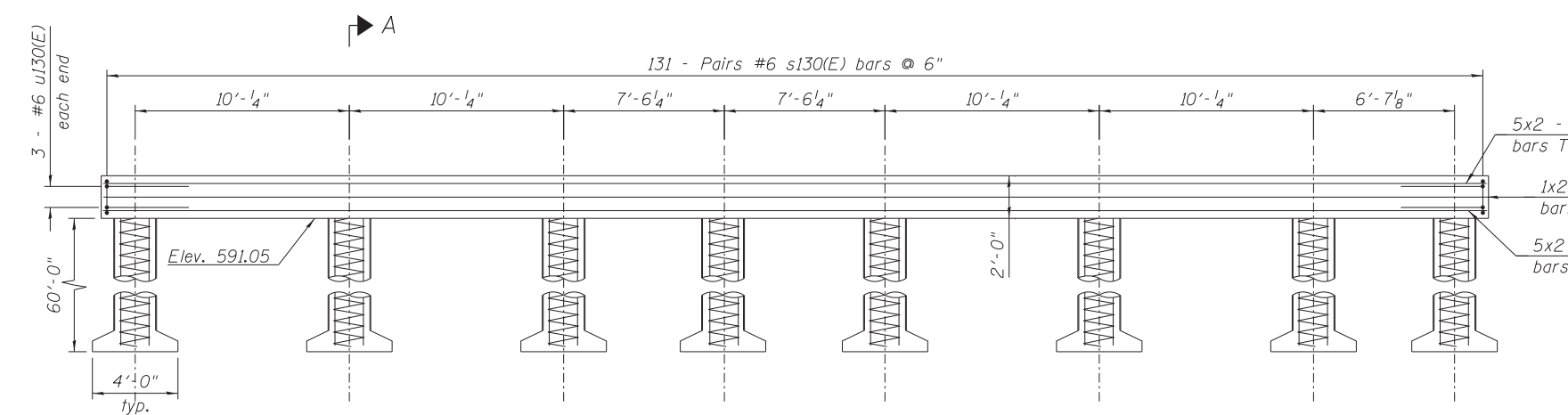
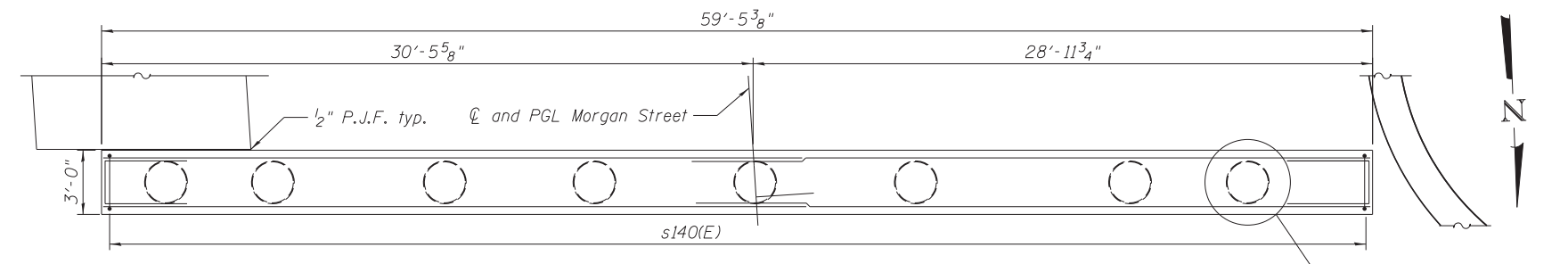


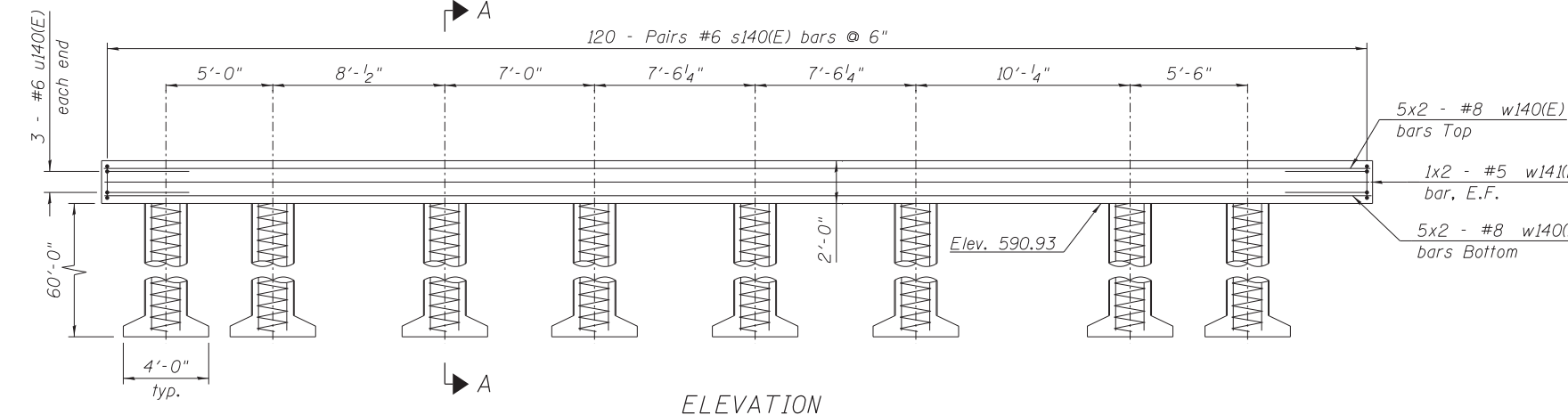
PLAN OF SOUTH APPROACH BENT



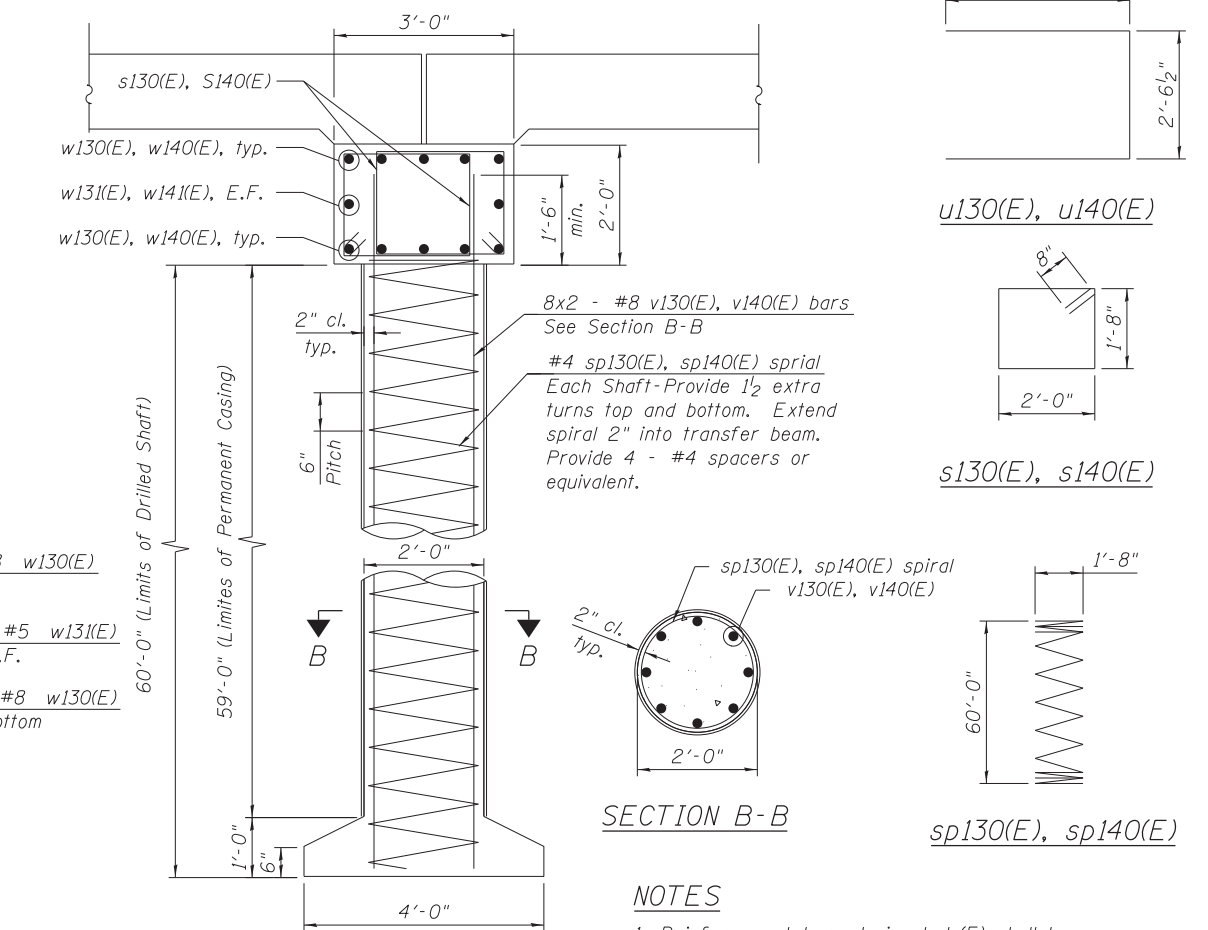
ELEVATION (Looking South)



PLAN OF NORTH APPROACH BENT



ELEVATION (Looking South)



NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Bars indicated thus, 2x2 - #5 etc., indicates 2 lines of bars with 2 lengths per line.
3. All edges shall have standard 3/4" chamfer.

Minimum Bar Laps	
Bar	Lap
#4	2'-7"
#5	3'-3"
#6	3'-10"
#7	5'-2"
#8	6'-9"

BILL OF MATERIAL South Approach Bent

Bar	No.	Size	Length	Shape
w130(E)	20	#8	35'-9"	—
w131(E)	4	#5	34'-0"	—
s130(E)	262	#6	8'-8"	□
sp130(E)	8	#4	60'-0"	≡
u130(E)	6	#6	10'-3"	□
v130(E)	128	#8	34'-2"	—
Structure Excavation		Cu Yd	34	
Concrete Structures		Cu Yd	14.5	
Reinforcement Bars, Epoxy Coated		Pound	21,300	
Permanent Casing		Foot	480	
Drilled Shaft in Soil, 24"		Cu Yd	56	

BILL OF MATERIAL North Approach Bent

Bar	No.	Size	Length	Shape
w140(E)	20	#8	33'-0"	—
w141(E)	4	#5	31'-3"	—
s140(E)	240	#6	8'-8"	□
sp140(E)	8	#4	60'-0"	≡
u140(E)	6	#6	10'-3"	□
v140(E)	112	#8	34'-2"	—
Structure Excavation		Cu Yd	31	
Concrete Structures		Cu Yd	13.3	
Reinforcement Bars, Epoxy Coated		Pound	19,440	
Permanent Casing		Foot	480	
Drilled Shaft in Soil, 24"		Cu Yd	56	

\* Installation of pile requires coring through existing Northwest wingwall footing. Additional costs included in Drilled Shaft in Soil.

FILE PATH = C:\Users\will.mardoush\Desktop\Morgan\0161709-60W25-S51-PileBent.dgn

**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & RATING  
RESEARCH & TESTING

4415 WEST HARRISON ST.  
SUITE 231  
HILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

0161709-60W25-S51-PileBent.dgn  
USER NAME = will.mardoush  
PLOT SCALE = 4:0' = 1" / in.  
PLOT DATE = 6/14/2013

DESIGNED - MAF, MWM  
DRAWN - MWM, HH  
CHECKED - MI, MAI  
DATE - 6/17/2013

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOUTH AND NORTH APPROACH PILE BENT SUPPORT  
STRUCTURE NO. 016-1709

SCALE: SHEET S1-51 OF 51 SHEETS STA. TO STA.

F.A.I. R.T.E. 90/94/290  
SECTION 2013-007R  
COUNTY COOK  
TOTAL SHEETS 317  
SHEET NO. 195  
CONTRACT NO. 60W25  
ILLINOIS FED. AID PROJECT