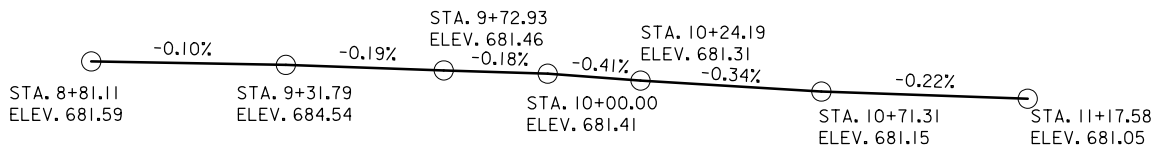
(STATIONS INCREASE WITH MILEPOST INCREASE)

MAIN LINE			
ALIGNMENT: LEFT RAIL		ALIGNMENT: RIGHT RAIL	
STATION	ELEVATION	STATION	ELEVATION
8+80.79	681.59	8+81.11	681.59
9+32.00	681.54	9+31.79	681.54
9+70.64	681.46	9+72.93	681.46
① 10+00	681.41	① 10+00	681.41
10+22.34	681.31	10+24.19	681.31
10+70.86	681.15	10+71.31	681.15
11+17.18	681.04	11+17.58	681.05

① EXISTING TRACK STA 10+00.00 = STA. 693+13.11, OFFSET 37' RT. (℄ E.B. 1-80)



LEFT RAIL PROFILE



RIGHT RAIL PROFILE

PRELIMINARY

DESIGN FOR WIDENING 45° SKEW TO

570'-0 X 82'-0 CONTINUOUS
WELDED GIRDER BRIDGE

93'-0 & 145'-0 END SPANS 132'-0 & 200'-0 INTERIOR SPANS

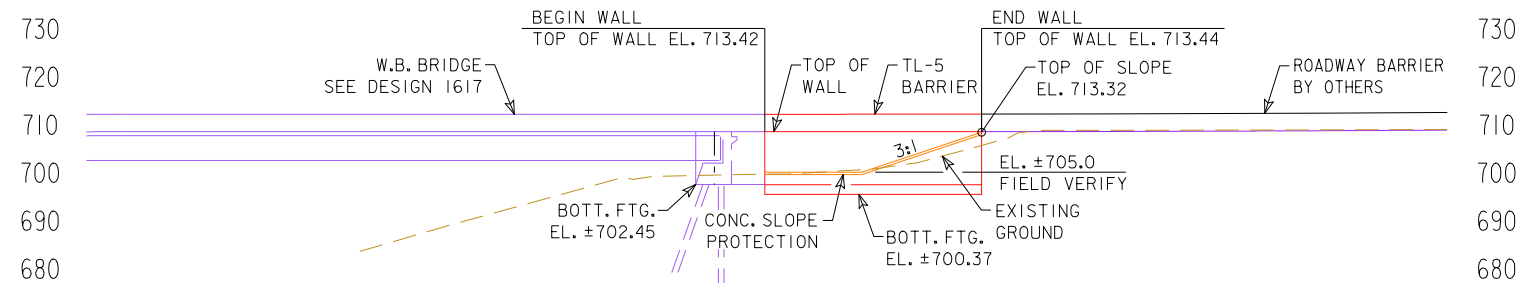
SITUATION PLAN

STATION 694+03.50, 37'-0 RIGHT ℄ CONST. 1-80 JANUARY 2019

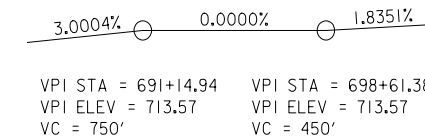
JOHNSON COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

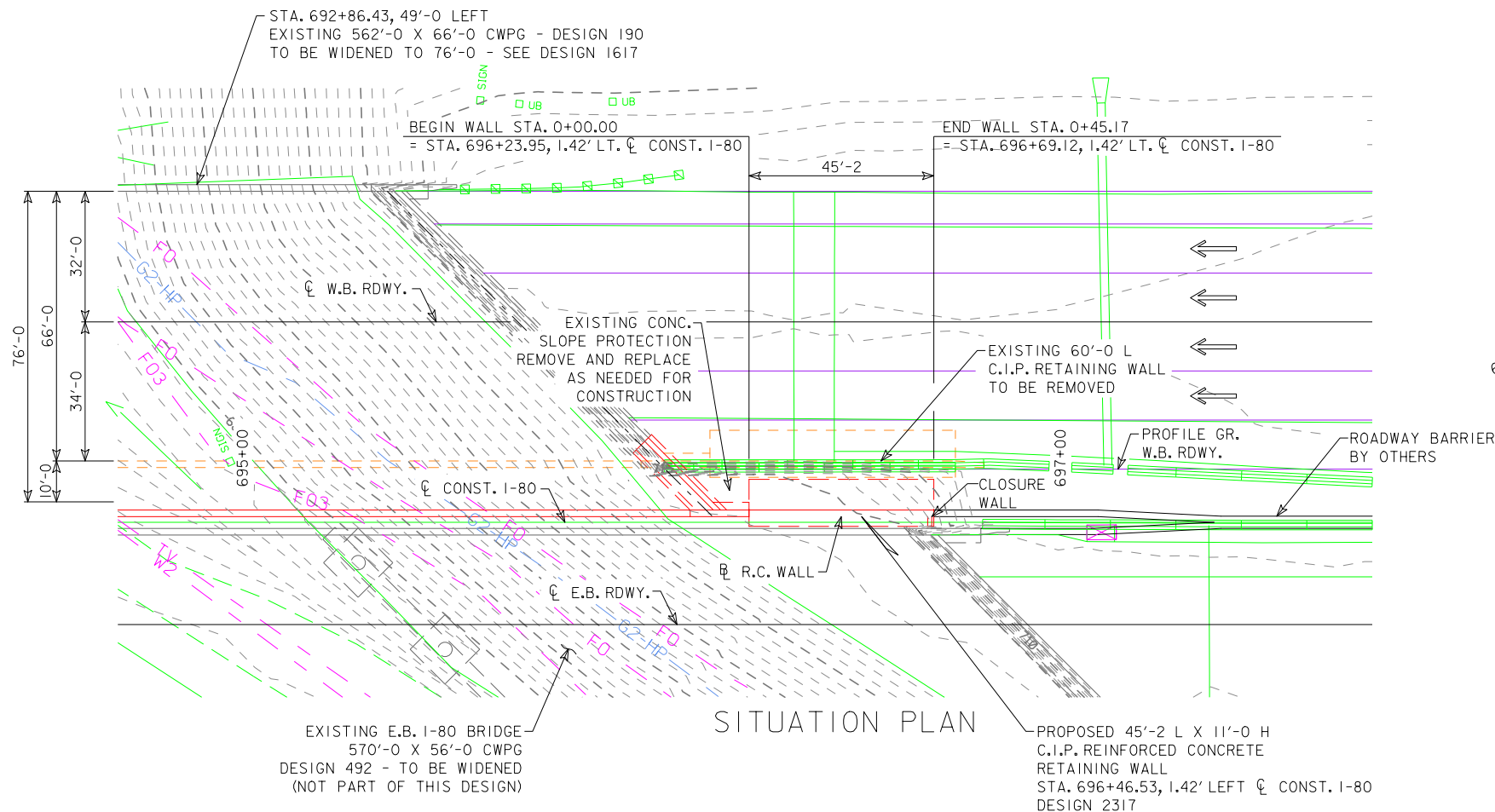
DESIGN SHEET NO. 2 OF 2 FILE NO. 30864 DESIGN NO. 321



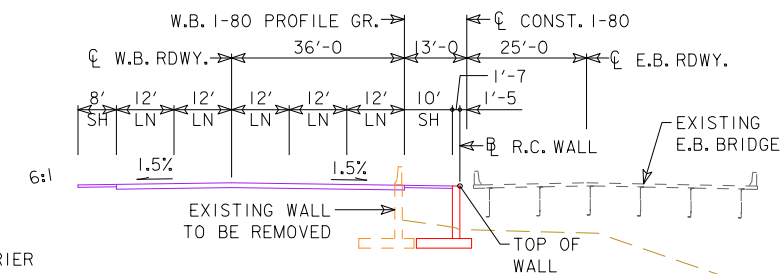
LONGITUDINAL SECTION ALONG WALL



PROPOSED PROFILE
GRADE W.B. 1-80



SITUATION PLAN

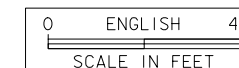
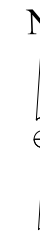


TYPICAL SECTION

LOCATION

W.B. 1-80 OVER US 6 AND IAIS R.R.
T-80N R-7W
SECTION 35
CLEAR CREEK TOWNSHIP
JOHNSON COUNTY
LATITUDE 41.694210°
LONGITUDE -91.619234°

- NOTES:
- BRIDGE AESTHETICS TO BE INCORPORATED DURING FINAL DESIGN.
 - TL-5 BARRIER RAIL PROPOSED.
 - W.B. BRIDGE WIDENING (DESIGN 1617) TO BE LET WITH THIS DESIGN.



PRELIMINARY

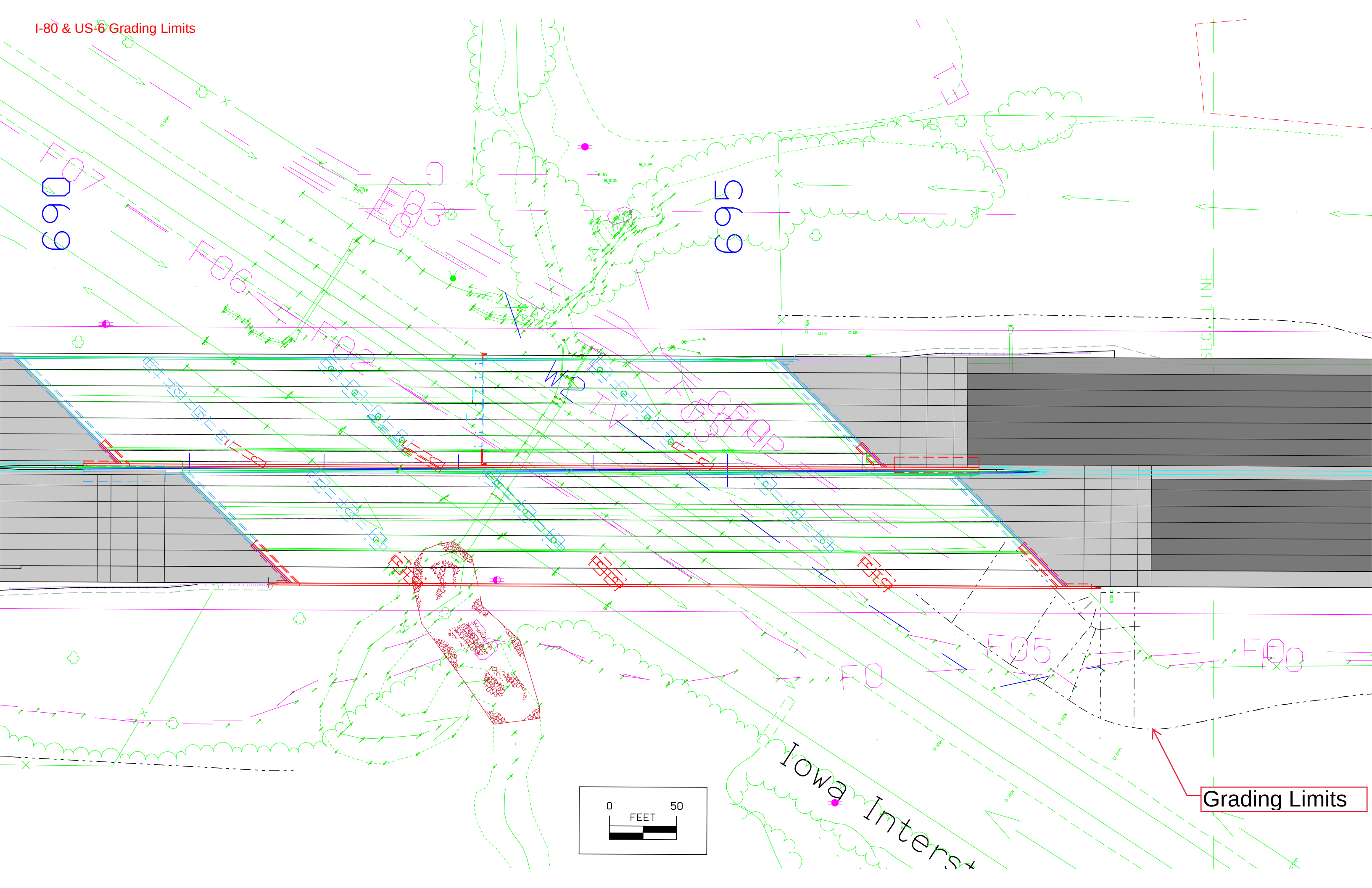
DESIGN FOR WIDENING 45° SKEW
59'-0 X 11'-0 REINFORCED
CONCRETE RETAINING WALL

SITUATION PLAN
STATION 696+51.45, 1.42' LEFT CL CONST. 1-80
JOHNSON COUNTY

JUN 2015

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 1 FILE NO. 30864 DESIGN NO. 2317

I-80 & US-6 Grading Limits



Grading Limits

