

STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	23919	1	1

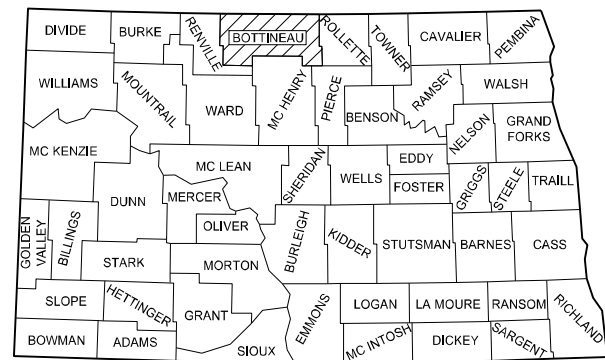
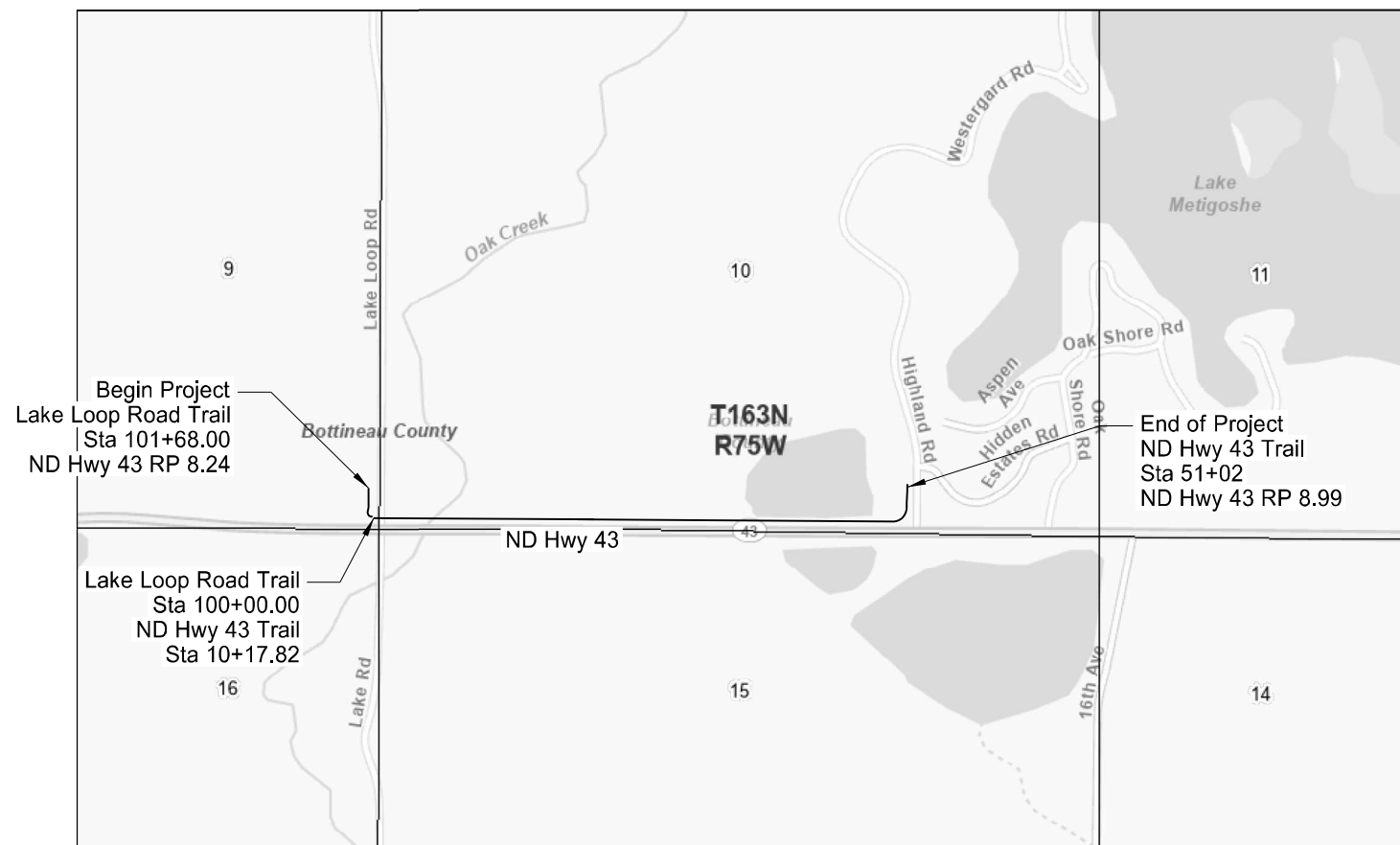
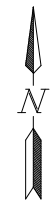
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SB-FTF-TAC-4-043(009)008

Bottineau County
ND Hwy 43
Lake Loop Rd to Highland Rd
Shared Use Trail

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	7/1/2024
Supplemental Specifications	NONE

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
SB-FTF-TAC-4-043(009)008	0.804	0.804



STATE COUNTY MAP

DESIGNER Ryan Schuehle
DESIGNER Zach Thelen
DESIGNER James Butler

OTHER REVIEW
ND DEPARTMENT OF TRANSPORTATION OFFICE OF PROJECT DEVELOPMENT
Jon Ketterling 07/22/25

SRF Consulting Group Inc.

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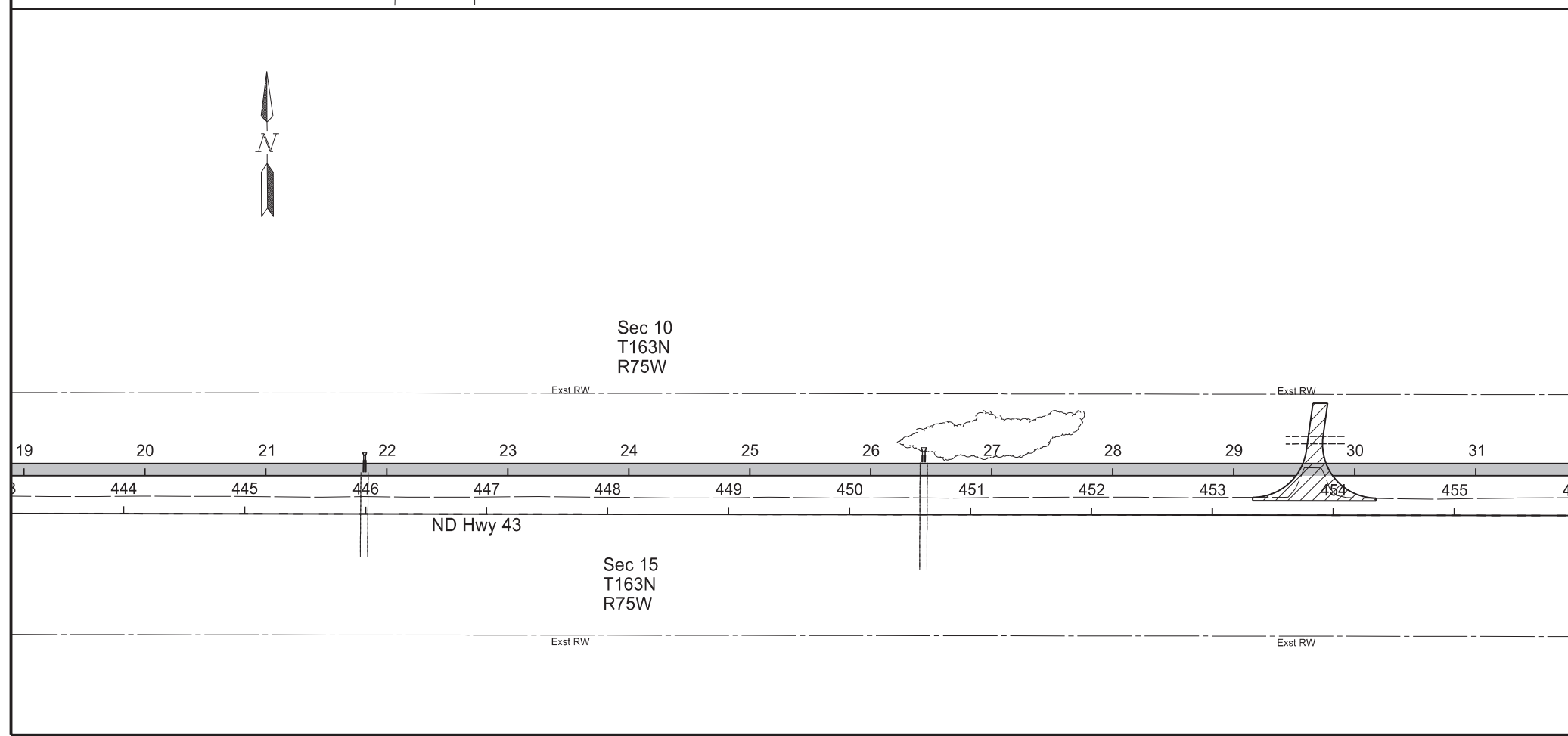
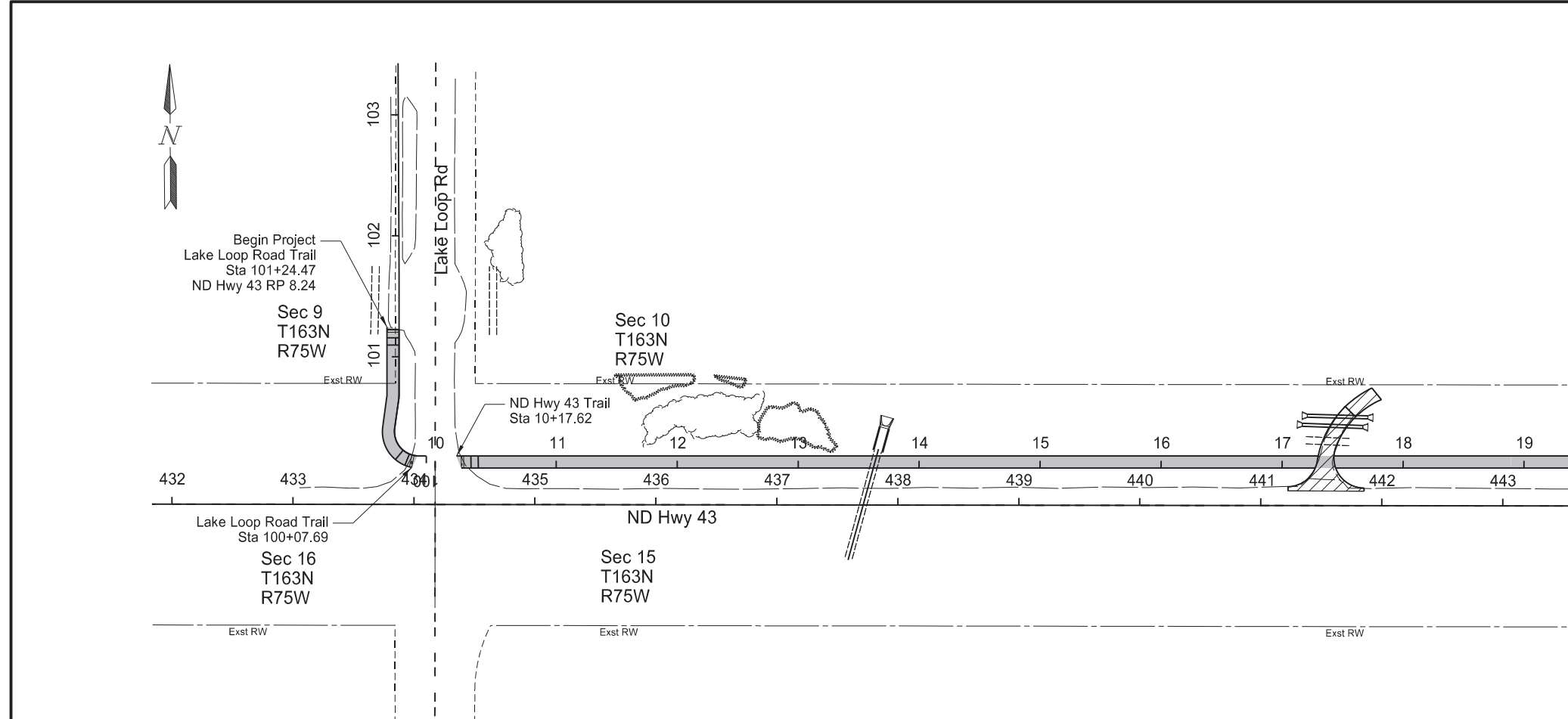
Section	Page(s)	Description
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2	1	Table of Contents
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6	1	Notes
6	2	Environmental Notes
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81	1	Survey Coordinate and Curve Data
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D-261-1	Erosion Control - Fiber Roll Placement Details
D-704-7	Breakaway Systems For Construction Zone Signs - Perforated Tube
D-704-8	Breakaway Systems For Construction Zone Signs - U-Channel Post
D-704-9	Construction Sign Details - Terminal And Guide Signs
D-704-10	Construction Sign Details - Regulatory Signs
D-704-11	Construction Sign Details - Warning Signs
D-704-13	Barricade And Channelizing Device Details
D-704-14	Construction Sign Punching And Mounting Details
D-704-22	Construction Truck And Temporary Detour Layouts
D-704-24	Shoulder Closures And Bridge Painting Layouts
D-704-33	Two-Lane Roadway Portable Rumble Strips
D-704-50	Portable Sign Support Assembly
D-708-6	Erosion And Siltation Controls - Median Or Ditch Inlet Protection
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D-750-3	Curb Ramp Retrofit Details
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D-754-24, 25	Mounting Details Perforated Tube
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D-754-28, 29,31,39	Sign Punching, Stringer and Support Location Details Regulatory, Warning and Guide Signs
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D-754-83	Object Markers - Culverts
D-754-86	911 Sign Support Information And Sign Details
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SPECIAL PROVISIONS

Number	Description
SSP 1	Temporary Erosion and Sediment Best Management Practices
SP 74(24)	Permits and Environmental Considerations
SP 513 (24)	Utility Coordination
SP 514 (24)	Commercial Grade Asphalt
SP 553(24)	Hydraulic Mulch

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Legend

	Shared Use Trail
	Approach Reconstruction

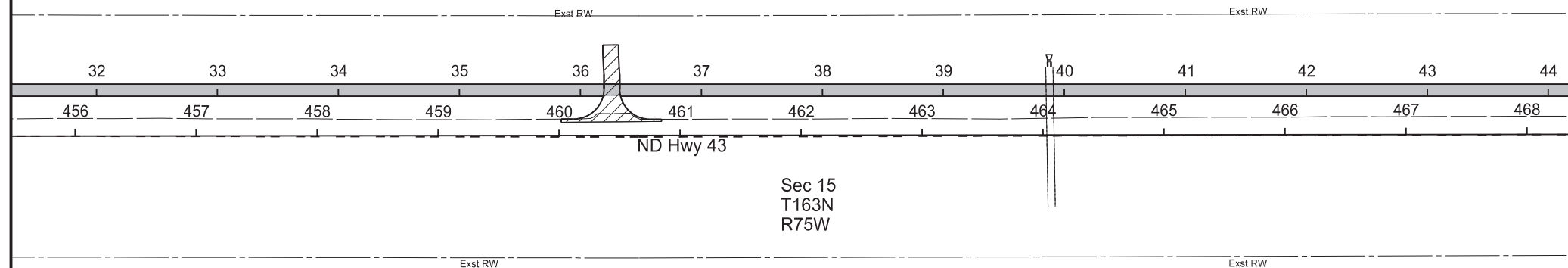
Scope Of Work
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail



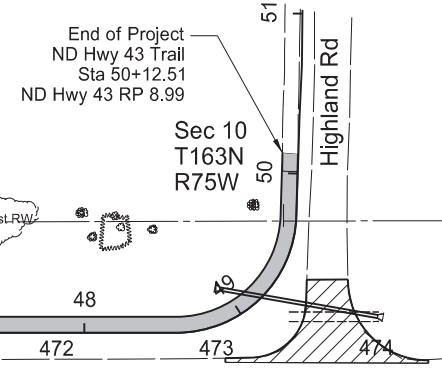
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Sec 10
T163N
R75W

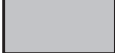



Sec 15
T163N
R75W



Sec 15
T163N
R75W

Legend

-  Shared Use Trail
-  Approach Reconstruction

Scope Of Work
ND Hwy 43
Lake Loop Rd to Highland Rd
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NOTES

GENERAL NOTES

203-010 SHRINKAGE: 25% additional volume is included for shrinkage in earth embankment.

203-385 AVERAGE HAUL: No average haul has been computed for this project.

203-P01 COMPACTION AND DENSITY CONTROL: Compact "Borrow-Excavation" material as specified in Section 203.04 G.3 Compaction Control, Type B.

704-P01 TRAFFIC CONTROL DEVICES: The Traffic Control Devices List has been developed using the following Standard Drawing layouts:

- D-704-22 Type K, Trucks entering roadway
- D-704-24 Type R, shoulder work.
- D-704-33, Two lane roadway portable rumble strips

Flaggers have been included for approach work, and new pipe installation.

Traffic control device quantities are provided for each layout to have work done on left shoulders at each site. If multiple sites are worked on simultaneously, the Department will pay for all necessary deployed devices to accommodate additional setups of the listed layouts.

704-500 PORTABLE RUMBLE STRIPS (PRS): Use PRS made of rubber or engineered polymers.

Install PRS as part of the temporary traffic control when the following signs are also part of the required traffic control set up:

- "Be Prepared to Stop" (W3-4); and
- "Flagger" symbol (W20-7)

Install PRS that meet the following criteria:

- Have no adhesives or fasteners required for placement;
- Have a manufacture's speed rating that meets or exceeds the posted speed limit; and
- Each strip in the array must weigh a minimum of 100 pounds.

Use individual PRS constructed in one of the following manners:

- A single piece;
- Interlocking segments; or
- Two pieces hinged at the midpoint.

An installed array of PRS consists of a minimum of 3 individual strips.

Move rumble strips with the flagging operation. Do not place rumble strips on horizontal curves.

The Engineer will count and measure each array as one unit. Include the cost of providing, installing, maintaining, and relocating PRS in the unit price bid for "Portable Rumble Strips".

750-P01 CURB RAMPS AND LANDINGS: Place curb ramps and landings after approach paving has been completed.

Install concrete turning spaces, as designated in Section 20 details sheets and labeled "TS", before adjacent curb ramps and/or sidewalk concrete. Allow for a minimum of 24 hours of cure time before placing adjacent concrete.



ENVIRONMENTAL NOTES

ENVIRONMENTAL NOTES (EN): The North Dakota Department of Transportation and the Federal Highway Administration *has* made environmental commitments to secure approval of this project. The following environmental notes are requirements to comply with these commitments:

EN-1 AQUATIC NUISANCE SPECIES (ANS): Equipment that was last used outside of North Dakota or within a Class I infested waterbody (identified on the North Dakota Game and Fish Department (NDGFD) website) requires an inspection by NDGFD. Notify the NDGFD at least 10 business days prior to pumps, watercraft, or any equipment entering a public water to allow the NDGFD sufficient time to inspect any and all such equipment for ANS. Contact the NDGFD ANS Coordinator, Ben Holen by e-mail - bholen@nd.gov for equipment inspections. Supply one of the following to the engineer as proof of compliance prior to work taking place in the water: (1) the NDGFD inspection report, (2) documented NDGFD correspondence (email or signed letter).

EN-2 THREATENED AND ENDANGERED SPECIES: The project is located near/within suitable habitat for the species listed in the following table

SPECIES	HABITAT	PRESENCE
Northern Long-Eared Bat	Forested/Wooded Areas/Bridges/Box Culverts/Caves/Mines	Active Season: April 15 - October 31* Inactive Season: Nov 1 – April 14*

*Time frames can differ slightly, depending on the year

If any of the above threatened and endangered species are identified within 1 mile of the project, the Contractor will notify the Engineer immediately and cease construction activities in the vicinity until an avoidance area is established. The Engineer will establish an avoidance area that is at least a 0.5 mile and immediately coordinate with the USFWS (701-355-8513), FHWA (701-221-9464), and NDDOT Environmental and Transportation Services (701-328-2592). The Contractor will not resume work within the avoidance area until the Engineer has confirmed with the agencies that work may proceed (either the species have left the area, or approved avoidance/minimization measures have been implemented).

EN-3 TEMPORARY WETLAND IMPACT: Temporary impact areas within wetlands and or other waters are incorporated into the plans for this project. Remove temporary fill placed and sedimentation in wetlands or other waters. Restore these wetlands to preconstruction contours.

EN-4 WETLAND MITIGATION: Wetland mitigation is required for unavoidable permanent wetland impacts. The wetland mitigation plan is incorporated into the plans for this project. After completion of the mitigation area, the Engineer will complete the Onsite Mitigation Certification Form SFN 61042. Any sedimentation occurring within the mitigation area will be removed.

EN-5 TREE REMOVALS: Tree removals of any trees 3-inches or larger diameter at breast height, can only be removed during the northern long-eared bat inactive season of June 1st through August 15th.



Estimated Quantities

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SPEC	CODE	ITEM DESCRIPTION	UNIT	ND Hwy 43 Shared Use	TOTAL
103	0100	CONTRACT BOND	L SUM	1	1
201	0330	CLEARING & GRUBBING	L SUM	1	1
202	0132	REMOVAL OF BITUMINOUS SURFACING	SY	809	809
202	0170	REMOVAL OF CULVERTS-ALL TYPES & SIZES	LF	94	94
203	0102	COMMON EXCAVATION-TYPE B	CY	1503	1503
203	0109	TOPSOIL	CY	4015	4015
203	0140	BORROW-EXCAVATION	CY	12243	12243
216	0100	WATER	M GAL	178	178
251	0100	SEEDING CLASS I	ACRE	4.13	4.13
251	1000	WETLAND SEED	ACRE	0.05	0.05
251	2000	TEMPORARY COVER CROP	ACRE	3.89	3.89
253	0201	HYDRAULIC MULCH	ACRE	7.88	7.88
255	0102	ECB TYPE 2	SY	170	170
260	0200	SILT FENCE SUPPORTED	LF	1519	1519
260	0201	REMOVE SILT FENCE SUPPORTED	LF	1519	1519
261	0112	FIBER ROLLS 12IN	LF	2883	2883
261	0113	REMOVE FIBER ROLLS 12IN	LF	1030	1030
262	0100	FLOTATION SILT CURTAIN	LF	998	998
262	0101	REMOVE FLOTATION SILT CURTAIN	LF	998	998
302	0120	AGGREGATE BASE COURSE CL 5	TON	1720	1720
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	TON	1146	1146
702	0100	MOBILIZATION	L SUM	1	1
704	0100	FLAGGING	MHR	300	300
704	1000	TRAFFIC CONTROL SIGNS	UNIT	1175	1175
704	1048	PORTABLE RUMBLE STRIPS	EA	2	2
704	1060	DELINEATOR DRUMS	EA	12	12
704	1067	TUBULAR MARKERS	EA	78	78
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	490	490
714	0310	PIPE CONC REINF 18IN CL III	LF	10	10
714	0615	PIPE CONC REINF 24IN CL III	LF	6	6
714	0820	PIPE CONC REINF 30IN CL III	LF	4	4
714	1710	PIPE CONC REINF 84IN CL III	LF	20	20
714	4106	PIPE CONDUIT 24IN-APPROACH	LF	100	100
714	4113	PIPE CONDUIT 30IN-APPROACH	LF	100	100
714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	4	4
750	0120	SIDEWALK CONCRETE 5IN REINF	SY	49	49
750	2115	DETECTABLE WARNING PANELS	SF	60	60
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	41	41
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	38	38
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	226	226
754	0592	RESET SIGN PANEL	EA	1	1
754	0805	OBJECT MARKERS - CULVERTS	EA	10	10
762	0114	EPOXY PVMT MK 6IN LINE	LF	75	75

BASIS OF ESTIMATE

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Water

25 MGal/Mile for Dust Palliative
 20 Gal/Ton for Aggregates
 10 Gal/CY for Embankment

Paving

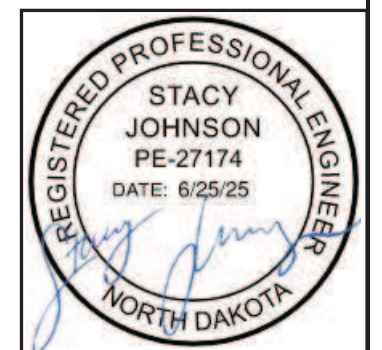
Aggregate Base @ 1.875 Ton/CY
 Commercial Grade Hot Mix Asphalt @ 2 Ton/CY

Earthwork

Roadway	Common Excavation - Type B	Embankment*	Balance
	CY	CY	CY
	A	B	C = A - B
ND Hwy 43 - Shared Use Path			
ND Hwy 43 Trail	1501.5	13561.8	-12060.3
Lake Loop Rd Trail	0.9	183.6	-182.7
TOTAL	1502.5	13745.5	-12243.0

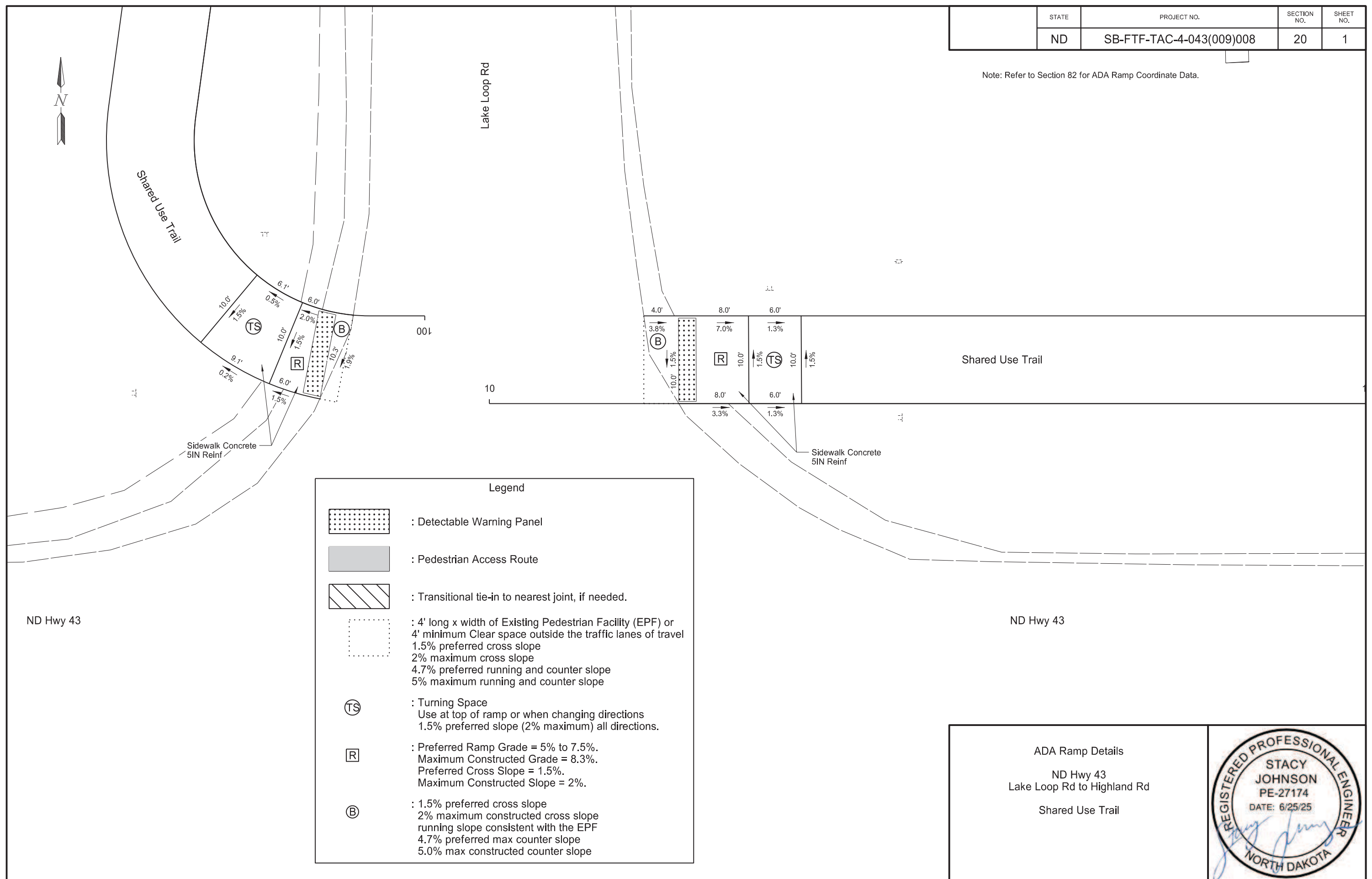
*25% additional volume is included for shrinkage in earth embankment.

<u>Spec</u>	<u>Code</u>	<u>Item Description</u>	<u>QTY</u>	<u>Unit</u>
203	0109	Topsoil		
			4015	CY
203	0102	Common Excavation - Type B		
			1503	CY
203	0140	Borrow-Excavation		
			12243	CY

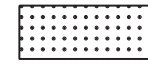








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Note: Refer to Section 82 for ADA Ramp Coordinate Data.



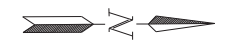
Legend

	: Detectable Warning Panel
	: Pedestrian Access Route
	: Transitional tie-in to nearest joint, if needed.
	: 4' long x width of Existing Pedestrian Facility (EPF) or 4' minimum Clear space outside the traffic lanes of travel 1.5% preferred cross slope 2% maximum cross slope 4.7% preferred running and counter slope 5% maximum running and counter slope
	: Turning Space Use at top of ramp or when changing directions 1.5% preferred slope (2% maximum) all directions.
	: Preferred Ramp Grade = 5% to 7.5%. Maximum Constructed Grade = 8.3%. Preferred Cross Slope = 1.5%. Maximum Constructed Slope = 2%.
	: 1.5% preferred cross slope 2% maximum constructed cross slope running slope consistent with the EPF 4.7% preferred max counter slope 5.0% max constructed counter slope

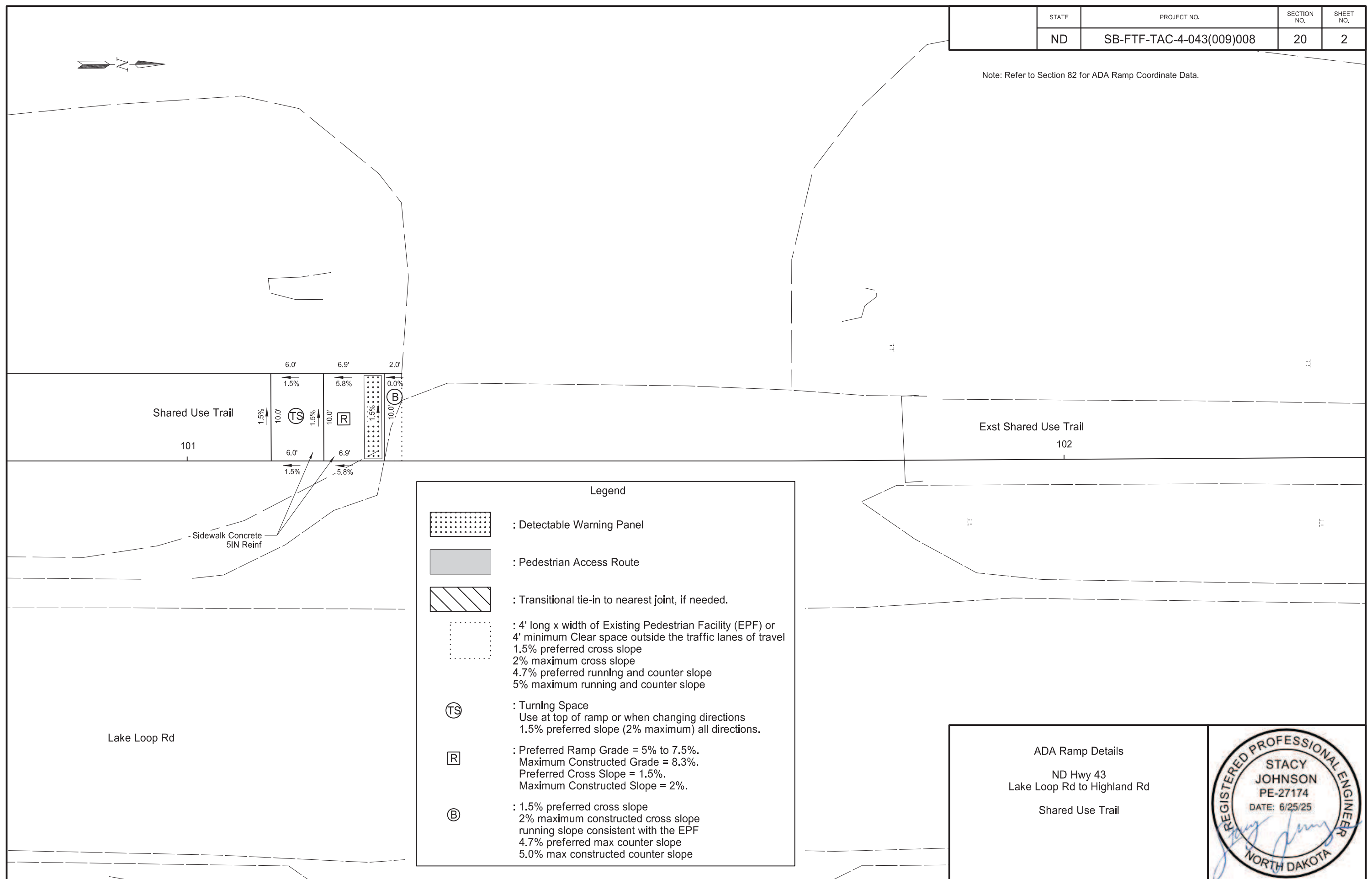
ADA Ramp Details
ND Hwy 43
Lake Loop Rd to Highland Rd
Shared Use Trail



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Note: Refer to Section 82 for ADA Ramp Coordinate Data.

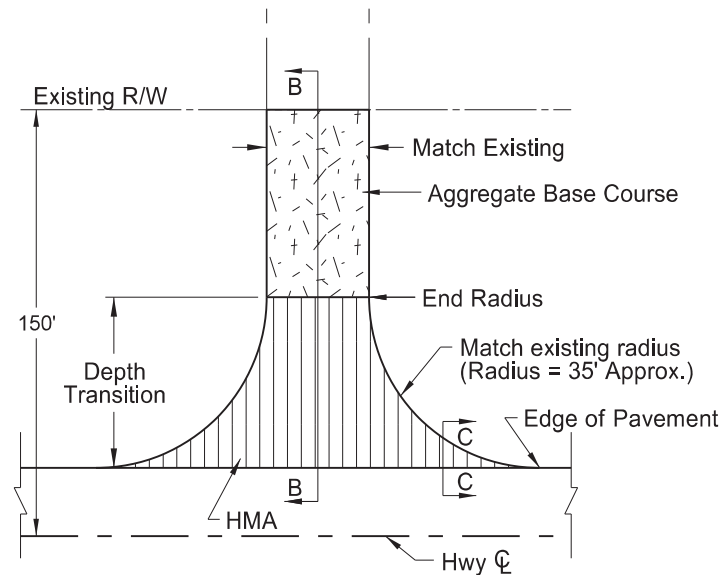


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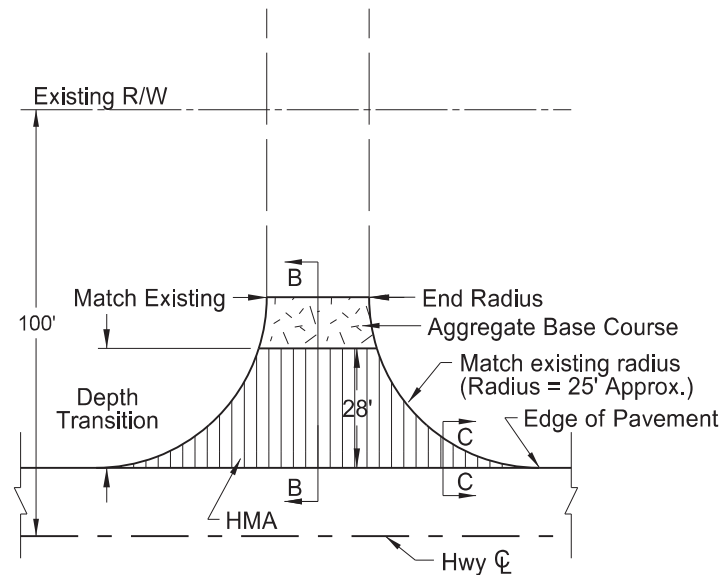
- : Detectable Warning Panel
- : Pedestrian Access Route
- : Transitional tie-in to nearest joint, if needed.
- : 4' long x width of Existing Pedestrian Facility (EPF) or 4' minimum Clear space outside the traffic lanes of travel
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope
- : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions.
- : Preferred Ramp Grade = 5% to 7.5%.
Maximum Constructed Grade = 8.3%.
Preferred Cross Slope = 1.5%.
Maximum Constructed Slope = 2%.
- : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.7% preferred max counter slope
5.0% max constructed counter slope

ADA Ramp Details
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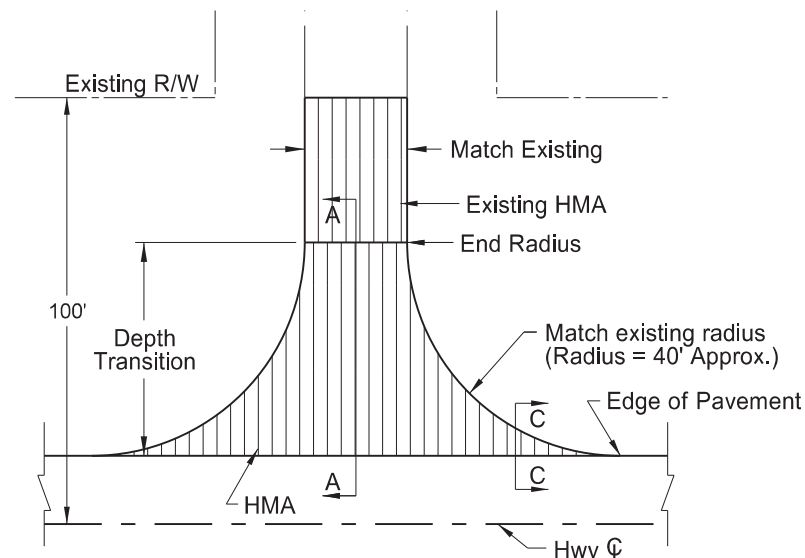




(1) Gravel Private Drive Approach



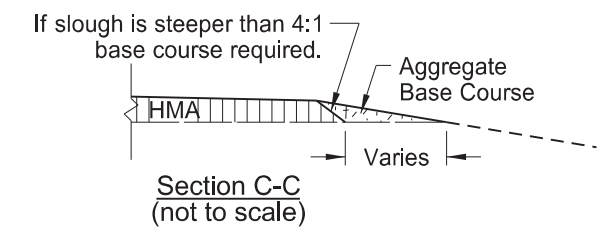
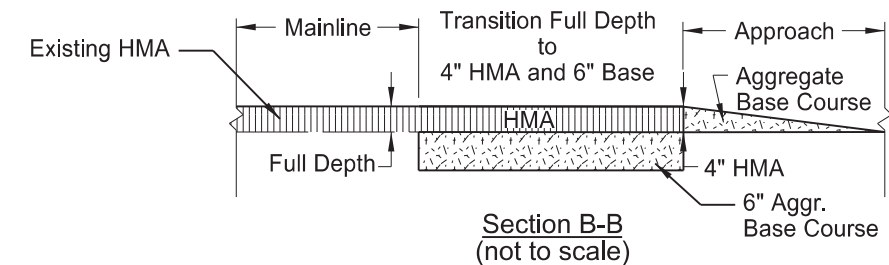
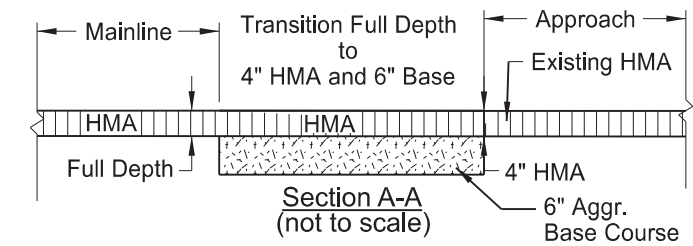
(2) Field Drive Approach



(3) Paved Section Line, County Road, or Street Approach

Notes:

- Actual HMA paving and aggregate base course locations may vary in the field, as approved by the Engineer.
- Quantity totals have been included in the bid items of the "Estimate of Quantities" of the plans.
- Aggregate base course has been provided in the quantities to fill in around the radii. This material will be required when sloughs are steeper than 4:1 (see section C-C)



Basis of Estimate				(1)		(2)		(3)	
				Gravel Private Drive		Field Drive		Highland Rd	
Spec	Code	Description	Unit	Total	Average	Total	Average	Total	Average
302	0120	Aggregate Base Course CL 5 @ 1.875 Ton/CY	Ton	160	80	56	56	94	94
430	0500	Commercial Grade Hot Mix Asphalt	Ton	70	35	21	21	59	59

Approach Paving Details for Existing Rural Approaches (No Approach Grading)

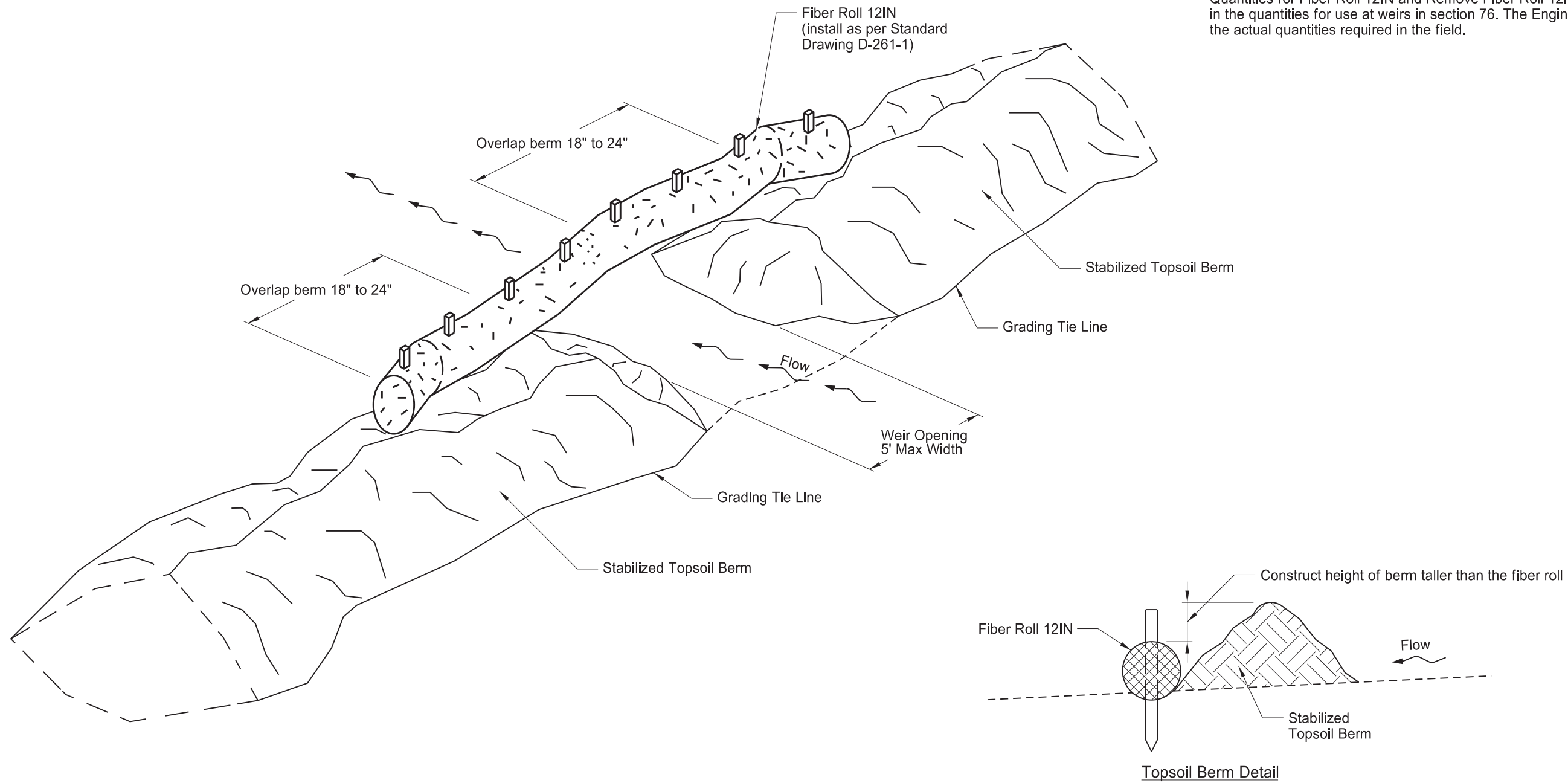
ND Hwy 43
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Quantities for Fiber Roll 12IN and Remove Fiber Roll 12IN have been included in the quantities for use at weirs in section 76. The Engineer will measure the actual quantities required in the field.



Notes:

1. Windrow the existing topsoil from the foreslope to create a berm at the grading tie line.
2. Stabilize berms in accordance with the Construction General Permit.
3. Place weirs intermittently throughout the length of the berm to allow stormwater to drain through the berm.
4. Avoid placing weirs adjacent to waterbodies.
5. Install fiber rolls as the weirs are created in the topsoil berm.
6. The Engineer will measure and pay for fiber rolls separately.
7. The Engineer will measure and pay for removal of fiber rolls separately when required by the specifications.
8. The Engineer will measure and pay for soil stabilization and temporary cover crop separately.
9. Include the costs to create, maintain, and dismantle the berm in the unit price bid for "Topsoil".

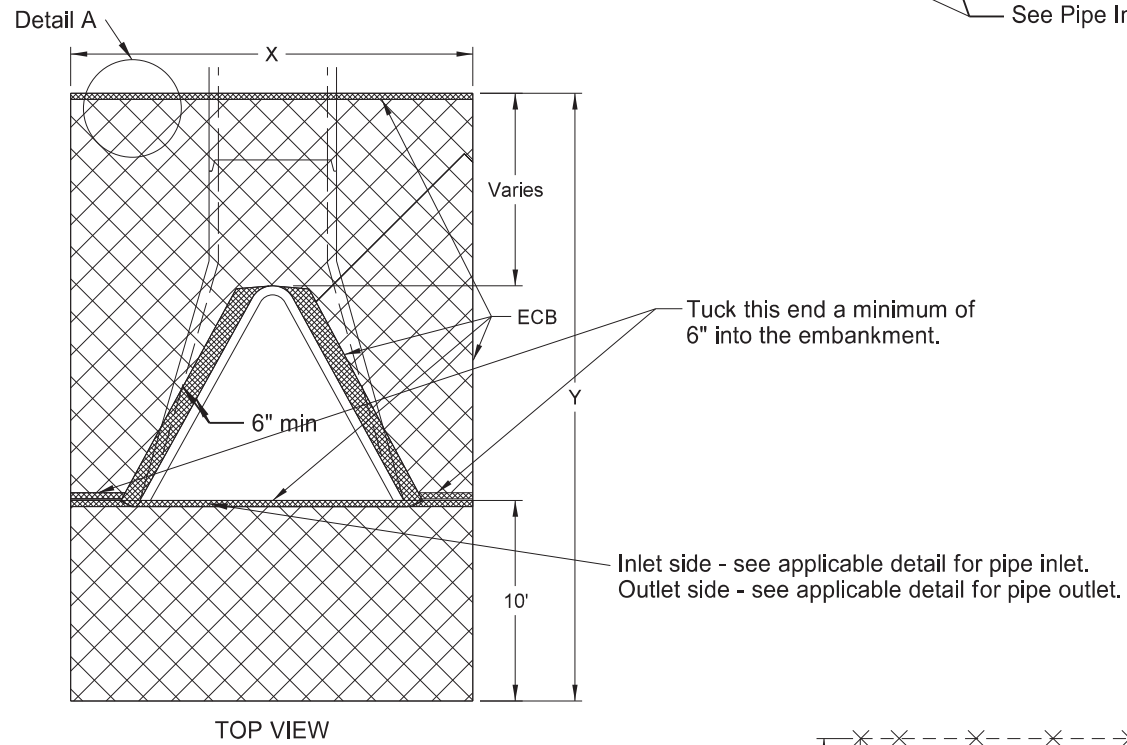
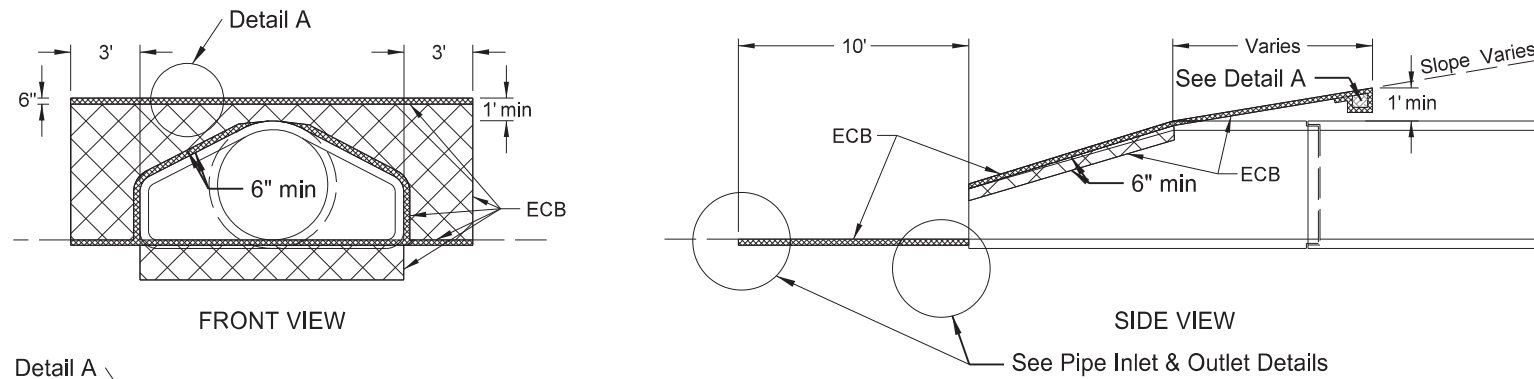
Temporary Topsoil Berm and Weir Detail

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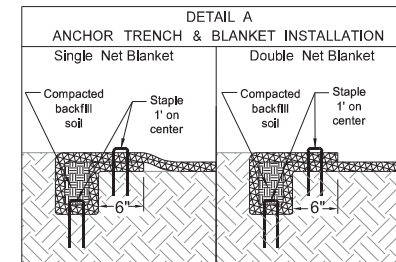
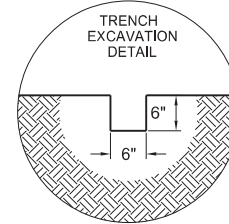
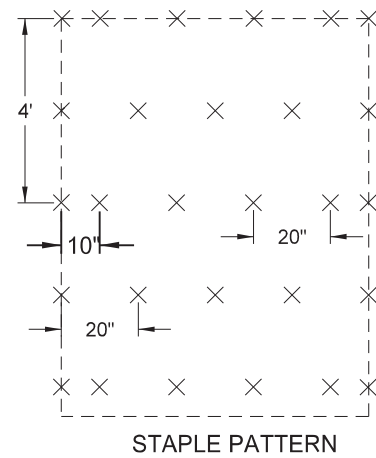


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Quantities for ECB Type 2 have been included in the quantities for use at end sections in section 77.



NOTE: Tuck the ECB a minimum of 6" into the embankment (against the flared end section) around the opening of the flared end section.

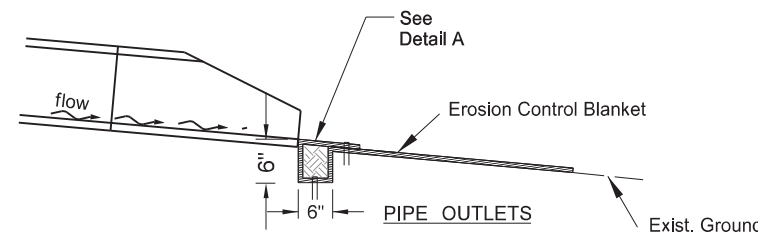
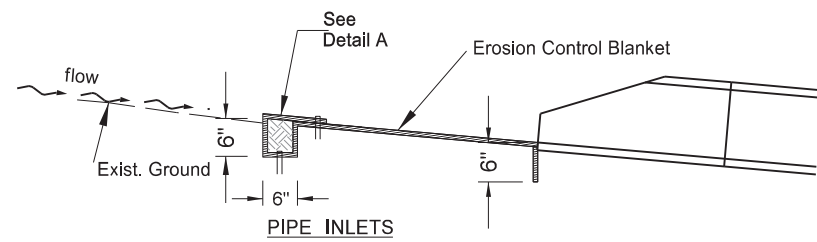


Centerline Culverts									
DIA	X	Y	Surface area to be protected	ECB	DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY	In	Ft	Ft	SF	SY
24	10.5	19.6	193.1	22	24	10.5	10.5	172.1	20
27	11	20.0	204.3	23	27	11	11.0	182.3	21
30	11.6	20.5	218.3	25	30	11.6	11.6	195.1	22
36	12.7	21.2	242.1	27	36	12.7	12.7	216.7	24
42	13.3	21.2	251.8	28	42	13.3	13.3	225.2	25
48	13.8	22.0	265.6	30	48	13.8	13.8	238.0	27
54	14.5	21.5	273.7	31	54	14.5	14.5	244.7	28
60	15.0	21.0	278.3	31	60	15.0	15.0	248.3	28
66	15.6	22.0	295.7	33	66	15.6	15.6	264.5	30
72	16.2	22.5	309.2	35	72	16.2	16.2	276.8	31

Note: Quantities based on 6:1 slope.

Approach Culverts				
DIA	X	Y	Surface area to be protected	ECB
In	Ft	Ft	SF	SY
15	9.0	20.0	176.0	20
18	9.5	20.7	190.7	22
21	9.5	21.0	190.9	22
24	10.5	21.6	214.1	24
27	11	22.0	226.3	25
30	11.6	22.5	241.5	27
36	12.7	23.3	268.8	30
42	13.3	23.3	279.7	31
48	13.8	24.0	293.2	33
54	14.5	23.4	300.6	34
60	15.0	23.0	307.5	35
66	15.6	24.0	325.6	37
72	16.2	24.5	340.6	38

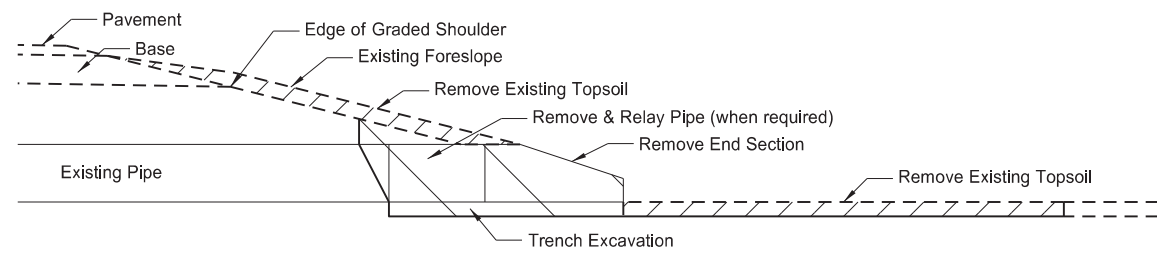
Note: Quantities based on 8:1 slope.



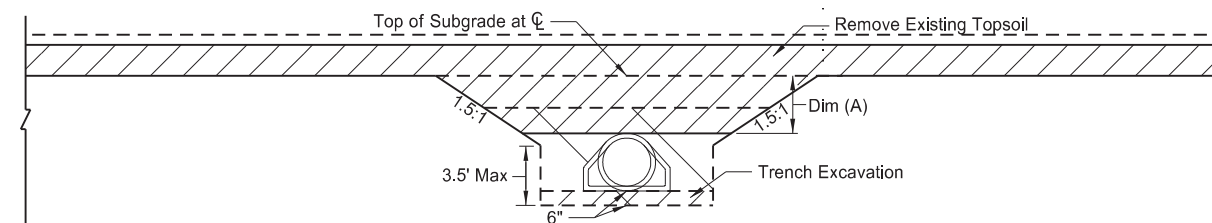
Erosion Control at Culvert Flared End Sections

ND Hwy 43
Lake Loop Rd to Highland Rd
Shared Use Trail

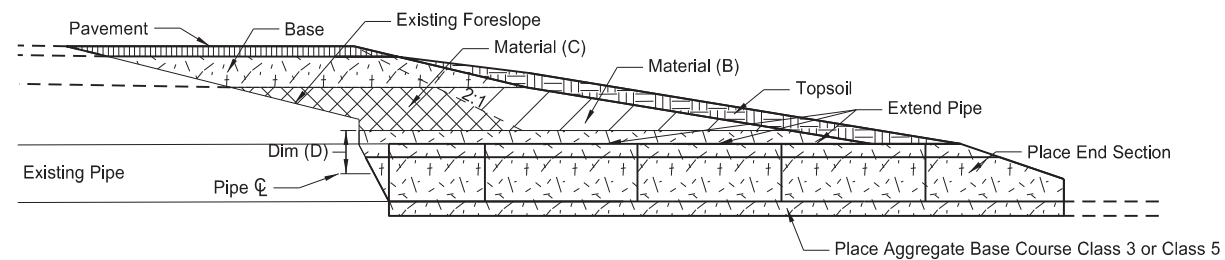




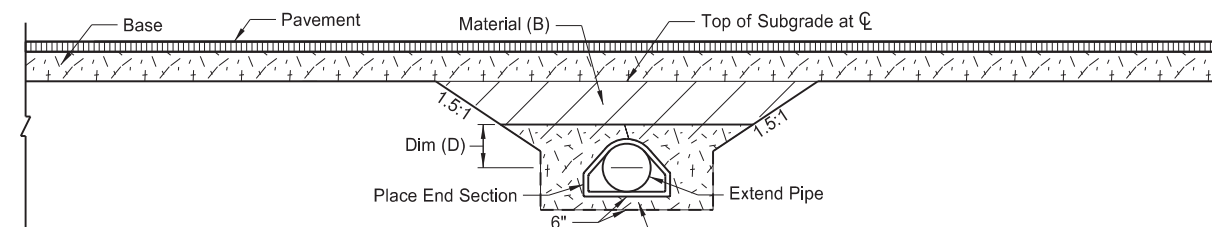
Removal Section
Cross Section View



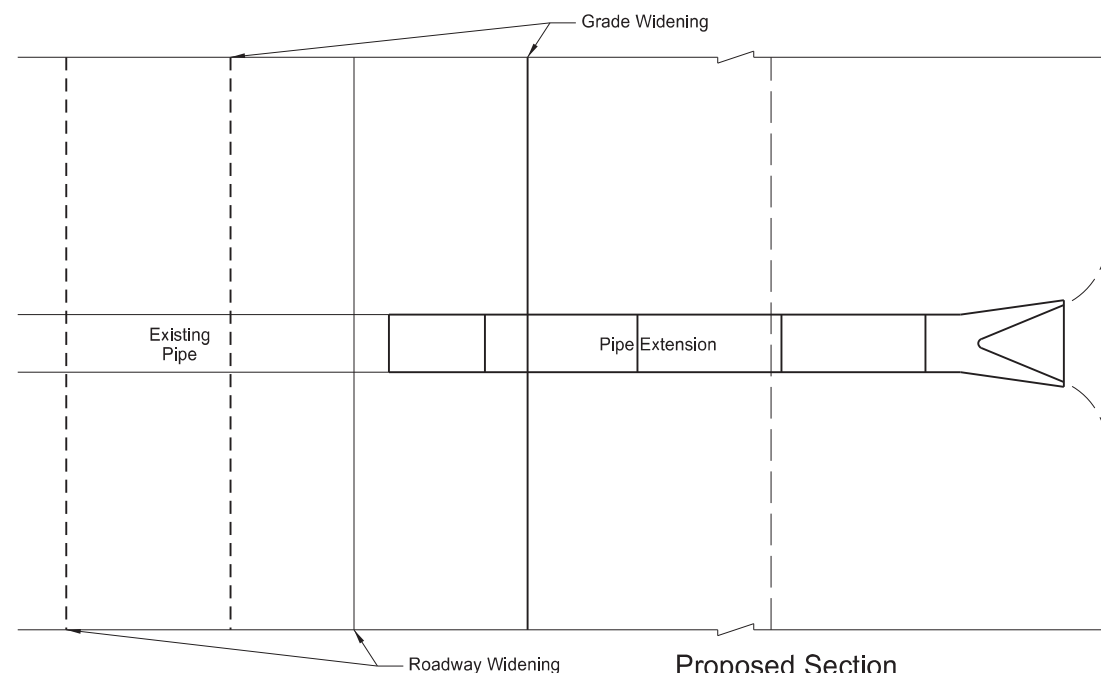
Removal Detail
Side View



Proposed Section
Cross Section View



Backfill Detail
Side View (Topsoil not shown)



Proposed Section
Plan View

Pay Items

- 1) Pipe*
- 2) Remove & Relay Pipe - All Types & Sizes (when required)
- 3) Remove & Reset End Section or Remove End Section and Place New End Section
- 4) Borrow Excavation or Common Excavation
- 5) Topsoil
- 6) Seeding
- 7) Mulching

***Included in Pipe Pay Item**

- 1) Pipe
- 2) Trench excavation
- 3) Aggregate Base Course Class 3 or Class 5

Pipe Materials	Dim (A) <= 4 Feet		Backfill Dimension
	Material (B)	Material (C)	Dim (D)
Concrete	Embank or Aggr	Aggregate	0.5 O.D.
Metal	Embank or Aggr	Aggregate	0.5 O.D.+1 Foot

Pipe Materials	Dim (A) > 4 Feet		Backfill Dimension
	Material (B)	Material (C)	Dim (D)
Concrete	Embankment	Embankment	0.5 O.D.
Metal	Embankment	Embankment	0.5 O.D.+1 Foot

NOTES:

1. Embankment may be either Borrow Excavation or Common Excavation
2. Aggregate may be either Class 3 or Class 5 Aggregate Base Course.

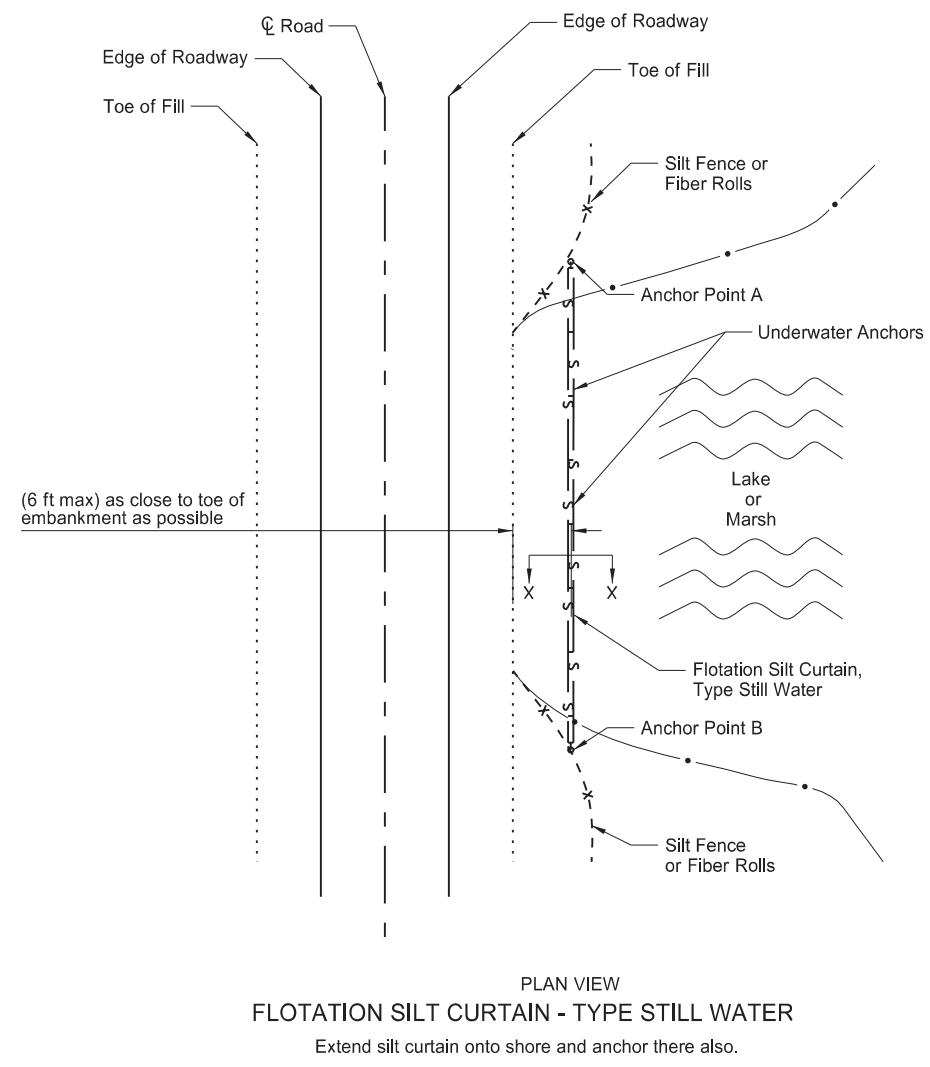
Mainline Widening CL Pipe Extension Detail

ND Hwy 43
Lake Loop Rd to Highland Rd

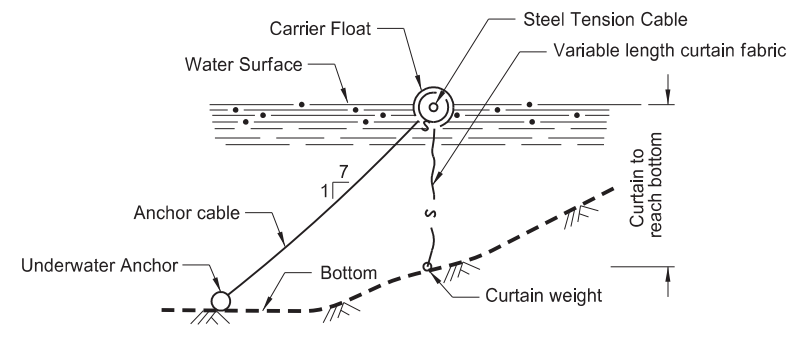
Shared Use Trail



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	20	7



PLAN VIEW
FLOTATION SILT CURTAIN - TYPE STILL WATER
 Extend silt curtain onto shore and anchor there also.



SECTION X-X
FLOTATION SILT CURTAINS

Note:
 Maximum water velocity for moving water = 5 ft/sec

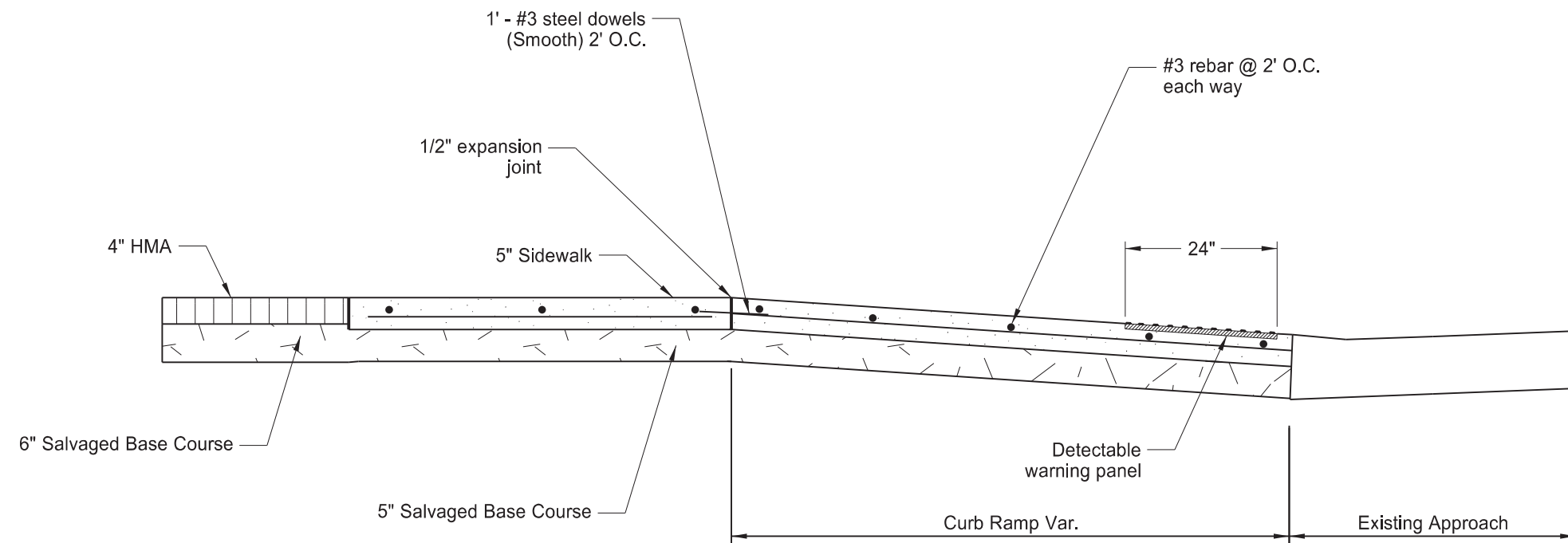
Temporary Erosion Control - Flotation Silt Curtain

ND Hwy 43
 Lake Loop Rd to Highland Rd

Shared Use Trail



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	20	8



ADA Ramp & Sidewalk Reinforcing Detail

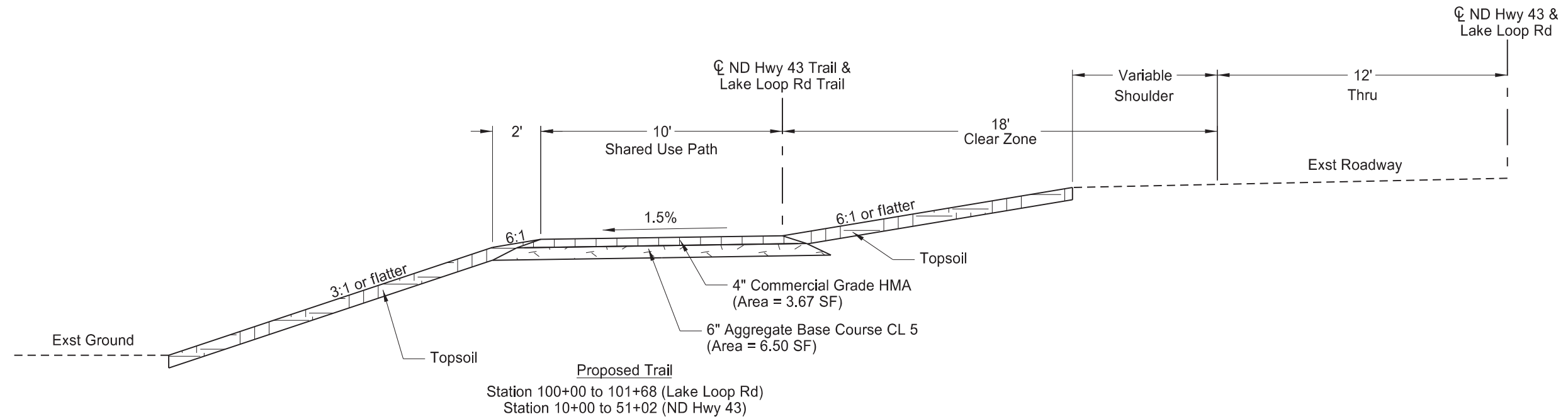
Sidewalk Reinforcement Detail

ND Hwy 43
Lake Loop Rd to Highland Rd

Shared Use Trail

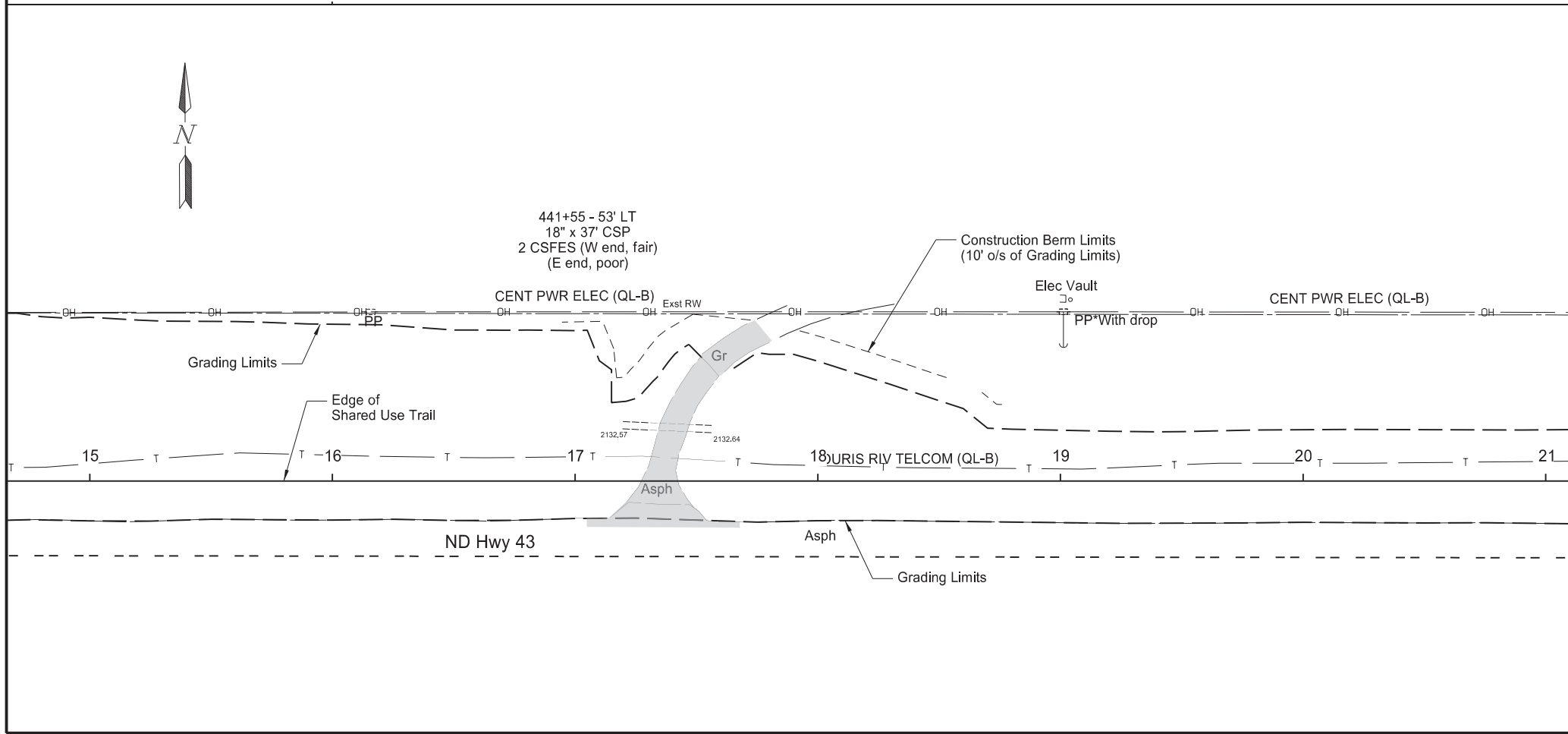
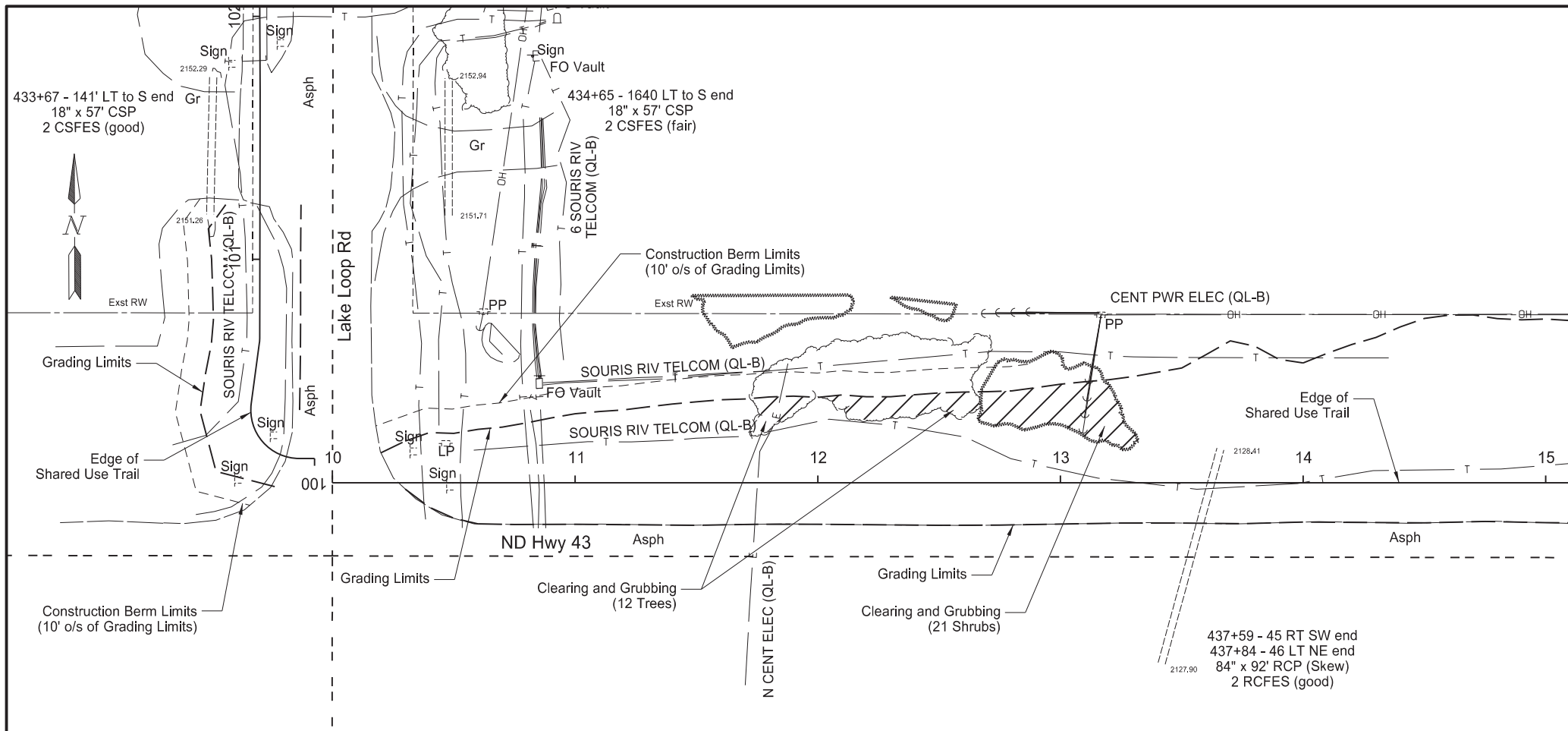


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	30	1



Proposed Typical Section
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail





STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	40	1

Spec	Code	Item Description	QTY	Unit
202	0132	Removal of Bituminous Surfacing Sta 17+34	164	SY

Legend

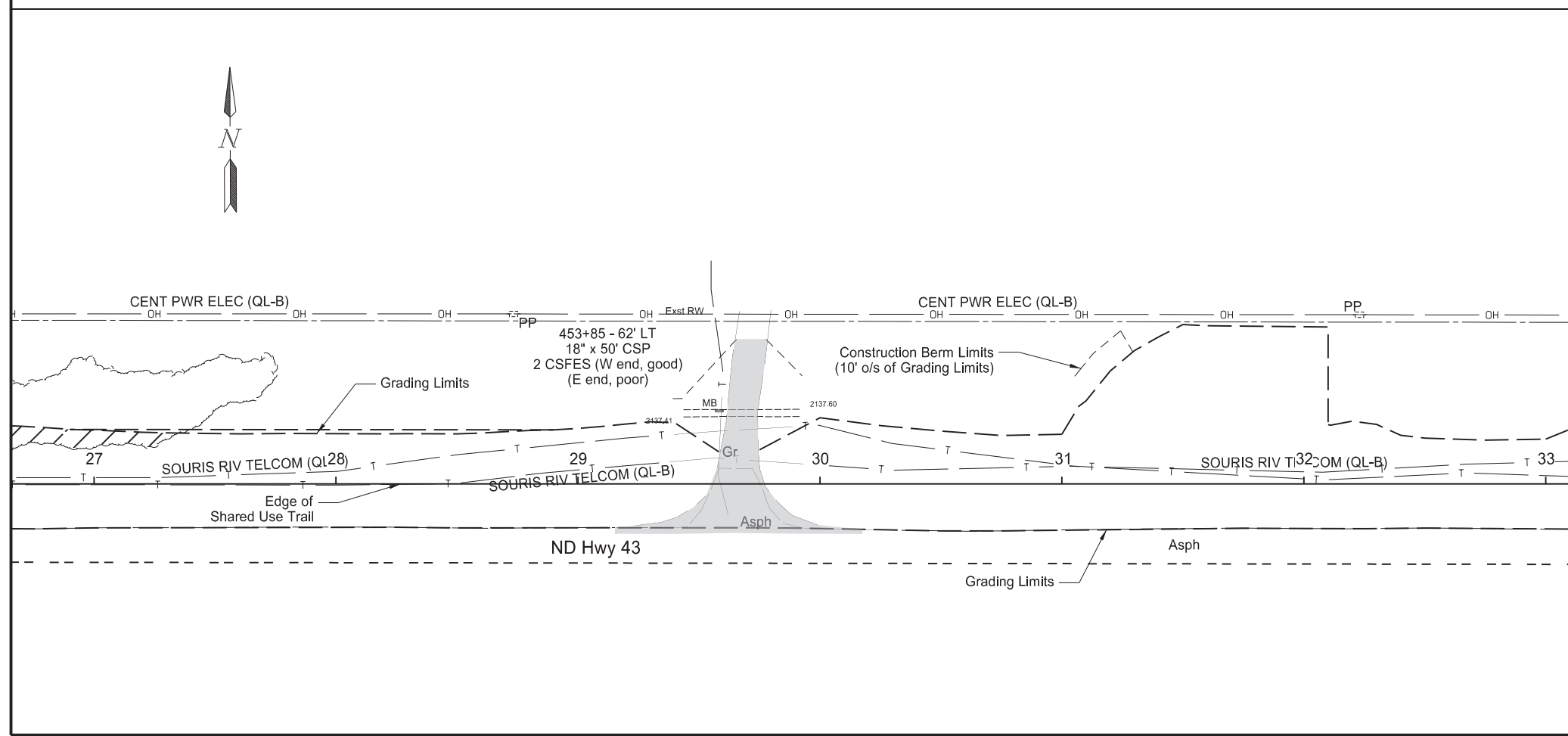
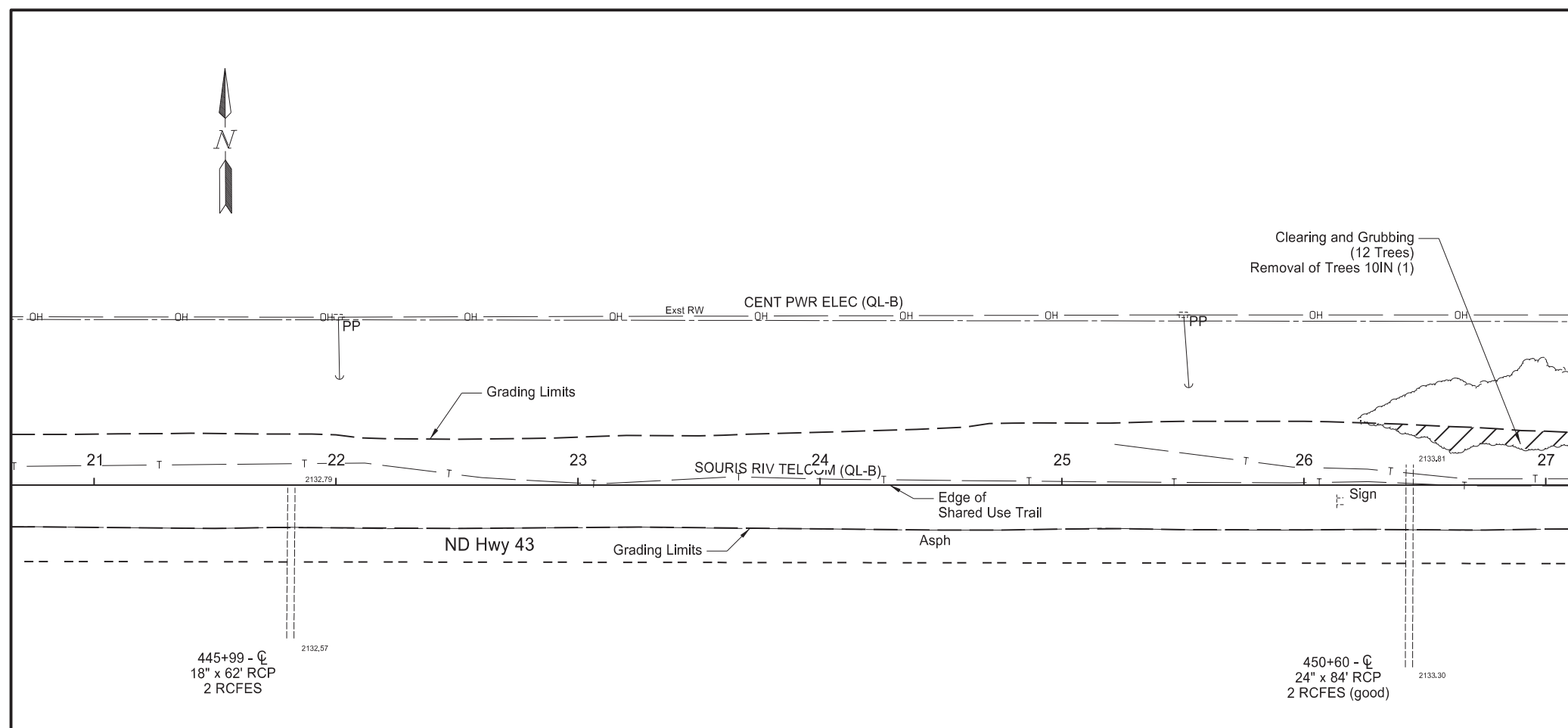
- Clearing and Grubbing
Removal of Trees _IN
- Removal of Bituminous
Surfacing (4in HMA &
6in Aggregate Base Course)
- Removal of Bituminous
Surfacing (Existing Trail)

Removals
ND Hwy 43
Lake Loop Rd to Highland Rd
Shared Use Trail
Sta 100+00 to 101+00 (Lake Loop Rd)
Sta 10+00 to 15+00
Sta 15+00 to 21+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	40	2

Spec	Code	Item Description	QTY	Unit
202	0132	Removal of Bituminous Surfacing Sta 29+69	206	SY



Legend

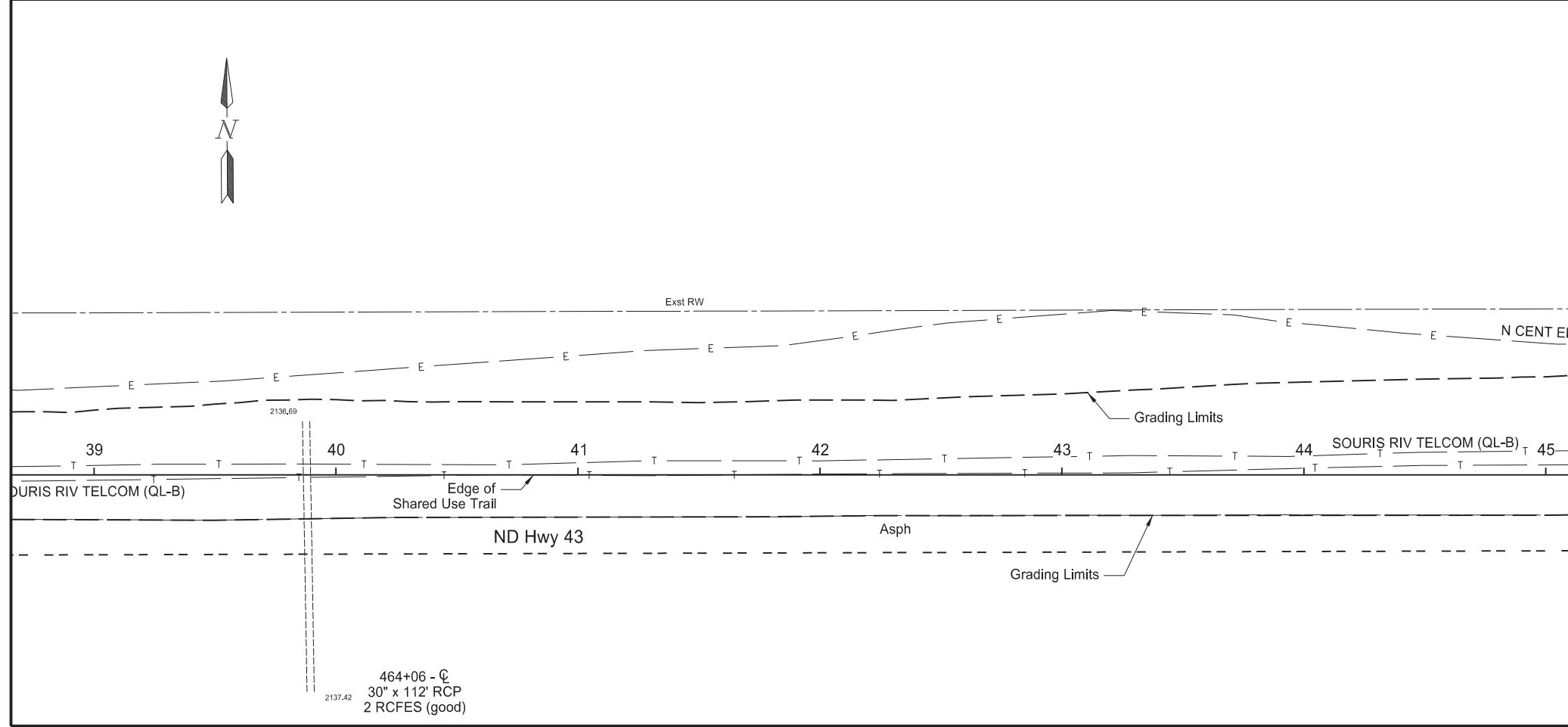
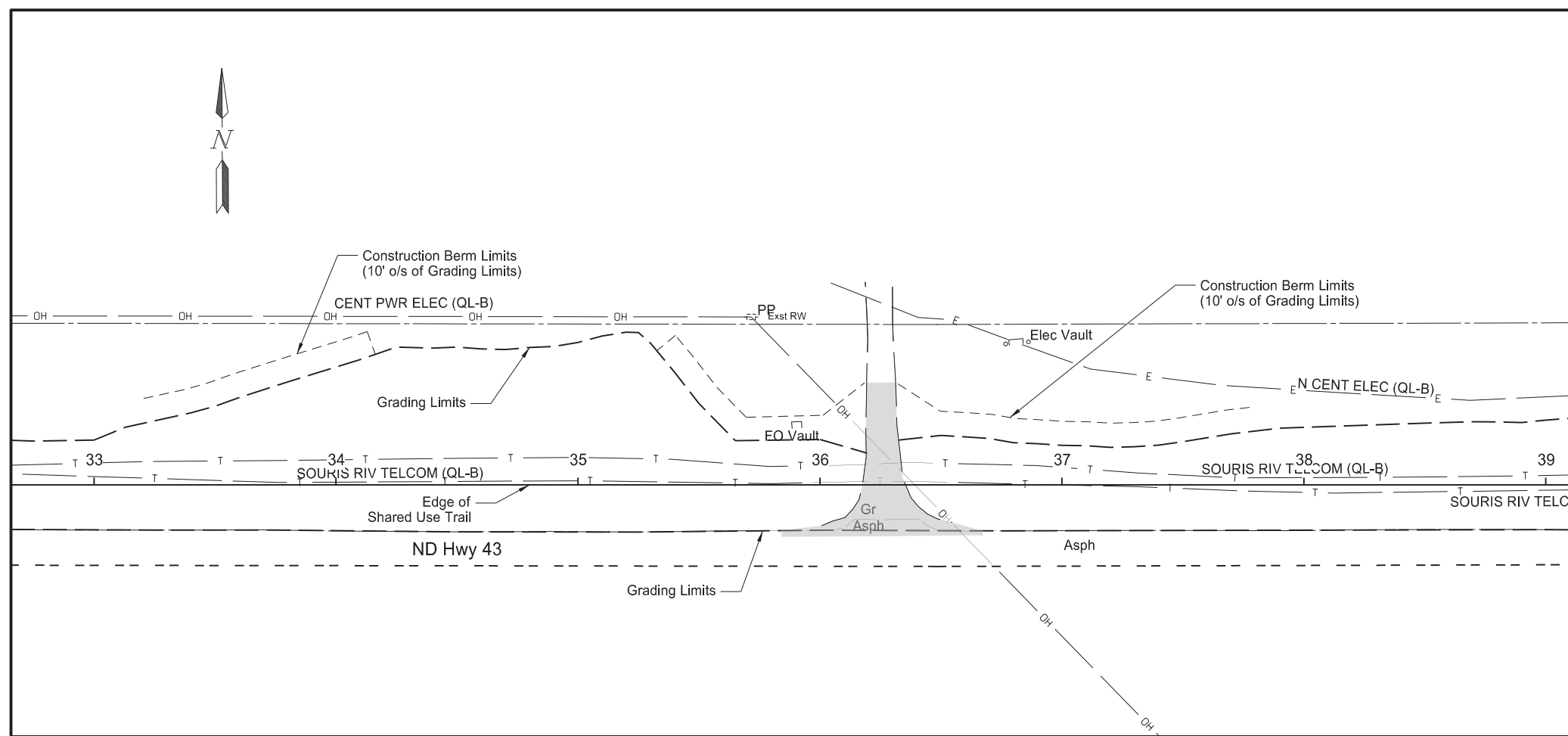
- Clearing and Grubbing
Removal of Trees IN
- Removal of Bituminous Surfacing (4in HMA & 6in Aggregate Base Course)
- Removal of Bituminous Surfacing (Existing Trail)

Removals
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 21+00 to 27+00
 Sta 27+00 to 33+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	40	3

Spec	Code	Item Description	QTY	Unit
202	0132	Removal of Bituminous Surfacing Sta 36+26	156	SY

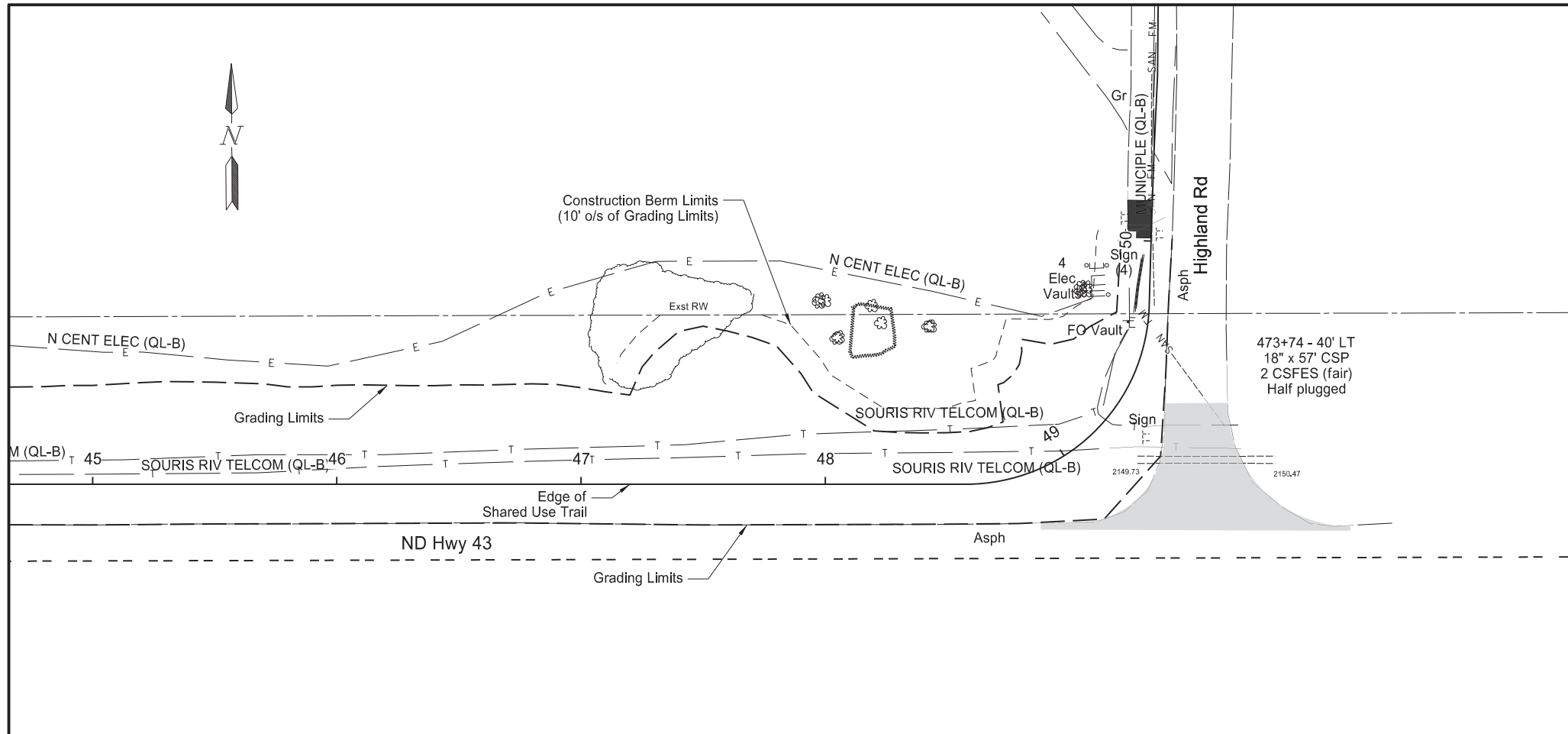


Legend

	Clearing and Grubbing Removal of Trees _IN
	Removal of Bituminous Surfacing (4in HMA & 6in Aggregate Base Course)
	Removal of Bituminous Surfacing (Existing Trail)

Removals
ND Hwy 43
Lake Loop Rd to Highland Rd
Shared Use Trail
Sta 33+00 to 39+00
Sta 39+00 to 45+00








STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	40	4

Spec	Code	Item Description	QTY	Unit
202	0132	Removal of Bituminous Surfacing		
		Sta 49+44.15	266	SY
		Sta 50+01.22 to 50+16.50	17	SY

Legend

	Clearing and Grubbing Removal of Trees _IN
	Removal of Bituminous Surfacing (4in HMA & 6in Aggregate Base Course)
	Removal of Bituminous Surfacing (Existing Trail)

Removals
ND Hwy 43
Lake Loop Rd to Highland Rd
Shared Use Trail
Sta 45+00 to 50+00



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	51	1

Begin Station/Location	Begin Offset	End Station/Location	End Offset	Pipe Installation (Pay Item)		Allowable Material	Required Diameter IN	Steel Pipe Coatings Type	Steel Pipe Corrugations or Spiral Ribs IN	Steel Pipe Minimum Thickness IN	End Treatments		Applicable Backfill Detail	Notes
				IN	LF						Begin EA	End EA		
13+72	34.6' LT	13+66	15.6' LT	84	Pipe Conc. Reinf. CL III (Extension) 20 LT 0 RT	Reinforced Concrete Pipe - Class III (Barrel Length = 20 LF)	84				Remove & Relay		Section 20 Sheet 6	
21+82	16.6' LT	21+82	2.8' LT	18	Pipe Conc. Reinf. CL III (Extension) 10 LT 0 RT	Reinforced Concrete Pipe - Class III (Barrel Length = 10 LF)	18				Remove & Relay		Section 20 Sheet 6	
26+44	19.5' LT	26+44	10.9' LT	24	Pipe Conc. Reinf. CL III (Extension) 6 LT 0 RT	Reinforced Concrete Pipe - Class III (Barrel Length = 6 LF)	24				Remove & Relay		Section 20 Sheet 6	
39+88	30' LT	39+88	24.4' LT	30	Pipe Conc. Reinf. CL III (Extension) 4 LT 0 RT	Reinforced Concrete Pipe - Class III (Barrel Length = 4 LF)	30				Remove & Relay		Section 20 Sheet 6	

Coatings: Z = Zinc
A = Aluminum
P = Polymeric (over Zinc or Aluminum)

Corrugations: 2 = 2-2/3"x1/2"
3 = 3"x1"
5 = 5"x1"

Spiral Ribs: 3/4 = 3/4"x3/4"@7-1/2"
1 = 3/4"x1"@11-1/2"

FES = Flared End Section

<p>Allowable Pipe List - Centerline Culverts</p> <p>ND Hwy 43 Lake Loop Rd to Highland Rd</p> <p>Shared Use Trail</p>
--

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	51	2

Begin Station/Location	Begin Offset	End Station/Location	End Offset	Pipe Installation (Pay Item)		Allowable Material				(*) End Treatments		Type G (Pay Item)	Applicable Backfill	Notes		
				IN	Bid Item	LF	Required Diameter	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Steel Pipe Minimum Thickness	Begin				End	
							IN	Type	IN	IN	EA	EA	SY			
17+71	41.8' LT	17+21	43.2' LT	30	Pipe Conduit - Approach	50	Reinforced Concrete Pipe - Class III (Barrel Length = 48 LF)	30	Z, A, P	2	0.064	FES	FES	130	Spec 714.04A	(A)
							Corrugated Steel Pipe									
17+67	33.9' LT	17+17	35.8' LT	30	Pipe Conduit - Approach	50	Reinforced Concrete Pipe - Class III (Barrel Length = 48 LF)	30	Z, A, P	2	0.064	FES	FES	130	Spec 714.04A	(A)
							Corrugated Steel Pipe									
49+40	66.5' RT	48+97	20.1' LT	24	Pipe Conduit - Approach	100	Reinforced Concrete Pipe - Class III (Barrel Length = 96 LF)	24	Z, A, P	2	0.064	FES	FES	230	Spec 714.04A	(A)
							Corrugated Steel Pipe									

Notes: (A) Approach culvert full replacement.

(*) The price bid for "Pipe Conduit" bid items includes end treatments.

Coatings: Z = Zinc
A = Aluminum
P = Polymeric (over Zinc or Aluminum)

Corrugations: 2 = 2-2/3"x1/2"
3 = 3"x1"
5 = 5"x1"

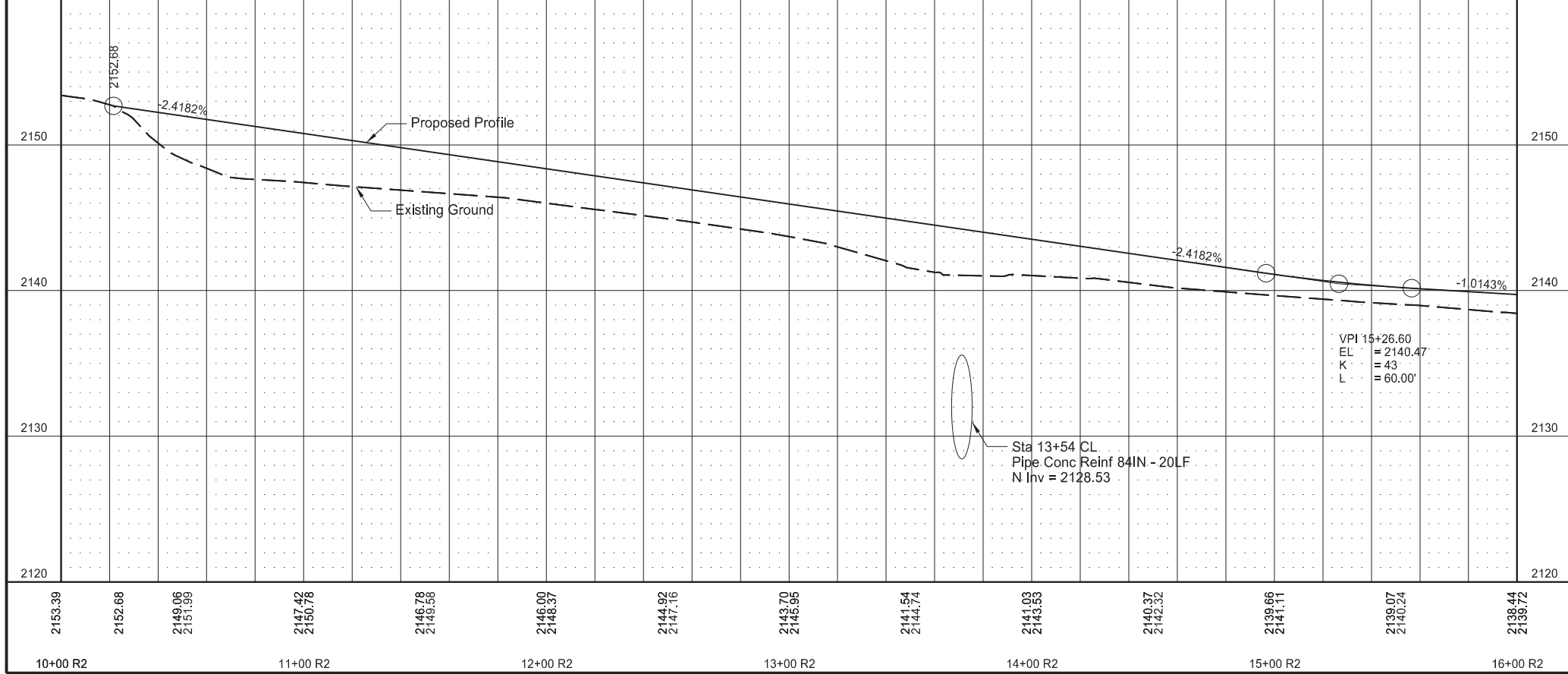
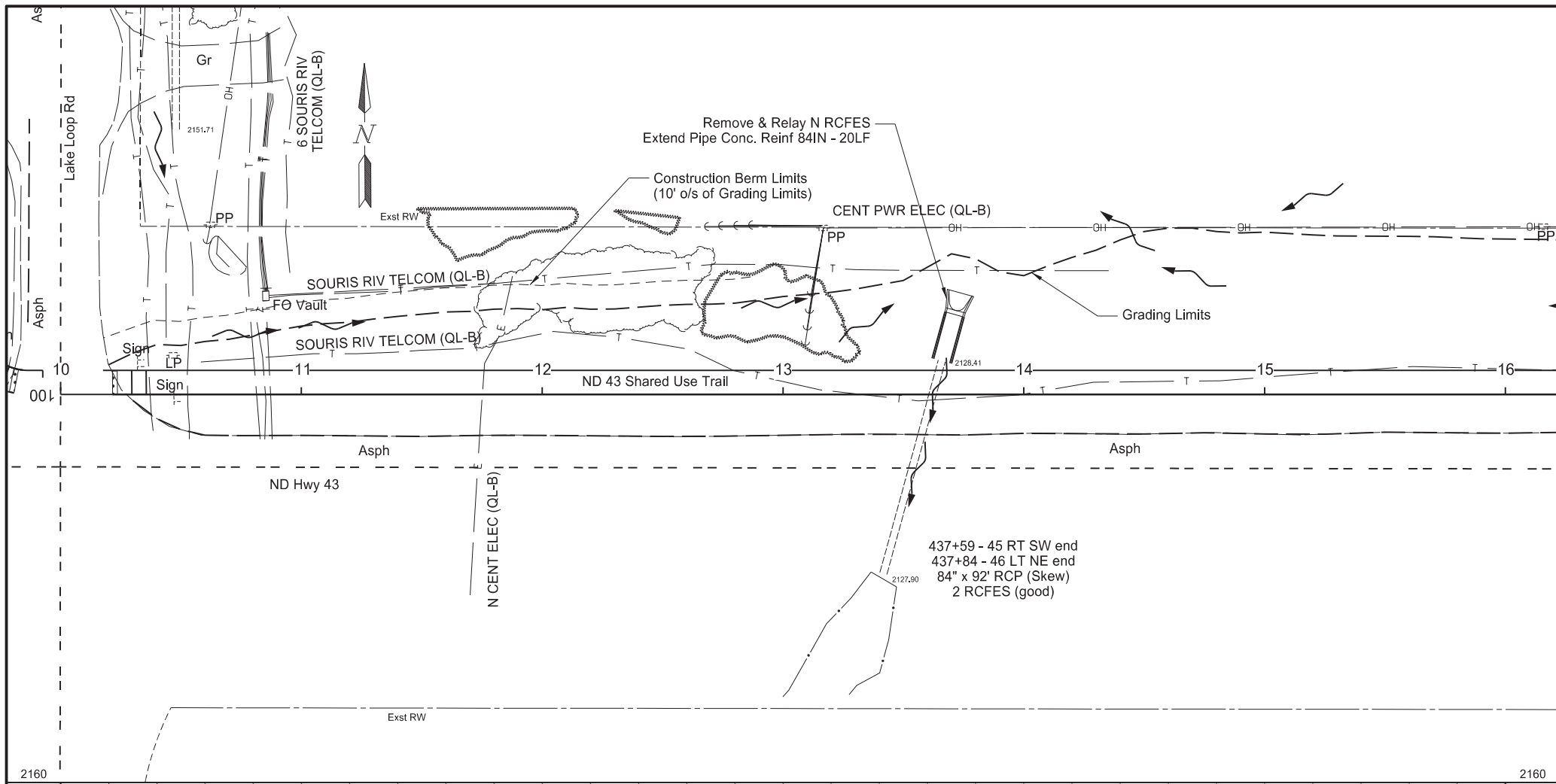
Spiral Ribs: 3/4 = 3/4"x3/4"@7-1/2"
1 = 3/4"x1"@11-1/2"

FES = Flared End Section

Allowable Pipe List - Approach Culverts

ND Hwy 43
Lake Loop Rd to Highland Rd

Shared Use Trail



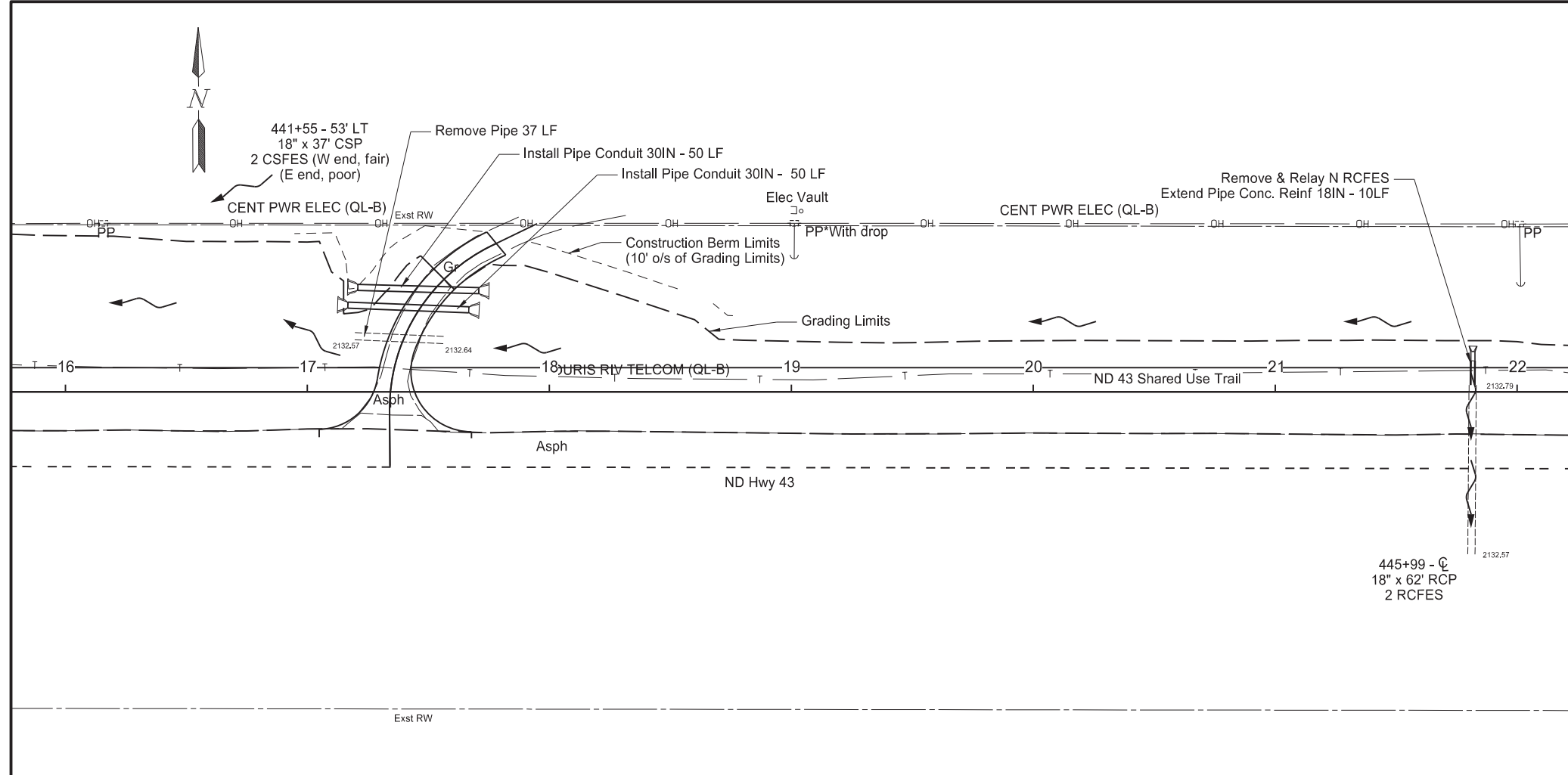
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(008)009	60	1

Spec	Code	Item Description	QTY	Unit
714	1710	Pipe Conc Reinf 84IN CL III		
		13+54 - CL LT	20	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		13+54 - CL LT	1	EA
754	0805	Object Markers - Culverts		
		13+54 - CL LT	1	EA

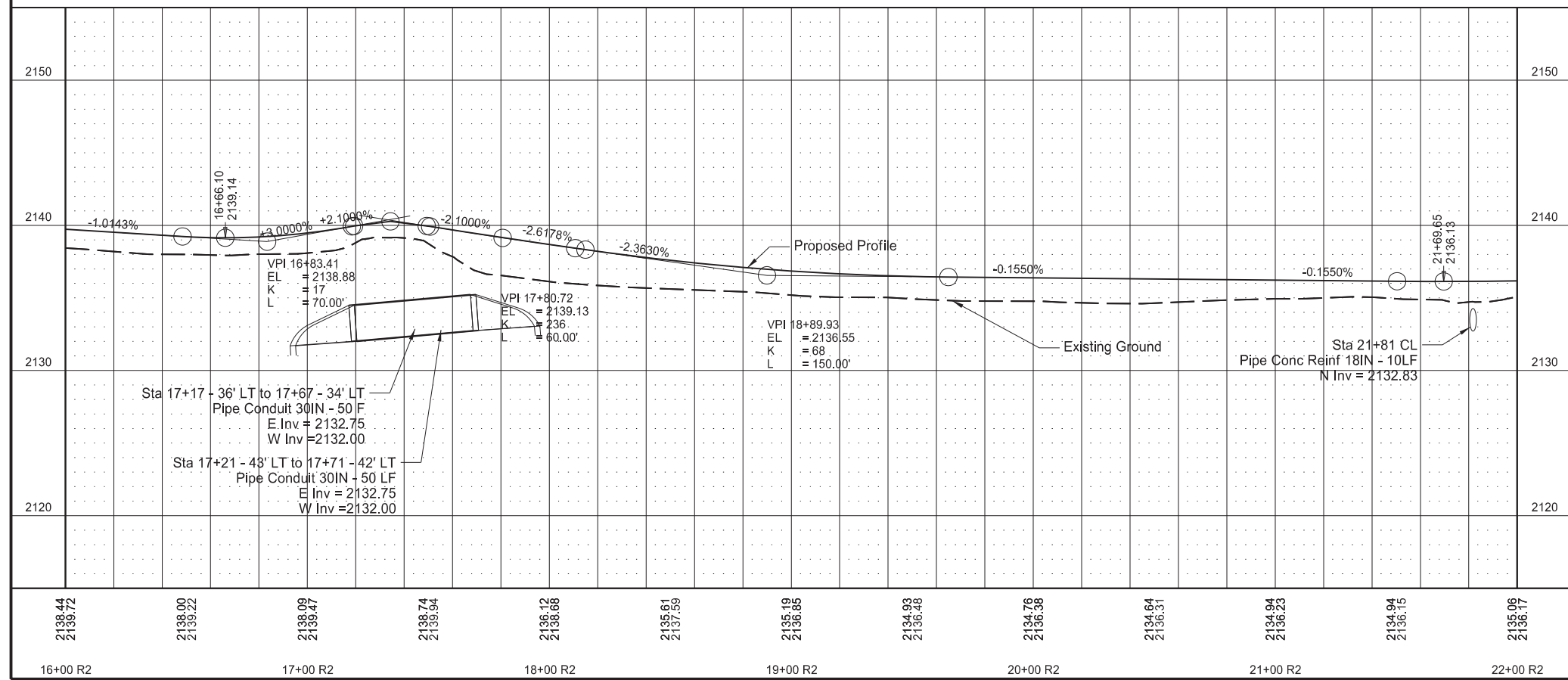
Plan & Profile
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 10+00 to 16+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	60	2



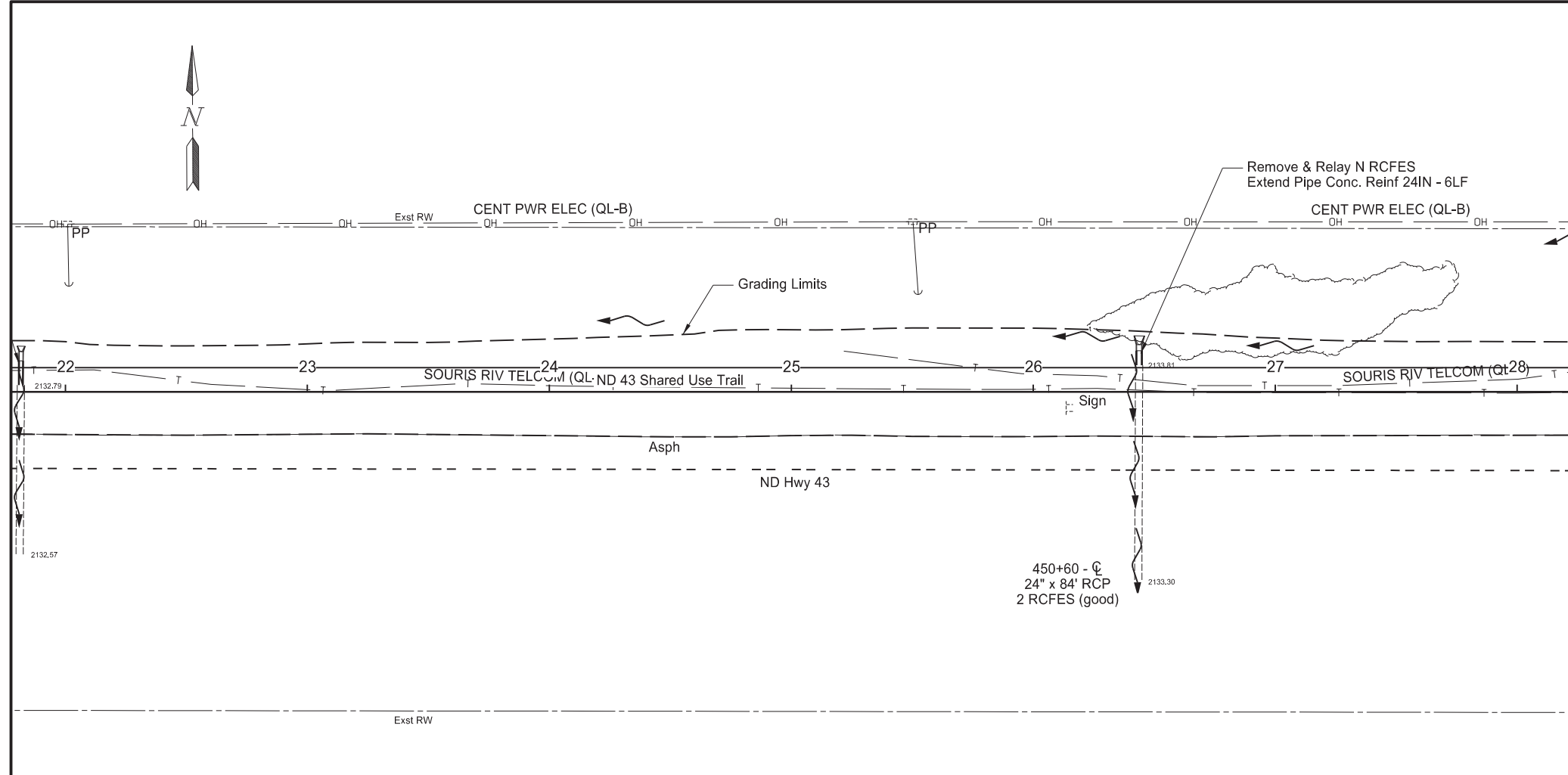
Spec	Code	Item Description	QTY	Unit
202	0170	Removal of Culverts-All Types & Sizes		
		17+38 - 22' LT	37	LF
714	0310	Pipe Conc Reinf 18IN CL III		
		21+81 - CL LT	10	LF
714	4113	Pipe Conduit 30IN-Approach		
		17+17 - 36' LT to 17+67 - 34' LT	50	LF
		17+21 - 43' LT to 17+71 - 42' LT	50	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		21+81 - CL LT	1	EA
754	0805	Object Markers - Culverts		
		17+17 - 36' LT & 17+67 - 34' LT	2	EA
		17+21 - 43' LT & 17+71 - 42' LT	2	EA
		21+81 - CL LT	1	EA



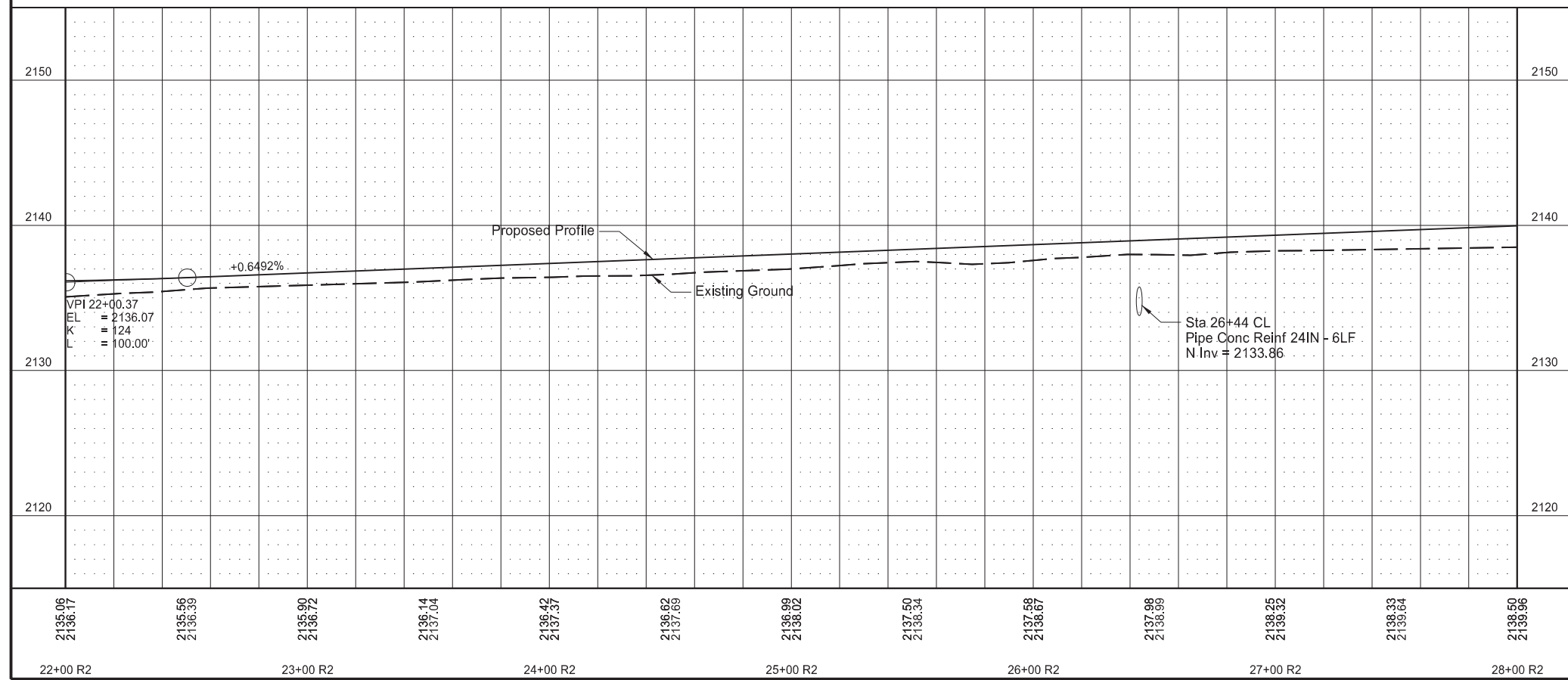
Plan & Profile
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 16+00 to 22+00



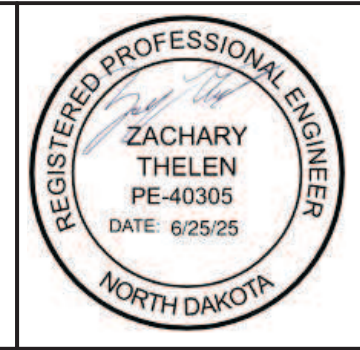
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	60	3



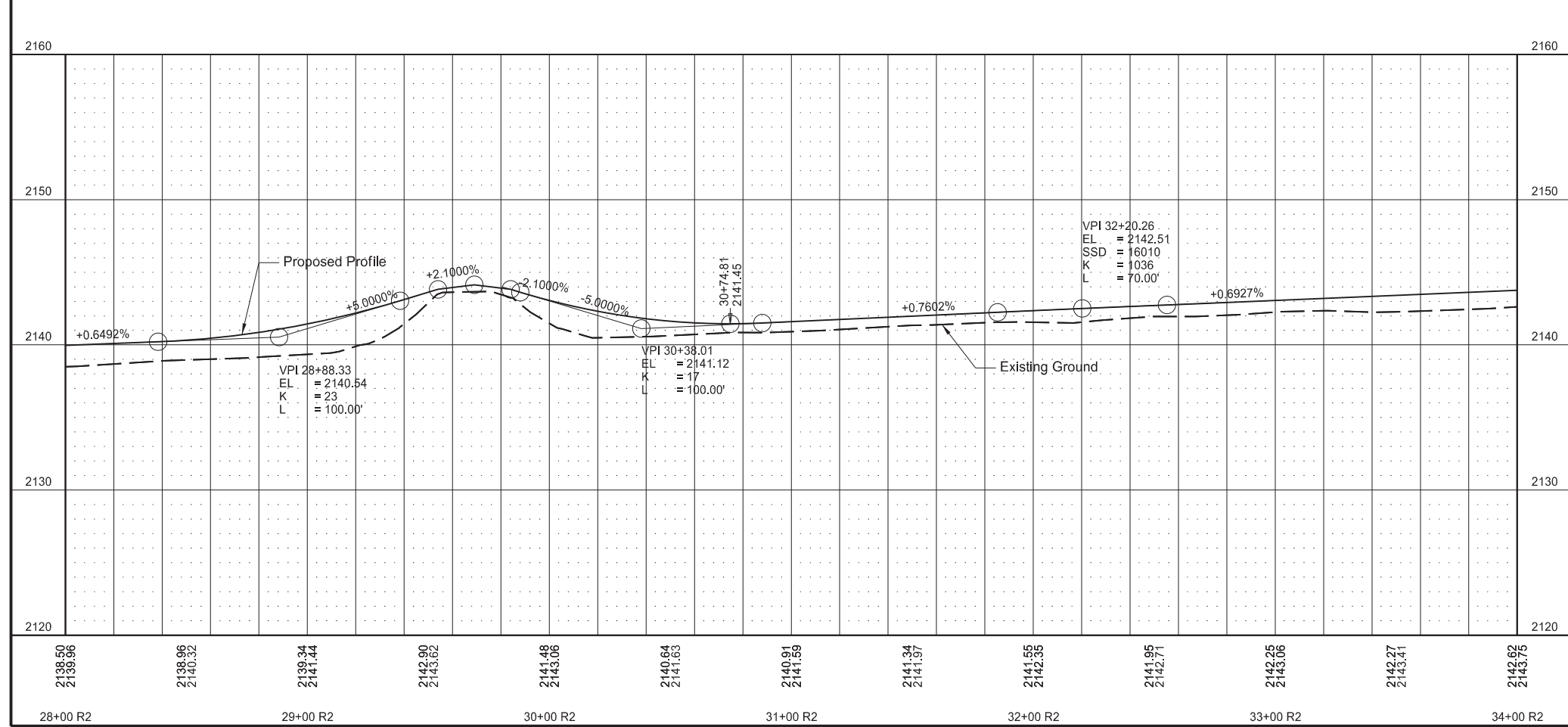
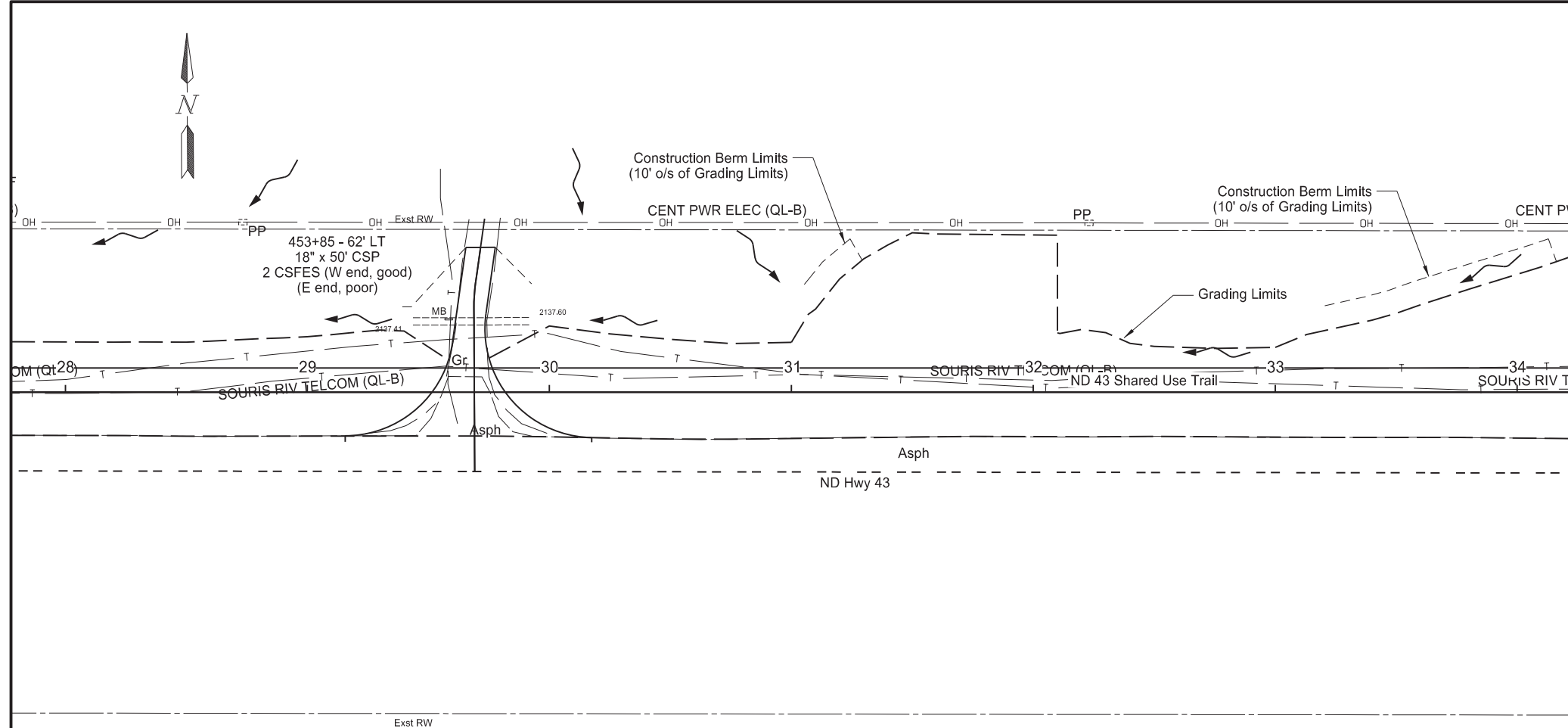
Spec	Code	Item Description	QTY	Unit
714	0615	Pipe Conc Reinf 24IN CL III		
		26+44 - CL LT	6	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		26+44 - CL LT	1	EA
754	0805	Object Markers - Culverts		
		26+44 - CL LT	1	EA



Plan & Profile
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 22+00 to 28+00



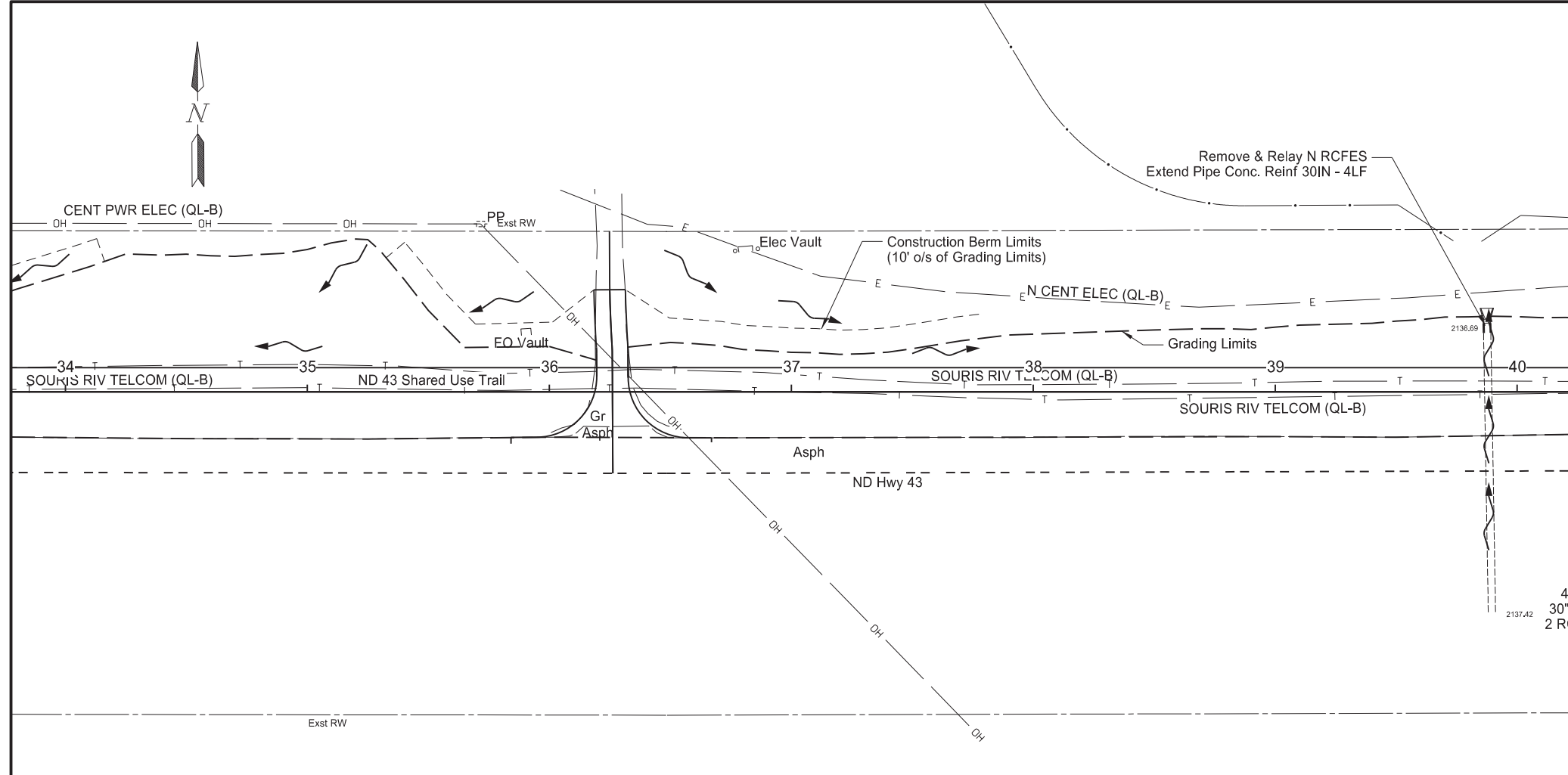
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	60	4



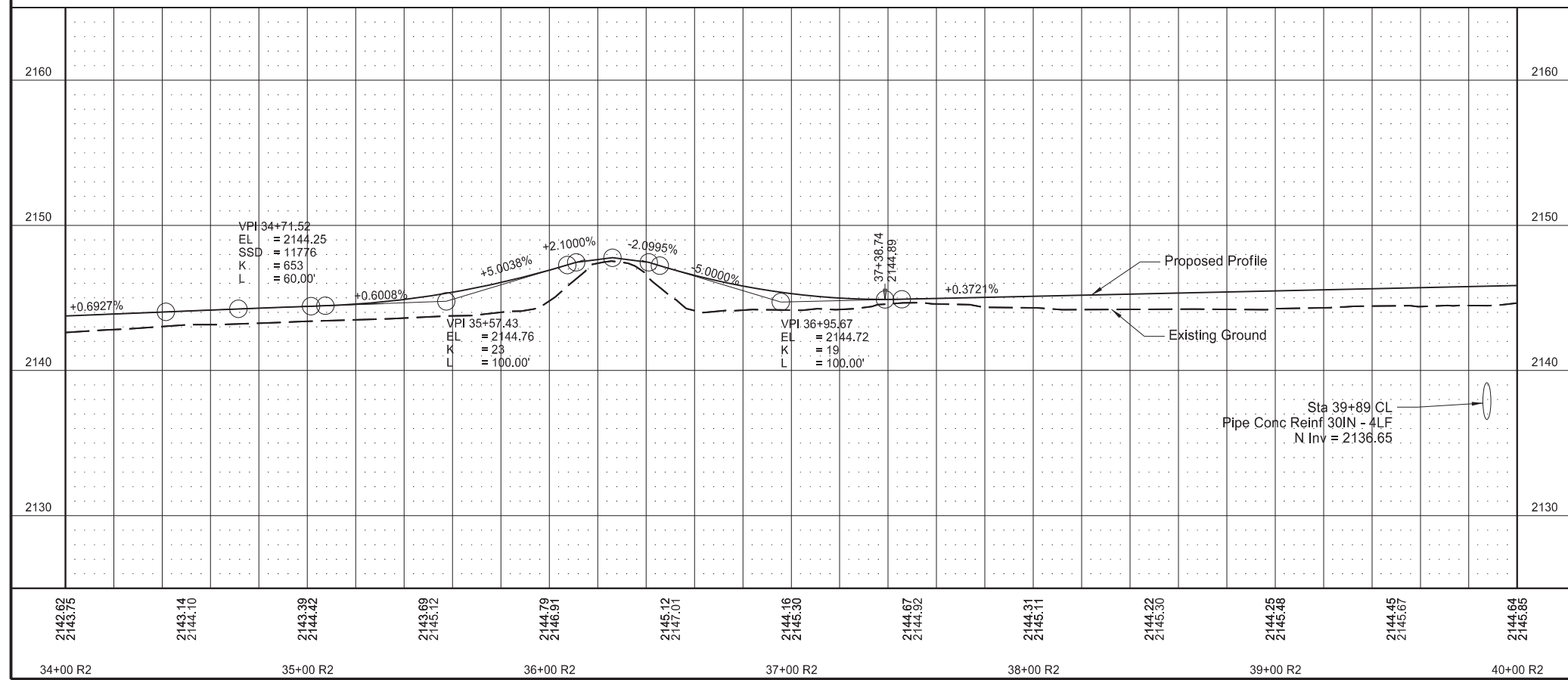
Plan & Profile
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 28+00 to 34+00



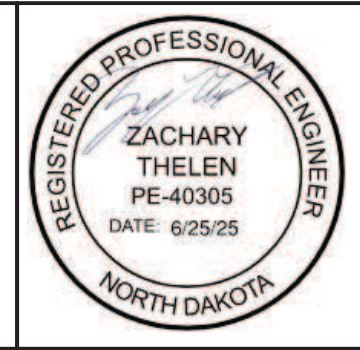
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	60	5



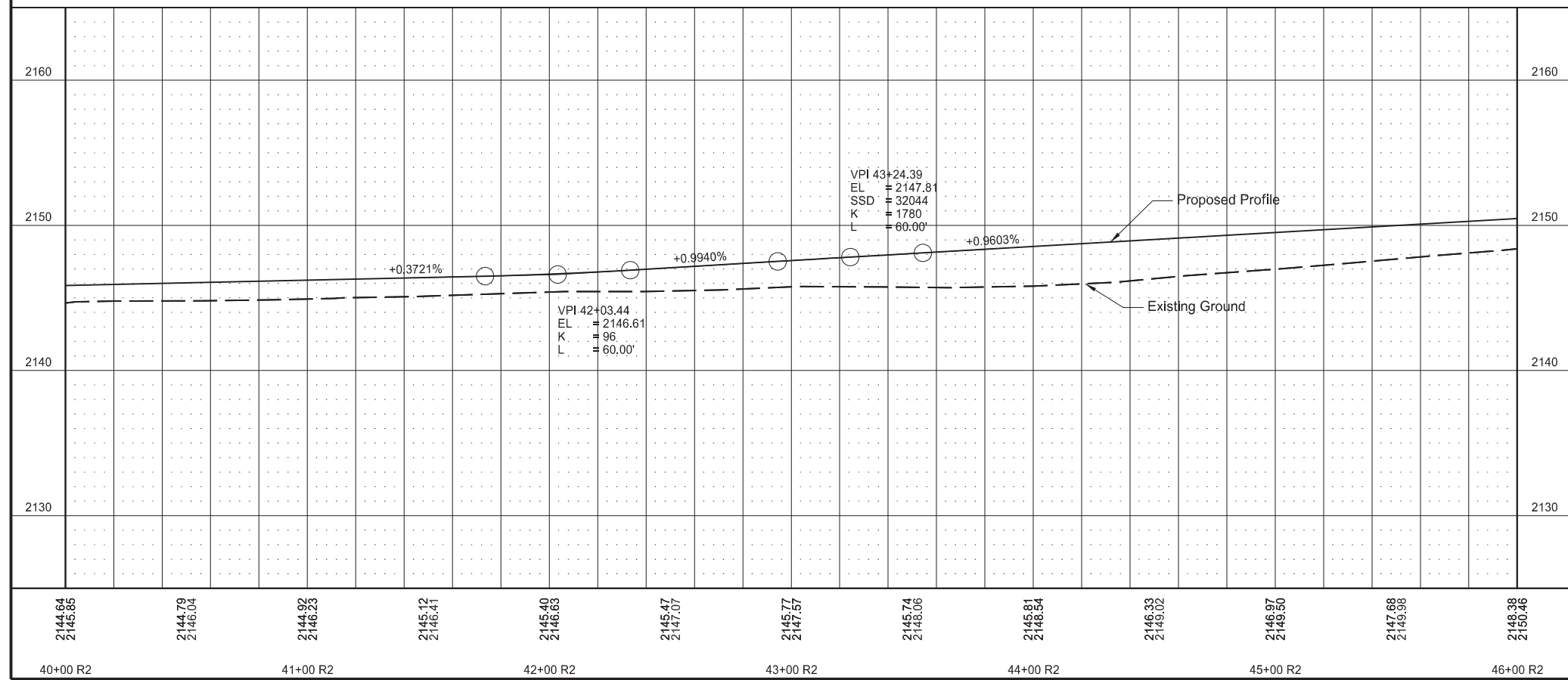
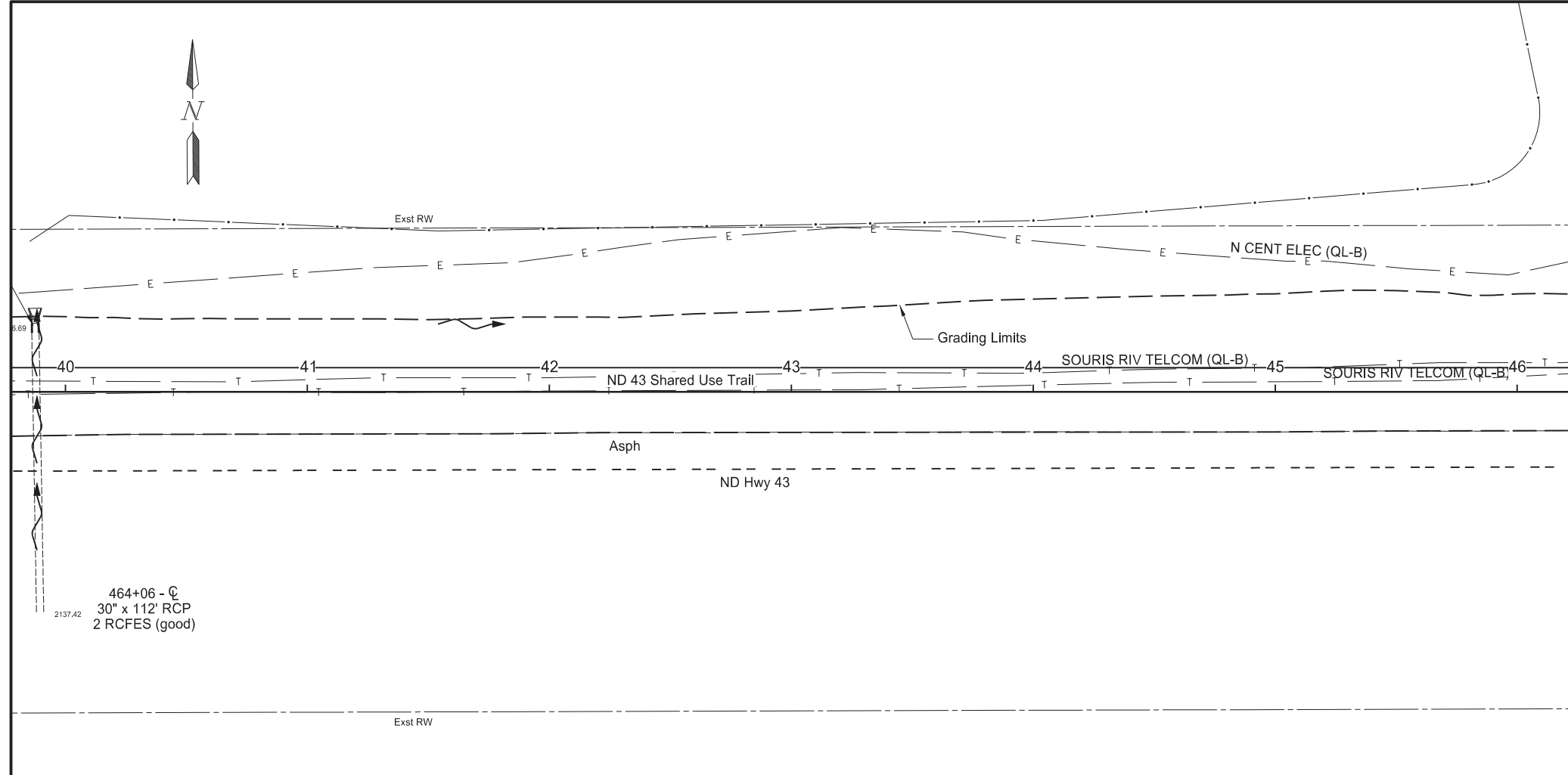
Spec	Code	Item Description	QTY	Unit
714	0820	Pipe Conc Reinf 30IN CL III		
		39+89 - CL LT	4	LF
714	9660	Remove & Relay End Section-All Types & Sizes		
		39+89 - CL LT	1	EA
754	0805	Object Markers - Culverts		
		39+89 - CL LT	1	EA



Plan & Profile
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 34+00 to 40+00

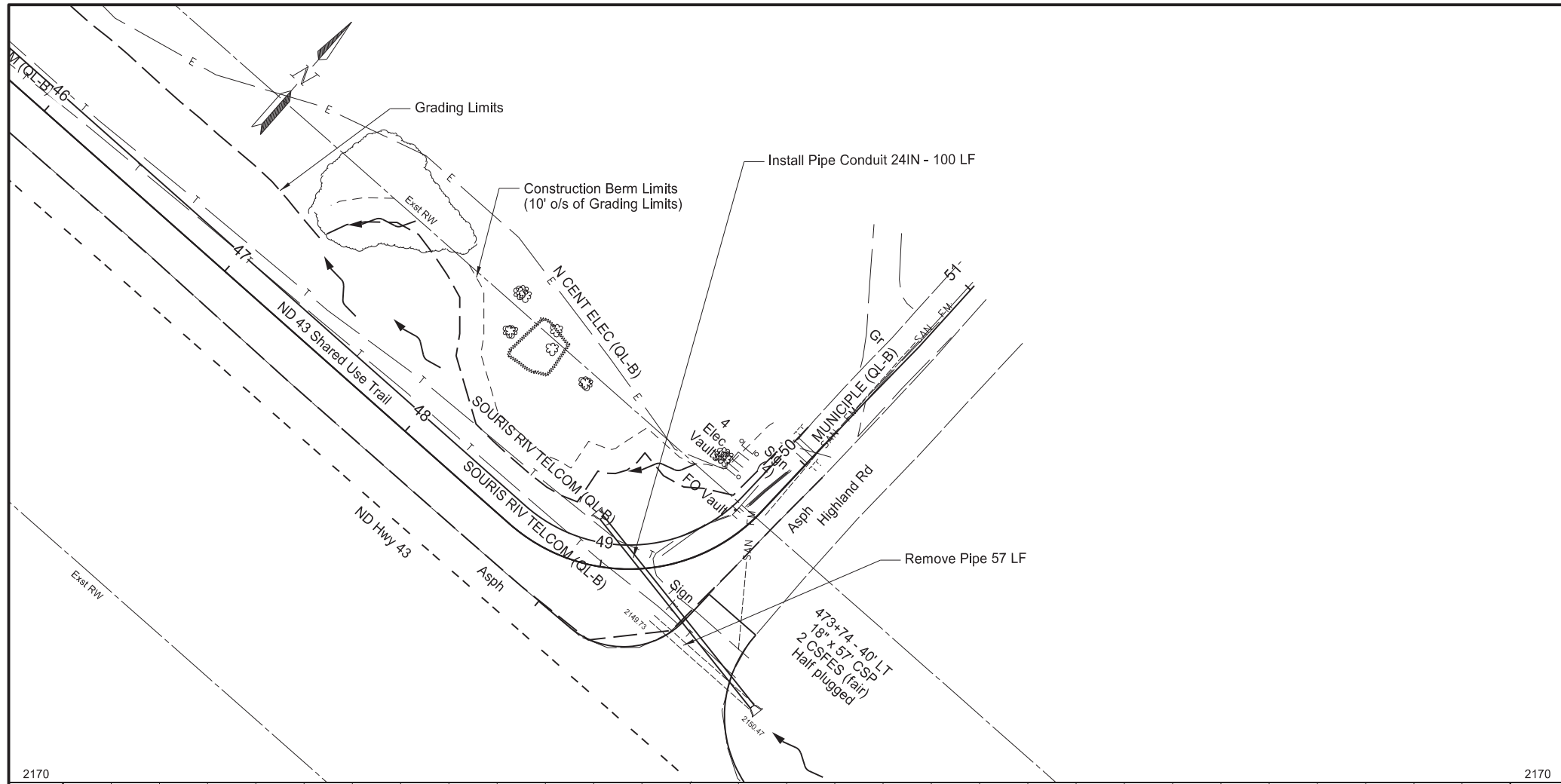


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	60	6



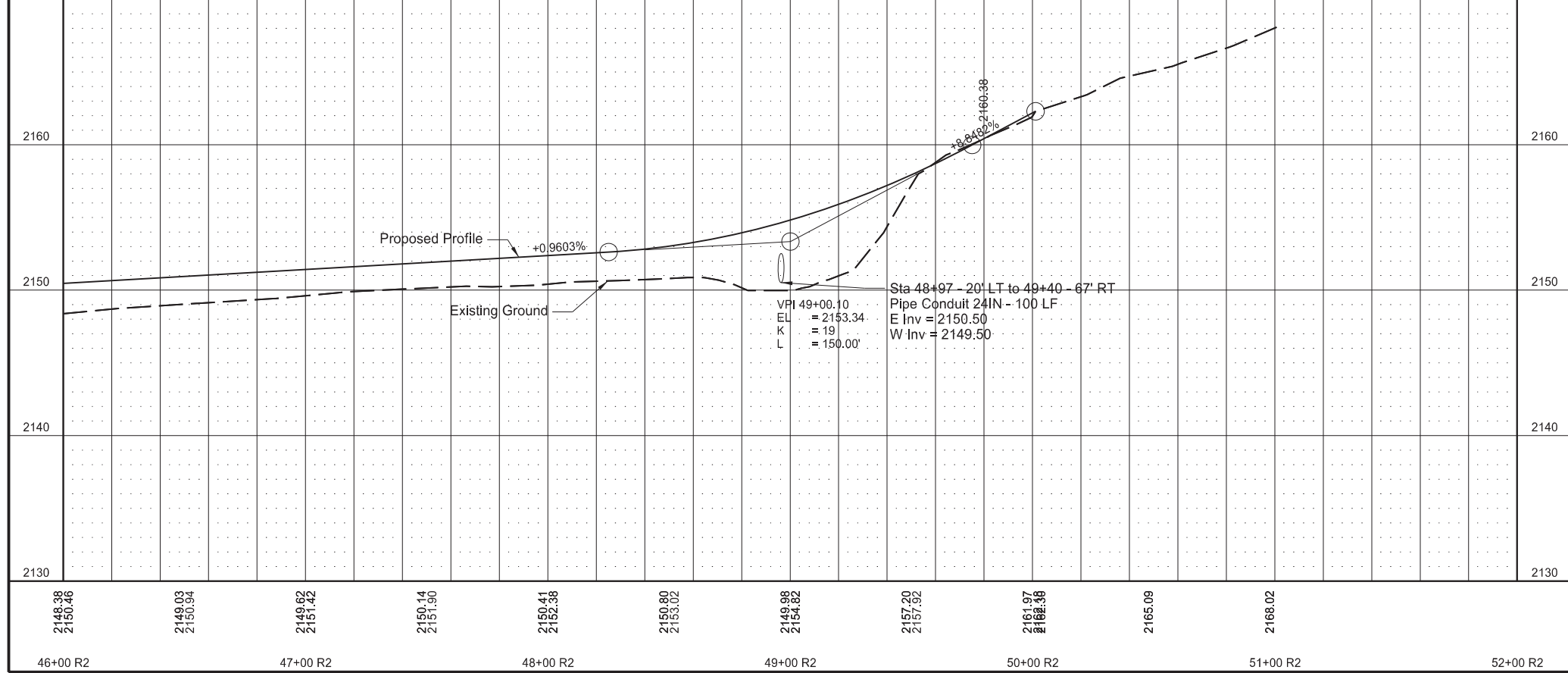
Plan & Profile
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 40+00 to 46+00





STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	60	7

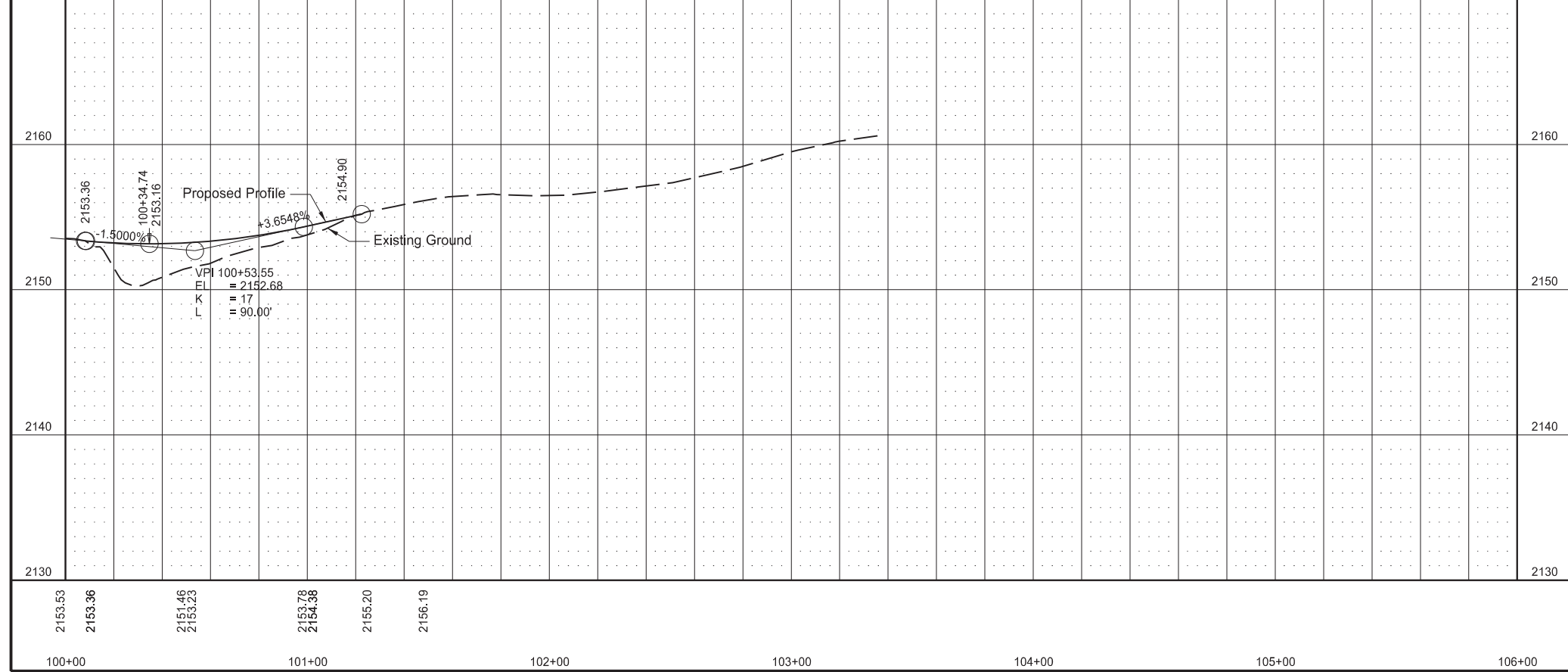
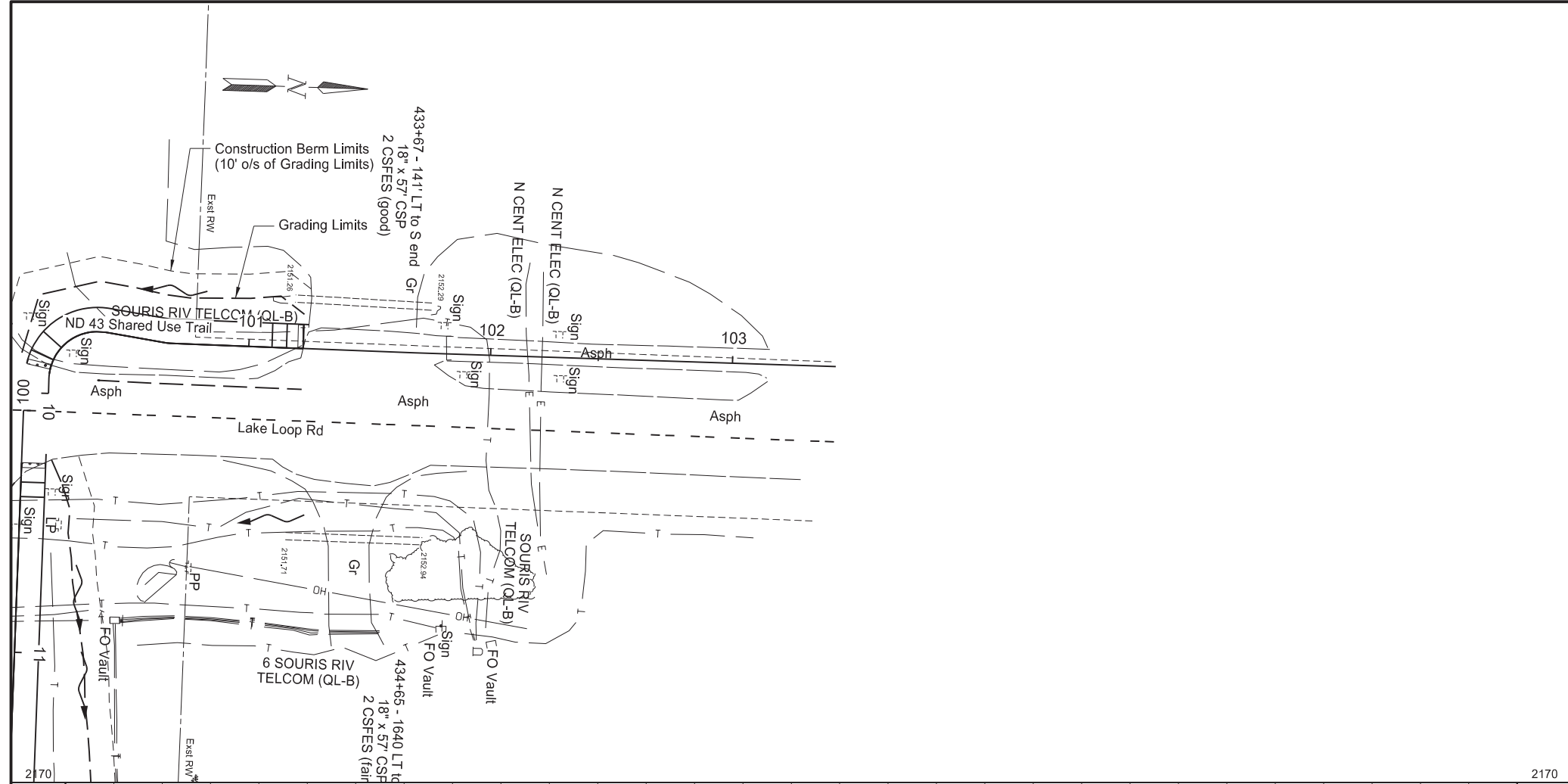
Spec	Code	Item Description	QTY	Unit
202	0170	Removal of Culverts-All Types & Sizes		
		49+32 - 43' RT	57	LF
714	4106	Pipe Conduit 24IN- Approach		
		48+97 - 20' LT to 49+40 - 67' RT	100	LF
754	0805	Object Markers - Culverts		
		48+97 - 20' LT & 49+40 - 67' RT	2	EA



Plan & Profile
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 48+00 to 51+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	60	8



Plan & Profile
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 100+00 to 101+00



Wetland Impact Table														
Wetland Number	Location	Wetland Type	Wetland Feature	USACE Jurisdictional Wetlands ¹	Wetland Impact		Wetland Mitigation							
					Wetland Impacts Acre(s)		Mitigation Proposed			USACE/11990 Bank		Onsite Mitigation Method		
					Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Mitigation Location; Ratio	Ditch Shift Acre(s)	Onsite Acre(s)
1	Sec 9 T163N R75W	Ditch	Created	N	-	-								
2	Sec 10 T163N R75W	Ditch	Created	N	-	-								
3A	Sec 10 T163N R75W	Fringe	Natural	Y	0.007	0.016	Y	Y	N	Kirkeby Bank	0.016			
3C	Sec 10 T163N R75W	Fringe	Natural	Y	0.011	0.020	Y	Y	N	Kirkeby Bank	0.020			
3D	Sec 10 T163N R75W	Ditch	Created	N	0.046	0.048	N	N	N					
3E	Sec 10 T163N R75W	Ditch	Created	N	0.000	0.018	N	N	N					
3F	Sec 10 T163N R75W	Basin	Natural	Y	0.063	0.145	Y	Y	N	Kirkeby Bank	0.145			
3G	Sec 10 T163N R75W	Ditch	Created	Y	0.010	0.037	N	Y	N	Kirkeby Bank	0.016	Site 1; 1:1	0.021	
3H	Sec 10 T163N R75W	Ditch	Created	Y	0.041	0.024	N	Y	N			Site 1; 1:1	0.024	
3I	Sec 10 T163N R75W	Basin	Natural	Y	0.006	0.019	Y	Y	N	Kirkeby Bank	0.019			
3J	Sec 10 T163N R75W	Ditch	Created	N	0.041	0.057	N	N	N					
4	Sec 10 T163N R75W	Ditch	Created	N	0.006	0.016	N	N	N					
5	Sec 10 T163N R75W	Ditch	Created	N	0.014	0.043	N	N	N					
Totals					0.245	0.443					0.216		0.045	

¹ A wetland Jurisdictional Determination was issued by the USACE on 05/13/2025; NWO-2024-01518-BIS.



Wetlands Mitigation and Environmental
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail

Other Waters and Streams Impact Table													
Number	Location	Type	Feature	USACE Jurisdictional ¹	Impacts to Other Waters				Other Water Mitigation				
					Acres				Mitigation Proposed			USACE Mitigation Bank	
					Temp.	Perm. (total Loss + no Loss)	Perm. (Loss)	Perm. (No Loss)	EO 11990	USACE	USFWS	Location; ratio	Acre(s)
OW-3B	Sec 10 T163N R75W	Perennial Stream	Natural	Y	0.005	0.021	0.021		N	N	N		
OW-3K ²	Sec 10 T163N R75W	Manipulated Lake	Natural	Y	0.116	0.095	0.095		N	Y	N	Kirkeby Bank 1:1	0.095
Totals					0.121	0.116	0.116						0.095

¹ A wetland Jurisdictional Determination was issued by the USACE on 9/20/2024; NWO-2024-01518-BIS.

² OW-3K treated as a wetland for mitigation purposes.

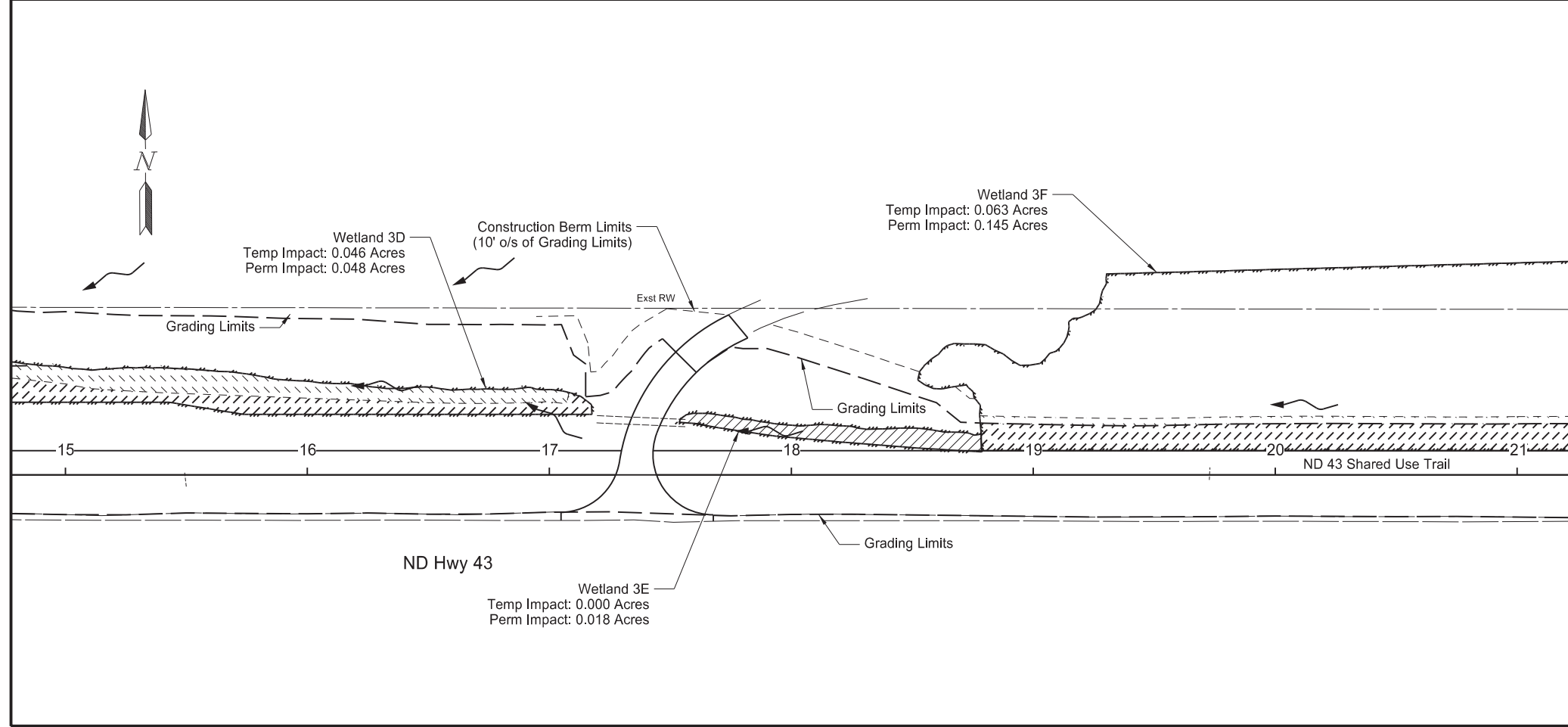
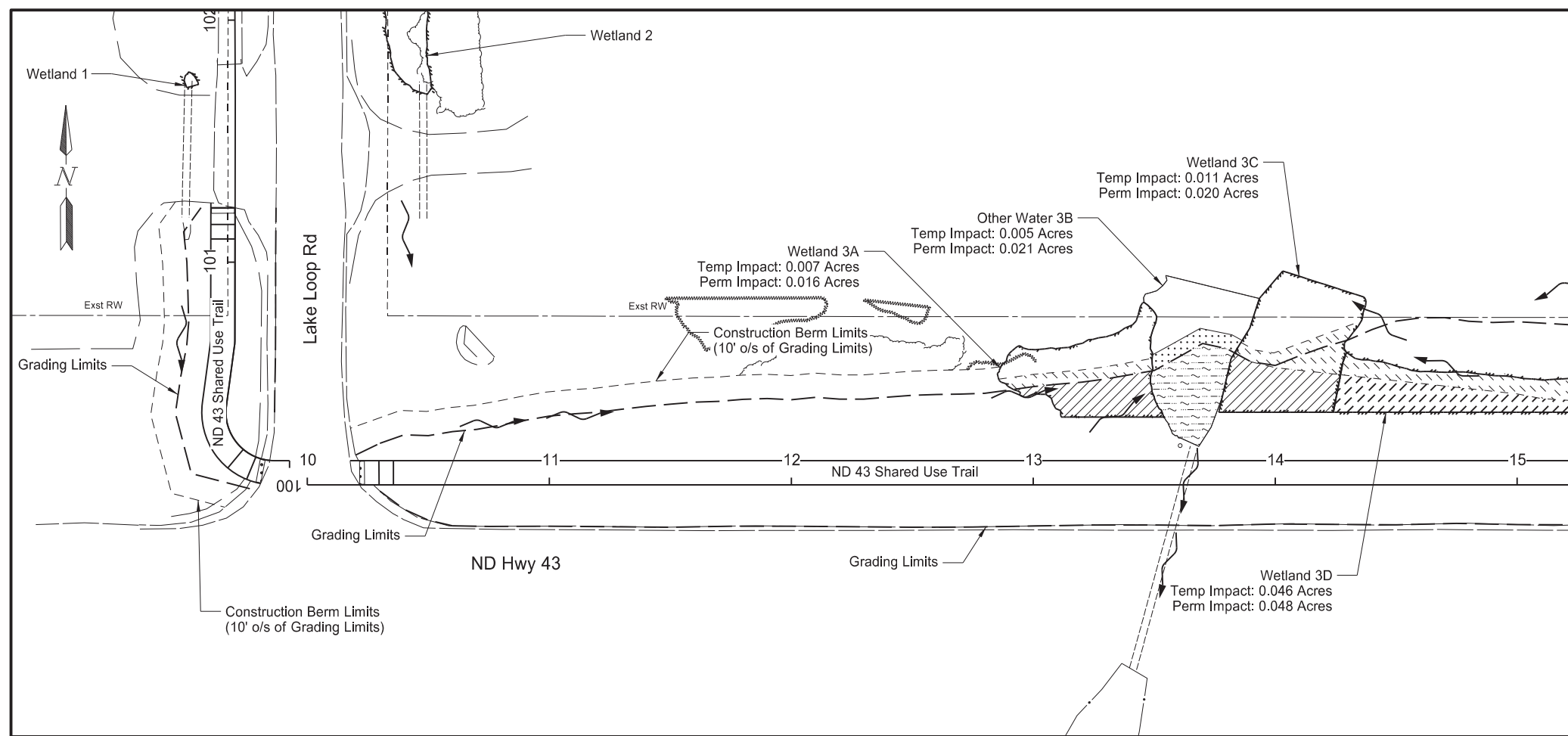
Impact Summary Table			
Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	Total Acre(s)	WaterType	Total Acre(s)
Natural/JD (Fill/Drain)	0.200	Temporary Wetland JD	0.138
Natural/Non-JD (Fill/Drain)	-	Non-JD Wetland Temporary	0.107
Artificial/JD (Fill/Drain)	0.061		
Artificial /Non-JD (Fill/Drain)	0.182	Permanent OW	0.116
Total	0.443	Temporary OW	0.121

Mitigation Summary Table					
	Ditch Shift Acre(s)	11990 Bank Acre(s)	Location	USACE/11990 Ward County Bank Acre(s)	USFWS Bank Acre(s)
USACE Only	-	X	-	-	X
EO 11990 Only	-	-	-	X	X
USACE/11990	0.045	X	Kirkeby Bank	0.311	X
Total	0.045	0		0.311	0



Wetlands Mitigation and Environmental
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	75	3

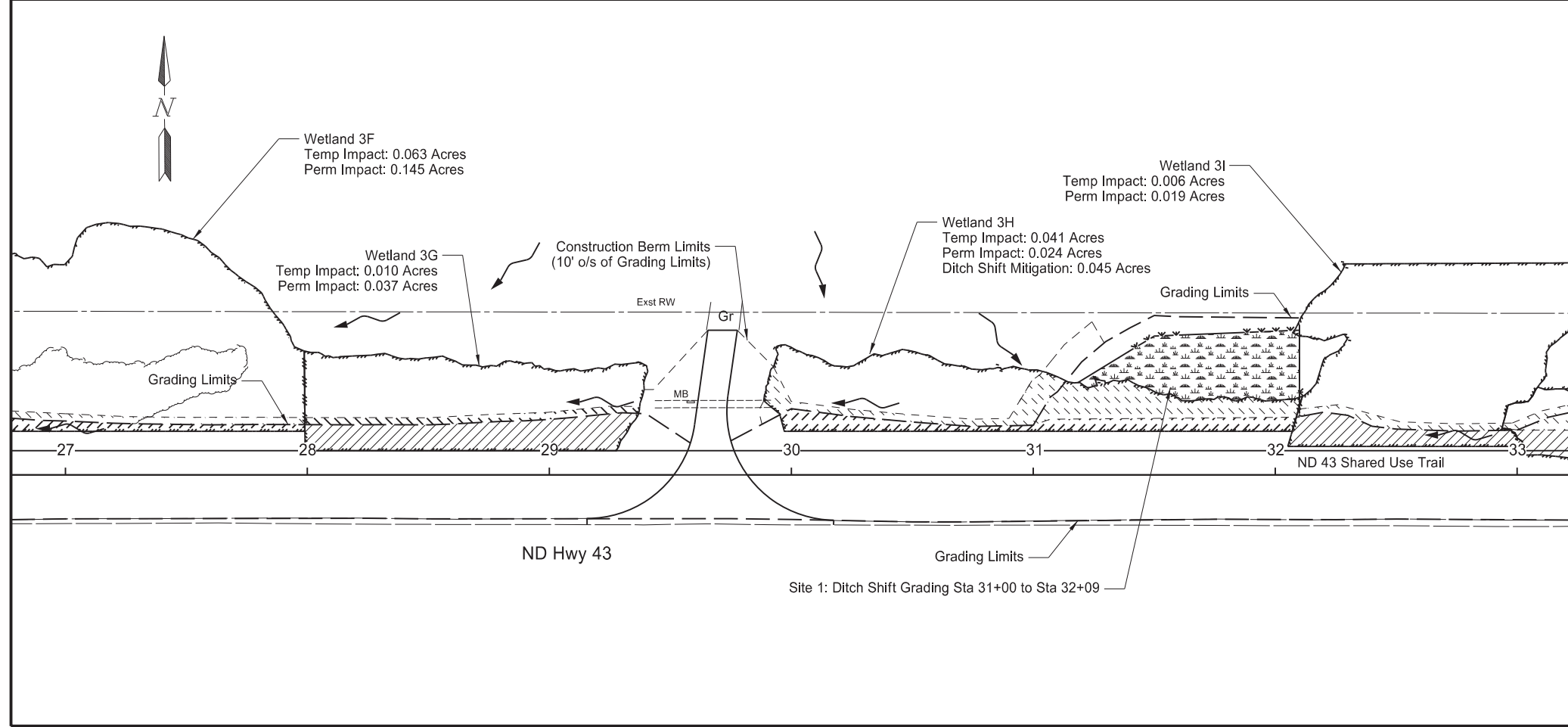
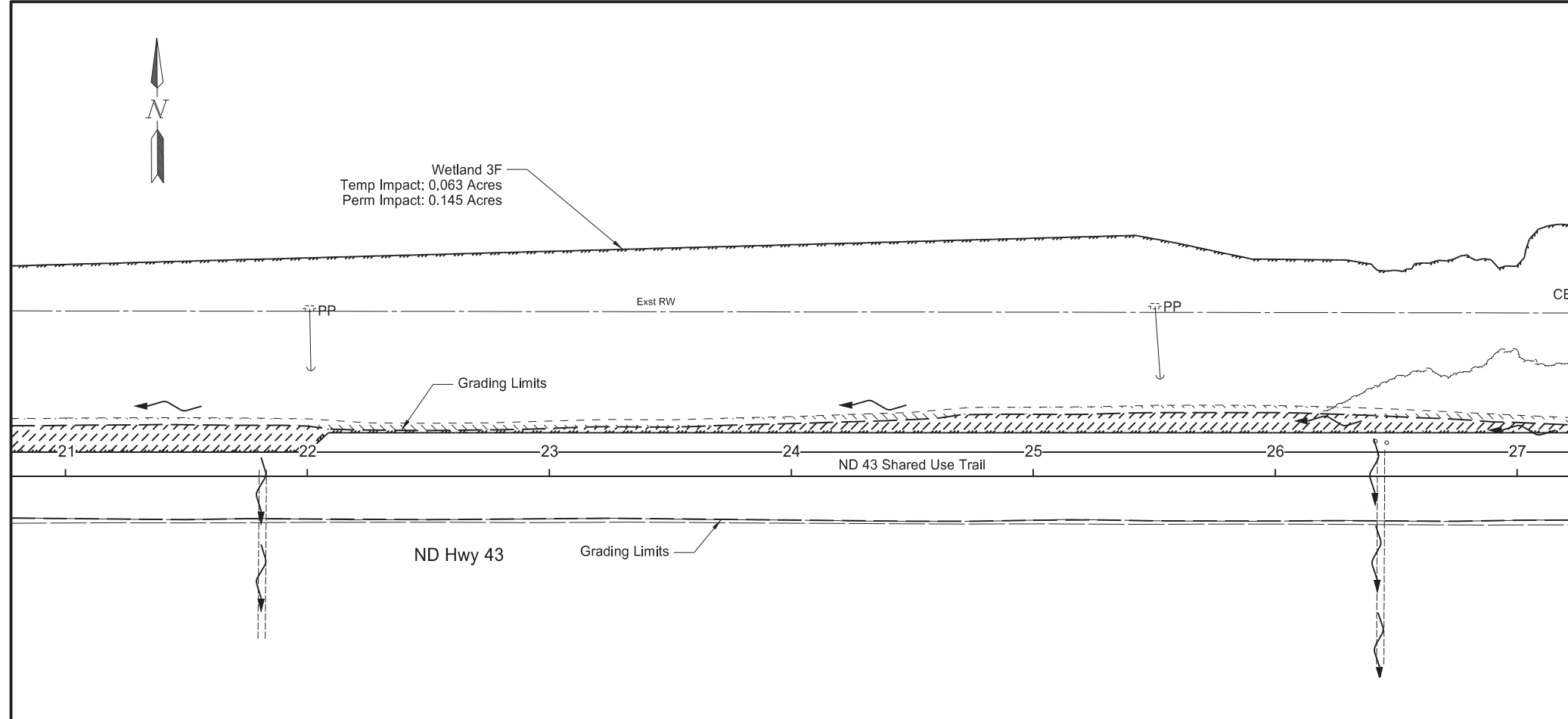


Legend	
	Temporary Wetland Impact
	Permanent Wetland Impact
	Temporary Other Water Impact
	Permanent Other Water Impact
	Wetland Mitigation (Ditch Shift)
	Exst Delineated Wetland

Wetland Impacts
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 100+00 to 101+00 (Lake Loop Rd)
 Sta 10+00 to 15+00
 Sta 15+00 to 21+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	75	4



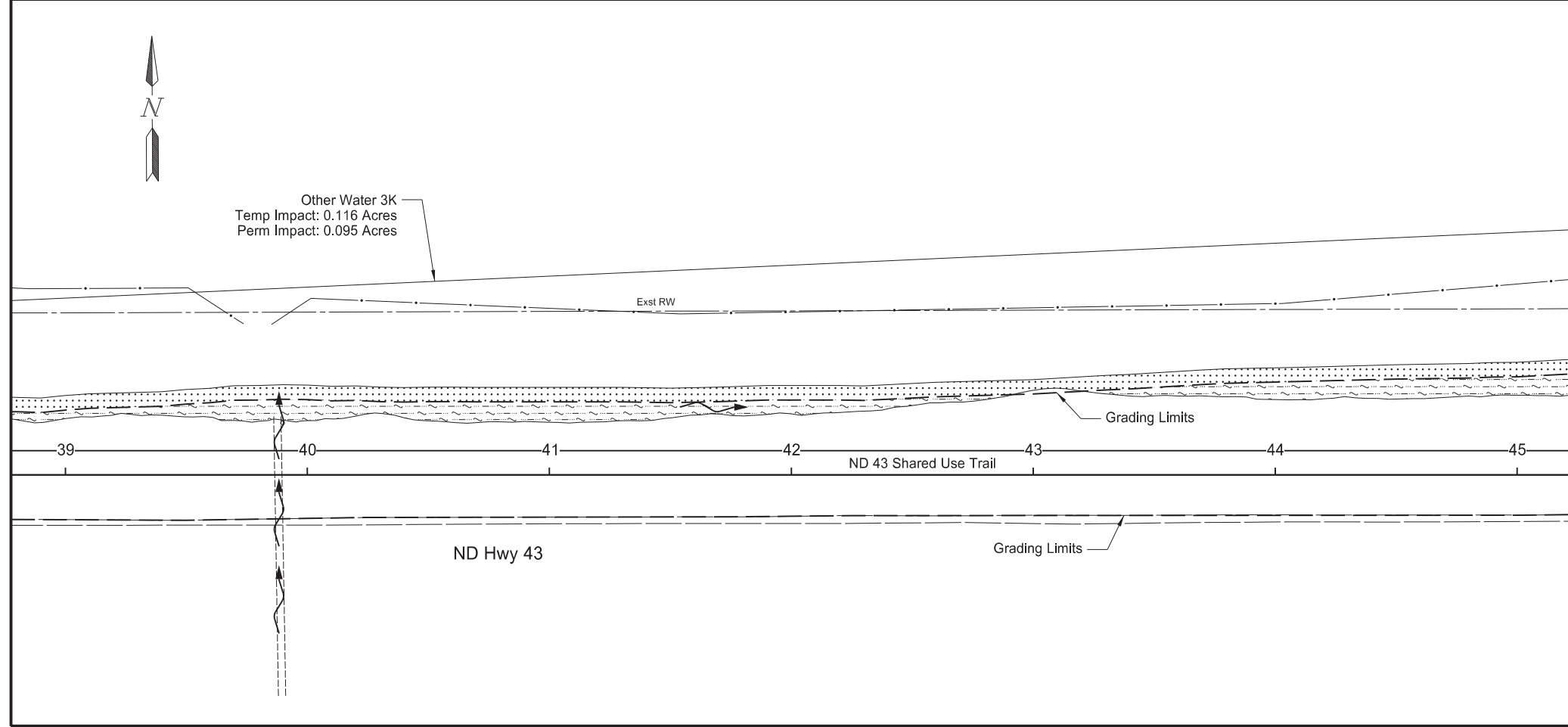
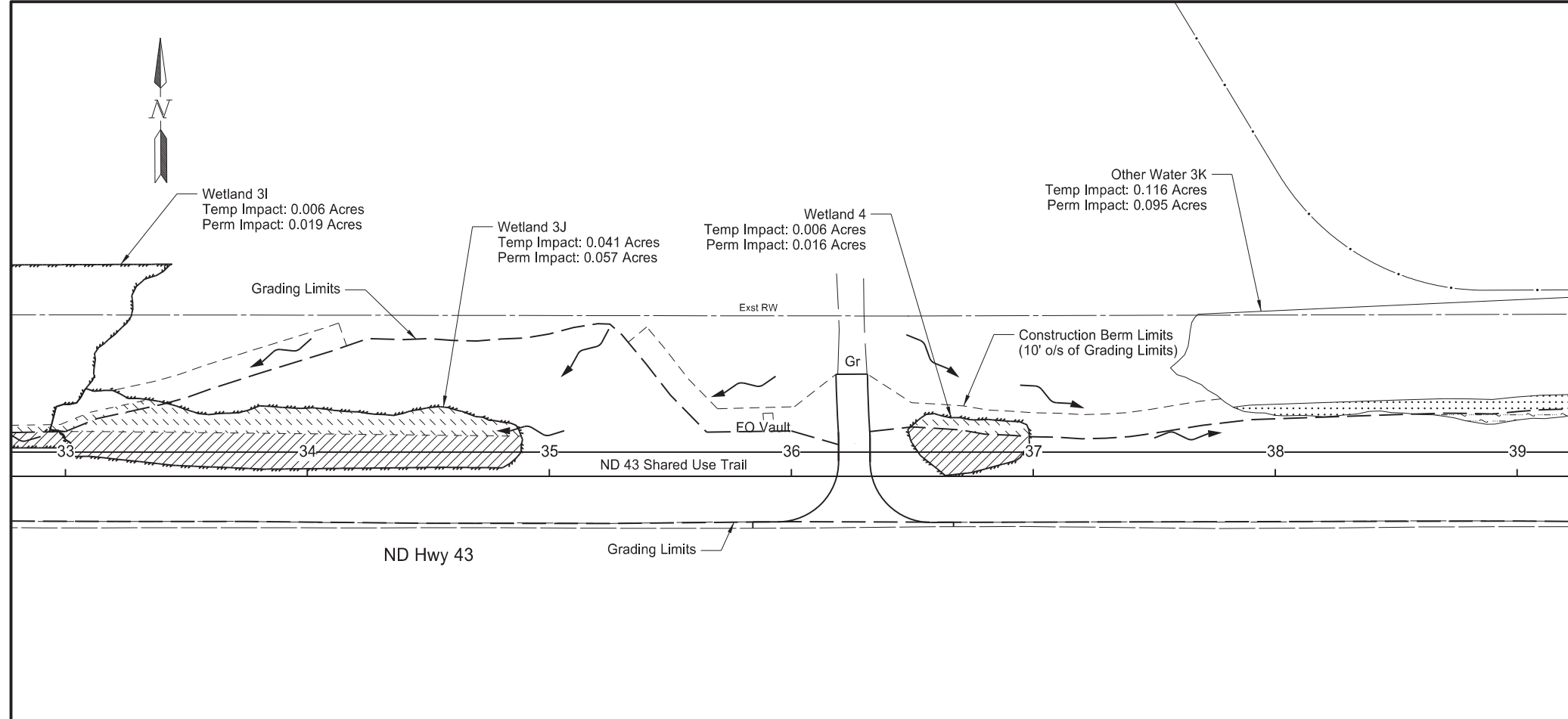
Legend

	Temporary Wetland Impact
	Permanent Wetland Impact
	Temporary Other Water Impact
	Permanent Other Water Impact
	Wetland Mitigation (Ditch Shift)
	Exst Delineated Wetland

Wetland Impacts
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 21+00 to 27+00
 Sta 27+00 to 33+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	75	5



Legend

	Temporary Wetland Impact
	Permanent Wetland Impact
	Temporary Other Water Impact
	Permanent Other Water Impact
	Wetland Mitigation (Ditch Shift)
	Exst Delineated Wetland

Wetland Impacts

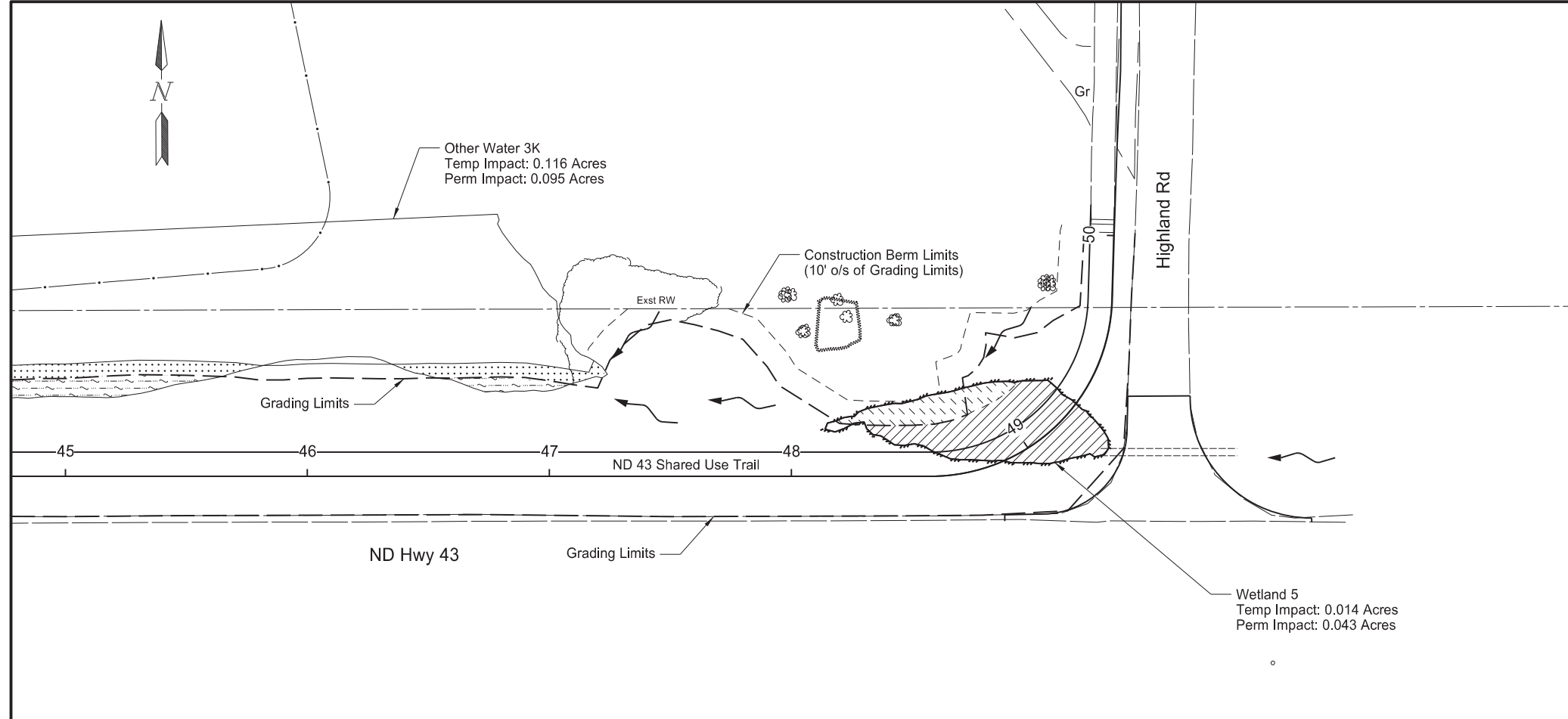
ND Hwy 43
Lake Loop Rd to Highland Rd

Shared Use Trail

Sta 33+00 to 39+00
Sta 39+00 to 45+00



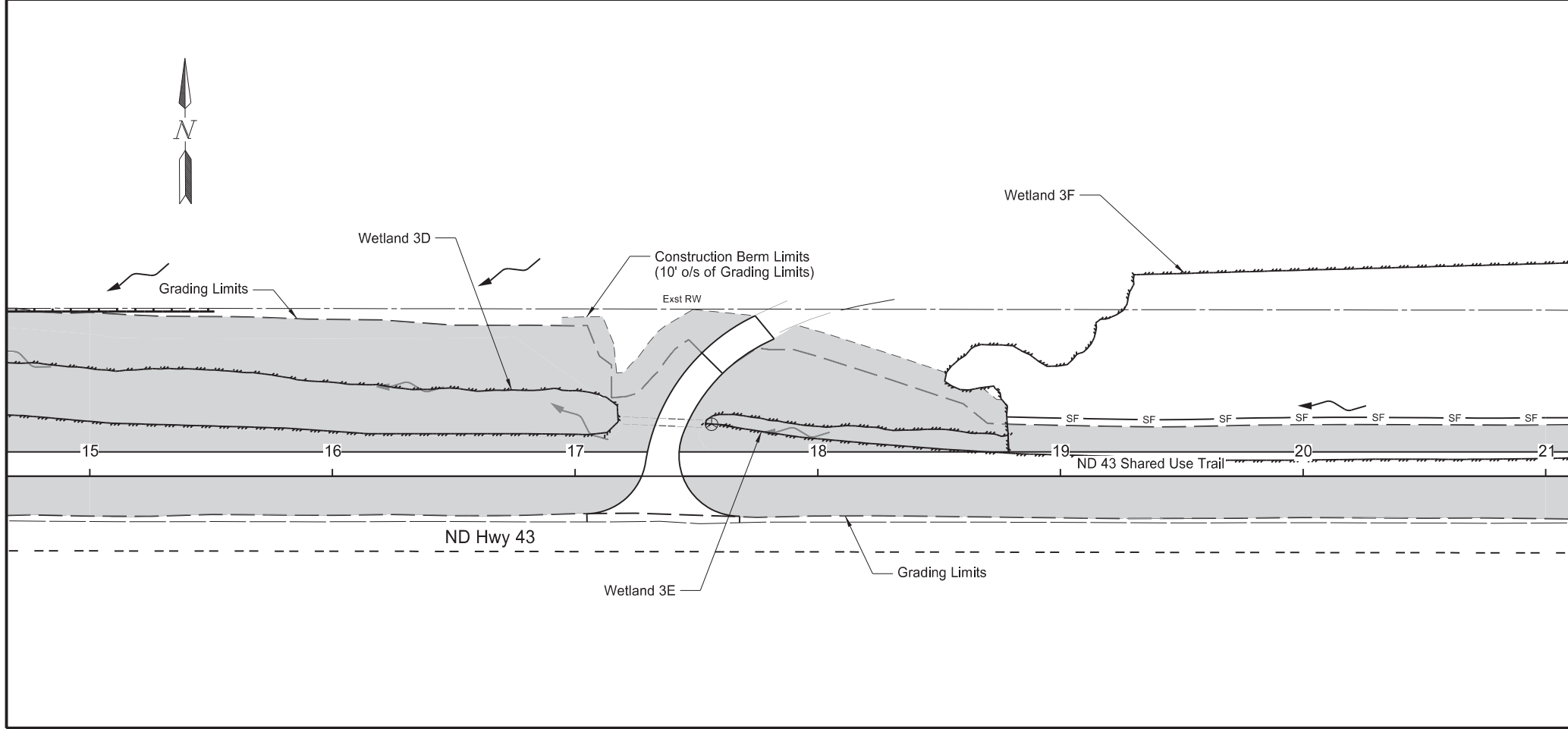
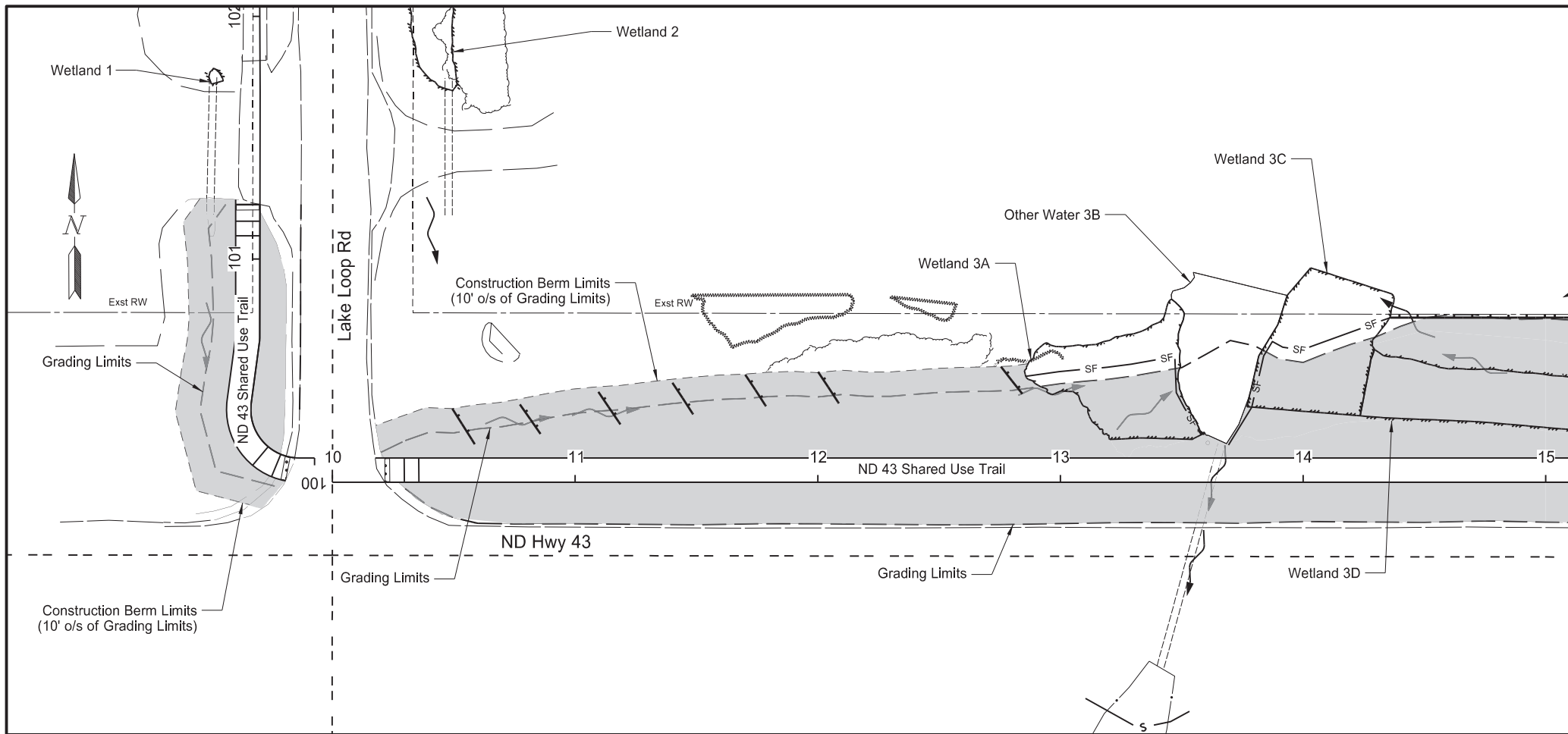
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	75	6



Legend	
	Temporary Wetland Impact
	Permanent Wetland Impact
	Temporary Other Water Impact
	Permanent Other Water Impact
	Wetland Mitigation (Ditch Shift)
	Exst Delineated Wetland

Wetland Impacts
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 45+00 to 50+00





STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	76	1

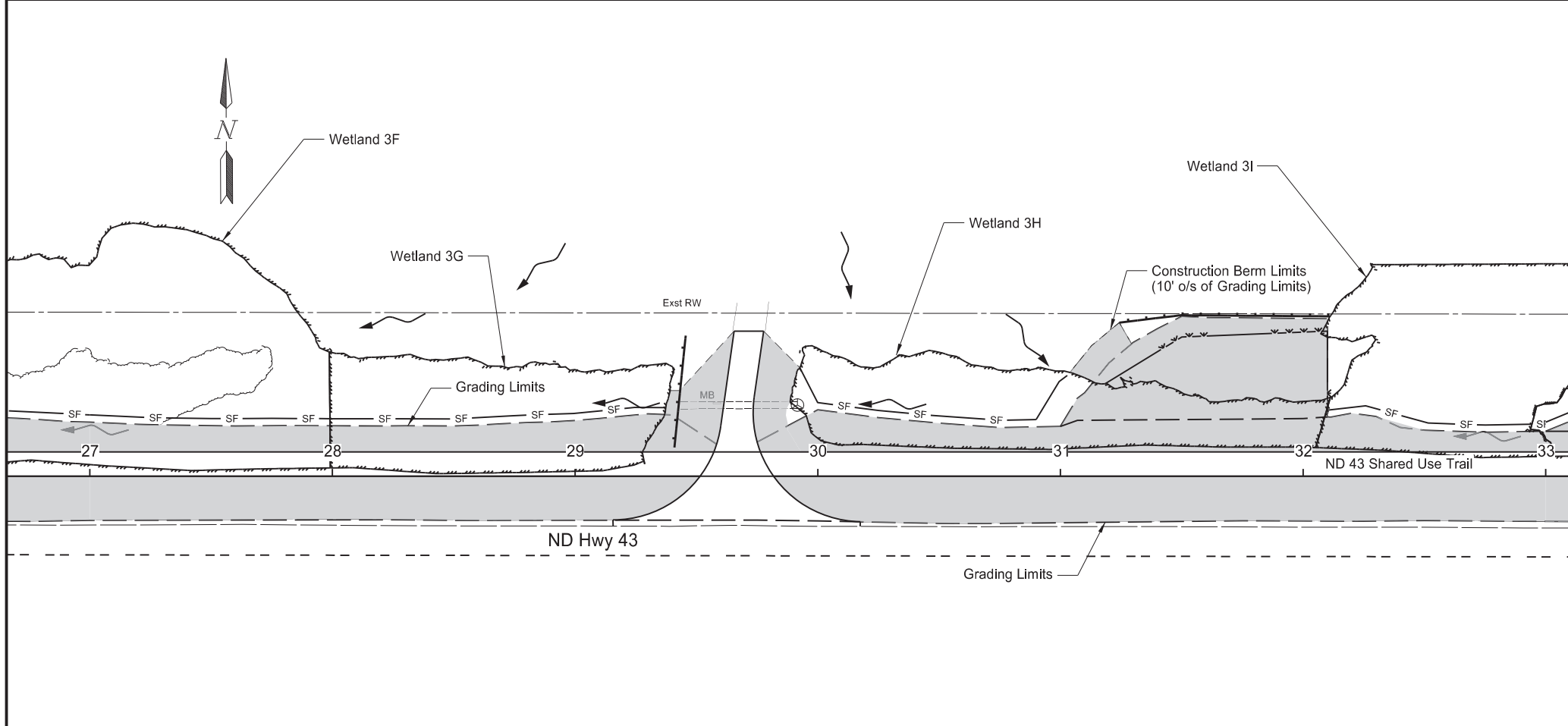
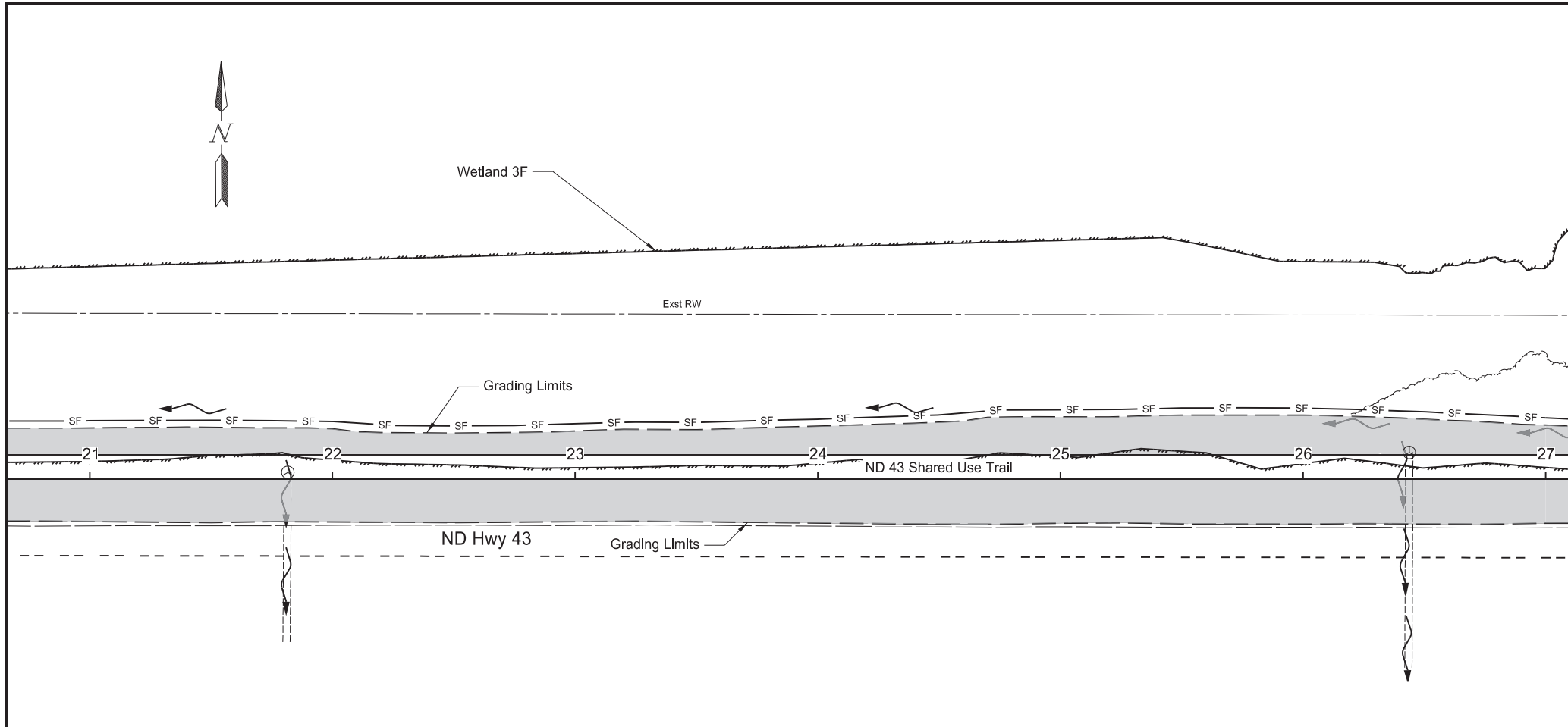
Spec	Code	Item Description	QTY	Unit
251	2000	Temporary Cover Crop		
		Sta 101+00 (Lake Loop Rd) to 15+00	0.65	ACRE
		Sta 15+00 to 21+00	0.68	ACRE
253	0201	Hydraulic Mulch		
		Sta 101+00 (Lake Loop Rd) to 15+00	0.65	ACRE
		Sta 15+00 to 21+00	0.68	ACRE
260	0200	Silt Fence Supported		
		Sta 12+85.73 LT to 13+59.32	99	LF
		Sta 13+69.21 LT to 14+35.91	99	LF
		Sta 18+77.87 LT to 21+00	223	LF
260	0201	Remove Silt Fence Supported		
		Sta 12+85.73 LT to 13+59.32	99	LF
		Sta 13+69.21 LT to 14+35.91	99	LF
		Sta 18+77.87 LT to 21+00	223	LF
261	0112	Fiber Rolls 12 IN		
		Sta 10+49.36 LT to 10+58.66	18	LF
		Sta 10+77.27 LT to 10+85.74	15	LF
		Sta 11+09.57 LT to 11+18.66	17	LF
		Sta 11+40.12 LT to 11+48.66	16	LF
		Sta 11+70.12 LT to 11+78.66	16	LF
		Sta 12+00.12 LT to 12+08.66	16	LF
		Sta 12+75.49 LT to 12+84.28	15	LF
		Sta 14+35.91 LT to 15+00	65	LF
		Sta 15+00 LT to 15+51.39	52	LF
		Sta 17+56.23 LT - Culvert End	25	LF
		Topsoil Berms	62	LF
261	0113	Remove Fiber Rolls 12 IN		
		Sta 10+49.36 LT to 10+58.66	18	LF
		Sta 10+77.27 LT to 10+85.74	15	LF
		Sta 11+09.57 LT to 11+18.66	17	LF
		Sta 11+40.12 LT to 11+48.66	16	LF
		Sta 11+70.12 LT to 11+78.66	16	LF
		Sta 12+00.12 LT to 12+08.66	16	LF
		Sta 12+75.49 LT to 12+84.28	15	LF
		Sta 14+35.91 LT to 15+00	65	LF
		Sta 15+00 LT to 15+51.39	52	LF
		Sta 17+56.23 LT - Culvert End	25	LF
		Topsoil Berms	62	LF
262	0100	Flotation Silt Curtain		
		Sta 13+10.33 RT to 13+53.20 (Still Water)	48	LF
262	0101	Remove Flotation Silt Curtain		
		Sta 13+10.33 RT to 13+53.20 (Still Water)	48	LF

Legend

- Temporary Crop Cover & Hydraulic Mulch
- Fiber Roll 12IN
- Fiber Roll 12IN Culvert Protection
- Silt Fence
- Flotation Silt Curtain (Refer to Section 20-7)

Temporary Erosion Control
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 100+00 to 101+00 (Lake Loop Rd)
 Sta 10+00 to 15+00
 Sta 15+00 to 21+00





STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	76	2

Spec	Code	Item Description	QTY	Unit
251	2000	Temporary Cover Crop		
		Sta 21+00 to 27+00	0.42	ACRE
		Sta 27+00 to 33+00	0.51	ACRE
253	0201	Hydraulic Mulch		
		Sta 21+00 to 27+00	0.42	ACRE
		Sta 27+00 to 33+00	0.51	ACRE
260	0200	Silt Fence Supported		
		Sta 21+00 LT to 27+00	601	LF
		Sta 27+00 LT to 29+37.35	238	LF
		Sta 29+92.63 LT to 31+03.02	131	LF
		Sta 32+09.70 LT to 33+00	92	LF
260	0201	Remove Silt Fence Supported		
		Sta 21+00 LT to 27+00	601	LF
		Sta 27+00 LT to 29+37.35	238	LF
		Sta 29+92.63 LT to 31+03.02	131	LF
		Sta 32+09.70 LT to 33+00	92	LF
261	0112	Fiber Rolls 12 IN		
		Sta 21+81.60 LT - Culvert End	25	LF
		Sta 26+43.75 LT - Culvert End	25	LF
		Sta 29+40.92 LT to 29+45.56	47	LF
		Sta 29+91.63 LT - Culvert End	25	LF
		Sta 31+24.26 LT to 32+10.93	87	LF
		Topsoil Berms	10	LF
261	0113	Remove Fiber Rolls 12 IN		
		Sta 21+81.60 LT - Culvert End	25	LF
		Sta 26+43.75 LT - Culvert End	25	LF
		Sta 29+40.92 LT to 29+45.56	47	LF
		Sta 29+91.63 LT - Culvert End	25	LF
		Sta 31+24.26 LT to 32+10.93	87	LF
		Topsoil Berms	10	LF

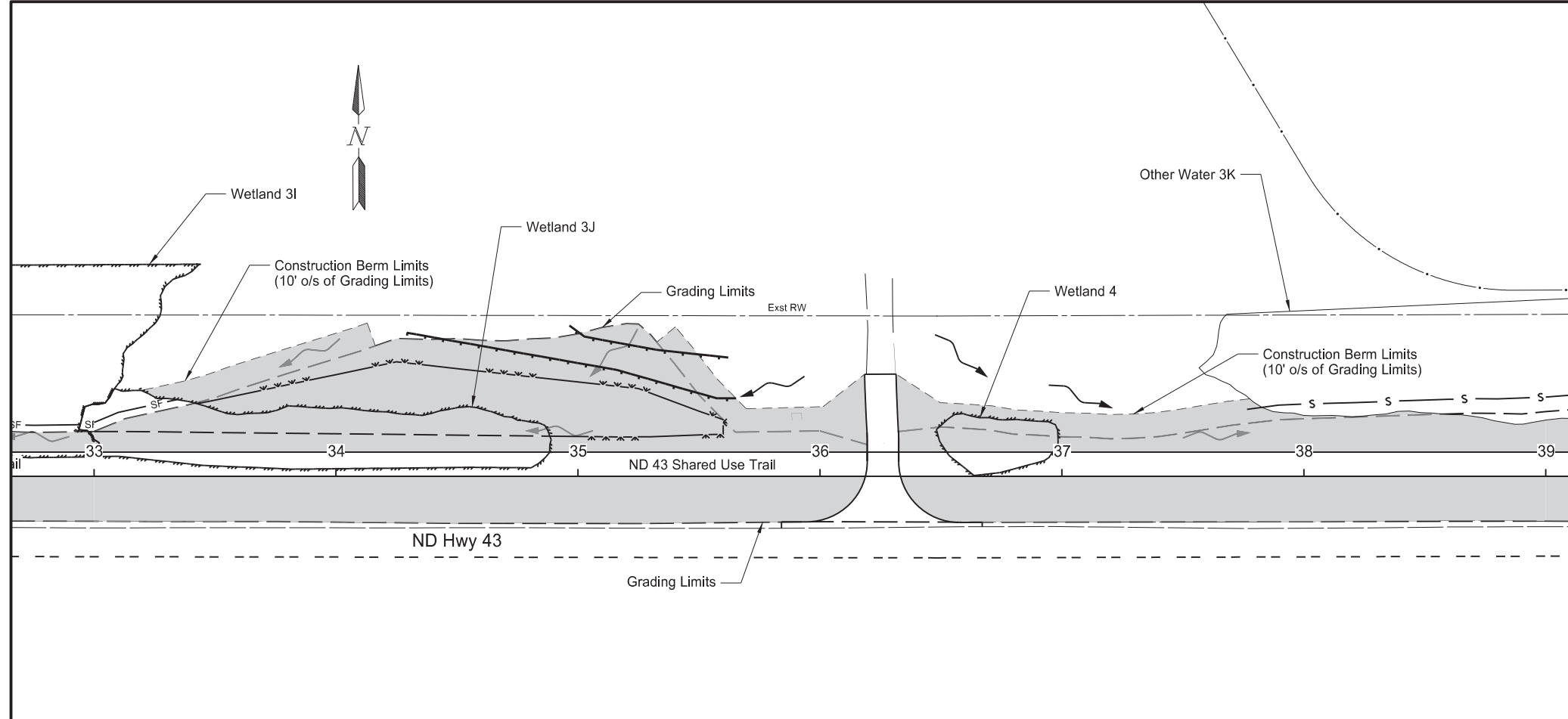
Legend

- Temporary Crop Cover & Hydraulic Mulch
- Fiber Roll 12IN
- Fiber Roll 12IN Culvert Protection
- SF Silt Fence
- Flotation Silt Curtain (Refer to Section 20-7)

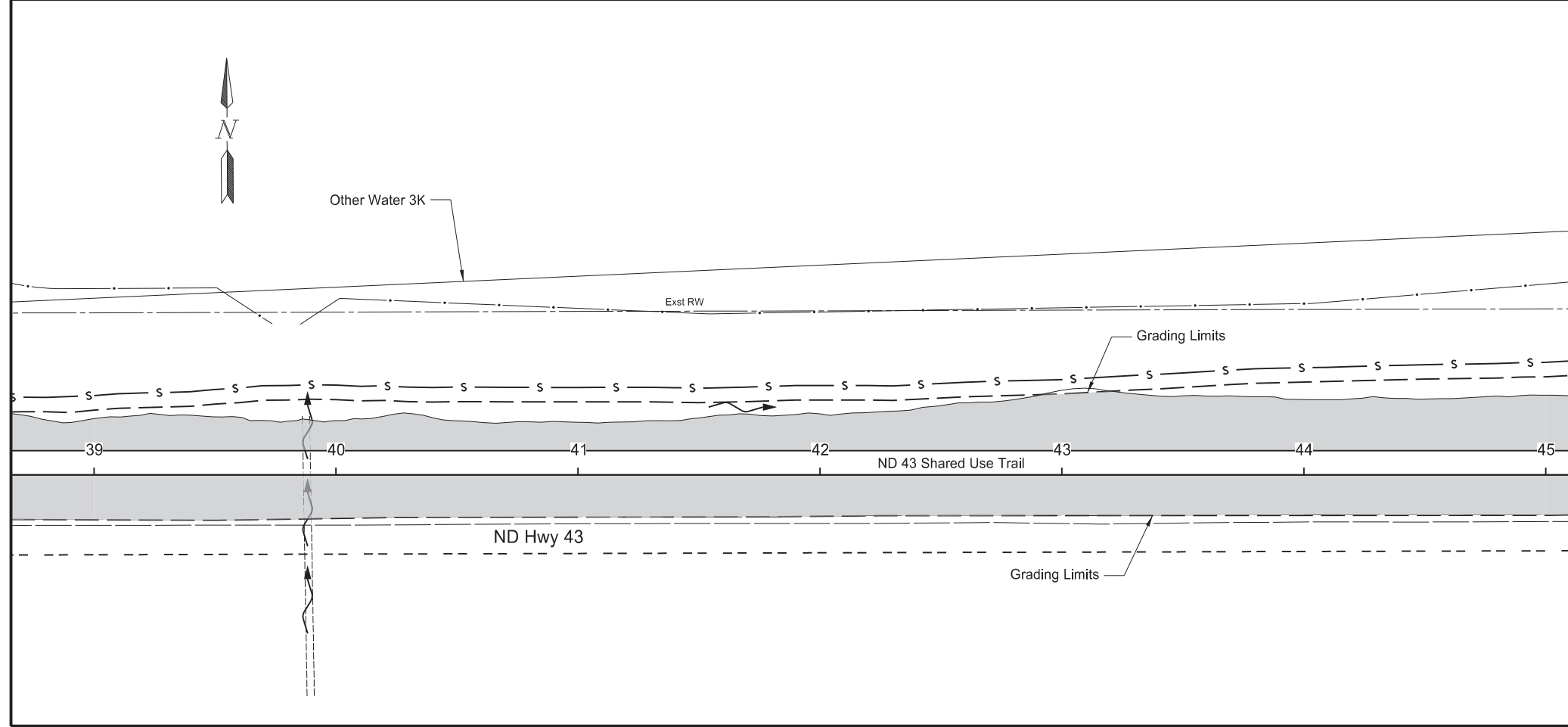
Temporary Erosion Control
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 21+00 to 27+00
 Sta 27+00 to 33+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	76	3



Spec	Code	Item Description	QTY	Unit
251	2000	Temporary Cover Crop		
		Sta 33+00 to 39+00	0.61	ACRE
		Sta 39+00 to 45+00	0.47	ACRE
253	0201	Hydraulic Mulch		
		Sta 33+00 to 39+00	0.61	ACRE
		Sta 39+00 to 45+00	0.47	ACRE
260	0200	Silt Fence Supported		
		Sta 33+00 LT to 33+34.22	36	LF
260	0201	Remove Silt Fence Supported		
		Sta 33+00 LT to 33+34.22	36	LF
261	0112	Fiber Rolls 12 IN		
		Sta 34+29.22 LT to 35+65.32	140	LF
		Sta 34+96.40 LT to 35+62.07	68	LF
		Topsoil Berms	37	LF
261	0113	Remove Fiber Rolls 12 IN		
		Sta 34+29.22 LT to 35+65.32	140	LF
		Sta 34+96.40 LT to 35+62.07	68	LF
		Topsoil Berms	37	LF
262	0100	Flotation Silt Curtain		
		Sta 37+76.53 LT to 39+00 (Still Water)	124	LF
		Sta 39+00 LT to 45+00 (Still Water)	601	LF
262	0101	Remove Flotation Silt Curtain		
		Sta 37+76.53 LT to 39+00 (Still Water)	124	LF
		Sta 39+00 LT to 45+00 (Still Water)	601	LF

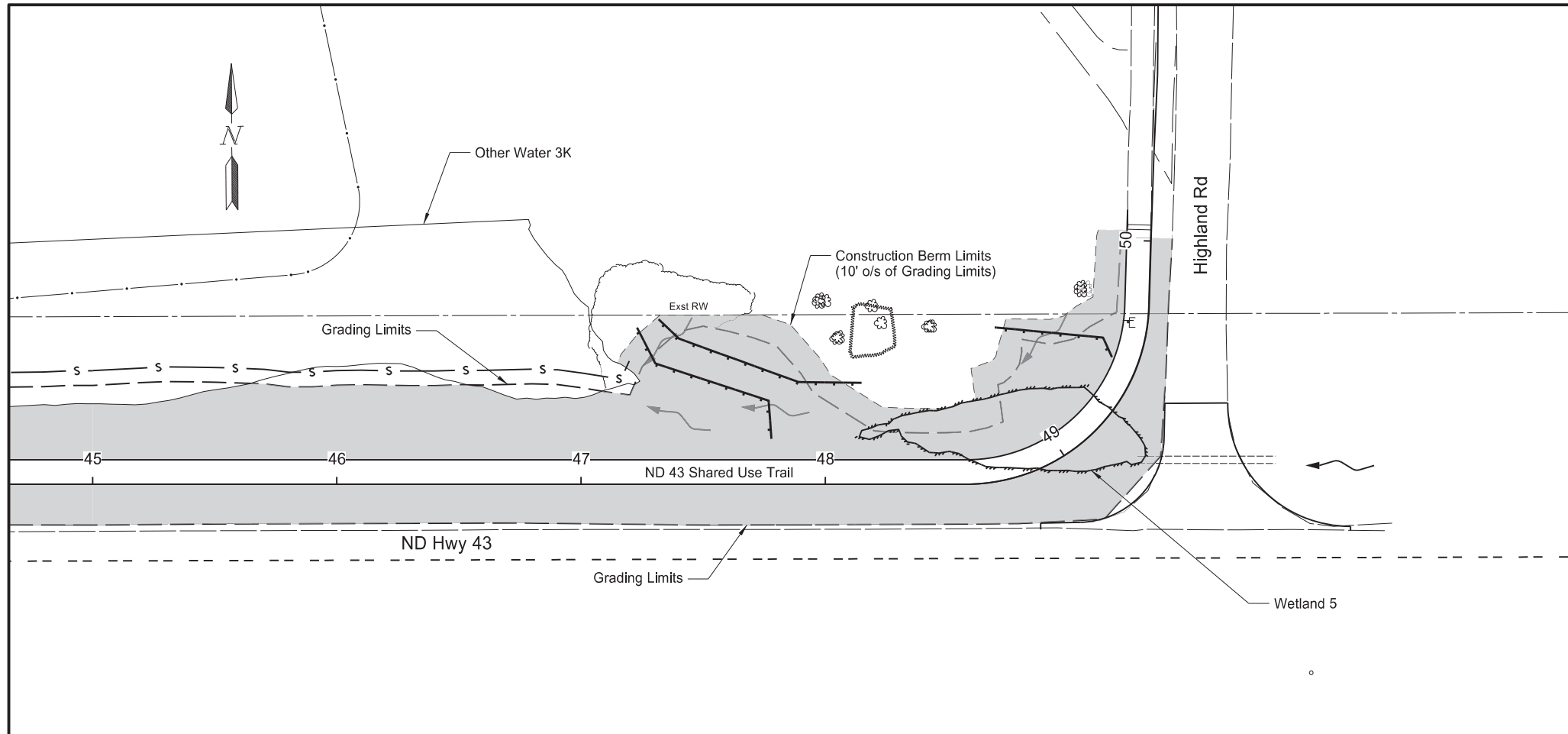


Legend

- Temporary Crop Cover & Hydraulic Mulch
- Fiber Roll 12IN
- Fiber Roll 12IN Culvert Protection
- Silt Fence
- Flotation Silt Curtain (Refer to Section 20-7)

Temporary Erosion Control
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 33+00 to 39+00
 Sta 39+00 to 45+00





STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	76	4

Spec	Code	Item Description	QTY	Unit
251	2000	Temporary Cover Crop Sta 45+00 to 50+00	0.54	ACRE
253	0201	Hydraulic Mulch Sta 45+00 to 50+00	0.54	ACRE
261	0112	Fiber Rolls 12 IN Sta 47+22.91 LT to 47+77.92 Sta 47+31.77 LT to 48+14.89 Sta 49+19.61 LT to 49+47.95 Topsoil Berms	81 90 54 24	LF LF LF LF
261	0113	Remove Fiber Rolls 12 IN Sta 47+22.91 LT to 47+77.92 Sta 47+31.77 LT to 48+14.89 Sta 49+19.61 LT to 49+47.95 Topsoil Berms	81 90 54 24	LF LF LF LF
262	0100	Flotation Silt Curtain Sta 45+00 LT to 47+19.76 (Still Water)	225	LF
262	0101	Remove Flotation Silt Curtain Sta 45+00 LT to 47+19.76 (Still Water)	225	LF

Legend

- Temporary Crop Cover & Hydraulic Mulch
- Fiber Roll 12IN
- Fiber Roll 12IN Culvert Protection
- Silt Fence
- Flotation Silt Curtain (Refer to Section 20-7)

Temporary Erosion Control
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 45+00 to 50+00



PRELIMINARY SURVEY COORDINATE AND CURVE DATA - ND 43, JCT LAKE LOOP ROAD TO HIGHLAND ROAD

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	81	1

HORIZONTAL ALIGNMENT				CURVE DATA		US PUBLIC LAND SURVEY DATA				SURVEY CONTROL POINTS								
PNT	STATION	NORTHING	EASTING	ARC DEFINITION		CORNER	IRN	NORTHING	EASTING	PNT	NORTHING	EASTING	ELEV	STATION	OFFSET	ALIGNMENT	MONUMENT	
SCL_ND43						SW Cor 10	#5 Rebar	711,703.55	1,997,200.13	Primary Control Points								
POB	431+83.48	711,704.99	1,996,966.05			T-163-N R-75-W				GPS01	712,122.68	1,997,179.27	2159.91	433+94.13	418.99	LT	SCL_ND43	#5 Rebar With Red Cap
PI	434+17.57	711,703.55	1,997,200.13			S Qtr 10	Mag Nail	711,687.22	1,999,848.57	GPS02	711,777.65	1,997,005.62	2153.69	432+22.60	72.90	LT	SCL_ND43	#5 Rebar With Red Cap
PI	460+66.05	711,687.22	1,999,848.57			T-163-N R-75-W				GPS03	713,087.14	2,000,990.48	2184.74	472+05.05	1402.29	LT	SCL_ND43	#5 Rebar With Red Cap
POE	487+15.09	711,681.72	2,002,497.60			SE Cor 10	#5 Rebar	711,681.72	2,002,497.60	GPS04	711,588.34	1,999,842.03	2150.76	460+60.12	98.92	LT	SCL_ND43	#5 Rebar With Red Cap
						T-163-N R-75-W				Reference Markers								
											R Mkr #	NORTHING	EASTNG	STATION	OFFSET			
											8	711,691.28	1,995,940.23	N/A	N/A			
											9	711,637.29	2,001,198.92	474+16.50	47.13	RT		
											10	711,599.51	2,006,517.04	N/A	N/A			

All coordinates and measurements on this document derived from the International Foot definition.

INITIALIZING BENCH MARK NDGPS Stations (OPUS) NAVD-88 GEOID12B GEOID18

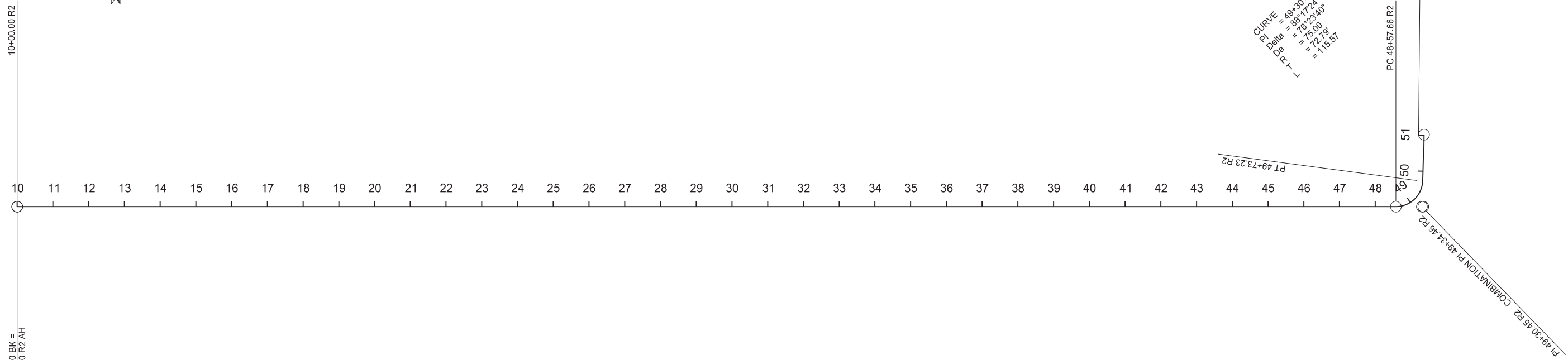
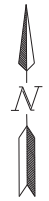
Date Survey Completed 9/26/24

Assumed Coordinates
 All coordinates on this sheet are Bottineau County ground coordinates. They are derived from the NAD83(2011) reference frame; North Dakota North Zone Combination Factor (cf) = 0.9999275



NOTES: Sheet 1 of 1

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	82	1

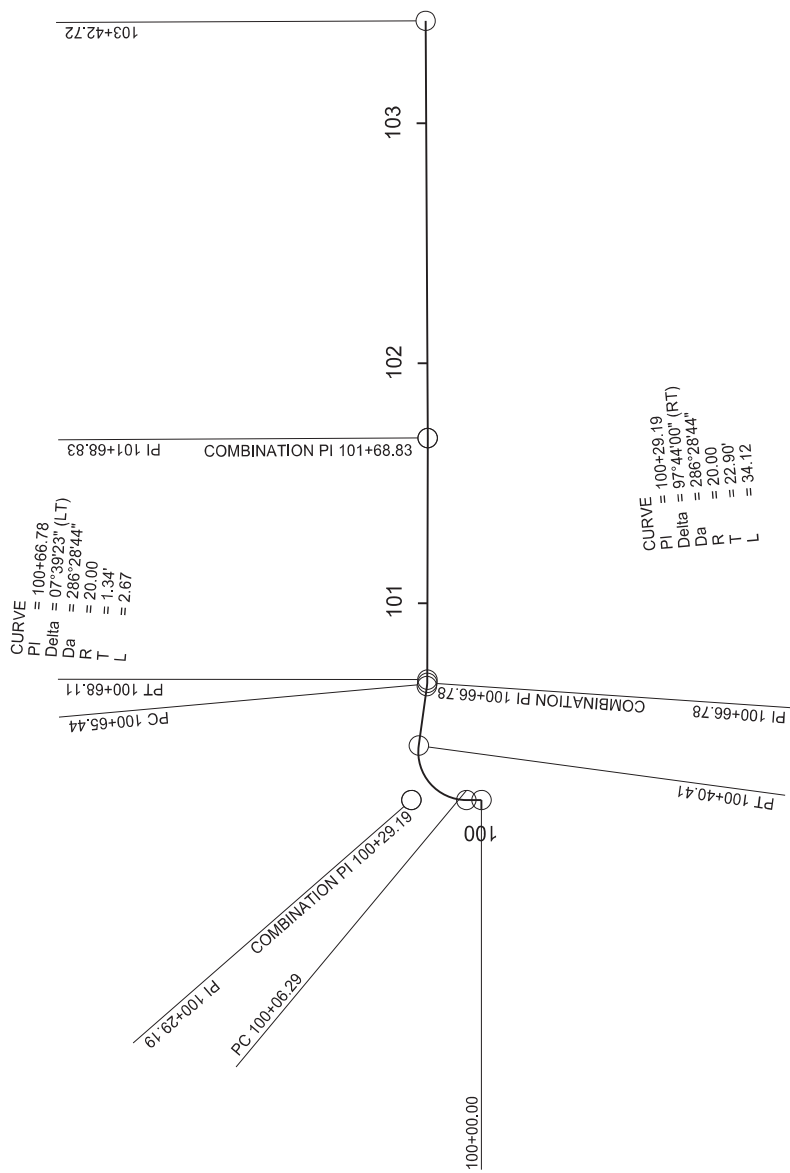


EQUATION:
Sta 10+00.00 Bk =
Sta 10+00.00 R2 AH

Alignment PR_43 Trail				
Element	Point	Station	Northing	Easting
Line	Start	1000.000R2	711733.683	1997200.317
	PC	4857.658R2	711715.141	2001057.931
Curve	PC	4857.658R2	711715.141	2001057.931
	CPI	4930.452R2	711714.791	2001130.724
	PT	4973.229R2	711787.542	2001133.246
Line	PT	4973.229R2	711787.542	2001133.246
	CPI	5002.350R2	711816.645	2001134.255
Line	CPI	5002.350R2	711816.645	2001134.255
	CPI	5035.444R2	711849.716	2001135.505
Line	CPI	5035.444R2	711849.716	2001135.505
	CPI	5067.992R2	711882.221	2001137.151
Line	CPI	5067.992R2	711882.221	2001137.151
	End	5102.303R2	711916.529	2001137.647

Design Alignment Description
ND Hwy 43
Lake Loop Rd to Highland Rd
Shared Use Trail





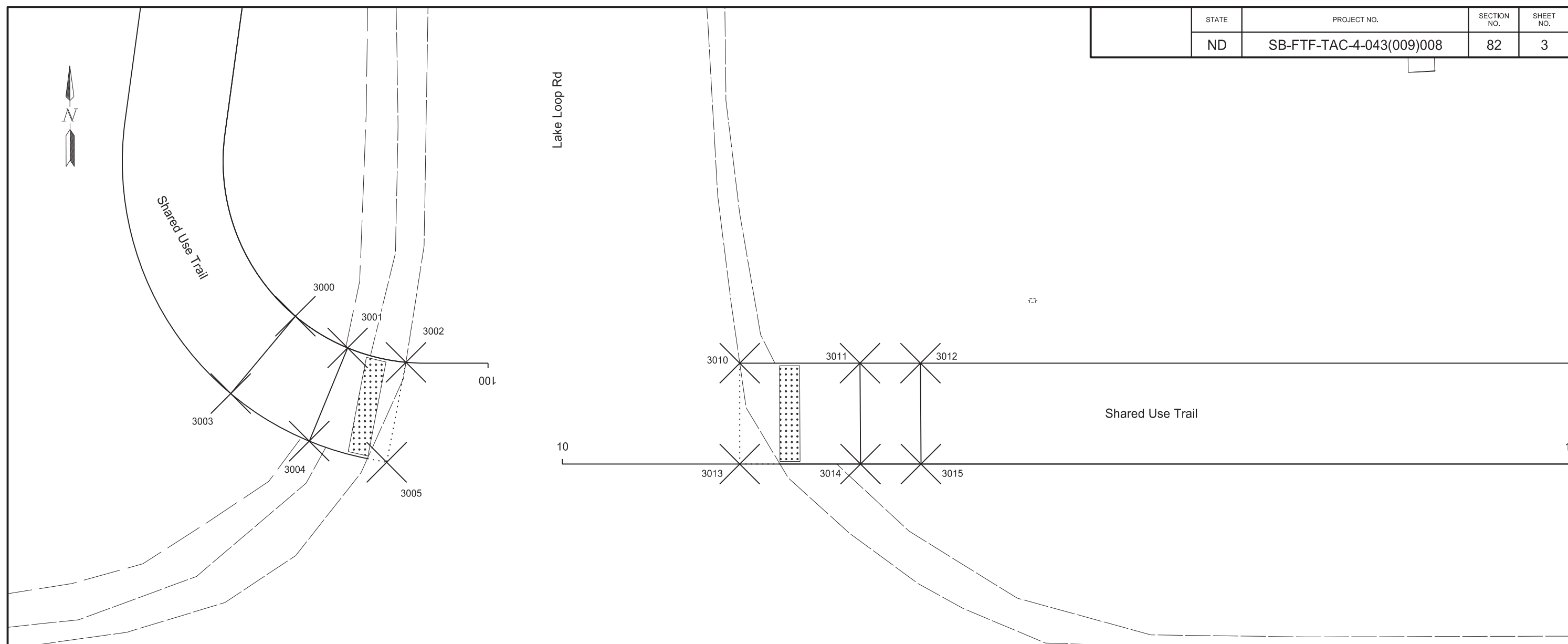
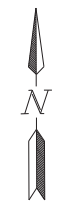
Alignment PR LakeLp_Trail

Element	Point	Station	Northing	Easting
Line	Start	10000.00R1	711743.718	1997193.004
Line	PC	10006.290R1	711743.748	1997186.714
Curve	PC	10006.290R1	711743.748	1997186.714
Curve	CPI	10029.190R1	711743.748	1997186.810
Curve	PT	10040.405R1	711766.534	1997167.005
Line	PT	10040.405R1	711766.534	1997167.005
Line	PC	10065.439R1	711791.323	1997170.493
Curve	PC	10065.439R1	711791.323	1997170.493
Curve	CPI	10066.777R1	711792.649	1997170.679
Curve	PT	10068.111R1	711793.987	1997170.688
Line	PT	10068.111R1	711791.987	1997170.688
Line	CBI	10168.831R1	711894.705	1997171.307
Line	CBI	10168.831R1	711894.705	1997171.307
Line	End	10342.717R1	712068.591	1997171.307

Design Alignment Description
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	82	3



Point	Northing	Easting	Station	Offset	Elevation
3000	711748.467	1997173.907	100+20.22	0	2153.2223
3001	711745.300	1997179.086	100+14.14	0	2153.2836
3002	711743.843	1997184.860	100+08.15	0	2153.3643
3003	711740.826	1997167.454	100+20.22	-10	2153.2223
3004	711736.076	1997175.223	100+14.12	-10	2153.2836
3005	711733.94	1997182.90	100+08.80	-10.06	2153.3545

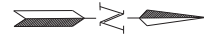
Point	Northing	Easting	Station	Offset	Elevation
3010	711743.598	1997217.988	10+17.62	-10	2152.680
3011	711743.541	1997229.927	10+29.56	-10	2152.488
3012	711743.512	1997235.927	10+35.56	-10	2152.343
3013	711733.598	1997217.939	10+17.62	0	2152.680
3014	711733.540	1997229.927	10+29.61	0	2152.487
3015	711733.512	1997235.927	10+36.61	0	2152.342

ND Hwy 43

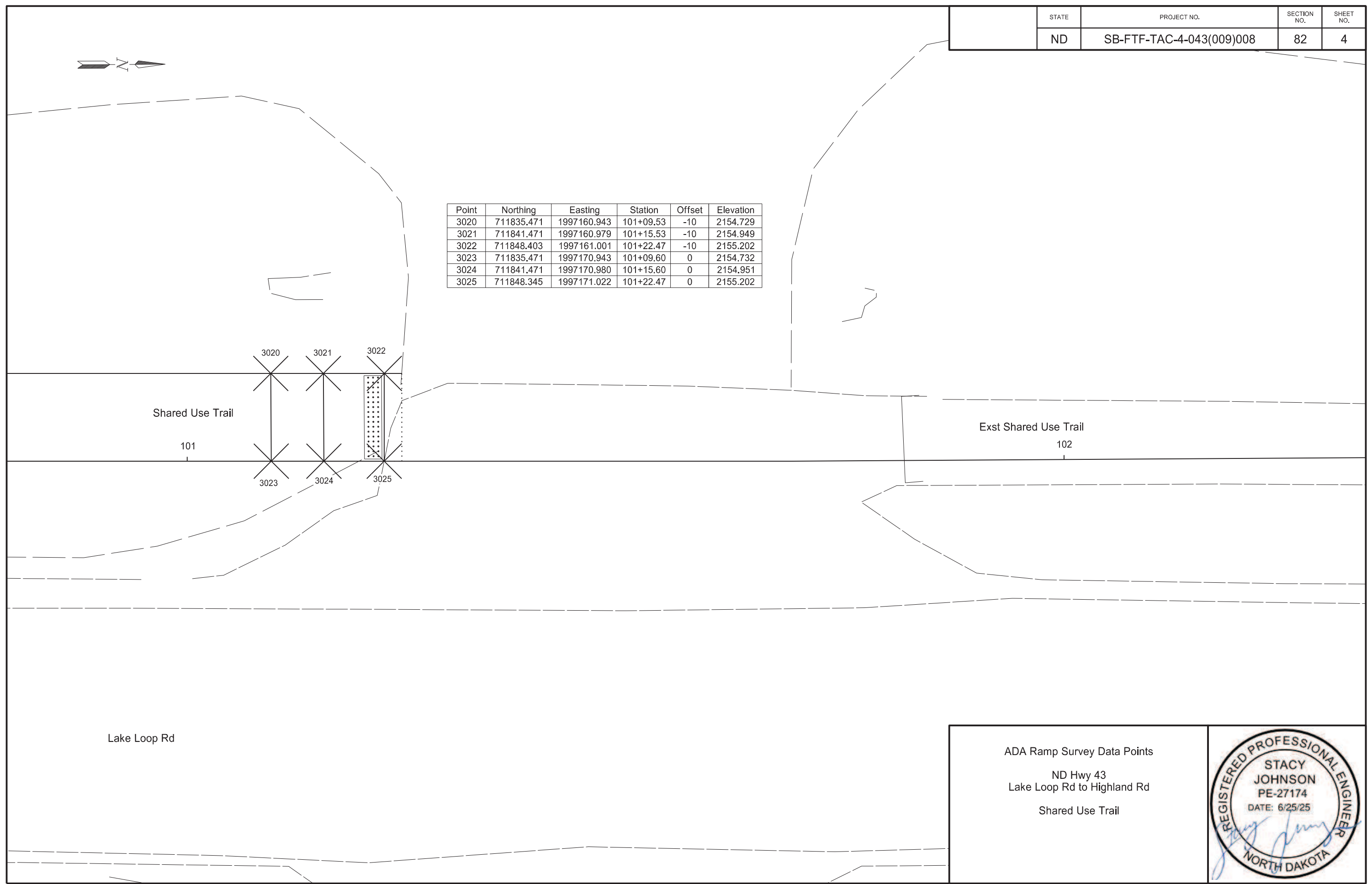
ND Hwy 43

ADA Ramp Survey Data Points
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail





Point	Northing	Easting	Station	Offset	Elevation
3020	711835.471	1997160.943	101+09.53	-10	2154.729
3021	711841.471	1997160.979	101+15.53	-10	2154.949
3022	711848.403	1997161.001	101+22.47	-10	2155.202
3023	711835.471	1997170.943	101+09.60	0	2154.732
3024	711841.471	1997170.980	101+15.60	0	2154.951
3025	711848.345	1997171.022	101+22.47	0	2155.202



Shared Use Trail

101

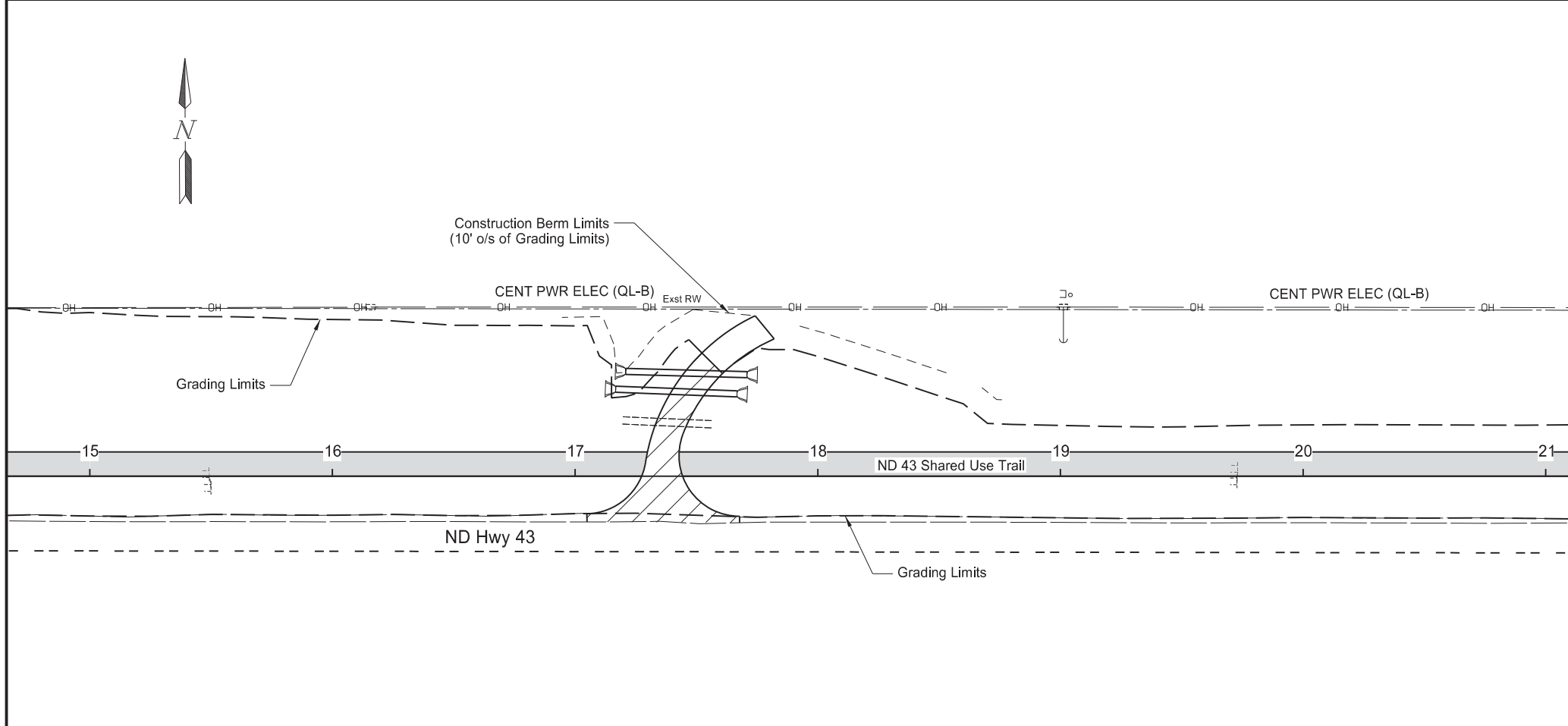
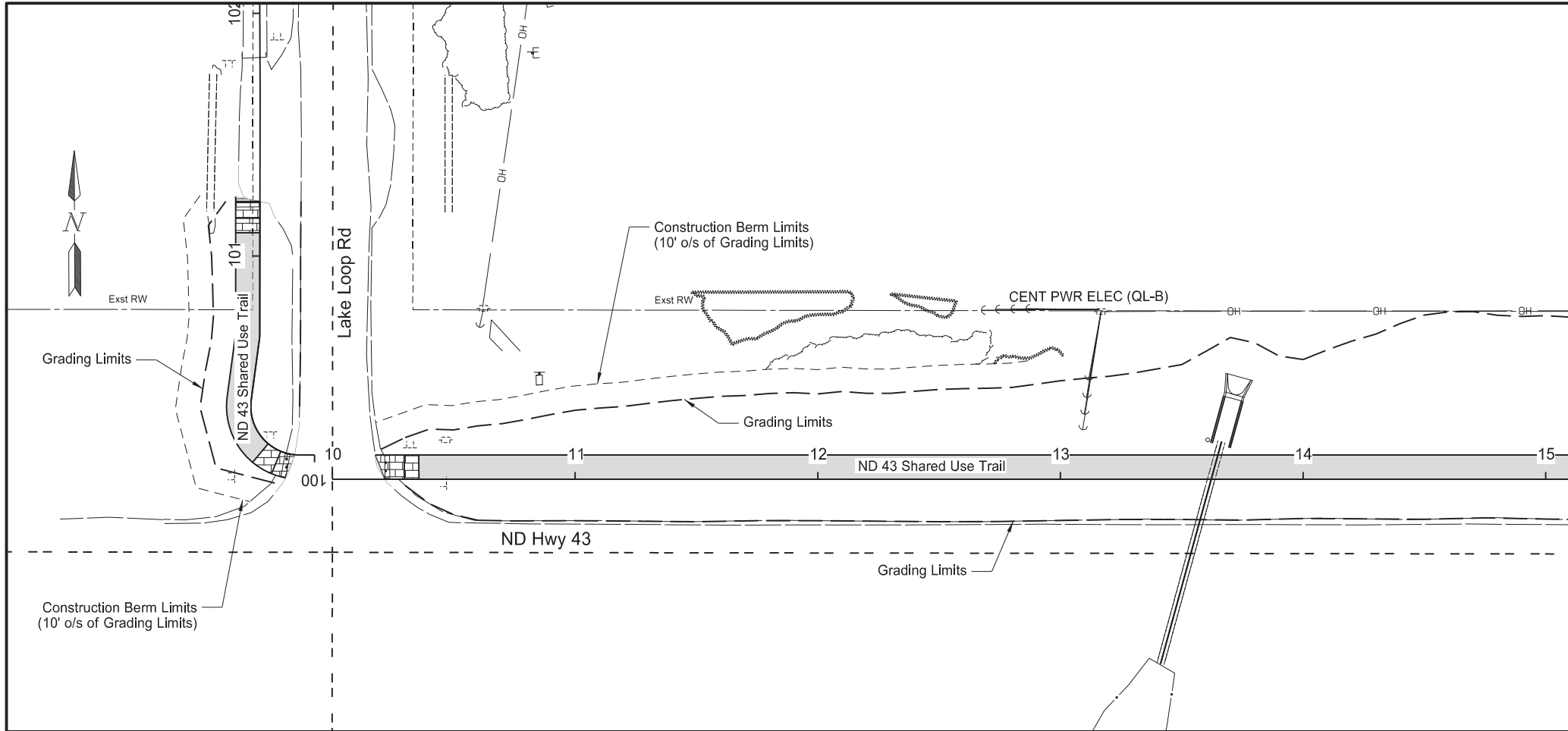
Exst Shared Use Trail

102

Lake Loop Rd

ADA Ramp Survey Data Points
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail





STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	90	1

Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Sta 101+00 (Lake Loop Rd) to 15+00	209	TON
		Sta 15+00 to 21+00	204	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Sta 101+00 (Lake Loop Rd) to 15+00	138	TON
		Sta 15+00 to 21+00	145	TON
750	0120	Sidewalk Concrete 5IN Reinf		
		Sta 101+00 (Lake Loop Rd) to 15+00	49	SY
750	2115	Detectable Warning Panels		
		Sta 100+12 (Lake Loop Rd)	20	SF
		Sta 101+20 (Lake Loop Rd)	20	SF
		Sta 10+22 (ND Hwy 43)	20	SF

Legend

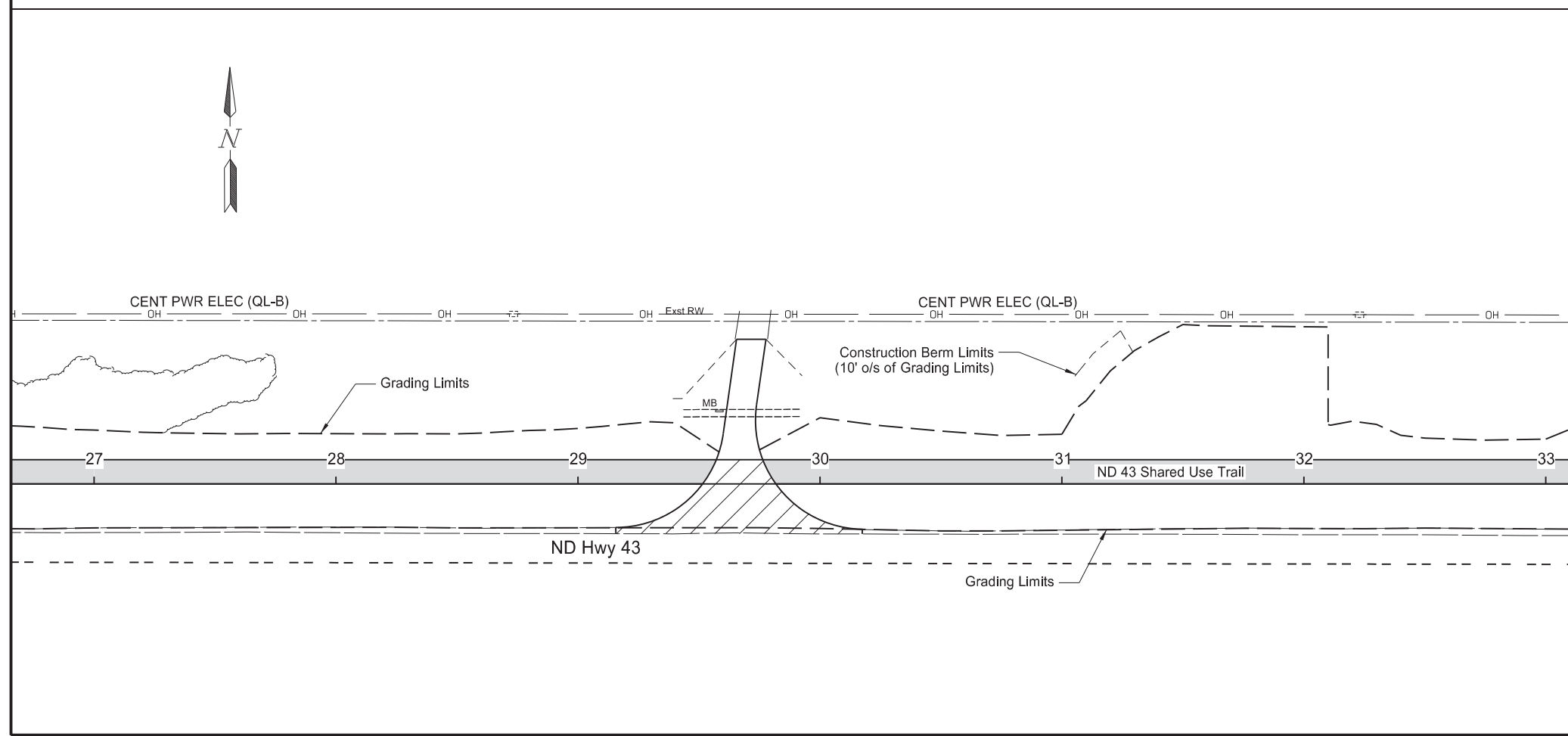
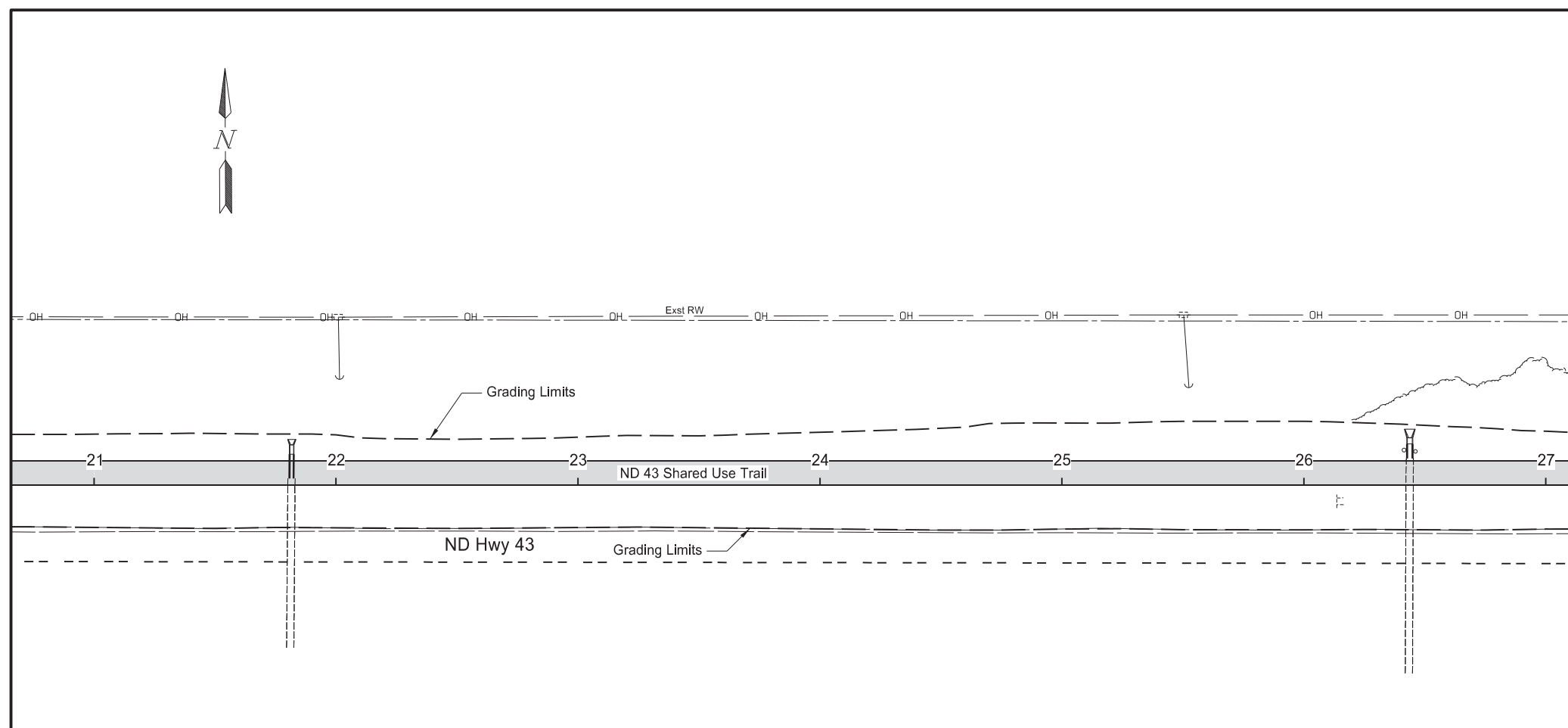
- Commercial Grade Hot Mix Asphalt
- Sidewalk Concrete 5IN Reinf
- Approach Paving (See Section 20-3 for Qty)

Paving Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 100+00 to 101+00 (Lake Loop Rd)
 Sta 10+00 to 15+00
 Sta 15+00 to 21+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	90	2

Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Sta 21+00 to 27+00	209	TON
		Sta 27+00 to 33+00	200	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Sta 21+00 to 27+00	149	TON
		Sta 27+00 to 33+00	143	TON



Legend

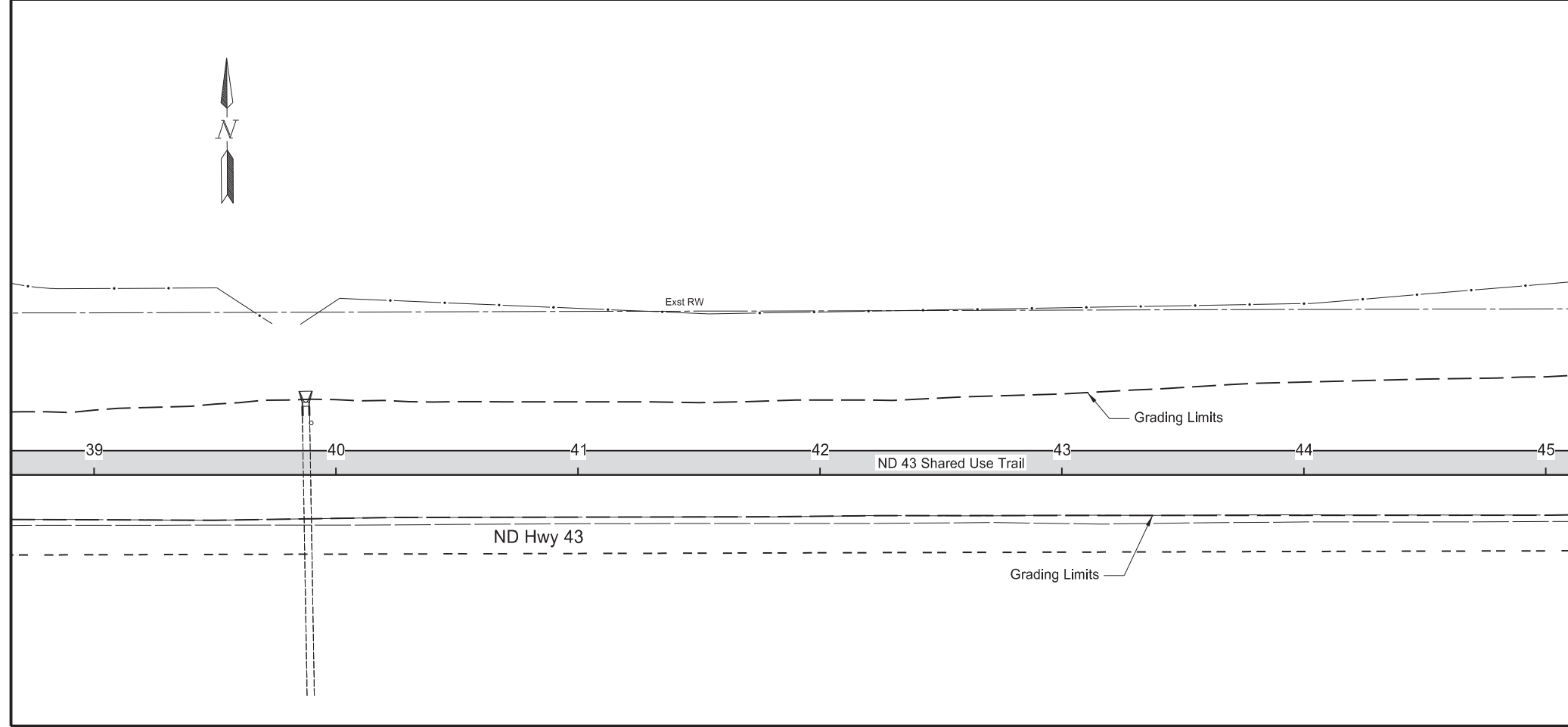
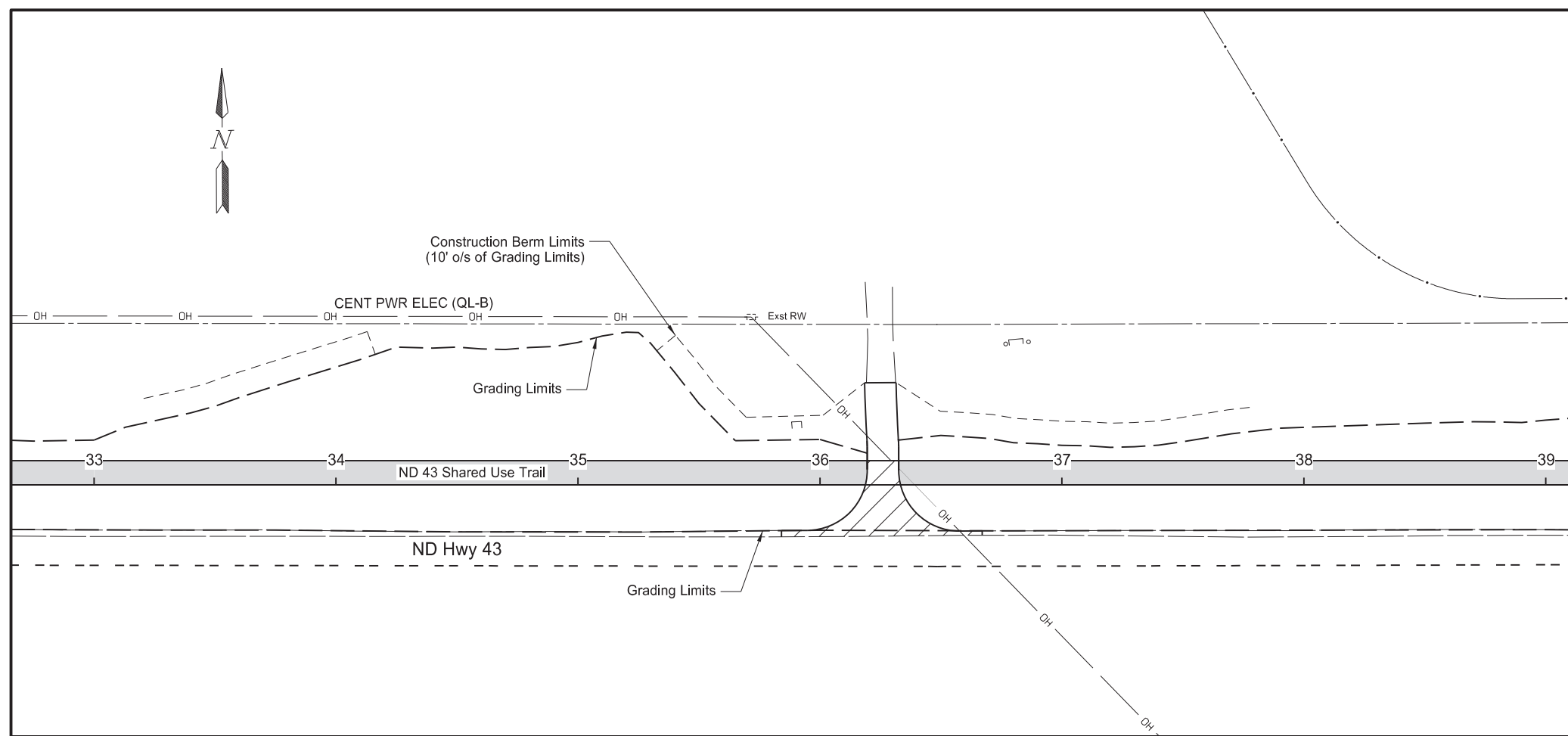
- Commercial Grade Hot Mix Asphalt
- Sidewalk Concrete 5IN Reinf
- Approach Paving (See Section 20-3 for Qtys)

Paving Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 21+00 to 27+00
 Sta 27+00 to 33+00






STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	90	3

Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Sta 33+00 to 39+00	204	TON
		Sta 39+00 to 45+00	209	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Sta 33+00 to 39+00	145	TON
		Sta 39+00 to 45+00	149	TON

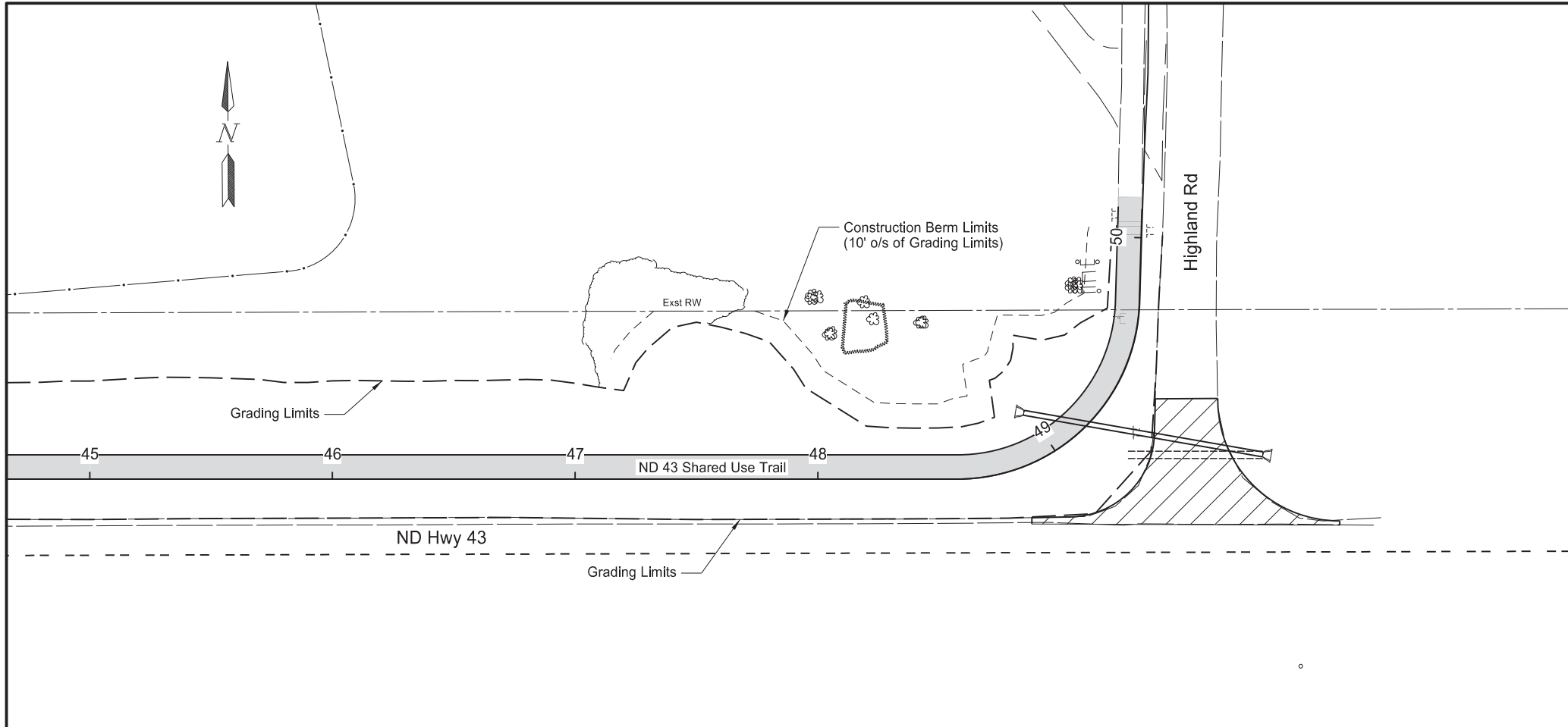


Legend

	Commerical Grade Hot Mix Asphalt
	Sidewalk Concrete 5IN Reinf
	Approach Paving (See Section 20-3 for Qtys)

Paving Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 33+00 to 39+00
 Sta 39+00 to 45+00








STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	90	4

Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5 Sta 45+00 to 50+00	176	TON
430	0500	Commercial Grade Hot Mix Asphalt Sta 45+00 to 50+00	126	TON

Legend

-  Commercial Grade Hot Mix Asphalt
-  Sidewalk Concrete 5IN Reinf
-  Approach Paving (See Section 20-3 for Qtys)

Paving Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 45+00 to 50+00



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	100	2

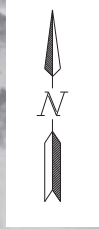
Note: Space signs per Standard Drawing 704-24



Construction Sign Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	100	3



Note: Space signs per Standard Drawing 704-24



ROAD WORK AHEAD
W20-1-48

END ROAD WORK
G20-2-48

SHOULDER WORK
W21-5-48

Highland Rd

ND Hwy 43

SHOULDER WORK
W21-5-48

ROAD WORK AHEAD
W20-1-48

END ROAD WORK
G20-2-48

Construction Sign Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail

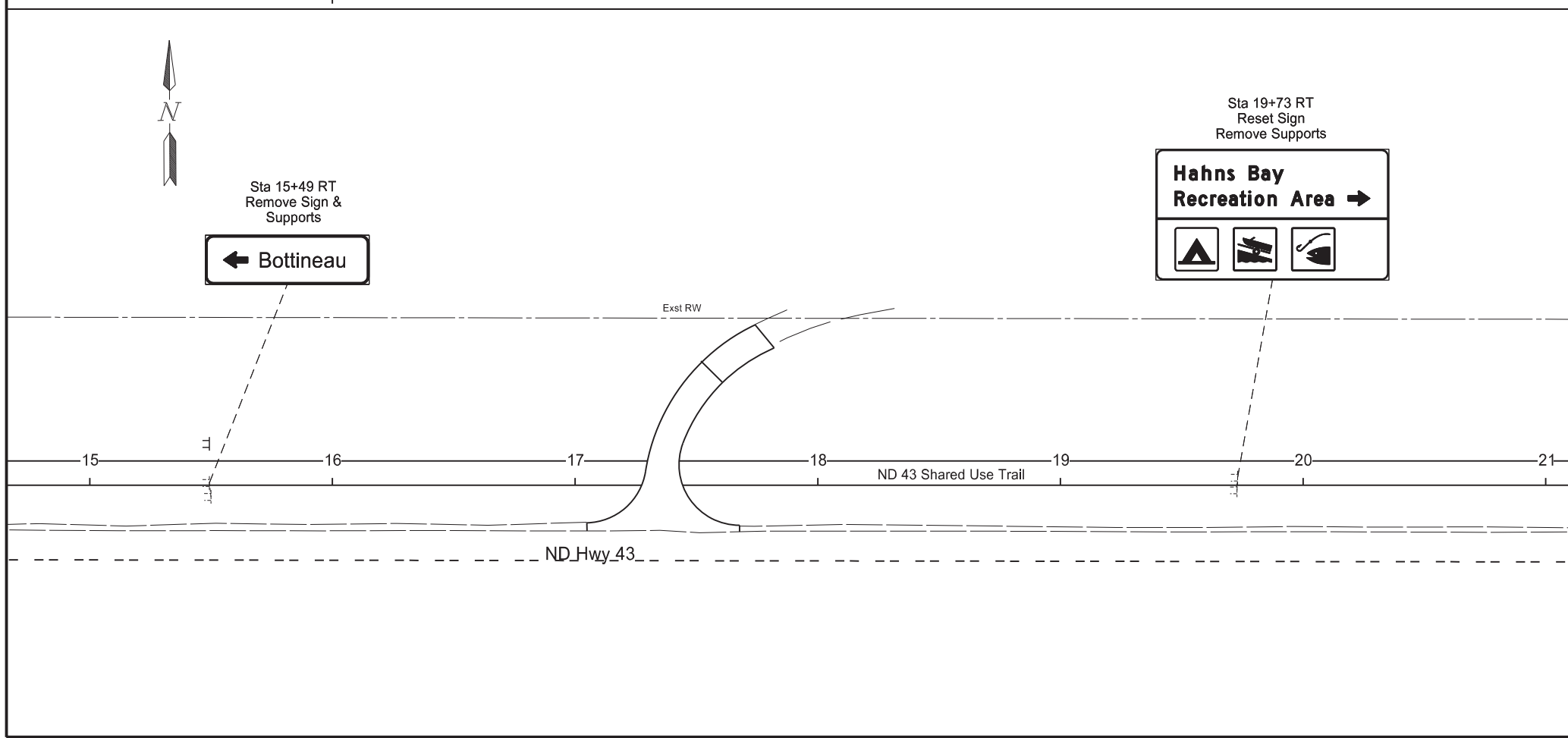
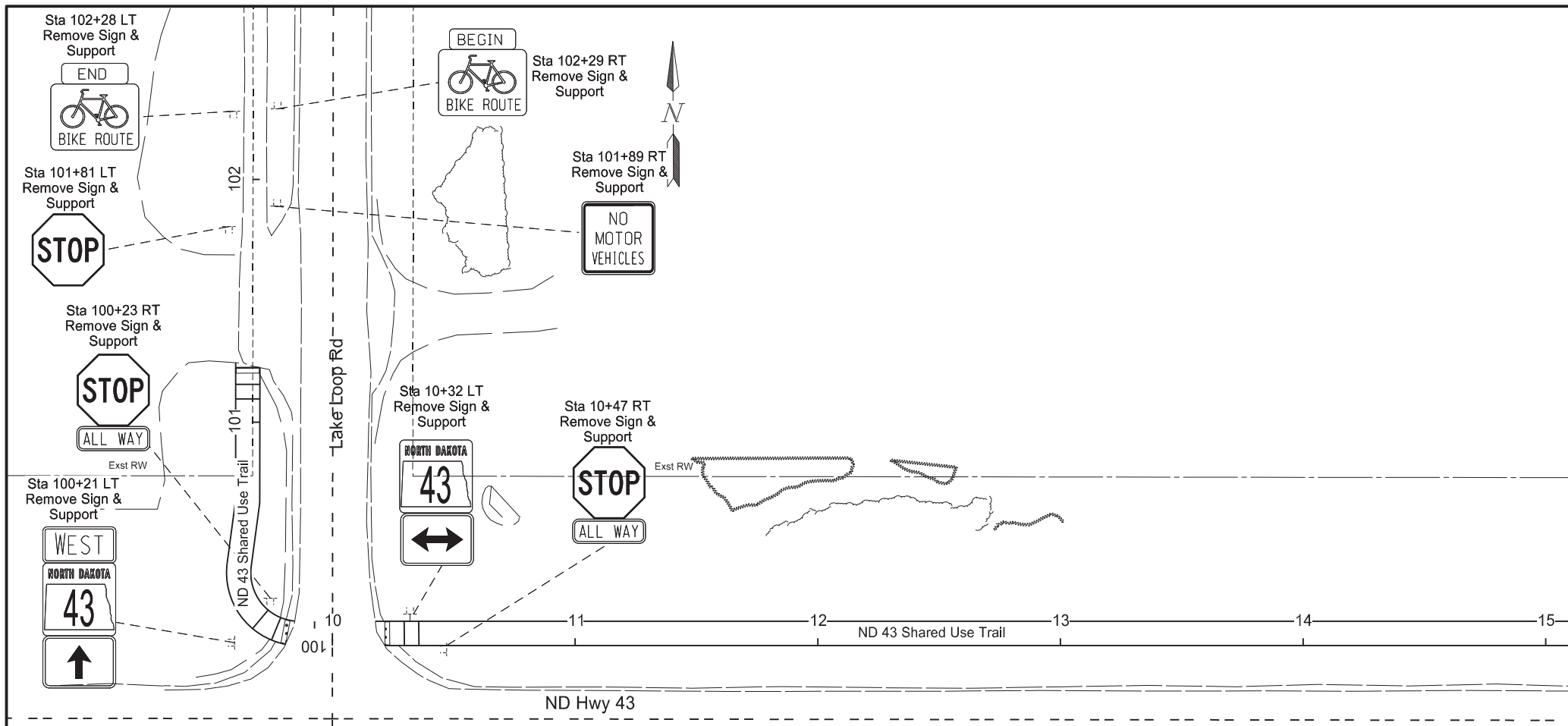


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
N.D.	SB-FTF-TAC-4-043(009)008	110	1

Station / RP	Sign No.	Assembly No.	Flat Sheet For Signs		Sign Support Length				Vert Clearance FT	Support Size	Max Post Len LF	Sleeve Length				Sleeve Size	Anchor EA	Anchor LF	Anchor Size	Reset Sign Panel EA	Reset Sign Support EA	Break-Away EA	Comments
			IV SF	XI SF	1st LF	2nd LF	3rd LF	4th LF				1st LF	2nd LF	3rd LF	4th LF								
Lake Loop Road																							
100+16 Lt		100		1.9		8.1			5.0	2 x 2 12 ga	21.4					1	4	2.25 x 2.25 12 ga					
100+20 Rt		14		4.0		7.9			5.0	2 x 2 12 ga	13.0					1	4	2.25 x 2.25 12 ga					
100+21 Lt		379	8.2			12.6			5.0	2.5 x 2.5 12 ga	12.9					1	4	3 x 3 7 ga					
100+23 Rt		60		8.0		9.2			5.0	2.25 x 2.25 12 ga	9.9					1	4	2.5 x 2.5 12 ga					
101+10 Rt		29	3.0			7.1			5.0	2 x 2 12 ga	13.6					1	4	2.25 x 2.25 12 ga					
Sub Total			11.2	13.9	Total 44.9											Total 20.0			0	0	0		
ND Hwy 43																							
10+26 Lt		100		1.9		8.8			5.0	2 x 2 12 ga	21.4					1	4	2.25 x 2.25 12 ga					
10+32 Lt		399	6.2			10.0			5.0	2.25 x 2.25 12 ga	12.7					1	4	2.5 x 2.5 12 ga					
10+37 Rt		14		4.0		7.3			5.0	2 x 2 12 ga	13.0					1	4	2.25 x 2.25 12 ga					
10+47 Rt		60		8.0		8.8			5.0	2.25 x 2.25 12 ga	9.9					1	4	2.5 x 2.5 12 ga					
11+22 Rt		29	3.0			7.2			5.0	2 x 2 12 ga	13.6					1	4	2.25 x 2.25 12 ga					
15+49 Lt	SN 1		8.3			11.2			5.0	2.5 x 2.5 10 ga	12.3					1	4	3 x 3 7 ga				1	
19+73 Lt						13.6	14.4	15.1	5.0	2.5 x 2.5 10 ga	16.3	3.7	4.4	5.2	2.19 x 2.19 10 ga	3	4	3 x 3 7 ga	1			3	
26+14 Rt		19		6.3		11.4			5.0	2.25 x 2.25 12 ga	11.6					1	4	2.5 x 2.5 12 ga					
49+25 Rt	SA 2B/SN2		9.0	6.2		8.4			5.0	2.5 x 2.5 10 ga	10.7					1	4	3 x 3 7 ga				1	
Sub Total			26.5	26.4	Total 116.2											Total 44.0			1	0	5		
Grand Total			37.7	40.3	Total 161.1											Total 64		0	1	0	5		



Sign Summary
Perforated Tube
ND Hwy 43
Lake Loop Rd to Highland Rd
Shared Use Trail

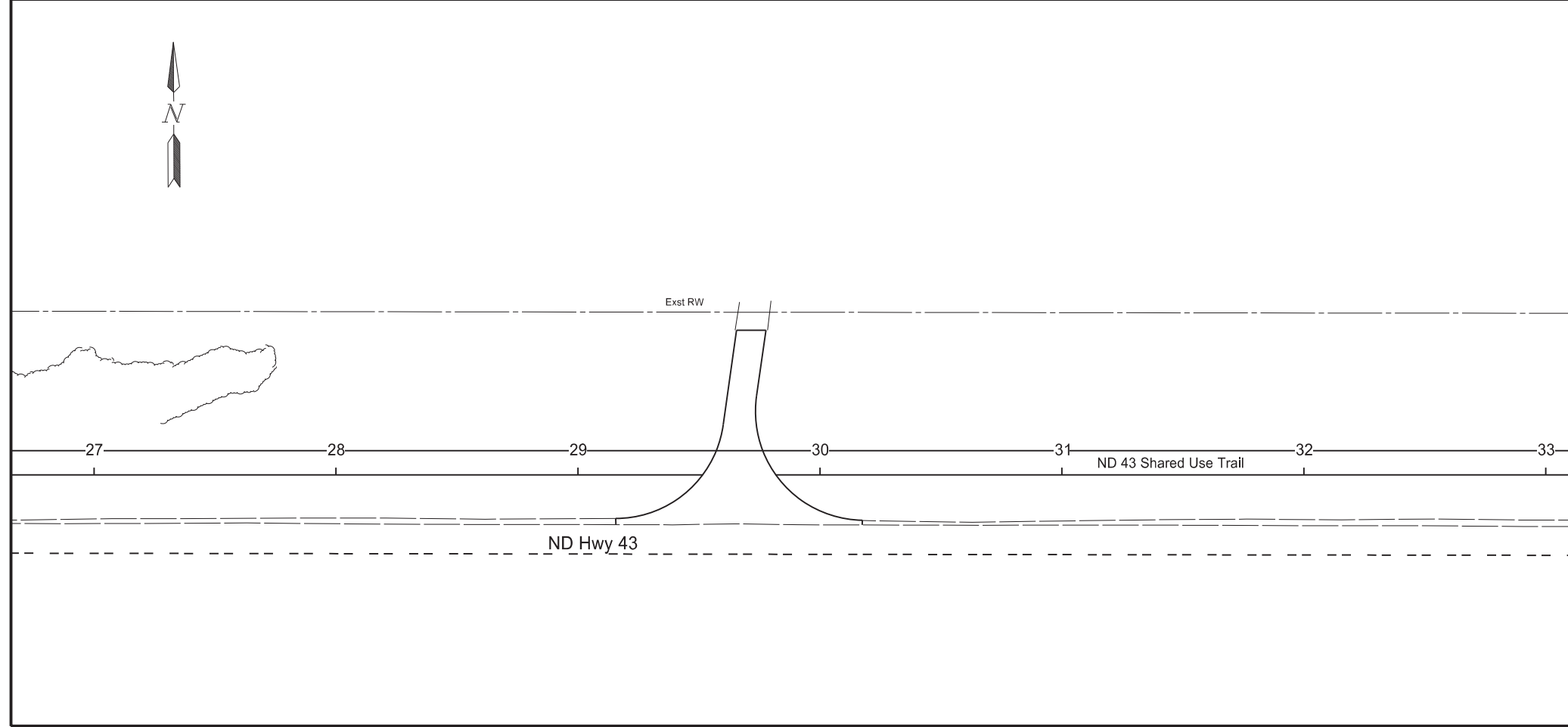
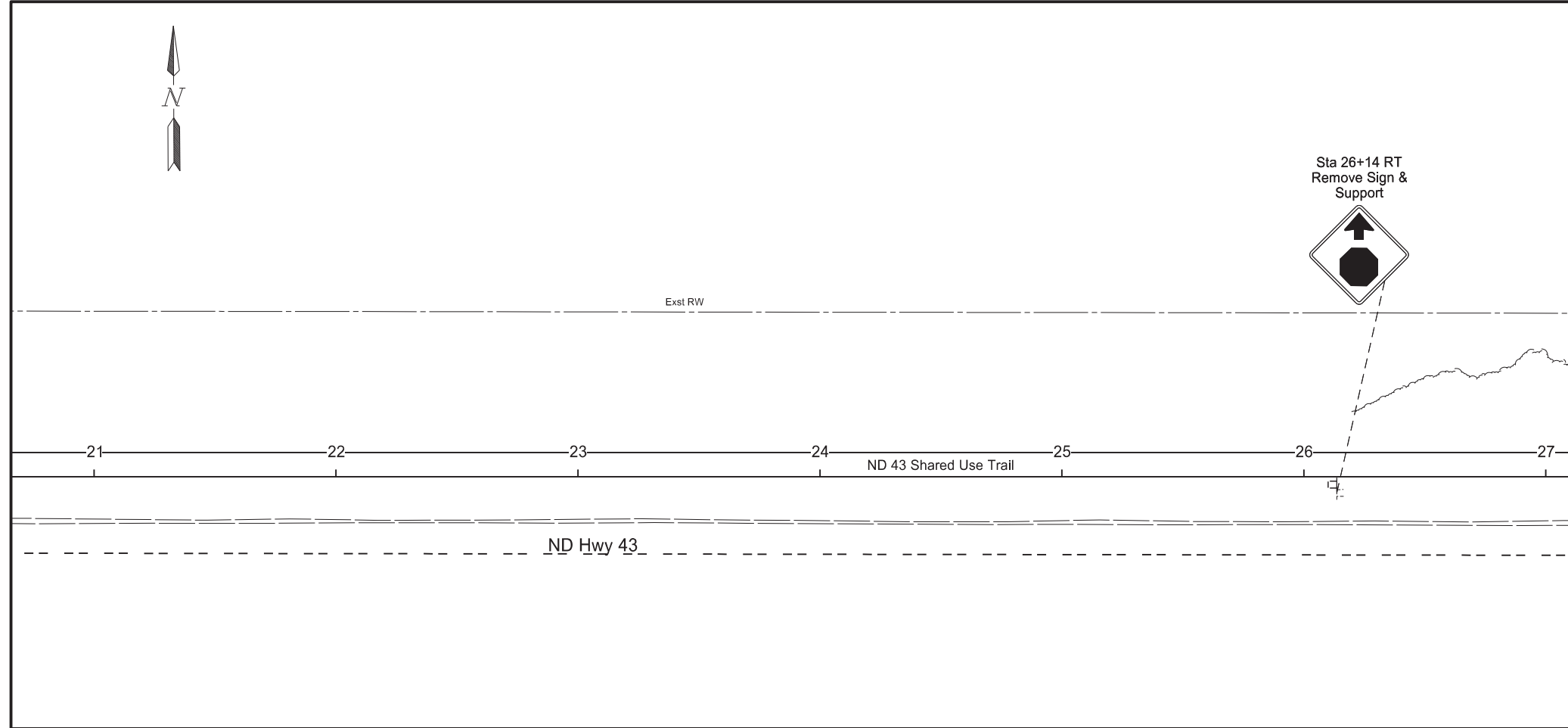


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	110	2

Sign Removal Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 100+00 to 101+00 (Lake Loop Rd)
 Sta 10+00 to 15+00
 Sta 15+00 to 21+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	110	3



Sign Removal Layout

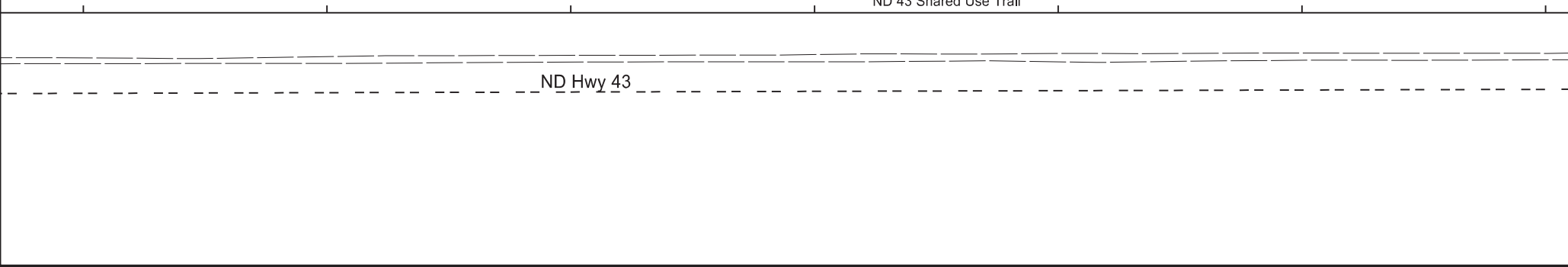
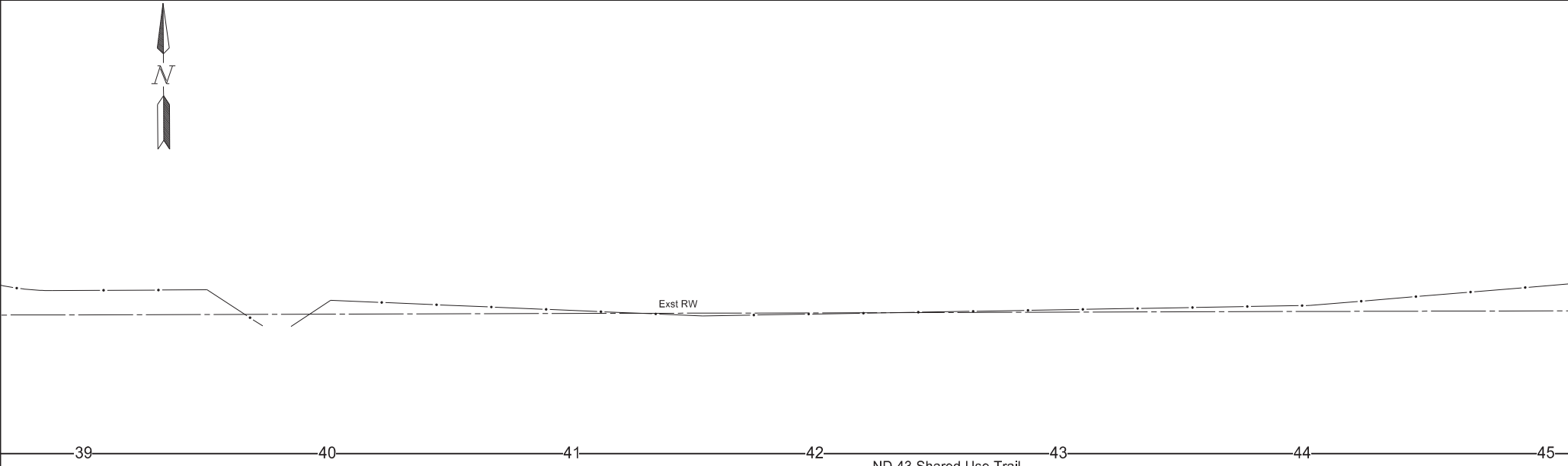
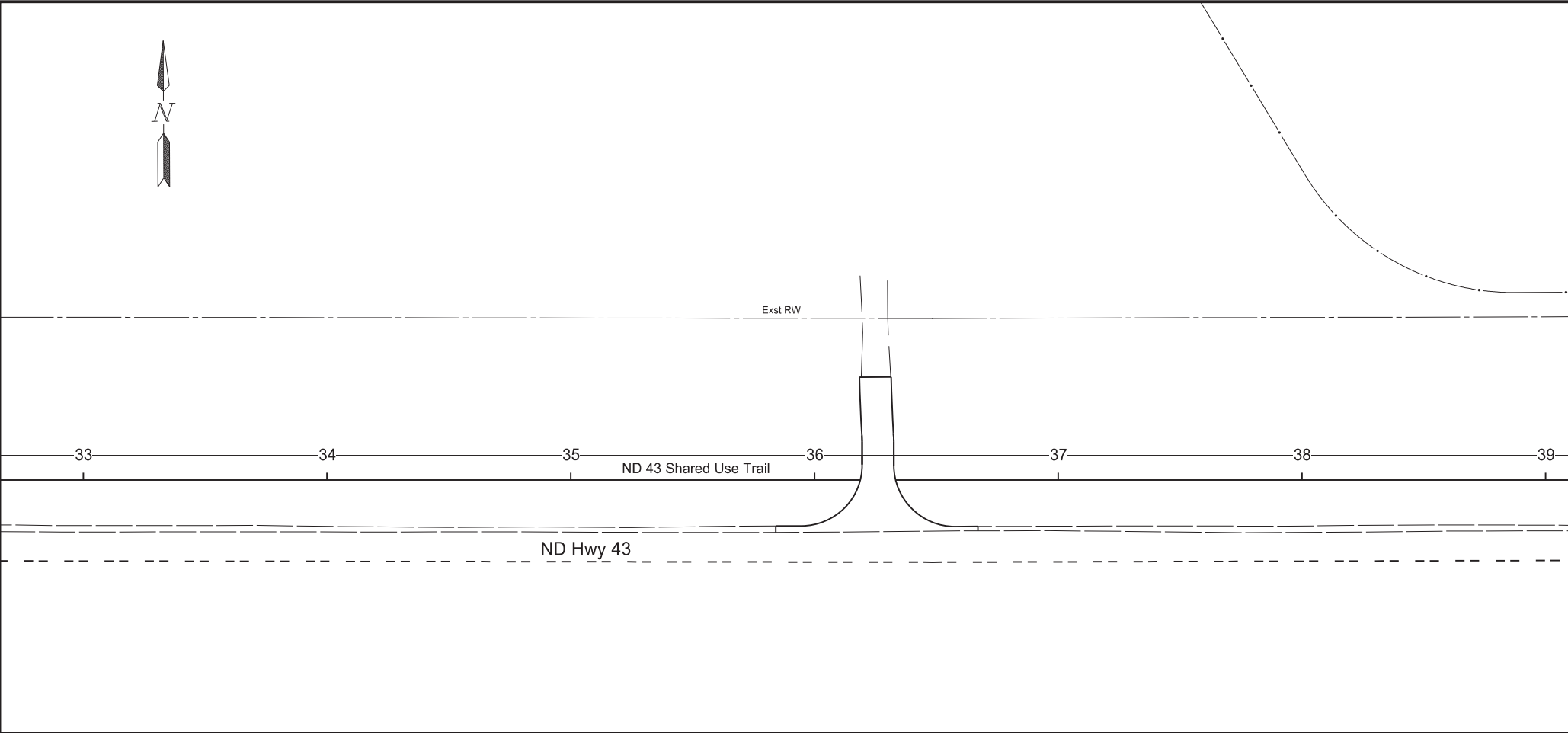
ND Hwy 43
Lake Loop Rd to Highland Rd

Shared Use Trail

Sta 21+00 to 27+00
Sta 27+00 to 33+00

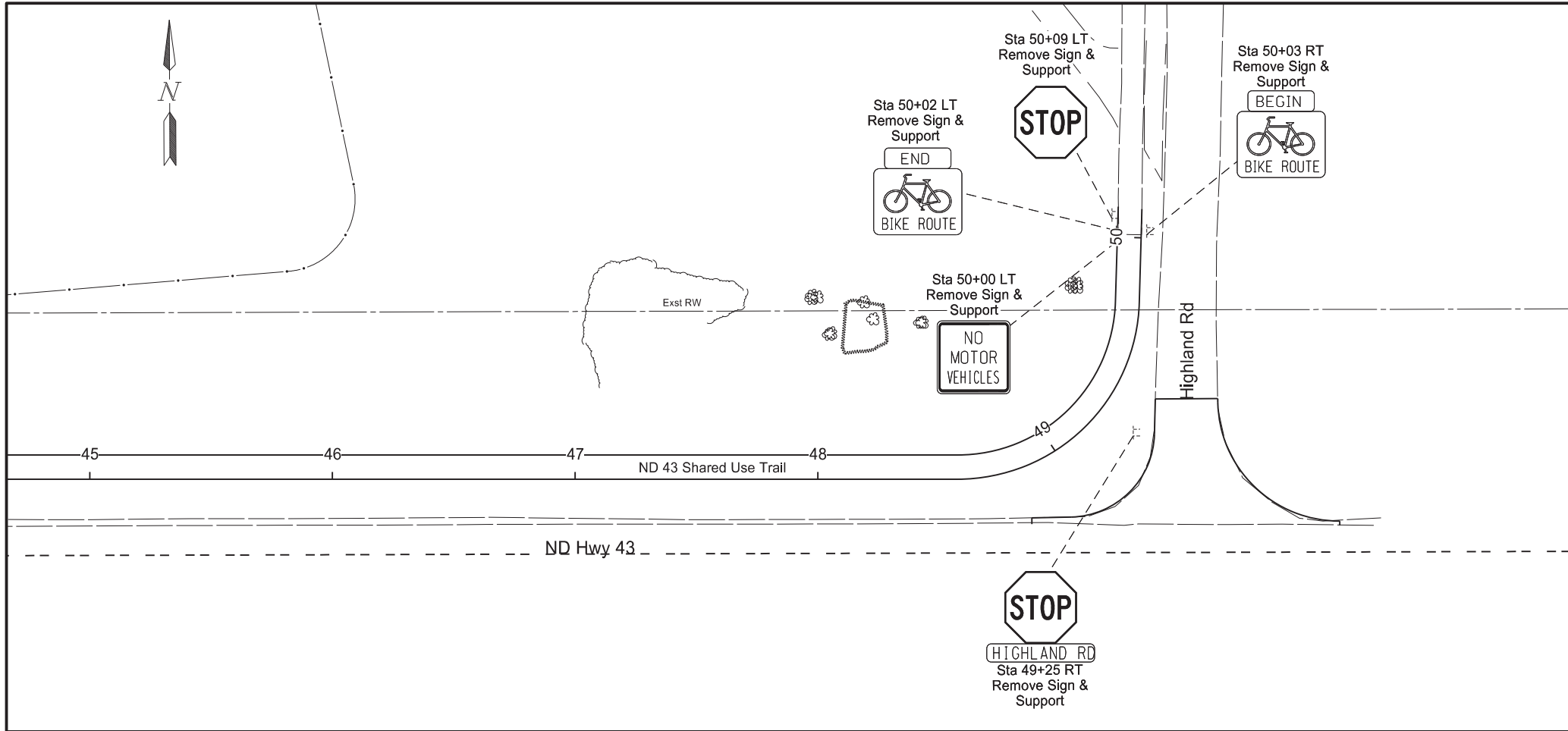


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	110	4



Sign Removal Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 33+00 to 39+00
 Sta 39+00 to 45+00

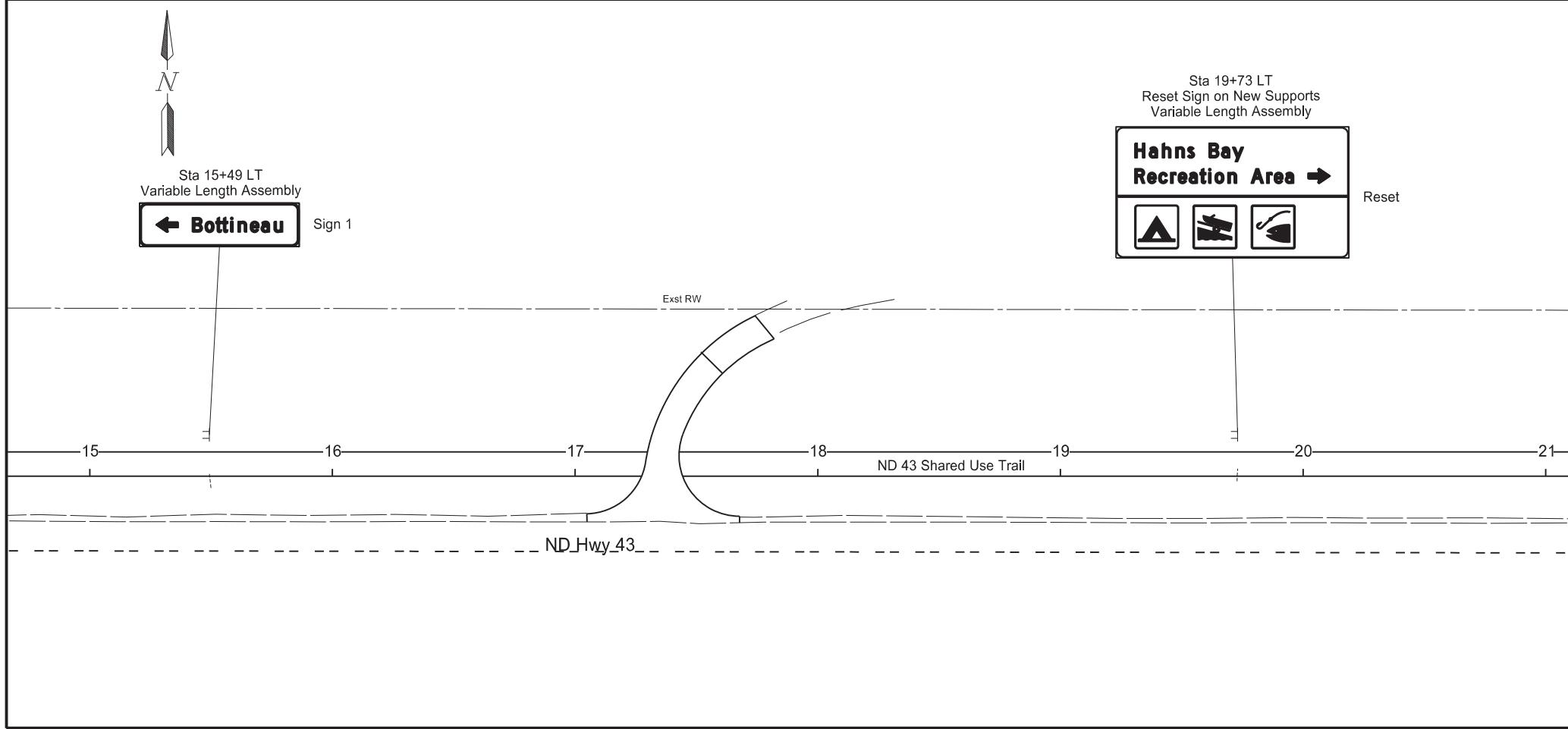
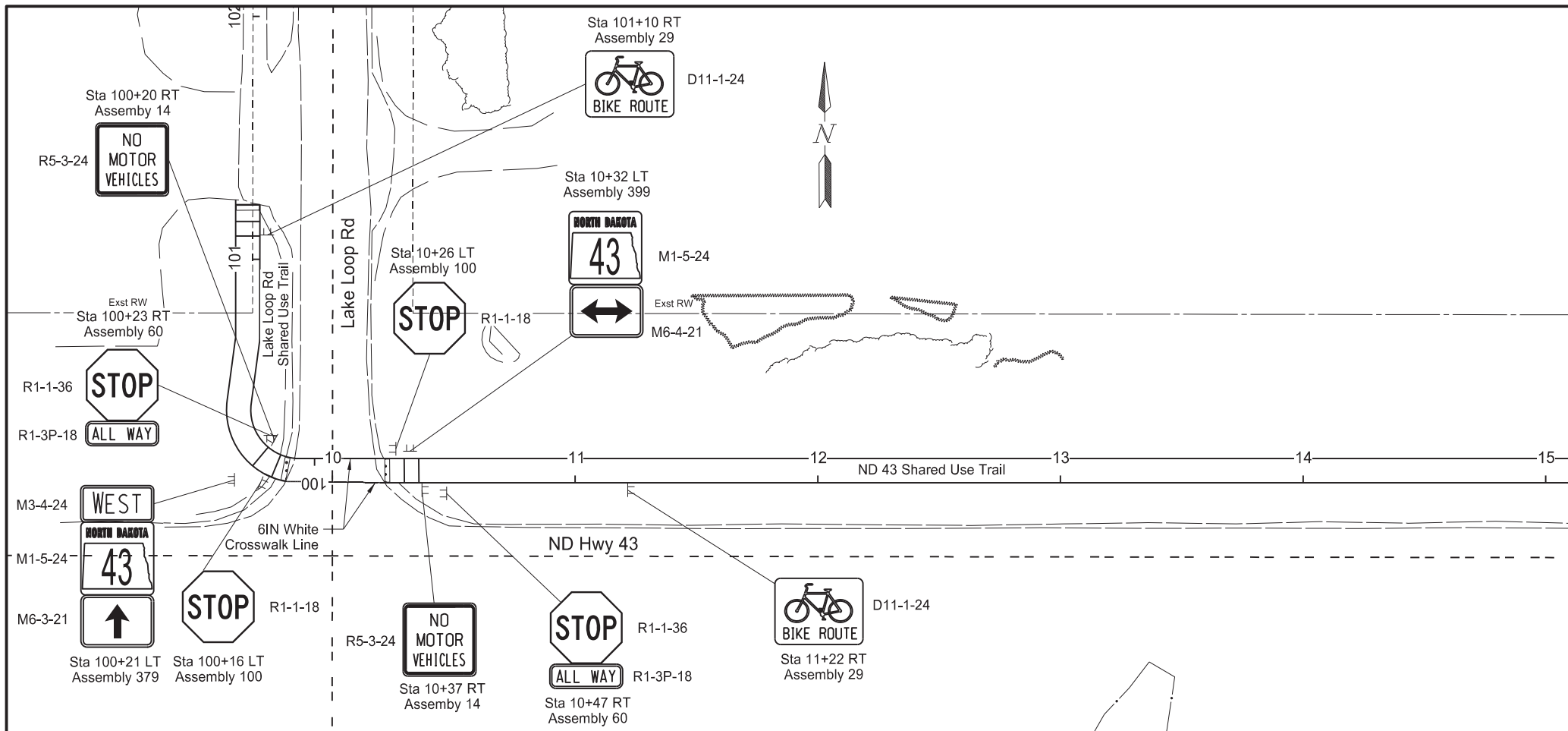




STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	110	5

Sign Removal Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 45+00 to 50+00





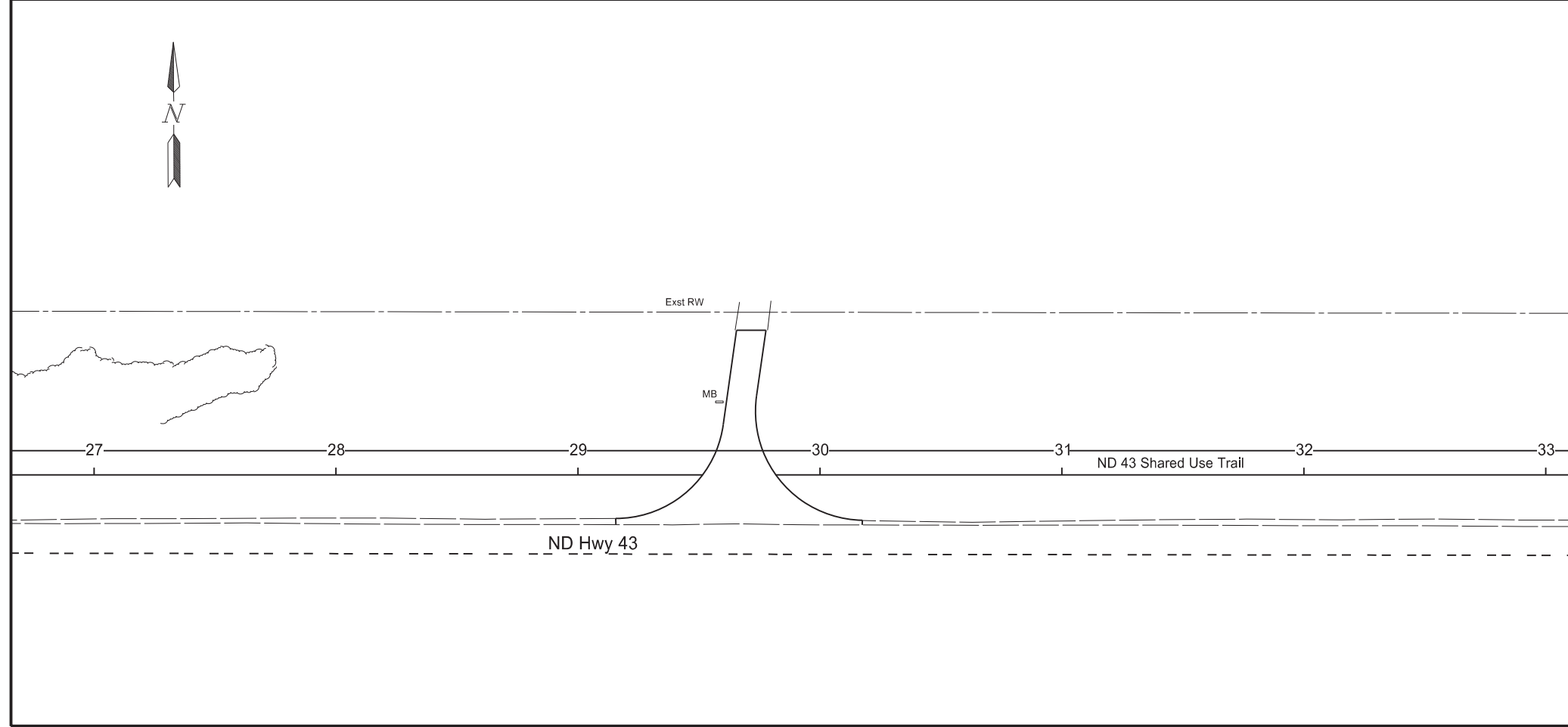
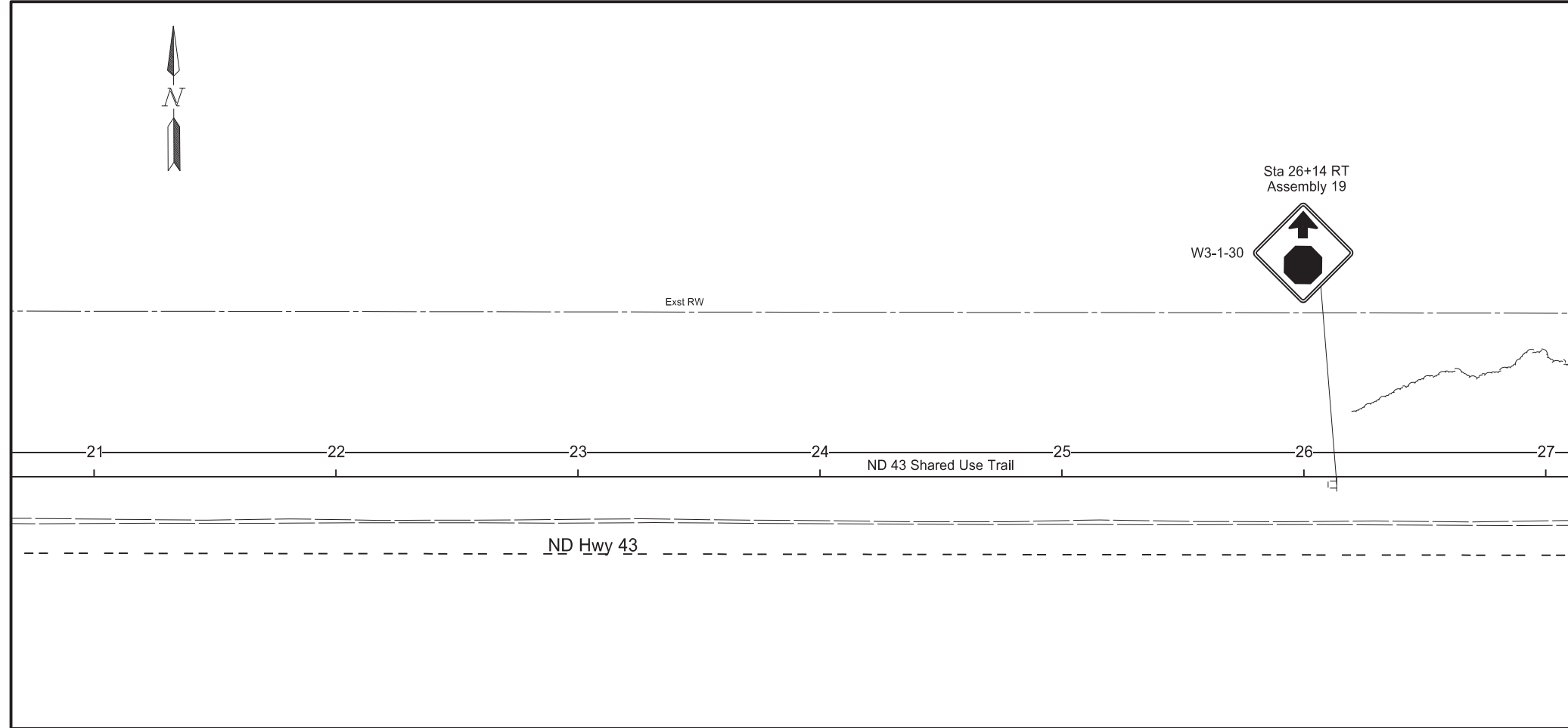
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	110	6

Spec	Code	Item Description	QTY	Unit
762	0114	Epoxy Pvmt MK 6IN Line Sta 100+10 (Lake Loop) to Sta 10+21	75	LF

Sign and Pavement Marking Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 100+00 to 101+00 (Lake Loop Rd)
 Sta 10+00 to 15+00
 Sta 15+00 to 21+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	110	7



Sign and Pavement Marking Layout

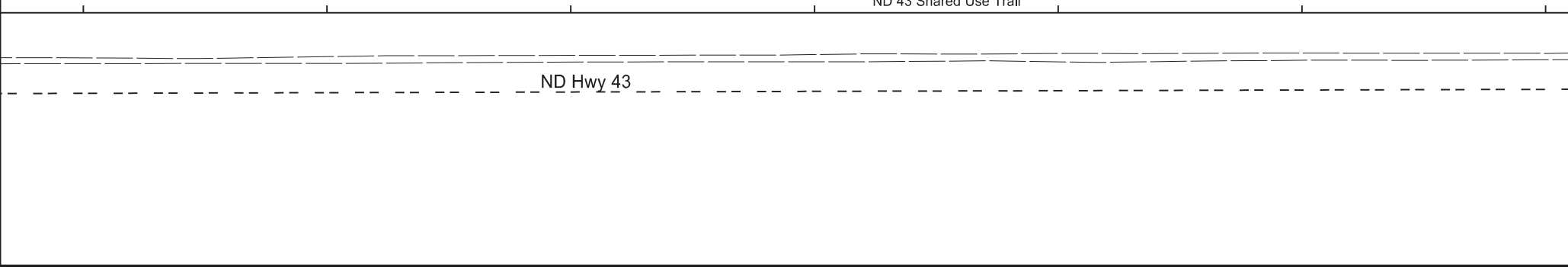
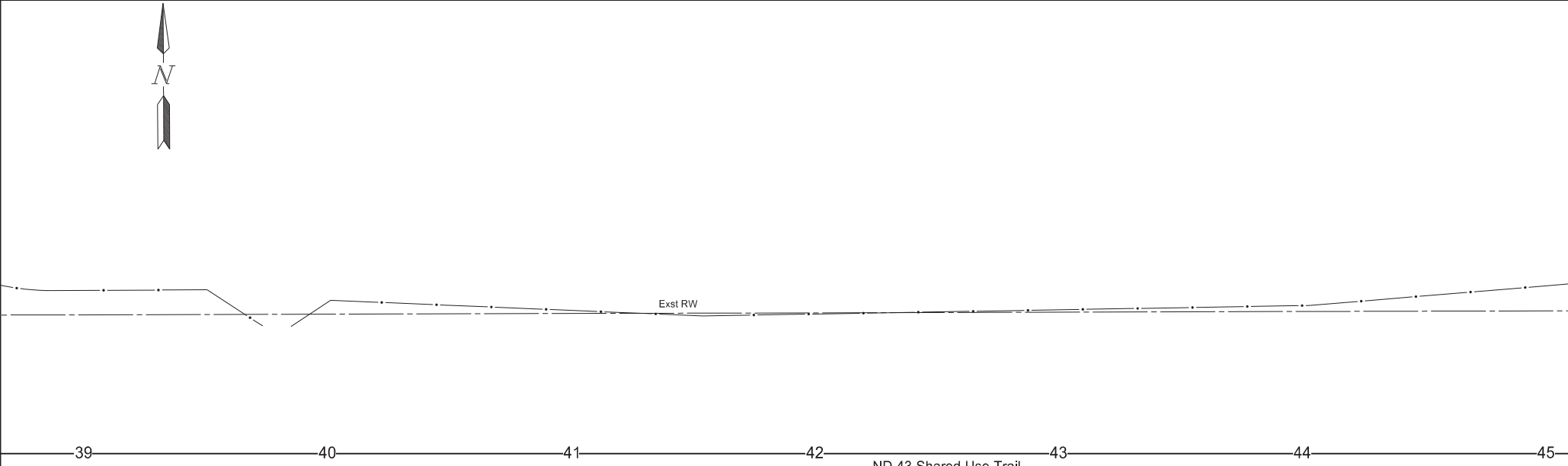
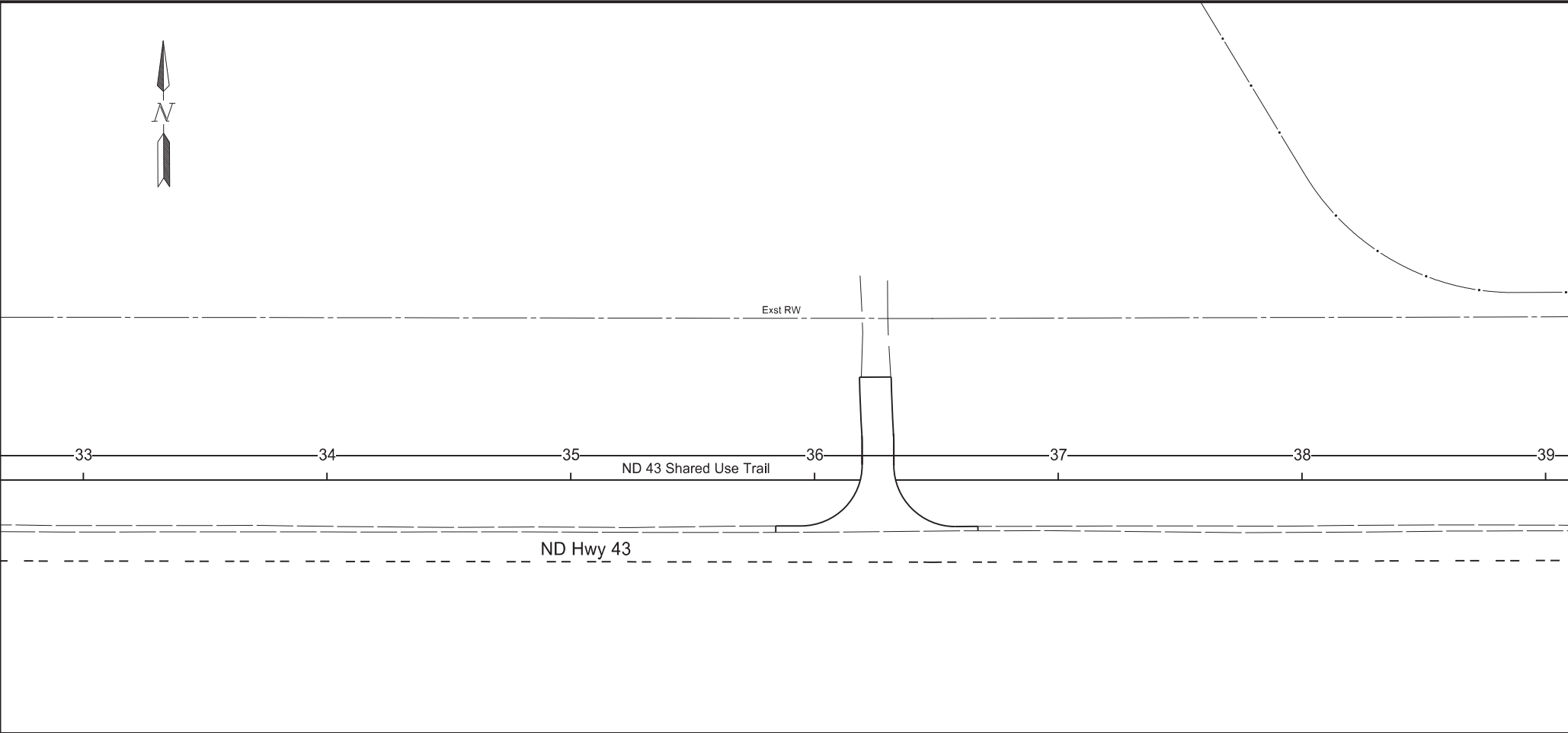
ND Hwy 43
Lake Loop Rd to Highland Rd

Shared Use Trail

Sta 21+00 to 27+00
Sta 27+00 to 33+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	110	8



Sign and Pavement Marking Layout

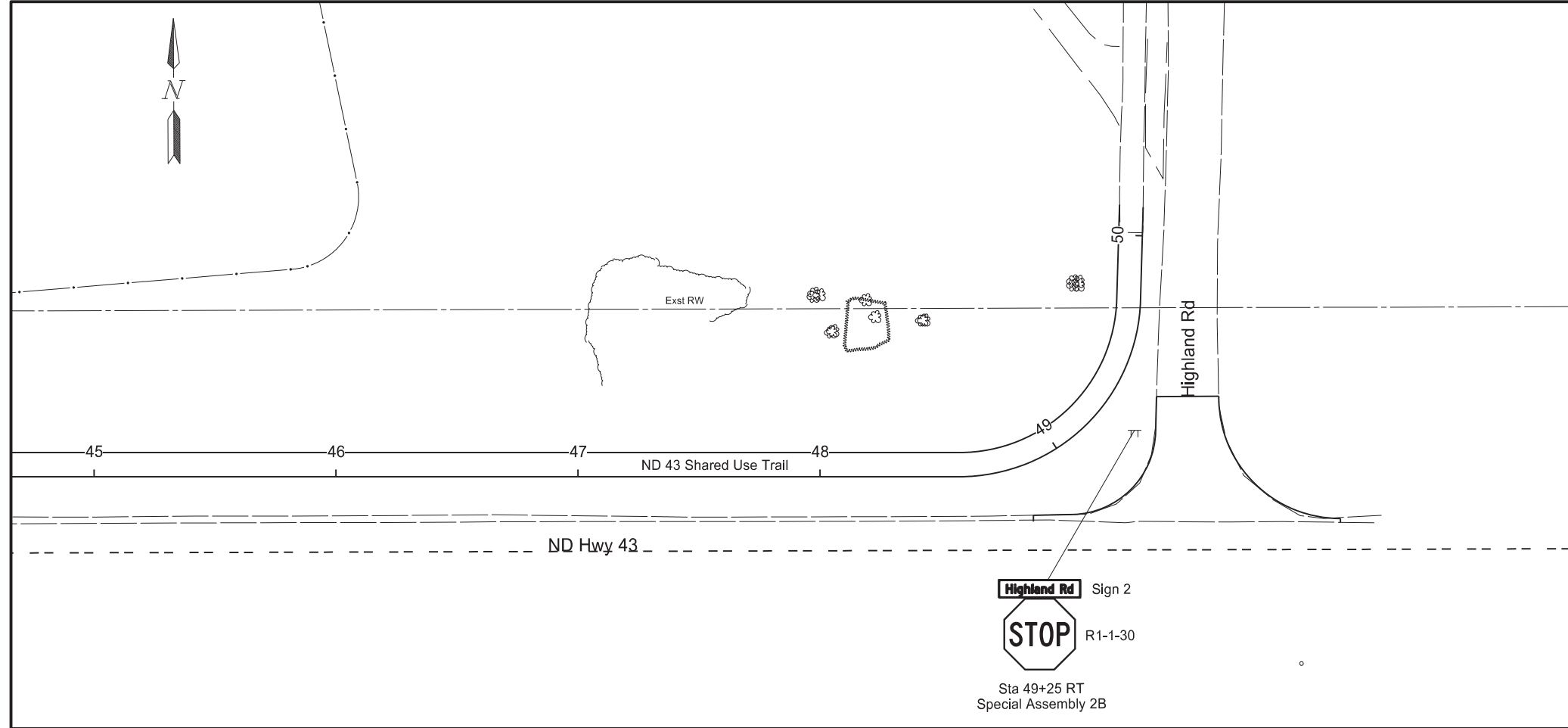
ND Hwy 43
Lake Loop Rd to Highland Rd

Shared Use Trail

Sta 33+00 to 39+00
Sta 39+00 to 45+00



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	110	9



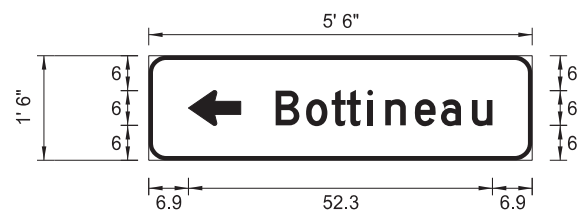
Highland Rd Sign 2
STOP R1-1-30
 Sta 49+25 RT
 Special Assembly 2B

Sign and Pavement Marking Layout
 ND Hwy 43
 Lake Loop Rd to Highland Rd
 Shared Use Trail
 Sta 45+00 to 50+00



SIGN NUMBER	Sign 1
WIDTH X HEIGHT	5'-6" x 1'-6"
BORDER WIDTH	0-3/4" (inset 0")
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

STATION(S): 15+49 LT AREA: 8.25 Sq.Ft.



SYMBOL	X	Y	WID	HT	ANGLE
ND_6IN_TYPE D	6.9	6	6	9	90

Dimensions are in inches Letter locations are panel edge to lower left corner

LETTER POSITION (X)										LENGTH	SIZE	SERIES
B	o	t	t	i	n	e	a	u		37.3	6/4.5	D 2000
21.9	27.1	31.5	34.1	37.6	40.7	45.8	50.3	55.625				

SIGN NUMBER	Sign 2
WIDTH X HEIGHT	4'-6" x 1'-0"
BORDER WIDTH	0-1/2" (inset 0")
CORNER RADIUS	1-1/2"
MOUNTING	Ground
BACKGROUND	TYPE: IV Reflective COLOR: Green
LEGEND/BORDER	TYPE: IV Reflective COLOR: White

STATION(S): 49+25 RT AREA: 4.5 Sq.Ft.



SYMBOL	X	Y	WID	HT	ANGLE
--------	---	---	-----	----	-------

Dimensions are in inches Letter locations are panel edge to lower left corner

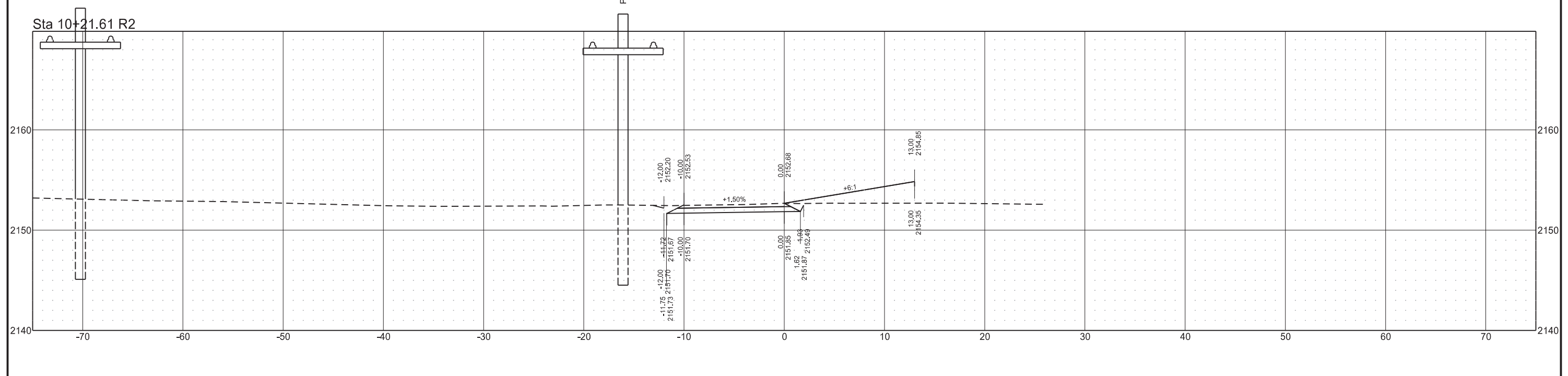
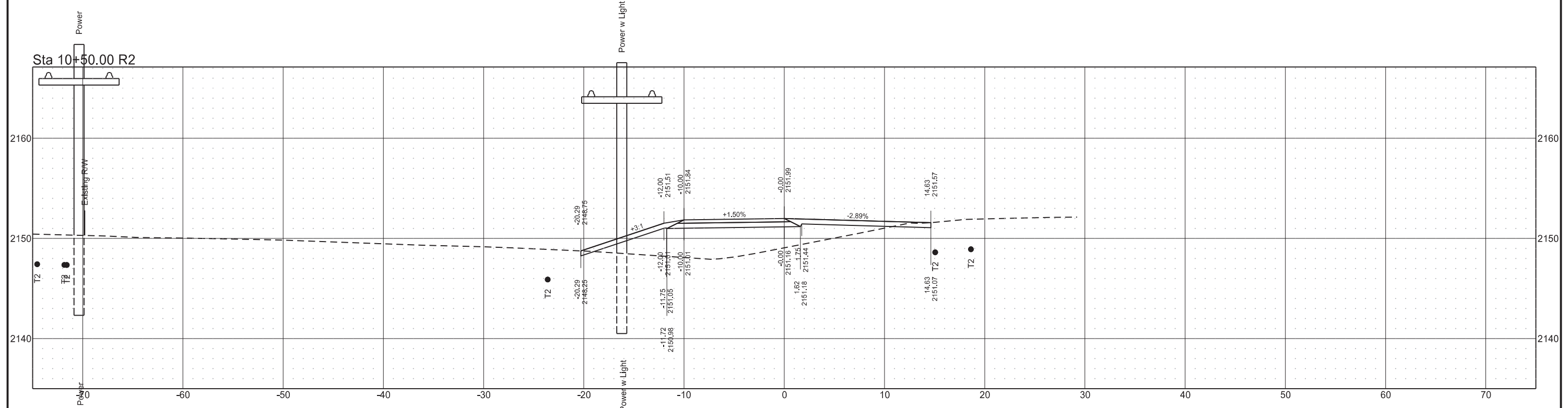
LETTER POSITION (X)												LENGTH	SIZE	SERIES
H	i	g	h	l	a	n	d	R	d			44.1	6/4.5	D 2000
5	10.3	12.3	17.1	21.75	23.6	28.2	32.6	36.2	40.7	45.5				

Sign Details

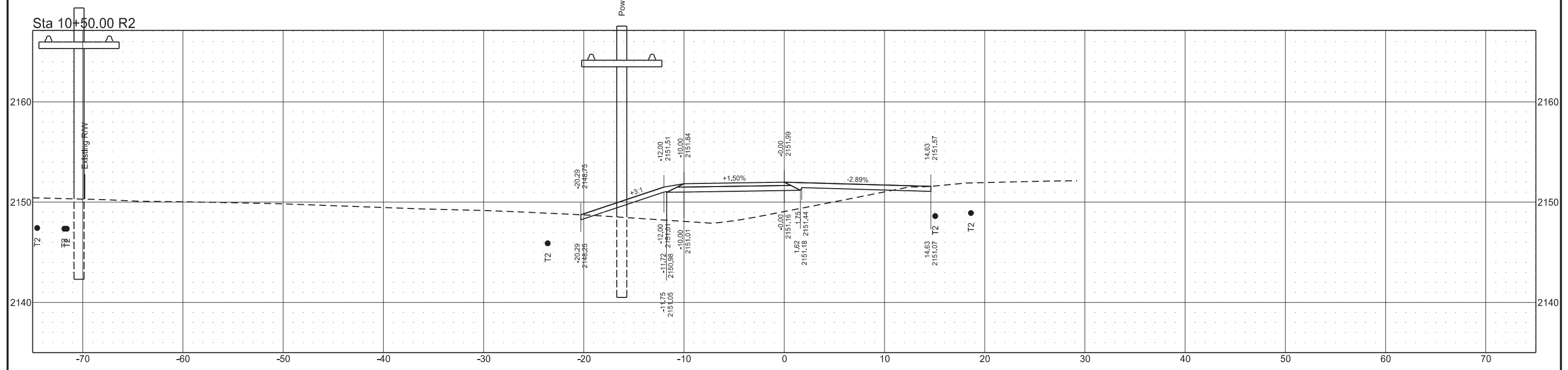
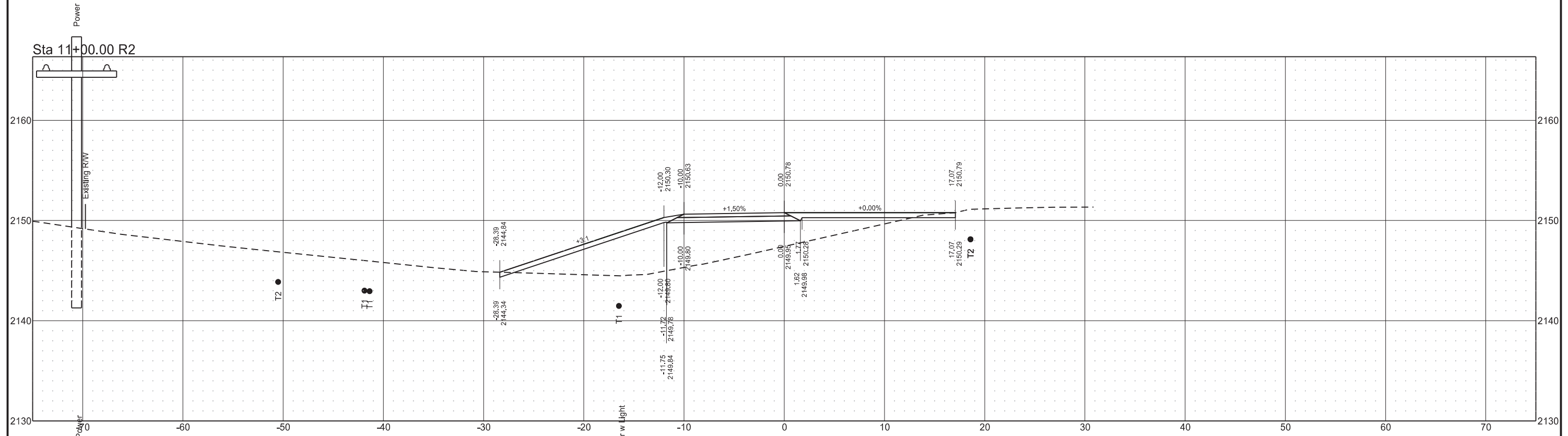
ND Hwy 43
Lake Loop Rd to Highland Rd

Shared Use Trail

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	1

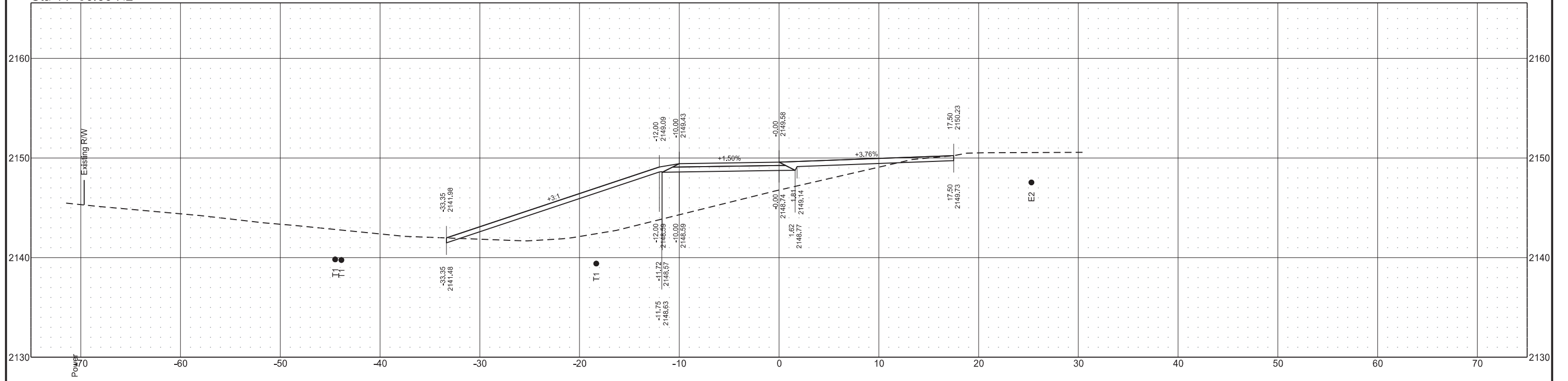


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	2

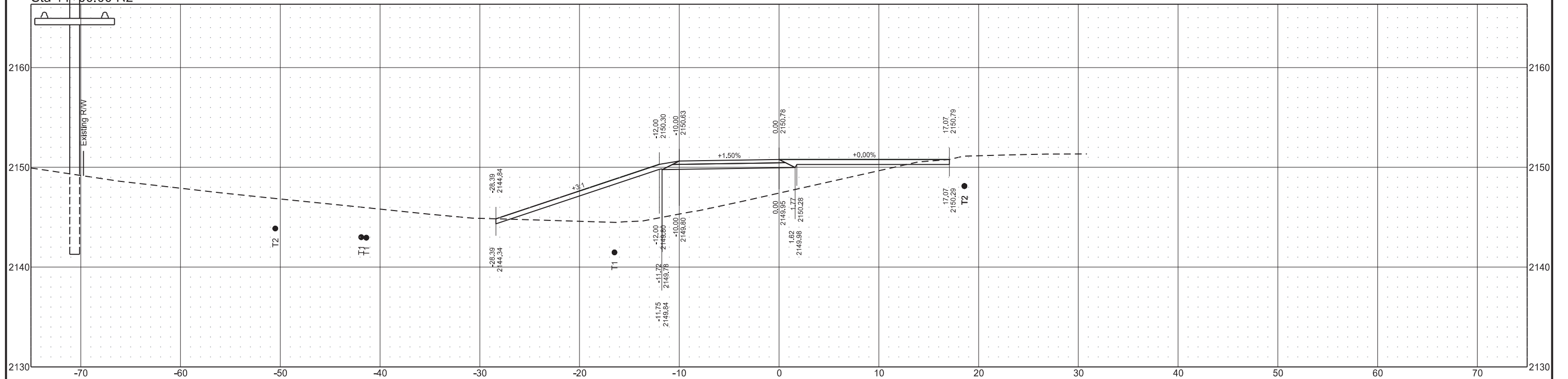


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	3

Sta 11+50.00 R2

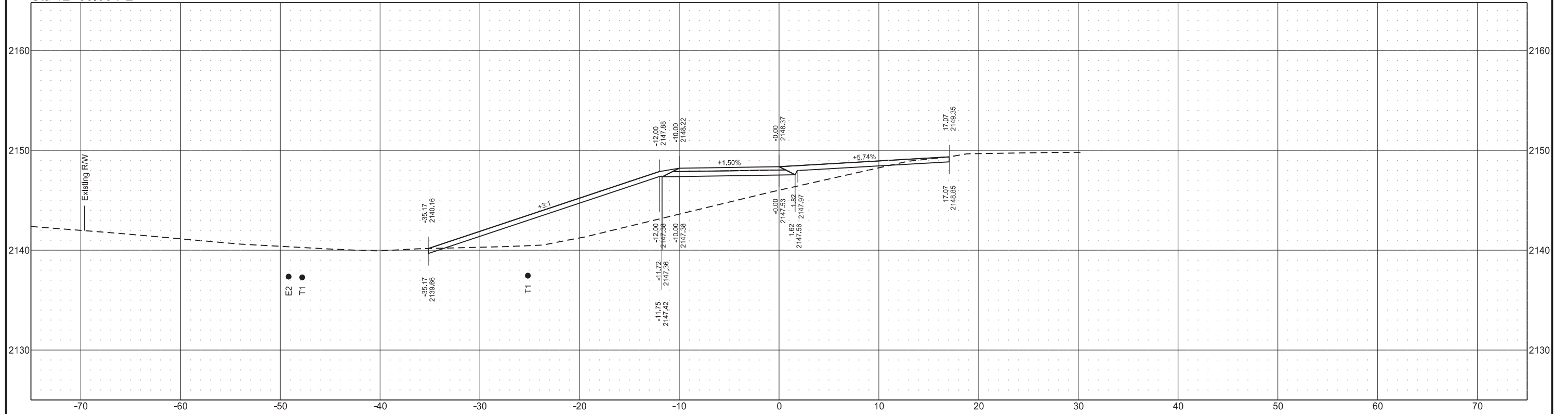


Sta 11+00.00 R2

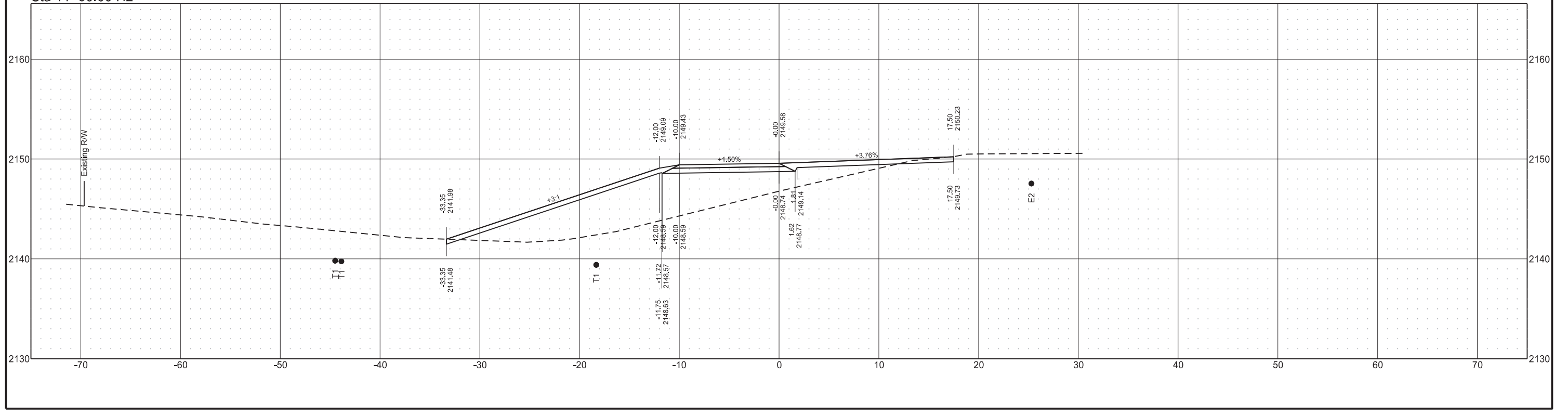


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	4

Sta 12+00.00 R2

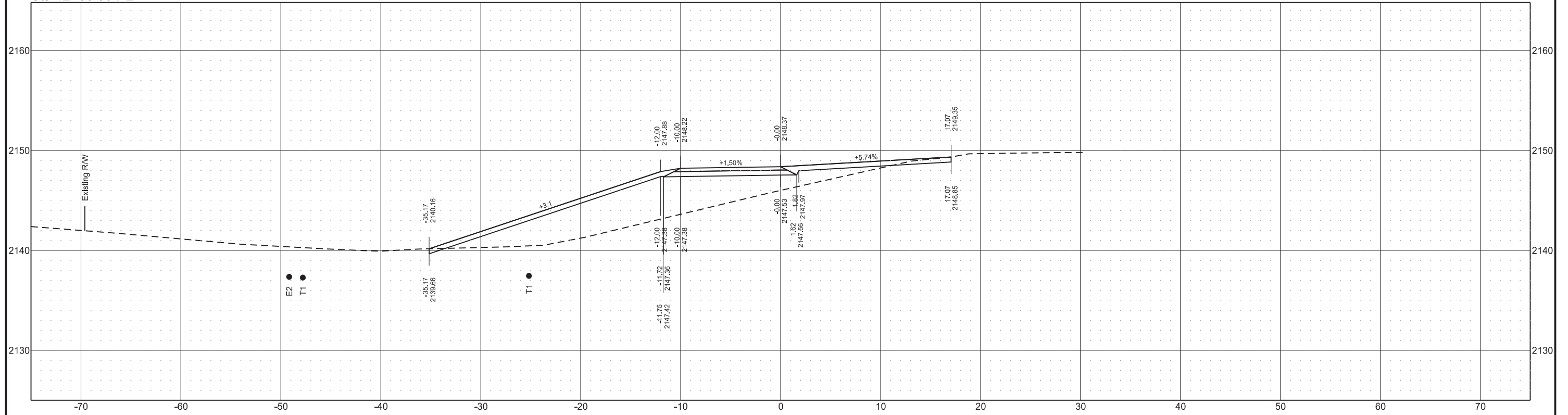


Sta 11+50.00 R2

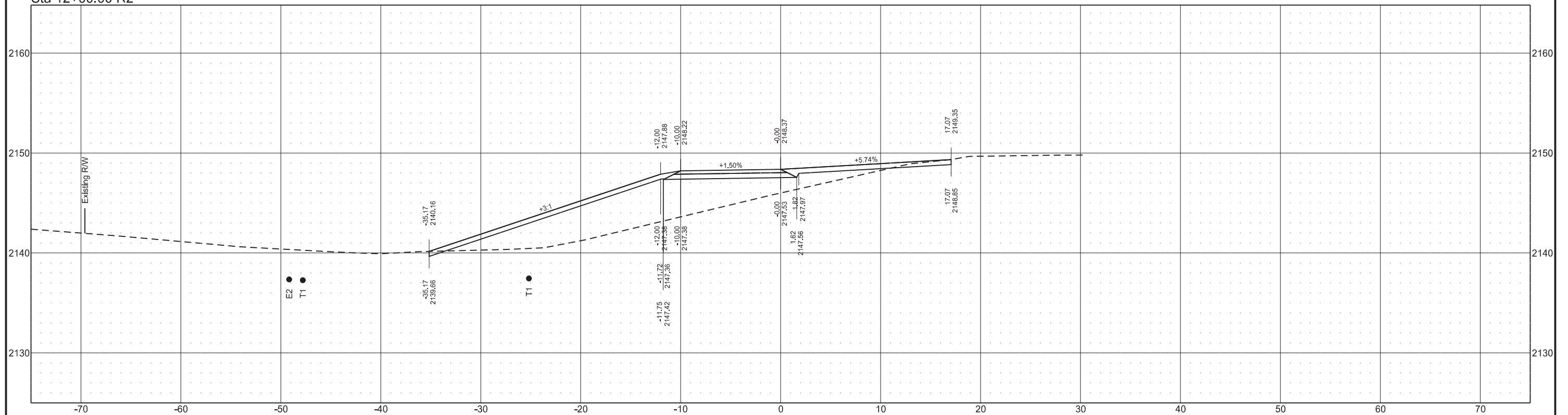


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	5

Sta 12+00.00 R2

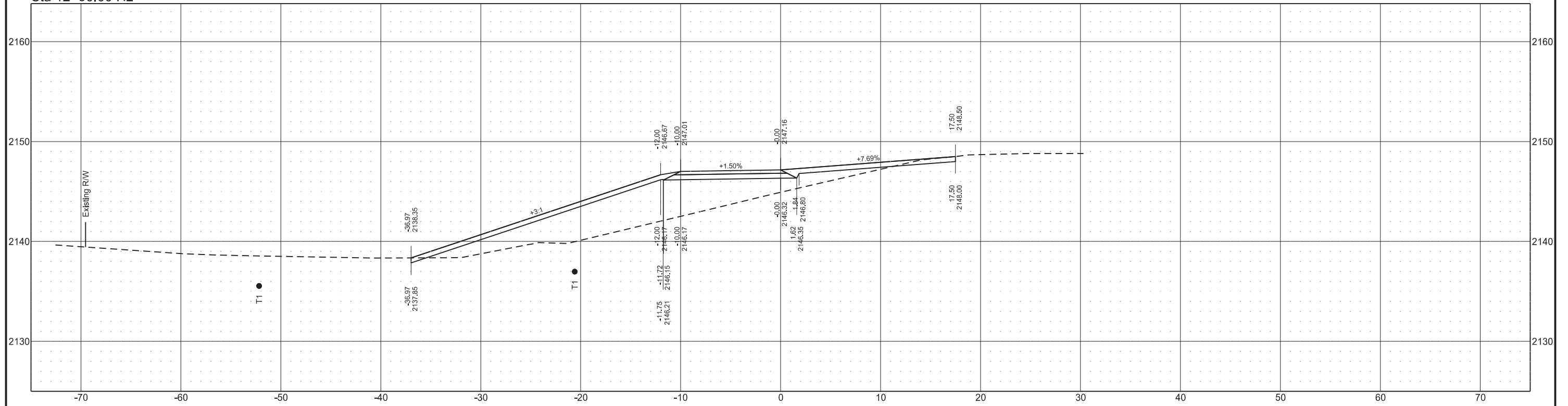


Sta 12+00.00 R2

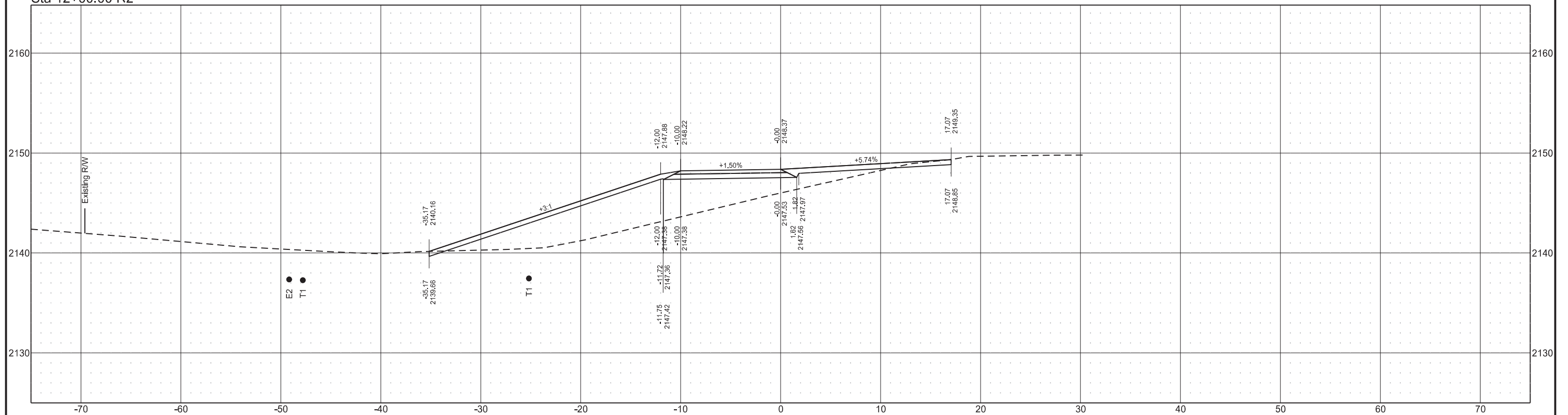


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	6

Sta 12+50.00 R2

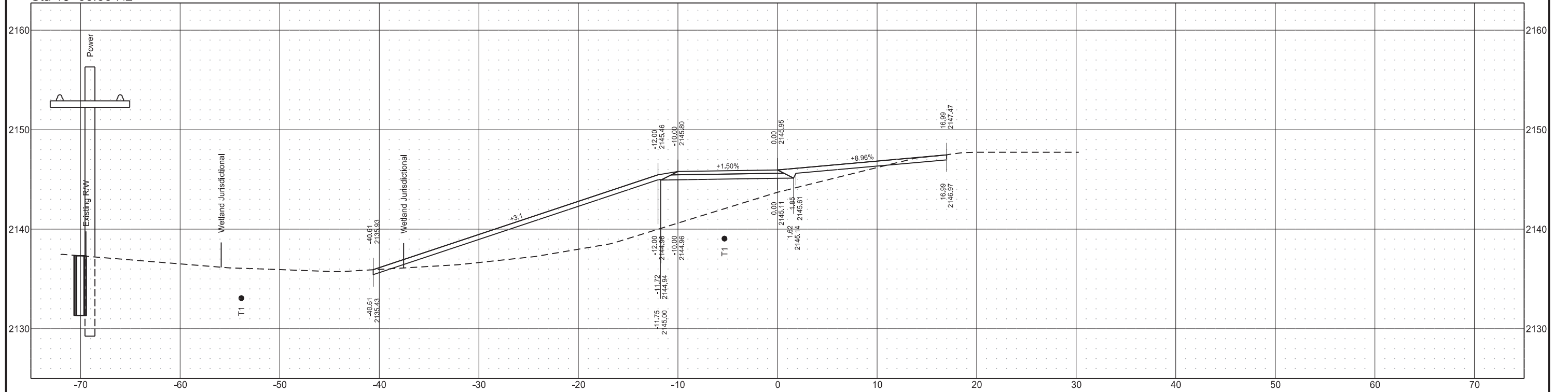


Sta 12+00.00 R2

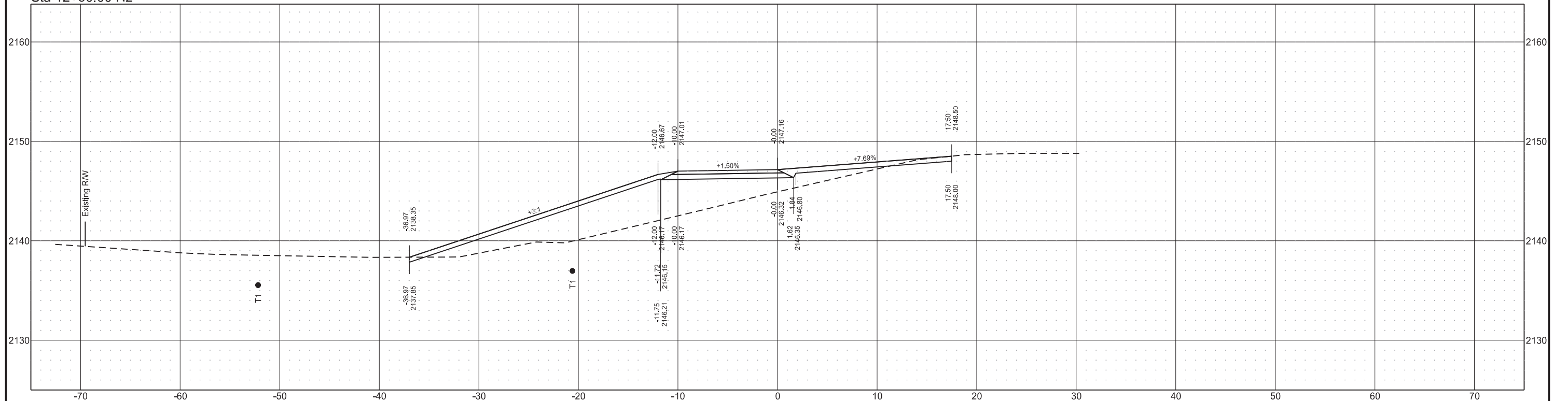


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	7

Sta 13+00.00 R2

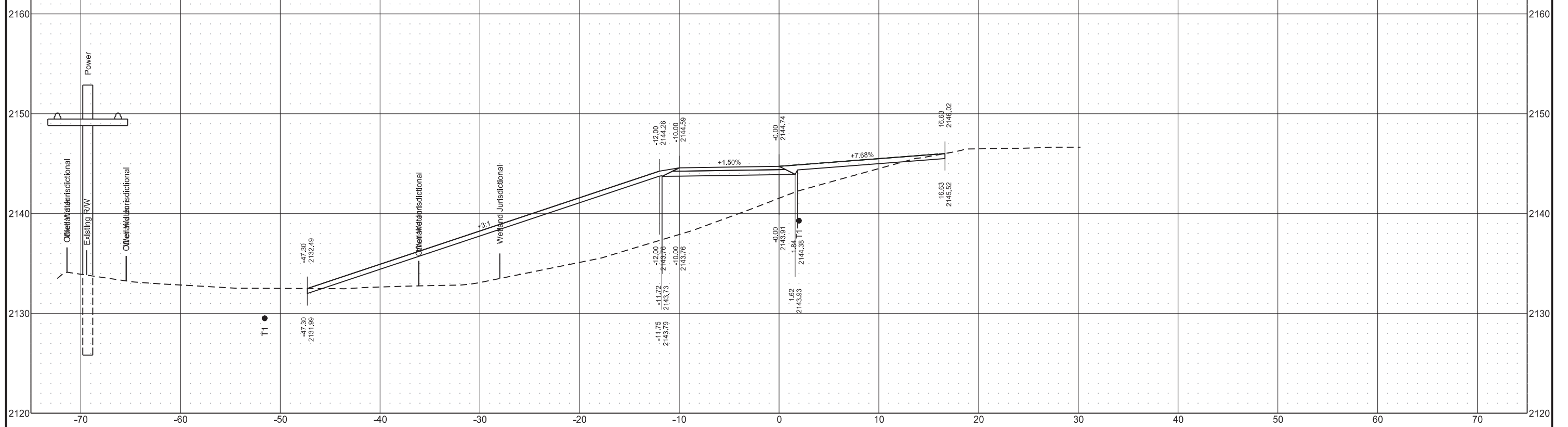


Sta 12+50.00 R2

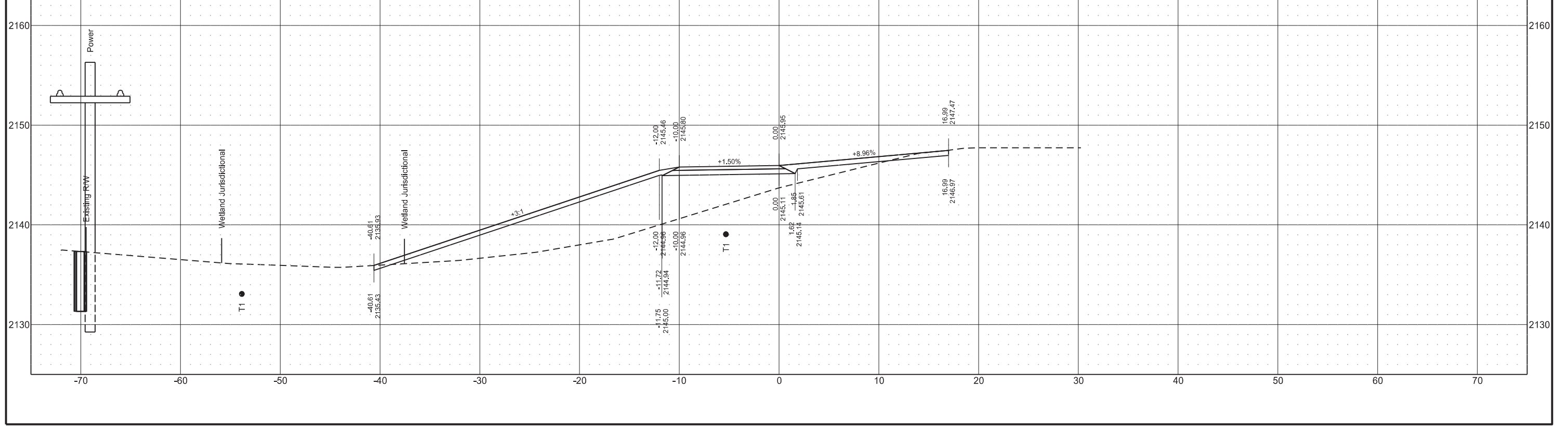


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	8

Sta 13+50.00 R2

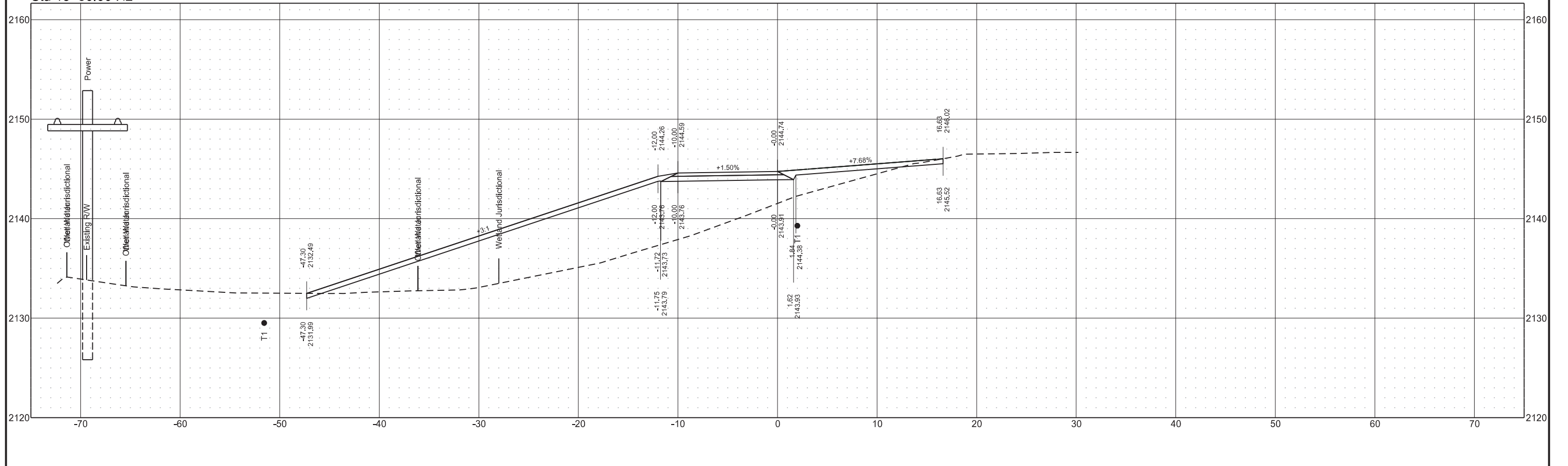


Sta 13+00.00 R2



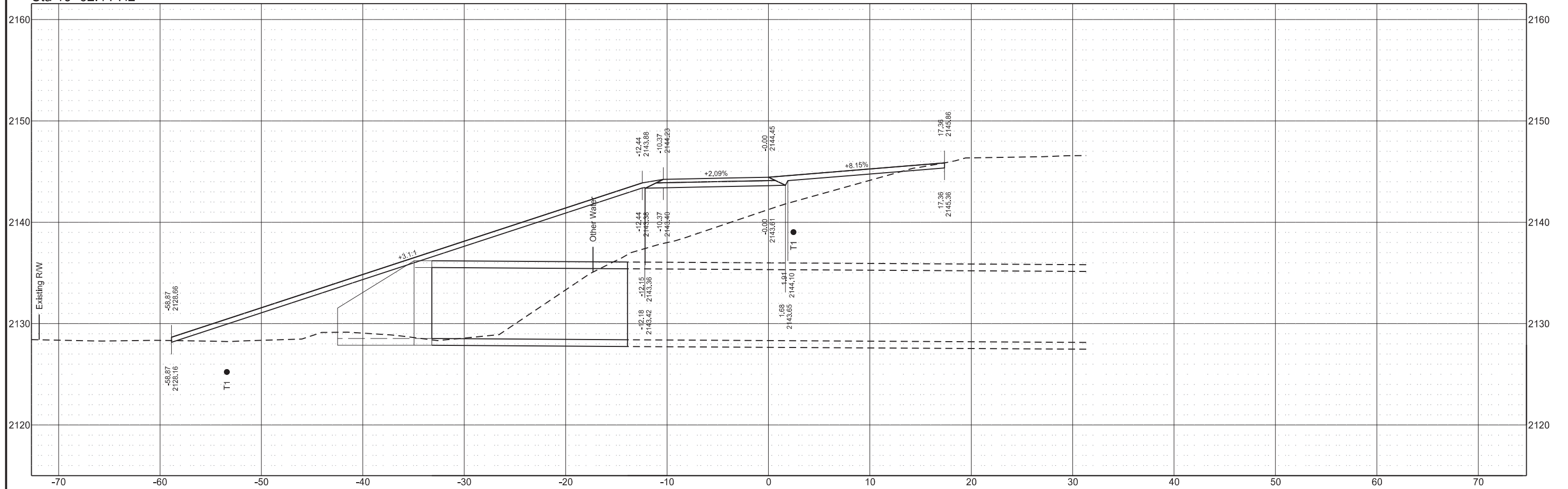
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	9

Sta 13+50.00 R2



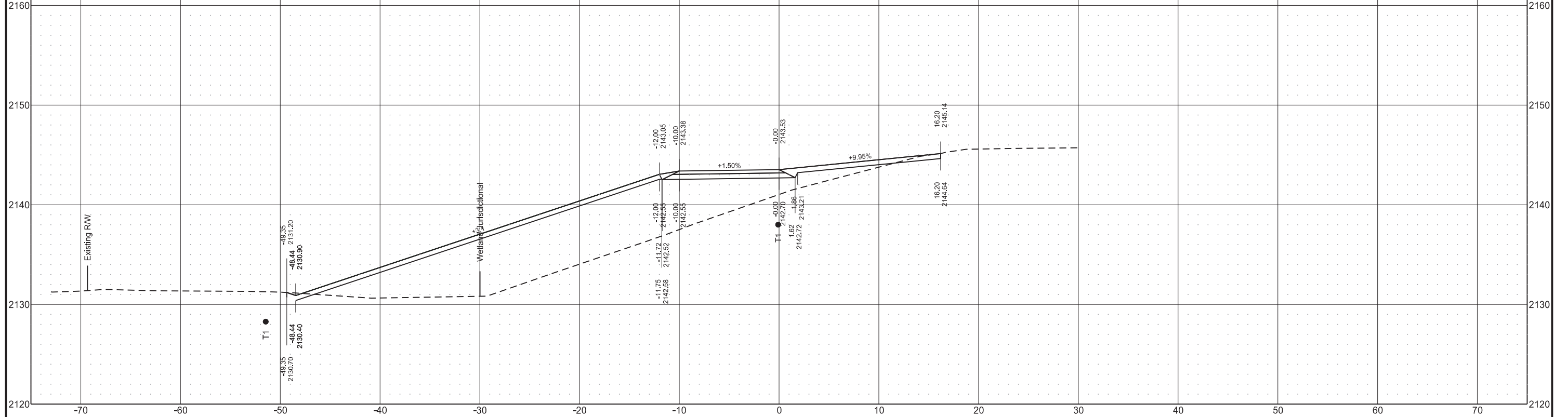
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	10

Sta 13+62.11 R2

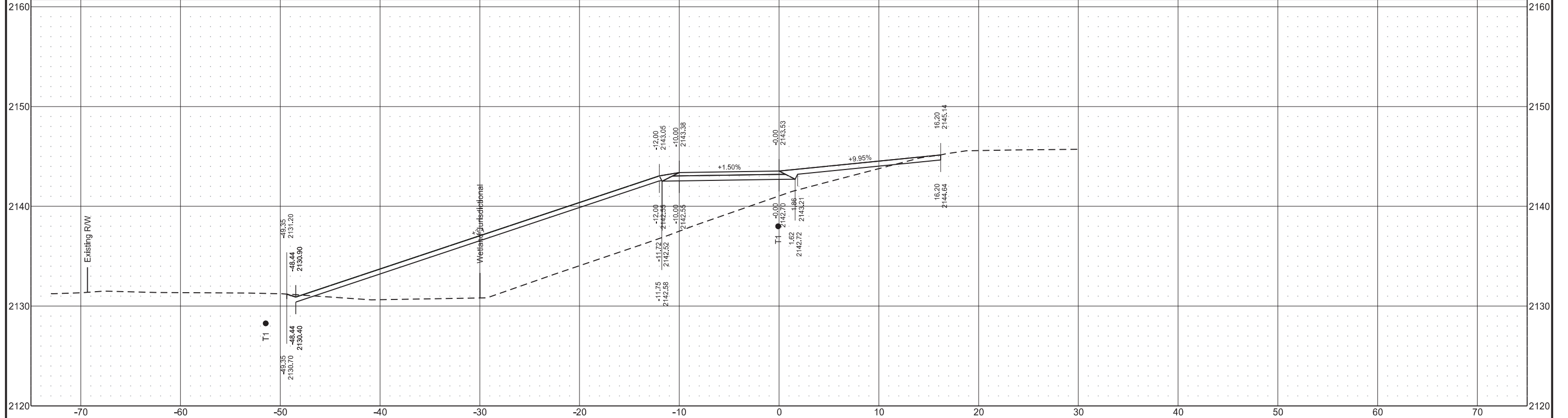


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	11

Sta 14+00.00 R2

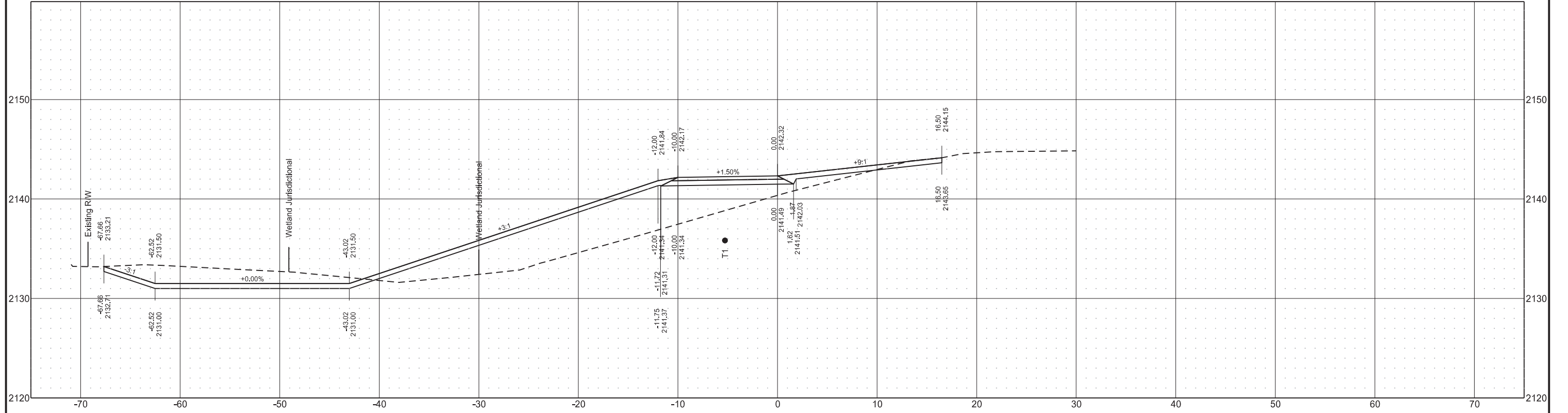


Sta 14+00.00 R2

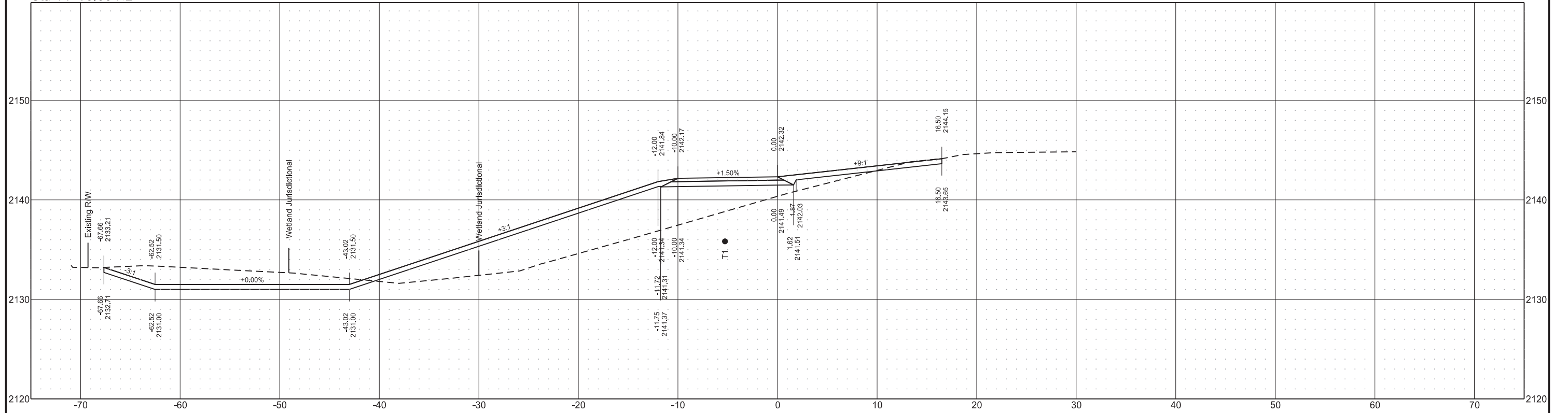


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	12

Sta 14+50.00 R2

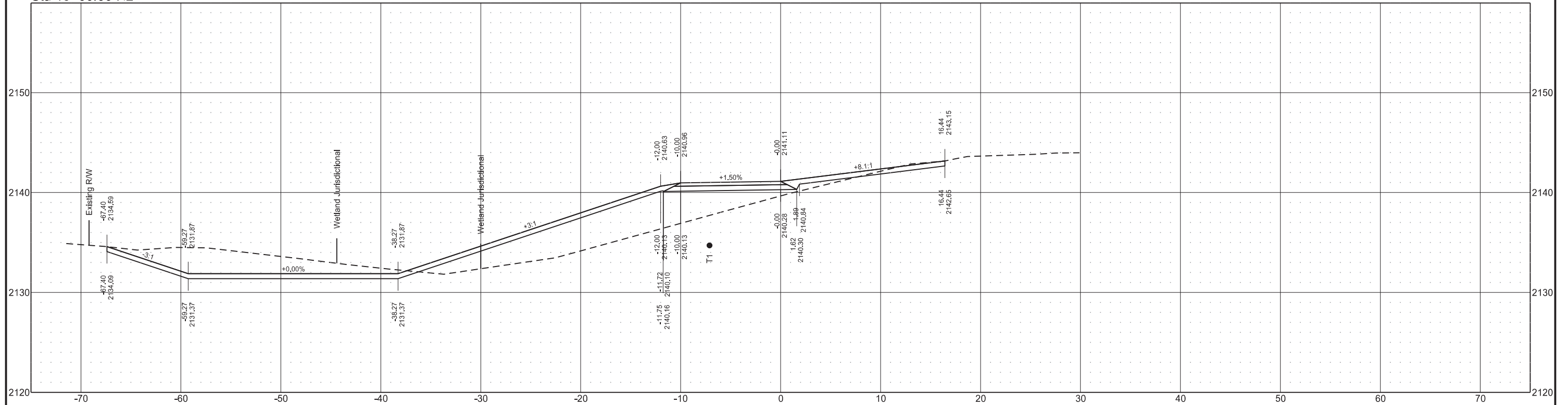


Sta 14+50.00 R2

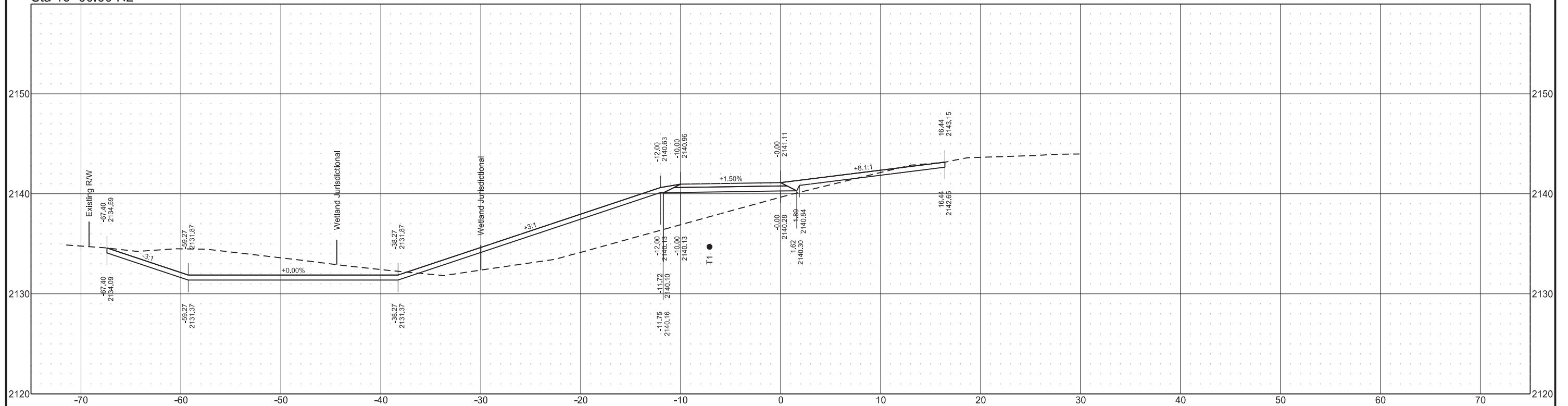


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	13

Sta 15+00.00 R2

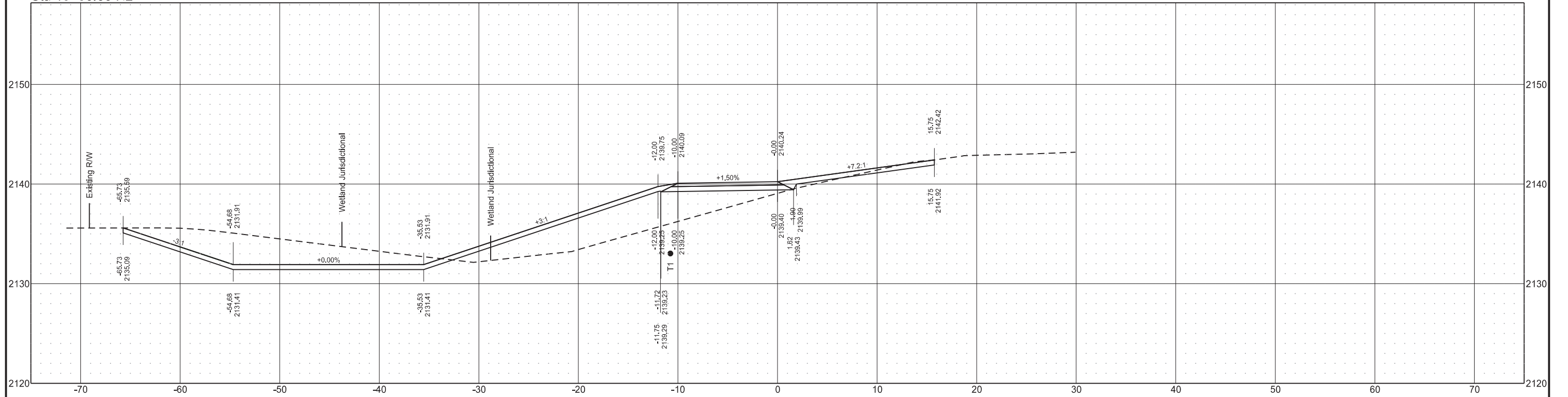


Sta 15+00.00 R2

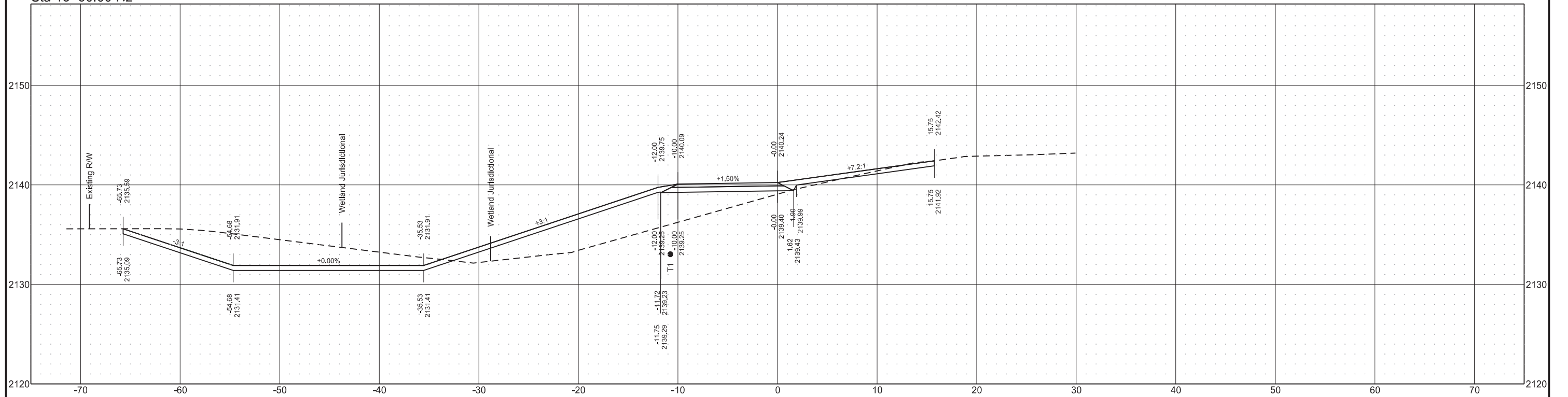


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	14

Sta 15+50.00 R2

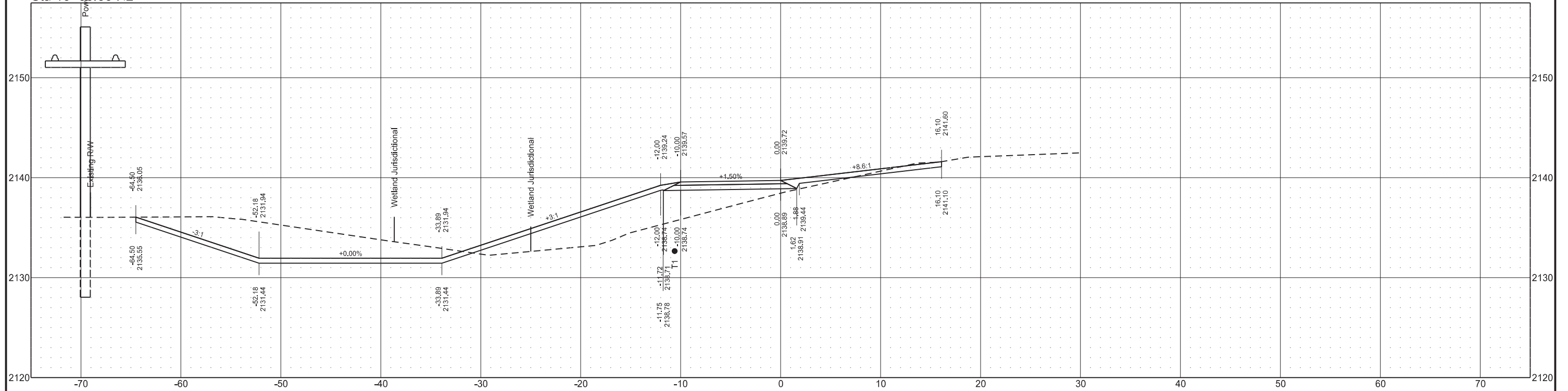


Sta 15+50.00 R2

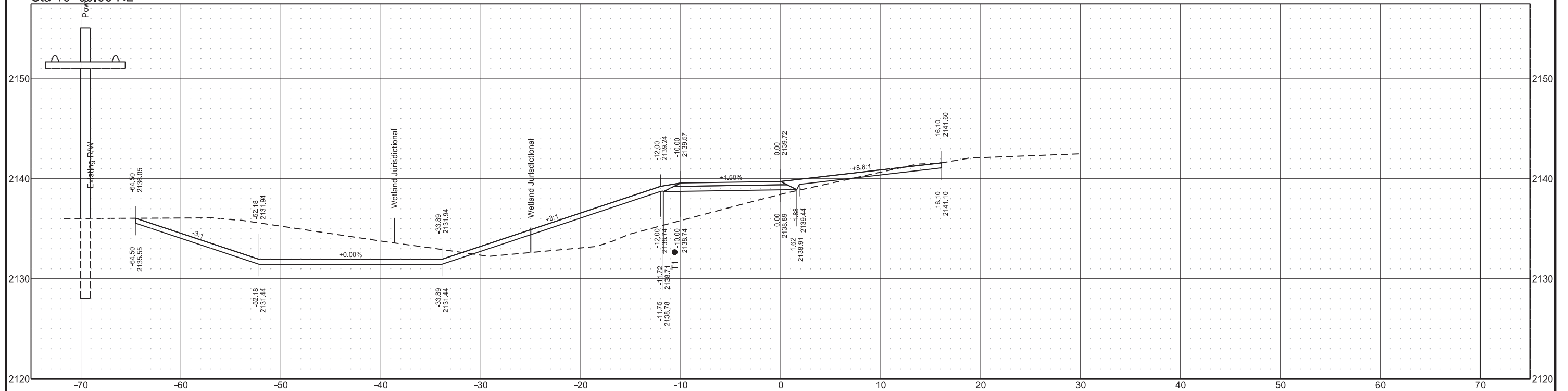


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	15

Sta 16+00.00 R2

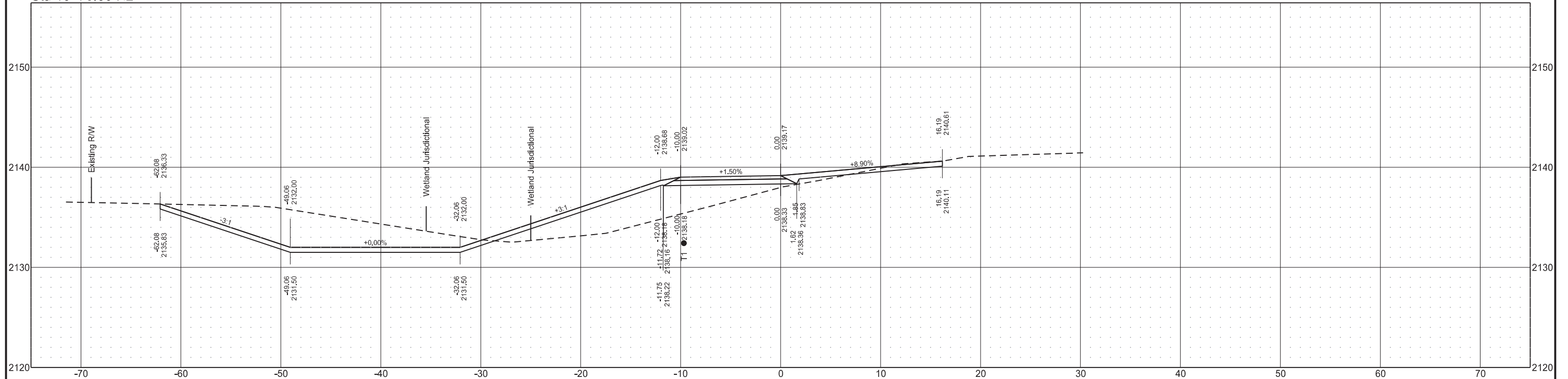


Sta 16+00.00 R2

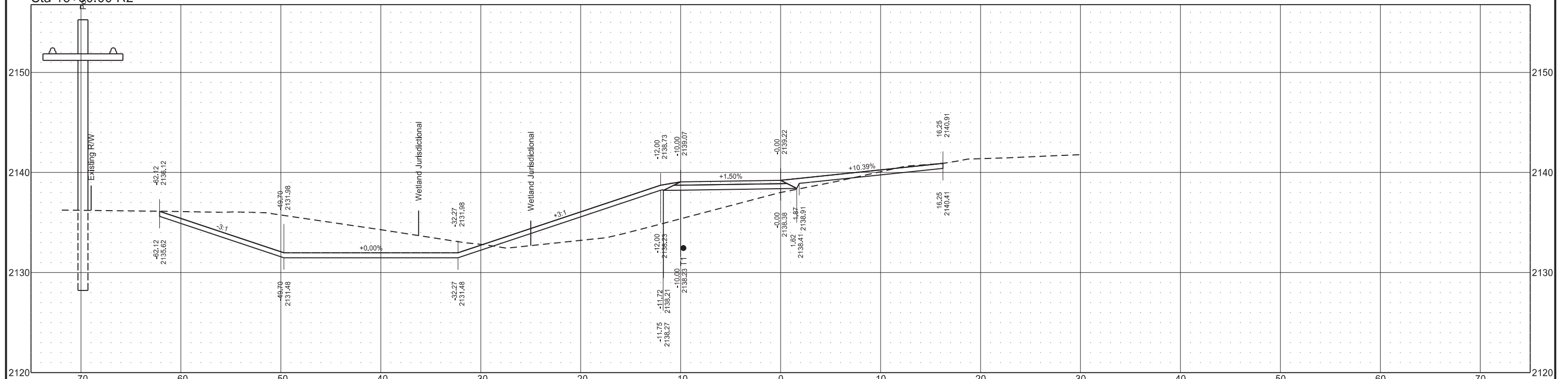


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	16

Sta 16+75.00 R2

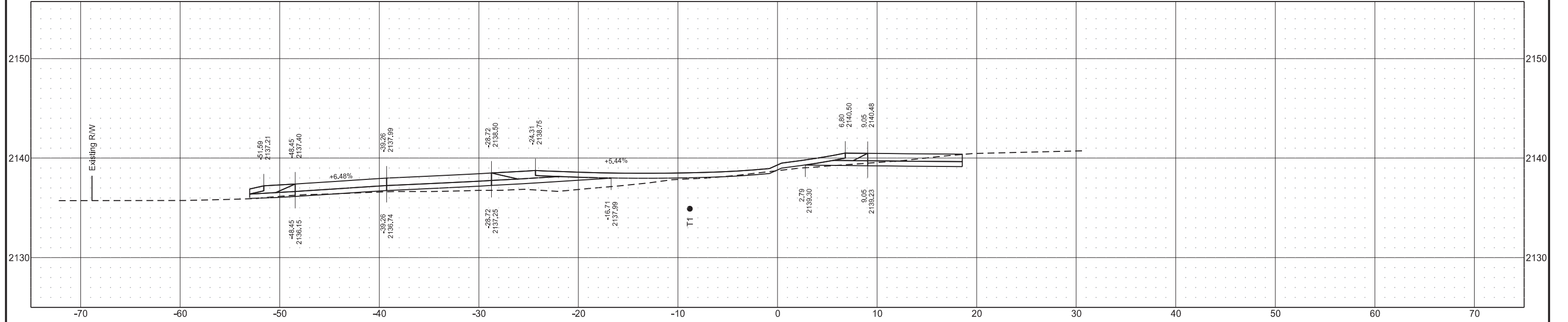


Sta 16+50.00 R2

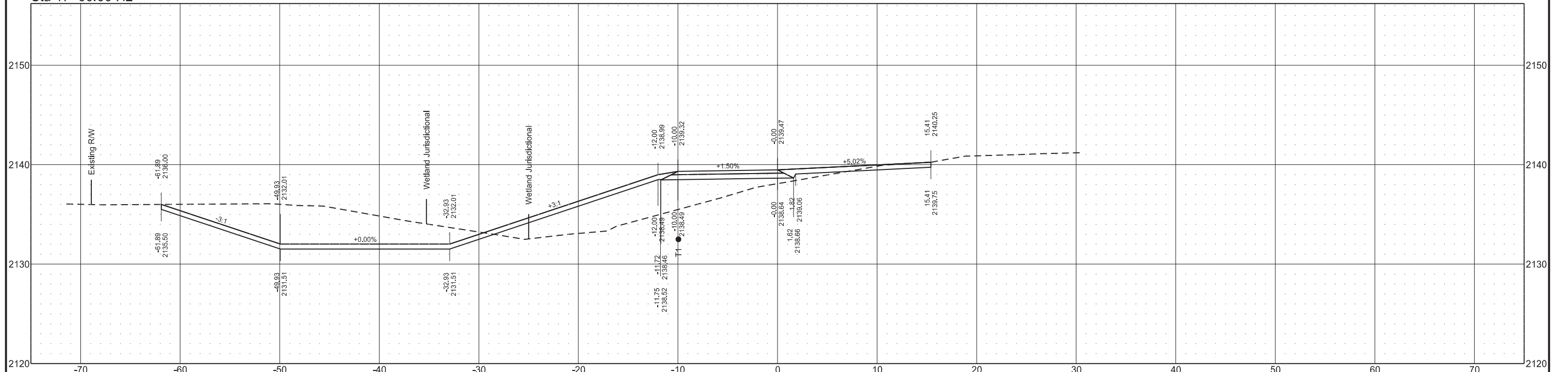


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	17

Sta 17+50.00 R2

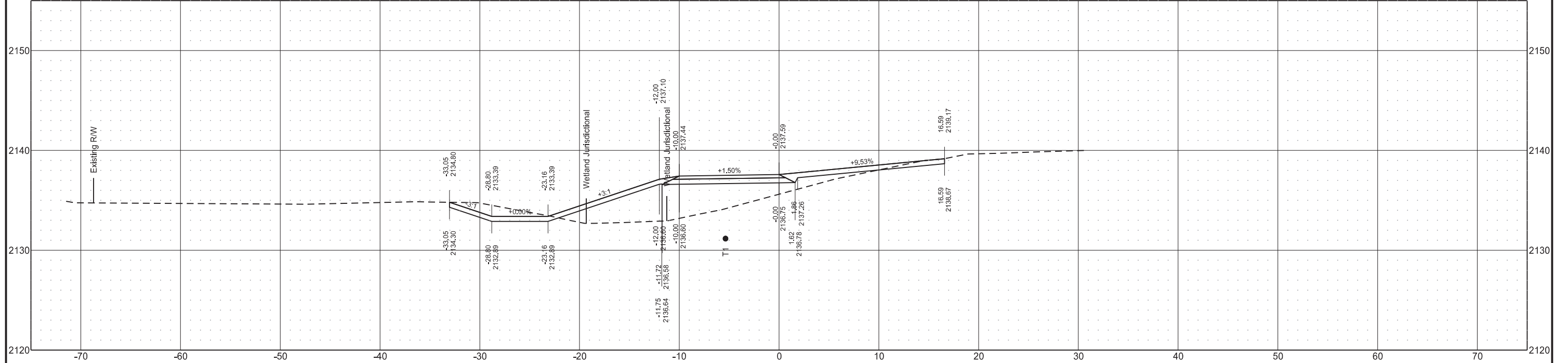


Sta 17+00.00 R2

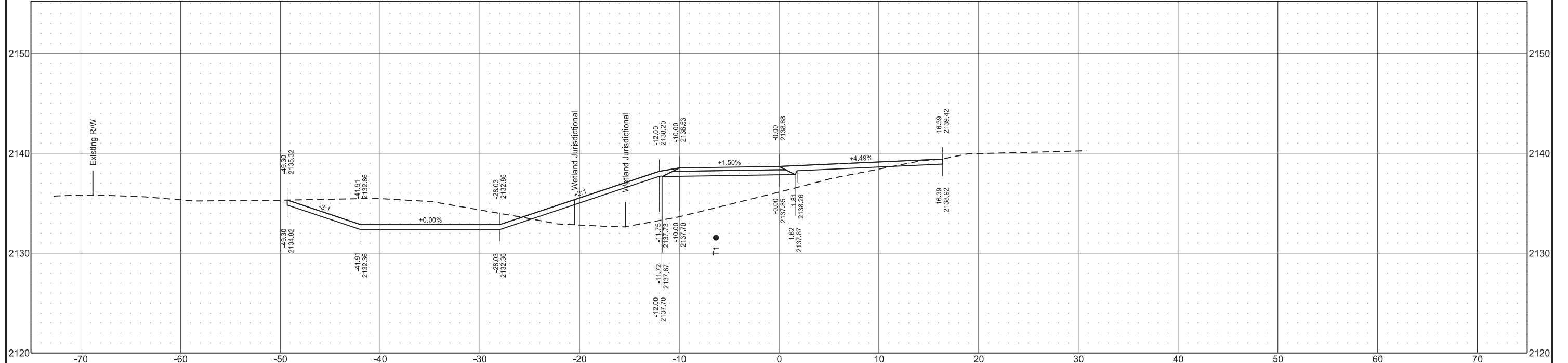


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	18

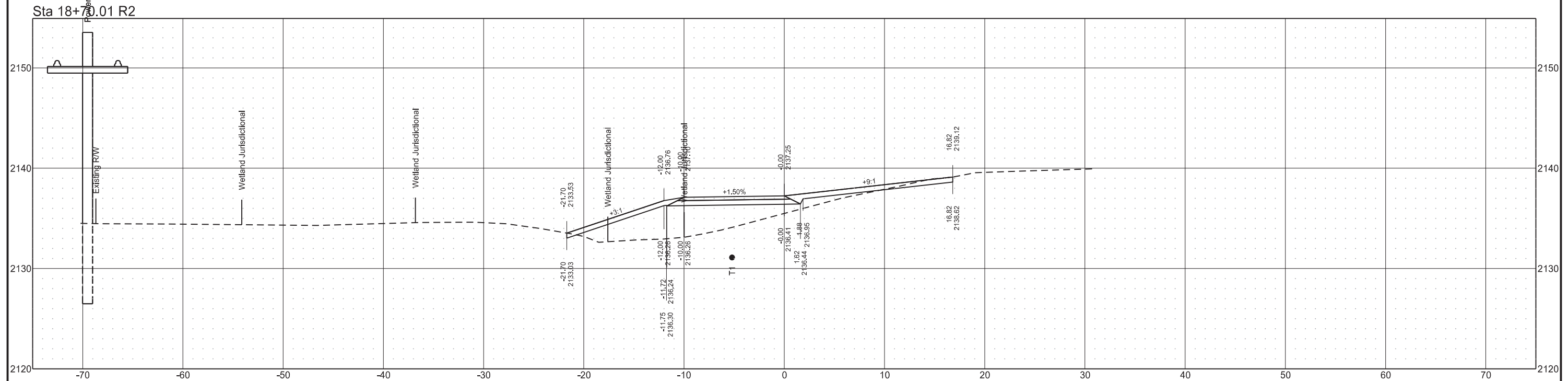
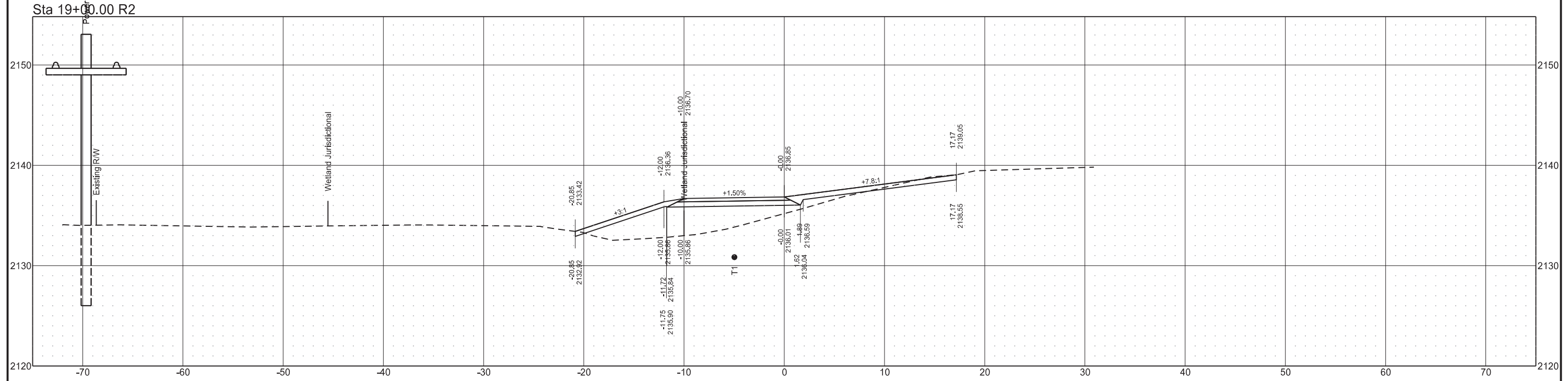
Sta 18+50.00 R2



Sta 18+00.00 R2

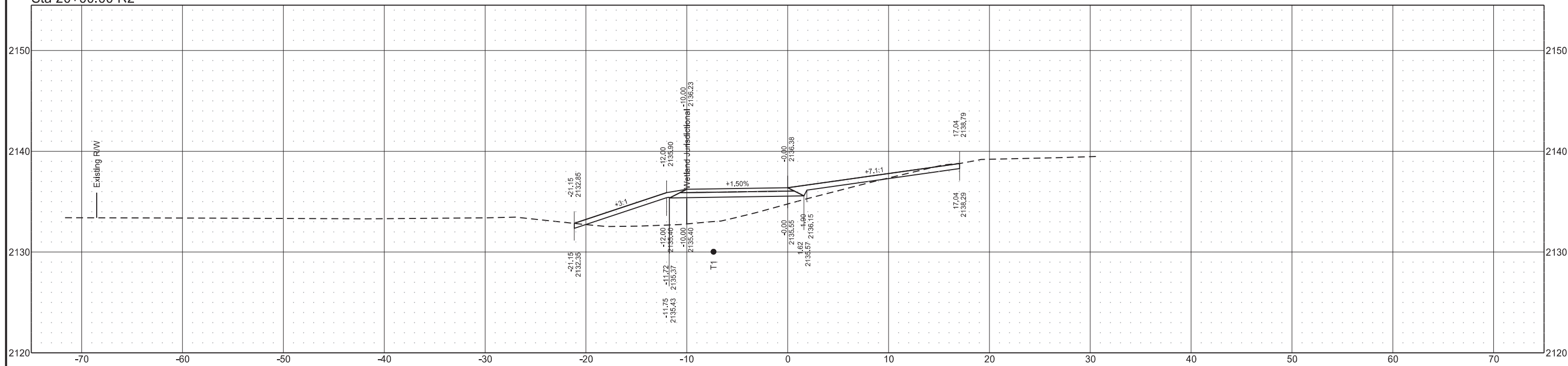


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	19

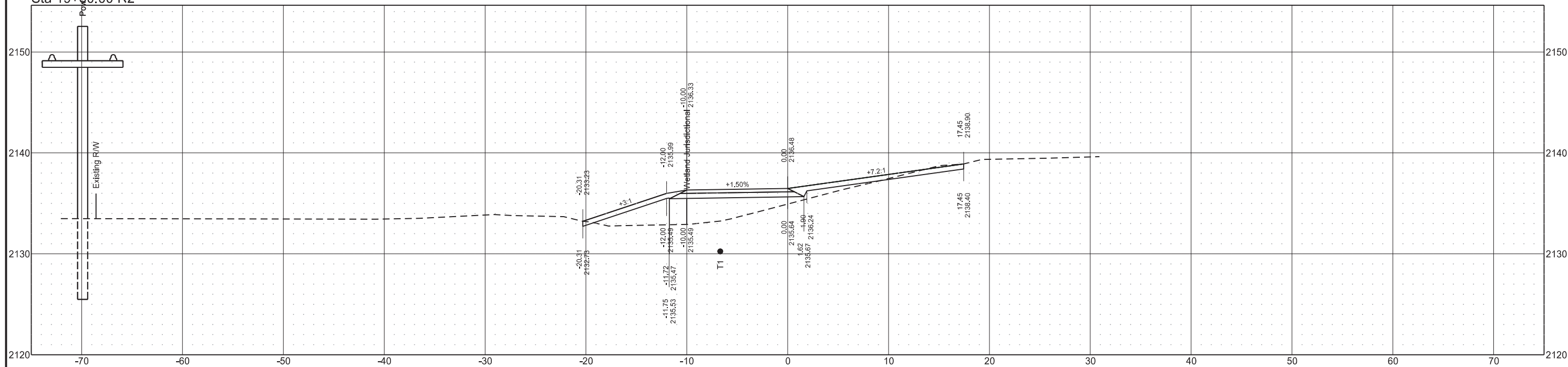


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	20

Sta 20+00.00 R2

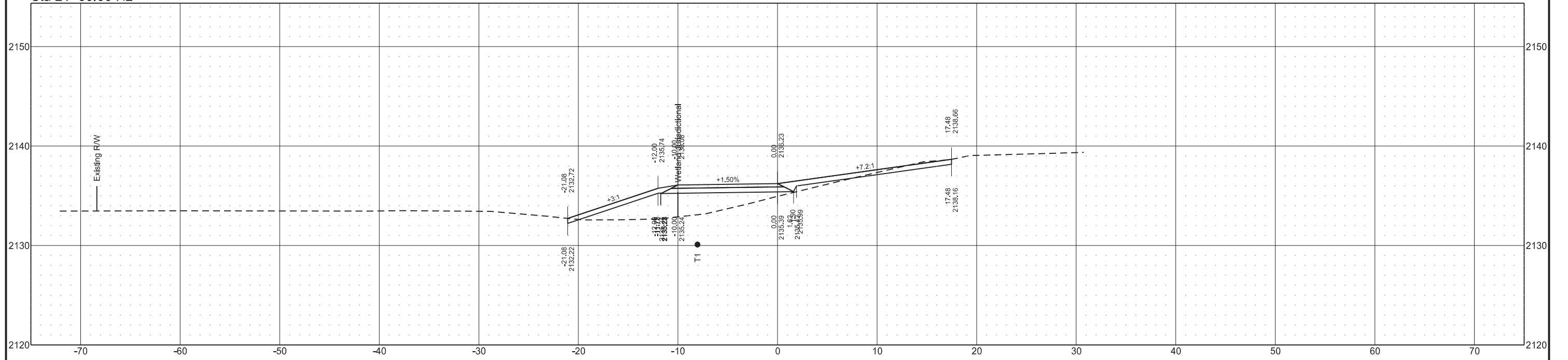


Sta 19+50.00 R2

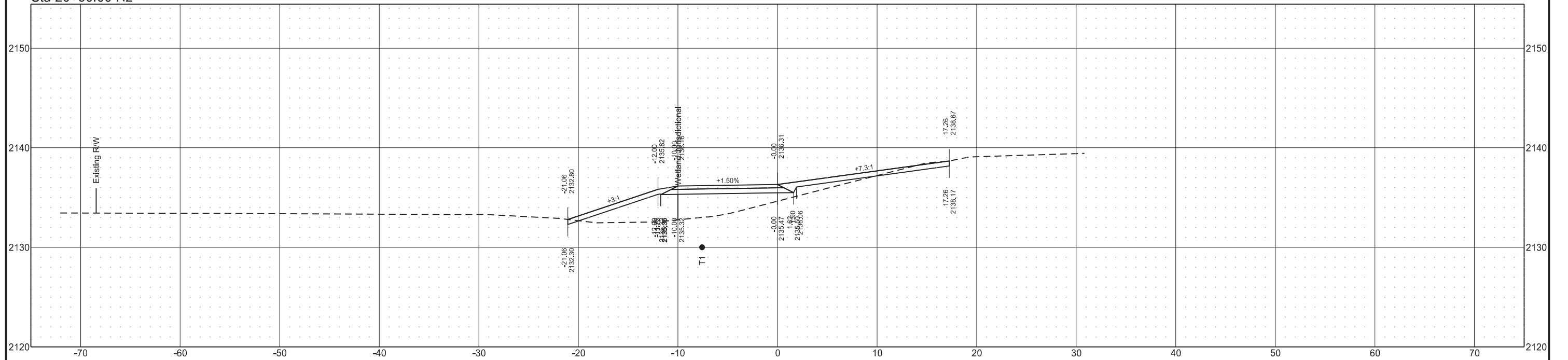


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	21

Sta 21+00.00 R2



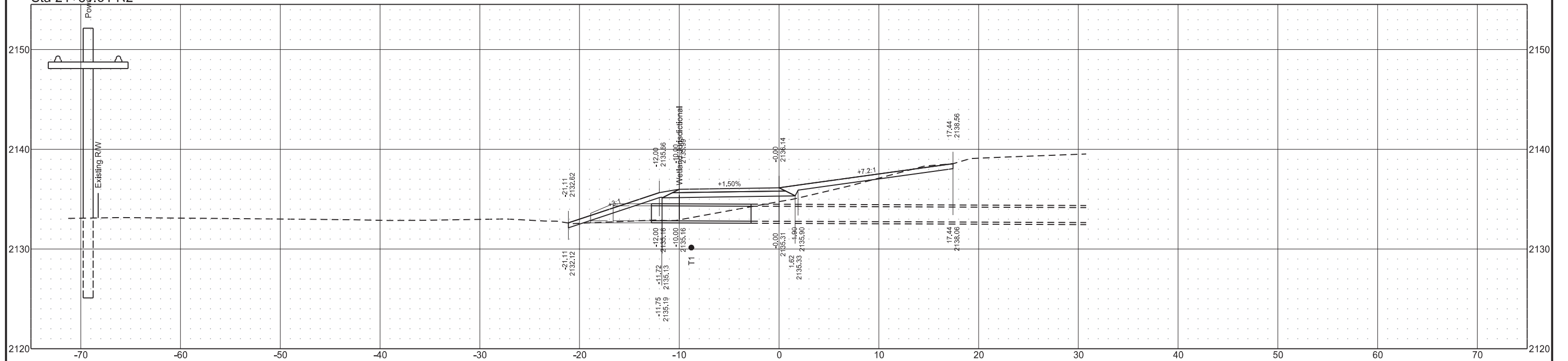
Sta 20+50.00 R2



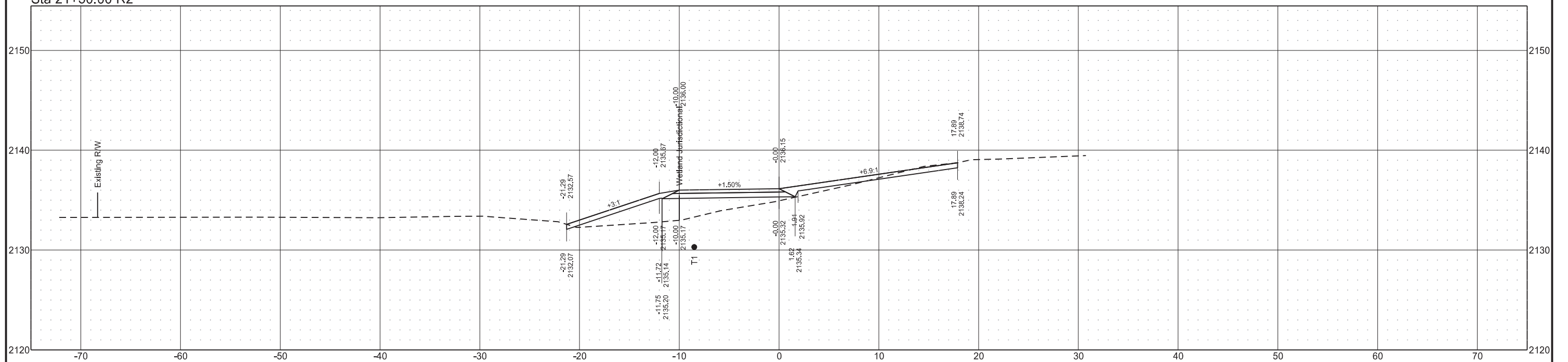
Title Block Line1
 Title Block Line2
 Title Block Line3

T1	D1	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
T2	D2	ND	project number	sec21+50.00	R2
T3	D3				
T4	D4				

Sta 21+84.51 R2

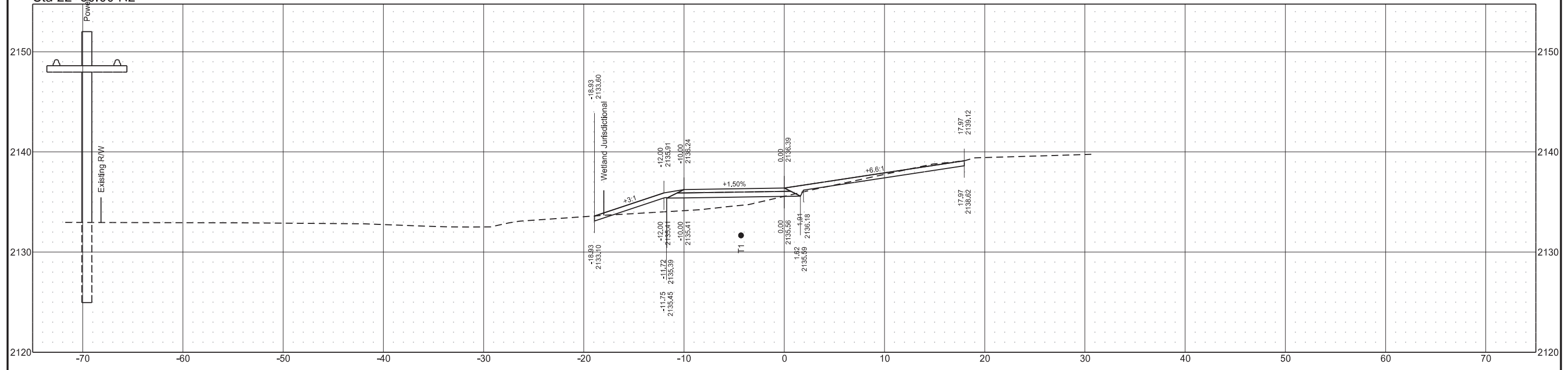


Sta 21+50.00 R2

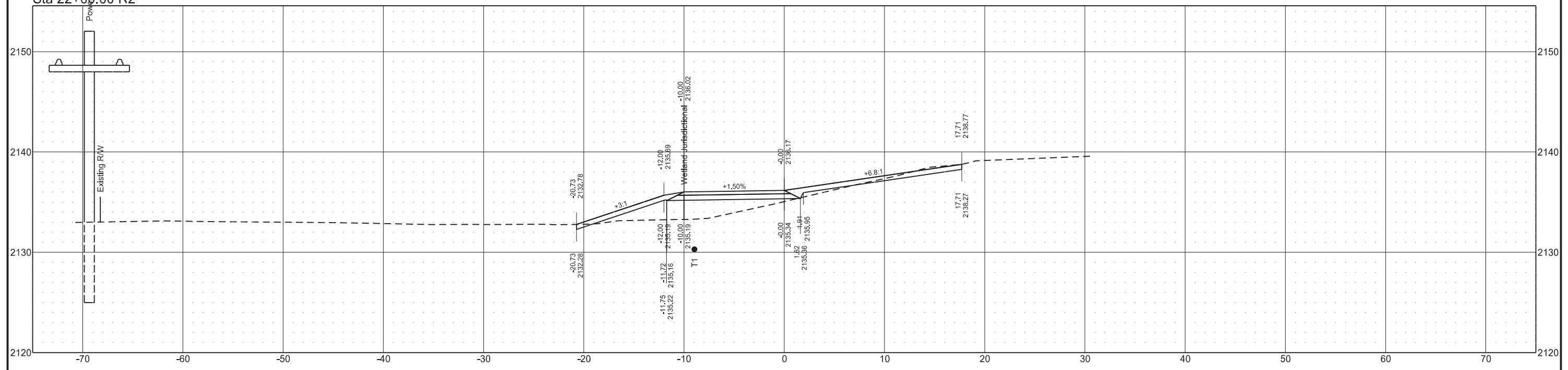


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	22

Sta 22+50.00 R2

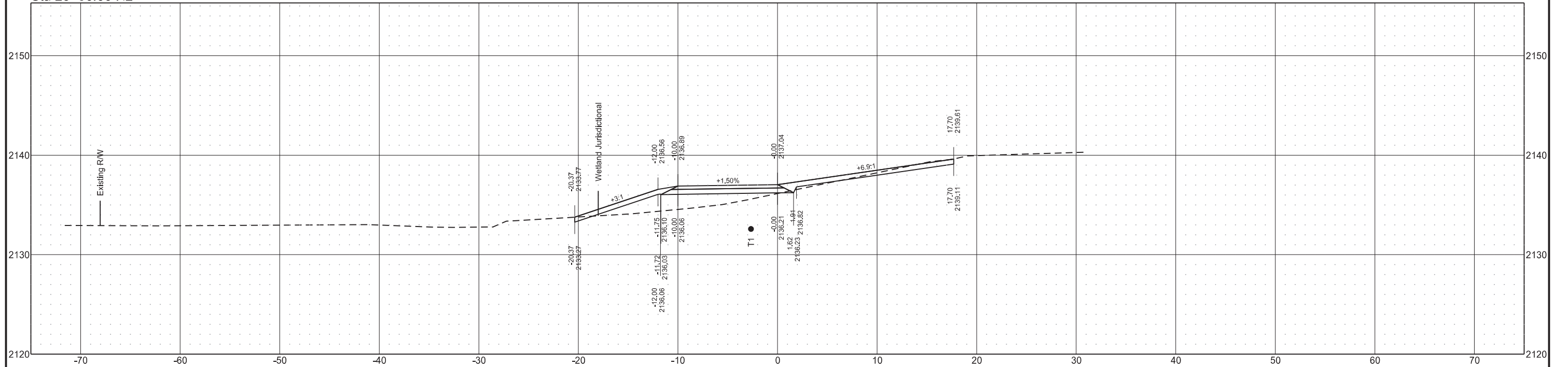


Sta 22+00.00 R2

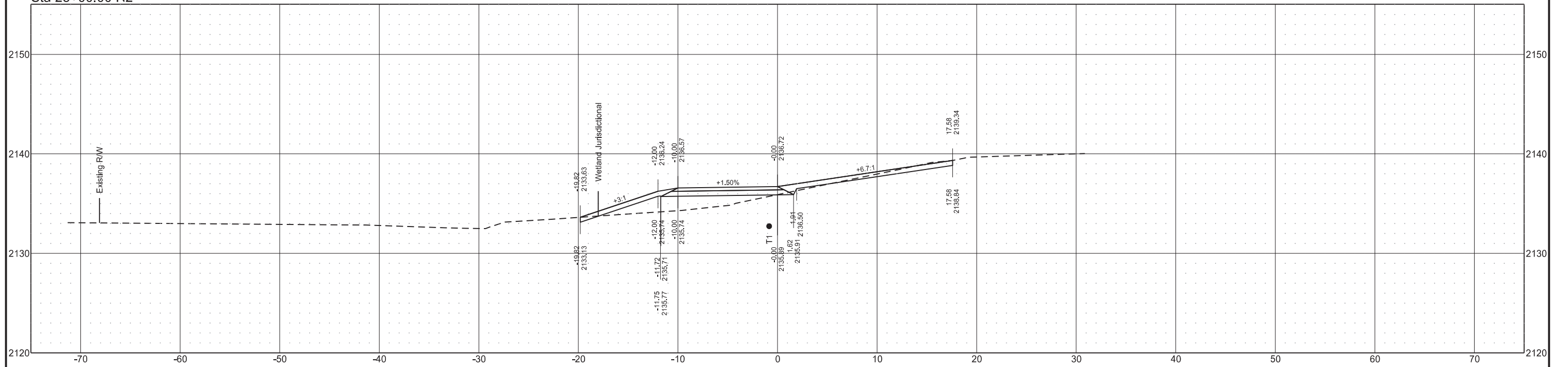


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	23

Sta 23+50.00 R2

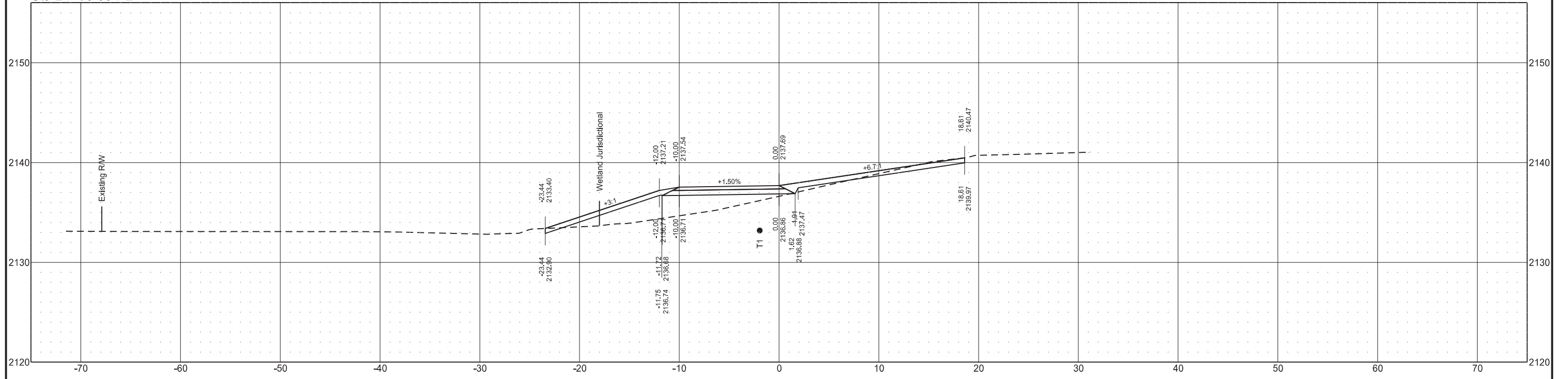


Sta 23+00.00 R2

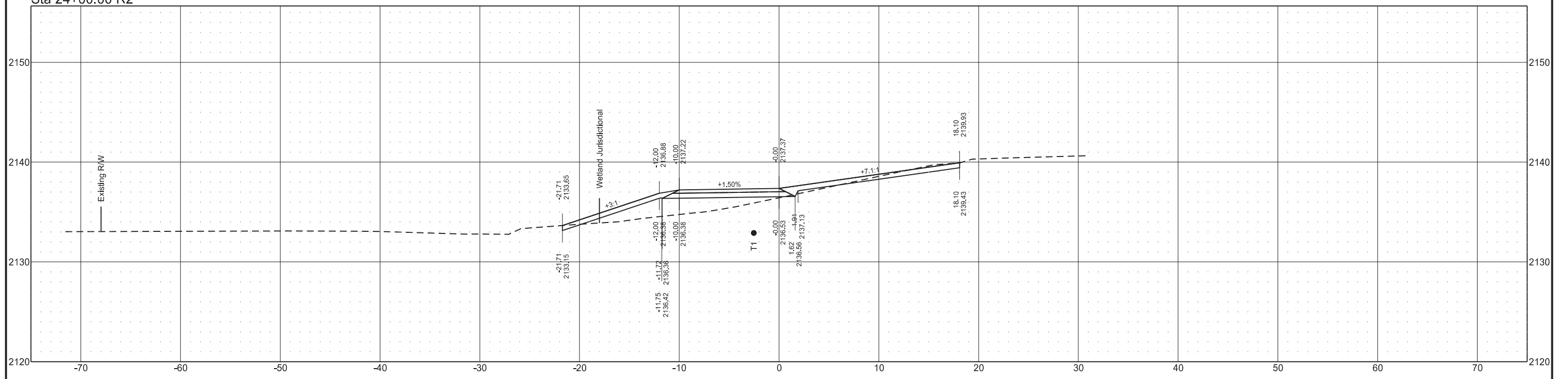


T1	D1	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
T2	D2	ND	SB-FTF-TAC-4-043(009)008	20024+0000	000 R2
T3	D3				
T4	D4				

Sta 24+50.00 R2

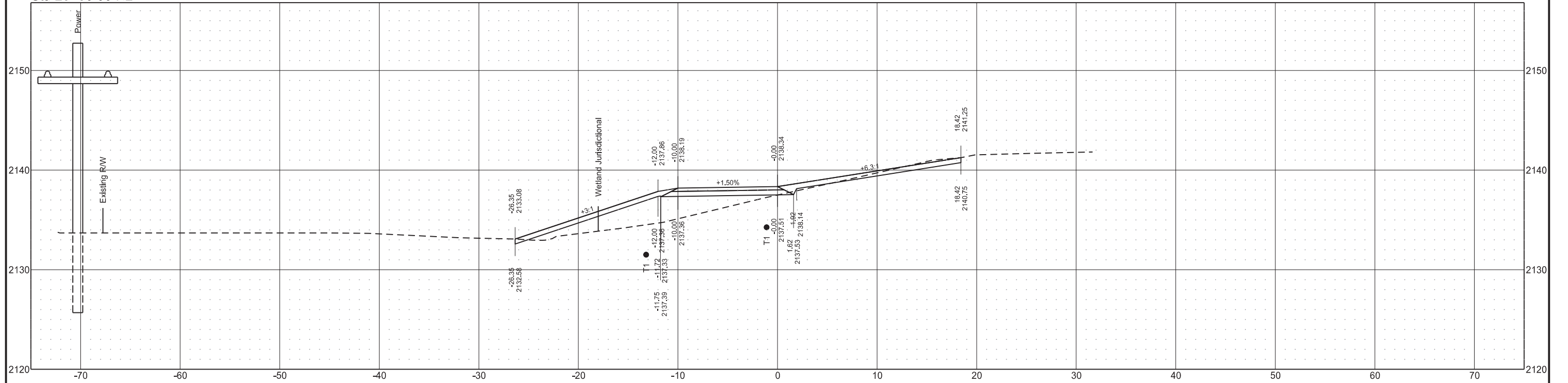


Sta 24+00.00 R2

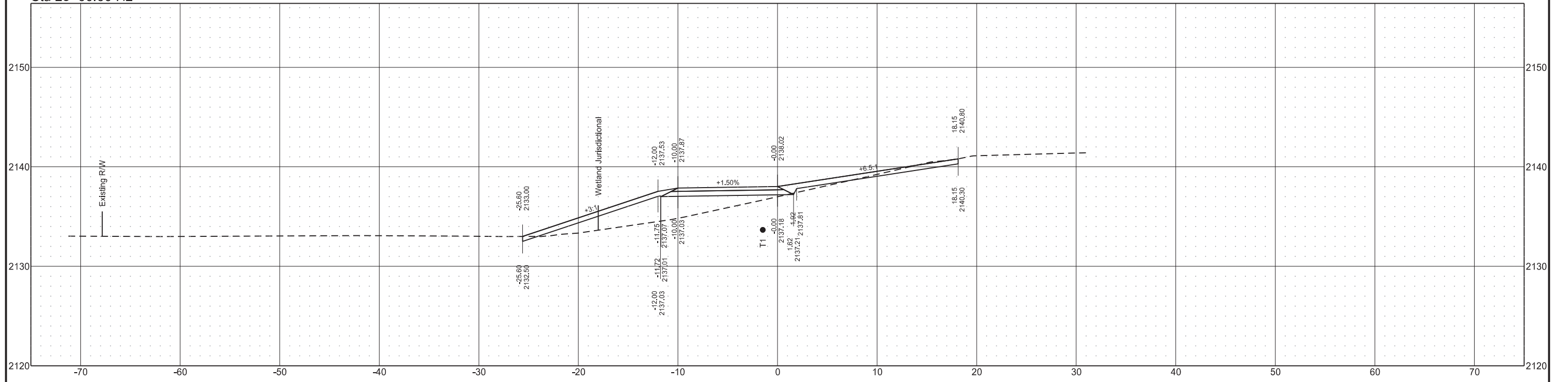


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	25

Sta 25+50.00 R2

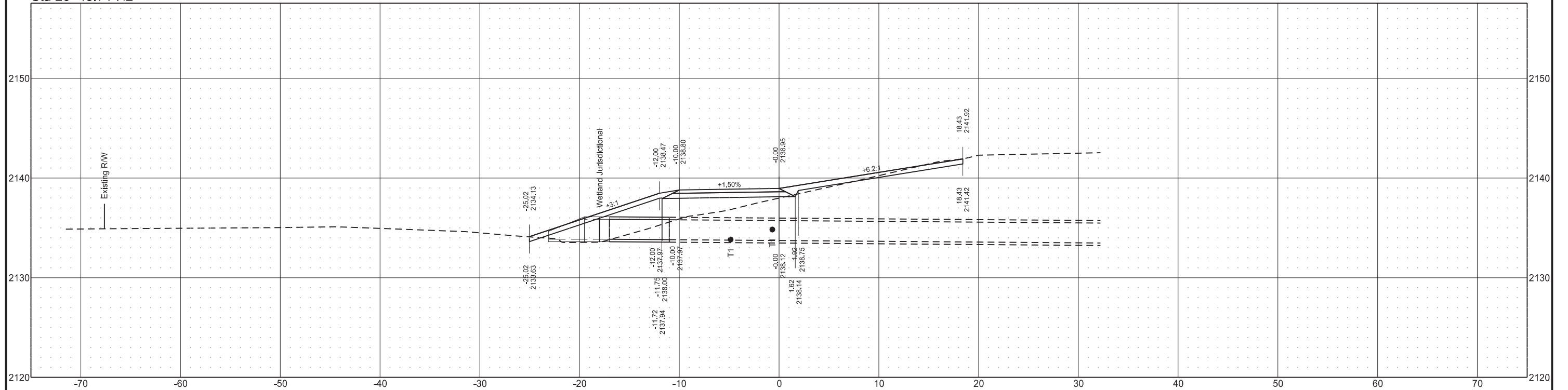


Sta 25+00.00 R2

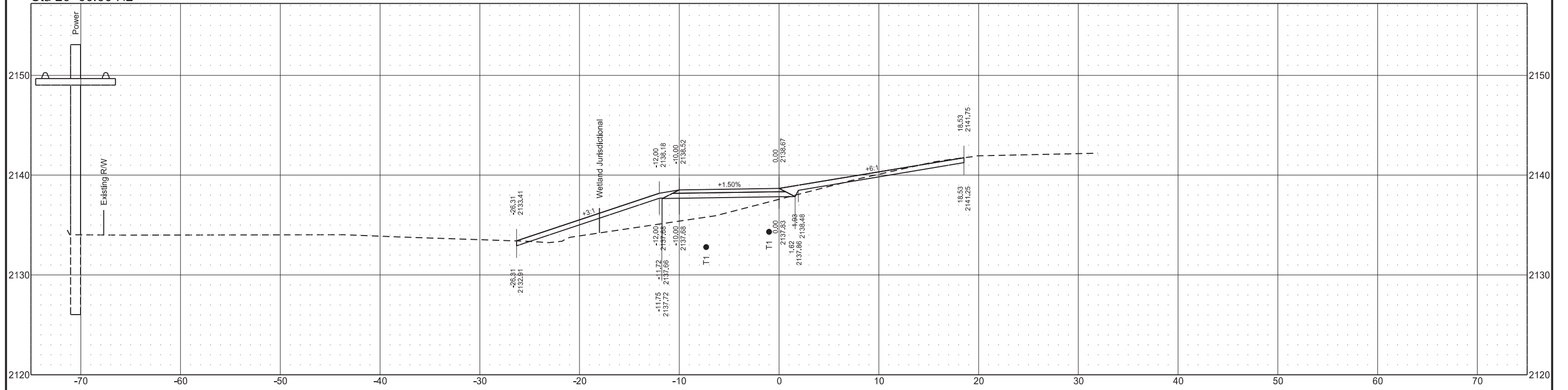


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	26

Sta 26+43.71 R2

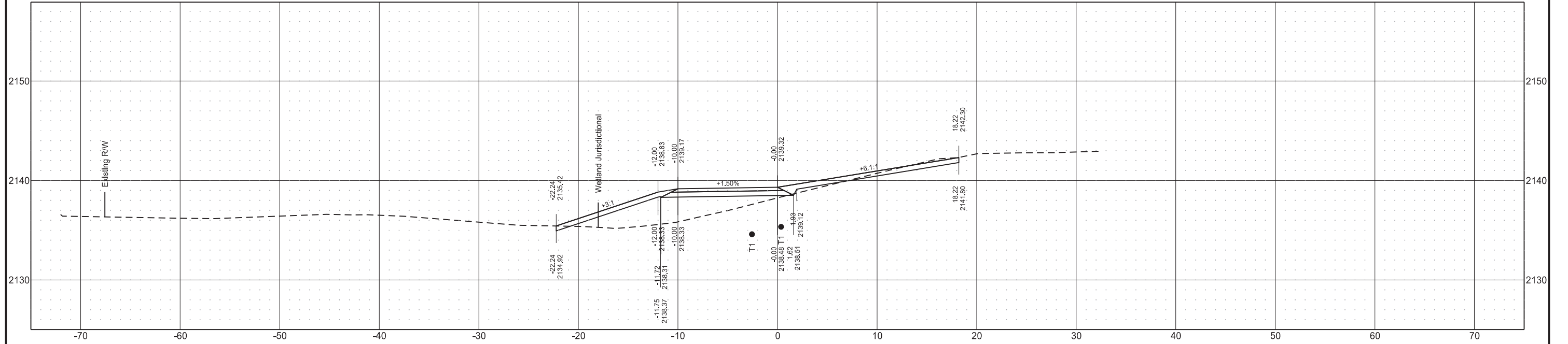


Sta 26+00.00 R2

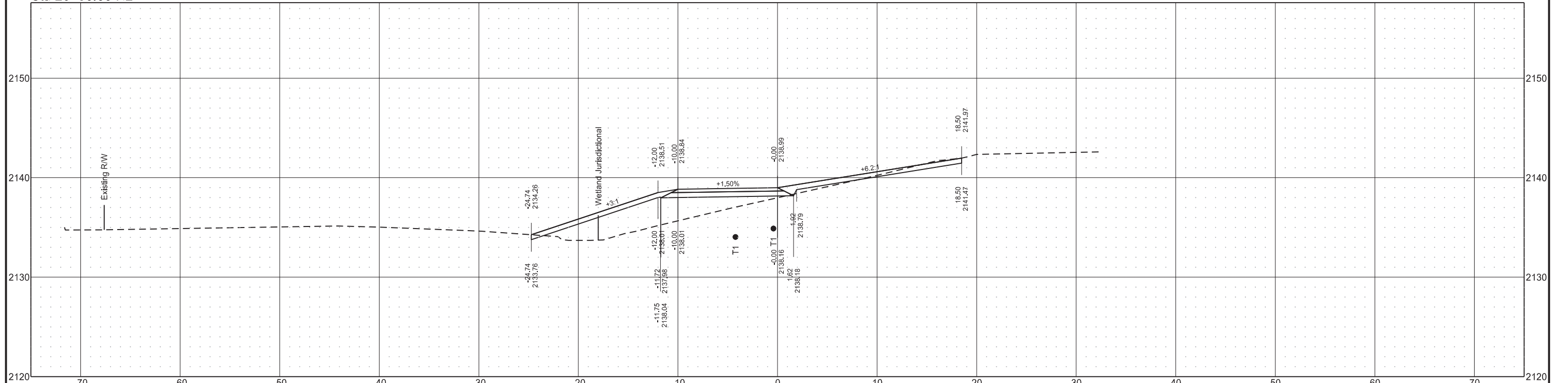


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	27

Sta 27+00.00 R2

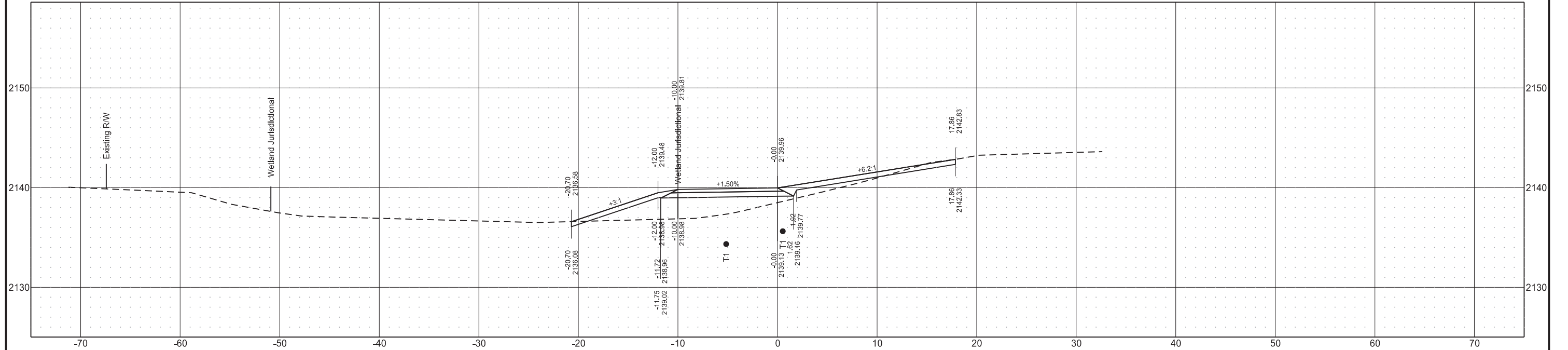


Sta 26+50.00 R2

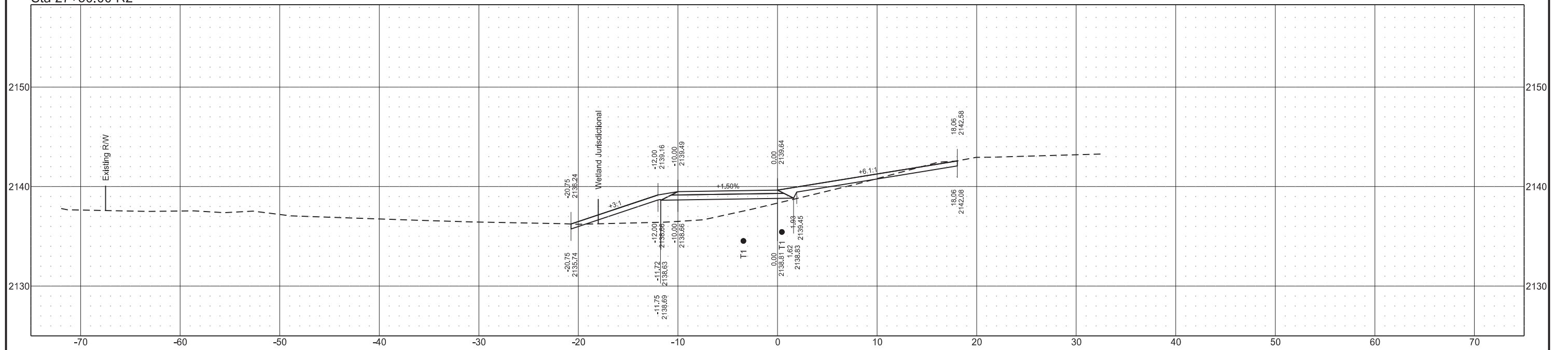


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	28

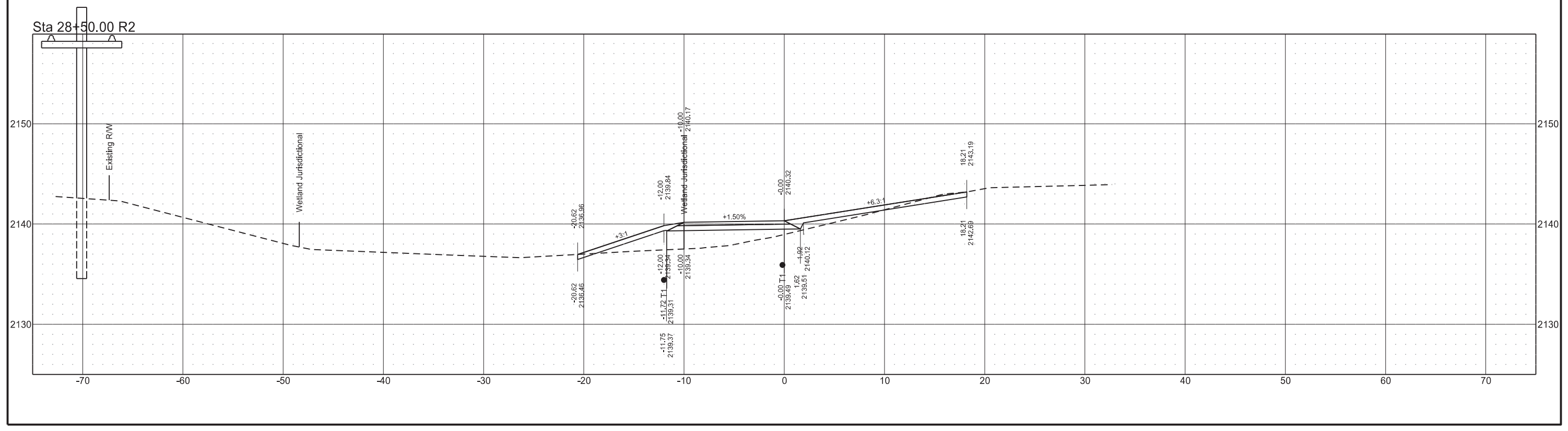
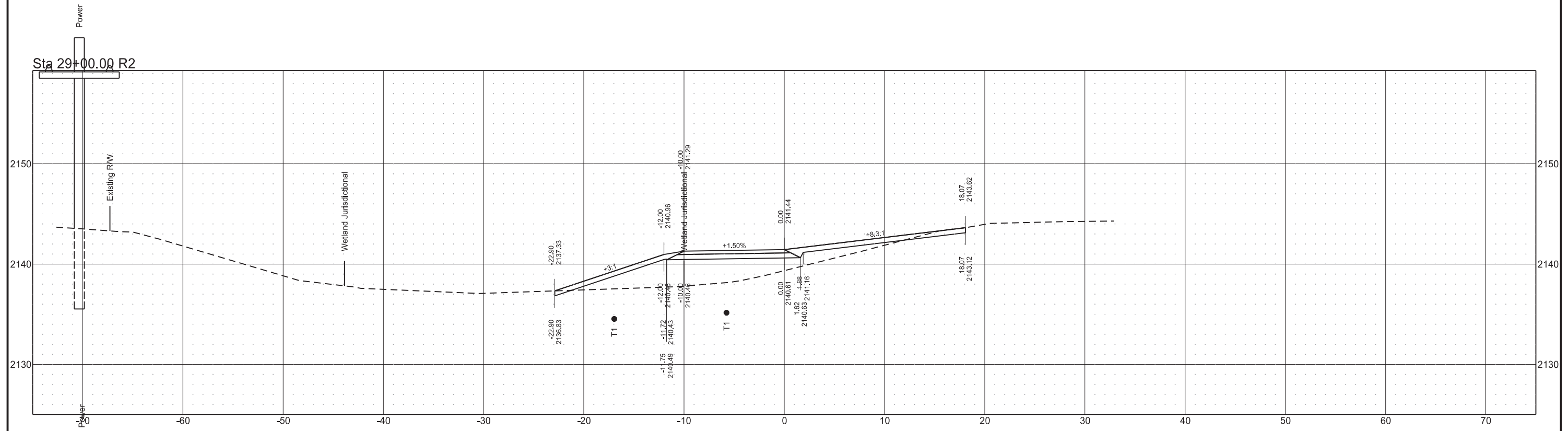
Sta 28+00.00 R2



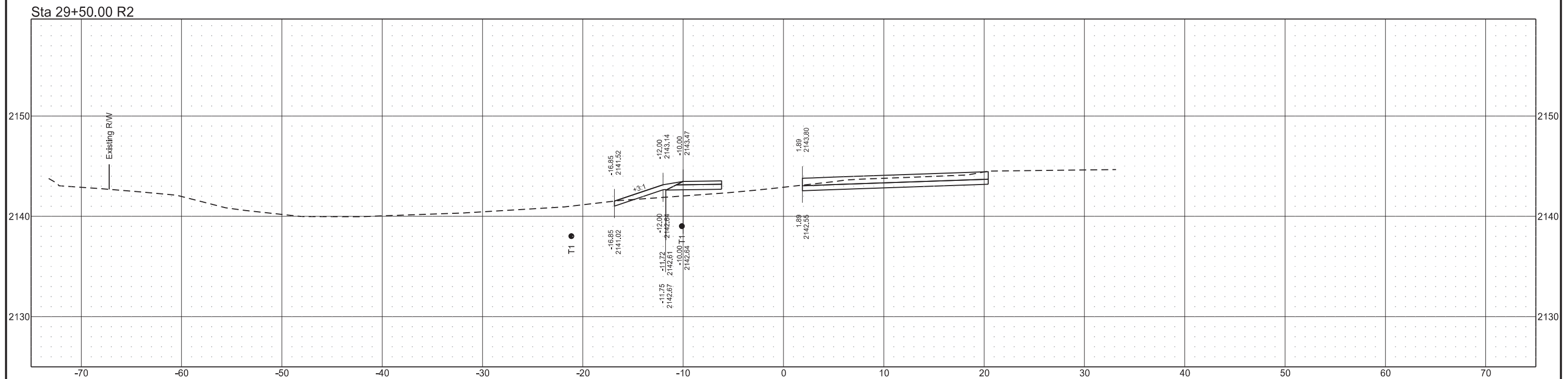
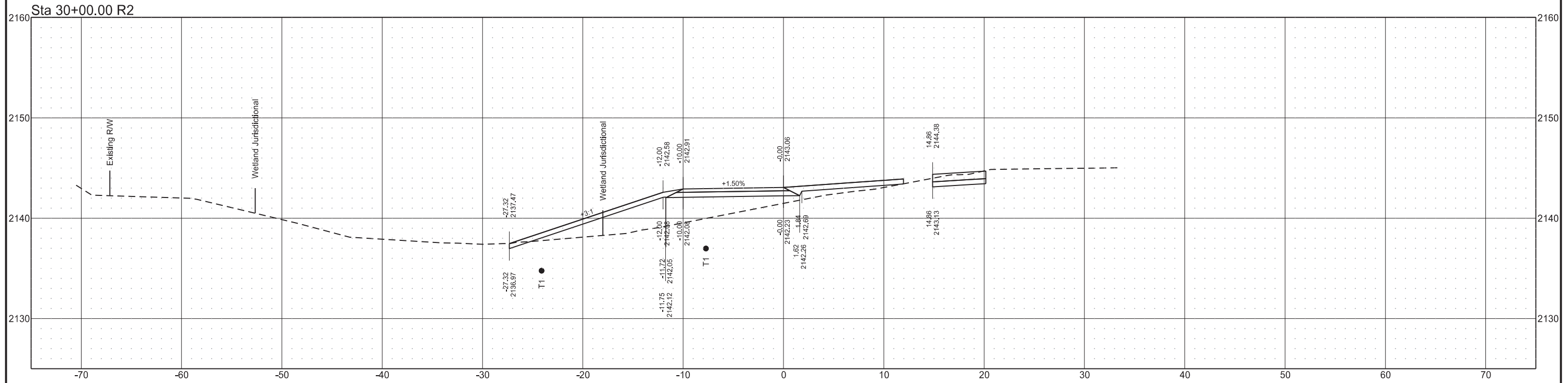
Sta 27+50.00 R2



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	29

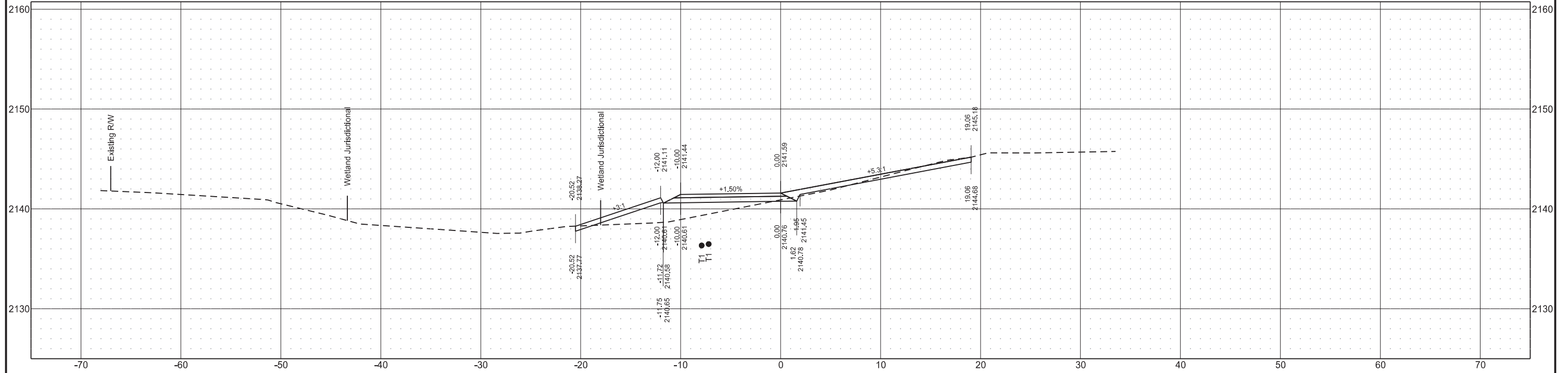


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	30

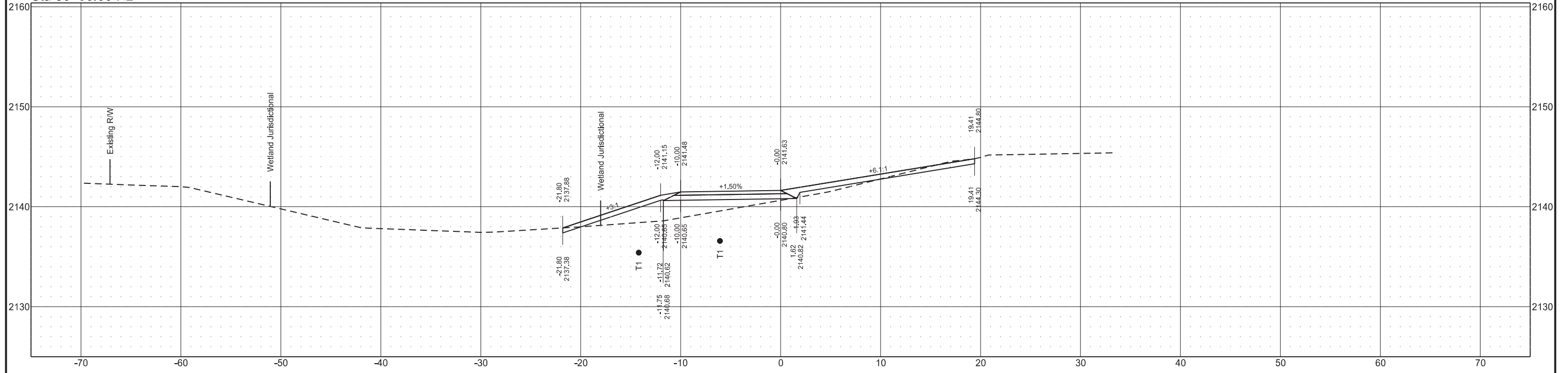


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	31

Sta 31+00.00 R2

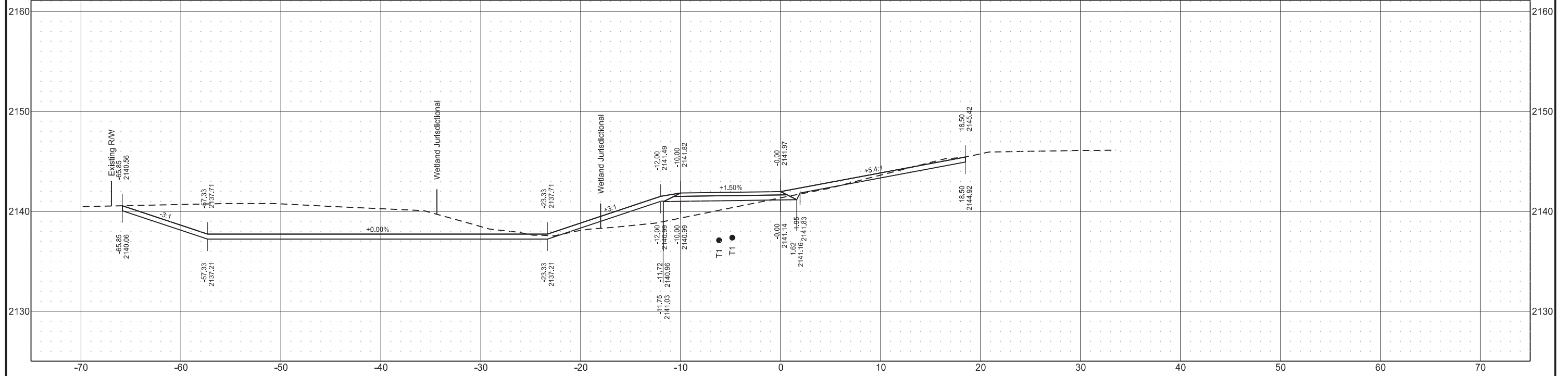


Sta 30+50.00 R2

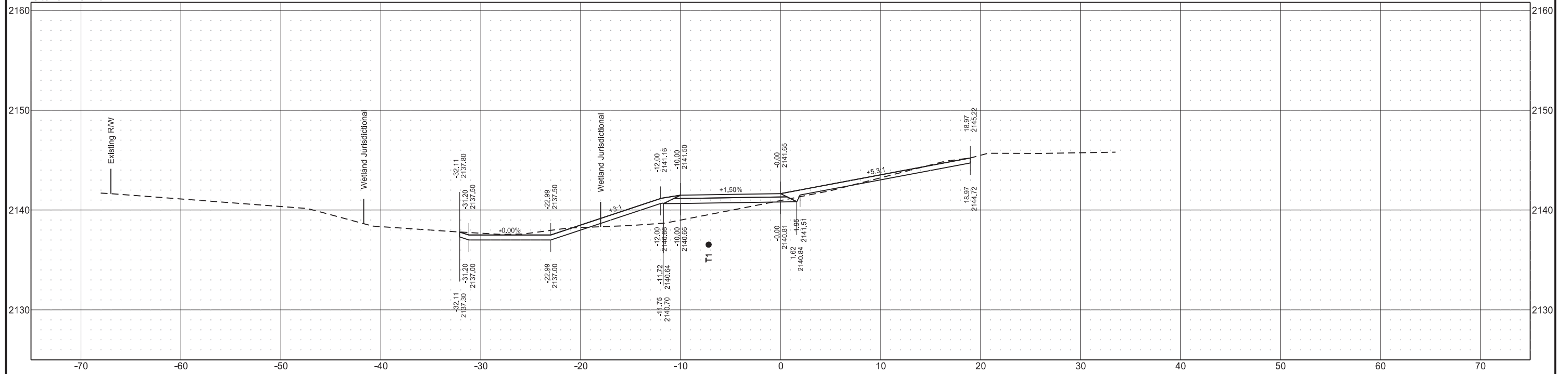


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	32

Sta 31+50.00 R2

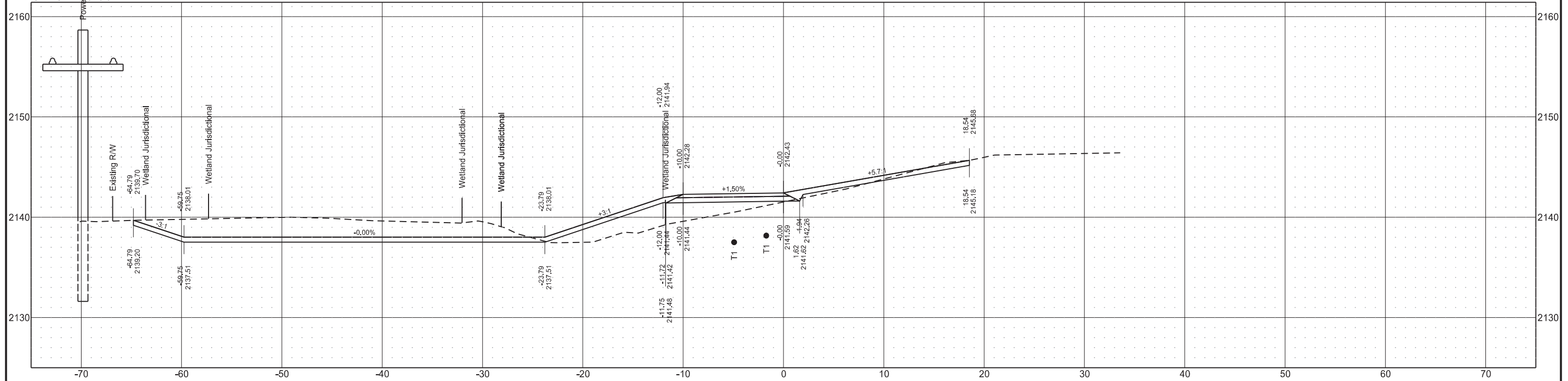


Sta 31+07.01 R2

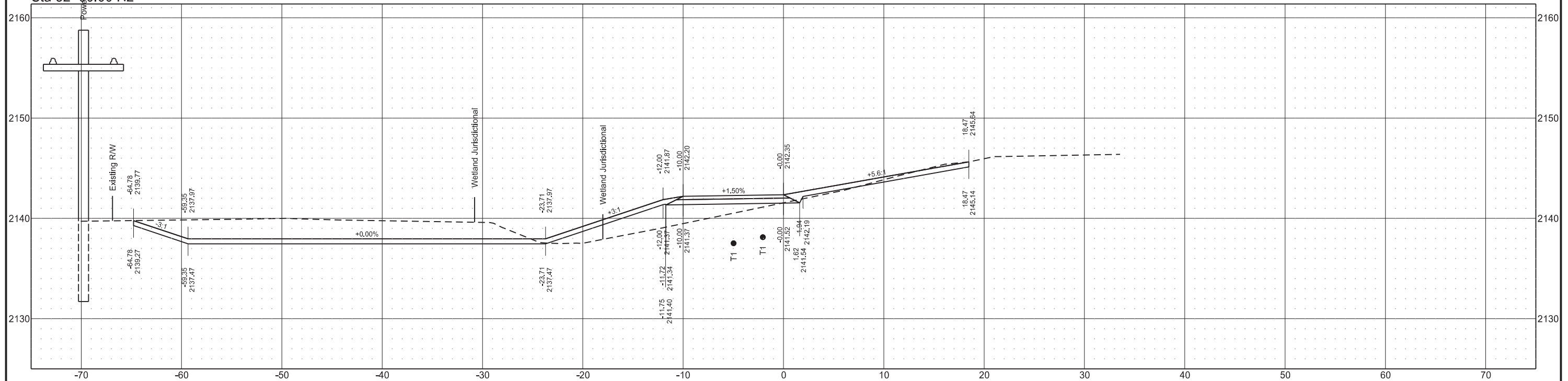


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	33

Sta 32+09.99 R2

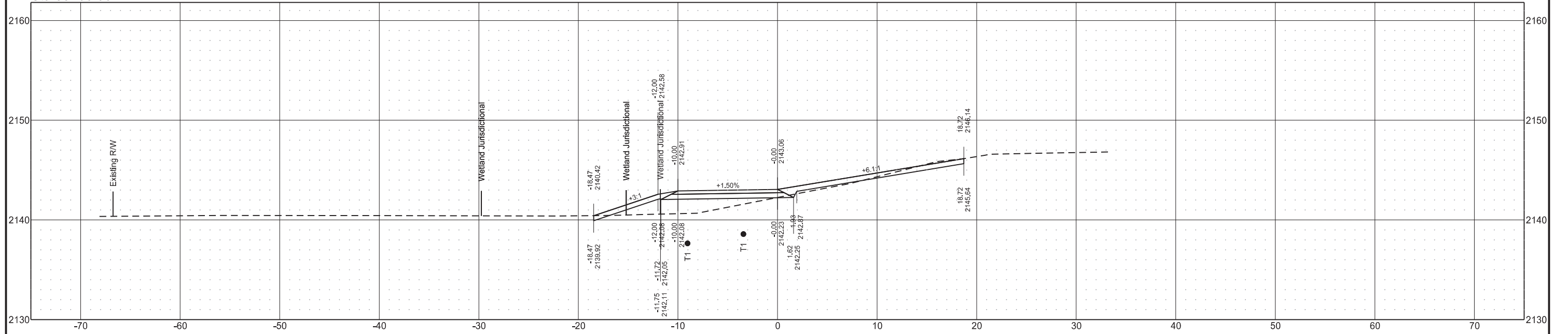


Sta 32+00.00 R2

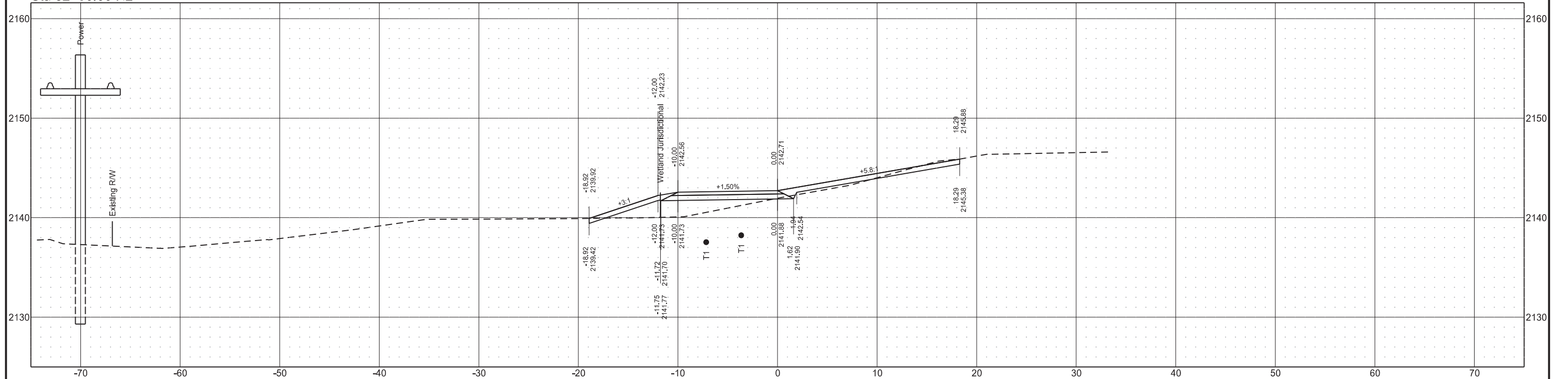


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	34

Sta 33+00.00 R2

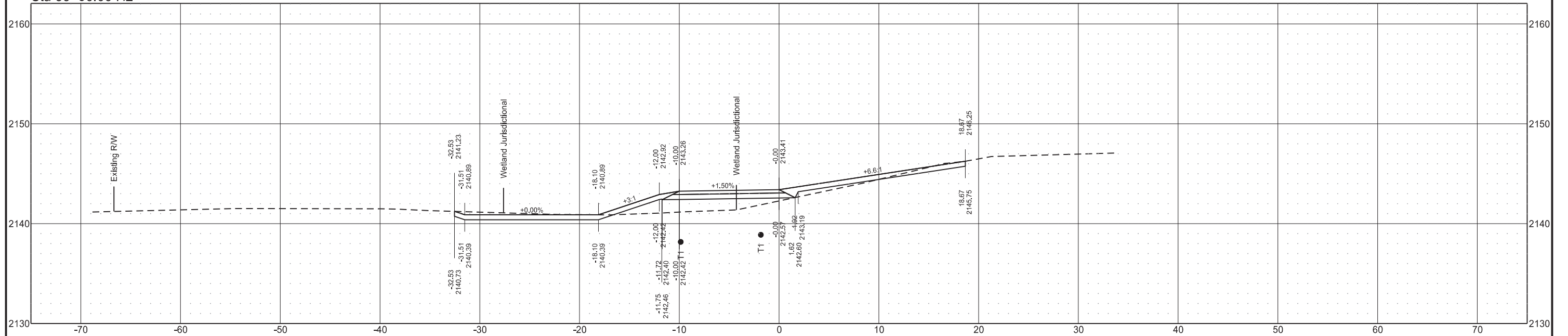


Sta 32+50.00 R2

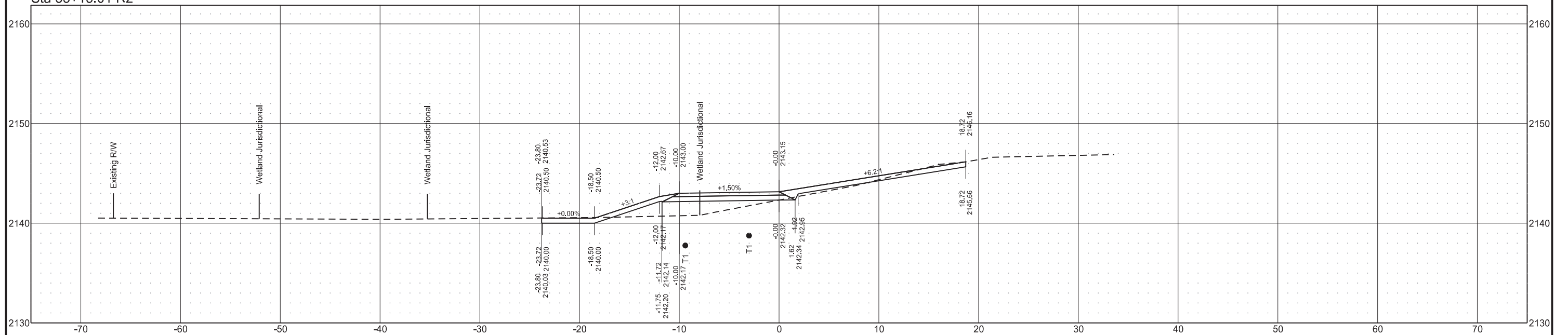


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	35

Sta 33+50.00 R2

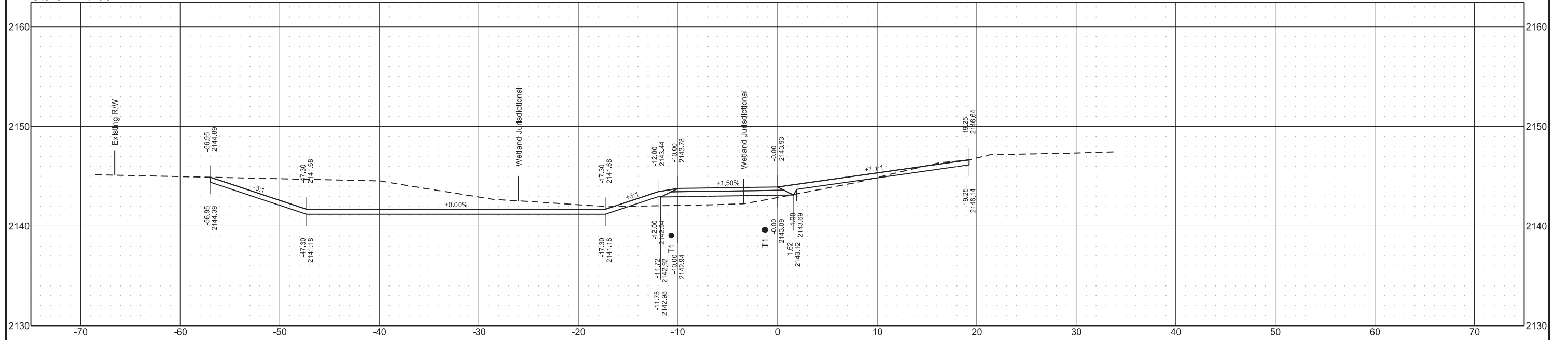


Sta 33+13.01 R2

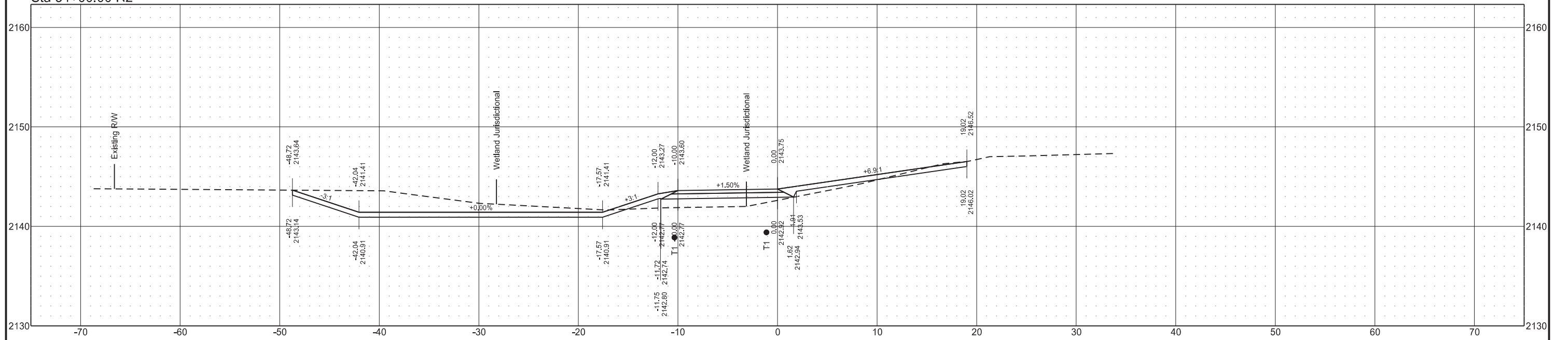


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	36

Sta 34+25.00 R2

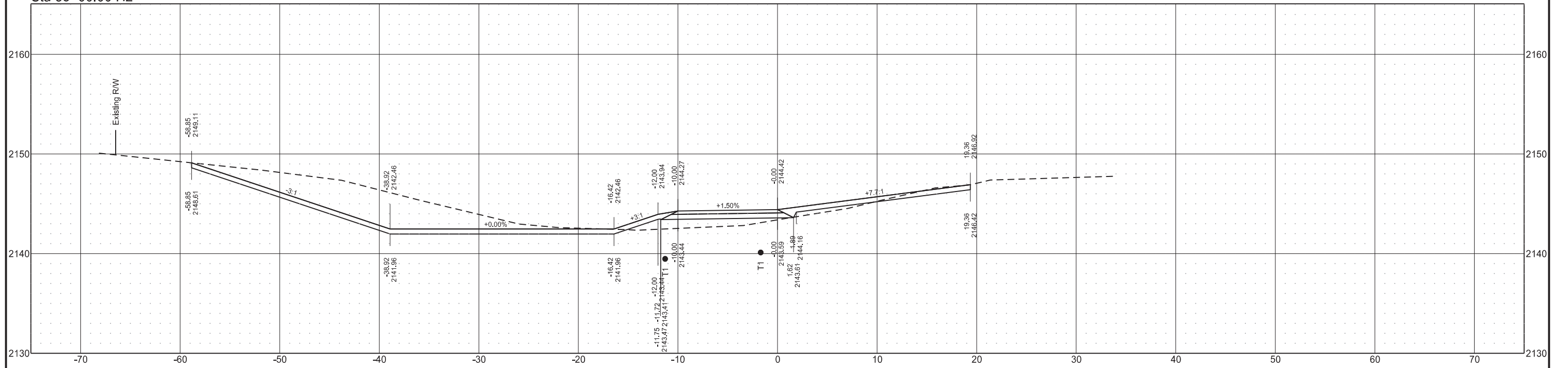


Sta 34+00.00 R2

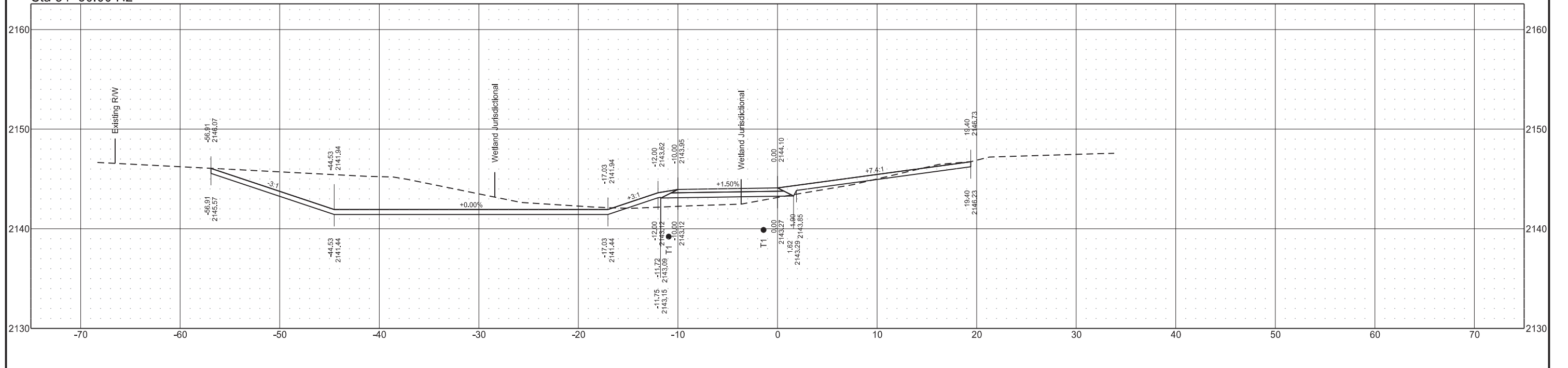


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	37

Sta 35+00.00 R2

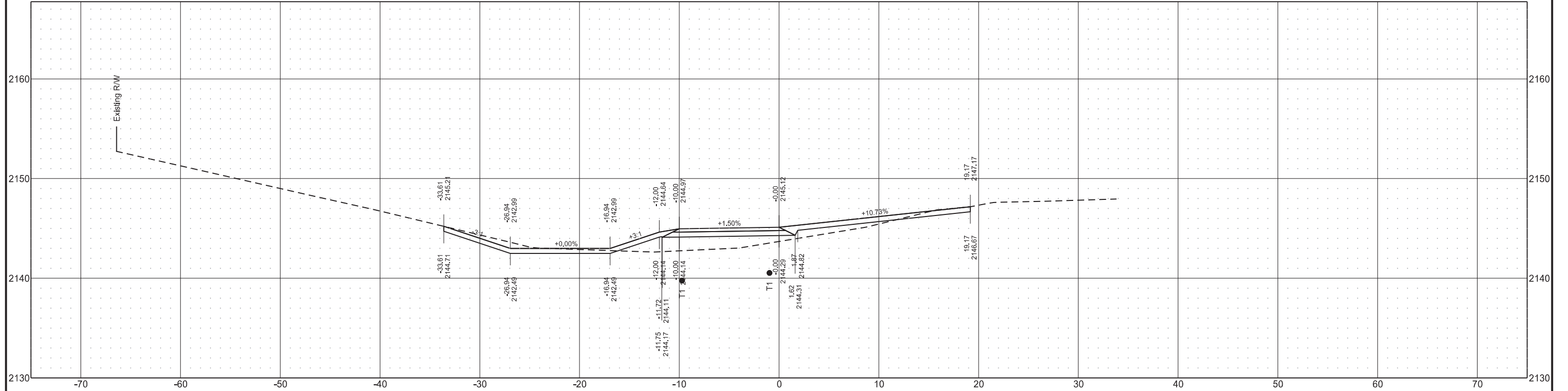


Sta 34+50.00 R2

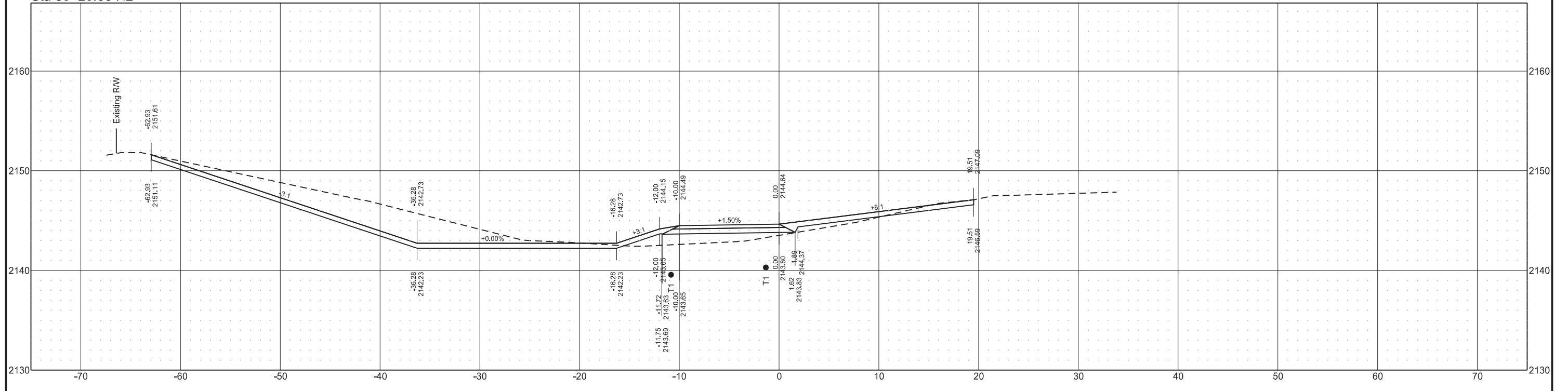


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	38

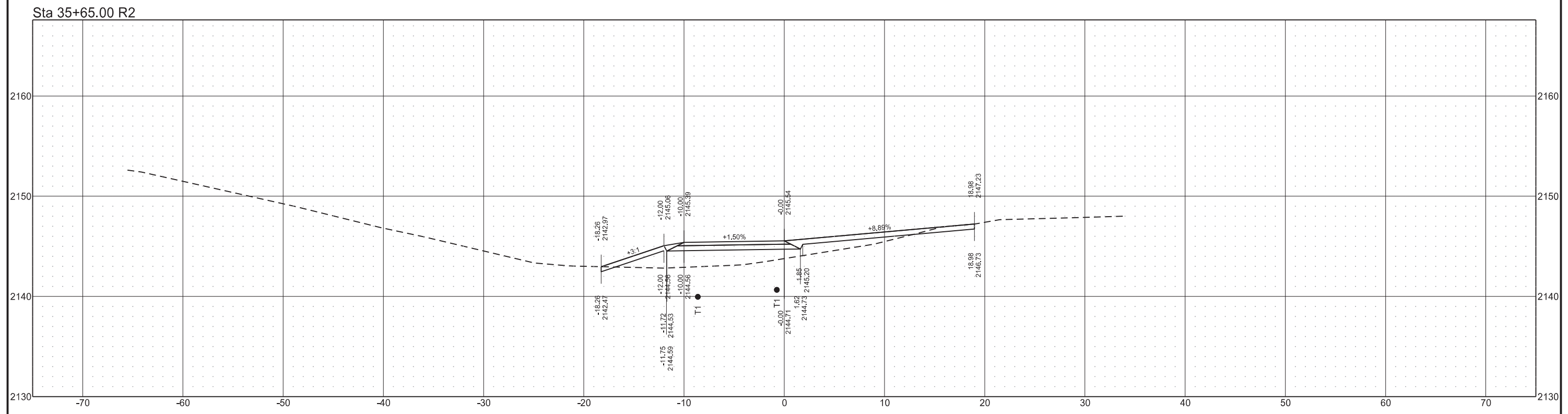
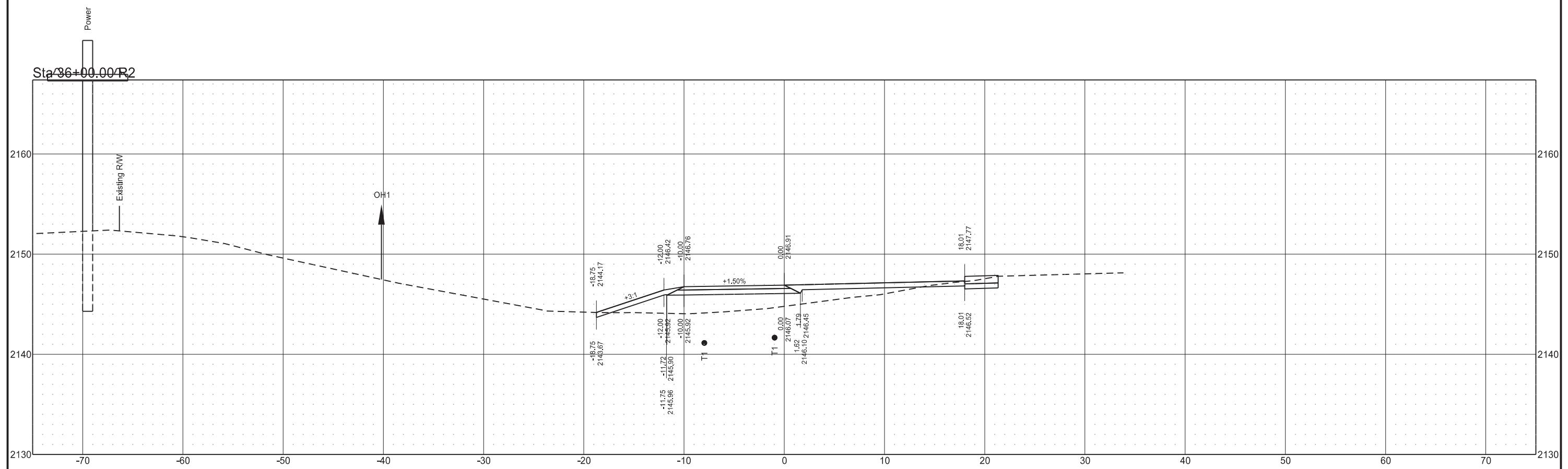
Sta 35+50.00 R2



Sta 35+25.00 R2

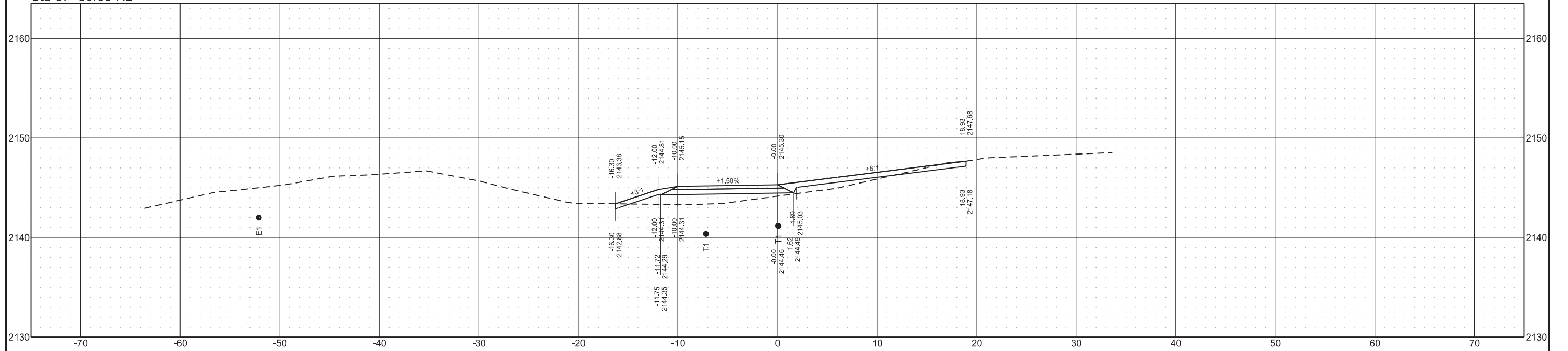


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	39

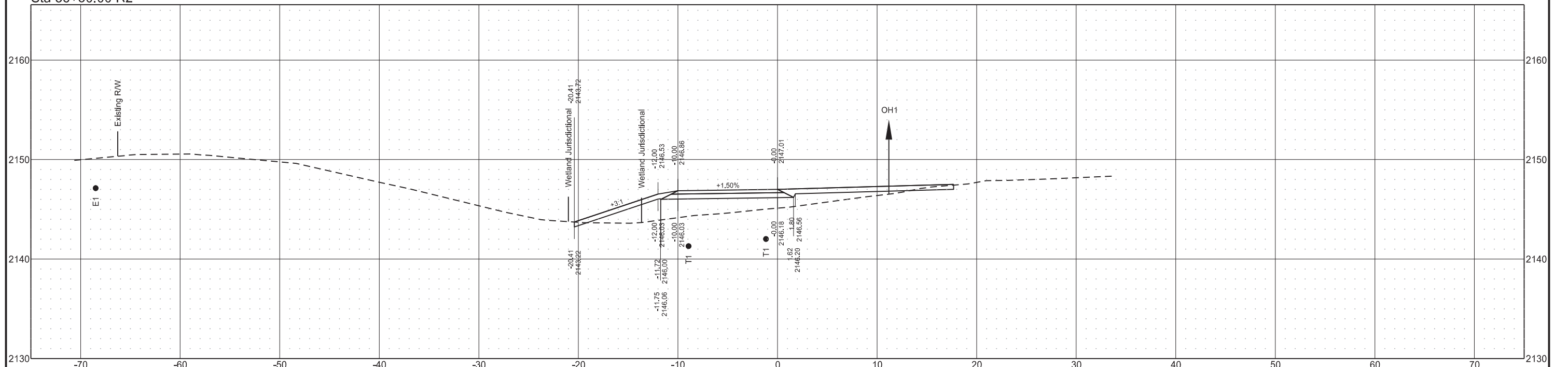


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	40

Sta 37+00.00 R2

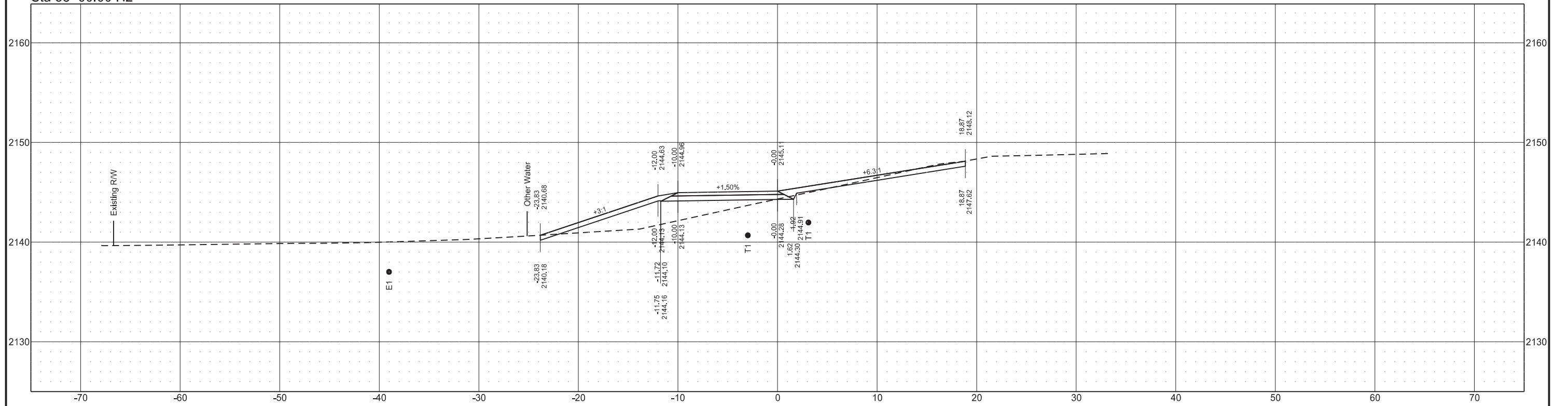


Sta 36+50.00 R2

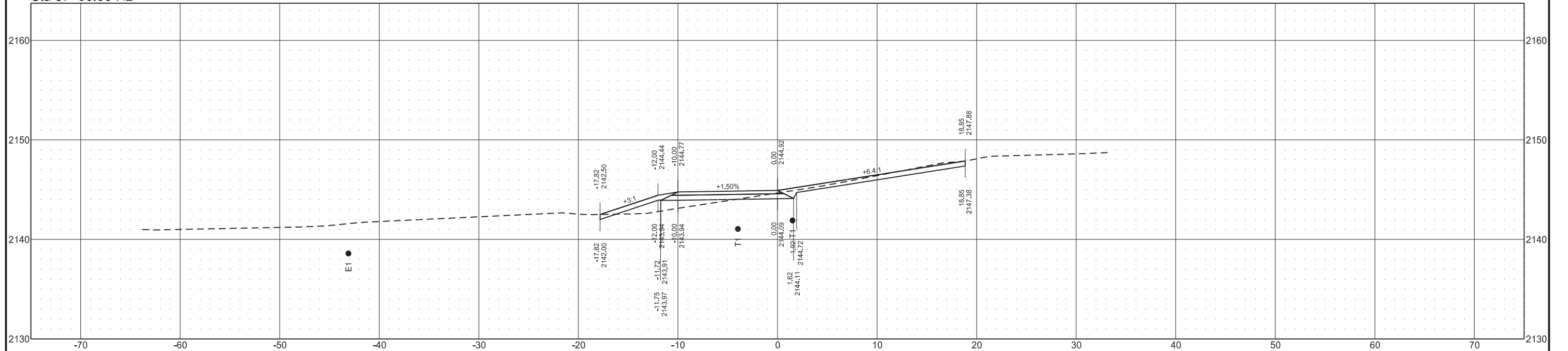


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	41

Sta 38+00.00 R2

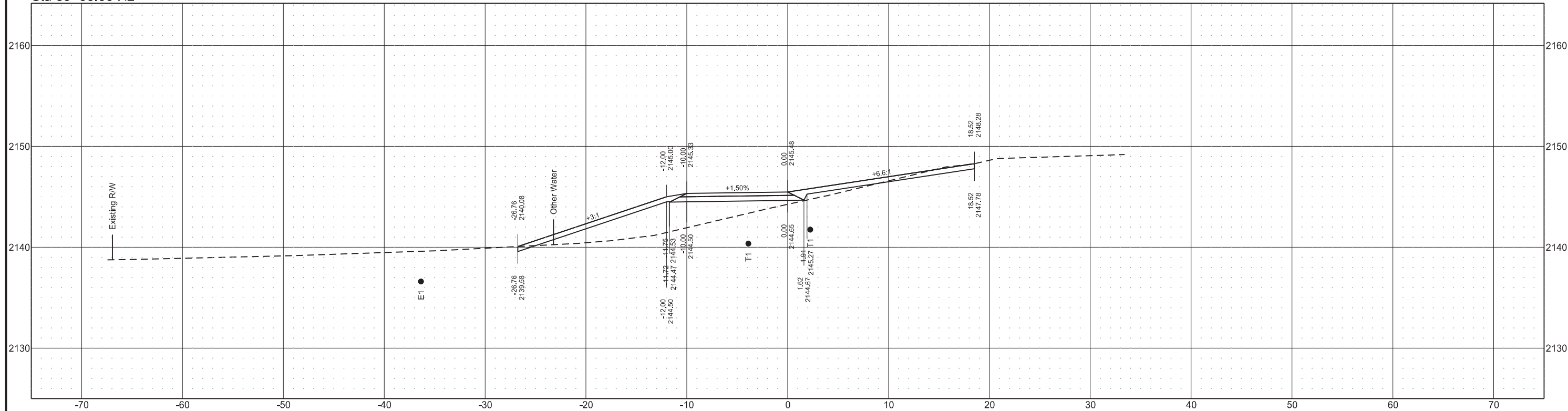


Sta 37+50.00 R2

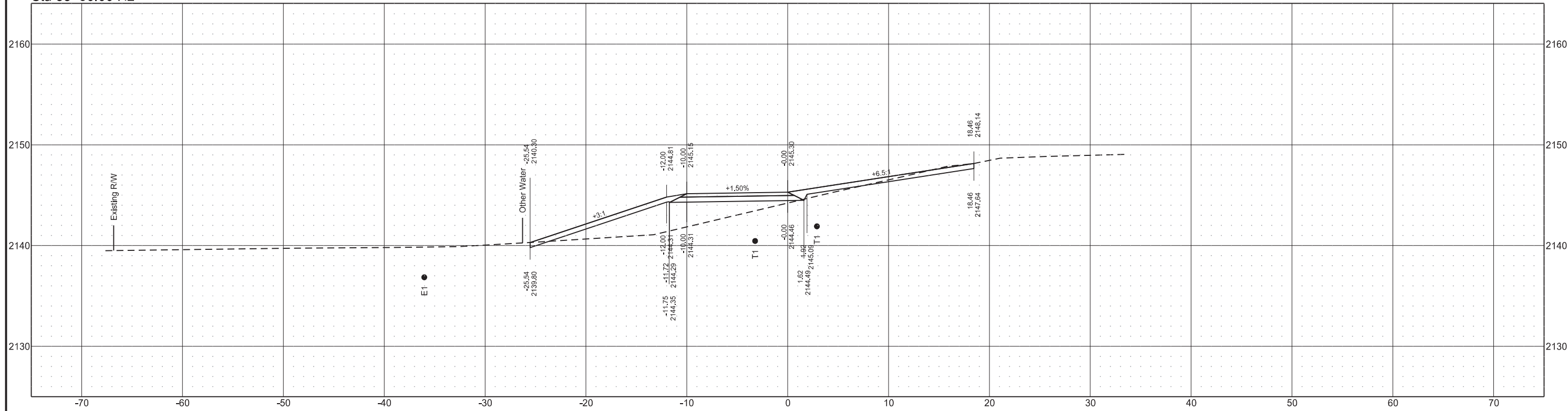


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	42

Sta 39+00.00 R2

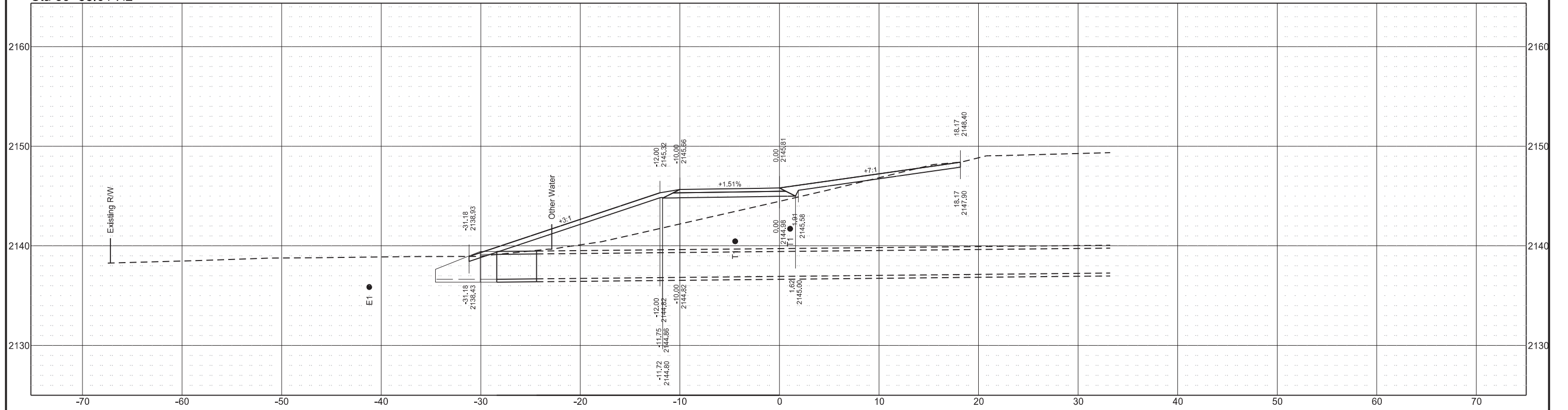


Sta 38+50.00 R2

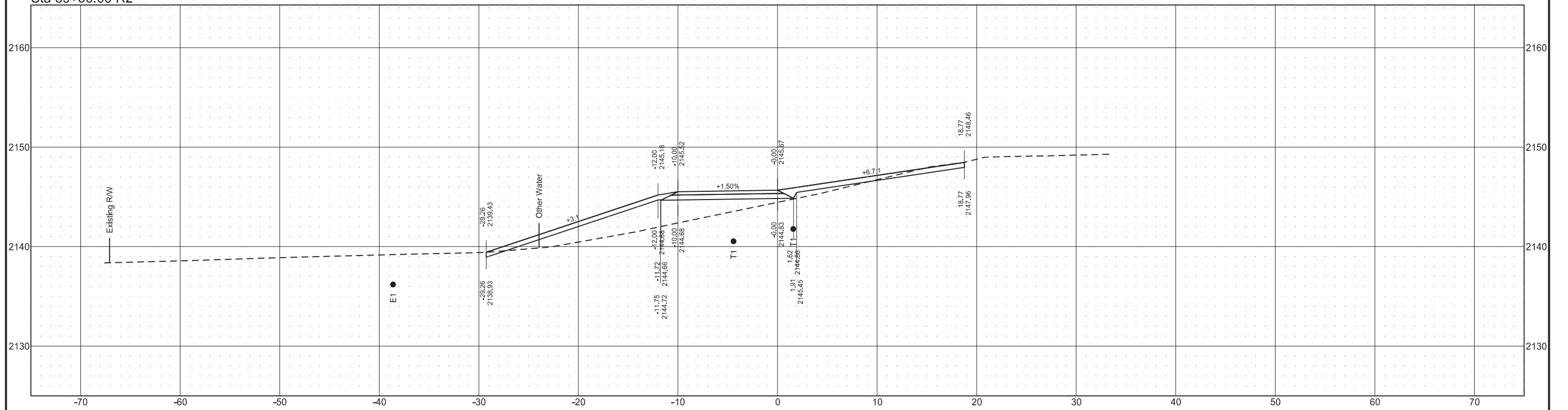


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	43

Sta 39+88.01 R2

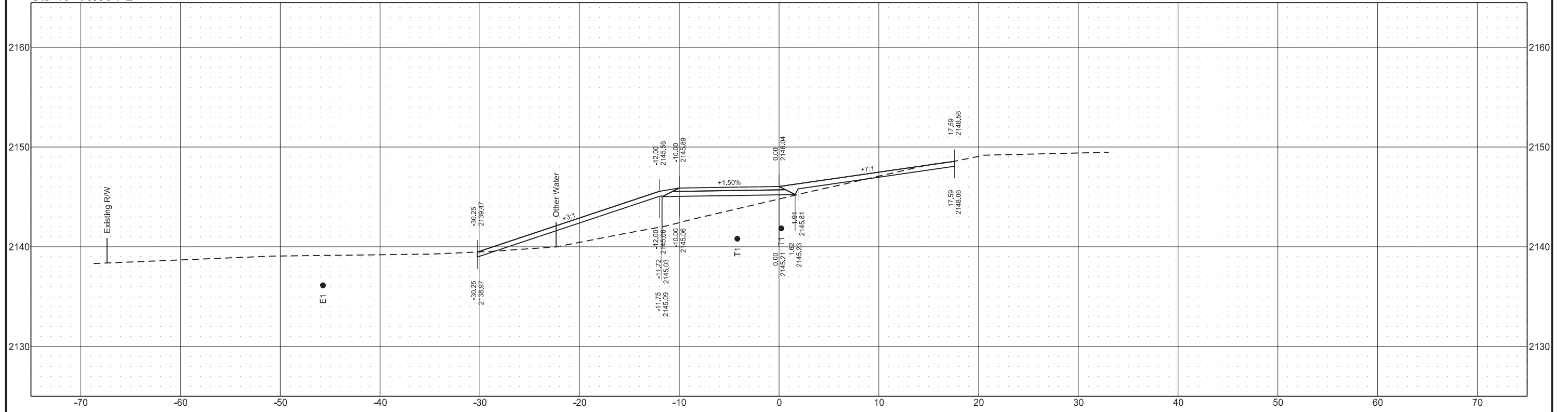


Sta 39+50.00 R2

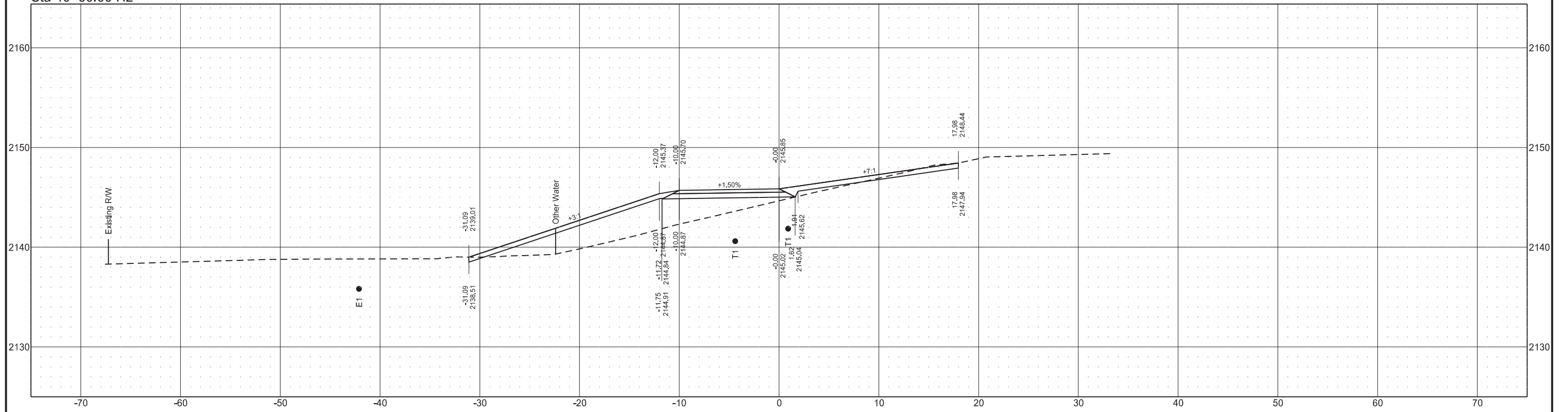


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	44

Sta 40+50.00 R2

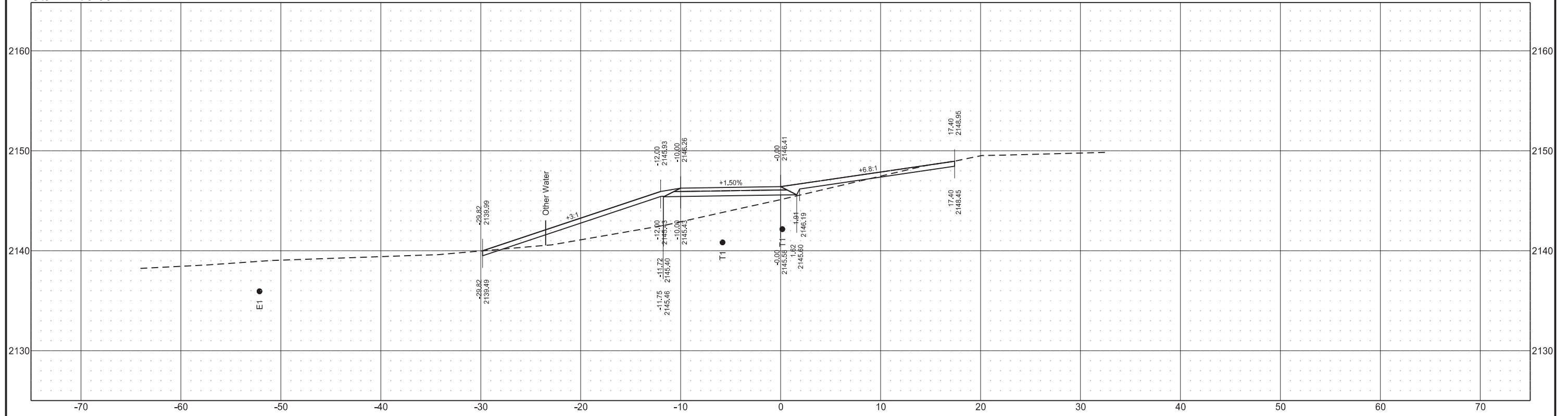


Sta 40+00.00 R2

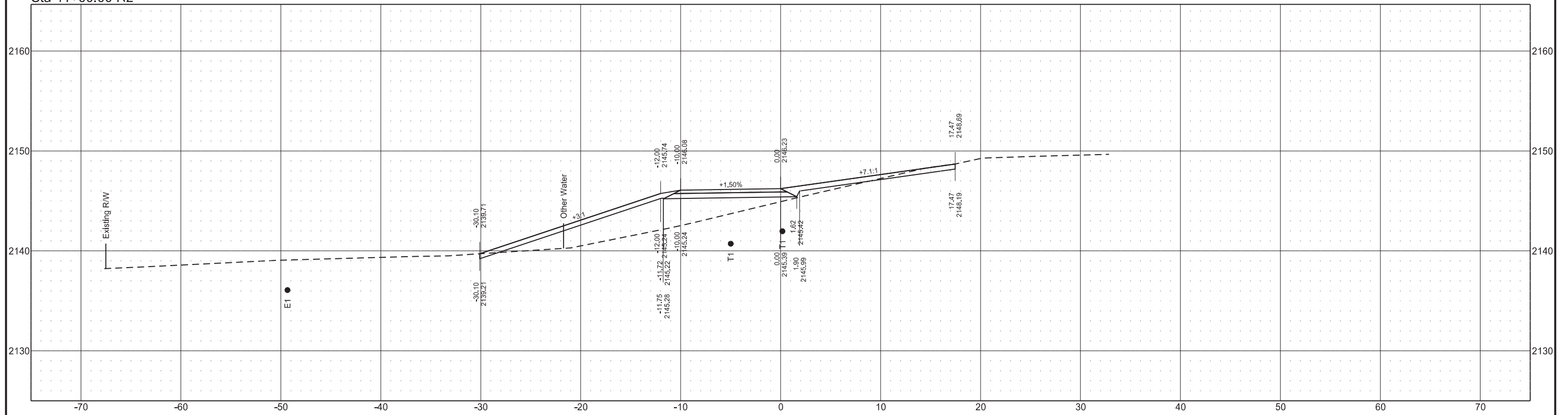


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	45

Sta 41+50.00 R2

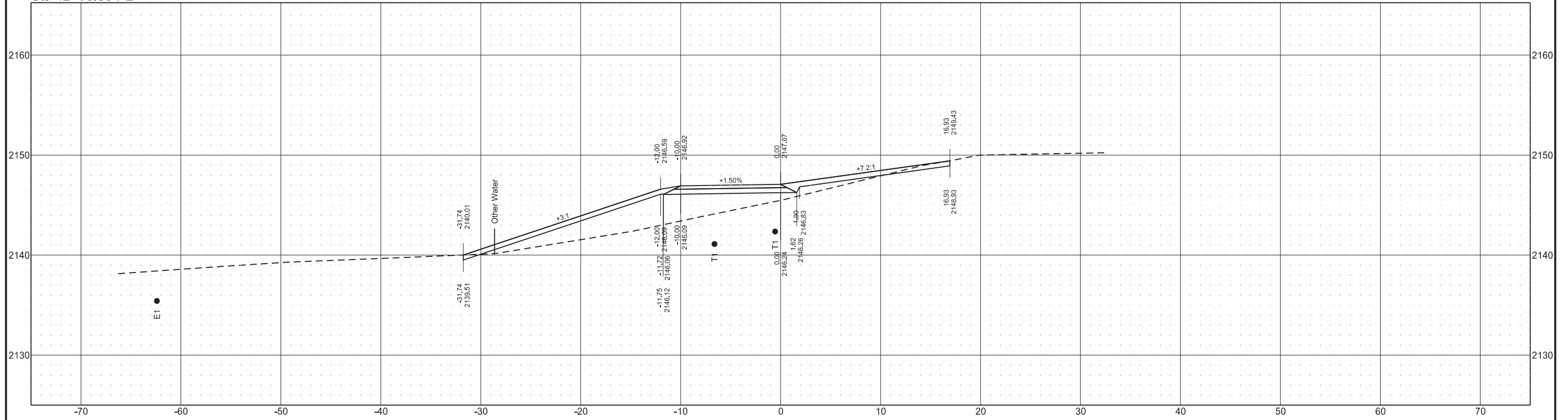


Sta 41+00.00 R2

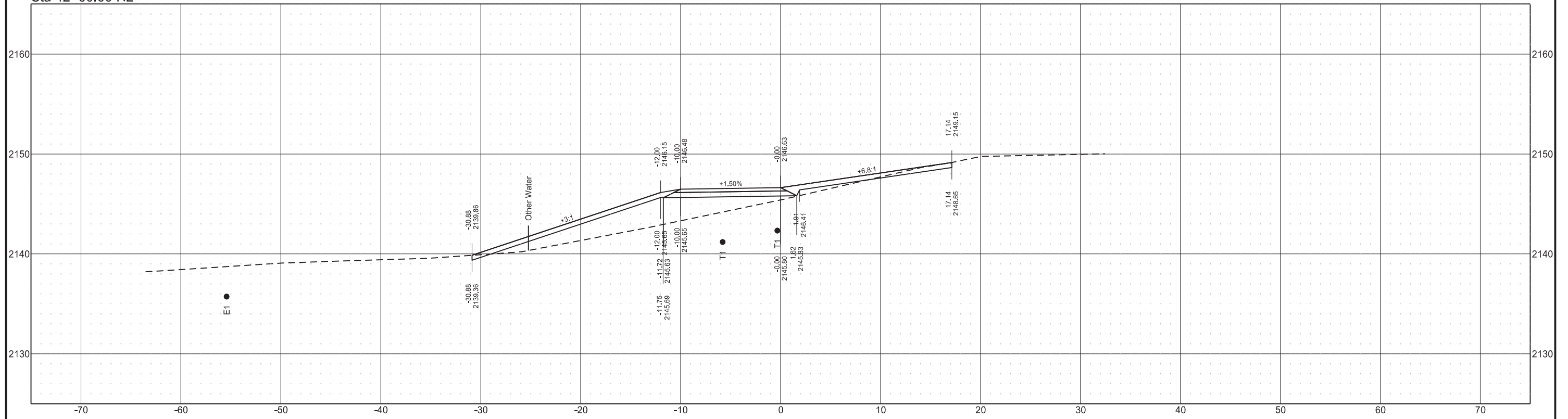


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	46

Sta 42+50.00 R2

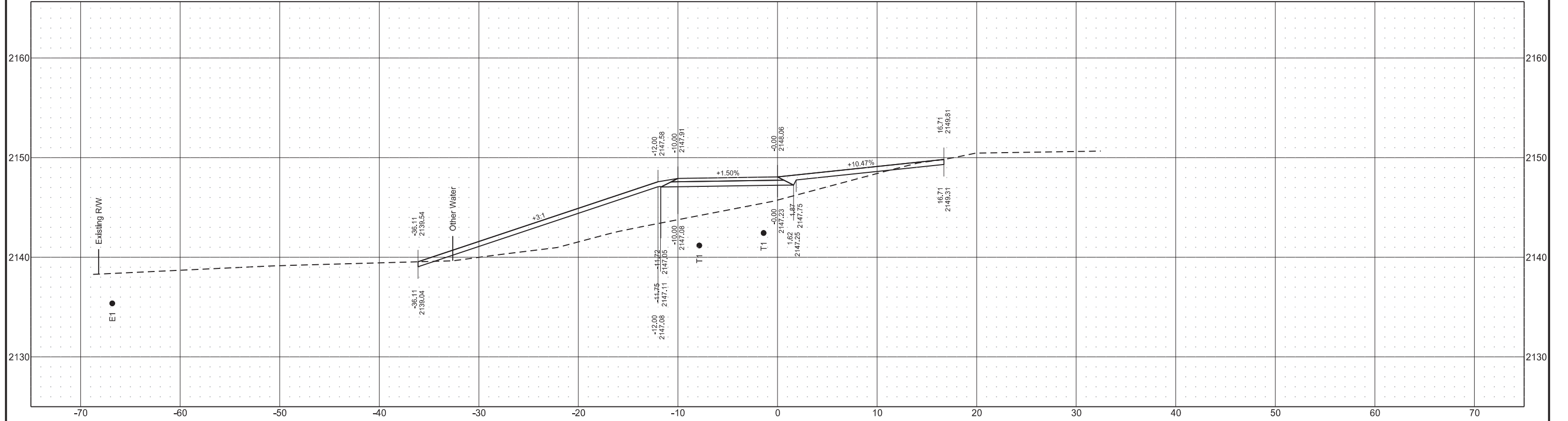


Sta 42+00.00 R2

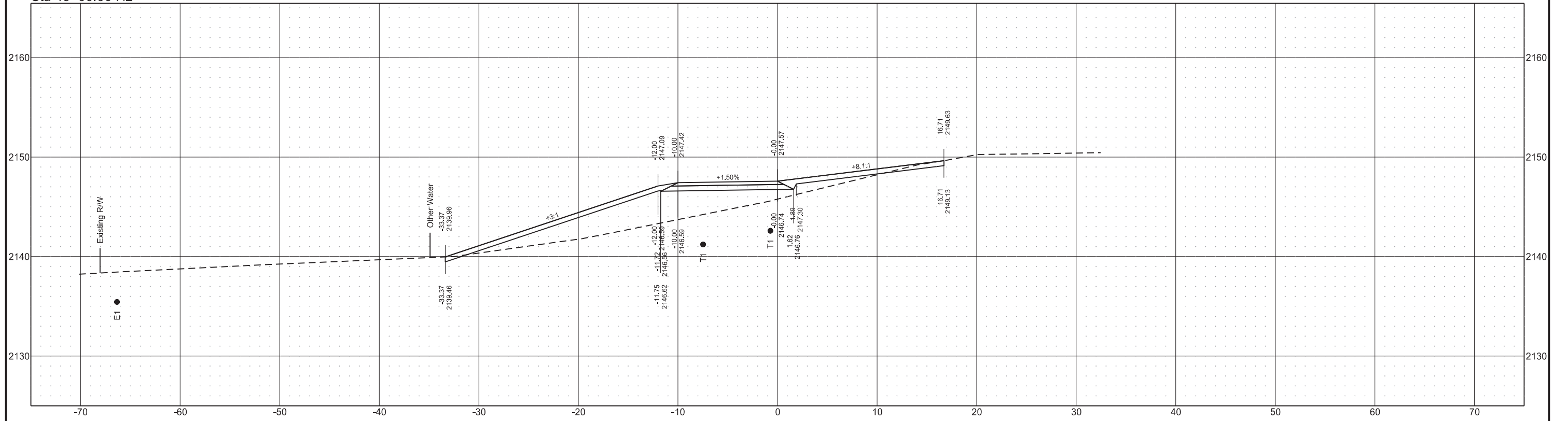


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	47

Sta 43+50.00 R2

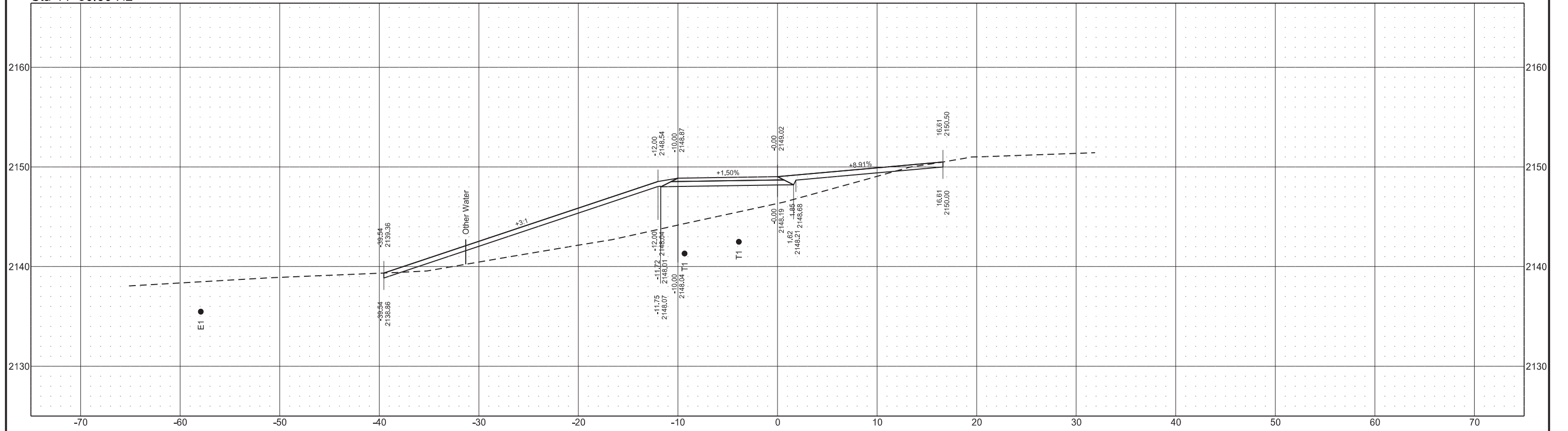


Sta 43+00.00 R2

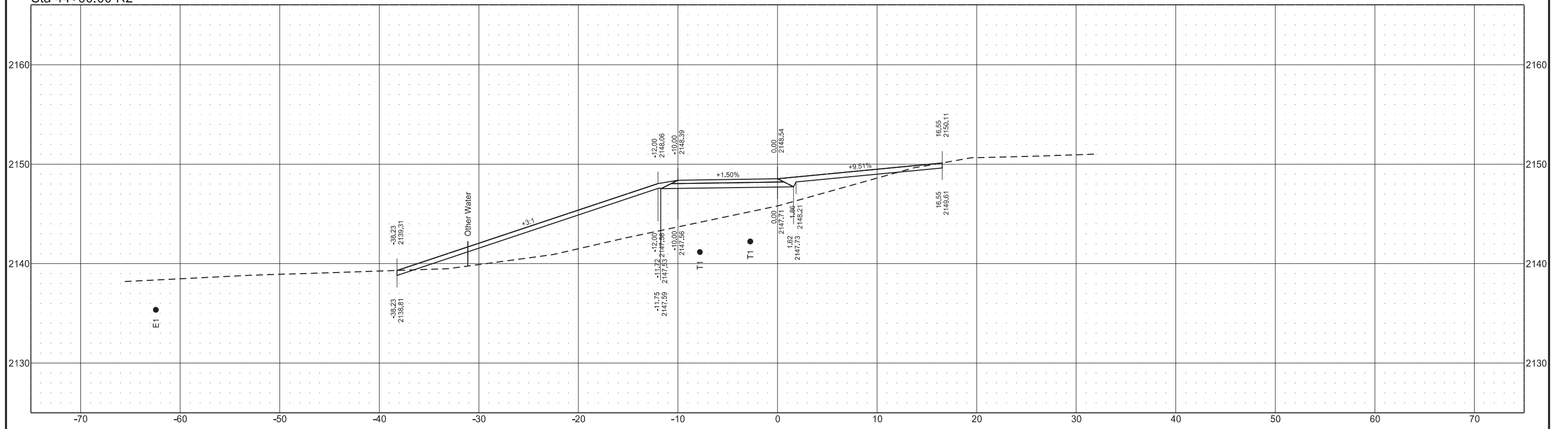


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	48

Sta 44+50.00 R2

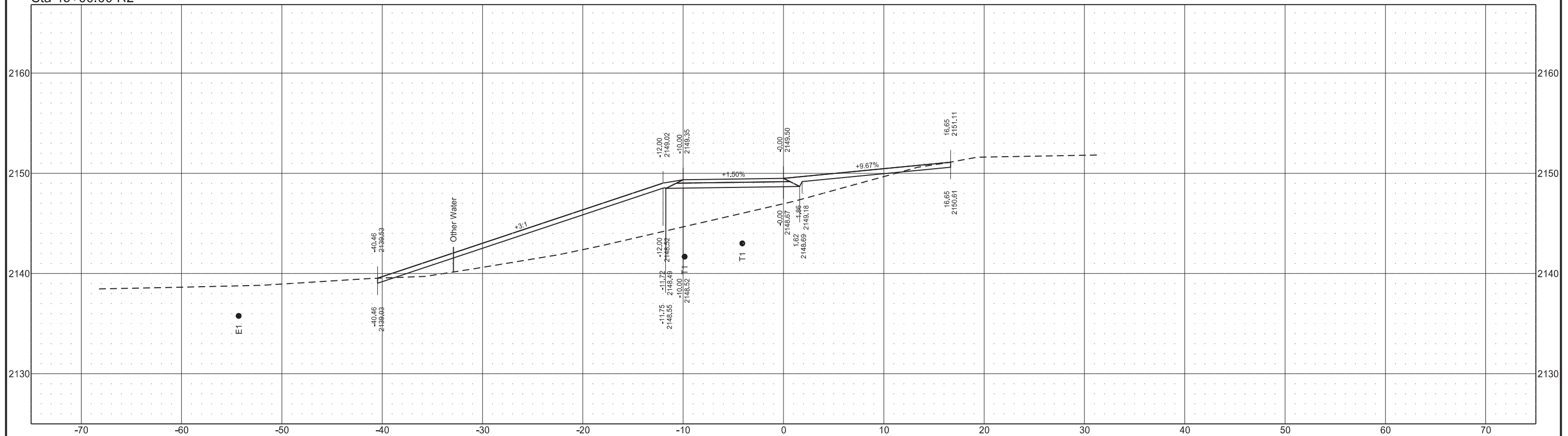


Sta 44+00.00 R2



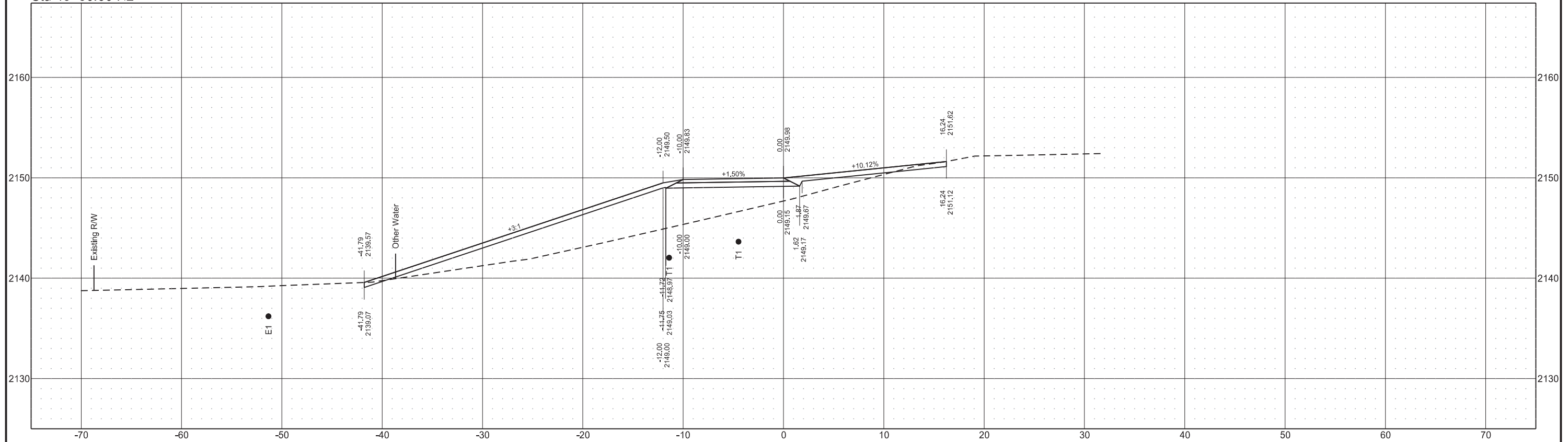
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	49

Sta 45+00.00 R2



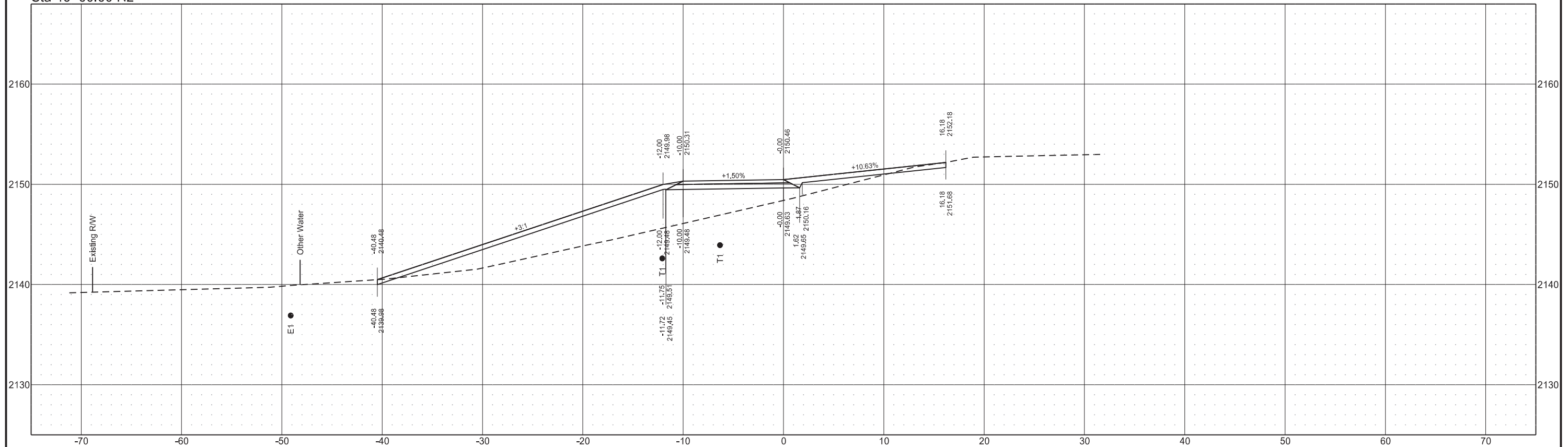
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	50

Sta 45+50.00 R2



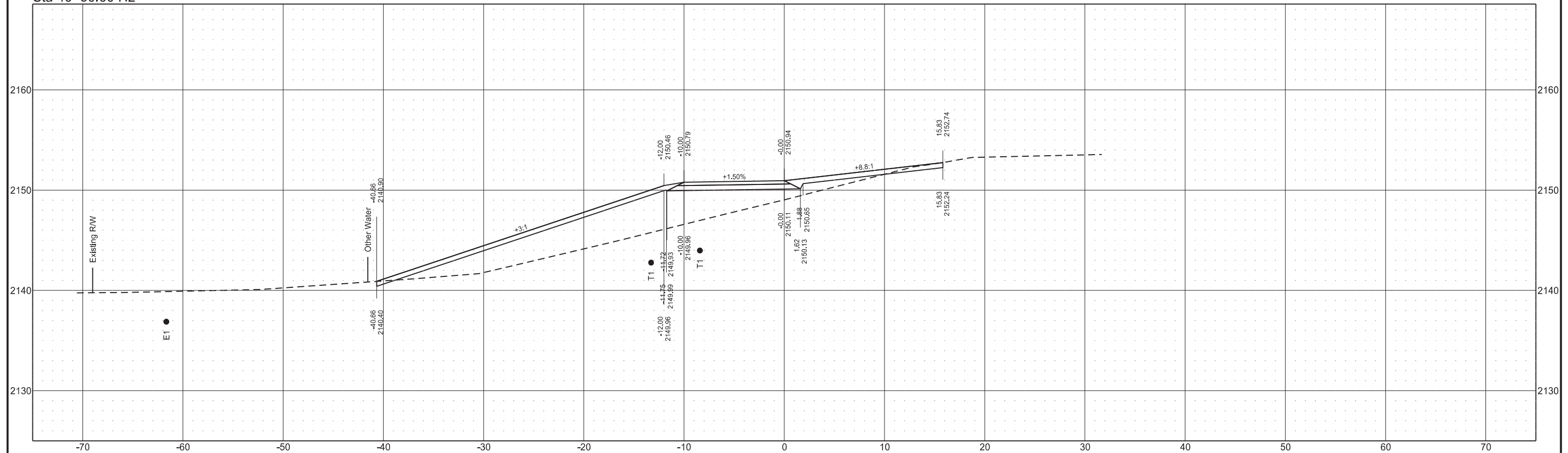
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	51

Sta 46+00.00 R2

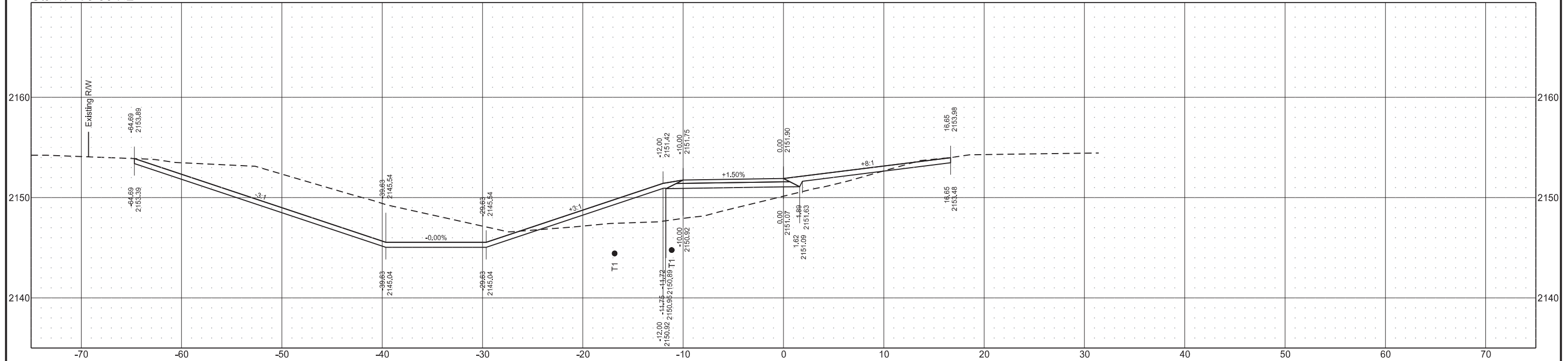


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	200	52

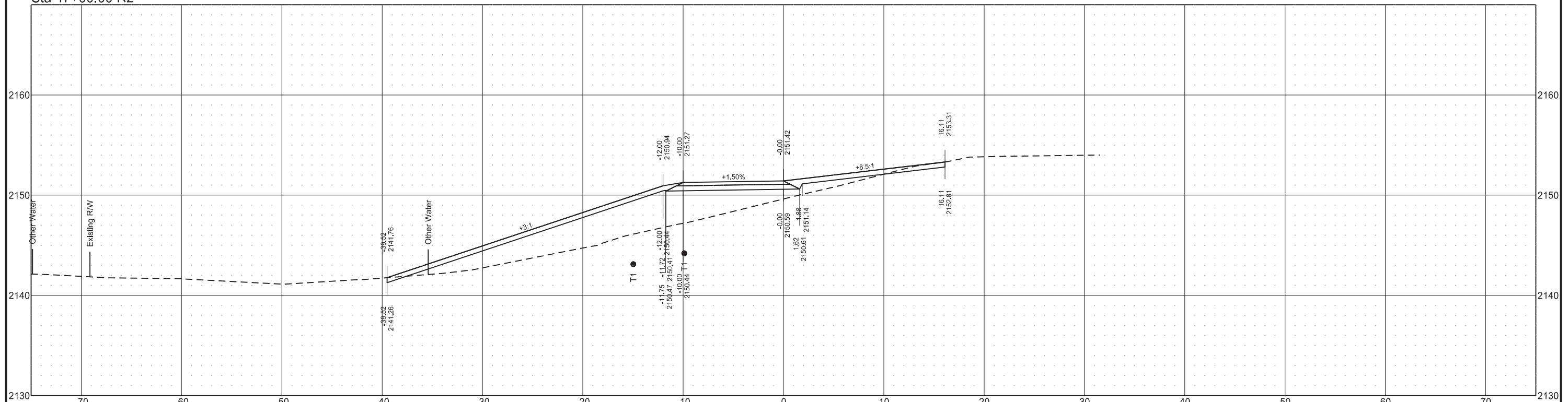
Sta 46+50.00 R2



Sta 47+50.00 R2

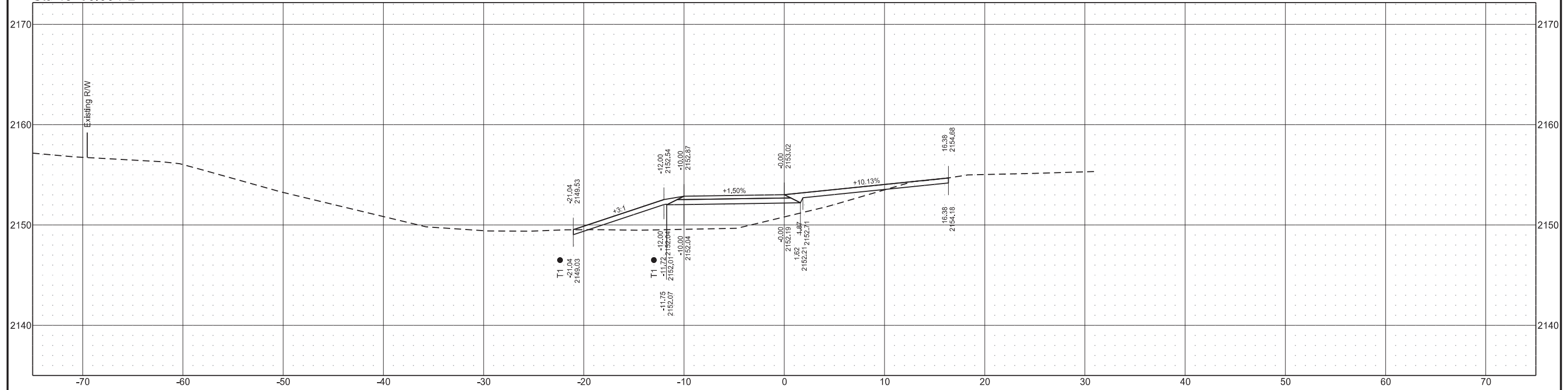


Sta 47+00.00 R2

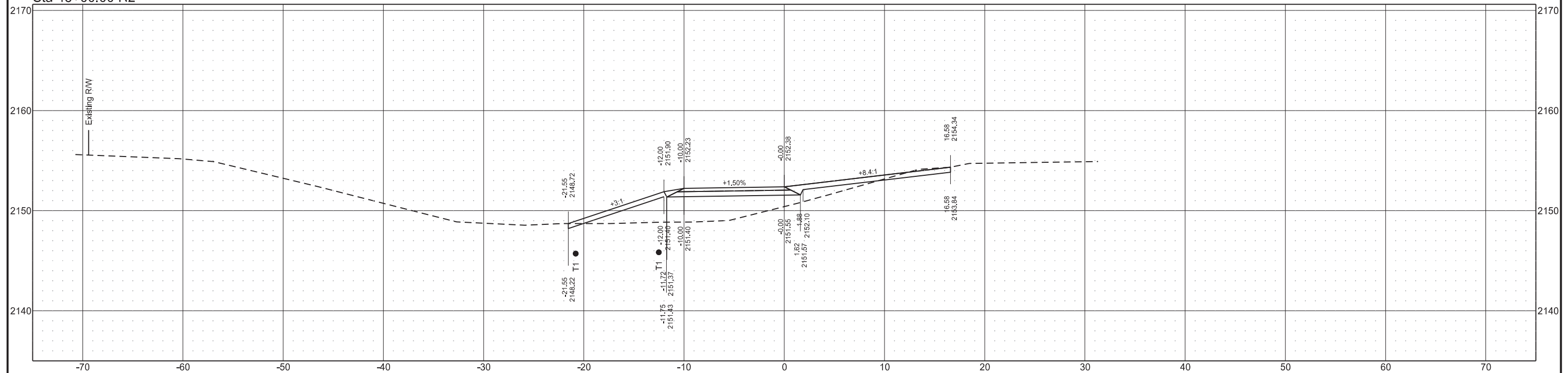


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	54

Sta 48+50.00 R2

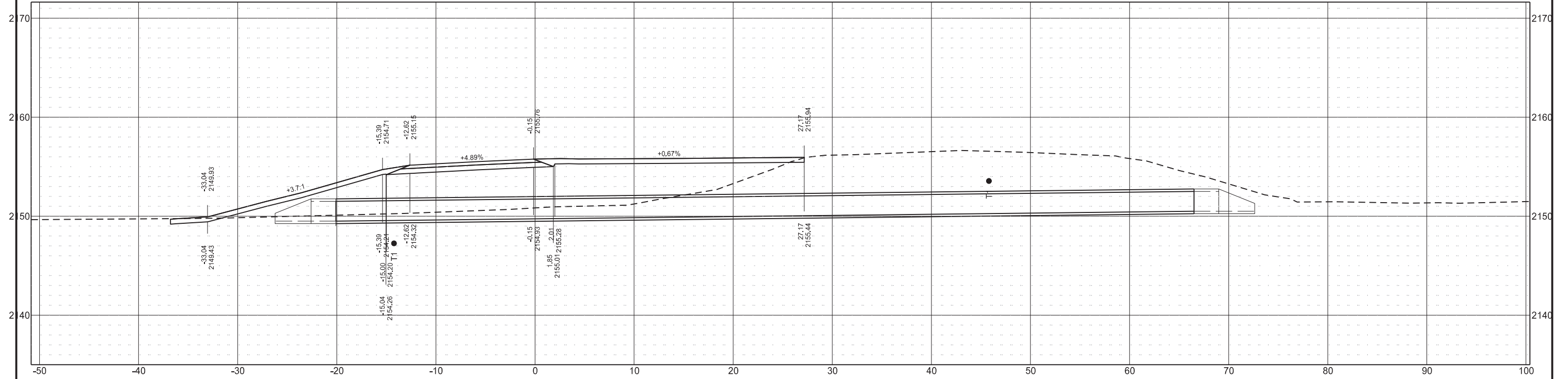


Sta 48+00.00 R2

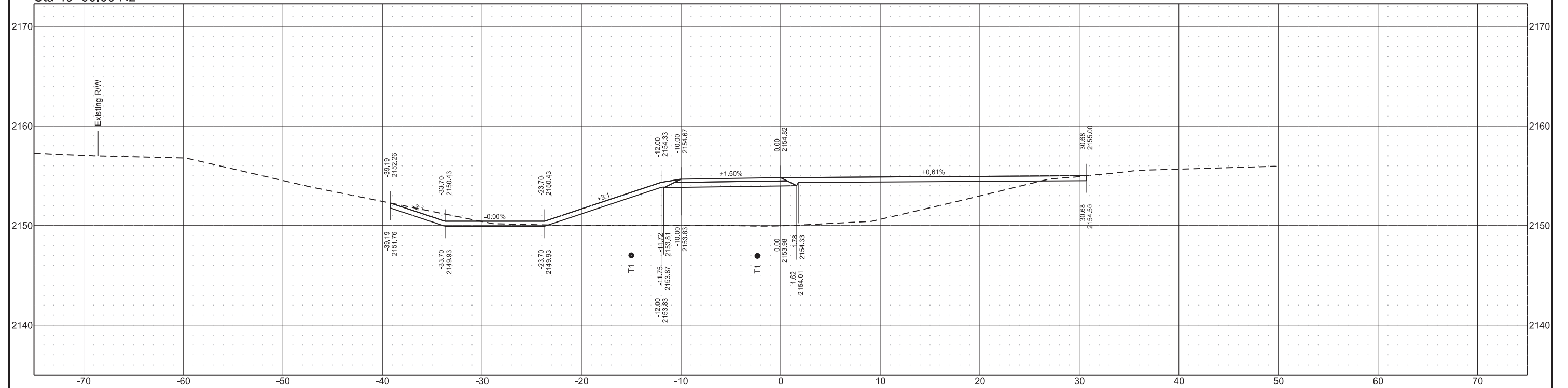


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	55

Sta 49+17.63 R2

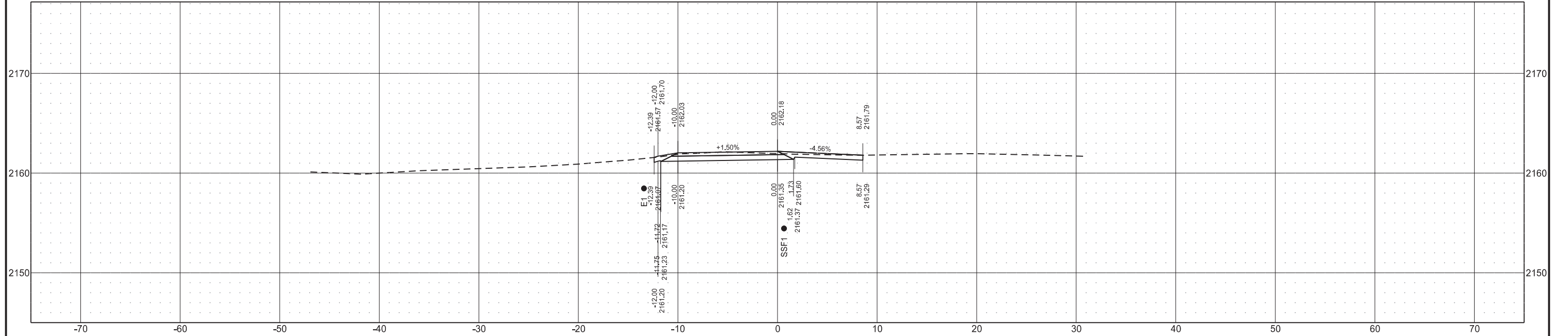


Sta 49+00.00 R2

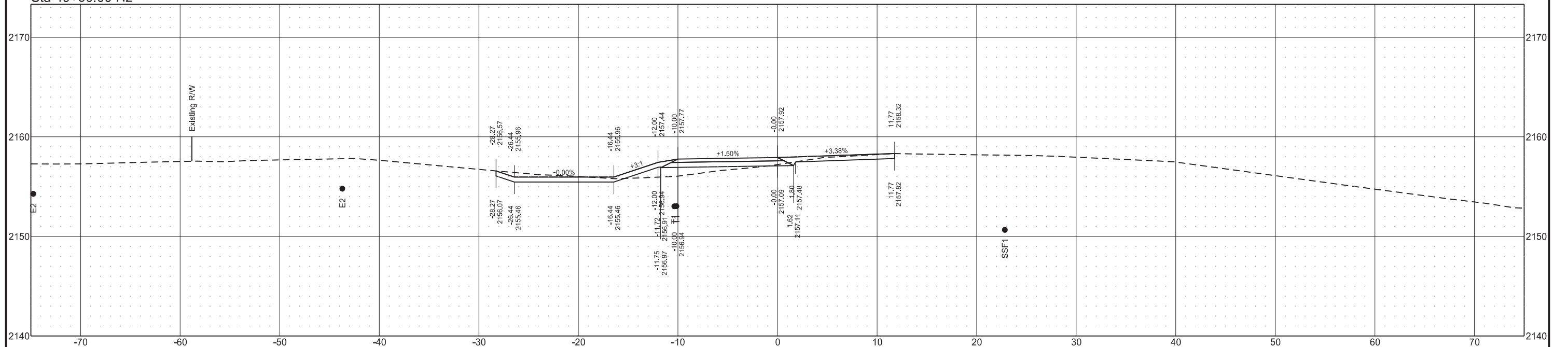


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	56

Sta 50+00.00 R2

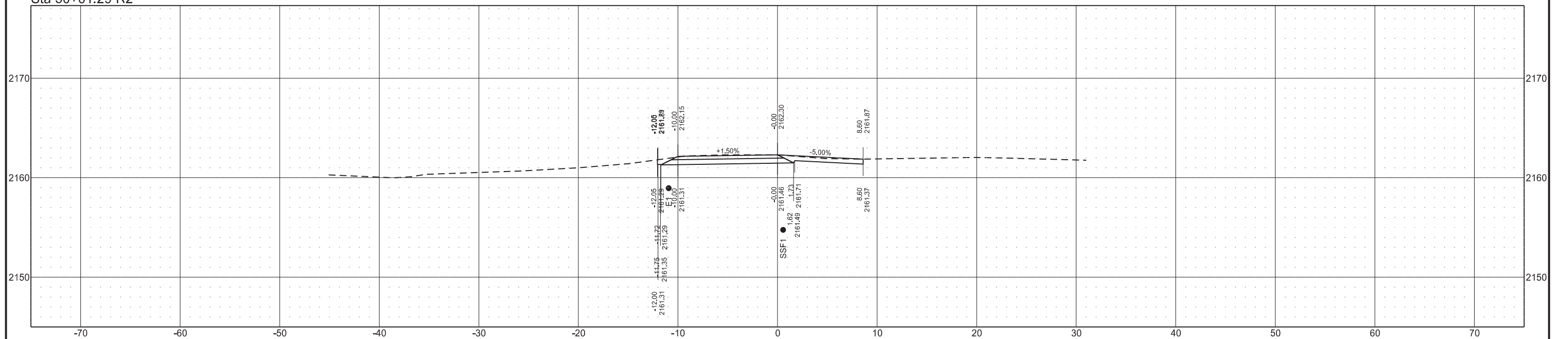


Sta 49+50.00 R2



STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	57

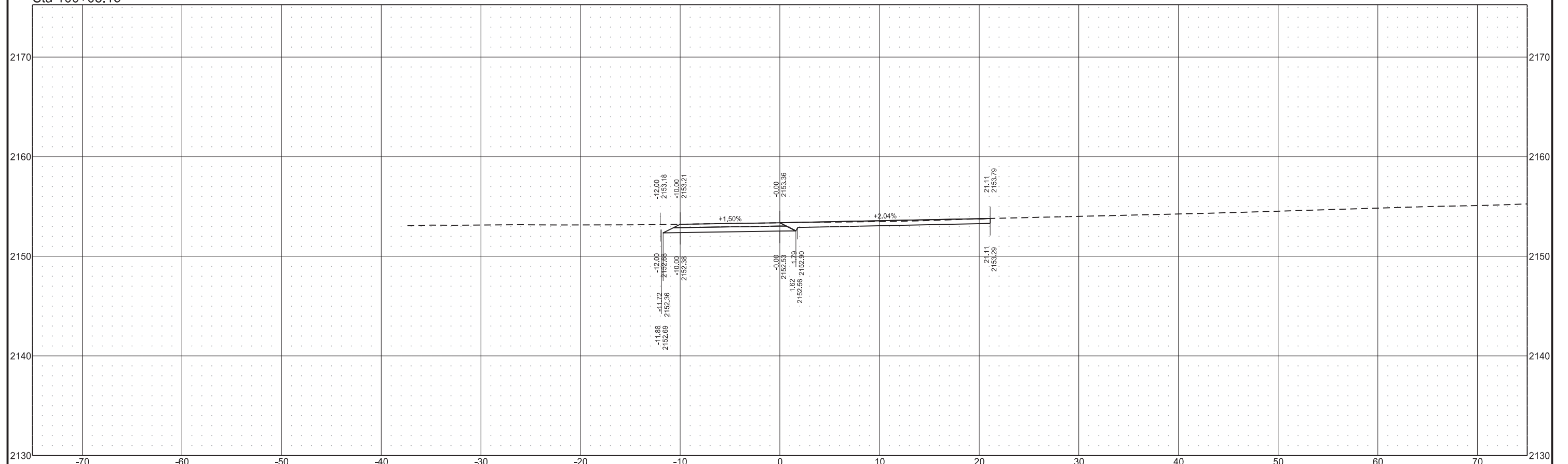
Sta 50+01.29 R2



Lake Loop Road

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SB-FTF-TAC-4-043(009)008	200	58

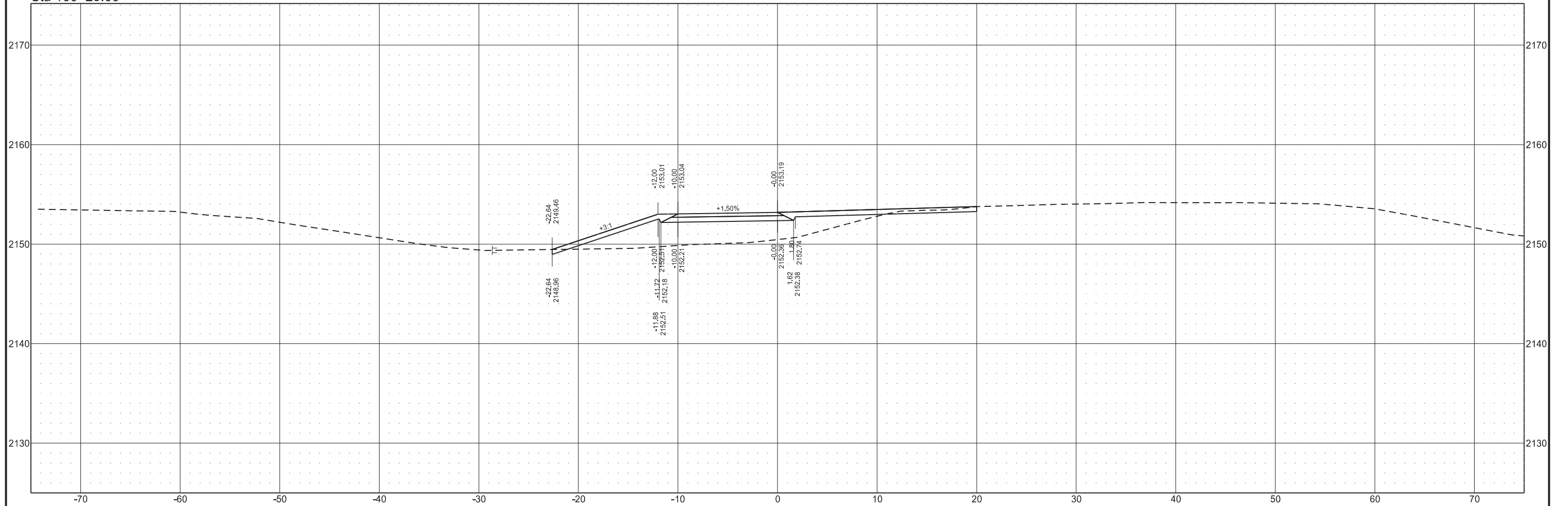
Sta 100+08.15



Lake Loop Road

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	59

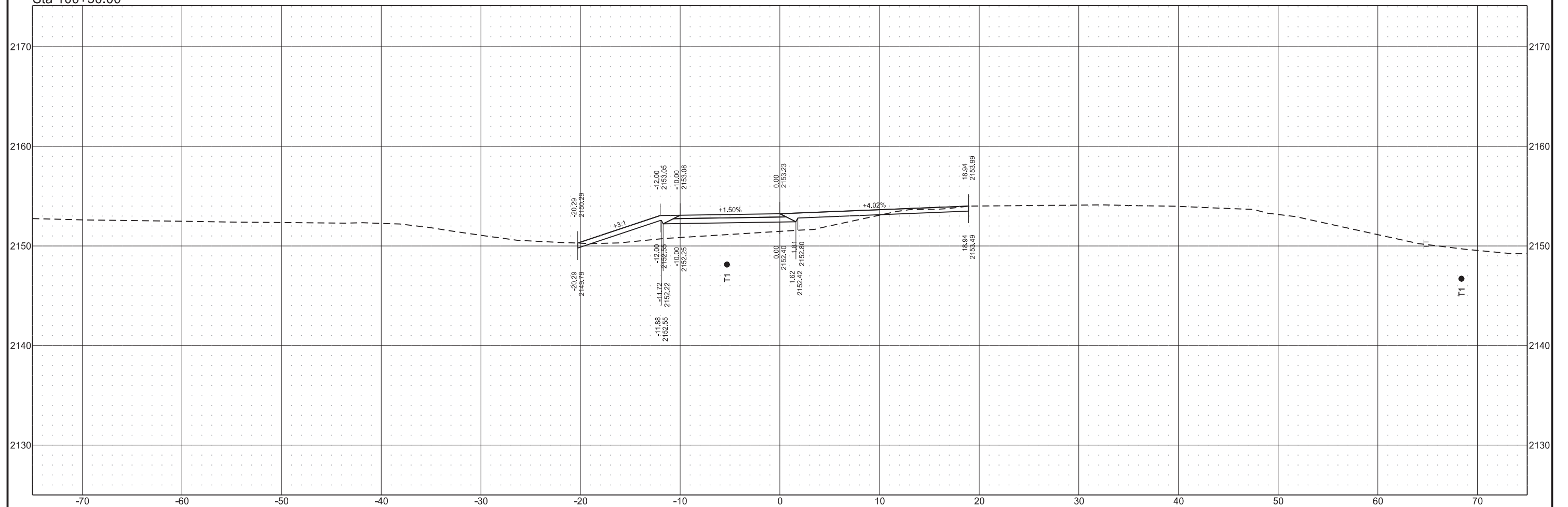
Sta 100+25.00



Lake Loop Road

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	60

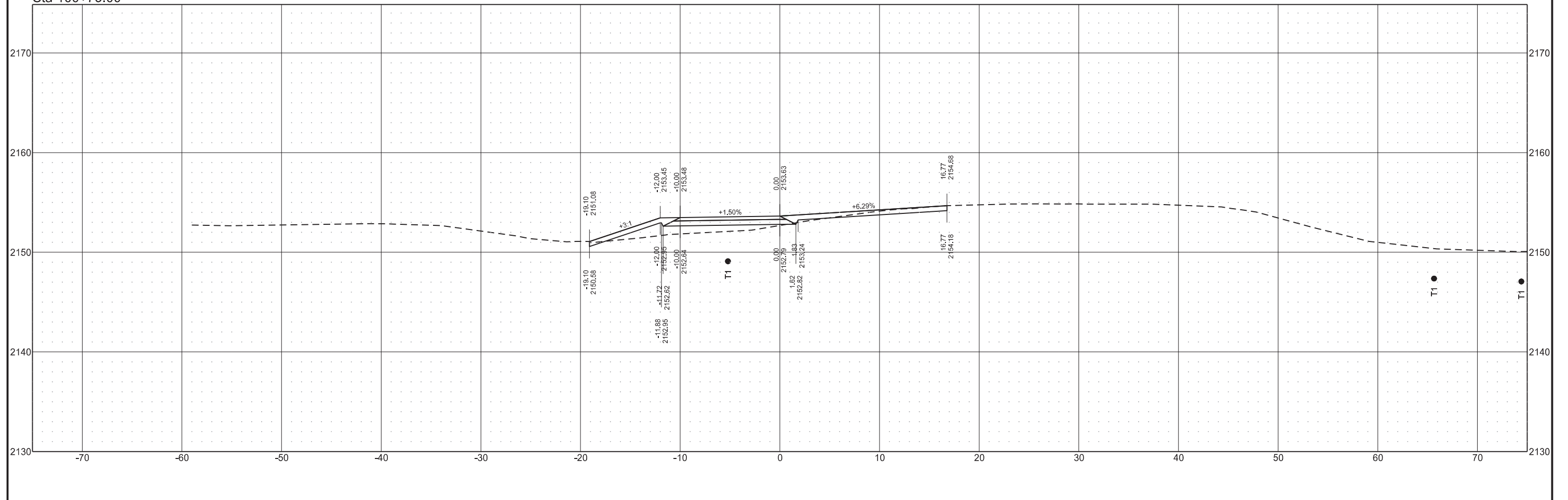
Sta 100+50.00



Lake Loop Road

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	61

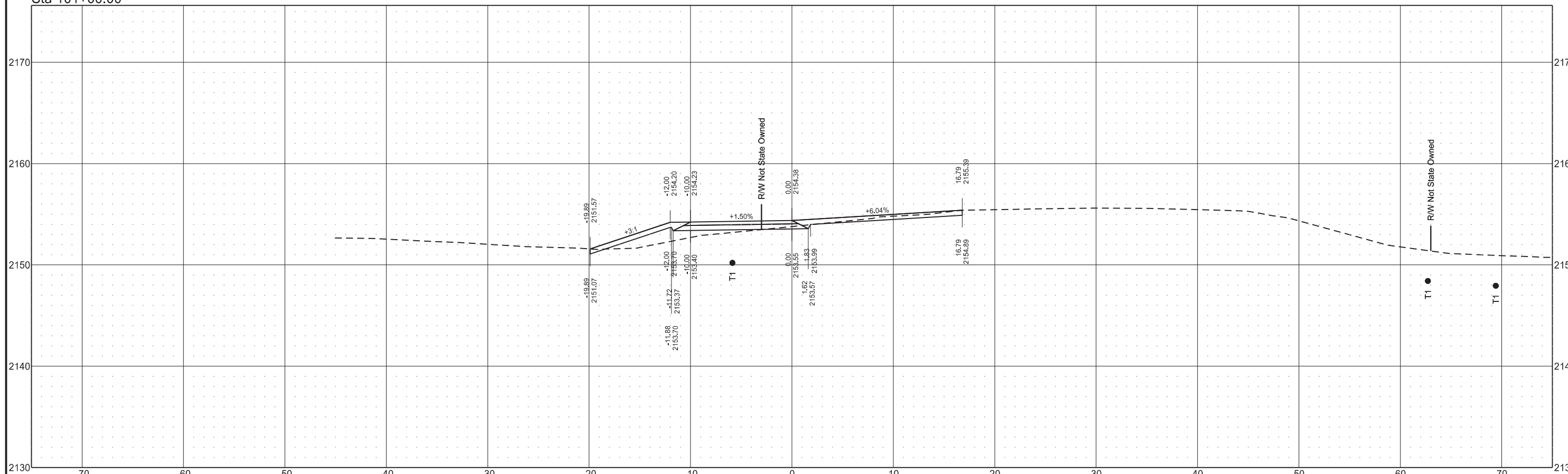
Sta 100+75.00



Lake Loop Road

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	62

Sta 101+00.00



Lake Loop Road

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SB-FTF-TAC-4-043(009)008	200	63

Sta 101+22.47

