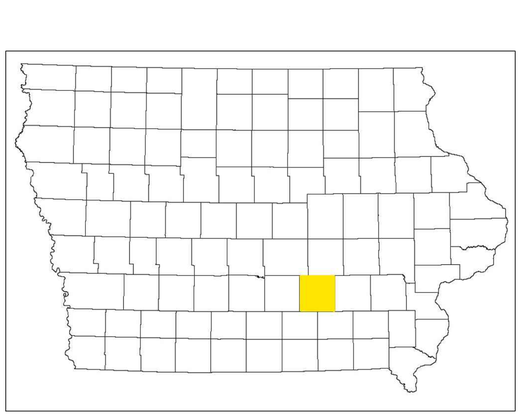
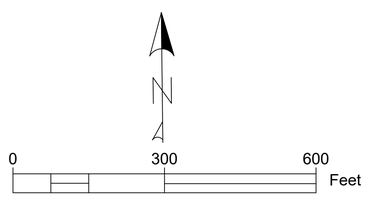
WHITE OAK CONSERVATION RESTORATION

MAHASKA COUNTY, IA

UNIVERSITY OF IOWA



SHEET LETTER	INDEX OF SHEETS
A: 1–3	LAKE EVALUATION
B: 1–3	PAVILIONS
C: 1–8	PEDESTRIAN BRIDGES
D: 1–15	ROADWAYS
E: 1–6	PARKING LOTS
F: 1–2	BOAT RAMP
G: 1–11	TRAILS
H: 1	PLAYGROUND AREA



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: ACG
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

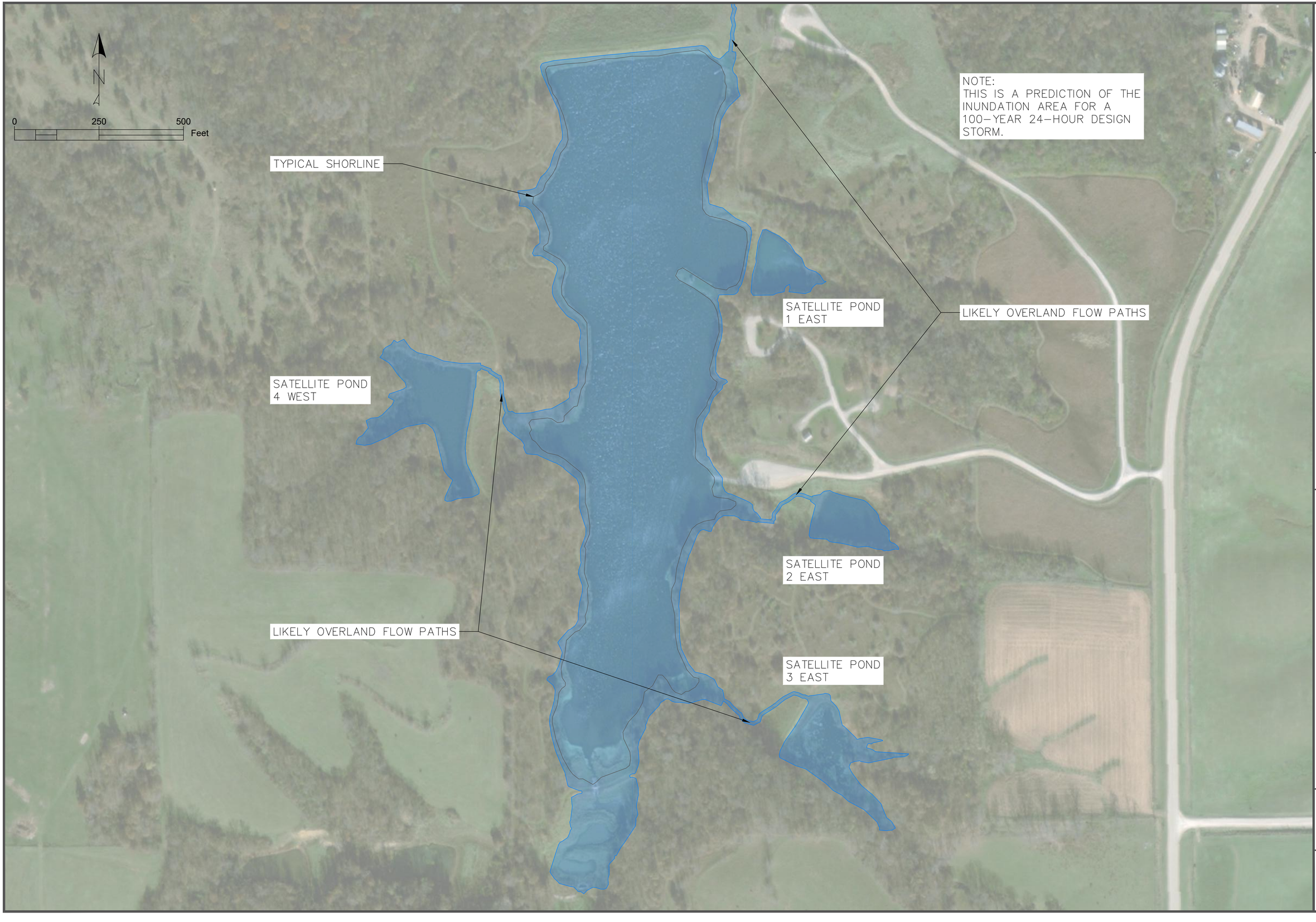
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
TITLE SHEET

SHEET NO.



PROJECT: CEE: 4850
DATE : 05/03/2024
DRAWN BY: NLL
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

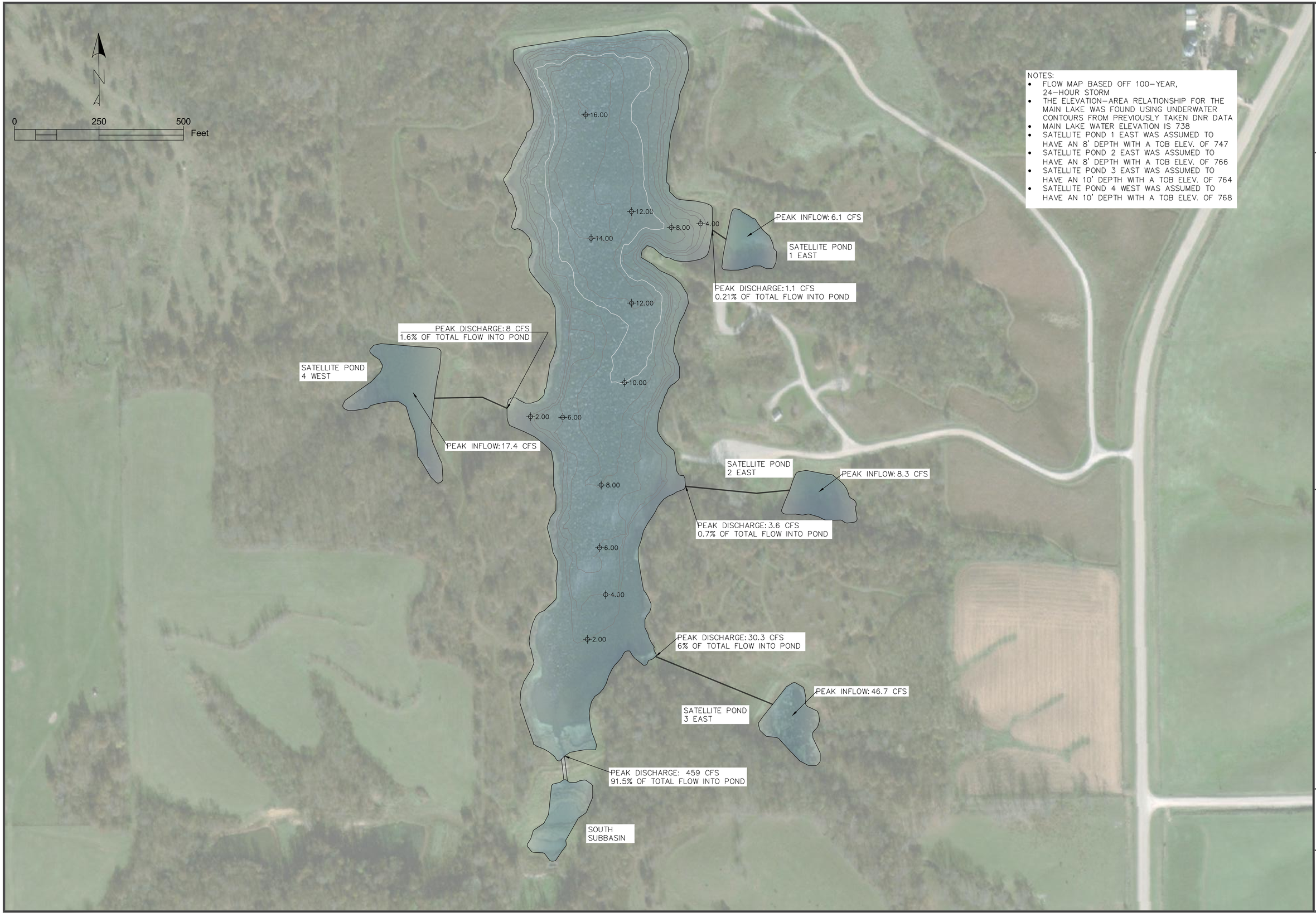
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA, 52543

SHEET NAME
LAKE EVAL.
INUNDATION

SHEET NO.
A1



NOTES:

- FLOW MAP BASED OFF 100-YEAR, 24-HOUR STORM
- THE ELEVATION-AREA RELATIONSHIP FOR THE MAIN LAKE WAS FOUND USING UNDERWATER CONTOURS FROM PREVIOUSLY TAKEN DNR DATA
- MAIN LAKE WATER ELEVATION IS 738
- SATELLITE POND 1 EAST WAS ASSUMED TO HAVE AN 8' DEPTH WITH A TOB ELEV. OF 747
- SATELLITE POND 2 EAST WAS ASSUMED TO HAVE AN 8' DEPTH WITH A TOB ELEV. OF 766
- SATELLITE POND 3 EAST WAS ASSUMED TO HAVE AN 10' DEPTH WITH A TOB ELEV. OF 764
- SATELLITE POND 4 WEST WAS ASSUMED TO HAVE AN 10' DEPTH WITH A TOB ELEV. OF 768

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: ACG
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

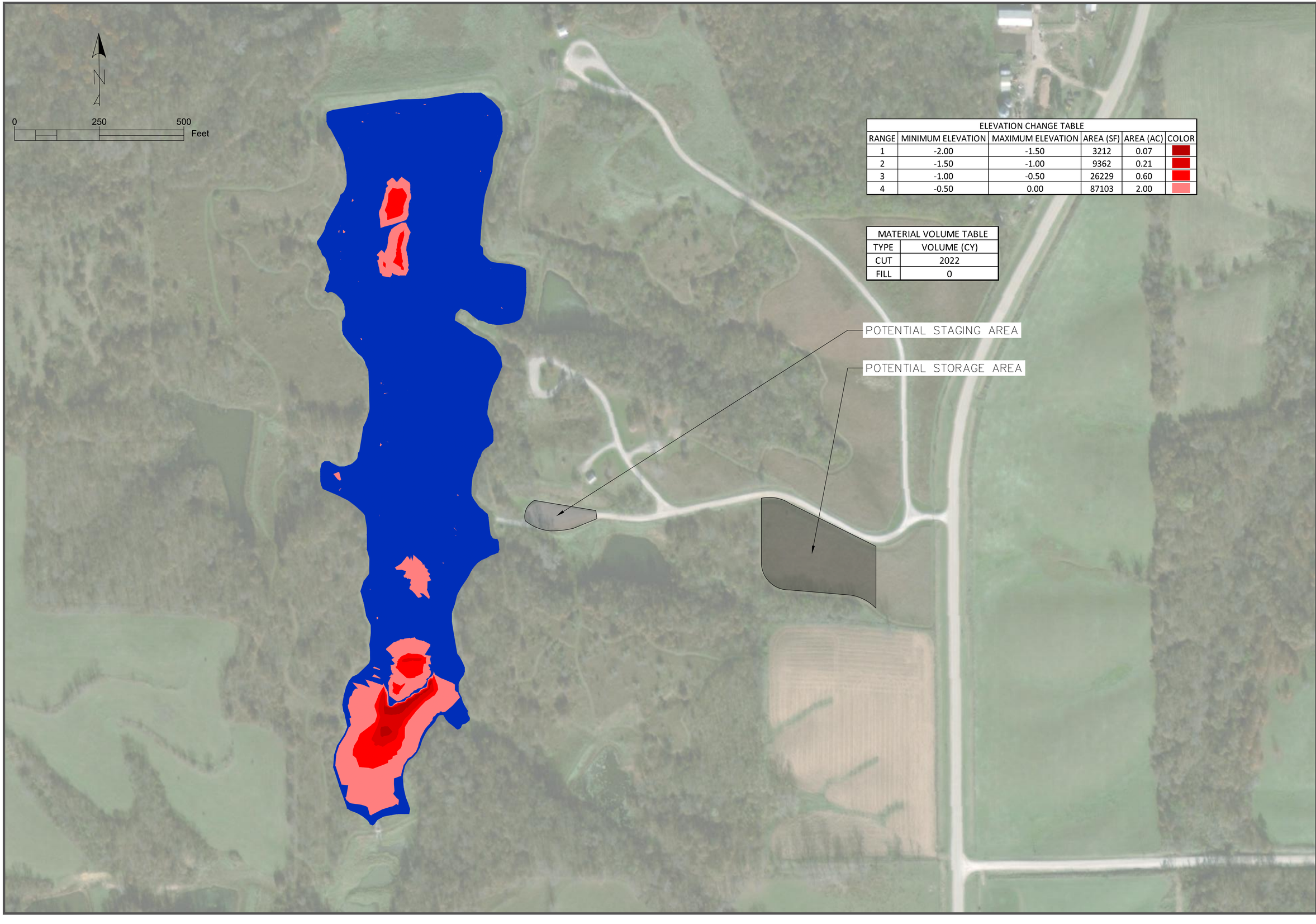
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
LAKE EVAL FLOW MAP

SHEET NO.
A2



ELEVATION CHANGE TABLE					
RANGE	MINIMUM ELEVATION	MAXIMUM ELEVATION	AREA (SF)	AREA (AC)	COLOR
1	-2.00	-1.50	3212	0.07	
2	-1.50	-1.00	9362	0.21	
3	-1.00	-0.50	26229	0.60	
4	-0.50	0.00	87103	2.00	

MATERIAL VOLUME TABLE	
TYPE	VOLUME (CY)
CUT	2022
FILL	0

PROJECT: CEE: 4850

DATE : 05/03/2024

DRAWN BY: NLL

REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING

4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA
CIVIL & ENVIRONMENTAL
ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA, 52543

SHEET NAME

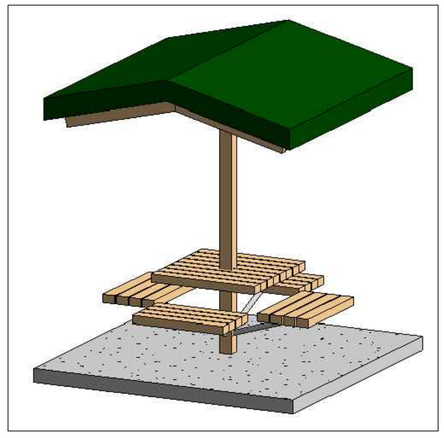
LAKE EVAL.
DREDGING

SHEET NO.

A3

CARDINAL PAVILION

PENINSULA PAVILION



SEE APPENDIX C, REFERENCE 1 FOR DESIGN SPECIFICATIONS

ROBIN PAVILION

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

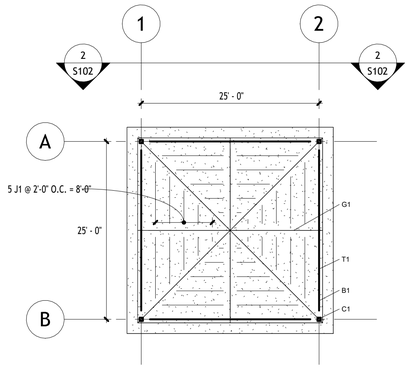
PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: MEJ
REVISION:

EDUCATIONAL - NOT FOR CONSTRUCTION

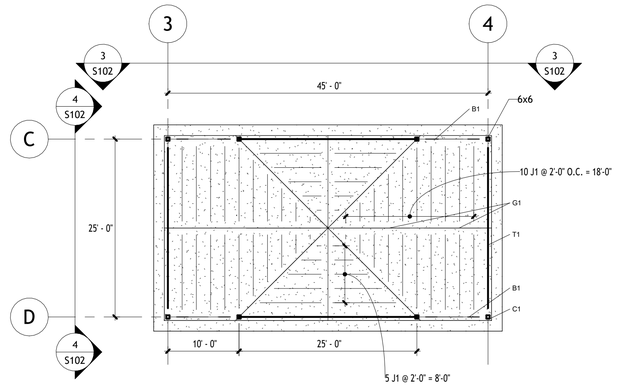
WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

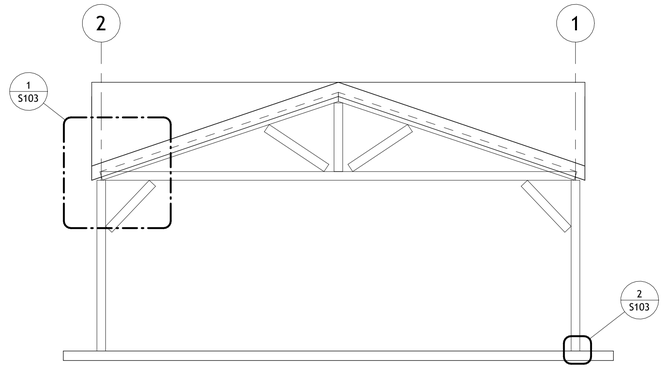
SHEET NAME
PAVILIONS LOCATION SHEET

SHEET NO.
B1

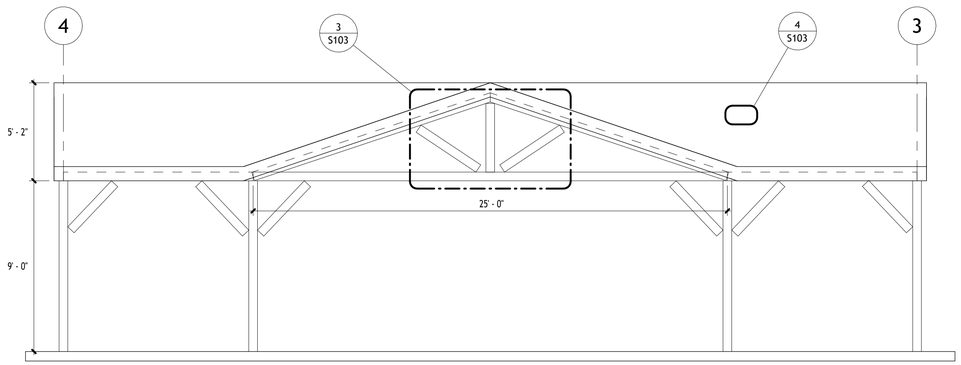


1 ROOF FRAMING PLAN VIEW
3/32" = 1'-0"

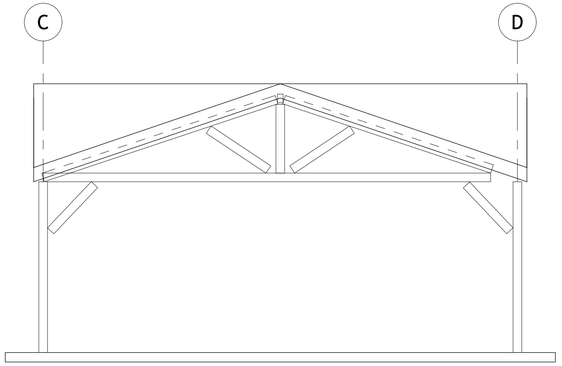




2 ROBIN PAVILION ELEVATION VIEW
1/4" = 1'-0"



3 CARDINAL PAVILION ELEVATION VIEW - NORTH
1/4" = 1'-0"



4 CARDINAL PAVILION ELEVATION VIEW - EAST
1/4" = 1'-0"

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

PROJECT: CEE:4850
DATE : 05/03/2023
DRAWN BY: MEJ
REVISION:

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PAVILIONS FRAMING PLAN

SHEET NO.
B2

GENERAL NOTES:

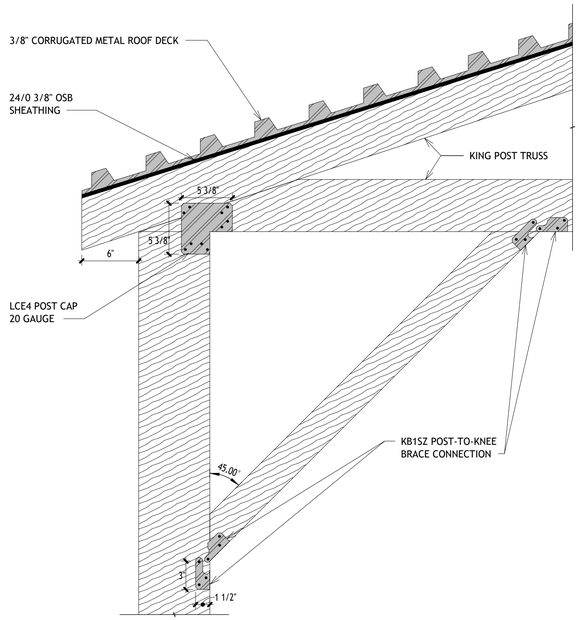
REFERENCES:
A. ASCE 7-22 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES
B. NDS NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION: WITH COMMENTARY
C. IBC INTERNATIONAL BUILDING CODE 2018
D. SIMPSON STRONG-TIE WOOD CONSTRUCTION CONNECTORS MANUAL 2020-1

DESIGN LOADS:
A. ROOF DEAD LOAD = 7.2 PSF
B. COLUMN DEAD LOAD = 3 KIPS
C. BALANCED SNOW LOAD = 27.7 PSF
   1. GROUND SNOW LOAD: p_g = 33 PSF
   2. EXPOSURE FACTOR: C_e = 1.0
   3. THERMAL FACTOR: C_t = 1.2
   4. SLOPE ROOF FACTOR: C_s = 1.0
D. ROOF LIVE LOAD = 20 PSF
E. WIND LOADING:
   1. WIND VELOCITY: V = 103 MPH
   2. TOPOGRAPHIC FACTOR: K_{zt} = 1.0
   3. DIRECTIONALITY FACTOR: K_d = 0.85
   4. EXPOSURE CATEGORY C
   5. GROUND ELEVATION FACTOR: K_e = 0.975
   6. VELOCITY PRESSURE COEFFICIENT: K_h = 2.564
   7. NET PRESSURE COEFFICIENTS:
      CASE A: C_{NWW} = 1.2
      C_{NLW} = -0.171
      CASE B: C_{NWW} = -1.2
      C_{NLWW} = -2.01

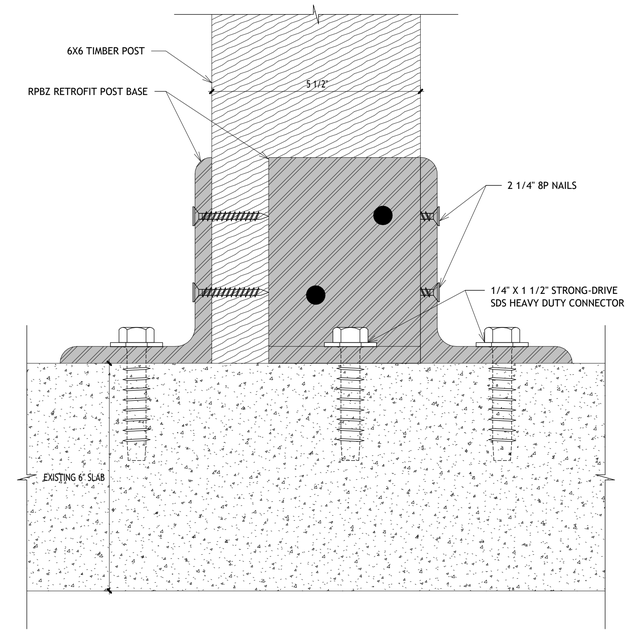
WOOD MEMBERS:
A. PURLINS: DOUGLAS FIR-LARCH NO. 2
B. GIRDERS: DOUGLAS FIR-LARCH NO. 2
C. COLUMNS: DOUGLAS FIR-LARCH NO. 2
D. KING-POST TRUSS: DOUGLAS FIR-LARCH NO. 2
E. SHEATHING: 24/0 OSB SHEATHING

CONNECTIONS:
A. KNEE-BRACE STABILIZER: 16 GAUGE KB1SZ
B. FOUNDATION-TO-POST: 12 GAUGE RPBZ
C. FASTENERS: 1/4" x 1 1/2" STRONG-DRIVE SDS HEAVY-DUTY CONNECTOR
D. CHORD-TO-WEB: 16 GAUGE APT6
E. GABLE PLATE: 16 GAUGE APGP812
F. JOIST-TO-GIRDER: GALVANIZED HU46TF HANGER

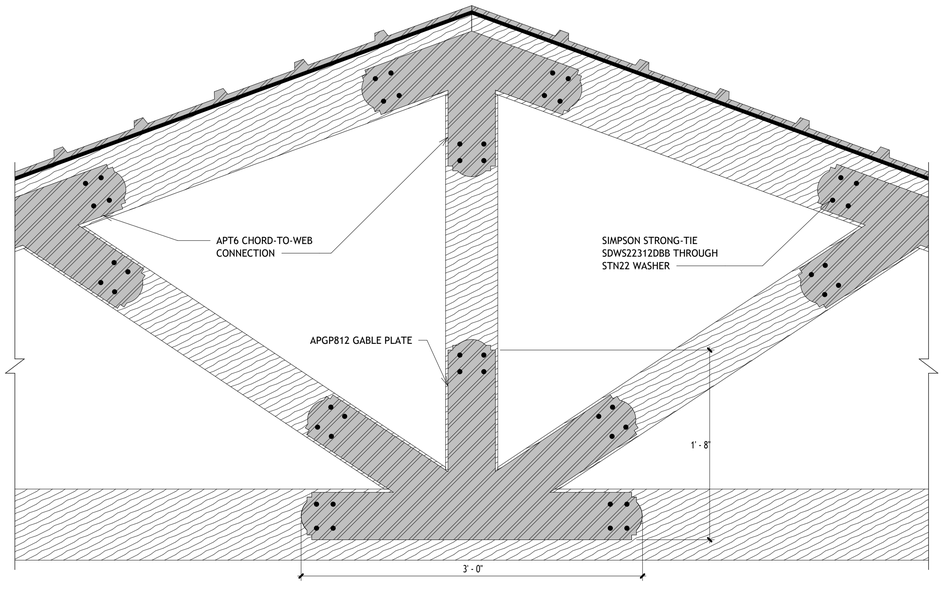
STRUCTURAL FRAMING SCHEDULE		
MEMBER:	WIDTH:	DEPTH:
P1	3.5"	5.5"
C1	5.5"	5.5"
T1	3.5"	9.25"
G1	3.5"	9.25"
B1	3.5"	5.5"



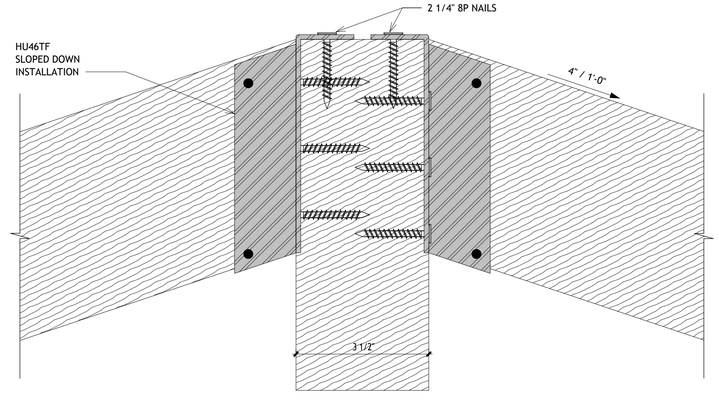
1 KNEE BRACE AND ROOF DETAIL
1 1/2" = 1'-0"



2 FOUNDATION TO POST CONNECTION DETAIL
6" = 1'-0"



3 TRUSS CONNECTION DETAIL
1 1/2" = 1'-0"



4 JOIST TO GIRDER DETAIL
6" = 1'-0"

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: MEJ
REVISION:

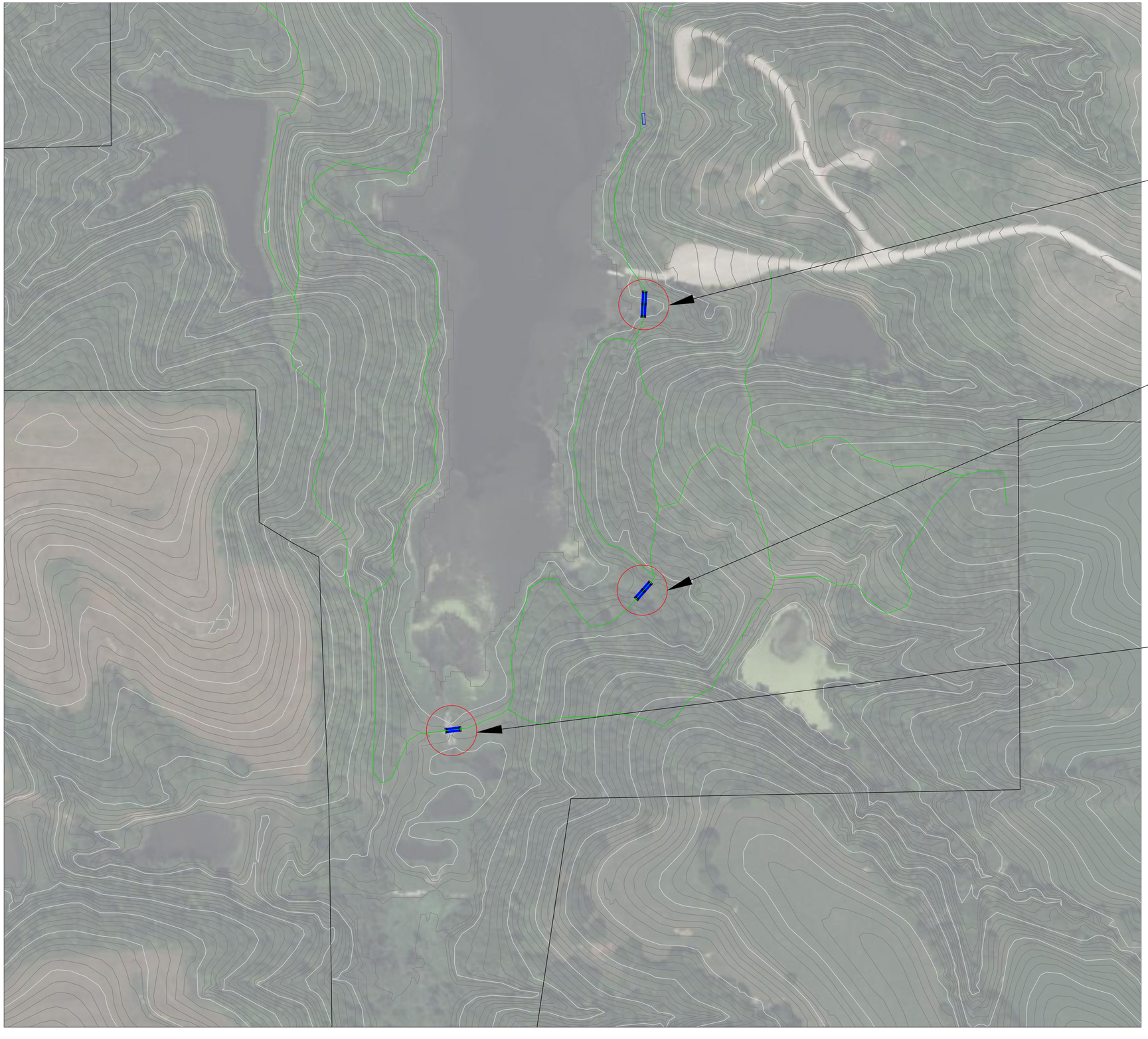
IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PAVILIONS DETAILS

SHEET NO.
B3



PROJECT: CEE:4850

DATE : 05/03/2024

DRAWN BY: CJH

REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING

4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

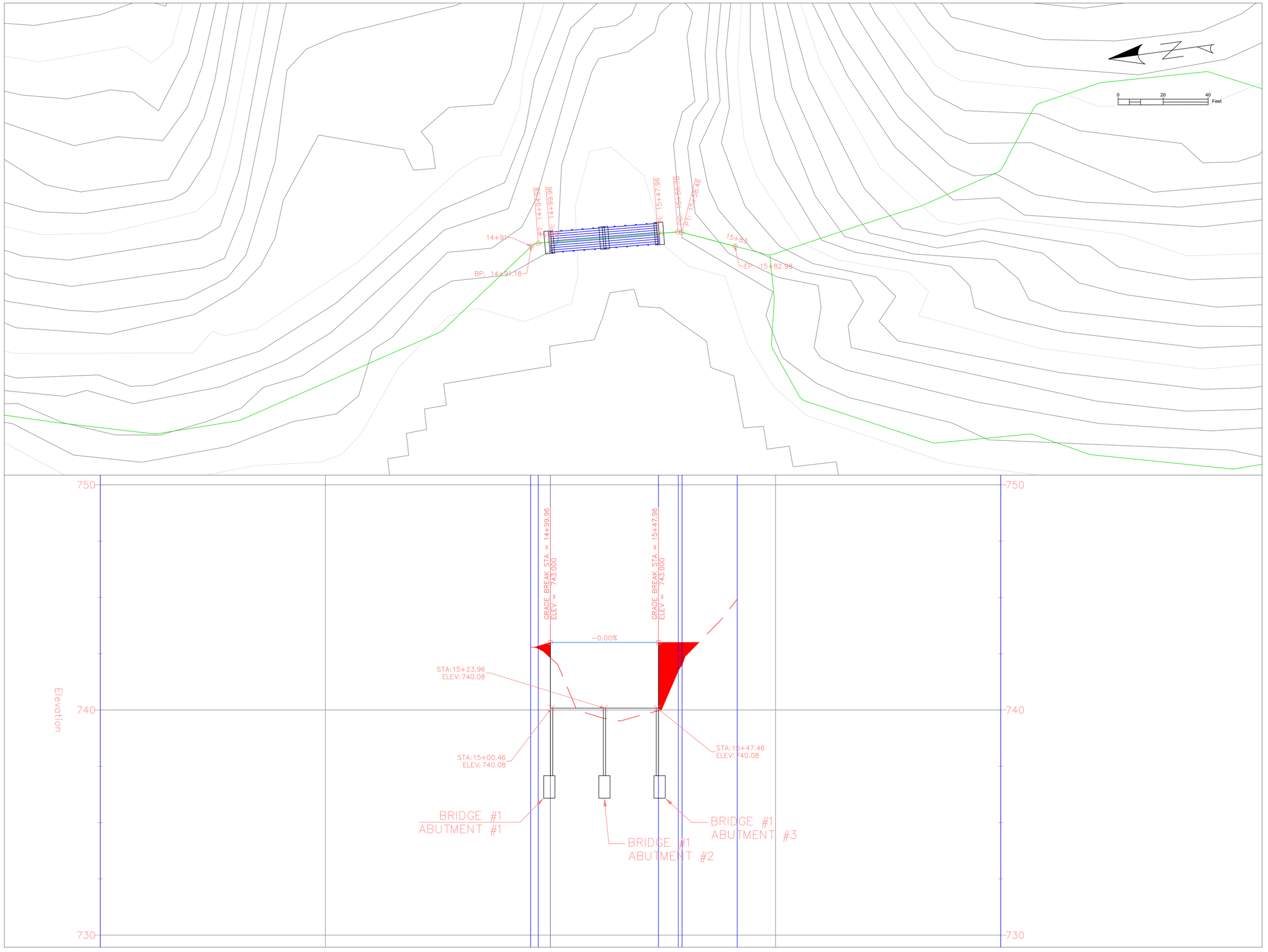
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

PED. BRIDGES LOCATION SHEET

SHEET NO.

C1



PROJECT: CEE:4850

DATE : 05/03/2024

DRAWN BY: CJH

REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING

4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA
CIVIL & ENVIRONMENTAL
ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION

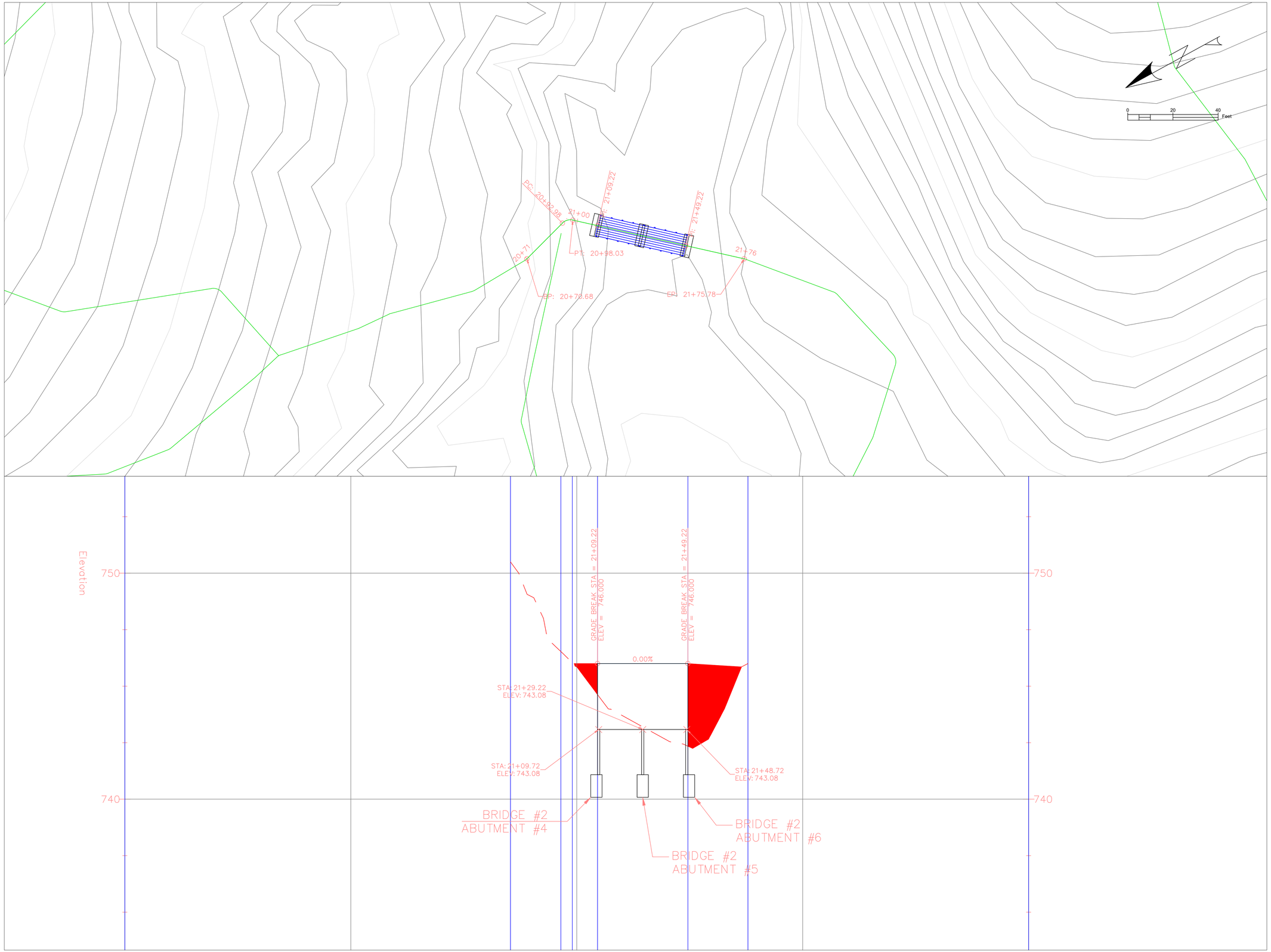
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

PED. BRIDGES
BRIDGE 1 P&P

SHEET NO.

C2



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING

4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

PROJECT: CEE:4850

DATE : 05/03/2024

DRAWN BY: CJH

REVISION:

IOWA
CIVIL & ENVIRONMENTAL
ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION

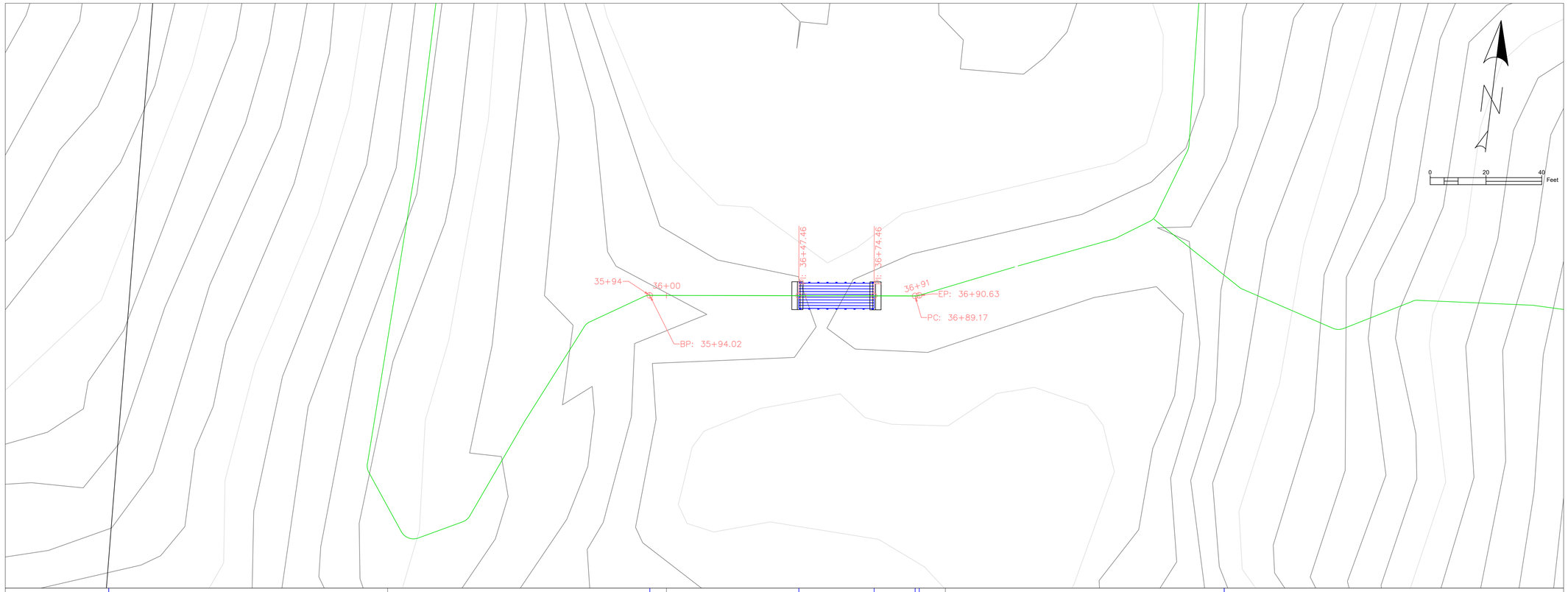
2647 VENTURA AVENUE
CEDAR, IOWA 52543

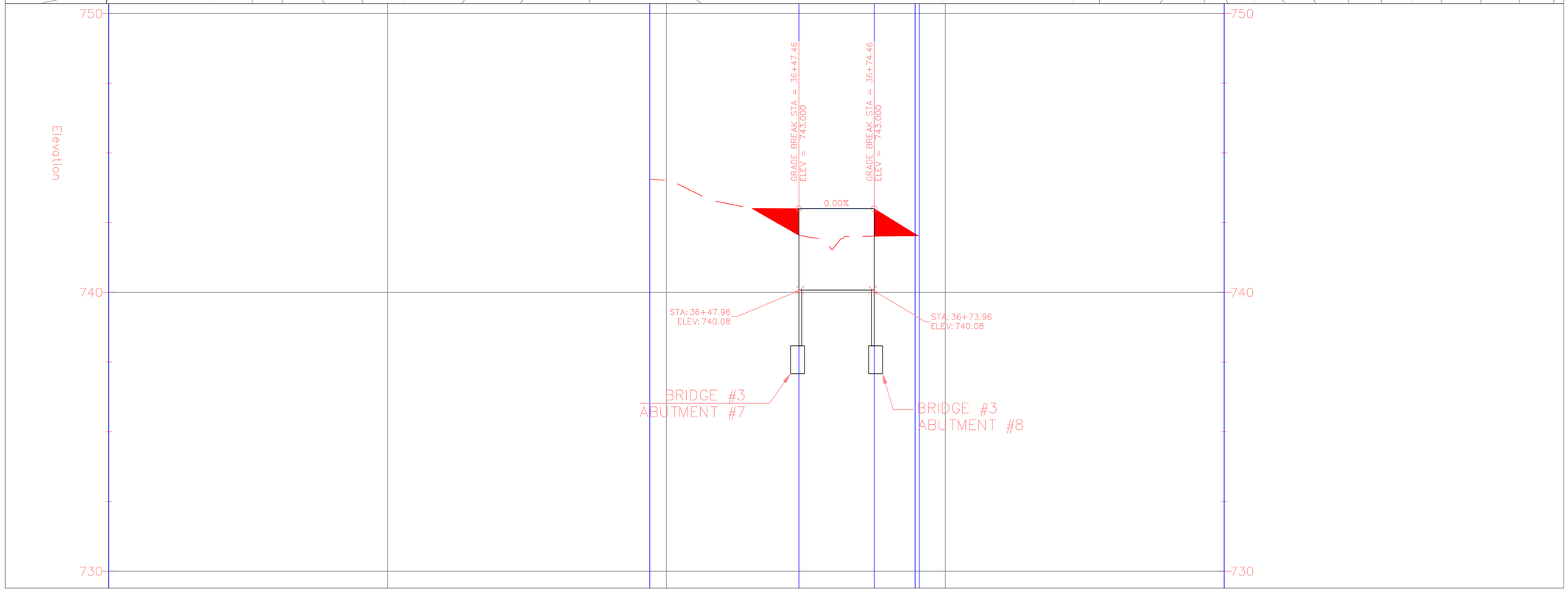
SHEET NAME

PED. BRIDGES
BRIDGE 2 P&P

SHEET NO.

C3





PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CJH
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA
CIVIL & ENVIRONMENTAL
ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PED. BRIDGES
BRIDGE 3 P&P

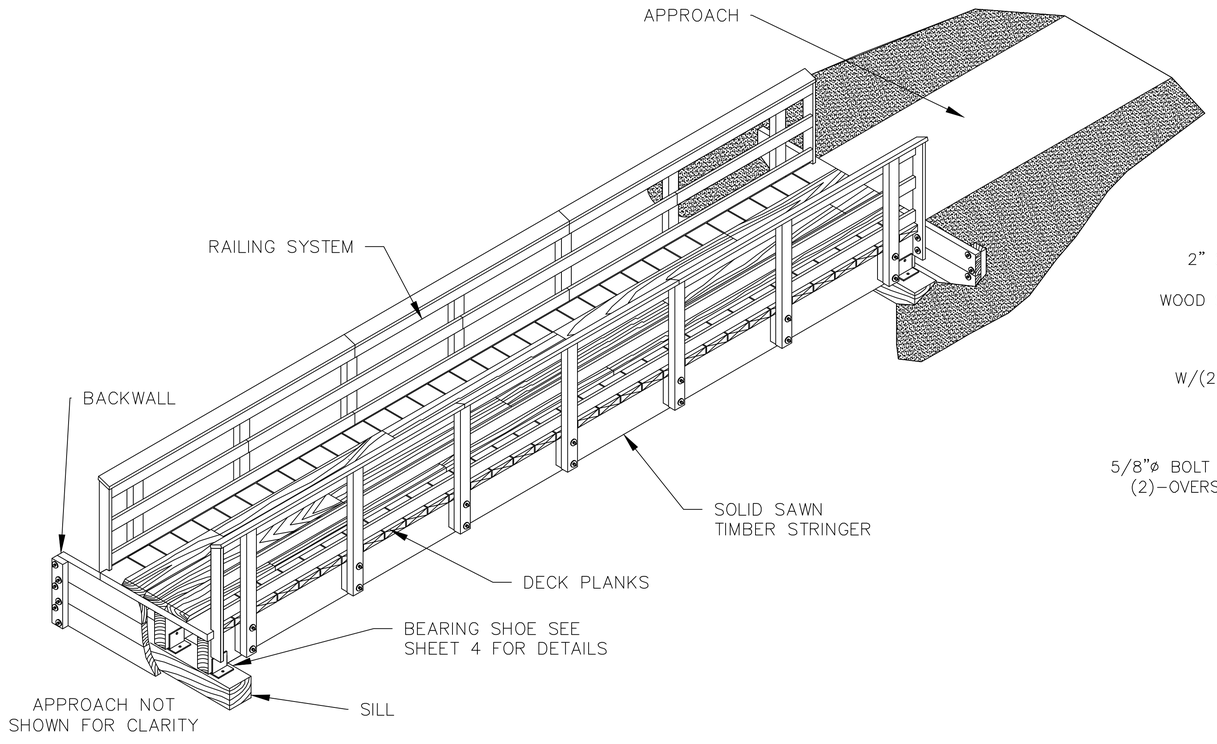
SHEET NO.
C4

STRUCTURE NUMBER	TRAIL NO.	BRIDGE LOCATION	BRIDGE LENGTH OUT-TO-OUT	STRINGER SPAN ℄–℄ BRNG	BRIDGE CLEAR WIDTH	PEDESTRIAN LOAD	GROUND SNOW LOAD	STRINGERS					DECK			BACKWALL				
								SPECIES	NUMBER	MATERIAL SIZE	TREATMENT YES	TREATMENT NO	SPECIES	SIZE	TREATMENT	SPECIES	SIZE	WIDTH	HEIGHT	TREATMENT
1	1	14+99.96	48 FT	24 FT	VARIES	90 PSF	20 PSF	DOUGLAS FIR	1	6"x18"	X		DOUGLAS FIR	3"x12"	YES	DOUGLAS FIR	3"x6"	10'	VARIES	YES
2	1	21+09.22	40 FT	20 FT	VARIES	90 PSF	20 PSF	DOUGLAS FIR	1	6"x18"	X		DOUGLAS FIR	3"x12"	YES	DOUGLAS FIR	3"x6"	10'	VARIES	YES
3	1	36+47.46	27 FT	27 FT	VARIES	90 PSF	20 PSF	DOUGLAS FIR	1	6"x18"	X		DOUGLAS FIR	3"x12"	YES	DOUGLAS FIR	3"x6"	10'	VARIES	YES

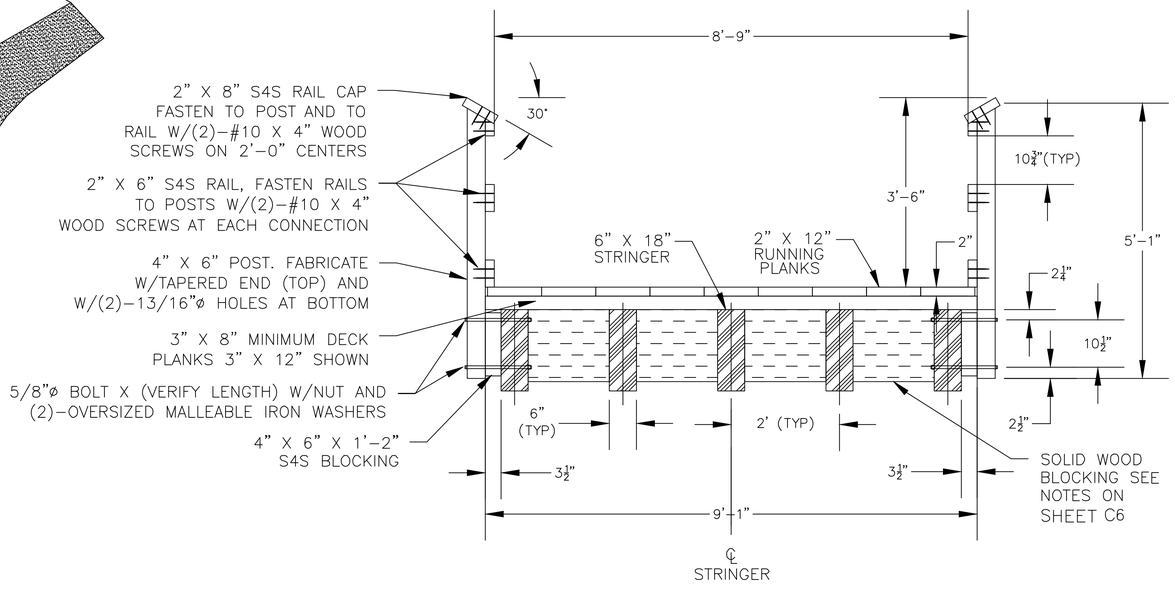
NA = NOT APPLICABLE

STRUCTURE NUMBER	RAILING SYSTEM/CURB					RUNNING PLANK					SILL			APPROACHES						HARDWARE	
	SPECIES	TYPE	HEIGHT	TREATMENT YES	TREATMENT NO	SPECIES	SIZE	WIDTH	TREATMENT YES	TREATMENT NO	TYPE	SIZE	TREATMENT	LENGTH NEAR	LENGTH FAR	WIDTH	MATERIAL TYPE	MATERIAL DEPTH	GEO-SYNTHETIC TYPE	COATINGS	COMMENTS
1	DOUGLAS FIR	S4S	5'–1"	X		DOUGLAS FIR	2"x12"	9'	X		SS	12"x12"	YES	9'	18'	8'	ON SITE	VARIES	NA	GALV	SEE NOTES ON C6
2	DOUGLAS FIR	S4S	5'–1"	X		DOUGLAS FIR	2"x12"	9'	X		SS	12"x12"	YES	10'	24'	8'	ON SITE	VARIES	NA	GALV	SEE NOTES ON C6
3	DOUGLAS FIR	S4S	5'–1"	X		DOUGLAS FIR	2"x12"	9'	X		SS	12"x12"	YES	16'	18'	8'	ON SITE	VARIES	NA	GALV	SEE NOTES ON C6

ABUTMENT MATERIAL TYPE: SS = SOLID SAWN, GLU = GLULAM, CONC = CONCRETE
HARDWARE COATING TYPE: GALV = GALVANIZED, UNC = UNCOATED, WEA = WEATHERING STEEL



TRAIL BRIDGE W/RAILING SYSTEM



TYPICAL DECK SECTION W/RAILING SYSTEM

**SHEET ADAPTED FROM U.S. FOREST SERVICE SAMPLE PLAN

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CJH
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

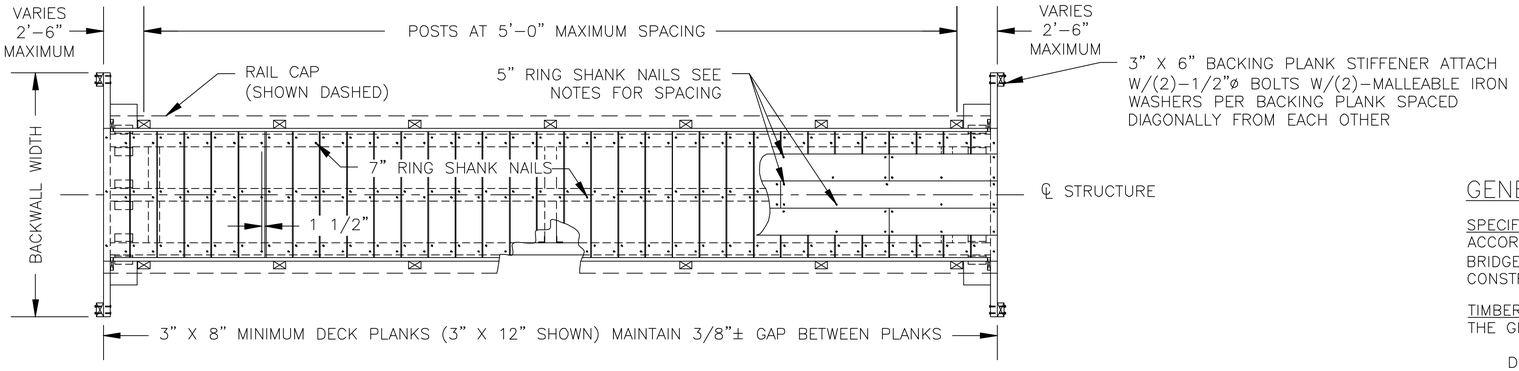
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

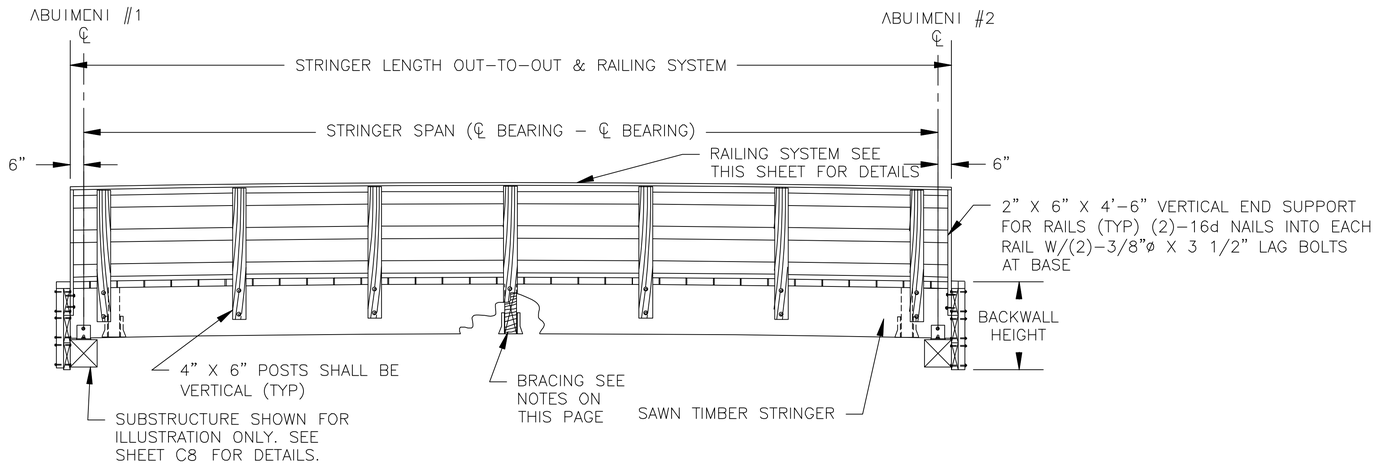
2647 VENURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PED. BRIDGES DETAIL SHEET 1

SHEET NO.
C5



PLAN



ELEVATION

GRADE SHOWN = 0.0%, RUNNING PLANKS NOT SHOWN FOR CLARITY

NOTES:

1. FASTEN DECK PLANKS TO STRINGERS WITH TWO ROWS 5/16-INCH DIAMETER X 7-INCH RING SHANK NAILS PER PLANK AT EACH STRINGER. ALTERNATE SIDES.
2. FASTEN RUNNING PLANKS TO DECK WITH 40d (5-INCH RING SHANK) NAILS AT 24-INCH SPACING. ALTERNATE SIDES WITH TWO AT EACH END.
3. PROVIDE A MINIMUM 1/2-INCH SPACE BETWEEN BLOCKING AND BACKWALL FOR AIR CIRCULATION.
4. SPLICE RAILS AT POSTS. RAILS SHALL BE CONTINUOUS FOR TWO POST SPACES. DO NOT LOCATE MORE THAN ONE RAIL SPLICE AT ANY ONE POST.
5. BRACING REQUIRED AT THE ENDS OF EACH MEMBER. THE BRACING SHALL BE THREE-QUARTERS TO FULL DEPTH AND PLACED WITHIN A DISTANCE OF THE DEPTH OF THE BEAM FROM THE CENTERLINE OF BEARING. BRACING REQUIRED AT MID-SPAN FOR SPANS OVER 20 FEET LONG.
6. WOOD BLOCKING SHALL BE BOLTED TO STRINGERS WITH STEEL ANGLES OR SUSPENDED IN STEEL HANGERS THAT ARE NAILED TO BLOCKS AND STRINGER SIDES

GENERAL NOTES:

SPECIFICATIONS: MATERIALS AND CONSTRUCTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-03) AND STANDARD SPECIFICATIONS FOR CONSTRUCTION OF TRAILS AND TRAIL BRIDGES ON FEDERAL PROJECTS,

TIMBER & LUMBER: SOLID SAWN TIMBER MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF THE GRADING RULES AGENCY FOR THE SPECIES, TYPE, AND GRADE SPECIFIED BELOW.

- DECK PLANKS, CURBS, SILLS, & BACKING PLANKS
  - COASTAL REGION DOUGLAS FIR-LARCH ROUGH SAWN NO.1 GRADE, GRADING RULES AGENCY - WWPA, WCLIB
- RUNNING PLANKS
  - COASTAL REGION DOUGLAS FIR-LARCH ROUGH SAWN NO.2 GRADE, GRADING RULES AGENCY - WWPA, WCLIB
- RAILS & POSTS (SEE PROJECT CRITERIA)
  - UNTREATED
    - REDWOOD, S4S, NO.1 GRADE GRADING RULES AGENCY - RIS
    - WESTERN RED CEDAR, S4S, SELECT STRUCTURAL GRADE GRADING RULES AGENCY - WWPA, WCLIB
  - TREATED
    - HEM-FIR/DOUGLAS FIR, S4S, NO.1 GRADE GRADING RULES AGENCY - WWPA, WCLIB

TREATMENT: SEE PROJECT CRITERIA FOR MEMBERS IDENTIFIED TO BE TREATED AND FOR TREATMENT TYPE. PRESERVATIVE TREATMENT SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) SPECIFICATIONS USING THE TREATMENT MATERIALS LISTED BELOW. TREATMENT WILL COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF WESTERN WOOD PRESERVERS INSTITUTE (WWPI) "BEST MANAGEMENT PRACTICES FOR THE USE OF TREATED WOOD IN AQUATIC ENVIRONMENTS".

- STRINGERS, DECKING, RUNNING PLANKS, & RAILING SYSTEM, IF TREATED
  - AWPA USE CATEGORY SYSTEM (U1) FOR USE CATEGORY 3B ABOVE GROUND-EXPOSED (UC3B)
  - PENTACHLOROPHENOL IN LIGHT OIL (TYPE C SOLVENT)
  - COPPER NAPHTHENATE (CuN) IN LIGHT OIL (TYPE C SOLVENT)
- SILLS, BACKING PLANKS, CRIBS, & TIMBER WALLS, IF TREATED
  - AWPA USE CATEGORY SYSTEM (U1) FOR USE CATEGORY 4B GROUND CONTACT-HEAVY DUTY (UC4B)
  - PENTACHLOROPHENOL IN HEAVY OIL (TYPE A SOLVENT)
  - COPPER NAPHTHENATE (CuN) IN HEAVY OIL (TYPE A SOLVENT)

FIELD TREATMENT: COPPER NAPHTHENATE (2% SOLUTION) SHALL BE FURNISHED FOR FIELD TREATING OD WOOD. ALL ABRASIONS AND FIELD CUTS -APPROVED BY THE C.O.R.- SHALL BE CAREFULLY TRIMMED AND GIVEN THREE BRUSH COATS OF THE FIELD TREATMENT SOLUTION. WHERE APPROVED FIELD DRILLING OF BOLT OR NAIL HOLES IS REQUIRED, THE HOLES SHALL BE FILLED WITH PRESERVATIVE PRIOR TO INSERTING THE FASTENERS.

HARDWARE AND STRUCTURAL STEEL: SEE PROJECT DESIGN CRITERIA FOR STEEL HARDWARE FINISH. GALVANIZED OR UNFINISHED HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M270, GRADE 36, WITH NUTS AND BOLTS CONFORMING TO ASTM A307, GRADE A. WEATHERING STEEL AND HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M270, GRADE 50W, WITH BOLTS AND NUTS CONFORMING TO ASTM A325, TYPE 3. USE MALLEABLE IRON WASHERS AGAINST WOOD UNLESS OTHERWISE NOTED.

WHEN STRUCTURAL STEEL IS TO BE WELDED, THE WELDING PROCEDURE SHALL BE IN ACCORDANCE WITH AWS D1.1 AND SHALL BE SUITABLE FOR THE GRADE OF STEEL AND INTENDED USE OR SERVICE.

FABRICATION: SUBMIT SHOP DRAWINGS FOR ALL BRIDGE COMPONENTS (EXCEPT TIMBER RUNNING PLANKS). SHOW ALL DIMENSIONS AND FABRICATION DETAILS FOR ALL CUT OR BORED TIMBER. FIELD DRILLING OF HOLES SHALL NOT BE ALLOWED UNLESS OTHERWISE NOTED ON THE PLANS.

**SHEET ADAPTED FROM U.S. FOREST SERVICE SAMPLE PLAN

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CJH
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

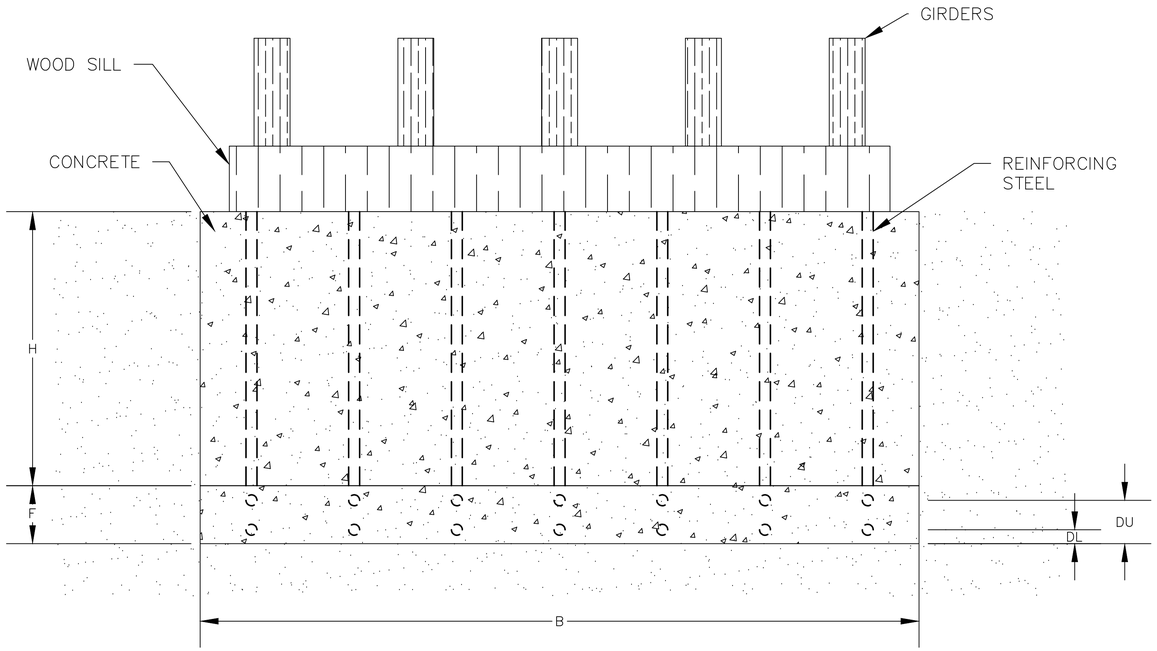
IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

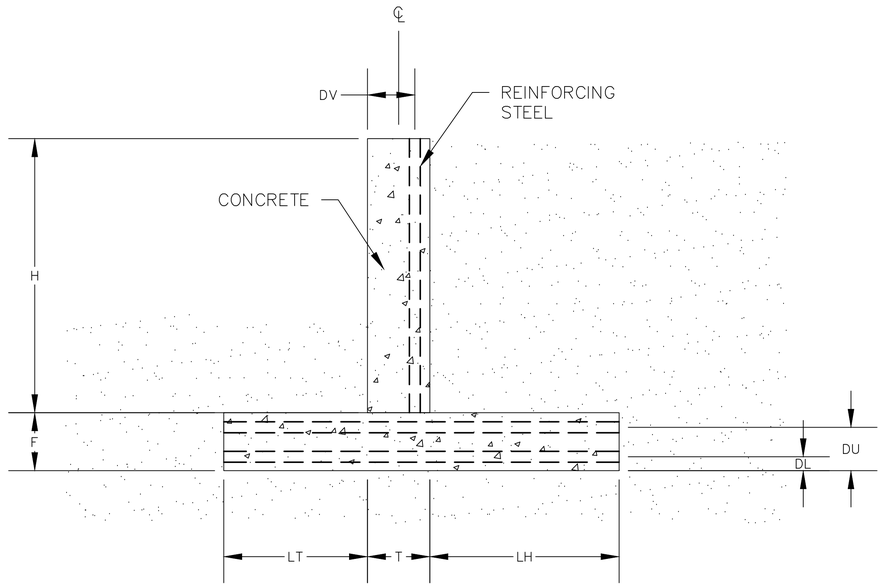
WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PED. BRIDGES DETAIL SHEET 2

SHEET NO.
C6



ABUTMENT (CROSS-SECTION VIEW)



ABUTMENT (SIDE VIEW)

ABUTMENT STRUCTURE NUMBER	BRIDGE STRUCTURE NUMBER	℄ STATION	B (FT)	F (IN)	H (FT)	LT (FT)	T (IN)	LH (FT)	VERTICAL REINFORCEMENT				UPPER HORIZONTAL REINFORCEMENT				LOWER HORIZONTAL REINFORCEMENT			
									MATERIAL	REBAR NO.	SPACING (IN)	DV (IN)	MATERIAL	REBAR NO.	SPACING (IN)	DU (IN)	MATERIAL	REBAR NO.	SPACING (IN)	DL (IN)
1	1	15+00.46	10	12	3	1	12	2	STEEL	6	16	10	STEEL	5	16	10	STEEL	5	16	2
2	1	15+23.96	10	12	3	2	12	4	STEEL	6	16	10	STEEL	6	16	9	STEEL	6	16	2
3	1	15+47.46	10	12	3	1	12	2	STEEL	6	16	10	STEEL	5	16	10	STEEL	5	16	2
4	2	21+09.72	10	12	2	1	12	2.5	STEEL	6	16	10	STEEL	6	16	10	STEEL	6	16	2
5	2	21+29.22	10	12	2	2	12	3	STEEL	6	16	10	STEEL	6	16	10	STEEL	6	16	2
6	2	21+48.72	10	12	2	1	12	2.5	STEEL	6	16	10	STEEL	6	16	10	STEEL	6	16	2
7	3	36+47.96	10	12	2	2	12	3	STEEL	6	16	10	STEEL	5	16	10	STEEL	5	16	2
8	3	36+73.96	10	12	2	2	12	3	STEEL	6	16	10	STEEL	5	16	10	STEEL	5	16	2

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CJH
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

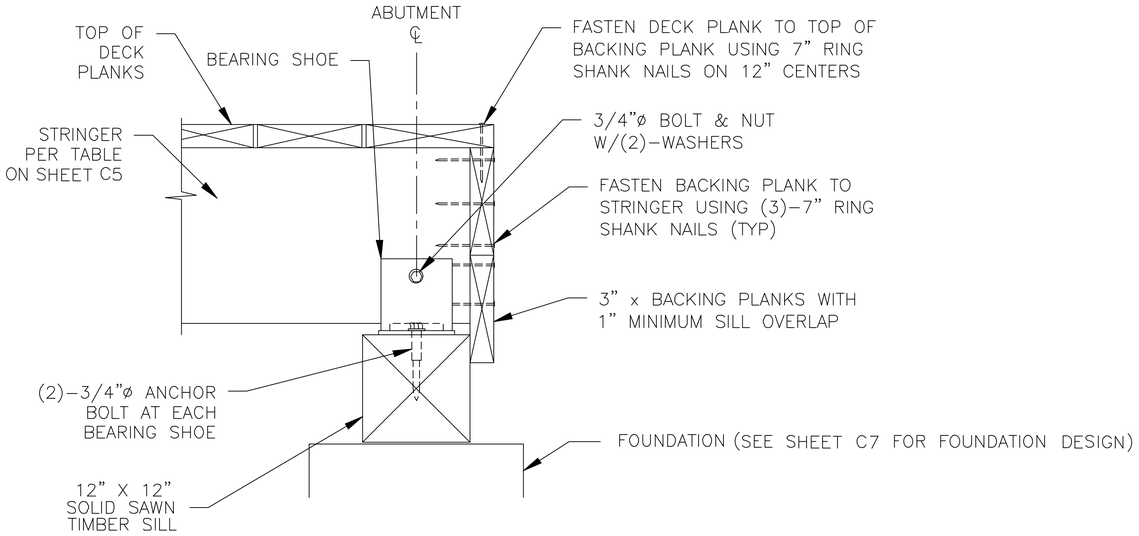
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

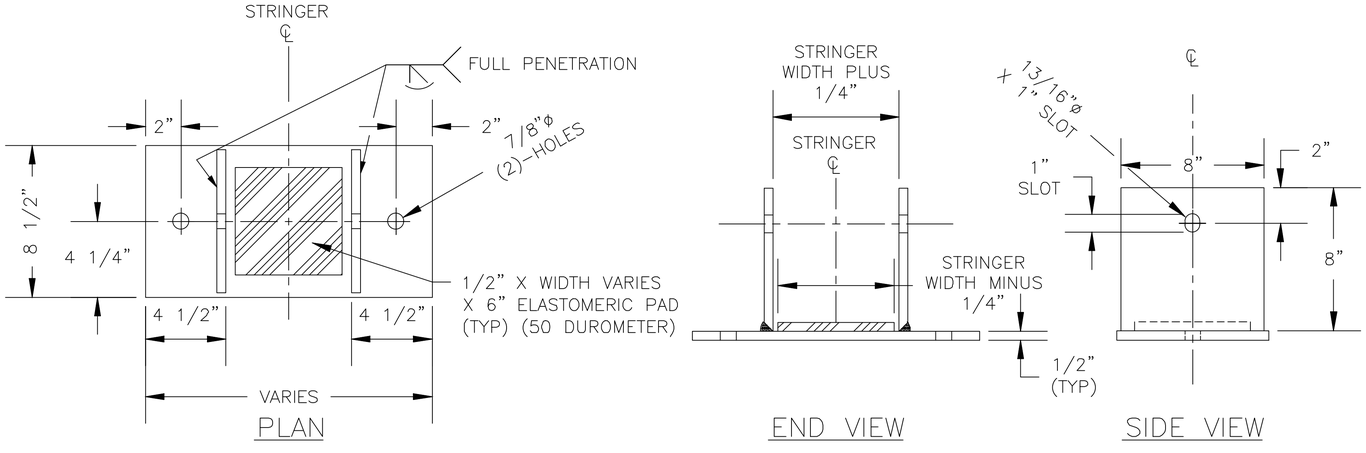
SHEET NAME
PED. BRIDGES DETAIL SHEET 3

SHEET NO.
C7



SAWN TIMBER SILL CONNECTION DETAIL

BACKING PLANK STIFFENER NOT SHOWN FOR CLARITY



BEARING SHOE DETAIL

MATERIAL = 1/2" STEEL PLATE A36

NOTES:

SPECIFICATIONS: MATERIALS AND CONSTRUCTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP–03) AND STANDARD SPECIFICATIONS FOR CONSTRUCTION OF TRAILS AND TRAIL BRIDGES ON FEDERAL PROJECTS,

CONCRETE: USE STRUCTURAL CONCRETE WITH 7 SACK MINIMUM MIX APPROVED BY THE C.O., CONCRETE SHALL RECEIVE A TOWELED SURFACE FINISH. CONCRETE SHALL HAVE 4%–6% ENTRAINED AIR. MAXIMUM SIZE AGGREGATE SHALL BE 3/4–INCH AND CONCRETE SLUMP SHALL NOT EXCEED 4–INCHES.

REINFORCING STEEL: PROVIDE REINFORCING STEEL THAT CONFORMS TO ASTM A615 (AASHTO M31), GRADE 40 OR 60. PROVIDE 2–INCH CLEAR CONCRETE COVER FOR ALL REBAR, UNLESS NOTED OTHERWISE ON THE PLANS.

HARDWARE AND STRUCTURAL STEEL: SEE SHEET 3 FOR PROJECT DESIGN CRITERIA AND GENERAL NOTES.

TREATED TIMBER & LUMBER: REFER TO THE GENERAL NOTES ON THE SUBSTRUCTURE DRAWINGS FOR TREATED TIMBER & LUMBER SPECIFICATIONS AND FIELD TREATING OF WOOD

LAG SCREW INSTALLATION: PRE–BORE LAG SCREW HOLES USING TWO DIAMETERS, ONE FOR THE SHANK AND ONE FOR THE THREADS. THE LEAD HOLE FOR THE SHANK IS TO BE 1/16–INCH LARGER THAN THE SHANK DIAMETER AND IS TO BE BORED TO THE DEPTH OF PENETRATION OF THE SHANK. THE LEAD HOLE FOR THE THREADED PORTION IS TO BE 70% OF THE BOLT DIAMETER AS SHOWN ON THE PLANS AND IS TO BE BORED AT LEAST TO THE LENGTH OF THE THREADS. DO NOT DRIVE LAG SCREWS WITH A HAMMER.

**SHEET ADAPTED FROM U.S. FOREST SERVICE SAMPLE PLAN

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CJH
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PED. BRIDGES DETAIL SHEET 4

SHEET NO.
C8

GENERAL NOTES:

1. PARKING SPACE MARKINGS SHALL BE WHITE. FOR DETAILS ON THE TYPE OF MARKING TO BE USED, REFER TO SPECIAL PAVEMENT MARKING LAYOUTS FURNISHED BY THE OFFICE OF TRAFFIC AND SAFETY, THE CONSTRUCTION PLANS WHEN A STREET HAS BEEN REBUILT, OR THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. MARKING OF PARKING SPACES SHALL BE IN CONFORMANCE WITH AN AGREEMENT BETWEEN MAHASKA COUNTY AND THE IOWA DOT. ON NEW PROJECTS, THE IOWA DOT MAY MARK PARKING SPACES THE FIRST TIME BY CONTRACT. NORMALLY, FURTHER MAINTENANCE OF PARKING SPACE MARKINGS IS A COUNTY RESPONSIBILITY.

2. WORD AND SYMBOL MARKINGS SHALL BE WHITE. THEY SHOULD READ UP IN THE DIRECTION OF TRAVEL AND BE LIMITED TO NOT MORE THAN A TOTAL OF THREE LINES OF MESSAGE. THE LONGITUDINAL SPACE BETWEEN WORD OR SYMBOL MESSAGES INCLUDING ARROWS SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE WORD OR SYMBOL FOR LOW SPEED ROADS BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE WORD OR SYMBOL UNDER ANY CONDITIONS. THESE MARKINGS ARE ELONGATED AND SHALL BE PLACED BY TEMPLATE ON THE PAVEMENT. WORD MESSAGES SHOULD BE NO MORE THAN ONE LANE WIDTH, EXCEPT THE WORD "SCHOOL"MAY EXTEND ACROSS TWO LANES. IN SITUATIONS WHERE ENTRAPMENT IS ENCOUNTERED (WHERE THROUGH LANES BECOME MANDATORY TURN LANES) LANE–USE ARROWS SHALL BE USED AND ACCOMPANIED BY STANDARD SIGNS AND THE WORD MARKING "ONLY". WHERE A SEPARATE TURN LANE (LEFT OR RIGHT) IS PROVIDED NO LANE–USE MARKINGS ARE REQUIRED.WORD AND SYMBOL MARKINGS SHOULD BE PLACED ONLY AS SHOWN ON SPECIAL PAVEMENT MARKING LAYOUTS OR AS ILLUSTRATED BY THE FIGURES IN THIS MANUAL. NO OTHERS SHALL BE USED. FOR DETAILS ON THE DESIGN OF WORD AND SYMBOL MARKINGS, SEE APPROPRIATE FIGURES IN SECTION 3B–2 OF THE TRAFFIC AND SAFETY MANUAL.

3. SINCE THE PROPOSED SPEED LIMIT IS UNDER 45 MPH, THE TAPER LENGTH IS NOT APPLICABLE FOR THE SITE.

4. CROSSWALK LINES ARE SOLID WHITE LINES, NOT LESS THAN 6 INCHES AND NOT GREATER THAN 24 INCHES IN WIDTH MARKING BOTH EDGES OF THE CROSSWALK. SEE MARKING TYPE CLW6 IN FIGURE 1 OF SECTION 3B–2 OF THE TRAFFIC AND SAFETY MANUAL FOR DETAILS. MARKED CROSSWALKS SHOULD NOT BE LESS THAN 6 FEET WIDE. CROSSWALK MARKINGS SHOULD EXTEND ACROSS THE FULL WIDTH OF THE PAVEMENT. FOR ADDED VISIBILITY, THE AREA OF THE CROSSWALK MAY BE MARKED WITH WHITE DIAGONAL LINES AT A 45–DEGREE ANGLE TO THE LINE OF THE CROSSWALK OR WITH WHITE LONGITUDINAL LINES PARALLEL TO TRAFFIC FLOW. WHEN DIAGONAL OR LONGITUDINAL LINES ARE USED TO MARK THE CROSSWALK, THE TRANSVERSE LINES MAY BE OMITTED. IF USED, THE DIAGONAL OR LONGITUDINAL LINES SHOULD BE 12 INCHES TO 24 INCHES WIDE AND SPACED 12 INCHES TO 24 INCHES APART. THE SPACING SHOULD AVOID THE WHEEL PATHS. THIS TYPE OF MARKING MAY BE USED WHERE SUBSTANTIAL NUMBERS OF PEDESTRIANS CROSS WITHOUT ANY OTHER TRAFFIC CONTROL DEVICE, AT LOCATIONS WHERE PHYSICAL CONDITIONS ARE SUCH THAT ADDED VISIBILITY OF THE CROSSWALK IS DESIRED OR AT PLACES WHERE A PEDESTRIAN CROSSWALK MIGHT NOT BE EXPECTED. CARE SHOULD BE TAKEN TO INSURE THAT CROSSWALKS WITH DIAGONAL OR LONGITUDINAL LINES USED AT SOME LOCATIONS DO NOT WEAKEN OR DETRACT FROM OTHER CROSSWALKS (WHERE SPECIAL EMPHASIS MARKINGS ARE NOT USED). IN RURAL AREAS AND ON PRIMARY ROAD EXTENSIONS CONSTRUCTED WITH A RURAL CROSS SECTION (NO CURB) THE IOWA DOT IS RESPONSIBLE FOR CROSSWALK MARKINGS. FOR DETAILS ON CROSSWALK LINES, SEE FIGURE 28 IN SECTION 3B–2 OF THE TRAFFIC AND SAFETY MANUAL.

5. LANE LINES ARE NORMALLY 4–INCH BROKEN WHITE LINES COMPOSED OF 10–FOOT SEGMENTS SEPARATED BY 30–FOOT GAPS. SEE MARKING TYPE BLW4 IN FIGURE 1 OF SECTION 3B–2 OF THE TRAFFIC AND SAFETY MANUAL FOR DETAILS. LANE LINES ARE USED TO SEPARATE TWO OR MORE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION ON MULTILANE ROADWAYS, RAMPS OR ONE–WAY STREETS. ONLY THOSE LANES THAT ARE OPEN TO TRAFFIC AT ALL TIMES SHALL BE MARKED. LANE LINES SHALL BE TERMINATED AND RESUMED AT THE SAME LOCATION AS CENTERLINE MARKINGS AT PRIMARY JUNCTIONS. WHERE TWO OR MORE TRAFFIC LANES IN THE SAME DIRECTION ARE PROVIDED, BUT CONDITIONS MAKE LANE CHANGING UNDESIRABLE, A 4–INCH SOLID WHITE LINE MAY BE USED. SEE MARKING TYPE SLW4 IN FIGURE SLW4 OF SECTION 3B–2 OF THE TRAFFIC AND SAFETY MANUAL FOR DETAILS.

6. THE CENTERLINE MARKING FOR ONE–DIRECTION NO PASSING ZONES CONSISTS OF A 4–INCH BROKEN YELLOW LINE AND A 4–INCH SOLID YELLOW LINE SEPARATED BY A 8–INCH SPACE, WHERE PASSING IS PROHIBITED FOR TRAFFIC TRAVELING ADJACENT TO THE SOLID YELLOW LINE. SEE MARKING TYPE NPY4 IN FIGURE 1 OF SECTION 3B–2 OF THE TRAFFIC AND SAFETY MANUAL FOR DETAILS.

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CJS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

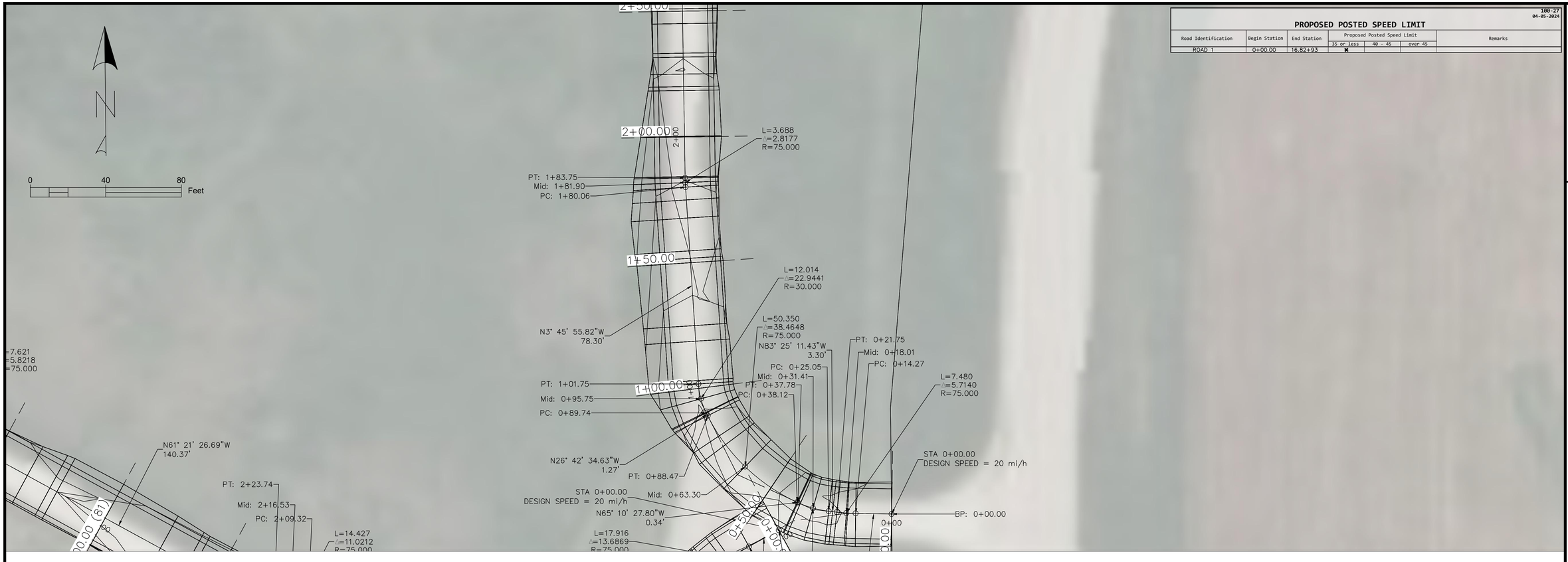
SHEET NAME
ROADWAYS
GENERAL NOTES

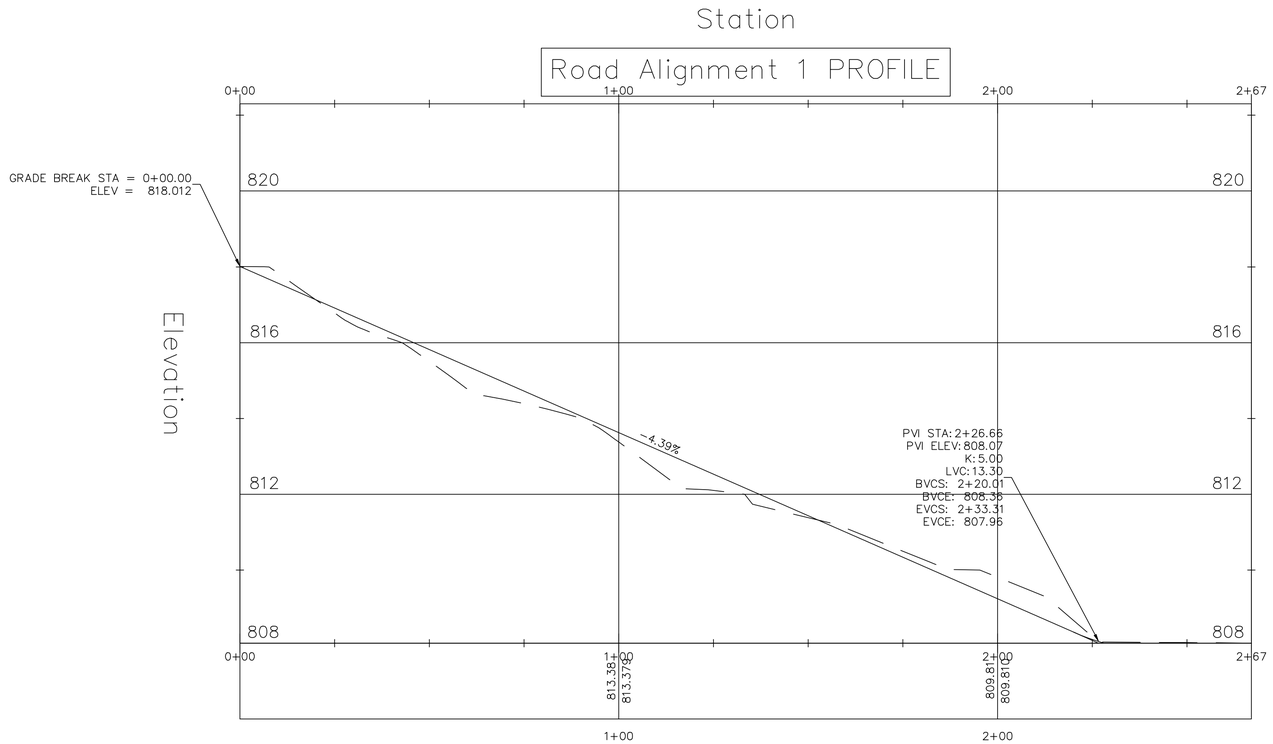
SHEET NO.
D1

100-27
04-05-2024

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 1	0+00.00	16.82+93	✖			





PROJECT:	CEE:4850
DATE :	05/03/2024
DRAWN BY:	CIS
REVISION:	EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

ROADWAYS
ROAD 1, P&P 1

SHEET NO.

D2

MATCH LINE – 2
AT STATION – 4+84.00
NEXT SHEET NUMBER: ####

N

0 40 80
Feet

N1° 03' 53.38"W
114.65'

4+50.00

4+00.00

4+00

L=0.153
Δ=0.1170
R=75.000

PT: 3+74.58

PC: 3+74.43

Mid: 3+74.50

3+50.00

N0° 56' 52.06"W
190.68'

3+00.000

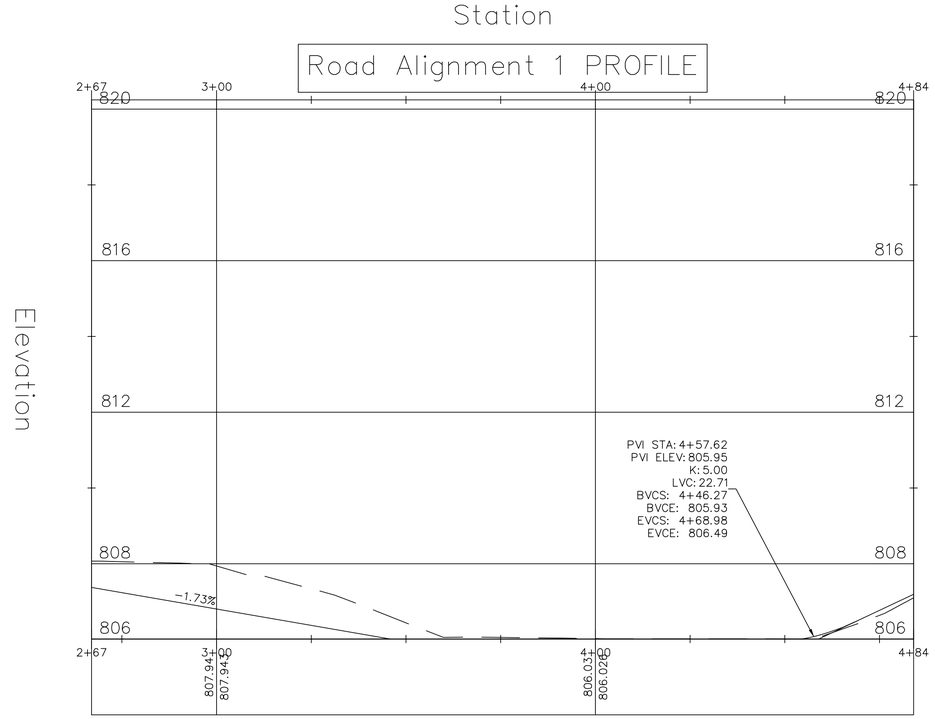
3+00

MATCH LINE – 1
AT STATION – 2+67.00
PREVIOUS SHEET NUMBER: ####

100-27
04-05-2024

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 1	0+00.00	16.82+93	✖			



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA
CIVIL & ENVIRONMENTAL
ENGINEERING

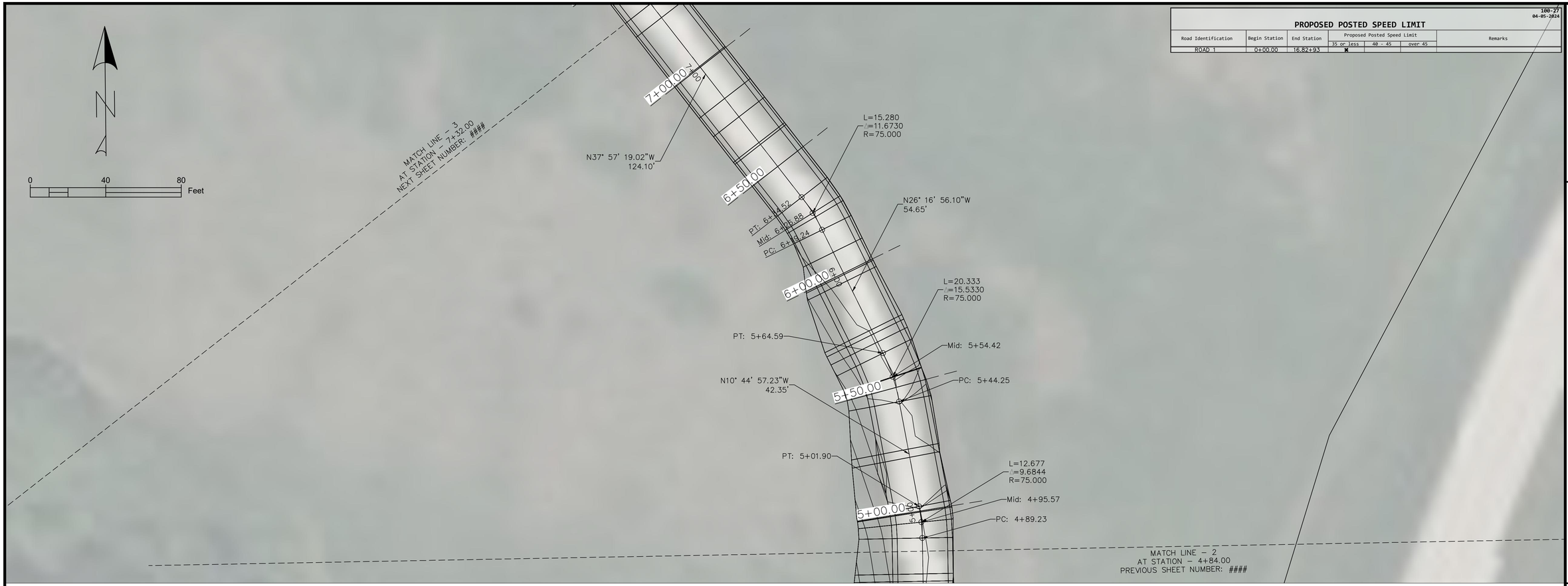
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS
ROAD 1, P&P 2

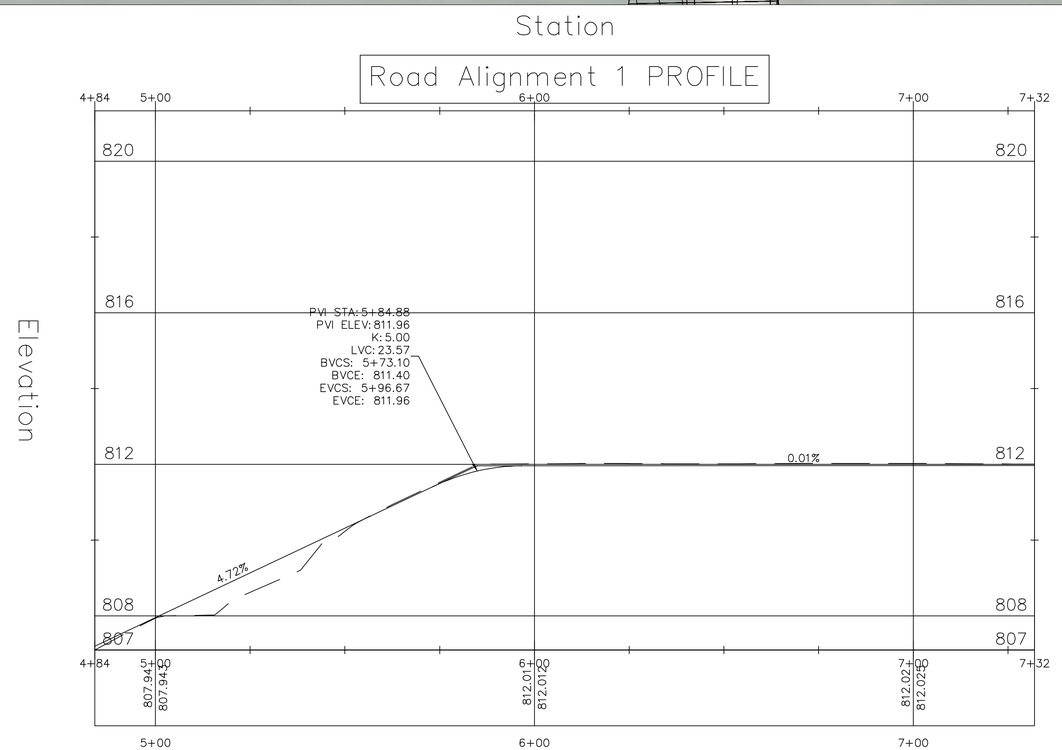
SHEET NO.
D3



100-27
04-05-2024

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 1	0+00.00	16.82+93	✖			



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

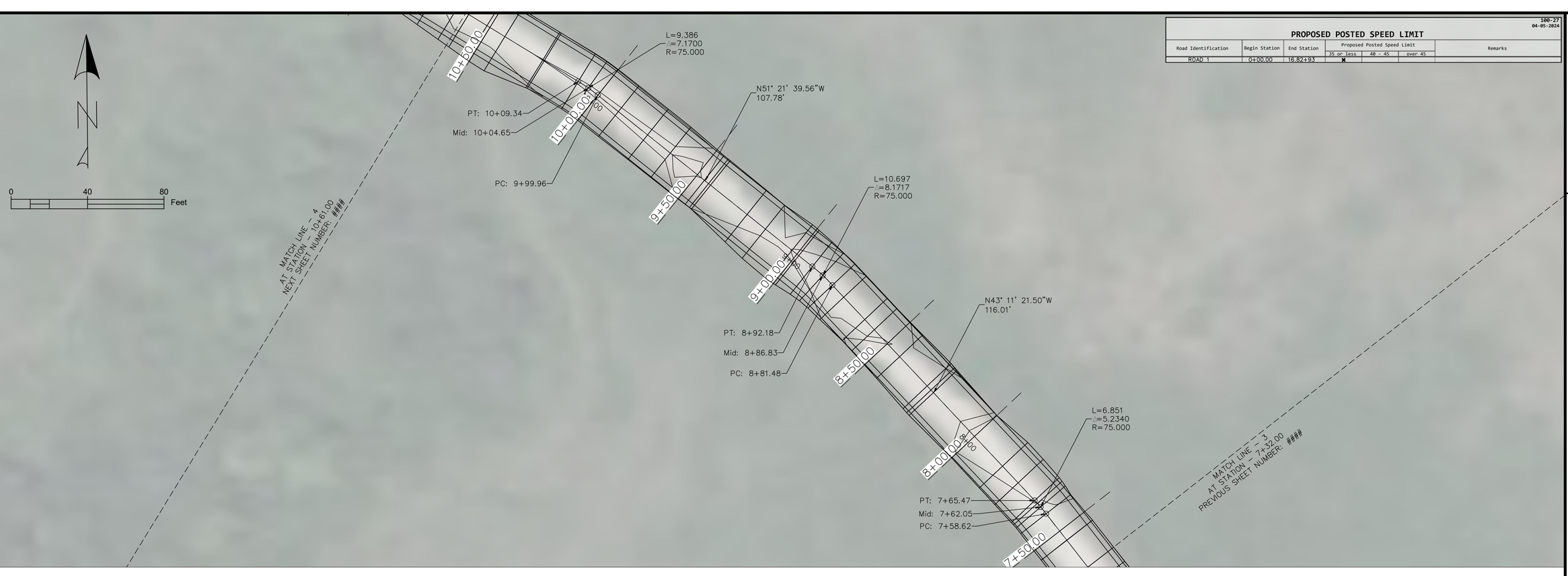
SHEET NAME
ROADWAYS
ROAD 1, P&P 3

SHEET NO.
D4

100-27
04-05-2024

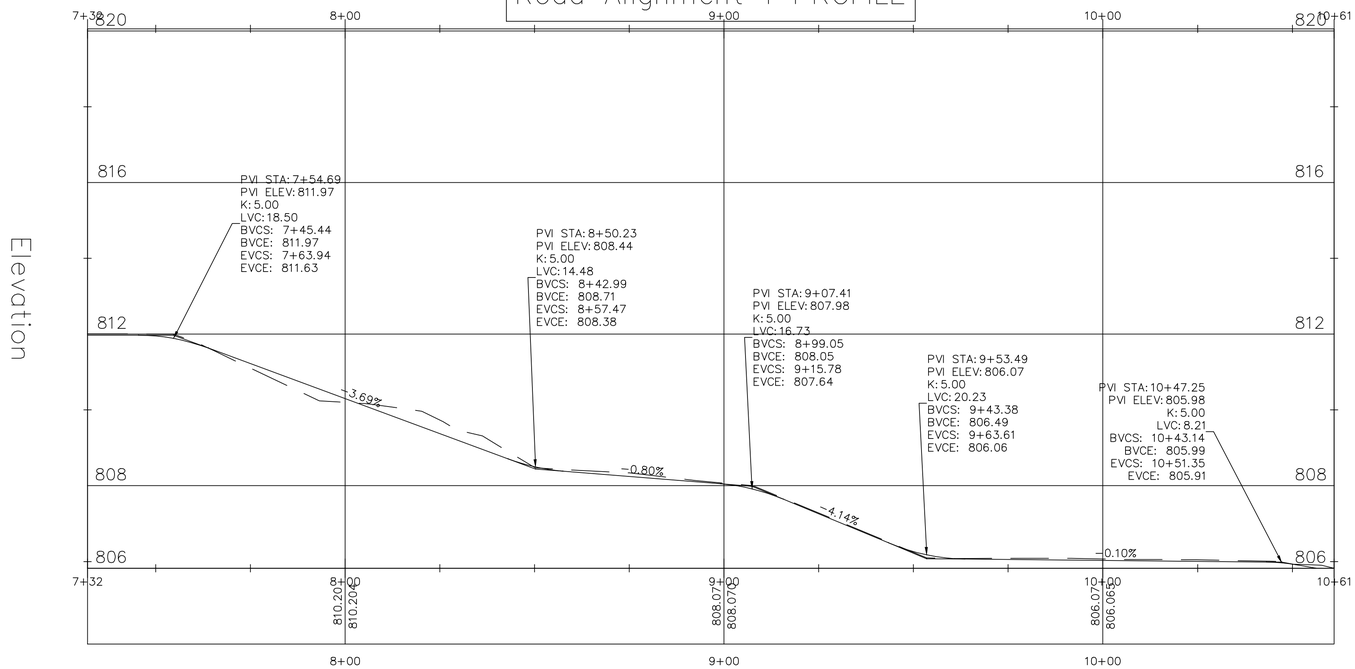
PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 1	0+00.00	16.82+93	✖			



Station

Road Alignment 1 PROFILE



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

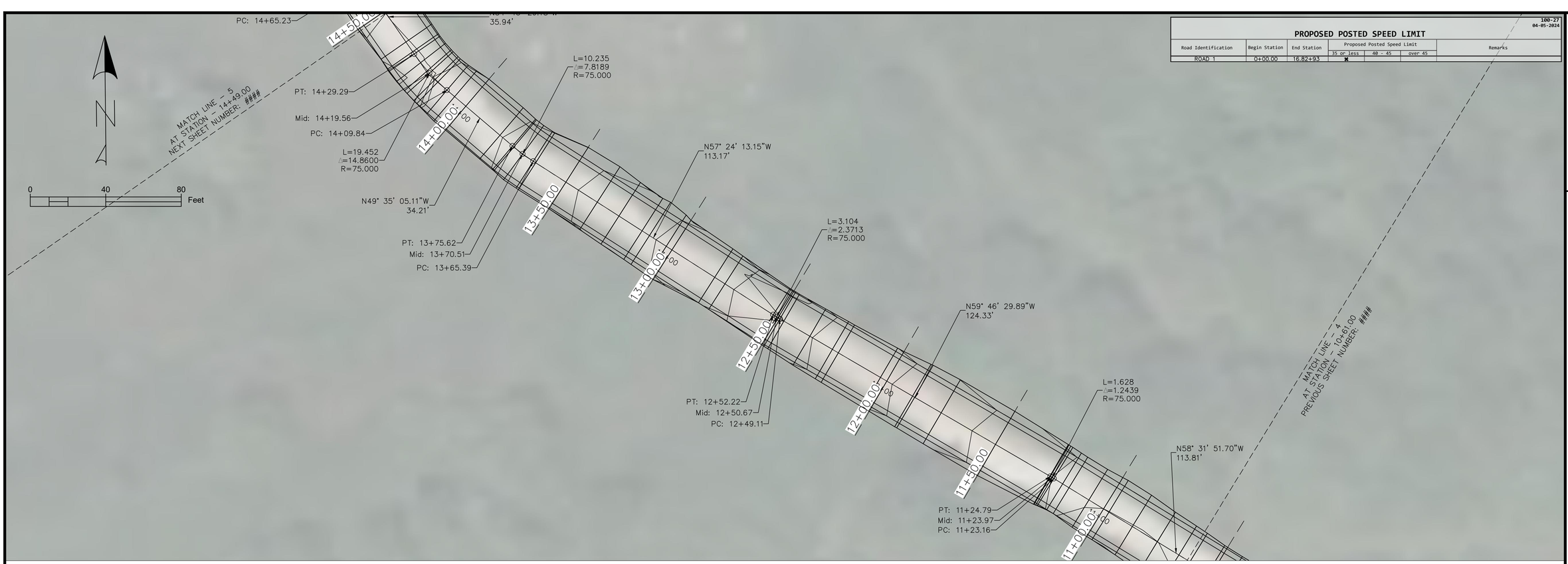
IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

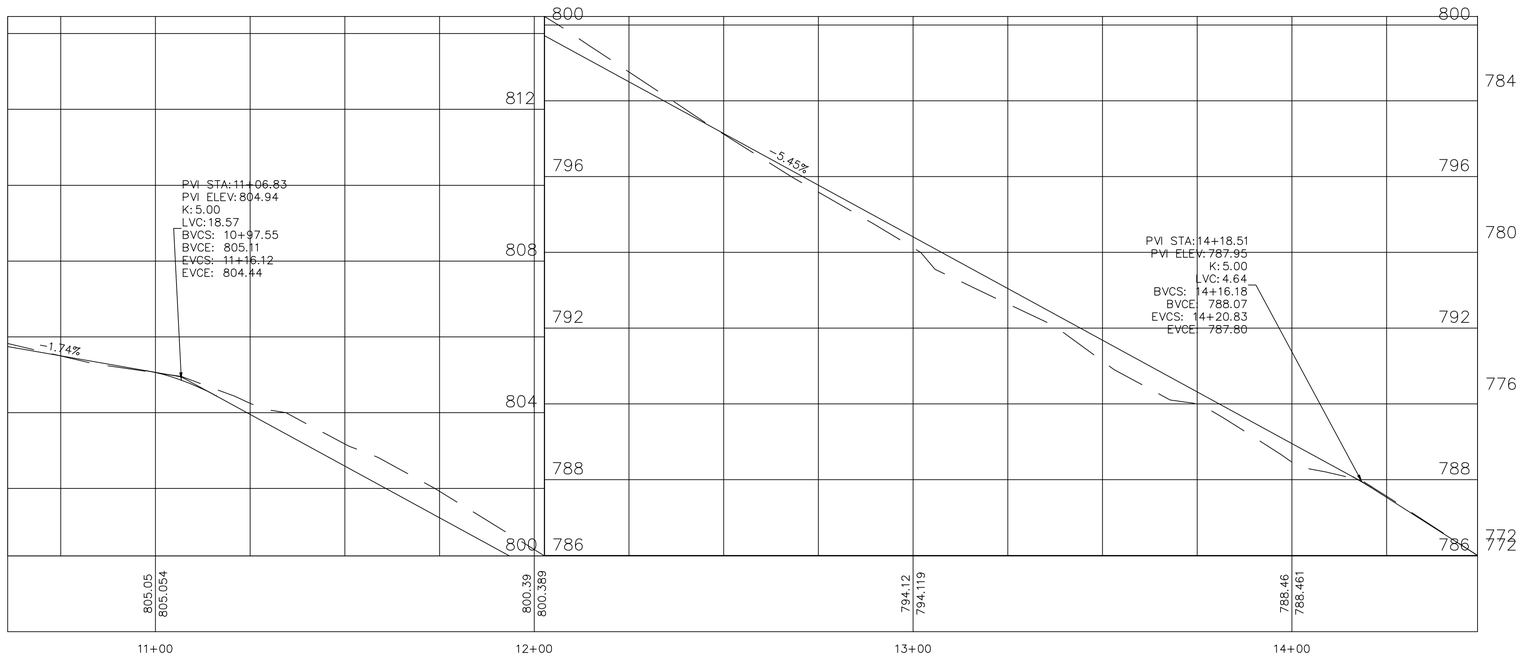
WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS
ROAD 1, P&P 4

SHEET NO.
D5



Road Alignment 1 PROFILE



Road Alignment 1 PROFILE

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

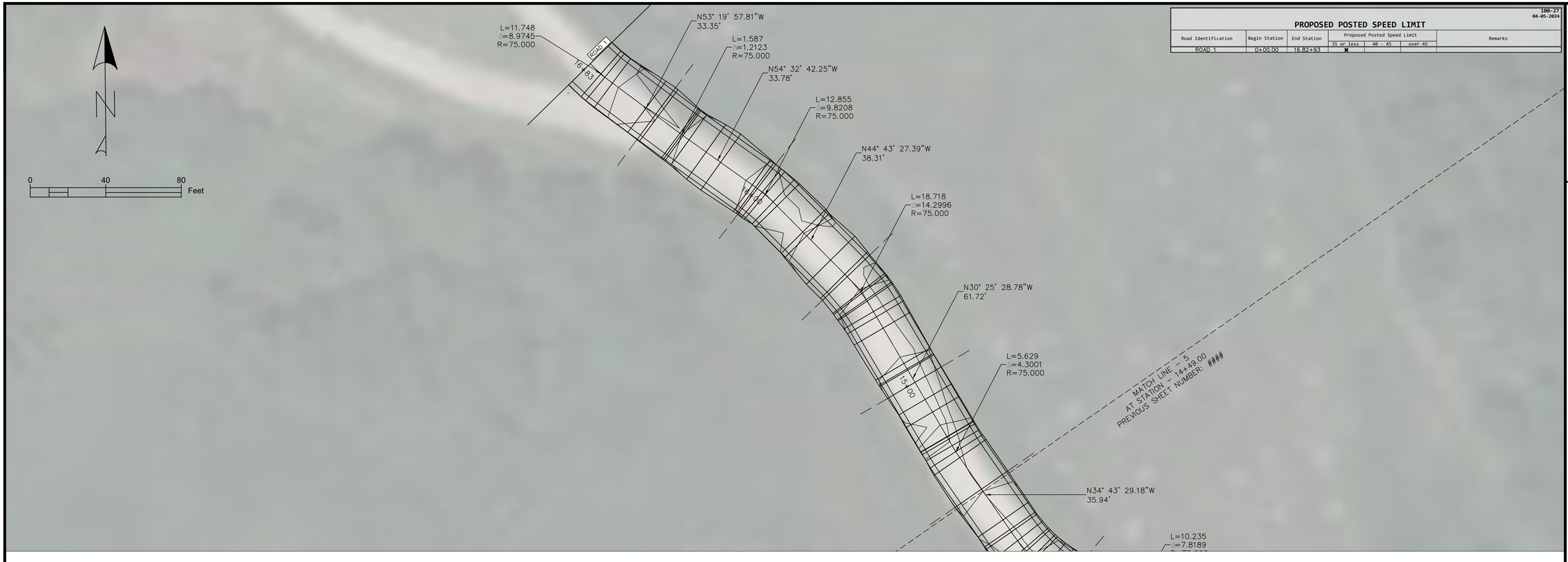
IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS
ROAD 1, P&P 5

SHEET NO.
D6



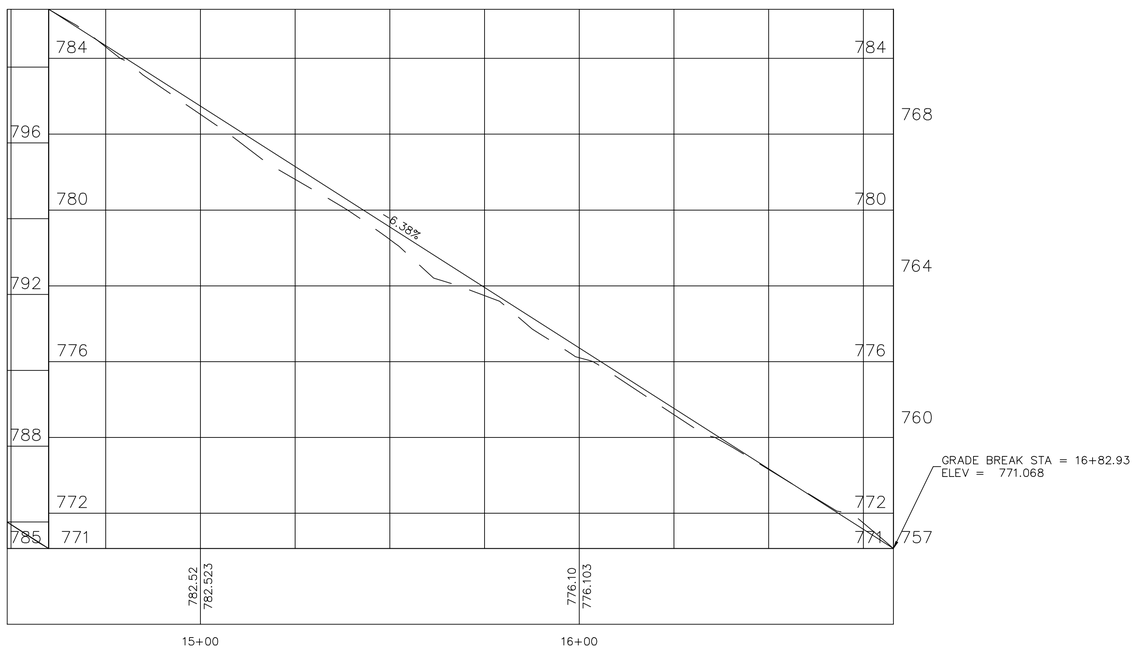
100-27
04-05-2024

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 1	0+00.00	16.82+93	✖			

Road Alignment 1 PROFILE

Road Alignment 1 PROFILE



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

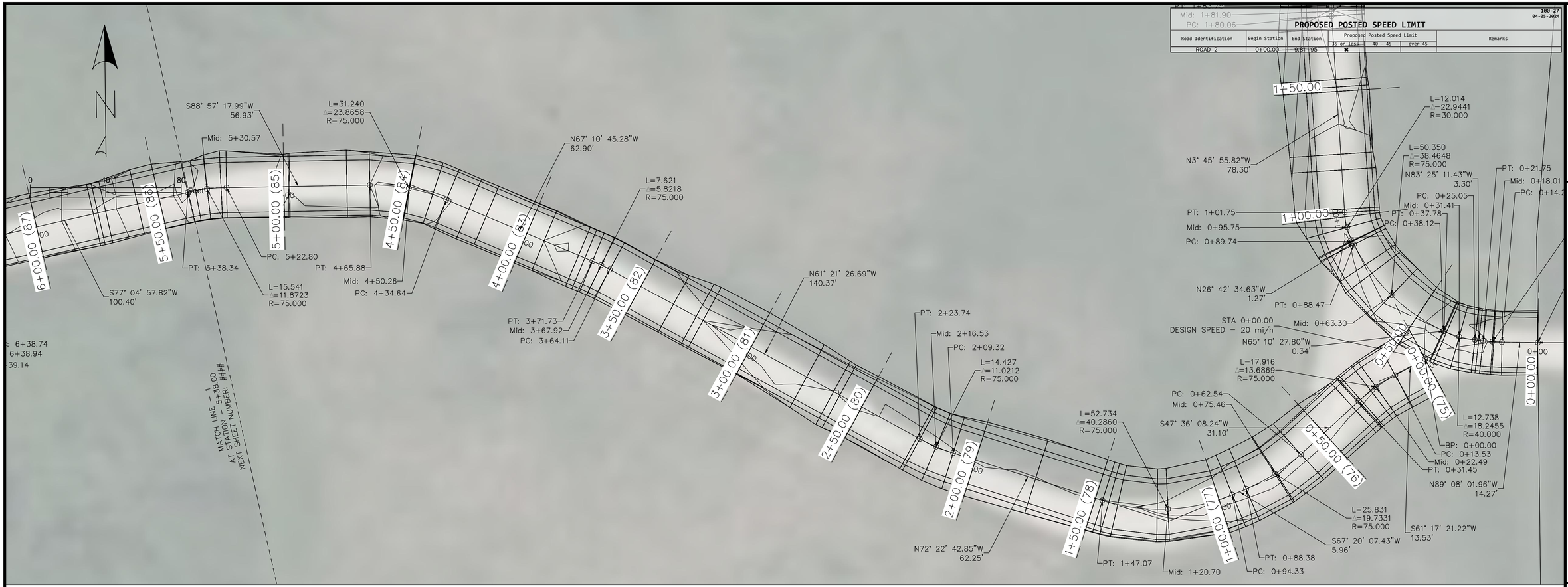
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

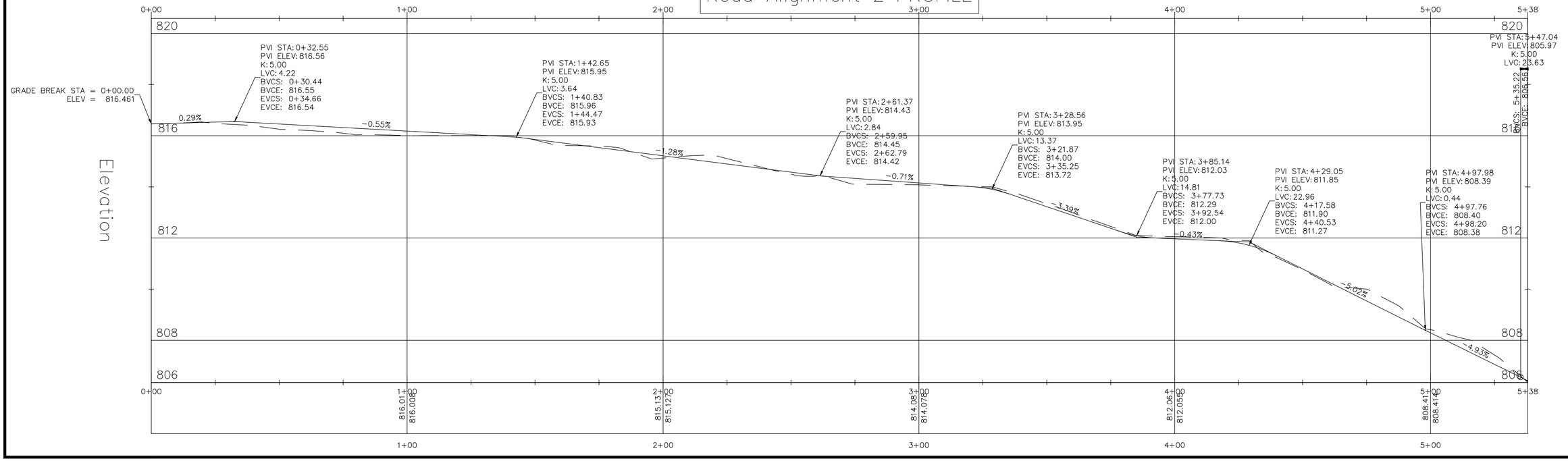
SHEET NAME
ROADWAYS
ROAD 1, P&P 6

SHEET NO.
D7



Station

Road Alignment 2 PROFILE



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT:	CEE:4850
DATE :	05/03/2024
DRAWN BY:	CIS
REVISION:	EJF

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

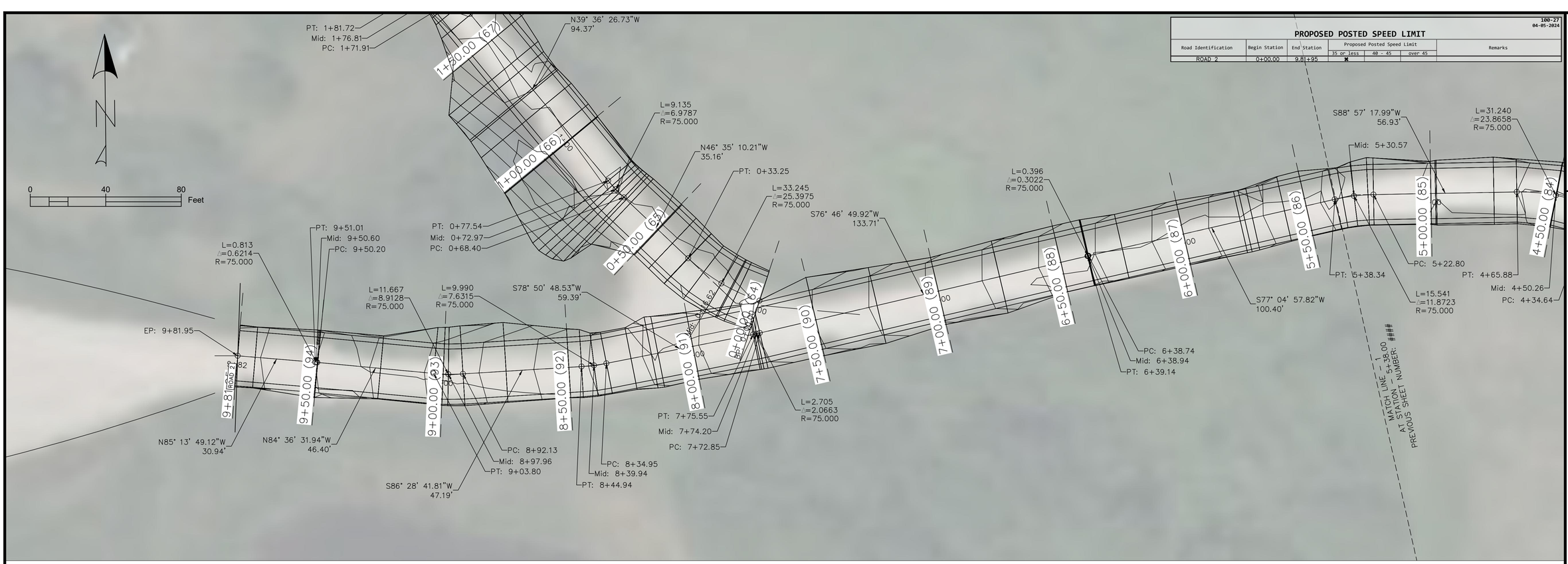
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

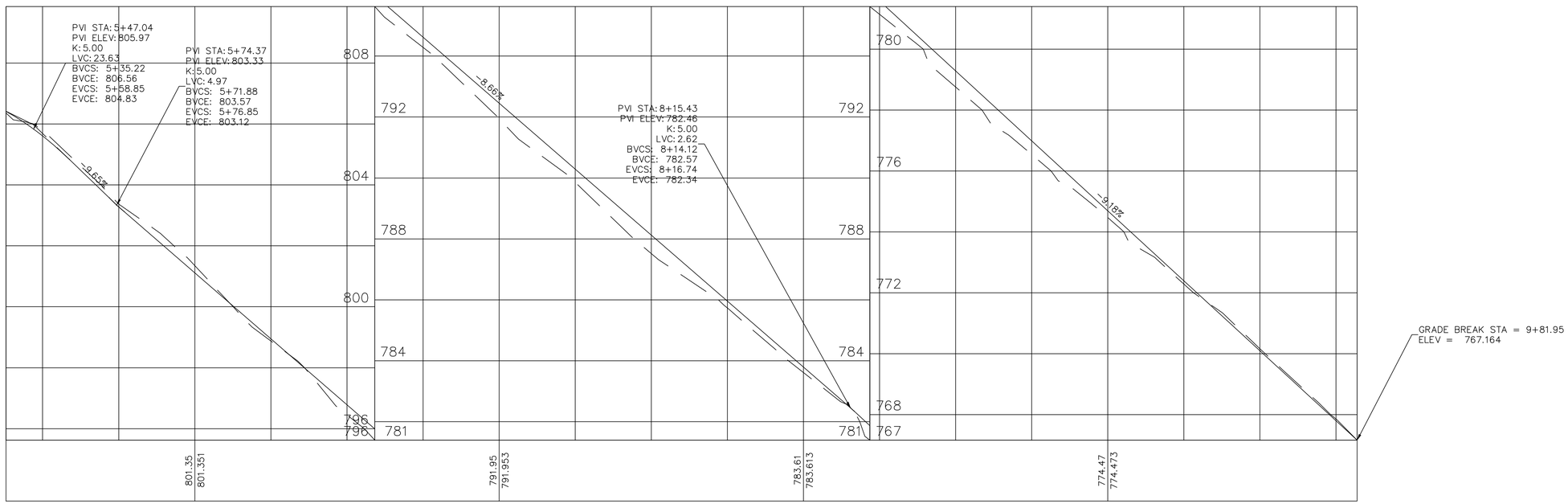
ROADWAYS
ROAD 2, P&P 1

SHEET NO.

D8



Road Alignment 2 PROFILE



Road Alignment 2 PROFILE

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

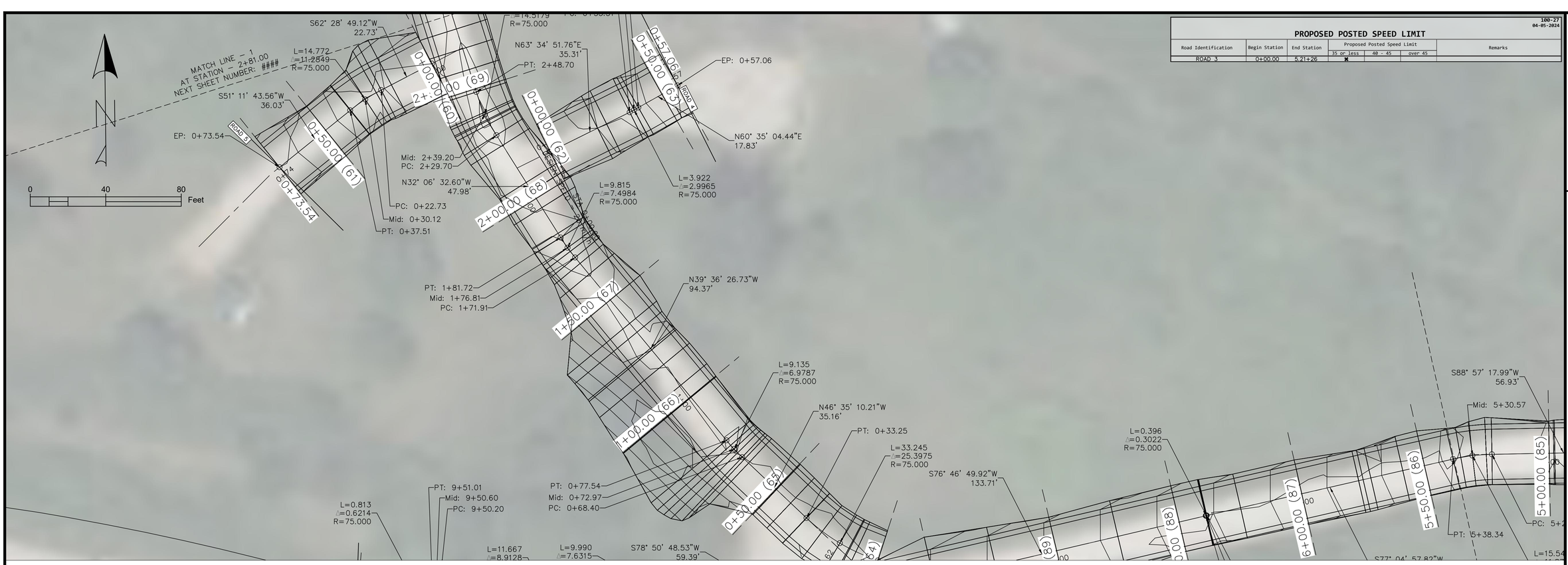
SHEET NAME
ROADWAYS
ROAD 2, P&P 2

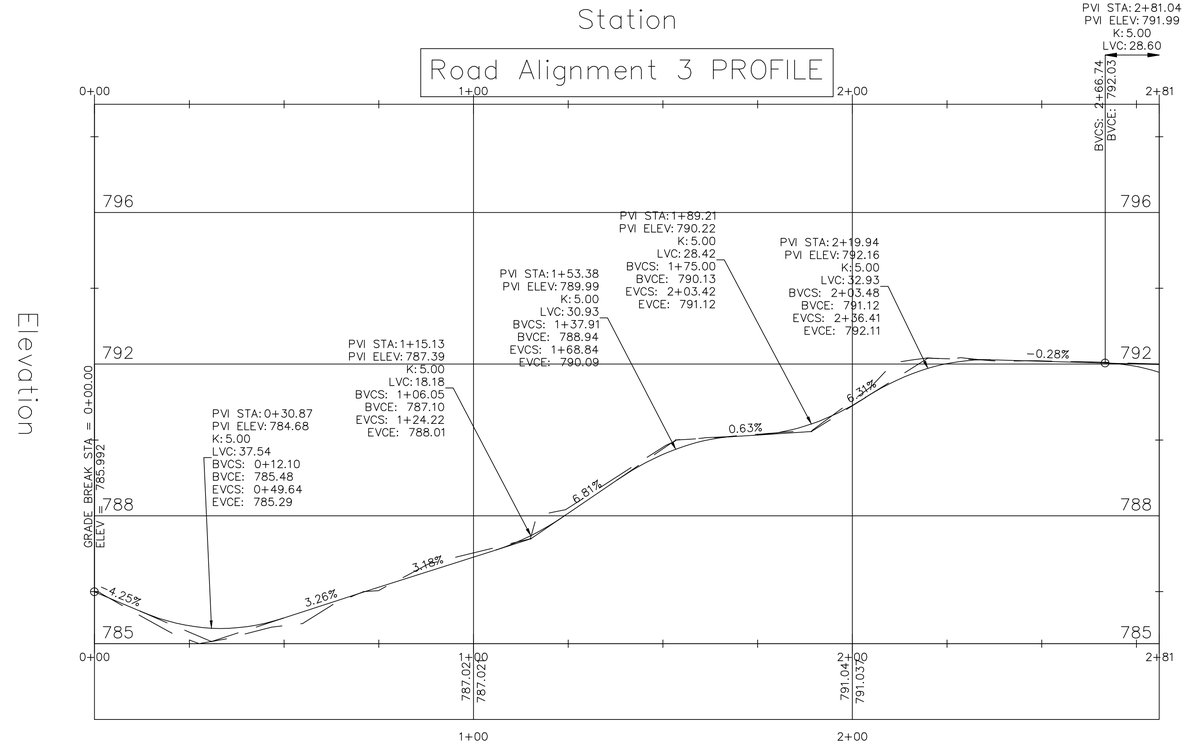
SHEET NO.
D9

100-27
04-05-2024

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 3	0+00.00	5.21+26	✖			





PROJECT: CEE: 4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

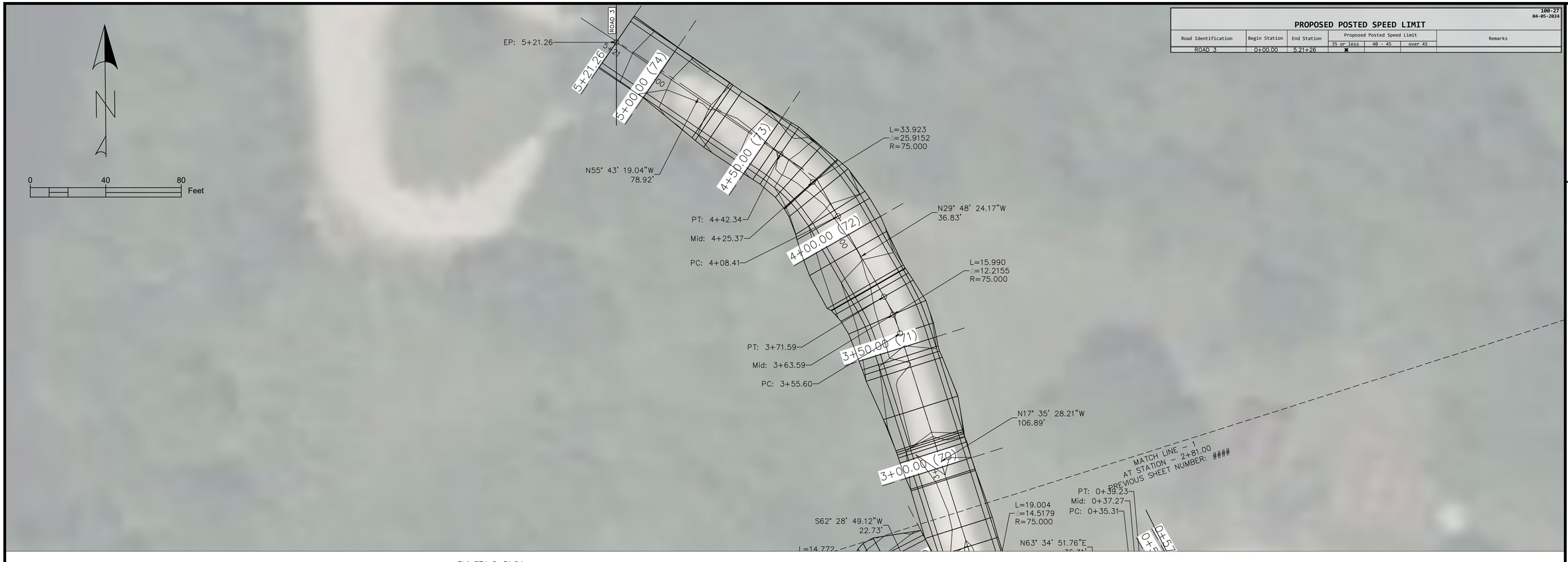
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS
ROAD 3, P&P 1

SHEET NO.
D10



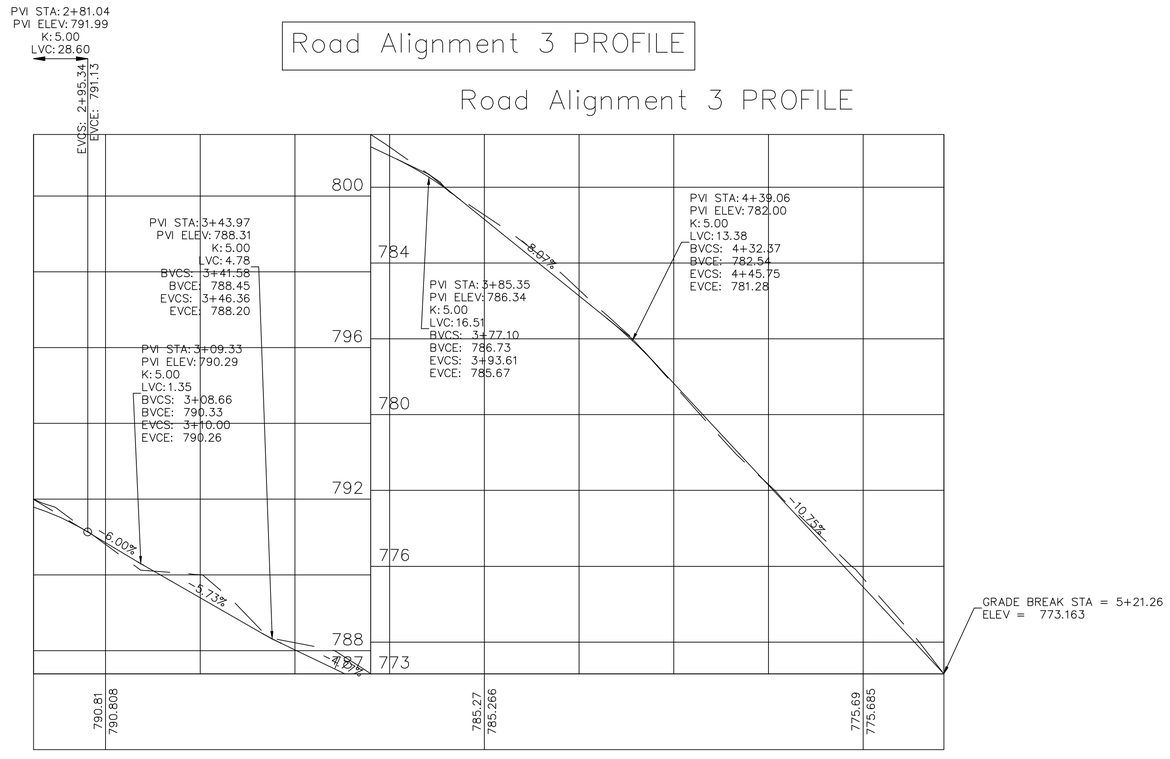
PROPOSED POSTED SPEED LIMIT

100-27
04-05-2024

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 3	0+00.00	5+21.26	✖			

Road Alignment 3 PROFILE

Road Alignment 3 PROFILE



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

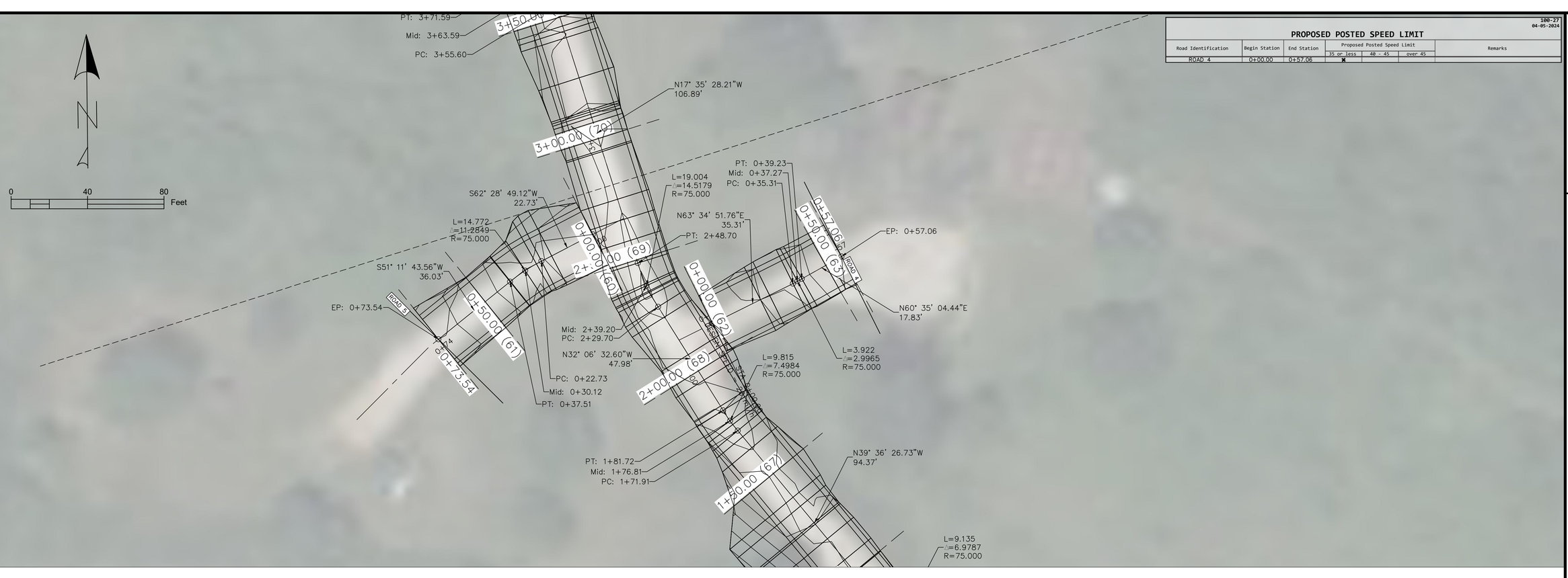
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS
ROAD 3, P&P 2

SHEET NO.
D11



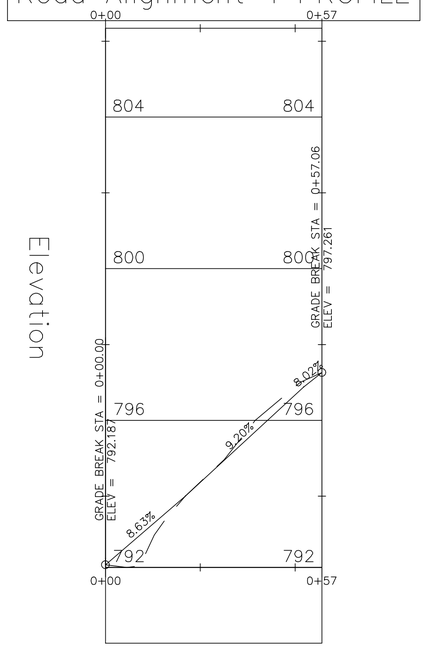
100-27
04-05-2024

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 4	0+00.00	0+57.06	✖			

Station

Road Alignment 4 PROFILE



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

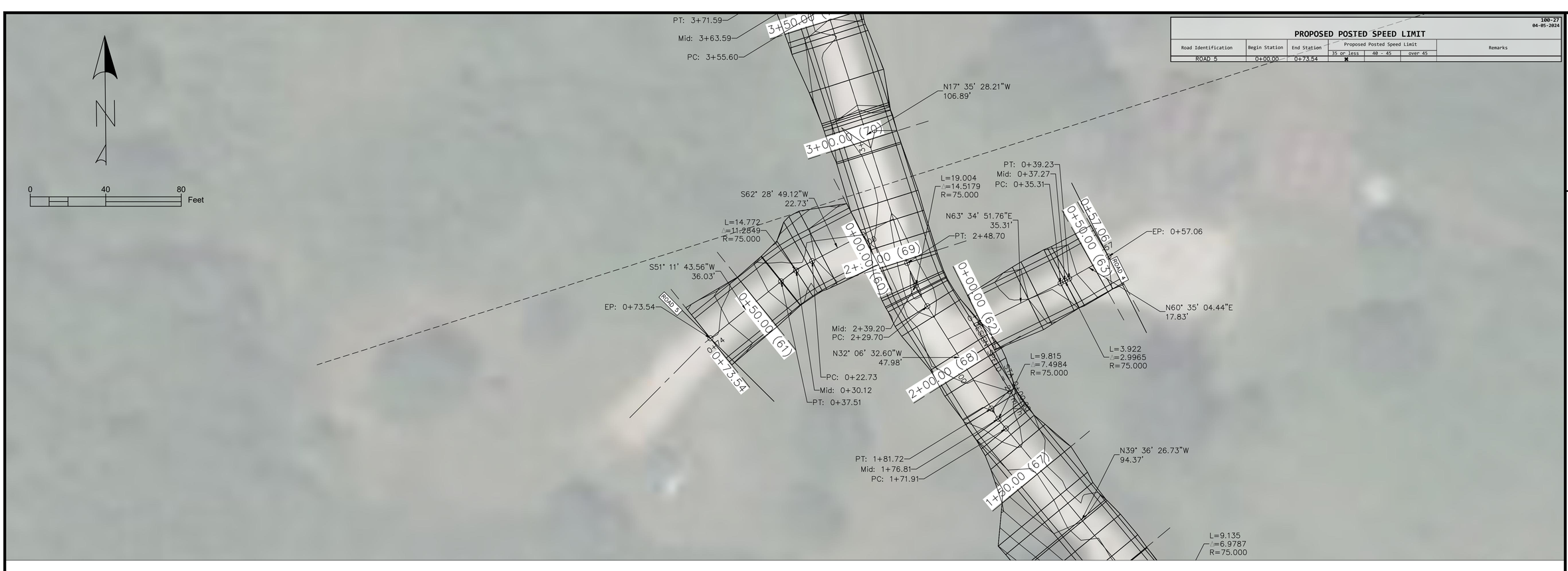
IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS
ROAD 4 P&P

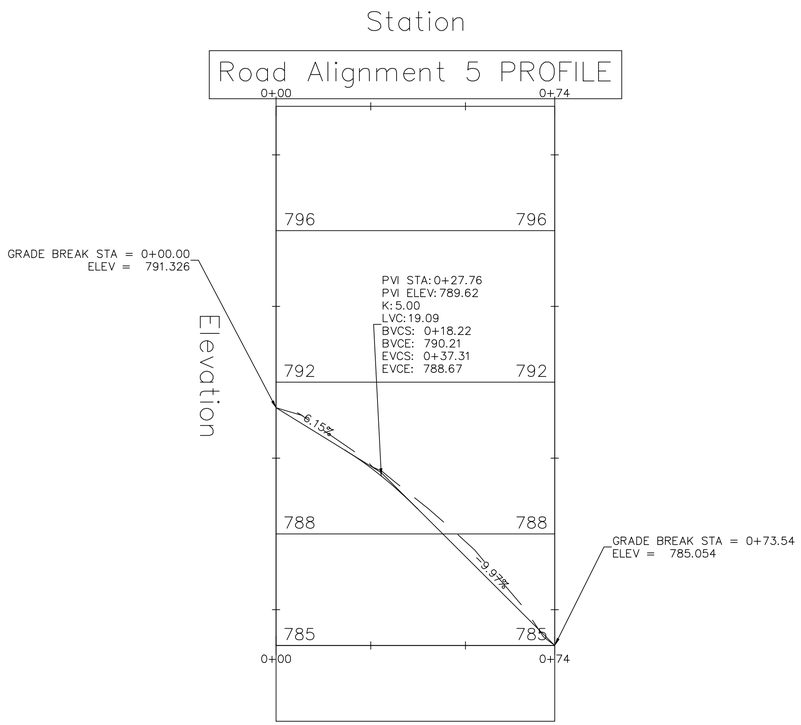
SHEET NO.
D12



100-27
04-05-2024

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
ROAD 5	0+00.00	0+73.54	✖			



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

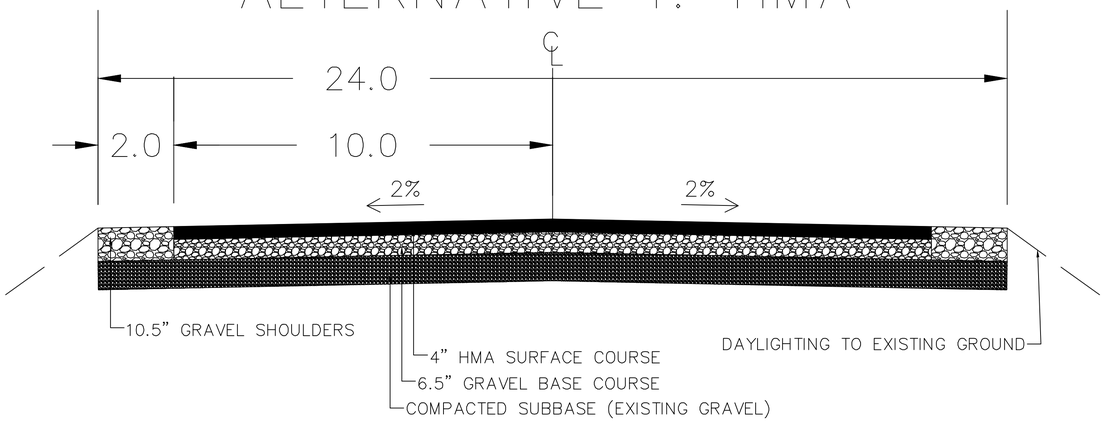
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS
ROAD 5, P&P

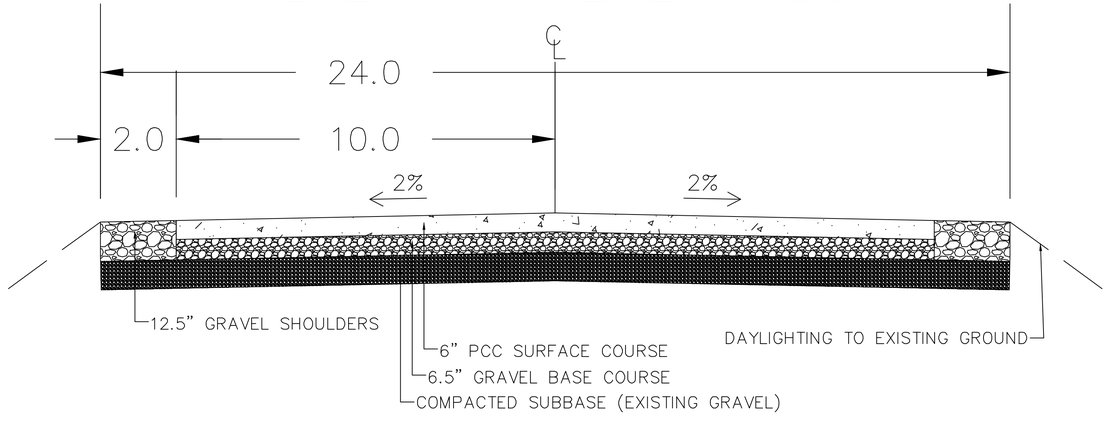
SHEET NO.
D13

ALTERNATIVE 1: HMA



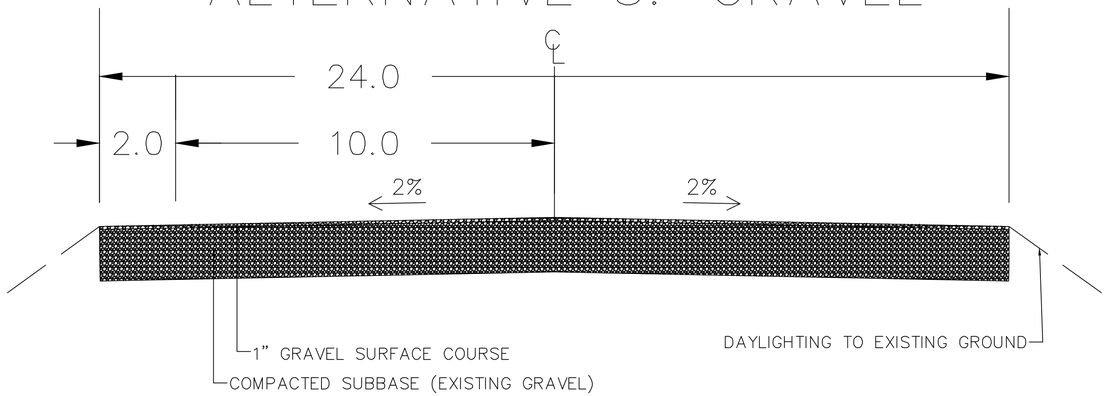
STATION TO STATION		
	START	END
ROAD 1	0+00	16+82.93
ROAD 2	0+00	9+81.95
ROAD 3	0+00	5+21.26
ROAD 4	0+00	0+57.06
ROAD 5	0+00	0+73.54

ALTERNATIVE 2: PCC



STATION TO STATION		
	START	END
ROAD 1	0+00	16+82.93
ROAD 2	0+00	9+81.95
ROAD 3	0+00	5+21.26
ROAD 4	0+00	0+57.06
ROAD 5	0+00	0+73.54

ALTERNATIVE 3: GRAVEL



STATION TO STATION		
	START	END
ROAD 1	0+00	16+82.93
ROAD 2	0+00	9+81.95
ROAD 3	0+00	5+21.26
ROAD 4	0+00	0+57.06
ROAD 5	0+00	0+73.54

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS ALT SECTIONS

SHEET NO.
D14

BLSW BIKE LANE SYMBOL (White)

Area = 14.8 sqft

WCSW WHEELCHAIR SYMBOL (White)

Area = 47.7 sqft

WPSW WHEELCHAIR PARKING SYMBOL (Blue)

Area = 17 sqft

② When placed across one lane, use the smaller dimensions shown. When placed across two lanes, use the larger dimensions shown.

SCLW SCHOOL WORD MARKING ② (White)

Area = 78.4 sqft
or
Area = 211.2 sqft

XNGW XING WORD MARKING (White)

Area = 47.6 sqft

STPW STOP WORD MARKING (White)

Area = 68.0 sqft

AHDW AHEAD WORD MARKING (White)

Area = 88.4 sqft

ONLW ONLY WORD MARKING (White)

Area = 49.3 sqft

XITW EXIT WORD MARKING (White)

Area = 54.4 sqft

BIKW BIKE WORD MARKING (White)

Area = 12.7 sqft

LANW LANE WORD MARKING (White)

Area = 12.7 sqft

SLSW SHARED LANE SYMBOL (White)

Area = 39.5 sqft

IOWA DOT | STANDARD ROAD PLAN | PM-116 | SHEET 3 of 3
REVISION: NEW 4-16-24
REVISIONS: New.
APPROVED BY DESIGN METHODS ENGINEER

GROOVING FOR SYMBOLS AND LEGENDS

LDW8 LANE DROP

3' 6" | 8' 6" ② | 10"

LDW10 LANE DROP

3' 6" | 8' 6" ② | 12"

BLC6 BROKEN LANE LINE

20' 6" | 19' 6" ② | 8"

CSW6 CROSSWALK BAR

CROSSWALK BAR | 10' 2" | 22" | 26"

CLW6 CROSSWALK LINE

10' 4" | 8" Prefered, 10" Max

② Do not continously groove broken, dashed or dotted line styles.

CHY8 CHW8 CHANNELIZING LINE

10"

CHY10 CHW10 CHANNELIZING LINE

12"

SLW2 YLW2 STOP LINE / YIELD LINE

26"

IOWA DOT | STANDARD ROAD PLAN | PM-115 | SHEET 3 of 4
REVISION: New 4-16-24
REVISIONS: New.
APPROVED BY DESIGN METHODS ENGINEER

GROOVING FOR LINE TYPES

BCY# BLW# BROKEN CENTERLINE

℄ (Joint) | 3" | 10' 6" | 29' 6" ② | 8"

SLW# SOLID LANE LINE

Lane Width | Joint Line | 5" | 8"

② Do not continously groove broken, dashed or dotted line styles.

NPY# NO PASSING ZONE LINE

10' 6" | 29' 6" ② | 3" | ℄ (Joint) | 8" | 8" | 6"

DCY# DOUBLE CENTERLINE

3" | 8" | Longitudinal Joint | 3" | 8" | 6"

DLY# DLW# DOTTED LINE

2' 6" | 3' 6" ② | 8"

RLW# ELW# ELY# RLY# EDGE LINE

2" | 8" | Edge of Pavement

DDY# DOUBLE DOTTED LINE

2' 6" | 3' 6" ② | 6" | 8" | ℄ (Joint) | 3"

IOWA DOT | STANDARD ROAD PLAN | PM-115 | SHEET 2 of 4
REVISION: New 4-16-24
REVISIONS: New.
APPROVED BY DESIGN METHODS ENGINEER

GROOVING FOR LINE TYPES

CHY8 CHANNELIZING LINE (Yellow)

8"

CHW8 CHANNELIZING LINE (White)

8"

LDW8 LANE DROP (White)

8" | 3' | 9'

CHY10 CHANNELIZING LINE (Yellow)

10"

CHW10 CHANNELIZING LINE (White)

10"

LDW10 LANE DROP (White)

10" | 3' | 9'

BLC6 BROKEN LANE LINE (White/Black)

Joint Line | 4" | 6" | 10' | 10' | 20'

SLW2 STOP LINE (White)

24"

YLW2 YIELD LINE (White)

24" | 12" | 16"

CSW6 CROSSWALK BAR (White)

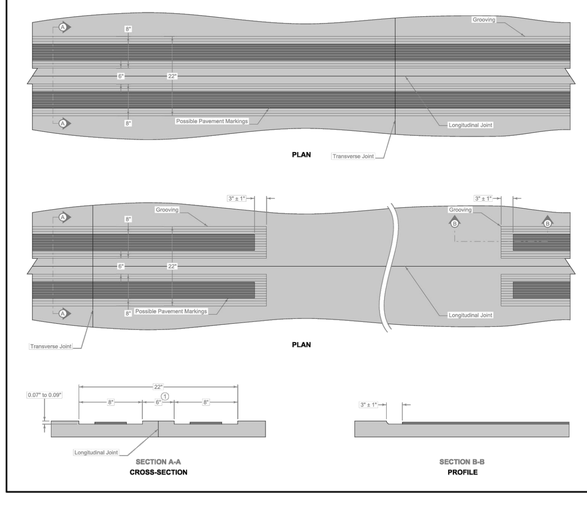
10" | 24" | 24"

CLW6 CROSSWALK LINE (White)

10" | 6"

IOWA DOT | STANDARD ROAD PLAN | PM-110 | SHEET 3 of 4
REVISION: 4 04-16-24
REVISIONS: Added BCY6, BLC6, BLW6, CHW10, CHY10, DCY6, DDY6, DDW6, DLW6, DLY6, LDW10, NPY6, RLW6, RLY6, SLW6. Changed MW4 to MW8.
APPROVED BY DESIGN METHODS ENGINEER

LINE TYPES



Do not groove temporary pavement markings.

① Center 6 inch gap over longitudial joint.

Possible Contract Item:
Grooves Cut for Pavement Markings

Possible Tabulation:
108-22

IOWA DOT | STANDARD ROAD PLAN | PM-115 | SHEET 1 of 4
REVISION: New 4-16-24
REVISIONS: New.
APPROVED BY DESIGN METHODS ENGINEER

GROOVING FOR LINE TYPES

NPY6 NO PASSING ZONE LINE (Yellow)

10' | 30' | 6" | ℄ (Joint) | 4" | 6" | 6"

DCY6 DOUBLE CENTERLINE (Yellow)

4" | 8" | 6" | ℄ (Joint) | 6"

BCY6 BROKEN CENTERLINE (Yellow)

4" | 6" | ℄ (Joint) | 10' | 30'

BLW6 BROKEN LANE LINE (White)

Joint Line | 4" | 6" | 10' | 30'

SLW6 SOLID LANE LINE (White)

Joint Line | Lane Width | 4" | 6"

RLY6 RAMP EDGE LINE LEFT (Yellow)

3" | Edge of Pavement | Ramp Width | 6"

ELW6 EDGE LINE RIGHT (White)

℄ (Joint) | Edge of Pavement | 11'-9" | 6"

ELY6 EDGE LINE LEFT (Yellow)

Edge of Pavement | 11'-9" | 6" | ℄ (Joint)

RLW6 RAMP EDGE LINE RIGHT (White)

3" | Edge of Pavement | Ramp Width | 6"

DLY6 DOTTED LINE (Yellow)

6" | 2' | 4'

DDY6 DOUBLE DOTTED LINE (Yellow)

6" | 4" | 4" | 6" | ℄ (Joint) | 2' | 4'

DLW6 DOTTED LINE (White)

6" | 2' | 4'

IOWA DOT | STANDARD ROAD PLAN | PM-110 | SHEET 2 of 4
REVISION: 4 04-16-24
REVISIONS: Added BCY6, BLC6, BLW6, CHW10, CHY10, DCY6, DDY6, DDW6, DLW6, DLY6, LDW10, NPY6, RLW6, RLY6, SLW6. Changed MW4 to MW8.
APPROVED BY DESIGN METHODS ENGINEER

LINE TYPES

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
ROADWAYS STANDARDS

SHEET NO.
D15

GENERAL NOTES:

1. THE MODELED DRIVEWAYS DO NOT ALLOW PARKING WITHIN THE DRIVEWAY RIGHT-OF-WAY THEREFORE THEY MUST MEET THE TYPICAL 12' LANES FOR THE ANGULAR ONE WAY 45 DEGREE PARKING & TRAFFIC.

2. ALL PARKING SPACES, EXCLUSIVE OF ACCESS DRIVES OR AISLES, CONSISTS OF A RECTANGULAR AREA NO LESS THAN 9' WIDE BY 18' IN LENGTH WITH EXCEPTION TO VAN ACCESSIBLE STALLS PLACED THROUGHOUT THE SITE. ADA VAN ACCESSIBLE STALLS PARKING DIMENSIONS CONSISTS OF A RECTANGULAR AREA NO LESS THAN 11' WIDE BY 18' IN LENGTH WITH AN ADDITIONAL 5' WIDE BY 18' IN LENGTH AISLES.

3. WHEN A PARKING SPACE ABUTS A LANDSCAPE ISLAND OR PLANTER, THE FRONT 2' OF THE REQUIRED PARKING SPACE LENGTH MAY OVERHANG THE PLANTER, PROVIDED THAT WHEEL STOPS OR CURBING IS PROVIDED.

4. GRADING ON THE FUTURE GROUND SHOULD BLEND WITH THE CONTOURS OF BOTH THE EXISTING GROUND AND ADJACENT PROPERTIES. GRADING FOR THE SITE ADHERES TO A TYPICALLY GRADE OF 1.50% WITH GRADES EXCEEDING NO MORE THAN 5% TO BE IN COMPLIANCE WITH ADA ACCESSIBILITY.

5. SIGNS DISPLAYING THE INTERNATIONAL ACCESS SYMBOL SHOULD BE PROVIDED AT EACH ACCESSIBLE PARKING SPACE. THE SIGNS SHOULD BE DISPLAYED ON FIXED MOUNTINGS IN AN AREA WHERE THEY ARE NOT HIDDEN FROM VIEW. PAVEMENT MARKING SYMBOLS MAY BE USED TO SUPPLEMENT SIGNS. SPACES INTENDED FOR VAN PARKING SHOULD BE MARKED ACCORDINGLY.

6. THE PROJECT DESIGN DRAWINGS INCLUDE A DETAILED AND ACCURATELY SCALED PARKING LOT LAYOUT CLEARLY SHOWING THE LOCATION OF PARKING SPACES AND AISLES. EACH REQUIRED PARKING SPACE SHOULD BE IDENTIFIED BY SURFACE MARKINGS AND SHOULD BE MAINTAINED IN A MANNER SO AS TO BE READILY VISIBLE AND ACCESSIBLE AT ALL TIMES. SUCH MARKINGS SHOULD BE ARRANGED TO PROVIDE FOR ORDERLY AND SAFE LOADING, UNLOADING, PARKING AND STORAGE OF VEHICLES.

7. THE FOLLOWING DESIGN DRAWINGS ARE BASED OFF OBTAINED SURVEYING POINTS FROM THE EXISTING PARKING LOT EDGE OF PAVEMENTS.

8. THE NUMBER OF PARKING LOTS IN THE DESIGN DRAWINGS WERE BASED ON CLIENT INSIGHT, ACCESSIBILITY REQUIREMENTS, AND ESTIMATED TRAFFIC.

9. THE FOLLOWING DESIGN DRAWINGS FOLLOW SUDAS CHAPTER 8 STANDARDS FOR ALL DESIGNING CRITERIA.

10. THE FOLLOWING DESIGNED DRAWINGS ARE AVAILABLE IN THREE DIFFERENT SURFACES OPTIONS (HMA, PCC, GRAVEL) WITH PROPER ESTIMATES FOR THE COST AND THICKNESS OF PAVEMENT USING PAVE XPRESS.

11. WHEREVER PRACTICAL, SUCH PARKING AREAS SHOULD BE EFFECTIVELY SCREENED FROM GENERAL PUBLIC VIEW BY INCORPORATING THE NATURAL LANDSCAPE AND TOPOGRAPHY. ALL PARKING AREAS SHOULD INCLUDE LANDSCAPE AREAS, ISLANDS, SCREENS, ETC., EQUAL TO NO LESS THAN 10% OF THE TOTAL PAVED AREA. LANDSCAPED ISLANDS WITHIN THE PARKING AREA SHOULD BE GROUND COVER OF GRASS, SHRUBS, OR OTHER ACCEPTABLE LIVING PLANT LIFE, UNLESS AN ALTERNATIVE GROUND COVER IS SPECIFICALLY APPROVED AS PART OF THE SITE PLAN REVIEW BY THE JURISDICTION.

12. THE FOLLOWING PAVEMENT MARKINGS WITHIN THE DESIGN DRAWINGS WERE REFERENCED FROM IOWA DOT OFFICE OF TRAFFIC & SAFETY IN CHAPTER 3.

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: cody-hall@uiowa.edu

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PARKING LOTS GENERAL NOTES

SHEET NO.
E1

NOTES:
1. THIS DRAWING SET IS PROVIDED SOLELY AS A PROPOSED MOCK-UP AND IS NOT DRAWN TO SCALE IT IS CONSTRUCTED BASED ON PROVIDED SURVEYING DATA. CONTRACTORS ARE URGED TO INDEPENDENTLY VERIFY ALL MEASUREMENTS AND DIMENSIONS BEFORE COMMENCING CONSTRUCTION

2. STALL COUNT FOR LOT 1:
   2.1. REGULAR STALLS – 8
   2.2. ADA STALLS – 2

N

0 20 40 Feet

EXISTING RESTROOMS

PROPOSED DRAINAGE POINT

PROPOSED 5' SIDEWALKS

PROPOSED CROSSWALK

PROPOSED VAN ADA STALLS

PROPOSED GRASS MEDIAN

CARDINAL PICNIC SHELTER
SEE SHEET B2

EXISTING PLAYGROUND

42.03
23.96
25.54
46.23
45.19
46.23
124.39
128.16
72.37
63.68
46.67
61.94
12.00 (TYP.)
R20.000 (TYP.)
11.00 (TYP.)
5.00 (TYP.)
9.00 (TYP.)
18.00 (TYP.)
21.50
5.00 (TYP.)

764.00 765.00 766.00 767.00 768.00 769.00 770.00 771.00 772.00 773.00 761.00 762.00 763.00

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: cody-hall@uiowa.edu

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PARKING LOT 1 ALTERNATIVE 2

SHEET NO.
E2

NOTES:
1. THIS DRAWING SET IS PROVIDED SOLELY AS A PROPOSED MOCK-UP AND IS NOT DRAWN TO SCALE IT IS CONSTRUCTED BASED ON PROVIDED SURVEYING DATA. CONTRACTORS ARE URGED TO INDEPENDENTLY VERIFY ALL MEASUREMENTS AND DIMENSIONS BEFORE COMMENCING CONSTRUCTION

2. STALL COUNT FOR LOT 2:
   2.1. REGULAR STALLS – 6
   2.2. ADA STALLS – 0

N

0 20 40 Feet

50.25
34.51
46.05
25.52
EXISTING VEGETATION
PROPOSED DRAINAGE POINT
89.82
12.00
65.82
58.50
18.00
9.00
9.28
R20.00
50.50
66.61
R4.50
27.51
45.94
R20.0000
771.00
772.00
773.00
744.00
745.00
746.00
747.00
748.00
749.00
750.00
751.00
752.00
753.00
754.00
755.00
756.00
757.00
758.00
759.00
760.00
761.00
762.00
763.00
764.00
765.00
766.00
767.00
768.00
769.00
770.00
771.00
772.00
773.00
774.00
775.00
776.00
777.00

PROJECT: CEE: 4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: cody-hall@uiowa.edu

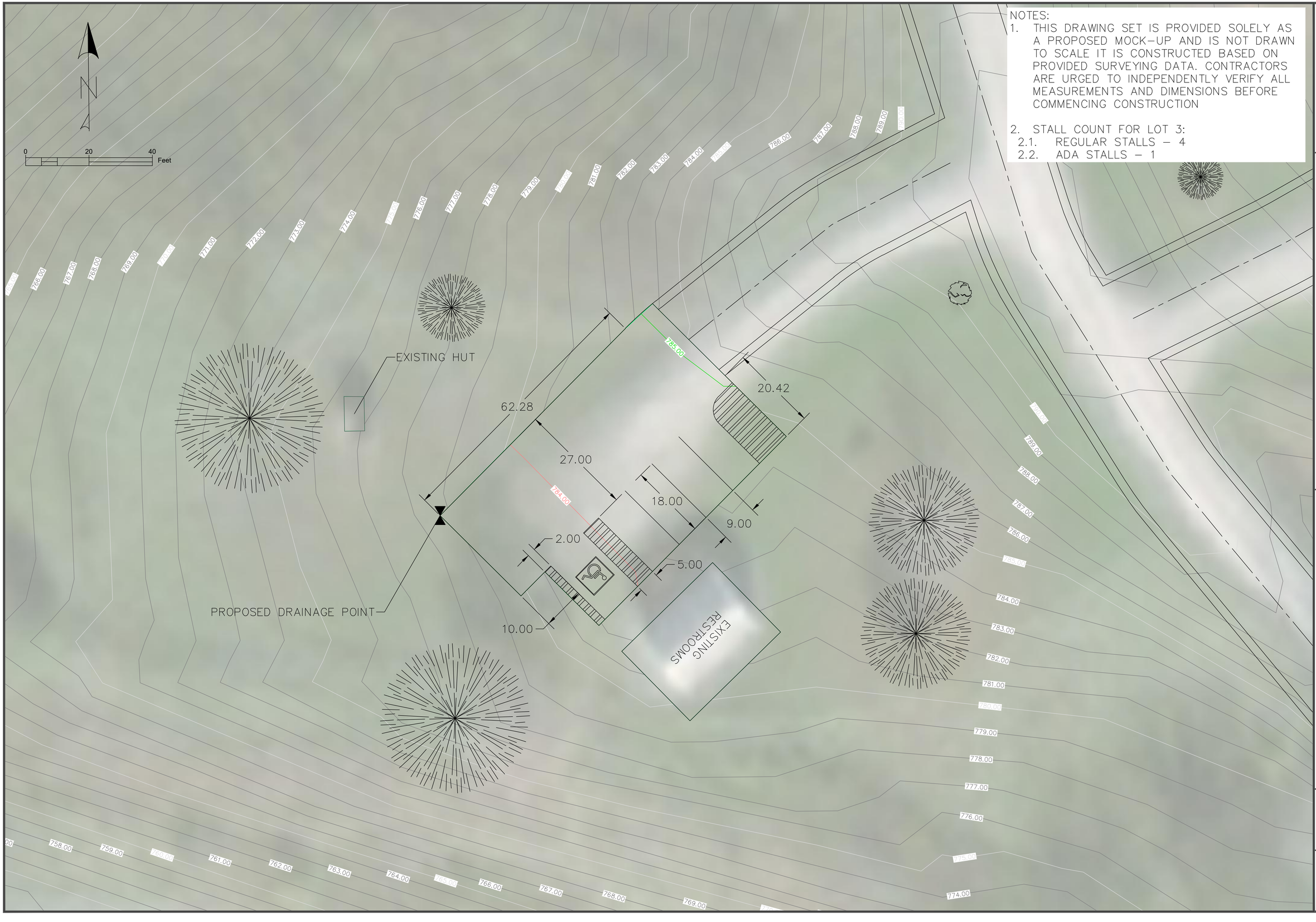
IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PARKING LOT 2 ALTERNATIVE 2

SHEET NO.
E3



PROJECT: CEE-4850
DATE : 05/03/2024
DRAWN BY: CIS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: cody-hall@uiowa.edu

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PARKING LOT 3 ALTERNATIVE 2

SHEET NO.
E4

NOTES:

1. THIS DRAWING SET IS PROVIDED SOLELY AS A PROPOSED MOCK-UP AND IS NOT DRAWN TO SCALE IT IS CONSTRUCTED BASED ON PROVIDED SURVEYING DATA. CONTRACTORS ARE URGED TO INDEPENDENTLY VERIFY ALL MEASUREMENTS AND DIMENSIONS BEFORE COMMENCING CONSTRUCTION

2. STALL COUNT FOR LOT 4:
   - 2.1. REGULAR STALLS – 0
   - 2.2. ADA STALLS – 0

PROJECT:	CEE-4850
DATE :	05/03/2024
DRAWN BY:	CJS
REVISION:	EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: cody-hall@uiowa.edu

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

PARKING LOT 4
ALTERNATIVE 2

SHEET NO.

E5

NOTES:
1. THIS DRAWING SET IS PROVIDED SOLELY AS A PROPOSED MOCK-UP AND IS NOT DRAWN TO SCALE IT IS CONSTRUCTED BASED ON PROVIDED SURVEYING DATA. CONTRACTORS ARE URGED TO INDEPENDENTLY VERIFY ALL MEASUREMENTS AND DIMENSIONS BEFORE COMMENCING CONSTRUCTION

2. STALL COUNT FOR LOT 5:
   2.1. REGULAR STALLS – 0
   2.2. ADA STALLS – 0
   2.3. BOAT & TRAILER STALLS – 1

N

0 20 40 Feet

22.00

54.00

PROPOSED DRIVEWAY

PROPOSED DRAINAGE POINT

EXISTING BOAT RAMP

EXISTING HUT

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: CJS
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: cody-hall@uiowa.edu

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
PARKING LOT 5 ALTERNATIVE 2

SHEET NO.
E6

PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: JEJ
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: cody-hall@uiowa.edu

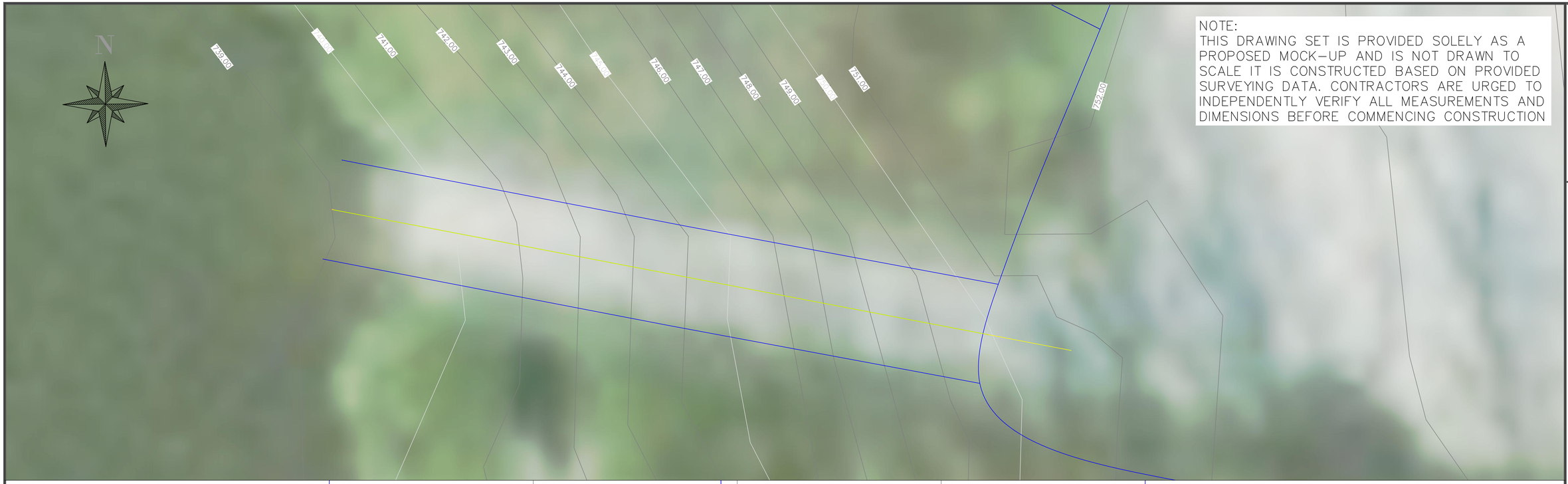
IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

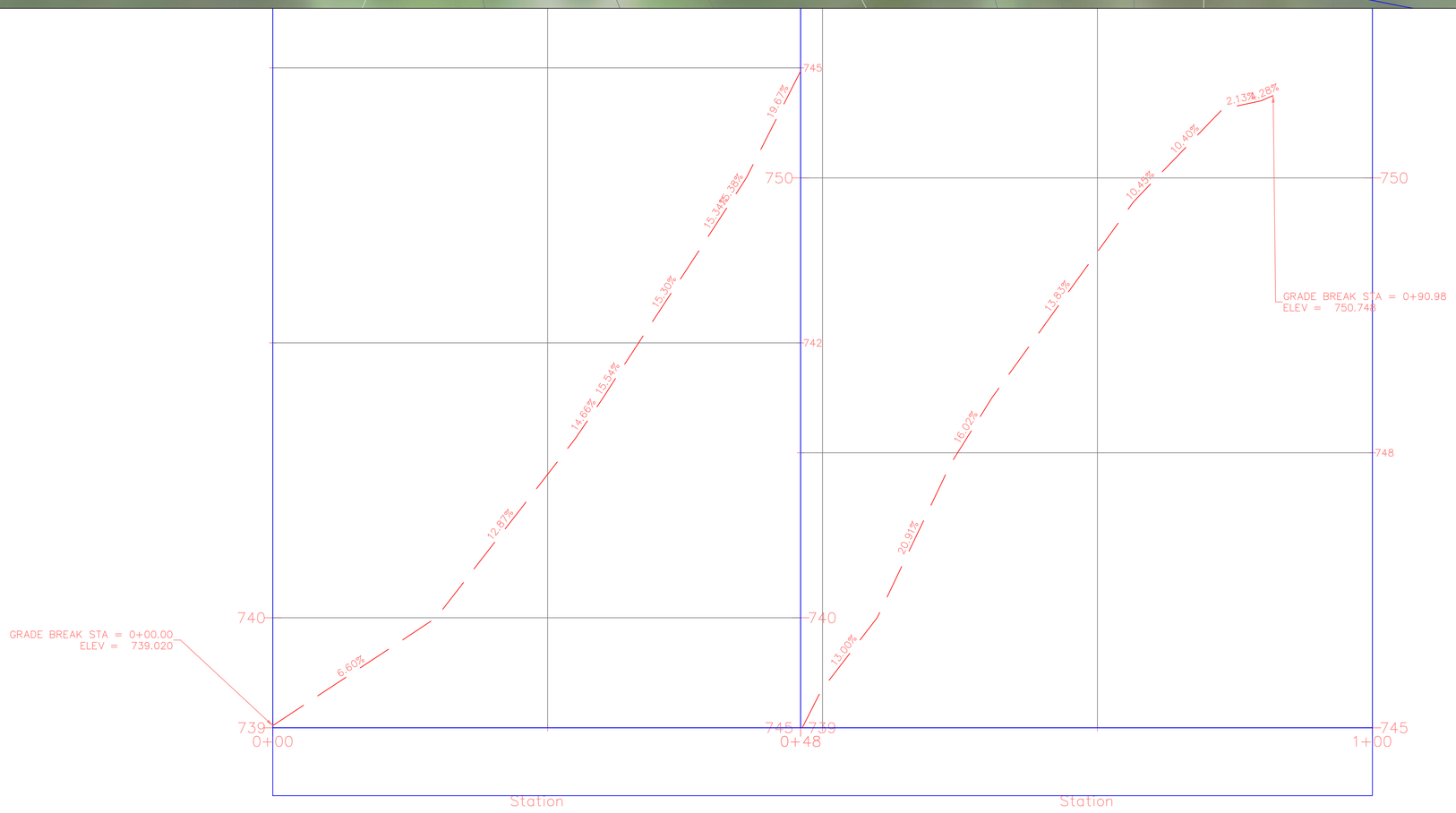
WHITE OAKS NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
BOAT RAMP PLAN

SHEET NO.
F1



NOTE:
THIS DRAWING SET IS PROVIDED SOLELY AS A PROPOSED MOCK-UP AND IS NOT DRAWN TO SCALE IT IS CONSTRUCTED BASED ON PROVIDED SURVEYING DATA. CONTRACTORS ARE URGED TO INDEPENDENTLY VERIFY ALL MEASUREMENTS AND DIMENSIONS BEFORE COMMENCING CONSTRUCTION



PROJECT: CEE:4850
DATE : 05/03/2024
DRAWN BY: JEJ
REVISION: EJF

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: cody-hall@uiowa.edu

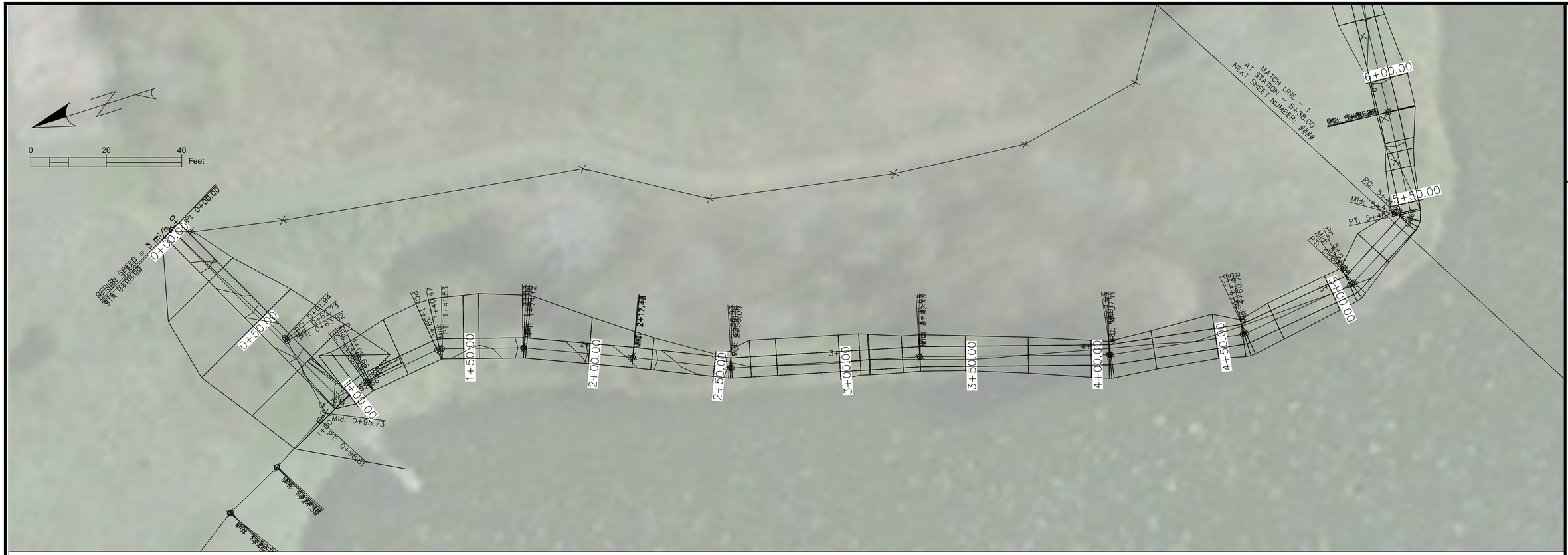
IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

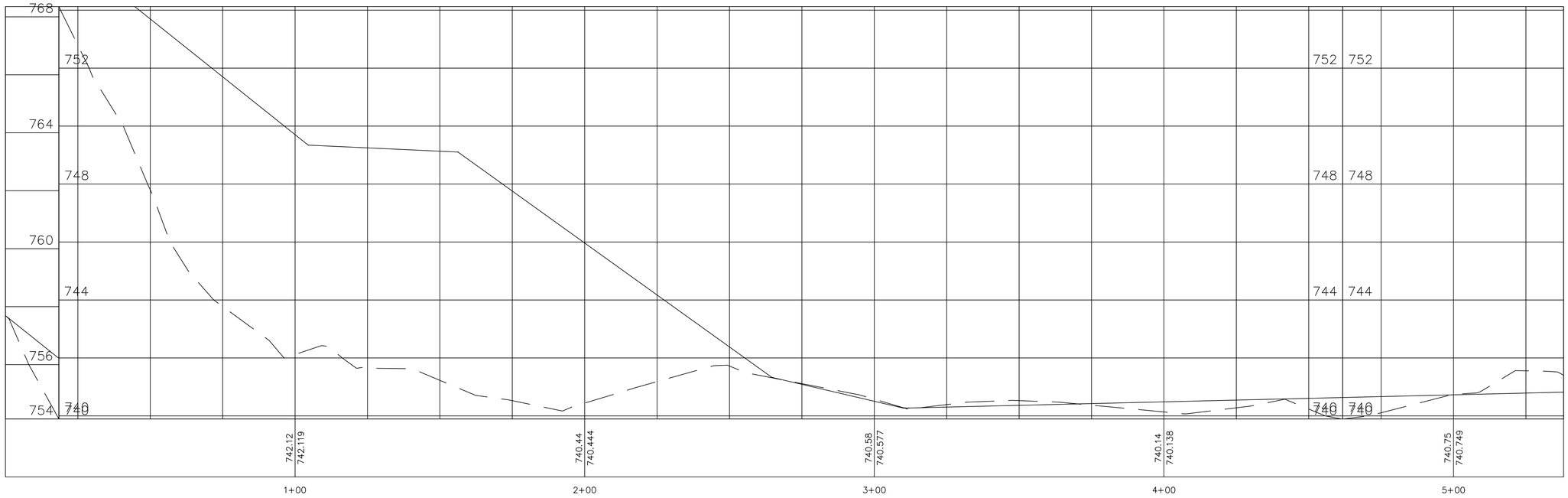
WHITE OAKS NATURE CONSERVATION RESTORATION
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
BOAT RAMP PLAN AND PROFILE

SHEET NO.
F2



Alignment 1.5 (2.0) PROFILE



Alignment 1.5 (2.0) PROFILE

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

PROJECT:	CEE:4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

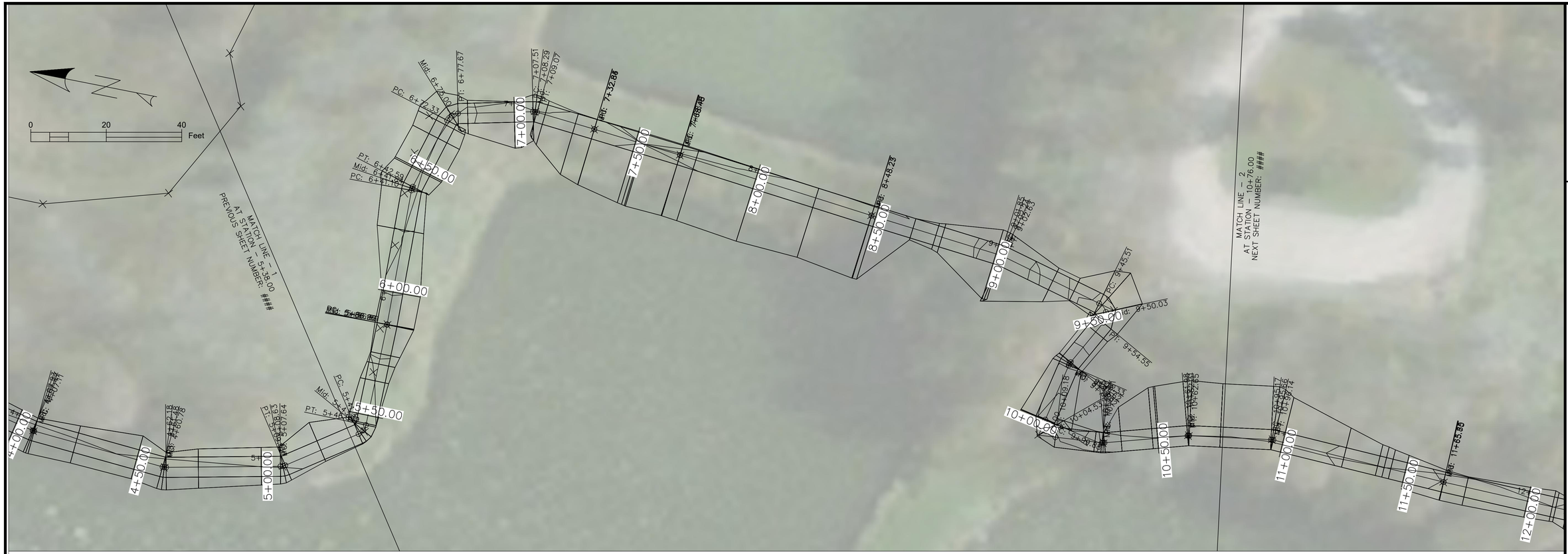
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

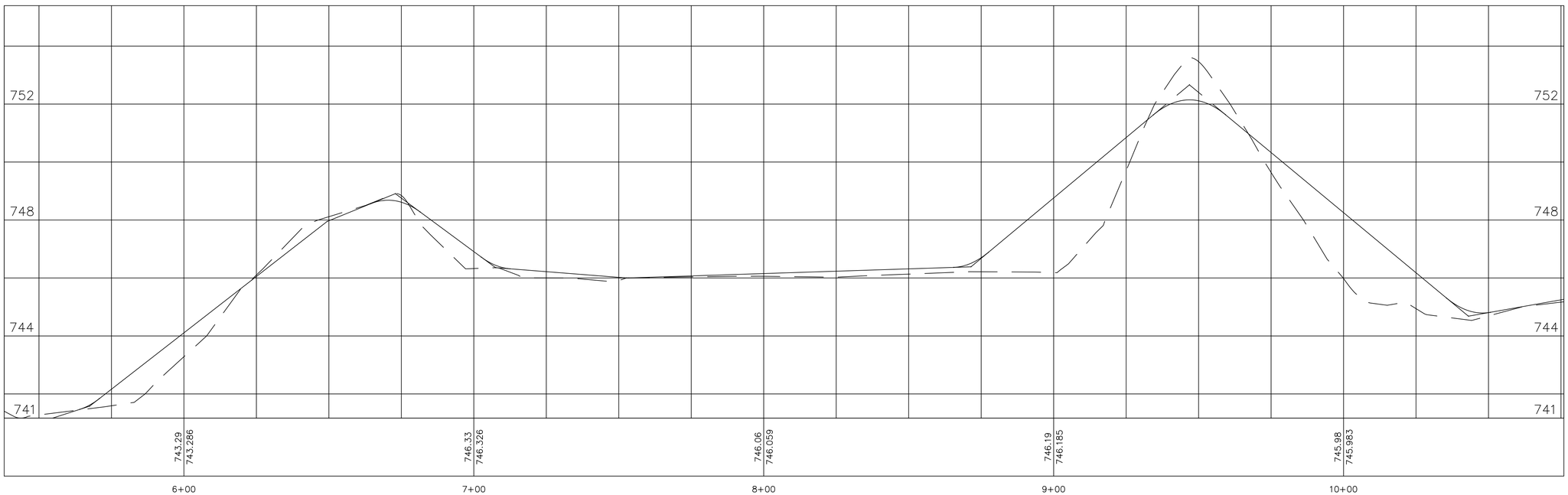
TRAILS
MAIN TRAIL P&P 1

SHEET NO.

G1



Alignment 1.5 (2.0) PROFILE



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT:	CEE:4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

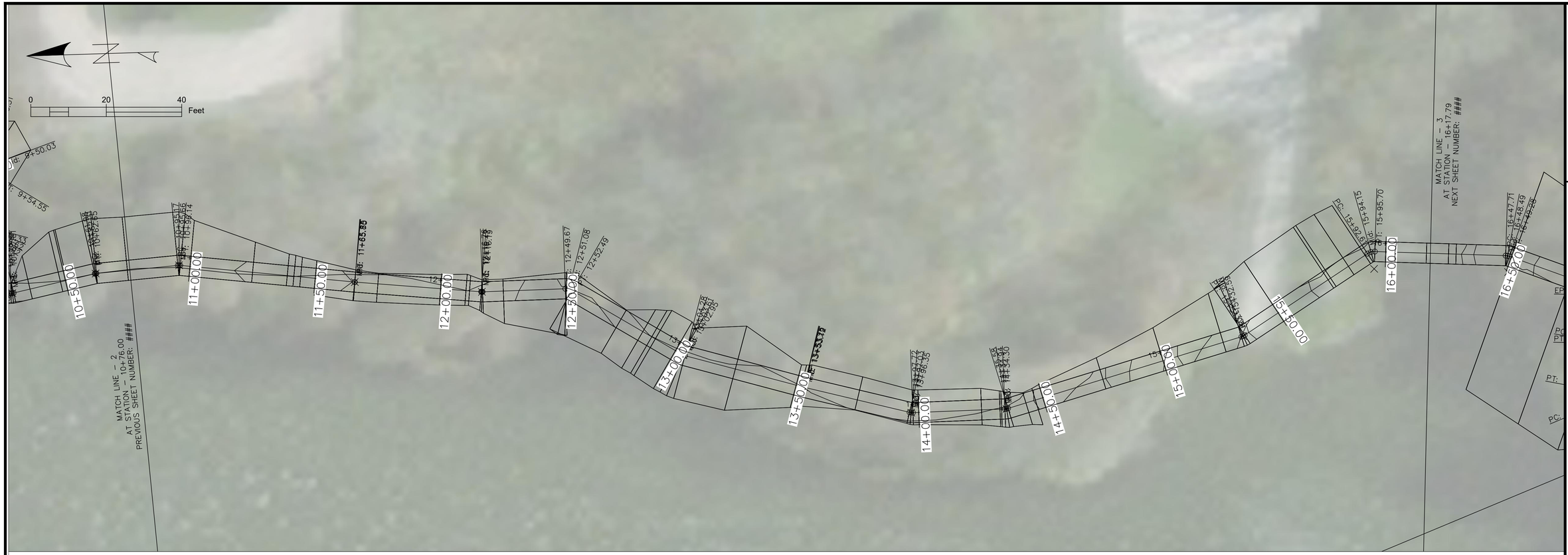
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

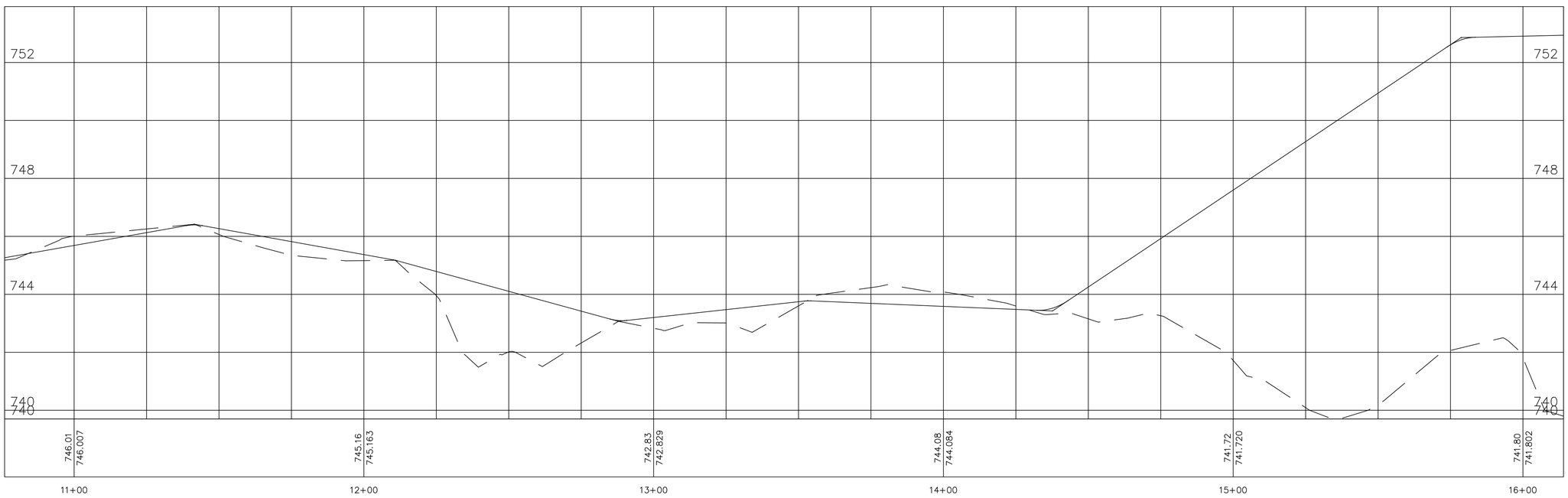
TRAILS
MAIN TRAIL P&P 2

SHEET NO.

G2



Alignment 1.5 (2.0) PROFILE



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING

4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT:	CEE: 4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

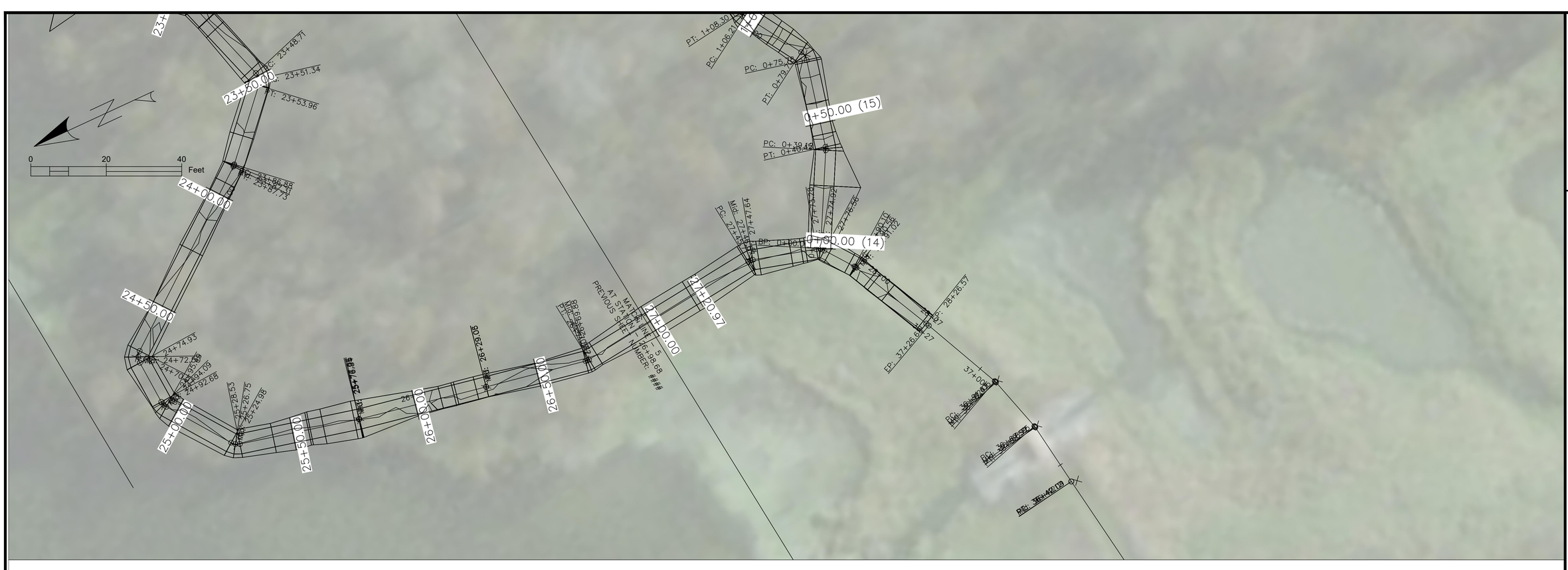
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

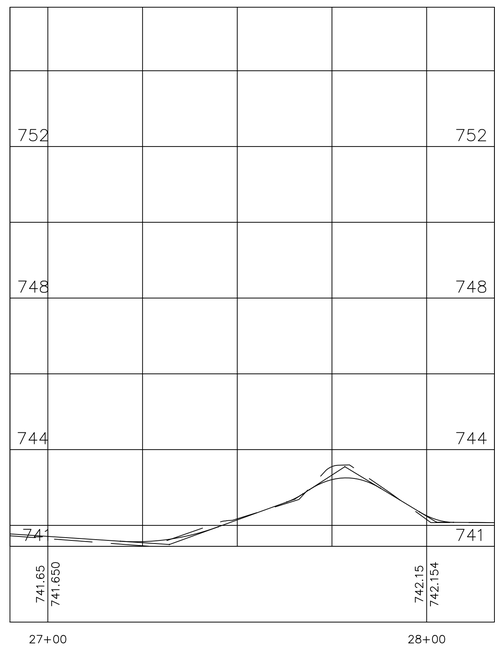
TRAILS
MAIN TRAIL P&P 3

SHEET NO.

G3



Alignment 1.5 (2.0) PROFILE



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING

4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT:	CEE: 4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

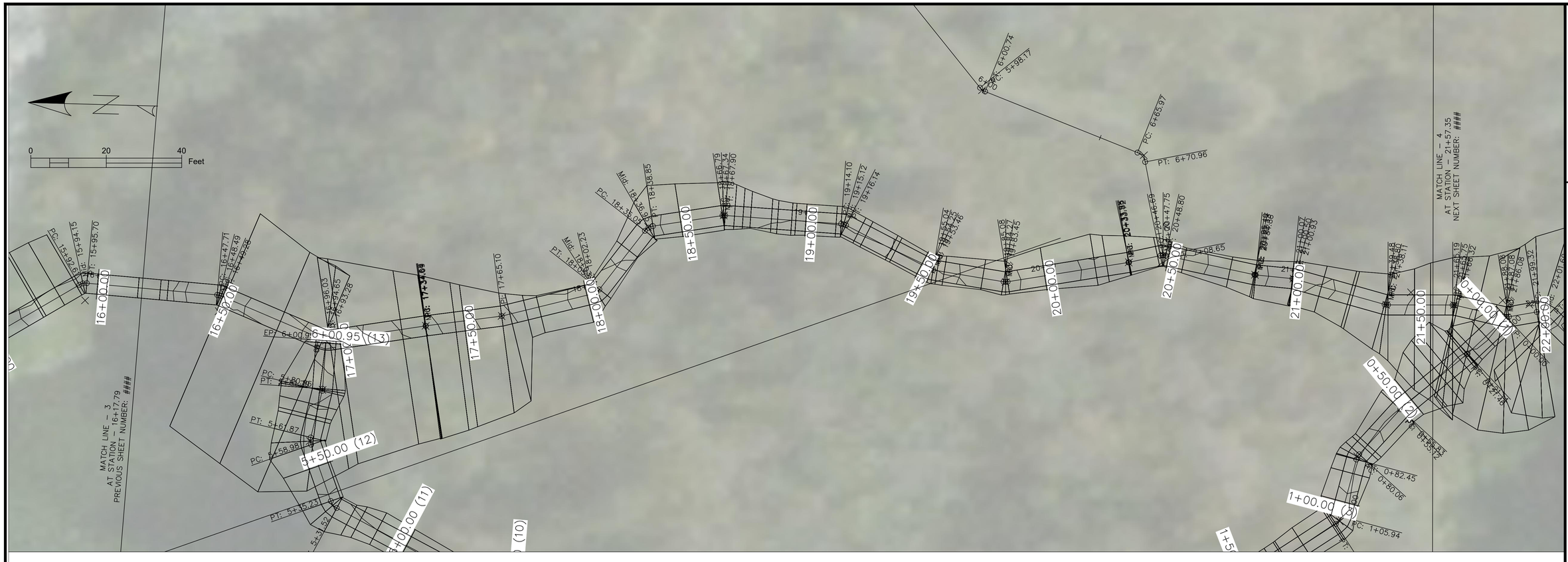
PROJECT ADDRESS 1
2647 VENTURA AVENUE

SHEET NAME

TRAILS
MAIN TRAIL P&P 4

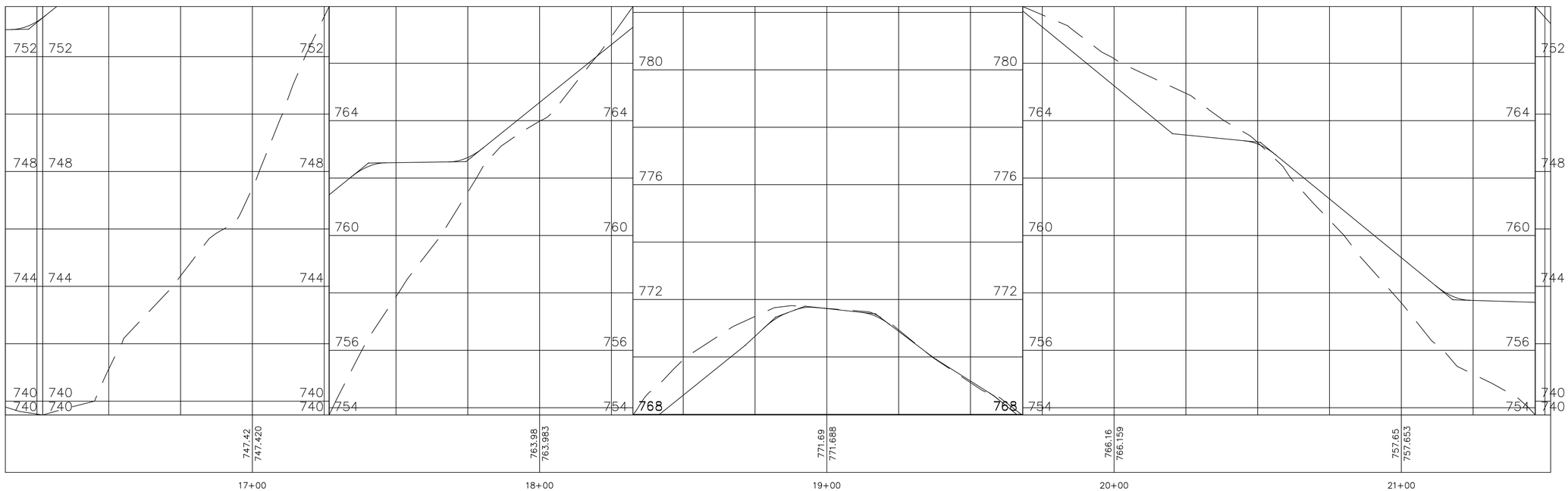
SHEET NO.

G4



Alignment 1.5 (2.0) PROFILE

Alignment 1.5 (2.0) P



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT:	CEE: 4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

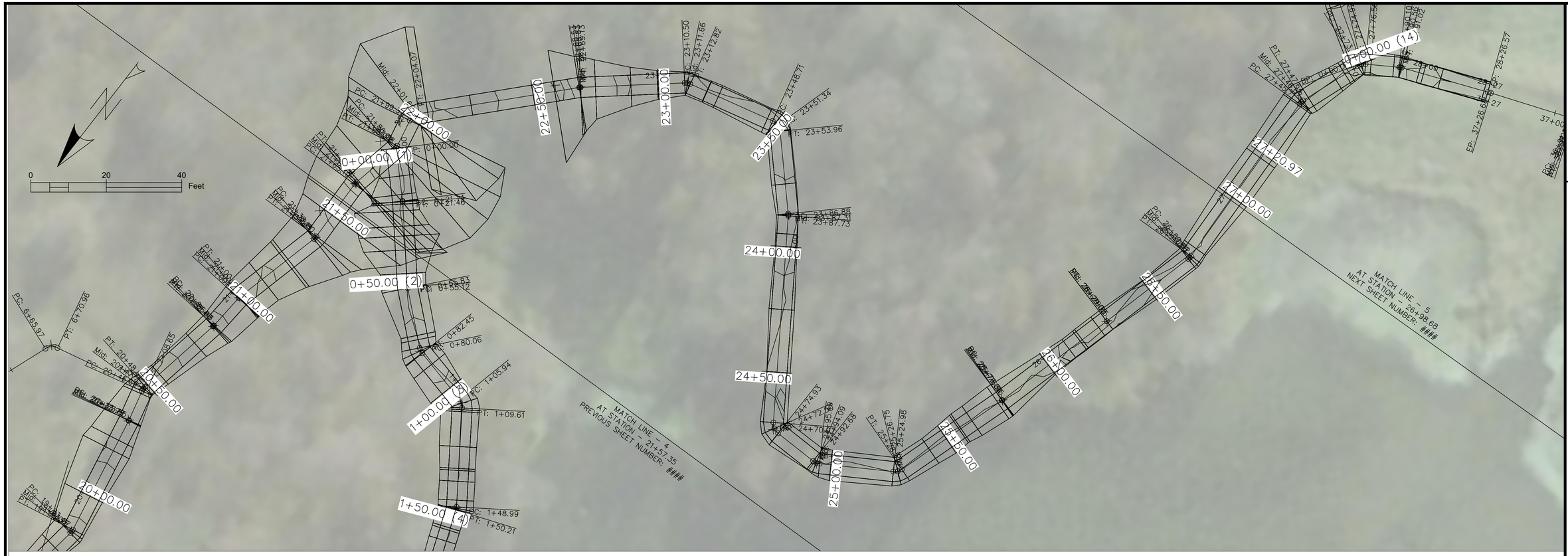
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

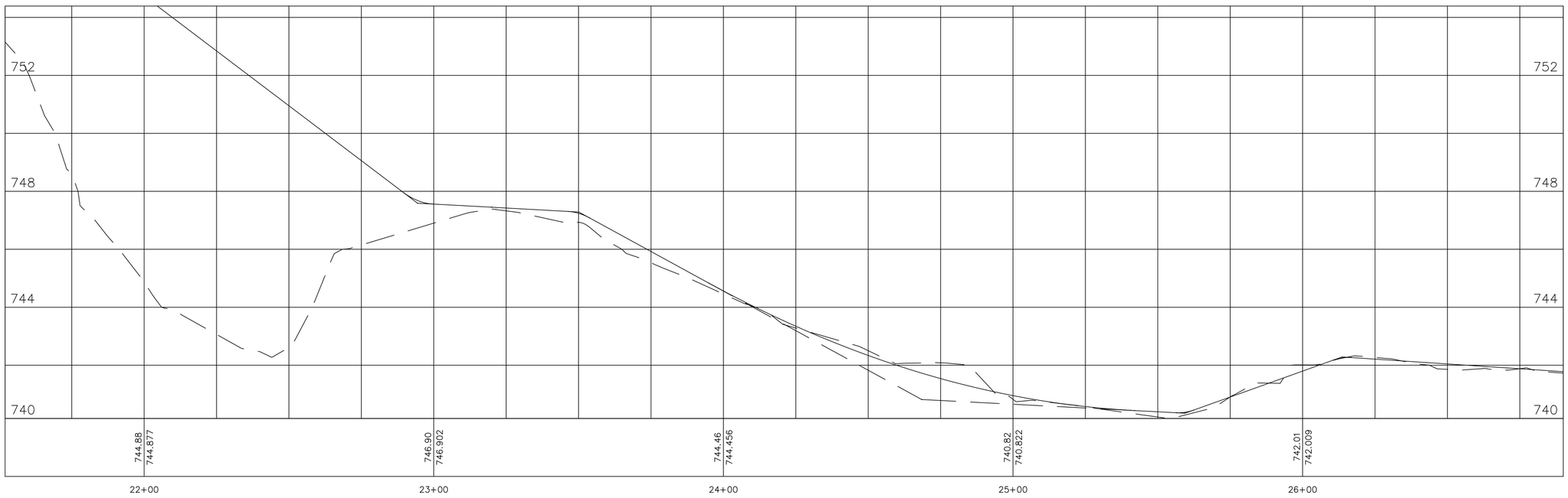
TRAILS
MAIN TRAIL P&P 5

SHEET NO.

G5



Alignment 1.5 (2.0) PROFILE



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT:	CEE:4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

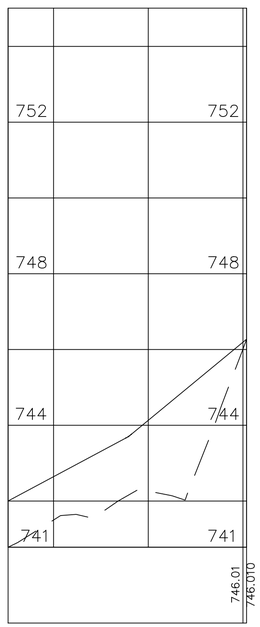
SHEET NAME

TRAILS
MAIN TRAIL P&P 6

SHEET NO.

G6

Trail 5 PROFILE



PROJECT: CEE: 4850
DATE : 05/03/2024
DRAWN BY: BRB
REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

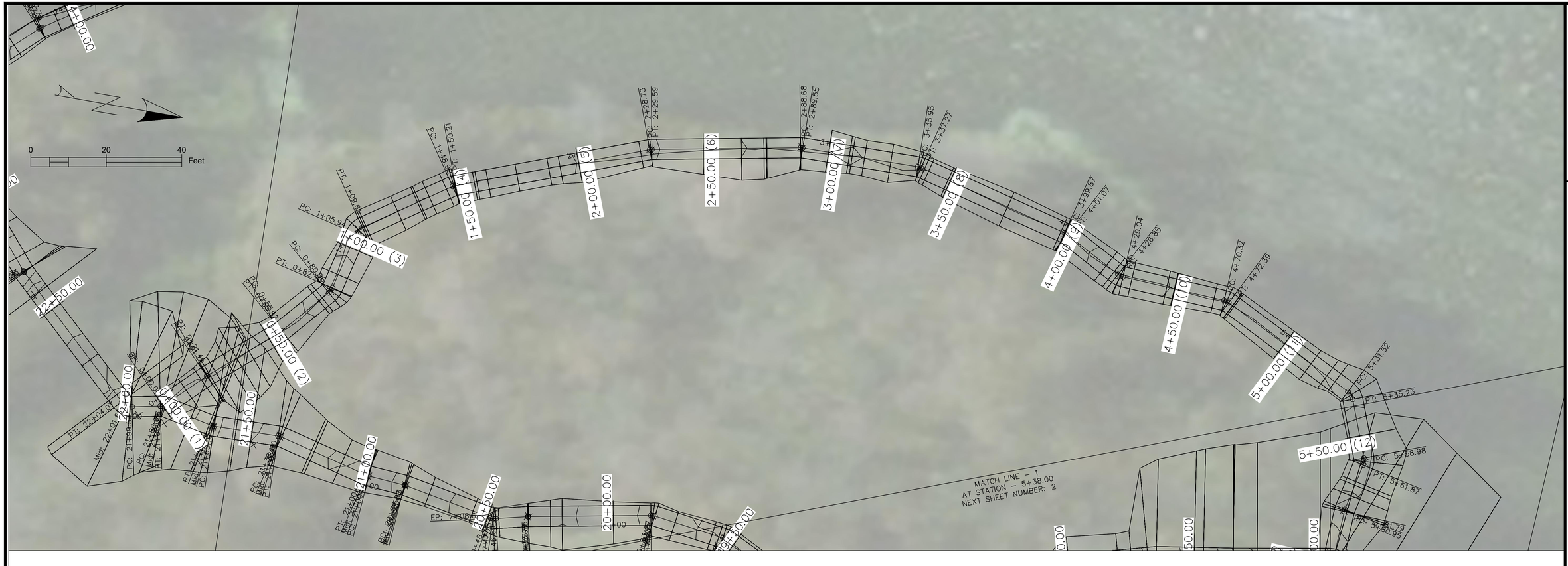
EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

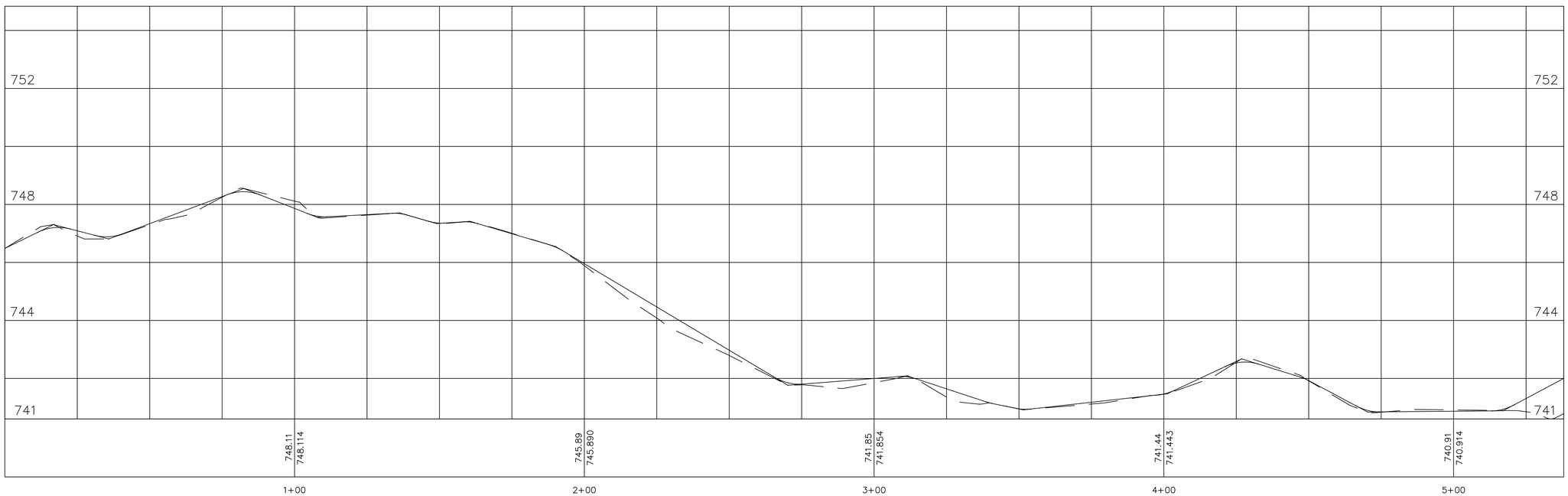
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME
TRAILS
WTR FRONT P&P 1

SHEET NO.
G7



Trail 5 PROFILE



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING

4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

PROJECT:	CEE: 4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

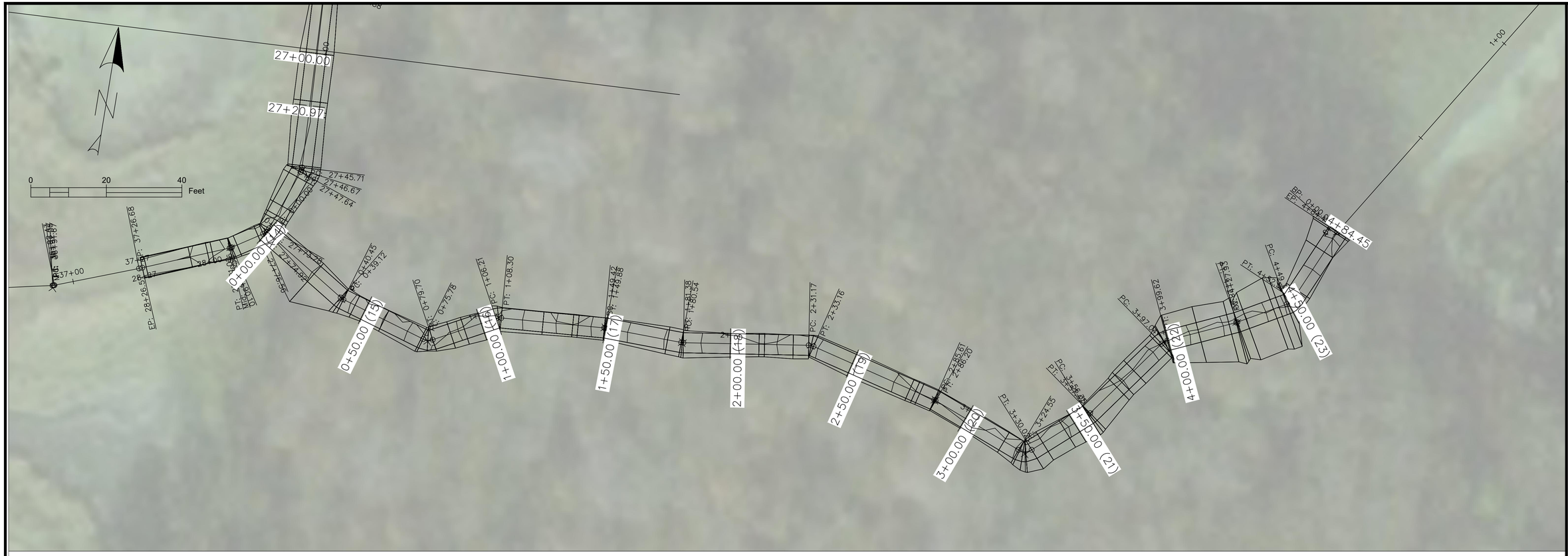
2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

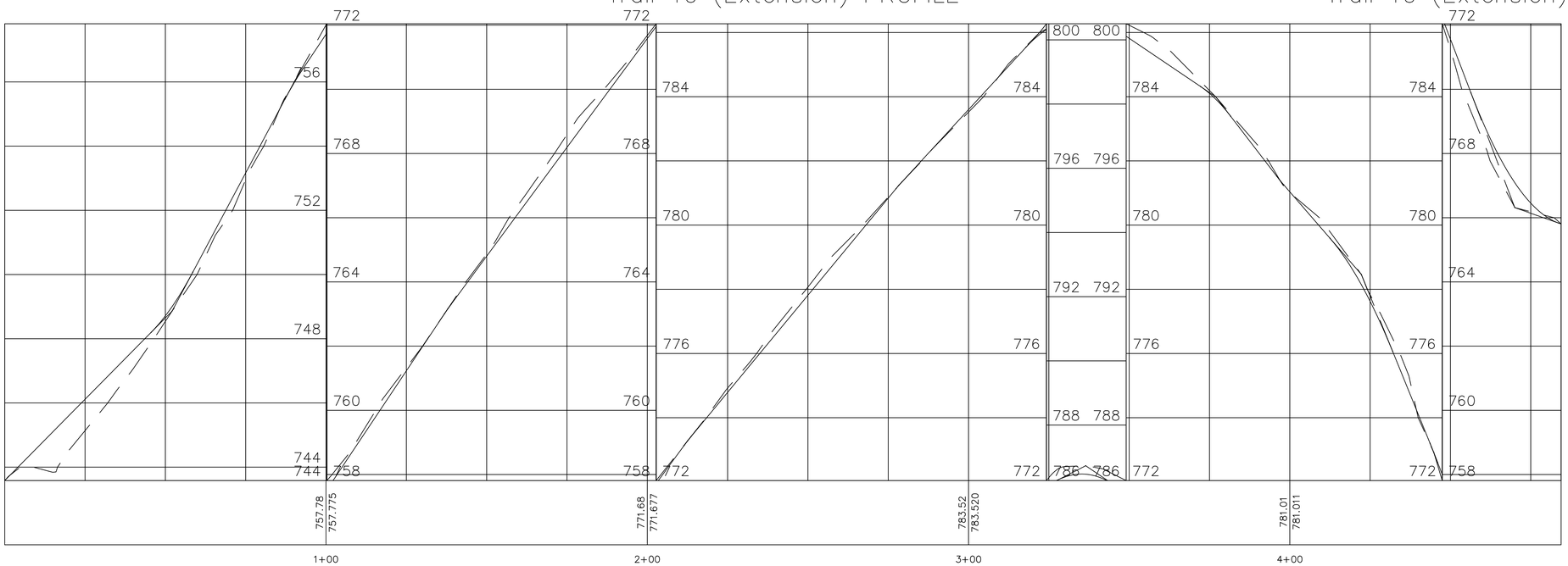
TRAILS
WTR FRONT P&P 2

SHEET NO.

G8



Trail 10 (Extension) PROFILE



Trail 10 (Extension) PROFILE

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

PROJECT:	CEE:4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

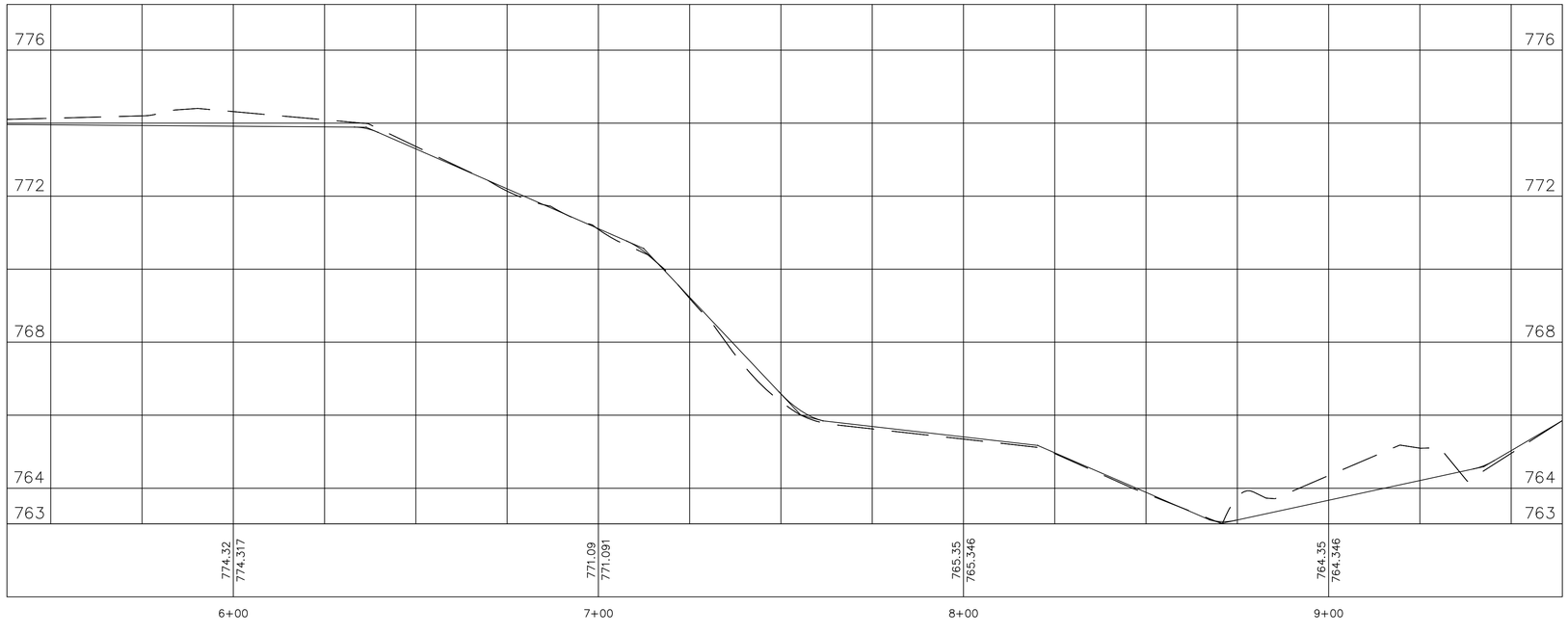
SHEET NAME

TRAILS
Extension P&P 1

SHEET NO.

G9

Trail 10 (Extension) PROFILE



THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: civil-hawks@uiowa.edu

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT:	CEE: 4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

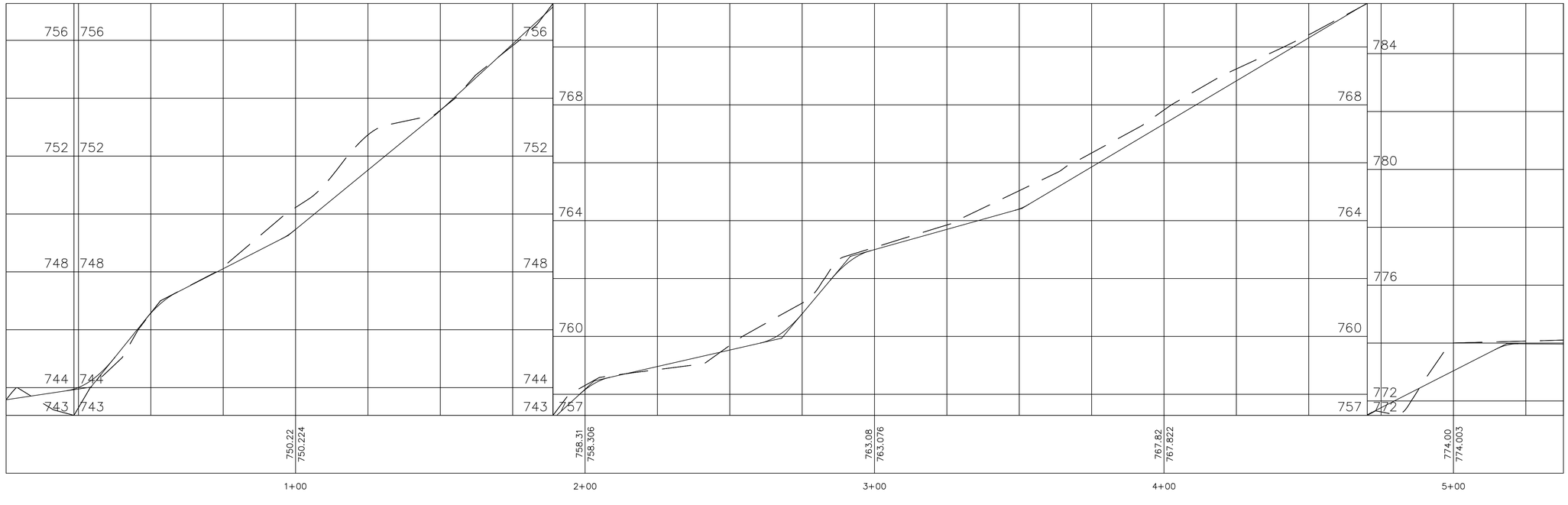
SHEET NAME

TRAILS
Ext. ALT 2 P&P

SHEET NO.

G10

Trail 10 (Extension) PROFILE



Trail 10 (Extension) PROFILE

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: civil-hawks@uiowa.edu

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

PROJECT:	CEE: 4850
DATE :	05/03/2024
DRAWN BY:	BRB
REVISION:	

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAKS NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

TRAILS
Ext. ALT 2 P&P

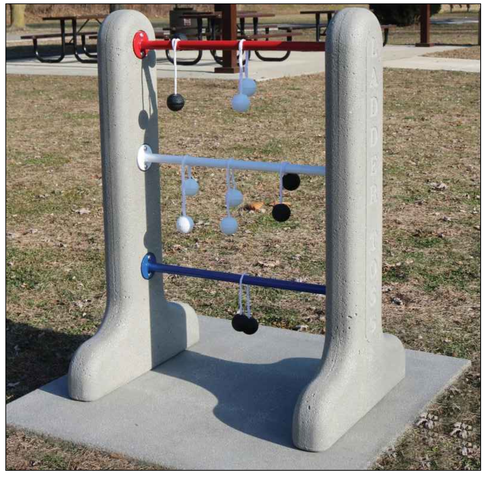
SHEET NO.

G11

EXISTING PLAYGROUND

REPLACEMENT ITEMS:

SEE APPENDIX I, REFERENCE 1 FOR DESIGN SPECIFICATIONS



SEE APPENDIX I, REFERENCE 2 FOR DESIGN SPECIFICATIONS

PROJECT: CEE:4850

DATE : 05/03/2024

DRAWN BY: MEJ

REVISION:

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
FAX: 319.335.5660
EMAIL: CODY-HALL@UIOWA.EDU

IOWA CIVIL & ENVIRONMENTAL ENGINEERING

EDUCATIONAL - NOT FOR CONSTRUCTION

WHITE OAK NATURE CONSERVATION RESTORATION

2647 VENTURA AVENUE
CEDAR, IOWA 52543

SHEET NAME

PLAYGROUND AREA SHEET

SHEET NO.

H1