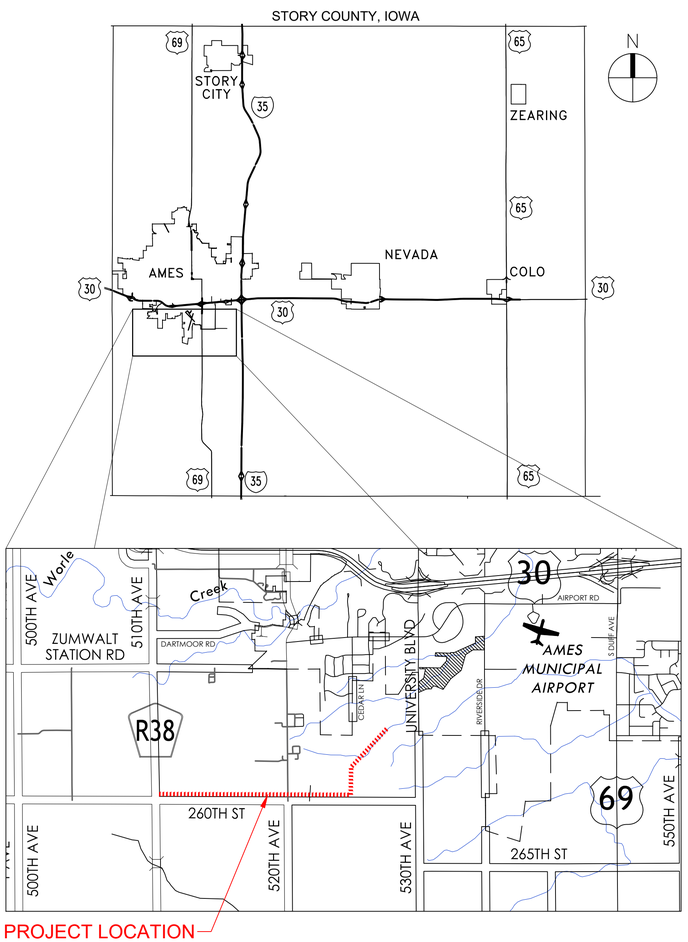
TEDESCO ENVIRONMENTAL LEARNING CORRIDOR
BID PACKAGE #3 - TRAIL EXTENSION

STORY COUNTY CONSERVATION
AMES, IOWA

LOCATION MAP



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CIVIL ENGINEER

LICENSED PROFESSIONAL ENGINEER
LUKE T. MONAT
22610
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

Signature: Date: Feb 3 2020 5:12 PM

Printed or typed name: LUKE T. MONAT
License Number: 22610
My License Renewal Date is: DECEMBER 31, 2020
PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL:
ALL SHEETS

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STORY COUNTY CONSERVATION

TELC BP#3
TRAIL EXTENSION
STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

02/11/2020
CONSTRUCTION
PROJECT NO: 4162590
CLIENT NO: ----

A.01

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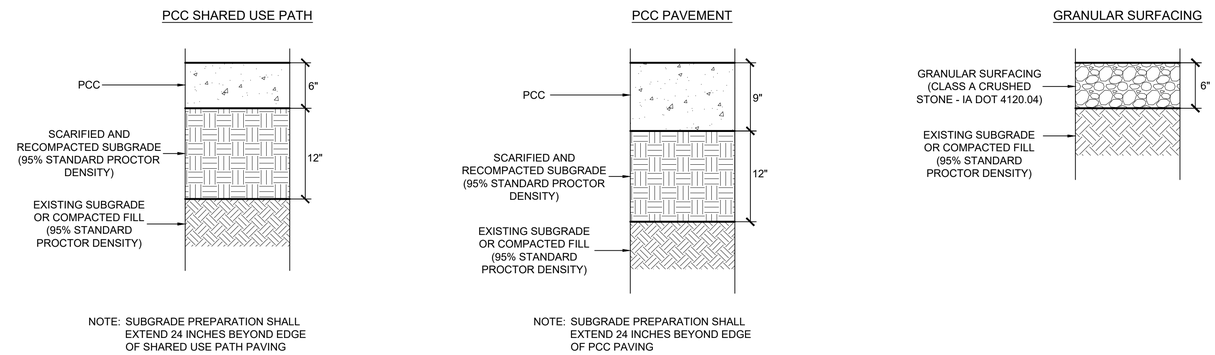
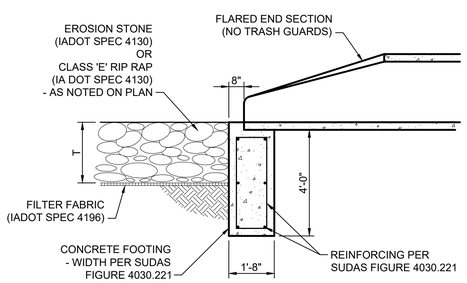


NOTE: SUBGRADE PREPARATION SHALL EXTEND 24 INCHES BEYOND EDGE OF SHARED USE PATH PAVING

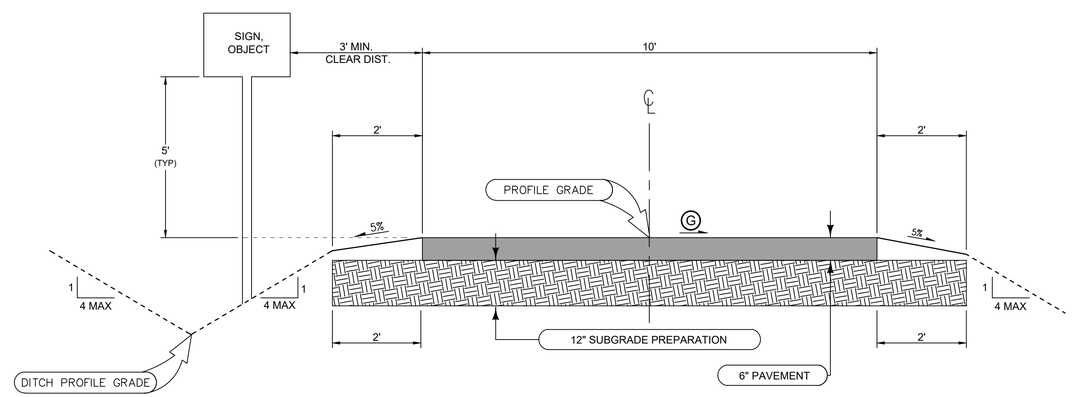
NOTE: SUBGRADE PREPARATION SHALL EXTEND 24 INCHES BEYOND EDGE OF PCC PAVING

2 PAVEMENT & SURFACING CROSS SECTIONS
NOT TO SCALE



EROSION STONE:	T = 15"
CLASS 'E' RIP RAP:	T = 24"

3 RCP FLARED END SECTION FOOTING
NOT TO SCALE



NOTE: TRAIL PAVEMENT THICKNESS INCREASES TO 9" AT FIELD ENTRANCE, DRIVEWAY, AND ROADWAY CROSSINGS. REFER TO D-SHEETS FOR LOCATIONS.

1 6" TRAIL PAVEMENT - TYPICAL CROSS SECTION
NOT TO SCALE

CROSS SLOPE TABLE G

BEGIN STATION	END STATION	BEGIN SLOPE	END SLOPE
1+16.53	53+48.17	1.5% RT	1.5% RT
53+48.17	53+63.17	1.5% RT	1.5% LT
53+63.17	54+11.17	1.5% LT	1.5% LT
54+11.17	54+26.17	1.5% LT	1.5% RT
54+26.17	62+24.50	1.5% RT	1.5% RT
62+24.50	62+39.50	1.5% RT	1.5% LT
62+39.50	62+89.50	1.5% LT	1.5% LT
62+89.50	63+04.50	1.5% LT	1.5% RT
63+04.50	68+00.00	1.5% RT	1.5% RT
68+00.00	68+15.00	1.5% RT	1.5% LT
68+15.00	68+65.00	1.5% LT	1.5% LT
68+65.00	68+80.00	1.5% LT	1.5% RT
68+80.00	128+09.00	1.5% RT	1.5% RT

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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: BTP
APPROVED: LTM
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DATE: 02/11/2020
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FIELD BOOK: ---
CLIENT NO: ---

TYPICAL CROSS SECTION AND DETAILS

B.01

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ESTIMATED PROJECT QUANTITIES:

Item No.	Item Code	Item	Unit	Quantities	
				Total	As-built
DIVISION 2 - EARTHWORK					
1	2010-108-C-0	CLEARING AND GRUBBING	LS	1	
2	2010-108-D-1	TOPSOIL, ON-SITE	CY	6,100	
3	2010-108-E-0	EXCAVATION, CLASS 10	CY	1,050	
4	SPECIAL	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISH	CY	5,550	
5	2010-108-G-0	SUBGRADE PREPARATION	SY	20,155	
DIVISION 4 - SEWERS AND DRAINS					
6	4020-108-A-1	STORM SEWER, TRENCHED, HDPE NON-PERFORATED, 8"	LF	45	
7	4020-108-A-1	STORM SEWER, TRENCHED, HDPE NON-PERFORATED, 10"	LF	12	
8	4030-108-A-1	PIPE CULVERT, TRENCHED, CMP, 12"	LF	80	
9	4030-108-A-1	PIPE CULVERT, TRENCHED, CMP, 24"	LF	36	
10	4030-108-A-1	PIPE CULVERT, TRENCHED, RCP, 15"	LF	220	
11	4030-108-A-1	PIPE CULVERT, TRENCHED, RCP, 18"	LF	144	
12	4030-108-A-1	PIPE CULVERT, TRENCHED, RCP, 30"	LF	48	
13	4030-108-B-0	PIPE APRON, RCP, 15"	EA	20	
14	4030-108-B-0	PIPE APRON, RCP, 18"	EA	12	
15	4030-108-B-0	PIPE APRON, RCP, 30"	EA	4	
16	SPECIAL	PRECAST CONCRETE BOX CULVERT, 6 FT. X 4 FT.	LF	36	
17	SPECIAL	PRECAST CONCRETE BOX CULVERT STRAIGHT END SECTION, 6 FT. X 4 FT.	EA	2	
DIVISION 6 - STRUCTURES FOR SANITARY AND STORM SEWERS					
18	SPECIAL	TILE INTAKE STRUCTURE, 6"	EA	2	
19	SPECIAL	TILE INTAKE STRUCTURE, 12"	EA	2	
20	SPECIAL	CONNECTION TO EXISTING TILE	EA	2	
DIVISION 7 - STREETS AND RELATED WORK					
21	7010-108-A-0	PAVEMENT, PCC, 9"	SY	600	
22	7030-108-C-0	SHARED USE PATH, PCC, 6"	SY	13,865	
23	7030-108-G-0	DETECTABLE WARNING	SF	160	
24	7030-108-H-2	DRIVEWAY, GRANULAR	TON	215	
DIVISION 8 - TRAFFIC CONTROL					
25	8030-108-A-0	TEMPORARY TRAFFIC CONTROL	LS	1	
26	SPECIAL	TYPE A SIGN, SHEET ALUMINUM	SF	145.75	
27	SPECIAL	PERFORATED SQUARE STEEL TUBE POST	LF	243.5	
28	SPECIAL	BREAKAWAY ANCHOR FOR PERFORATED SQUARE STEEL TUBE POST	EA	17	
29	SPECIAL	RELOCATION OF SIGN ASSEMBLY	EA	2	
30	SPECIAL	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	1.86	
31	SPECIAL	PAINTED SYMBOL AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EA	4	
32	SPECIAL	DELINEATOR POST	EA	7	
DIVISION 9 - SITE WORK AND LANDSCAPING					
33	9040-108-A-2	SWPPP MANAGEMENT	LS	1	
34	9040-108-E-0	TEMPORARY ROLLED EROSION CONTROL PRODUCT, TYPE 2C	SY	1,000	
35	9040-108-F-1	WATTLE, STRAW, 6" DIAMETER	LF	4,500	
36	9040-108-J-0	RIP RAP, CLASS 'E'	TON	139	
37	9040-108-J-0	RIP RAP, EROSION STONE	TON	72	
38	9040-108-N-1	SILT FENCE	LF	8,000	
39	9040-108-Q-2	EROSION CONTROL MULCHING, HYDROMULCHING	AC	15.0	
40	9060-108-E-0	REMOVAL OF FENCE	LS	1	
41	SPECIAL	GATE ASSEMBLY RELOCATION	LS	1	
42	SPECIAL	TIED CONCRETE BLOCK MAT	SY	320	
DIVISION 11 - MISCELLANEOUS					
43	11,010-108-A	CONSTRUCTION SURVEY	LS	1	
44	11,020-108-A	MOBILIZATION	LS	1	
45	SPECIAL	REMOVALS	LS	1	

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ESTIMATED PROJECT QUANTITIES

C.01

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ESTIMATE REFERENCE INFORMATION:

Item No.	Item Code	Description
DIVISION 2 - EARTHWORK		
1	2010-108-C-0	CLEARING AND GRUBBING
		This item includes clearing, grubbing, stump removal, and off-site disposal of trees and shrubs within the construction limits identified on the plans. Comply with SUDAS Section 2010. Notify the Engineer prior to the start of clearing and grubbing activities. Stake clearing limits for approval by owner's respresentative. Tree felling shall be completed by March 31, 2020. If contractor is able to provide satisfactory evidence to the owner and engineer that all potential endangered bat habitat trees have been felled prior to March 31, 2020, then contractor may clear the remainder of the non-habitat trees after this date. Any habitat surveys shall be completed by a qualified professional. Contractor is responsible for compliance with Endangered Species Act relative to potential endangered bat habitat and tree clearing. Total area to be cleared is estimated at 1.0 acres.
2	2010-108-D-1	TOPSOIL, ON-SITE
		Strip and salvage topsoil to a minimum depth of 6 inches before excavation occurs. The bid item quantity of 6,100 CY represents the quantity of topsoil to be stripped. At the conclusion of earthwork, utility, and paving operations, topsoil shall be re-spread to a minimum depth of 6 inches on the disturbed foreslopes, ditch bottoms, backslopes, and other disturbed areas. Excess topsoil shall be wasted upon foreslopes or as additional depth of re-spread. This quantity does not include a shrinkage factor. Payment for this item shall be based on plan quantity.
3	2010-108-E-0	EXCAVATION, CLASS 10
		This item includes all work necessary to achieve proper grades as shown on the construction plans. Fill material shall be placed and compacted with moisture and density control meeting the requirements of SUDAS Section 2010, 3.09. The earthwork quantity has been estimated as follows: The project has a cut volume of 1,250 CY and a total fill volume of 6,800 CY (25% fill factor assumed), resulting in a shortage of 5,550 CY. Total project cut volume of 1,250 CY includes building of embankments as shown on the plans. No payment for overhaul will be allowed. Payment for this item shall be based on plan quantity.
4	SPECIAL	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISH
		This item includes all work necessary to achieve proper grades as shown on the construction plans. Item shall be contractor furnished. Fill material shall be placed and compacted with moisture and density control meeting the requirements of SUDAS Section 2010, 3.09. The earthwork quantity has been estimated as follows: The project has a cut volume of 1,250 CY and a total fill volume of 6,800 CY (25% fill factor assumed), resulting in a shortage of 5,550 CY. The earthwork quantity to be furnished by the contractor is the shortage volume of 5,550 CY. It is the contractor's responsibility to obtain an approved offsite borrow area with materials meeting the requirements of SUDAS Section 2010, 2.03. No payment for overhaul will be allowed. Contractor to submit verification that borrow material is from a suitable source. Payment is full compensation for furnishing all labor, equipment, and materials required to construct the project as shown on the construction plans. Payment for this item shall be based on plan quantity.
5	2010-108-G-0	SUBGRADE PREPARATION
		This item includes excavating, manipulating, replacing, compacting, and trimming to the proper grade for all areas beneath and two (2) feet beyond the edge of shared use path and other pavement. Subgrade shall be prepared in two (2) lifts of six (6) inches each. For areas in cut, remove and replace the top six (6) inches of existing subgrade to prepare the lower lift. Compaction of the subgrade shall include moisture and density control meeting the requirements of SUDAS Section 2010, 3.09.
DIVISION 4 - SEWERS AND DRAINS		
6	4020-108-A-1	STORM SEWER, TRENCHED, HDPE NON-PERFORATED, 8"
		This item includes all costs for the material, equipment, labor, and installation of the 8-inch diameter dual-wall high-density polyethylene pipe at the locations shown on the construction plans. Bedding and backfill to be Class IVB (on-site soils).
7	4020-108-A-1	STORM SEWER, TRENCHED, HDPE NON-PERFORATED, 10"
		This item includes all costs for the material, equipment, labor, and installation of the 10-inch diameter dual-wall high-density polyethylene pipe at the locations shown on the construction plans. Bedding and backfill to be Class IVB (on-site soils).
8	4030-108-A-1	PIPE CULVERT, TRENCHED, CMP, 12"
		This item includes all costs for the material, equipment, labor, and installation of the 12-inch diameter corrugated metal pipe at the locations shown on the construction plans. Bedding and backfill to be Class IVB (on-site soils). Pipe material shall comply with SUDAS requirements for CMP. Gage of pipe to be 14 gage. The connection to the side of the existing CMP culvert beneath 260th Street at approximate station 1+35 shall be considered incidental to this item.
9	4030-108-A-1	PIPE CULVERT, TRENCHED, CMP, 24"
		This item includes all costs for the material, equipment, labor, and installation of the 24-inch diameter corrugated metal pipe at the locations shown on the construction plans. Bedding and backfill to be Class IVB (on-site soils). Pipe material shall comply with SUDAS requirements for CMP. Gage of pipe to be 14 gage. The connection to the north end of the existing CMP culvert beneath 260th Street at approximate station 1+35 shall be incidental to this item. Removal and replacement of the existing CMP flared end section shall be incidental to this item.
10	4030-108-A-1	PIPE CULVERT, TRENCHED, RCP, 15"
		This item includes all costs for the material, equipment, labor, and installation of the 15-inch diameter reinforced concrete pipe at the locations shown on the construction plans. Bedding and backfill to be Class IVB (on-site soils). All pipes and aprons shall be tied together according to Iowa DOT Standard Road Plan DR-121, Type 3 Connection. Tie all joints.
11	4030-108-A-1	PIPE CULVERT, TRENCHED, RCP, 18"
		This item includes all costs for the material, equipment, labor, and installation of the 18-inch diameter reinforced concrete pipe at the locations shown on the construction plans. Bedding and backfill to be Class IVB (on-site soils). All pipes and aprons shall be tied together according to Iowa DOT Standard Road Plan DR-121, Type 3 Connection. Tie all joints.
12	4030-108-A-1	PIPE CULVERT, TRENCHED, RCP, 30"
		This item includes all costs for the material, equipment, labor, and installation of the 30-inch diameter reinforced concrete pipe at the locations shown on the construction plans. Bedding and backfill to be Class IVB (on-site soils). All pipes and aprons shall be tied together according to Iowa DOT Standard Road Plan DR-121, Type 3 Connection. Tie all joints.
13	4030-108-B-0	PIPE APRON, RCP, 15"
		This item includes all costs for the material, equipment, labor, and installation of the 15-inch diameter reinforced concrete pipe apron and footing at the locations shown on the construction plans. Apron to include footing per SUDAS Figure 4030.221. No trash rack to be installed on aprons. All aprons and pipes shall be tied together according to Iowa DOT Standard Road Plan DR-121, Type 3 Connection. Tie all joints.
14	4030-108-B-0	PIPE APRON, RCP, 18"
		This item includes all costs for the material, equipment, labor, and installation of the 18-inch diameter reinforced concrete pipe apron and footing at the locations shown on the construction plans. Apron to include footing per SUDAS Figure 4030.221. No trash rack to be installed on aprons. All aprons and pipes shall be tied together according to Iowa DOT Standard Road Plan DR-121, Type 3 Connection. Tie all joints.
15	4030-108-B-0	PIPE APRON, RCP, 30"
		This item includes all costs for the material, equipment, labor, and installation of the 30-inch diameter reinforced concrete pipe apron and footing at the locations shown on the construction plans. Apron to include footing per SUDAS Figure 4030.221. No trash rack to be installed on aprons. All aprons and pipes shall be tied together according to Iowa DOT Standard Road Plan DR-121, Type 3 Connection. Tie all joints.
16	SPECIAL	PRECAST CONCRETE BOX CULVERT, 6 FT. X 4 FT.
		This item includes all necessary material, labor, and equipment for installation of the 6 ft. by 4 ft. precast concrete box culvert as shown on the construction plans. All culvert sections shall be tied together with minimum one inch diameter metal ties. Excavation, bedding (including rock bedding), and backfill for the culvert installation shall be considered incidental to this item. Bedding to be 4" of Class I material. Backfill to be Class IVB material. Culvert sections shall meet the requirements of ASTM C 1577 or Iowa DOT Single Precast RCB Culvert Standards with earth cover as shown on the construction plans. Contractor to submit shop drawings to Engineer. Culvert materials and installation shall comply with Iowa DOT Standard Specifications Section 2415.
17	SPECIAL	PRECAST CONCRETE BOX CULVERT STRAIGHT END SECTION, 6 FT. X 4 FT.
		This item includes all necessary material, labor, and equipment for installation of the 6 ft. by 4 ft. precast concrete box culvert end sections as shown on the construction plans. End sections shall be tied together and tied to the culvert barrel with minimum one inch diameter metal ties. Excavation, bedding (including rock bedding), and backfill for the culvert installation shall be considered incidental to this item. Bedding to be 4" of Class I material. Backfill to be Class IVB material. End sections shall meet the requirements of Iowa DOT Single Precast RCB Culvert Standards. Contractor to submit shop drawings to Engineer. Culvert end sections materials and installation shall comply with Iowa DOT Standard Specifications Section 2415.
DIVISION 6 - STRUCTURES FOR SANITARY AND STORM SEWERS		
18	SPECIAL	TILE INTAKE STRUCTURE, 6"
		This item includes all necessary material, labor, and equipment for installation of a 6-inch diameter tile intake structure at the locations shown on the construction plans. This item also includes all tees and other fittings needed to connect the intake to the new or existing tile line. The connection to the new or existing tile line at the intake shall be considered incidental to this item. Tile intake structure shall be manufactured by Hickenbottom Inc. or approved equal.
19	SPECIAL	TILE INTAKE STRUCTURE, 12"
		This item includes all necessary material, labor, and equipment for installation of a 12-inch diameter tile intake structure at the locations shown on the construction plans. This item also includes all tees and other fittings needed to connect the intake to the new or existing tile line. The connection to the new or existing tile line at the intake shall be considered incidental to this item. Tile intake structure shall be manufactured by Hickenbottom Inc. or approved equal.
20	SPECIAL	CONNECTION TO EXISTING TILE
		This item includes all material, labor, and equipment necessary to complete connections between new tile installed as part of this project and existing field tile. Connections shall be made using standard fittings. Contractor shall document all connection locations and types and provide photos and location information to Engineer and ISU Farms.

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CLIENT NO: ---

ESTIMATE REFERENCE INFORMATION

C.02

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ESTIMATE REFERENCE INFORMATION (CONTINUED):

Item No.	Item Code	Description
DIVISION 7 - STREETS AND RELATED WORK		
21	7010-108-A-0	PAVEMENT, PCC, 9"
		Refer to pavement cross-section on Sheet B.01. This item includes all labor, equipment, and materials to construct the 9" PCC paving at the field entrance crossings, driveway crossings, and road crossing as shown on the construction plans. Use Class 'C' concrete and submit mix design to Engineer for review. No reinforcing is required. Certified Plant Inspection is not required.
22	7030-108-C-0	SHARED USE PATH, PCC, 6"
		Refer to typical section and pavement cross-section on Sheet B.01 and trail alignment on D-sheets. This item includes all labor, equipment, and materials to construct the PCC shared use path at 6-inch thickness. Use Class 'C' concrete and submit mix design to Engineer for review. No reinforcing is required. Accessible curb ramps and turning spaces are included in this quantity--refer to SUDAS Figure 7030.205 for general details. Certified Plant Inspection is not required.
23	7030-108-G-0	DETECTABLE WARNING
		This item includes all necessary material, labor, and equipment for the installation of detectable warning panels at the locations shown on the construction plans and per SUDAS Figure 7030.210. Panels shall be set in fresh concrete and shall be cast iron and made with a non-slip surface and truncated domes. Manufacturer shall be Neenah Foundry or approved equal.
24	7030-108-H-2	DRIVEWAY, GRANULAR
		Refer to cross-section on Sheet B.01. This item includes all labor, equipment, and materials to construct the granular driveway surfacing at the field entrances, driveways, and as shown on the plans. Material shall be Class A crushed stone or Class C gravel complying with Iowa DOT Standard Specifications Section 2315. Construction to comply with Iowa DOT Standard Specifications Section 2315.
DIVISION 8 - TRAFFIC CONTROL		
25	8030-108-A-0	TEMPORARY TRAFFIC CONTROL
		Contractor shall maintain temporary traffic control throughout the duration of the project per Iowa DOT Standard Road Plans. Refer to Sheet J.01 for staging information. This item includes installation, maintenance, and removal of temporary traffic control as required by the staging plans, Iowa DOT Standard Road Plans, and the Contractor's methods of construction.
26	SPECIAL	TYPE A SIGN, SHEET ALUMINUM
		All traffic control signs shall comply with the MUTCD. Refer to N sheets for tabulation and placement details. Payment shall be per square foot of sign area as identified in the tabulation on Sheet N.01. This item includes all material, labor, and equipment necessary to furnish and install the signs, including all necessary mounting hardware. Mounting height for signs shall comply with details on Sheet N.01. Submit shop drawings to engineer.
27	SPECIAL	PERFORATED SQUARE STEEL TUBE POST
		Refer to N sheets for tabulation and placement details. Posts shall be 14 gauge, 2.25-inches by 2.25-inches square perforated tubing. Install posts to manufacturer's specification. Basis of payment shall be per linear foot of square tubing necessary to mount the signs and shall include all necessary mounting hardware. Measurement shall be made to the nearest one-half (1/2) foot.
28	SPECIAL	BREAKAWAY ANCHOR FOR PERFORATED SQUARE STEEL TUBE POST
		Refer to N sheets for tabulation and placement details. Anchors shall be 12 gauge, 2.5-inches by 2.5-inches by 30-inches square perforated tubing driven into the ground leaving 1-inch to 2-inches exposed above the surface. Install anchors in ground to manufacturer's specifications. Install posts in anchors to manufacturer's specifications. Any additional hardware necessary for installation shall be considered incidental to this item.
29	SPECIAL	RELOCATION OF SIGN ASSEMBLY
		Refer to N sheets for locations. This item includes relocation of existing sign assemblies, including sign, post, and anchor. Existing assembly shall be removed, salvaged, and re-installed at the location identified on the construction plans. Any additional hardware necessary for re-installation shall be considered incidental to this item.
30	SPECIAL	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED
		Refer to N sheets for tabulation and placement details. This item includes all costs for the material, equipment, labor, and installation of the painted pavement markings as identified on the construction plans. Removal of existing painted pavement markings as identified on the plans shall be considered incidental to this item.
31	SPECIAL	PAINTED SYMBOL AND LEGENDS, WATERBORNE OR SOLVENT-BASED
		Refer to N sheets for tabulation and placement details. This item includes all costs for the material, equipment, labor, and installation of the painted pavement marking symbols and legends as identified on the construction plans.
32	SPECIAL	DELINEATOR POST
		This item includes all necessary material, labor, and equipment for installation of delineator posts at the locations shown on the construction plans. Posts shall be a round or flat tubular marker with 28-inch height. Posts shall be surface mounted to finished concrete pavement using manufacturer's recommended fasteners and shall be impact resistant, rebounding after impact. Color shall be orange and include reflective sheeting stripes. Submit product information to engineer for approval.
DIVISION 9 - SITE WORK AND LANDSCAPING		
33	9040-108-A-2	SWPPP MANAGEMENT
		The SWPPP document will be provided to the Contractor. The Owner has obtained coverage for the project under Iowa DNR NPDES General Permit No. 2 and has also obtained a City of Ames COSESCO Permit. This item includes all work required to comply with the administrative provisions of the Iowa DNR General Permit No. 2; including record keeping, documentation, updating the SWPPP, filing the Notice of Discontinuation, etc. This item also includes inspections as required to satisfy the provisions of the General Permit No. 2.
34	9040-108-E-0	TEMPORARY ROLLED EROSION CONTROL PRODUCT, TYPE 2C
		This item includes installation and proper maintenance of Type 2C Temporary Rolled Erosion Control Product as shown on the construction plans, as directed by the Engineer, and as needed to meet the SWPPP requirements. Roll width shall be 8 feet. Comply with SUDAS Section 9040.
35	9040-108-F-1	WATTLE, STRAW, 6" DIAMETER
		This item includes the installation, proper maintenance, and removal of 6-inch diameter straw wattles as shown on the construction plans, as directed by the Engineer, and as needed to meet the SWPPP requirements. Wattle installation shall be according to SUDAS Figure 9040.105.
36	9040-108-J-0	RIP RAP, CLASS 'E'
		Place Iowa DOT Class 'E' rip rap at storm sewer inlets and outlets as shown on the construction plans. All Class 'E' rip rap is to be placed to a thickness of 2 feet. Quantity is based on a unit weight of 110 PCF. This item includes all material, labor, and equipment necessary to place the rip rap as specified. Non-woven geotextile fabric is incidental to this bid item. Provide weight tickets to Engineer.
37	9040-108-J-0	RIP RAP, EROSION STONE
		Place Iowa DOT Erosion Stone at storm sewer inlets and outlets as shown on the construction plans. All Erosion Stone is to be placed to a thickness of 1 foot 3 inches. Quantity is based on a unit weight of 120 PCF. This item includes all material, labor, and equipment necessary to place the erosion stone as specified. Non-woven geotextile fabric is incidental to this bid item. Provide weight tickets to Engineer.
38	9040-108-N-1	SILT FENCE
		This item includes the installation, proper maintenance, and removal of silt fence and silt fence ditch checks as shown on the construction plans, as directed by the Engineer, and as needed to meet the SWPPP requirements. Silt fence installation shall be according to SUDAS Figure 9040.119.
39	9040-108-Q-2	EROSION CONTROL MULCHING, HYDROMULCHING
		This item includes the installation of hydromulch as directed by the Engineer and as needed to provide temporary stabilization to meet the SWPPP requirements. Hydromulch shall be bonded fiber matrix (BFM). Install according to manufacturer's specifications. Product shall be rated by the manufacturer for 3:1 slopes or steeper. Provide product submittal for Engineer's approval.
40	9060-108-E-0	REMOVAL OF FENCE
		This item includes removal and off-site disposal of fence as shown on the construction drawings (including posts, gates, grounds, and barbed wire). This item does not include removal and reinstallation of the gate and associated brace panels/posts at the Dakota Access pipeline crossing. The total estimated length of fence removal for the project is 7,770 linear feet.
41	SPECIAL	GATE ASSEMBLY RELOCATION
		This item includes all materials, labor, and equipment necessary to remove, salvage, and reinstall the gate assembly and brace panels located at the Dakota Access Pipeline crossing (approx. STA 14+75). Coordinate with Energy Transfer Partners (ET). Work must be completed under the supervision of an ET representative.
42	SPECIAL	TIED CONCRETE BLOCK MAT
		This item includes all materials, labor, and equipment necessary to install the Tied Concrete Block Mat at the locations shown on the construction plans. Tied Concrete Block Mat shall be Standard Flexamat (manufactured by Motz Enterprises, Inc.) or approved equal. Installation shall be in accordance with manufacturer's specifications. Payment shall be per square yard of mat installed.
DIVISION 11 - MISCELLANEOUS		
43	11,010-108-A	CONSTRUCTION SURVEY
		This bid item shall include all survey and staking work necessary for construction of this project as intended by the contract documents and approved revisions. All construction staking shall be performed by or under the supervision of a licensed surveyor or engineer. The Contractor will be responsible for maintaining all horizontal and vertical control within the project limits. In addition, as part of this item the Contractor shall: 1. Set and maintain stakes on the temporary easement line. Four-foot tall stakes with ribbon shall be set at all corners and at 100-foot intervals along the temporary construction easement line. Stakes shall be maintaned throughout the project duration and removed at the conclusion of the project. These stakes must be first set prior to April 1, 2020 to accomodate spring farming activities. 2. Set stakes on the permanent trail easement lines along the ISU and ISU Foundation parcels. These stakes are to be set at the conclusion of the project and prior to seeding operations. These stakes will be used by others to construct a fence along the easement line and to locate the project seeding limits. Stakes shall be four-feet tall with ribbon attached and set at all corners and at 100-foot intervals along the trail easement lines along the ISU and ISU Foundation parcels. Stakes will be required along the north side of the trail between approximate stations 1+50 and 79+50. Stakes will be required along both sides of the trail between approximate stations 79+50 and 94+00. Stakes will be required along the south side of the trail between approximate stations 94+00 and 108+00.
44	11,020-108-A	MOBILIZATION
		This item shall be considered full compensation to mobilize and demobilize the Contractor's forces and equipment for the project. All other work necessary to complete the project as represented herein but not quantified in the Estimated Project Quantities list shall be considered incidental to this item.
45	SPECIAL	REMOVALS
		This item includes all materials, labor, and equipment necessary to remove and provide proper off-site disposal for items identified for removal on the construction plans. Items to be removed include: 1. Concrete footing at approx. station 27+25 2. Existing tile intake at approx. station 54+25 (capping tile tee at base of intake riser is incidental) 3. Existing tile intake at approx. station 124+90 (capping tile tee at base of intake riser is incidental) 4. Twin 48-inch RCP culvert pipes at approx. station 124+90 Removal of fence is included in the "Removal of Fence" bid item, and is not included in this item.

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TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: BTP
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 02/11/2020
PROJECT NO: 4162590
FIELD BOOK: ---
CLIENT NO: ---

ESTIMATE REFERENCE INFORMATION

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN ALL SUPPLIERS AND SUBCONTRACTORS INVOLVED IN THE PROJECT INCLUDING STAGING OF CONSTRUCTION.

2. THE LOCATIONS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS PLOTTED ON THIS DRAWING ARE APPROXIMATE ONLY AND WERE OBTAINED FROM RECORDS MADE AVAILABLE TO SHIVE-HATTERY, INC. THERE MAY BE OTHER EXISTING UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS NOT KNOWN TO SHIVE-HATTERY, INC. AND NOT SHOWN ON THIS DRAWING. THE VERIFICATION OF EXISTENCE OF, AND THE DETERMINATION OF THE EXACT LOCATION OF, UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

3. IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES VERBAL NOTICE TO IOWA ONE-CALL 1-800-292-8989, NOT LESS THAN 48 HOURS BEFORE EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.

4. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

5. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SPECIFICALLY CALLED OUT, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.

6. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.

7. ANY DAMAGES AS A RESULT OF CONSTRUCTION STAGING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

8. THE CONTRACTOR SHALL CONFINE HIS WORK TO THE GRADING LIMITS AND EASEMENTS SHOWN ON THE PLANS. IF THE CONTRACTOR OBTAINS ADDITIONAL EASEMENTS FOR THE STORAGE OF EQUIPMENT AND MATERIALS, COPIES OF THE AGREEMENTS WITH THE PROPERTY OWNERS SHALL BE PROVIDED TO THE ENGINEER AND OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OUTSIDE THE CONSTRUCTION LIMITS RESULTING FROM THE CONTRACTOR'S NEGLIGENCE.

9. CONTOURS AND SPOT ELEVATIONS SHOWN ARE TO FINISHED GRADE.

10. THE EXISTING SURFACE INFORMATION SHOWN WAS BASED ON TOPOGRAPHIC SURVEY DATA COLLECTED BY SHIVE-HATTERY SUPPLEMENTED WITH STATE OF IOWA LIDAR DATA OUTSIDE THE PROJECT LIMITS. SOME VARIATIONS AND ADJUSTMENTS MAY NEED TO BE MADE DURING CONSTRUCTION. NOTIFY ENGINEER OF ANY CONFLICTING INFORMATION.
HORIZONTAL DATUM: NAD83, IOWA STATE PLANE, NORTH ZONE
VERTICAL DATUM: NAVD88

11. DO NOT RESTRICT DRAINAGE ROUTES. CONTRACTOR SHALL BE AWARE OF EXISTING DRAINAGE CONDITIONS AND FACILITIES AND SHALL ENSURE DRAINAGE IS MAINTAINED DURING ALL PHASES OF CONSTRUCTION.

12. THE CONTRACTOR SHALL PROTECT ALL TREES, SHRUBS, CROPS, PLANTS, OR LANDSCAPING WITHIN AND ADJACENT TO THE PROJECT LIMITS AND NOT MARKED FOR REMOVAL. ALL DAMAGED TREES, SHRUBS, PLANTS, OR LANDSCAPING SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE WITH EQUIVALENT PRODUCTS. INSTALL TREE PROTECTION FENCING AROUND TREES DRIPLINE CLOSE TO CONSTRUCTION ACTIVITIES TO PREVENT TRAFFIC INSIDE OF TREE'S DRIPLINE. COORDINATE WITH ENGINEER AND OWNER TO IDENTIFY SELECT TREES. ANTICIPATE 12 TREES.

13. THE CONTRACTOR IS REQUIRED TO REPLACE ALL CONTROL POINTS, PROPERTY CORNERS, SECTION CORNERS, BENCHMARKS, AND OTHER MONUMENTS OBLITERATED BY CONSTRUCTION. PRIOR TO GRADING, THE CONTRACTOR SHALL LOCATE ADDITIONAL EXISTING PROPERTY CORNERS, ESTABLISH COORDINATES, AND TIES TO EXISTING FACILITIES WHICH ARE TO REMAIN, ESTABLISH HORIZONTAL AND VERTICAL CONTROL. REPLACE MONUMENTS AND BENCHMARKS AFTER CONSTRUCTION.

14. NECESSARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION) AND IOWA DOT STANDARD ROAD PLANS.

15. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.

16. THE CONTRACTOR SHALL PREPARE A SCHEDULE OF THE WORK WHICH SHALL BE SUBMITTED AT THE PRECONSTRUCTION MEETING. SCHEDULE SHALL SHOW ANTICIPATED COMPLETION OF MAJOR TASKS FOR THE PROJECT.

17. THE CONTRACTOR SHALL ADEQUATELY BARRICADE FRESH PCC TO PREVENT UNWANTED MARKINGS. BLEMISHED CONCRETE SURFACES SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

18. ALL HOLES RESULTING FROM OPERATIONS OF THE CONTRACTOR, INCLUDING REMOVAL OF FENCE POSTS, UTILITY POLES, OR FOUNDATIONS SHALL BE FILLED AND CONSOLIDATED AS SOON AS PRACTICAL, PREFERABLY THE DAY CREATED AND NOT LATER THAN THE FOLLOWING DAY. ANY PORTION OF THE RIGHT-OF-WAY OR PROJECT LIMITS DISTURBED BY ANY SUCH OPERATIONS SHALL BE RESTORED TO AN ACCEPTABLE CONDITION. THIS OPERATION SHALL BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS IN THE PROJECT.

19. CONTRACTOR IS RESPONSIBLE FOR KEEPING DIRT AND DEBRIS DEPOSITED BY CONSTRUCTION ACTIVITY OFF SIDEWALKS, TRAILS, AND ROADS.

20. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEPARTMENT OF NATURAL RESOURCES (DNR) NPDES PERMIT AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS AND REQUIRED CONTAINMENT STRUCTURES. THE OWNER HAS OBTAINED THE IOWA DNR GENERAL PERMIT #2 FOR THE PROJECT AND A SWPPP HAS BEEN PREPARED. THE CONTRACTOR SHALL DEVELOP, IMPLEMENT, MAINTAIN, COMPLETE REQUIRED INSPECTIONS, AND UPDATE THE SWPPP AS REQUIRED TO MEET ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.

21. CONTRACTOR SHALL NOTIFY ISU FARMS WHEN ANY FIELD TILE IS LOCATED OR ENCOUNTERED AND PRIOR TO ANY MODIFICATIONS TO THE EXISTING TILE DRAINAGE SYSTEM, INCLUDING MODIFICATIONS IDENTIFIED IN THE PROJECT PLANS.

22. CONTRACTOR SHALL SUBMIT PHASING PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.

23. CONTRACTOR SHALL SUBMIT PCC JOINTING PLAN FOR APPROVAL PRIOR TO PAVING.

24. ALL PCC PAVING INSTALLED AS PART OF THIS PROJECT SHALL BE INSTALLED TO MEET ALL CURRENT REQUIREMENTS FOR ACCESSIBLE PEDESTRIAN FACILITIES AS DETAILED IN SUDAS DESIGN MANUAL SECTION 12A-2. THESE REQUIREMENTS INCLUDE MAXIMUM CROSS SLOPE AND RUNNING SLOPE. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY OF THE PCC PAVING SHOWN ON THESE PLANS CANNOT BE CONSTRUCTED TO MEET THE ACCESSIBILITY REQUIREMENTS.

25. THE 2020 EDITION OF THE IOWA STATEWIDE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS (SUDAS) SHALL APPLY TO ALL WORK PERFORMED ON THIS PROJECT EXCEPT AS MODIFIED HEREIN.

26. MOISTURE/DENSITY AND CONCRETE MATERIAL TESTING WILL BE PROVIDED AND PAID FOR BY THE OWNER. CONTRACTOR SHALL COORDINATE ALL TESTING WITH THE ENGINEER AND TESTING AGENCY.

27. CONTRACTOR'S ACCESS TO THE PROJECT SITE SHALL BE FROM THE EXISTING AND/OR NEW FIELD ENTRANCES ALONG 260TH STREET. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF DRIVES THAT ARE USED AND SHALL RESTORE OR IMPROVE DRIVES AS IDENTIFIED ON THE CONSTRUCTION PLANS AT THE CONCLUSION OF THE PROJECT. THE PROPERTY AT THE NORTH END OF THE TRAIL PROJECT IS PRIVATELY-OWNED AND IS NOT AVAILABLE FOR CONTRACTOR ACCESS.

28. FOR WORK ADJACENT TO RESIDENTIAL PROPERTIES (BURGASON, ROTH, AND AURORA HEIGHTS), CONTRACTOR SHALL LIMIT WORK TO THE HOURS BETWEEN 7:00AM AND 8:00PM. THERE ARE NO WORK HOUR RESTRICTIONS FOR WORK ADJACENT TO THE IOWA STATE UNIVERSITY PROPERTIES.

PIPELINE EASEMENT NOTES:

THE TRAIL PROJECT CROSSES AN EASEMENT OWNED BY DAKOTA ACCESS PIPELINE, LLC (DAPL) WHERE ENERGY TRANSFER PARTNERS (ET) OPERATES AND MAINTAINS A 30-INCH HIGH PRESSURE PETROLEUM PRODUCTS PIPELINE. SPECIAL CONDITIONS APPLY TO THE CONTRACTOR'S WORK IN AND AROUND THE PIPELINE EASEMENT AREA. (PROJECT STA 13+50 - 16+00)

1. ET SHALL BE CONTACTED A MINIMUM OF 72 HOURS PRIOR TO ANY WORK WITHIN THE PIPELINE EASEMENT AND **AN ET REPRESENTATIVE MUST BE PRESENT DURING ANY WORK WITHIN THE 50-FOOT DAPL RIGHT OF WAY BOUNDARIES**. CONTRACTOR TO CONTACT PAUL HANSEN AT (515) 218-4074, TRACY PAULETTE AT (515) 823-3418, OR MATT RYAN AT (701) 421-6971 TO MAKE ARRANGEMENTS.

2. THE CONTRACTOR SHALL MINIMIZE ANY LOSS IN DEPTH OF COVER OVER DAPL'S 50-FOOT RIGHT OF WAY TO THE DITCH AREAS WITHIN THE DAPL 50-FOOT RIGHT OF WAY.

3. THE CONTRACTOR SHALL NOT REMOVE ANY MORE THAN 18 INCHES OF COVER AT ANY LOCATION WITHIN THE DAPL 50-FOOT RIGHT OF WAY.

4. ABSOLUTELY NO GRADE CAN BE CHANGED TO BE LESS THAN 48 INCHES OF DEPTH OF COVER THROUGHOUT THE ENTIRE DAPL 50-FOOT RIGHT OF WAY, IN THE ROAD DITCH AREAS.

5. ANY MATERIAL STOCKPILES AND EQUIPMENT STAGING AREAS SHALL BE LOCATED OUTSIDE THE DAPL 50-FOOT RIGHT OF WAY UNLESS WRITTEN APPROVAL IS PROVIDED.

6. AT NO TIME SHALL ANY VEHICLES OR EQUIPMENT CROSS OVER THE DAPL PIPELINE WITHOUT APPROVAL OF AN ET REPRESENTATIVE. CONTRACTOR SHALL SUBMIT A LIST OF ALL VEHICLES AND EQUIPMENT TO BE USED ON THE PROJECT. ET WILL REVIEW THE LIST AND NOTIFY THE CONTRACTOR OF WHAT EQUIPMENT WILL BE ALLOWED WITHIN THE 50-FOOT PIPELINE RIGHT OF WAY. FOR THE CONTRACTOR'S REFERENCE, A CATERPILLAR D6 DOZER HAS BEEN APPROVED TO CROSS OVER THE DAPL 50-FOOT RIGHT OF WAY. ANY VEHICLES OR HEAVY EQUIPMENT NOT INCLUDED ON THE LIST REVIEWED AND APPROVED BY THE ET INTEGRITY DEPARTMENT SHALL NOT ENTER THE 50-FOOT DAPL RIGHT OF WAY UNLESS APPROVED BY AN ET ON-SITE REPRESENTATIVE.

7. CONTRACTOR SHALL USE WHEEL ROLLING COMPACTION WITHIN THE DAPL 50-FOOT RIGHT OF WAY.

8. ET REQUESTS THAT NO WORK BE SCHEDULED WITHIN THE 50-FOOT DAPL RIGHT OF WAY ON THE FIRST OR LAST DAY OF ANY CALENDAR MONTH.

9. THE CONTRACTOR AND ALL SUB-CONTRACTORS MUST BE AWARE OF THE ET GENERAL REQUIREMENTS AND RESTRICTIONS. THE ET GENERAL REQUIREMENTS ARE INCLUDED IN THE PROJECT MANUAL FOR THIS PROJECT.

LEGEND

UTILITIES

PLAN MARK	DESCRIPTION
	FIRE HYDRANT
	FLARED END SECTION
	UTILITY END CAP
	VALVE
	STORM MANHOLE
	SANITARY MANHOLE
	TELEPHONE MANHOLE
	VAULT BOX
	CURB INLET
	INTAKE - CIRCLE
	INTAKE - RECTANGLE
	INTAKE - SQUARE
	UTILITY POLE

LEGEND

GENERAL SITE

PLAN MARK	DESCRIPTION
	EXISTING STRUCTURE
	SHRUB
	DECIDUOUS TREE
	CONIFEROUS TREE
	SINGLE POLE SIGN
	DOUBLE POLE SIGN
	DETECTABLE WARNING
X	WIRE FENCE
	WOOD FENCE
	CHAINLINK FENCE
	TREE LINE
	PROPERTY LINE
	EASEMENT LINE
121	MINOR CONTOUR
120	MAJOR CONTOUR
	6" PCC SHARED USE PATH
	9" PCC PAVEMENT
	GRANULAR SURFACING
	TIED CONCRETE BLOCK MAT

LEGEND

UTILITY LINES

EXISTING LINE TYPE	DESCRIPTION	PROPOSED LINE TYPE
OE	ELECTRIC - OVERHEAD	OE
E	ELECTRIC - UNDERGROUND	E
G	GAS MAIN	G
W	WATER MAIN	W
	SANITARY SEWER	
	SANITARY FORCE MAIN	
	STORM SEWER / DRAINAGE TILE	
	STORM SEWER	
OT	TELEPHONE - OVERHEAD	OT
FO	FIBER OPTIC LINE - UNDERGROUND	FO

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TELC BP#3
TRAIL EXTENSION
STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: BTP
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 02/11/2020
PROJECT NO. 4162590
FIELD BOOK: ---
CLIENT NO: ---

GENERAL NOTES AND LEGEND

C.04

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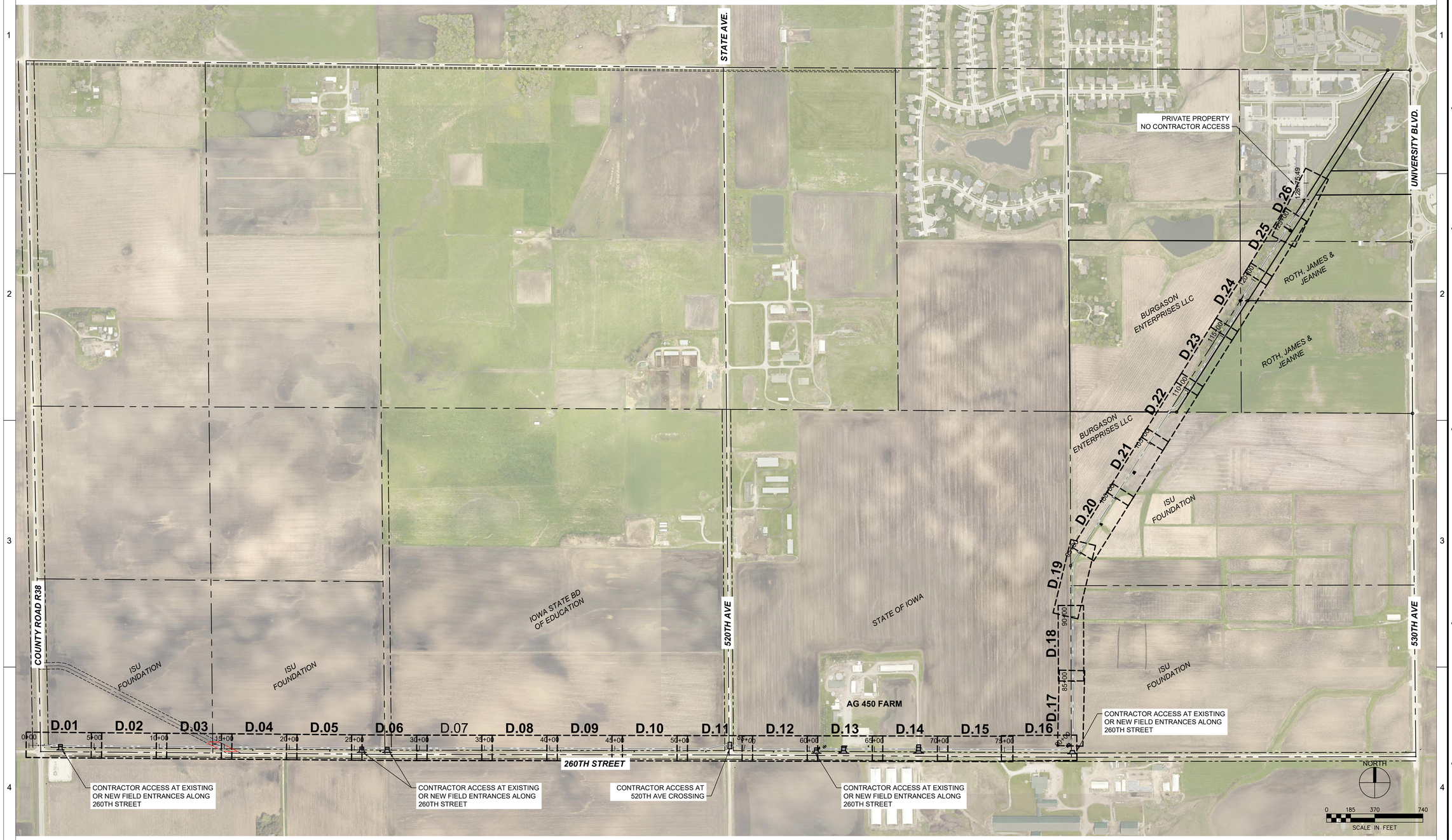

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TELC BP#3 TRAIL EXTENSION

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STORY COUNTY, IOWA

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OVERALL PROJECT PLAN

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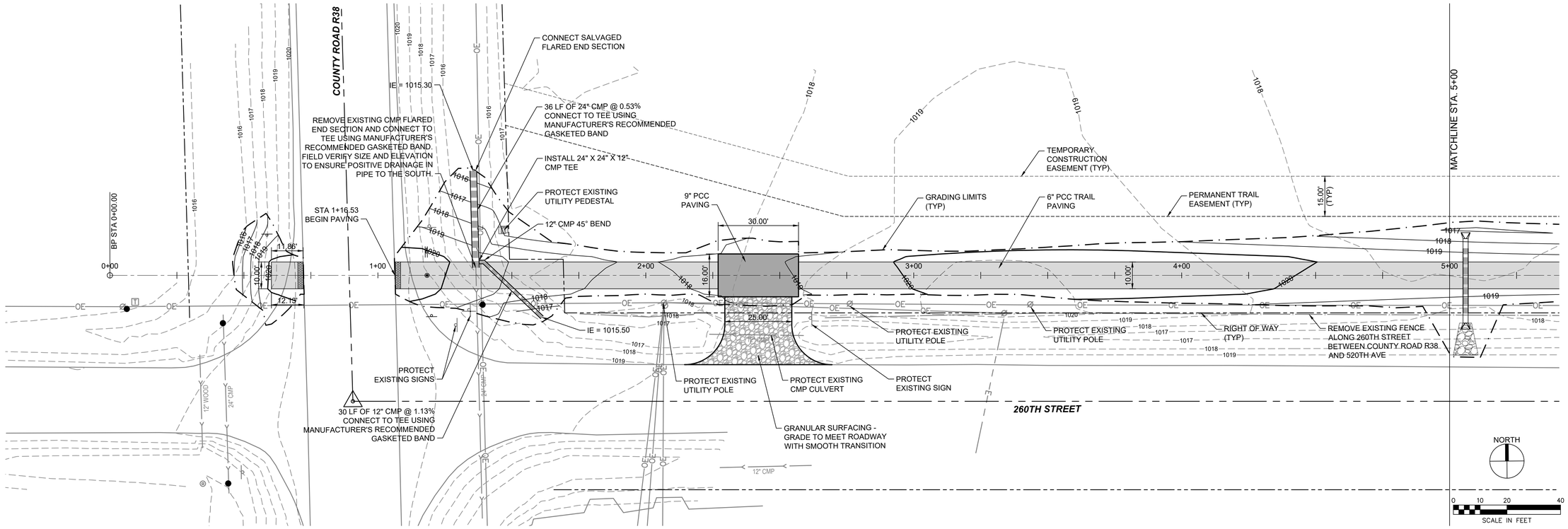

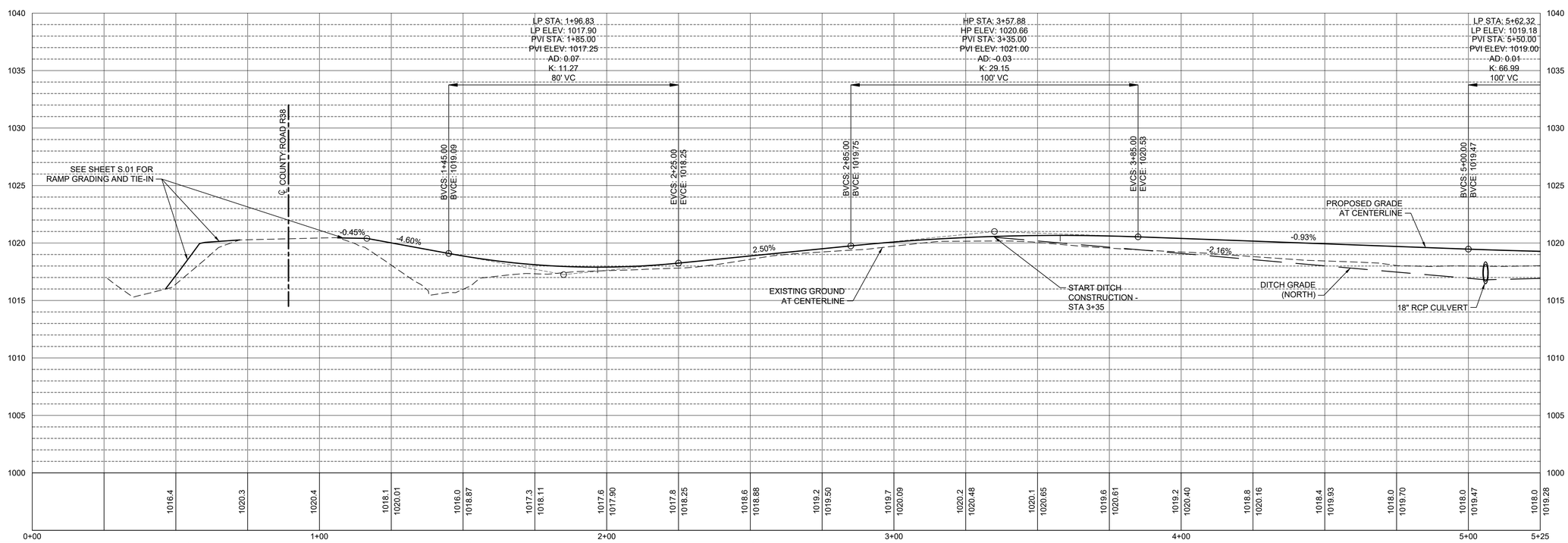

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STORY COUNTY CONSERVATION

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STORY COUNTY, IOWA

DRAWN: CWH
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CLIENT NO: ---

PLAN AND PROFILE

D.01

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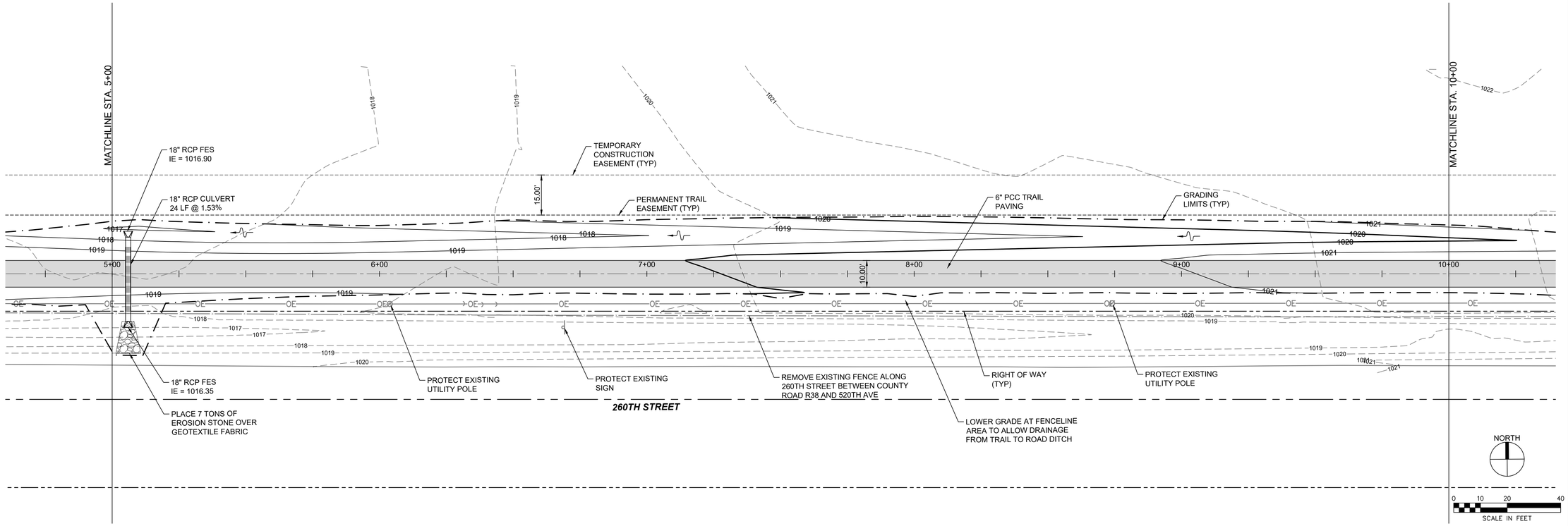

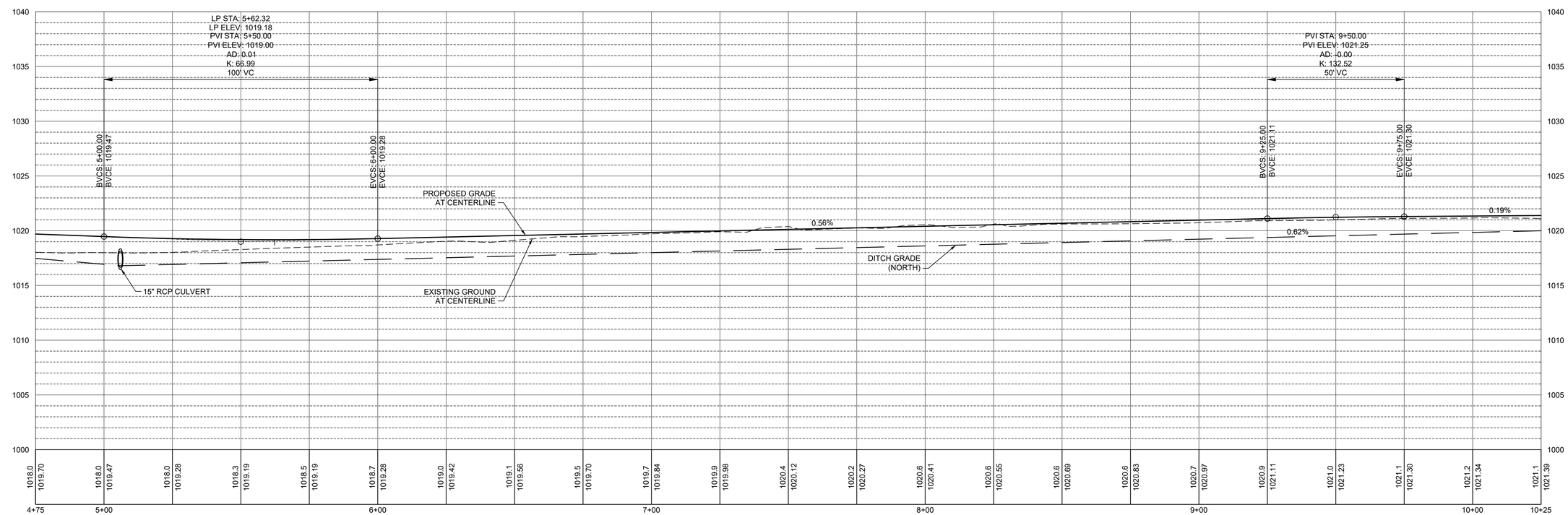

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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

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STORY COUNTY, IOWA

DRAWN: CWH
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FIELD BOOK: ---
CLIENT NO: ---

PLAN AND PROFILE

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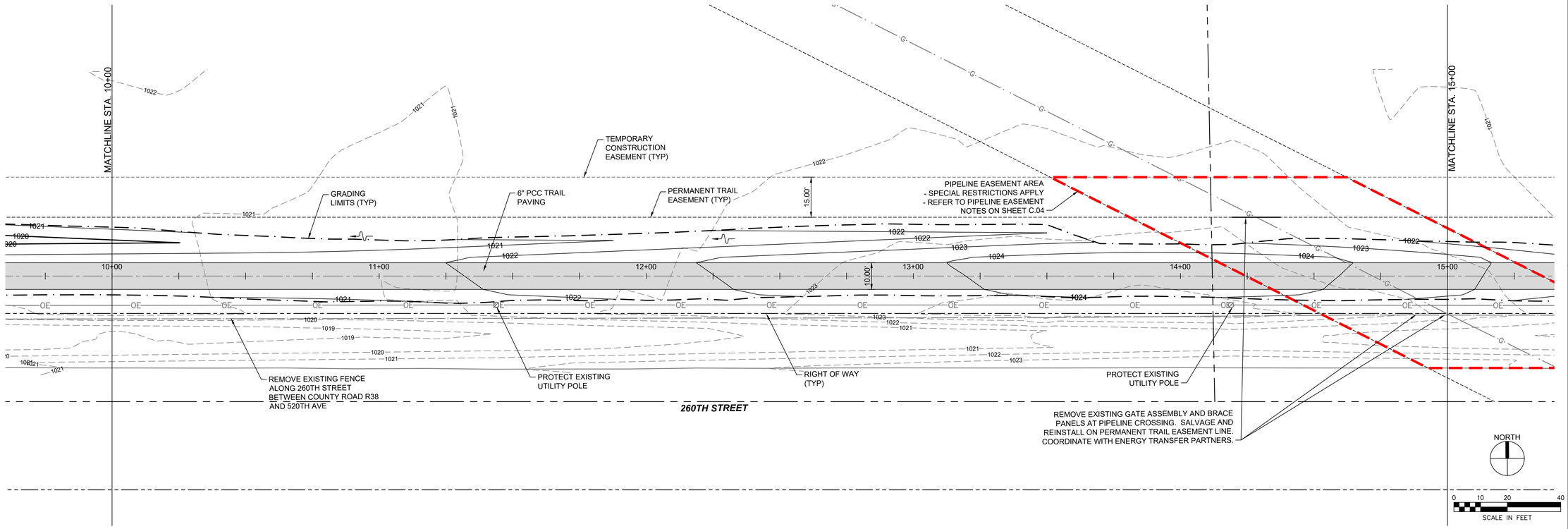

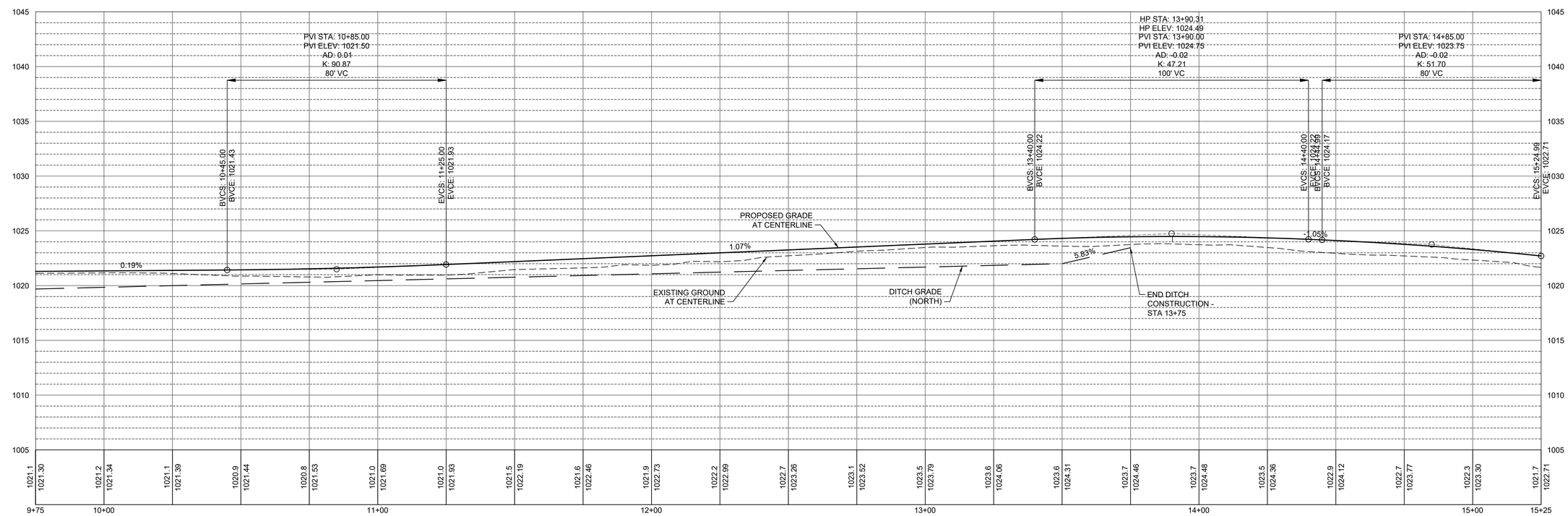

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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

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STORY COUNTY, IOWA

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FIELD BOOK: ---
CLIENT NO: ---

PLAN AND PROFILE

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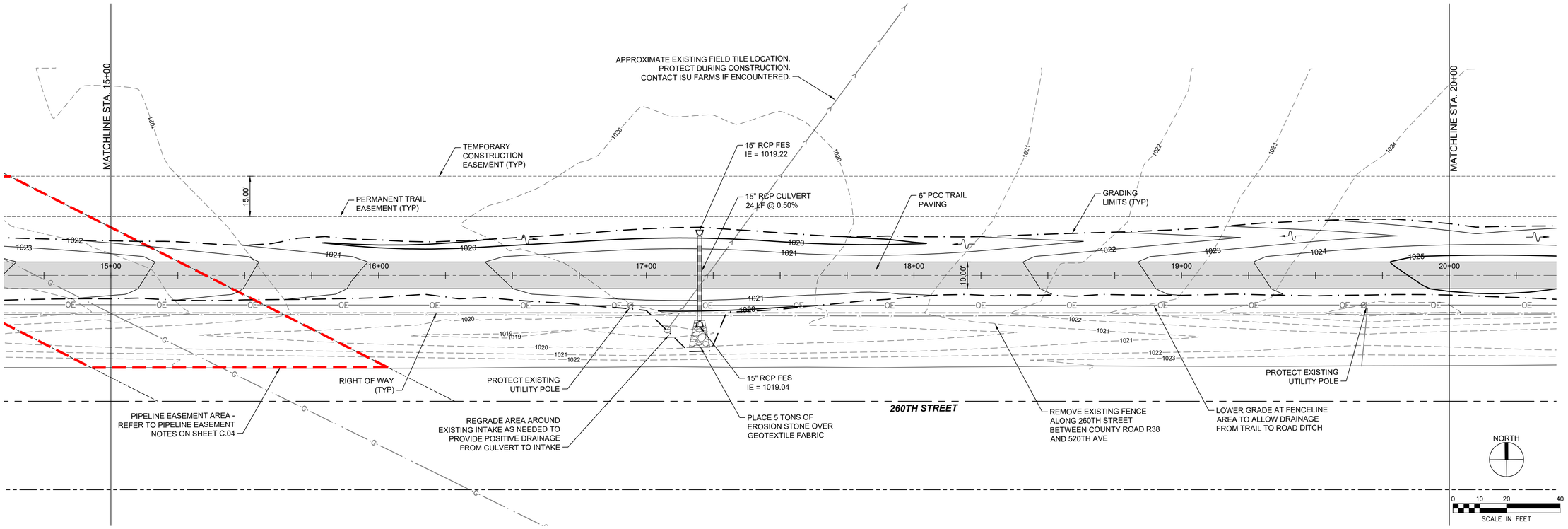

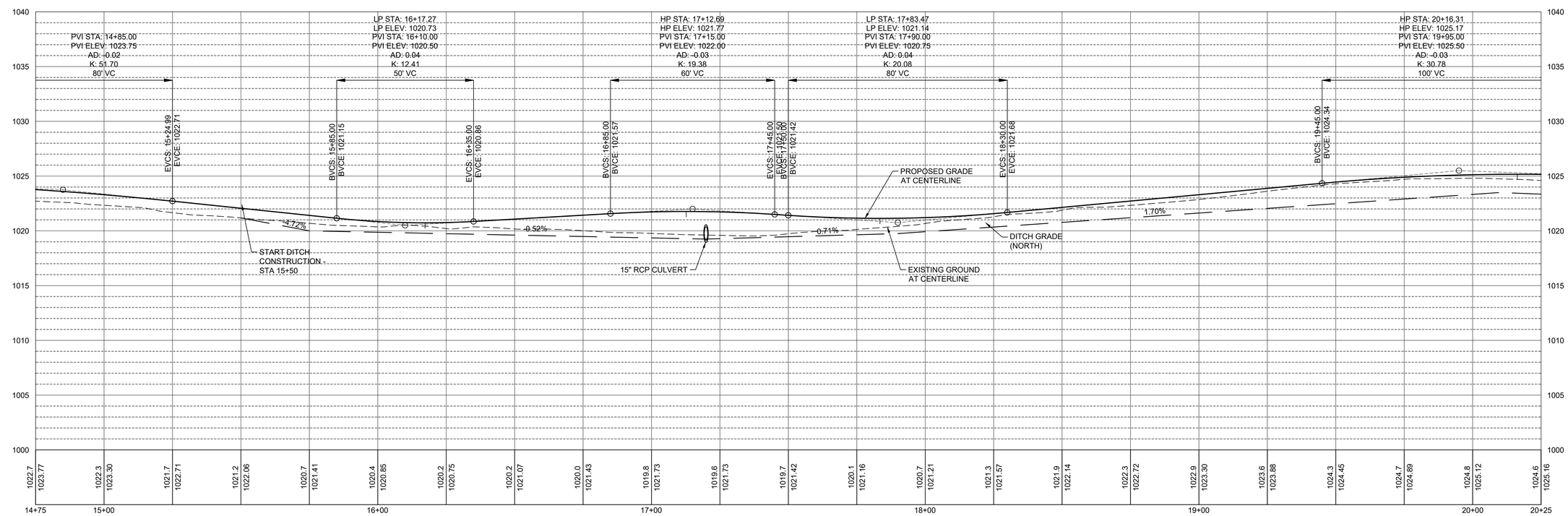

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PLAN AND PROFILE

D.04

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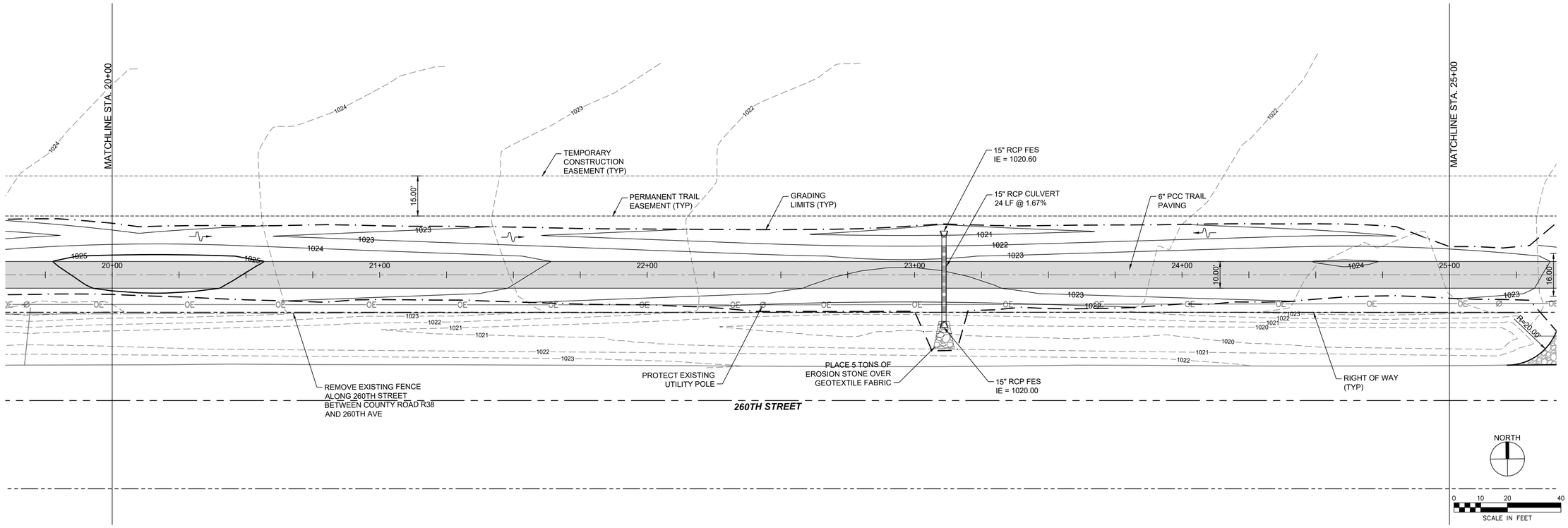

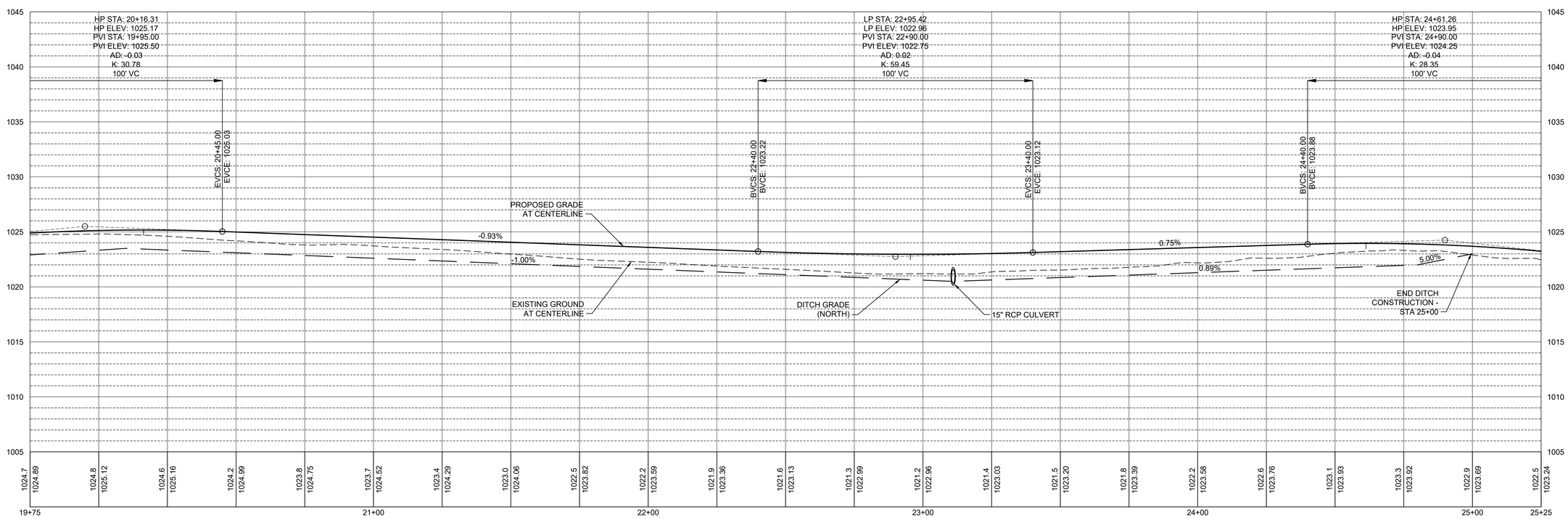

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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: CWH
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 02/11/2020
PROJECT NO. 4162590
FIELD BOOK: ---
CLIENT NO: ---

PLAN AND PROFILE

D.05

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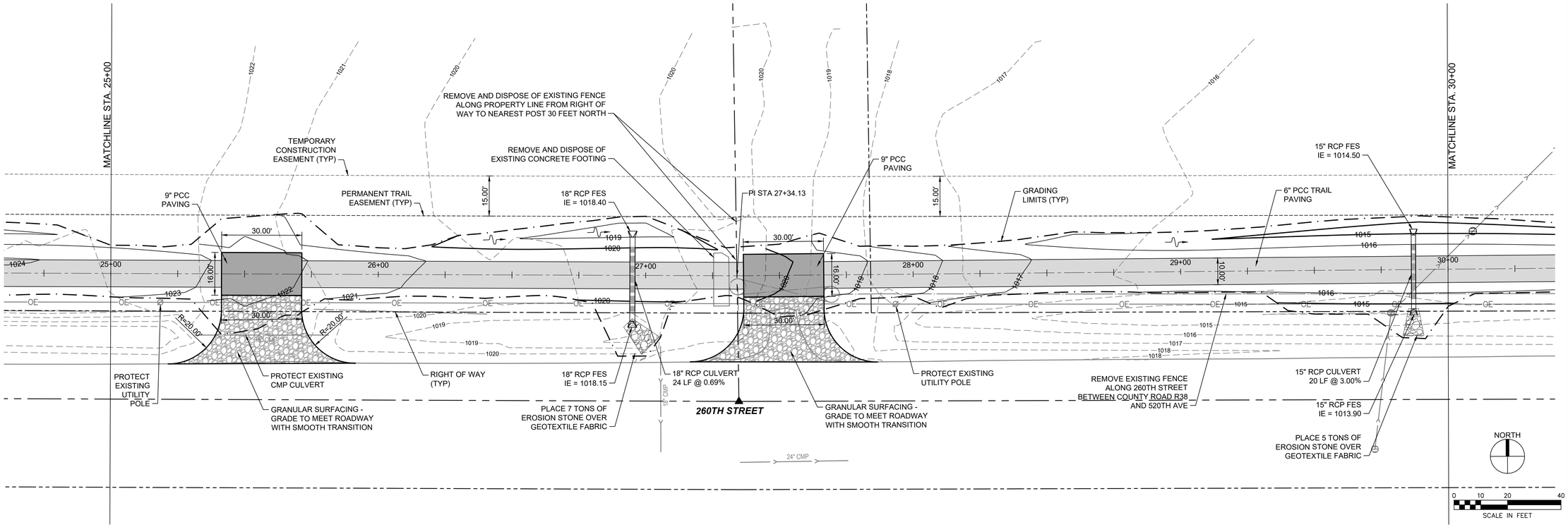

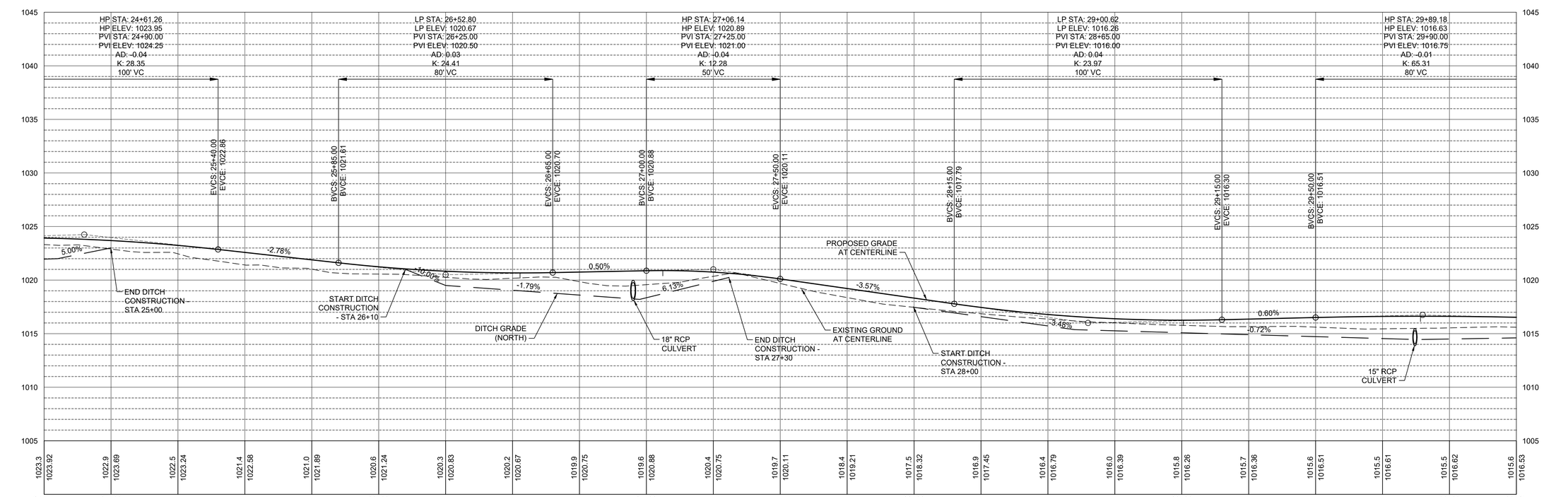

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STORY COUNTY, IOWA

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PLAN AND PROFILE

D.06

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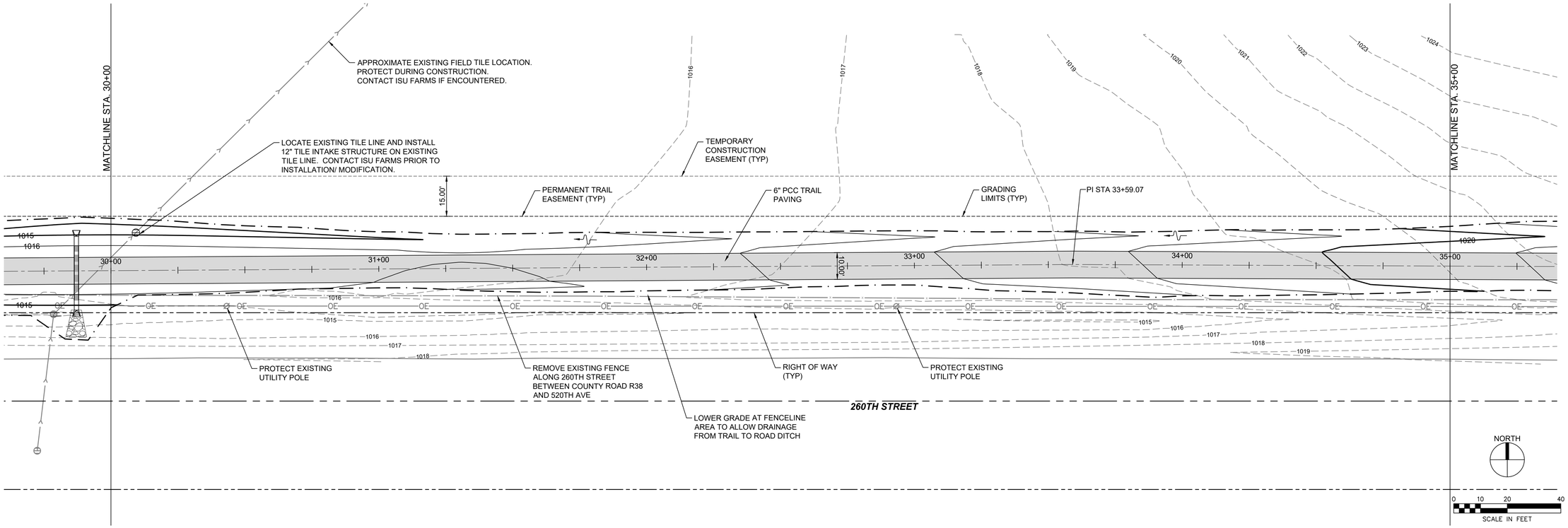

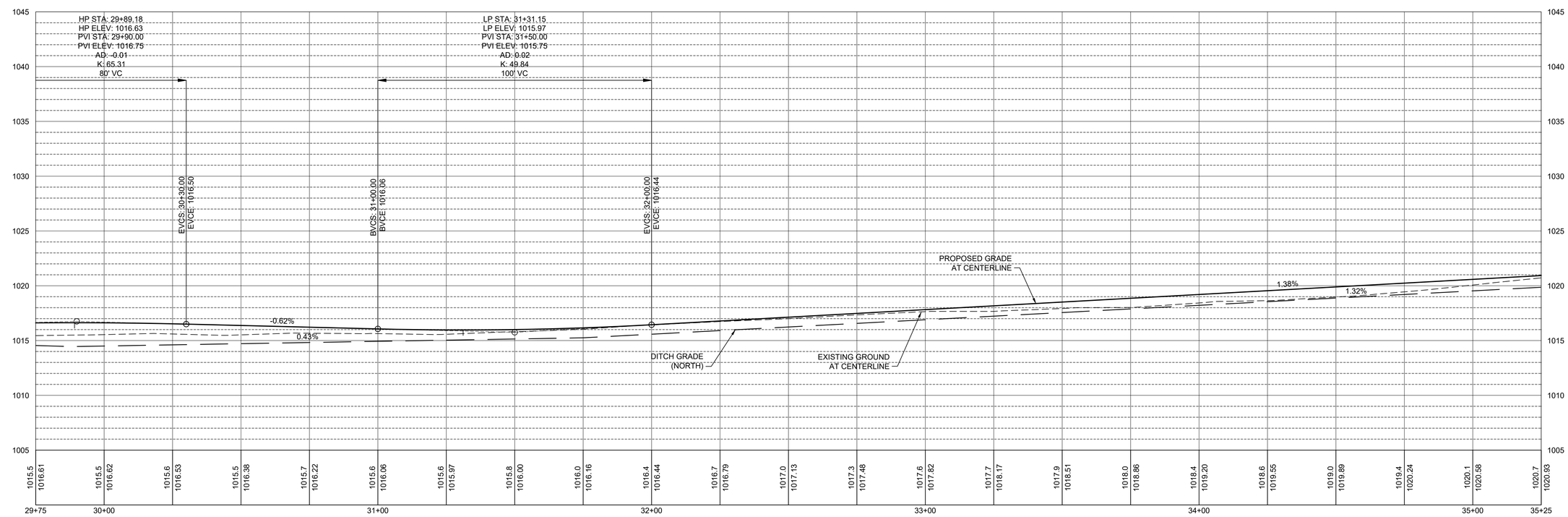

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STORY COUNTY, IOWA

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PLAN AND PROFILE

D.07

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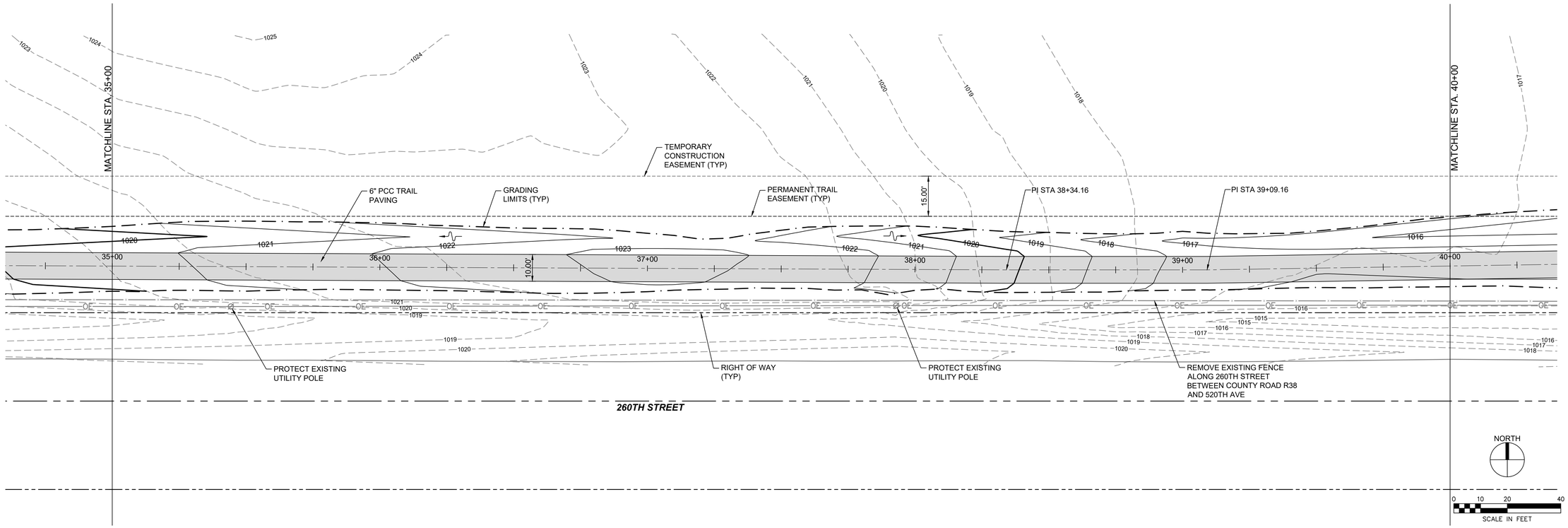

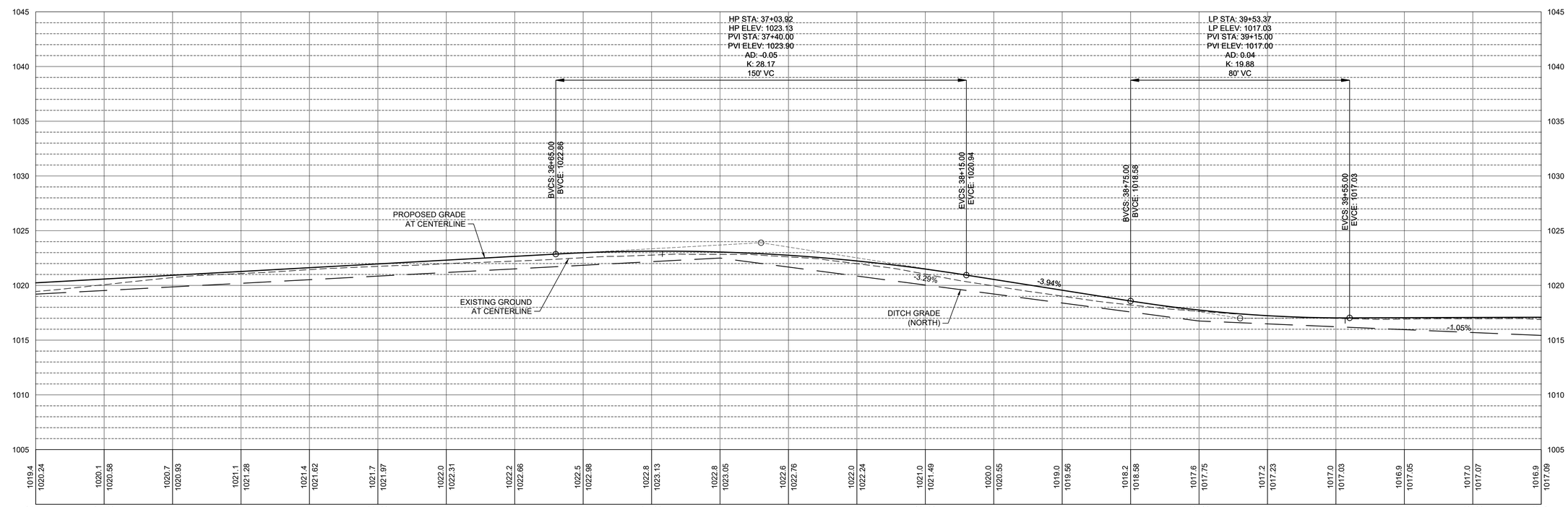

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TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

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FIELD BOOK: ---
CLIENT NO: ---

PLAN AND PROFILE

D.08

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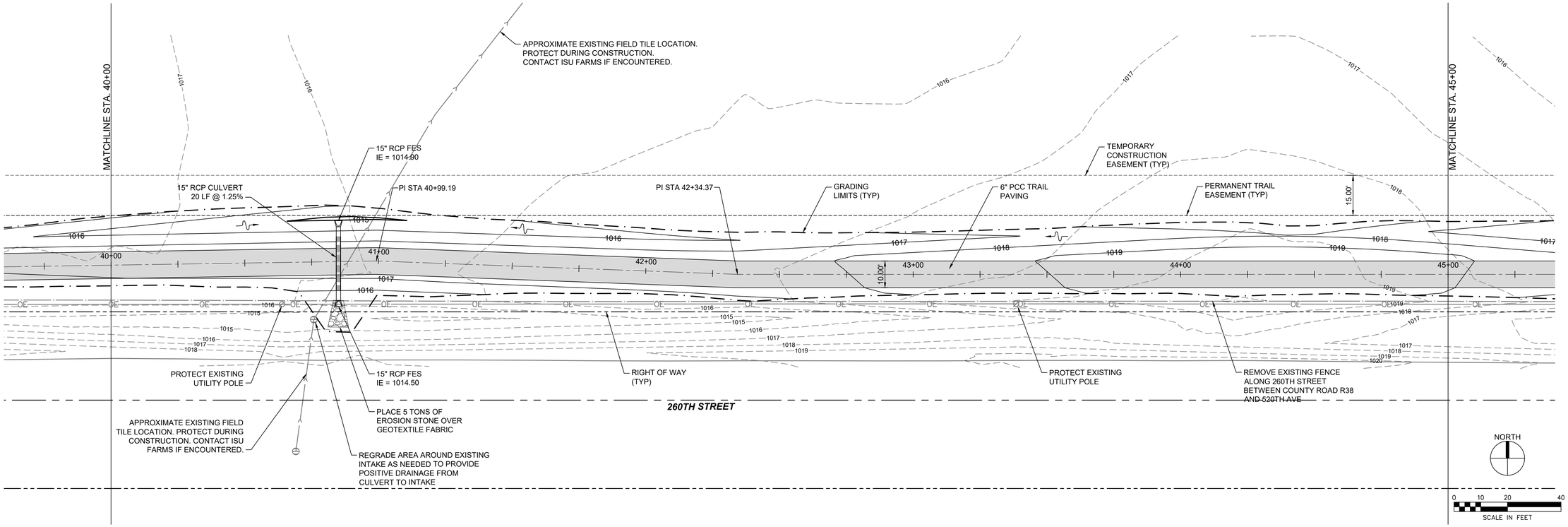

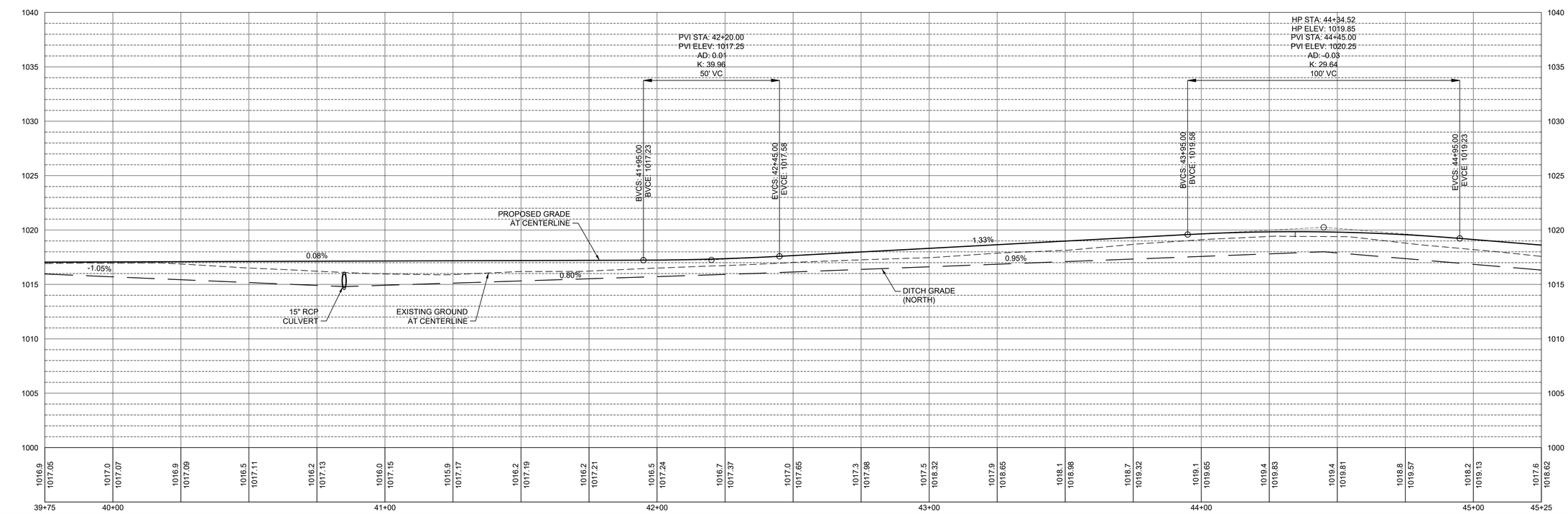

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TELC BP#3 TRAIL EXTENSION

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STORY COUNTY, IOWA

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PLAN AND PROFILE

D.09

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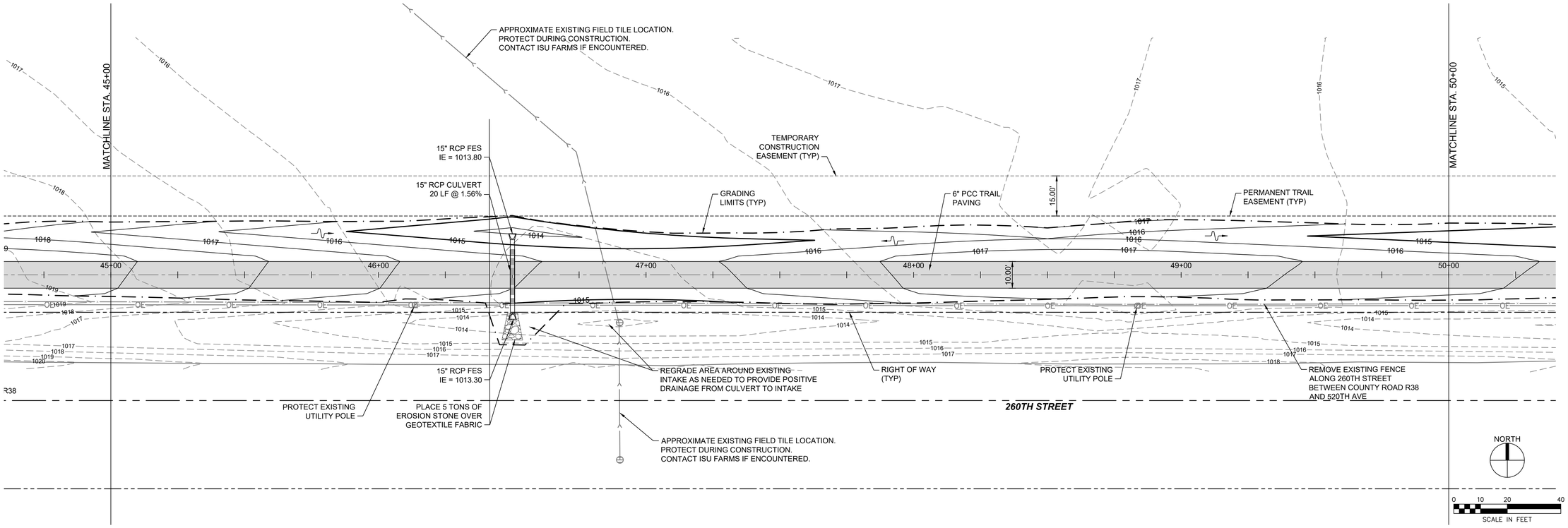

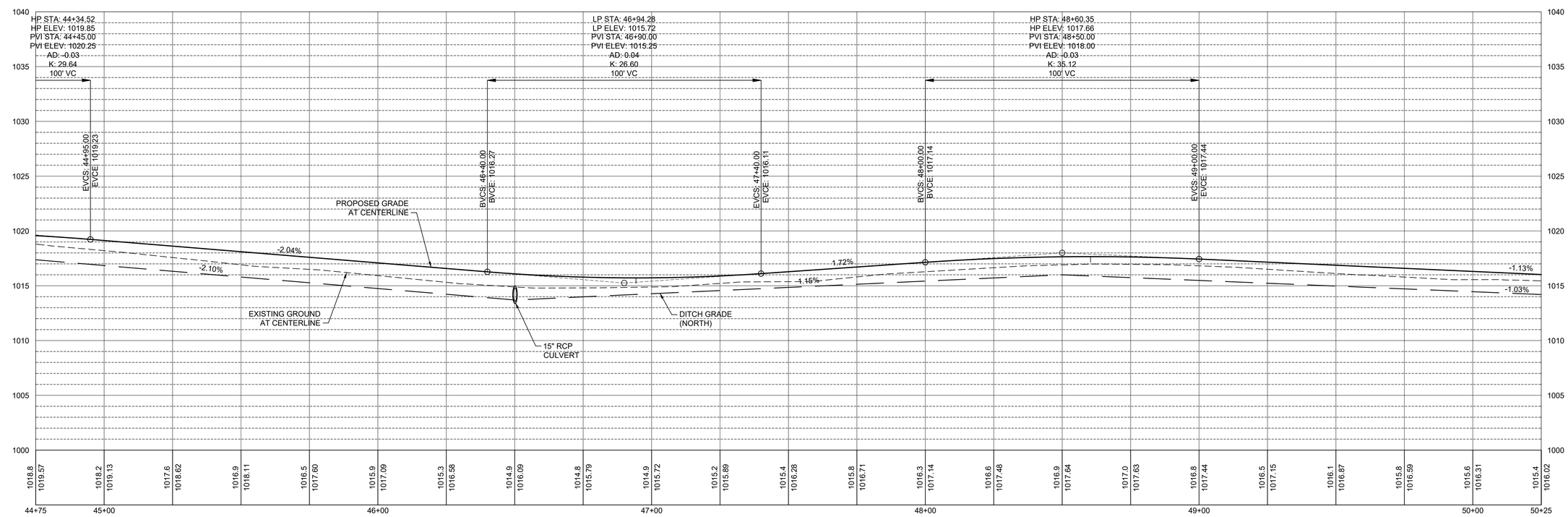

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TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: CWH
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PLAN AND PROFILE

D.10

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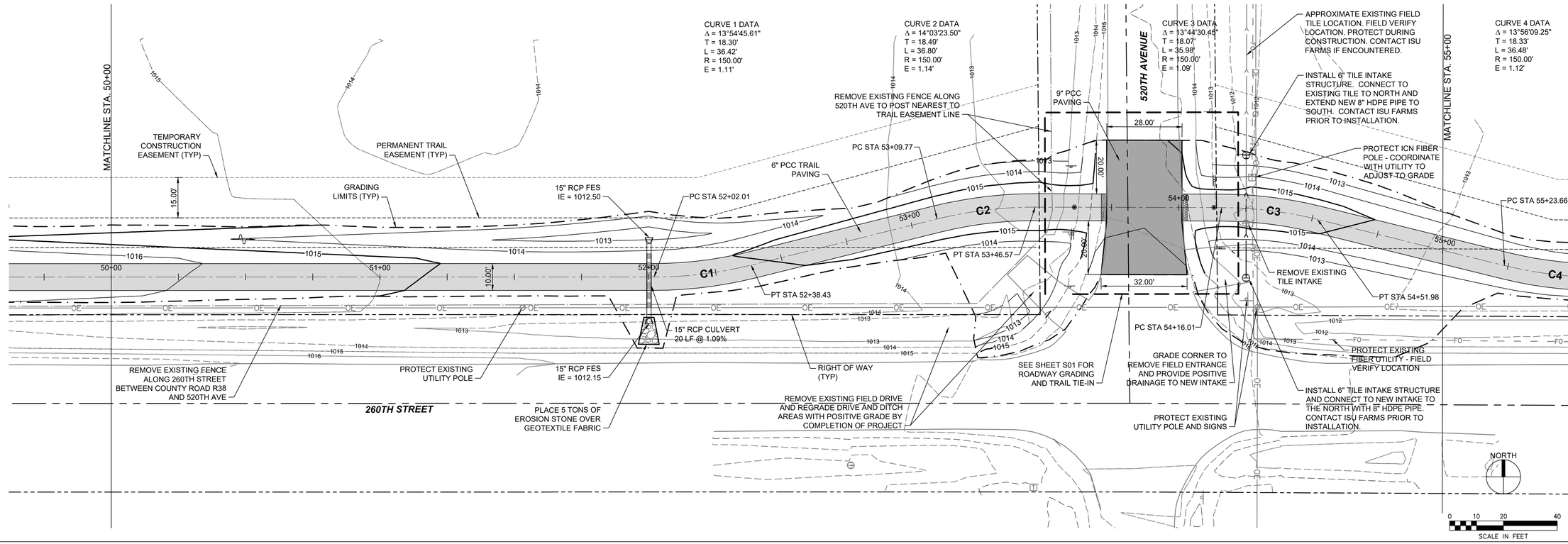

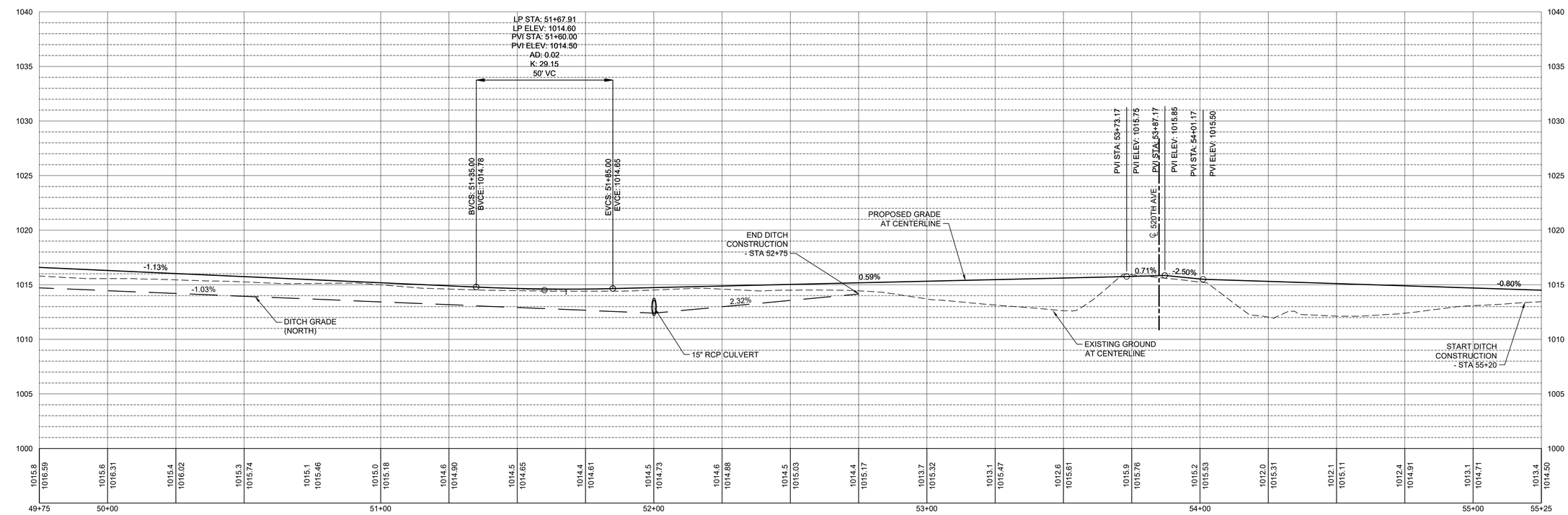

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STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

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PLAN AND PROFILE

D.11

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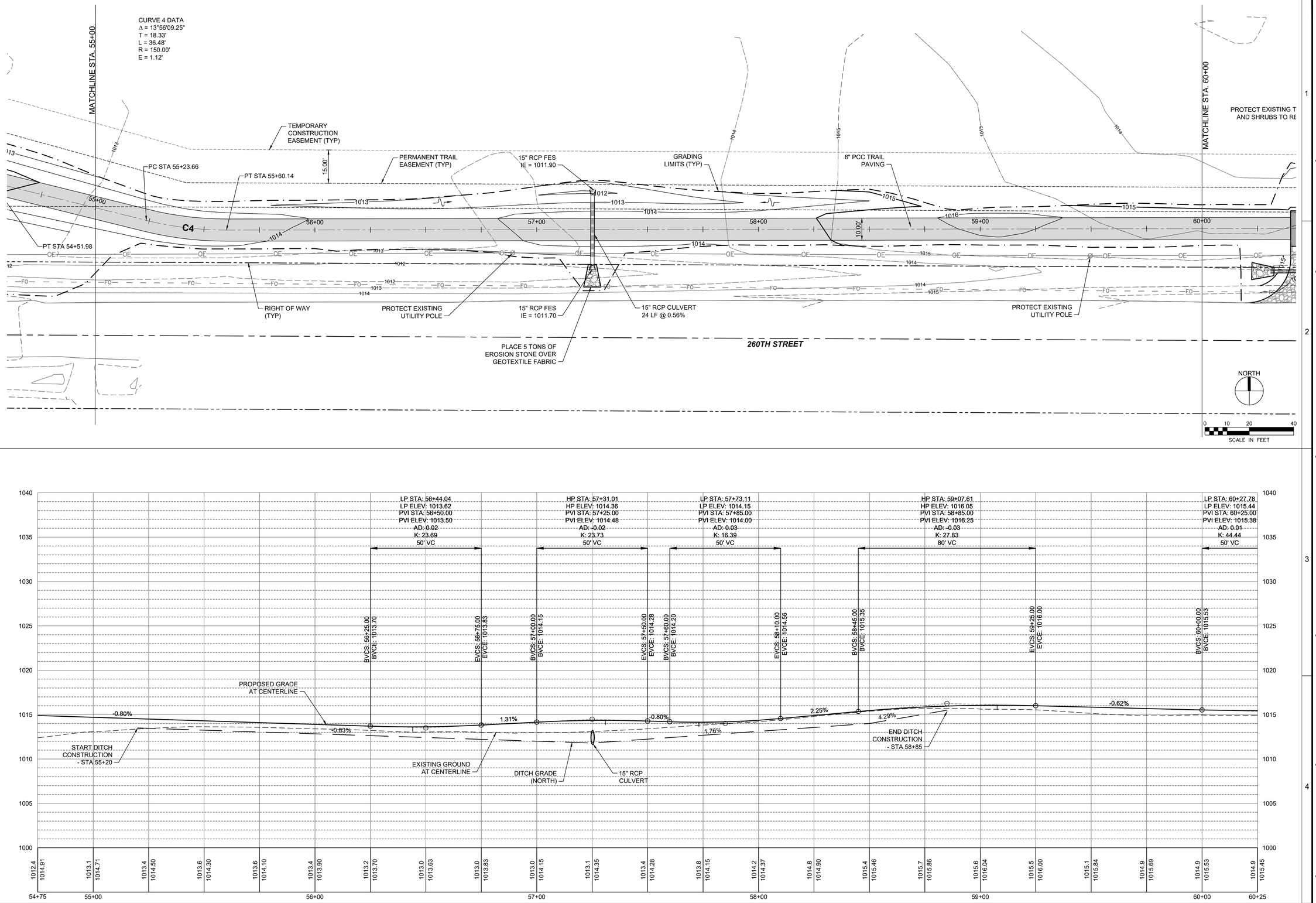

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STORY COUNTY, IOWA

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PLAN AND PROFILE

D.12

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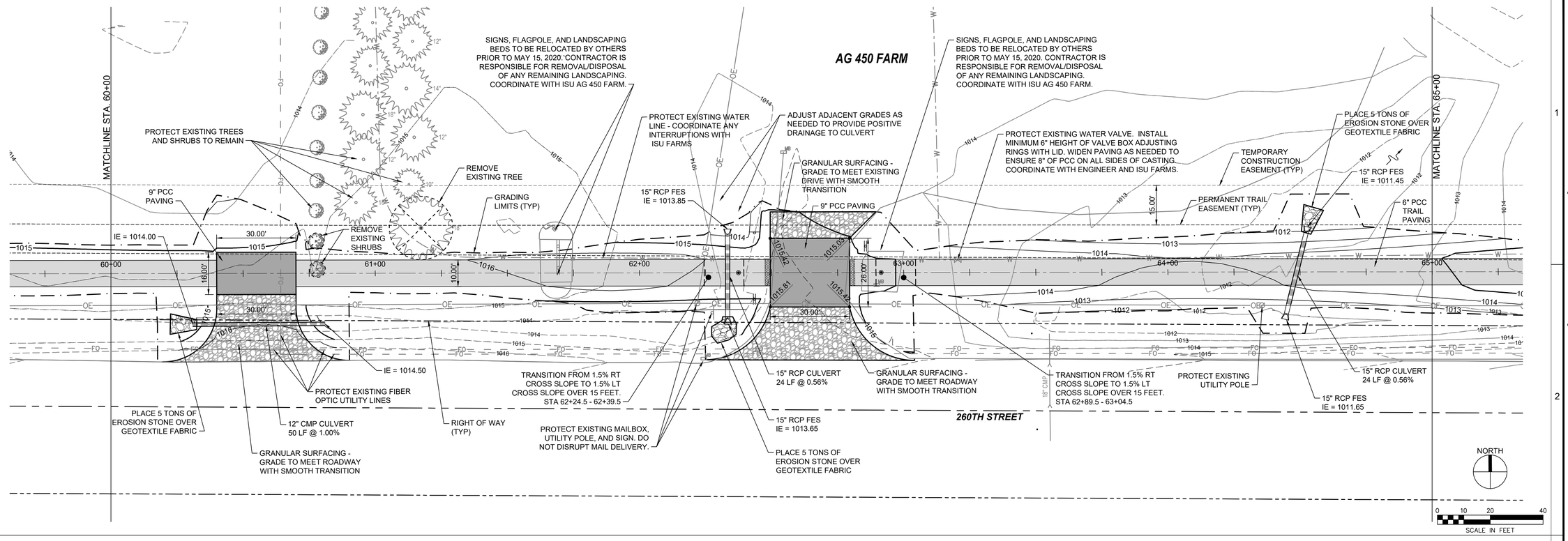

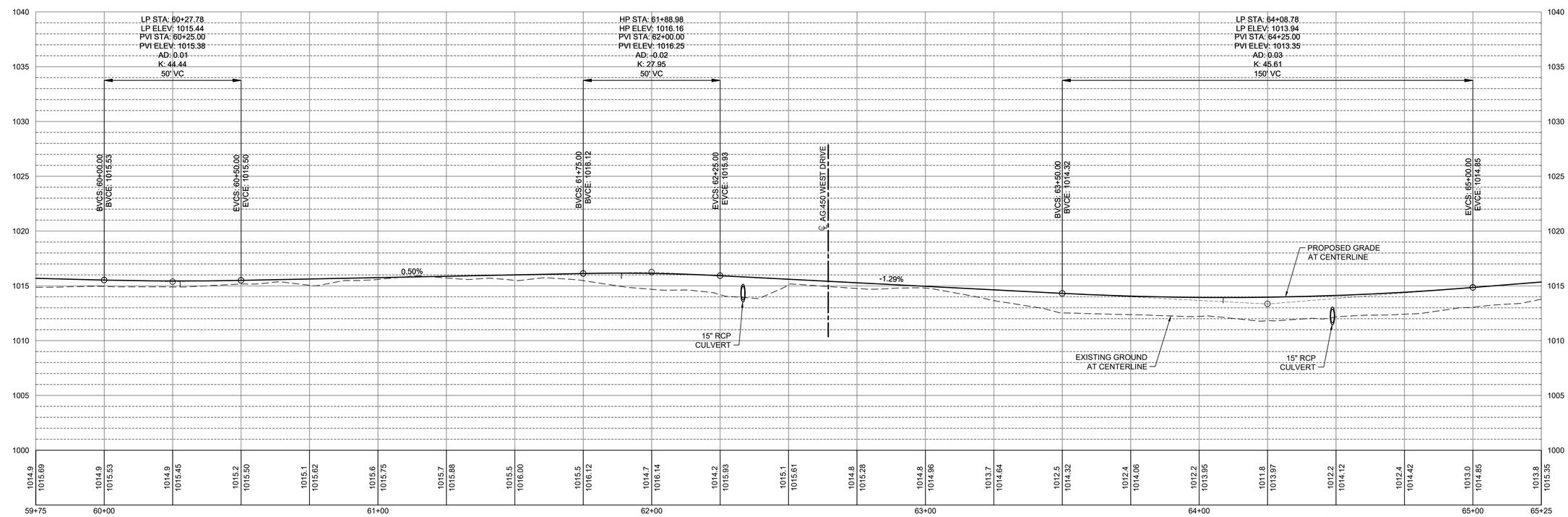

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TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

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PLAN AND PROFILE

D.13

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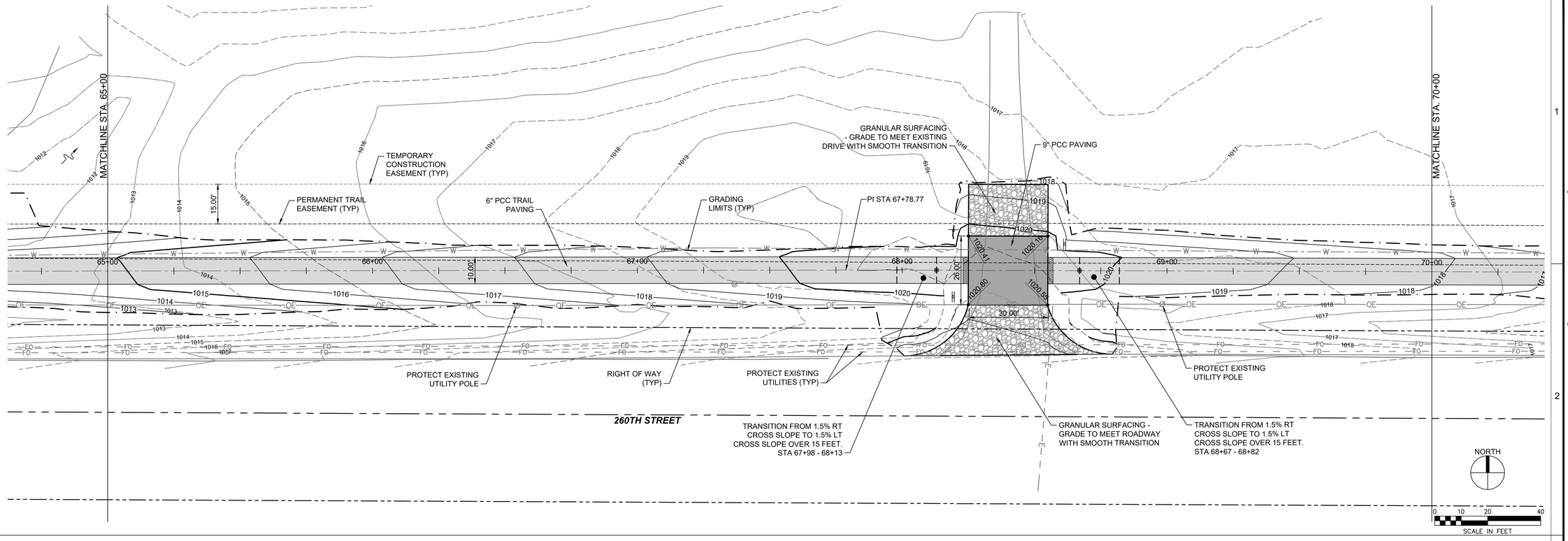

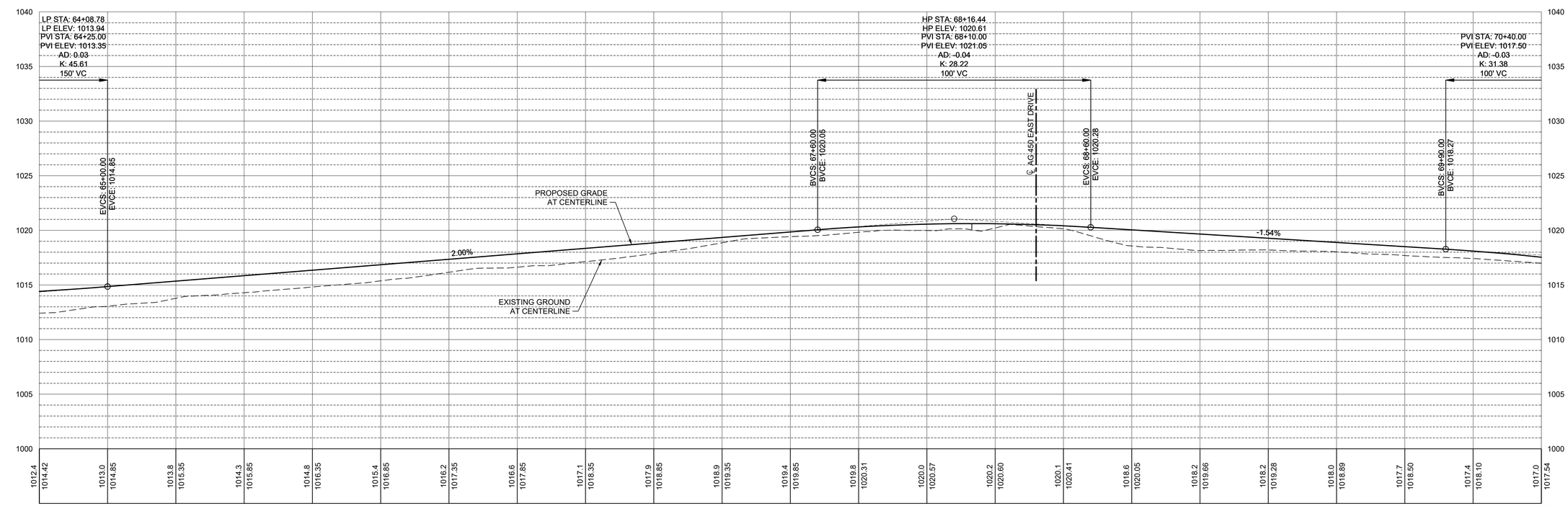

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TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: CWH
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ISSUED FOR: CONSTRUCTION
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PROJECT NO.:4162590
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PLAN AND PROFILE

D.14

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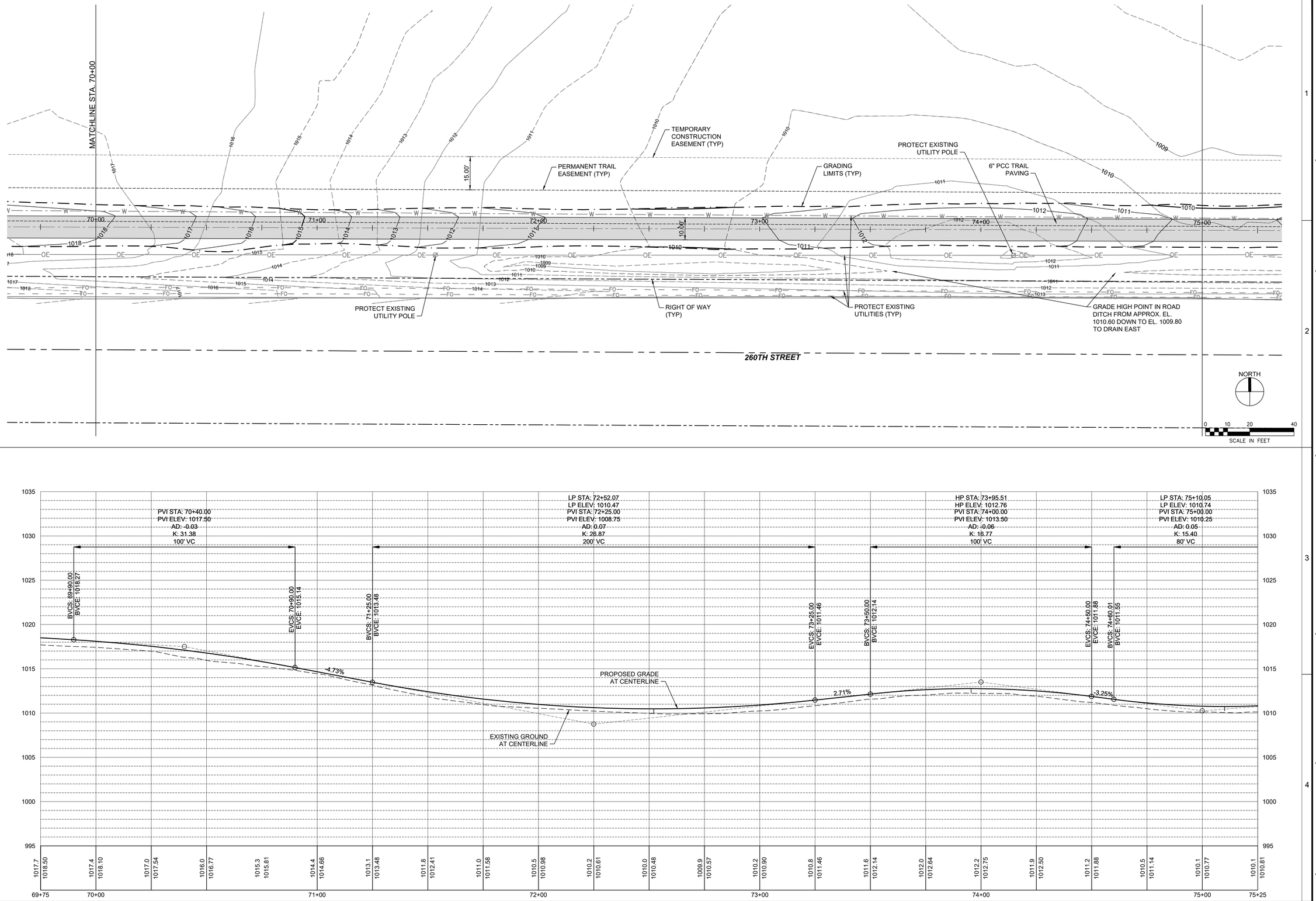

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TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: CWH
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PROJECT NO: 4162590
FIELD BOOK: ---
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PLAN AND PROFILE

D.15

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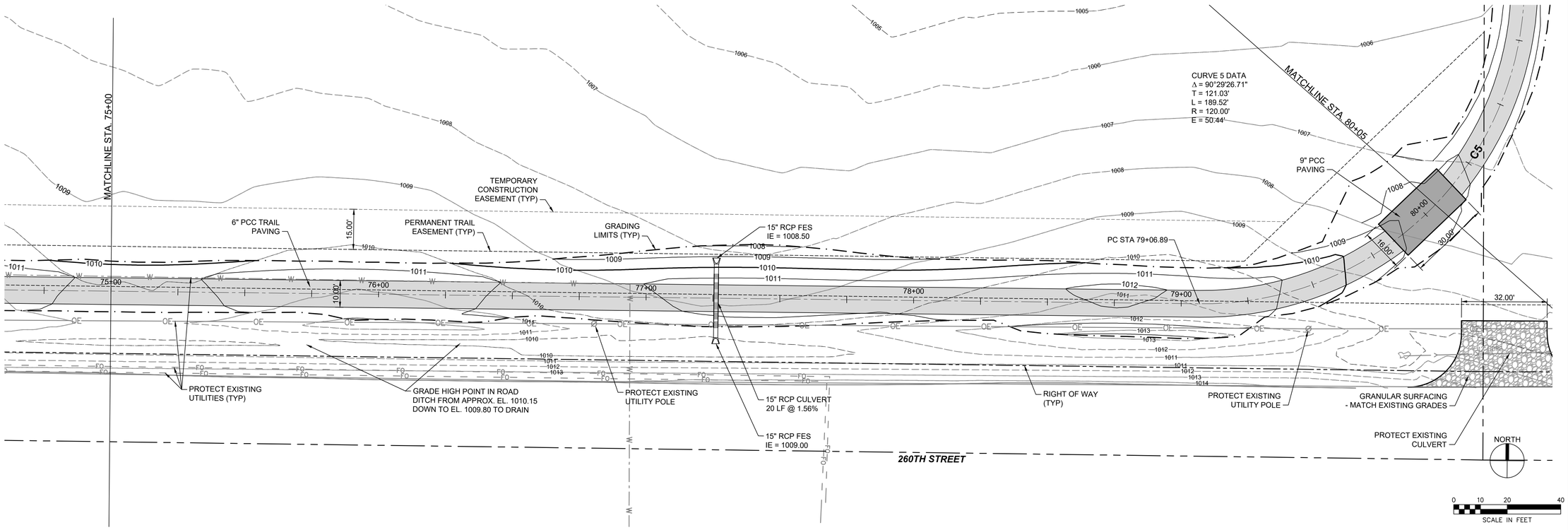

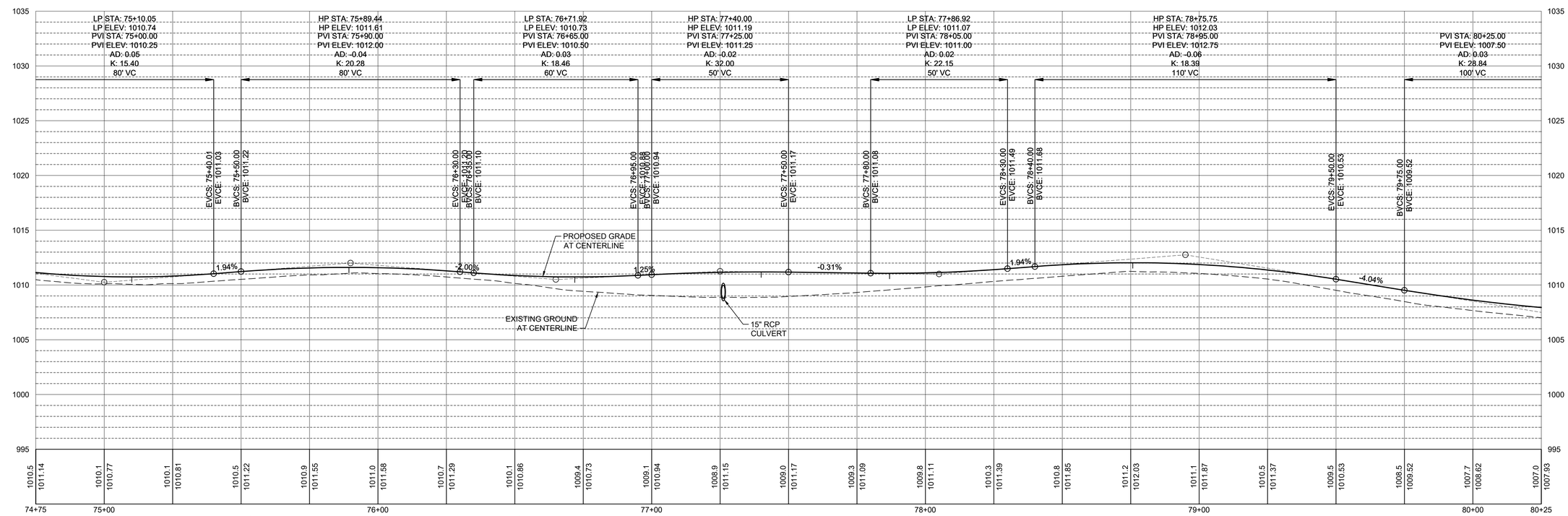

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STORY COUNTY, IOWA

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PLAN AND PROFILE

D.16

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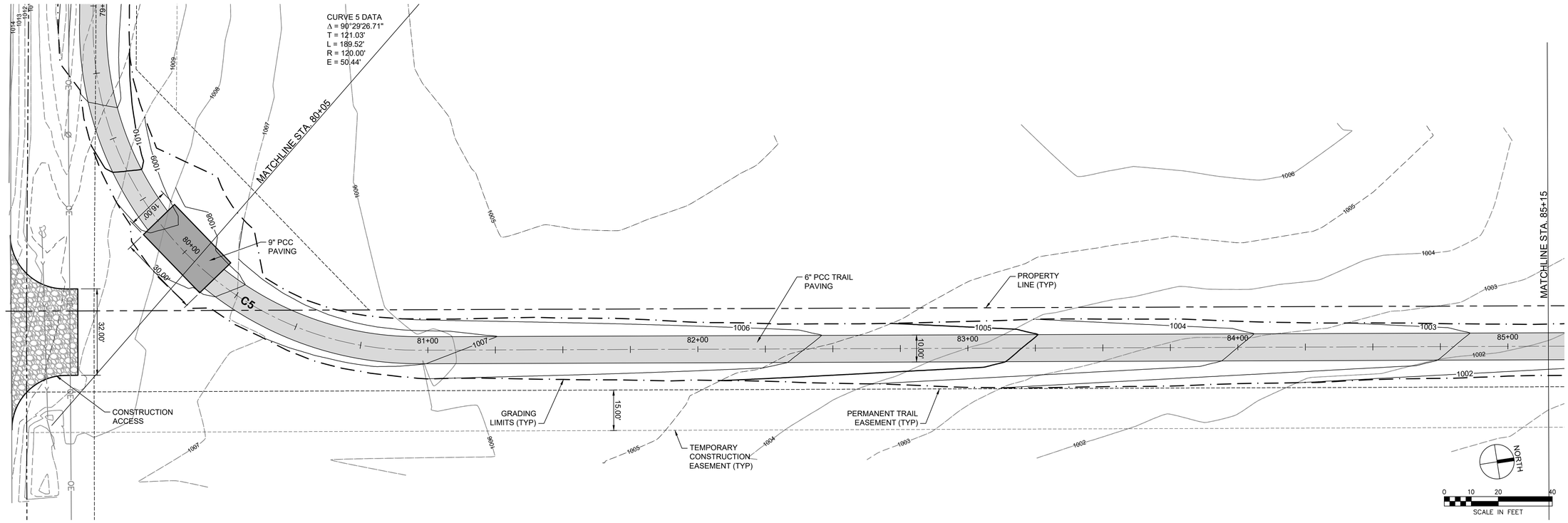

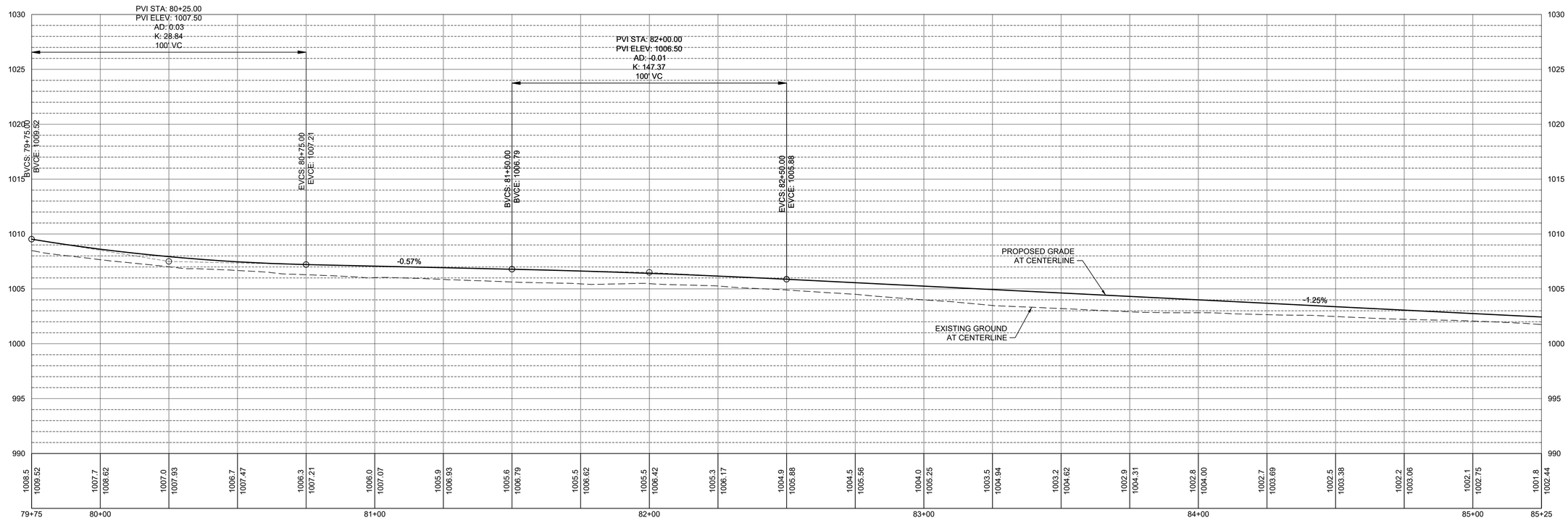

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TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

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PLAN AND PROFILE

D.17

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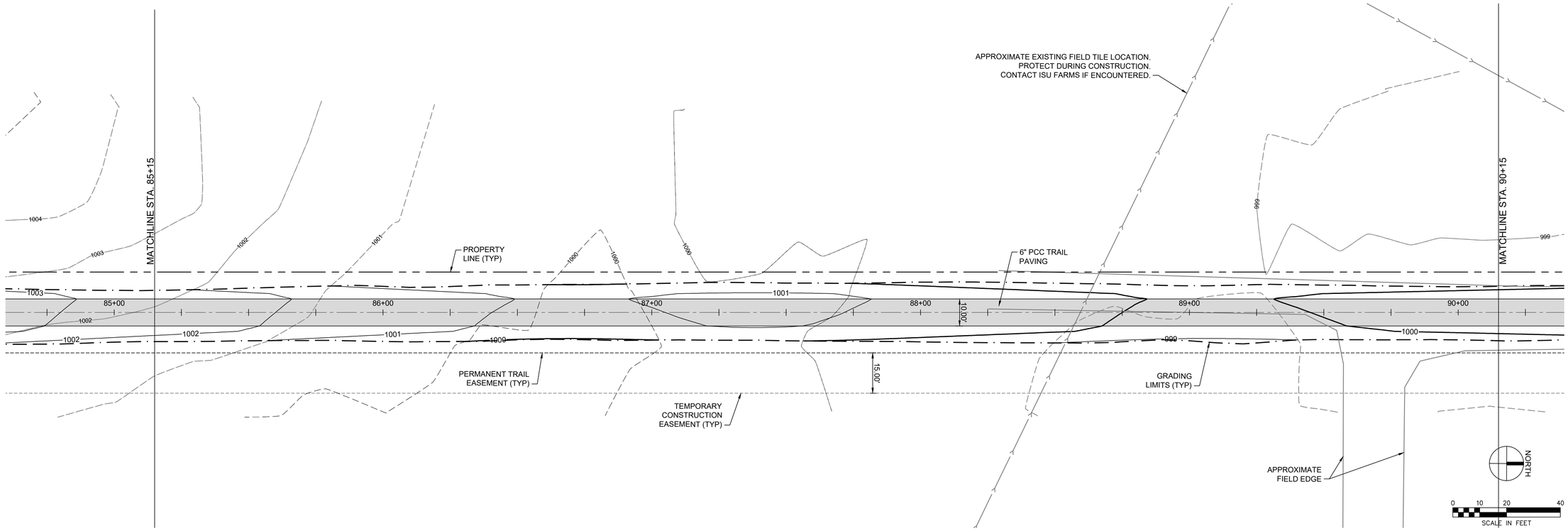

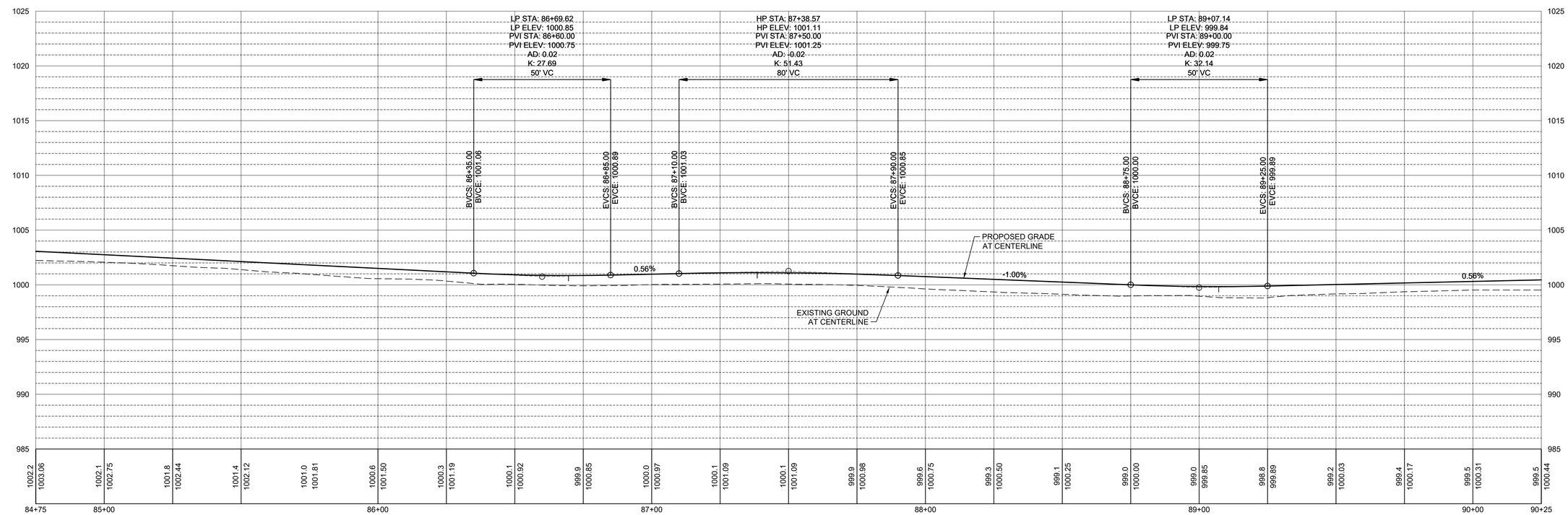

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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: CWH
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ISSUED FOR: CONSTRUCTION
DATE: 02/11/2020
PROJECT NO.:4162590
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PLAN AND PROFILE

D.18

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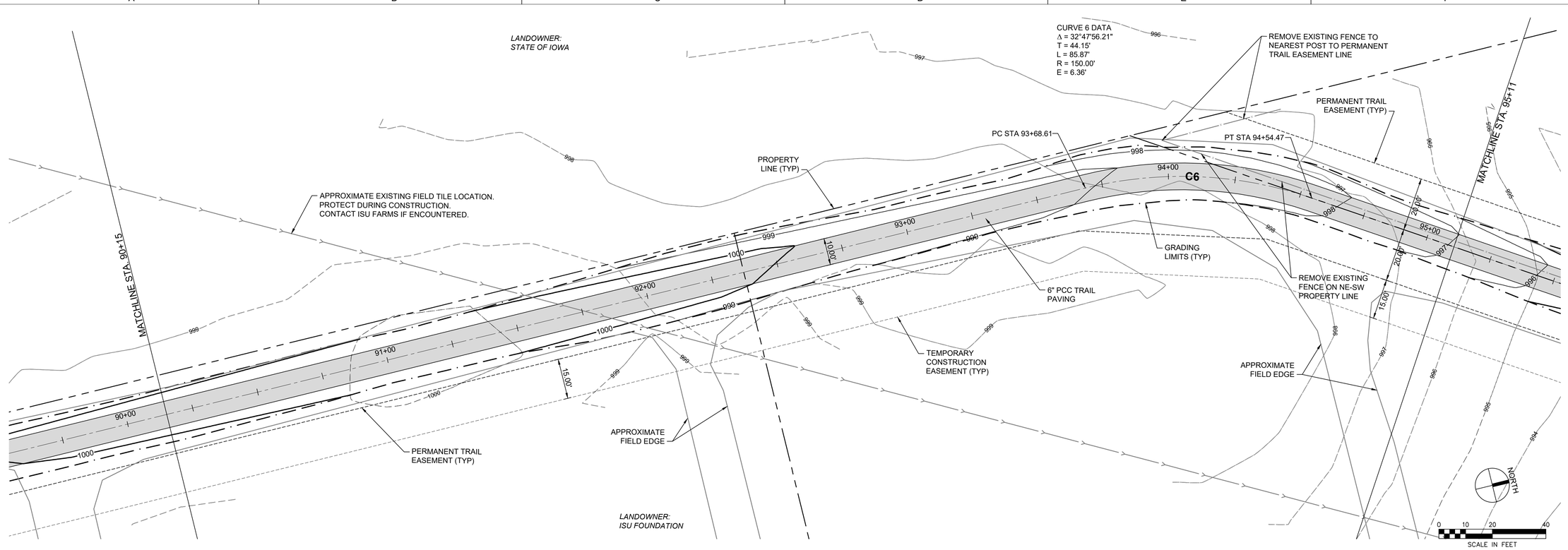

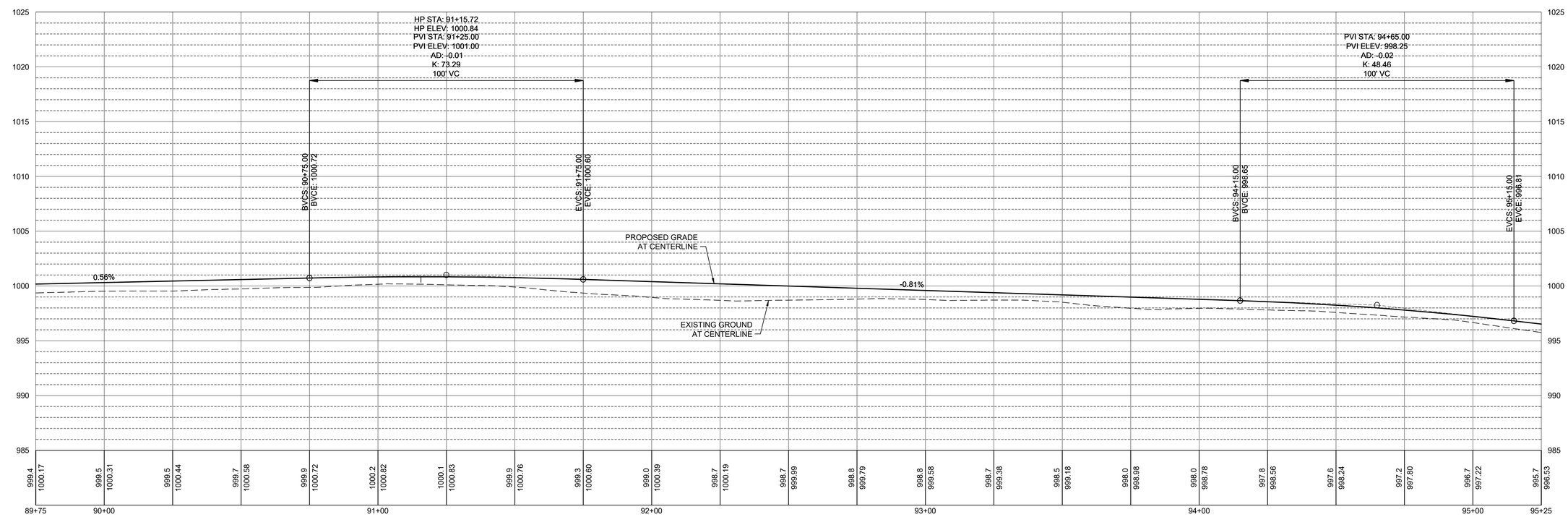

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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: CWH
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ISSUED FOR: CONSTRUCTION
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PROJECT NO.:4162590
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PLAN AND PROFILE

D.19

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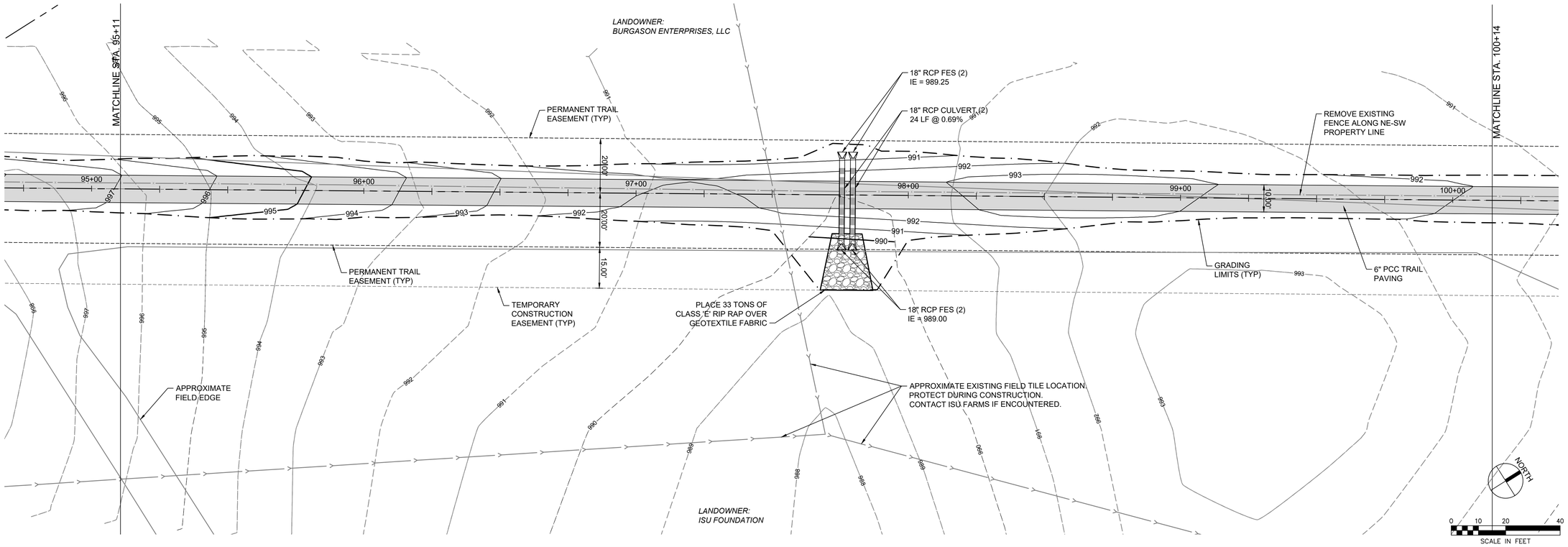

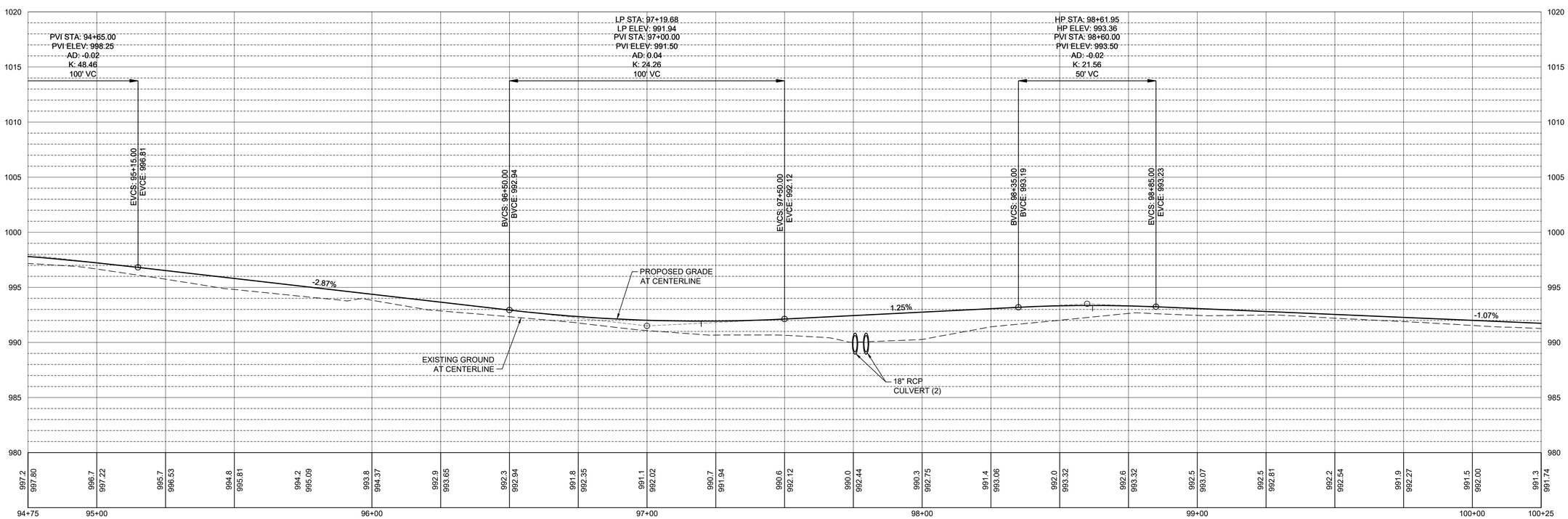

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STORY COUNTY CONSERVATION

TELC BP#3
TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: CWH
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 02/11/2020
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PLAN AND PROFILE

D.20

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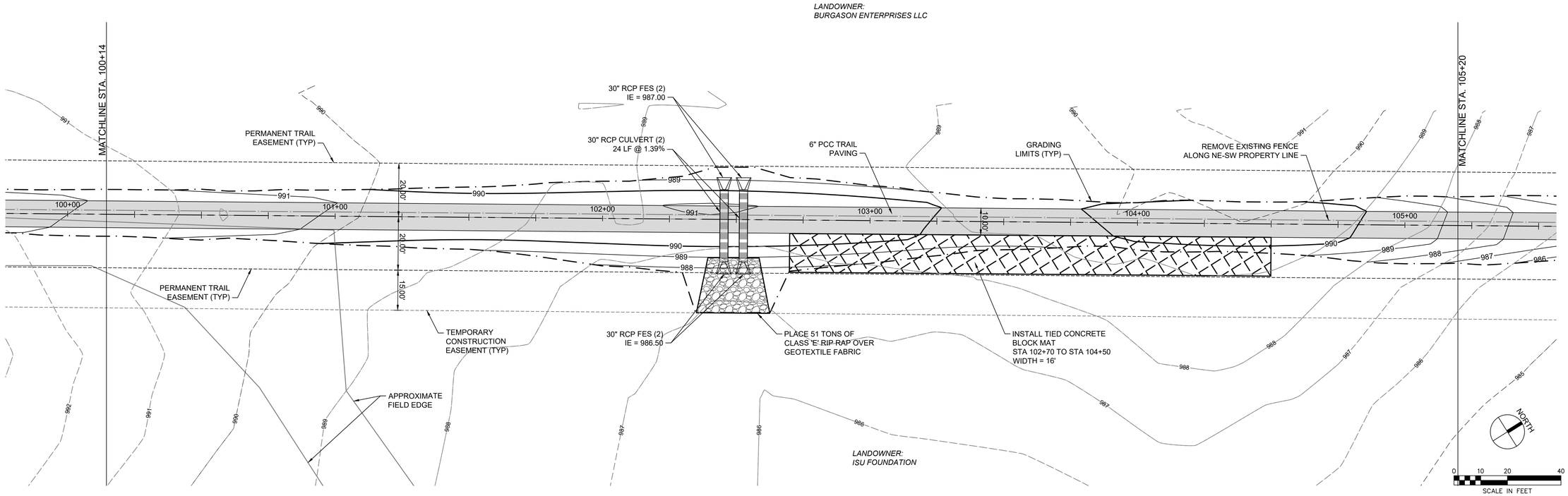

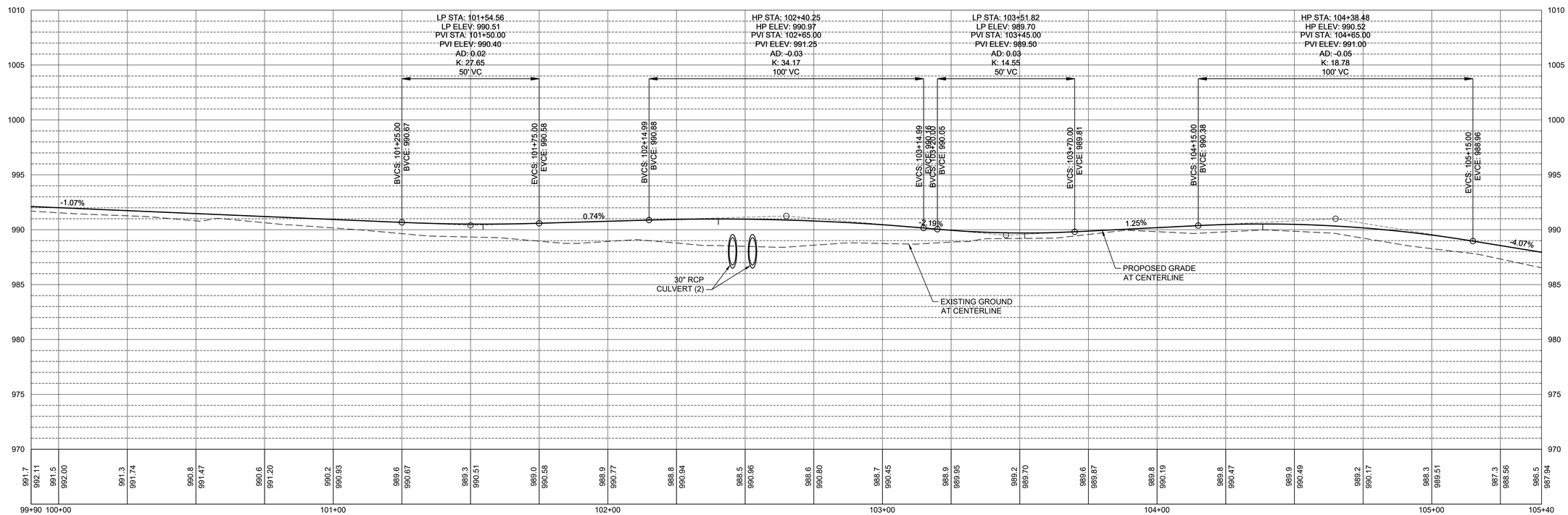

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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

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PLAN AND PROFILE

D.21

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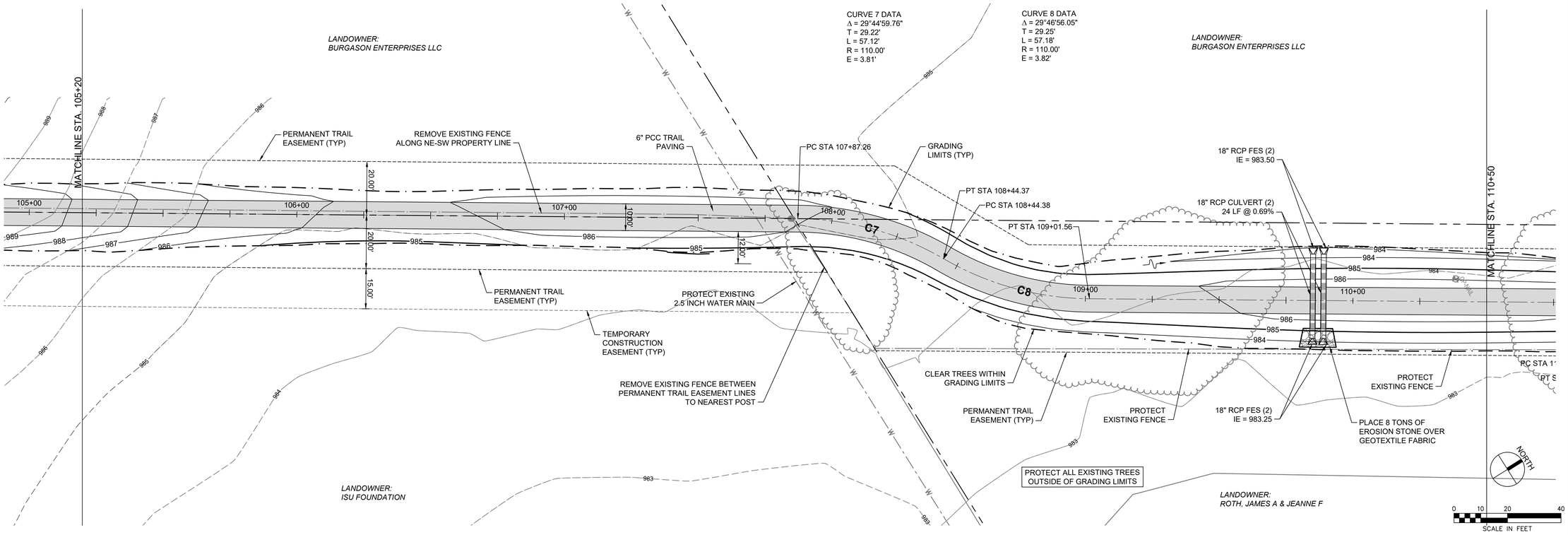

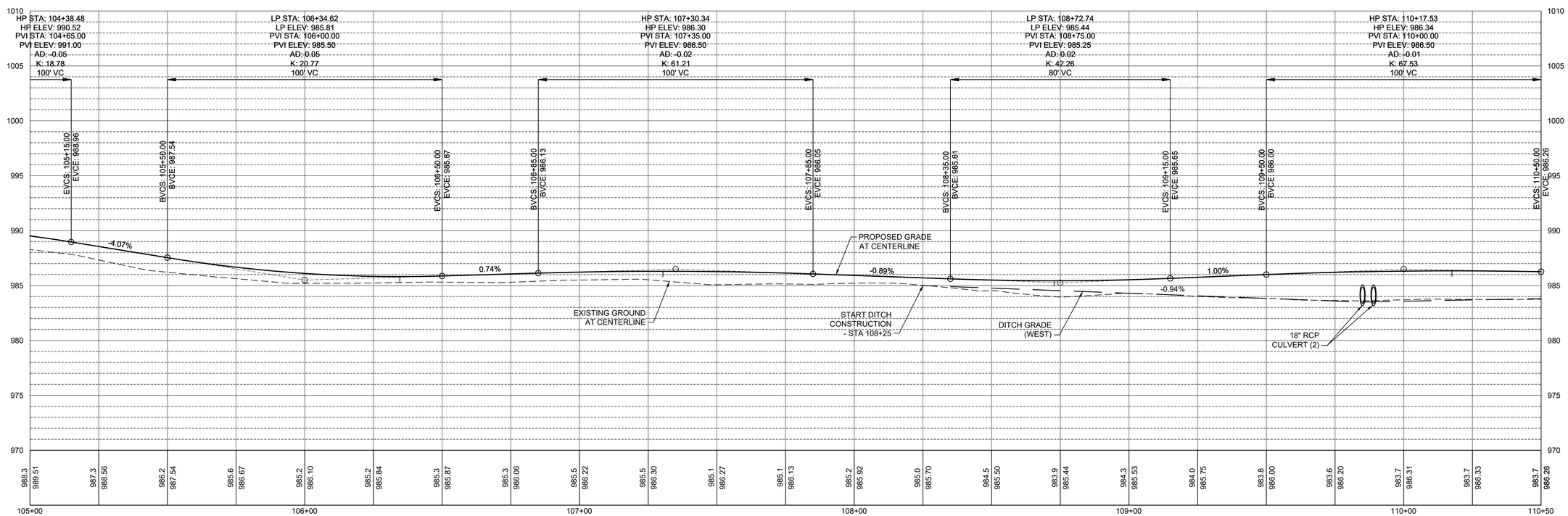

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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: CWH
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 02/11/2020
PROJECT NO: 4162590
FIELD BOOK: ---
CLIENT NO: ---

PLAN AND PROFILE

D.22

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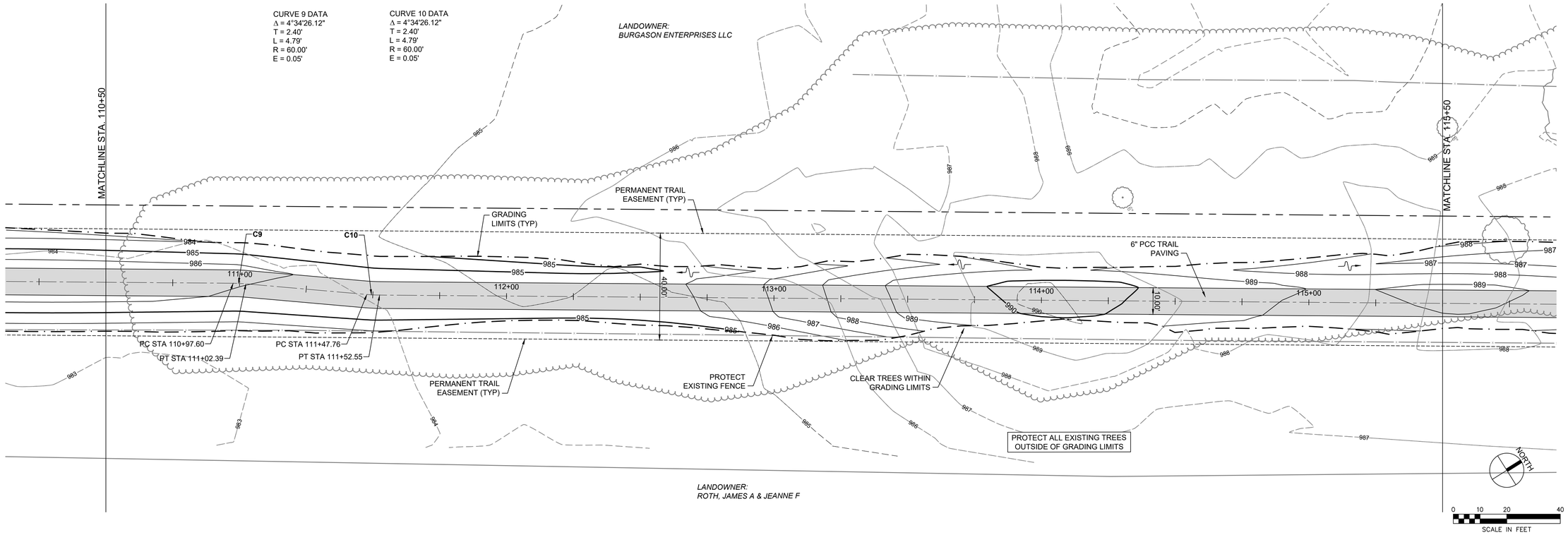

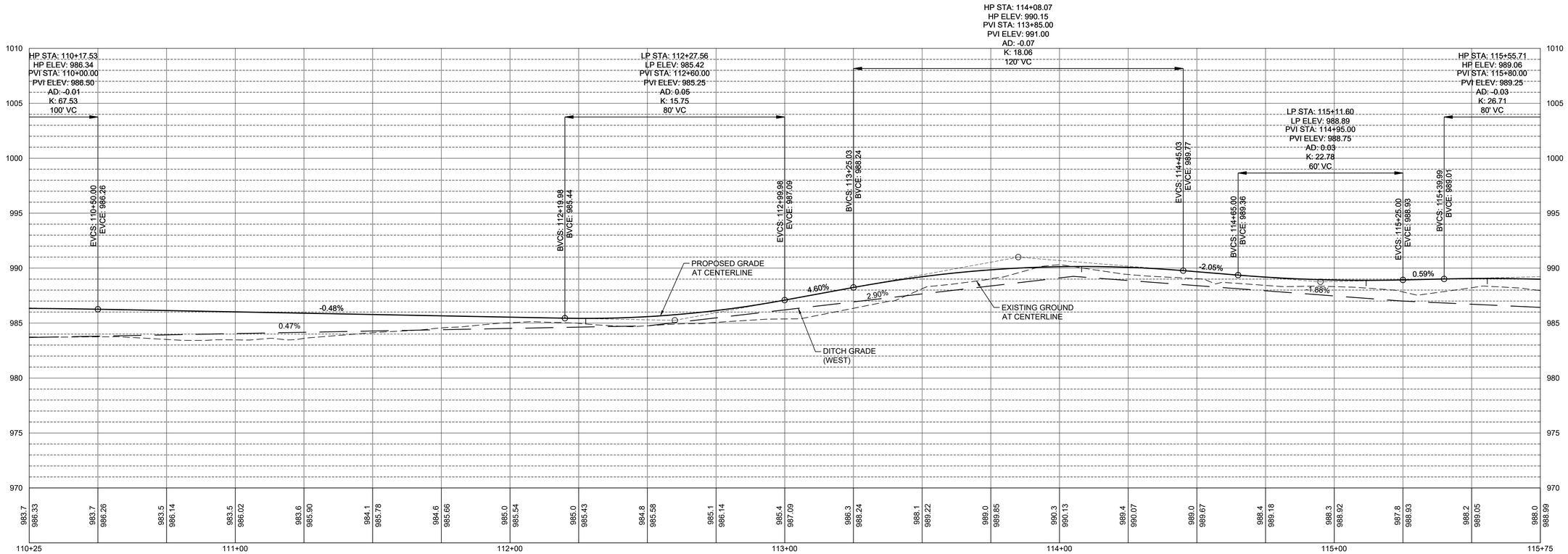

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STORY COUNTY CONSERVATION

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PLAN AND PROFILE

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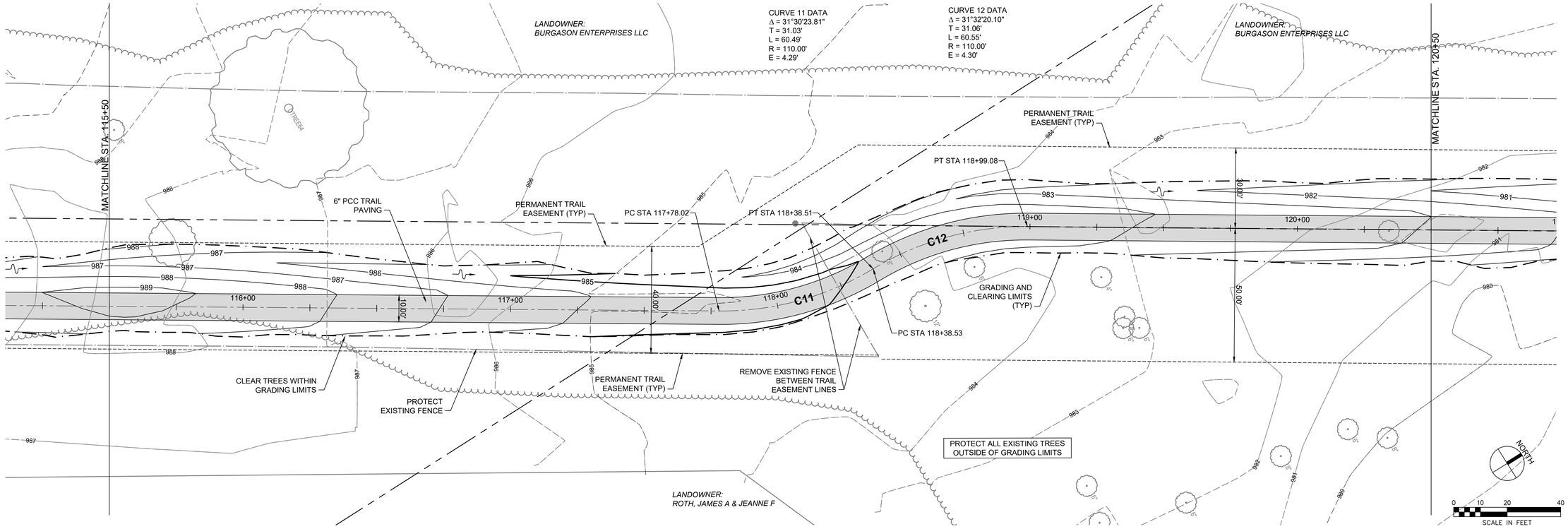

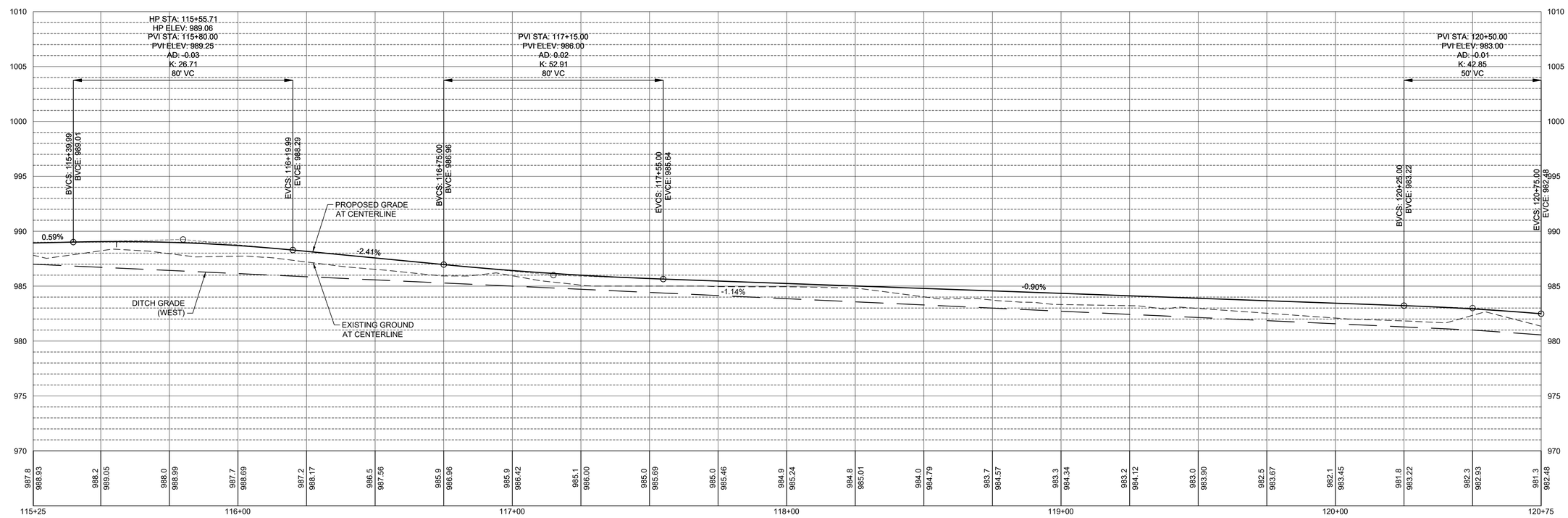

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STORY COUNTY CONSERVATION

TELC BP#3
TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

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CLIENT NO: ---

PLAN AND PROFILE

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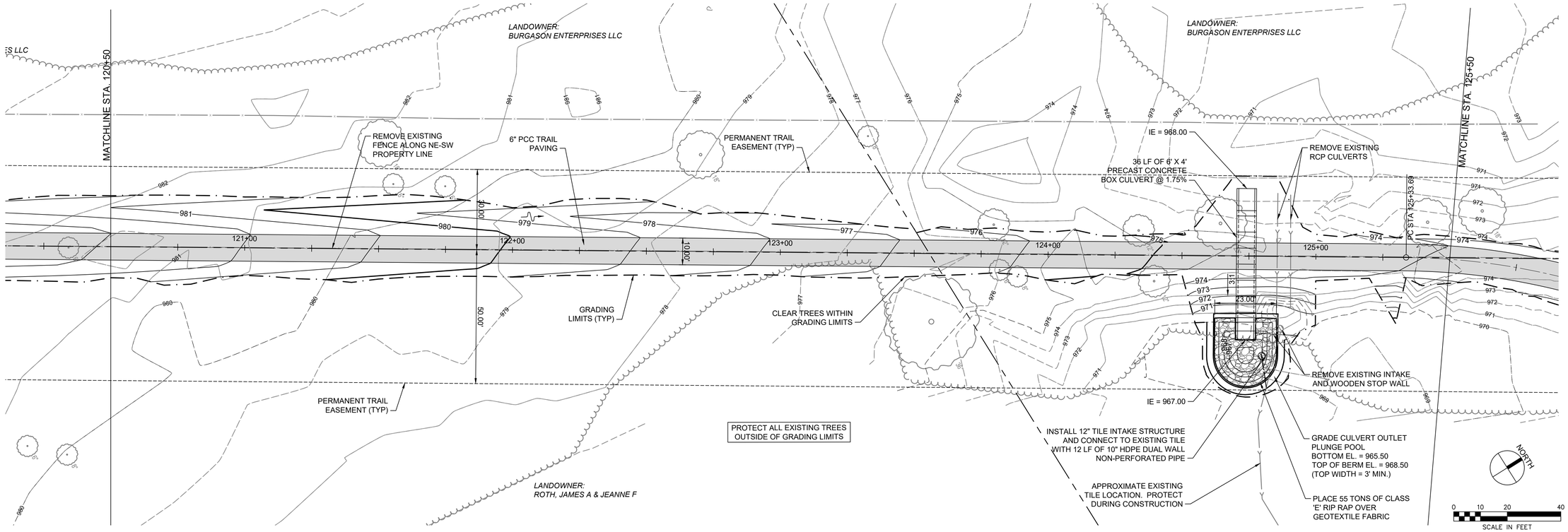

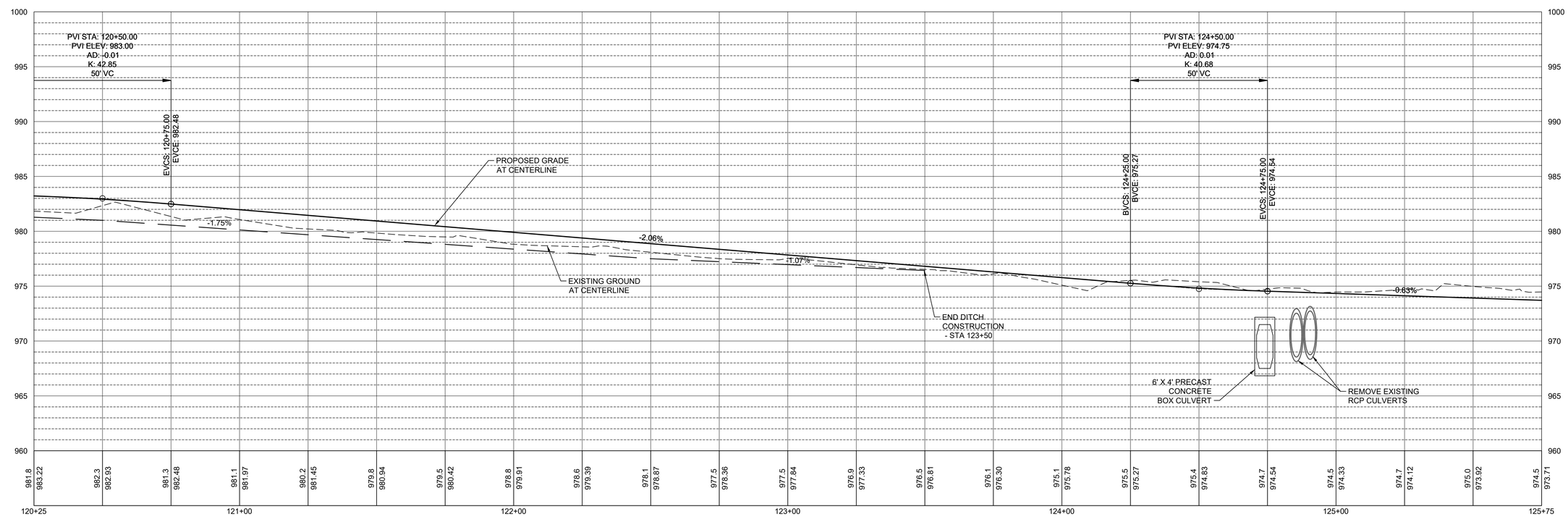

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TELC BP#3 TRAIL EXTENSION

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PLAN AND PROFILE

D.25

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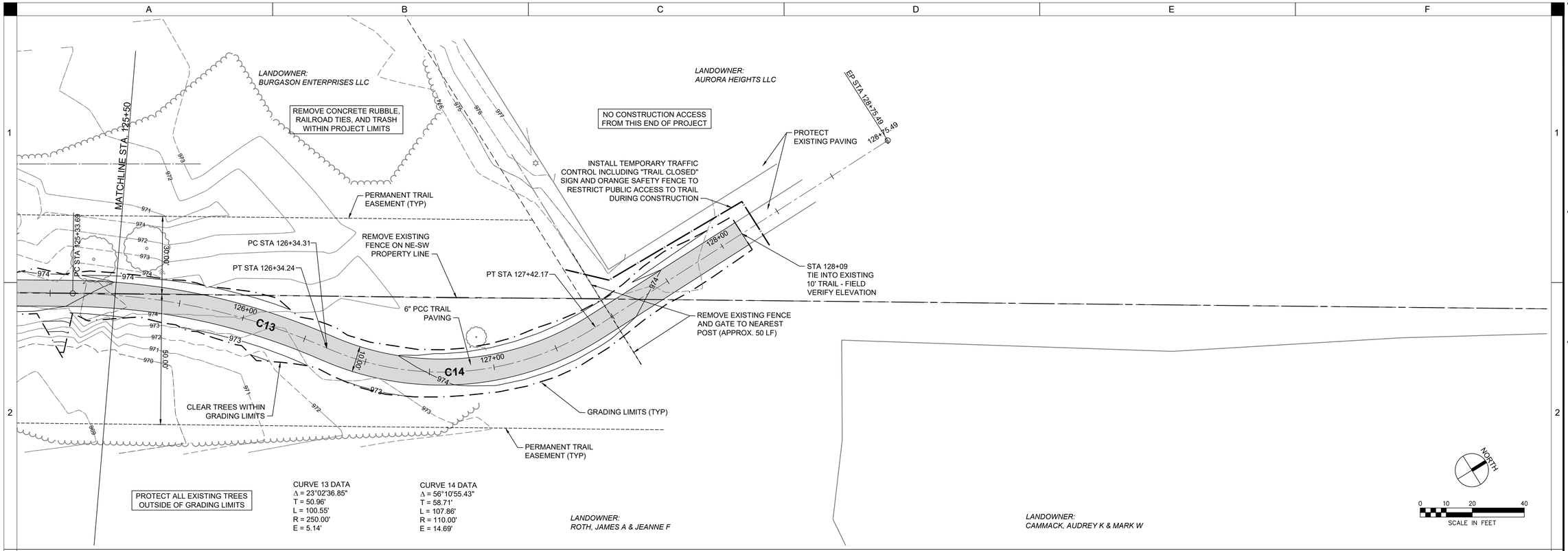

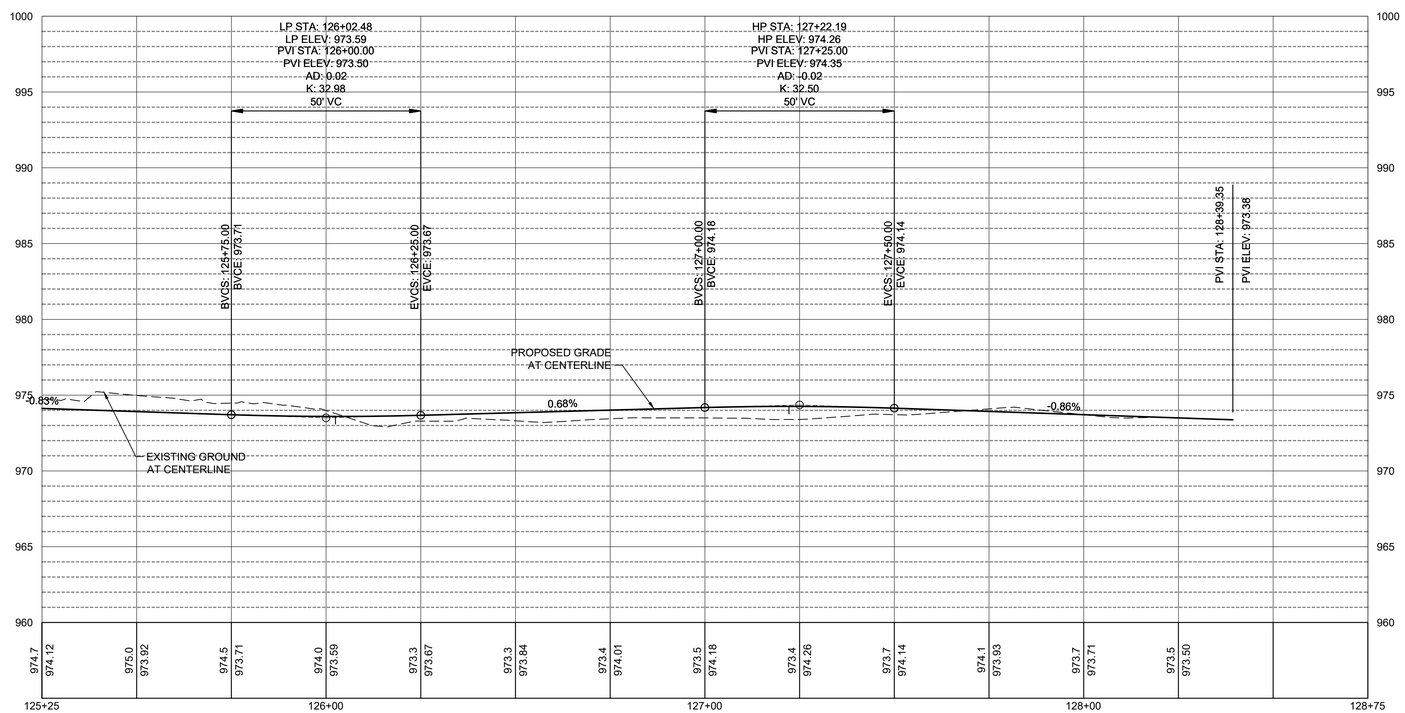

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STORY COUNTY CONSERVATION

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PLAN AND PROFILE

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STAGING AND TRAFFIC CONTROL NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

2. CONTRACTOR SHALL MONITOR AND MAINTAIN TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES THROUGHOUT THE PROJECT DURATION.

3. 260TH STREET:
TWO-WAY TRAFFIC SHALL BE MAINTAINED ON 260TH STREET AT ALL TIMES. CONTRACTOR SHALL NOT PARK VEHICLES OR STORE MATERIALS WITHIN THE RIGHT OF WAY.

4. COUNTY ROAD R38 (SOUTH DAKOTA AVE):
TRAFFIC SHALL BE MAINTAINED ON COUNTY ROAD R38 AT ALL TIMES. PROVIDE SIGNAGE AND CHANNELIZERS ACCORDING TO IOWA DOT STANDARD ROAD PLAN TC-202 WHEN WORK IS UNDERWAY WITHIN 15 FEET OF THE TRAVELED WAY. NOTIFY ENGINEER, OWNER, AND STORY COUNTY ENGINEER 2 WEEKS IN ADVANCE OF INSTALLATION OF TEMPORARY TRAFFIC CONTROL ALONG COUNTY ROAD R38.

5. 520TH AVE (S STATE AVE):
520TH AVE MAY BE CLOSED TO TRAFFIC FOR CONSTRUCTION OF THE TRAIL CROSSING AND ADJACENT ROADWAY PAVING. CLOSURE SHALL BE IN ACCORDANCE WITH IOWA DOT STANDARD ROAD PLAN TC-252 (SITUATION 1 - RURAL). INSTALL ORANGE SAFETY FENCE WITH TYPE III BARRICADES AT BOTH ENDS OF CLOSURE. ROAD SHALL BE CLOSED TO PUBLIC TRAFFIC FOR NO MORE THAN 21 CALENDAR DAYS. NOTIFY ENGINEER, OWNER, STORY COUNTY ENGINEER, ISU FP&M, AND ISU FARMS 2 WEEKS IN ADVANCE OF CLOSURE.

6. AG 450 FARM:
EACH OF THE 2 DRIVEWAYS TO THE AG 450 FARM MAY BE CLOSED FOR CONSTRUCTION OF THE TRAIL AND ADJACENT PAVING. TYPE III BARRICADES AND ORANGE SAFETY FENCE SHALL BE INSTALLED AT BOTH ENDS OF AG 450 FARM DRIVEWAY CLOSURES. NO MORE THAN ONE (1) OF THE DRIVEWAYS MAY BE CLOSED AT ANY GIVEN TIME. COORDINATE SCHEDULING OF CLOSURES WITH ISU FARMS. EACH DRIVEWAY SHALL REMAIN CLOSED FOR NO MORE THAN 14 CALENDAR DAYS. NOTIFY ENGINEER, OWNER, ISU FP&M, AND ISU FARMS 2 WEEKS IN ADVANCE OF CLOSURE.

7. FIELD ENTRANCES/DRIVES:
TEMPORARY TRAFFIC CONTROL IS NOT REQUIRED AT FIELD ENTRANCES ALONG THE PROJECT ROUTE. HOWEVER, THE CONTRACTOR SHALL ADEQUATELY BARRICADE FRESH PCC TO PREVENT UNWANTED MARKINGS. COORDINATE WITH ISU FARMS TO PROVIDE FARM ACCESS ACROSS THE CONSTRUCTION AREA TO FIELDS AS NEEDED.

CONTACT INFORMATION:

OWNER
STORY COUNTY CONSERVATION
ATTN: MICHAEL COX
MCOX@STORYCOUNTYIOWA.GOV
56461 180TH STREET
AMES, IOWA 50010
PHONE: (515) 232-2516

PROJECT ENGINEER
SHIVE-HATTERY, INC.
ATTN: LUKE MONAT
LMONAT@SHIVE-HATTERY.COM
4125 WESTOWN PKWY, SUITE 100
WEST DES MOINES, IOWA 50266
PHONE: (515) 223-8104

COUNTY ENGINEER
STORY COUNTY ENGINEER
ATTN: DARREN MOON
DMOON@STORYCOUNTYIOWA.GOV
PHONE: (515) 382-7355

ISU FARMS
ISU FARMS
ATTN: TIM GOODE
TRGOODE@IASTATE.EDU
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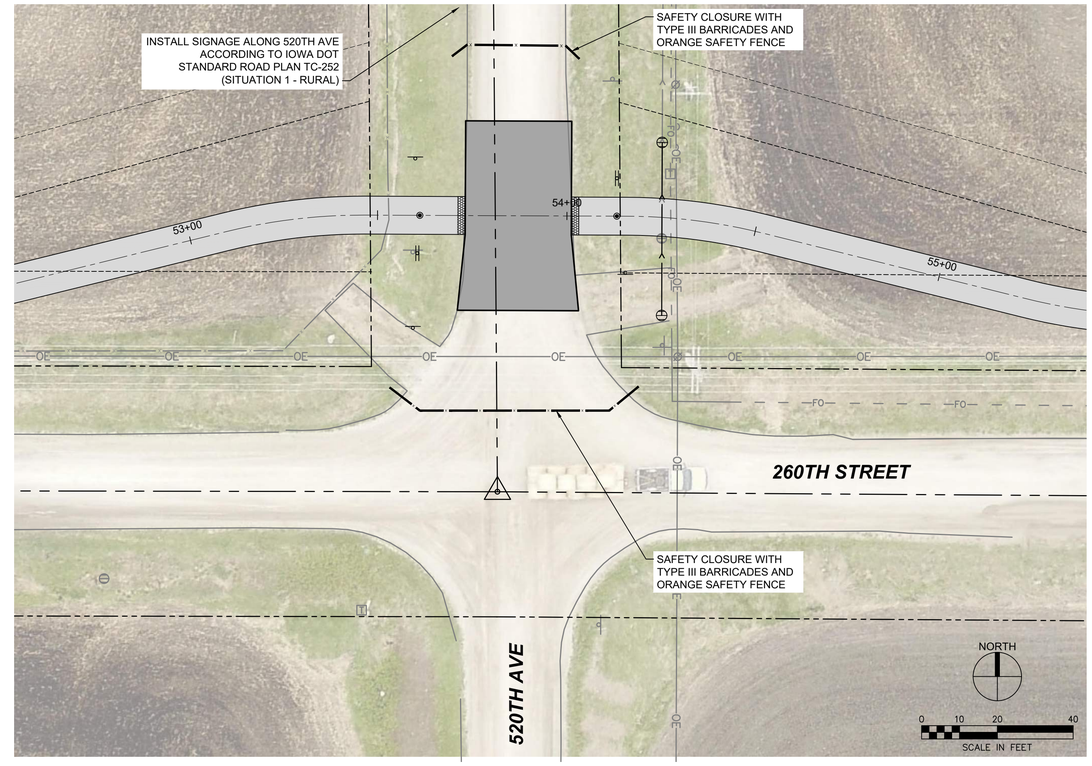
ISU FP&M
ISU FP&M
ATTN: SARAH LAWRENCE
SLAWRENC@IASTATE.EDU
PHONE: (515) 294-8879



1 INTERSECTION OF 520TH AVE & 260TH ST
SCALE AS SHOWN

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STORY COUNTY CONSERVATION

TELC BP#3
TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

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CLIENT NO: ---

TEMPORARY
TRAFFIC CONTROL

J.01

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PAVEMENT MARKING LINE TYPES

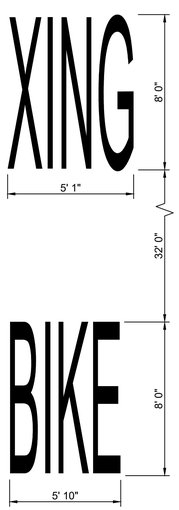
See PM-110

ELW4: Edge Line Right (White) @ 1.0
CLW6: Crosswalk Line (White) @ 1.5
CBW6: Crosswalk BAR (White) @ 6.00
DCY4: Double Centerline (Yellow) @ 2.00
SLW2: Stop Line (White) @ 6.00

Location								(Unfactored Quantity)					Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			ELW4	CLW6	SLW2	DCY4		
					L	C	R	STA	STA	STA	STA	STA	
CO. RD. R38	0+72.29	1+06.37			x				0.34				
CO. RD. R38	0+72.29	1+06.37					x		0.34				
520TH AVE	53+73.17	54.01.17			x				0.28				
520TH AVE	53+73.17	54+01.17					x		0.28				
UNFACTORED TOTAL									1.24				
FACTORED TOTAL									1.86				
BID QUANTITY: Painted Pavement Marking, Waterborne or Solvent-Based									1.86				
								(Factored Quantity)					Total
									1.86				1.86

PAVEMENT MARKING SYMBOLS AND LEGENDS

TYPE	XING	BIKE
	XNGW	BIKW
PAINTED SYMBOLS	2	2



4 BIKE CROSSING PAVEMENT MARKINGS
NOT TO SCALE

PAVEMENT MARKING NOTES:

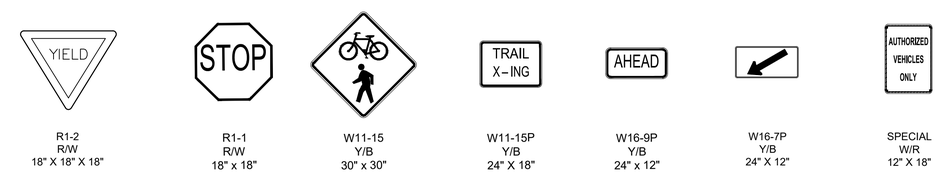
1. ALL PAVEMENT MARKINGS SHALL CONFORM TO IOWA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
2. THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.

TABULATION OF TYPE A SIGNS AND POSTS

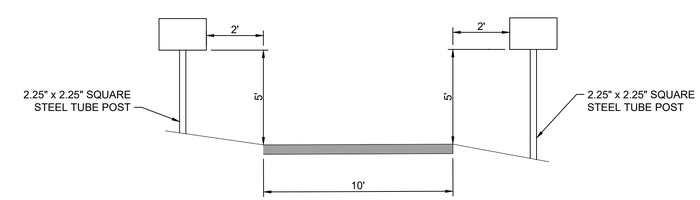
POST ID	QUANTITY	POSTS REQUIRED: NO. OF POSTS	POST LENGTH (FT)	SOIL (ANCHOR)	CONC. (ANCHOR)	LOCATION	SIGN DESIGNATION	AREA (SF)	SIGN
A-1	1	1	9.5	X		TRAIL	R1-1	2.25	STOP
A-2	6	1	9.5	X		TRAIL	R1-2	2.25	YIELD
A-3	7	0	9.5	X		TRAIL	SPECIAL	1.5	AUTHORIZED VEHICLES ONLY
A-4	6	1	17.5	X		ROADWAY	W11-15	6.25	COMBINATION BIKE AND PED CROSSING
							W11-15P	3	TRAIL CROSSING (PLAQUE)
							W16-7P	2	DIAGONAL ARROW (PLAQUE)
A-5	4	1	18	X		ROADWAY	W11-15	6.25	COMBINATION BIKE AND PED CROSSING
							W11-15P	3	TRAIL CROSSING (PLAQUE)
							W16-9P	3.75	AHEAD (PLAQUE)

SIGNING NOTES:

1. THE LATERAL OFFSET OF SIGNS SHALL BE A MINIMUM OF 2 FEET FROM THE EDGE OF THE TRAIL TRAVELED WAY TO THE EDGE OF SIGN. THE PREFERRED LATERAL OFFSET SHALL BE 3 FEET.
2. THE MOUNTING HEIGHTS ON TRAIL SHALL BE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE TRAIL TRAVELED WAY. THE MOUNTING HEIGHTS ON ROADWAY SHALL BE A MINIMUM OF 7.5 FEET FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE ROAD TRAVELED WAY.
3. ADVANCED TRAIL WARNING SIGNAGE REQUIRED AT COUNTY ROAD R38 CROSSING. ADVANCED TRAIL WARNING UNIT CONSISTS OF W11-15, W11-15P, AND W16-9P SIGNS. UNITS SHALL BE LOCATED 325 FT BEFORE TRAIL CROSSING IN BOTH DIRECTIONS AND MIN. 12 FT FROM EDGE OF TRAVELED WAY.
4. ADVANCED TRAIL WARNING SIGNAGE REQUIRED AT 520TH AVE (S STATE AVE) CROSSING. ADVANCED TRAIL WARNING UNIT CONSISTS OF W11-15, W11-15P, AND W16-9P SIGNS. UNITS SHALL BE LOCATED 175 FT BEFORE TRAIL CROSSING IN BOTH DIRECTIONS AND MIN. 12 FT FROM EDGE OF TRAVELED WAY.
5. COMPLY WITH IOWA DOT STANDARD SPECIFICATIONS SECTION 2524 FOR TYPE A SIGN MATERIALS, FABRICATION, AND INSTALLATION. INSTALLATION TO COMPLY WITH IOWA DOT STANDARD ROAD PLANS SI-101 (TYPE 1) AND SI-131.



3 SIGN FACE DETAILS
NOT TO SCALE



2 TRAIL SIGN PLACEMENT
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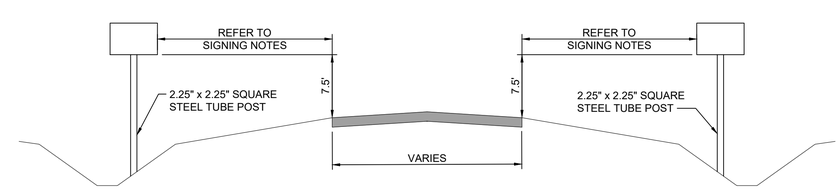

1 ROADWAY SIGN PLACEMENT
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STORY COUNTY CONSERVATION

TELC BP#3
TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

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SIGNING AND PAVEMENT MARKING PLAN

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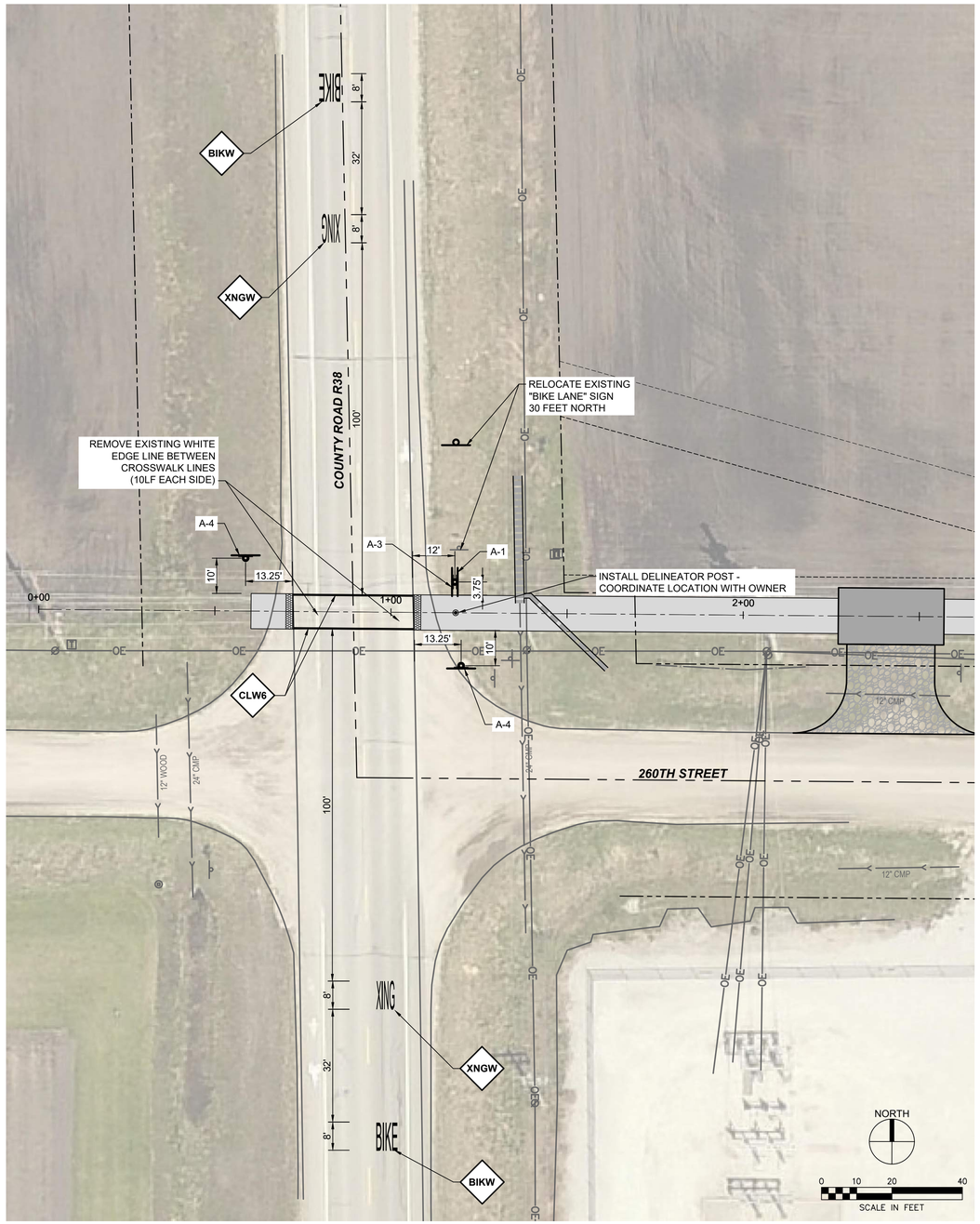
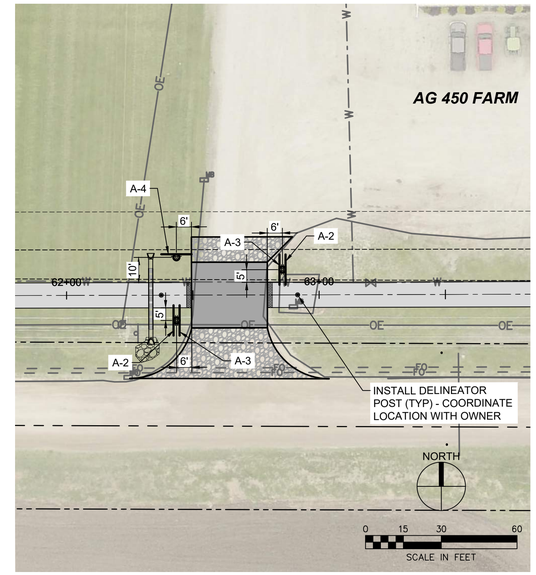
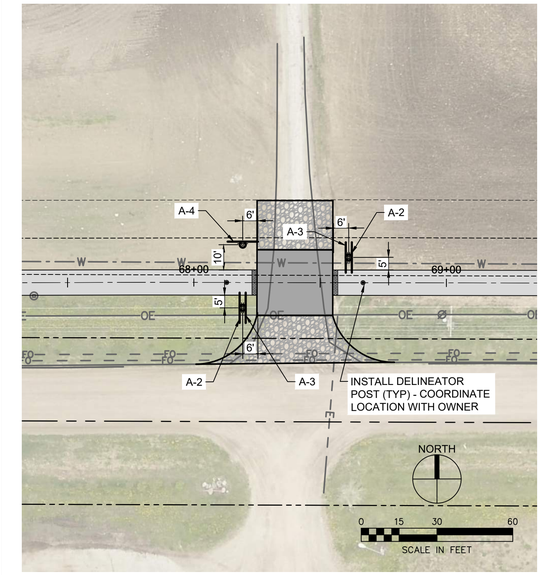


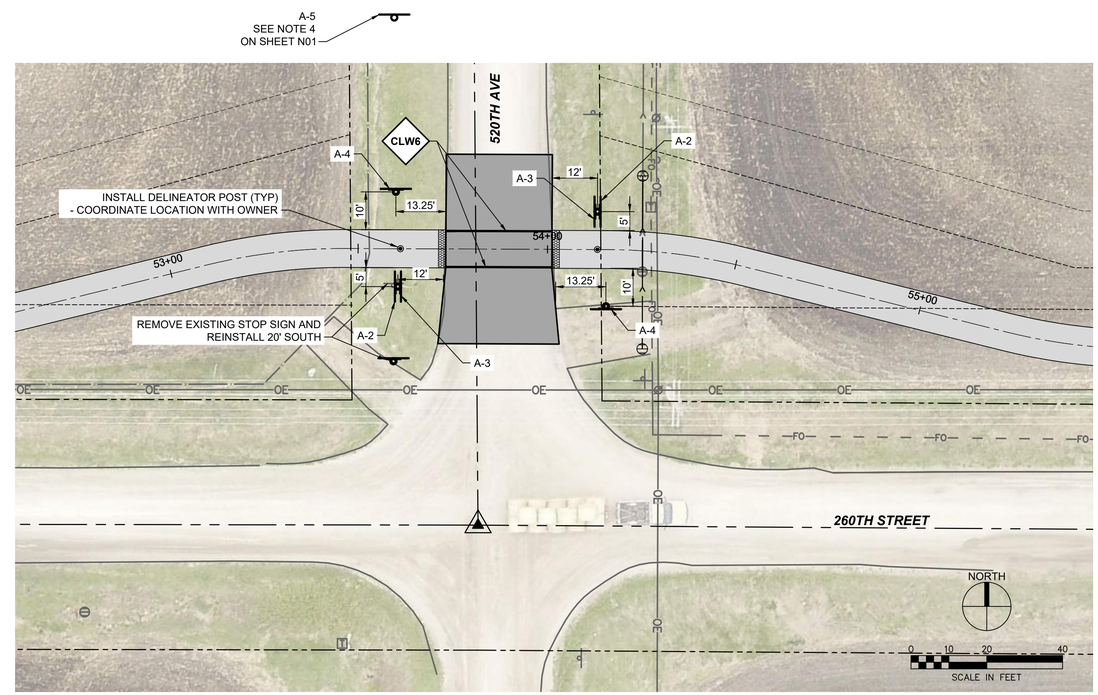
4 TRAIL CROSSING AT COUNTY ROAD R38
SCALE AS SHOWN



3 TRAIL CROSSINGS AT AG 450 FARM WEST DRIVEWAY
SCALE AS SHOWN



2 TRAIL CROSSINGS AT AG 450 FARM EAST DRIVEWAY
SCALE AS SHOWN



1 TRAIL CROSSING AT 520TH AVE
SCALE AS SHOWN

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SIGNING AND PAVEMENT MARKING PLAN

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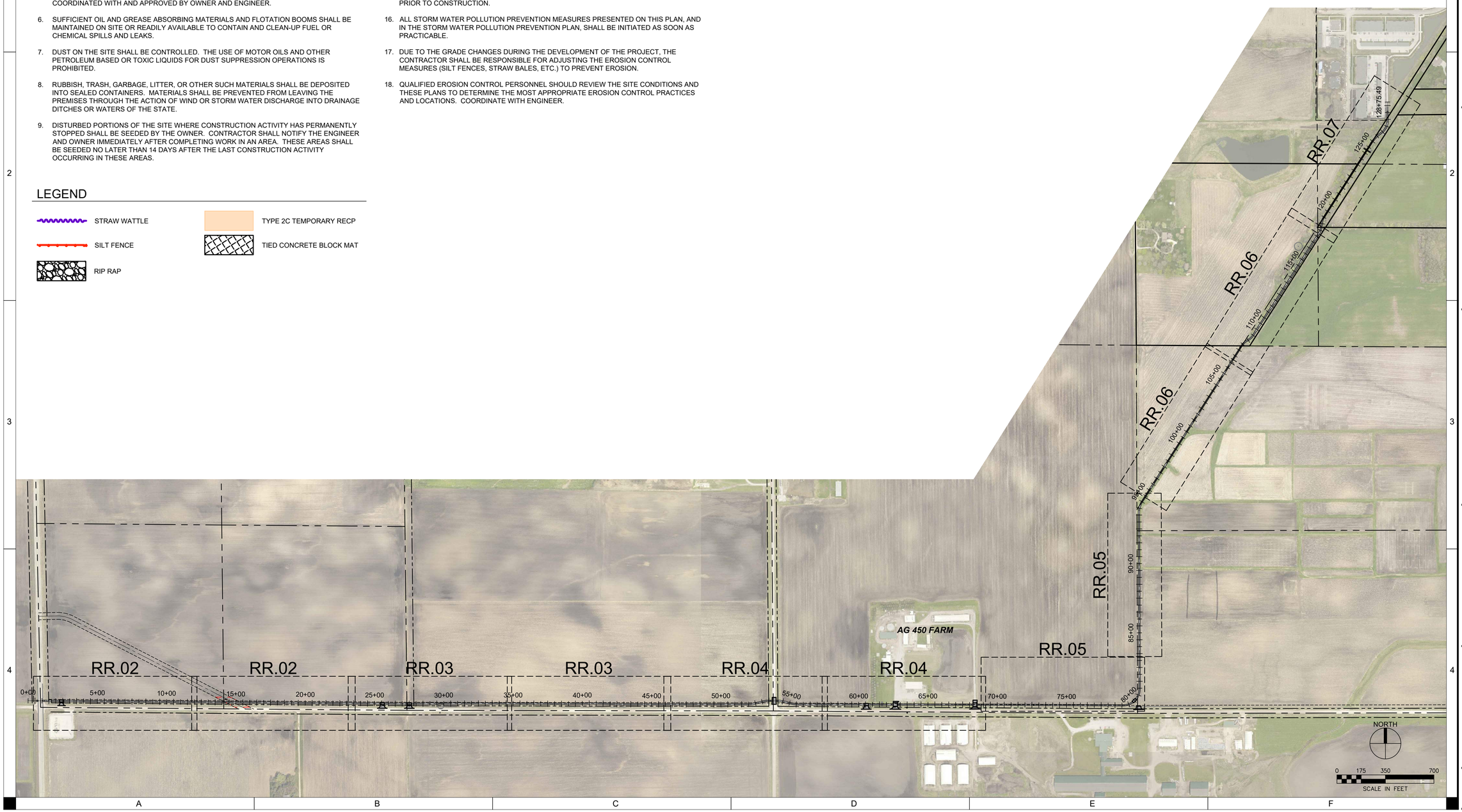
EROSION CONTROL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEPARTMENT OF NATURAL RESOURCES (DNR) NPDES PERMIT AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS AND REQUIRED CONTAINMENT STRUCTURES. THE OWNER HAS OBTAINED THE IOWA DNR GENERAL PERMIT #2 AND DEVELOPED A SWPPP FOR THE PROJECT. THE CONTRACTOR SHALL IMPLEMENT, MAINTAIN, COMPLETE REQUIRED INSPECTIONS, AND UPDATE THE SWPPP AS REQUIRED TO MEET ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
2. CONTRACTORS SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS PLAN AND THE SWPPP.
3. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
4. CONTRACTOR SHALL MINIMIZE SOIL DISTURBANCE TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
5. STAGING LOCATION FOR CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH AND APPROVED BY OWNER AND ENGINEER.
6. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
7. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
8. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
9. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE SEEDED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER IMMEDIATELY AFTER COMPLETING WORK IN AN AREA. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
10. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
11. ON-SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
12. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
13. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
14. AN UPDATED COPY OF THE SWPPP SHALL BE KEPT ONSITE FOR THE DURATION OF THE PROJECT.
15. ALL SUBCONTRACTORS ENGAGED IN ACTIVITIES AT THE CONSTRUCTION SITE THAT COULD IMPACT STORMWATER MUST BE IDENTIFIED AND COMPLETE A CERTIFICATION STATEMENT PRIOR TO CONSTRUCTION.
16. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
17. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO PREVENT EROSION.
18. QUALIFIED EROSION CONTROL PERSONNEL SHOULD REVIEW THE SITE CONDITIONS AND THESE PLANS TO DETERMINE THE MOST APPROPRIATE EROSION CONTROL PRACTICES AND LOCATIONS. COORDINATE WITH ENGINEER.

LEGEND

- STRAW WATTLE
- SILT FENCE
- RIP RAP
- TYPE 2C TEMPORARY RECP
- TIED CONCRETE BLOCK MAT



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STORY COUNTY CONSERVATION

TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION
STORY COUNTY, IOWA

DRAWN: BTP
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 02/11/2020
PROJECT NO. 4162590
FIELD BOOK: ---
CLIENT NO: ---

EROSION CONTROL PLAN

RR.01

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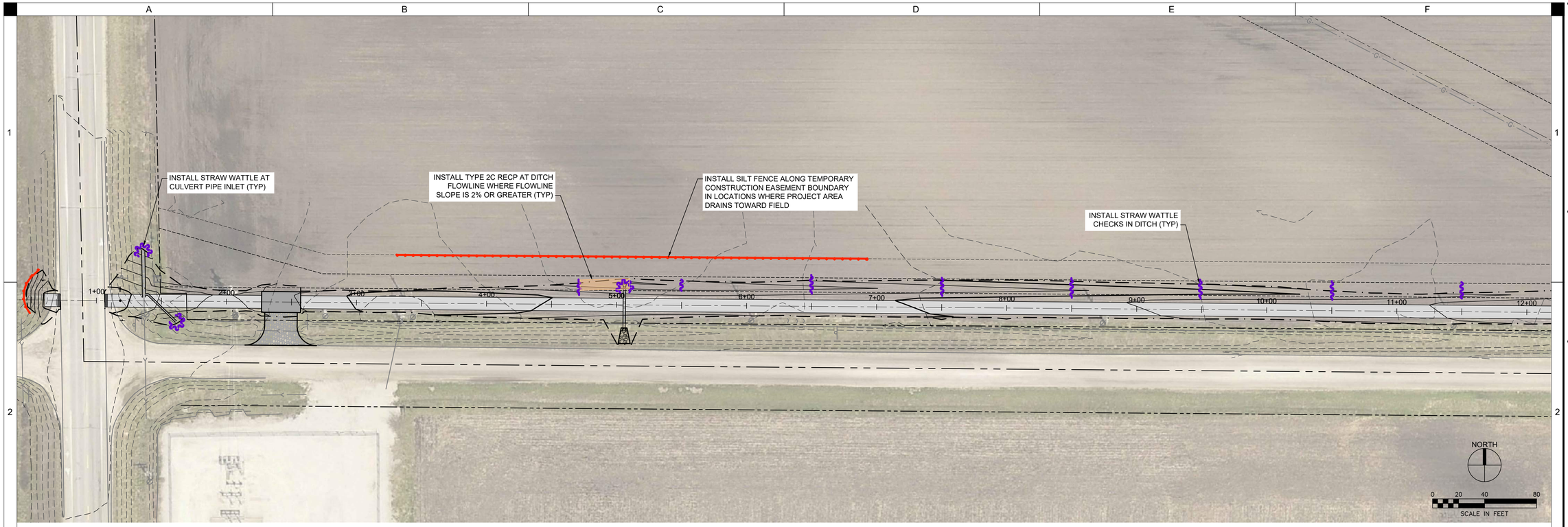

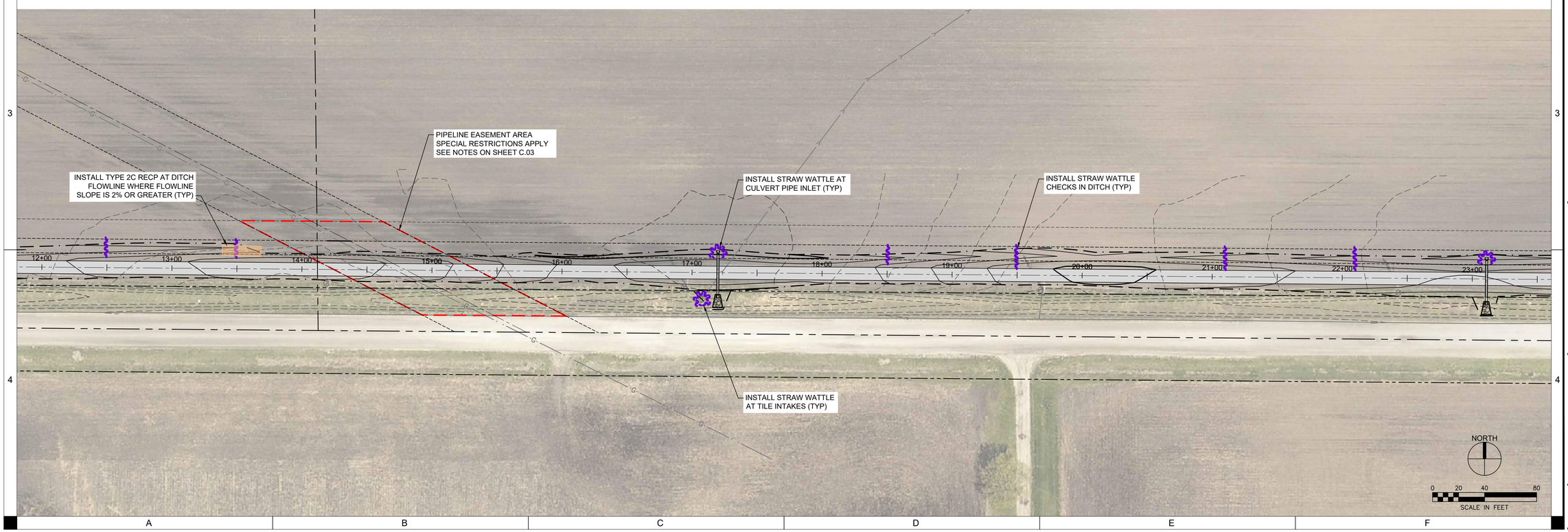

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EROSION CONTROL PLAN

RR.02

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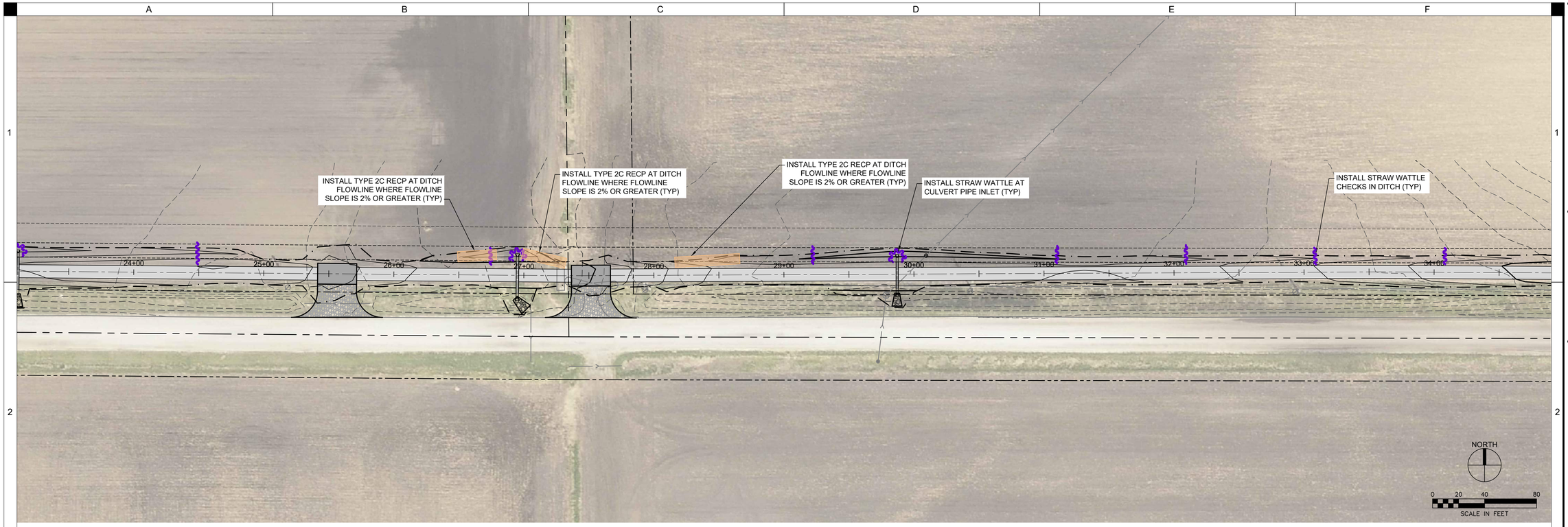

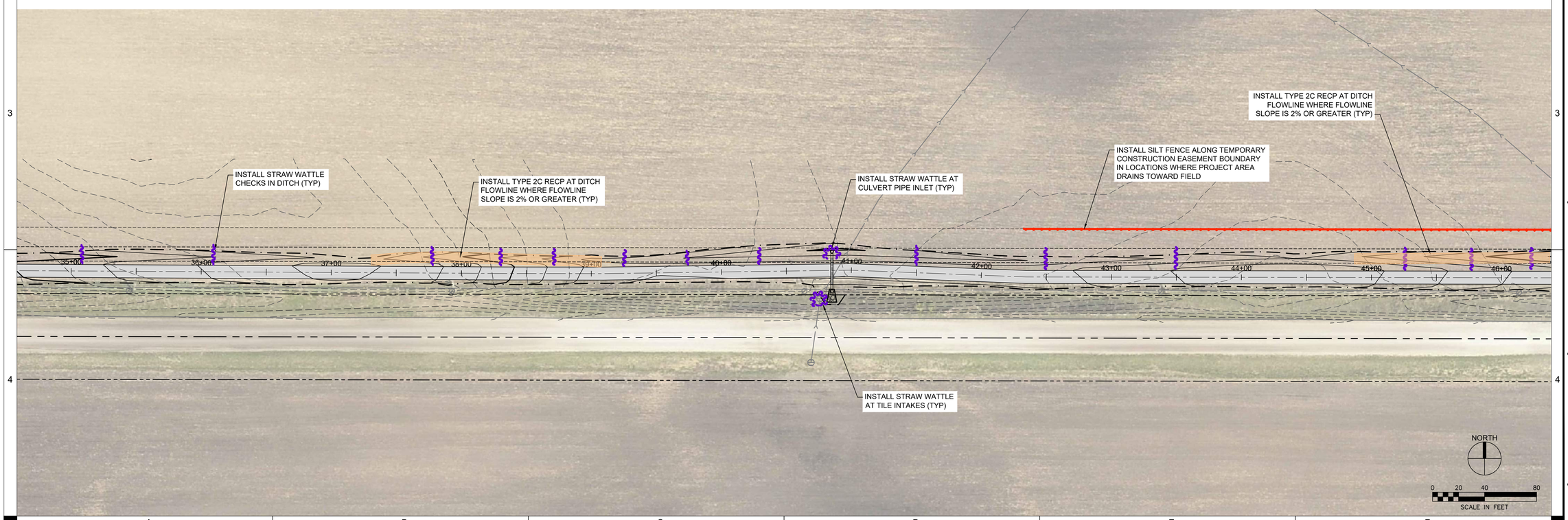

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EROSION CONTROL PLAN

RR.03

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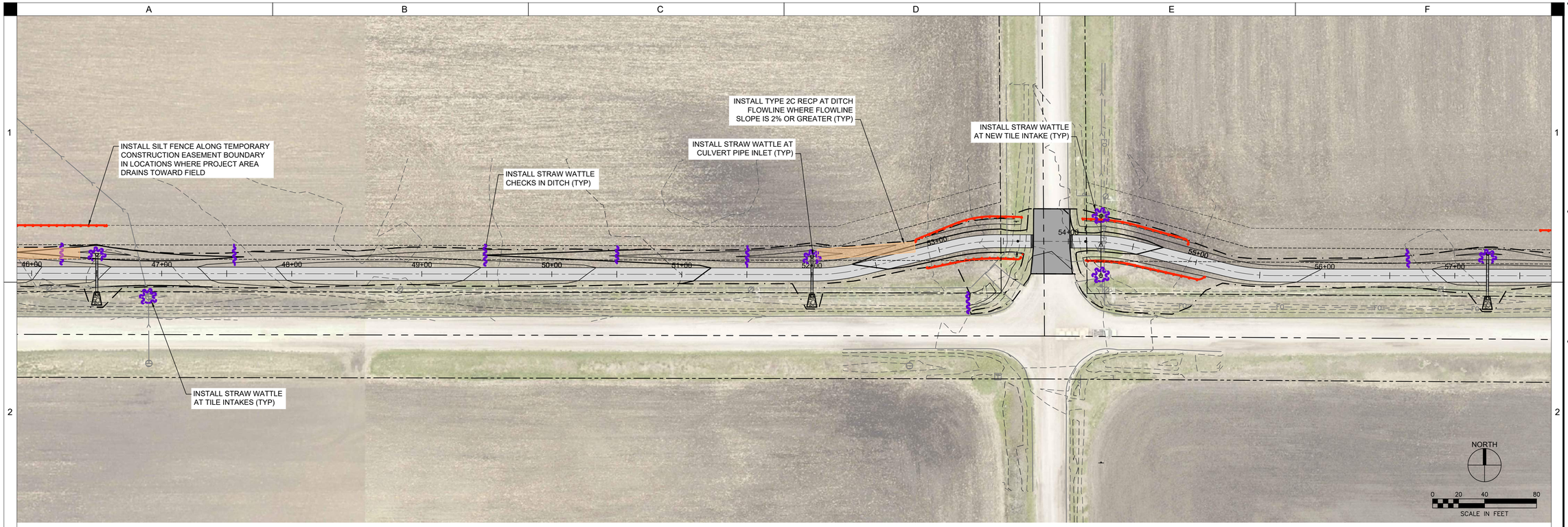

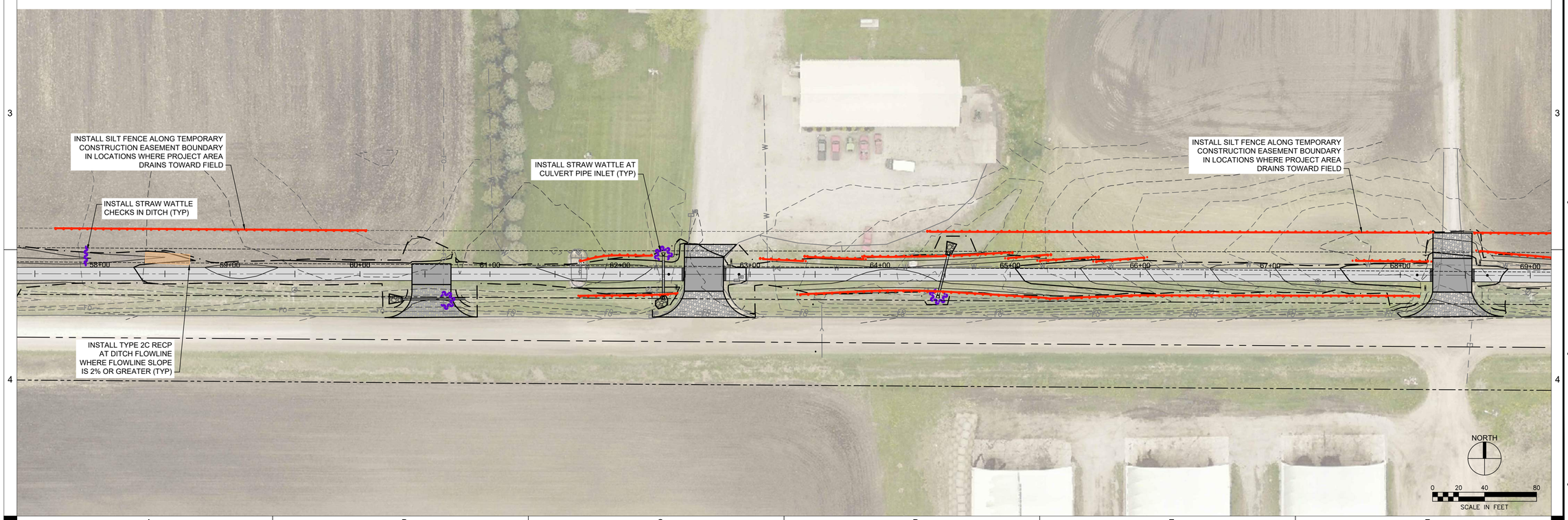

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EROSION CONTROL PLAN

RR.04

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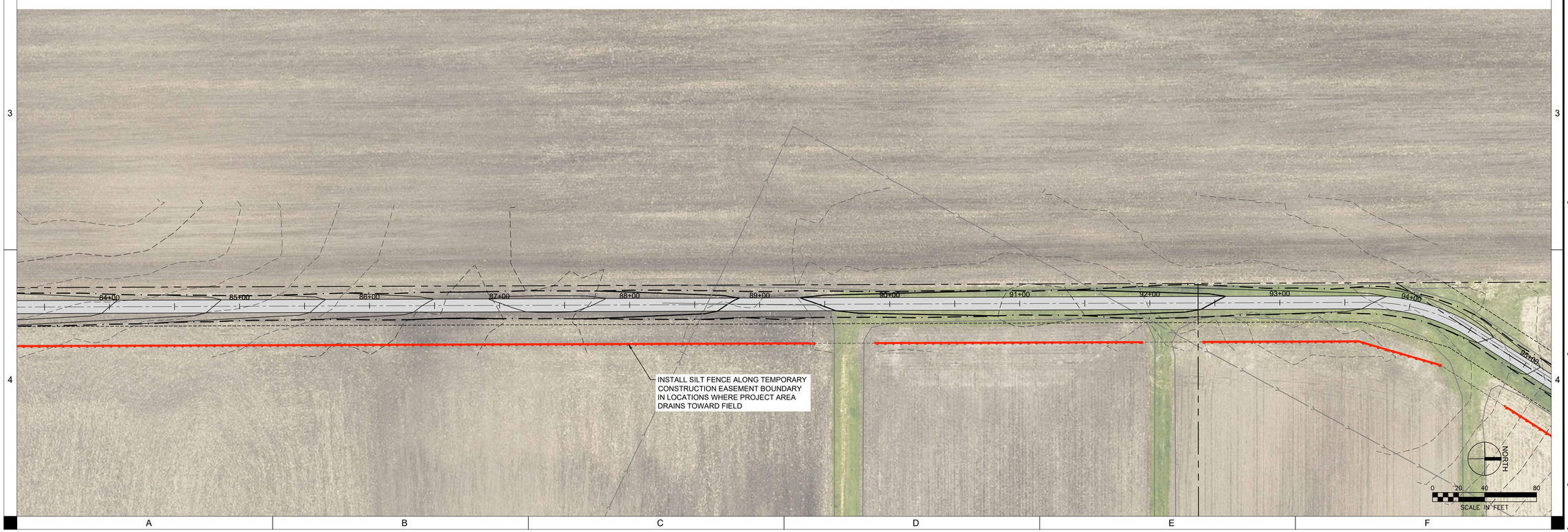

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EROSION CONTROL PLAN

RR.05

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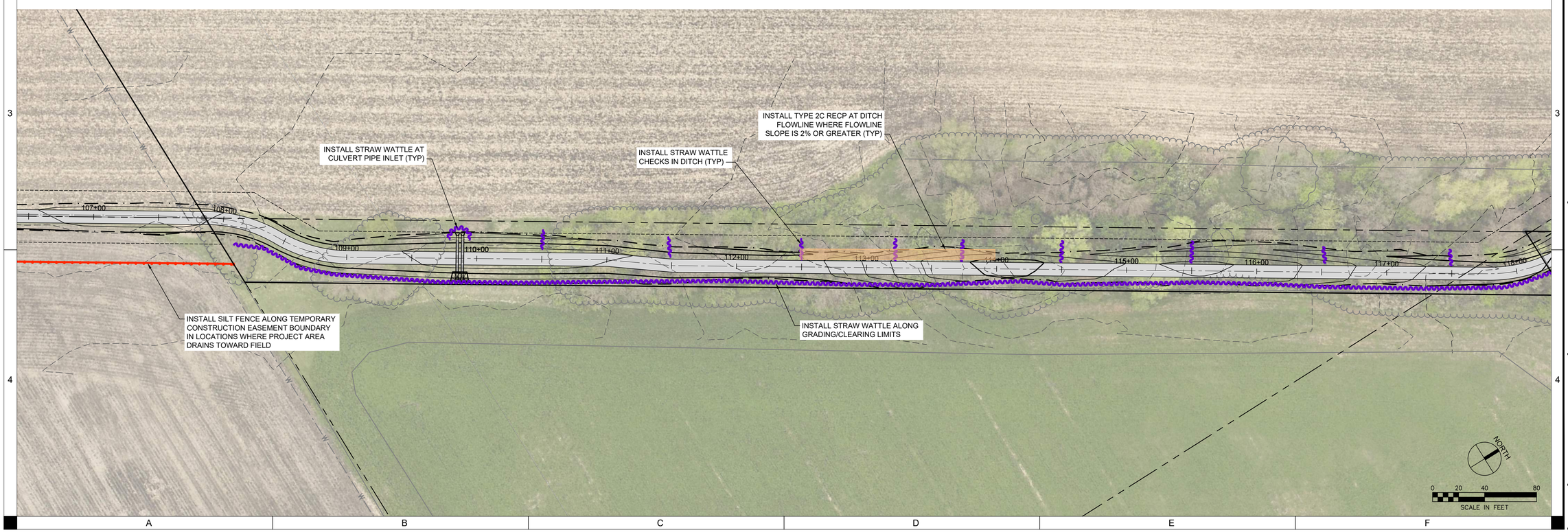

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EROSION CONTROL PLAN

RR.06

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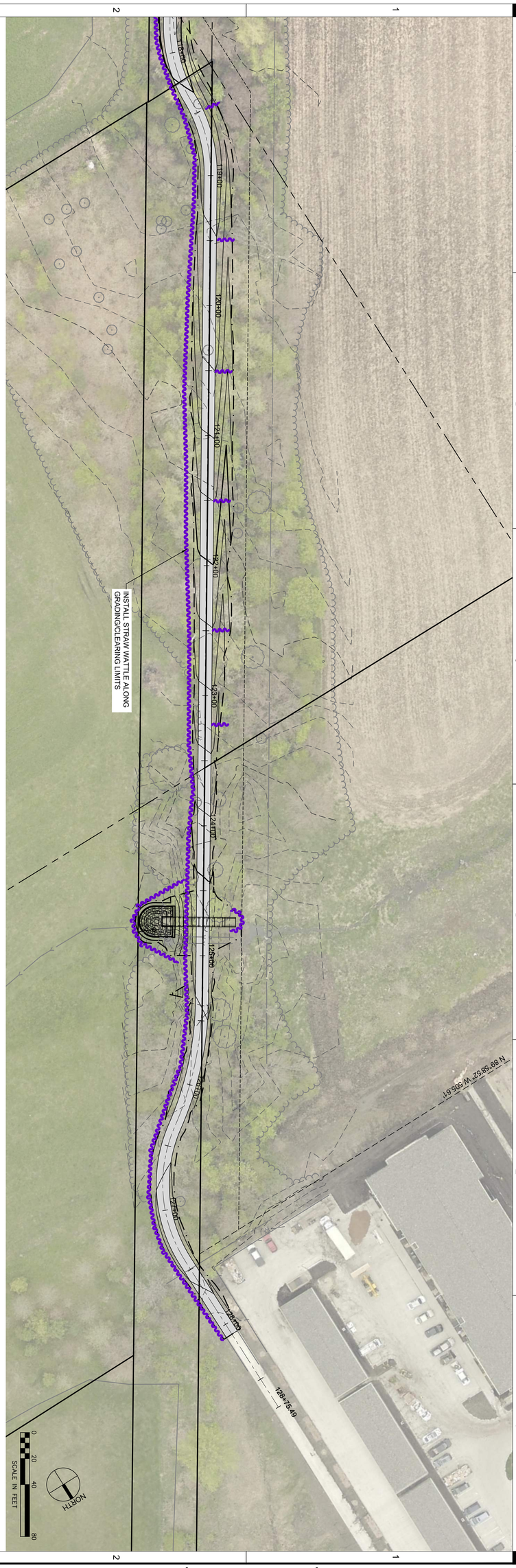

RR.07

EROSION CONTROL PLAN

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TELC BP#3 TRAIL EXTENSION

STORY COUNTY CONSERVATION

STORY COUNTY, IOWA

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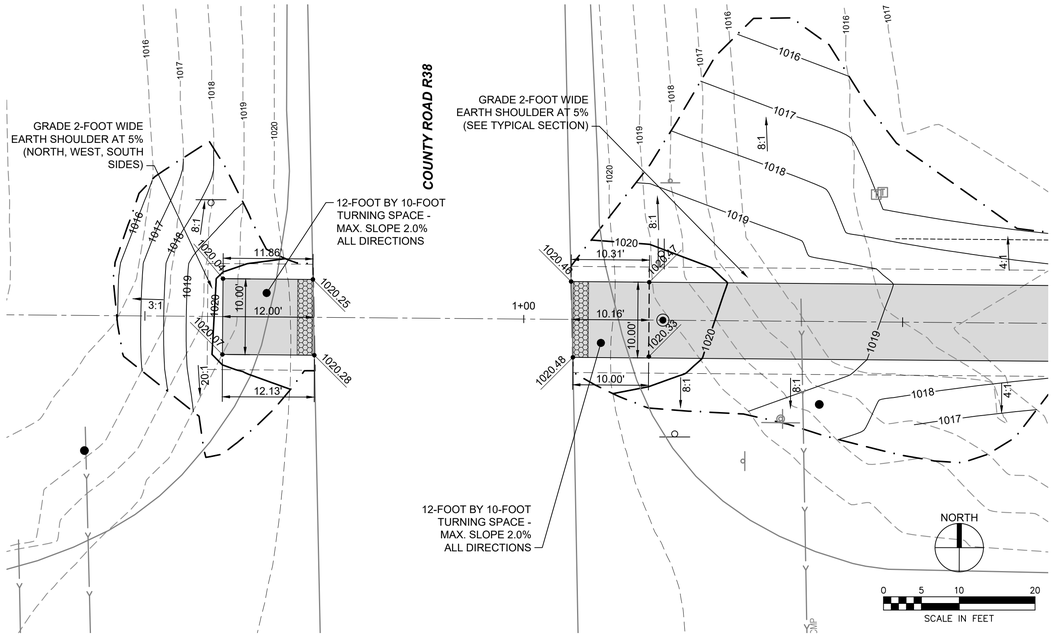
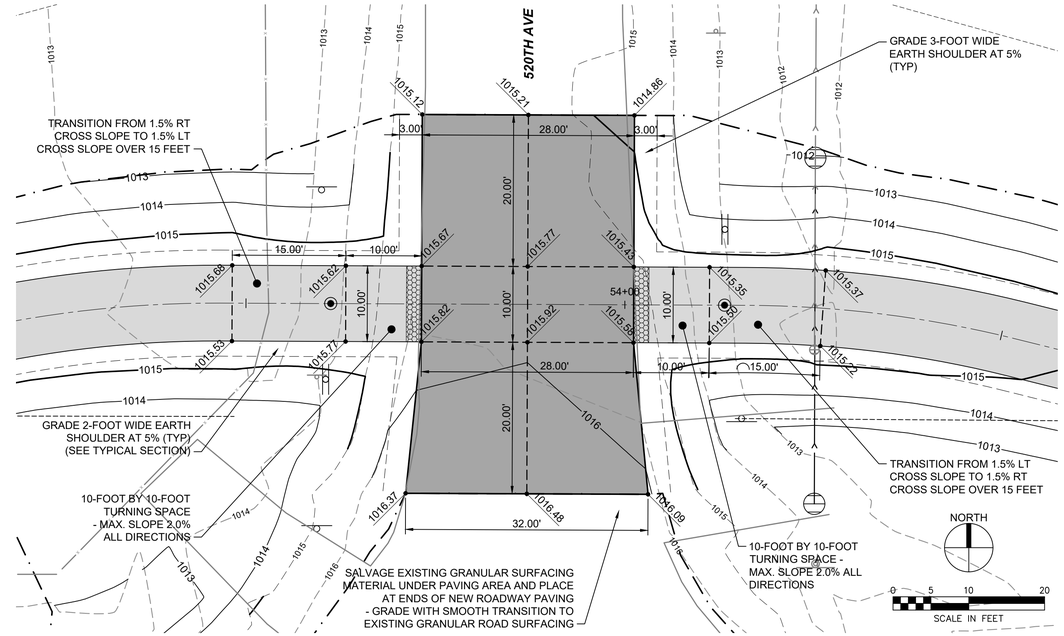


2 TRAIL CROSSING AT COUNTY ROAD R38
SCALE AS SHOWN



1 TRAIL CROSSING AT 520TH AVE
SCALE AS SHOWN

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SIDEWALK PLAN

S.01

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