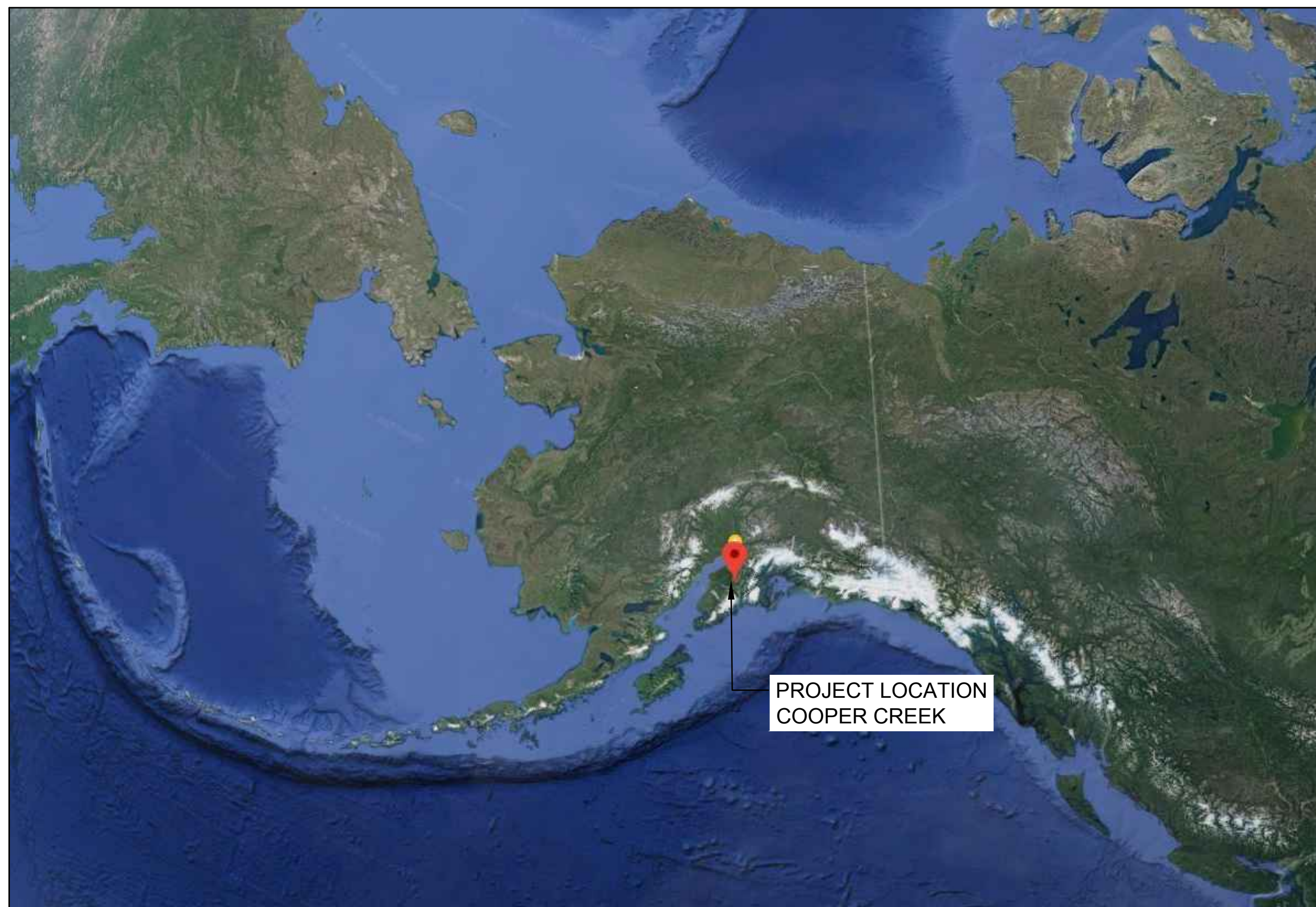


# COOPER LANDING WALKABLE COMMUNITY PROJECT

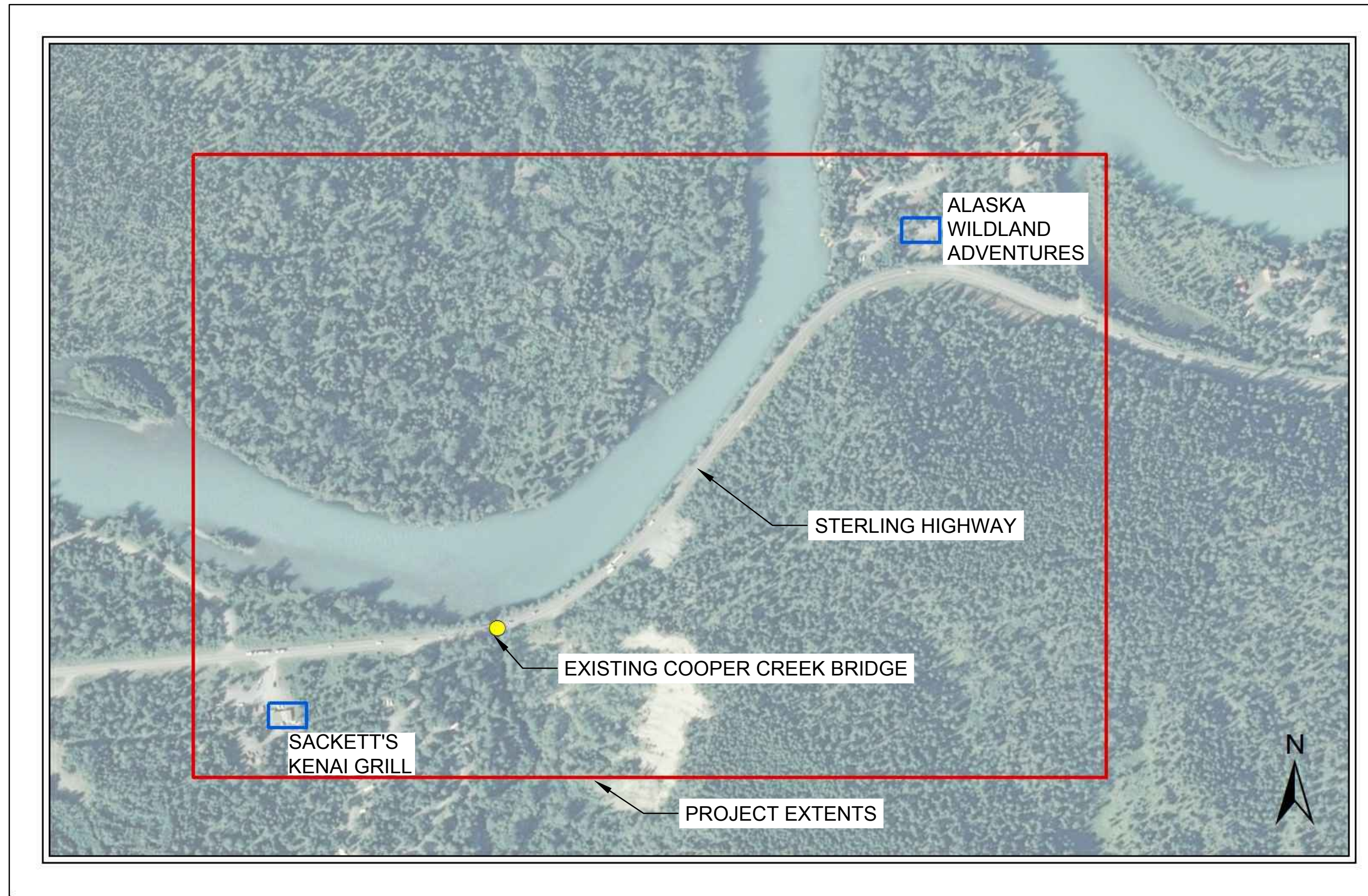
UAA CIVIL ENGINEERING CAPSTONE PROJECT 2019.03: COOPER CREEK BRIDGE  
AS ADVERTISED JANUARY 2019

## 35% Design Submittal

GRADING, DRAINAGE, SECTIONS, SIGNING & STRIPING, STRUCTURAL DETAILS



PROJECT LOCATION: COOPER LANDING, AK  
NTS



VICINITY MAP  
NTS

### GENERAL NOTES

- EXISTING GROUND CONTOURS BASED ON KENAI PENINSULA BOROUGH (KPB) ELEVATION DATA. THIS DATA WAS OBTAINED FROM THE KPB GIS DATA WEBSITE.
- SITE CONDITIONS AND GROUND TOPOGRAPHY SHOULD BE VERIFIED TO FURTHER REFINE THE DESIGN.
- DETAILS PERTAINING TO THE PREFABRICATED STEEL BRIDGE THAT IS TO BE PLACED ACROSS COOPER CREEK INCLUDED AS AN ATTACHMENT WITH THIS PLAN SET. A MANUFACTURER WAS CONTACTED TO OBTAIN A COST GIVEN ANTICIPATED LENGTH AND LOADING REQUIREMENTS.

### SHEET INDEX

SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	SHEET LAYOUT SCHEMATIC
B1	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES
E1	DETAILS
F1 TO F6	PLAN AND PROFILE
H1	CROSSWALK SIGNING AND STRIPING
N1	PREFABRICATED BRIDGE FOUNDATION DETAILS
1 OF 1	PREFABRICATED BRIDGE DETAILS ATTACHMENT

REV	DATE	DESCRIPTION	BY



COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA  
VICINITY MAP, SHEET INDEX,  
GENERAL NOTES

PROJECT 2019.03  
DATE 04/05/2019

SHEET  
**A1**

C:\Users\rschronk\Desktop\School\Cooper Creek Bridge\CAD\Final Design Documents\Draft Final Planset.dwg PLOT DATE: 2019-04-22 07:55 SAVED DATE: 2019-04-22 07:55 USER: rschronk



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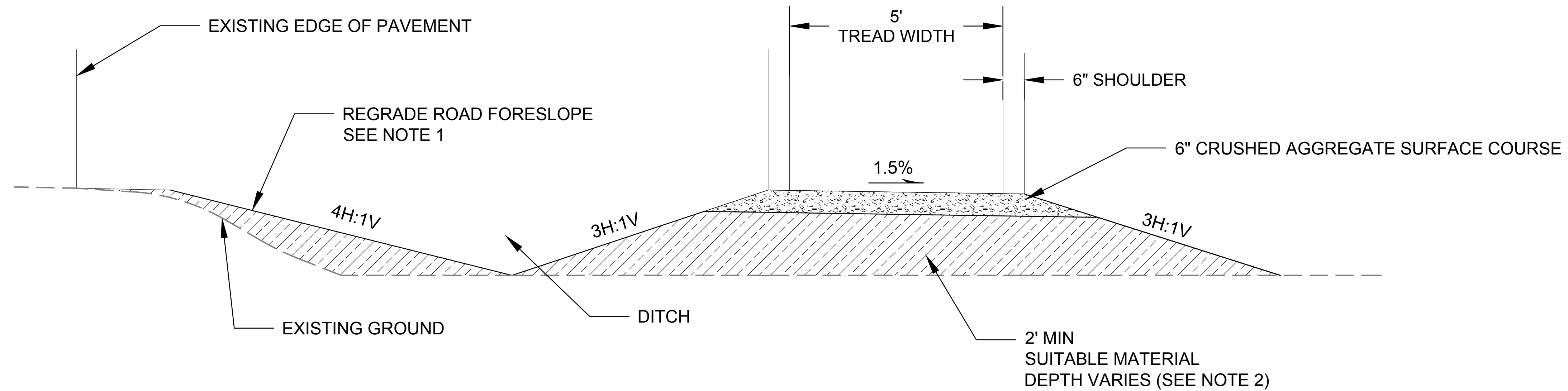
COOPER CREEK BRIDGE  
 COOPER LANDING, ALASKA  
 SHEET LAYOUT SCHEMATIC  
 PROPOSED PATHWAY

PROJECT 2019.03  
 DATE 04/05/2019

SHEET  
**A2**



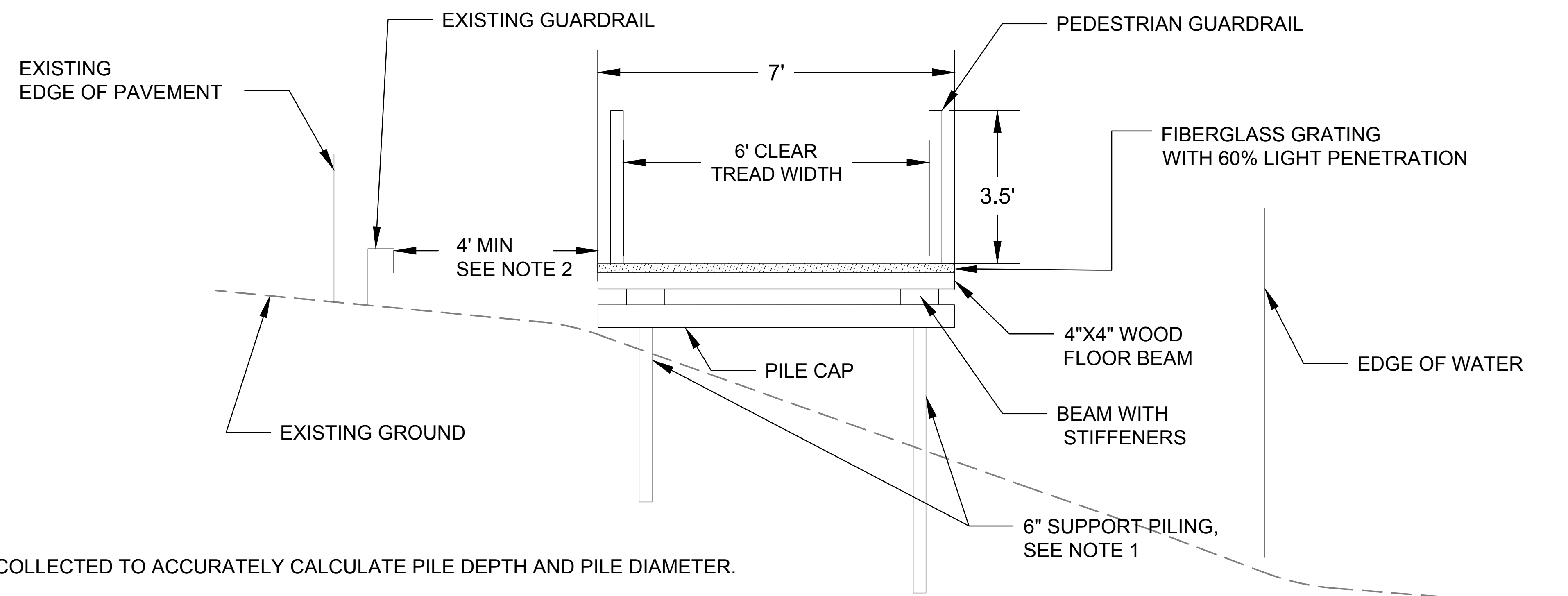
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**NOTES**

1. AFTER REGRADING, DITCH SLOPES WILL BE STABILIZED AND SEEDED.
2. BASE COURSE DEPTH WILL BE ADJUSTED SO THAT A 3H:1V SLOPE IS MAINTAINED ON BOTH SIDES OF TRAIL EMBANKMENT WHICH WILL STOP UPON MEETING THE EXISTING GROUND SURFACE.

1  
B1 TRAIL TYPICAL SECTION  
NTS



**NOTES**

1. GEOTECHNICAL DATA NEEDS TO BE COLLECTED TO ACCURATELY CALCULATE PILE DEPTH AND PILE DIAMETER.
2. 4' MIN OR LARGER SPACING NEEDS TO BE MAINTAINED BETWEEN ROAD GUARDRAIL AND STRUCTURE SO THAT ROADWAY EMBANKMENT IS NOT SIGNIFICANTLY DISTURBED.

2  
B1 ELEVATED LIGHT PENETRATING STRUCTURE TYPICAL SECTION  
NTS

REV	DATE	DESCRIPTION	BY

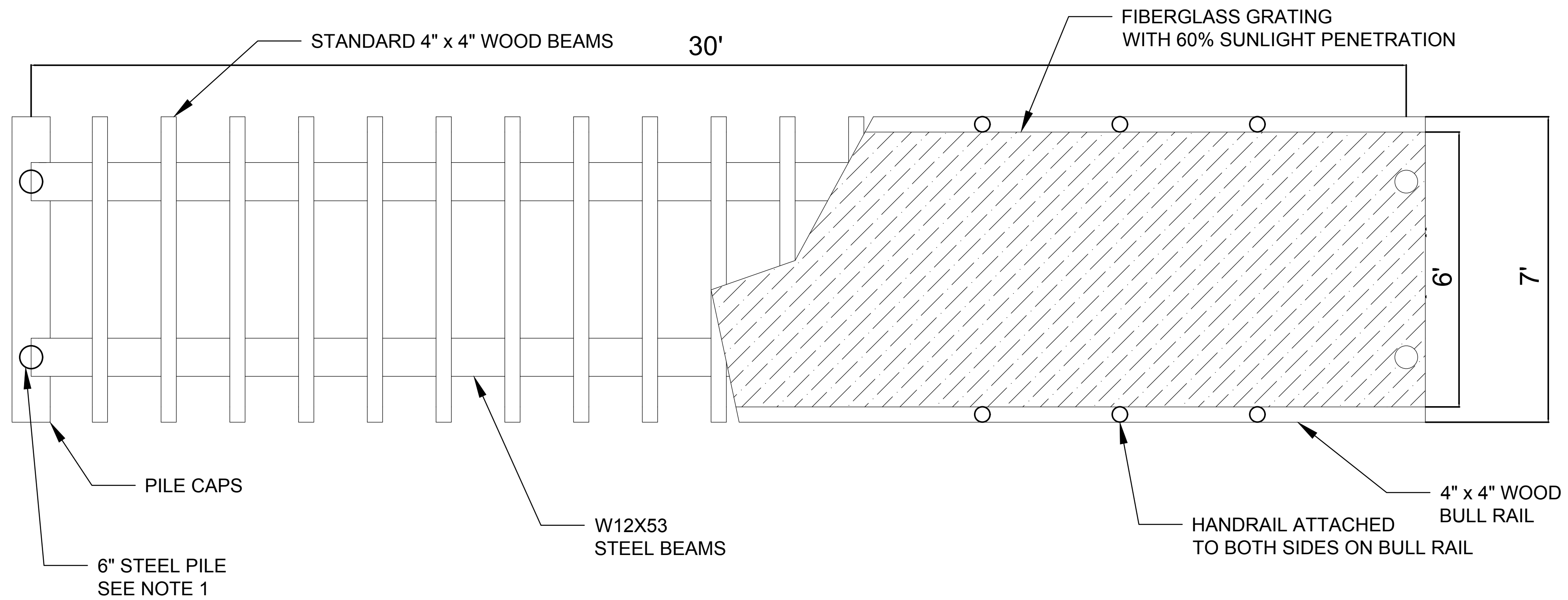


COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA  
TYPICAL SECTIONS  
TRAIL, BOARDWALK

PROJECT 2019.03  
DATE 04/05/2019

SHEET  
B1

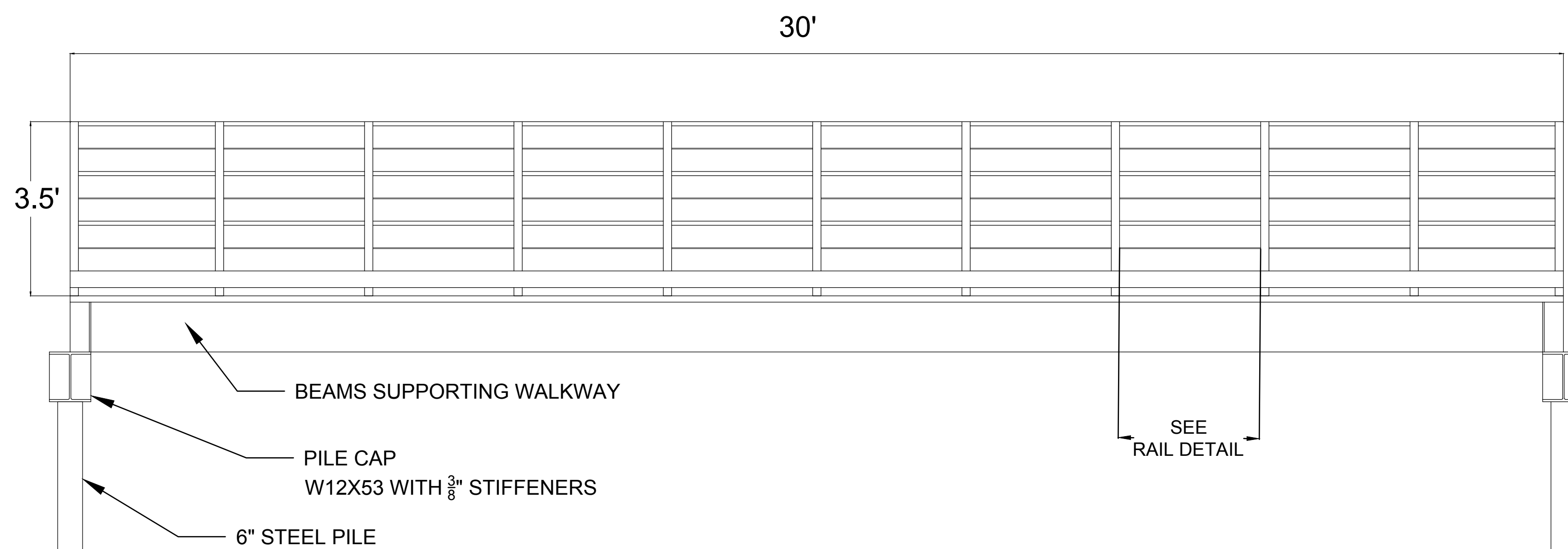




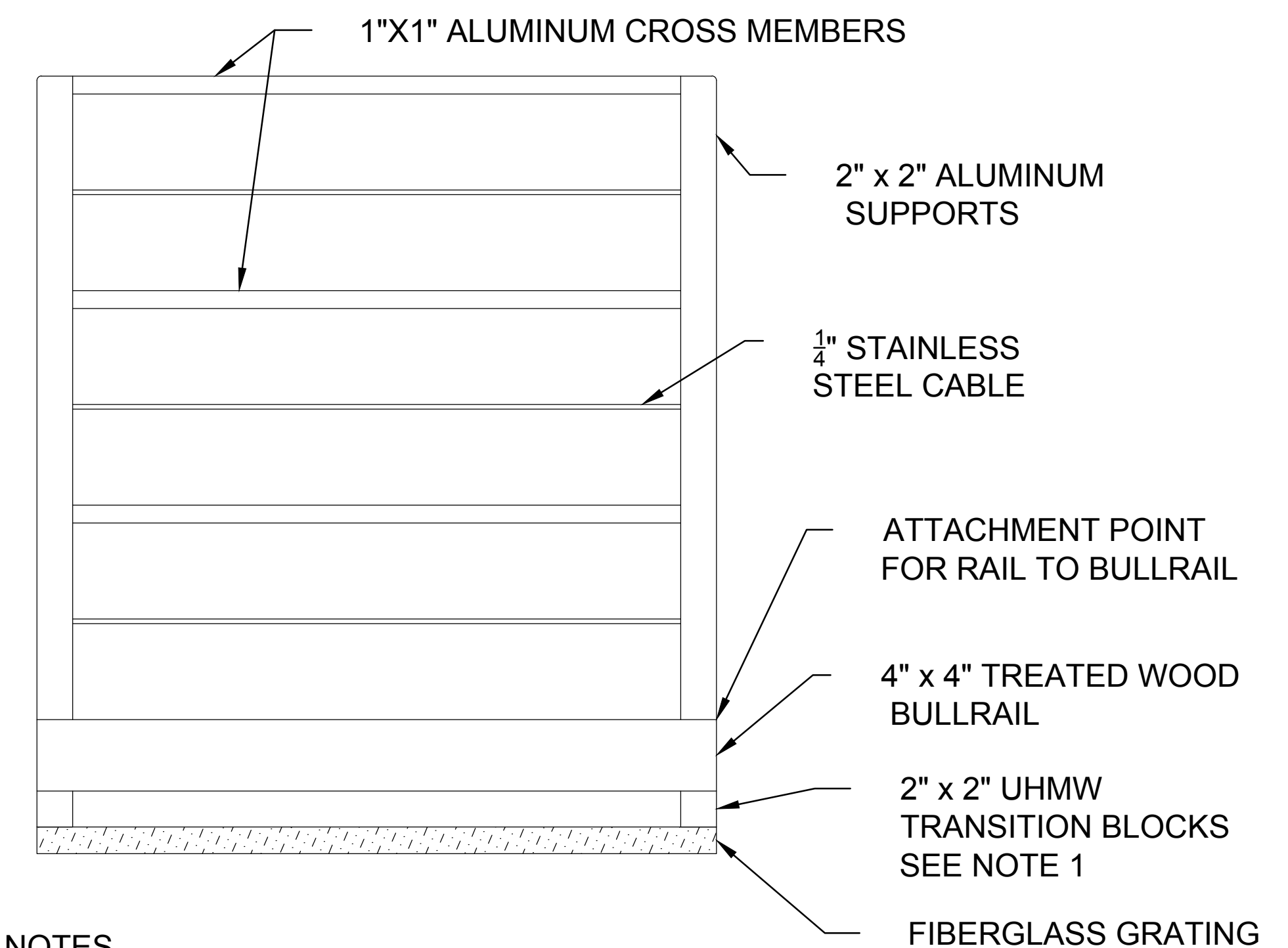
**NOTES**

1. GEOTECHNICAL DATA NEEDS TO BE COLLECTED TO ACCURATELY CALCULATE PILE DEPTH.

1  
E1  
ELEVATED LIGHT PENETRATING STRUCTURE PLAN VIEW  
NTS



2  
E1  
ELEVATED LIGHT PENETRATING STRUCTURE ELEVATION VIEW  
NTS



**NOTES**

1. UHMW: ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE

3  
E1  
ELEVATED LIGHT PENETRATING STRUCTURE RAIL DETAIL  
NTS

REV	DATE	DESCRIPTION	BY



COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA

DETAILS  
BOARDWALK STRUCTURE

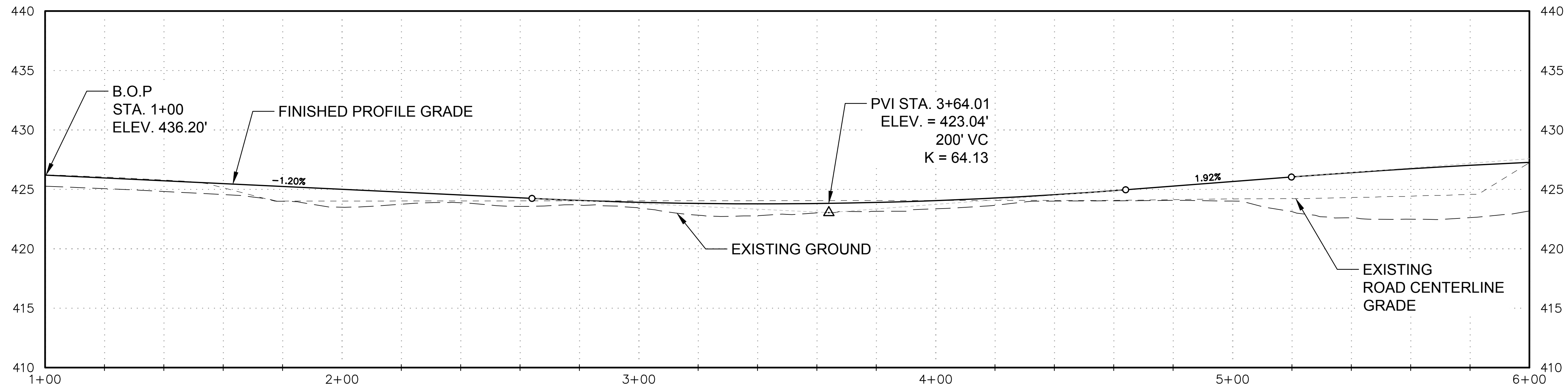
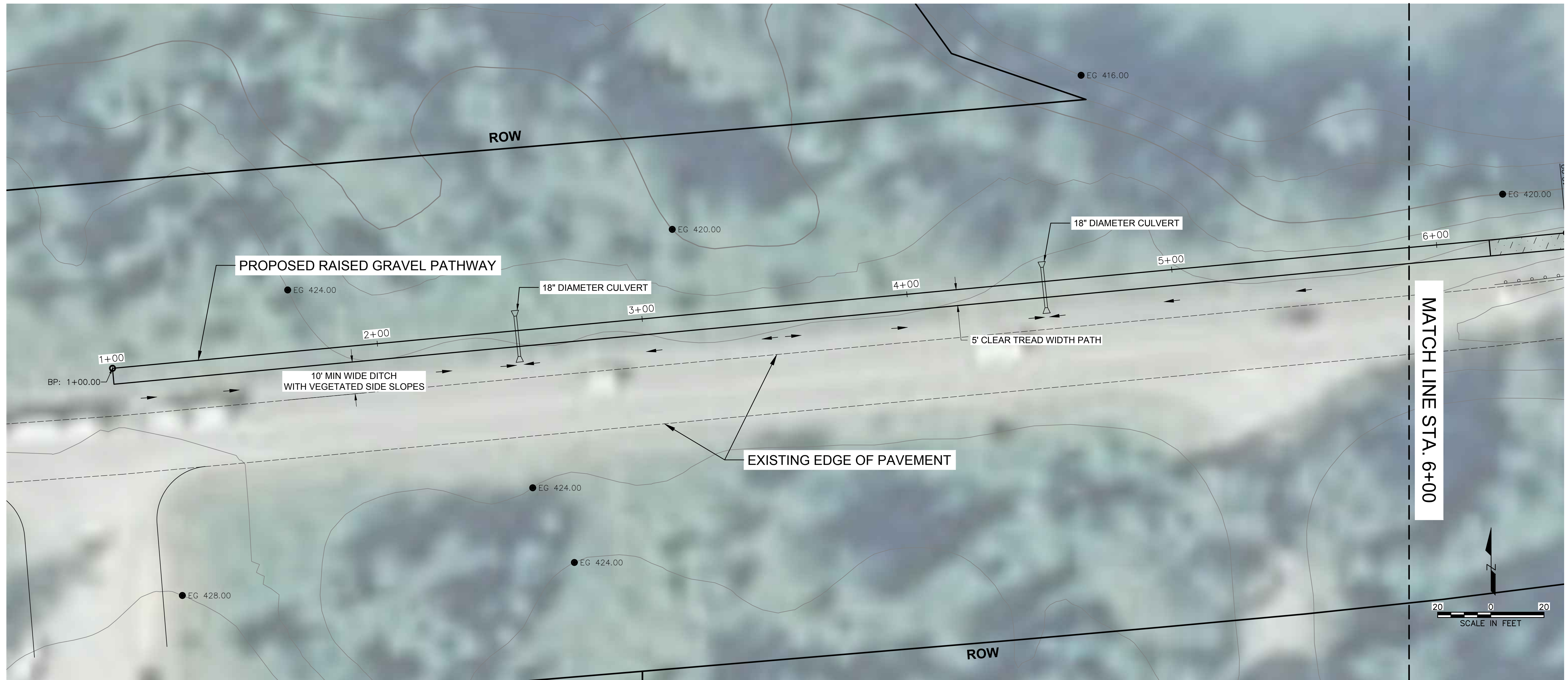
PROJECT 2019.03  
DATE 04/05/2019

SHEET  
E1

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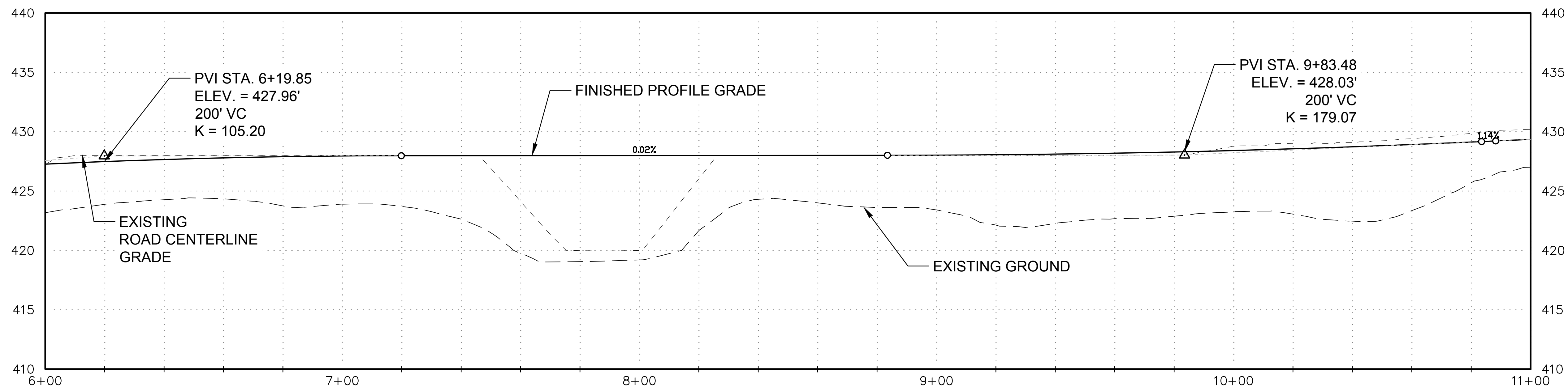
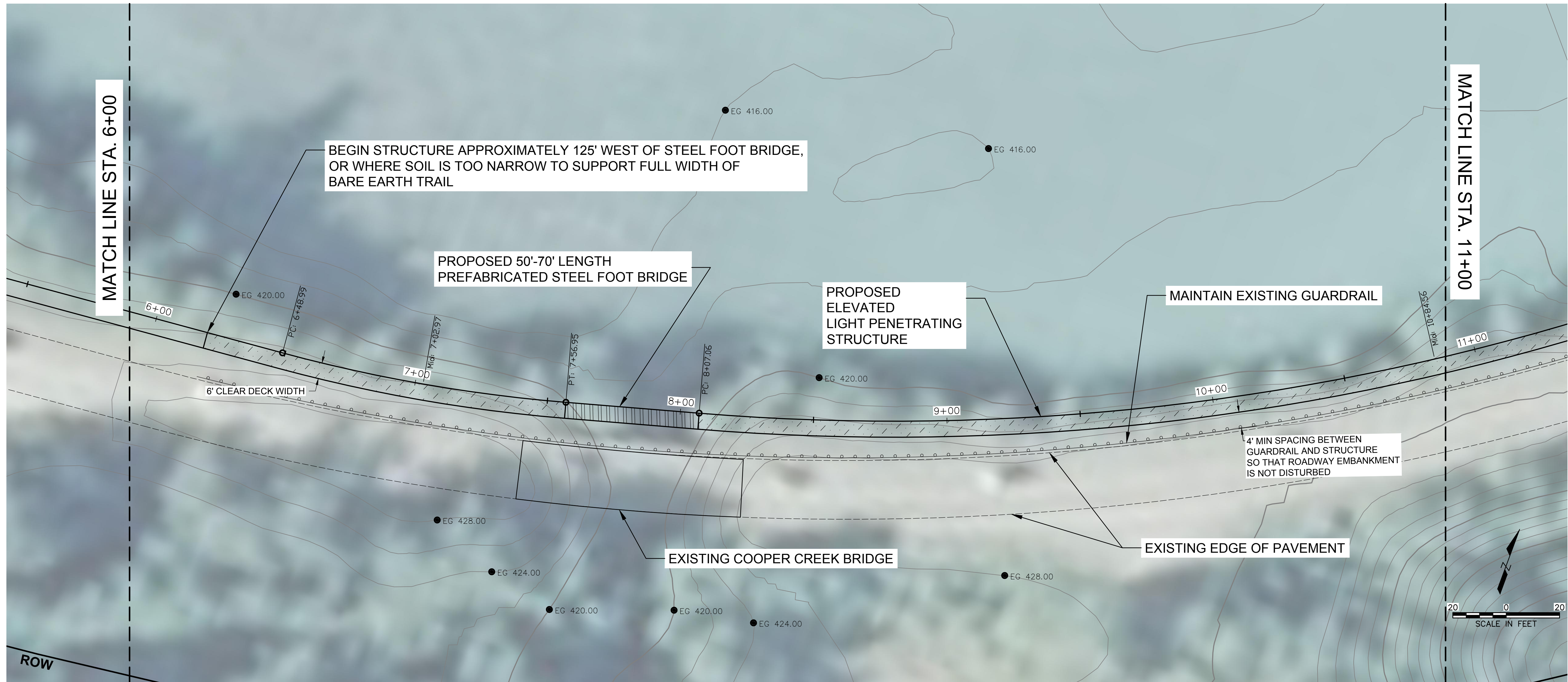
COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA  
PLAN AND PROFILE  
STA 1+00 TO STA 6+00

PROJECT 2019.03  
DATE 04/05/2019

SHEET  
**F1**



E:\Cooper\_Creek\_Bridge\CAD\Final\_Design\_Documents\Draft\_Final\_Planset.dwg PLOT DATE 2019-04-13 20:01 SAVED DATE 2019-04-13 19:56 USER: rschrank



REV	DATE	DESCRIPTION



COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA

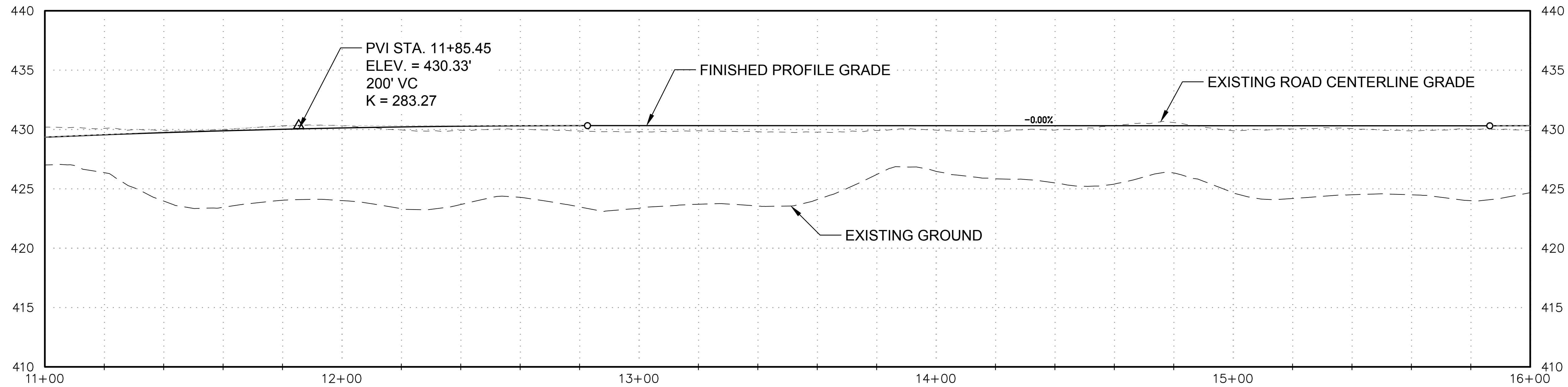
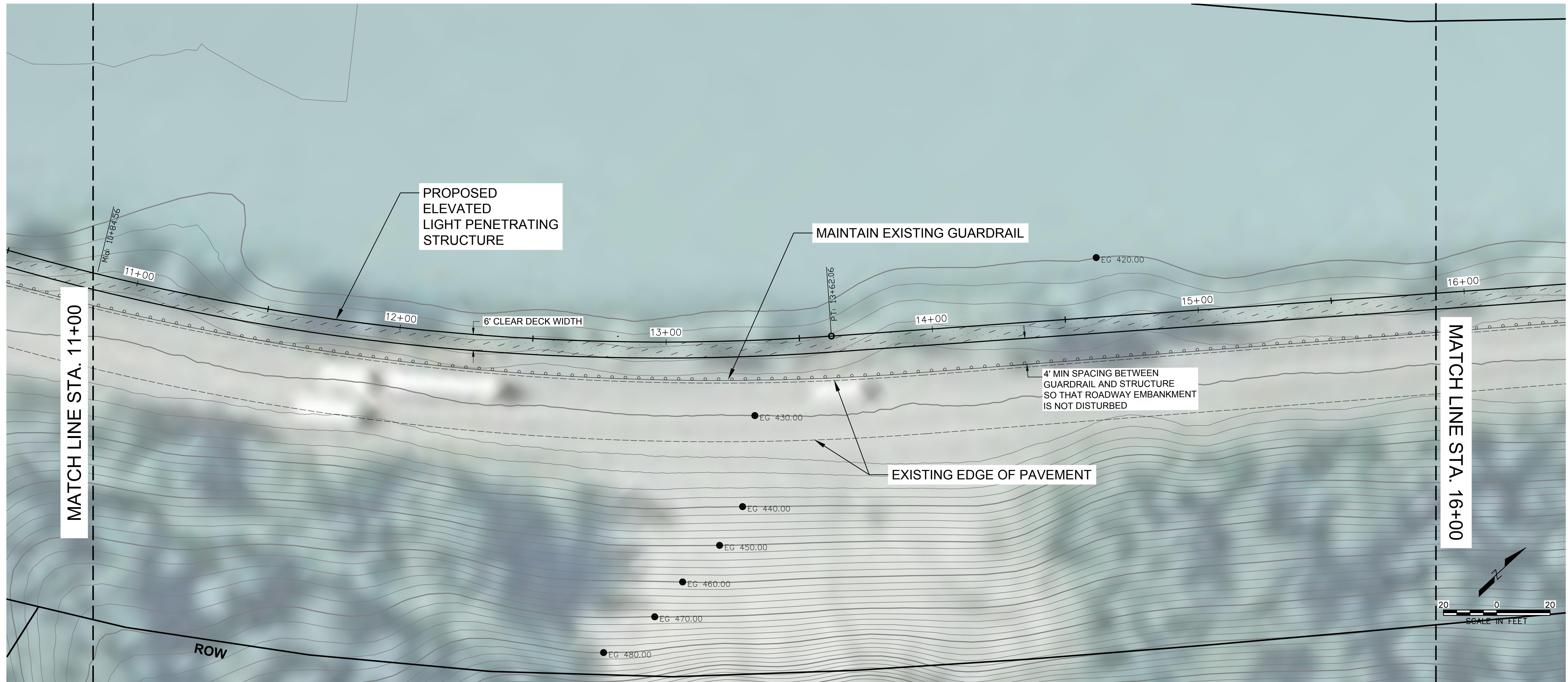
PLAN AND PROFILE  
STA 6+00 TO STA 11+00

PROJECT 2019.03  
DATE 04/05/2019

SHEET  
**F2**



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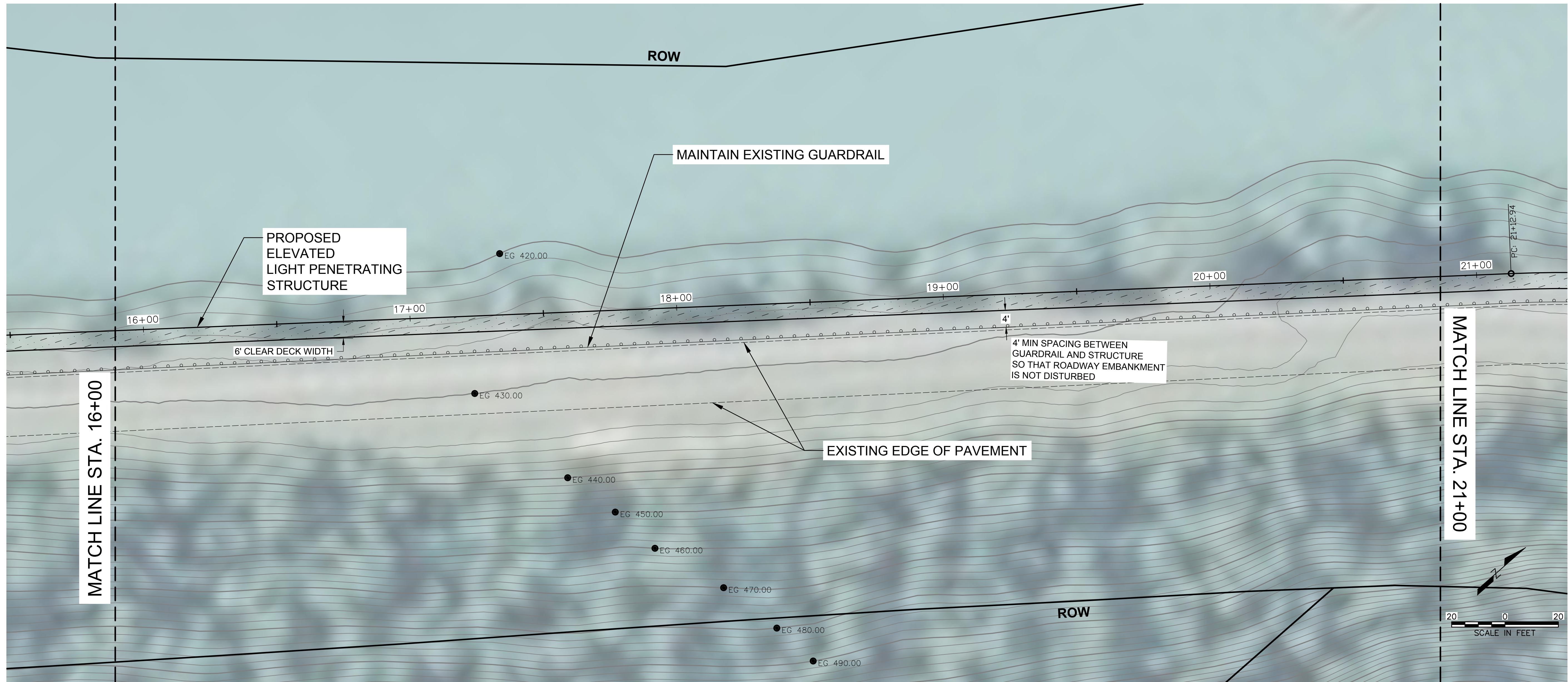
COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA  
PLAN AND PROFILE  
STA 11+00 TO STA 16+00

PROJECT 2019.03  
DATE 04/05/2019

SHEET  
**F3**



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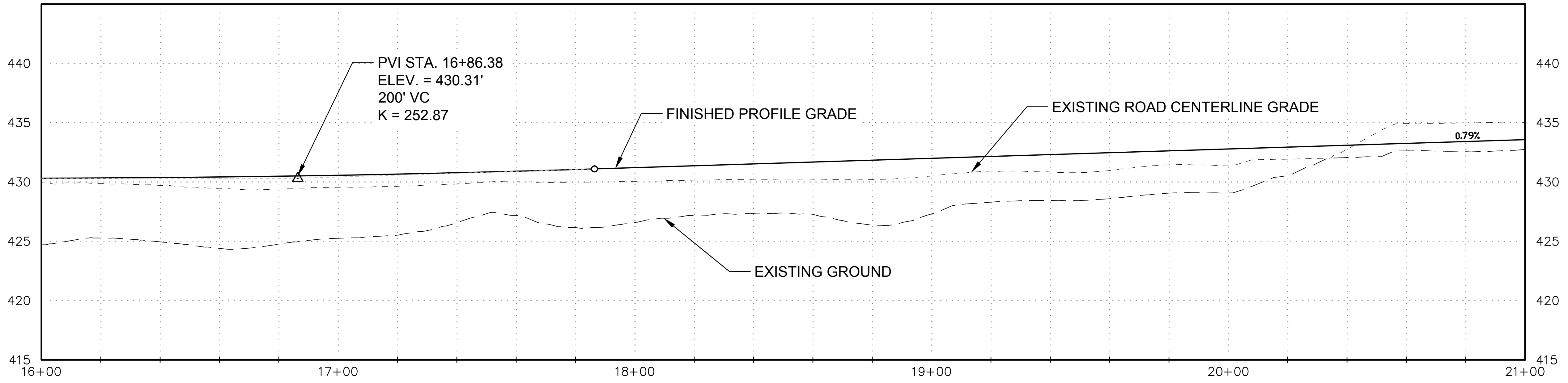
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COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA  
PLAN AND PROFILE  
STA 16+00 TO STA 21+00

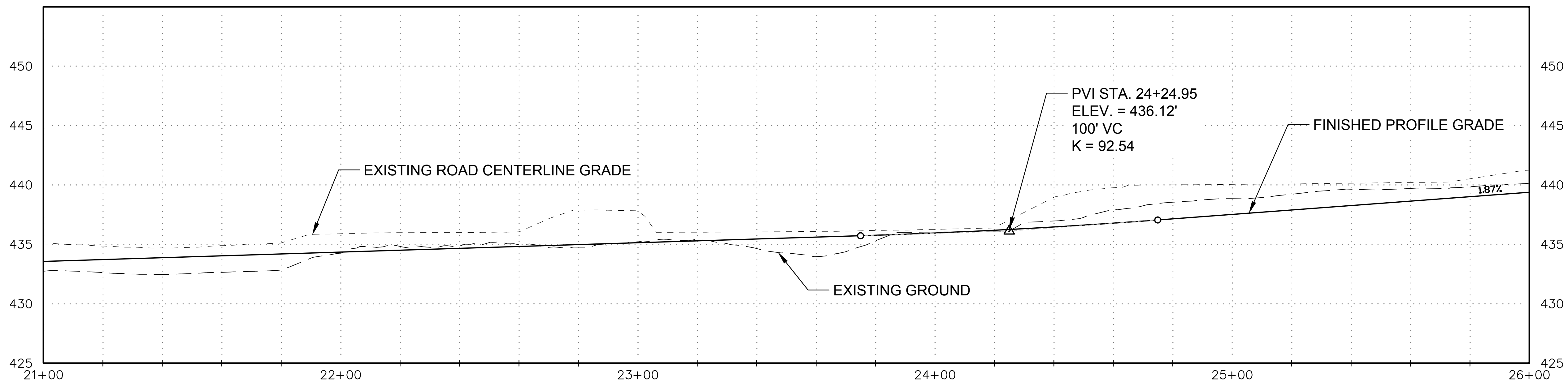
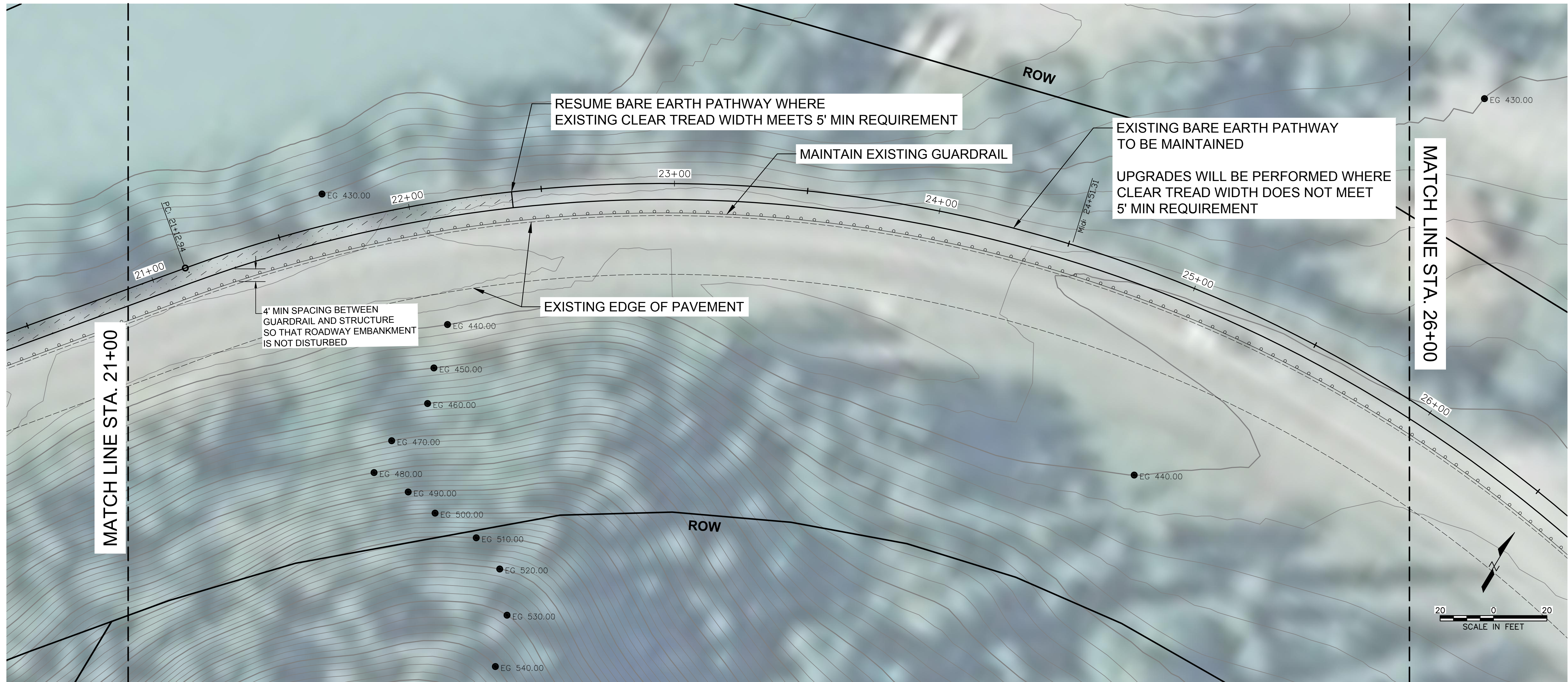
PROJECT 2019.03  
DATE 04/05/2019

SHEET  
**F4**





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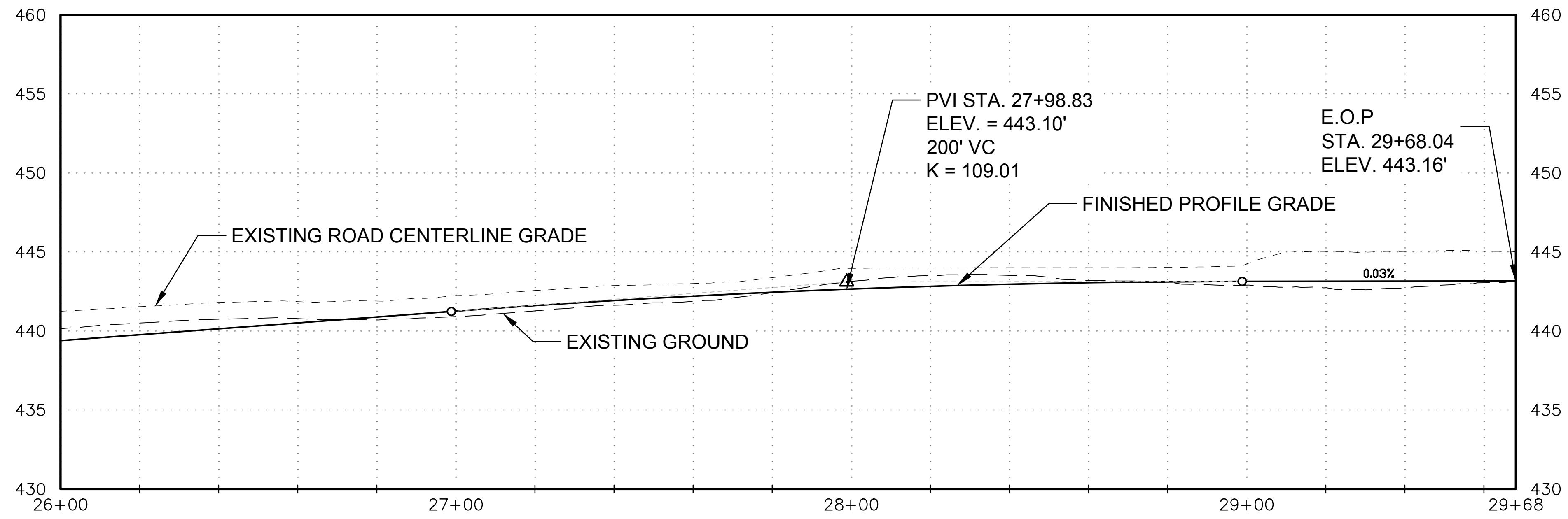
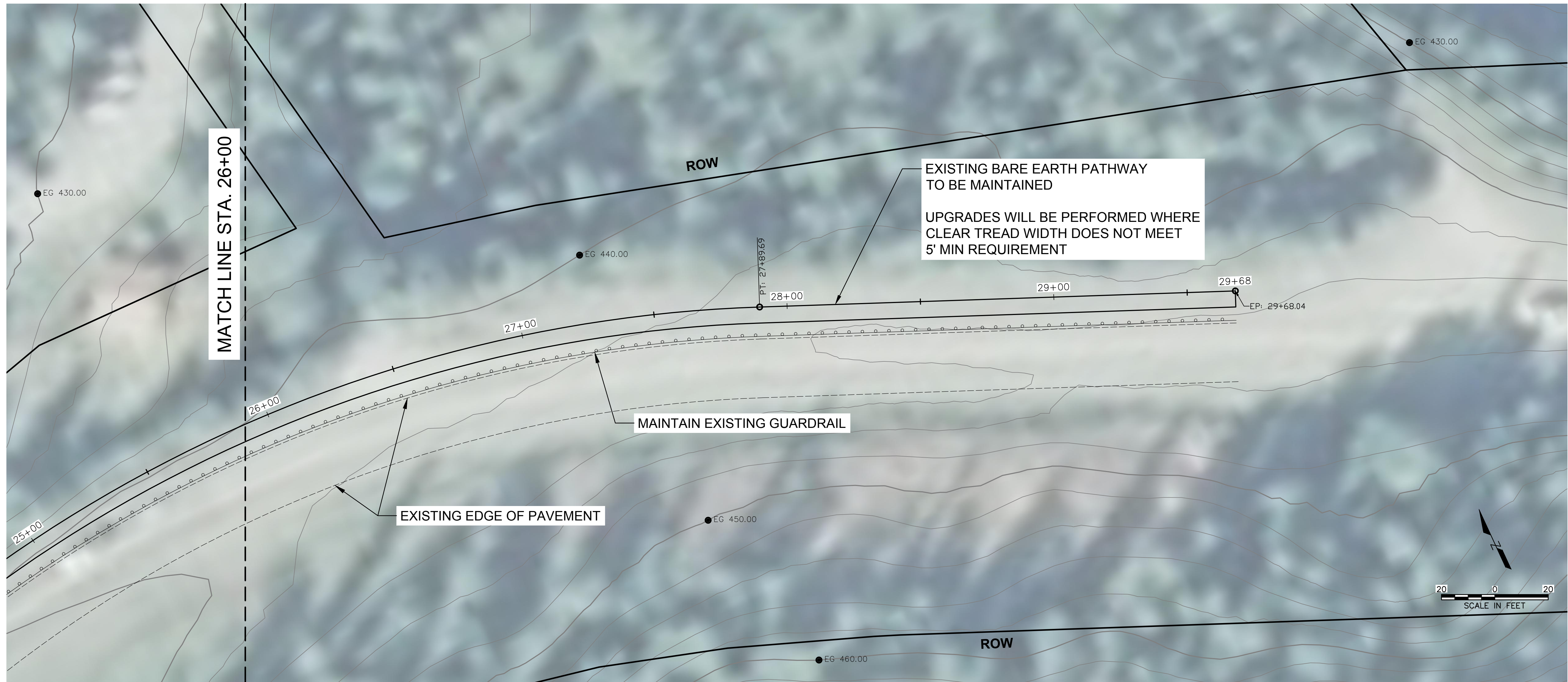
COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA  
PLAN AND PROFILE  
STA 21+00 TO STA 26+00

PROJECT 2019.03  
DATE 04/05/2019

SHEET  
**F5**



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REV	DATE	DESCRIPTION	BY



COOPER CREEK BRIDGE  
COOPER LANDING, ALASKA

PLAN AND PROFILE  
STA 26+00 TO STA 29+68

PROJECT 2019.03  
DATE 04/05/2019

SHEET  
**F6**



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REV	DATE	DESCRIPTION	BY



COOPER CREEK BRIDGE  
 COOPER LANDING, ALASKA

SIGNING AND STRIPING  
 PROPOSED CROSSWALK

PROJECT 2019.03  
 DATE 04/05/2019

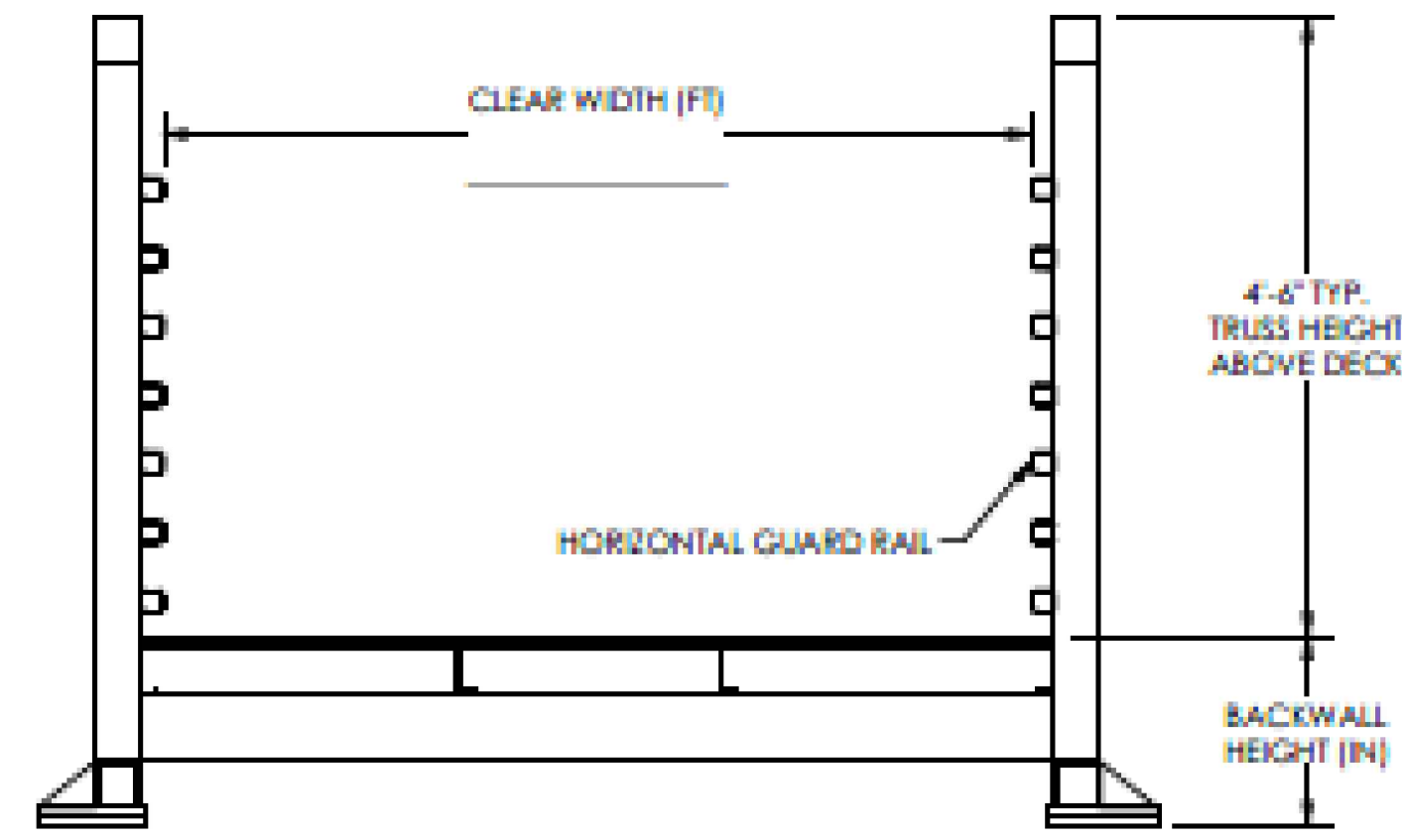
SHEET  
**H1**



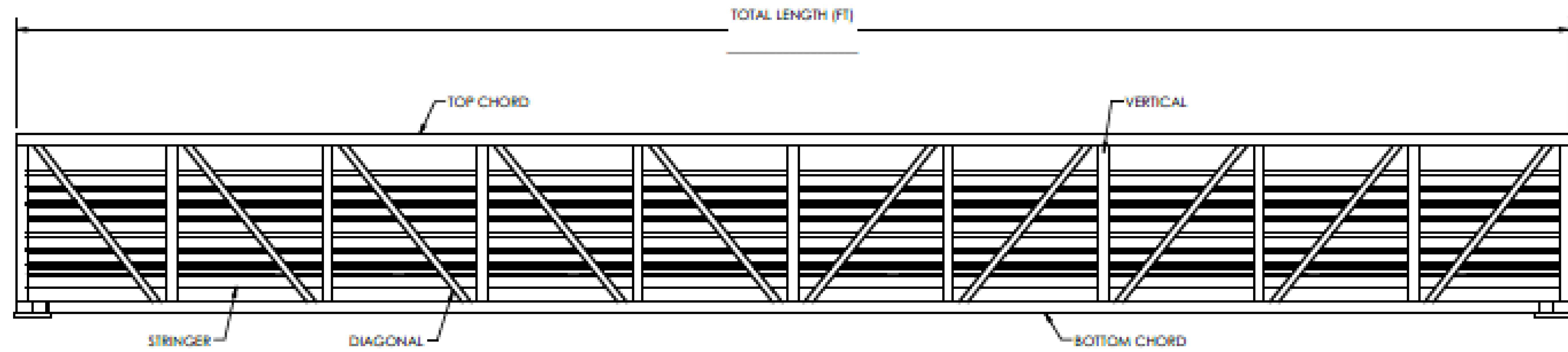




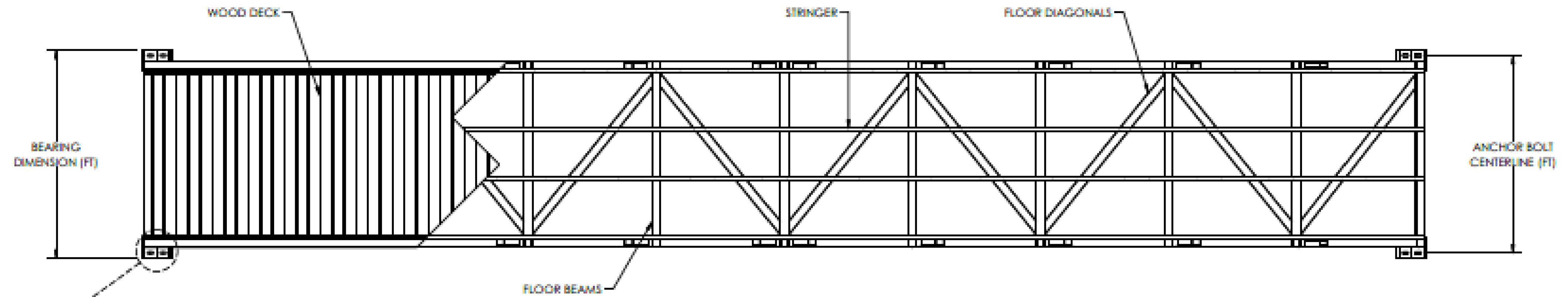
SHIPPING WEIGHT =



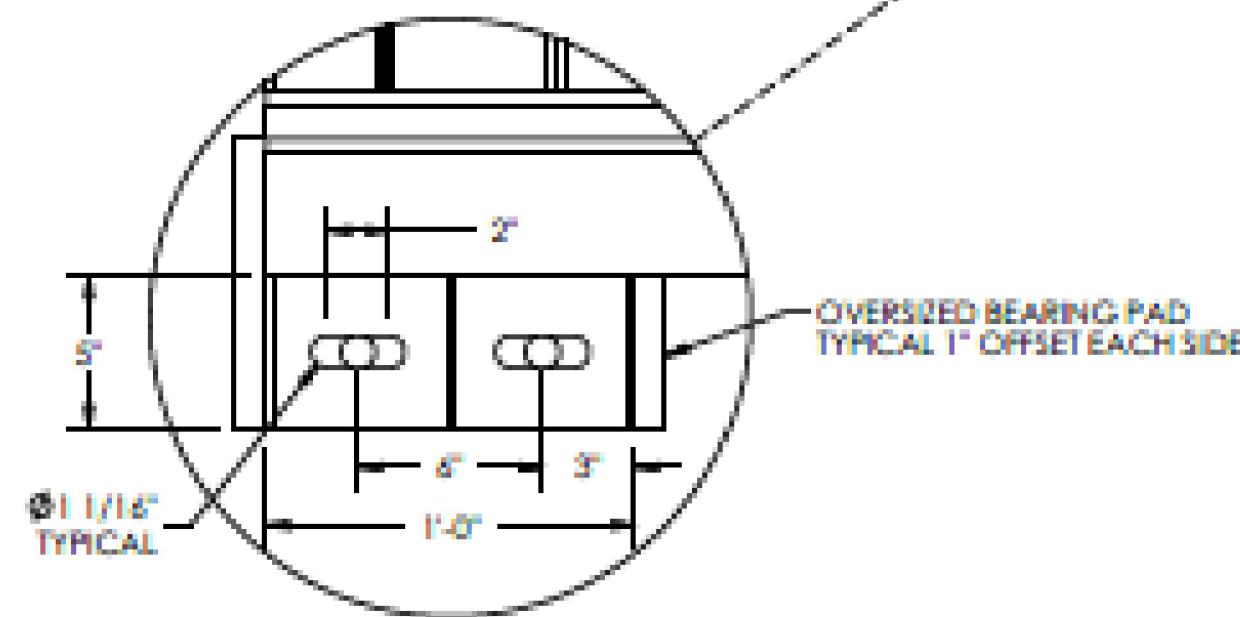
SECTION VIEW



BRIDGE ELEVATION



BRIDGE PLAN



DETAIL 1

**GENERAL NOTES:**

1. BRIDGE BEARINGS SHALL BE CONSTRUCTED AT SAME LEVEL
2. BRIDGE SETTING PLATES SHALL BE UHMW OR TEFLON COATED STEEL AND SHALL BE SHIPPED LOOSE FROM BRIDGE
3. ANCHOR DESIGN AND INSTALLATION SHALL BE BY OTHERS - NO RESPONSIBILITY ACCEPTED FOR WORK BY OTHERS
4. BRIDGE INSTALLATION SHALL BE BY OTHERS - NO RESPONSIBILITY ACCEPTED FOR WORK BY OTHERS
5. BRIDGE MAY BE CAMBERED DURING FABRICATION TO OFFSET DEAD LOAD DISPLACEMENT
6. STEEL COMPONENTS SHALL BE WEATHERING STEEL
7. HSS SQUARE & RECTANGULAR TUBING SHALL BE ASTM A847 (YIELD 50KSI MINIMUM)
8. PLATE, ANGLE, & CHANNEL SHALL BE ASTM A588 (YIELD 50KSI MINIMUM)
9. MECHANICAL SPlice FASTENERS SHALL BE ASTM A325
10. STEEL WELDING SHALL CONFORM TO AWS D1.1
11. DEBUR ALL EXPOSED WELDS WHICH MAY COME IN CONTACT WITH PEDESTRIANS
12. ALL EXPOSED SURFACES OF TRUSS & DECK FRAME SHALL BE BLAST CLEANED IN ACCORDANCE WITH SSPC-SP7

\*THE VIEWS AND DETAILS DEPICTED ON THIS PAGE ARE TYPICAL AND DO NOT REPRESENT ANY SPECIFIC PROJECT DESIGN.



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**PRATT PEDESTRIAN BRIDGE**

CUSTOMER:

PROJECT #

PO #

APPROVAL INITIALS:

TOLERANCES UNLESS SPECIFIED OTHERWISE  
XXX = ±1/4"; FRACTIONS = ±1/8"; ANGULAR = ±1"

DRAWN BY:

CHECKED BY:

SHEET  
1 of 1

PRELIMINARY DRAWING

SCALE: N/A

**BRIDGE REACTIONS**

	Z (LBS)	Y (LBS)	X (LBS)
DEAD LOAD	---	---	---
VEHICLE LOAD (10,000 LBS)	---	---	---
LIVE LOAD (@ 90PSF)	---	---	---
HORIZONTAL WIND (@ 46.2PSF) OVERTURNING WIND (@ 20PSF)	---	---	---
THERMAL (COEFF OF FRICTION 0.2)	---	---	---

BRIDGE LIFTING WEIGHT =  
THERMAL EXPANSION (BASED ON A SEASONAL TEMPERATURE VARIATION OF 120°F)  
Y = VERTICAL LOAD @ EACH BEARING PLATE (4 TOTAL)  
Z = HORIZONTAL LOAD @ EACH FOOTING (2 PER BRIDGE, 1 @ EACH END)  
X = LONGITUDINAL LOAD @ EACH FIXED BEARING PLATE (2 PER BRIDGE)