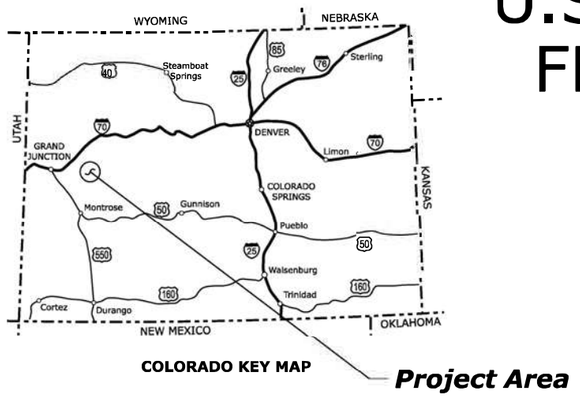
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A1

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



COLORADO KEY MAP

PLANS FOR PROPOSED

CO FTFS 121(1)

TRICKEL PARK ROAD

GRAND MESA NATIONAL FOREST
DELTA COUNTY
SCHEDULE A LENGTH 1.003 miles
OPTION X LENGTH 1.872 miles

TYPE OF CONSTRUCTION:

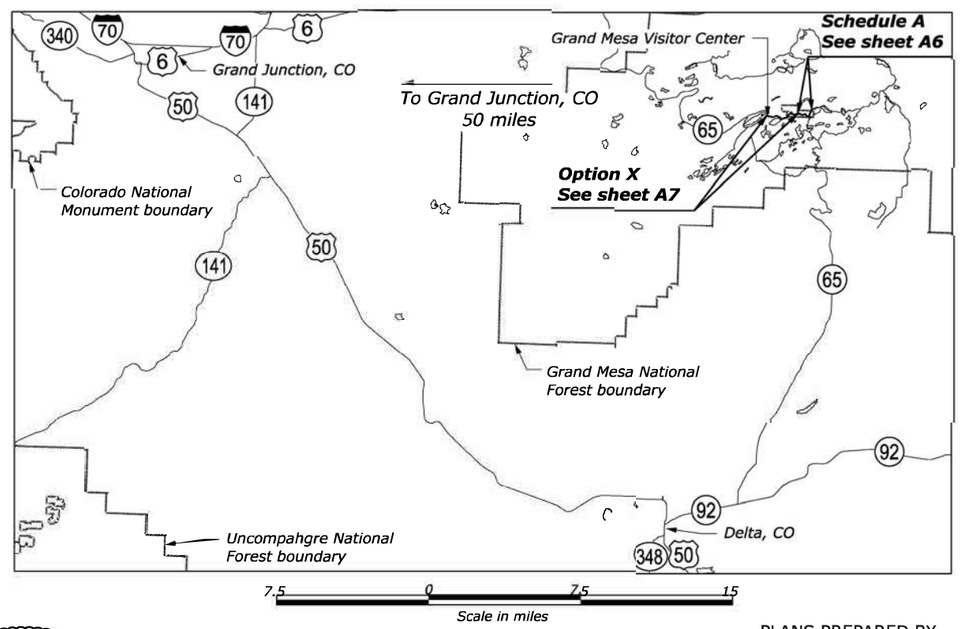
SCHEDULE A
Road rehabilitation: Asphalt concrete pavement, culverts, signage, pavement markings.

OPTION X
Signage, pavement markings.

DESIGN DESIGNATIONS:	Schedule A	Option X
ADT (2023) ----------	200	400
ADT (2043) ----------	438	876
DHV ----------	44	88
D ----------	50%	50%
T ----------	10%	10%
V ----------	25 MPH	25 MPH
e(max) ----------	4%	n/a

U.S. CUSTOMARY DIMENSIONS:
Slopes are expressed as RISE:RUN

SPECIFICATIONS:
"STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS, FP-14"



INDEX TO SHEETS	
SHEET	DESCRIPTION
A1	TITLE SHEET
A2-A3	CONVENTIONAL PLAN SYMBOLS & ABBREVIATIONS
A4	SURVEY CONTROL
A5	VICINITY MAP
A6	SITE MAP SCHEDULE A
A7	SITE MAP OPTION X
A8-A9	MAINLINE TYPICAL SECTION
A10-A11	TYPICAL SECTIONS APPROACH ROADS
A12	TYPICAL SECTIONS PULLOUTS
A13	CONNECTION DETAILS
B1-B3	SUMMARY OF QUANTITIES
B4-B17	MISCELLANEOUS SUMMARIES
C1-C7	PLAN AND PROFILE - SCHEDULE A
D1	FS 123 APPROACH PLAN AND PROFILE
F1	204 BENCHING FOR EMBANKMENT
F2	204 SUBEXCAVATION
G1	C251 PLACED RIPRAP AT CULVERT OUTLETS
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T1	601 CONCRETE HEADWALL FOR SMALL PIPE CULVERT
T2-T5	602 CULVERT STANDARDS
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T11-T15	TRICKEL PARK ROAD OPTION X SIGNING AND STRIPING
T16	635 TEMPORARY TRAFFIC CONTROL ADVANCE SIGNING
T17-T18	635 TEMPORARY TRAFFIC CONTROL STANDARDS
T19	635 TEMPORARY TRAFFIC CONTROL DETOUR SIGNING
T20	SHEET HAS BEEN REMOVED
T21	646 REMOVE AND RESET MAILBOX
X1-X48	TRICKEL PARK ROAD CROSS SECTIONS
Z1-Z9	CULVERT CROSS SECTIONS

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45223
8/21/23
PROFESSIONAL ENGINEER

PLANS PREPARED BY

PLANS PREPARED FOR

ROAD DESIGN ONLY

REVIEWED AND RECOMMENDED BY:

CHRISTOPHER PHELPS — Digitally signed by CHRISTOPHER PHELPS Date: 2024.06.17 12:05:39 -06'00'
REVIEWER POSITION TITLE — DATE
PLANS, SPECIFICATIONS, AND COST ESTIMATES MEET TECHNICAL REQUIREMENTS

APPROVED:

CURTIS CROSS — Digitally signed by CURTIS CROSS Date: 2024.06.12 08:27:29 -06'00'
FOREST STAFF OFFICER FOR ENGINEERING ACTIVITIES — DATE
COMPLIES WITH TECHNICAL ROAD REQUIREMENTS AND ENGINEERING STANDARDS

WILLIAM EDWARDS — Digitally signed by WILLIAM EDWARDS Date: 2024.06.14 14:36:09 -06'00'
DISTRICT RANGER — DATE
CONSISTENT WITH APPLICABLE REGULATORY AND LAND MANAGEMENT PLAN REQUIREMENTS

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25 August 2020 6:42 AM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A2

ABBREVIATIONS

	℄	centerline
	Δ	curve delta
	Ø	diameter
A	abut.	abutment
	ACP	asphalt concrete pavement
	ADT	average daily traffic
	aggr.	aggregate
	AH	ahead
	alt.	alternate
	appr.	approach
	asph.	asphalt
	Ave.	avenue
B	BCY	bank cubic yards
	b.f.	both faces
	beg.	beginning,begin
	BK	back
	BM	bench mark
	BP	balance point
	br.	bridge
	brg.	bearing
C	CBC	concrete box culvert
	c-c	center to center
	CCY	compacted cubic yards
	clr.	clear
	CMP	corrugated metal pipe
	Co.	county
	col.	column
	conc.	concrete
	constr.	construction
	constr. jt.	construction joint
	cont.	continuous
	corr.	corrugated
	cr.	creek
	CS	point of curve to spiral
	ctrs.	centers
	CTSM	contingent sum
	culv.	culvert
D	decr.	decrement
	DHV	design hour volume
	DI	drop inlet
	dia. or D	diameter
	diag.	diagonal
	diaph.	diaphragm
	dist.	distance
	Dist.	district
	DLC	donation land claim
	dwg(s).	drawing(s)
E	E	east
	e	superelevation rate
	El. 94.066	elevation with number
	elev.	elevation
	emb.	embankment
	engr(s).	Engineer(s)
	EOP	edge of pavement
	EQ or eq.	equation
	ER	edge of road
	ESAL	equivalent single axle load
	et al	and others
	et ux	and wife
	EW	edge of water
	exc.	excavation
	exp. jt.	expansion joint
	ext.	exterior
F	f.f.	fill face
	FDR	full depth reclamation
	Fed.	federal
	FES	flared end section
	fin.	finish
	ftg.	footing
G	ga.	gage (gauge)
	galv.	galvanized
	gdr.	girder
H	hdwl.	headwall
	HES	homestead entry survey
	hex.	hexagon
	horiz.	horizontal
	HW	high water
	hwy.	highway
I	ID	inside diameter
	incl.	inclusive,including
	incr.	increment
	int.	interior
J	jt.	joint
L	L	length of curve
	lam.	lamination
	lat.	latitude
	long.	longitudinal
	LPSM	lump sum
	Lt. or LT	left
	LW	low water
M	mag.	magnetic
	maint.	maintenance
	matl.	material
	max.	maximum
	min.	minimum
	mon.	monument
	mtn(s).	mountain(s)
N	N	north
	NC	normal crown
	neg.	negative
	no. or #	number
O	o.c.	on centers
	o.f.	other face
	OD	outside diameter
P	PC	point of curve
	PCC	point of compound curve
	perf.	perforate
	PI	point of intersection
	pl.	plate
	POC	point on curve
	POS	point on spiral
	POT	point on tangent
	proj.	project
	psi	pounds per square inch
	PT	point of tangent
	pvmt.	pavement
Q	quant., Qty	quantities
R	R	radius
	R.	range
	R/W	right-of-way
	rd.	road
	rdwy.	roadway
	reconst.	reconstruction
	reinf.	reinforcement
	reqd.	required
	res.	reservoir
	Res.	Reservation
	ret. wall	retaining wall
	RH	reference hub
	Rt. or RT	right
	rte.	route
S	S	south
	SADT	seasonal average daily traffic
	SC	point of spiral to curve
	sec.	section
	shldr.	shoulder
	spa.	spacing, Spaces or Spaced
	spec.	specification
	st.	street
	ST	point of spiral to tangent
	sta.	station
	std.	standard
	stiff.	stiffener
	str.	straight
	struc.	structural
	sym.	symmetrical
T	T	tangent length
	T.	township
	tan.	tangent
	TBM	temporary bench mark
	TCE	temporary construction easement
	transv.	transverse
	TS	point of tangent to spiral
	typ.	typical
V	V	design speed
	vert.	vertical
	vph	vehicles per hour
	VPI	vertical point of intersection
W	W	west

DRAINAGE SYMBOLS

Ditch (Existing, Proposed)

Flow Arrow

Drainage or Small Creek

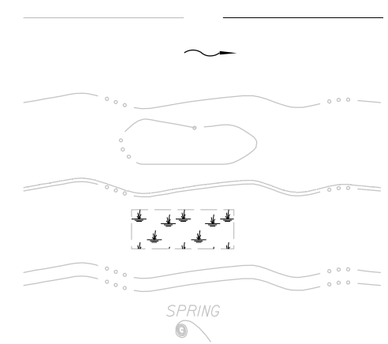
Lake, Pond or Reservoir

Large Creek

Wetland

River

Spring



Bridge (Existing, Proposed)

Box Culvert (Existing, Proposed)

Pipe Culvert (Existing, Proposed)

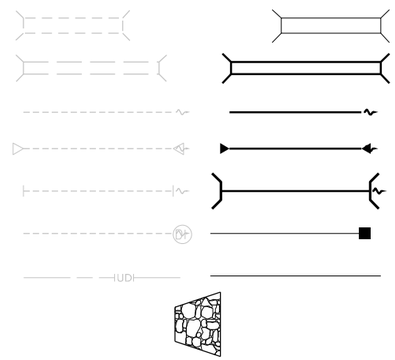
With End Sections (Existing, Proposed)

With Headwalls (Existing, Proposed)

With Drop Inlet (Existing, Proposed)

Underdrain (Existing, Proposed)

Riprap Apron (Proposed)



EROSION & SEDIMENT CONTROL SYMBOLS

Bonded Fiber Matrix Mulching

Check Dam

Diversion Berm

Rolled Erosion Control Product

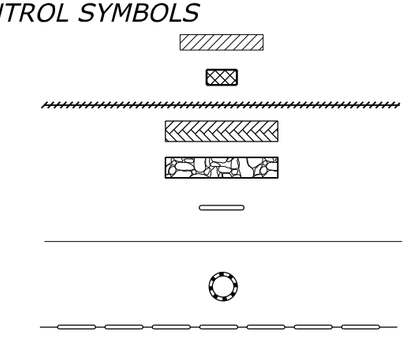
Riprap

Fiber Roll (Ditch and/or Cut Slope)

Silt Fence

Temporary Inlet Protection

Fiber Roll (Slope Protection)

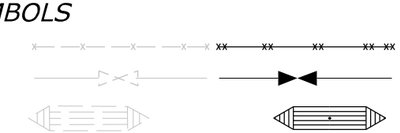


FENCE & CATTLEGUARD SYMBOLS

Fence (Existing, Proposed)

Fence w/ Gate (Existing, Proposed)

Cattleguard (Existing, Proposed)



GEOLOGIC SYMBOLS

Boring Location (Existing, Proposed)

Material Source

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FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

CONVENTIONAL PLAN
SYMBOLS AND ABBREVIATIONS
Sheet 1 of 2

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25 August 2020 6:42 AM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A3

LANDSCAPING & VEGETATION SYMBOLS

Tree

Treeline

MAPPING SYMBOLS

Building (Existing, Proposed)

Coordinate Grid Tick

North Arrow

Railroad
- Single Track
- Double Track

Spot Elevation 999.9

Trail

Survey Control Point

RIGHT-OF-WAY SYMBOLS

Boundaries
- National
- State
- County
- City
- Township or Range Line
- Section
- ¼ Section
- 1/16 Section
- Bureau of Indian Affairs
- Bureau of Land Management
- National Forest
- National Park
- National Wildlife Refuge

Easements
- Permanent (Existing)
- Permanent (Proposed)
- Temporary (Proposed)

Monument (As described)

Parcel Number 400

Property Line
Right-of-Way Line (Existing)
Right-of-Way Line (Proposed)

Section Corner (Found, Projected)

¼ Section Corner (Found, Projected)

1/16 Section Corner (Found)

GUARDRAIL, BARRIER & WALL SYMBOLS

Guardrail (Existing, Proposed)

Guardwall (Existing, Proposed)

Median & Side Barrier (Existing, Proposed)

Retaining Wall (Existing, Proposed)

ROADWAY SYMBOLS

Clearing/Construction Limits
Slope Stake Limits
- Top of Cut
- Transition
- Toe of Fill

Edge of Roadway
- Existing
- Proposed

Roadway Centerline (With Station ticks)

Roadway Obliteration

SIGN SYMBOLS

Signs
- Commercial (Existing, Proposed)
- Delineator (Existing, Proposed)
- Portable (Proposed)
- Post Mounted (Existing, Proposed)
- Object Marker (Proposed)

UTILITY SYMBOLS

Irrigation Ditch
- Underground (Existing, Proposed)
- Surface (Existing, Proposed)

Support Pole (Existing, Proposed)
Support Pole Anchor (Existing, Proposed)
Street Light (Existing, Proposed)

Telephone Booth (Existing, Proposed)

Telephone Pedestal (Existing, Proposed)

Underground Utility (Existing, Proposed)
- CATV
- Fiber Optic
- Gas
- Oil
- Power
- Sanitary Sewer
- Telephone
- Water

Overhead Utility Line (Existing, Proposed)
- CATV
- Fiber Optic
- Power
- Telephone

PROJECT SPECIFIC SYMBOLS

Subexcavation

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CONVENTIONAL PLAN SYMBOLS AND ABBREVIATIONS

Sheet 2 of 2

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25 August 2020 6:42 AM

Project : Trickel Park Road CO FTFS 121(1)

Review FP-14, Section 152.05

Date Of Field Work : 7-18-2022 thru 7-23-2022
Date Of Final Adjustment : 7-24-2022

Project Units : US Survey Foot
Datum: NAD83 (2011)
Zone: Colorado Central (0502)
Geoid: Geoid 18
OPUS Epoch Date : 2010
Vertical Datum : NAVD88

Gpk File Dated :
Gpk File Name : Alignment :

	STATE PLANE COORDINATES			GEO COORDINATES							
POINT NUMBER	NORTH	EAST	ELEVATION	LATITUDE	LONGITUDE	ELLIPSOID HEIGHT	MAPPING ANGLE	COMBINED FACTOR	STATION	OFFSET	DESCRIPTION
2000	1449681.55	2301882.16	10147.46	N39°02'31.63711"	W107°57'29.83306"	10096.84	-1°33'01"	0.99945385	201+49.58	31.10' RT	2.5IN AC CFLHD 2000
2001	1449547.17	2303113.79	10124.47	N39°02'30.63840"	W107°57'14.18175"	10073.87	-1°32'52"	0.99945495	215+10.28	29.99' RT	2.5IN AC CFLHD 2001
2002	1448662.23	2304391.19	10130.10	N39°02'22.23504"	W107°56'57.69400"	10079.51	-1°32'41"	0.99945473	231+68.87	210.40' RT	2.5IN AC CFLHD 2002
2003	1450564.77	2305144.42	10163.45	N39°02'41.23468"	W107°56'48.80001"	10112.90	-1°32'36"	0.99945304	251+53.79	31.44' LT	2.5IN AC CFLHD 2003

PROJECT AVERAGES = 0.99945414

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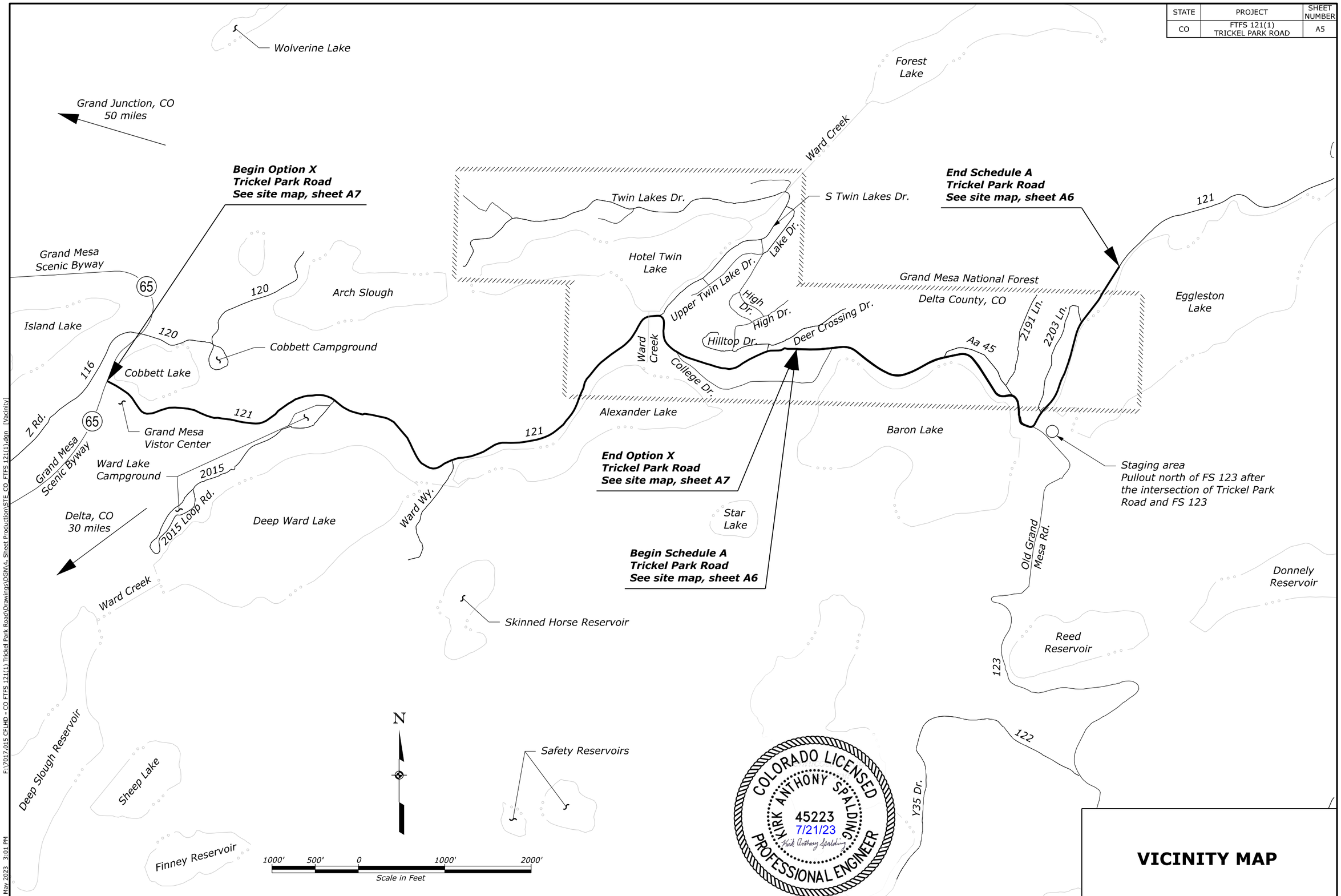
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

SURVEY CONTROL

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A5



VICINITY MAP

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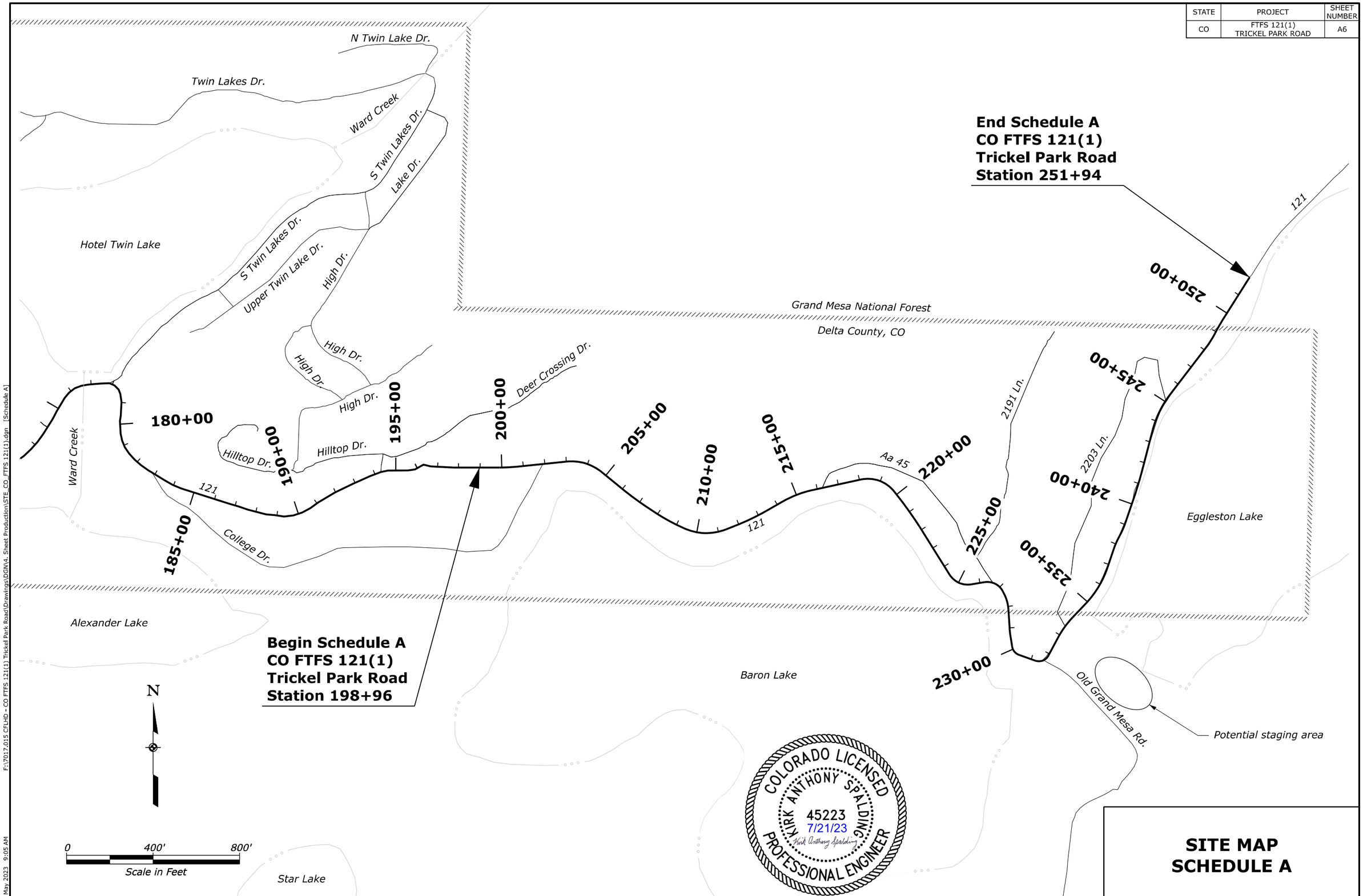
30 May 2023 3:01 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A6



SITE MAP
SCHEDULE A

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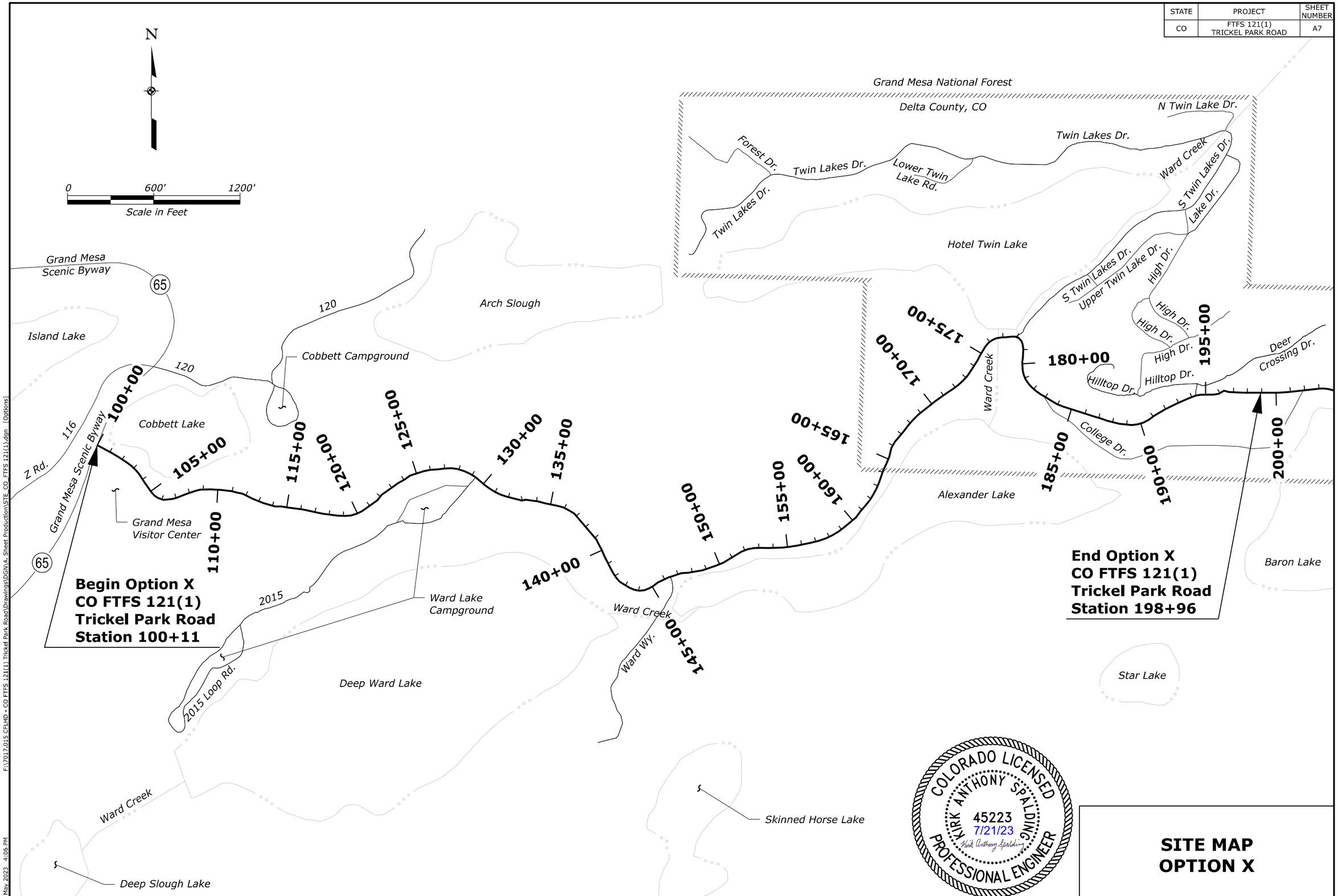
3 May 2023 9:05 AM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A7



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SITE MAP
OPTION X

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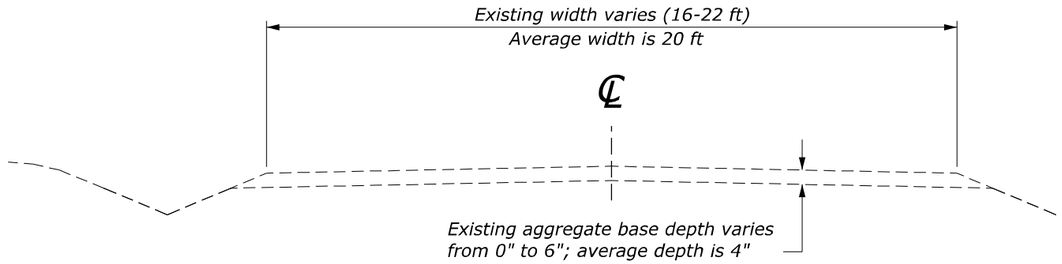
2 May 2023 4:06 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A8

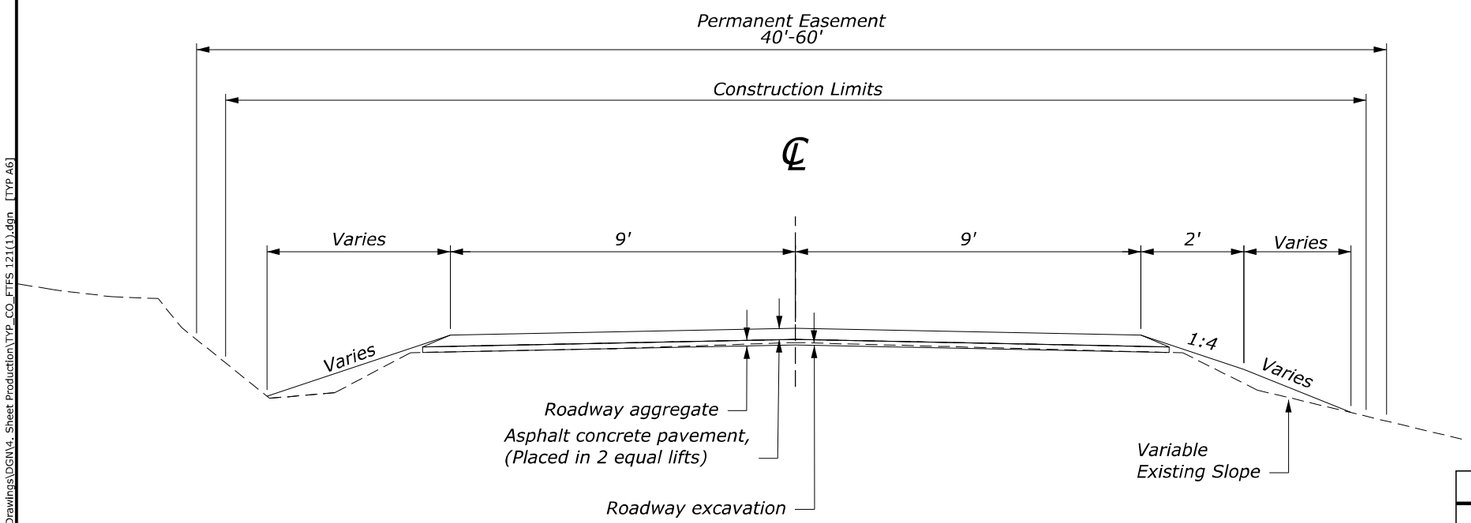


EXISTING TYPICAL SECTION

SCHEDULE A: STA 198+96 to 251+94

NOTES:

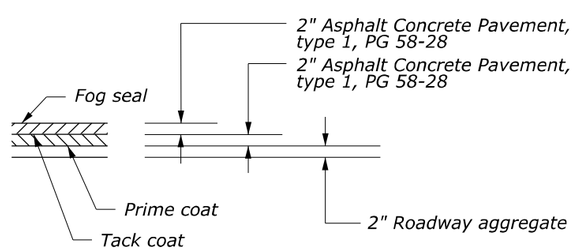
1. Existing superelevated and widened sections are not shown.
2. The gradient and width of roadway ditches and the excavation and embankment slope ratios may be adjusted by the CO to assure adequate drainage and stability.
3. See the cross sections for cut and fill slope ratios.
4. Shoulder up with roadway aggregate. Shape and compact according to Subsection 204.10 as necessary for drainage and appearance.
5. Construct a 1:3 foreslope Lt unless otherwise directed by the CO. Construct a 2-foot wide 1:4 foreslope Rt where possible, then 1:2.5 or otherwise shown in cross sections for the remaining foreslope Rt unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2 to avoid large sliver fills. Slopes between 1:1.5 and 1:2 will require embankment construction per detail on Sheet F1.
6. The centerline alignment may be adjusted as directed by the CO. Use the Taper Length equation $L = WS^2/60$. Where L = taper length in feet, W = width of offset in feet, and S = posted speed in mph.



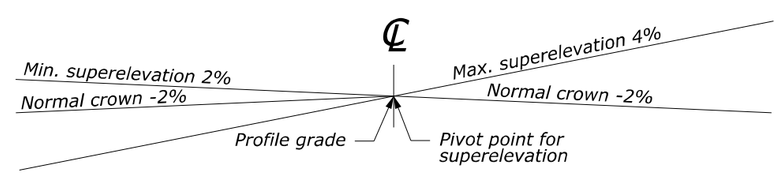
TYPICAL CLEAR ZONE AND RIGHT OF WAY

CURVE WIDENING SUMMARY						
Schedule	Side	Station to Station			Widening (ft.)	Radius (ft.)
A	Lt	224+34	to	225+67	5	100
A	Rt	224+82	to	228+59	5	85
A	Lt	229+68	to	230+51	4	50
A	Lt	230+96	to	232+01	6	50

LENGTH OF PROJECT					
Station to Station			Description	Schedule/ Option	Length (ft.)
198+96	to	251+94	Trickel Park Road	Schedule A	5,298
100+11	to	198+96	Trickel Park Road	Option X	9,885
TOTALS (feet)					15,183
TOTALS (miles)					2.876



PAVEMENT SECTION



METHOD OF SUPERELEVATION ON CURVES

See plans for locations of curves and superelevations
Minor shaping will be needed

NO SCALE

MAINLINE TYPICAL SECTION

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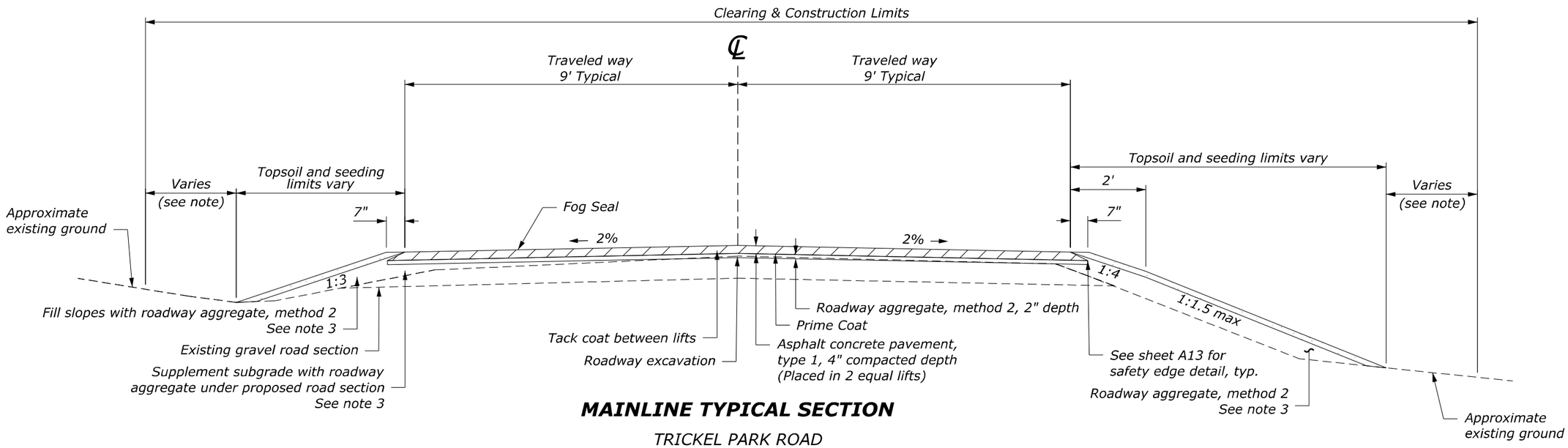
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A9



MAINLINE TYPICAL SECTION

TRICKEL PARK ROAD
STA 198+96 to STA 251+49

Notes:

1. See A8 for general construction notes.

2. The construction limits will not extend beyond the existing roadway easement limits except where depicted in the plans. No work will be allowed outside of the easement limits without prior approval from the USFS. Where possible, the construction limits will extend 3' beyond the fill slopes.

3. Reuse roadway excavation material within the project limits, provided it meets Section 204 in the FP-14.

NO SCALE

MAINLINE TYPICAL SECTION

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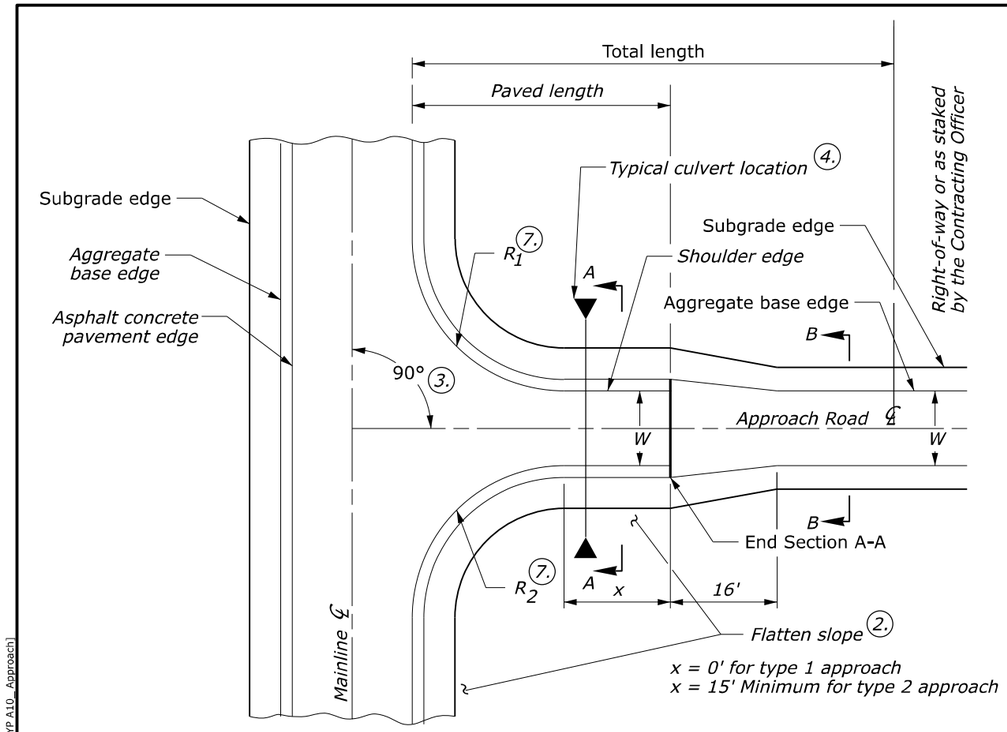
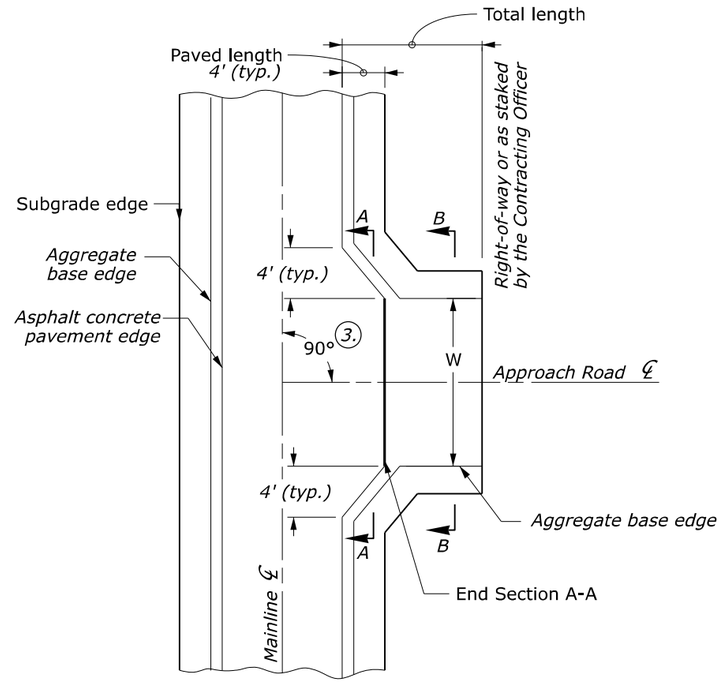
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A10



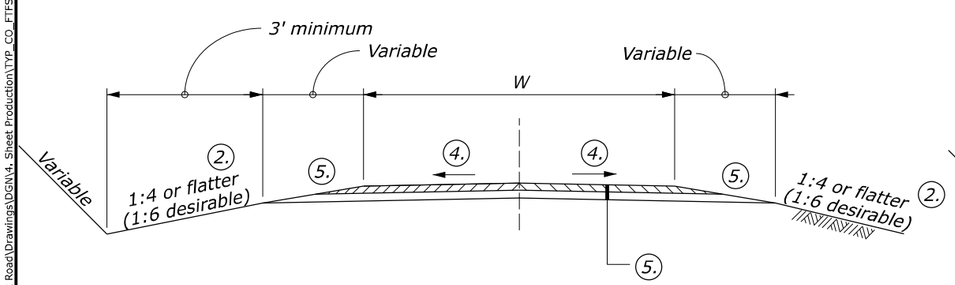
APPROACH ROAD TYPES 1 & 2 TYPICAL PLAN



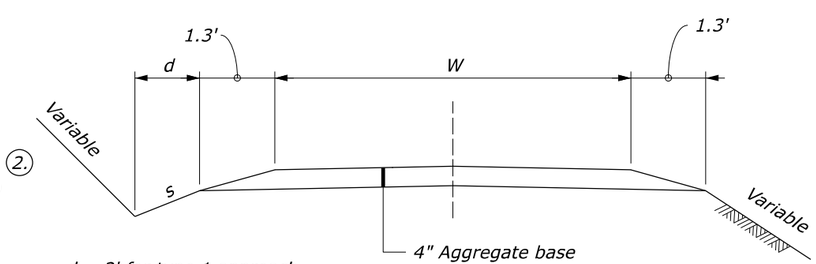
APPROACH ROAD TYPE 3 TYPICAL PLAN

NOTE:

1. Stations shown are approximate locations. Actual locations to be field verified.
2. Construct cut and fill slopes for approach roads to match with mainline roadway construction.
3. Under special conditions, the approach road angle shown may be varied ±20°.
4. Apply the normal crown to approach roads with widths greater than 15 feet.
5. Refer to mainline typical sections for structural section thicknesses and foreslopes.
6. Construct approach roads with landing areas having grades within ±4%. In snowy regions restrict this to a 0% to -4% grade. Under special conditions, use 4% maximum.
7. Vary radii to fit unusual field conditions. Do not reduce existing radii or widths. R_1 is on the left side of the approach road centerline.
8. See Sheet B5 for proposed approach road dimensions, types, and class.

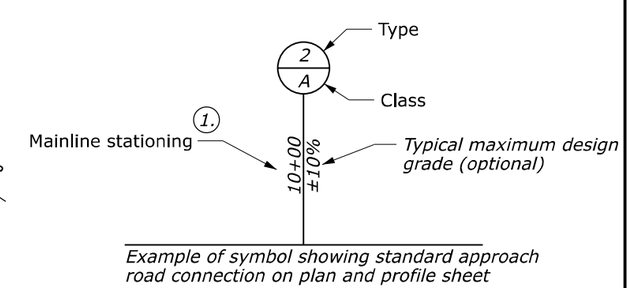


SECTION A-A



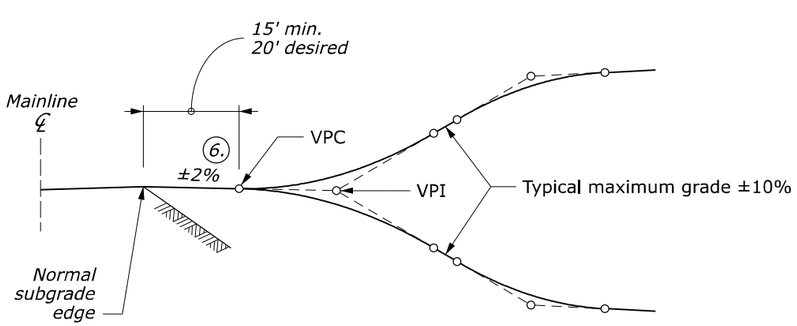
d = 2' for type 1 approach
d = 3' for type 2 approach
s = 1:3 for type 1 approach
s = 1:4 for type 2 approach

SECTION B-B



Example of symbol showing standard approach road connection on plan and profile sheet

TYPICAL SYMBOL



TYPICAL PROFILE

TYPE	CLASS	MIN. WIDTH W (ft)	MIN. RADIUS R (ft)	SAMPLE APPLICATION
3	A	*	N/A	Paved apron

* Match existing

NO SCALE

TYPICAL SECTIONS APPROACH ROADS

Sheet 1 of 2

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12 July 2023 5:16 PM

APPROACH ROAD SUMMARY

Schedule	Station	Side	Type	Paved Length (ft.)	Total Length (ft.)	W (ft.)	R1 (ft.)	R2 (ft.)	Remarks
A	201+72	Rt	2A	7	80	16	22	30	College Dr.
A	202+05	Lt	3A	4	11	35	n/a	n/a	Private
A	204+15	Lt	3A	4	10	20	n/a	n/a	Private
A	206+04	Lt	3A	4	7	24	n/a	n/a	Private
A	207+90	Lt	3A	4	13	14	n/a	n/a	Private
A	211+81	Lt	3A	4	10	41	n/a	n/a	Private
A	215+41	Rt	3A	4	35	15	n/a	n/a	Boat launch
A	216+33	Lt	3A	4	9	21	n/a	n/a	Aa 45
A	216+40	Rt	3A	4	36	15	n/a	n/a	Boat launch
A	226+30	Lt	3A	4	9	45	n/a	n/a	2191 Ln
A	226+95	Lt	3A	4	12	10	n/a	n/a	Private
A	227+70	Lt	3A	4	12	11	n/a	n/a	Private
A	230+61	Lt	3A	4	19	8	n/a	n/a	Private
A	231+63	Rt	2A	145	145	18	30	30	Old Grand Mesa Road
A	233+51	Lt	3A	4	17	24	n/a	n/a	2203 Ln
A	238+78	Lt	3A	4	4	30	n/a	n/a	Private
A	240+01	Lt	3A	4	17	20	n/a	n/a	Private
A	245+18	Lt	3A	4	25	21	n/a	n/a	2203 Ln
A	248+82	Lt	3A	4	8	15	n/a	n/a	Private

TYPICAL SECTIONS
APPROACH ROADS
Sheet 2 of 2

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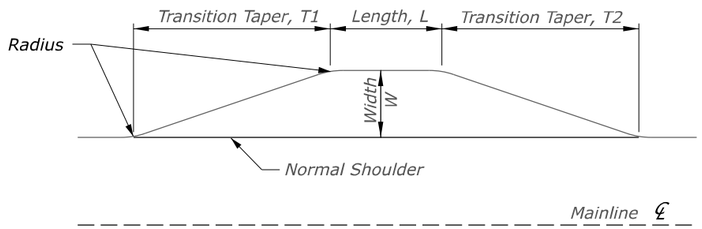
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A12

PULLOUT SUMMARY

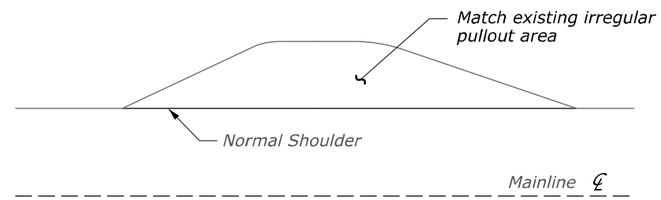
Schedule or Option	Station to Station			Side	Existing Type	Proposed Type	L (ft.)	T1 (ft.)	T2 (ft.)	W (ft.)	Area (sqyd)	Remarks
A	224+42	to	226+00	Rt	Gravel	Paved	N/A	N/A	N/A	N/A	92	Match existing irregular pullout area
A	229+56	to	230+76	Rt	Gravel	Paved	N/A	N/A	N/A	N/A	120	Match existing irregular pullout area
A	230+94	to	231+69	Rt	Gravel	Paved apron	N/A	N/A	N/A	N/A	223	Match existing irregular pullout area
A	247+33	to	249+45	Rt	Gravel	Paved apron	N/A	N/A	N/A	N/A	125	Match existing irregular pullout area
A	250+40	to	251+84	Rt	Gravel	Paved apron	N/A	N/A	N/A	N/A	193	Match existing irregular pullout area

Notes:

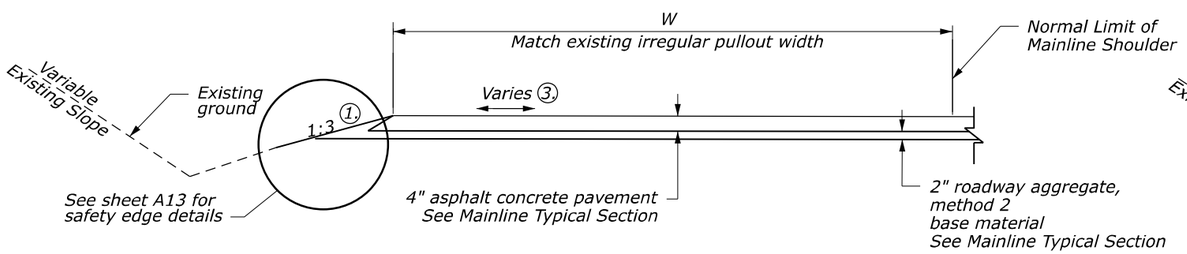
1. *Construct a 1:3 foreslope Lt, and 1:4 for 2' then 1:2.5 foreslope Rt unless otherwise directed by the CO. Steepen the foreslopes as necessary, but not steeper than 1:2, to stay on the existing bench.*
2. *Place asphalt concrete pavement in two lifts. Apply tack coat to the first lift prior to placing the second lift.*
3. *See the mainline cross sections for cross slope.*
4. *Pullout surfacing and earthwork quantities are included in mainline quantities.*



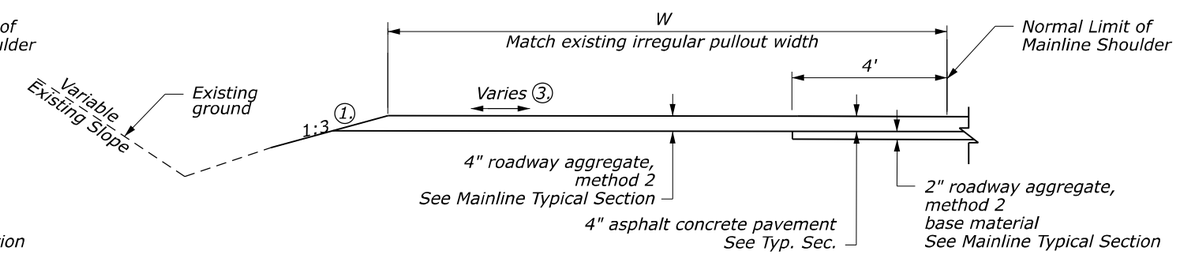
TYPICAL PARALLEL PULLOUT PLAN



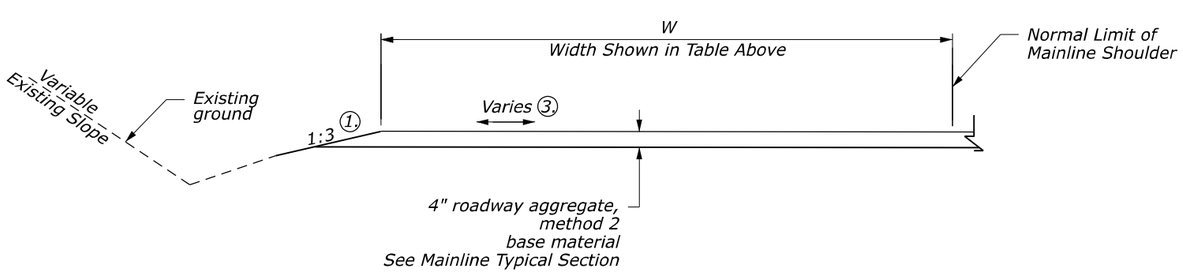
MATCH EXISTING PULLOUT PLAN



PAVED PULLOUT TYPICAL SECTION



PAVED APRON PULLOUT TYPICAL SECTION



UNPAVED PULLOUT TYPICAL SECTION

NO SCALE

TYPICAL SECTIONS PULLOUTS

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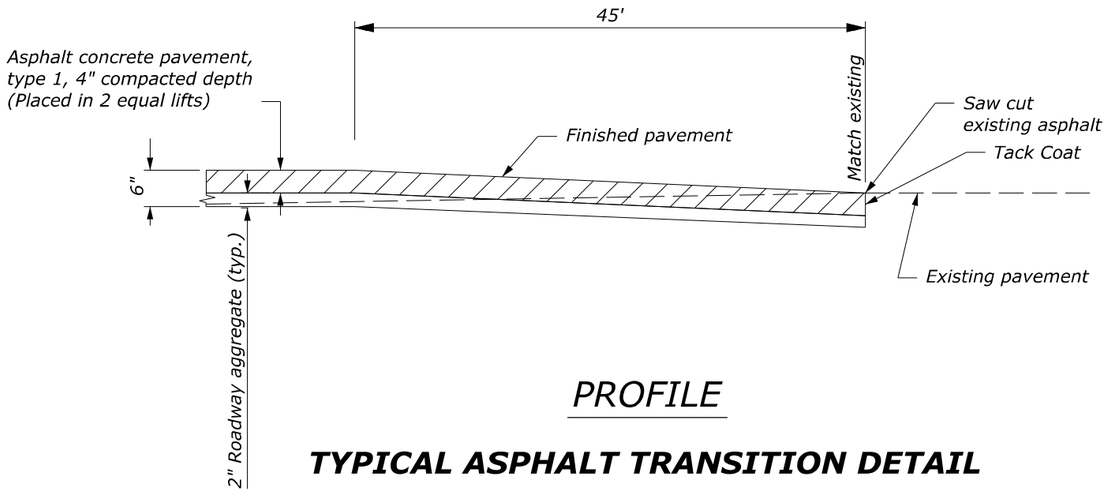
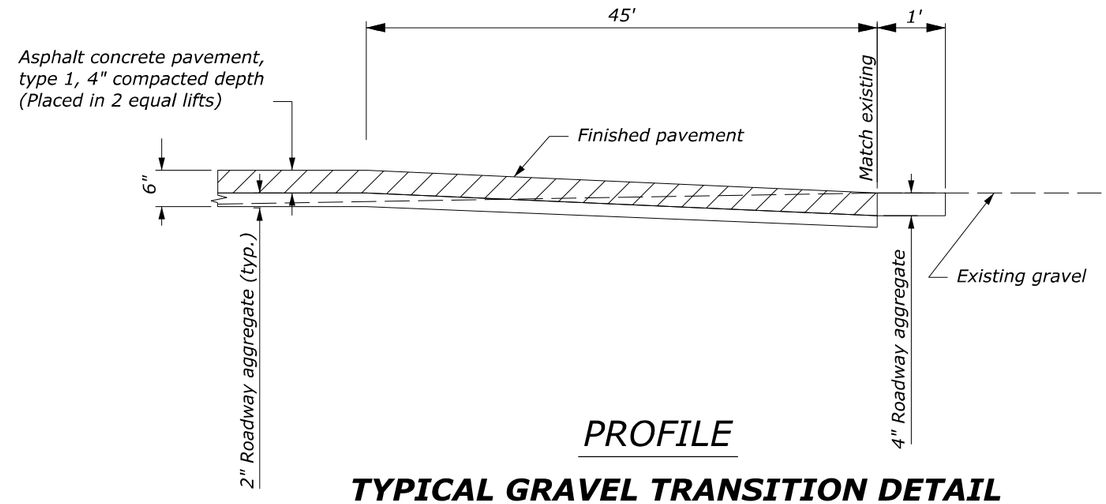
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	A13



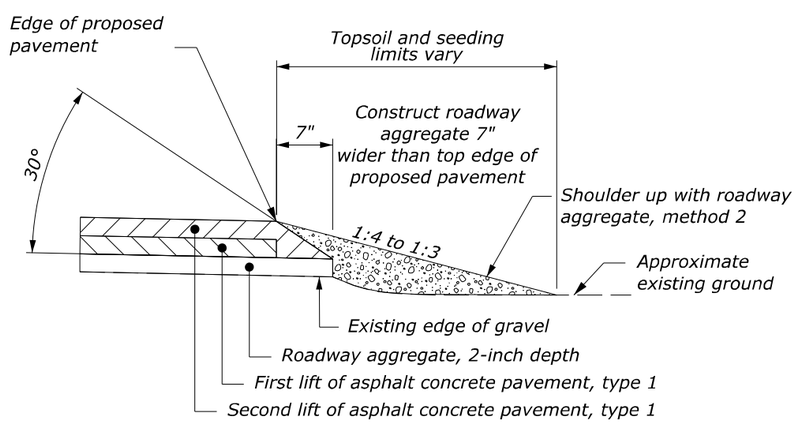
PROFILE

TYPICAL ASPHALT TRANSITION DETAIL



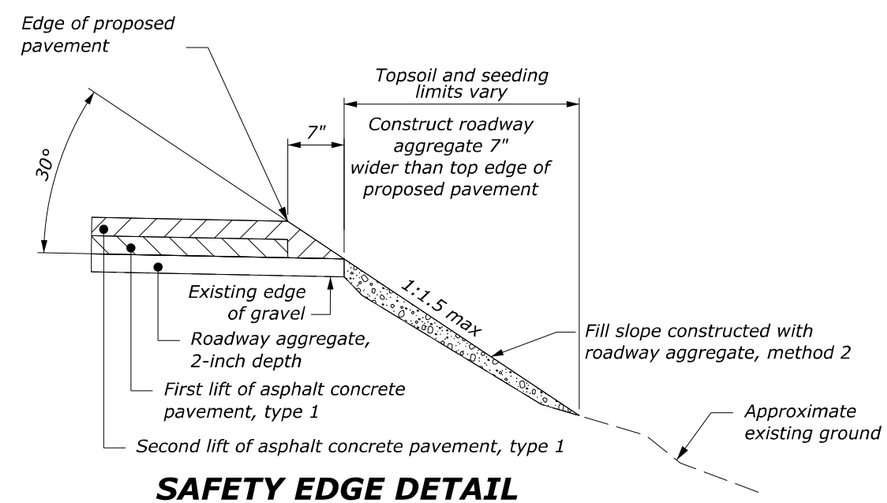
PROFILE

TYPICAL GRAVEL TRANSITION DETAIL



SAFETY EDGE DETAIL

Where 1:4 to 1:3 fill slopes are possible



SAFETY EDGE DETAIL

Where fill slopes are greater than 1:3

NO SCALE

CONNECTION DETAILS

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SUMMARY OF QUANTITIES - Schedule A

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	B1

AMEND	Line Item No.	Pay Item Number	Pay Item Description	Unit	Sheet and Description: B4 Schedule A Surfacing Summary	B5 Schedule A Approach Roads & Pullouts Summary	B6 Schedule A Grading Summary	B7-B9 Schedule A Miscellaneous Quantities	B10-B12 Schedule A Signing and Striping Summaries	B13 Schedule A Temporary Traffic Control Summary	Allowances	Estimated Quantities: Bid Schedule	Remarks and/or Determination of Estimated Quantity
	A0020	15101-0000	MOBILIZATION	LPSM								ALL	
	A0040	15215-3000	SURVEY AND STAKING, DRAINAGE STRUCTURE	EACH				17				17	
	A0060	15225-0000	SLOPE, REFERENCE, AND CLEARING AND GRUBBING CONTROL	MILE				1.003				1.003	
	A0080	15236-2000	SURVEY CONTROL, GRADE FINISHING	MILE				1.003				1.003	
	A0100	15301-0000	CONTRACTOR QUALITY CONTROL	LPSM								ALL	
	A0120	15401-0000	CONTRACTOR TESTING	LPSM								ALL	
	A0140	15501-0000	CONSTRUCTION SCHEDULE	LPSM								ALL	
	A0160	15701-0000	SOIL EROSION CONTROL	LPSM								ALL	
	A0180	15720-0000	STORM WATER POLLUTION PREVENTION PLAN	LPSM								ALL	
	A0200	15802-0000	WATERING FOR DUST CONTROL	LPSM								ALL	
	A0220	20102-0000	CLEARING AND GRUBBING	LPSM								ALL	
	A0240	20120-1000	REMOVAL, INDIVIDUAL TREE	EACH				2				2	
	A0260	20301-0700	REMOVAL OF DELINEATOR	EACH				13			2	15	
	A0280	20301-1900	REMOVAL OF PIPE CULVERT	EACH				15				15	
	A0300	20301-2400	REMOVAL OF SIGN	EACH				2				2	
	A0320	20401-0000	ROADWAY EXCAVATION	CUYD			437				13	450	
	A0340	20402-0000	SUBEXCAVATION	CUYD				37			63	100	
	A0360	20815-0000	COFFERDAMS	LPSM				All				ALL	
	A0380	20820-0000	DEWATERING	LPSM				All				ALL	
	A0400	25101-0200	PLACED RIPRAP, METHOD A, CLASS 2	CUYD				18			2	20	
	A0420	30202-2000	ROADWAY AGGREGATE, METHOD 2	TON	1,342	589	253				116	2,300	
	A0440	40301-0000	ASPHALT CONCRETE PAVEMENT (PG 58-28)	TON	2,469	176					105	2,750	
	A0460	40601-0000	FOG SEAL	TON	7.2	0.9					0.4	8.5	
	A0480	41101-1000	PRIME COAT, METHOD 1	TON	10.0	1.1					0.4	11.5	
	A0500	41105-0000	BLOTTER	TON								5	
	A0520	41201-0000	TACK COAT	TON	5.1	0.5					0.4	6.0	
	A0540	60103-0100	CONCRETE, HEADWALL FOR 18-INCH PIPE CULVERT	EACH				1				1	
	A0560	60103-0140	CONCRETE, HEADWALL FOR 24-INCH PIPE CULVERT	EACH				6				6	
	A0580	60201-0400	12-INCH PIPE CULVERT	LNFT				176			59	235	
	A0600	60201-0600	18-INCH PIPE CULVERT	LNFT				122			8	130	
	A0620	60201-0800	24-INCH PIPE CULVERT	LNFT				215			10	225	
	A0640	60210-0400	END SECTION FOR 12-INCH PIPE CULVERT	EACH				12				12	
	A0660	60210-0600	END SECTION FOR 18-INCH PIPE CULVERT	EACH				6				6	
	A0680	60210-0800	END SECTION FOR 24-INCH PIPE CULVERT	EACH				7				7	
	A0700	61401-0000	LEAN CONCRETE BACKFILL	CUYD				66			4	70	

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SUMMARY OF QUANTITIES - Schedule A

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	B2

AMEND	Line Item No.	Pay Item Number	Pay Item Description	Unit	Sheet and Description							Estimated Quantities
					B4	B5	B6	B7-B9	B10-B12	B13		
					Schedule A Surfacing Summary	Schedule A Approach Roads & Pullouts Summary	Schedule A Grading Summary	Schedule A Micellaneous Quantities	Schedule A Signing and Striping Summaries	Schedule A Temporary Traffic Control Summary	Allowances	Bid Schedule
	A0900	62406-0100	PLACING CONSERVED TOPSOIL, 2-INCH DEPTH	ACRE				0.91			0.09	1.00
	A0920	62510-2000	SEEDING, HYDRAULIC METHOD	ACRE				0.91			0.09	1.00
	A0940	62515-3000	MULCHING, HYDRAULIC METHOD, BONDED FIBER MATRIX	ACRE				0.91			0.09	1.00
	A0960	62520-0000	FERTILIZER	ACRE				0.91			0.09	1.00
	A0980	63301-0000	SIGN SYSTEM	EACH					14			14
	A1000	63308-2000	OBJECT MARKER, TYPE 2	EACH					38			38
	A1040	63402-0300	PAVEMENT MARKINGS, TYPE B, SOLID	MILE					4.014		0.486	4.500
	A1060	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM						All		ALL
	A1100	64620-0400	REMOVE AND RESET MAILBOX	EACH				3				3

SUMMARY OF QUANTITIES - Option X

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	B3

AMEND	Line Item No.	Pay Item Number	Pay Item Description	Unit	B14 Option X Miscellaneous Quantities	B15-B17 Option X Signing and Striping Summaries	Allowances	Estimated Quantities Bid Schedule	Remarks and/or Determination of Estimated Quantity
	X0020	15101-0000	MOBILIZATION	LPSM				ALL	
	X0040	20301-2400	REMOVAL OF SIGN	EACH	5			5	
	X0060	63301-0000	SIGN SYSTEM	EACH		26		26	
	X0080	63308-2000	OBJECT MARKER, TYPE 2	EACH		6		6	
	X0100	63308-3000	OBJECT MARKER, TYPE 3	EACH		1		1	
	X0120	63402-0300	PAVEMENT MARKINGS, TYPE B, SOLID	MILE		8.334	0.666	9.000	

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SURFACING SUMMARY

Station or Area			30202-2000 ROADWAY AGGREGATE, METHOD 2	40301-0000 ASPHALT CONCRETE PAVEMENT (PG 58-28)	40601-0000 FOG SEAL	41101-1000 PRIME COAT, METHOD 1	41201-0000 TACK COAT	Remarks
			TON	TON	TON	TON	TON	
198+96	to	251+94	1301	2384	6.7	9.5	4.7	Mainline section, aggregate includes fill volumes
224+34	to	225+67	8	16	0.1	0.1	0.1	Supplemental surfacing for curve widening
224+82	to	228+59	22	46	0.2	0.2	0.1	Supplemental surfacing for curve widening
229+68	to	230+51	4	8	0.1	0.1	0.1	Supplemental surfacing for curve widening
230+96	to	232+01	7	15	0.1	0.1	0.1	Supplemental surfacing for curve widening
Mainline Subtotal			1342	2469	7.2	10.0	5.1	
Approaches/Pullouts			589	176	0.9	1.1	0.5	
Supplemental Fill			253					Supplemental aggregate needed for fills, see grading summary
Schedule A Total			**2184**	**2645**	**8.1**	**11.1**	**5.6**	**Trickel Park Road**

Prime Coat ..... 0.2 gal/yd2 (240 gal/ton)
Tack Coat ..... 0.1 gal/yd2 (240 gal/ton)
Fog seal ..... 0.15 gal/yd2 (240 gal/ton)
Antistrip ..... 1% of weight of mix

Asphalt concrete pavement ..... 145 lb/cuft
Aggregate base ..... 139 lb/cuft

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SCHEDULE A SURFACING SUMMARIES
Sheet 1 of 2

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STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	B5

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APPROACH AND PULLOUT SUMMARY

Station or Area	SIDE	TYPE	CLASS	Paved length	Total length	Width	Paved area	Aggregate Area	Shoulder Perimeter	ROADWAY AGGREGATE, METHOD 2	ASPHALT CONCRETE PAVEMENT (PG 58-28)	FOG SEAL	PRIME COAT, METHOD 1	TACK COAT	Remarks
									Item Number	30202-2000	40301-0000	40601-0000	41101-1000	41201-0000	
				FT	FT	FT	SY	SY	FT	TON	TON	TON	TON	TON	
201+72	Rt	3	A	7	80	16	36	400	183	91	8	0.25	0.33	0.17	College Dr.
202+05	Lt	3	A	4	11	35	16	26	9	7	4	0.02	0.02	0.01	Private
204+15	Lt	3	A	4	10	20	9	12	9	4	2	0.01	0.01	0.00	Private
206+04	Lt	3	A	4	7	24	13	9	9	3	3	0.01	0.01	0.00	Private
207+90	Lt	3	A	4	13	14	11	10	9	3	2	0.01	0.01	0.00	Private
211+81	Lt	3	A	4	10	41	25	28	9	9	5	0.02	0.02	0.01	Private
215+41	Rt	3	A	4	35	15	11	50	9	37	2	0.03	0.04	0.02	Boat launch approach
216+33	Lt	3	A	4	9	21	11	11	9	4	2	0.01	0.01	0.00	Aa 45
216+40	Rt	3	A	4	36	15	16	65	9	57	3	0.04	0.05	0.03	Boat launch approach
224+42 to 226+00	Rt	Pullout		8	8	55	92	0	0	29	20	0.00	0.00	0.00	Baron Lake pullout
226+30	Lt	3	A	4	9	45	28	31	10	10	6	0.02	0.03	0.01	2191 Ln
226+95	Lt	3	A	4	12	10	7	10	8	3	2	0.01	0.01	0.00	Private
227+70	Lt	3	A	4	12	11	7	8	9	3	2	0.01	0.01	0.00	Private
229+56 to 230+76	Rt	Pullout		16	16	33	120	0	0	46	26	0.00	0.00	0.00	Pullout
230+61	Lt	3	A	4	19	8	7	17	9	4	2	0.01	0.01	0.01	Private
230+94 to 231+69	Rt	Pullout		4	23	40	42	181	0	42	9	0.11	0.15	0.08	Pullout at FS 123
231+63	Rt	3	A	145	145	18	321	0	290	39	70	0.00	0.00	0.00	Old Grand Mesa Road
233+51	Lt	3	A	4	17	24	23	45	9	12	5	0.03	0.04	0.02	2203 Ln
238+78	Lt	3	A	4	4	30	14	0	9	2	3	0.00	0.00	0.00	Private
240+01	Lt	3	A	4	17	20	12	17	9	5	3	0.01	0.01	0.01	Private
245+18	Lt	3	A	4	25	21	20	47	12	12	4	0.03	0.04	0.02	2203 Ln
247+33 to 249+45	Rt	Pullout		4	7	80	81	44	9	18	18	0.03	0.04	0.02	Private pullout
248+82	Lt	3	A	4	8	15	7	6	8	2	2	0.00	0.01	0.00	Private
250+40 to 251+84	Rt	Pullout		4	22	19	59	134	10	46	13	0.08	0.11	0.06	Gate pullout
Schedule A Total										**487**	**215**	**0.74**	**0.96**	**0.47**	**Typical pullouts and approaches**

Prime Coat ..... 0.2 gal/yd2 (240 gal/ton)
Tack Coat ..... 0.1 gal/yd2 (240 gal/ton)
Fog seal ..... 0.15 gal/yd2 (240 gal/ton)
Antistrip ..... 1% of weight of mix
Asphalt concrete pavement ..... 145 lbs/cuft
Aggregate base ..... 139 lbs/cuft

NOTE:
These totals are added to the schedule A totals in B4

SCHEDULE A SURFACING SUMMARIES
Sheet 2 of 2

F:\7017.015 CFLHD - CO FTFS 121(1) Trickel Park Road\Drawings\DGN\4. Sheet Production\SUM_CO_FTFS 121(1).dgn [Approaches]
11 July 2023 3:24 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	B6

GRADING SUMMARY

	Roadway Excavation		Pay Item 20401-0000	Additional Excavation For info only		For info only		Embankment For info only		For info only	For info only		30202-2000
Station or Area	Volume	Approach Roads	Roadway Excavation	(+) Available Material (see note 3)	(-) Unavailable Material (see note 4)	Shrink/Swell Factor	Total Excavation Available for Fills	Volume	Approach Roacs	(+) Various Additional Backfill Material Needed Onsite (see note 5)	Total Embankment	Excavation-Embankment	ROADWAY AGGREGATE, METHOD 2 (see note 6)
	BCY	BCY	CUYD	BCY	BCY		CCY	CCY	CCY	CCY	CCY	CCY	TONS
198+96 to 251+94	427	10	437	102	4	0.95	508	550	93	0	643	135	253
Schedule A Total			**437**										**253**

NOTE:

1. *Quantities are based on component volumes taken off the model.*
2. *Conserve 2 inches of topsoil in fill slope areas.*
3. *Available material includes all material excavated from culvert installation.*
4. *Unavailable material includes material excavated outside the existing roadbed.*
5. *No various additional backfill material is needed onsite.*
6. *Supplemental aggregate required for embankment and approach subgrade. Tons were calculated using the equation (Total Embankment - Total Excavation Available for Fills) CCY X 139 lbs/cuft / 2000 lbs/ton.*
7. *The quantities shown herein are approximations. Payment will be made for the actual quantities of work performed.*
8. *BCY = Bank cubic yard - one cubic yard of material as it lies in the natural state.*
   CCY = Compacted cubic yard - one cubic yard of material after it has been compacted to specification density.

SCHEDULE A GRADING SUMMARY

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STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	B7

REMOVAL SUMMARY

Station or Area	Side	For info only	20120-1000	20301-0700	20301-1900	20301-2400	Remarks
Item Number		For info only	20120-1000	20301-0700	20301-1900	20301-2400	
		Removal of sign, by others	REMOVAL, INDIVIDUAL TREE	REMOVAL OF DELINEATOR	REMOVAL OF PIPE CULVERT	REMOVAL OF SIGN	
		EACH	EACH	EACH	EACH	EACH	
199+51	Rt		1				
201+44	Rt			1			
201+46	Rt			1			
202+05	Lt				1		Remove culvert under Lt approach
202+09	Rt	1					
203+21	N/A				1		Remove crossing culvert
204+27	Lt			1			
206+04	Lt				1		Remove culvert under Lt approach
208+47	N/A				1		Remove crossing culvert
211+57	Lt	1		1			
213+55	Rt	1					
215+37	N/A				1		Remove crossing culvert
215+56	Both			2			
216+33	Lt				1		Remove culvert under Lt approach
216+56	Lt	1		1			
220+88	N/A				1		Remove crossing culvert
221+01	Lt	1		1			
226+69	N/A				1		Remove crossing culvert
227+68	Lt				1		Remove culvert under Lt approach
230+72	Rt		1				
230+97	Lt			1			
231+42	Lt					1	Removal of existing stop sign
232+55	Rt			1			
232+75	Rt					1	Removal of existing commercial use sign
232+90	Rt			1			
235+35	Rt	1					
236+03	N/A				1		Remove crossing culvert
236+50	Rt			1			
240+03	Lt				1		Remove culvert under Lt approach
244+01	N/A				1		Remove crossing culvert
245+18	Lt				1		Remove culvert under Lt approach
245+45	Lt	1					
248+82	Lt				1		Remove culvert under Lt approach
249+41	N/A				1		Remove crossing culvert
251+85	Rt			1			
Schedule A Total		**7**	**2**	**13**	**15**	**2**	

SCHEDULE A
MISCELLANEOUS
SUMMARIES
Sheet 1 of 3

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12 July 2023 12:24 PM

SURVEY AND STAKING SUMMARY

Station or Area	15215-3000 SURVEY AND STAKING, DRAINAGE STRUCTURE	15225-0000 SLOPE, REFERENCE, AND CLEARING AND GRUBBING CONTROL	15236-2000 SURVEY CONTROL, GRADE FINISHING	Remarks
	EACH	MILE	MILE	
198+96 to 251+94	17	1.003	1.003	
Schedule A Total	**17**	**1.003**	**1.003**	

SUBEXCAVATION SUMMARY

Station or Area			Width	Depth	SUBEXCAVATION (Item Number 20402-0000)	Remarks
			Ft	Ft	CUYD	
230+90	to	231+40	20	1	37	
Schedule A Total					**37**	

DELINEATOR SUMMARY

Station or Area			Side	DELINEATOR, TYPE 1 (Item Number 63309-0100)	Remarks
				EACH	
198+96	to	203+00	Both	6	Tangent before curves
203+00	to	204+88	Both	10	240' radius curve
204+88	to	209+44	Both	2	Tangent between curves
209+44	to	211+20	Both	10	220' radius curve
211+20	to	214+50	Both	2	Tangent between curves
214+50	to	215+60	Both	4	350' radius curve
215+60	to	218+10	Both	2	Tangent between curves
218+10	to	219+80	Both	14	150' radius curve
219+80	to	224+40	Both	6	Tangent between curves
224+40	to	225+60	Both	10	100' radius curve
225+60	to	226+15	Both	0	Short tangent between curves
226+15	to	228+15	Both	14	Back to back curves, 90' radius and 200' radius
228+15	to	229+80	Both	4	Tangent between curves
229+80	to	230+40	Both	6	50' radius curve
230+40	to	230+15	Both	0	Short tangent between curves
230+15	to	231+85	Both	4	50' radius curve
231+85	to	234+85	Both	10	450' radius curve
234+85	to	236+75	Both	6	450' radius curve
236+75	to	237+70	Both	2	Tangent between curves
237+70	to	239+00	Both	6	Back to back curves, 350' radius
239+00	to	243+50	Both	8	Tangent between curves
243+50	to	245+10	Both	6	400' radius curve
245+10	to	248+10	Both	6	Tangent between curves
248+10	to	249+60	Both	4	500' radius curve
249+60	to	251+94	Both	4	Tangent after curves
Schedule A Total				**146**	

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SCHEDULE A MISCELLANEOUS SUMMARIES
Sheet 2 of 3

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12 July 2023 2:26 PM

DRAINAGE SUMMARY

Item Number	For Info Only	20815-0000	20820-0000	25101-0200	60103-0100	60103-0140	60201-0400	60201-0600	60201-0800	60210-0400	60210-0600	60210-0800	61401-0000	Remarks
Station or Area	SEPARATION-STABILIZATION GEOTEXTILE, CLASS 1, TYPE C	COFFERDAMS	DEWATERING	PLACED RIPRAP, METHOD A, CLASS 2	CONCRETE, HEADWALL FOR 18-INCH PIPE CULVERT	CONCRETE, HEADWALL FOR 24-INCH PIPE CULVERT	12-INCH PIPE CULVERT	18-INCH PIPE CULVERT	24-INCH PIPE CULVERT	END SECTION FOR 12-INCH PIPE CULVERT	END SECTION FOR 18-INCH PIPE CULVERT	END SECTION FOR 24-INCH PIPE CULVERT	LEAN CONCRETE BACKFILL	
	SQYD	LPSM	LPSM	CUYD	EACH	EACH	LNFT	LNFT	LNFT	EACH	EACH	EACH	CUYD	
202+05							40			2			2	Approach culvert
203+21						1			40			1	7	Crossing culvert
206+04							44			2			3	Approach culvert
208+47	14			4		1			26			1	4	Crossing culvert
215+37	14			4					32			2	6	Crossing culvert
216+33							24			2			2	Approach culvert
220+88						1			30			1	5	Crossing culvert
225+36											1		5	Existing is 18" CMP, crossing culvert
226+70		X	X			1			34			1	6	Crossing culvert
227+68							20			2			2	Approach culvert
233+51								50			2		4	New approach culvert
236+05	17			5	1			24			1		4	Crossing culvert
240+03							30			2			2	Approach culvert
244+03				1		1			25				4	Crossing culvert
245+18								48			2		4	Approach culvert
248+82							18			2			2	Approach culvert
249+43	14			4		1			28			1	4	Crossing culvert
Schedule A Total	**59**	**ALL**	**ALL**	**18**	**1**	**6**	**176**	**122**	**215**	**12**	**6**	**7**	**66**	

REVEGETATION SUMMARY

Station or Area			Item Number 62406-0100	62510-2000	62515-3000	62520-0000	Remarks
			PLACING CONSERVED TOPSOIL, 2-INCH DEPTH	SEEDING, HYDRAULIC METHOD	MULCHING, HYDRAULIC METHOD, BONDED FIBER MATRIX	FERTILIZER	
			ACRE	ACRE	ACRE	ACRE	
198+96	to	251+94	0.91	0.91	0.91	0.91	
Schedule A Total			**0.91**	**0.91**	**0.91**	**0.91**	**Trickel Park Road**

MAILBOX SUMMARY

Area	Item Number: 64620-0400 REMOVE AND RESET MAILBOX EACH	Remarks
231+37	3	
Schedule A Total	**3**	

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Sheet 3 of 3

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12 July 2023 11:07 AM

SIGN SUMMARY

Station or Area	Side	Post Type	MUTCD ID	LEGEND	SIGN SIZE (IN x IN)	SQFT	QTY (EACH)	For info only Remove and reset sign, by others EACH	63301-0000 SIGN SYSTEM EACH	63308-2000 OBJECT MARKER, TYPE 2 EACH	63308-3000 OBJECT MARKER, TYPE 3 EACH	REMARKS
202+05	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
204+27	Lt	Wood	-	Private Drive	12 X 18	1.5	1	1				Snowpole attached to sign
205+60	Both		D10-1a	Mile 2.0	10 X 27	1.9	2		2			
206+04	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
208+46	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
215+37	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
216+33	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
216+56	Lt		-	Private Drive	12 X 18	1.5	1	1				Snow pole attached to sign
217+10	Rt		W1-2a	Curve, advisory speed 20 MPH	36 X 36	9.0	1		1			
218+90	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
220+87	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
221+01	Lt		W1-2a	Curve, advisory speed 20 MPH	36 X 36	9.0	1		1			
222+80	Lt		R2-1	Speed limit 25 MPH	24 X 30	5.0	1		1			Existing is small black and white 10 MPH; snowpole attached
223+00	Rt		W1-3	Reverse turn	36 X 36	9.0	1		1			
			W13-1P	Advisory speed 20 MPH	18 x 18	2.3	1					
225+36	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
226+68	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
226+94	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
227+70	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
227+89	Lt		-	Private Drive	12 X 18	1.5	1	1				Private sign all alone
228+80	Rt		W1-1a	Sharp curve, 15 MPH	36 X 36	9.0	1		1			
228+80	Lt		W1-3	Reverse turn sign	36 X 36	9.0	1		1			
			W13-1P	Advisory speed 20 MPH	18 x 18	2.3	1					
230+97	Lt		M1-7	National Forest Route 121	18 X 18	2.3	1	1				Snow pole attached to sign
							Schedule A Page 1 Total	**4**	**8**	**22**	**0**	

SCHEDULE A SIGNING SUMMARIES
Sheet 1 of 2

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12 July 2023 2:38 PM

SIGN SUMMARY

Station or Area	Side	Post Type	MUTCD ID	LEGEND	SIGN SIZE (IN x IN)	SQFT	QTY (EACH)	For info only Remove and reset sign, by others EACH	63301-0000 SIGN SYSTEM EACH	63308-2000 OBJECT MARKER, TYPE 2 EACH	63308-3000 OBJECT MARKER, TYPE 3 EACH	REMARKS
231+13	Rt		-	Visitor info	N/A	0.0	1	1				
231+24	Lt		-	Parking info	N/A	0.0	1					Protect in place
231+34	Rt		-	Visitor info	N/A	0.0	1	1				
231+64	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
231+83	Rt		R1-1	Stop sign	30 X 30	6.3	1		1			
232+00	Both		D10-1a	Mile 2.5	10 X 27	1.9	2		2			
				(ROW INTENTIONALY BLANK)								
232+44	Rt		M1-7	National Forest Route 121	18 X 18	2.3	1	1				
232+75	Rt		R5-4	Commercial use prohibited w/o permit	36 X 48	12.0	1		1			
233+10	Lt		W1-1a	Sharp curve, 15 MPH	36 X 36	9.0	1		1			
233+51	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
236+02	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
240+03	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
				(ROW INTENTIONALLY BLANK)								
244+00	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
245+18	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
248+66	Lt	Wood	-	Private Drive	12 X 18	1.5	1	1				
248+82	Lt		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
249+39	Both		-	Object marker, type 2	N/A	0.0	2			2		At culvert ends
249+72	Lt	Wood	-	Entering private property	24 X 32	5.3	1	1				
250+00	Rt		W8-3	Pavement Ends	36 X 36	9.0	1		1			
				(ROW INTENTIONALLY BLANK)								
					Schedule A Page 2 Total:			**5**	**6**	**16**	**0**	**Trickel Park Road**

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SCHEDULE A
SIGNING
SUMMARIES
Sheet 2 of 2

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12 July 2023 2:39 PM

PERMANENT PAVEMENT MARKINGS SUMMARY

Station or Area			Edgeline Solid White 6-inches	63402-0300 PAVEMENT MARKINGS, TYPE B, SOLID	Remarks
			LNFT	MILE	
198+96	to	251+94	10596	2.007	Mainline Trickel Park Road
Schedule A Subtotal				2.007	First Application
Second Application				2.007	Second Application
Schedule A Total				**4.014**	

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SCHEDULE A
PAVEMENT MARKINGS
SUMMARIES

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STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	B15

SIGN SUMMARY

Station or Area	Side	Post Type	MUTCD ID	LEGEND	SIGN SIZE (IN x IN)	SQFT	QTY (EACH)	For info only Remove and reset sign, by others EACH	63301-0000 SIGN SYSTEM EACH	63308-2000 OBJECT MARKER, TYPE 2 EACH	63308-3000 OBJECT MARKER, TYPE 3 EACH	REMARKS
100+20	Lt		R1-1	Stop sign	30 X 30	6.3	1					Protect in place
101+80	Rt		W11-2	Pedestrian sign	36 X 36	9.0	1		1			
102+82	Rt	Wood	R1-1	Stop sign	30 X 30	6.3	1		1			
103+50	Rt	Wood	2M-2	Grand Mesa Visitor Center	36 X 48	12.0	1					Protect in place
104+65	Rt	Wood	R1-1	Stop sign	30 X 30	6.3	1		1			
104+98	Rt		-	Highway legal vehicles only	18 X 32	4.0	1					Protect in place
				(Row Intentionally Left Blank)								
106+40	Rt		-	Snowmobiles prohibited on plowed roads	32 X 18	4.0	1					Protect in place
106+80	Lt		W11-2	Pedestrian sign	36 X 36	9.0	1		1			
107+00	Rt	Wood	2M-2	Campground information	18 X 52	6.5	1					Protect in place
			M1-7	National Forest Route 121	18 X 18	2.3	1					Protect in place
112+97	Rt		R1-1	Stop sign	30 X 30	6.3	1		1			
				(Row Intentionally Left Blank)								
129+16	Rt	Wood	-	National Forest Campground	24 X 36	6.0	1					Protect in place
129+60	Rt		R1-1	Stop sign	30 X 30	6.3	1		1			
139+78	Lt		R1-1	Stop sign	30 X 30	6.3	1		1			
				(Row Intentionally Left Blank)								
				(Row Intentionally Left Blank)								
147+00	Rt		R1-1	Stop sign	30 X 30	6.3	1		1			
151+80	Lt		R1-1	Stop sign	30 X 30	6.3	1		1			
							Option X Page 1 Total :	**0**	**9**	**0**	**0**	

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OPTION X SIGNING SUMMARIES
Sheet 1 of 2

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12 July 2023 2:40 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	B16

SIGN SUMMARY

Station or Area	Side	Post Type	MUTCD ID	LEGEND	SIGN SIZE (IN x IN)	SQFT	QTY (EACH)	For info only Remove and reset sign, by others EACH	63301-0000 SIGN SYSTEM EACH	63308-2000 OBJECT MARKER, TYPE 2 EACH	63308-3000 OBJECT MARKER, TYPE 3 EACH	REMARKS
				(Row Intentionally Left Blank)								
163+55	Lt		-	Snowmobiles prohibited on plowed roads	32 X 18	4.0	1					Protect in place
			-	End offroad	24 X 12	2.0	1					Protect in place
			RS-052	Snowmobiling prohibited	6 X 6	0.3	1					Protect in place
			RS-095	All-terrain vehicles prohibited	6 X 6	0.3	1					Protect in place
				(Row Intentionally Left Blank)								
164+50	Rt		RS-095	All-terrain trail	30 X 30	6.3	1					Protect in place
			W16-1P	Share the road	18 X 24	3.0	1					Protect in place
			W7-3aP	Next 12 miles	24 X 18	3.0	1					Protect in place
				(Row Intentionally Left Blank)								
177+10	Lt	N/A	OM2-1H	Object marker, type 2 Object	N/A		3			3		3 markers on the existing concrete barrier
177+22	Lt	N/A	OM2-1H	marker, type 2	N/A		3			3		3 markers on the existing concrete barrier
178+04	Lt		R1-1	Stop sign	30 X 30	6.3	1		1			
				(Row Intentionally Left Blank)								
182+55	Rt		R1-1	Stop sign	30 X 30	6.3	1		1			
				(Row Intentionally Left Blank)								
185+00	Rt	Wood	-	Entering private property	24 X 32	5.3	1					Protect in place
				(Row Intentionally Left Blank)								
194+21	Lt		R1-1	Stop sign	30 X 30	6.3	1		1			
				(Row Intentionally Left Blank)								
							Option X Page 2 Total:	**0**	**3**	**6**	**0**	**Trickel Park Road**

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Sheet 2 of 2

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PERMANENT PAVEMENT MARKINGS SUMMARY

Station or Area			Stop Bar Solid White 24-inches	Gore Striping Solid White 6-inches	Centerline Solid Yellow 4-inches	Edgeline Solid White 6-inches	PAVEMENT MARKINGS, TYPE B, SOLID	Remarks
						Item Number	63402-0300	
			LNFT	LNFT	LNFT	LNFT	MILE	
100+11	to	198+96				19770	3.744	Mainline Trickel Park Road
100+11	to	107+00			1378		0.261	Centerline through visitor center
100+11	to	100+79		232			0.044	Lt gore area striping at Grand Mesa Scenic Byway
100+11				200			0.038	Rt and Lt edgeline tie in on Grand Mesa Scenic Byway
100+20			120				0.023	Stop bars
102+60			180				0.034	Stop bar
104+50			120				0.023	Stop bar
Option X Subtotal							4.167	First Application
Second Application							4.167	Second Application
Option X Total							**8.334**	

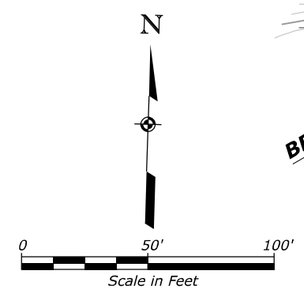
OPTION X
PAVEMENT MARKINGS
SUMMARIES

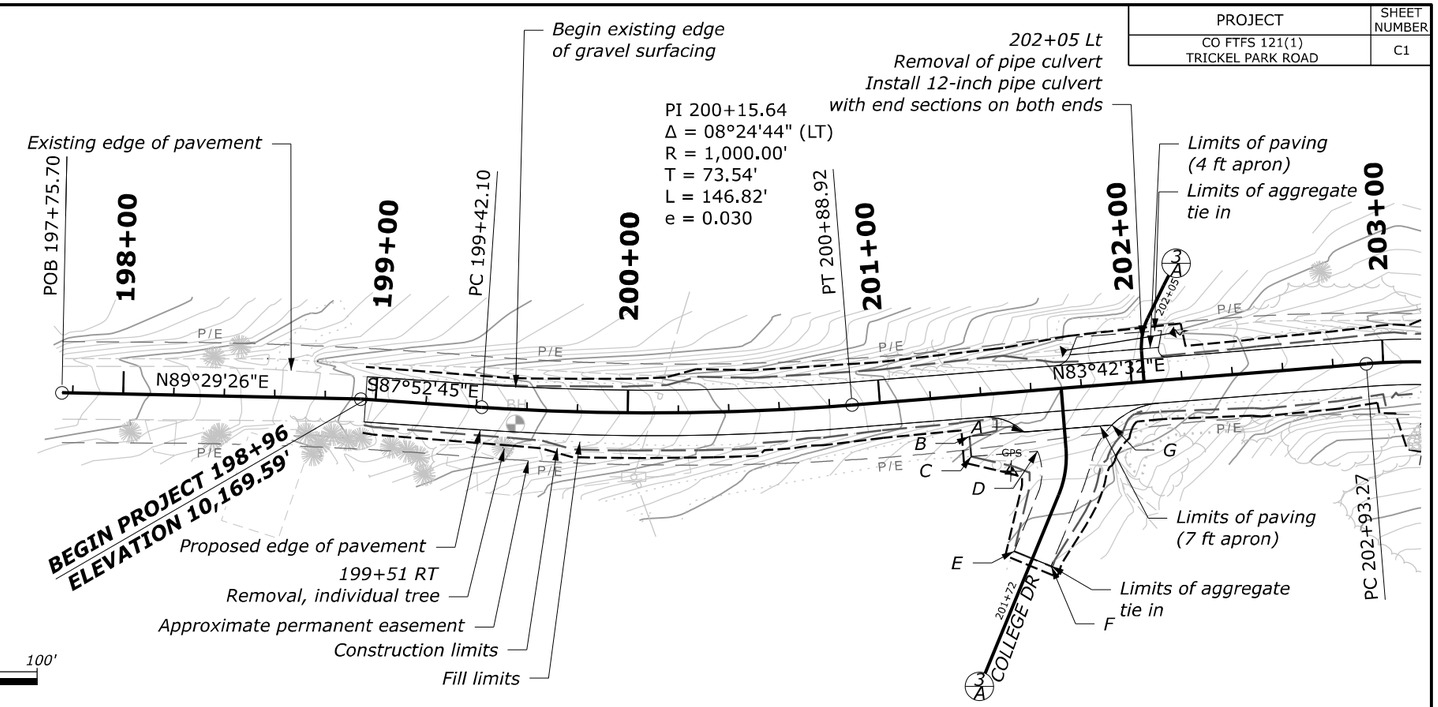
21 August 2023 6:07 PM F:\7017.015 CFLHD - CO FTFS 121(1) Trickel Park Road\Drawings\DGN\4- Sheet Production\SUM_CO_FTFS 121(1).dgn [Option X Pavement markings]

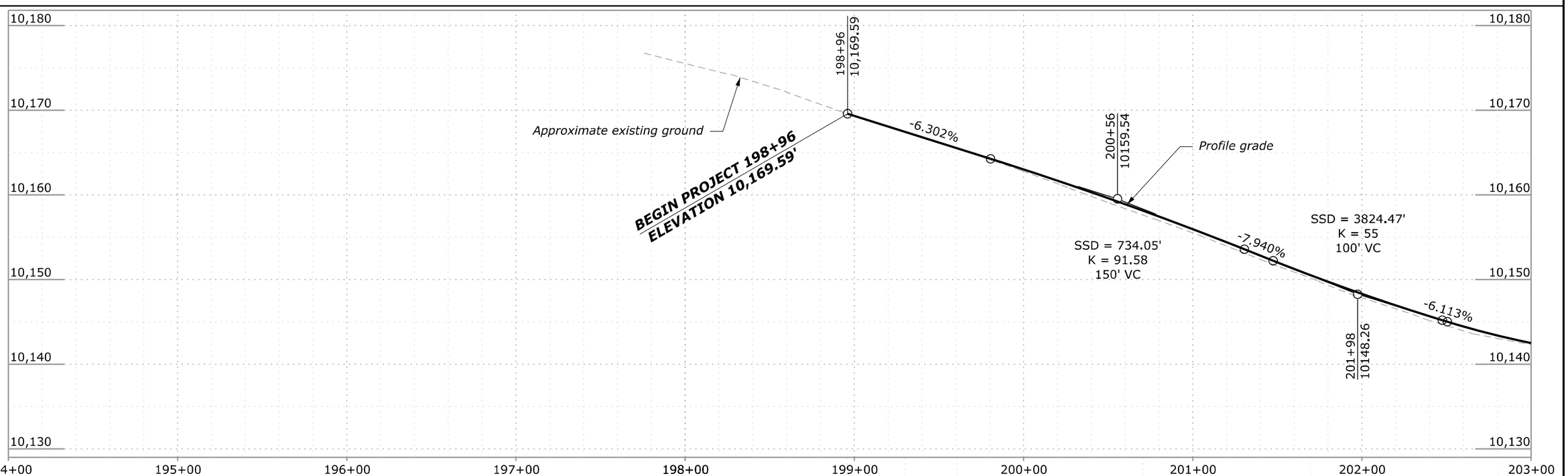
PROJECT	SHEET NUMBER
CO FTFS 121(1) TRICKEL PARK ROAD	C1

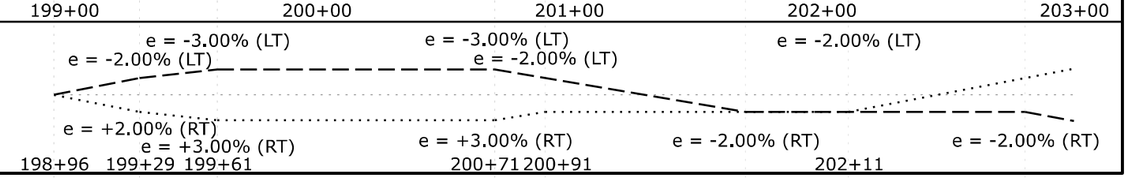
COLLEGE DRIVE GRADING DATA TABLE

Point	Northing	Easting	Elevation (ft)	Description
A	1449697.126	2301886.927	10150.42	Grading point
B	1449694.750	2301865.329	10150.53	Grading point
C	1449686.798	2301866.206	10149.57	Grading point
D	1449689.686	2301892.457	10149.44	Grading point
E	1449649.836	2301884.403	10144.38	Grading point
F	1449644.398	2301899.158	10143.92	Grading point
G	1449700.945	2301921.581	10148.08	Grading point









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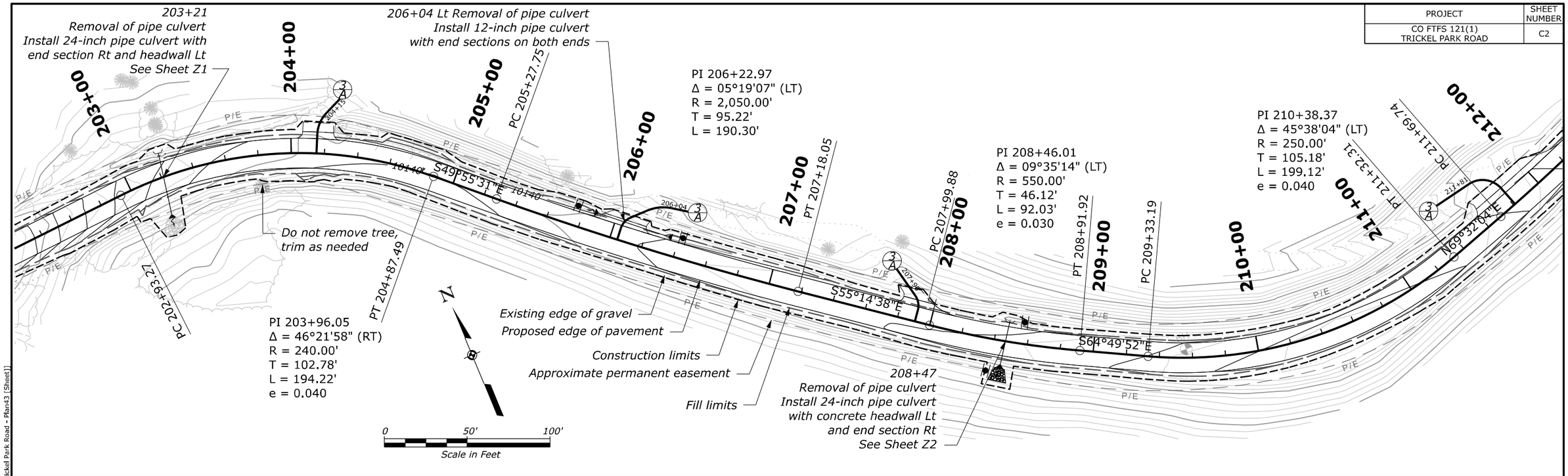
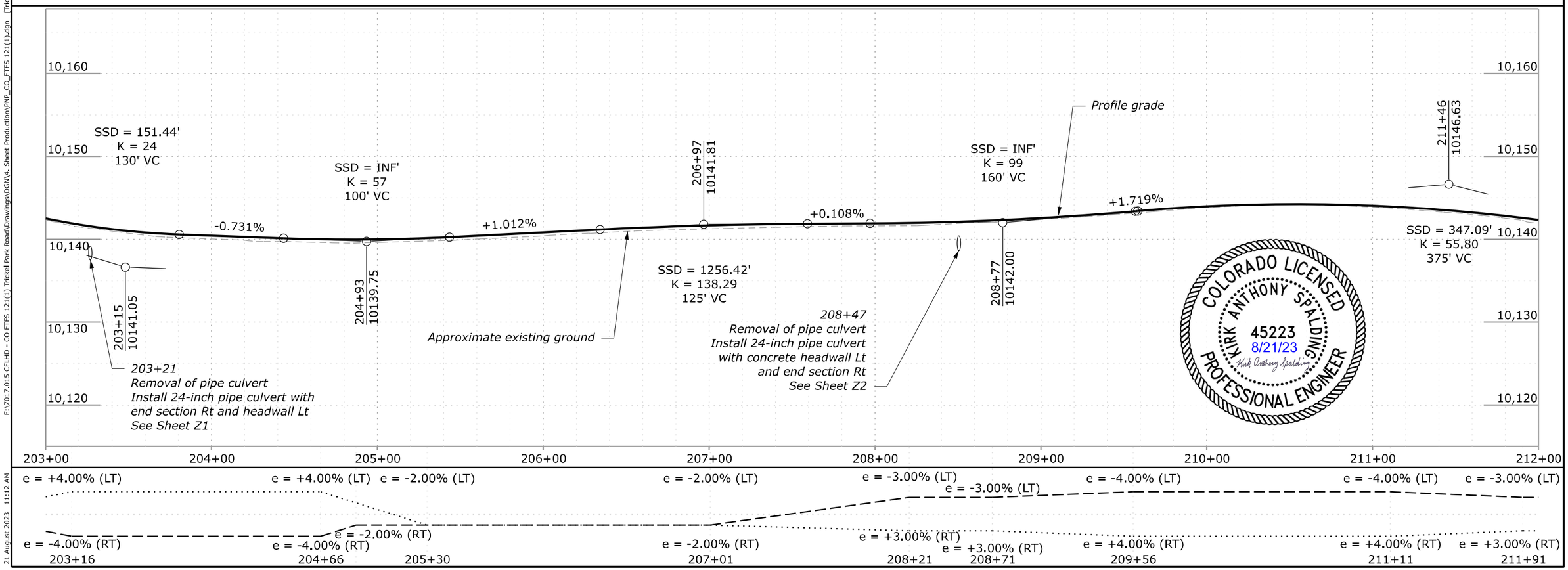
21 August 2023 11:04 AM

PROJECT	SHEET NUMBER
CO FTFS 121(1) TRICKEL PARK ROAD	C2





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KIRK ANTHONY SPALDING
45223
8/21/23
PROFESSIONAL ENGINEER

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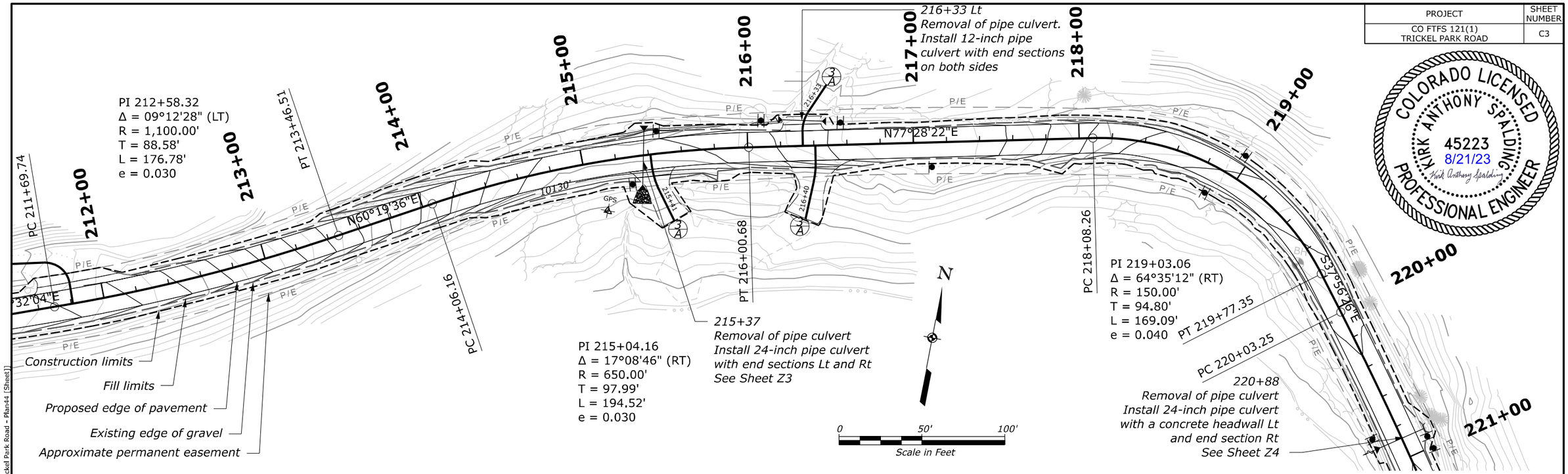
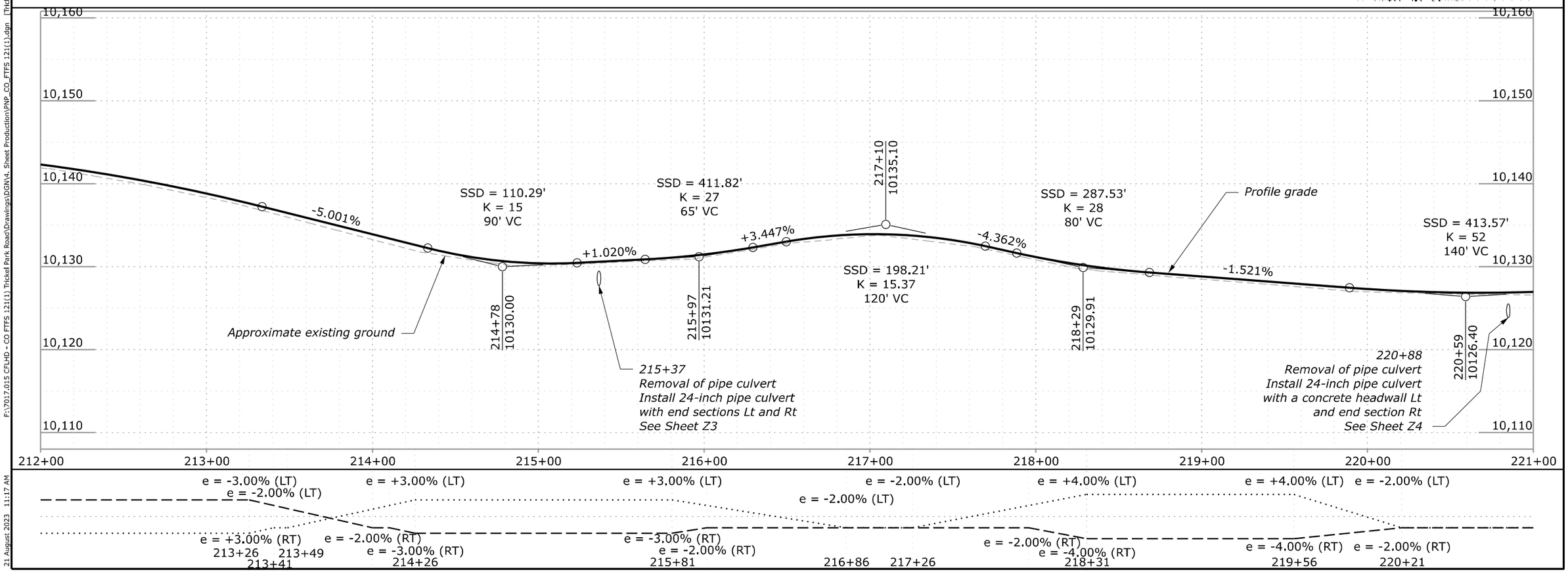
21 August 2023 11:12 AM

PROJECT	SHEET NUMBER
CO FTFS 121(1) TRICKEL PARK ROAD	C3





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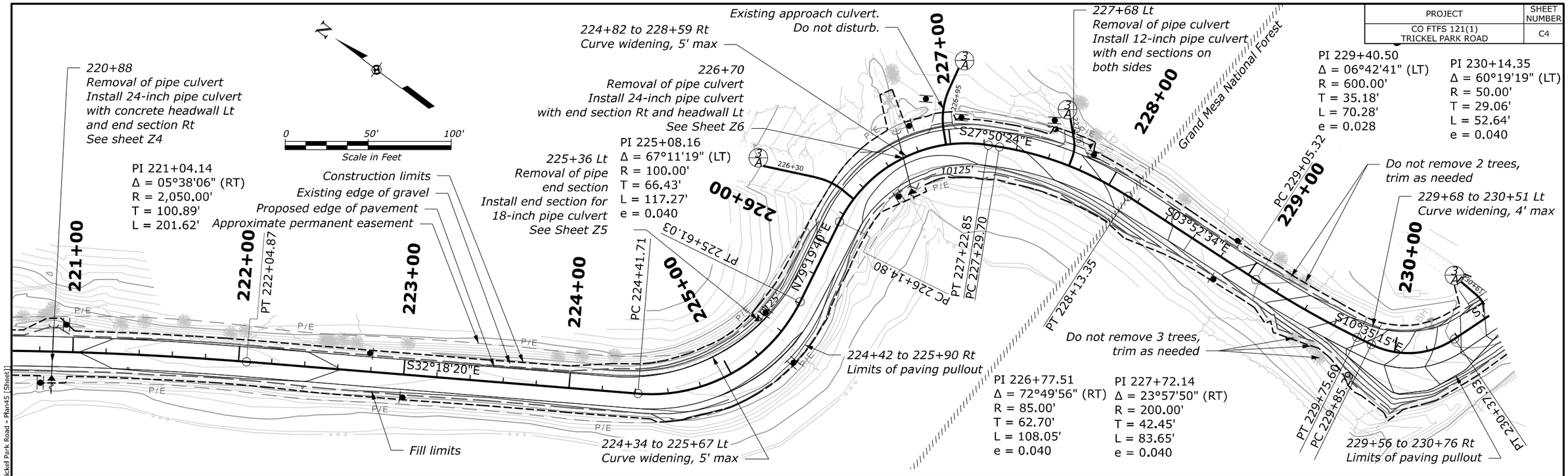
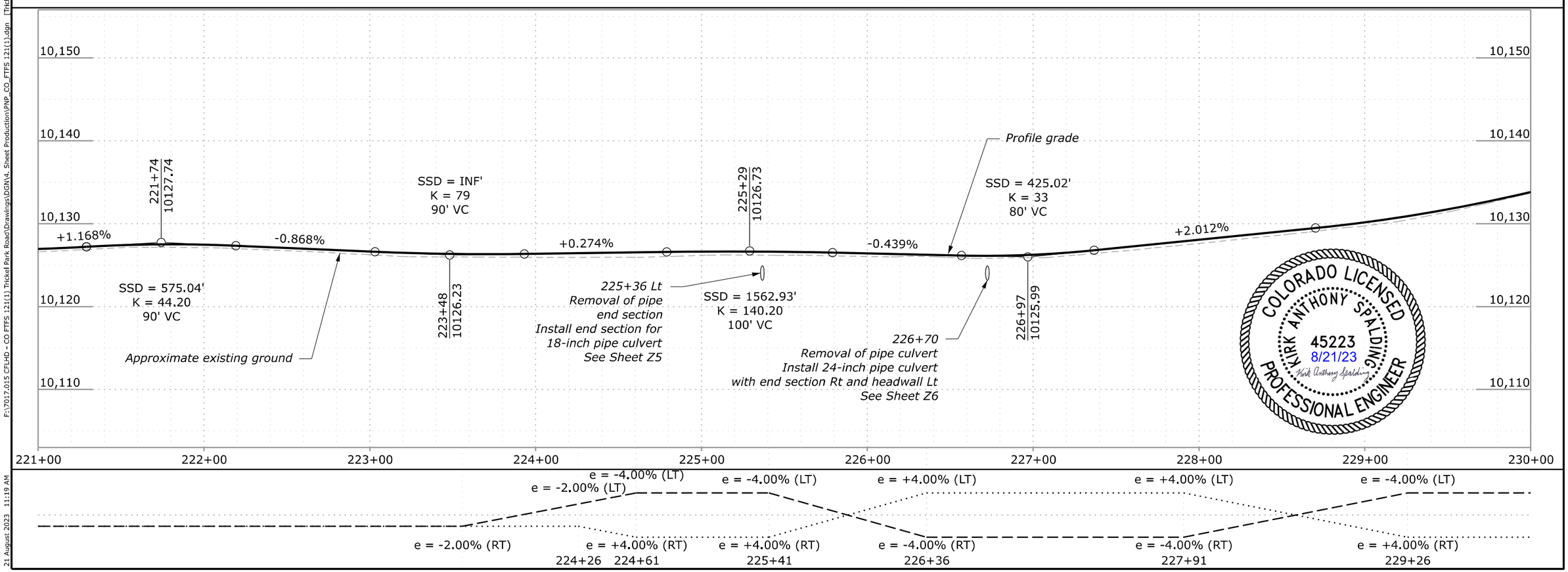
21 August 2023 11:17 AM

PROJECT	SHEET NUMBER
CO FTFS 121(1) TRICKEL PARK ROAD	C4





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21 August 2023 11:19 AM

PROJECT	SHEET NUMBER
CO FTFS 121(1) TRICKEL PARK ROAD	C5

229+56 to 230+76 Rt
Limits of paving pullout

PT 230+37.93

230+72 Rt
Removal, individual tree

230+90 to 231+40
Subexcavation, 1' depth, full width

231+00
PC 231+16.89

231+37 Rt
Remove and reset mailboxes
See Sheet T21

PI 231+59.67
Δ = 81°06'15" (LT)
R = 50.00'
T = 42.78'
L = 70.78'
e = 0.020

230+94 to 231+69 Rt
Pullout

Limits of roadway aggregate tie in for pullout

S 74°54'34" E

230+00

PI 230+14.35
Δ = 60°19'19" (LT)
R = 50.00'
T = 29.06'
L = 52.64'
e = 0.040

Do not remove trees, trim as needed through curve

230+96 to 232+01 Lt
Curve widening, 6' max

N27°59'11"E

232+00

PT 231+87.66

233+00

PC 232+76.97

PI 233+29.08
Δ = 14°50'48" (RT)
R = 400.00'
T = 52.12'
L = 103.65'

233+51 Lt
Install 18-inch pipe culvert with end sections on both sides

PT 233+80.62

234+00

N42°49'59"E

Grand Mesa National Forest

PC 235+01.71

235+00

PI 235+86.68
Δ = 24°34'49" (LT)
R = 390.00'
T = 84.96'
L = 167.31'

236+00

Do no remove tree, trim as needed

236+05
Removal of pipe culvert
Install 18-inch pipe culvert with a concrete headwall Lt and end section Rt
See Sheet Z7

PT 236+69.03

237+00

N18°15'10"E

PC 237+71.49

Proposed edge of pavement
Existing edge of gravel
Construction limits
Approximate permanent easement

Fill limits

238+00

PT 238+38.84

PC 238+40.51

N29°16'43"E

PI 238+05.27
Δ = 11°01'33" (RT)
R = 350.00'
T = 33.78'
L = 67.35'

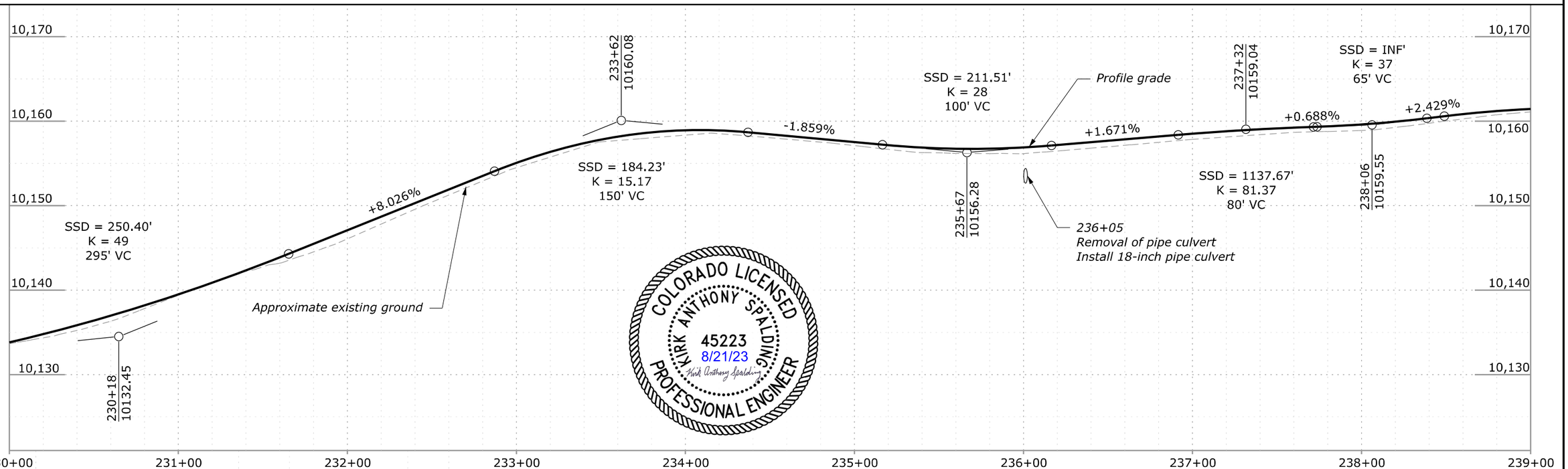
PT 239+03.11

239+00

PI 238+71.90
Δ = 10°14'49" (LT)
R = 350.00'
T = 31.38'
L = 62.60'

P/E

0 50' 100'
Scale in Feet



COLORADO LICENSED
KIRK ANTHONY SPALDING
45223
8/21/23
PROFESSIONAL ENGINEER

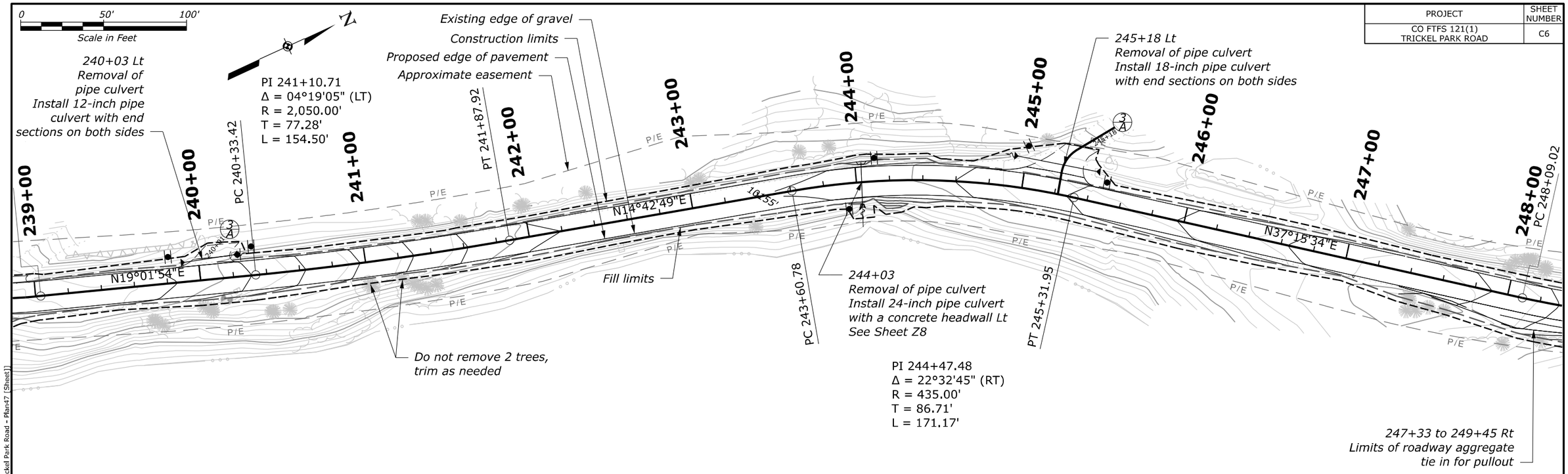
e = -4.00% (LT) e = -2.00% (LT) e = -2.00% (LT) e = -2.00% (LT)

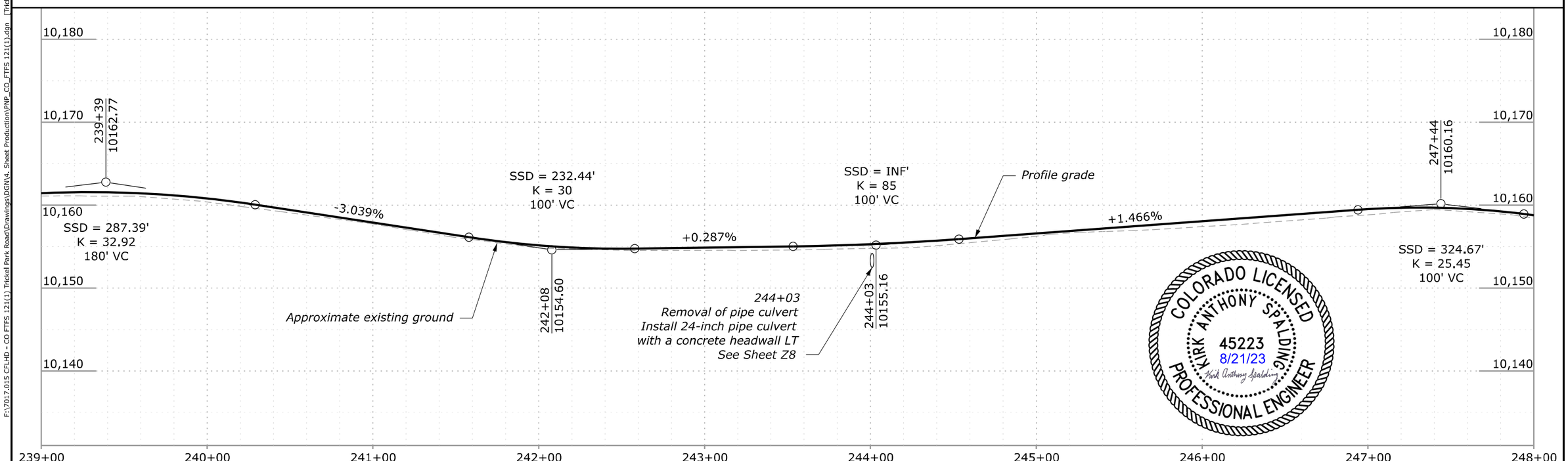
e = +4.00% (RT) 230+16
e = +2.00% (RT) 231+36
e = -2.00% (RT) 232+60.00
e = -2.00% (RT)

F:\7017.015 CFLHD - CO FTFS 121(1) Trickel Park Road\Drawings\DGN\4. Sheet Production\PNP_CO_FTFS 121(1).dgn [Trickel Park Road - Plan46 (Sheet)]

21 August 2023 11:26 AM

PROJECT	SHEET NUMBER
CO FTFS 121(1) TRICKEL PARK ROAD	C6





COLORADO LICENSED
KIRK ANTHONY SPALDING
45223
8/21/23
PROFESSIONAL ENGINEER

e = -2.00% (LT)

e = -2.00% (RT)

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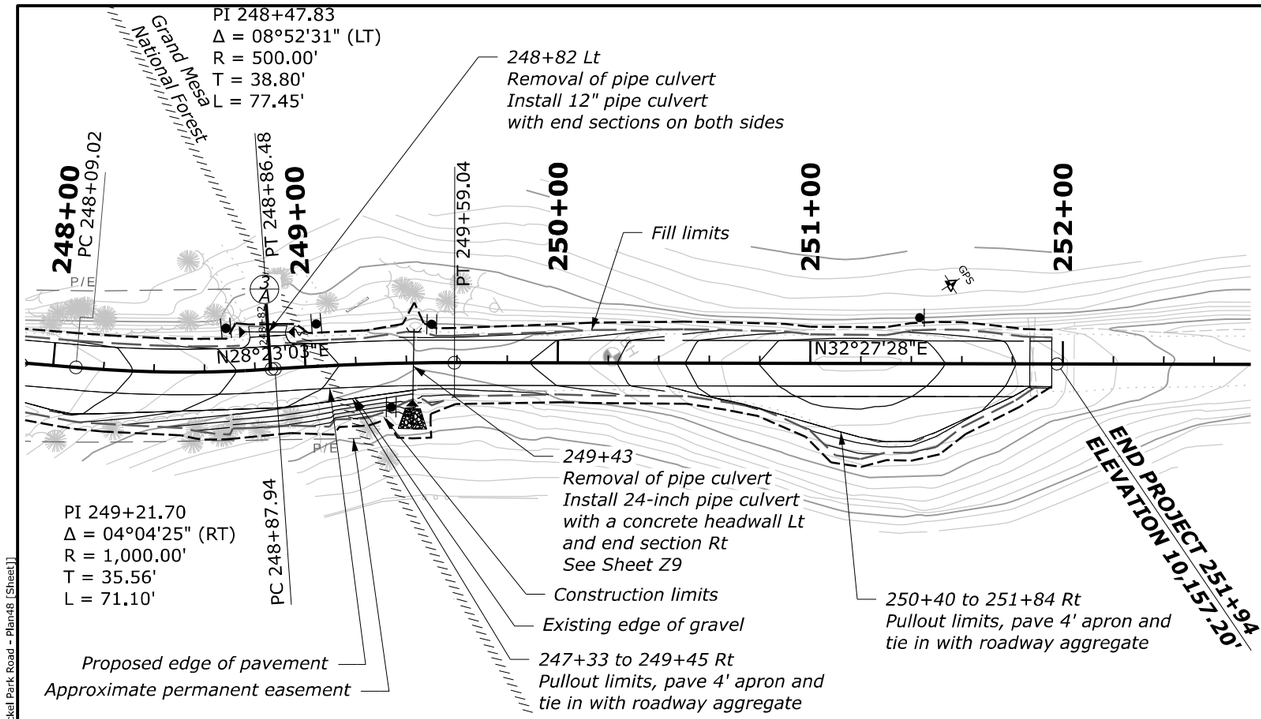
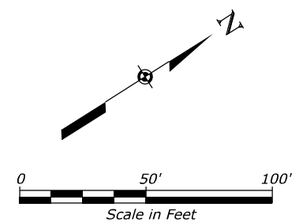
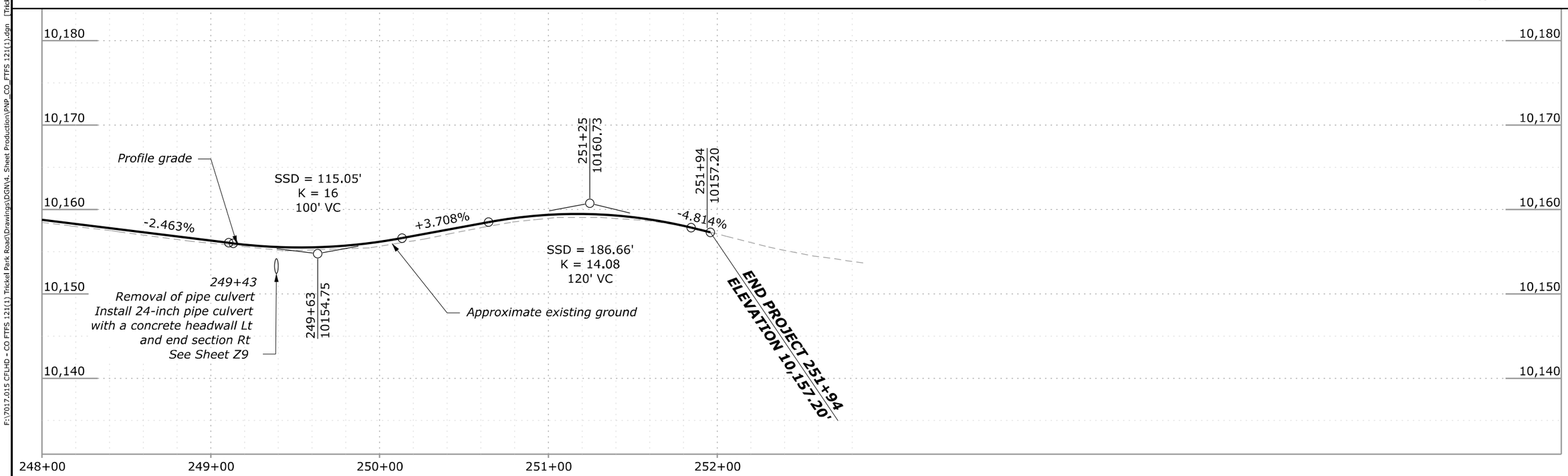
21 August 2023 11:26 AM

PROJECT	SHEET NUMBER
CO FTFS 121(1) TRICKEL PARK ROAD	C7







e = -2.00% (LT)

e = -2.00% (LT)

e = -2.00% (RT)

e = -2.00% (RT)

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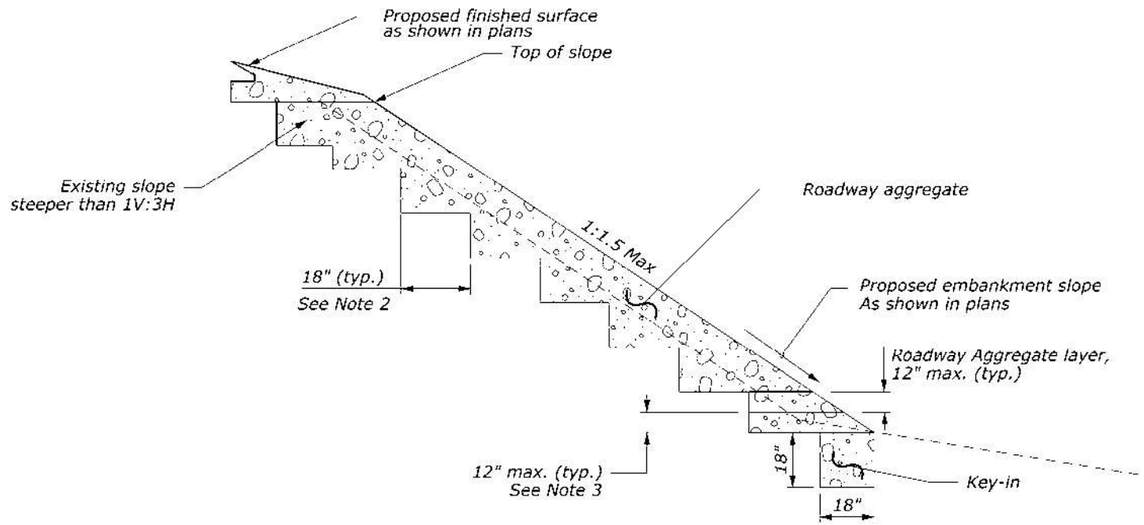
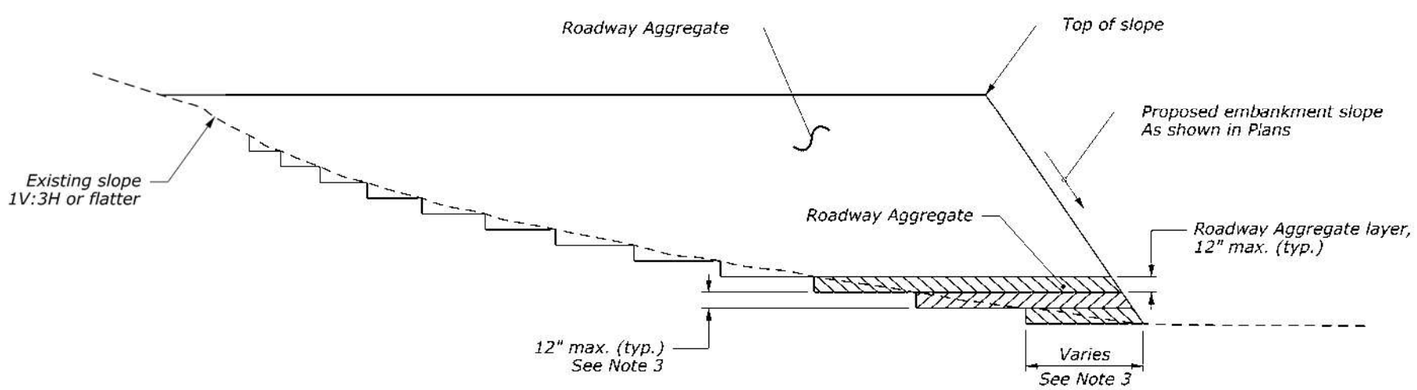
21 August 2023 2:10 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	F1



TYPICAL SECTION A

SLOPES STEEPER THAN 1V:3H



TYPICAL SECTION B

SLOPES 1V:3H OR FLATTER

NOTES:

1. Where the embankment foundation is on side-hill or another existing embankment, bench the foundation while the embankment is being constructed.
2. For slopes steeper than 1V:3H, refer to Typical Section A. Cut 18-inch wide horizontal benches in the existing slope. Bench the slope as the embankment is placed and compacted in 1-foot thick layers. Add aggregate to fill voids that may form from removal of boulders during bench preparation.Excavate and backfill in a similar manner until the top of slope is reached.
3. For slopes 1V:3H or flatter, cut into the existing slope until a maximum height of 1 foot is reached, allowing the horizontal distance to vary. Place roadway aggregate material. Add aggregate to fill voids that may form from removal of boulders during bench preparation. Excavate and backfill in a similar manner until the top of slope is reached.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY DETAIL

BENCHING FOR EMBANKMENT

NO SCALE

SPECIAL
204-A

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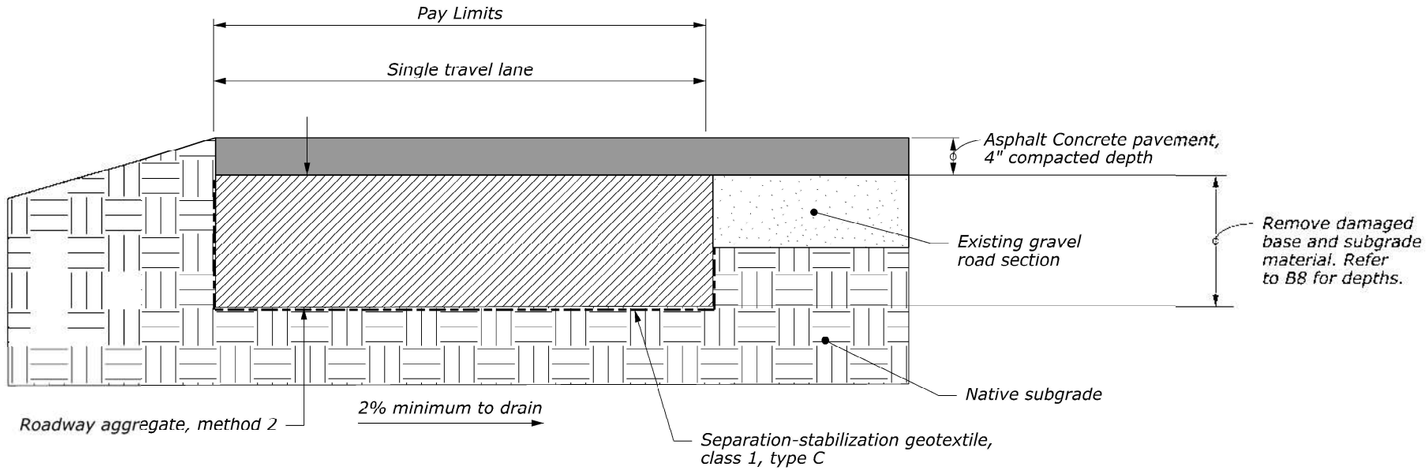
13 July 2023 7:34 PM

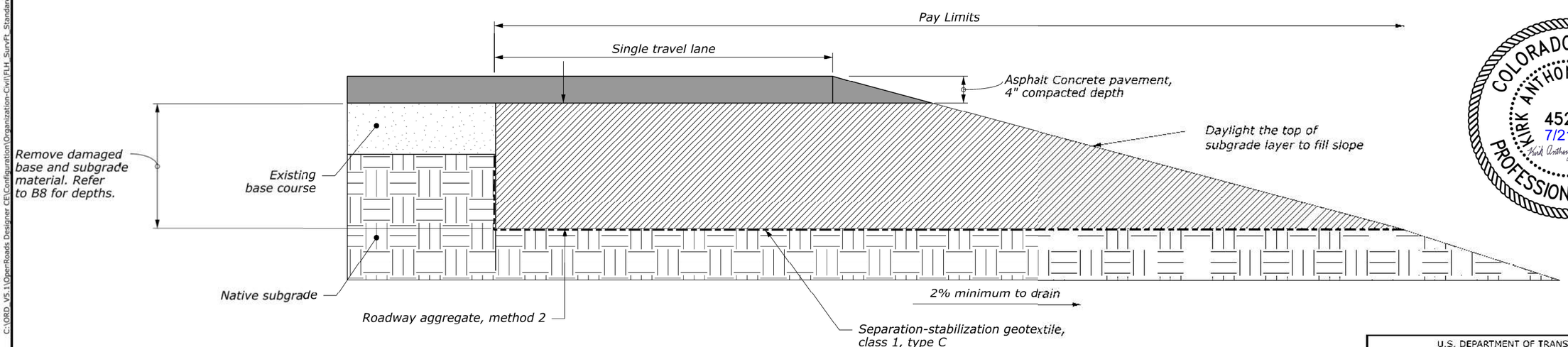
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	F2



SUBEXCAVATION DETAIL

NOTE:

1. Extent of patch to be determined by the CO based on conditions encountered at time of construction.
2. All items shown within the pay limits are included in the pay item. See Section 204.
3. Daylight subexcavation from STA 231+00 to 231+15.
4. Existing geogrid may be encountered during subexcavation; remove and dispose of geogrid from subexcavation limits. Overlap existing geogrid per CO with the separation-stabilization geotextile prior to backfilling subexcavation area with roadway aggregate.



SUBEXCAVATION DETAIL (Daylight)

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY SPECIAL

SUBEXCAVATION

DETAIL 204-B

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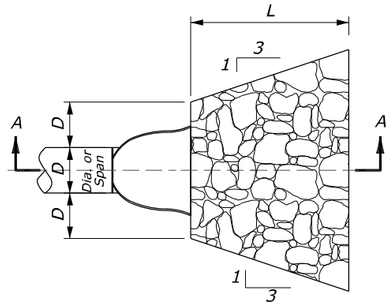
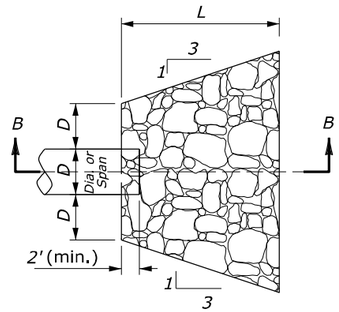
25 August 2020 6:42 AM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1)	G1



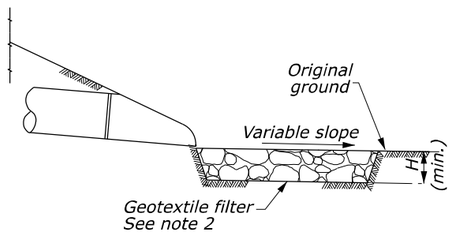
PLAN VIEW

CULVERT WITH STANDARD END SECTION

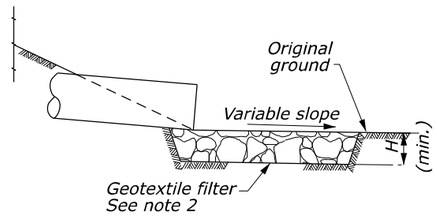


PLAN VIEW

CULVERT WITHOUT STANDARD END SECTION



SECTION A-A



SECTION B-B

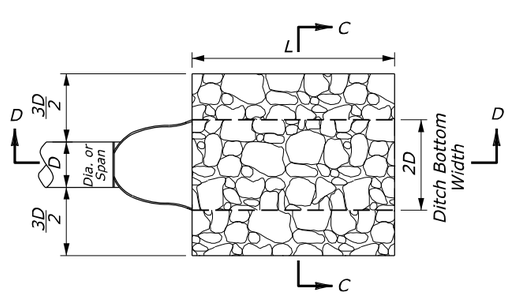
PROTECTIVE APRON AT CULVERT OUTLET WITHOUT DITCH

OUTLET WITHOUT DITCH
PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES

	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)	ESTIMATED RIPRAP QUANTITY (CY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	12	2	4	1.5	1	5
	18	2	6	1.5	2.2	9
	24	2	8	1.5	3.9	14
	30	3	12.5	2	10.9	28
	36	3	16	2	15.6	37
	42	4	21	2.5	34.1	63
	48	4	24	2.5	44.5	79
WITHOUT END SECTION	12	2	6	1.5	1.7	8
	18	2	8	1.5	3.2	12
	24	2	10	1.5	5.2	17
	30	3	14.5	2	13.3	33
	36	3	17	2	18.5	43
	42	4	23	2.5	38.7	70
	48	4	26	2.5	49.8	87

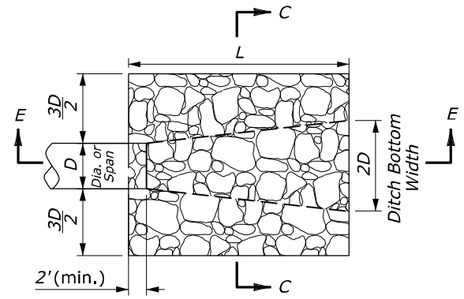
NOTE:

1. Use for aprons serving culverts with slopes of less than 10%.
2. Furnish geotextile filter conforming to subsection 714.01(a). See summary tables for class and type.
3. Excavation for placement of riprap will not be measured for payment.



PLAN VIEW

CULVERT WITH STANDARD END SECTION

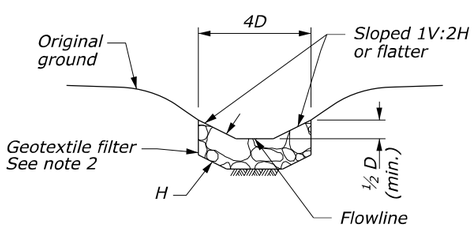


PLAN VIEW

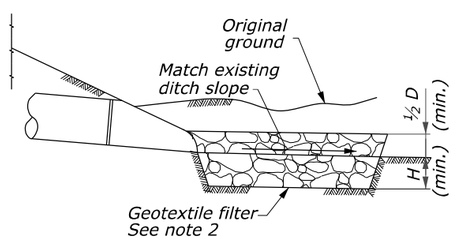
CULVERT WITHOUT STANDARD END SECTION

OUTLET WITH DITCH
PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES

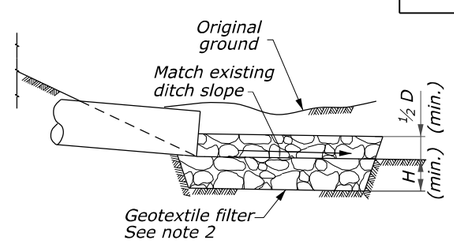
	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)	ESTIMATED RIPRAP QUANTITY (CY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	12	2	4	1.5	0.9	5
	18	2	6	1.5	2	8
	24	2	8	1.5	3.6	13
	30	3	12.5	2	9.3	24
	36	3	15	2	13.4	32
	42	4	21	2.5	27.3	53
	48	4	24	2.5	35.6	65
WITHOUT END SECTION	12	2	6	1.5	1.4	6
	18	2	8	1.5	2.7	10
	24	2	10	1.5	4.5	15
	30	3	14.5	2	10.8	27
	36	3	17	2	15.2	36
	42	4	23	2.5	29.9	57
	48	4	26	2.5	38.6	70



SECTION C-C



SECTION D-D



SECTION E-E

PROTECTIVE APRON AT CULVERT OUTLET WITH DITCH

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

CFLHD DETAIL

PLACED RIPRAP AT CULVERT OUTLETS

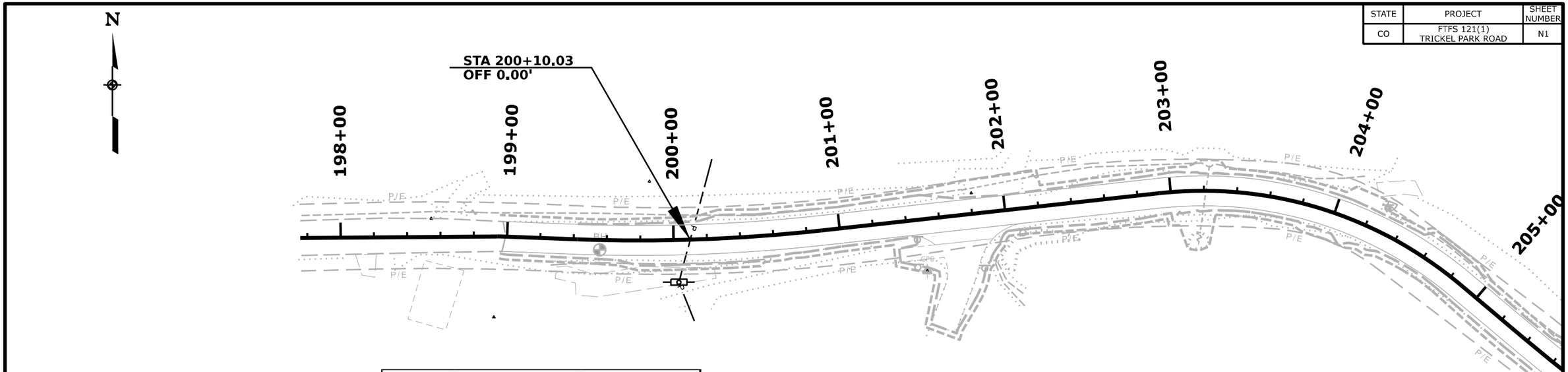
DETAIL APPROVED FOR USE

REVISED: 08/2014 08/2020 09/2021

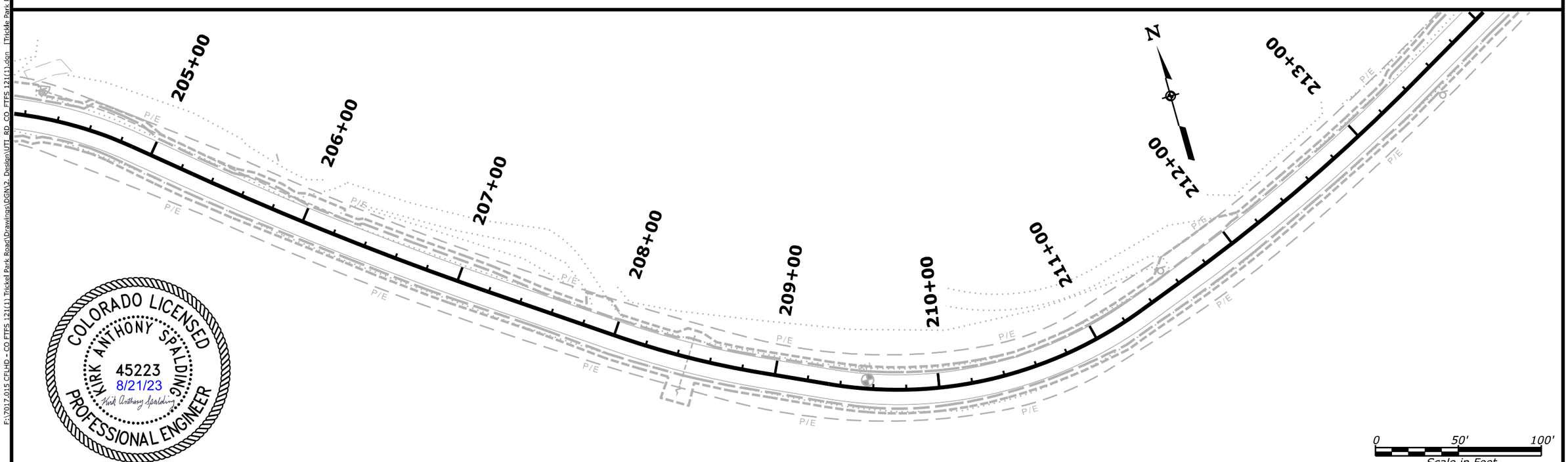
DETAIL C251-50

F:\7017.015 CFLHD - CO FTFS 121(1) Trickel Park Road\Drawings\DGN\4. Sheet Production\Standard Details\Riprap\C251-50.dgn [C251-50]
11 October 2022 8:14 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	N1



UTILITY		
Station	Type	Remarks
200+10.03	Overhead powerline	Utility crosses road



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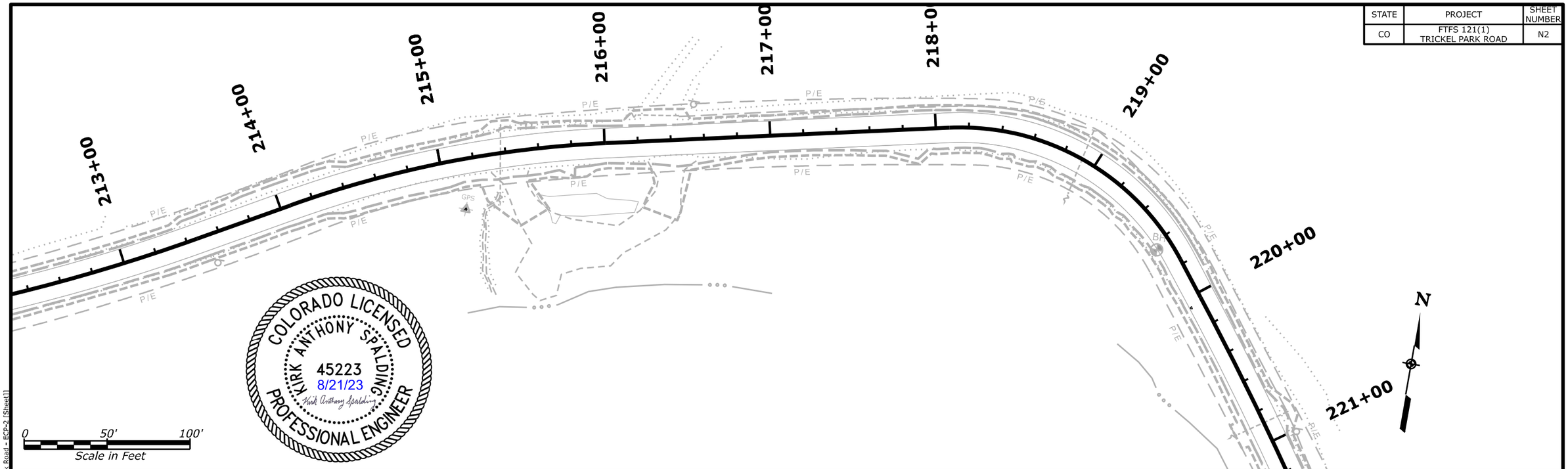
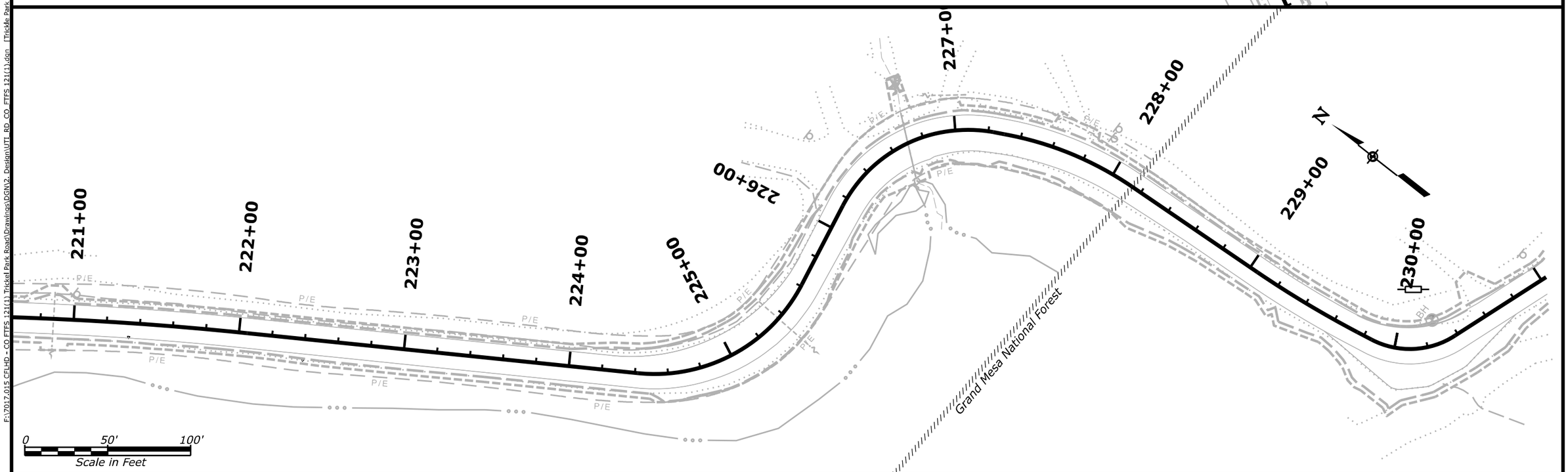
45223
8/21/23
Kirk Anthony Spalding
PROFESSIONAL ENGINEER

TRICKLE PARK ROAD
SCHEDULE A
UTILITY PLANS

F:\7017.015 CFLHD - CO FTFS 121(1) Trickel Park Road\Drawings\DGN\2. Design\UTI_RD_CO_FTFS 121(1).dgn [Trickle Park Road - ECP [Sheet1]
18 August 2023 3:21 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	N2

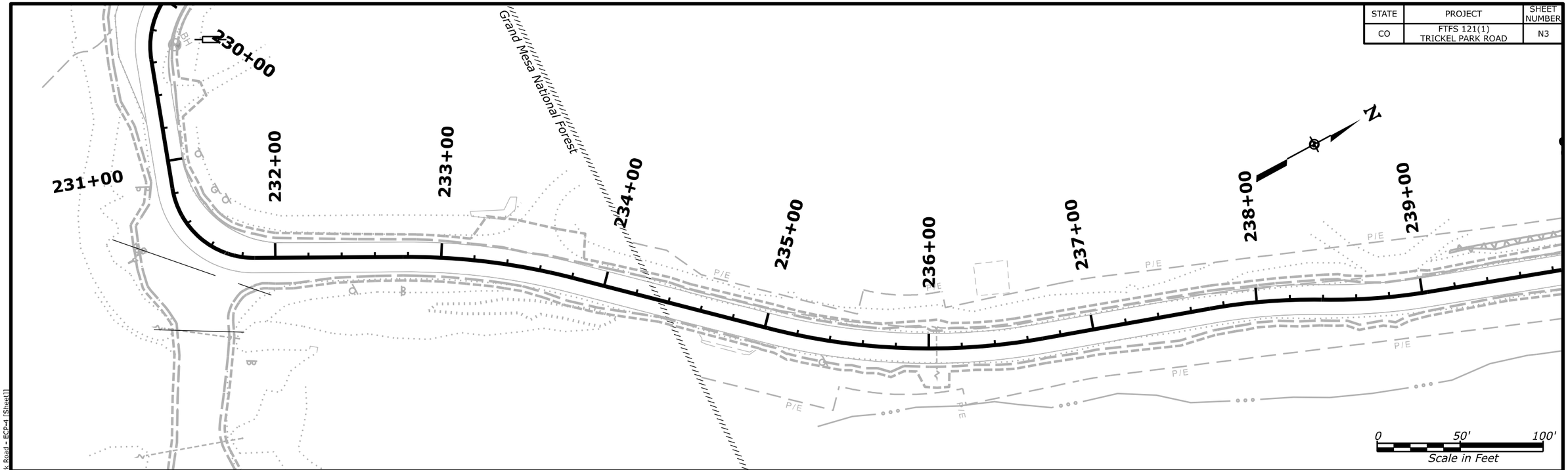


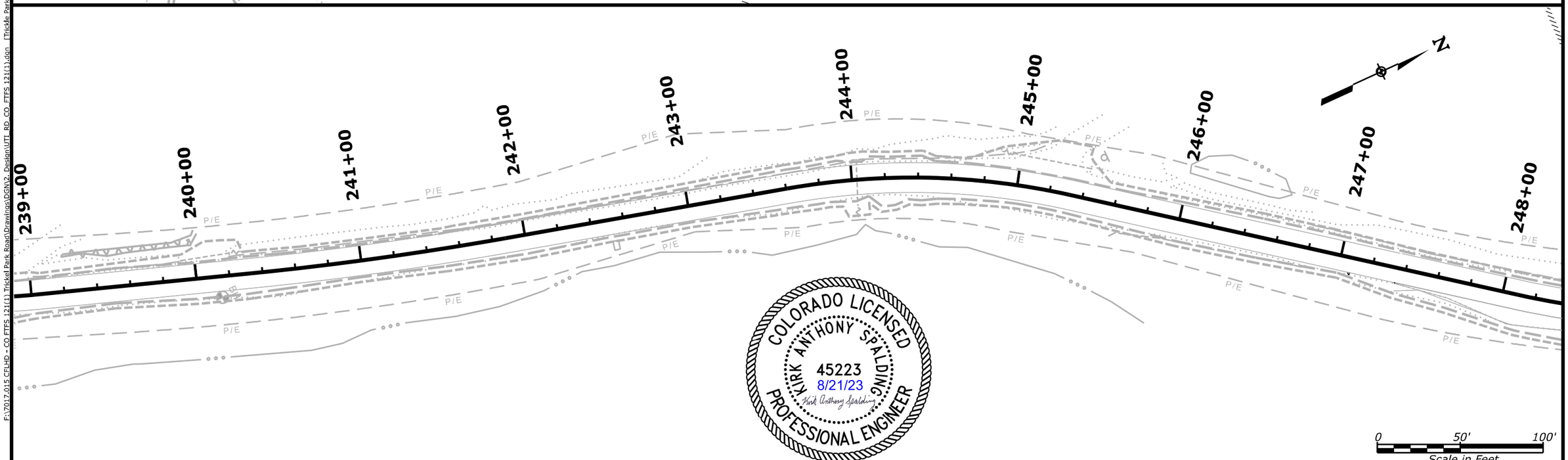


TRICKLE PARK ROAD
SCHEDULE A
UTILITY PLANS

F:\7017.015 CFLHD - CO FTFS 121(1) Trickel Park Road\Drawings\DGN\2- Design\UTI_RD_CO_FTFS 121(1).dgn [Trickle Park Road - ECP-2 (Sheet)]
18 August 2023 3:21 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	N3





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TRICKLE PARK ROAD
SCHEDULE A
UTILITY PLANS

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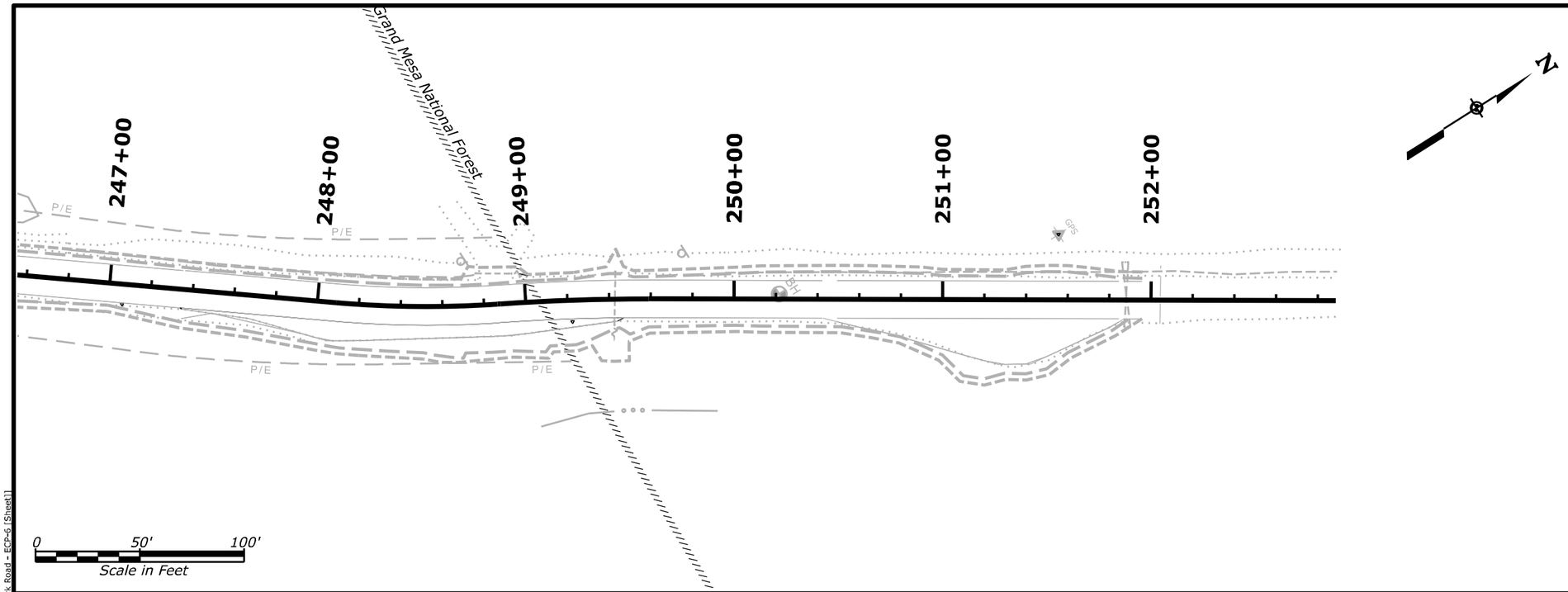
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	N4



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TRICKLE PARK ROAD
SCHEDULE A
UTILITY PLANS

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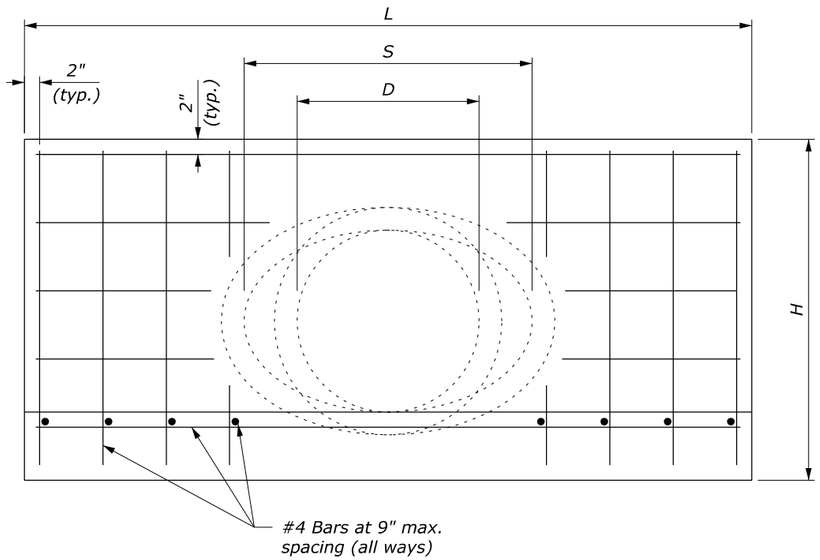
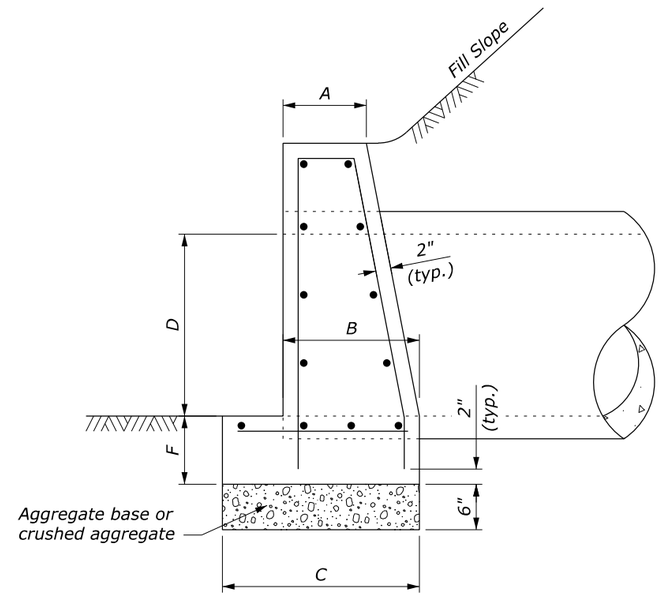
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T1

NOTE:

1. Orient all headwalls parallel to the roadway centerline unless otherwise indicated in the plans or by the CO.
2. When pipes are on a skew, adapt and lengthen headwalls as directed.
3. Chamfer all exposed corners not rounded to ¾".
4. Quantities shown are for one headwall with pipe at right angles.
5. Construct headwalls using dimensions shown under values for 1V:1.5H slope, unless otherwise designated by the CO.



FRONT ELEVATION



SIDE ELEVATION

HEADWALL FOR CIRCULAR PIPE

	DIAMETER OF PIPE CULVERT					
	6"	15"	18"	21" or 24"	27" or 30"	33" or 36"
A	0'-6"	0'-8"	0'-9"	0'-11"	1'-0"	1'-0"
B	0'-9"	1'-1"	1'-3"	1'-6"	1'-9"	2'-0"
C	1'-2"	1'-7"	1'-9"	2'-2"	2'-6"	2'-9"
D	1'-0"	1'-3"	1'-6"	2'-0"	2'-6"	3'-0"
F	0'-6"	0'-8"	0'-8"	0'-9"	0'-9"	0'-9"
H	2'-0"	2'-11"	3'-2"	3'-9"	4'-3"	4'-9"
L	3'-8"	5'-0"	6'-0"	8'-0"	10'-0"	12'-0"
CUBIC YARDS OF CONCRETE						
Conc. Pipe	0.241	0.492	0.697	1.319	2.067	2.947
C.M. Pipe	0.257	0.521	0.739	1.398	2.198	3.145

HEADWALL FOR ELLIPTICAL PIPE

	SIZE OF ELLIPTICAL PIPE CULVERT (SPAN x RISE)									
	23" x 14"	30" x 19"	34" x 22"	38" x 24"	42" x 27"	45" x 29"	49" x 32"	53" x 34"	60" x 38"	68" x 43"
A	0'-8"	0'-9"	0'-10"	0'-10"	0'-11"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
B	1'-2"	1'-5"	1'-6"	1'-8"	1'-9"	1'-10"	1'-11"	1'-11"	1'-11"	2'-0"
C	1'-8"	1'-11"	2'-1"	2'-4"	2'-5"	2'-7"	2'-8"	2'-9"	3'-3"	3'-6"
D	1'-2"	1'-7"	1'-10"	2'-0"	2'-3"	2'-5"	2'-8"	2'-10"	3'-2"	3'-7"
F	0'-8"	0'-8"	0'-9"	0'-9"	0'-9"	0'-9"	0'-9"	0'-9"	0'-9"	0'-9"
H	2'-10"	3'-3"	3'-7"	3'-9"	4'-0"	4'-2"	4'-5"	4'-7"	4'-11"	5'-4"
L	5'-5"	7'-2"	8'-6"	9'-2"	10'-2"	10'-11"	12'-1"	12'-11"	13'-0"	13'-0"
S	1'-11"	2'-6"	2'-10"	3'-2"	3'-6"	3'-9"	4'-1"	4'-5"	5'-0"	5'-8"
CUBIC YARDS OF CONCRETE										
Conc. Pipe	0.502	0.855	1.236	1.500	1.811	2.101	2.512	2.801	2.969	2.904

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

CONCRETE HEADWALL FOR SMALL PIPE CULVERT

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 3/2016

STANDARD 601-4

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STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T2

METAL ROUND PIPE CULVERT

FILL HEIGHT AND METAL THICKNESS TABLE FOR HELICAL LOCKSEAM AND WELDED SEAM PIPE CULVERT

STEEL

PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	2⅔" x ½" CORRUGATIONS					3" x 1" CORRUGATIONS					5" x 1" CORRUGATIONS				
		METAL THICKNESS (INCH/GAGE)														
		0.064/16	0.079/14	0.109/12	0.138/10	0.168/8	0.064/16	0.079/14	0.109/12	0.138/10	0.168/8	0.064/16	0.079/14	0.109/12	0.138/10	0.168/8
		MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (FEET)														
12	12	100	100	100	100	100										
15	12	100	100	100	100	100										
18	12	100	100	100	100	100										
21	12	100	100	100	100	100										
24	12	100	100	100	100	100										
30	12	85	100	100	100	100										
36	12	71	89	100	100	100	81	100	100	100	100					
42	12	61	76	100	100	100	70	87	100	100	100					
48	12	53	66	93	100	100	61	76	100	100	100	54	68	95	100	100
54	12		59	83	100	100	54	68	95	100	100	48	60	85	100	100
60	12			74	97	100	49	61	86	100	100	43	54	76	98	100
66	12				87	100	44	55	78	100	100	39	49	69	89	100
72	12				80	97	40	51	71	92	100	36	45	63	82	100
78	12					87	37	47	66	85	100	33	42	58	75	92
84	12					75	35	43	61	78	96	31	39	54	70	86
90	12						32	40	57	73	90	29	36	51	65	80
96	12							38	53	69	84		34	48	61	75
102	18							36	50	65	79		32	45	57	71
108	18								47	61	75			42	54	67
114	18								45	58	71			40	52	63
120	18								43	55	67			38	49	60
126	18									52	64				47	57
132	18									50	61				44	54
138	18									48	58				42	52
144	18										56					50

ALUMINUM

PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	2⅔" x ½" CORRUGATIONS					3" x 1" CORRUGATIONS				
		METAL THICKNESS (INCH/GAGE)									
		0.060/16	0.075/14	0.105/12	0.135/10	0.164/8	0.060/16	0.075/14	0.105/12	0.135/10	0.164/8
		MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (FEET)									
12	12	100	100	100	100	100					
15	12	100	100	100	100	100					
18	12	100	100	100	100	100					
21	12	88	100	100	100	100					
24	12	77	97	100	100	100					
30	12	62	77	100	100	100	71	89	100	100	100
36	12	52	64	90	100	100	59	74	100	100	100
42	12	44	55	77	99	100	51	64	89	100	100
48	12			67	87	100	44	56	78	100	100
54	18			54	71	88	39	50	69	93	100
60	18				57	72	35	45	62	83	98
66	18					58	32	40	56	76	89
72	18					45	30	37	55	70	82
78	24							34	48	64	75
84	24								44	59	70
90	24								41	62	65
96	24								38	51	61
102	24									46	55
108	24									42	50
114	24										45
120	24										40

NOTE:

1. *When directed, camber pipe culverts upward from a chord through the inlet and outlet inverts an ordinate amount equal to 1% of the pipe length. Develop camber on a parabolic curve. If the midpoint elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe culvert gradient.*
2. *Fill heights exceeding 100 feet require special analysis by the CO.*
3. *The fill heights in the table are for helical lockseam and welded seam pipe only. Fill heights for culvert pipe with annular corrugations are more restrictive than those of helical lockseam and welded seam pipe. Obtain approval before furnishing annular corrugation pipe.*
4. *Measure minimum cover from the top of the pipe culvert to the subgrade for flexible pavements, and to the top of the pavement for rigid pavements. Measure maximum fill height from the top of the pipe to the top of the pavement for both flexible and rigid pavement.*

METAL PIPE ARCH CULVERT

FILL HEIGHT AND METAL THICKNESS TABLE FOR HELICAL LOCKSEAM AND WELDED SEAM PIPE CULVERT

STEEL

PIPE ARCH SIZE SPAN x RISE INCHES	EQUI-VALENT DIAMETER INCHES	MINIMUM CORNER RADIUS INCHES	MINIMUM COVER INCHES	2⅔" x ½" CORRUGATIONS					3" x 1" CORRUGATIONS				5" x 1" CORRUGATIONS			
				METAL THICKNESS (INCH/GAGE)												
				0.064/16	0.079/14	0.109/12	0.138/10	0.168/8	0.079/14	0.109/12	0.138/10	0.168/8	0.079/14	0.109/12	0.138/10	0.168/8
				MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (FEET)												
17 x 13	15	3	12	13												
21 x 15	18	3	12	12												
24 x 18	21	3	12	13												
28 x 20	24	3	12	13												
35 x 24	30	3	12	12												
42 x 29	36	3.5	12	12												
49 x 33	42	4	12		12											
57 x 38	48	5	12			12										
60 x 46	54	8	15							21				21		
64 x 43	54	6	12			12										
66 x 51	60	9	15							21				21		
71 x 47	60	7	12				12									
73 x 55	66	12	18							20				20		
77 x 52	66	8	12					12								
81 x 59	72	14	18						17				17			
83 x 57	72	9	12					12								
87 x 63	78	14	18						17				17			
95 x 67	84	16	18						17				17			
103 x 71	90	16	18							17			17			
112 x 75	96	18	21							16				16		
117 x 79	102	18	21							16				16		
128 x 83	108	18	24								16				16	
137 x 87	114	18	24								16				16	
142 x 91	120	18	24									16				16

ALUMINUM

PIPE ARCH SIZE SPAN x RISE INCHES	EQUI-VALENT DIAMETER INCHES	MINIMUM CORNER RADIUS INCHES	MINIMUM COVER INCHES	2⅔" x ½" CORRUGATIONS				3" x 1" CORRUGATIONS			
				METAL THICKNESS (INCH/GAGE)							
				0.060/16	0.075/14	0.105/12	0.135/10	0.060/16	0.075/14	0.105/12	0.135/10
				MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (FEET)							
17 x 13	15	3	12	13							
21 x 15	18	3	12	12							
24 x 18	21	3	12	13							
28 x 20	24	3	12		13						
35 x 24	30	3	12		12						
42 x 29	36	3.5	15			12					
49 x 33	42	4	15			12					
57 x 38	48	5	15				12				
60 x 46	54	8	15					21			
64 x 43	54	6	18				12				
66 x 51	60	9	18					21			
73 x 55	66	12	18						20		
81 x 59	72	14	21							17	
87 x 63	78	14	21							17	
95 x 67	84	16	24							17	
103 x 71	90	16	24								17

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KIRK ANTHONY SPALDING
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7/21/23
PROFESSIONAL ENGINEER

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

METAL PIPE CULVERT

STANDARD APPROVED FOR USE 12/1993
REVISED: 4/1994 6/2005

STANDARD 602-1

24 August 2015 3:46 PM c:\myfiles\pw_production\dms52075\Std602-1.dgn [USC]

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T3

COUPLING BANDS FOR METAL PIPE CULVERT [1]

CORRUGATION SIZE [2] INCHES	ROUND PIPE DIAMETER INCHES	PIPE ARCH SPAN × RISE INCHES	MINIMUM BAND WIDTH (INCHES) ANNULAR CORRUGATED BANDS [3]	HELICALLY CORRUGATED BANDS [4]	SEMI-CORRUGATED BANDS [5]
1½ × ¼	underdrain [6]	-	10.5	7	10.5
2⅔ × ½	12 to 36	17 × 13 to 42 × 29	7	12	
	42 to 72	49 × 33 to 83 × 57	10.5	12	
	78 to 84	-	10.5	12	10.5
3 × 1	36 to 72	60 × 46 to 81 × 59	12	14	10.5
	78 to 144	87 × 64 to 142 × 91	12	14	10.5
5 × 1	36 to 72	60 × 46 to 81 × 59	20	22	
	78 to 144	87 × 64 to 142 × 91	20	22	

[1] Fabricate annular, helical and semi-corrugated type coupling bands from the same metal as the connecting pipe. Provide coupling bands not more than 3 nominal sheet thicknesses thinner than the thickness of the pipe to be connected, and no thinner than 0.052 inch for steel or 0.048 inch for aluminum. Fasten coupling bands with the following diameter of bolt:
⅜" for 18" round culvert (21" × 15" pipe arch) or less
½" for 21" round culvert (24" × 18" pipe arch) or more

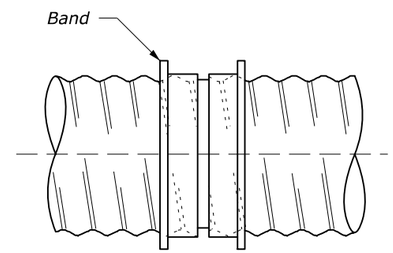
[2] For helically corrugated pipe with rerolled ends, the nominal corrugations size refers to the dimension of the end corrugation in the pipe.

[3] Use annular corrugated bands with pipes having annular corrugations or with helical pipe having rerolled end to form annular corrugations. A 10.5 inch band is acceptable on pipe ends rerolled with 2⅔" × ½" corrugations. A 12 inch band is acceptable on pipe ends rerolled with 3" × 1" pipe corrugations.

[4] Use helical corrugated bands with pipes having helically corrugated ends.

[5] The minimum band widths shown for 3" × 1" and 5" × 1" corrugated sizes apply to 2⅔" × ½" corrugations on rerolled pipe ends.

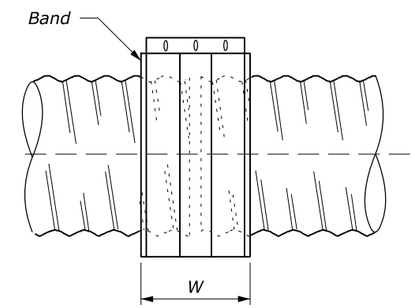
[6] Smooth sleeve-type couplers and flat bands may be used for pipe diameters of 12" or less. Use a matching metal having a nominal thickness of not less than 0.040 inch for steel, or 0.036 inch for aluminum, or a plastic with an equivalent strength to metal.



SLEEVE JOINT

Smoother sleeve with center stop.
Stab type joint

SMOOTH SLEEVE BAND



FLAT BAND

NOTE:

1. Watertight pipe joints are not required unless specified in the Special Contract Requirements.
2. Other types of coupling bands or fastening devices that comply with the joint performance criteria of AASHTO Standard specifications for Highway Bridges, Division II Section 26 may be used.

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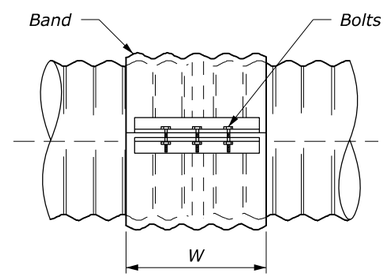
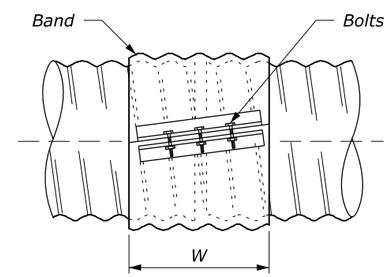
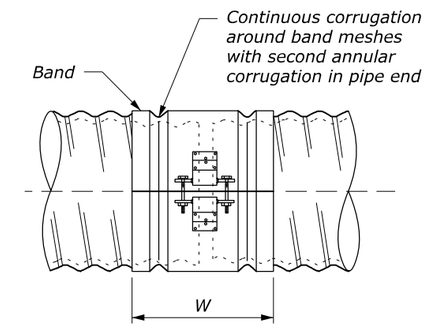


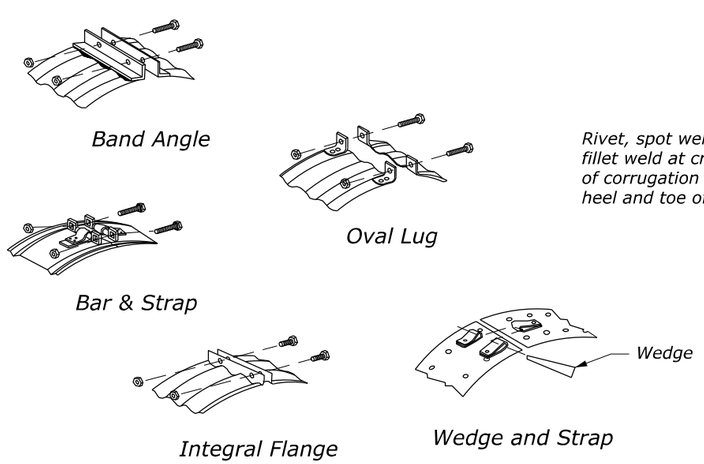
SIDE VIEW



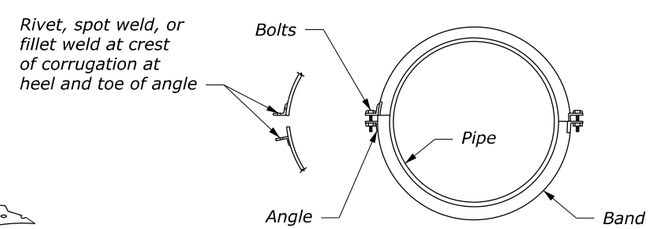
SIDE VIEW



SIDE VIEW



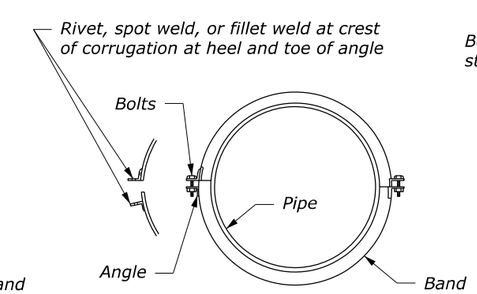
STANDARD BAND CONNECTIONS



END VIEW

Second angle connection optional to 42" diameter, required above 42" diameter

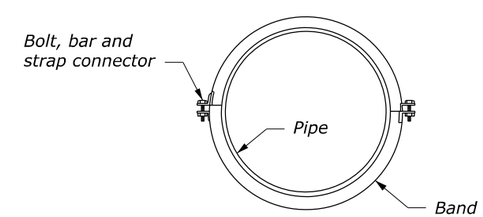
ANNULAR BAND



END VIEW

Second angle connection optional to 42" diameter, required above 42" diameter

HELICAL BAND



END VIEW

SEMI-CORRUGATED BAND

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

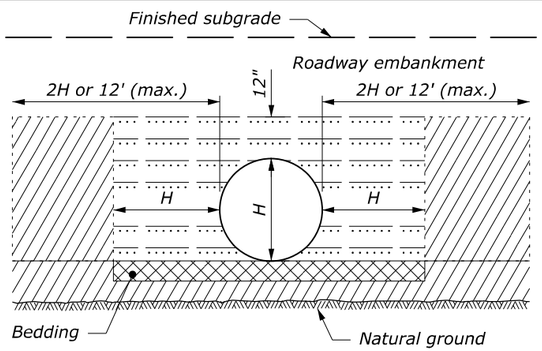
METAL PIPE CULVERT COUPLING BAND

STANDARD APPROVED FOR USE 12/1993
REVISED: 4/1994 6/2005

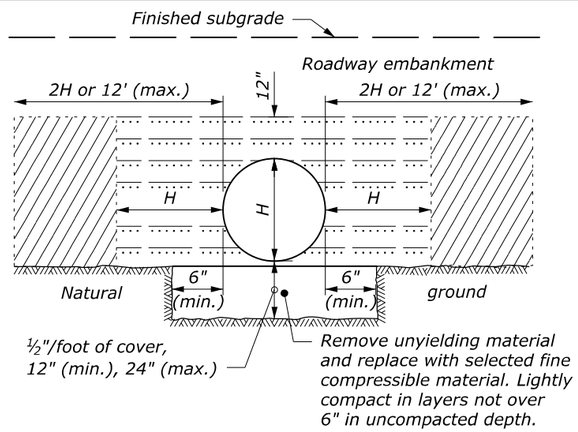
STANDARD 602-2

2 September 2015 11:30 AM c:\myfiles\pw_production\dms52075\Std602-2.dgn [USC]

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T4

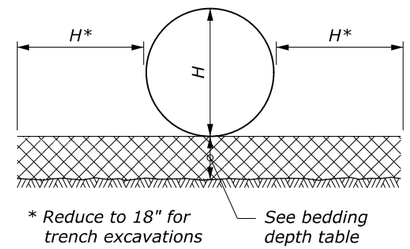


ABOVE NATURAL GROUND



ON UNYIELDING MATERIAL

BEDDING DEPTH	
PIPE SIZE (H)	DEPTH
12" to 54"	4"
> 54"	6"

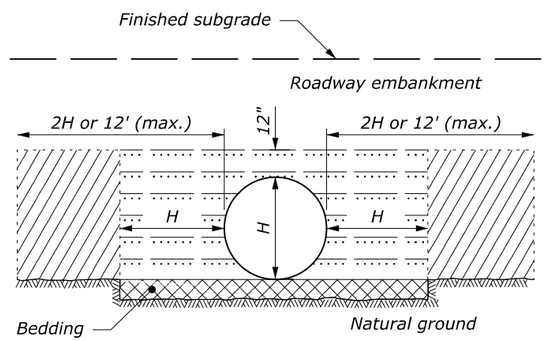


PIPE BEDDING

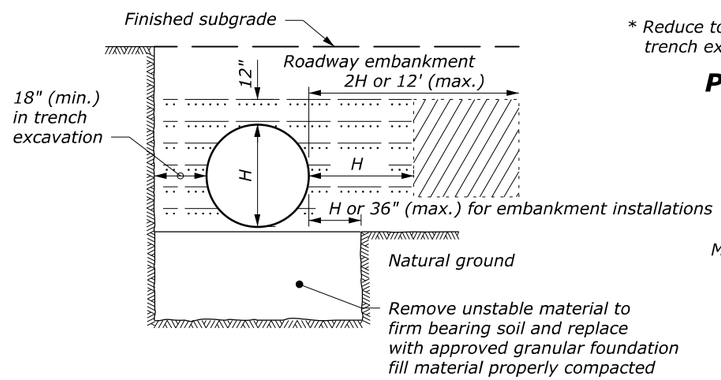
NOTE:

1. When directed, camber pipe culverts upward from a chord through the inlet and outlet inverts an ordinate amount equal to 1% of the pipe length. Develop camber on a parabolic curve. If the midpoint elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe culvert gradient.
2. H equals the diameter of all round pipe culverts or the rise dimension of all pipe arch culverts.
3. See Section 704 for bedding and backfill requirements.

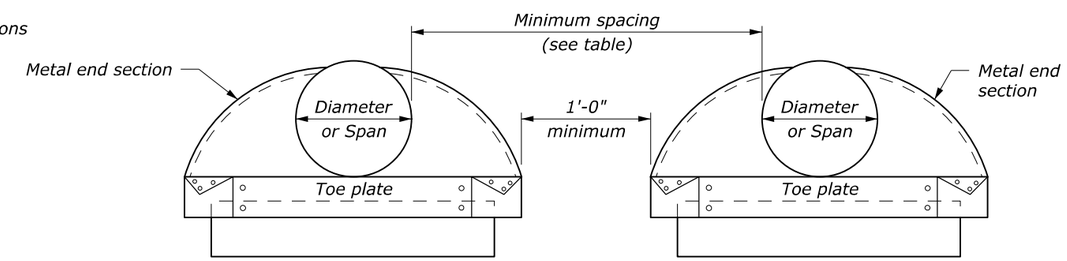
MINIMUM SPACING	
DIAMETER or SPAN	SPACING
UP to 48"	24"
48" and UP	Half diameter or span or 36", whichever is less



ON NATURAL GROUND

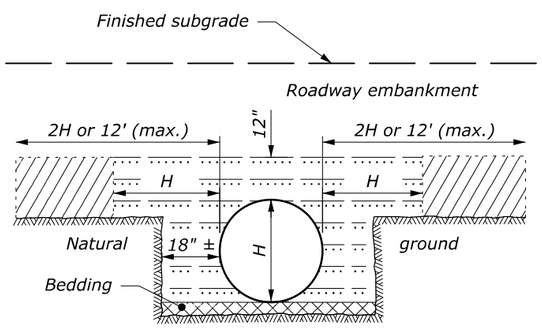


ON UNSTABLE MATERIAL

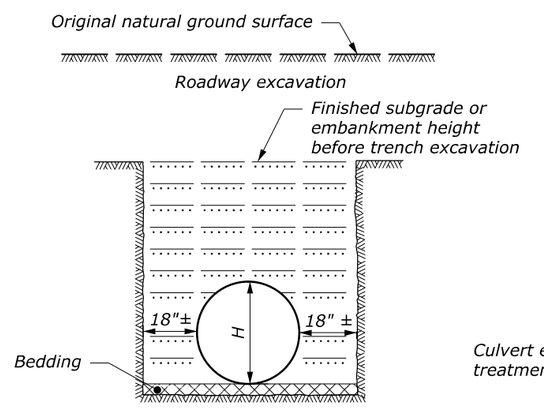


ELEVATION

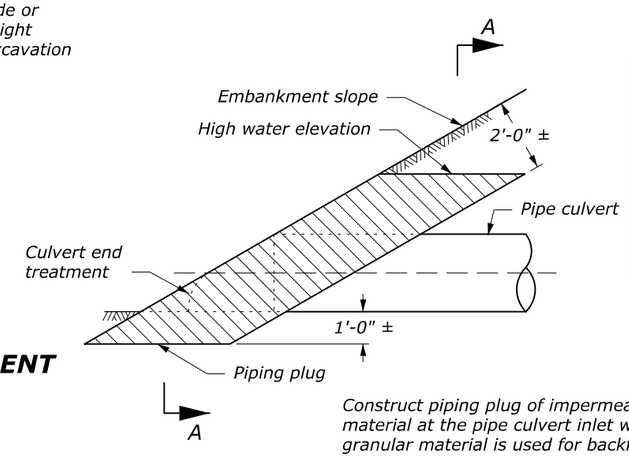
MULTIPLE PIPE INSTALLATION



ABOVE AND BELOW NATURAL GROUND

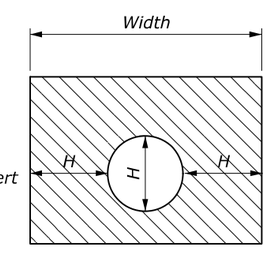


BELOW NATURAL GROUND OR TRENCH EXCAVATION IN EMBANKMENT



Construct piping plug of impermeable backfill material at the pipe culvert inlet where granular material is used for backfill. Width may be adjusted to tie into impervious material.

PIPING PLUG



SECTION A-A

LEGEND:

- Bedding material (uncompacted)
- Embankment material placed in layers not exceeding 6" compacted depth.
- Compacted backfill material placed in layers not exceeding 6" compacted depth; or lean concrete backfill in accordance with Section 614.
- Impermeable backfill material.

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

METAL AND PLASTIC PIPE CULVERT BEDDING

STANDARD APPROVED FOR USE 12/1993
REVISED: 4/1994 6/2005
DRAFT: 10/2017

STANDARD 602-3

24 February 2016 8:59 AM c:\myfiles\pw_production\d0243077\FLH-Cells.dgnlib [Border.US]

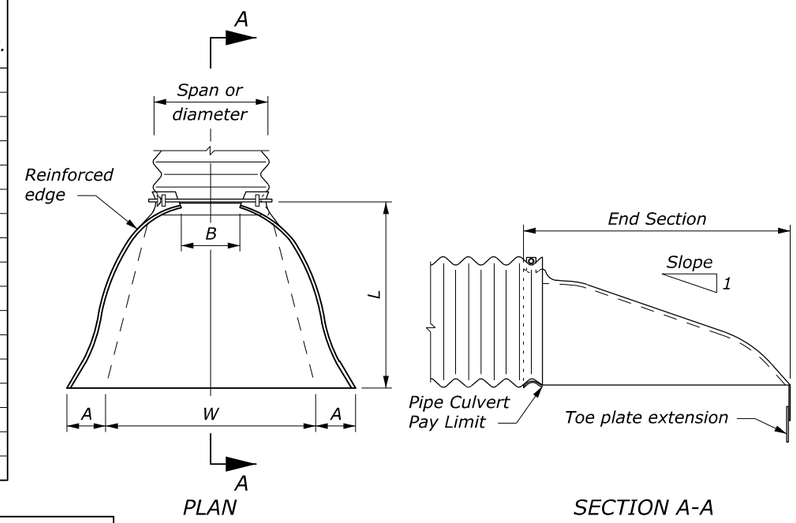
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T5

END SECTIONS FOR ROUND PIPE CULVERT

PIPE SIZE DIAMETER INCHES	METAL THICKNESS STEEL INCHES	STEEL GAGE	ALUMINUM INCHES	ALUMINUM GAGE	DIMENSIONS INCHES A (min)	B (max)	H (min)	L (±2")	W (max)	SLOPE Approx.
12	0.064	16	0.060	16	5	7	6	21	44	2¼
15	0.064	16	0.060	16	6	8	6	26	52	2¼
18	0.064	16	0.060	16	7	10	6	31	58	2⅛
21	0.064	16	0.060	16	8	12	6	36	66	2⅛
24	0.064	16	0.060	16	9	13	6	41	72	2⅛
30	0.079	14	0.075	14	11	16	8	51	88	2⅛
36	0.079	14	0.075	14	13	19	9	60	105	2
42	0.109	12	0.105	12	15	25	10	69	122	2⅛
48	0.109	12	0.105	12	17	29	12	78	131	2
54	0.109	12	0.105	12	17	33	12	84	143	2
60	0.109	12	0.105	12	17	36	12	87	157	1⅞
66	0.109	12	0.105	12	17	39	12	87	162	1⅝
72	0.109	12	0.105	12	17	44	12	87	169	1½
78	0.109	12	0.105	12	17	48	12	87	178	1⅜
84	0.109	12	0.105	12	17	52	12	87	184	1⅓
90	0.109	12	0.105	12	17	58	12	87	188	1¼
96	0.109	12	0.105	12	17	58	12	87	197	1⅛

END SECTIONS FOR PIPE ARCH CULVERT

PIPE SIZE SPAN × RISE INCHES	EQUI-VALENT DIAM. (INCHES)	METAL THICKNESS STEEL INCHES	STEEL GAGE	ALUMINUM INCHES	ALUMINUM GAGE	DIMENSIONS INCHES A (min)	B (max)	H (min)	L (±2")	W (max)	SLOPE Approx.
17 × 13	15	0.064	16	0.060	16	7	9	6	19	30	2½
21 × 15	18	0.064	16	0.060	16	7	10	6	23	36	2½
24 × 18	21	0.064	16	0.060	16	8	12	6	28	42	2½
28 × 20	24	0.064	16	0.060	16	9	14	6	32	48	2½
35 × 24	30	0.079	14	0.075	14	10	16	8	39	60	2½
42 × 29	36	0.079	14	0.075	14	12	18	9	46	75	2½
49 × 33	42	0.109	12	0.105	12	13	21	12	53	85	2½
57 × 38	48	0.109	12	0.105	12	18	26	12	63	90	2½
60 × 46	54	0.109	12	0.105	12	18	34	12	70	102	2
64 × 43	54	0.109	12	0.105	12	18	30	12	70	102	2
66 × 51	60	0.109	12	0.105	12	18	33	12	77	116	1½
71 × 47	60	0.109	12	0.105	12	18	33	12	77	114	1½
73 × 55	66	0.109	12	0.105	12	18	36	12	77	126	1½
77 × 52	66	0.109	12	0.105	12	18	36	12	77	126	1½
81 × 59	72	0.109	12	0.105	12	18	39	12	77	138	1½
83 × 57	72	0.109	12	0.105	12	18	39	12	77	138	1½
87 × 63	78	0.109	12	0.105	12	20	38	12	77	148	1½
95 × 67	84	0.109	12	0.105	12	20	34	12	87	162	1½
103 × 71	90	0.109	12	0.105	12	20	38	12	87	174	1½
112 × 75	96	0.109	12	0.105	12	20	40	12	87	174	1½



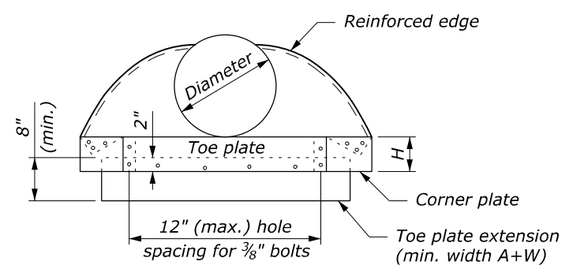
PLAN

SECTION A-A

ROUND OR PIPE ARCH CULVERT

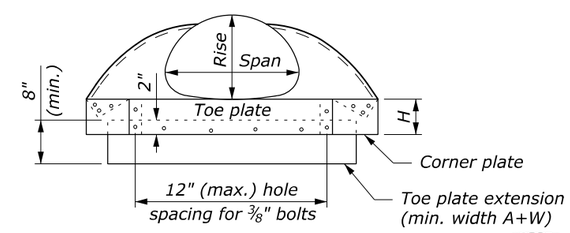
NOTE:

1. Variations in design and dimensions are permitted to allow for manufacturer's standards.
2. Fabricate the diameter of the end section of Design B to match the inside diameter of the concrete pipe culvert.
3. Design C may be used in lieu of design A for all metal pipe culvert sizes. Coupling bands may be any acceptable type for the pipe culvert specified.
4. Fabricate multiple piece bodies with lap seams tightly joined by ⅜" rivets or bolts. Fabricate end section center panels for 60" and larger diameter pipe and equivalent pipe arch from 0.138 inch steel or 0.135 inch aluminum.
5. On end section center panels for 66" and larger equivalent pipe arch provide 2½" × 2½" × ¼" angle reinforcement bolted or riveted under the center panel seam.
6. Supplement the reinforced edges of end sections for 60" and larger diameter pipe and 66" and larger equivalent pipe arch with 2½" × 2½" × ¼" stiffener angles attached with bolts or rivets.
7. Fabricate connector section, corner plate and toe plate extensions from the same metal thickness as the panel body. Use toe plate extension where shown on the plans.
8. Warp embankment slopes to match the slope of the flared end sections.



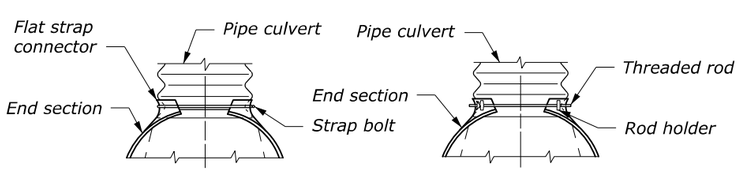
ELEVATION

ROUND PIPE CULVERT



ELEVATION

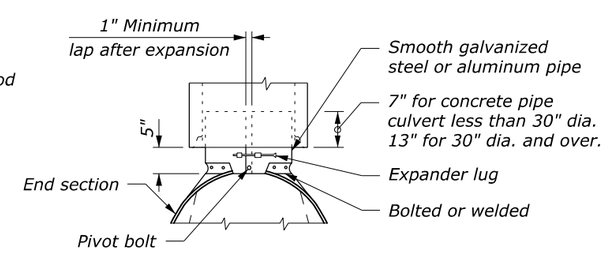
PIPE ARCH CULVERT



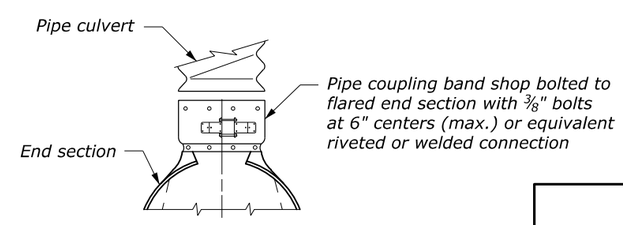
For 12" thru 24" round pipe and 17" × 13" thru 28" × 20" pipe arch

For 30" thru 60" round pipe and 35" × 24" thru 66" × 51" pipe arch

DESIGN A
CONNECTION TO ANNULAR CORRUGATED METAL PIPE



DESIGN B
CONNECTION TO CONCRETE PIPE INLET END



For all sizes of round pipe and pipe arch

DESIGN C
CONNECTION TO METAL PIPE OR OUTLET END OF CONCRETE PIPE

NO SCALE

COLORADO LICENSED
KIRK ANTHONY SPALDING
45223
7/21/23
PROFESSIONAL ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

METAL END SECTIONS

STANDARD APPROVED FOR USE 12/1993
REVISED: 4/1994 6/2005
DRAFT: 10/2007

STANDARD 602-4

3 September 2015 11:06 AM c:\myfiles\pw_production\dms52075\Std602-4.dgn [USC]

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T6

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9/22/2014

STATE	PROJECT	SHEET NUMBER
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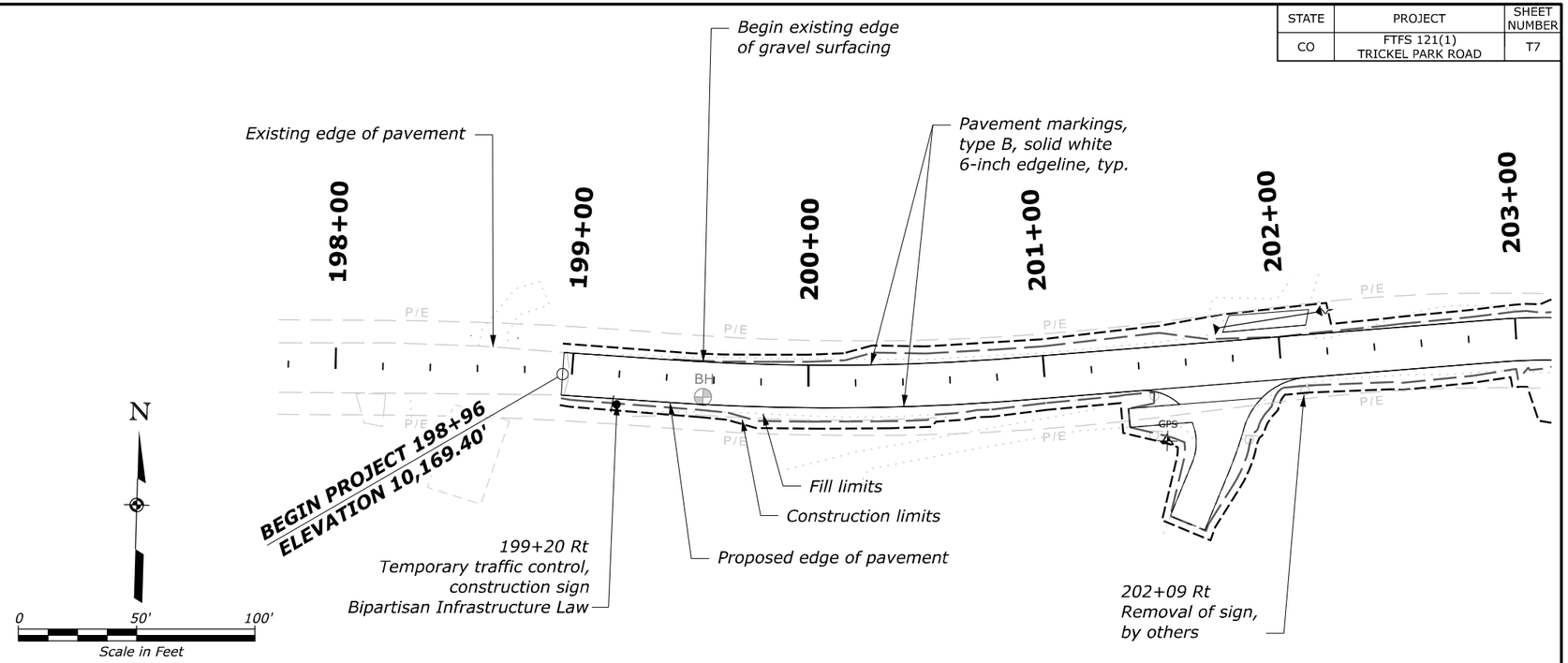

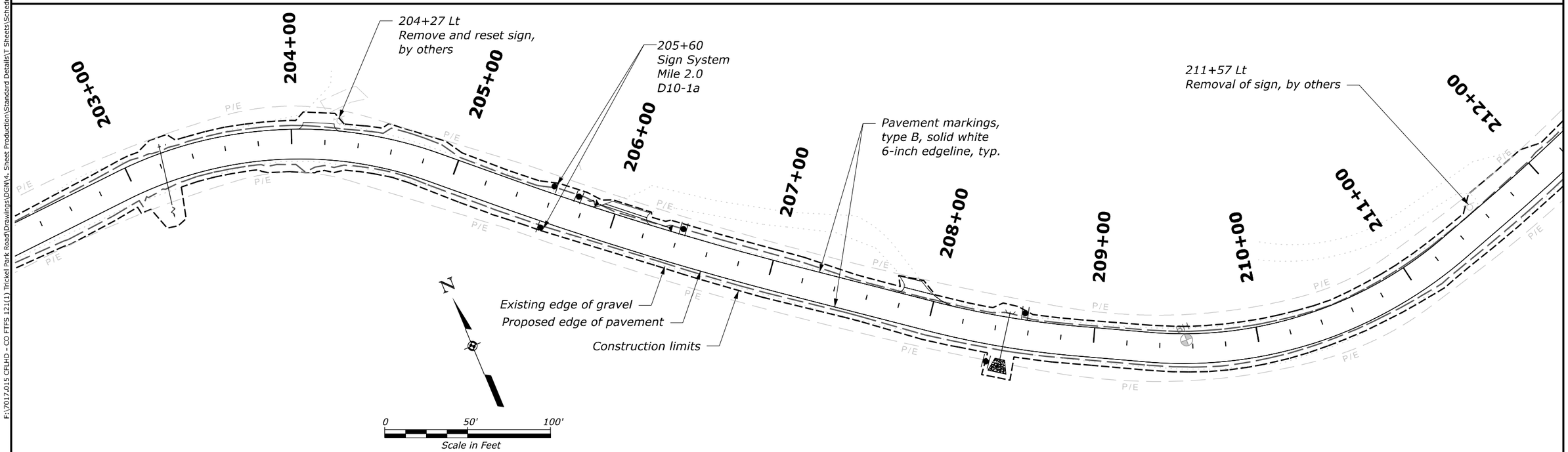

NOTE: 6" edgeline is to be located at edge of pavement.

TRICKEL PARK ROAD
SCHEDULE A
SIGNING AND STRIPING

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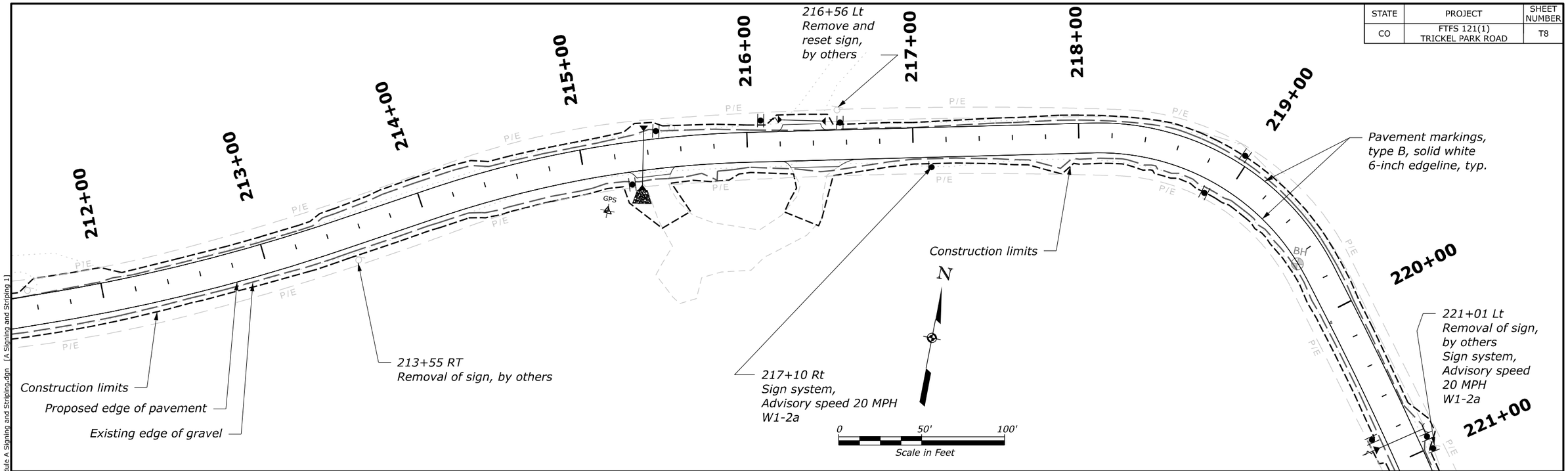

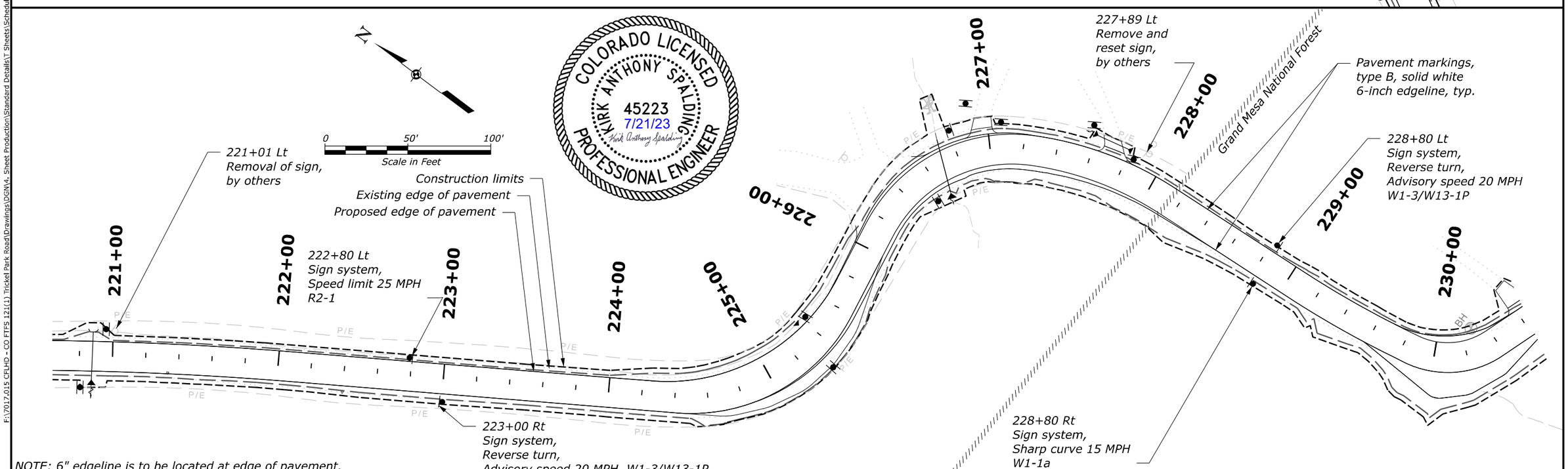

COLORADO LICENSED
KIRK ANTHONY SPALDING
45223
7/21/23
Kirk Anthony Spalding
PROFESSIONAL ENGINEER

NOTE: 6" edgeline is to be located at edge of pavement.

TRICKEL PARK ROAD
SCHEDULE A
SIGNING AND STRIPING

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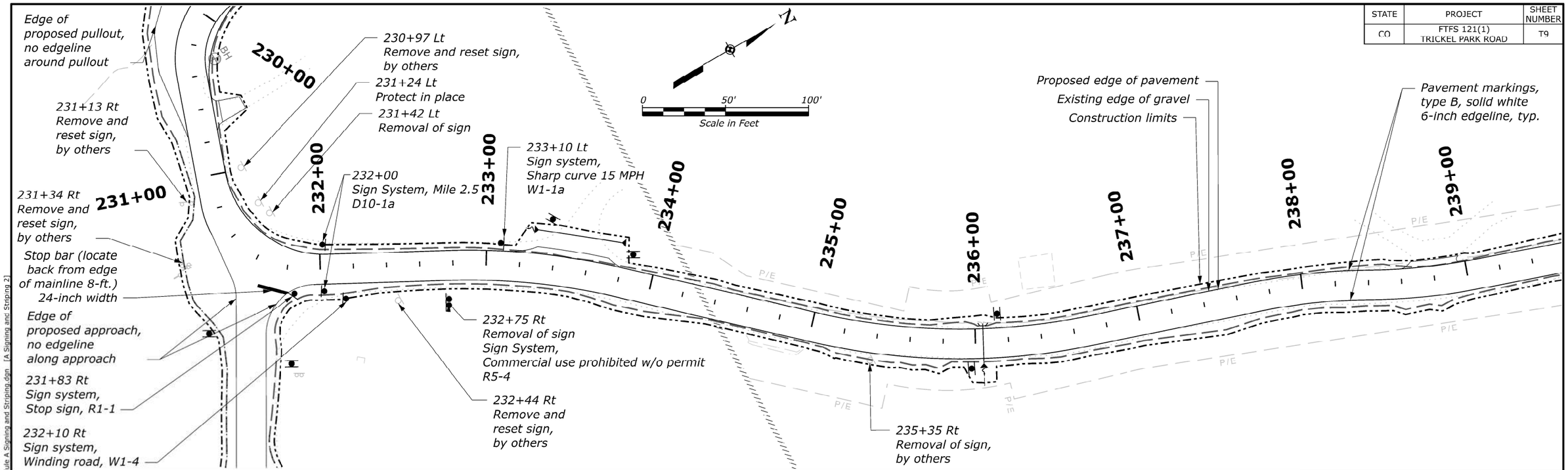

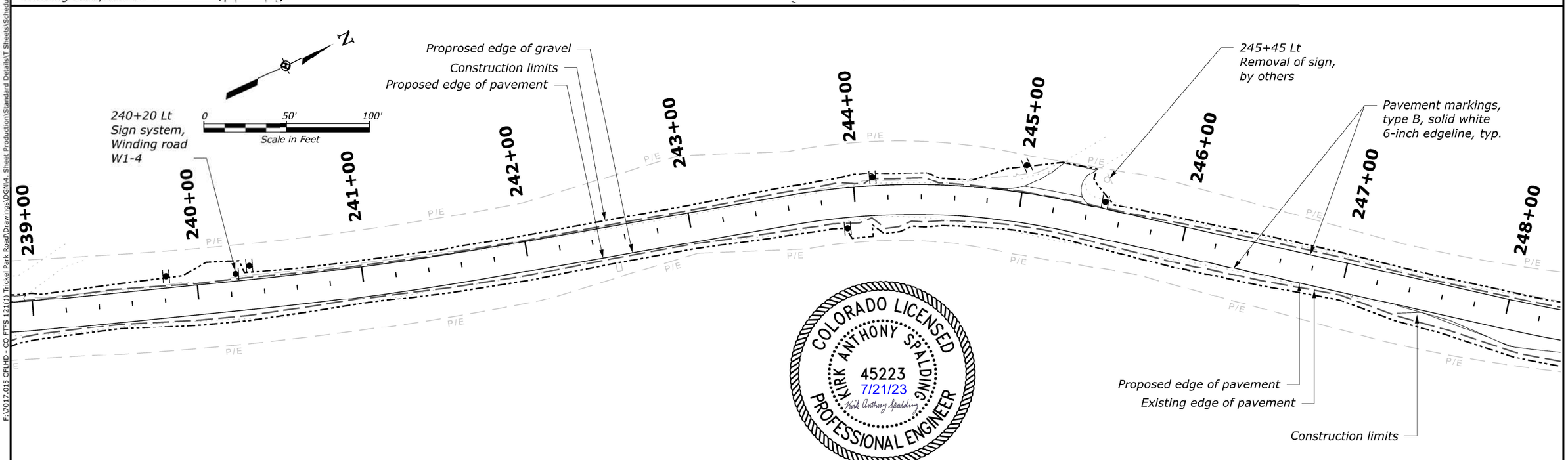

COLORADO LICENSED
KIRK ANTHONY SPALDING
45223
7/21/23
PROFESSIONAL ENGINEER

NOTE: 6" edgeline is to be located at edge of pavement.

TRICKEL PARK ROAD
SCHEDULE A
SIGNING AND STRIPING

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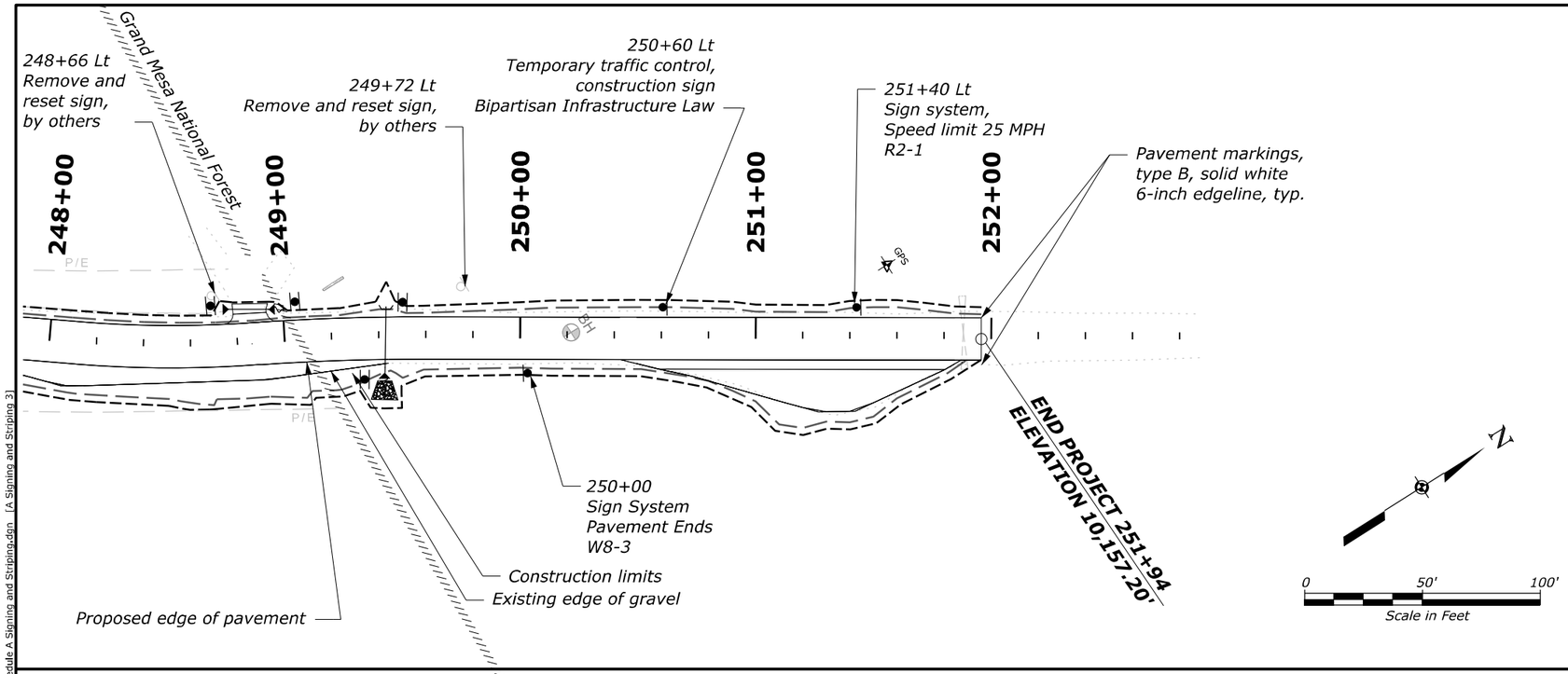
CO	FTFS 121(1) TRICKEL PARK ROAD	T10



NOTE: 6" edgeline is to be located at edge of pavement.

TRICKEL PARK ROAD
SCHEDULE A
SIGNING AND STRIPING

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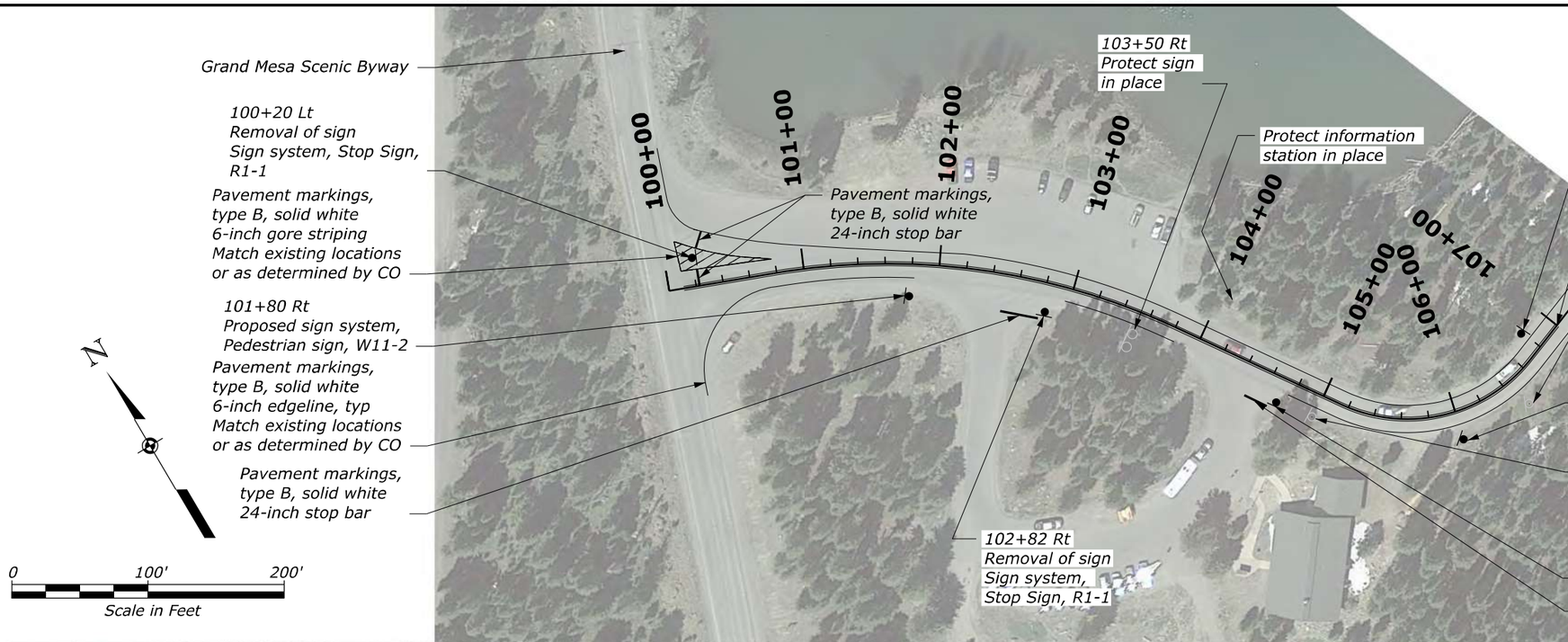
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T11



106+80 Lt
Proposed sign system, Pedestrian sign, W11-2

100+11 to 107+00
Pavement markings, type B, solid yellow, 4-inch centerline
Match existing locations or as determined by CO

106+40 Rt
Protect sign in place

106+00 Rt
Proposed sign system, Speed Limit 25 MPH, R2-1

104+98 Rt
Protect sign in place

104+65 Rt
Removal of sign
Sign system, Stop Sign, R1-1

Pavement markings, type B, solid white 24-inch stop bar

COLORADO LICENSED
KIRK ANTHONY SPALDING
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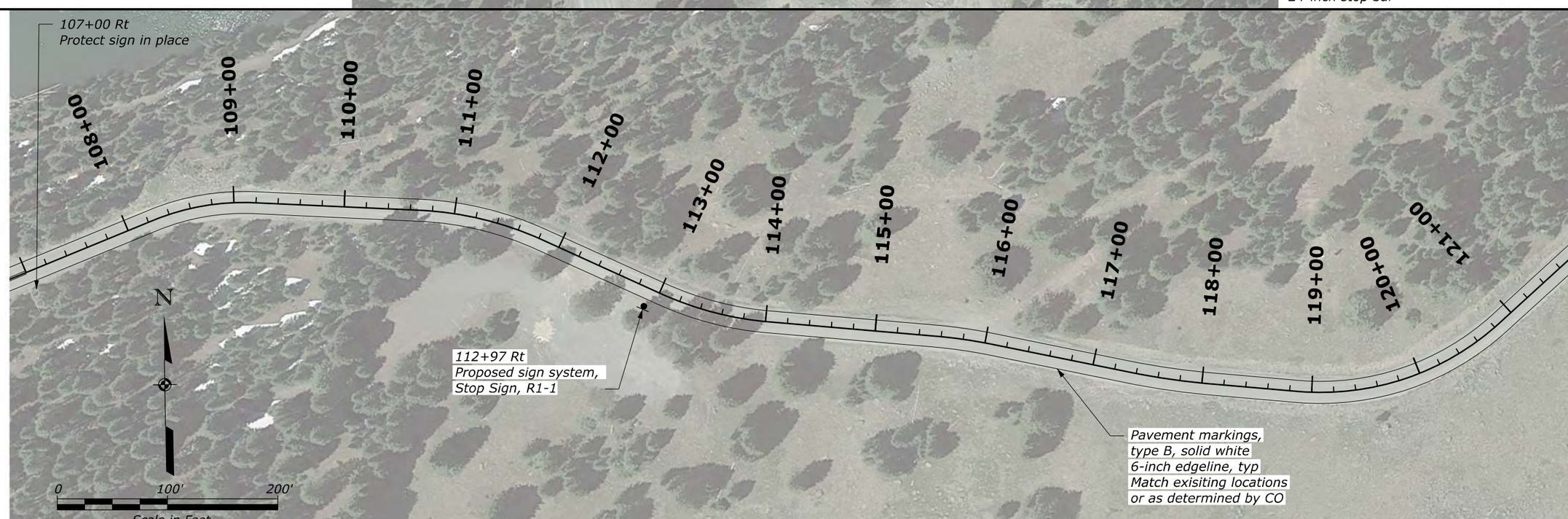
8/21/23
PROFESSIONAL ENGINEER



TRICKEL PARK ROAD
OPTION X
SIGNING AND STRIPING

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21 August 2023 5:55 PM

STATE	PROJECT	SHEET NUMBER
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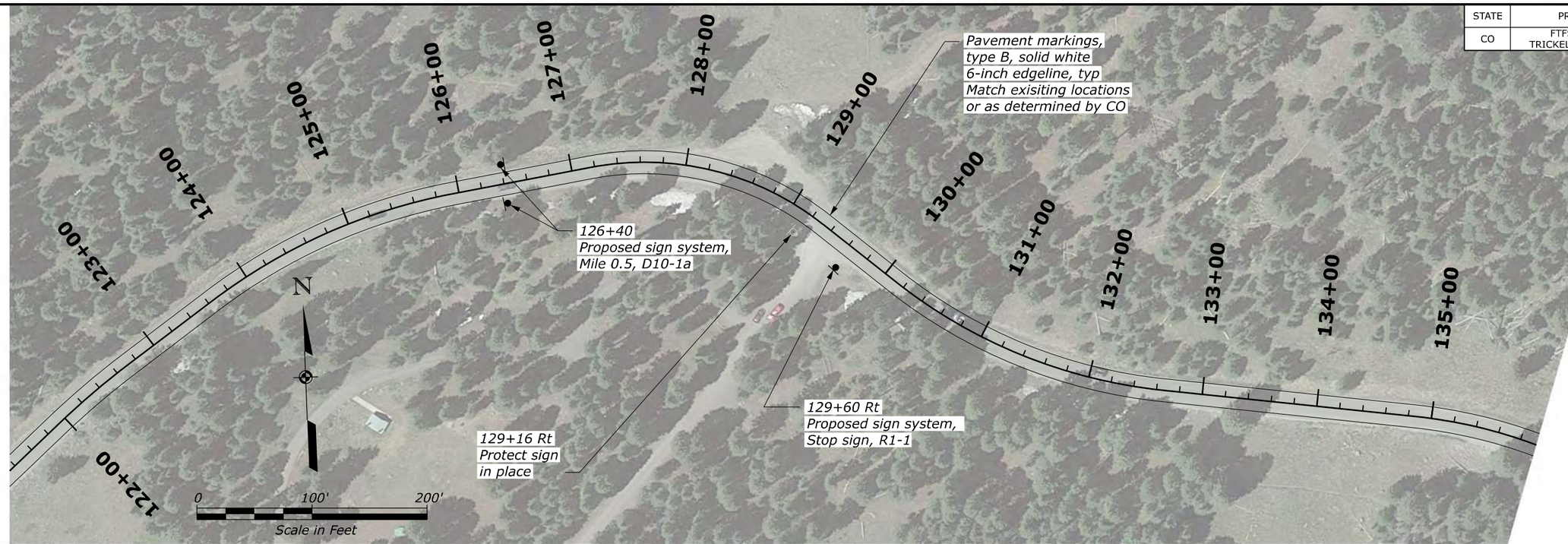

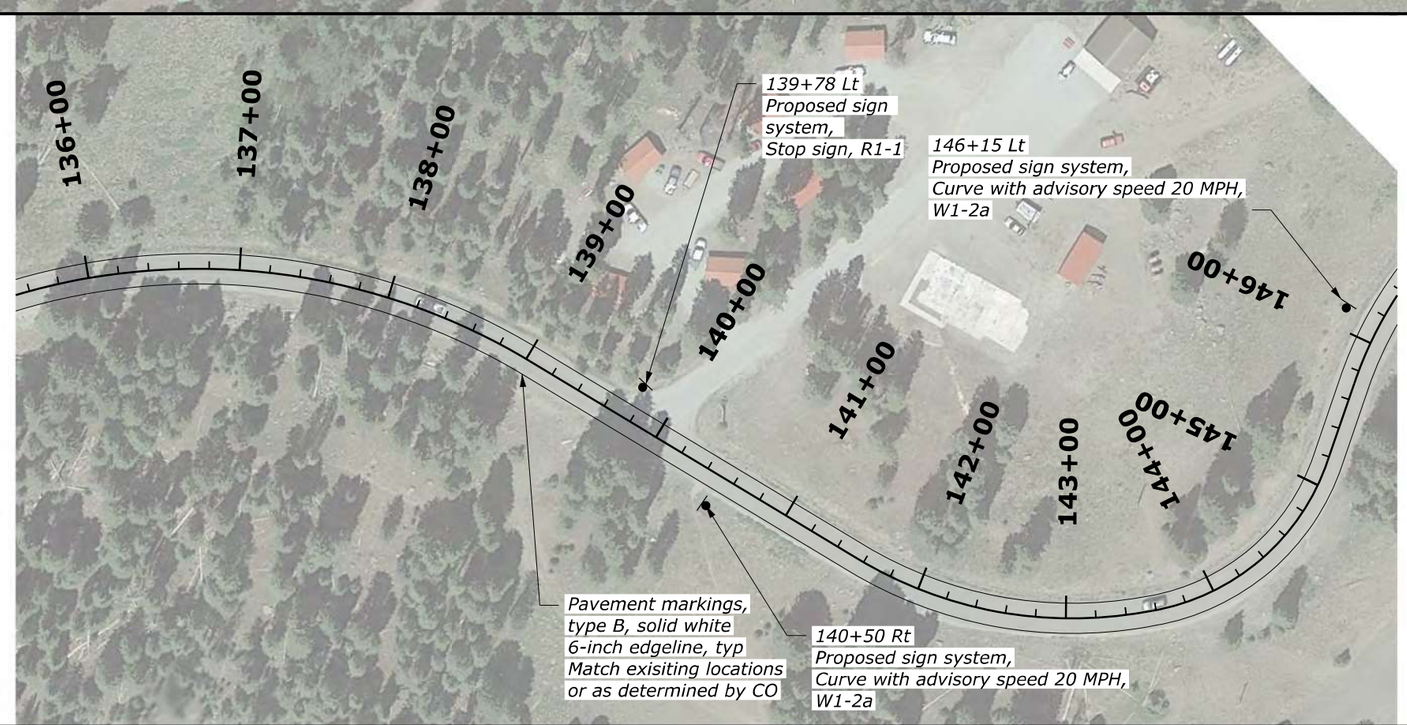

COLORADO LICENSED
KIRK ANTHONY SPALDING
45223
8/21/23
Kirk Anthony Spalding
PROFESSIONAL ENGINEER

TRICKEL PARK ROAD
OPTION X
SIGNING AND STRIPING

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STATE	PROJECT	SHEET NUMBER
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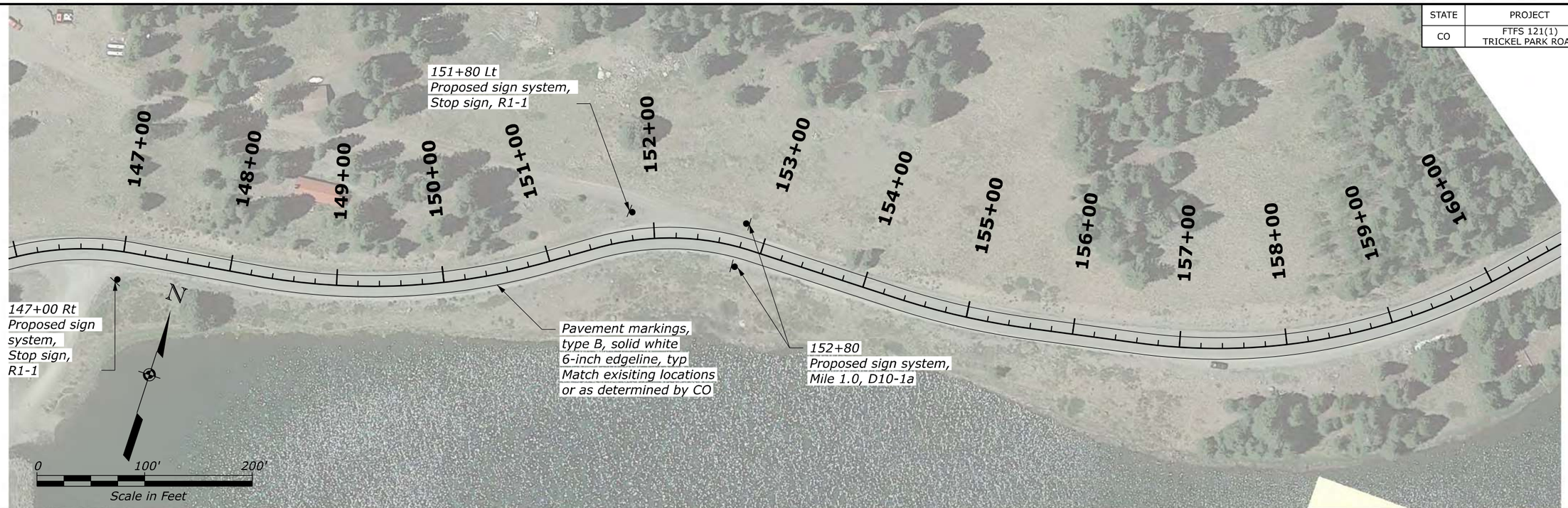

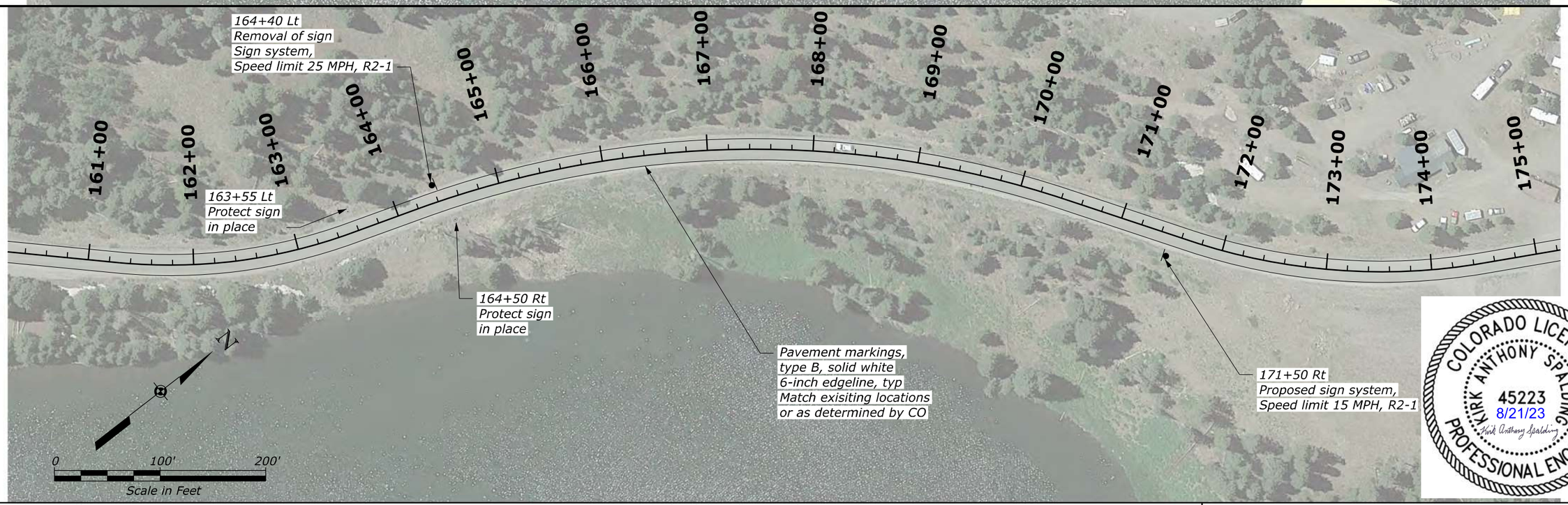

COLORADO LICENSED
KIRK ANTHONY SPALDING
45223
8/21/23
Kirk Anthony Spalding
PROFESSIONAL ENGINEER

TRICKEL PARK ROAD
OPTION X
SIGNING AND STRIPING

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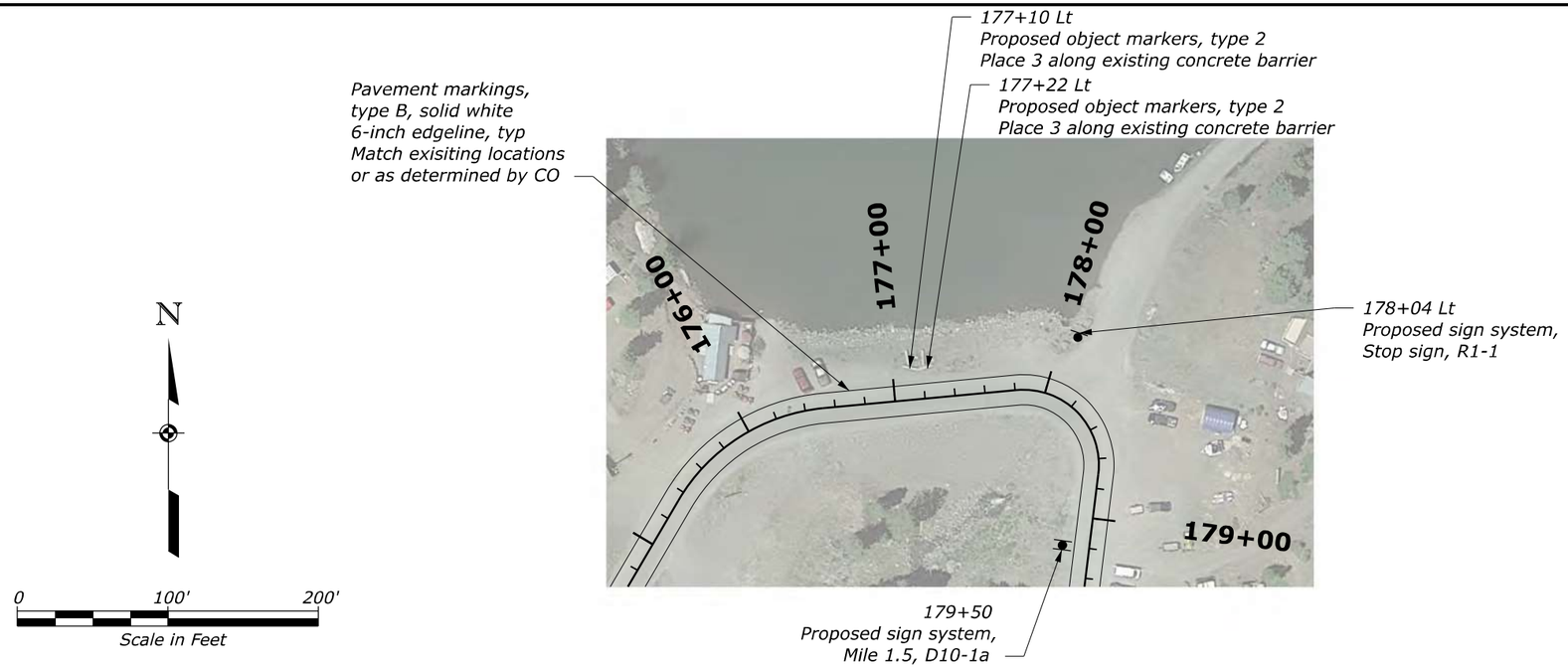
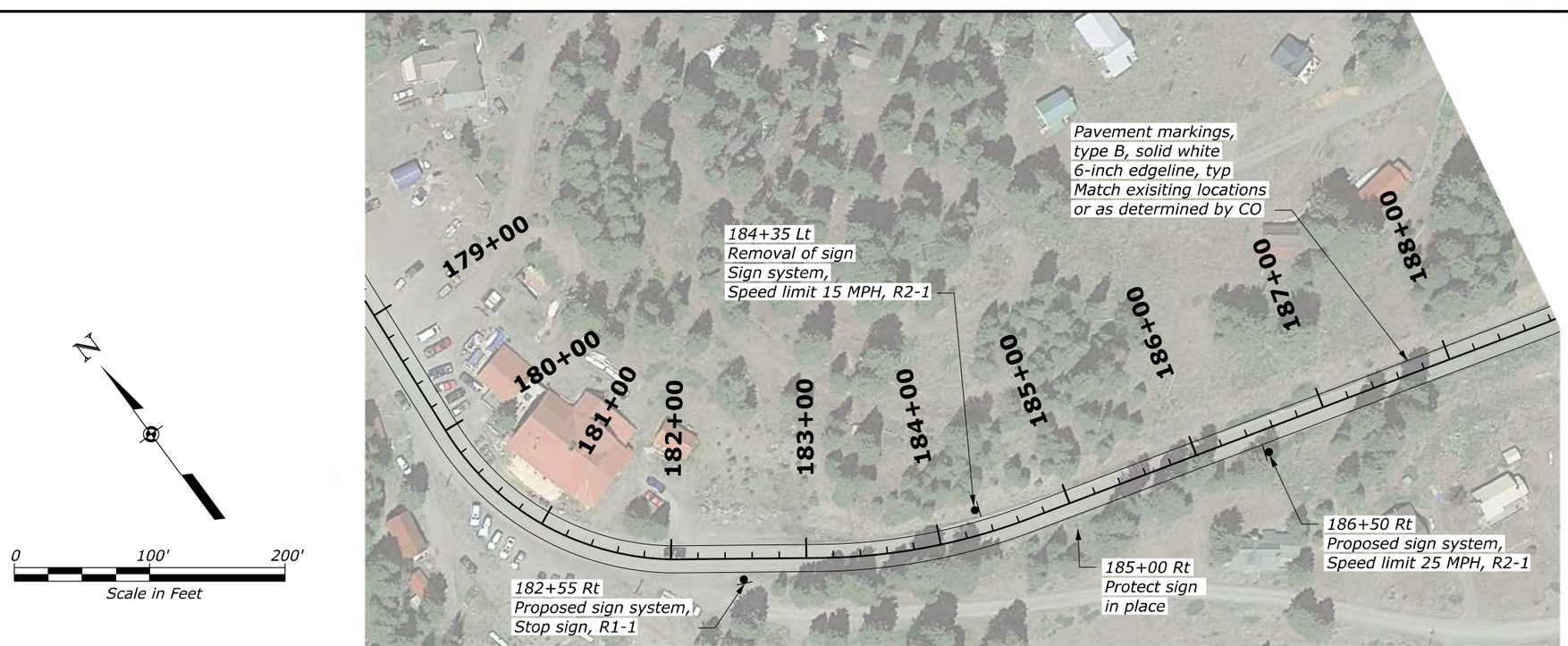
21 August 2023 5:59 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T14





TRICKEL PARK ROAD
OPTION X
SIGNING AND STRIPING

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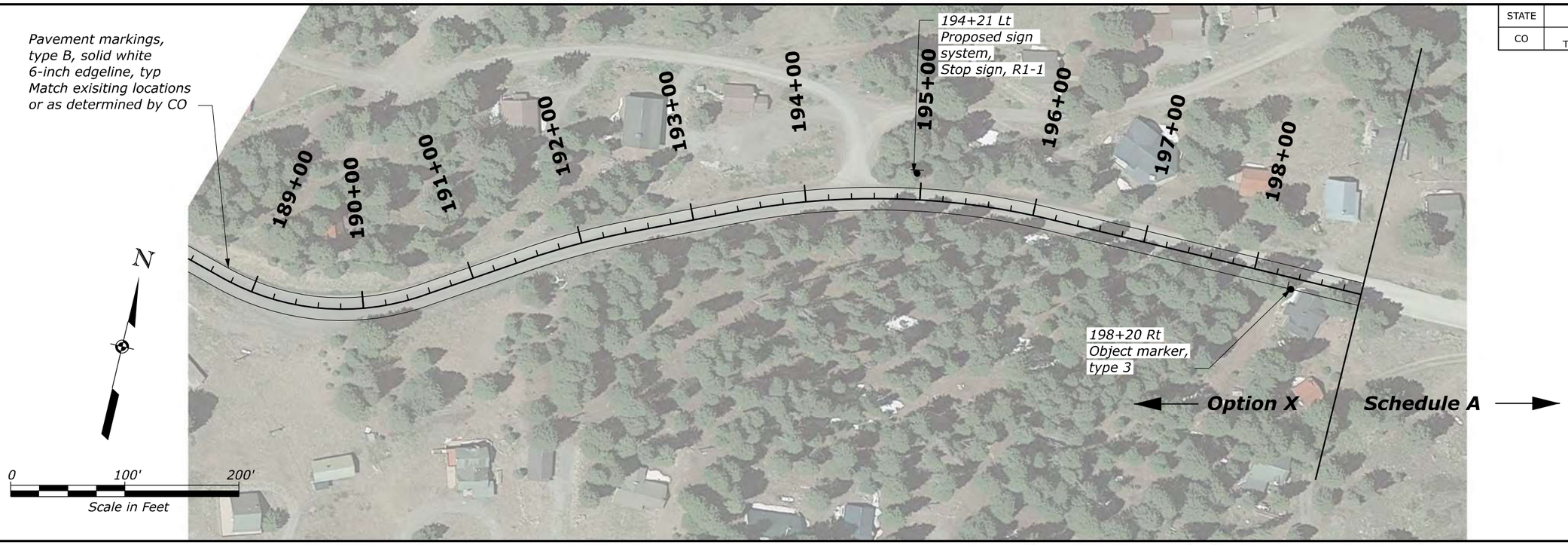
21 August 2023 6:02 PM

STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T15



COLORADO LICENSED
KIRK ANTHONY SPALDING
45223
8/21/23
PROFESSIONAL ENGINEER

TRICKEL PARK ROAD
OPTION X
SIGNING AND STRIPING

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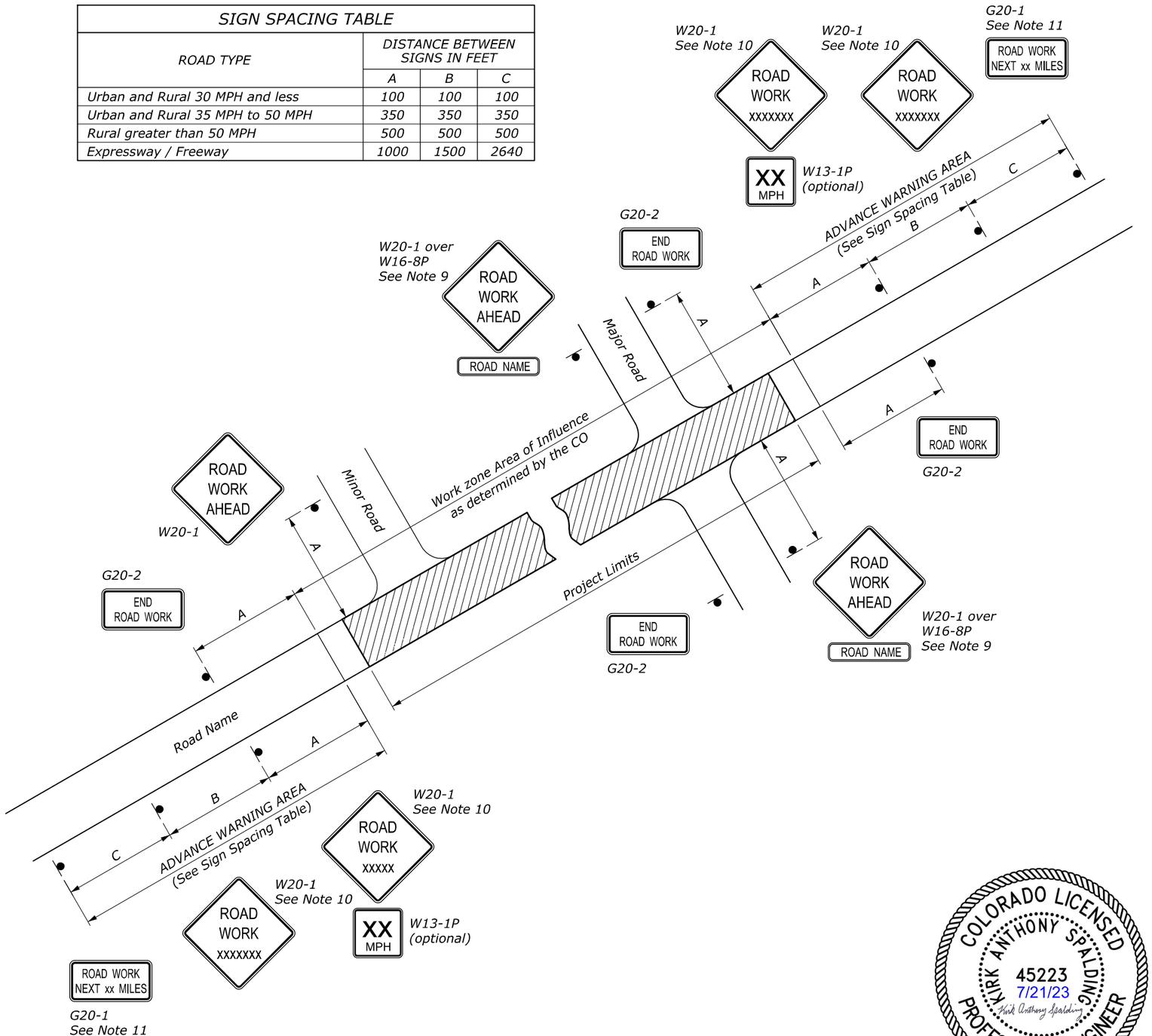
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T16

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640



NOTE:

1. Erect all project advance warning signs before starting construction work.
2. Not all details shown on the temporary traffic control sheets may be applicable to this project. The Contractor may add or delete information and details in this traffic control plan as necessary to accommodate actual operations.
3. Where advance warning signs, placed as shown, interfere with permanent signs, locate the warning signs as determined by the CO for best results. Vary messages as required.
4. Additional or different message signs may be required to fit the actual construction conditions.
5. Install advisory speed plates under the W20 series warning signs as needed to indicate a maximum recommended speed through the construction area.
6. Ensure all sign supports exposed to impact by traffic meet the requirements of NCHRP-350 or MASH for crashworthiness.
7. Maintain two-way traffic during all non-work hours except as approved by the CO.
8. Do not store traffic control devices along the roadway when not in use. Cover post-mounted signs when not applicable.
9. If W20-1 is placed on a roadway other than that on which the actual construction work occurs, include a supplementary plaque indicating the name of the road on which the construction does occur (applies to major roads only).
10. The message on the W20-1 signs may be "ROAD WORK AHEAD" or may specify the distance to the work area in feet or in miles. Install an additional W20-1 sign when approach speeds exceed 50 MPH. When used place the two W20-1 signs "B" feet apart according to the Sign Spacing Table.
11. For work zones that are 2 miles or more in length, install G20-1 signs at each end of the project. Show the distance on the G20-1 sign to the nearest whole mile.
12. If signing on a roadway under a jurisdiction other than the client agency, verify that an encroachment permit has been obtained.
13. State standards may be used as an alternative if approved by the CO.
14. Refer to the Section 635 of the Special Contract Requirements for allowable retroreflective sheeting types.

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PROFESSIONAL ENGINEER

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL ADVANCE SIGNING

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 6/2014

STANDARD 635-1

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STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T17

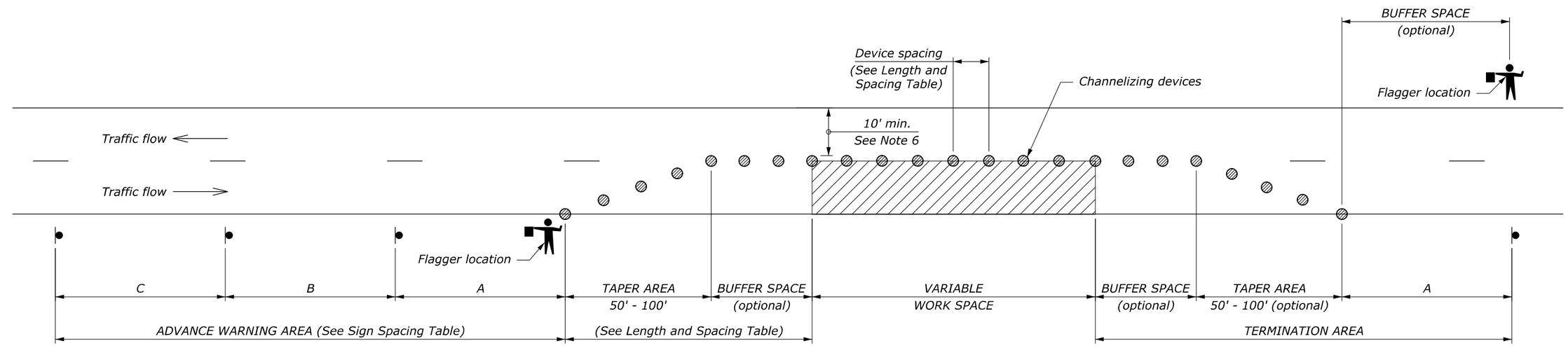
LENGTH AND SPACING TABLE				
APPROACH SPEED*	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
		TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	SPACING IN FEET		
20	115	20	40	40
25	155	20	50	50
30	200	20	60	60
35	250	20	70	70
40	305	20	80	80
45	360	20	90	90
50	425	20	100	100
55	495	20	110	110
60	570	20	120	120
65	645	20	130	130
70	730	20	140	140

* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE			
ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTE:

1. Signs are shown for one direction of travel only. Place devices similar to those depicted for the opposite direction of travel.
2. Final location and spacing of signs and devices may be changed to fit field conditions as approved by the CO.
3. For pilot car operation, mount the PILOT CAR FOLLOW ME (G20-4) sign at a conspicuous location on the rear of vehicle. Prominently display the name of the contractor on the pilot car.
4. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
5. For night time flagging operation, provide floodlighting at flagger stations.
6. For project specific minimum width, refer to the Special Contract Requirements, Section 156.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
8. Signs, channeling devices, traffic control supervisor hours, pilot car hours, and flagger hours paid for under 63501-0000 Temporary Traffic Control.



W20-1
See Note 4

W20-4

W13-1P
(optional)

W20-7

W16-2P
(optional)

G20-2
See Note 4

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SINGLE LANE CLOSURE LAYOUT (WITH FLAGGERS)

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 8/2013

STANDARD
635-6

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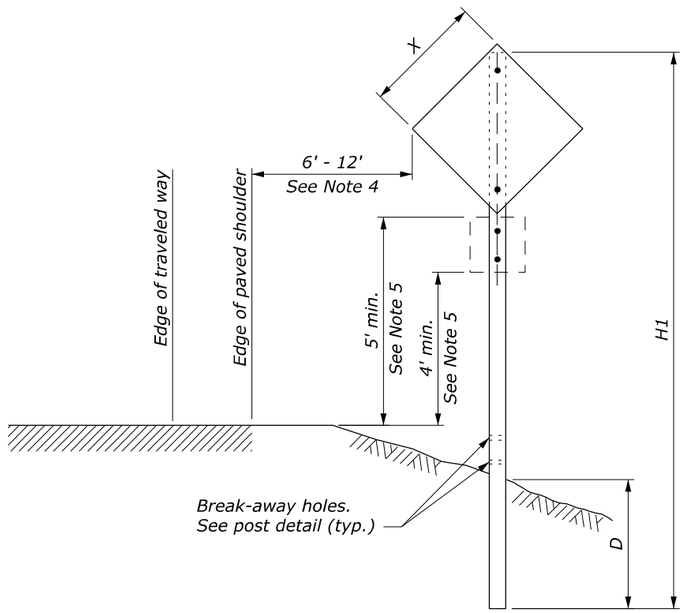
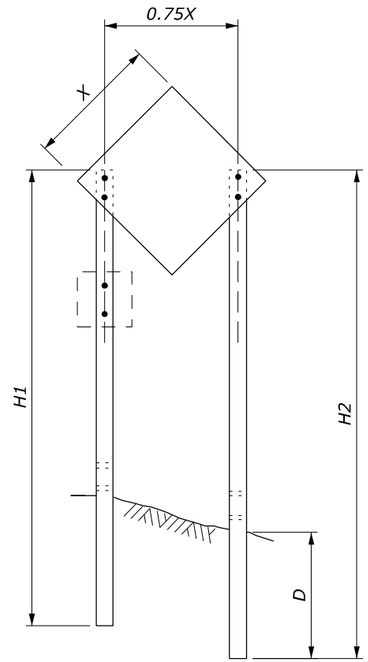
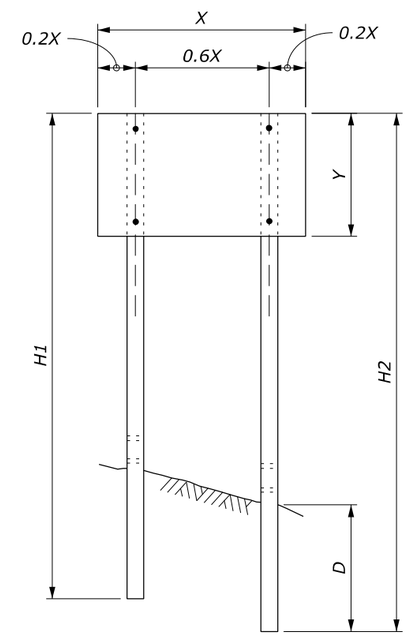
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T18



SINGLE POST SIGN



TWO POST SIGN

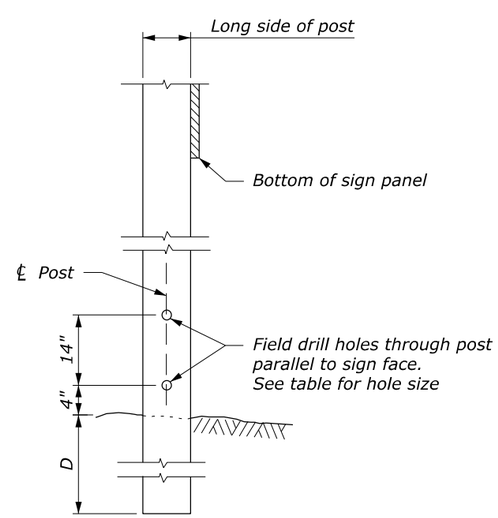


NOTE:

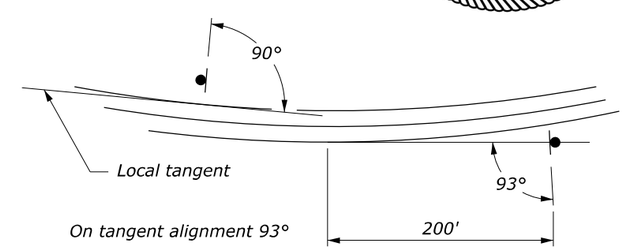
1. Attach sign panels with a minimum of 2 - ¼" dia. bolts per post.
2. H1 and H2 = Overall post length. Select post lengths to fit field conditions.
3. D = Post embedment depth for average soil conditions.
4. In areas where lateral distance is limited, a minimum lateral offset of 2' may be used. In areas with curbs, a minimum lateral distance of 1' behind the face of the curb may be used.
5. In pedestrian locations, or in areas with obstructed views, use 7' minimum mounting height for main sign and 6' minimum mounting height for secondary sign.
6. Use 7' minimum spacing between posts for sign posts 6" x 6" or larger.
7. State standards may be used as an alternative if approved by the CO.

WOOD POST SELECTION TABLE

WIDTH "X"	AREA (SQFT)	NUMBER OF POSTS	POST SIZE (INCH)	D (INCH)	HOLE SIZE (INCH)
Diamond ≤ 36" Other Shapes ≤ 48"	< 10	1	4 x 4	36	0
		1	4 x 6	48	1.5
Diamond ≤ 48"	10 - 20	1	6 x 6	48	2
Diamond ≤ 48" Other Shapes ≤ 12'	10 - 20	2	4 x 4	36	0
	20 - 50	2	4 x 6	48	1.5
> 13'	50 - 65	2	6 x 6	48	2
12' - 16'	50 - 65	3	4 x 6	48	1.5
> 17'	65 - 95	4	4 x 6	48	1.5
> 30'	65 - 95	3	6 x 6	48	2



POST DETAIL



SIGN INSTALLATION ANGLE

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

TEMPORARY TRAFFIC CONTROL SIGN INSTALLATION WOOD POSTS

STANDARD APPROVED FOR USE 6/2005

REVISED:
DRAFT: 10/2017

STANDARD 635-14

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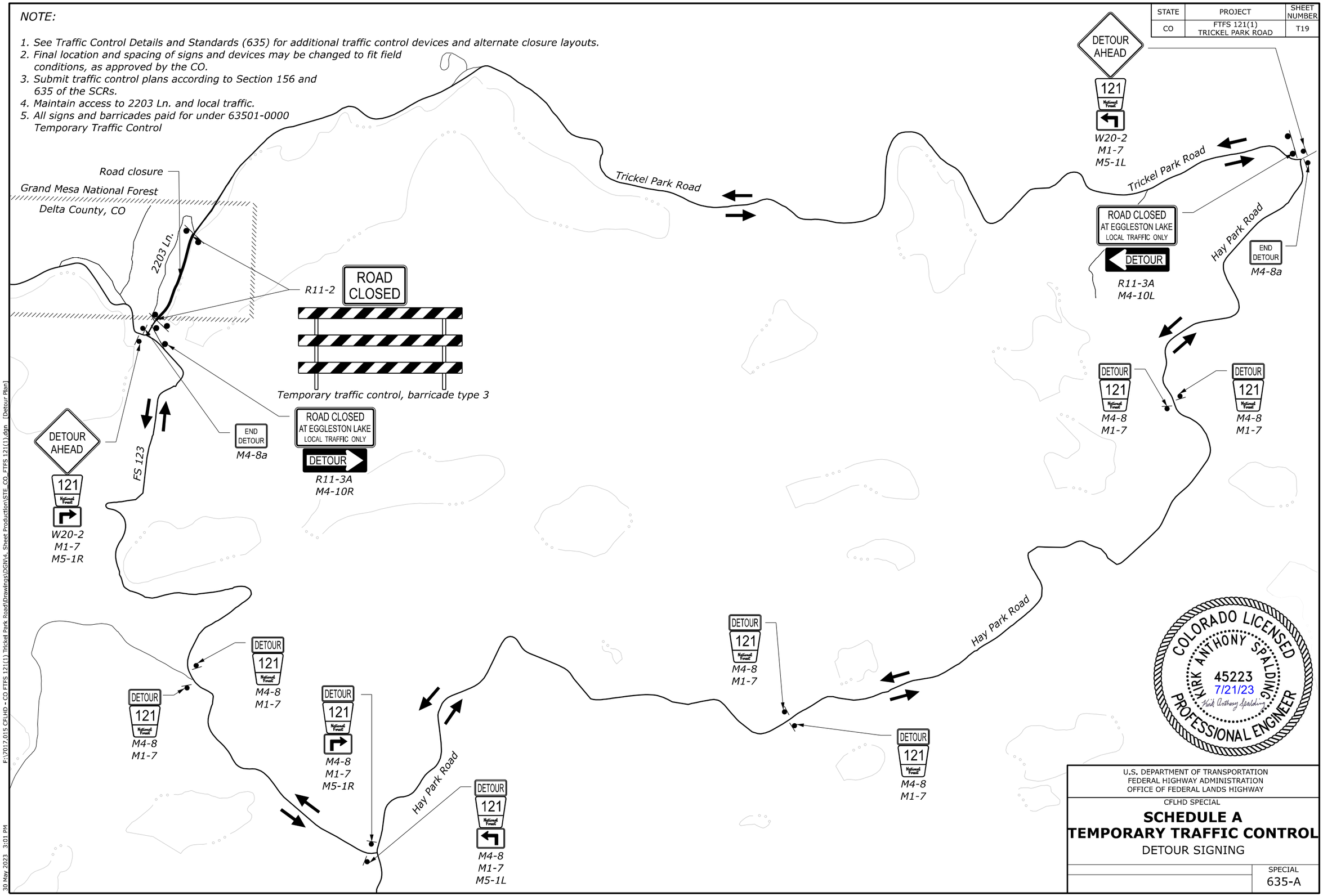
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T19

NOTE:

1. *See Traffic Control Details and Standards (635) for additional traffic control devices and alternate closure layouts.*
2. *Final location and spacing of signs and devices may be changed to fit field conditions, as approved by the CO.*
3. *Submit traffic control plans according to Section 156 and 635 of the SCRs.*
4. *Maintain access to 2203 Ln. and local traffic.*
5. *All signs and barricades paid for under 63501-0000 Temporary Traffic Control*



COLORADO LICENSED
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FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

CFLHD SPECIAL

SCHEDULE A
TEMPORARY TRAFFIC CONTROL
DETOUR SIGNING

SPECIAL
635-A

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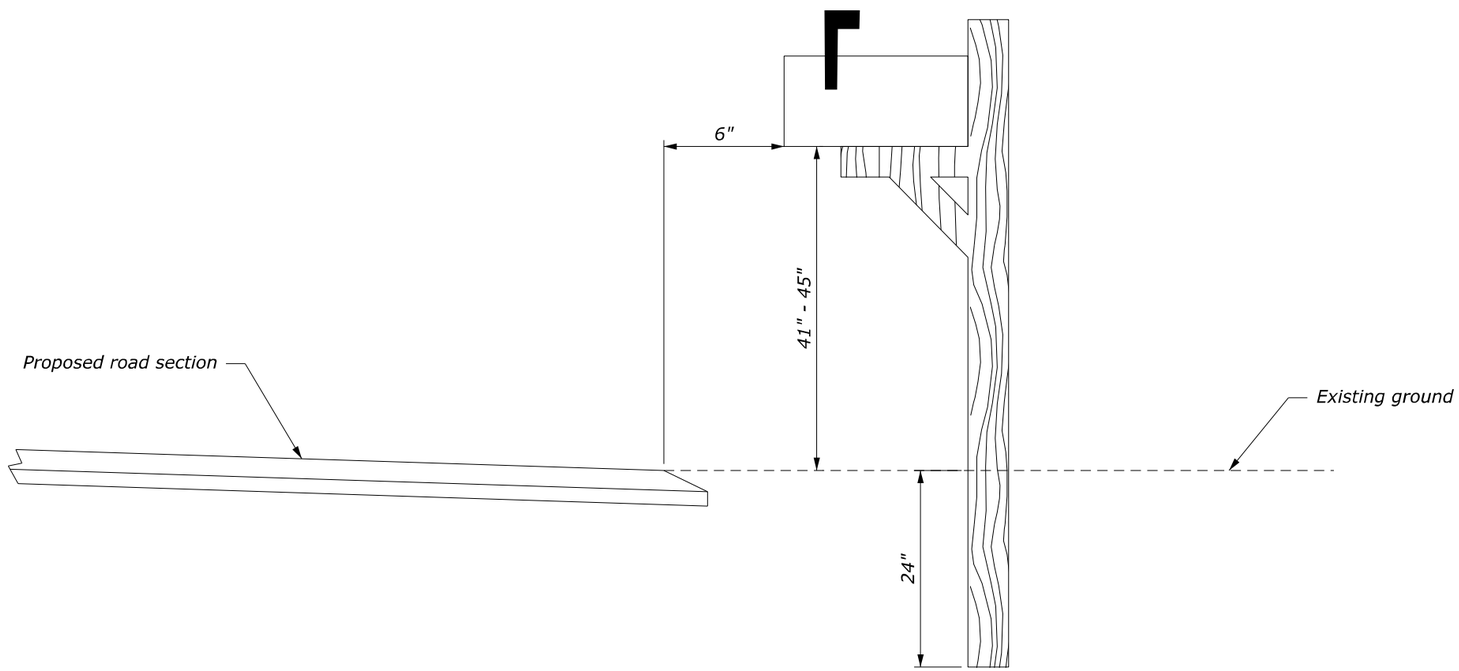
STATE	PROJECT	SHEET NUMBER
CO	FTFS 121(1) TRICKEL PARK ROAD	T21

NOTE:

1. Dimensions are USPS national requirements.
Coordinate with local USPS for site specific requirements.



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

CFLHD SPECIAL

REMOVE AND RESET MAILBOX

SPECIAL
646-A

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