PID 117001

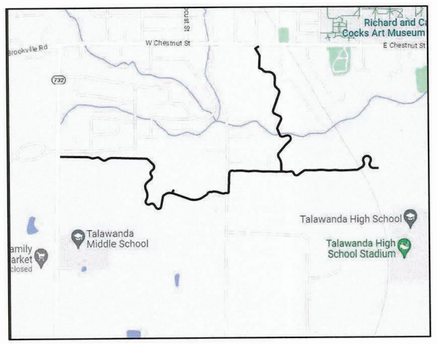
FAN E240930

BUT - OXFORD AREA TRAIL PHASE 5

FINAL PLANS

CITY OF OXFORD, BUTLER COUNTY, OHIO

JANUARY 2025



LATITUDE: 39°29'36" LONGITUDE: -84°44'46"

VICINITY MAP

NOT TO SCALE

PROPOSED OXFORD AREA TRAIL

LINE DATA

BEGIN OXFORD AREA TRAIL PROJECT:	STA. 0+00.00
END OXFORD AREA TRAIL PROJECT:	STA. 91+17.14
BEGIN CHESTNUT CONNECTOR TRAIL PROJECT:	STA. 99+76.93
END CHESTNUT CONNECTOR TRAIL PROJECT:	STA. 134+28.93
TOTAL TRAIL PROJECT LENGTH:	12,569.14 LIN. FT. OR 2.38 MILES
DESIGN SPEED:	18 MPH

SCALE IN FEET

SCHEMATIC PLAN: 0 40 60 — SCALE: 1" = 40'

PLAN: 0 40 60 — SCALE: 1" = 40'

PROFILES: HORIZONTAL 0 40 60 — SCALE: 1" = 40'

VERTICAL 0 10 15 — SCALE: 1" = 10'

CROSS SECTIONS: HORIZONTAL 0 5 7.5 — SCALE: 1" = 5'

VERTICAL 0 5 7.5 — SCALE: 1" = 5'

APPROVED: Scott Otto

DATE: 1/10/25 SCOTT OTTO P.E., CITY OF OXFORD

CONTACTS

OWNER

CITY OF OXFORD
PROJECT MANAGER
SCOTT OTTO, PE
PH: (513) 524-5208

ENGINEER/SURVEYOR

BAYER BECKER
110 SOUTH COLLEGE AVENUE, SUITE 101
OXFORD, OHIO 45056
PH: (513) 523-4270

INDEX OF SHEETS

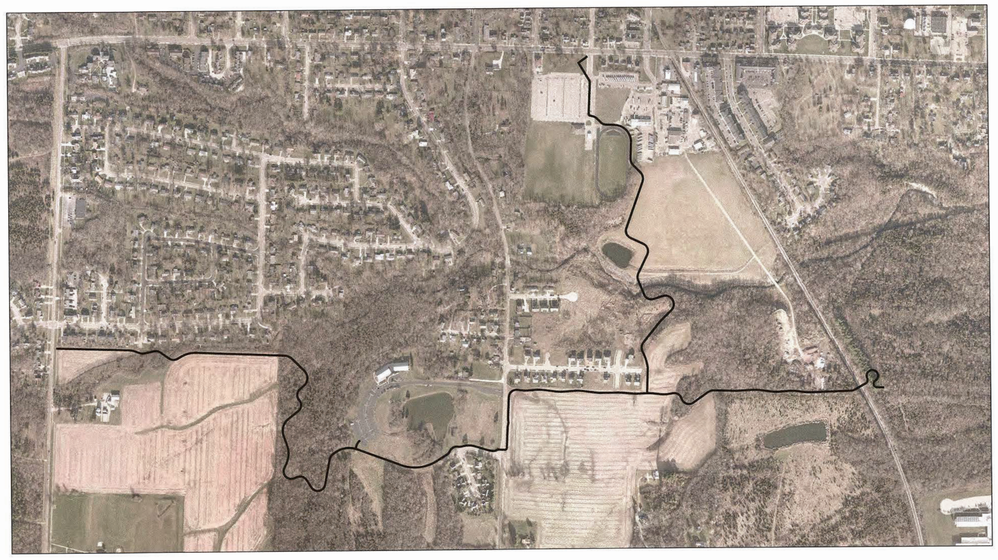
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GENERAL SUMMARY	12
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2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

PROJECT DESCRIPTION

THE SCOPE OF WORK TO BE PERFORMED UNDER THIS IMPROVEMENT SHALL GENERALLY CONSIST OF THE CONSTRUCTION OF APPROXIMATELY 1.7 MILES OF MULTI-USE TRAIL FROM OXFORD REILY ROAD (SR732) TO PHASE 3 OF THE TRAIL AND APPROXIMATELY 0.7 MILE OF MULTI-USE TRAIL CONNECTION TO CHESTNUT STREET.



PROPOSED OXFORD AREA TRAIL PHASE 5

ENGINEER'S SEAL	ENGINEER'S SEAL	ENGINEER'S SEAL
FOR BRIDGES (SHEETS 76-104)	FOR GEOTECH (SHEETS 124-161)	FOR ENTIRE PLAN EXCEPT BRIDGES AND GEOTECH
STATE OF OHIO · MICHAEL R. STURDEVANT · E-49864 · REGISTERED · PROFESSIONAL ENGINEER	STATE OF OHIO · ERIC MICHAEL KISTNER · E-65507 · REGISTERED · PROFESSIONAL ENGINEER	STATE OF OHIO · ETTA M. REED · E-61606 · REGISTERED · PROFESSIONAL ENGINEER
SIGNED: Michael Sturdevant — Digitally signed by Sturdevant, Michael Date: 2025.01.10 08:21:57 -05'00'	SIGNED: Eric M. Kistner — Digitally signed by Eric M. Kistner Date: 2025.01.10 08:11:57 -05'00'	SIGNED: Etta M. Reed
DATE: 01-10-25	DATE:	DATE: 1-10-25

SUPPLEMENTAL SPECIFICATIONS			
SPEC. NO.	DATE	SPEC. NO.	DATE
800	07/19/24		
832	07/19/24		
840	07/19/24		
878	01/21/22		
902	07/19/19		

STANDARD CONSTRUCTION DRAWINGS					
DRAWING NO.	DATE	DRAWING NO.	DATE	DRAWING NO.	DATE
BP-3.1	01/19/24	MT-99.30	01/17/20	TC-71.10	04/21/23
BP-5.1	07/15/22	MT-101.90	07/17/20	TC-74.10	07/21/23
BP-7.1	07/19/24	MT-105.10	01/17/20	TC-83.20	07/19/24
CB-2.2B	07/19/24	MT-110.10	07/19/13	TC-87.10	07/19/24
DM-1.1	07/17/20	RM-5.2	07/21/23	**HW-2.2**	**07/20/18**
DM-4.4	01/15/16	TC-41.20	10/18/13		
HW-1	07/19/24	TC-41.30	04/21/23		
HW-2.1	07/15/22	TC-42.20	10/18/13		
MT-21.21	01/20/23	TC-52.10	10/18/13		
MT-97.10	04/19/19	TC-52.20	01/15/21		

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED Scott Otto

DATE 1/10/25 ENGINEER, CITY OF OXFORD

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1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	1-8-25	SM	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO
TITLE

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 TITLE
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 1/161

Plot time: Jan 09, 2025 – 10:31pm
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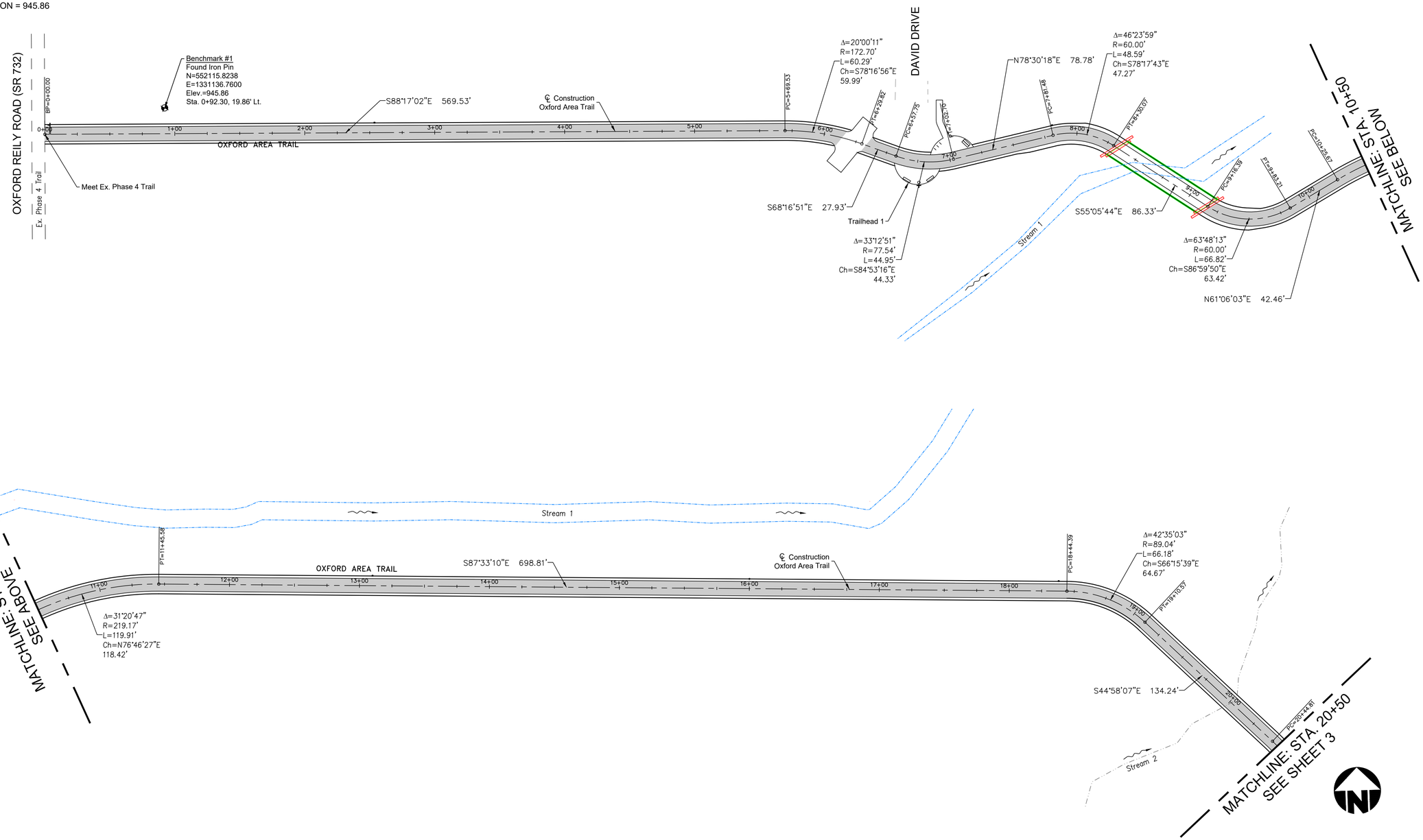
BENCHMARK #1

A FOUND IRON PIN LOCATED APPROXIMATELY 130 FT EAST OF EXISTING OXFORD REILY RD (SR 732) APPROXIMATELY 170 FT SOUTH OF EXISTING DANA DR. APPROXIMATELY 84.5' EAST OF AN EXISTING UTILITY POLE. SAID IRON PIN IS LOCATED AT STA. 0+92.30,19.86' LT.

HORIZONTAL: ODOT VRS/RTK NETWORK
NAD83 OHIO STATE PLANE, SOUTH ZONE

VERTICAL: ODOT VRS/RTK NETWORK
NAVD88

N=552115.8238
E=1331136.7600
ELEVATION = 945.86



HORIZONTAL
0 40 60
SCALE: 1" = 40'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	EMR	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

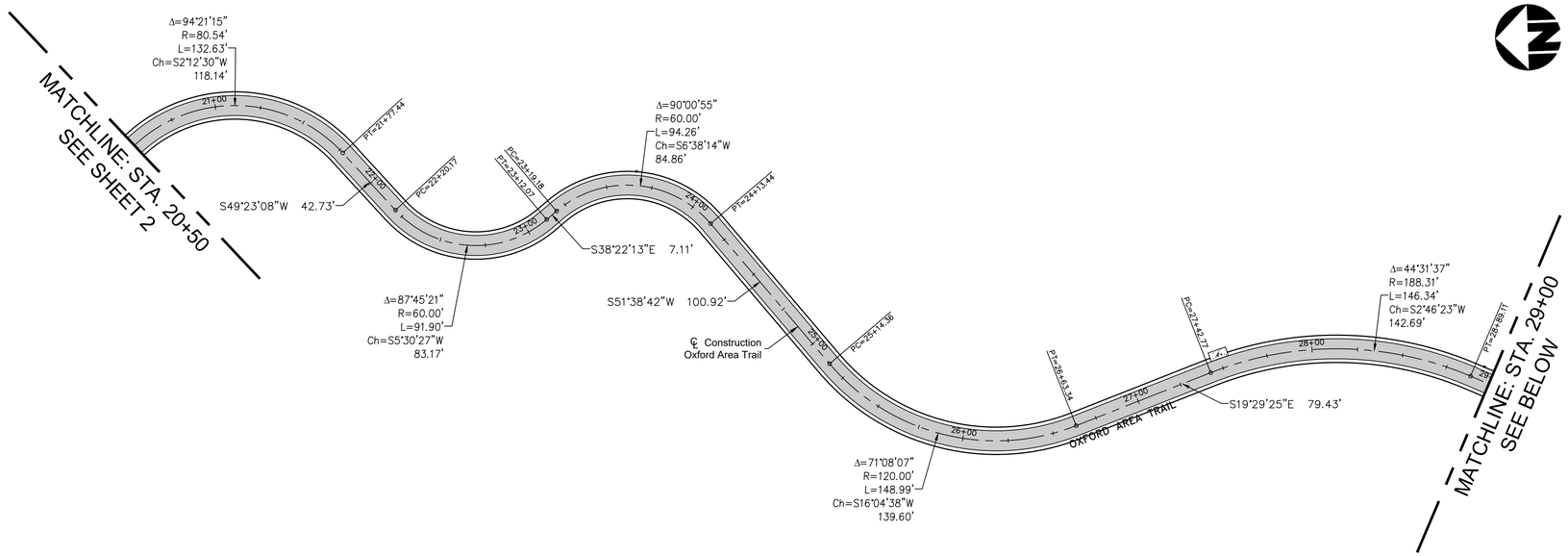
SCHEMATIC PLAN

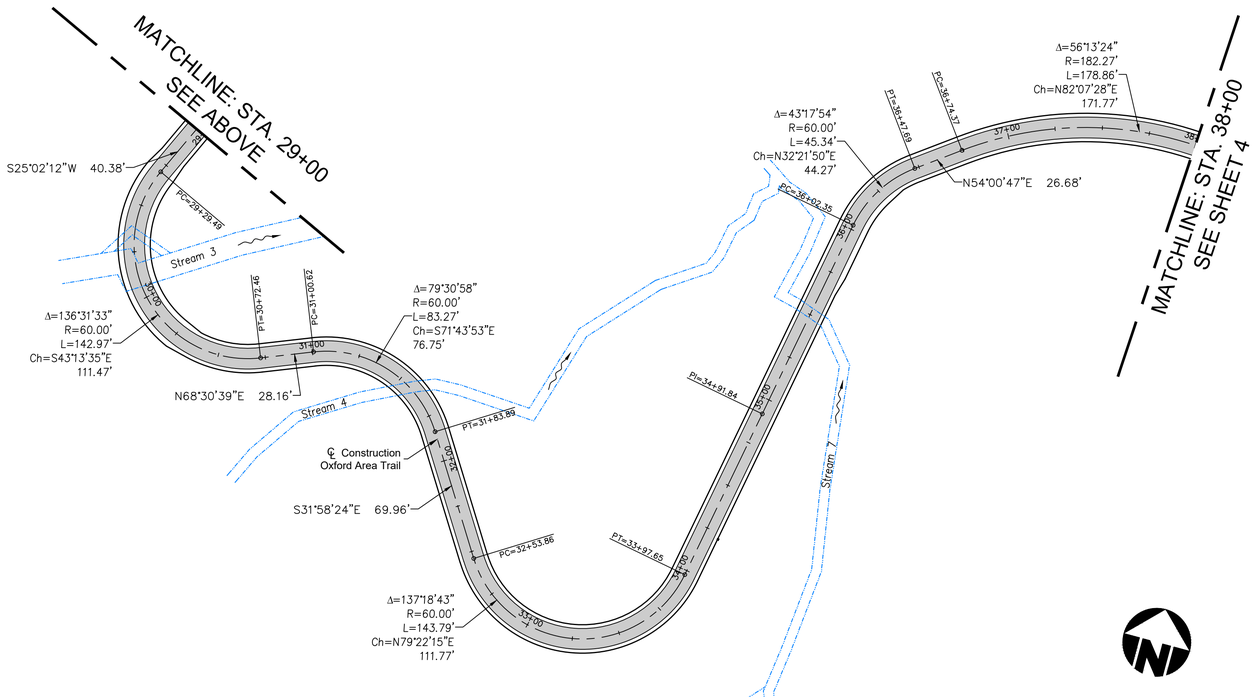
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Drawing: 22-0273 SCHEMATIC
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 2/161

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HORIZONTAL
0 40 60
SCALE: 1" = 40'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	EMR	

BUT - OXFORD AREA TRAIL PHASE 5

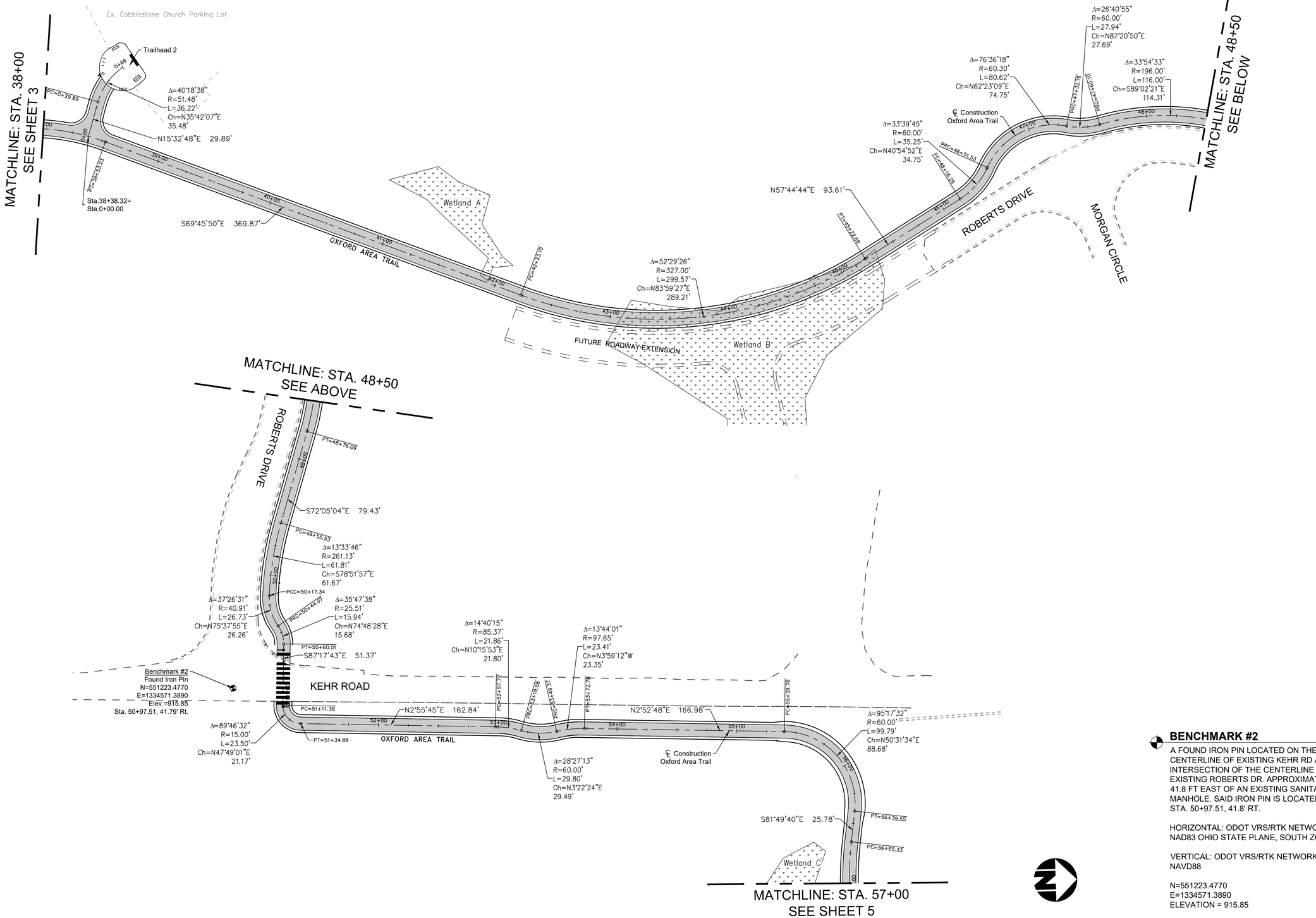
CITY OF OXFORD
BUTLER COUNTY, OHIO

SCHEMATIC PLAN

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Drawing: 22-0273 SCHEMATIC
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 3/161

Plot time: Jan 13, 2025 - 3:17pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 Schematic.DWG - Layout Tab: 3 Schematic 20+50



BENCHMARK #2

A FOUND IRON PIN LOCATED ON THE CENTERLINE OF EXISTING KEHR RD AT THE INTERSECTION OF THE CENTERLINE OF EXISTING ROBERTS DR. APPROXIMATELY 41.8 FT EAST OF AN EXISTING SANITARY MANHOLE. SAID IRON PIN IS LOCATED AT STA. 50+97.51, 41.8' RT.

HORIZONTAL: ODOT VRS/RTK NETWORK
NAD83 OHIO STATE PLANE, SOUTH ZONE

VERTICAL: ODOT VRS/RTK NETWORK
NAVD88

N=551223.4770
E=1334571.3890
ELEVATION = 915.85

HORIZONTAL
0 40 60
SCALE: 1" = 40'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	EMR	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

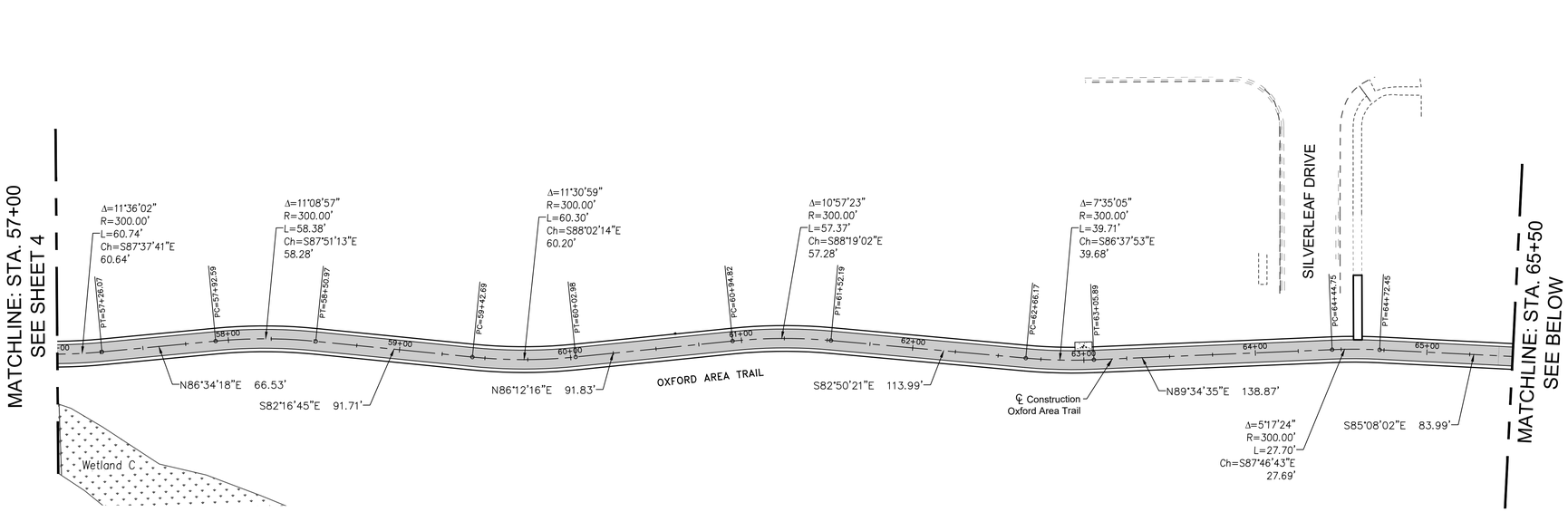
SCHEMATIC PLAN

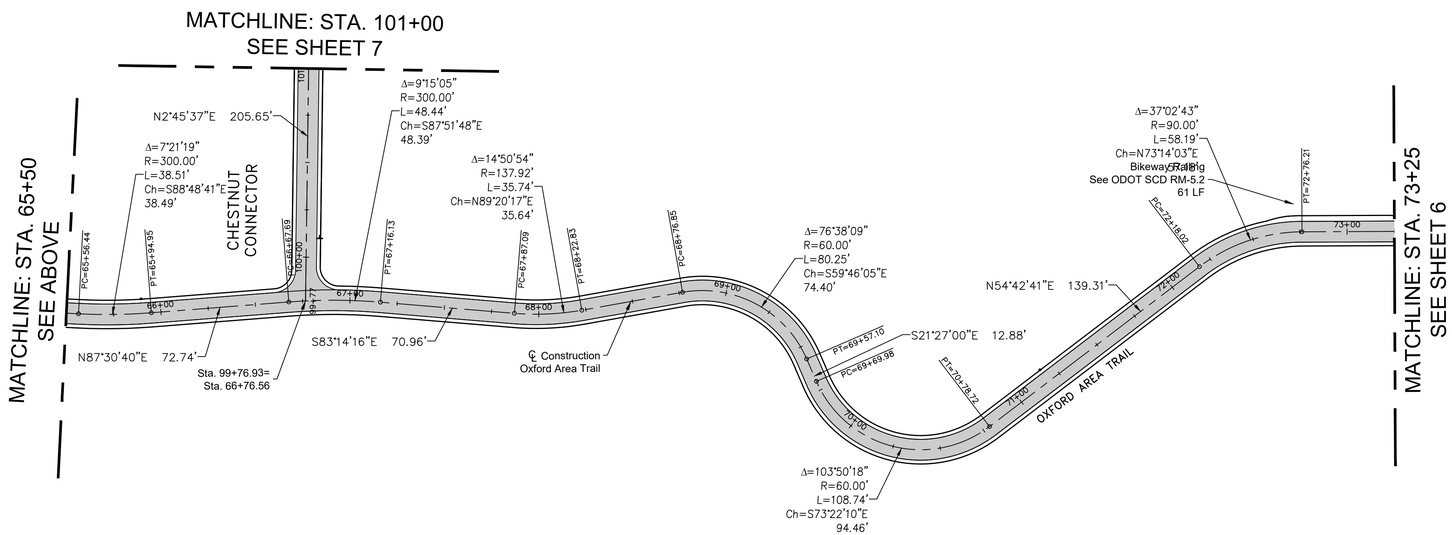
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110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 SCHEMATIC
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 4/161

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Plot time: Jan 13, 2025 - 3:18pm
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HORIZONTAL
0 40 60
SCALE: 1" = 40'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	EMR	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

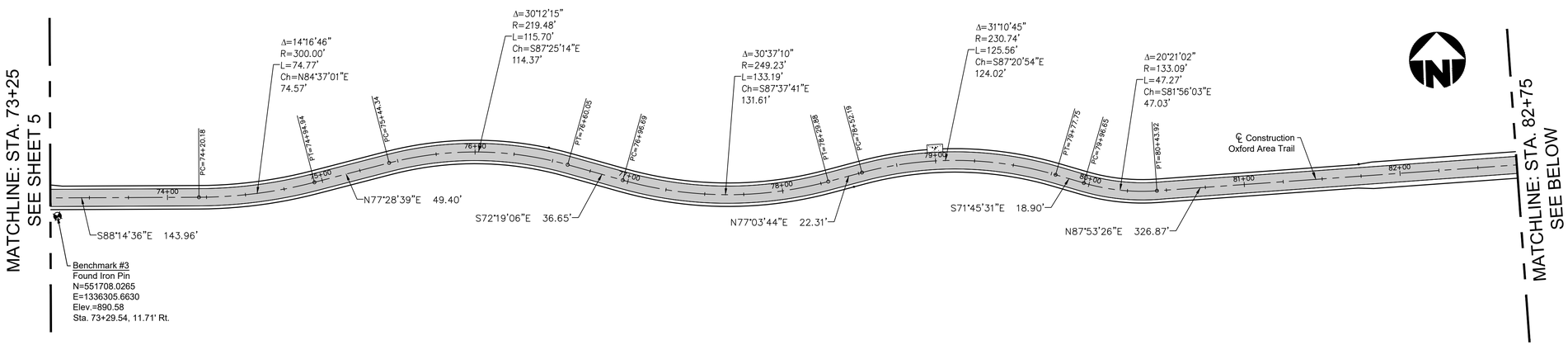
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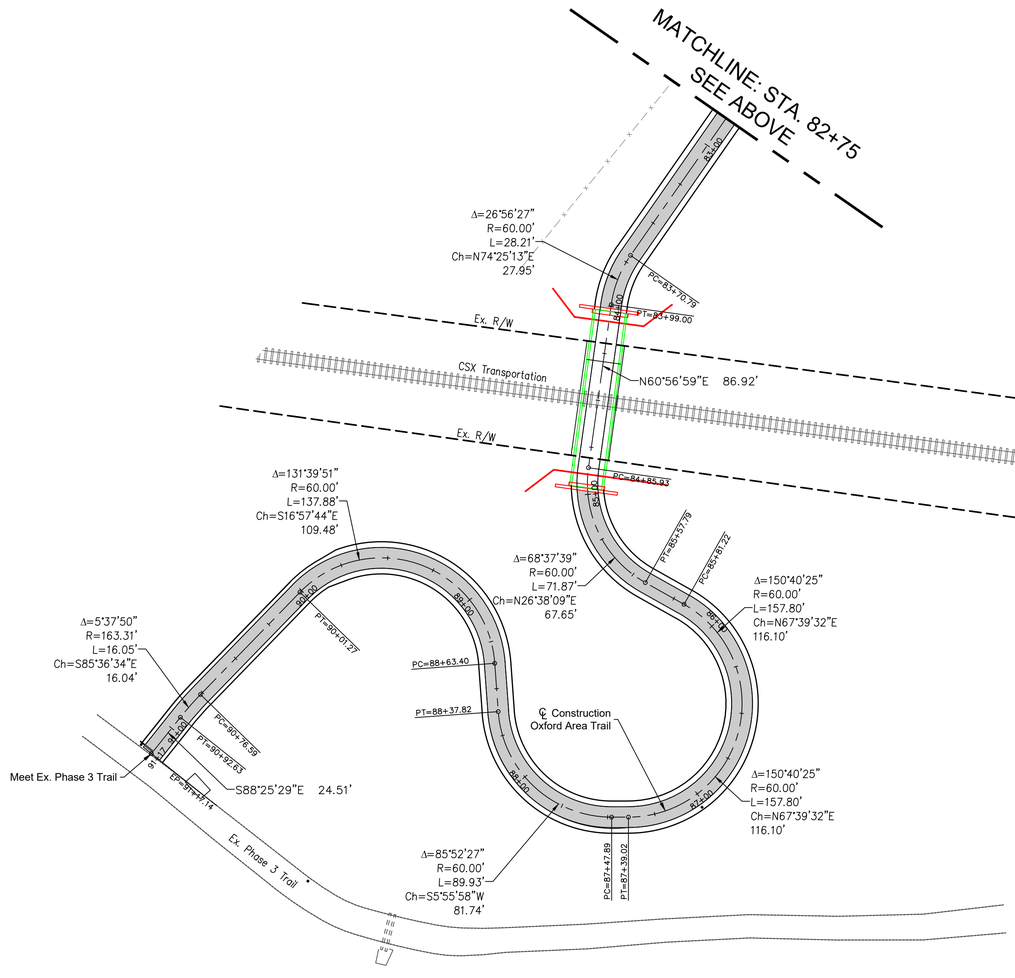
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Plot time: Jan 13, 2025 - 3:19pm
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BENCHMARK #3

A FOUND IRON PIN LOCATED AT THE NORTHWEST CORNER OF AN EXISTING FENCE LINE, APPROXIMATELY 825 FT EAST OF THE SOUTH END OF SILVERLEAF DR. SAID IRON PIN IS LOCATED AT STA. 73+29.54, 11.71' RT.

HORIZONTAL: ODOT VRS/RTK NETWORK
NAD83 OHIO STATE PLANE, SOUTH ZONE

VERTICAL: ODOT VRS/RTK NETWORK
NAVD88

N=551708.0265
E=1336305.6630
ELEVATION = 890.58

HORIZONTAL
0 40 60
SCALE: 1" = 40'

Item	Revision Description	Date	Drwn:	Chk:
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2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per CSX comments.	11-20-24	TAE	EMR
4	Revised per ODOT and City comments.	01-13-25	EMR	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

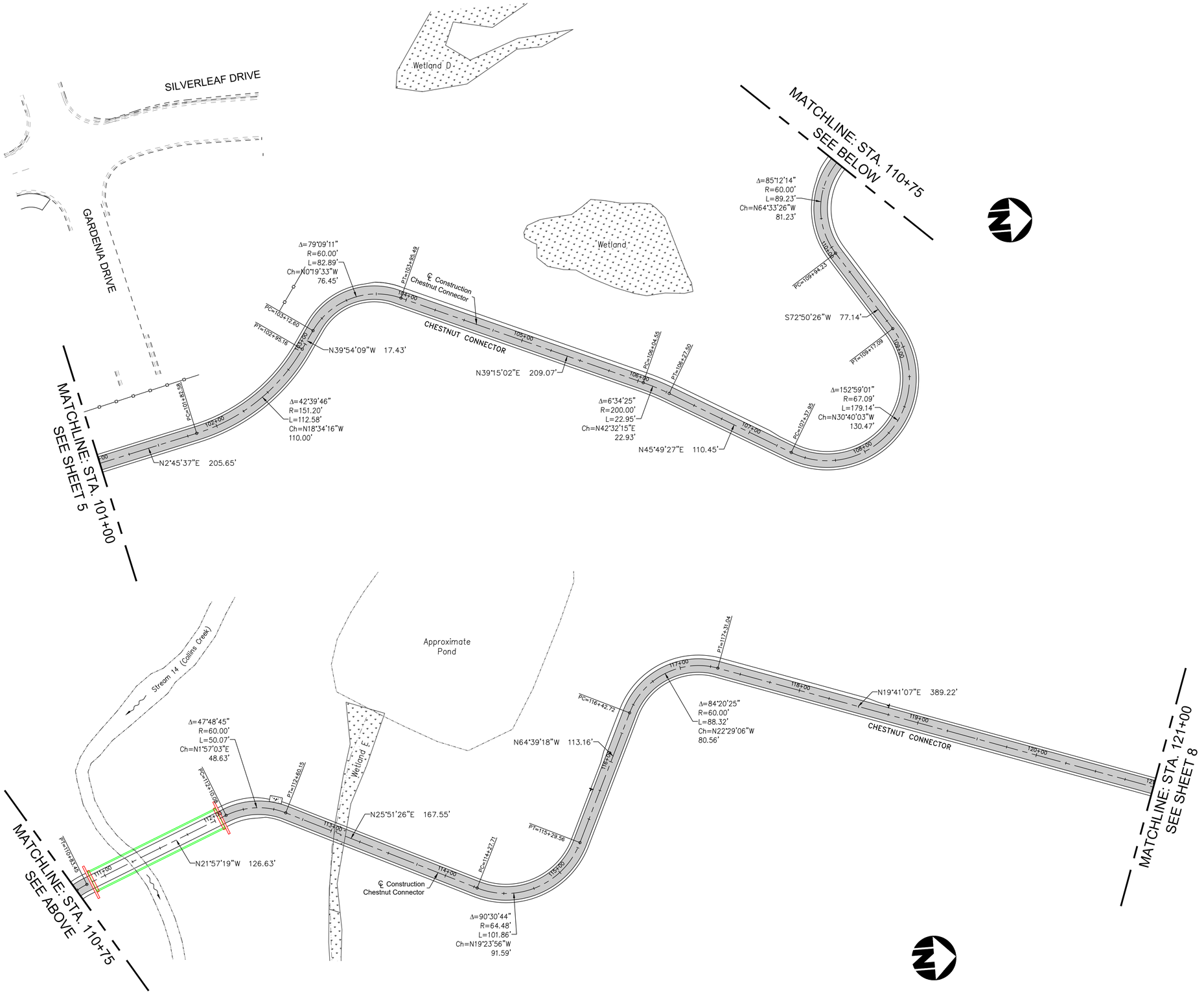
SCHEMATIC PLAN

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Plot time: Jan 13, 2025 - 3:38pm
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HORIZONTAL
0 40 60
SCALE: 1" = 40'

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2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	EMR	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

SCHEMATIC PLAN

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Drawing: 22-0273 SCHEMATIC CONN
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 7/161

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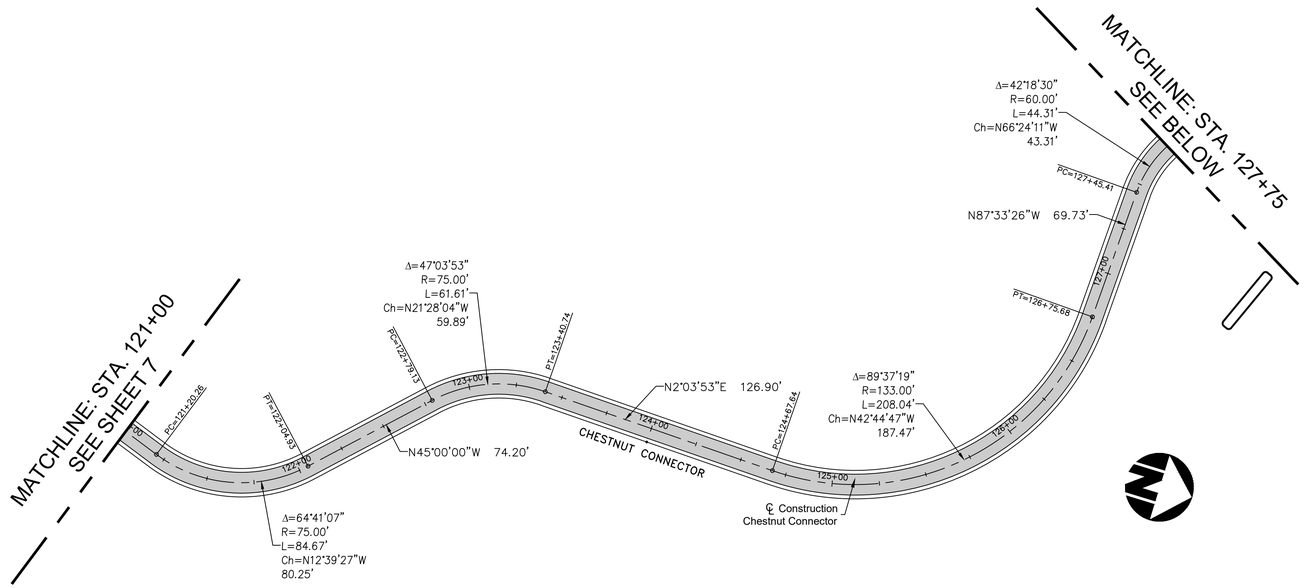
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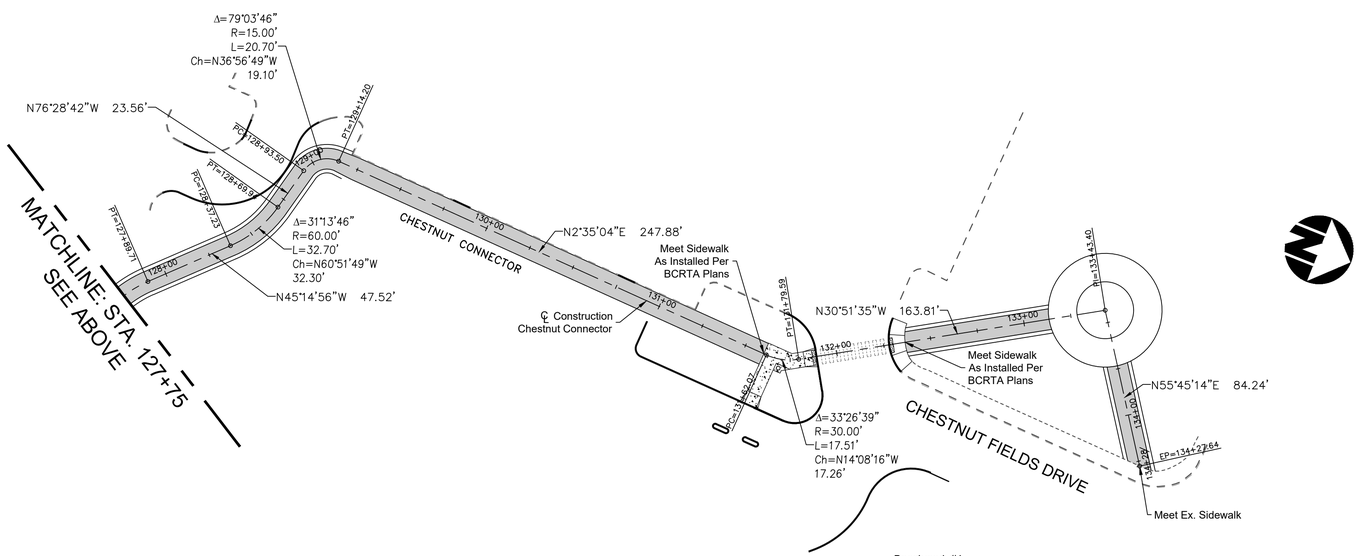
A FOUND IRON PIN LOCATED APPROXIMATELY 80 FT EAST OF EXISTING SOUTH BEECH ST DR APPROXIMATELY 160 FT SOUTH OF EXISTING W CHESTNUT ST, APPROXIMATELY 4.0' NORTH OF THE EXISTING PARKING LOT BACK OF CURB . SAID IRON PIN IS LOCATED AT STA. 131+92.71,116.84' LT.

HORIZONTAL: ODOT VRS/RTK NETWORK
NAD83 OHIO STATE PLANE, SOUTH ZONE

VERTICAL: ODOT VRS/RTK NETWORK
NAVD88

N=554252.2940
E=1335377.5239
ELEVATION = 903.74





HORIZONTAL
0 40 60
SCALE: 1" = 40'

Item	Revision Description	Date	Drwn.	Chk.
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2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	EMR	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

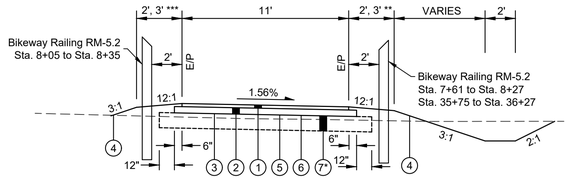
SCHEMATIC PLAN

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Drawing: 22-0273 SCHEMATIC CONN.
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 8/161

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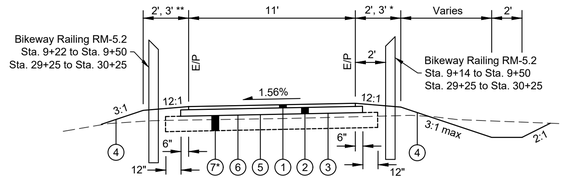


OXFORD AREA TRAIL TYPICAL SECTION

NOT TO SCALE

STA. 7+25 TO STA. 8+31.24
BRIDGE: STA. 8+31.24 TO STA. 9+17.76
STA. 34+75 TO STA. 35+75

** 3' - STA. 7+61 TO STA. 8+27
- STA. 35+75 TO STA. 36+27
*** 3' - STA. 8+05 TO STA. 8+35

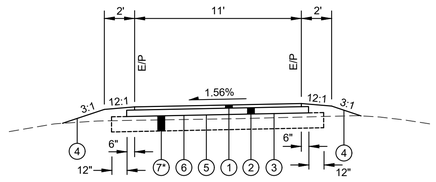


OXFORD AREA TRAIL TYPICAL SECTION

NOT TO SCALE

STA. 9+17.76 TO STA. 18+75
STA. 27+25 TO STA. 30+75
STA. 31+75 TO STA. 34+75

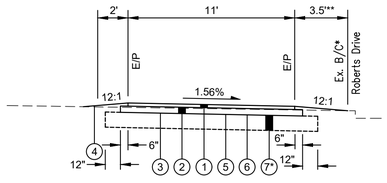
* 3' - STA. 9+14 TO STA. 9+50
- STA. 29+25 TO STA. 30+25
** 3' - STA. 9+22 TO STA. 9+50
- STA. 29+25 TO STA. 30+25



OXFORD AREA TRAIL TYPICAL SECTION

NOT TO SCALE

STA. 35+75 TO STA. 38+20
CHURCH CONNECTOR: STA. 38+20 TO STA. 38+57
STA. 38+57 TO STA. 43+17



OXFORD AREA TRAIL TYPICAL SECTION

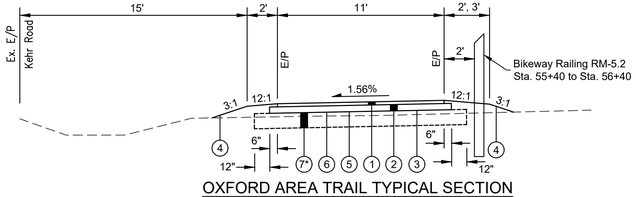
NOT TO SCALE

STA. 43+17 TO STA. 50+73.39

* CURB IS FUTURE FROM STA. 43+17.00 TO STA. 45+85.00
** VARIES 3.5' TO 21' FROM STA. 46+16.28 TO STA. 47+60.10

KEHR ROAD CROSSING

STA. 50+73.39 TO STA. 51+07.97

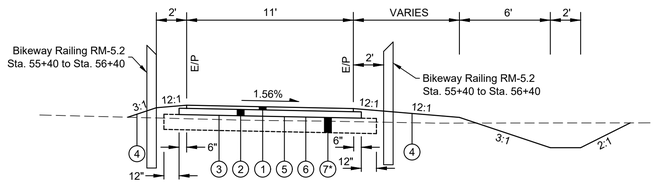


OXFORD AREA TRAIL TYPICAL SECTION

NOT TO SCALE

STA. 51+07.97 TO STA. 55+75.00

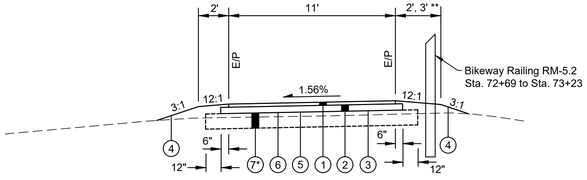
** 3' - STA. 55+30 TO STA. 55+75



OXFORD AREA TRAIL TYPICAL SECTION

NOT TO SCALE

STA. 0+00 TO STA. 7+25
STA. 18+75 TO STA. 27+25
STA. 30+75 TO STA. 31+75
STA. 55+75 TO STA. 70+25

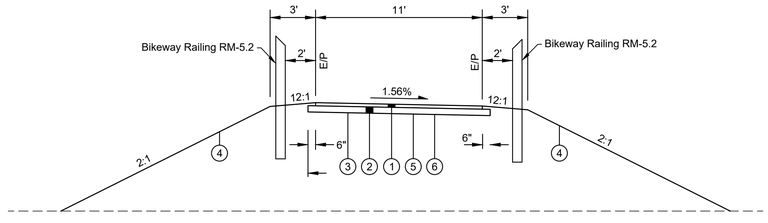


OXFORD AREA TRAIL TYPICAL SECTION

NOT TO SCALE

** 3' - STA. 72+69 TO STA. 73+23

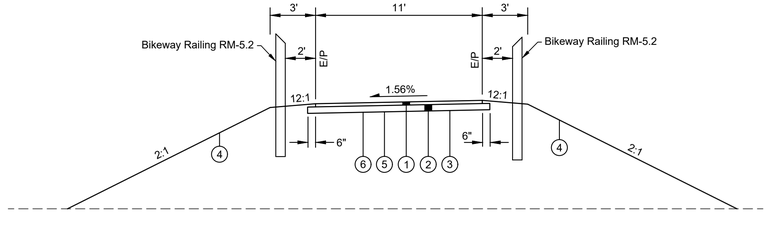
STA. 70+25 TO STA. 81+25
36" SUBGRADE EXCAVATION AND REPLACEMENT: STA. 77+00 TO STA. 80+75



OXFORD AREA TRAIL TYPICAL SECTION

NOT TO SCALE

STA. 81+25 TO STA. 84+01.07
BRIDGE: STA. 84+01.07 TO STA. 84+98.33
STA. 84+98.33 TO STA. 86+75



OXFORD AREA TRAIL TYPICAL SECTION

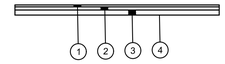
NOT TO SCALE

STA. 86+75 TO STA. 91+17.14

1. ITEM 441 - 2" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), PG64-22
2. ITEM 301 - 4" ASPHALT CONCRETE BASE
3. ITEM 204 - SUBGRADE COMPACTION
4. ITEM 659 - SEEDING AND MULCHING
5. SPECIAL - WEED PREVENTION HERBICIDE
6. ITEM 204 - PROOF ROLLING
7. ITEM 206 - CEMENT STABILIZED SUBGRADE, 12" DEEP

NOTES:

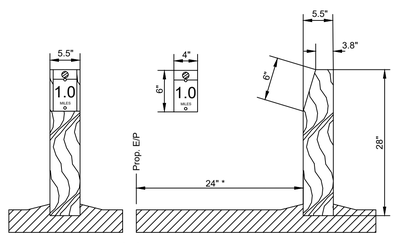
1. SEE CROSS SECTIONS FOR GRADING AND AREA OUTSIDE THE PROPOSED MULTI USE TRAIL.
2. ALL PAVEMENT CROSS SLOPE TRANSITIONS TO BE IN 20'.
3. ALL TRAILHEADS TO BE CONSTRUCTED OF ITEM 608 - 5" CONCRETE WALK.
4. SEE BMP SHEETS REGARDING LOCATIONS OF VEGETATED FILTER STRIPS.
5. CEMENT STABILIZED SUBGRADE IS NOT REQUIRED IN FILL SECTIONS OR WHERE SUBGRADE IS REPLACED (SEE CROSS SECTIONS).



FARM CROSSING PAVEMENT SECTION

NOT TO SCALE

1. ITEM 441 - 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
2. ITEM 441 - 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)
3. ITEM 304 - 6" AGGREGATE BASE
4. ITEM 204 - SUBGRADE COMPACTION



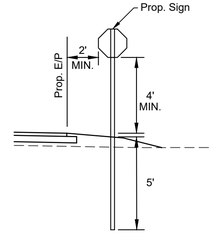
WOOD MILE MARKER

NOT TO SCALE

NOTES:

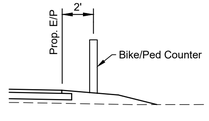
1. PROPOSED WOOD MILE MARKERS TO BE DESIGNED BY THE CITY OF OXFORD.
2. MILE MARKERS SHALL BE PLACED EVERY 0.10 MILES

* 18" WHERE MILE MARKER IS PROPOSED IN FRONT OF BIKE RAILING.



TRAIL SIDE SIGN DETAIL

NOT TO SCALE



BIKE/PED COUNTER DETAIL

NOT TO SCALE

SPECIAL - BIKE/PEDESTRIAN COUNTER, AS PER PLAN

BIKE/PEDESTRIAN COUNTERS SHALL BE URBAN MULTI COUNTERS, MANUFACTURED BY: ECO-COUNTER (ECO-COUNTER.COM) OR APPROVED EQUAL

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	10-07-24	CPT	EMR

BUT - OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

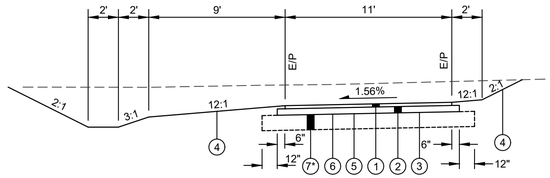
TYPICAL SECTIONS AND DETAILS

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 TYP SEC
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 9/161

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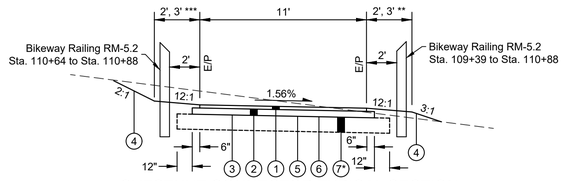
Plot time: Jan 13, 2025 - 4:44pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 TYP SEC.DWG - Layout Tab: 9 Typ



CHESTNUT CONNECTOR TYPICAL SECTION

NOT TO SCALE

STA. 99+76.93 TO STA. 103+75.00

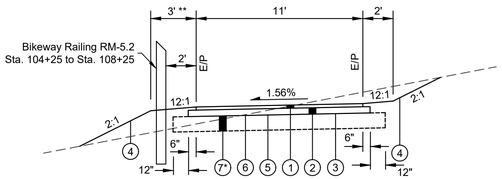


CHESTNUT CONNECTOR TYPICAL SECTION

NOT TO SCALE

STA. 108+25.00 TO STA. 110+88.20
BRIDGE: STA. 110+88.20 TO STA. 112+08.02

** 3' - STA. 109+39 TO 109+91
*** 3' - STA. 110+64 TO 110+88

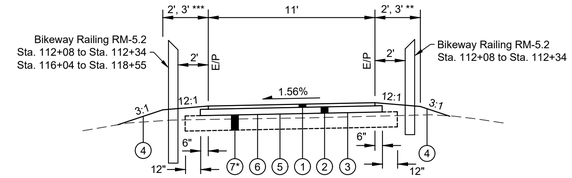


CHESTNUT CONNECTOR TYPICAL SECTION

NOT TO SCALE

STA. 103+75.00 TO STA. 107+25.00

** 3'-STA. 103+75 TO STA. 107+04



CHESTNUT CONNECTOR TYPICAL SECTION

NOT TO SCALE

STA. 112+08.02 TO STA. 122+75

** 3' - STA. 112+08 TO 112+34
*** 3' - STA. 112+08 TO 112+34
- STA. 116+04 TO 118+55

OXFORD AREA TRAIL TYPICAL SECTION

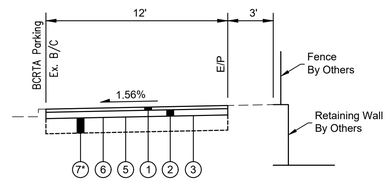
NOT TO SCALE

STA. 107+25.00 TO STA. 108+25.00

CHESTNUT CONNECTOR TYPICAL SECTION

NOT TO SCALE

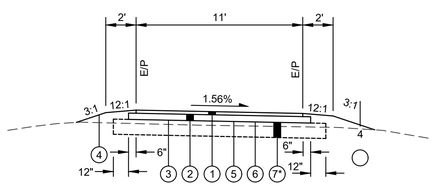
STA. 122+75 TO STA. 129+15.49



CHESTNUT CONNECTOR TYPICAL SECTION

NOT TO SCALE

STA. 129+15.49 TO STA. 131+61.90
BCRTA DRIVE CROSSING: STA. 131+61.90 TO STA. 132+37.66



CHESTNUT CONNECTOR TYPICAL SECTION

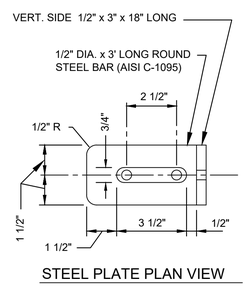
NOT TO SCALE

STA. 132+37.66 TO STA. 133+14.69
STA. 133+74.69 TO STA. 134+28.93

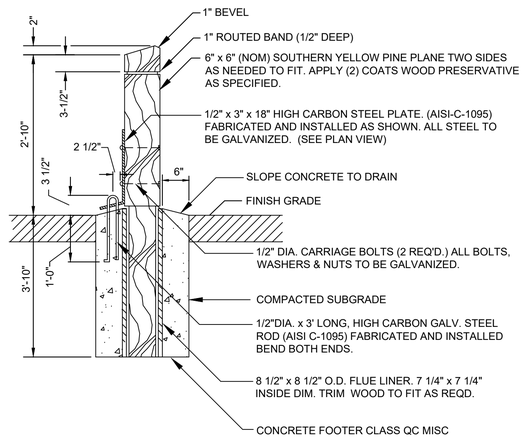
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NOTES:

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2. ALL PAVEMENT CROSS SLOPE TRANSITIONS TO BE IN 20'.
3. ALL TRAILHEADS TO BE CONSTRUCTED OF ITEM 608 - 5" CONCRETE WALK.
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5. CEMENT STABILIZED SUBGRADE NOT REQUIRED IN FILL SECTIONS OR WHERE SUBGRADE IS REPLACED (SEE CROSS SECTIONS).



STEEL PLATE PLAN VIEW



REMOVABLE WOOD BOLLARD

NOT TO SCALE

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	1-13-25	EMR	EMR

BUT - OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

TYPICAL SECTIONS AND DETAILS

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 TYP SEC
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
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Plot time: Jan 13, 2025 - 4:44pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 TYP SEC.DWG - Layout Tab: 10 Con Typ

GENERAL SPECIFICATION

THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS, DATED JANUARY 1, 2023, THE STATE OF OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) FOR STREETS AND HIGHWAYS, 2012 EDITION, THE UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, OR THE LATEST REVISIONS THEREOF, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED FOR THIS PROJECT, SHALL GOVERN THIS PROJECT, EXCEPT WHERE SPECIFICALLY MODIFIED OR AS SHOWN ON THE DRAWINGS.

CONSTRUCTION SEQUENCE

PHASE ONE: CONSTRUCT PROPOSED TRAIL BRIDGES.

PHASE TWO: REMOVE EXISTING ITEMS TO BE REMOVED AND DISPOSED AND CONSTRUCT PROPOSED TRAIL PAVEMENT.

PHASE THREE: INSTALL PROPOSED SIGNAGE AND STRIPING.

ALTERNATE METHODS

THE CONTRACTOR MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN WILL BE PUT INTO EFFECT UNTIL THE APPROVAL HAS BEEN GRANTED IN WRITING BY THE CITY'S PROJECT MANAGER.

ITEM 614 - MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE AT THE APPROVAL OF THE CITY. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE CITY SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ELEVATION DATUM

ALL ELEVATIONS BASED ON U.S.G.S. DATUM.

UNDERGROUND UTILITIES

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

GAS
GLENWOOD ENERGY
5181 COLLEGE CORNER PIKE
OXFORD, OH 45056
ATTN: NICOLE LEWIS
nicole@glenwoodenergy.com
(513) 523-2555

SANITARY SEWER
CITY OF OXFORD
WASTEWATER COLLECTION DIVISION
503 MCKEE AVENUE
OXFORD, OH 45056
ATTN: LEN WAGNER
lwagner@cityofoxford.org
(513) 523-2017

STORM WATER
CITY OF OXFORD
STREETS AND MAINTENANCE DIVISION
945 S. MAIN STREET
OXFORD, OH 45056
ATTN: ERIC KEEBLER
ekeebler@cityofoxford.org
(513) 523-8412

TELEPHONE
FRONTIER COMMUNICATIONS
10 MULBERRY STREET
BROOKVILLE, OH 45309
ATTN: CHARLES BERNACCHI
charles.bernacchi@ftr.com
(937) 833-0468

ELECTRIC
DUKE ENERGY
139 E. FOURTH STREET, ROOM 467
CINCINNATI, OH 45202
ATTN: SHERRY HARRISON
sherry.harrison@duke-energy.com
(513) 458-3821

WATER
CITY OF OXFORD
WATER DISTRIBUTION DIVISION
4935 TRENTON-OXFORD ROAD
OXFORD, OH 45056
ATTN: JOSH HATMAKER
(513) 523-5014

BUTLER RURAL ELECTRIC
3888 STILLWELL BECKETT ROAD
OXFORD, OH 45056
ATTN: MICHAEL MURRAY
mikem@butlerrural.coop
(513) 867-4420

CABLE
CHARTER COMMUNICATIONS
10920 KENWOOD ROAD
CINCINNATI, OH 45242
paul.biretta@charter.com
(513) 386-5808

WITNESSES AND BENCHMARKS

IT SHALL BE THE CONTRACTORS RESPONSIBILITY PRIOR TO BEGINNING CONSTRUCTION TO RESET CENTERLINE CONTROL WITNESSES AND BENCHMARKS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED AS DIRECTED BY THE ENGINEER UNLESS AUTHORIZED BY THE ENGINEER.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, TOPSOIL	583 CU. YD.
659, SEEDING AND MULCHING	17,579 SQ. YD.
659, REPAIR SEEDING AND MULCHING	1475 SQ. YD.
659, COMMERCIAL FERTILIZER	2.7 TON
659, WATER	159.2 M. GAL.

SEEDING AND MULCHING (CONTINUED)

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPE AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE PROJECT MANAGER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE PROJECT MANAGER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE PROJECT MANAGER.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE PROJECT MANAGER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE PROJECT MANAGER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ITEM 623 - CONSTRUCTION LAYOUT STAKES

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH AND VERIFY THE LAYOUT AND THE GRADES OF ALL SECTIONS OF THE PROJECT. THE CONTRACTOR SHALL FURNISH AND PLACE ALL ADDITIONAL STAKES FOR THIS PROJECT TO SECURE A CORRECT LAYOUT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE FINISH WORK CONFORM TO THE LINE, GRADES, ELEVATIONS, AND DIMENSIONS CALLED FOR IN THE PLANS. ONCE THE CENTERLINE HAS BEEN STAKED, THE CONTRACTOR SHALL CONTACT THE PROJECT MANAGER TO INSPECT THE LAYOUT PRIOR TO CONSTRUCTION. PAYMENT FOR THIS ITEM WILL BE THE LUMP SUM BID FOR ITEM 623, CONSTRUCTION LAYOUT STAKES.

CLEARING AND GRUBBING, AS PER PLAN

REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN. ALL TREES SLATED FOR REMOVAL MUST BE MARKED IN THE FIELD AND APPROVED BY THE CITY OF OXFORD'S PROJECT MANAGER PRIOR TO REMOVAL. TREES THAT HAVE BEEN CUT DOWN ARE TO REMAIN IN THE PROJECT AREA. CUT TREES ARE TO BE PLACED ON EITHER SIDE OF THE TRAIL, A MINIMUM OF 5 FEET FROM THE TRAIL. ALL BRUSH SHALL BE REMOVED FROM THE PROJECT AREA BY CONTRACTOR.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF SECTION 203.05

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING (CONTINUED)

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

1. COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.
2. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.

3. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
4. PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.
5. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

SPECIAL - CONSTRUCTION ENTRANCE

ALLOWABLE CONSTRUCTION ACCESS INCLUDES THE FOLLOWING AREAS:

- ACCESS OFF OF SOUTH END OF DAVID DRIVE STUB.
- ACCESS OFF OF WEST END OF ROBERTS DRIVE STUB.
- ACCESS OFF OF SOUTH END OF SILVERLEAF DRIVE STUB.
- ACCESS THROUGH THE OXFORD CITY GARAGE AND EXISTING GRAVEL ACCESS DRIVE, OWNED BY THE CITY OF OXFORD.
- FROM PEFFER PARK ALONG EXISTING PHASE 3 TRAIL, OWNED BY MIAMI UNIVERSITY.

IMPACT TO ADJACENT AREAS AND PROPERTY SHALL BE KEPT TO A MINIMUM.

CONSTRUCTION ENTRANCES TO BE 8" AGGREGATE BASE IN ACCORDANCE WITH ITEM 832, CONSTRUCTION ENTRANCE. PAYMENT SHALL BE MADE UNDER BID ITEM 832, EROSION CONTROL AND SHALL INCLUDE ALL MATERIAL NEEDED TO CONSTRUCT ALL CONSTRUCTION ENTRANCES AND RESTORATION OF THE AREAS TO THE PRE-CONSTRUCTION STATE.

TREE PROTECTION AND ROOT PRUNING

THIS ITEM SHALL CONSIST OF FURNISHING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO PROTECT THOSE TREES DESIGNATED TO REMAIN ON THE SITE. PROTECTION OF DESIGNATED TRESS SHALL INCLUDE DIRECTING HEAVY CONSTRUCTION WORK ACTIVITY AWAY FROM THE PROTECTED TREES AND PROTECTING TREES THAT INTERFERE WITH OR ARE AFFECTED BY EXECUTION OF THE WORK, WHETHER TEMPORARY OR NEW CONSTRUCTION.

MATERIALS FOR TREE/VEGETATION PROTECTION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. MESH CONSTRUCTION FENCING
2. CEDAR POSTS (MINIMUM LENGTH OF 6 FEET)
3. #14 GAUGE STEEL WIRE.

TREE TRUNK PROTECTION: THE CONTRACTOR SHALL PROVIDE 2 INCHES BY 8 INCHES BY 8 FT BOARDS, BANDED CONTINUOUSLY AROUND EACH TRUNK TO PREVENT SCARRING OF TREES SHOWN ON THE PLANS OR DESIGNATED BY CITY. FOR MULTI-STEM TREES, SAPLINGS AND SHRUBS TO BE PROTECTED WITHIN THE AREA OF CONSTRUCTION, TEMPORARY FENCING MAY BE USED FOR TRUNK PROTECTION.

ROOT ZONE PROTECTION: DURING THE ENTIRE CONSTRUCTION PERIOD ALL REASONABLE EFFORTS SHALL BE MADE TO PROTECT FROM DAMAGE THOSE TREES AND THEIR ROOT SYSTEM DESIGNATED TO REMAIN. AROUND THE TREES TO BE PROTECTED, THE CONTRACTOR SHALL AVOID EXCESSIVE EXCAVATION OR COMPACTION AND DAMAGE DURING THE REMOVAL OF TREES AND VEGETATION DESIGNATED TO BE REMOVED. ALL PLANT MATERIAL DESIGNATED TO BE SAVED, OR OUTSIDE OF THE LIMITS OF CONSTRUCTION, SHALL BE PROTECTED DURING SUBSEQUENT CONSTRUCTION WORK.

WHERE EXCAVATION FOR NEW CONSTRUCTION IS REQUIRED WITHIN DRIP LINES OF TREES, HAND CLEAR AND EXCAVATE TO MINIMIZE DAMAGE TO ROOT SYSTEMS. USE NARROW-TINE SPADING FORKS AND COMB SOIL TO EXPOSE ROOTS.

1. RELOCATE ROOTS IN BACKFILL AREAS WHERE POSSIBLE. IF ENCOUNTERING LARGE, MAIN LATERAL ROOTS, EXPOSE ROOTS BEYOND EXCAVATION LIMITS AS REQUIRED TO BEND AND RELOCATE THEM WITHOUT BREAKING. IF ENCOUNTERED IMMEDIATELY ADJACENT TO LOCATION OF NEW CONSTRUCTION AND RELOCATION IS NOT PRACTICAL; CUT ROOTS APPROXIMATELY 3 INCHES (75MM) BACK FROM NEW CONSTRUCTION).

2. DO NOT ALLOW EXPOSED ROOTS TO DRY OUT BEFORE PLACING PERMANENT BACKFILL. PROVIDE TEMPORARY EARTH COVER OR PACK WITH PEAT MOSS AND WRAP WITH BURLAP. WATER AND MAINTAIN IN A MOIST CONDITION.

3. DO NOT ALLOW HEAVY EQUIPMENT IN TREE PROTECTION AREAS. ALL EXCAVATION WORK IS TO BE PERFORMED BY HAND.

ROOT PRUNING: SHALL TAKE PLACE ONLY WHERE THE ROOTS OF EXISTING TREES HAVE BEEN DAMAGED BY THE CONTRACTOR. DO NOT CUT MAIN LATERAL ROOTS; CUT ONLY SMALLER ROOTS THAT INTERFERE WITH INSTALLATION OF CONSTRUCTION. CUT ROOTS WITH SHARP PRUNING INSTRUMENTS; DO NOT BREAK OR CHOP.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

ITEM 607 - FENCE REBUILT

CAREFULLY RECONDITION AND RE-ERECT FENCE AND COMPONENT PARTS AS DETAILED ON THE PLANS. DO NOT DAMAGE THE FENCE OR COMPONENT PARTS. ANY NEW PARTS WHICH ARE NEEDED, AS DETERMINED BY THE ENGINEER, WILL BE SUPPLIED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

THE AMOUNT OF REBUILT FENCE TO BE PAID FOR WILL BE THE NUMBER OF FEET REBUILT, COMPLETE IN PLACE, AND MEASURED AS PROVIDED FOR IN SECTION 607.09 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).

PAYMENT FOR THE ABOVE WILL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 607, FENCE REBUILT.

ITEM SPECIAL - STANDARD ROUND PET WASTE STATION

ITEM SPECIAL - STANDARD ROUND PET WASTE STATION SHALL CONSIST OF FURNISHING AND INSTALLING A STANDARD ROUND PET WASTE STATION, 5 GALLON CAPACITY WITH A STEEL SIGN MANUFACTURED BY TREETOP PRODUCTS, BARCO PRODUCTS OR APPROVED EQUAL. SPECIFIC REQUIREMENTS ARE AS FOLLOWS:

1. PET WASTE STATION SHALL CONSIST OF A DUAL-BAG DISPENSER, RECEPTACLE AND POST MADE OF RECYCLED PLASTIC.
2. 12"X18" STEEL SIGN WITH "PLEASE PICK UP AFTER YOUR PET, THANK YOU." MESSAGE
3. HINGED TOP DUAL BAG DISPENSER, 400 BAG CAPACITY (2 ROLLS) WITH STAINLESS STEEL PADLOCK.
4. 5 GALLON ROUND WASTE DISPENSER WITH HINGED LID AND LINER.
5. UV AND MOISTURE RESISTANT.
6. SURFACE MOUNTED.
7. 69" HEIGHT.

PAYMENT FOR ITEM SPECIAL - STANDARD ROUND PET WASTE STATION, SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED HARDWARE.

ITEM SPECIAL - BIKE RACK

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A SURFACE MOUNTED PARK-IT POWDER-COATED STEEL BIKE RACK, 5 BIKE CAPACITY MANUFACTURED BY TREETOP PRODUCTS, BARCO PRODUCTS OR APPROVED EQUAL. SPECIFIC REQUIREMENTS ARE AS FOLLOWS:

1. POWDER-COATED STEEL IN BLACK ONYX.
2. 1-7/8" OD 11 GAUGE ROUND STEEL TUBING.
3. SURFACE MOUNTED WITH COVERS FOR THE MOUNTING HARDWARE.
4. 36" HEIGHT.

PAYMENT FOR ITEM SPECIAL - BIKE RACK, SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED HARDWARE.

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SM	EMR
4	Revised per ODOT and City comments.	02-03-25	SM	EMR
5	Revised per Provider Notes.	02-03-25	SM	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

GENERAL NOTES

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 GEN NOTES & SUM
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 11/161

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Plot time: Feb 25, 2025 - 8:10am
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 GEN NOTES & SUM.DWG - Layout Tab: 11 Gen Notes

ITEM 631 - CROSSING SIGN ASSEMBLY WITH WARNING BEACON, SOLAR POWERED

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A CROSSING SIGN ASSEMBLY, WITH SUPPLEMENTAL WARNING BEACON, POWERED BY BATTERIES AND RECHARGED BY SOLAR PANELS.

THE SIGN ASSEMBLY AND FLASHER SHALL MEET THE REQUIREMENTS SET FORTH IN THE OMUTCD. THE SIGN SIZE SHALL BE 30" X 30" AND SIGN CODE W11-15 WITH SIGN 16-7P, 24"x12".

THE FLASHER CONTROL AND BATTERY SHALL BE HOUSED IN ONE OR MORE STAINLESS STEEL OR ALUMINUM ENCLOSURES WITH A NEMA RATING OF AT LEAST 3R. ENCLOSURE EXTERIOR SURFACES SHALL BE BARE OR POWDER COAT ALUMINUM OR STAINLESS STEEL. THE ENCLOSURE INTERIOR SURFACES SHALL BE THE SAME AS THE EXTERIOR.

IF CONTAINED IN A SINGLE ENCLOSURE, THE CONTROL ELECTRONICS AND BATTERY SHALL BE SEPARATED IN A MANNER TO PREVENT DAMAGE TO THE CONTROL ELECTRONICS IF THE BATTERY ENVELOPE IS COMPROMISED.

LED SIGNAL BEACONS MEETING THE CURRENT ITE VEHICLE TRAFFIC CONTROL SIGNAL HEADS (VTCSH) STANDARD SHALL BE USED UNLESS OTHERWISE SPECIFIED. THE MANUFACTURER OF THE SIGNAL BEACON SHALL BE LISTED ON THE DEPARTMENT'S QUALIFIED PRODUCTS LIST FOR LED SIGNAL LAMPS. A MINIMUM 8-INCH BEACON SHALL BE USED.

THE SOLAR PANEL OR SOLAR PANEL CONTROLLER MANUFACTURER SHALL PROVIDE SIGNED COPIES OF CALCULATIONS USED TO SIZE THE SOLAR PANEL AND BATTERIES. INCLUDED IN THESE CALCULATIONS SHALL BE THE INSOLATION VALUE USED AND ITS SOURCE, THE SOLAR PANEL EFFICIENCY, CHARGER/CONTROLLER EFFICIENCY, INVERTER EFFICIENCY, PROPOSED LED LAMP LOAD, AND A FIGURE REPRESENTING ANTICIPATED MISCELLANEOUS LOSSES.

THE SOLAR PANEL MANUFACTURER SHALL TEST THE PANELS ACCORDING TO IEC61215 OR EQUIVALENT APPROVED STANDARD. SOLAR PANEL MOUNTING MUST BE RATED FOR 90 MPH DESIGN WIND.

RUN REQUIREMENTS FOR ASSEMBLIES ARE 24 HOURS PER DAY FOR TWO WEEKS UNDER CONTINUOUS WORST-CASE (MINIMUM) INSOLATION FIGURES (USUALLY DECEMBER) FOR THE PROPOSED GEOGRAPHIC LOCATION, USING A PANEL ELEVATION ANGLE APPROPRIATE TO THE SITE LATITUDE, AT A SUSTAINED TEMPERATURE OF 25 DEGREES FAHRENHEIT (-4 DEGREES CELSIUS).

IF VOLTAGES OVER 50V AC OR DC ARE PRESENT, GROUNDING AND BONDING REQUIREMENTS SPECIFIED IN THE ODOT TEM SHALL BE FOLLOWED.

THE SOLAR PANELS SHALL BE PLACED SUCH THAT EACH RECEIVES FULL AVAILABLE SUNLIGHT AT ALL TIMES, AND SHALL NOT BE OBSTRUCTED BY TREES, SIGNS OR OTHER OBJECTS.

PAYMENT FOR 631 CROSSING SIGN ASSEMBLY WITH WARNING BEACON, SOLAR POWERED SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS AND OTHER INCIDENTALS NECESSARY TO FURNISH THE SOLAR POWERED SCHOOL ZONE FLASHER COMPLETE IN PLACE, INCLUDING ALL CONNECTIONS MADE, WIRING COMPLETE, TESTED AND ACCEPTED.

ITEM 608 DETECTABLE WARNING, AS PER PLAN

DETECTABLE WARNINGS TO BE INSTALLED AT LOCATIONS NOTED IN PLANS, WHICH ARE NOT PART OF A PROPOSED CURB RAMP.

ITEM 609 COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN
ITEM 609 CURB, TYPE 6, AS PER PLAN

CONCRETE CURB SHALL BE DEPRESSED TO ACCOMMODATE CURB RAMP.

SPECIAL - HERBICIDE FOR WEED CONTROL

HERBICIDE SHALL BE COMMERCIAL CHEMICAL FOR WEED CONTROL, REGISTERED BY EPA. PROVIDE IN GRANULAR, LIQUID, OR WETTABLE POWDER FORM.

APPLY HERBICIDE ACCORDING TO MANUFACTURER'S RECOMMENDED RATES AND WRITTEN APPLICATION INSTRUCTIONS. APPLY TO DRY, PREPARED SUBGRADE OR SURFACE OF COMPACTED AGGREGATE BASE BEFORE APPLYING PAVING MATERIALS.

CONTRACTOR SHALL TREAT THE AREA WITHIN THE CONSTRUCTION LIMITS WITH A WEED PREVENTION HERBICIDE PRIOR TO PLACEMENT OF PAVEMENT.

ITEM SPECIAL - VEGETATIVE BUFFER

A VEGETATIVE BUFFER SHALL BE LOCATED ALONG THE NORTH SIDE OF THE MULTI-USE PATH ADJACENT TO THE SILVERLEAF MEADOW SUBDIVISION, AS NOTED WITHIN THE PLAN. THE BUFFER SHALL CONSIST OF A MIX OF NATIVE AND ADAPTIVE PLANTS TO SUPPORT WILDLIFE, WHILE BEING MINDFUL OF LONG-TERM MAINTENANCE REQUIREMENTS. TREES AND SHRUBS SHALL BE SELECTED REFERENCING THE CITY OF OXFORD'S APPROVED TREE LIST AND OTHER LOCAL RESOURCES. THE LAYOUT AND SPACING OF THE BUFFER PLANTS WILL MIMIC NATURE, WHILE PROVIDING VISUAL BUFFER BETWEEN THE MULTI-USE PATH AND SINGLE-FAMILY RESIDENTIAL HOMES. SEE SHEETS 37a TO 37b FOR PLANTING PLANS AND DETAILS.

ITEM 659 - SEEDING AND MULCHING, CLASS 1, AS PER PLAN

ALL SEEDING SHALL BE A CLASS I LAWN MIXTURE.

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN

ALL SEEDING TO BE PLACED ON THE SLOPES BETWEEN STA. 81+00 AND STA. 91+17 SHALL BE COCOFLEX EXTENDED TERM FLEXIBLE GROWTH MEDIUM (ET-FGM). ECONO NATIVE TALL MEADOW MIX FROM OPN SEED TO BE INCORPORATED INTO THE COCOFLEX ET-FGM AND SHOULD BE INSTALLED AND MAINTAINED AS SPECIFIED BY THE MANUFACTURER'S INSTRUCTIONS. ALTERNATIVE SEED MIXTURE SHALL BE CONSIDERED WITH ENGINEER'S APPROVAL.

CSX TRANSPORTATION COORDINATION NOTES

REFER TO THE CSX TRANSPORTATION PUBLIC PROJECT INFORMATION MANUAL FOR ADDITIONAL REQUIREMENTS NEEDED FOR WORKING ON/ABOVE/ADJACENT TO CSXT. SPECIFIC SECTIONS THAT PERTAIN TO THIS PROJECT ARE SPECIAL PROVISIONS FOR CONSTRUCTION NEAR CSXT PROPERTY, OVERHEAD BRIDGE CRITERIA, CONSTRUCTION SUBMISSION CRITERIA, AND INSURANCE REQUIREMENTS FOR PUBLIC PROJECTS.

CONTRACTOR ACCESS WILL BE LIMITED TO THE IMMEDIATE PROJECT AREA ONLY. THE CSXT RIGHT-OF-WAY OUTSIDE THE PROJECT AREA MAY NOT BE USED FOR CONTRACTOR ACCESS TO THE PROJECT SITE AND NO TEMPORARY AT-GRADE CROSSINGS WILL BE ALLOWED.

THE CONTRACTOR WILL BE REQUIRED TO ABIDE BY THE PROVISIONS OF THE AGENCY/CSXT CONSTRUCTION AGREEMENT. PERIODICALLY, THROUGHOUT THE PROJECT DURATION, THE CONTRACTOR MAY BE REQUIRED TO MEET, DISCUSS AND, IF NECESSARY, TAKE IMMEDIATE ACTION AT THE DISCRETION OF CSXT PERSONNEL AND/OR THEIR AUTHORIZED REPRESENTATIVE, TO COMPLY WITH PROVISIONS OF THAT AGREEMENT AND THESE SPECIFICATIONS.

IT IS THE RESPONSIBILITY OF THE INDIVIDUAL OWNERS OF WIRELINES, PIPELINES, UTILITIES, ETC. TO COORDINATE DIRECTLY WITH CSXT REAL ESTATE AND FACILITIES MANAGEMENT (REFM) GROUP. THIS INCLUDES ALL NEW INSTALLATIONS AND THE ADJUSTMENT, MODIFICATION, REMOVAL OR RETIREMENT IN PLACE OF ALL EXISTING FACILITIES.

THE CONTRACTOR MAY NOT USE CSXT RIGHT-OF-WAY FOR STORAGE OF MATERIALS OR EQUIPMENT DURING CONSTRUCTION WITHOUT PRIOR CSXT APPROVAL. THE CSXT RIGHT-OF-WAY MUST ALWAYS REMAIN CLEAR FOR RAILROAD USE. EQUIPMENT MAY NOT BE POSITIONED TO BLOCK THE RAILROAD ACCESS ROAD, TRACK AREA OR ANY PART OF THE CSXT RIGHT-OF-WAY WITHOUT PRIOR CSXT APPROVAL. ALL MOVEMENTS OF EQUIPMENT WITHIN RAILROAD RIGHT-OF-WAY MUST BE COORDINATED WITH THE RAILROAD FLAGGER.

THE ROADWAY AUTHORITY, OR DESIGNATED CONTRACTOR, SHALL COORDINATE WITH THE RAILROAD WHENEVER THE CONTRACTOR'S WORK ACTIVITIES ARE LOCATED OVER, UNDER OR WITHIN THE RAILROAD'S RIGHT-OF-WAY.

ANY DAMAGE CAUSED BY THE PROJECT WORK TO THE TRACK OR RAILROAD PROPERTY WILL REQUIRE REPAIR IMMEDIATELY UPON NOTIFICATION FROM THE RAILROAD OR THEIR DESIGNATED REPRESENTATIVE. IF THE DAMAGE AFFECTS THE TRACK, TRACK STRUCTURE, RAILROAD FACILITIES, OR TRAIN OPERATIONS AS DETERMINED BY THE RAILROAD, THE REPAIRS WILL BE PERFORMED BY THE RAILROAD AT THE CONTRACTOR'S EXPENSE INCLUDING ALL ASSOCIATED COSTS OF DELAYS TO THE RAILROAD.

DURING TRAIN MOVEMENTS THROUGH THE PROJECT LOCATION, VEHICLES, EQUIPMENT, AND PERSONNEL WILL NOT BE ALLOWED TO OPERATE WITHIN TWENTY-FIVE (25) FEET OF THE TRACK.

CSXT SHALL BE NOTIFIED AT LEAST FIVE (5) DAYS IN ADVANCE OF THE PRE-CONSTRUCTION MEETING.

THE CONTRACTOR SHALL COORDINATE ALL WORK ON, OVER OR ADJACENT TO THE RAILROADS WITHIN THE PROJECT'S LIMITS. THE CONTRACTOR SHALL CONTACT CSX TRANSPORTATION AT LEAST THIRTY (30) DAYS IN ADVANCE IN ORDER TO COORDINATE THE NECESSARY WORK. UNDER NO CIRCUMSTANCES SHALL THERE BE ANY WORK WITHIN THE RAILROAD RIGHT-OF-WAY WITHOUT THE PROPER AUTHORIZATION AND/OR FLAG PROTECTION FROM THE RAILROAD.

THE USE OF ACETYLENE GAS IS PROHIBITED FOR USE ON OR OVER CSX PROPERTY. TORCH CUTTING SHALL BE PERFORMED UTILIZING OTHER MATERIALS SUCH AS PROPANE.

CSXT REQUIRES THAT THE CONTRACTOR SUBMIT AND RECEIVE ACCEPTANCE OF A COMPREHENSIVE MEANS & METHODS SUBMITTAL (CSXT CONSTRUCTION SUBMISSION CRITERIA, ISSUED MAY 2023) DETAILING SCOPE WORK WITHIN CSXT TRACKS OR RIGHT-OF-WAY, OR OTHER WORK WHICH PRESENTS THE POTENTIAL TO AFFECT CSXT PROPERTY OR OPERATIONS TO UNDERTAKING THE WORK.

SUBSTRUCTURE FOUNDATION EXCAVATION AND CONSTRUCTION THAT MAY REQUIRE SHORING OR OTHER PROTECTION OF RAILROAD TRACK(S).

INSTALLATION OF PILES AND SHEETING FOR ABUTMENT FOUNDATIONS, PIER FOUNDATIONS, RETAINING WALL FOUNDATIONS, TEMPORARY AND PERMANENT SHORING AND OTHER STRUCTURES ON OR ADJACENT TO CSX'S RIGHT-OF-WAY, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT A DETAILED TRACK MONITORING PROGRAM FOR CSX'S APPROVAL PRIOR TO PERFORMING ANY WORK NEAR CSX'S RIGHT-OF-WAY.

CONTRACTOR SHALL VERIFY THE EXISTING TOP OF RAIL ELEVATIONS RELATIVE TO PLAN BENCHMARKS TO ENSURE DESIGNED RAILROAD MINIMUM VERITCAL CLEARANCE IS ACHIEVED.

THE CONTRACTOR SHALL SUBMIT A DETAILED PROCEDURE FOR ERECTING OVER OR ADJACENT TO CSX'S TRACKS OR RIGHT-OF-WAY. THE PROCEDURE SHALL CLEARLY INDICATE THE CAPACITY OF CRANES, LOCATION OF CRANES WITH RESPECT TO THE TRACKS AND CALCULATED LIFTING LOADS. THE ERECTION PROCEDURE MUST BE APPROVED BY CSX'S CONSTRUCITON ENGINEERING AND INSPECTION REPRESENTATIVE. GIRDERS OR GIRDER SYSTEMS SHALL BE STABLE AT ALL TIMES DURING ERECTION. NO CRANE MAY UNHOOK PRIOR TO STABILIZING THE BEAM OR GIRDER.

ALL LIFTING EQUIPMENT AND CONNECTION DEVICES SHALL HAVE A CAPACITY FOR 150% OF THE ACTUAL LIFTING LOAD. THE FACTOR OF SAFETY PROVIDED BY THE MANUFACTURER IN THE LIFTING CAPACITY DATA SHALL NOT BE CONSIDERED IN THE 150% REQUIREMENT.

DURING BEAM ERECTION AND PRIOR TO PERMANENTLY INSTALLING ANCHOR DOWELS / TIE RODS, AND CONSTRUCTING CONCRETE DECK, THE CONTRACTOR SHALL FIELD VERIFY THE VERITCAL CLEARANCE OVER EXISTING RAILROAD TRACKS AT EXTERIOR EDGE OF FASCIA BEAMS. THE VERTICAL CLEARANCE SHALL BE MEASURED FROM TOP OF RAILS TO THE LOWEST OBSTRUCTION, WITHIN SIX FEET (6'-0") OF THE TRACK CENTERLINE, IN EITHER DIRECTION.

IF THE MINIMUM VERTICAL CLEARANCE OVER RAILROAD TRACKS IS LESS THAN 23'-0" AT ANY LOCATION, NOTIFY THE ENGINEER FOR FURTHER EVALUATION. THE ENGINEER WILL DETERMINE IF INSTALLING SHIM PLATES AND / OR BEAING LOAD PLATE MODIFICATIONS ARE REQUIRED.

TEMPORARY CONSTRUCTION CLEARANCES (HORIZONTAL & VERTICAL) PROPOSED - FOR EXISTING OR LESS THAN STANDARD CONDITIONS - SHALL BE SUBJECT TO APPROVAL BY CSXT. TYPICALLY REDUCTION IN CONSTRUCTION CLEARANCES ARE NOT PERMITTED.

PER CSXT SOIL AND WATER MANAGEMENT POLICY, CSXT REQUIRES ALL SPOILS GENERATED AND NOT REUSED FROM WITHIN THE PROPERTY TO BE PROPERLY DISPOSED IN A RAILROAD APPROVED DISPOSAL FACILITY. THE MANAGEMENT OF SOILS GENERATED FROM CSXT PROPERTY SHOULD BE PLANNED FOR AND PROPERLY PERMITTED (IF APPLICABLE) PRIOR TO INITIATING ANY WORK ON RAILROAD'S PROPERTY. CSXT ENVIRONMENTAL DEPARTMENT WILL HANDLE WASTE CHARACTERIZATION AND PROFILING FOR DELIVERY TO AN APPROVED FACILITY.

DURING AND AFTER COMPLETION OF CONSTRUCTION, THE OUTSIDE PARTY OR ITS CONTRACTOR SHALL CLEAR CSXT'S DRAINAGE DITCHES OF ALL DEBRIS TO THE SATISFACTION OF CSXT'S CONSTRUCTION MONITORING REPRESENTATIVE.

A WORK SITE SAFETY PLAN THAT INCLUDES A RECOGNITION TO KEEP ALL PERSONNEL FROM FOULING CSXT RAIL OPERATIONS, A FALL PROTECTION PLAN DESCRIBING THE MEASURES TO BE TAKEN WHEN REQUIRED, AND A FIRE PROTECTION PLAN SHALL BE PRESENTED AND ACCEPTED BY CSXT FOR WORK ON, OVER OR ADJACENT CSXT PROPERTY.

ALL WASTE MATERIALS GENERATED BY THIS PROJECT, INCLUDING WASHING WITH CLEANING SOLVENTS, BLASTING, SCRAPING, BRUSHING AND/OR PAINTING OPERATIONS, SHALL BE THE RESPONSIBILITY OF THE AGENCY OR ITS CONTRACTOR, AND SHALL BE CONTAINED, COLLECTED AND PROPERLY DISPOSED OF BY THE STATE OR ITS CONTRACTOR. THE STATE AND ITS CONTRACTOR AGREE TO FULLY COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS, REGULATIONS, STATUTES AND ORDINANCES AT ALL TIMES.

CSXT MAY REQUIRE FULL TIME RAILROAD FLAGGING FOR ANY PROJECT TASKS THAT MAY HAVE THE POTENTIAL TO FOUL THE TRACK OR CAUSE A HAZARD TO TRAIN MOVEMENTS.

CSXT HAS SOLE AUTHORITY TO DETERMINE THE NEED FOR TRACK PROTECTION REQUIRED TO PROTECT ITS OPERATIONS AND PROPERTY. IN GENERAL, TRACK PROTECTION WILL BE REQUIRED WHENEVER CONTRACTOR OR EQUIPMENT ARE, OR ARE LIKELY TO BE, WORKING WITHIN FIFTY (50) FEET OF TRACK OR OTHER TRACK CLEARANCES AS SPECIFIED BY CSXT.

UPON COMPLETION OF THE WORK ON CSXT PROPERTY, THE CONTRACTOR SHALL REQUEST THE OWNER TO ARRANGE A FINAL INSPECTION OF THE PROJECT WITH THE RAILROAD'S PROJECT ENGINEER OR THEIR AUTHORIZED REPRESENTATIVE.

CSXT SHALL BE FURNISHED AS-BUILT DRAWINGS SHOWING ACTUAL OPERATING CLEARANCES AS CONSTRUCTED PRIOR TO PROJECT COMPLETION AND CLOSEOUT.

WASTE MATERIAL REMOVED SHALL BE IN ACCORDANCE WITH CSX SOIL AND WATER MANAGEMENT POLICY.

ITEM 607 - FENCE, MISC.; BIKEWAY RAILING, AS PER PLAN

THIS ITEM INCLUDES FURNISHING AND INSTALLING ODOT BIKEWAY RAILING IN ACCORDANCE WITH STANDARD DRAWING RM-5.2.

TREE REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. IMPACTS TO THESE HABITATS SHOULD BE AVOIDED IF AT ALL POSSIBLE.

THE CONTRACTOR SHALL NOT REMOVE TREES UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30 IN ORDER TO AVOID IMPACTS TO BATS DURING THE SUMMER ROOSTING PERIOD. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

1. CONTRACTOR SHALL REMOVE ALL TREES WITHIN TWO FEET OF EDGE OF PAVED MULTI USE TRAIL OR WITHIN CONSTRUCTION LIMITS, WHICHEVER IS GREATER.
2. SEE SCHEMATIC PLAN SHEETS 2-8 FOR CENTERLINE DATA.
3. REMOVE ALL STUMPS WITHIN 5 FEET OF EDGE OF TRAIL AND GRIND STUMPS.
4. ALL STUMPS FOR TREES CUT DOWN NOT WITHIN 5 FEET OF EDGE OF PATH SHALL REMAIN A MINIMUM OF 24" TALL TO NOT BE A TRIPPING HAZARD.
5. ACCESS TO PRIVATE PROPERTY SHALL BE MAINTAINED AT ALL TIMES.
6. ALL TREES THAT ARE TO BE REMOVED AND ARE 10" OR GREATER IN DIAMETER AS MEASURED WAIST HIGH SHALL BE CUT OR SAWN WITH MECHANICAL METHODS AT APPROXIMATELY 2' ABOVE THE GROUND SURFACE.

TREE REMOVAL - CONTINGENCY

DURING THE CONSTRUCTION OF THE PROJECT, IT MAY BE DETERMINED THAT ADDITIONAL TREES (NOT CALLED FOR REMOVAL IN THE PLANS) MAY NEED TO BE REMOVED. PRIOR TO REMOVAL OF THE ADDITIONAL TREES, CONTRACTOR SHALL CONTACT THE PROJECT MANAGER AND OBTAIN CITY APPROVAL PRIOR TO THE REMOVAL OF THE TREE(S). PAYMENT FOR THE REMOVAL OF THE ADDITIONAL TREES INCLUDING STUMP WILL BE PAID UNDER THE TREE REMOVAL ITEM.

ENVIRONMENTAL COMMITMENTS

DRINKING WATER

- THIS PROJECT IS LOCATED OVER A PORTION OF THE MIAMI SOLE SOURCE AQUIFER. USE PROPER CONTAINMENT AND DIKING IN REFUELING AREAS. DO NOT STORE FUELS, TOXIC/HAZARDOUS MATERIALS, AND CHEMICALS WITHIN 50 FEET OF DRAINAGE WAYS, DITCHES, OR STREAMS. MAINTAIN A SPILL KIT ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. IMMEDIATELY MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. IF THE SPILL IS A REPORTABLE AMOUNT THE CONTRACTOR SHOULD CONTACT THE CITY OF OXFORD FIRE DEPARTMENT STATION 11 AT (513) 523-6324 AND THE OHIO EPA'S SPILLS HOTLINE 1-800-282-9378 WITHIN 30 MINUTES OF KNOWLEDGE OF THE RELEASE.

PERMITS

- THE CONTRACTOR SHALL NOT PERFORM ANY WORK WITHIN THE JURISDICTIONAL BOUNDARIES OF ANY WATERWAY, INCLUDING WETLANDS, UNTIL THE CITY OF OXFORD OBTAINS THE NECESSARY WATERWAY PERMITS. WORK INCLUDES THE PLACEMENT OF ANY TEMPORARY OR PERMANENT FILLS.
- TO HELP PROTECT UNDISTURBED WETLANDS AND STREAMS, THE CONTRACTOR SHALL DEMARCATE AVOIDED AREAS IN THE FIELD PRIOR TO CONSTRUCTION.

SECTION 4(f)

- ACCESS TO THE OXFORD AREA TRAIL PHASE 3 AND TO PEFFER WOODS/PEFFER PARK SHALL BE ALWAYS MAINTAINED, EXCEPT FOR THE TIME NEEDED TO TEMPORARILY OCCUPY THE PROPERTY, WHICH SHALL BE LESS THAN THE TIME NEEDED FOR CONSTRUCTION OF THE PROJECT.
- TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED ALONG PROPOSED CONSTRUCTION LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES TO PROTECT THE SECTION 4(F) PROPERTY AND THE PUBLIC.
- APPROPRIATE SIGNAGE SHALL BE INSTALLED TO ALERT USERS OF THE OXFORD AREA TRAIL PHASE 3 AND PEFFER WOODS/PEFFER PARK OF CONSTRUCTION ACTIVITIES, ACCESS RESTRICTIONS OR CLOSURES, AND TO DIRECT USERS TO SECONDARY ACCESS POINTS.
- THE CONTRACTOR SHALL BE REQUIRED TO CLOSELY COORDINATE THE CONSTRUCTION SCHEDULE WITH ODOT, THE CITY OF OXFORD, AND MIAMI UNIVERSITY PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

ECOLOGICAL

- TO MINIMIZE IMPACTS TO STATE AND FEDERALLY LISTED BATS, DO NOT REMOVE TREES FROM APRIL 1 THROUGH SEPTEMBER 30. PERFORM ALL NECESSARY TREE REMOVAL FROM OCTOBER 1 THROUGH MARCH 31. DEMARCATE CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.
- THE CONTRACTOR SHALL INSTRUCT WORKERS NOT TO HANDLE ANY LIVE, DEAD, OR INJURED BATS DISCOVERED AT THE PROJECT SITE. THIS IS TO ENSURE THAT BOTH THE HANDLER AND THE ANIMAL ARE PROTECTED FROM EXPOSURE TO INJURY AND/OR DISEASE. ANY PARTY FINDING A DEAD, INJURED, OR SICK SPECIMEN MUST IMMEDIATELY NOTIFY THE OHIO FIELD OFFICE AT (614) 416-8993. REPORTING THE DISCOVERY OF DEAD OR INJURED BATS IS REQUIRED IN ALL CASES TO ENABLE THE SERVICE TO DETERMINE WHETHER THE LEVEL OF INCIDENTAL TAKE EXEMPTED BY THIS PBO HAS BEEN EXCEEDED AND TO ENSURE THE TERMS AND CONDITIONS ARE APPROPRIATE AND EFFECTIVE. BIOLOGICAL MATERIAL MUST BE PRESERVED IN THE BEST POSSIBLE CONDITION; THEREFORE, PROJECT PERSONNEL ARE RESPONSIBLE FOR ENSURING THAT ANY EVIDENCE ESSENTIAL FOR DETERMINING THE CAUSE OF DEATH OR INJURY IS NOT UNNECESSARILY DISTURBED.

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Item	Revision Description	Date	Drwn:	Chk:
3	Revised per ODOT and City comments.	1-13-25	SM	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

GENERAL NOTES

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 GEN NOTES & SUM
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 11a/161

Plot time: Jan 22, 2025 - 10:50am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 GEN NOTES & SUM.DWG - Layout Tab: 11a Gen Notes

ITEM	ITEM EXT	SHEET 13	14	15	16	17			TOTAL	UNIT	DESCRIPTION
											ROADWAY
201	11001								LS	LS	CLEARING AND GRUBBING, AS PER PLAN
201	20010	7							7	EACH	SPECIAL - TREE REMOVED, 4"-12"
201	21800	2							2	EACH	TREE REMOVED, 18'
202	32000	30							30	FT	CURB REMOVED
202	35100	14							14	FT	PIPE REMOVED, 24" AND UNDER
202	75200	128							128	FT	FENCE REMOVED FOR REUSE
202	98100	1							1	EACH	REMOVAL MISC.: RELOCATE ENTRANCE SIGN
202	98100	1							1	EACH	REMOVAL MISC.: FLAG POLE
202	98300	46							46	SQ YD	REMOVAL MISC.: LANDSCAPE ISLAND
203	10000								6956	CU YD	EXCAVATION
203	20000								27,497	CU YD	EMBANKMENT
204	10000		16,724						16,724	SQ YD	SUBGRADE COMPACTION
204	13000								590	CU YD	EXCAVATION OF SUBGRADE
204	45000								6	HOURS	PROOF ROLLING
206	15010		14,265						14,265	SQ YD	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP
607	23100					128			128	FT	FENCE, REBUILT
607	98000					2944			2944	FT	FENCE, MISC.: BIKEWAY RAILING, AS PER PLAN
608	52000					266			266	SQ FT	CURB RAMP
608	53021					22			22	SQ FT	DETECTABLE WARNING, AS PER PLAN
690	50610					2			2	EACH	SPECIAL - BOLLARD, HINGED
											EROSION CONTROL
601	32100			23.61					23.61	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
601	32200			24.80					24.80	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
659	00300								583	CU YD	TOPSOIL
659	00501								17,548	SQ YD	SEEDING AND MULCHING, CLASS 1, AS PER PLAN
659	10001								5224	SQ YD	SEEDING AND MULCHING, AS PER PLAN
659	14000								1473	SQ YD	REPAIR SEEDING AND MULCHING
659	20000								2.7	TON	COMMERCIAL FERTILIZER
659	35000								159.2	MGAL	WATER
670	00500								5244	SQ YD	SLOPE EROSION PROTECTION
670	00700								839	SQ YD	DITCH EROSION PROTECTION, SODDING
SPECIAL	SPECIAL								16,724	SQ YD	WEED PREVENTION HERBICIDE
832	15000								LS	LS	STORM WATER POLLUTION PREVENTION PLAN
832	15002								LS	LS	STORM WATER POLLUTION PREVENTION INSPECTIONS
832	15010								LS	LS	STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE
832	30000								101,467	EACH	EROSION CONTROL
836	10000								494	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
836	10020								112	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2
											DRAINAGE
602	20000			60.6					60.6	CU YD	CONCRETE MASONRY
611	04900			220					220	FT	12" CONDUIT, TYPE D
611				206					206	FT	12" CONDUIT, TYPE D, 706.02
611	07900			65					65	FT	18" CONDUIT, TYPE D
611	10900			57					57	FT	24" CONDUIT, TYPE D
611	13900			45					45	FT	30" CONDUIT, TYPE D
611	16900			82					82	FT	36" CONDUIT, TYPE D
611	24300			28					28	FT	60" CONDUIT, TYPE D, 706.02
611	52906			24					24	FT	34"x53" CONDUIT, TYPE D, 706.04
611	98470			1					1	EACH	CATCH BASIN, NO.2-2B
611	98510			1					1	EACH	CATCH BASIN, NO.2-3
611	98630			1					1	EACH	CATCH BASIN ADJUSTED TO GRADE
611	99654			3					3	EACH	MANHOLE ADJUSTED TO GRADE
											PAVEMENT
252	01500	33							33	FT	FULL DEPTH PAVEMENT SAWING
301	46000		1797						1797	CU YD	ASPHALT CONCRETE BASE, PG64-22
304	20000		13						13	CU YD	AGGREGATE BASE
441	50000		830						830	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
441	50200		8						8	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (448)
608	12000		67						67	SQ FT	5" CONCRETE WALK
609	12001		13						13	FT	COMBINATION CURB & GUTTER, TYPE 2, AS PER PLAN
609	26000		17						17	FT	CURB, TYPE 6, AS PER PLAN

ITEM	ITEM EXT	SHEET 38B	13	16	17	102	81	90	TOTAL	UNIT	DESCRIPTION
											STRUCTURES
203	20001							199	199	CU YD	EMBANKMENT, AS PER PLAN
203	35110							197	197	CU YD	GRANULAR MATERIAL, TYPE B
203	35120							121	121	CU YD	GRANULAR MATERIAL, TYPE C
203	65000							2	2	EACH	SPECIAL - SETTLEMENT PLATFORM
503	11100					LUMP	LUMP	LUMP	LUMP	LUMP	COFFERDAMS AND EXCAVATION BRACING
503	21300					LUMP	LUMP		LUMP	LUMP	UNCLASSIFIED EXCAVATION
505	11100					LUMP		LUMP	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION
507	00100					400		1000	1400	FT	STEEL PILES HP10X42, FURNISHED
507	00101					160	320		480	FT	STEEL PILES HP10X42, FURNISHED, AS PER PLAN
507	00150					360		900	1260	FT	STEEL PILES HP10X42, DRIVEN
507	92201					40	160		200	FT	PREBORED HOLES, AS PER PLAN
509	10000					5934	6612	6380	18,926	LB	EPOXY COATED REINFORCING STEEL
511	43512					63	73	66	202	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING
512	10050							224	224	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)
518	20000					45	55	45	145	SQ YD	PREFABRICATED GEOCOMPOSITE DRAIN
518	40000					66	56	66	188	FT	6" PERFORATED CORRUGATED PLASTIC PIPE
518	40010					80	88		168	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS
SPECIAL	53000200					LUMP			LUMP	LUMP	STRUCTURE, MISC.: PREFABRICATED BRIDGE, 115'-0" SPAN
SPECIAL	53000200							LUMP	LUMP	LUMP	STRUCTURE, MISC.: PREFABRICATED BRIDGE, 92'-0" SPAN
SPECIAL	53000200						LUMP		LUMP	LUMP	STRUCTURE, MISC.: PREFABRICATED BRIDGE, 81'-0" SPAN
601	32204					169	65		234	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC
601	37501							102	102	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN
607	39931							94	94	FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIIC, AS PER PLAN
840	20000							2341	2341	SQ FT	MECHANICALLY STABILIZED EARTH WALL
840	21000							472	472	CU YD	WALL EXCAVATION
840	22000							261	261	SQ YD	FOUNDATION PREPARATION
840	23000							1873	1873	CU YD	SELECT GRANULAR BACKFILL
840	23050							163	163	CU YD	NATURAL SOIL
840	25010							347	347	FT	6" DRAINAGE PIPE, PERFORATED
840	25020							183	183	FT	6" DRAINAGE PIPE, NON-PERFORATED
840	26000							169	169	FT	CONCRETE COPING
840	27000							5	5	DAY	ON-SITE ASSISTANCE
840	28000							LUMP	LUMP	LUMP	SGB INSPECTION AND COMPACTION TESTING
											TRAFFIC CONTROL
511	71100			0.84					0.84	CU YD	CONCRETE, MISC.: PEDESTAL FOUNDATION
630	03100	300		168					468	FT	GROUND MOUNTED SUPPORT, NO. 3 POST
630	08600			14					14	EACH	SIGN POST REFLECTOR
630	80100	144		44.25					188.25	SQ FT	SIGN, FLAT SHEET
630	85100			1					1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND RE-ERECTION
630	86002			1					1	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
631	SPECIAL			2					2	EACH	CROSSING SIGN ASSEMBLY WITH WARNING BEACON, SOLAR POWERED
644	00500				24				24	FT	STOP LINE
644	00630				86				86	FT	CROSSWALK LINE, 24"
SPECIAL	SPECIAL			18					18	EACH	WOOD MILE MARKER, AS PER PLAN
SPECIAL	SPECIAL								3	EACH	PEDESTRIAN AND BICYCLE COUNTER, AS PER PLAN
											UTILITIES
611	SPECIAL								1	EACH	CLEANOUT ADJUSTED TO GRADE
638	10500		2						2	EACH	FIRE HYDRANT REMOVED AND RESET
											MISCELLANEOUS
614	11000								LUMP	LUMP	MAINTAINING TRAFFIC
619	16020								12	MONTH	FIELD OFFICE, TYPE C
623	10000								LUMP	LUMP	CONSTRUCTION LAYOUT STAKES & SURVEYING
624	10000								LUMP	LUMP	MOBILIZATION
SPECIAL	SPECIAL								1265	FT	VEGETATIVE BUFFER
SPECIAL	SPECIAL								3	EACH	TREETOP PRODUCTS-STANDARD ROUND PET WASTE STATION, 5 GALLON CAPACITY
SPECIAL	SPECIAL								9	EACH	TREETOP PRODUCTS-PARK-IT POWDER COATED STEEL BIKE RACKS, 5 BIKE CAPACITY, SURFACE MOUNT
SPECIAL	SPECIAL								3	EACH	INFORMATION KIOSK, AS PER PLAN

*FOR ESTIMATING PURPOSES, THE CONSTRUCTION ENTRANCES WERE ASSUMED TO BE 8" AGGREGATE BASE.

Item	Revision Description	Date	Drwn:	Chk:
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-24	AJB	EMR

OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

GENERAL SUMMARY

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 GEN NOTES & SUM
Drawn by: CPT
Checked By: EMR
Issue Date: 04/16/2018
Sheet: 12/161

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Plot time: Jan 13, 2025 - 3:59pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 GEN NOTES & SUM.DWG - Layout Tab: 12 Gen Sum

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	201 SPECIAL - TREE REMOVED, 4"-12" EACH	201 TREE REMOVED, 18" EACH	202 PIPE REMOVED, 24" AND UNDER FT	202 FENCE REMOVED FOR REUSE FT	202 REMOVAL MISC.: LANDSCAPE ISLAND SQ YD	202 CURB REMOVED FT	202 REMOVAL MISC.: FLAG POLE EACH	202 REMOVAL MISC.: RELOCATE ENTRANCE SIGN EACH	252 FULL DEPTH PAVEMENT SAWING FT		638 FIRE HYDRANT REMOVED AND RESET EACH
R-1	24	0+00		LT & RT									11		
R-2	26	20+75	21+50	LT & RT	1	1									
R-3	27	29+56		RT		1									
R-4	27	31+59	31+66	LT			14								
R-5	27	33+48	33+49	RT	2										
R-6	29	50+08	50+62	LT				50							
R-7	29	50+49	50+53	LT & RT	4				46		1				
R-8	29	50+61	50+74	LT & RT						13					
R-9	29	51+52		LT											1
R-10	29	51+08		LT & RT									11		
R-11	33	91+17		LT & RT									11		
R-12	36	125+10	125+76	RT				78							
R-13	37	134+20		LT								1			
R-14	28	48+00		LT											1
R-15	28	COBBLESTONE								17					
TOTALS CARRIED TO GENERAL SUMMARY					7	2	14	128	46	30	1	1	33		2

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Item	Revision Description	Date	Drwn	Chk
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	1-13-25	EMR	EMR

OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

ESTIMATED QUANTITIES

bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

Drawing: 22-0273 EST QUANTITIES
Drawn by: CPT
Checked By: EMR
Issue Date: 06-05-18
Sheet: 13/161

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	204 SUBGRADE COMPACTION (SQ YD)	206 CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP (SQ YD)	301 ASPHALT CONCRETE BASE, PG64-22 (CU YD)	304 AGGREGATE BASE (CU YD)
P-1	24	0+00	6+14	LT & RT	819	887	91	
P-2	24	6+14	6+33	LT & RT	76	76		13
P-3	24	6+58	6+92	RT	37	37		
P-4	24	6+85	7+20	LT	50	50		
P-5	24	6+33	8+31	LT & RT	264	183	29	
P-6	24	9+18	10+50	LT & RT	176	144	20	
P-7	25	10+50	20+50	LT & RT	1333	1336	148	
P-8	26	20+50	29+00	LT & RT	1133	1119	126	
P-9	27	29+00	38+00	LT & RT	1200	506	133	
P-10	28	38+00	48+50	LT & RT	1461	1444	162	
P-11	28	0+46	0+66	LT & RT	118	188		
P-12	29	48+50	50+74	LT & RT	299	324	34	
P-13	29	51+08	57+00	LT & RT	789	855	88	
P-14	30	57+00	65+50	LT & RT	1133	1228	126	
P-15	31	65+50	73+50	LT & RT	1164	1156	129	
P-16	32	73+50	82+75	LT & RT	1233	433	137	
P-17	33	82+75	84+01	LT & RT	168		19	
P-18	33	84+98	91+17	LT & RT	825		92	
P-19	34	100+50	110+88	LT & RT	1384	1288	154	
P-20	35	112+08	121+00	LT & RT	1190	1288	132	
P-21	36	121+00	128+00	LT & RT	933	1011	104	
P-22	37	128+00	131+62	LT & RT	483	523	54	
P-23	37	132+38	133+15	LT & RT	103	111	11	
P-24	37	133+15	133+75	LT & RT	236			
P-25	37	133+75	134+29	LT & RT	72	78	8	
P-26	26	27+50		LT	6			
P-27	30	63+00		LT	6			
P-28	32	79+00		LT	6			
P-29	35	112+50		LT	6			
P-30	30	64+85		LT	21			
P-31	28	COBBLESTONE		LT				
P-32	29	50+61	50+74	LT & RT				
					16,724	14,265	1797	13

REF. NO.	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 (CU YD)	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448) (CU YD)		608 5" CONCRETE WALK (CU YD)	609 CURB, TYPE 6, AS PER PLAN (CU YD)	609 COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN (CU YD)
P-1	42					
P-2	4	8				
P-3				5		
P-4				7		
P-5	13					
P-6	9					
P-7	68					
P-8	58					
P-9	61					
P-10	74					
P-11				16		
P-12	16					
P-13	40					
P-14	58					
P-15	59					
P-16	63					
P-17	9					
P-18	42					
P-19	71					
P-20	61					
P-21	48					
P-22	25					
P-23	5					
P-24				33		
P-25	4					
P-26				0.6		
P-27				0.6		
P-28				0.6		
P-29				0.6		
P-30				3		
P-31					17	
P-32						13
	830	8	66.4		17	13

Item	Revision Description	Date	Drwn:	Chk:
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	1-13-25	EMR	EMR

OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

ESTIMATED QUANTITIES

bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

Drawing: 22-0273 EST QUANTITIES
Drawn by: CPT
Checked By: EMR
Issue Date: 06-05-18

Sheet:

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REF. NO.	SHEET NO.	STATION		SIDE	601		602	611												
					ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	CONCRETE MASONRY	CATCH BASIN NO. 2-3	CATCH BASIN NO. 2-2B	12" CONDUIT, TYPE D	12" CONDUIT, TYPE D, 706.02	18" CONDUIT, TYPE D	24" CONDUIT, TYPE D	30" CONDUIT, TYPE D	36" CONDUIT, TYPE D	60" CONDUIT, TYPE D, 706.02	34" x 53" CONDUIT, TYPE D, 706.04	CATCH BASIN ADJUSTED TO GRADE	MANHOLE ADJUSTED TO GRADE	CLEANOUT ADJUSTED TO GRADE
		FROM	TO		CU YD	CU YD	CU YD	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH
D-1	25	19+98		RT			.76								39					
D-2	25	19+90		LT		8.33	.76													
D-3	27	29+76		RT			12.4									28				
D-4	27	29+81		LT		15.28	12.4													
D-5	27	31+40		RT			0.21			41										
D-6	27	31+69		LT	1.11		0.21													
D-7	27	36+00		RT			4								43					
D-8	27	36+05		LT	3.33		0.76													
D-9	31	70+11		RT			0.76							45						
D-10	31	70+32		LT	3.33		0.76													
D-11	35	112+99		LT	2.22		0.46													
D-12	35	113+12		RT			0.46						57							
D-13	29	55+97		RT			10.5										24			
D-14	29	55+96		LT	4.44		10.5													
D-15	24	6+06		RT			1.1				24									
D-16	24	6+31		RT	1.11		1.1													
D-17	27	37+81		RT			0.33					37								
D-18	27	37+81		LT	1.33		0.33													
D-19	24	7+35		RT	1.33															
D-20	Not Used																			
D-21	28	38+49		LT			0.21			28										
D-22	28	38+25		LT			0.21													
D-23	29	51+13		RT				1			182									
D-24	29	51+99		LT			0.42													
D-25	31	72+90		RT			0.21					28								
D-26	31	72+90		LT	2.22		1.1													
D-27	33	87+93		RT			0.21			75										
D-28	33	87+87		LT	1.11		0.21													
D-29	36	127+19		CT															1	
D-30	37	129+83		LT															1	
D-31	37	130+78		LT															1	
D-32	37	133+18		RT														1		
D-33	33	87+92		LT	1.94															
D-34	32	76+30		RT					1	52										
D-35	32	76+22		LT	1.33		0.21													
U-1	32	82+65		RT																1
					24.80	23.61	60.56	1	1	220	206	65	57	45	82	28	24	1	3	1

Item	Revision Description	Date	Drwn:	Chk:
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	1-13-25	EMR	EMR

OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

ESTIMATED QUANTITIES

bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

Drawing: 22-0273 EST QUANTITIES
Drawn by: CPT
Checked By: EMR
Issue Date: 06-05-18
Sheet: 15/161

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	511	630	630	630	630	630	631	SPECIAL										
					CONCRETE, MISC.: PEDESTAL FOUNDATION	GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN, FLAT SHEET			REMOVAL OF GROUND MOUNTED SIGN AND RE-ERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	SIGN POST REFLECTOR	CROSSING SIGN ASSEMBLY WITH WARNING BEACON, SOLAR POWERED	WOOD MILE MARKER								
					CY	FT	SIGN	SIZE	SQ FT	EACH	EACH	EACH	EACH	EACH								
S-1	24	0+04		LT		12	R1-1	18"x18"	2.25			1										
S-2	29	50+63		RT		12	R1-1	18"x18"	2.25			1										
S-3	29	50+66		RT	0.42								1									
S-4	29	51+12		LT	0.42								1									
S-5	29	51+18		LT		12	R1-1	18"x18"	2.25			1										
S-6	29	51+75		LT		12				1	1	1										
S-7	29	55+81		LT		12	W11-15	30"x30"	6.25			1										
							W16-2aP	24"x12"	2													
S-8	29	50+26		RT		12	W11-15	30"x30"	6.25			1										
							W16-2aP	24"x12"	2													
S-9	31	100+10		RT		12	W7-5	18"x18"	2.25			1										
							W7-3bP	18"x12"	1.5													
S-10	33	91+16		RT		12	R1-1	18"x18"	2.25			1										
S-11	34	102+75		RT		12	W1-1R	18"x18"	2.25			1										
S-12	34	107+00		RT		12	W1-1L	18"x18"	2.25			1										
S-13	34	109+50		RT		12	W1-1R	18"x18"	2.25			1										
S-14	35	115+75		LT		12	W1-1R	18"x18"	2.25			1										
S-15	35	118+75		LT		12	W1-1L	18"x18"	2.25			1										
S-16	36	123+25		LT		12	W7-5	18"x18"	2.25			1										
							W7-3bP	18"x12"	1.5													
M-1	24	2+54		LT										1								
M-2	24	7+82		LT										1								
M-3	25	13+10		LT										1								
M-4	25	18+38		LT										1								
M-5	26	23+66		LT										1								
M-6	26	28+94		LT										1								
M-7	27	34+22		LT										1								
M-8	28	39+50		LT										1								
M-9	28	44+78		LT										1								
M-10	29	50+06		LT										1								
M-11	29	55+34		LT										1								
M-12	30	60+62		LT										1								
M-13	31	65+90		LT										1								
M-14	31	71+18		LT										1								
M-15	32	76+46		LT										1								
M-16	32	81+74		LT										1								
M-17	33	87+02		LT										1								
M-18	33	88+10		LT										1								
TOTALS CARRIED TO GENERAL SUMMARY					0.84	168	-	-	44.25	1	1	14	2	18								

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Item	Date	Revision Description	Drwn	Chk
2	05-24-24	Revised per ODOT and City comments.	CPT	EMR
3	1-13-25	Revised per ODOT and City comments.	SW	EMR

OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

ESTIMATED QUANTITIES

bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

Drawing: 22-0273 EST QUANTITIES
Drawn by: CPT
Checked By: EMR
Issue Date: 06-05-18

Sheet: 16/161

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	644 STOP LINE FT	644 CROSSWALK LINE, 24" FT	607 FENCE, REBUILT FT	607 FENCE, MISC.: BIKEWAY RAILING AS PER PLAN FT	690 SPECIAL - BOLLARD, HINGED EACH	608 CURB RAMP SF	608 DETECTABLE WARNING, AS PER PLAN SF
SL-1	29	50+66		RT	6				1		
SL-2	29	51+12		LT	6				1		
SL-3	33	91+16		RT	6						
SL-4	24	0+04		LT	6						
BR-1	27	29+28	30+27	LT				89			
BR-2	27	29+30	30+24	RT				113			
BR-3	27	35+83	36+35	RT				52			
BR-4	29	55+40	56+40	LT				120			
BR-5	29	55+40	56+40	RT				89			
BR-6	32	81+83	82+75	LT				103			
BR-7	32	81+83	82+75	RT				103			
BR-8	33	82+75	84+01	RT				122			
BR-9	33	82+75	84+01	LT				115			
BR-10	33	84+98	89+75	RT				472			
BR-11	33	84+98	89+75	LT				490			
BR-12	34	103+75	107+16	LT				350			
BR-13	34	109+41	109+91	RT				55			
BR-14	35	116+06	118+56	LT				266			
BR-15	31	72+69	73+23	LT				61			
BR-16	34	110+64	110+88	LT				29			
BR-17	35	112+08	112+34	LT				36			
BR-18	35	112+08	112+34	RT				27			
BR-19	24	7+61	8+27	RT				63			
BR-20	24	8+05	8+35	LT				33			
BR-21	24	9+14	9+50	RT				44			
BR-22	24	9+22	9+50	LT				28			
CW-1	29	50+76	51+06	LT & RT		86					
CR-1	29	50+60	50+74	CT						154	
CR-2	28	COBBLESTONE								112	
CR-3	29	51+08		CT							22
F-1	29	50+08	50+62	LT			50				
F-2	36	125+10	125+76	RT			78				
TOTALS CARRIED TO GENERAL SUMMARY					24	86	128	2944	2	266	22

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Item	Revision Description	Date	Drwn	Chk
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	1-13-25	SW	EMR

OXFORD AREA TRAIL
PHASE 5

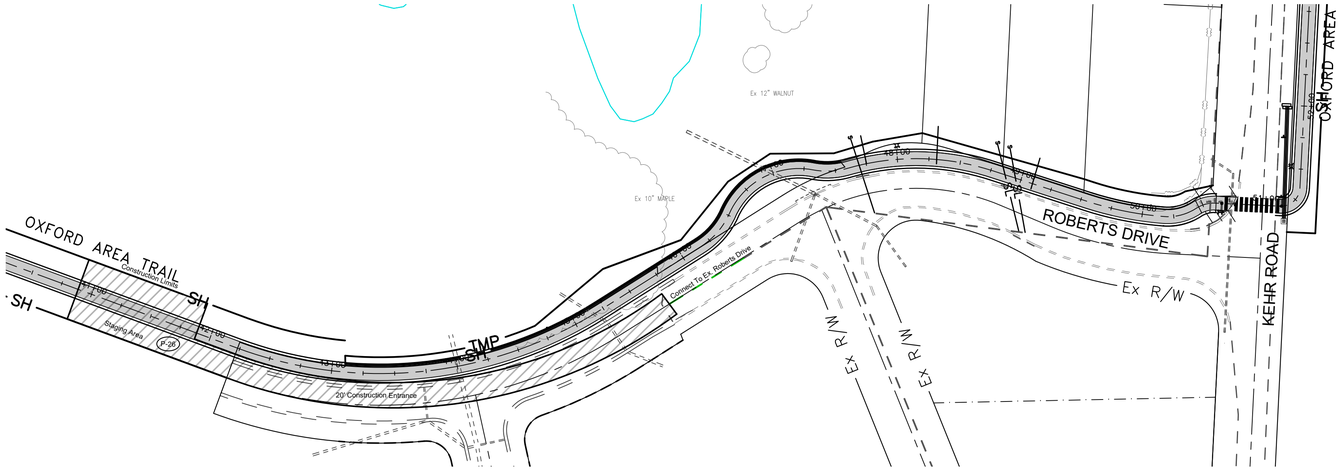
CITY OF OXFORD
BUTLER COUNTY, OHIO

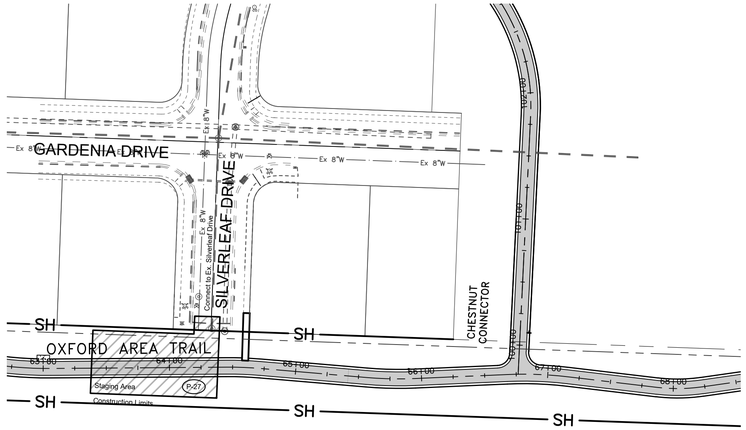
ESTIMATED QUANTITIES

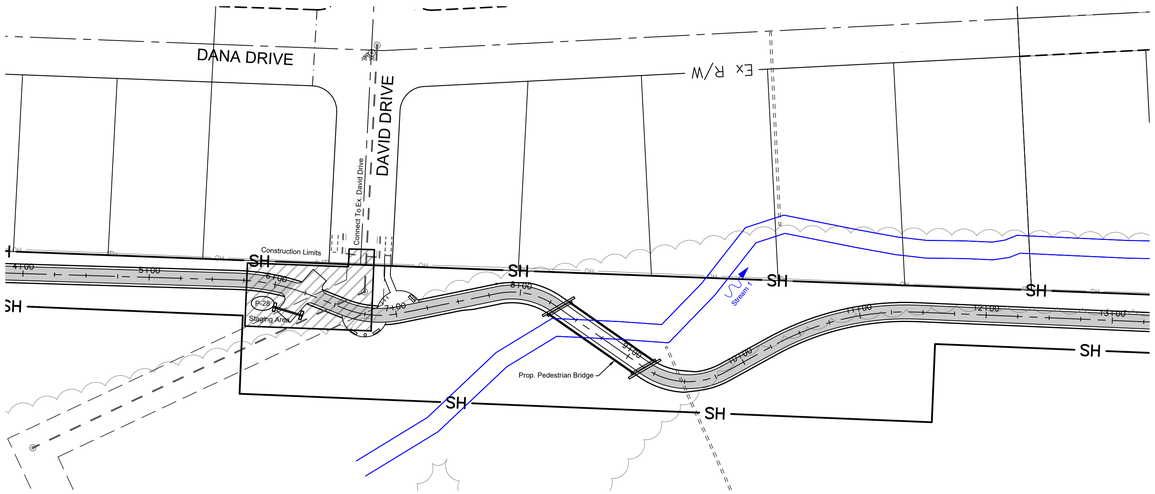
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

Drawing: 22-0273 EST QUANTITIES
Drawn by: CPT
Checked By: EMR
Issue Date: 06-05-18

Sheet: 17/161







LEGEND

PROPOSED TRAIL

CONSTRUCTION ENTRANCE AND STAGING AREA

NOTE:

CONSTRUCTION ENTRANCE SHALL BE GRAVEL, TIMBER, OR ANY OTHER MATERIAL THAT WILL MINIMIZE THE AMOUNT OF IMPACT TO PROPERTY & CAN BE EASILY REMOVED TO RE-ESTABLISH THE EXISTING CONDITIONS. CONTRACTOR SHALL HAVE MATERIAL APPROVED BY THE CITY OF OXFORD PRIOR TO CONSTRUCTION.

Basis of Bearing:
State Plane NAD83 (2011)

0 60 90

SCALE: 1" = 60'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL
PHASE 5

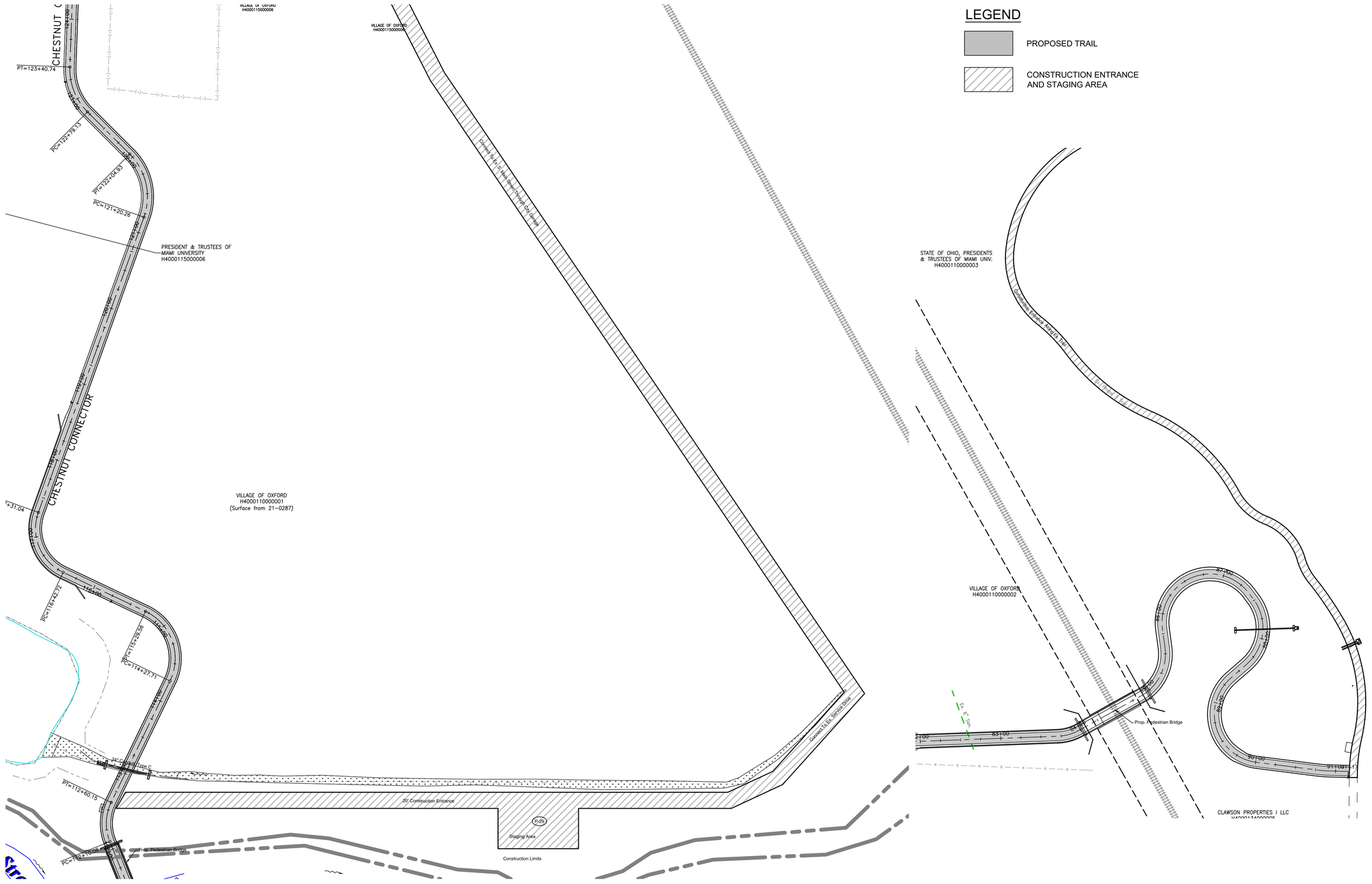
CITY OF OXFORD
BUTLER COUNTY, OHIO

CONSTRUCTION ENTRANCE

bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

Drawing: 22-0273 CONST ENTRANCES
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 18/161

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Basis of Bearing:
State Plane NAD83 (2011)

0 60 90

SCALE: 1" = 60'

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3	Revised per ODOT and City comments.	1-13-25	SW	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

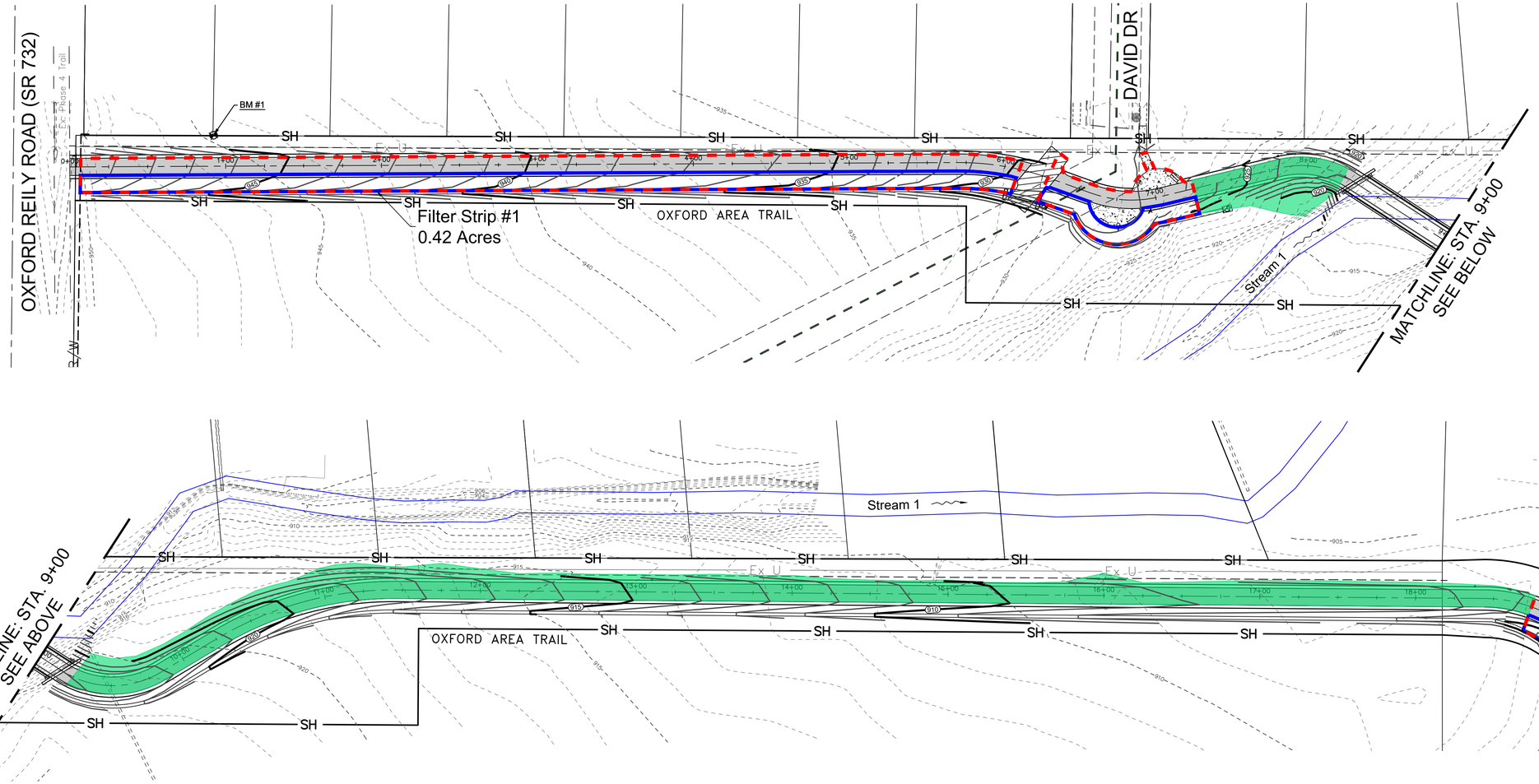
CONSTRUCTION ENTRANCE

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6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

Drawing: 22-0273 CONST ENTRANCES
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023

Sheet: 19/161

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PROJECT DESCRIPTION

THE SCOPE OF WORK TO BE PERFORMED UNDER THIS IMPROVEMENT SHALL GENERALLY CONSIST OF THE CONSTRUCTION OF APPROXIMATELY 1.7 MILES OF MULTI-USE TRAIL FROM OXFORD REILY ROAD (SR732) TO PHASE 3 OF THE TRAIL AND APPROXIMATELY 0.7 MILE OF MULTI-USE TRAIL CONNECTION TO CHESTNUT STREET.

Project Data		Units
Project EDA	6.3	acres
Is the Project Routine Maintenance per L&D Vol. 2, Sec. 1112.2	No	
BMPs Required?	BMPs Required	NA
Ain (New Impervious Area in New Permanent R/W	1.9	acres
Does Entire Site Drain to Large River (>100 sq. miles)?	No	
Water Quality Treatment Required	Yes	
Water Quantity Treatment Required	Yes	
Treatment Percent and Treatment Requirement		
Aix (Project EDA that is inside the existing right-of-way)	3.9	acres
Ain (New Impervious Area in New Permanent R/W)	1.9	acres
T% (Treatment Percent)	**46.21**	%
Treatment Requirement	**2.91**	**acres**

Filter Strip	Route	Begin Station	End Station	Side	Pavement Width (FT)	Filter Strip Width (FT)	Filter Strip Slope (z:1)	Filter Strip Length (FT)	Drainage Area (acres)	Filter Strip Area (SF)	Item 659 Topsoil Volume (CY)	Item 670 Erosion Protection Area (SY)
Filter Strip #1	PH5	00+10	07+25	RT	11	11	3	715	0.42	7,865	97.1	873.9
Filter Strip #2	PH5	18+75	27+25	RT	11	11	3	850	0.47	9,250	114.2	1,027.8
Filter Strip #3	PH5	30+75	31+75	RT	11	11	3	100	0.09	950	11.7	105.6
Filter Strip #4	PH5	34+75	35+75	RT	11	11	3	100	0.09	1,100	13.6	122.2
Filter Strip #5	PH5	56+50	70+25	RT	11	13	3	1,375	0.81	18,110	223.6	2,012.2
Filter Strip #6	PH5	85+50	86+75	RT	11	11	12	125	0.17	680	8.4	75.6
Filter Strip #7	PH5	86+75	91+17	LT	11	11	12	442	0.49	5,450	67.3	605.6
Filter Strip #8	Conn	100+00	103+50	LT	11	11	3	350	0.22	3,785	46.7	420.6
Total Treatment Credit Earned from Vegetated Filter Strips									**2.76**	acres		
(Treatment is for quality only, not quantity)												

PROJECT DATA

PROJECT EARTH DISTURBED AREA	11.1 AC
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	1.1 AC
NOTICE OF INTENT EARTH DISTURBED AREA	11.1 AC
TREATMENT PERCENTAGE (%T, REDEVELOPMENT)	46.21%
POST-CONSTRUCTION BMP	VEGETATED FILTER STRIP
IMMEDIATE RECEIVING WATERS	COLLINS CREEK
SUBSEQUENT RECEIVING WATER	FOUR MILE CREEK
USGS MAP REFERENCE	OXFORD
LATITUDE (APPROX. CENTER OF PROJECT)	39°30'10"N
LONGITUDE (APPROX. CENTER OF PROJECT)	84°43'20"W

0 40 60
SCALE: 1" = 40'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
2	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

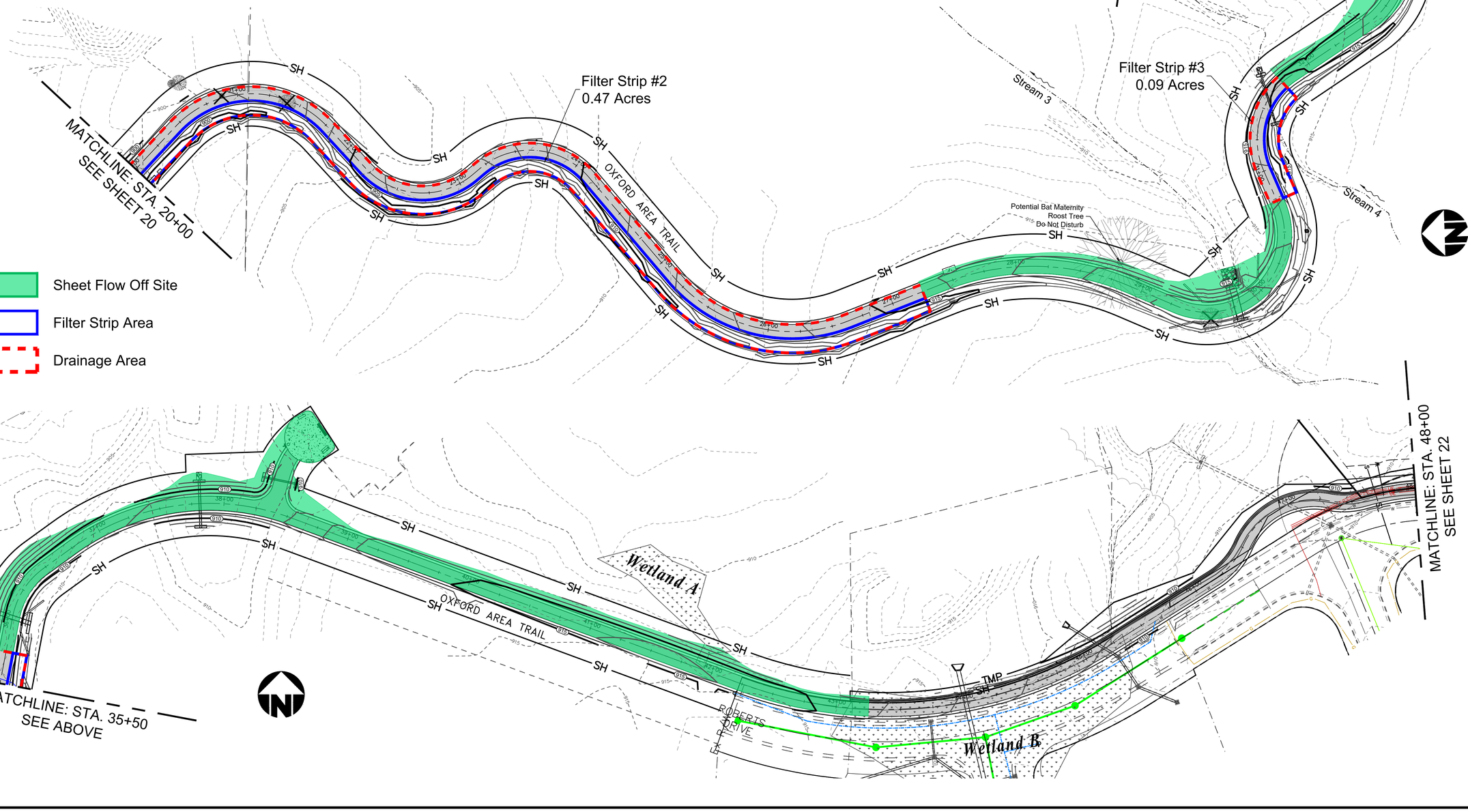
POST CONSTRUCTION BMP

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 BMP
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 20/161

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Plot time: Jan 13, 2025 - 9:52am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 BMP.dwg - Layout Tab: 20 BMP



HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

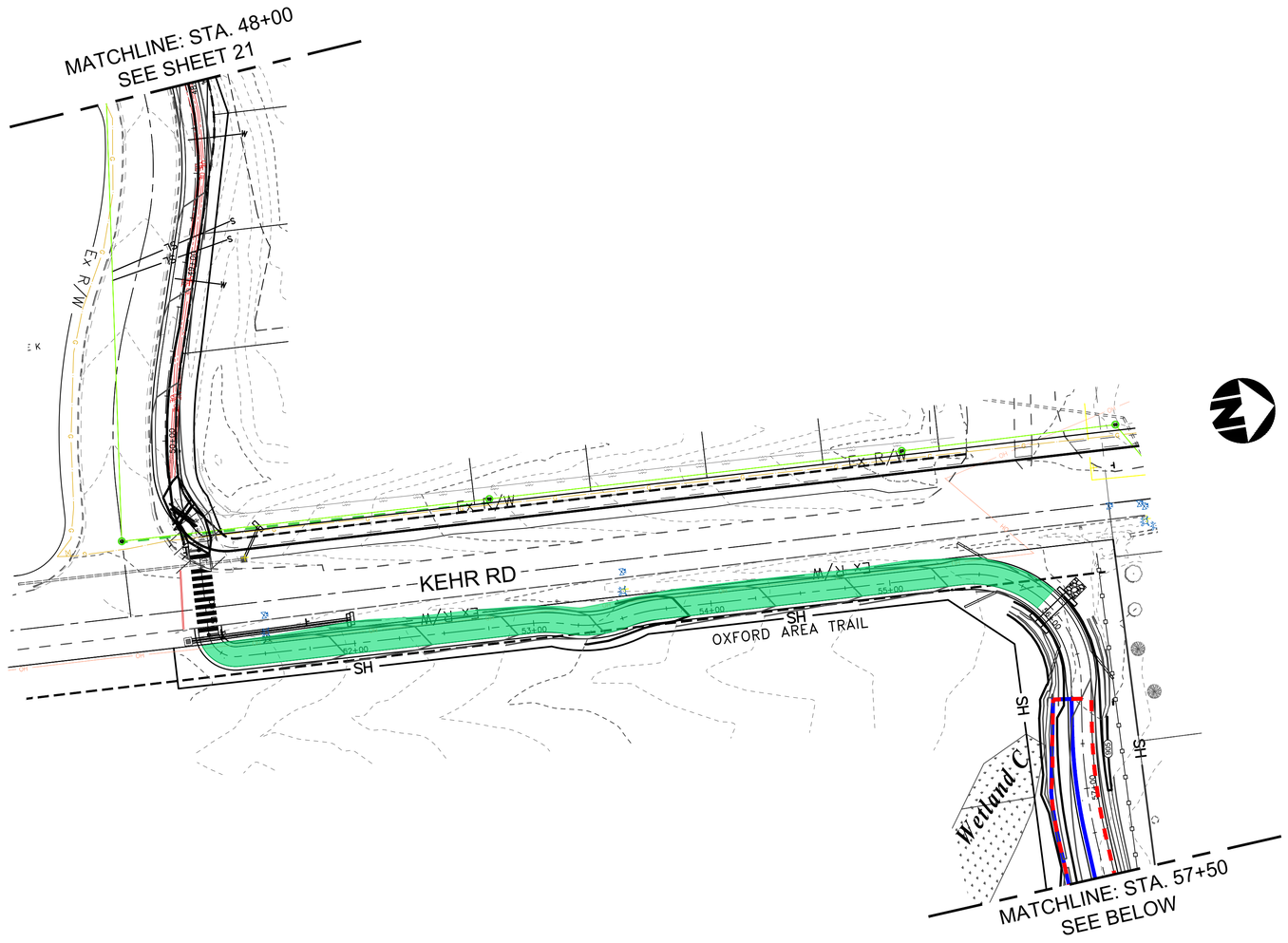
POST CONSTRUCTION BMP

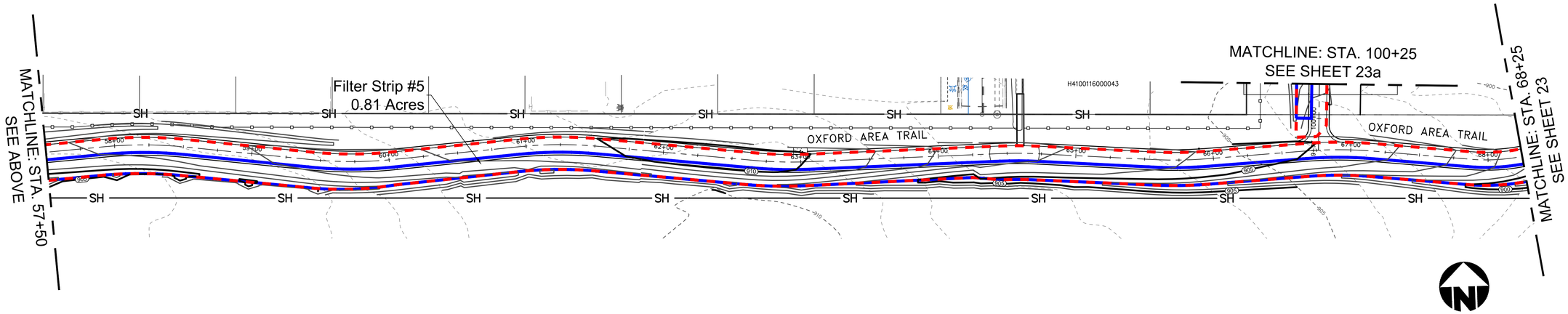
bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 BMP
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 21/161

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Plot time: Jan 13, 2025 - 10:05am
Drawing name: k:\2022\22-0273\TR\DWG\22-0273 BMP.dwg - Layout Tab: 21 BMP





Sheet Flow Off Site

Filter Strip Area

Drainage Area

0 40 60

SCALE: 1" = 40'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

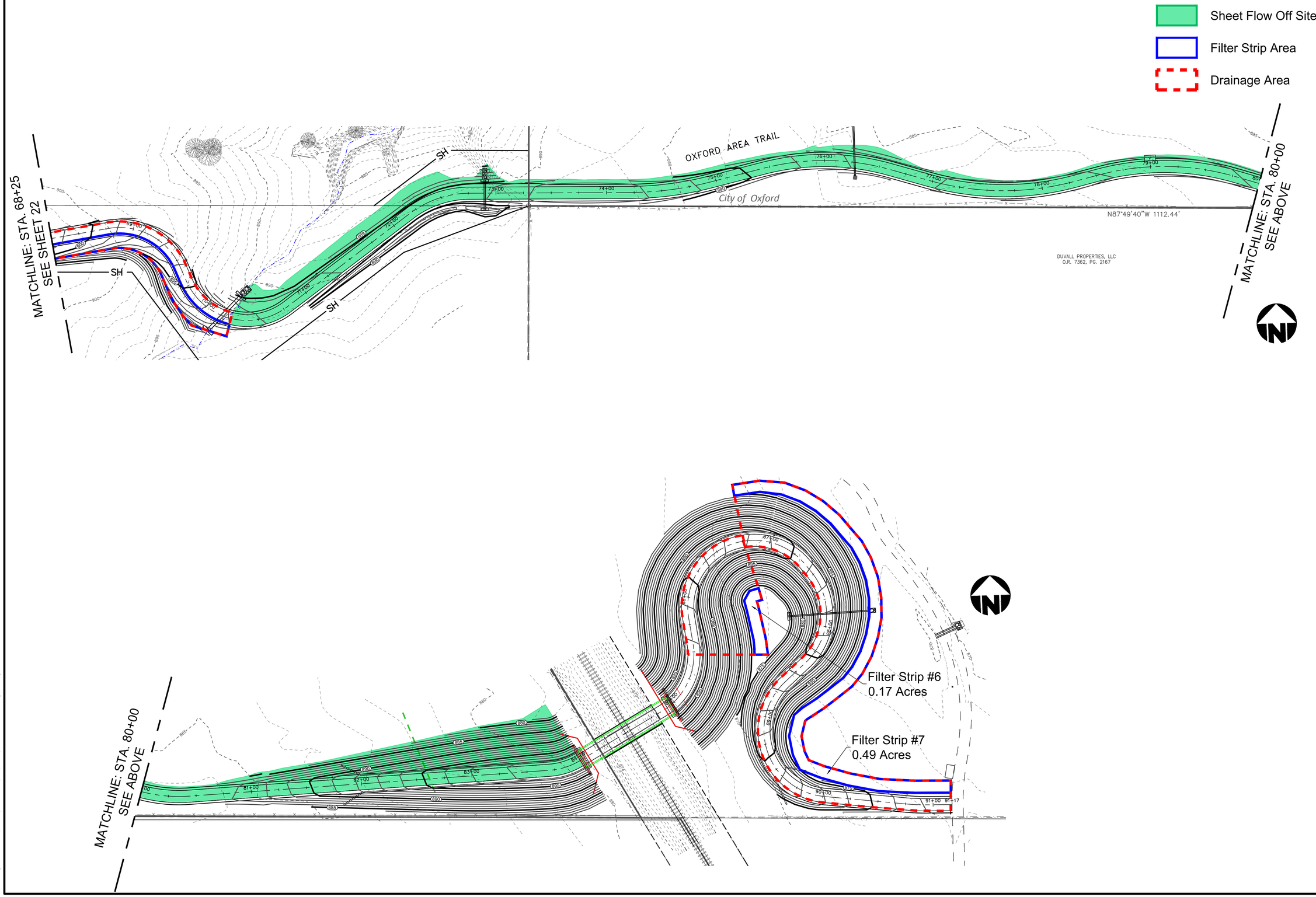
POST CONSTRUCTION BMP

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Drawing: 22-0273 BMP
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Issue Date: 07/03/2023
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Plot time: Jan 13, 2025 - 9:53am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 BMP.dwg - Layout Tab: 22 BMP



0 40 60
SCALE: 1" = 40'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

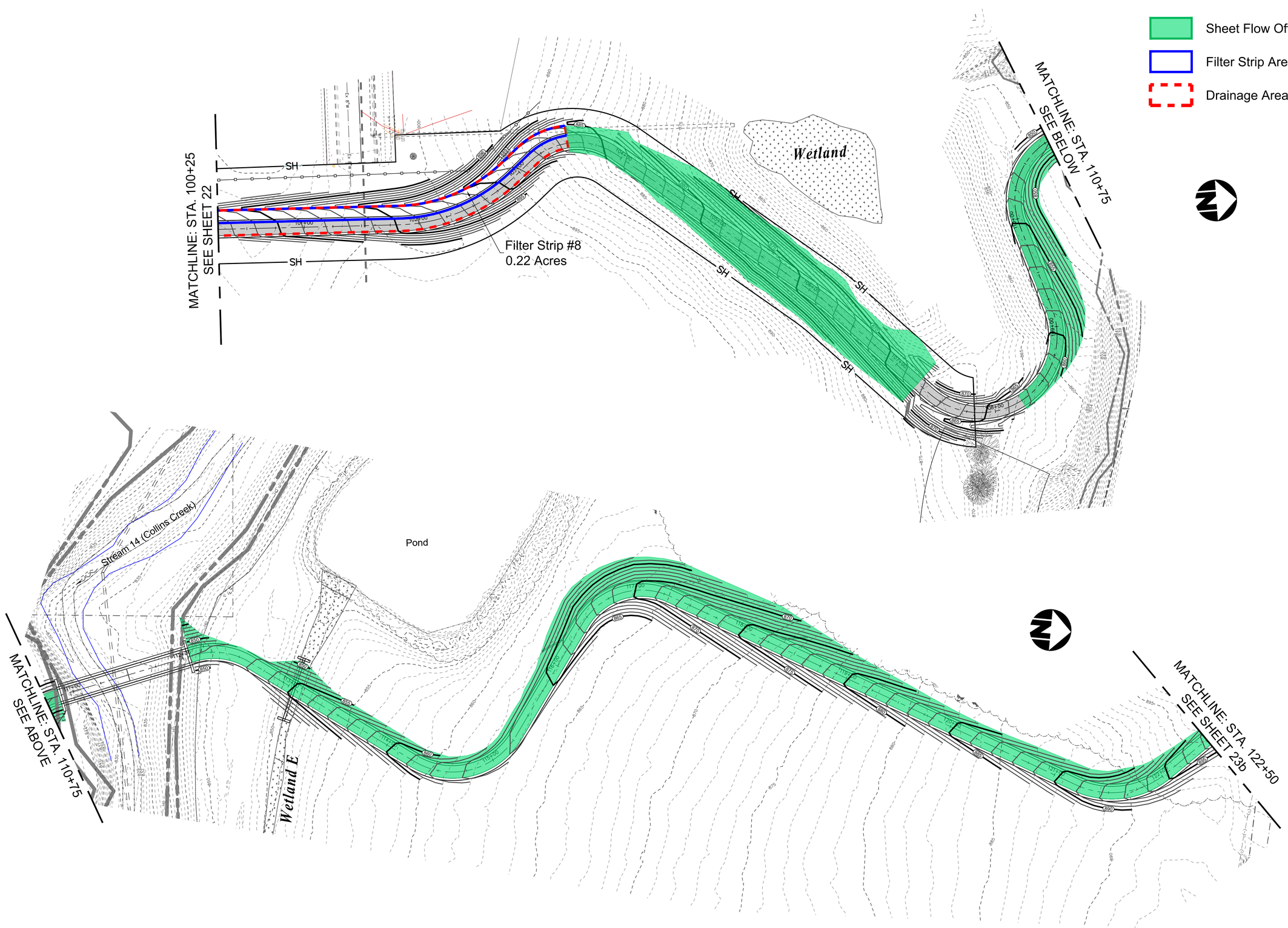
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Plot time: Jan 13, 2025 - 9:54am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 BMP.dwg - Layout Tab: 23 BMP



HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

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Issue Date: 07/03/2023
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Plot time: Jan 13, 2025 - 9:54am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 BMP.dwg - Layout Tab: 23a BMP

Sheet Flow Off Site

Filter Strip Area

Drainage Area

MATCHLINE: STA. 122+50
SEE SHEET 23a

TUSTEES OF MIAMI UNIVERSITY
#0001150000A

HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

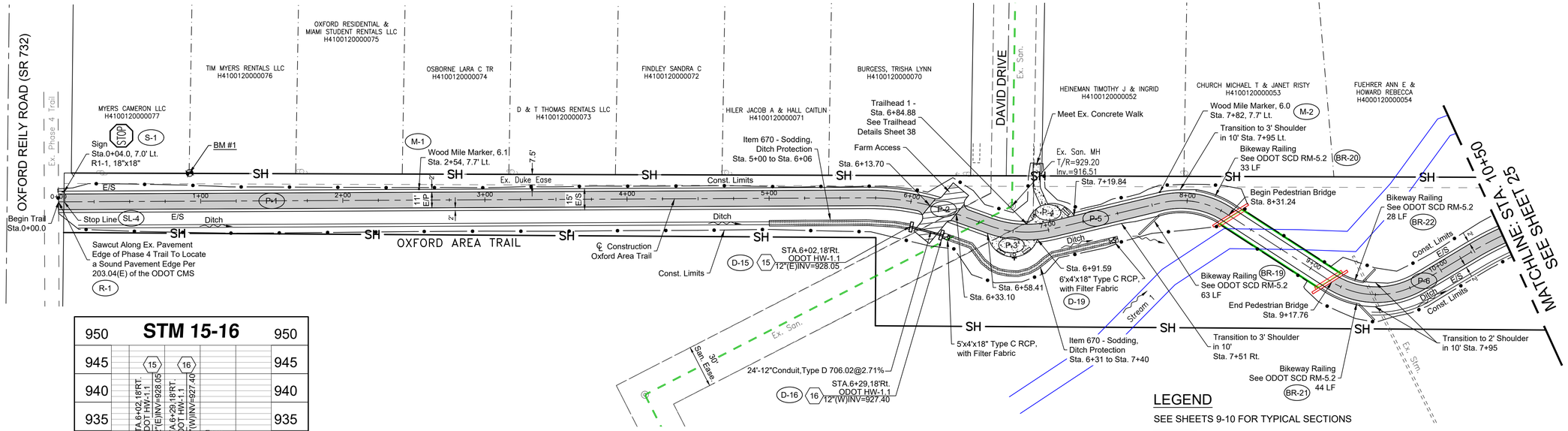
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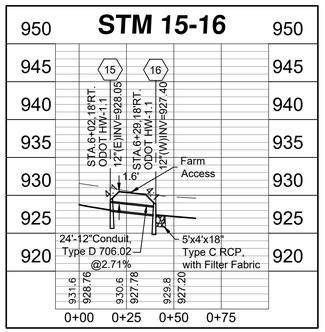
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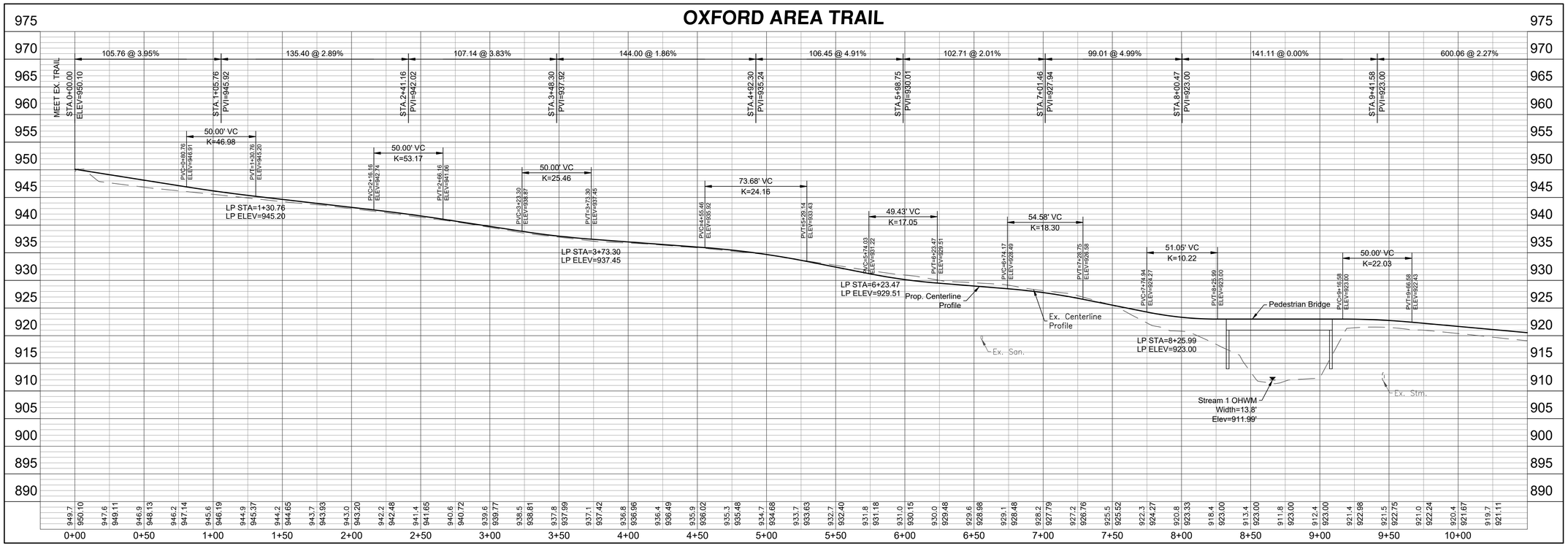
Drawing: 22-0273 BMP
Drawn by: CPT
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Issue Date: 07/03/2023
Sheet: 23b/161

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Plot time: Jan 13, 2025 - 9:55am
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Plot time: Jan 13, 2025 - 3:37pm
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HORIZONTAL
0 40 60
SCALE: 1" = 40'
VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - STA. 0+00 TO STA. 10+50

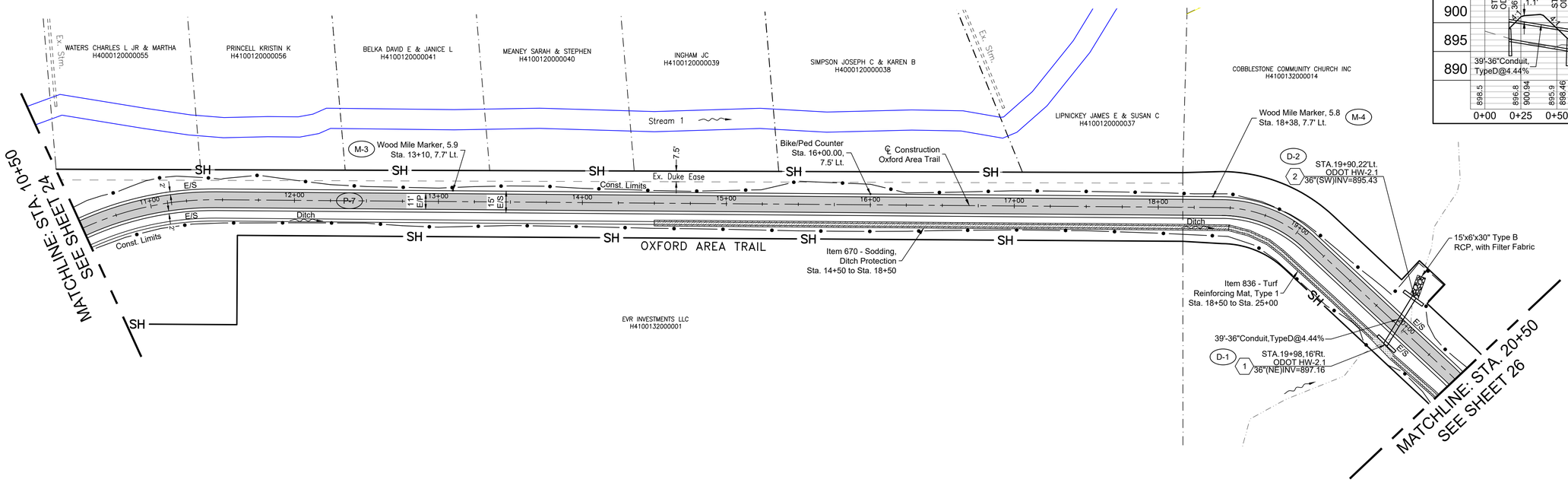
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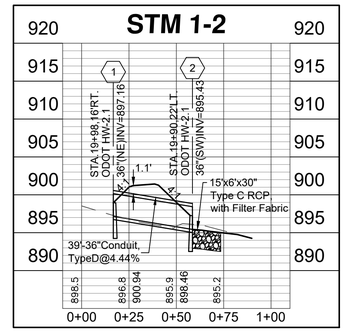
Drawing: 22-0273 P&P
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 24/161

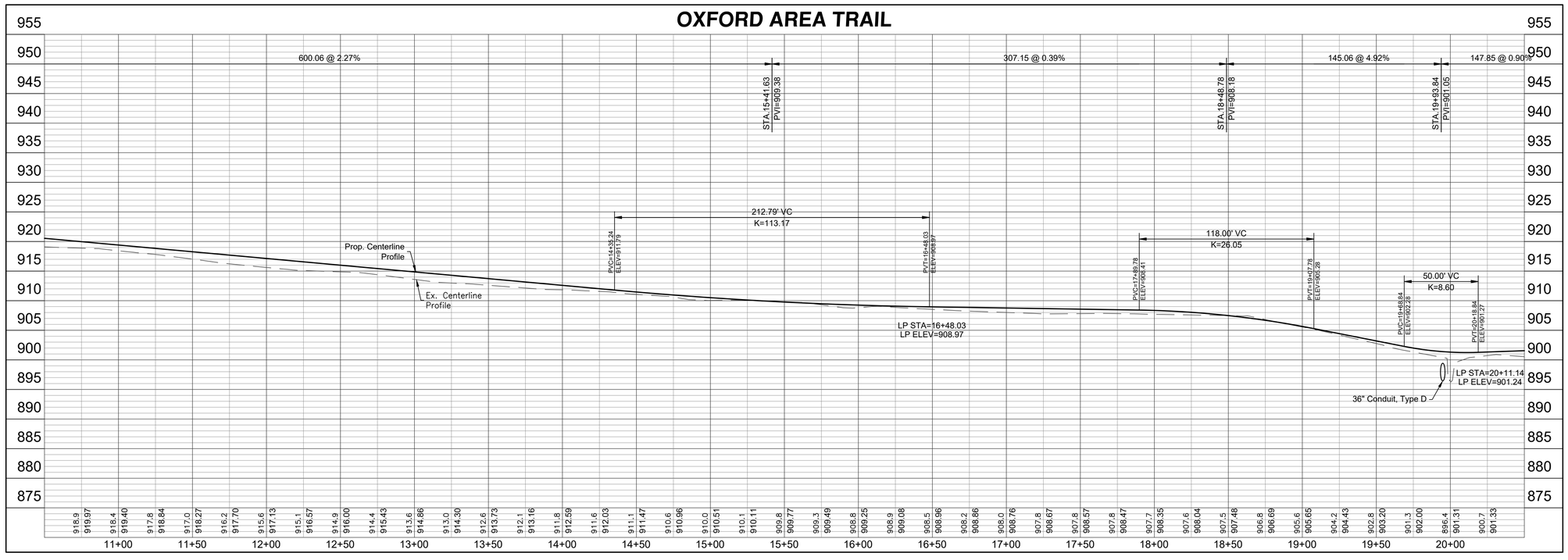
LEGEND

SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY







HORIZONTAL 0 40 60 SCALE: 1" = 40'

VERTICAL 0 10 15 SCALE: 1" = 10'

Item	Date	Revision Description	Chk.
1	10-23-23	Revised per ODOT and City comments.	EMR
2	05-24-24	Revised per ODOT and City comments.	EMR
3	01-13-25	Revised per ODOT and City comments.	EMR

Drwn: CPT SJW

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - STA. 10+50 TO STA. 20+50 OXFORD AREA TRAIL

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Checked By: EMR
Issue Date: 07/03/2023
Sheet: 25/161

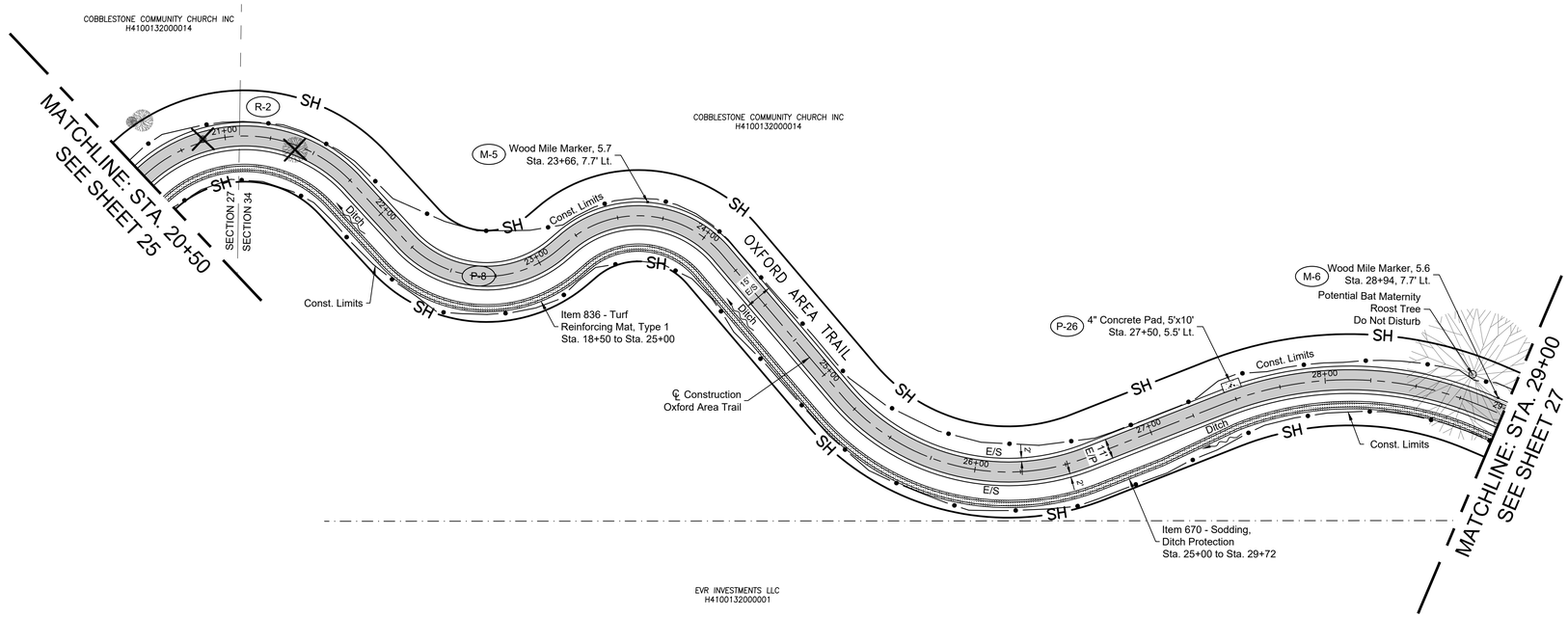
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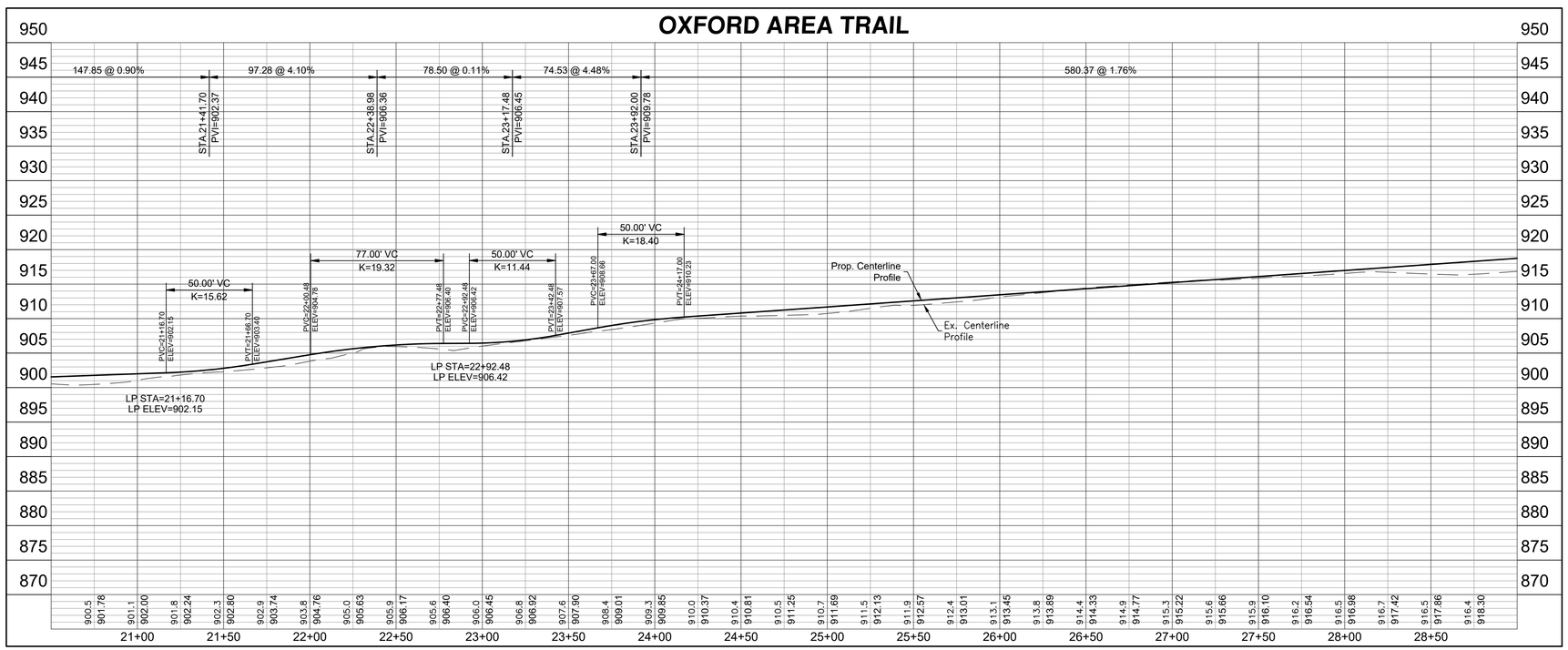
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LEGEND

SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY





Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - STA. 20+50 TO STA. 29+00

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Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 26/161

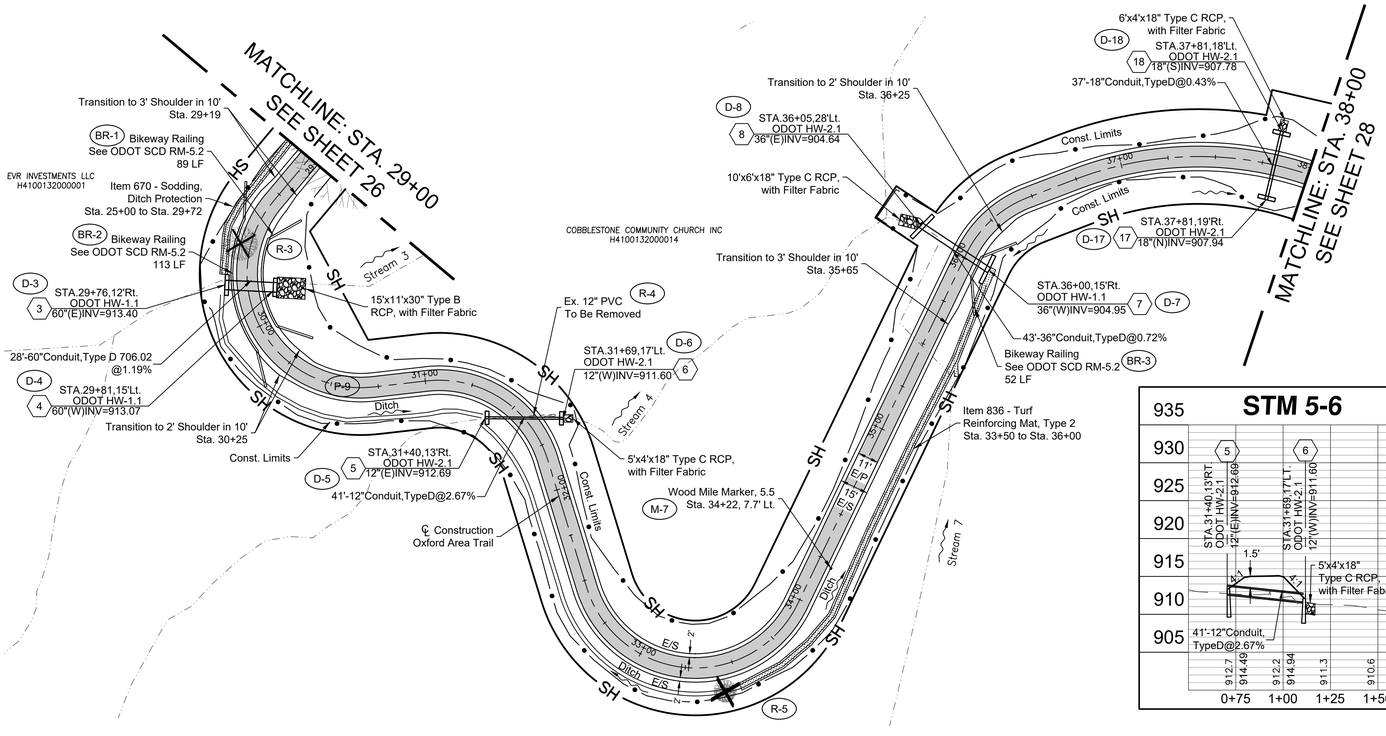
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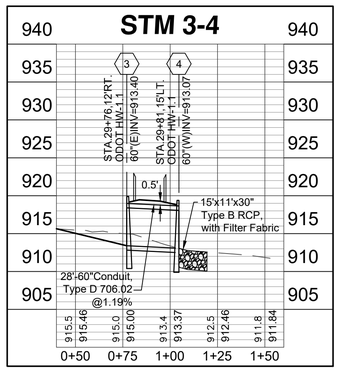
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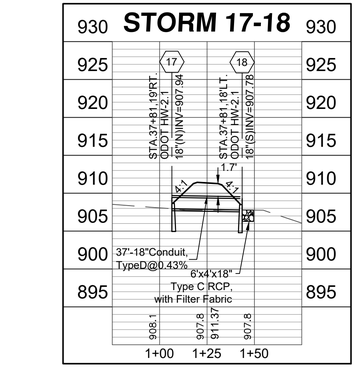
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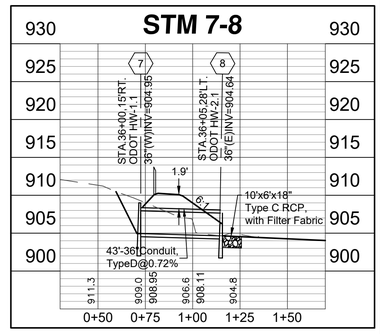
SEE SHEETS 9-10 FOR TYPICAL SECTIONS

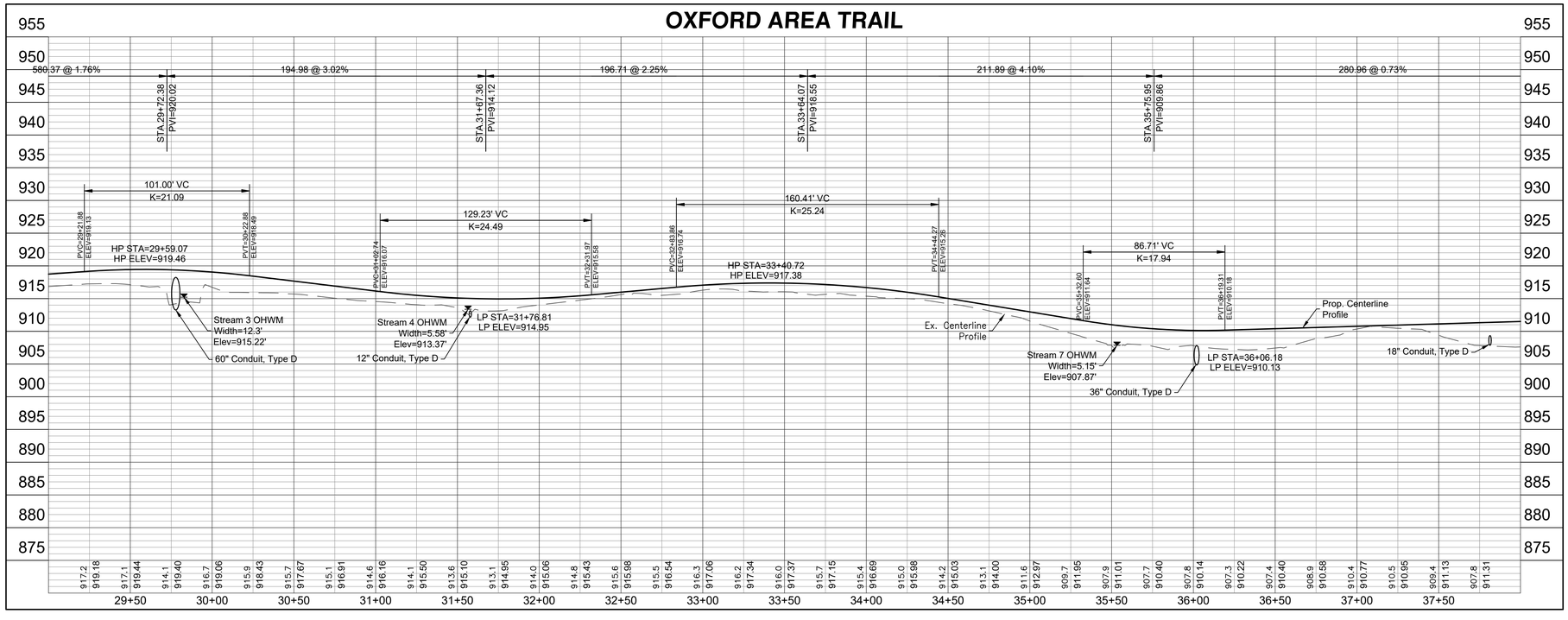
- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY
- WETLAND (DO NOT DISTURB BEYOND CONSTRUCTION LIMITS)











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HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

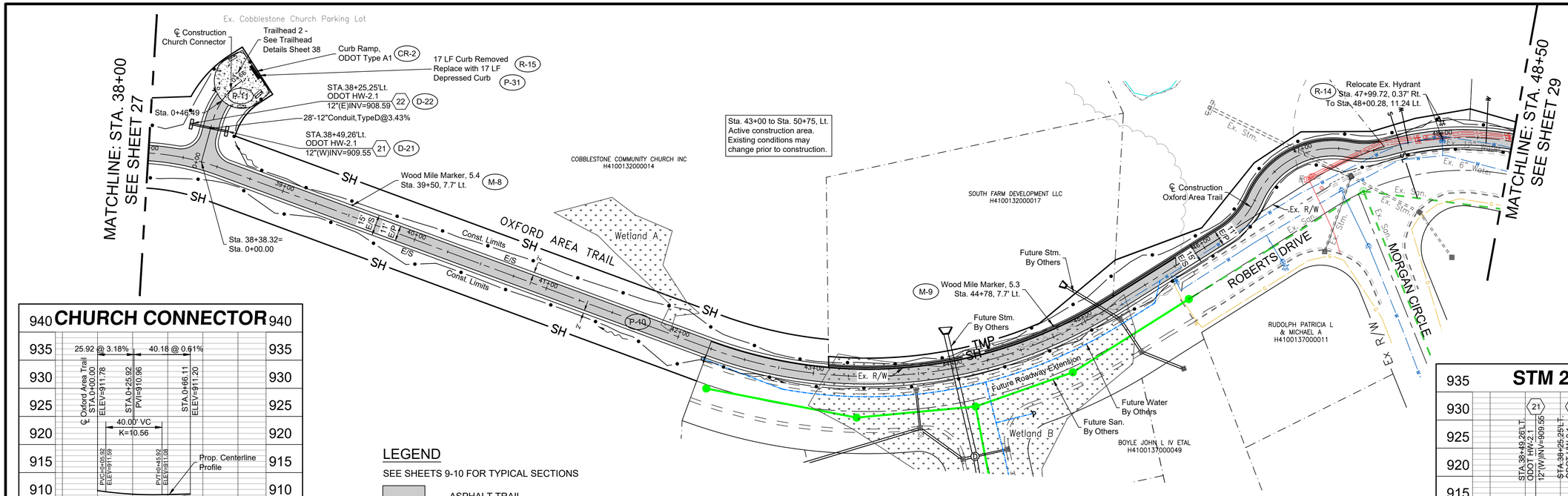
PLAN & PROFILE - STA. 29+00 TO STA. 38+00

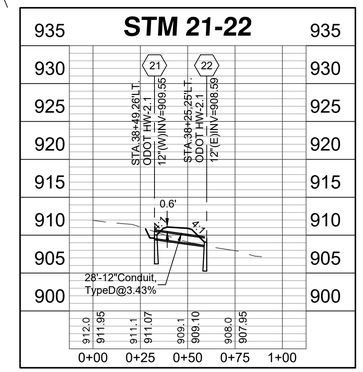
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Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023

Sheet: 27/161

Plot time: Jan 12, 2025 - 10:32pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 P&P.dwg - Layout Tab: 27 P&P 29+00

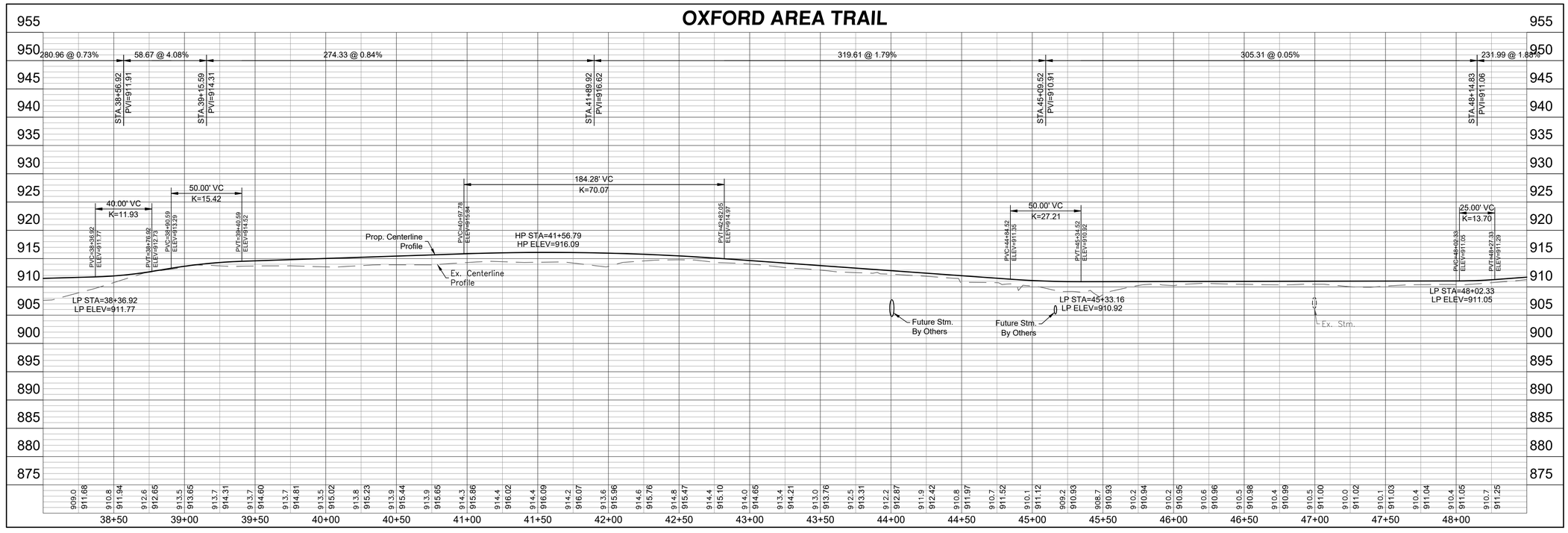




LEGEND

SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY
- WETLAND (DO NOT DISTURB BEYOND CONSTRUCTION LIMITS)



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HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Dwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - STA. 38+00 TO STA. 48+50

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Drawing: 22-0273 P&P
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Checked By: EMR
Issue Date: 07/03/2023
Sheet: 28/161

Plot time: Jan 12, 2025 - 10:32am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 P&P.dwg - Layout Tab: 28 P&P 38+00

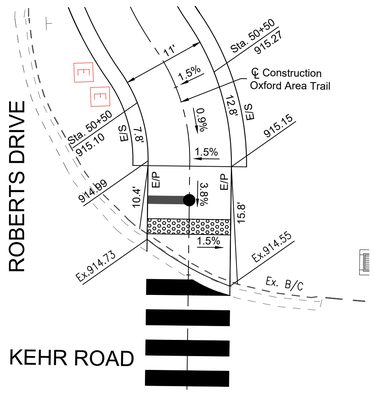
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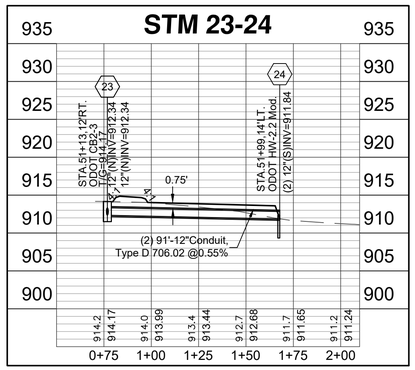
SEE SHEETS 9-10 FOR TYPICAL SECTIONS

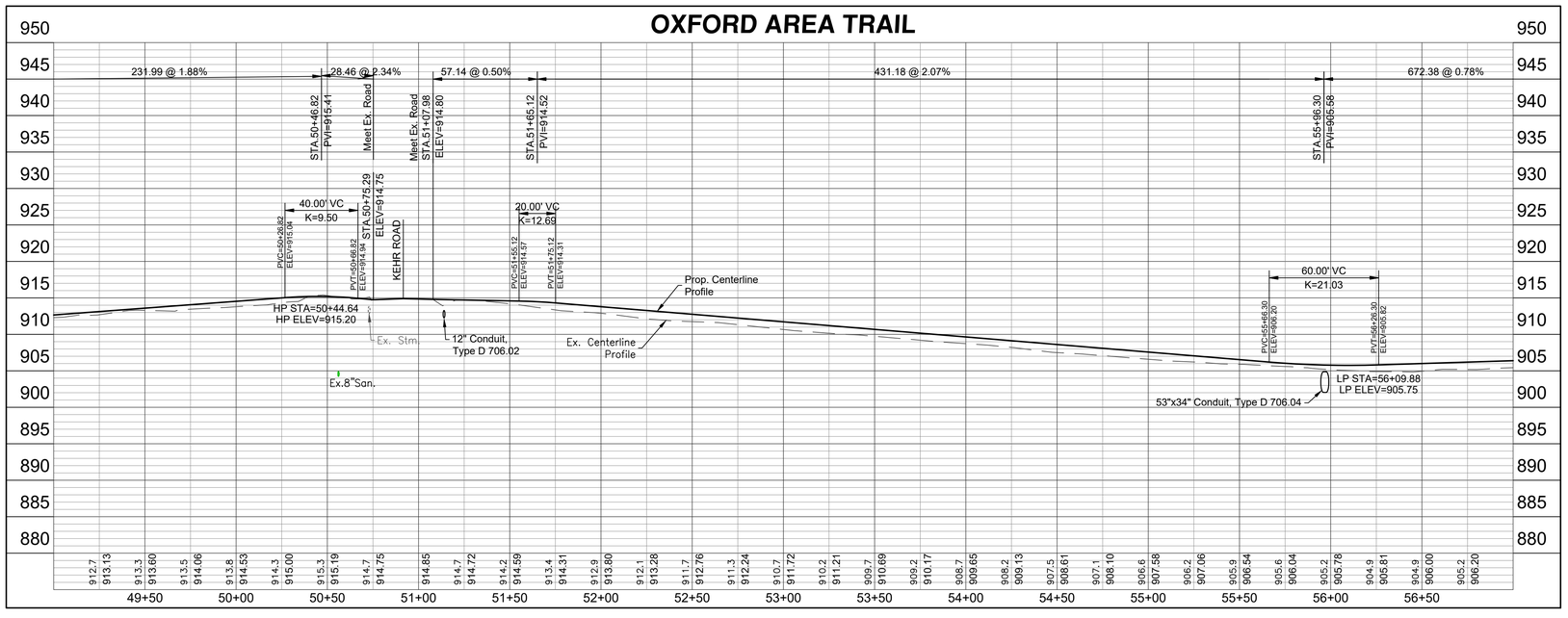
- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY
- WETLAND (DO NOT DISTURB BEYOND CONSTRUCTION LIMITS)

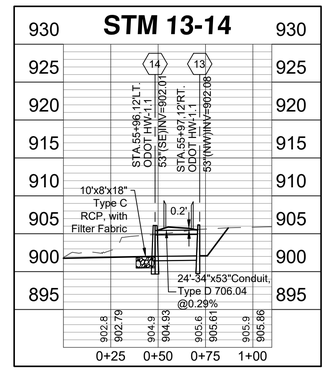
CURB RAMP DETAIL

SCALE: 1"=10'









MATCHLINE: STA. 57+00
SEE SHEET 30

Item	Date	Revision Description
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2	05-24-24	Revised per ODOT and City comments.
3	01-13-25	Revised per ODOT and City comments.

	Chk:	Drwn:
	EMR	CPT
	EMR	CPT
	EMR	SJW

HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - STA. 48+50 TO STA. 57+00

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Drawing:	22-0273 P&P
Drawn by:	CPT
Checked By:	EMR
Issue Date:	07/03/2023
Sheet:	29/161

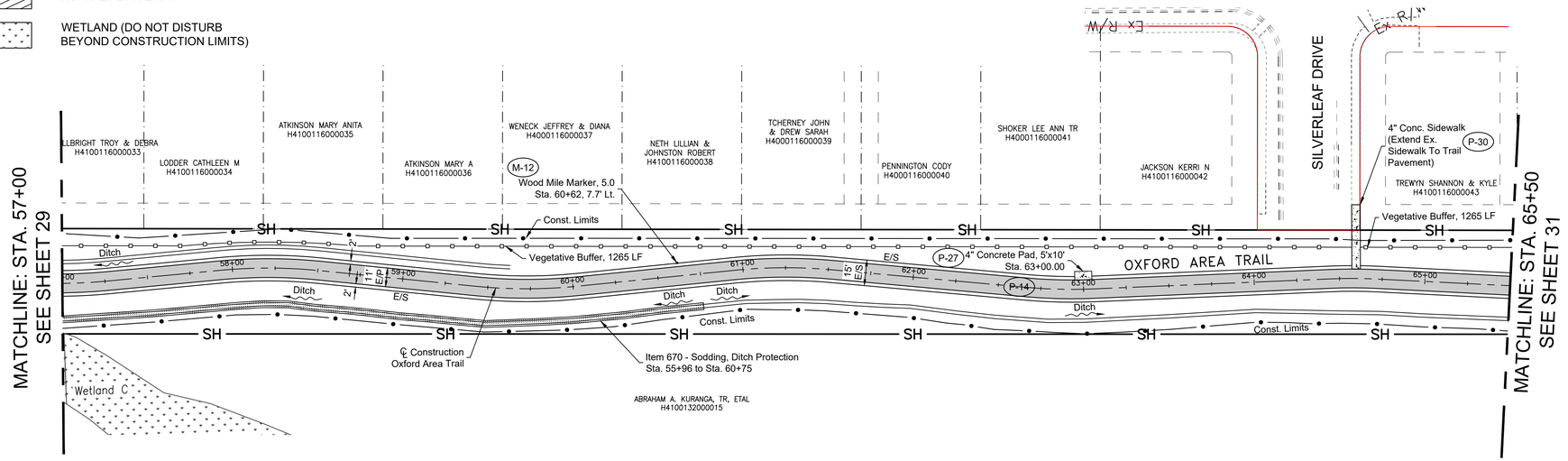
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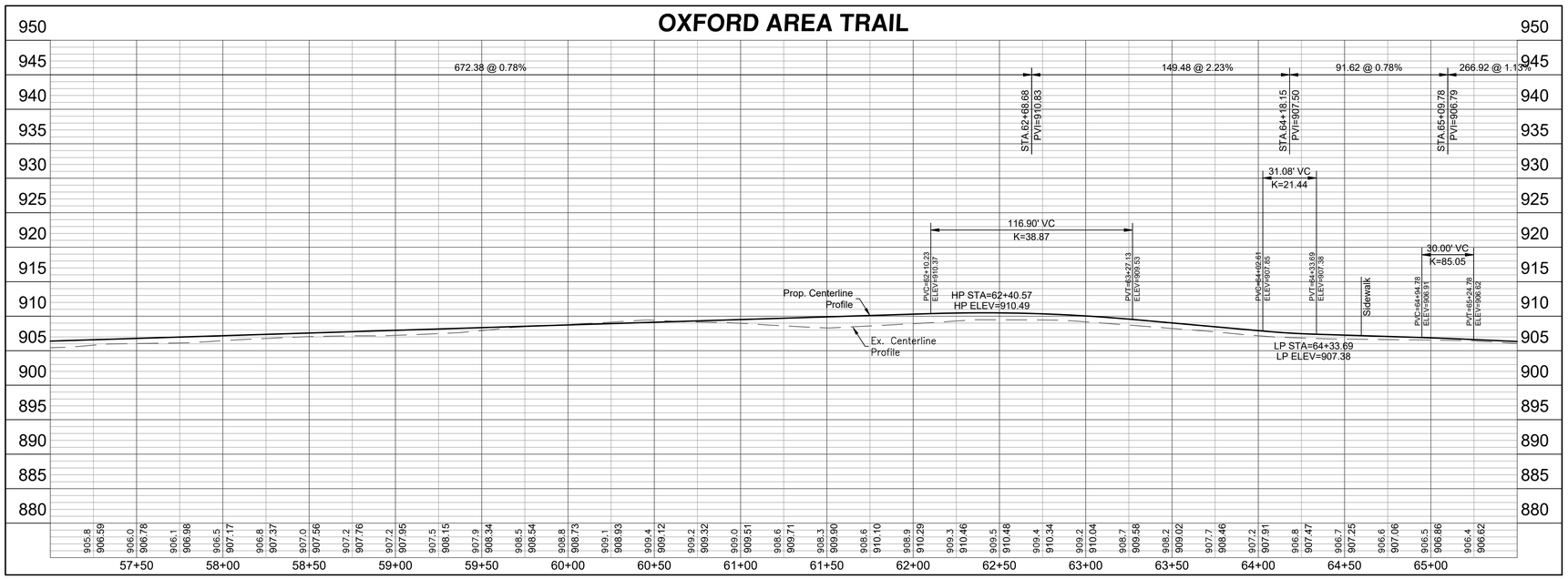
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LEGEND

SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY
- WETLAND (DO NOT DISTURB BEYOND CONSTRUCTION LIMITS)





HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL PHASE 5

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BUTLER COUNTY, OHIO

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Issue Date: 07/03/2023
Sheet: 30/161

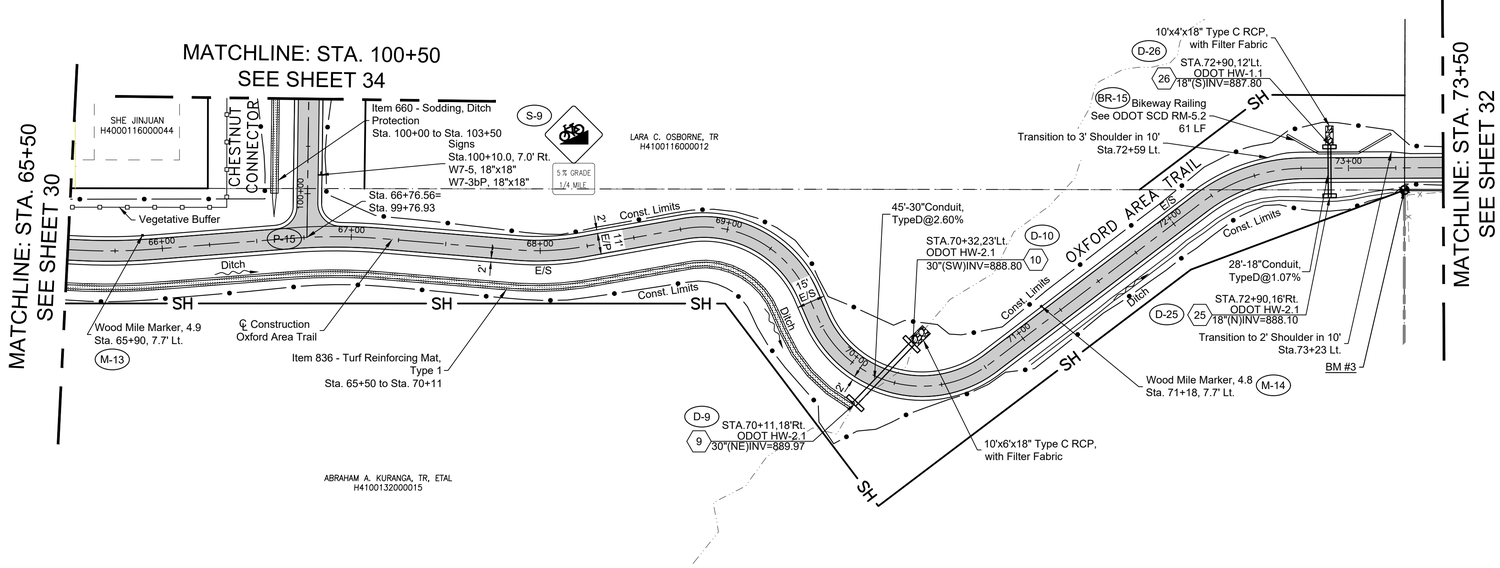
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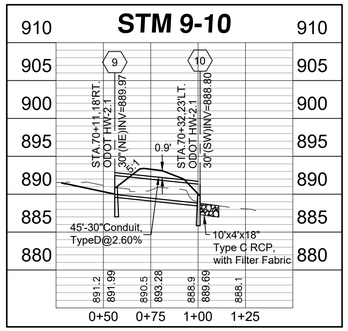
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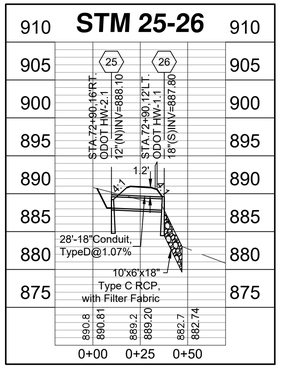
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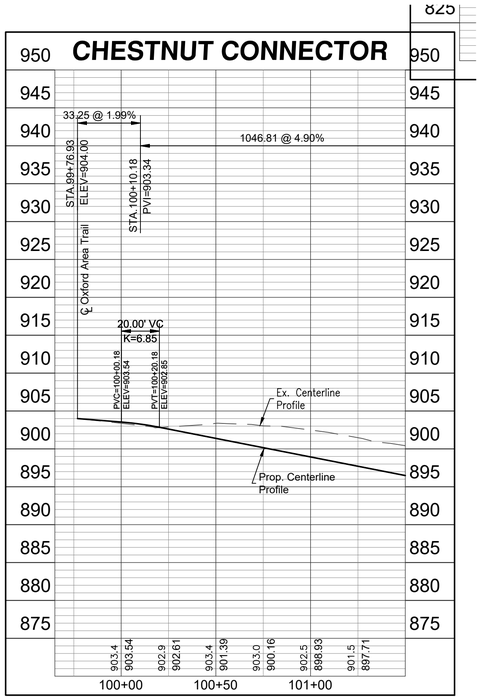
SEE SHEETS 9-10 FOR TYPICAL SECTIONS

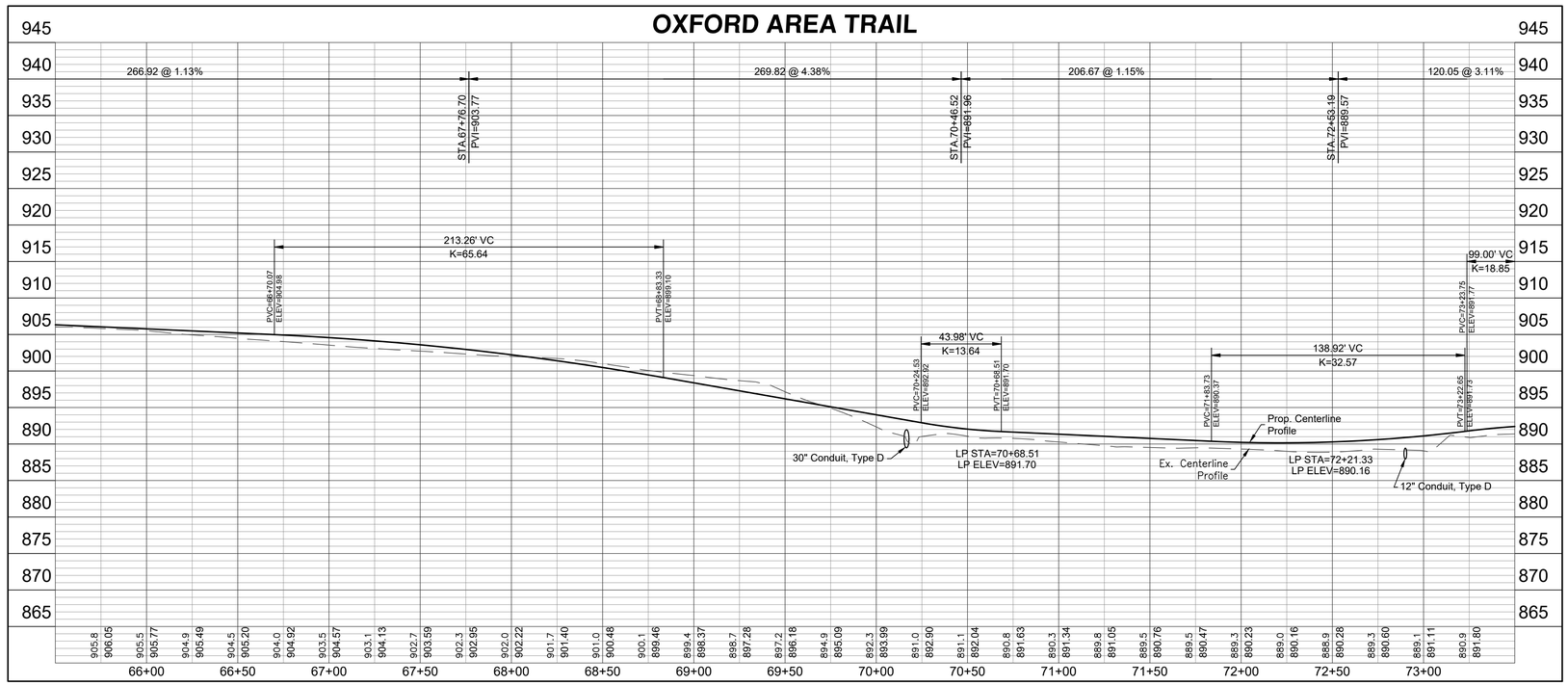
- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY











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HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Dwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - STA. 65+50 TO STA. 73+25

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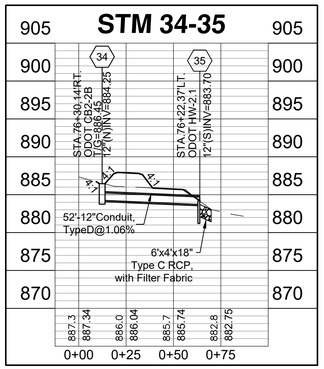
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Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 31/161

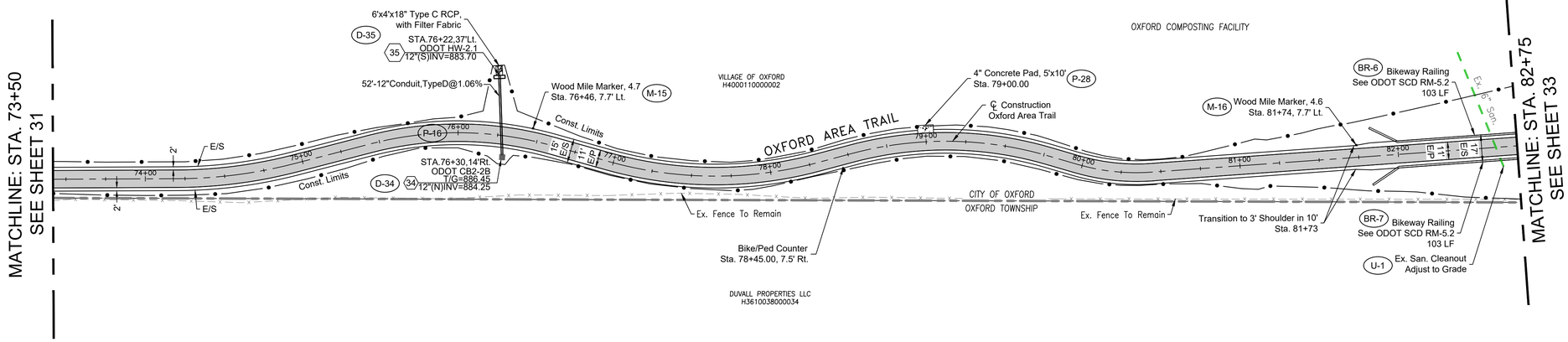
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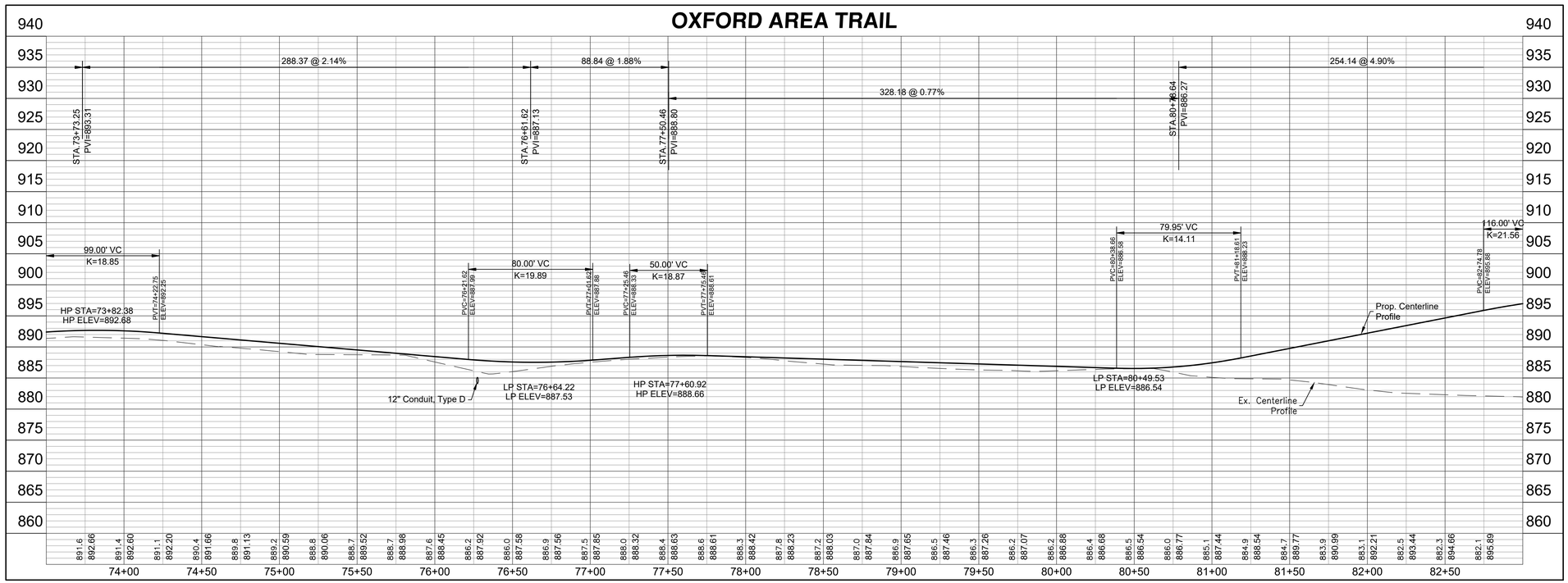
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SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY







HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Dwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - STA. 73+25 TO STA. 82+75

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Drawing: 22-0273 P&P
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 32/161

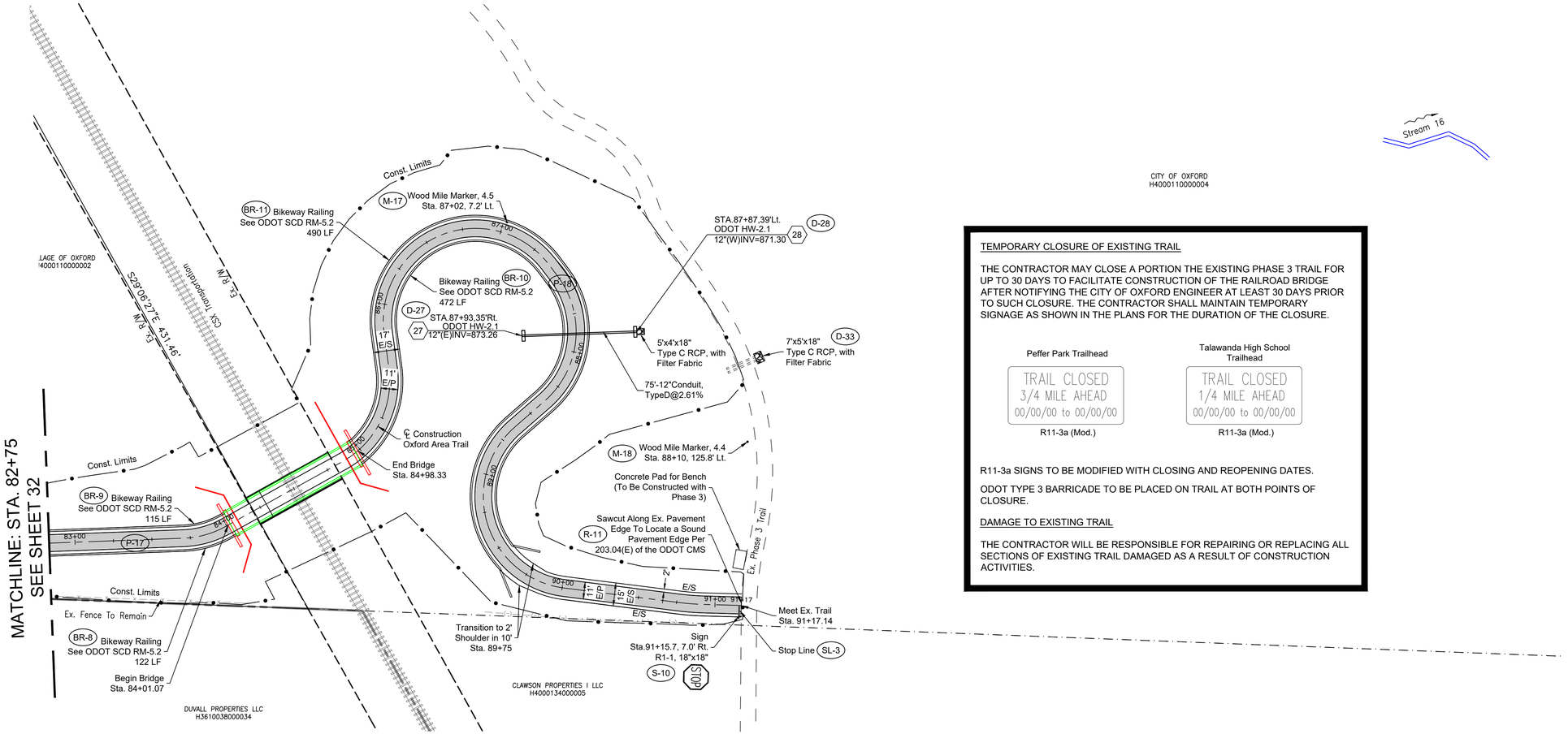
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Plot time: Jan 12, 2025 - 10:34pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 P&P.dwg - Layout Tab: 32 P&P 73+50

LEGEND

SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY



TEMPORARY CLOSURE OF EXISTING TRAIL

THE CONTRACTOR MAY CLOSE A PORTION THE EXISTING PHASE 3 TRAIL FOR UP TO 30 DAYS TO FACILITATE CONSTRUCTION OF THE RAILROAD BRIDGE AFTER NOTIFYING THE CITY OF OXFORD ENGINEER AT LEAST 30 DAYS PRIOR TO SUCH CLOSURE. THE CONTRACTOR SHALL MAINTAIN TEMPORARY SIGNAGE AS SHOWN IN THE PLANS FOR THE DURATION OF THE CLOSURE.

Peffer Park Trailhead

TRAIL CLOSED
3/4 MILE AHEAD
00/00/00 to 00/00/00

R11-3a (Mod.)

Talawanda High School Trailhead

TRAIL CLOSED
1/4 MILE AHEAD
00/00/00 to 00/00/00

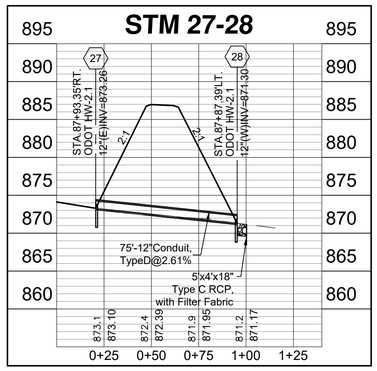
R11-3a (Mod.)

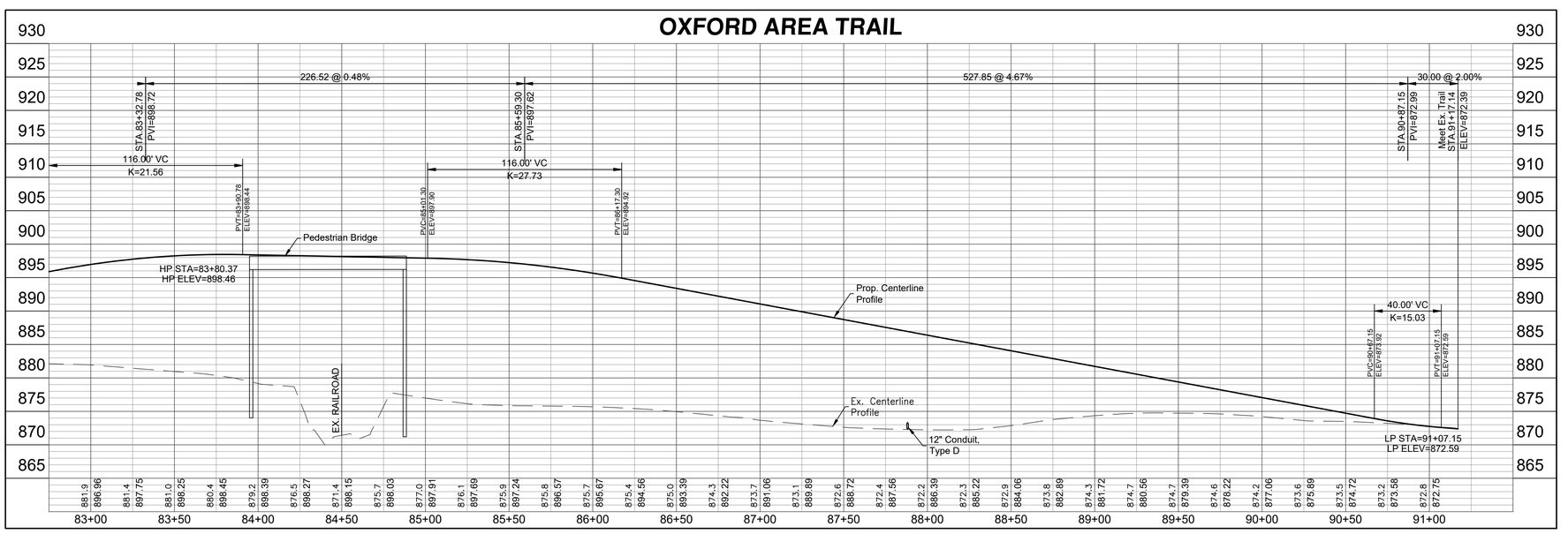
R11-3a SIGNS TO BE MODIFIED WITH CLOSING AND REOPENING DATES.

ODOT TYPE 3 BARRICADE TO BE PLACED ON TRAIL AT BOTH POINTS OF CLOSURE.

DAMAGE TO EXISTING TRAIL

THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING OR REPLACING ALL SECTIONS OF EXISTING TRAIL DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.





HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - STA. 82+75 TO STA. 91+17.14

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Drawn by: CPT
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Issue Date: 07/03/2023
Sheet: 33/161

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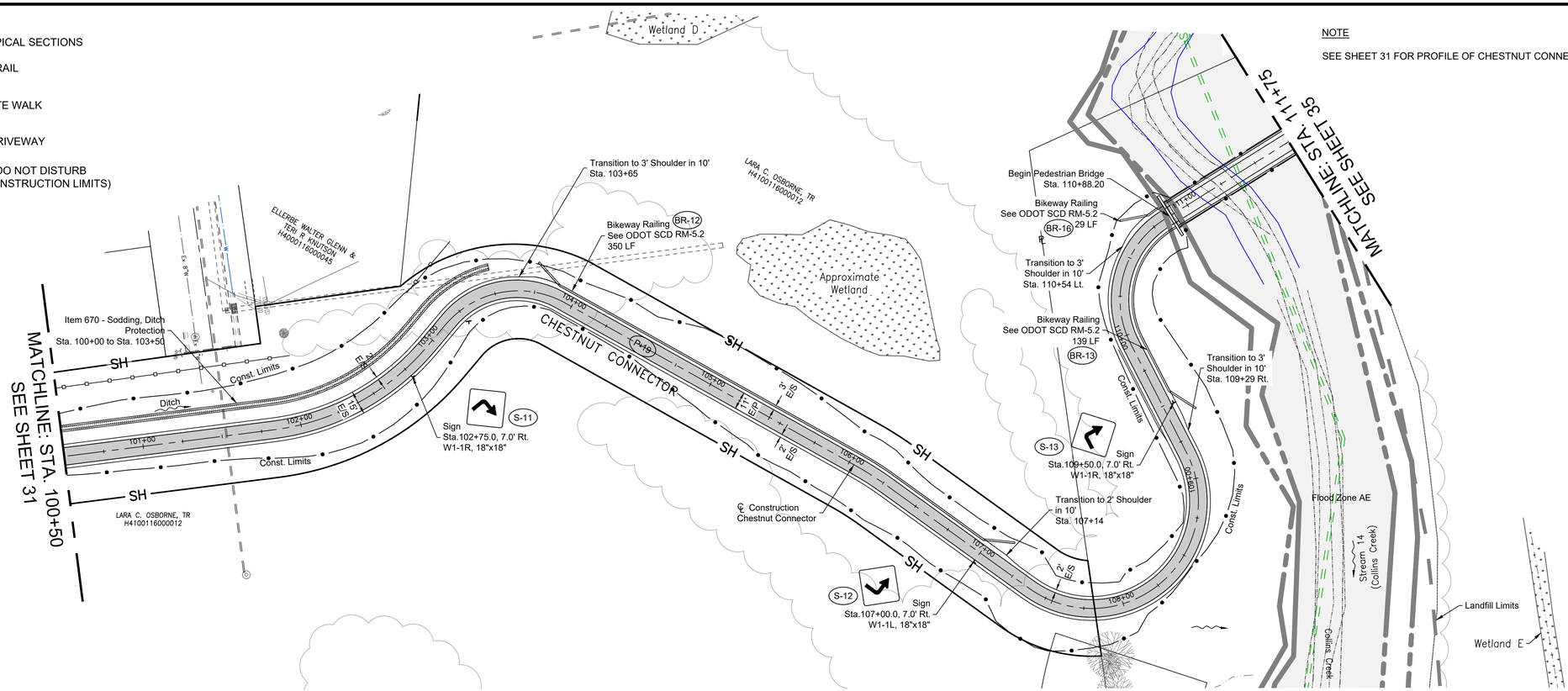
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SEE SHEETS 9-10 FOR TYPICAL SECTIONS

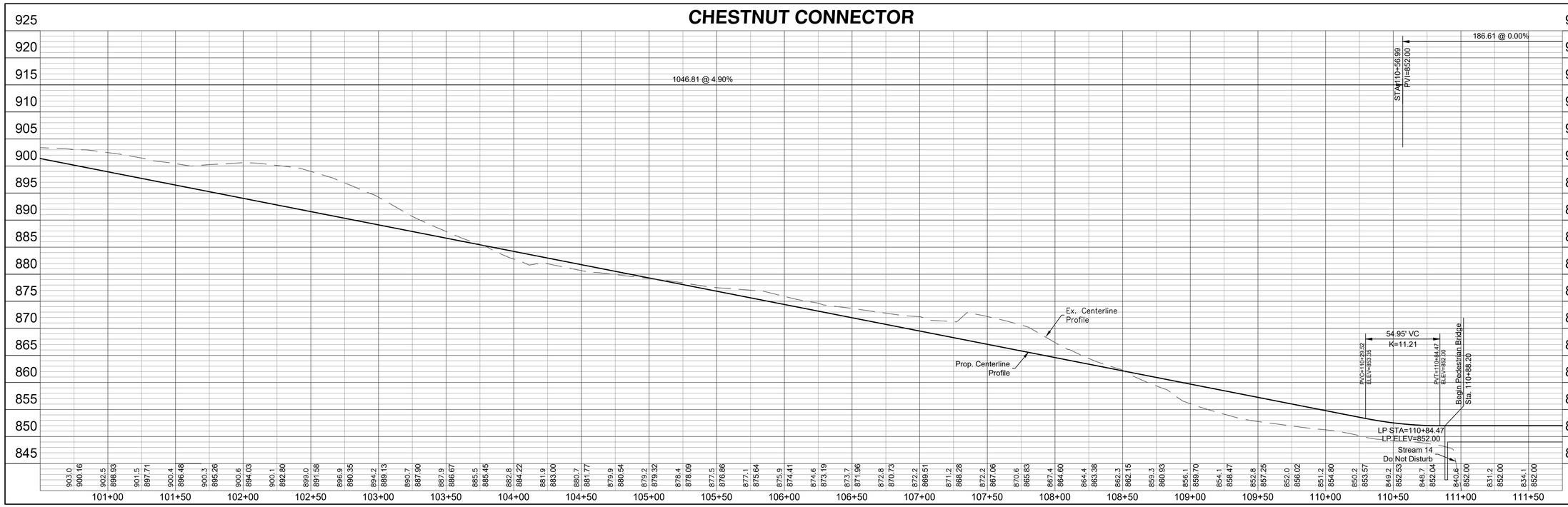
- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY
- WETLAND (DO NOT DISTURB BEYOND CONSTRUCTION LIMITS)

NOTE

SEE SHEET 31 FOR PROFILE OF CHESTNUT CONNECTOR STA. 99+76.93 TO STA 100+50.



CHESTNUT CONNECTOR



HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

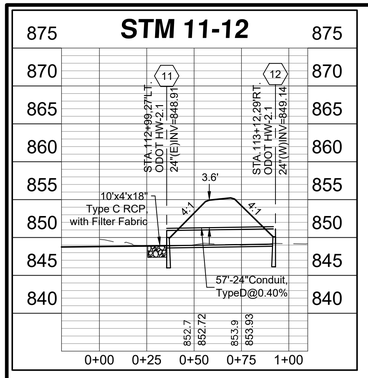
PLAN & PROFILE - CONNECTOR - STA. 100+50 TO STA. 111+75

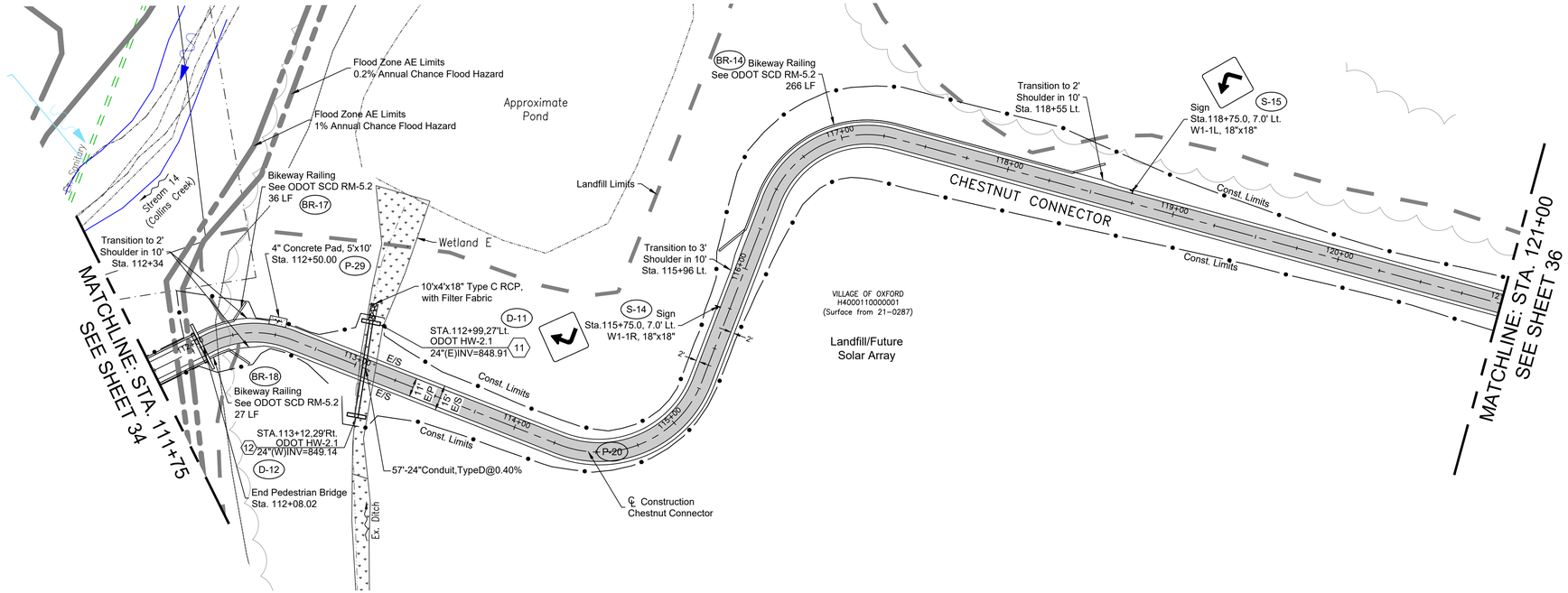
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Drawing: 22-0273 P&P CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 34/161

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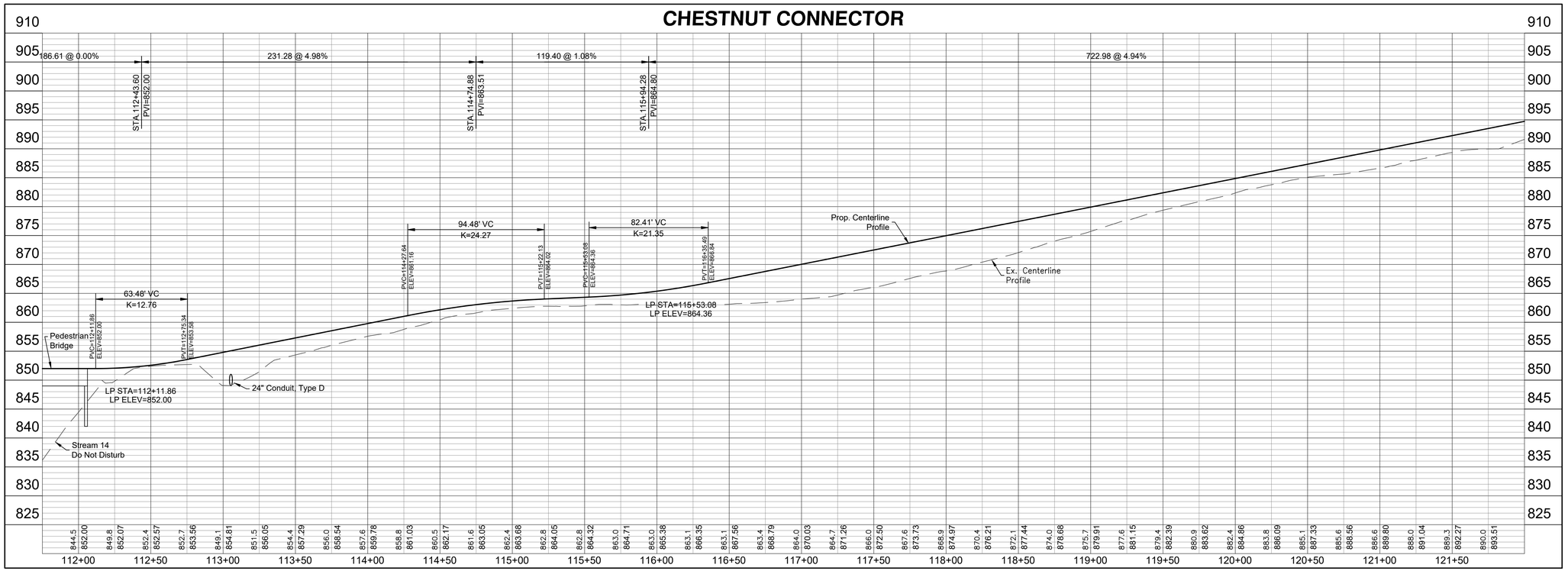




LEGEND

SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY
- WETLAND (DO NOT DISTURB BEYOND CONSTRUCTION LIMITS)



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HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - CONNECTOR - STA. 111+75 TO STA. 122+00

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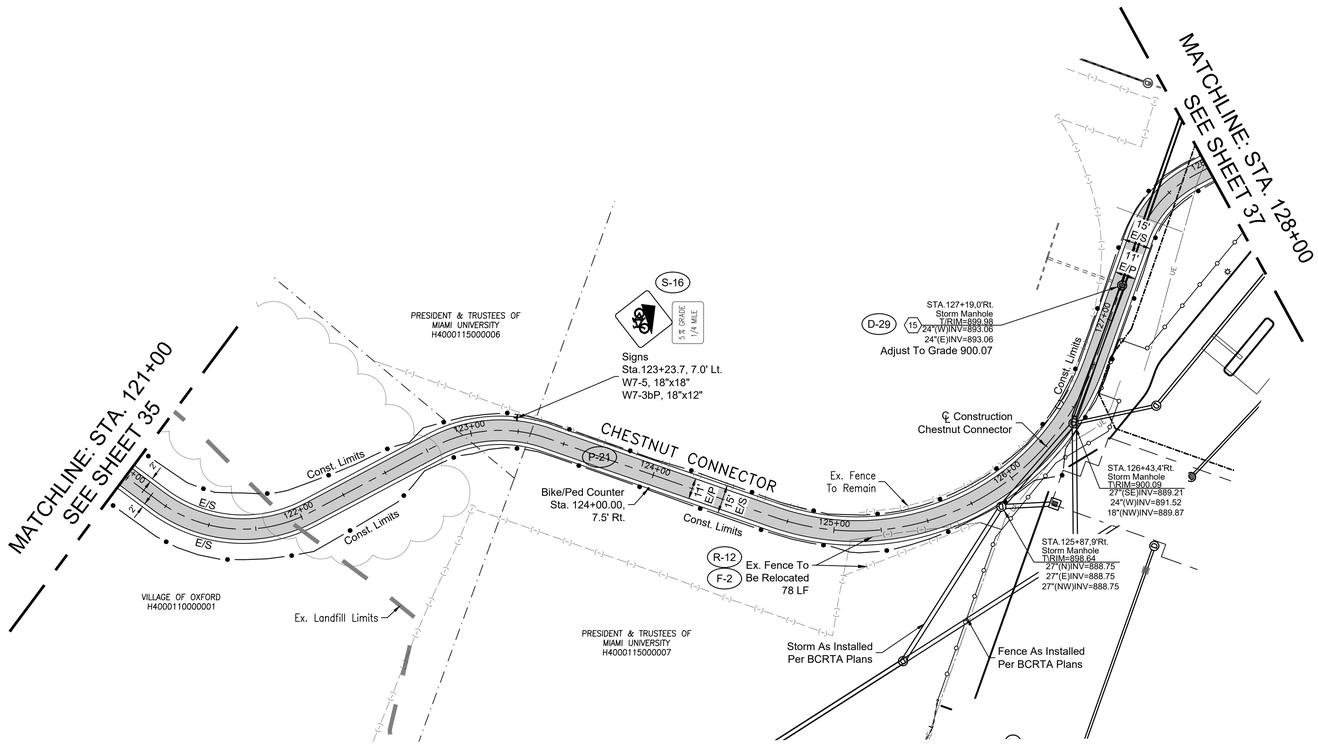
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Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 35/161

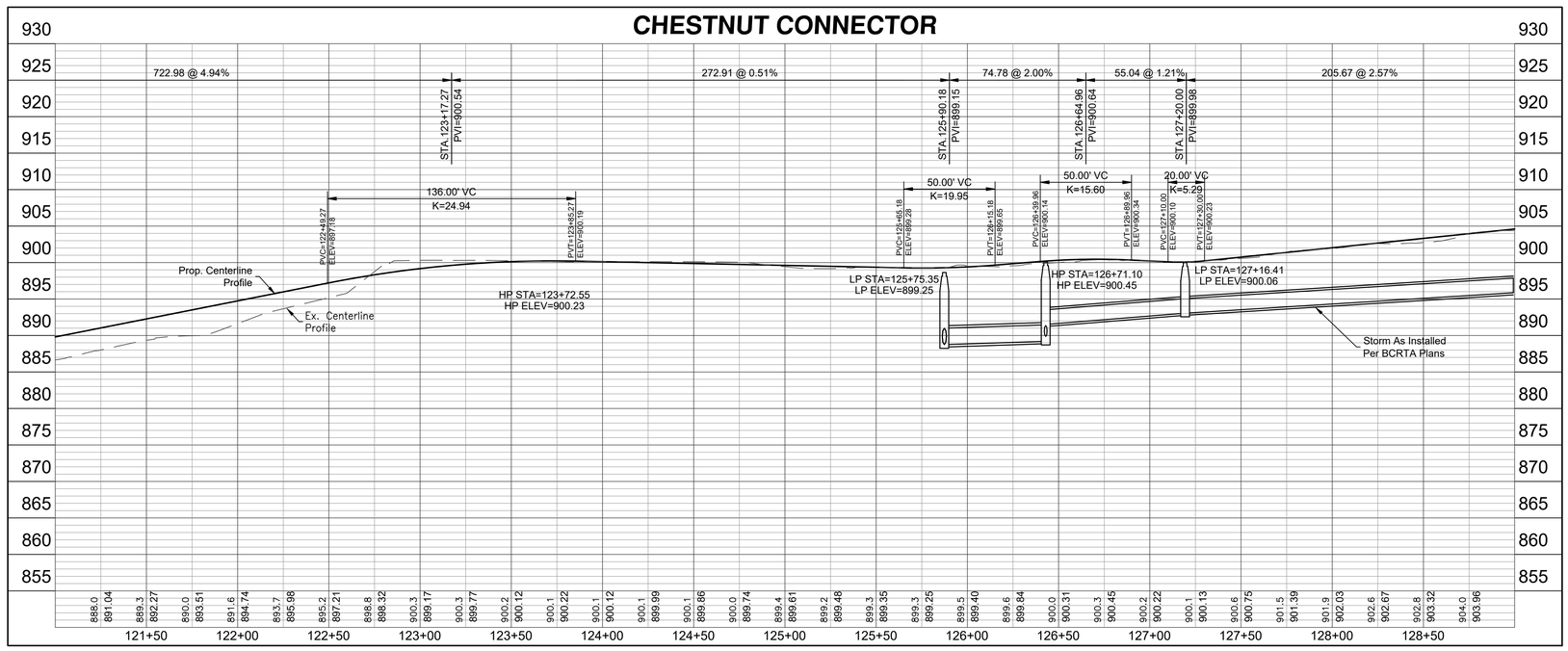
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LEGEND

SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY





HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

PLAN & PROFILE - CONNECTOR - STA. 121+00 TO STA. 128+00

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Drawing: 22-0273 P&P CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 36/161

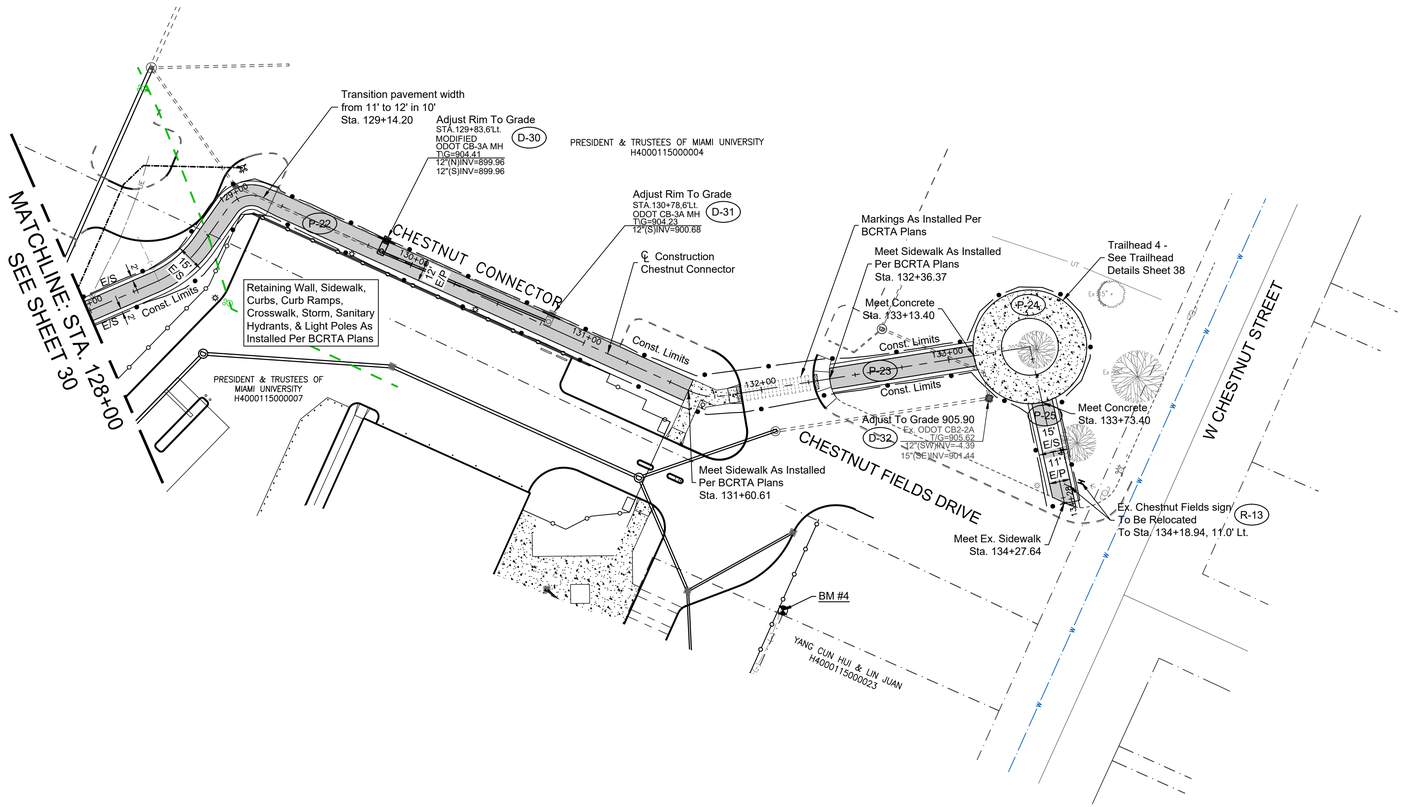
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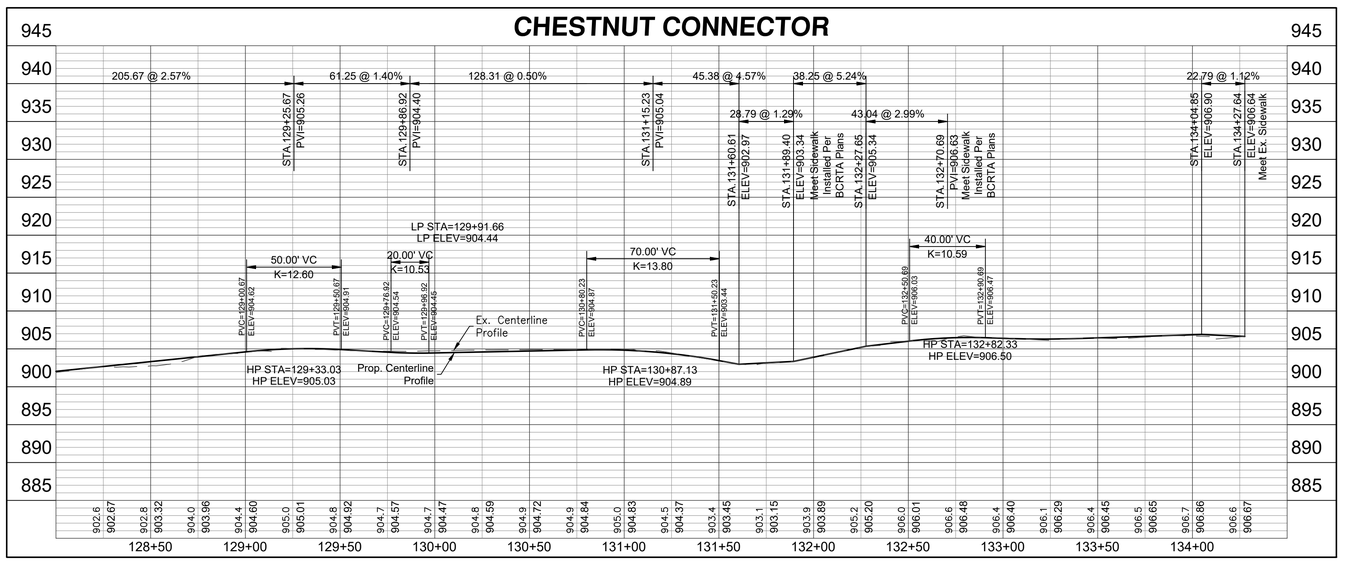
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LEGEND

SEE SHEETS 9-10 FOR TYPICAL SECTIONS

- ASPHALT TRAIL
- 5" CONCRETE WALK
- ASPHALT DRIVEWAY





HORIZONTAL
0 40 60
SCALE: 1" = 40'

VERTICAL
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

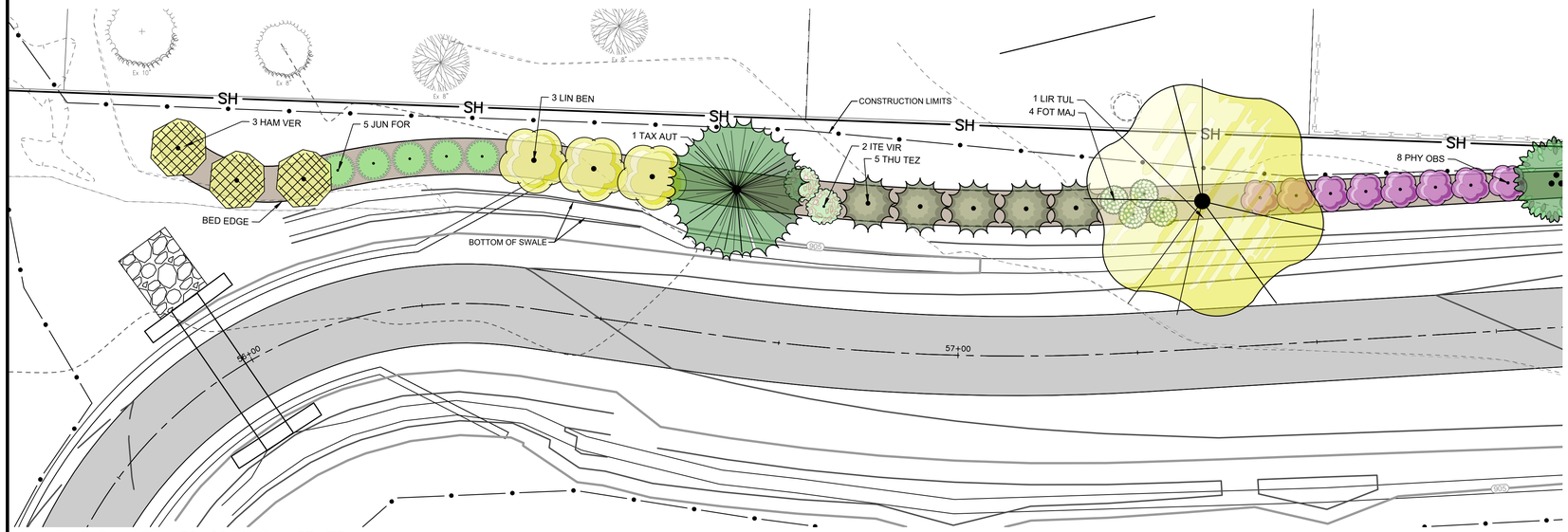
PLAN & PROFILE - CONNECTOR - STA. 128+00 TO STA. 134+29

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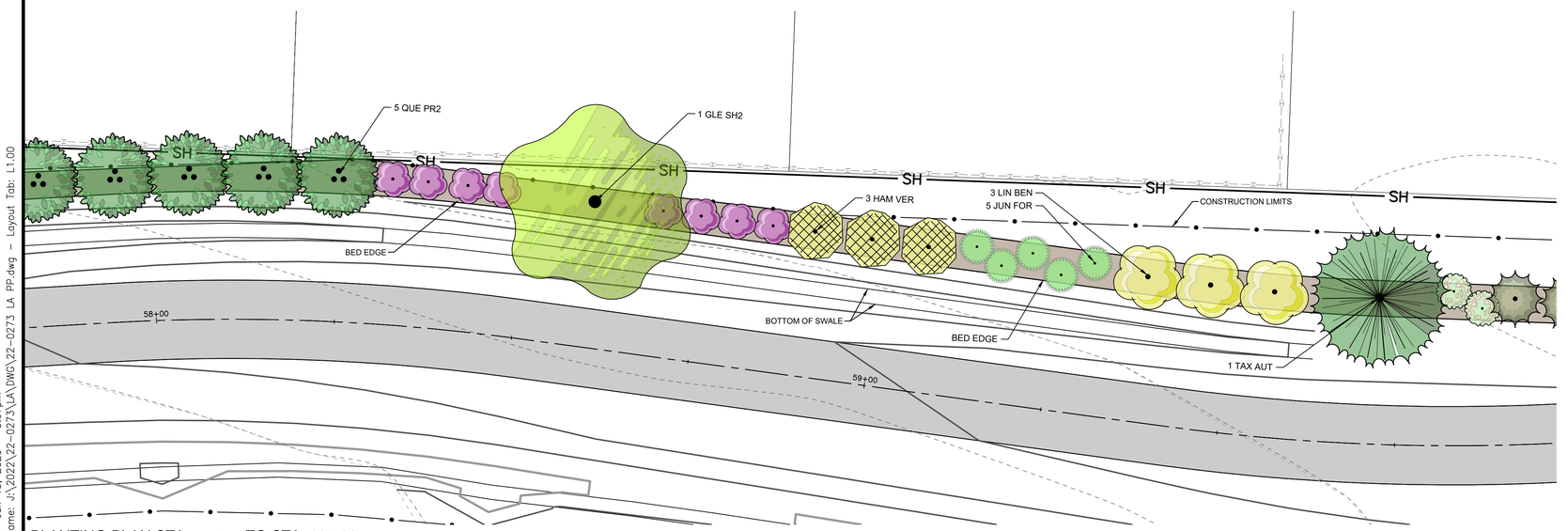
Drawing: 22-0273 P&P CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 37/161

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Plot time: Jan 13, 2025 - 8:50am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 P&P Connector.dwg - Layout Tab: 37 P&P 128+00



PLANTING PLAN STA. 56+00 TO STA. 57+75



PLANTING PLAN STA. 57+75 TO STA. 60+00

PLANT SCHEDULE 1

CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE	MIN. SIZE
DECIDUOUS TREES					
LIR TUL	1	Liriodendron tulipifera	Tulip Tree	B & B	2.5"Cal
TAX AUT	1	Taxodium distichum `Autumn Gold`	Autumn Gold Bald Cypress	B & B	2"Cal
EVERGREEN TREES					
THU TEZ	5	Thuja occidentalis `Techny`	Techny Arborvitae	B & B	6` Ht.
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT
DECIDUOUS SHRUBS					
FOT MAJ	4	Fothergilla major `Mount Airy`	Mount Airy Fothergilla	B & B	18" Ht.
HAM VER	3	Hamamelis vernalis `Vernal`	Ozark Witch Hazel	B & B	36" Ht.
ITE VIR	2	Itea virginica `Henry`s Garnet`	Henry`s Garnet Sweetspire	B & B	18" Ht.
LIN BEN	3	Lindera benzoin	Spicebush	3 gal	18" Ht.
PHY OBS	8	Physocarpus opulifolius `Obsidian`	Obsidian Ninebark	3 gal	18" Ht.
EVERGREEN SHRUBS					
JUN FOR	5	Juniperus chinensis `Sea Green`	Sea Green Juniper	3 gal	36" Ht.

PLANTS QUANTITIES ON THIS SHEET ARE INCLUDED IN THE OVERALL PLANT SCHEDULE ON SHEET 37e/161.

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
	MULCH; SEE PLANTING NOTES FOR SPECIFICATIONS	

ALL DISTURBED AREAS TO BE SEED AND STRAWED.

PLANT SCHEDULE 2

CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE	MIN. SIZE
DECIDUOUS TREES					
GLE SH2	1	Gleditsia triacanthos inermis `Shademaster` TM	Shademaster Locust	B & B	2.5"Cal
QUE PR2	5	Quercus palustris 'Pringreen'	Green Pillar® Pin Oak	B & B	2"Cal
TAX AUT	1	Taxodium distichum `Autumn Gold`	Autumn Gold Bald Cypress	B & B	2"Cal
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT
DECIDUOUS SHRUBS					
HAM VER	3	Hamamelis vernalis `Vernal`	Ozark Witch Hazel	B & B	36" Ht.
LIN BEN	3	Lindera benzoin	Spicebush	3 gal	18" Ht.
PHY OBS	8	Physocarpus opulifolius `Obsidian`	Obsidian Ninebark	3 gal	18" Ht.
EVERGREEN SHRUBS					
JUN FOR	5	Juniperus chinensis `Sea Green`	Sea Green Juniper	3 gal	36" Ht.

PLANTS QUANTITIES ON THIS SHEET ARE INCLUDED IN THE OVERALL PLANT SCHEDULE ON SHEET 37e/161.

Basis of Bearing:
State Plane NAD83 (2011)

0 10 15

SCALE: 1" = 10'

Item	Revision Description	Date	Drwn	Chk

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

VEGETATIVE BUFFER PLAN: STA. 56+00 TO STA. 60+00

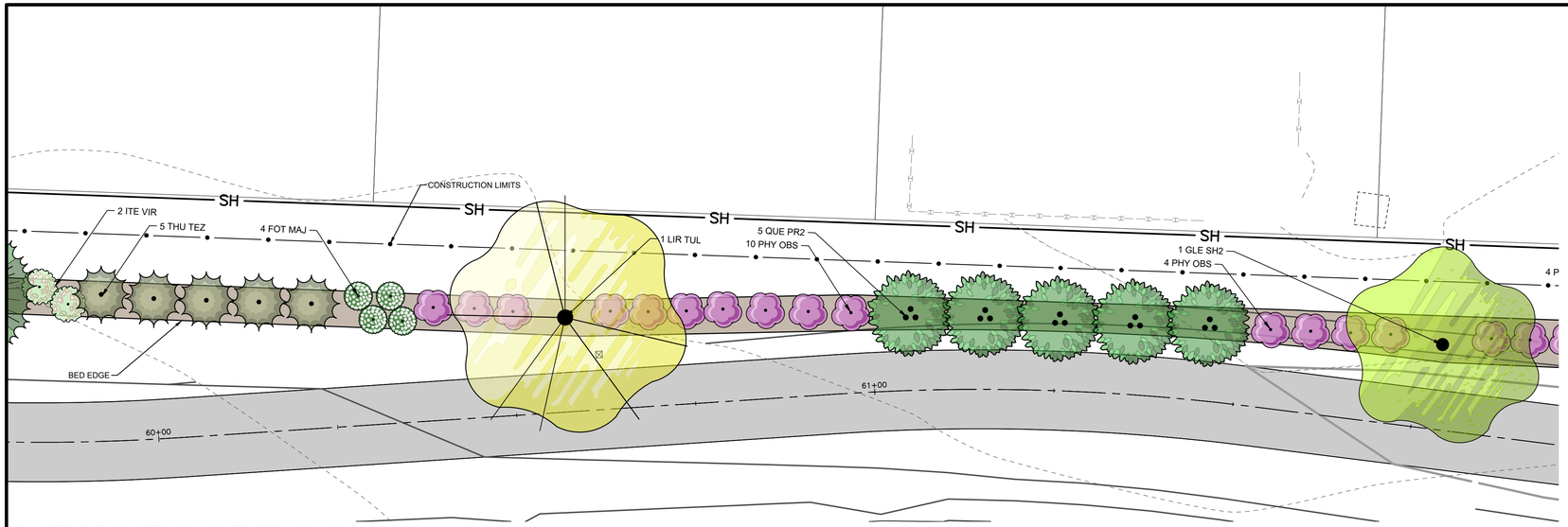
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Oxford, OH 45056 · 513.523.4270

Drawing: 22-0273 LA PP
Drawn by: ADH
Checked By: CJO
Issue Date: 1/13/25

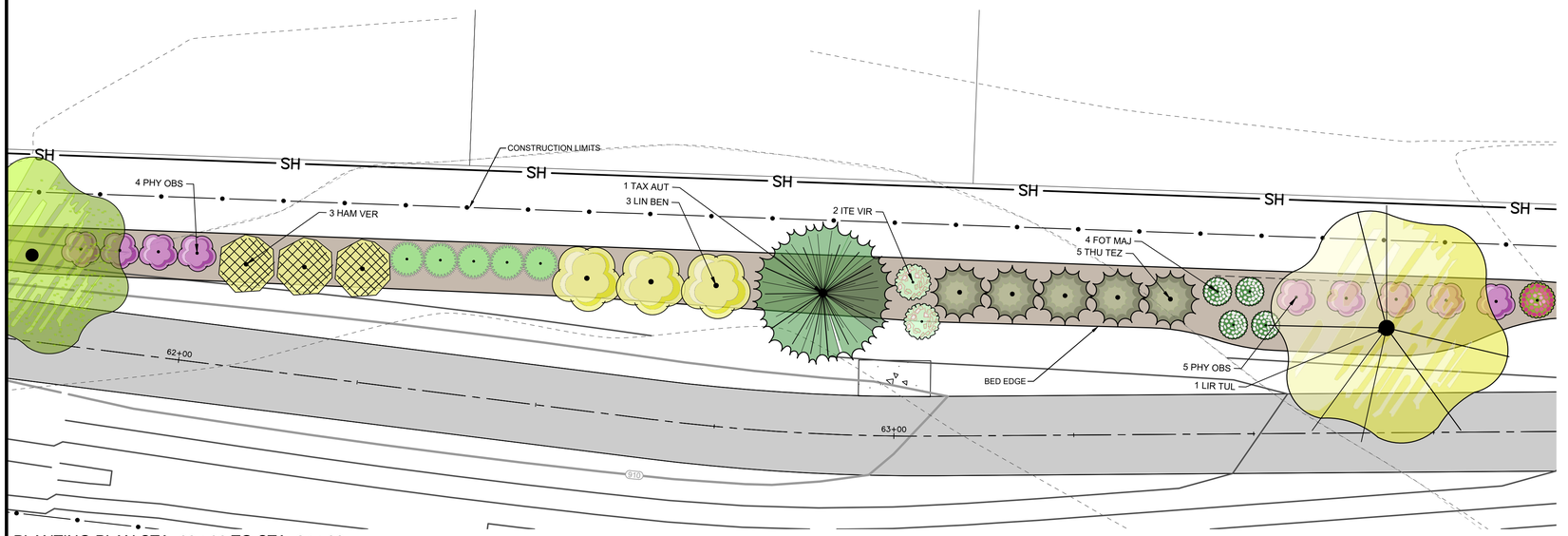
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PLANTING PLAN STA. 60+00 TO STA. 62+00



PLANTING PLAN STA. 62+00 TO STA. 64+00

PLANT SCHEDULE 3

CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE	MIN. SIZE
DECIDUOUS TREES					
GLE SH2	1	Gleditsia triacanthos inermis `Shademaster` TM	Shademaster Locust	B & B	2.5"Cal
LIR TUL	1	Liriodendron tulipifera	Tulip Tree	B & B	2.5"Cal
QUE PR2	5	Quercus palustris 'Pringreen'	Green Pillar® Pin Oak	B & B	2"Cal
EVERGREEN TREES					
THU TEZ	5	Thuja occidentalis `Techny`	Techny Arborvitae	B & B	6` Ht.
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT
DECIDUOUS SHRUBS					
FOT MAJ	4	Fothergilla major `Mount Airy`	Mount Airy Fothergilla	B & B	18" Ht.
ITE VIR	2	Itea virginica `Henry`s Garnet`	Henry`s Garnet Sweetspire	B & B	18" Ht.
PHY OBS	16	Physocarpus opulifolius `Obsidian`	Obsidian Ninebark	3 gal	18" Ht.

PLANTS QUANTITIES ON THIS SHEET ARE INCLUDED IN THE OVERALL PLANT SCHEDULE ON SHEET 37e/161.

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
	MULCH; SEE PLANTING NOTES FOR SPECIFICATIONS	

ALL DISTURBED AREAS TO BE SEED AND STRAWED.

PLANT SCHEDULE 4

CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE	MIN. SIZE
DECIDUOUS TREES					
LIR TUL	1	Liriodendron tulipifera	Tulip Tree	B & B	2.5"Cal
TAX AUT	1	Taxodium distichum `Autumn Gold`	Autumn Gold Bald Cypress	B & B	2"Cal
EVERGREEN TREES					
THU TEZ	5	Thuja occidentalis `Techny`	Techny Arborvitae	B & B	6` Ht.
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT
DECIDUOUS SHRUBS					
FOT MAJ	4	Fothergilla major `Mount Airy`	Mount Airy Fothergilla	B & B	18" Ht.
HAM VER	3	Hamamelis vernalis `Vernal`	Ozark Witch Hazel	B & B	36" Ht.
ITE VIR	2	Itea virginica `Henry`s Garnet`	Henry`s Garnet Sweetspire	B & B	18" Ht.
LIN BEN	3	Lindera benzoin	Spicebush	3 gal	18" Ht.
PHY OBS	9	Physocarpus opulifolius `Obsidian`	Obsidian Ninebark	3 gal	18" Ht.
EVERGREEN SHRUBS					
JUN FOR	5	Juniperus chinensis `Sea Green`	Sea Green Juniper	3 gal	36" Ht.

PLANTS QUANTITIES ON THIS SHEET ARE INCLUDED IN THE OVERALL PLANT SCHEDULE ON SHEET 37e/161.

Basis of Bearing:
State Plane NAD83 (2011)

0 10 15

SCALE: 1" = 10'

Item | Revision Description | Date | Drwn | Chk:

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

VEGETATIVE BUFFER PLAN: STA. 60+00 TO STA. 64+00

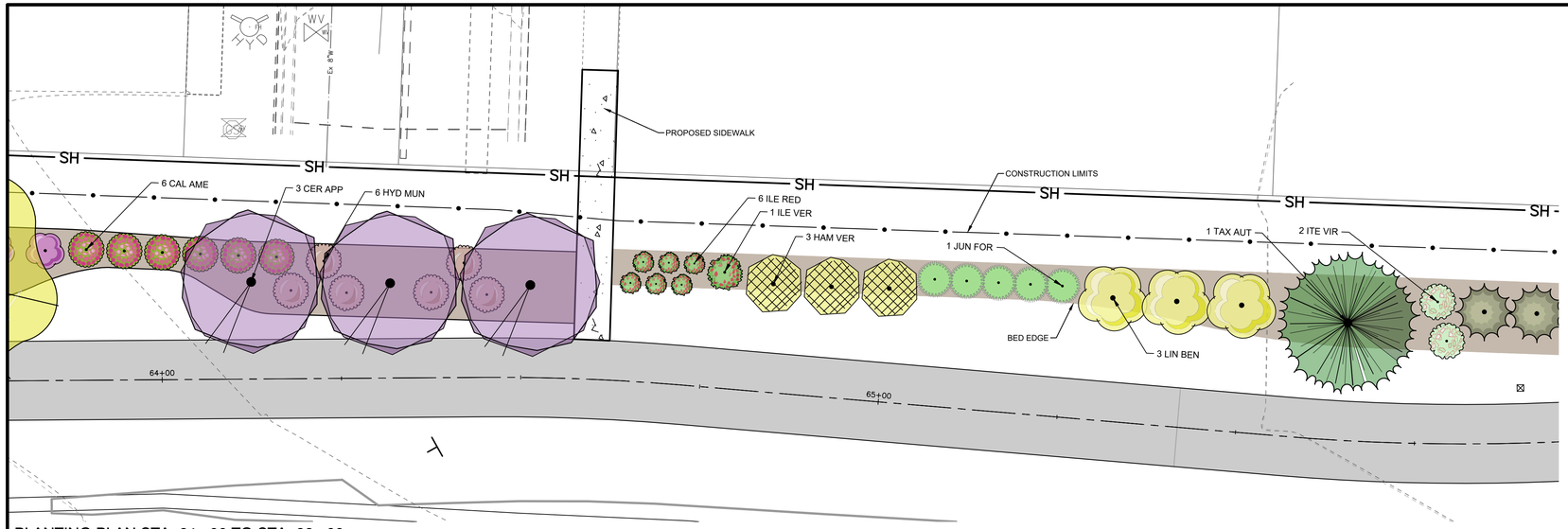
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110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 LA PP
Drawn by: ADH
Checked By: CJO
Issue Date: 1/13/25

Sheet: 37b/161

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PLANTING PLAN STA. 64+00 TO STA. 66+00

PLANT SCHEDULE 5

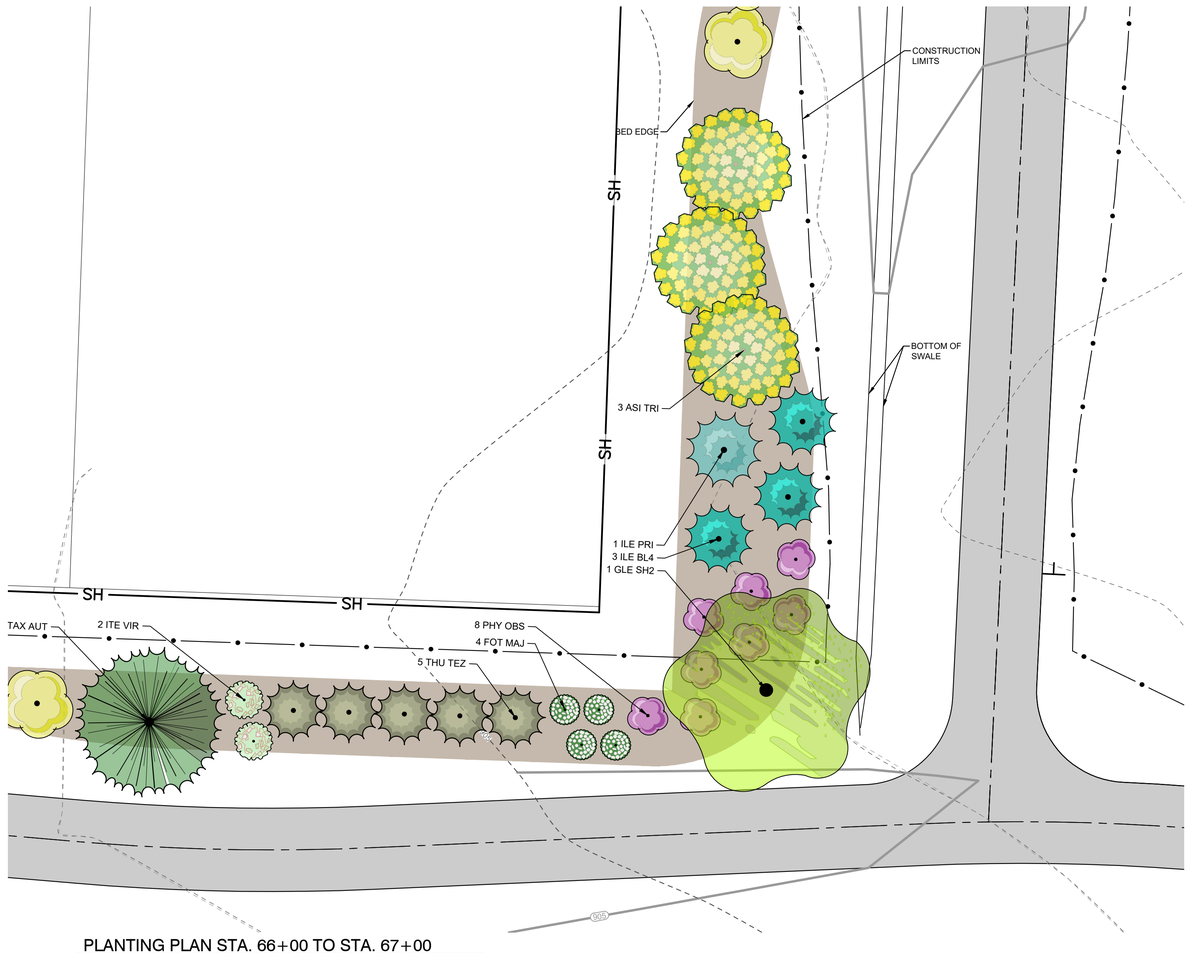
CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE	MIN. SIZE
DECIDUOUS TREES					
TAX AUT	1	Taxodium distichum `Autumn Gold`	Autumn Gold Bald Cypress	B & B	2"Cal
ORNAMENTAL TREES					
CER APP	3	Cercis canadensis `Appalachian Red`	Eastern Redbud	B & B	1.5"Cal
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT
DECIDUOUS SHRUBS					
CAL AME	6	Callicarpa americana	American Beautyberry	B & B	15" Ht.
HAM VER	3	Hamamelis vernalis `Vernal`	Ozark Witch Hazel	B & B	36" Ht.
HYD MUN	6	Hydrangea quercifolia `Munchkin`	Oakleaf Hydrangea	5 gal	18" Ht.
ILE VER	1	Ilex verticillata `Jim Dandy`	Jim Dandy Winterberry	B&B	24" Ht.
ILE RED	6	Ilex verticillata `Red Sprite`	Red Sprite Winterberry	B&B	24" Ht.
ITE VIR	2	Itea virginica `Henry's Garnet`	Henry's Garnet Sweetspire	B & B	18" Ht.
LIN BEN	3	Lindera benzoin	Spicebush	3 gal	18" Ht.
PHY OBS	1	Physocarpus opulifolius `Obsidian`	Obsidian Ninebark	3 gal	18" Ht.
EVERGREEN SHRUBS					
JUN FOR	5	Juniperus chinensis `Sea Green`	Sea Green Juniper	3 gal	36" Ht.

PLANTS QUANTITIES ON THIS SHEET ARE INCLUDED IN THE OVERALL PLANT SCHEDULE ON SHEET 37e/161.

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
	MULCH; SEE PLANTING NOTES FOR SPECIFICATIONS	

ALL DISTURBED AREAS TO BE SEED AND STRAWED.



PLANTING PLAN STA. 66+00 TO STA. 67+00

PLANT SCHEDULE 6

CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE	MIN. SIZE
DECIDUOUS TREES					
GLE SH2	1	Gleditsia triacanthos inermis `Shademaster` TM	Shademaster Locust	B & B	2.5"Cal
EVERGREEN TREES					
THU TEZ	5	Thuja occidentalis `Techny`	Techny Arborvitae	B & B	6` Ht.
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT
DECIDUOUS SHRUBS					
ASI TRI	3	Asimina triloba	Pawpaw	B & B	6` Ht.
FOT MAJ	4	Fothergilla major `Mount Airy`	Mount Airy Fothergilla	B & B	18" Ht.
PHY OBS	8	Physocarpus opulifolius `Obsidian`	Obsidian Ninebark	3 gal	18" Ht.
EVERGREEN SHRUBS					
ILE PRI	1	Ilex x meserveae `Blue Prince` TM	Blue Prince Holly	B & B	24" Ht.
ILE BL4	3	Ilex x meserveae `Blue Princess` TM	Blue Princess Holly	3 gal	24" Ht.

PLANTS QUANTITIES ON THIS SHEET ARE INCLUDED IN THE OVERALL PLANT SCHEDULE ON SHEET 37e/161.

Basis of Bearing:
State Plane NAD83 (2011)
0 10 15
SCALE: 1" = 10'

Item	Revision Description	Date	Drwn	Chk

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

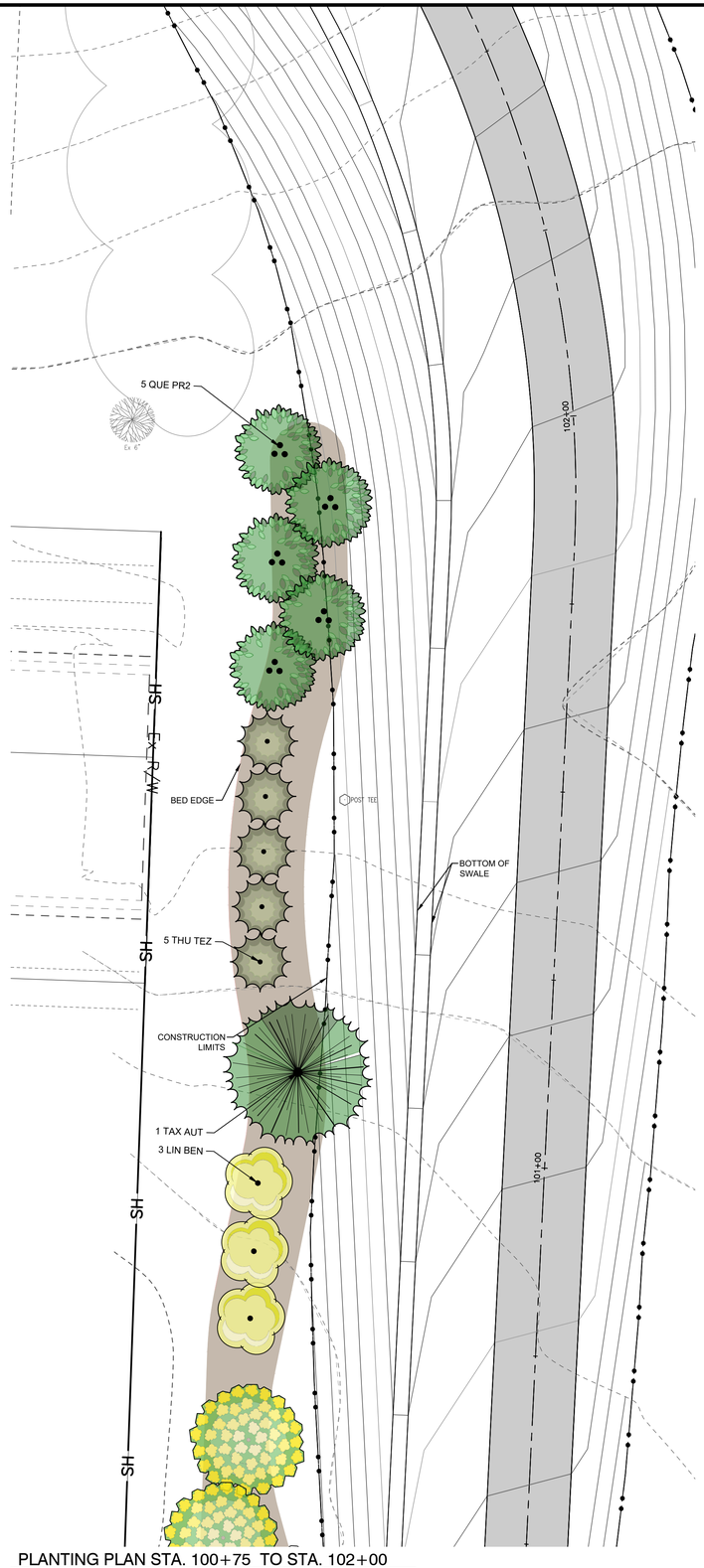
VEGETATIVE BUFFER PLAN: STA. 64+00 TO STA. 67+00

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Drawn by: ADH
Checked By: CJO
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Sheet: 37c/161

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PLANTING PLAN STA. 100+75 TO STA. 102+00

PLANT SCHEDULE 7

CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE	MIN. SIZE
DECIDUOUS TREES					
QUE PR2	5	Quercus palustris 'Pringreen'	Green Pillar® Pin Oak	B & B	2"Cal
TAX AUT	1	Taxodium distichum `Autumn Gold`	Autumn Gold Bald Cypress	B & B	2"Cal
EVERGREEN TREES					
THU TEZ	5	Thuja occidentalis `Techny`	Techny Arborvitae	B & B	6` Ht.
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT
DECIDUOUS SHRUBS					
LIN BEN	3	Lindera benzoin	Spicebush	3 gal	18" Ht.

PLANTS QUANTITIES ON THIS SHEET ARE INCLUDED IN THE OVERALL PLANT SCHEDULE ON SHEET 37e/161.

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
	MULCH; SEE PLANTING NOTES FOR SPECIFICATIONS	

ALL DISTURBED AREAS TO BE SEED AND STRAWED.

Basis of Bearing:
State Plane NAD83 (2011)

0 10 15

SCALE: 1" = 10'

Item	Revision Description	Date	Drwn:	Chk:

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

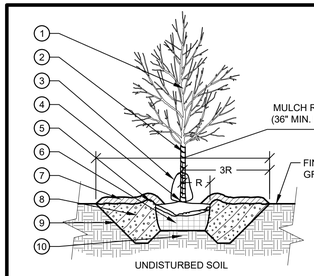
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1. CENTRAL LEADER
2. TREE WRAP (STD. MANUFACTURER)
3. 15 GAL. GATOR BAG (SEE NOTES)
4. ROOT FLARE
5. SOIL BERM (SEE NOTES)
6. ROOTBALL
7. MULCH (SEE NOTES)
8. AMENDED PLANTING SOIL
9. ROOTBALL PIT
10. UNDISTURBED EXISTING OR RECOMPACTED BASE SOIL; 8" DEPTH

NOTES:
- A. REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP ⅓ OF ROOTBALL.TOP OF ROOTBALL TO BE FLUSH WITH FINISH GRADE AFTER SETTLEMENT. ROOT FLARE 1" ABOVE FINISH GRADE.
- B. TREE PIT TO BE THREE TIMES THE WIDTH OF THE ROOTBALL.
- C. SCARIFY BOTTOM AND SIDES OF TREE PIT TO 4" MIN. DEPTH.
- D. SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY BE USED AS PLANTING SOIL PROVIDED IT IS FREE OF ROCKS & DELETERIOUS MATERIALS. TOPSOIL AMENDED PER SOIL TESTING REPORT.
- E. SOIL BERM 4" HIGH X 8" WIDE ABOVE ROOT BALL SURFACE SHALL BE CONSTRUCTED AROUND THE ROOT BALL. BERM SHALL BEGIN AT ROOT BALL PERIPHERY.
- F. MULCH RING (SEE SPECIFICATIONS FOR DEPTH) AROUND TRUNK. MINIMUM 36" RADIUS DO NOT PLACE MULCH WITHIN 3" OF TRUNK.
- G. GATOR BAG TO BE INSTALLED & FILLED PER MANUFACTURER'S SPECIFICATIONS ON ALL TREES WHEN INSTALLED BETWEEN JUNE - AUG. 1"-4" CALIPER (1 BAG). 5"-8" (2 BAGS).
- H. TREE WRAP FOR TREES ABOVE 5" CALIPER REQUIRE A 4" CORRUGATED PVC TUBING DOUBLE WRAPPED IN FILTER FABRIC SOCK PIPE.
- I. TREES UNDER 5" CALIPER ARE NOT REQUIRED TO BE GUYED UNLESS LOCATED ON SLOPES GREATER THAN 3:1 OR IN A WINDY LOCATION OR OTHER WISE DETERMINED NECESSARY.

1 TYP. TREE PLANTING DETAIL

NOT TO SCALE — P-22-OAT-17



1. SHRUB
2. ROW

NOTE:
X = SHRUB SPACING (NOTED 1ST ON PLANT SCHEDULE)
Y = ROW SPACING (NOTED 2ND ON PLANT SCHEDULE)

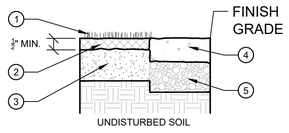
USED FOR TWO DIMENSION O.C. (ON CENTER) SPACING.
EXAMPLE: X' x Y'

NOTE:
Z = ON CENTER DIMENSION

USED FOR MASS SHRUB PLANTINGS GIVEN ONE O.C. DIMENSION ON PLANT SCHEDULE)

5 SHRUB SPACING DETAIL (TYP.)

NOT TO SCALE — P-22-OAT-09

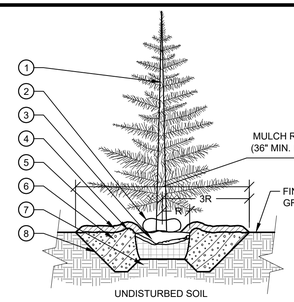


1. LAWN/SOD AS SPECIFIED - HOLD DOWN ¾" - 1" FROM FINISH GRADE
2. ROOT LAYER
3. 4" AMENDED TOPSOIL
4. PAVING SURFACE
5. PAVING BASE

NOTES:
- A. LAWN/SOD SURFACE TO BE INSTALLED FLUSH WITH ADJACENT PAVING SURFACE.
- B. SEE LAWN/SOD INSTALLATION NOTES FOR INSTALLATION PROCEDURE.

6 LAWN INSTALLATION AT PAVEMENT EDGE

NOT TO SCALE — P-22-OAT-01



1. CENTRAL LEADER
2. 15 GAL. TREEGATOR JR. PRO (SEE NOTES)
3. ROOTBALL
4. SOIL BERM (SEE NOTES)
5. MULCH (SEE NOTES)
6. AMENDED PLANTING SOIL
7. UNDISTURBED EXISTING OR RECOMPACTED BASE SOIL; 8" DEPTH
8. ROOTBALL PIT

NOTES:
- A. REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP ⅓ OF ROOTBALL.TOP OF ROOTBALL TO BE FLUSH WITH FINISH GRADE AFTER SETTLEMENT. ROOT FLARE 1" ABOVE FINISH GRADE.
- B. TREE PIT TO BE THREE TIMES THE WIDTH OF THE ROOTBALL.
- C. SCARIFY BOTTOM AND SIDES OF TREE PIT TO 4" MIN. DEPTH.
- D. SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY BE USED AS PLANTING SOIL PROVIDED IT IS FREE OF ROCKS & DELETERIOUS MATERIALS. TOPSOIL AMENDED PER SOIL TESTING REPORT.
- E. SOIL BERM 4" HIGH X 8" WIDE ABOVE ROOT BALL SURFACE SHALL BE CONSTRUCTED AROUND THE ROOT BALL. BERM SHALL BEGIN AT ROOT BALL PERIPHERY.
- F. MULCH RING (SEE SPECIFICATIONS FOR DEPTH) AROUND TRUNK. MINIMUM 36" RADIUS DO NOT PLACE MULCH WITHIN 3" OF TRUNK.
- G. GATOR BAG TO BE INSTALLED & FILLED PER MANUFACTURER'S SPECIFICATIONS ON ALL TREES WHEN INSTALLED BETWEEN JUNE - AUG.

2 TYP. EVERGREEN PLANTING DETAIL

NOT TO SCALE — P-22-OAT-14

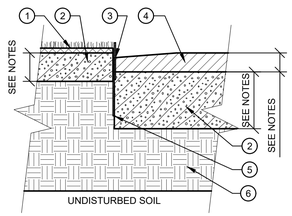


1. LAWN (SOD OR SEED AS SPECIFIED).
2. LAWN AND ROOT LAYER. SOD MIN. DEPTH AS SHOWN IN DETAIL.
3. AMENDED TOPSOIL. SEE NOTES.
4. LAWN SURFACE FLUSH WITH OR 1" MAX. BELOW ADJACENT PAVEMENT SURFACE.
5. CURB, WALK OR OTHER PAVED SURFACE. SEE PAVEMENT DETAILS.
6. PAVEMENT. SEE PAVEMENT DETAILS
7. PAVING BASE. SEE PAVEMENT DETAILS

NOTES:
- A. SEE SODDING AND/OR SEEDING NOTES.
- B. IF LAWN AREAS ARE NOT IDENTIFIED ON PLANS TO BE SEED OR SOD, CONTACT LANDSCAPE ARCHITECT OR OWNER FOR VERIFICATION.

7 PLANTING BED/LAWN ADJACENT TO PAVEMENT

NOT TO SCALE — P-22-OAT-12



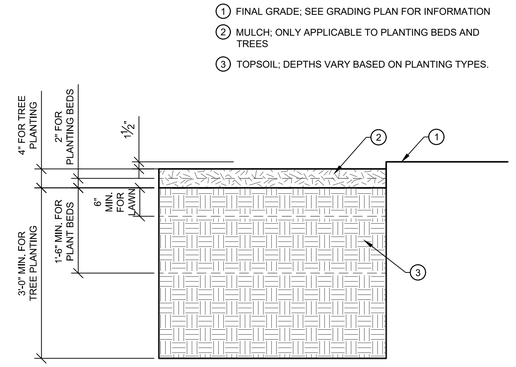
1. ADJACENT LAWN
2. AMENDED TOPSOIL
3. ALUMINUM EDGING (1/2" ABOVE FINISH GRADE)
4. MULCH (SEE NOTES)
5. ALUMINUM STAKE TO BE 1" BELOW TOP OF EDGING - STAKE PER MANUFACTURER'S RECOMMENDATION
6. UNDISTURBED SOIL

NOTES:
- A. TAPER MULCH ALONG PLANTING BED EDGE. MULCH TO BE HELD 1"-2" BELOW ADJACENT LAWN.

8 MULCH BED WITH EDGING ADJACENT TO LAWN

NOT TO SCALE — P-22-OAT-11

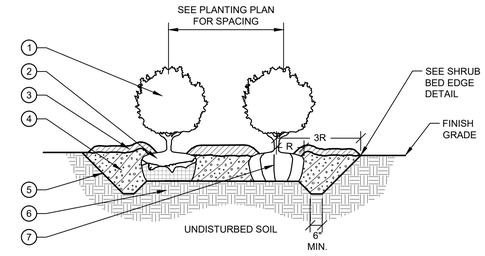
NOTE: MULCH SHOULD **NOT** BE APPLIED OVER ANY LAWN APPLICATION.



1. FINAL GRADE; SEE GRADING PLAN FOR INFORMATION
2. MULCH; ONLY APPLICABLE TO PLANTING BEDS AND TREES
3. TOPSOIL; DEPTHS VARY BASED ON PLANTING TYPES.

3 TOPSOIL PROFILE

3/4" = 1'-0" — P-22-OAT-10



1. SHRUB
2. B&B SHRUB
3. MULCH (SEE NOTES)
4. AMENDED PLANTING SOIL
5. SHRUB PIT
6. UNDISTURBED EXISTING OR RECOMPACTED BASE SOIL; 8" DEPTH
7. CONTAINER SHRUB

NOTES:
- A. B&B: REMOVE TWINE, ROPE, WIRE, & BURLAP FROM TOP ⅓ OF ROOTBALL.TOP OF ROOTBALL TO BE FLUSH WITH FINISH GRADE AFTER SETTLEMENT. ROOT FLARE 1" ABOVE FINISH GRADE.
- B. CONTAINER: LOOSEN ROOT BALL OF ANY ROOT BOUND SHRUB.
- C. SHRUB PIT TO BE THREE TIMES THE WIDTH OF THE ROOTBALL.
- D. SCARIFY BOTTOM AND SIDES OF SHRUB PIT TO 4" MIN. DEPTH.
- E. SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY BE USED AS PLANTING SOIL PROVIDED IT IS FREE OF ROCKS & DELETERIOUS MATERIALS. TOPSOIL AMENDED PER SOIL TESTING REPORT.
- F. MULCH ENTIRE SHRUB BED (SEE SPECIFICATIONS FOR DEPTH). MINIMUM 36" RADIUS. DO NOT PLACE MULCH WITHIN 3" OF STEMS.

4 SHRUB PLANTING DETAIL

NOT TO SCALE — P-22-OAT-06

GENERAL LANDSCAPE NOTES

A. REFER TO LANDSCAPE SPECIFICATIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS.
B. THE CONTRACTOR SHALL VISIT THE SITE AND COMPLETELY REVIEW THESE DOCUMENTS AND FULLY UNDERSTAND THE NATURE AND SCOPE OF WORK NEEDED TO ACHIEVE THE FINISHED PRODUCT INTENDED BY THE OWNER. IN ADDITION, THE CONTRACTOR SHALL AT ONCE REPORT TO THE LANDSCAPE ARCHITECT, INACCURACIES OR INCONSISTENCIES DISCOVERED. FAILURE TO REASONABLY RECOGNIZE OR NOTIFY THE LANDSCAPE ARCHITECT OF SUCH ITEMS SHALL RELEASE THE LANDSCAPE ARCHITECT AND OWNER OF ALL LIABILITY. ANY DEVIATIONS FROM THESE DOCUMENTS WITHOUT WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.
C. PRIOR TO CONSTRUCTION, THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS NECESSARY TO COMPLETE THE WORK, LOCATING ALL UNDERGROUND UTILITIES, AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING INSTALLATION. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC., WHICH MAY OCCUR AS A RESULT OF LANDSCAPE CONSTRUCTION.
D. CONTRACTOR MUST CERTIFY THAT ITS SAFETY PROGRAM MEETS REGULATORY REQUIREMENTS AT A MINIMUM. CONTRACTOR TO PROVIDE DOCUMENTATION OF THE OSHA RECORD KEEPING SUMMARY.
E. REFER TO BID DOCUMENTS AND COMPLY WITH ALL STATE & LOCAL TRAFFIC AND SAFETY REQUIREMENTS REGARDING APPROVED WORK TIMES, SCHEDULING OF INSTALLATION, AND ALL OTHER REQUIREMENTS.
F. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OTHER CONTRACTORS AND/OR LOCATING PROPOSED SITE UTILITIES, STORM STRUCTURES, EASEMENTS, ETC.
G. ALL PLANT MATERIAL MUST BE INSTALLED ACCORDING TO THE APPROVED LANDSCAPING PLAN BY NO LATER THAN THE NEXT PLANTING SEASON OR WITHIN 6 MONTHS FROM THE COMPLETION OF ALL SITE CONSTRUCTION.
H. CONTRACTOR TO VERIFY ALL PLANT QUANTITIES. ANY DISCREPANCY BETWEEN THE PLANTING LIST AND THE PLAN SHALL BE VERIFIED BY THE LANDSCAPE ARCHITECT. ALL SUBSTITUTIONS AND/OR CHANGES SHALL BE REQUESTED IN WRITING TO THE OWNER OR OWNER'S REPRESENTATIVE AND BE APPROVED BY THE LANDSCAPE ARCHITECT AND THE LOCAL MUNICIPALITY (IF REQUIRED) PRIOR TO INSTALLATION.
I. INSTALL PLANTS - REFER TO TYPICAL PLANTING DETAILS FOR PLANT INSTALLATION.
J. IT IS THE CONTRACTOR'S OPTION WHETHER OR NOT TO STAKE A TREE UNDER 5" CALIPER, BUT IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT PLANTS REMAIN IN AN UPRIGHT POSITION UNTIL THE END OF THE WARRANTY PERIOD, AT WHICH POINT ANY STAKES & WIRE ARE TO BE REMOVED BY THE CONTRACTOR.
K. LANDSCAPE CONTRACTOR SHALL INSTALL GATOR BAGS, PER MANUFACTURER'S RECOMMENDATION FOR ALL TREES THAT ARE NOT OTHERWISE IRRIGATED. GATOR BAGS TO BE INSTALLED AND FILLED BETWEEN JUNE AND AUGUST. (1) BAG REQUIRED FOR 1" - 4" CALIPER TREES AND (2) BAGS REQUIRED FOR 5"-8" CALIPER TREES.
L. LANDSCAPE CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE FROM ALL PLANT BEDS WITHOUT ADVERSELY AFFECTING SITE DRAINAGE. GRADES BEHIND CURBS FOR AREAS TO RECEIVE MULCH SHALL BE HELD 4 INCHES BELOW TOP OF CURB AND 2 INCHES BELOW TOP OF CURB FOR SOD.
M. CONTRACTOR TO RUN PERCOLATION TESTS TO ASSURE PROPER DRAINAGE IN PLANTING AREAS.
N. ADDITIONAL ROCK EXCAVATION AND TOPSOIL MAY BE REQUIRED TO OBTAIN SPECIFIED PLANTING DEPTHS FOR ROOT COVERAGE BASED ON SITE CONDITIONS.

PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	TYPE	MIN. SIZE
DECIDUOUS TREES					
GLE SH2	3	Gleditsia triacanthos inermis `Shademaster` TM	Shademaster Locust	B & B	2.5"Cal
LIR TUL	3	Liriodendron tulipifera	Tulip Tree	B & B	2.5"Cal
QUE PR2	15	Quercus palustris 'Pringreen'	Green Pillar® Pin Oak	B & B	2"Cal
TAX AUT	5	Taxodium distichum `Autumn Gold`	Autumn Gold Bald Cypress	B & B	2"Cal
EVERGREEN TREES					
THU TEZ	25	Thuja occidentalis `Techny`	Techny Arborvitae	B & B	6` Ht.
ORNAMENTAL TREES					
CER APP	3	Cercis canadensis `Appalachian Red`	Eastern Redbud	B & B	1.5"Cal
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT
DECIDUOUS SHRUBS					
ASI TRI	3	Asimina triloba	Pawpaw	B & B	6` Ht.
CAL AME	6	Callicarpa americana	American Beautyberry	B & B	15" Ht.
FOT MAJ	16	Fothergilla major `Mount Airy`	Mount Airy Fothergilla	B & B	18" Ht.
HAM VER	12	Hamamelis vernalis `Vernal`	Ozark Witch Hazel	B & B	36" Ht.
HYD MUN	6	Hydrangea quercifolia `Munchkin`	Oakleaf Hydrangea	5 gal	18" Ht.
ILE VER	1	Ilex verticillata `Jim Dandy`	Jim Dandy Winterberry	B&B	24" Ht.
ILE RED	6	Ilex verticillata `Red Sprite`	Red Sprite Winterberry	B&B	24" Ht.
ITE VIR	8	Itea virginica `Henry`s Garnet`	Henry`s Garnet Sweetspire	B & B	18" Ht.
LIN BEN	15	Lindera benzoin	Spicebush	3 gal	18" Ht.
PHY OBS	47	Physocarpus opulifolius `Obsidian`	Obsidian Ninebark	3 gal	18" Ht.
EVERGREEN SHRUBS					
ILE PRI	1	Ilex x meserveae `Blue Prince` TM	Blue Prince Holly	B & B	24" Ht.
ILE BL4	3	Ilex x meserveae `Blue Princess` TM	Blue Princess Holly	3 gal	24" Ht.
JUN FOR	20	Juniperus chinensis `Sea Green`	Sea Green Juniper	3 gal	36" Ht.

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Item	Revision Description	Date	Drwn:	Chk:

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PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

PLANTING SCHEDULE, NOTES & DETAILS

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 LA PP
Drawn by: ADH
Checked By: CJO
Issue Date: 1/13/25

Sheet: 37e/161

Plot time: Jan 10, 2025 - 4:20pm
Drawing name: J:\2022\22-0273\LA\DWG\22-0273 LA PP.dwg - Layout Tab: L2.0

SECTION 32 93 00 - PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:
1. PLANTS.
2. PLANTING SOILS.
3. MISCELLANEOUS PRODUCTS.

1.3 SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED, INCLUDING SOILS.
1. PLANT MATERIALS: INCLUDE QUANTITIES, SIZES, QUALITY, AND SOURCES FOR PLANT MATERIALS.
2. PESTICIDES AND HERBICIDES: INCLUDE PRODUCT LABEL AND MANUFACTURER'S APPLICATION INSTRUCTIONS SPECIFIC TO THE PROJECT.

B. SAMPLES FOR VERIFICATION: SUBMIT EACH PRODUCT AND MATERIAL WHERE REQUIRED BY THE SPECIFICATIONS TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

C. PRODUCT CERTIFICATES: FOR EACH TYPE OF MANUFACTURED PRODUCT, FROM MANUFACTURER, AND COMPLYING WITH THE FOLLOWING:
1. MANUFACTURER'S CERTIFIED ANALYSIS OF STANDARD PRODUCTS.

D. MATERIAL TEST REPORTS: FOR STANDARDIZED ASTM D 5268 TOPSOIL, EXISTING NATIVE SURFACE TOPSOIL, AND IMPORTED OR MANUFACTURED TOPSOIL.

E. WARRANTY: SAMPLE OF SPECIAL WARRANTY.

1.4 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: A QUALIFIED LANDSCAPE INSTALLER WHOSE WORK HAS RESULTED IN SUCCESSFUL ESTABLISHMENT OF PLANTS.
1. EXPERIENCE: FIVE YEARS' EXPERIENCE IN LANDSCAPE INSTALLATION IN ADDITION TO REQUIREMENTS IN DIVISION 01 SECTION "QUALITY REQUIREMENTS."
2. INSTALLER'S FIELD SUPERVISION: REQUIRE INSTALLER TO MAINTAIN AN EXPERIENCED FULL-TIME SUPERVISOR ON PROJECT SITE WHEN WORK IS IN PROGRESS.
3. PESTICIDE APPLICATOR: STATE LICENSED, COMMERCIAL.

B. SOIL ANALYSIS: FOR EACH UNAMENDED SOIL TYPE, FURNISH SOIL ANALYSIS AND A WRITTEN REPORT BY A QUALIFIED SOIL-TESTING LABORATORY STATING PERCENTAGES OF ORGANIC MATTER; GRADATION OF SAND, SILT, AND CLAY CONTENT; CATION EXCHANGE CAPACITY; SODIUM ABSORPTION RATIO; DELETERIOUS MATERIAL; PH; AND MINERAL AND PLANT-NUTRIENT CONTENT OF THE SOIL.
1. TESTING METHODS AND WRITTEN RECOMMENDATIONS SHALL COMPLY WITH USDA'S HANDBOOK NO. 60.
2. THE SOIL-TESTING LABORATORY SHALL OVERSEE SOIL SAMPLING; WITH DEPTH, LOCATION, AND NUMBER OF SAMPLES TO BE TAKEN PER INSTRUCTIONS FROM LANDSCAPE LANDSCAPE ARCHITECT. A MINIMUM OF THREE REPRESENTATIVE SAMPLES SHALL BE TAKEN FROM VARIED LOCATIONS FOR EACH SOIL TO BE USED OR AMENDED FOR PLANTING PURPOSES.
3. REPORT SUITABILITY OF TESTED SOIL FOR PLANT GROWTH.
   a. BASED UPON THE TEST RESULTS, STATE RECOMMENDATIONS FOR SOIL TREATMENTS AND SOIL AMENDMENTS TO BE INCORPORATED. STATE RECOMMENDATIONS IN WEIGHT PER 1000 SQ. FT. (92.9 SQ. M) OR VOLUME PER CU. YD. (0.76 CU. M) FOR NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND SOIL AMENDMENTS TO BE ADDED TO PRODUCE SATISFACTORY PLANTING SOIL SUITABLE FOR HEALTHY, VIABLE PLANTS.
   b. REPORT PRESENCE OF PROBLEM SALTS, MINERALS, OR HEAVY METALS, INCLUDING ALUMINUM, ARSENIC, BARIUM, CADMIUM, CHROMIUM, COBALT, LEAD, LITHIUM, AND VANADIUM. IF SUCH PROBLEM MATERIALS ARE PRESENT, PROVIDE ADDITIONAL RECOMMENDATIONS FOR CORRECTIVE ACTION.

C. PROVIDE QUALITY, SIZE, GENUS, SPECIES, AND VARIETY OF PLANTS INDICATED, COMPLYING WITH APPLICABLE REQUIREMENTS IN ANSI Z60.1. PLANTS WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPLANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK, FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.
   a. IF FORMAL ARRANGEMENTS OR CONSECUTIVE ORDER OF TREES OR SHRUBS IS SHOWN, SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD, AND NUMBER LABEL TO ASSURE SYMMETRY IN PLANTING.

D. MEASUREMENTS: MEASURE ACCORDING TO ANSI Z60.1. DO NOT PRUNE TO OBTAIN REQUIRED SIZES.
1. TREES AND SHRUBS: MEASURE WITH BRANCHES AND TRUNKS OR CANES IN THEIR NORMAL POSITION. TAKE HEIGHT MEASUREMENTS FROM OR NEAR THE TOP OF THE ROOT FLARE FOR FIELD-GROWN STOCK AND CONTAINER GROWN STOCK. MEASURE MAIN BODY OF TREE OR SHRUB FOR HEIGHT AND SPREAD; DO NOT MEASURE BRANCHES OR ROOTS TIP TO TIP. TAKE CALIPER MEASUREMENTS 6 INCHES (150 MM) ABOVE THE ROOT FLARE FOR TREES UP TO 4-INCH (100-MM) CALIPER SIZE, AND 12 INCHES (300 MM) ABOVE THE ROOT FLARE FOR LARGER SIZES.
2. OTHER PLANTS: MEASURE WITH STEMS, PETIOLES, AND FOLIAGE IN THEIR NORMAL POSITION.

E. PLANT MATERIAL OBSERVATION: LANDSCAPE ARCHITECT MAY OBSERVE PLANT MATERIAL EITHER AT PLACE OF GROWTH OR AT SITE BEFORE PLANTING FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, CULTIVAR, SIZE, AND QUALITY. LANDSCAPE ARCHITECT RETAINS RIGHT TO OBSERVE TREES AND SHRUBS FURTHER FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEMS, PESTS, DISEASE SYMPTOMS, INJURIES, AND LATENT DEFECTS AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. REMOVE REJECTED TREES OR SHRUBS IMMEDIATELY FROM PROJECT SITE.

1.5 DELIVERY, STORAGE, AND HANDLING

A. PACKAGED MATERIALS: DELIVER PACKAGED MATERIALS IN ORIGINAL, UNOPENED CONTAINERS SHOWING WEIGHT, CERTIFIED ANALYSIS, NAME AND ADDRESS OF MANUFACTURER, AND INDICATION OF CONFORMANCE WITH STATE AND FEDERAL LAWS IF APPLICABLE.

B. BULK MATERIALS:
1. DO NOT DUMP OR STORE BULK MATERIALS NEAR STRUCTURES, UTILITIES, WALKWAYS AND PAVEMENTS, OR ON EXISTING TURF AREAS OR PLANTS.
2. PROVIDE EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF BULK MATERIALS, DISCHARGE OF SOIL-BEARING WATER RUNOFF, AND AIRBORNE DUST REACHING ADJACENT PROPERTIES, WATER CONVEYANCE SYSTEMS, OR WALKWAYS.
3. ACCOMPANY EACH DELIVERY OF BULK FERTILIZERS, LIME, AND SOIL AMENDMENTS WITH APPROPRIATE CERTIFICATES.

C. DO NOT PRUNE TREES AND SHRUBS BEFORE DELIVERY. PROTECT BARK, BRANCHES, AND ROOT SYSTEMS FROM SUN SCALD, DRYING, WIND BURN, SWEATING, WHIPPING, AND OTHER HANDLING AND TYING DAMAGE. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DESTROY THEIR NATURAL SHAPE. PROVIDE PROTECTIVE COVERING OF PLANTS DURING SHIPPING AND DELIVERY. DO NOT DROP PLANTS DURING DELIVERY AND HANDLING.

D. HANDLE PLANTING STOCK BY ROOT BALL.

E. STORE BULBS, CORMS, AND TUBERS IN A DRY PLACE AT 60 TO 65 DEG F (16 TO 18 DEG C) UNTIL PLANTING.

F. DELIVER PLANTS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED, AND INSTALL IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN SIX HOURS AFTER DELIVERY, SET PLANTS AND TREES IN THEIR APPROPRIATE ASPECT (SUN, FILTERED SUN, OR SHADE), PROTECT FROM WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOTS MOIST.
1. SET BALLED STOCK ON GROUND AND COVER BALL WITH SOIL, PEAT MOSS, SAWDUST, OR OTHER ACCEPTABLE MATERIAL.
2. DO NOT REMOVE CONTAINER-GROWN STOCK FROM CONTAINERS BEFORE TIME OF PLANTING.
3. WATER ROOT SYSTEMS OF PLANTS STORED ON-SITE DEEPLY AND THOROUGHLY WITH A FINE-MIST SPRAY. WATER AS OFTEN AS NECESSARY TO MAINTAIN ROOT SYSTEMS IN A MOIST, BUT NOT OVERLY-WET CONDITION.

1.6 PROJECT CONDITIONS

A. FIELD MEASUREMENTS: VERIFY ACTUAL GRADE ELEVATIONS, SERVICE AND UTILITY LOCATIONS, IRRIGATION SYSTEM COMPONENTS, AND DIMENSIONS OF PLANTINGS AND CONSTRUCTION CONTIGUOUS WITH NEW PLANTINGS BY FIELD MEASUREMENTS BEFORE PROCEEDING WITH PLANTING WORK.

B. WEATHER LIMITATIONS: PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT PLANTING TO BE PERFORMED WHEN BENEFICIAL AND OPTIMUM RESULTS MAY BE OBTAINED. APPLY PRODUCTS DURING FAVORABLE WEATHER CONDITIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.

C. COORDINATION WITH TURF AREAS (LAWNS): PLANT TREES, SHRUBS, AND OTHER PLANTS AFTER FINISH GRADES ARE ESTABLISHED AND BEFORE PLANTING TURF AREAS UNLESS OTHERWISE INDICATED.
1. WHEN PLANTING TREES, SHRUBS, AND OTHER PLANTS AFTER PLANTING TURF AREAS, PROTECT TURF AREAS, AND PROMPTLY REPAIR DAMAGE CAUSED BY PLANTING OPERATIONS.

1.7 WARRANTY

A. SPECIAL WARRANTY: INSTALLER AGREES TO REPAIR OR REPLACE PLANTINGS AND ACCESSORIES THAT FAIL IN MATERIALS, WORKMANSHIP, OR GROWTH WITHIN SPECIFIED WARRANTY PERIOD.
1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   a. DEATH & UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM ABUSE, LACK OF ADEQUATE MAINTENANCE, OR NEGLECT BY OWNER, OR INCIDENTS THAT ARE BEYOND CONTRACTOR'S CONTROL.
   b. STRUCTURAL FAILURES INCLUDING PLANTINGS FALLING OR BLOWING OVER.
   c. FAULTY PERFORMANCE OF TREE STABILIZATION, EDGINGS.
   d. DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL WEATHERING.
2. WARRANTY PERIODS FROM DATE OF PLANTING COMPLETION:
   a. TREES, SHRUBS, VINES, AND ORNAMENTAL GRASSES: 12 MONTHS.
   b. GROUND COVERS, BIENNIALS, PERENNIALS, AND OTHER PLANTS: 12 MONTHS.
3. INCLUDE THE FOLLOWING REMEDIAL ACTIONS AS A MINIMUM:
   a. IMMEDIATELY REMOVE DEAD PLANTS AND REPLACE UNLESS REQUIRED TO PLANT IN THE SUCCEEDING PLANTING SEASON.
   b. REPLACE PLANTS THAT ARE MORE THAN 25 PERCENT DEAD OR IN AN UNHEALTHY CONDITION AT END OF WARRANTY PERIOD.
   c. A LIMIT OF ONE REPLACEMENT OF EACH PLANT WILL BE REQUIRED EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE TO COMPLY WITH REQUIREMENTS.
   d. PROVIDE EXTENDED WARRANTY FOR PERIOD EQUAL TO ORIGINAL WARRANTY PERIOD, FOR REPLACED PLANT MATERIAL.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

A. GENERAL: FURNISH NURSERY-GROWN PLANTS TRUE TO GENUS, SPECIES, VARIETY, CULTIVAR, STEM FORM, SHEARING, AND OTHER FEATURES INDICATED IN PLANT SCHEDULE OR PLANT LEGEND SHOWN ON DRAWINGS AND COMPLYING WITH ANSI Z60.1; AND WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPLANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK, DENSELY FOLIATED WHEN IN LEAF AND FREE OF DISEASE, PESTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.
1. TREES WITH DAMAGED, CROOKED, OR MULTIPLE LEADERS; TIGHT VERTICAL BRANCHES WHERE BARK IS SQUEEZED BETWEEN TWO BRANCHES OR BETWEEN BRANCH AND TRUNK ("INCLUDED BARK"); CROSSING TRUNKS; CUT-OFF LIMBS MORE THAN 3/4 INCH (19 MM) IN DIAMETER; OR WITH STEM GIRDLING ROOTS WILL BE REJECTED.
2. COLLECTED STOCK: DO NOT USE PLANTS HARVESTED FROM THE WILD, FROM NATIVE STANDS, FROM AN ESTABLISHED LANDSCAPE PLANTING, OR NOT GROWN IN A NURSERY UNLESS OTHERWISE INDICATED.

B. PROVIDE PLANTS OF SIZES, GRADES, AND BALL OR CONTAINER SIZES COMPLYING WITH ANSI Z60.1 FOR TYPES AND FORM OF PLANTS REQUIRED. PLANTS OF A LARGER SIZE MAY BE USED IF ACCEPTABLE TO LANDSCAPE ARCHITECT, WITH A PROPORTIONATE INCREASE IN SIZE OF ROOTS OR BALLS.

C. ROOT-BALL DEPTH: FURNISH TREES AND SHRUBS WITH ROOT BALLS MEASURED FROM TOP OF ROOT BALL, WHICH SHALL BEGIN AT ROOT FLARE ACCORDING TO ANSI Z60.1. ROOT FLARE SHALL BE VISIBLE BEFORE PLANTING.

D. LABELING: LABEL AT LEAST ONE PLANT OF EACH VARIETY, SIZE, AND CALIPER WITH A SECURELY ATTACHED, WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF COMMON NAME AND FULL SCIENTIFIC NAME, INCLUDING GENUS AND SPECIES. INCLUDE NOMENCLATURE FOR HYBRID, VARIETY, OR CULTIVAR, IF APPLICABLE FOR THE PLANT AS SHOWN ON DRAWINGS. PLANT TAGS SHALL REMAIN ON INSTALLED PLANT MATERIAL UNTIL THE WORK HAS BEEN APPROVED BY LOCAL INSPECTOR AND/OR THE OWNER OR OWNER'S REPRESENTATIVE.

2.2 INORGANIC SOIL AMENDMENTS

A. LIME: ASTM C 602, AGRICULTURAL LIMING MATERIAL CONTAINING A MINIMUM OF 80 PERCENT CALCIUM CARBONATE EQUIVALENT AND AS FOLLOWS:
1. PROVIDE LIME IN FORM OF GROUND DOLOMITIC LIMESTONE PER ASTM 605, CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES AND SHALL BE GROUND TO SUCH A FINENESS THAT 50% WILL PASS THROUGH A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE. COARSER MATERIAL WILL BE ACCEPTABLE, PROVIDED THE SPECIFIED RATES OF APPLICATION ARE INCREASED PROPORTIONALLY ON THE BASIS OF QUANTITIES PASSING THE 100 MESH SIEVE.

B. SULFUR: GRANULAR, BIODEGRADABLE, AND CONTAINING A MINIMUM OF 90 PERCENT SULFUR, WITH A MINIMUM OF 99 PERCENT PASSING THROUGH NO. 6 (3.35-MM) SIEVE AND A MAXIMUM OF 10 PERCENT PASSING THROUGH NO. 40 (0.425-MM) SIEVE.

2.3 MULCHES

A. ORGANIC MULCH: FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF TREES AND SHRUBS, CONSISTING OF ONE OF THE FOLLOWING:
1. TYPE: DOUBLE SHREDDED HARDWOOD BARK.

2.4 MISCELLANEOUS PRODUCTS

A. ANTIDESICCANT: WATER-INSOLUBLE EMULSION, PERMEABLE MOISTURE RETARDER, FILM FORMING, FOR TREES AND SHRUBS. DELIVER IN ORIGINAL, SEALED, AND FULLY LABELED CONTAINERS AND MIX ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

B. TREE-WRAP TAPE: TWO LAYERS OF CRINKLED PAPER CEMENTED TOGETHER WITH BITUMINOUS MATERIAL, 4" WIDE MINIMUM, WITH STRETCH FACTOR 33 PERCENT.

C. PRE-EMERGENT HERBICIDE: TO KILL GENERATING WEED SEEDLINGS, APPLY ONE OF THE FOLLOWING PRE-EMERGENT HERBICIDES AS MANUFACTURER'S RECOMMENDED RATE:
1. ORYZALIN (SURFLAN).
2. SIMAZIN (PRINCEP).
3. TRIFLURALIN (TREFLAN).

D. POST-EMERGENT HERMICIDE: TO KILL EMERGENT WEEDS DURING MAINTENANCE PERIOD, APPLY ONE OF THE FOLLOWING POST-EMERGENT HERBICIDES AT MANUFACTURER'S RECOMMENDED RATE;
1. SETHOXYDIM (POAST)
2. FLUAZIFOP (FUSILADE)

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE AREAS TO RECEIVE PLANTS FOR COMPLIANCE WITH REQUIREMENTS AND CONDITIONS AFFECTING INSTALLATION AND PERFORMANCE.
1. VERIFY THAT NO FOREIGN OR DELETERIOUS MATERIAL OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN SOIL WITHIN A PLANTING AREA.
2. DO NOT MIX OR PLACE SOILS AND SOIL AMENDMENTS IN FROZEN, WET, OR MUDDY CONDITIONS.
3. SUSPEND SOIL SPREADING, GRADING, AND TILLING OPERATIONS DURING PERIODS OF EXCESSIVE SOIL MOISTURE UNTIL THE MOISTURE CONTENT REACHES ACCEPTABLE LEVELS TO ATTAIN THE REQUIRED RESULTS.
4. UNIFORMLY MOISTEN EXCESSIVELY DRY SOIL THAT IS NOT WORKABLE AND WHICH IS TOO DUSTY.

B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

C. IF CONTAMINATION BY FOREIGN OR DELETERIOUS MATERIAL OR LIQUID IS PRESENT IN SOIL WITHIN A PLANTING AREA, REMOVE THE SOIL AND CONTAMINATION AS DIRECTED BY LANDSCAPE ARCHITECT AND REPLACE WITH NEW PLANTING SOIL.

3.2 PREPARATION

A. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES AND TURF AREAS AND EXISTING PLANTS FROM DAMAGE CAUSED BY PLANTING OPERATIONS.

B. INSTALL EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS.

C. LAY OUT INDIVIDUAL TREE AND SHRUB LOCATIONS AND AREAS FOR MULTIPLE PLANTINGS. STAKE LOCATIONS, OUTLINE AREAS, ADJUST LOCATIONS WHEN REQUESTED, AND OBTAIN LANDSCAPE ARCHITECT'S ACCEPTANCE OF LAYOUT BEFORE EXCAVATING OR PLANTING. MAKE MINOR ADJUSTMENTS AS REQUIRED.

D. LAY OUT PLANTS AT LOCATIONS DIRECTED BY LANDSCAPE ARCHITECT. STAKE LOCATIONS OF INDIVIDUAL TREES AND SHRUBS AND OUTLINE AREAS FOR MULTIPLE PLANTINGS.

E. IF EXISTING ECOLOGY CAUSES ADJUSTMENTS OF LANDSCAPE PLANS TO FIT THE SITE CONDITIONS, A STAKE OUT BY LANDSCAPE CONTRACTOR AND ADJUSTMENTS BY LANDSCAPE ARCHITECT SHALL BE REQUIRED PRIOR TO INSTALLATION.

F. APPLY ANTIDESICCANT TO TREES AND SHRUBS USING POWER SPRAY TO PROVIDE AN ADEQUATE FILM OVER TRUNKS (BEFORE WRAPPING), BRANCHES, STEMS, TWIGS, AND FOLIAGE TO PROTECT DURING DIGGING, HANDLING, AND TRANSPORTATION.
1. IF DECIDUOUS TREES OR SHRUBS ARE MOVED IN FULL LEAF, SPRAY WITH ANTIDESICCANT AT NURSERY BEFORE MOVING AND AGAIN TWO WEEKS AFTER PLANTING.

G. WRAP TREES AND SHRUBS WITH BURLAP FABRIC OVER TRUNKS, BRANCHES, STEMS, TWIGS, AND FOLIAGE TO PROTECT FROM WIND AND OTHER DAMAGE DURING DIGGING, HANDLING, AND TRANSPORTATION.

3.3 PLANTING AREA ESTABLISHMENT

A. LOOSEN SUBGRADE OF PLANTING AREAS TO A MINIMUM DEPTH OF 18 INCHES (450 MM). REMOVE STONES LARGER THAN 1 INCH (25 MM) IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
1. APPLY FERTILIZER DIRECTLY TO SUBGRADE BEFORE LOOSENING.
2. SPREAD TOPSOIL, APPLY SOIL AMENDMENTS AND FERTILIZER ON SURFACE, AND THOROUGHLY BLEND PLANTING SOIL.
   a. DELAY MIXING FERTILIZER WITH PLANTING SOIL IF PLANTING WILL NOT PROCEED WITHIN A FEW DAYS.
   b. MIX LIME WITH DRY SOIL BEFORE MIXING FERTILIZER.
3. SPREAD PLANTING SOIL TO A DEPTH OF 18 INCHES (450 MM) BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER NATURAL SETTLEMENT. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.

B. FINISH GRADING: GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES.

C. RESTORE PLANTING AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING.

D. ALL PLANTING AREAS SHOWN ON PLANS SHALL BE WITHIN 2" OF FINAL GRADE BEFORE LANDSCAPE CONTRACTOR COMMENCES INSTALLATION.

3.4 EXCAVATION FOR TREES AND SHRUBS

A. PLANTING PITS AND TRENCHES: EXCAVATE CIRCULAR PLANTING PITS WITH SIDES SLOPING INWARD AT A 45-DEGREE ANGLE. EXCAVATIONS WITH VERTICAL SIDES ARE NOT ACCEPTABLE. TRIM PERIMETER OF BOTTOM LEAVING CENTER AREA OF BOTTOM RAISED 8 INCHES TO SUPPORT ROOT BALL AND ASSIST IN DRAINAGE AWAY FROM CENTER. DO NOT FURTHER DISTURB BASE. ENSURE THAT ROOT BALL WILL SIT ON UNDISTURBED BASE SOIL TO PREVENT SETTLING. SCARIFY SIDES OF PLANTING PIT SMEARED OR SMOOTHED DURING EXCAVATION.
1. EXCAVATE APPROXIMATELY THREE TIMES AS WIDE AS BALL DIAMETER FOR BALLED AND BURLAPPED STOCK.
2. EXCAVATE AT LEAST 12 INCHES (300 MM) WIDER THAN ROOT SPREAD AND DEEP ENOUGH TO ACCOMMODATE VERTICAL ROOTS FOR BARE-ROOT STOCK.
3. IF DRAIN TILE IS SHOWN ON DRAWINGS OR REQUIRED UNDER PLANTING AREAS, EXCAVATE TO TOP OF POROUS BACKFILL OVER TILE.

B. SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY BE USED AS PLANTING SOIL PROVIDED IT IS FREE OF ROCKS OR OTHER DELETERIOUS MATERIALS.

C. OBSTRUCTIONS: NOTIFY LANDSCAPE ARCHITECT IF UNEXPECTED ROCK OR OBSTRUCTIONS DETRIMENTAL TO TREES OR SHRUBS ARE ENCOUNTERED IN EXCAVATIONS.

D. DRAINAGE: NOTIFY LANDSCAPE ARCHITECT IF SUBSOIL CONDITIONS EVIDENCE UNEXPECTED WATER SEEPAGE OR RETENTION IN TREE OR SHRUB PLANTING PITS.

E. FILL EXCAVATIONS WITH WATER AND ALLOW TO PERCOLATE AWAY BEFORE POSITIONING TREES AND SHRUBS.

3.5 TREE, SHRUB, AND VINE PLANTING

A. BEFORE PLANTING, VERIFY THAT ROOT FLARE IS VISIBLE AT TOP OF ROOT BALL ACCORDING TO ANSI Z60.1. IF ROOT FLARE IS NOT VISIBLE, REMOVE SOIL IN A LEVEL MANNER FROM THE ROOT BALL TO WHERE THE TOP-MOST ROOT EMERGES FROM THE TRUNK. AFTER SOIL REMOVAL TO EXPOSE THE ROOT FLARE, VERIFY THAT ROOT BALL STILL MEETS SIZE REQUIREMENTS.

B. REMOVE STEM GIRDLING ROOTS AND KINKED ROOTS. REMOVE INJURED ROOTS BY CUTTING CLEANLY; DO NOT BREAK.

C. SET BALLED AND BURLAPPED STOCK PLUMB AND IN CENTER OF PLANTING PIT OR TRENCH WITH ROOT FLARE 1 INCH (25 MM) ABOVE ADJACENT FINISH GRADES.

D. SET CONTAINER-GROWN STOCK PLUMB AND IN CENTER OF PLANTING PIT OR TRENCH WITH ROOT FLARE 1 INCH (25 MM) ABOVE ADJACENT FINISH GRADES.
1. CAREFULLY REMOVE ROOT BALL FROM CONTAINER WITHOUT DAMAGING ROOT BALL OR PLANT.
2. PLACE PLANTING SOIL MIX AROUND ROOT BALL IN LAYERS, TAMPING TO SETTLE MIX AND ELIMINATE VOICE AND AIR POCKETS. WHEN PIT IS APPROXIMATELY ONE-HALF BACKFILLED, WATER THOROUGHLY BEFORE PLACING REMAINDER OF BACKFILL. REPEAT WATERING UNTIL NO MORE WATER IS ABSORBED. WATER AGAIN AFTER PLACING AND TAMPING FINAL LAYER OF PLANTING SOIL MIX.

E. AFTER THE LANDSCAPE ARCHITECT HAS EXAMINED THE TRUNKS OF NEW INSTALLED TREES, WRAP TREES OF 2-INCH CALIPER AND LARGER WITH TREE-WRAP TAPE. START AT THE BASE OF THE TRUNK AND SPIRAL COVER THE TRUNK TO THE HEIGHT OF THE FIRST BRANCHES. OVERLAP THE WRAP, EXPOSING HALF THE WIDTH, AND SECURELY ATTACH WITHOUT CAUSING GIRDLING. INSPECT TREE TRUNKS FOR INJURY, IMPROPER PRUNING, AND INSECT INFESTATION; TAKE CORRECTIVE MEASURES REQUIRED BEFORE TREE WRAPPING.

3.6 TREE, SHRUB, AND VINE PRUNING

A. REMOVE ONLY DEAD, DYING, OR BROKEN BRANCHES. DO NOT PRUNE FOR SHAPE.

B. PRUNE, THIN, AND SHAPE TREES, SHRUBS, AND VINES AS DIRECTED BY LANDSCAPE ARCHITECT.

C. PRUNE, THIN, AND SHAPE TREES, SHRUBS, AND VINES ACCORDING TO STANDARD PROFESSIONAL HORTICULTURAL AND ARBORICULTURAL PRACTICES. UNLESS OTHERWISE INDICATED BY LANDSCAPE ARCHITECT, DO NOT CUT TREE LEADERS; REMOVE ONLY INJURED, DYING, OR DEAD BRANCHES FROM TREES AND SHRUBS; AND PRUNE TO RETAIN NATURAL CHARACTER.

D. DO NOT APPLY PRUNING PAINT TO WOUNDS.

3.7 GROUND COVER AND PLANT PLANTING

A. SET OUT AND SPACE GROUND COVER AND PLANTS OTHER THAN TREES, SHRUBS, AND VINES AS INDICATED IN EVEN ROWS WITH TRIANGULAR SPACING.

B. DIG HOLES LARGE ENOUGH TO ALLOW SPREADING OF ROOTS.

C. WORK SOIL AROUND ROOTS TO ELIMINATE AIR POCKETS AND LEAVE A SLIGHT SAUCER INDENTATION AROUND PLANTS TO HOLD WATER.

D. WATER THOROUGHLY AFTER PLANTING, TAKING CARE NOT TO COVER PLANT CROWNS WITH WET SOIL.

E. PROTECT PLANTS FROM HOT SUN AND WIND; REMOVE PROTECTION IF PLANTS SHOW EVIDENCE OF RECOVERY FROM TRANSPLANTING SHOCK.

3.8 PLANTING AREA MULCHING

A. INSTALL WEED-CONTROL BARRIERS BEFORE MULCHING ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. COMPLETELY COVER AREA TO BE MULCHED, OVERLAPPING EDGES A MINIMUM OF 6 INCHES (150 MM) AND SECURE SEAMS WITH GALVANIZED PINS. PINS TO BE 8"-10" APART ALONG EDGES AND 12" MINIMUM IN CENTER.

B. MULCH BACKFILLED SURFACES OF PLANTING AREAS AND OTHER AREAS INDICATED.
1. TREES AND TREE-LIKE SHRUBS IN TURF AREAS: APPLY ORGANIC MULCH RING OF 4-INCH (75-MM)] AVERAGE THICKNESS, WITH 36-INCH (900-MM) RADIUS AROUND TRUNKS OR STEMS. DO NOT PLACE MULCH WITHIN 3 INCHES (75 MM) OF TRUNKS OR STEMS OR VOLCANO MULCH.
2. ORGANIC MULCH IN PLANTING AREAS: APPLY 2-INCH (50-MM) AVERAGE THICKNESS OF ORGANIC MULCH EXTENDING 12 INCHES (300 MM) BEYOND EDGE OF INDIVIDUAL PLANTING PIT OR TRENCH AND OVER WHOLE SURFACE OF PLANTING AREA, AND FINISH LEVEL WITH ADJACENT FINISH GRADES. DO NOT PLACE MULCH WITHIN 3 INCHES (75 MM) OF TRUNKS OR STEMS.

3.9 PLANT MAINTENANCE

A. MAINTAIN PLANTINGS BY PRUNING, CULTIVATING, WATERING, WEEDING, FERTILIZING, MULCHING, RESTORING PLANTING SAUCERS, ADJUSTING AND REPAIRING TREE-STABILIZATION DEVICES, RESETTING TO PROPER GRADES OR VERTICAL POSITION, AND PERFORMING OTHER OPERATIONS AS REQUIRED TO ESTABLISH HEALTHY, VIABLE PLANTINGS. SPRAY OR TREAT AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE.
   a. WATER EXISTING PROTECTED TREES AND VEGETATION WITH ONE INCH OF RAIN (RAIN GAUGE OR NOAH LOCAL WEATHER VERIFIED) PER WEEK FOR DURATION OF CONSTRUCTION PROJECT.

B. FILL IN AS NECESSARY SOIL SUBSIDENCE THAT MAY OCCUR BECAUSE OF SETTLING OR OTHER PROCESSES. REPLACE MULCH MATERIALS DAMAGED OR LOST IN AREAS OF SUBSIDENCE.

C. APPLY TREATMENTS AS REQUIRED TO KEEP PLANT MATERIALS, PLANTED AREAS, AND SOILS FREE OF PESTS AND PATHOGENS OR DISEASE. USE INTEGRATED PAST MANAGEMENT PRACTICES WHENEVER POSSIBLE TO MINIMIZE THE USE OF PESTICIDES AND REDUCE HAZARDS. TREATMENTS INCLUDE PHYSICAL CONTROLS SUCH AS HOSING OFF FOLIAGE, MECHANICAL CONTROLS SUCH AS TRAPS, AND BIOLOGICAL CONTROL AGENTS.

3.10 PESTICIDE APPLICATION

A. APPLY PESTICIDES AND OTHER CHEMICAL PRODUCTS AND BIOLOGICAL CONTROL AGENTS IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION AND MANUFACTURER'S WRITTEN RECOMMENDATIONS. COORDINATE APPLICATIONS WITH OWNER'S OPERATIONS AND OTHERS IN PROXIMITY TO THE WORK. NOTIFY OWNER BEFORE EACH APPLICATION IS PERFORMED.

B. PRE-EMERGENT HERBICIDES (SELECTIVE AND NON-SELECTIVE): APPLY TO TREE, SHRUB, AND GROUND-COVER AREAS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. DO NOT APPLY TO SEEDED AREAS.

C. POST-EMERGENT HERBICIDES (SELECTIVE AND NON-SELECTIVE): APPLY ONLY AS NECESSARY TO TREAT ALREADY-GERMINATED WEEDS AND IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.

3.11 CLEANUP AND PROTECTION

A. DURING PLANTING, KEEP ADJACENT PAVING AND CONSTRUCTION CLEAN AND WORK AREA IN AN ORDERLY CONDITION.

B. PROTECT PLANTS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS AND OPERATIONS OF OTHER CONTRACTORS AND TRADES WITHIN 20' OF CONSTRUCTION DISTURBANCE. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR, OR REPLACE DAMAGED PLANTINGS.

C. INSTALL MINIMUM 4' TALL FENCE 5' OUTSIDE THE DRIP LINE OF TREES TO REMAIN.

D. AFTER INSTALLATION AND AFTER WORK HAS BEEN APPROVED BY LOCAL INSPECTOR AND/OR OWNER OR OWNER'S REPRESENTATIVE, REMOVE NURSERY TAGS, NURSERY STAKES, TIE TAPE, LABELS, WIRE, BURLAP, AND OTHER DEBRIS FROM PLANT MATERIAL, PLANTING AREAS, AND PROJECT SITE.

3.12 DISPOSAL

A. REMOVE SURPLUS SOIL AND WASTE MATERIAL INCLUDING EXCESS SUBSOIL, UNSUITABLE SOIL, TRASH, AND DEBRIS AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.

END OF SECTION 32 93 00

SECTION 31 14 00 - SITE RESTORATION OF LANDSCAPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

G. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:
1. SPREAD AND CONDITION EXISTING STOCKPILED TOPSOIL
2. PROVIDE NEW, IF REQUIRED; LIME
3. TILL, DISTRIBUTE AND GRADE TOPSOIL
4. CLEAN UP

1.3 SUBMITTALS (SUBMIT ALL THE FOLLOWING REPORTS, IN TRIPLICATE, TO OWNER FOR REVIEW)

A. LABORATORY TESTS: SUBMIT COPIES OF TOPSOIL LABORATORY TESTS TO THE OWNER.

B. FERTILIZER: SUBMIT COPIES ATTESTING TO THE FERTILIZER COMPOSITION TO THE OWNER.

C. SEED MIX: SUBMIT COPIES ATTESTING TO THE SEED MIX COMPOSITION TO THE OWNER.

D. SOD: SUBMIT COPIES FROM THE SOD SOURCE ATTESTING TO THE SEED MIX COMPOSITION TO THE OWNER.

1.4 SITE PROTECTION

A. PROTECT EXISTING GROUNDS, PLANTS, LAWNS AND VEGETATION TO REMAIN.
1. PROTECT EXISTING TREES TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING, SKINNING, OR BRUISING OF ROOTS AND BARK, SMOTHERING OF TREES BY COMPACTION OR STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN FIVE FEET OF OUTER EDGE OF DRIP LINE.
   a. ERECT MINIMUM OF FOUR (4) FOOT HIGH FENCE FIVE (5) FEET OUTSIDE DRIP LINE OF TREES TO REMAIN.
   b. ERECT TREE PROTECTION BEFORE STARTING SITE WORK OF ANY KIND. MAINTAIN FENCING DURING CONSTRUCTION PERIOD.
   c. INTERFERING BRANCHES MAY ONLY BE REMOVED WITH PRIOR CONSENT FROM LANDSCAPE ARCHITECT.
   d. IDENTIFY ANY TREES LANDSCAPE ARCHITECT WOULD LIKE VERTICALLY MULCHED, TRIMMED OR REPAIRED AS RESULT OF CONSTRUCTION IMPACT AT END OF PROJECT. ALL WORK TO BE DONE BY A CERTIFIED ARBORIST TO BE APPROVED BY LANDSCAPE ARCHITECT.
2. WATER TREES AND VEGETATION TO REMAIN WITH ONE INCH OF RAIN (RAIN GAUGE OR NOAH LOCAL WEATHER VERIFIED) PER WEEK FOR DURATION OF CONSTRUCTION PROJECT.
3. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO PLANTS TO REMAIN. COST FOR TREE REPLACEMENT SHALL BE DETERMINED IN ACCORDANCE WITH THE "GUIDE FOR PLANT APPRAISAL" BY THE COUNCIL OF TREE AND LANDSCAPE APPRAISERS (INTERNATIONAL SOCIETY OF AGRICULTURE, PUBLICATION #P1209).

B. TEMPORARY CONSTRUCTION ACCESS: PROJECT SITE ACCESS AND EQUIPMENT ACCESS ROUTES WITHIN THE PROJECT SITE MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF WORK. ANY TEMPORARY GRAVEL PATH OR ACCESS WAY MUST INCLUDE A GEOFABRIC LINER TO ENSURE FULL REMOVAL OF GRAVEL/ STONE FROM PROJECT SITE AT PROJECT COMPLETION.

1.5 STRIPPING AND STORAGE OF EXISTING TOPSOIL

A. STRIP TOPSOIL TO FULL DEPTH AT AREAS IMPACTED & AT ALL AREAS TO BE RE-GRADED OR RESURFACED.

B. STOP TOPSOIL STRIPPING OUTSIDE DRIP LINE OF TREES TO REMAIN / DO NOT STRIP AS TO IMPACT ROOT LINE OF TREES TO REMAIN.

C. DISPOSE OF ROOTS, STONE AND OTHER DEBRIS; STORE TOPSOIL IN PILES WITHIN THE WORK LIMITS.
1. OBTAIN APPROVAL OF LANDSCAPE ARCHITECT PRIOR TO ESTABLISHING TOPSOIL STORAGE AREAS.
2. GRADE AND SLOPE STOCKPILES FOR PROPER DRAINAGE AND TO PREVENT EROSION

D. THE REUSE OF STOCKPILED TOPSOIL WITHIN THE PROJECT SITE MUST BE APPROVED FOR PLACEMENT BY THE LANDSCAPE ARCHITECT.

CONTINUED ON NEXT PAGE

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Item	Revision Description	Date	Drwn:	Chk:

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

PLANTING SPECIFICATIONS

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing:	22-0273 LA PP
Drawn by:	ADH
Checked By:	CJO
Issue Date:	1/13/25
Sheet:	37f/161

Plot time: Jan 10, 2025 – 4:21pm
Drawing name: J:\2022\22-0273\LA\DWG\22-0273 LA PP.dwg – Layout Tab: L2.1

SECTION 31 14 00 - SITE RESTORATION OF LANDSCAPING (CONT.)

PART 2 - PRODUCTS AND MATERIALS

2.1 TOPSOIL

A. ALL TOPSOIL SHALL BE SHREDDED, CLEAN, AND OF UNIFORM QUALITY FREE FROM HARD CLODS, STIFF CLAY, PARTIALLY DISINTEGRATED STONE, LIME, CEMENT, SLAG, OR OTHER UNDESIRABLE MATERIAL. TOPSOIL SHALL CONFORM TO THE FOLLOWING:
   1. ORGANIC CONTENT: TOPSOIL SHALL CONTAIN BETWEEN 3% AND 10% ORGANIC MATTER AS DETERMINED BY LOSS OF IGNITION.
   2. PH: TOPSOIL PH SHALL RANGE BETWEEN 6.0 AND 7.5
   3. SOIL TEXTURE: TOPSOIL SHALL CONSIST OF THE FOLLOWING PERCENTAGES OF SAND, SILT, AND CLAY PASSING THROUGH A 2.00MM (#10) SIEVE:
      a. SAND: 30% TO 75%
      b. SILT: 15% TO 70%
      c. CLAY: 10% TO 30%

B. TOPSOIL MUST BE APPROVED BY GROUNDS MANGER PRIOR TO PLACEMENT. TOPSOIL TEST RESULTS SHALL SHOW RECOMMENDATION FOR SOIL ADDITIVES OR FERTILIZERS TO CORRECT NUTRIENT DEFICIENCIES AS NECESSARY. ALL SOIL AMENDMENTS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO USE.

2.2 GRASS SEED

A. GRASS SEED SHALL BE A TURF-TYPE TALL FESCUE BLEND SUCH AS TROPHY XRE TURF-TYPE TALL FESCUE BLEND OR APPROVED EQUAL BLEND WITH FRESH, CLEAN, NEW CROP SEED MIXTURES.
B. SEED MIXTURE SHALL BE POA-FREE MEETING OREGON STATE STANDARDS FOR NOXIOUS WEED EXAMS.
C. SEED MIXTURE FOR RECREATION FIELDS SHALL BE AS DIRECTED BY THE LANDSCAPE ARCHITECT.

2.3 SOD

A. LANDSCAPE ARCHITECT APPROVED NURSERY GROWN TURF-TYPE TALL FESCUE BLEND SUITABLE FOR JOB SPECIFIC EXPOSURE, WEARABILITY, AND DISEASE RESISTANCE CONFORMING TO THE FOLLOWING PERCENTAGES OF GRASS TYPE:
   1. 100% - TURF TYPE TALL FESCUE

B. PROVIDE WELL-ROOTED, HEALTHY SOD, FREE OF DISEASES, NEMATODES, AND SOIL BORNE INSECTS. PROVIDE SOD IN UNIFORM COLOR, LEAF, TEXTURE, DENSITY, AND FREE OF WEEDS, UNDESIRABLE GRASSES, CAPABLE OF GROWTH AND DEVELOPMENT WHEN PLANTED. SOD IS CONSIDERED FREE OF WEEDS IF LESS THAN 5 WEEDS ARE FOUND PER 100 SQ. FT.
C. FURNISH SOD MACHINE STRIPPED AND OF SUPPLIER'S STANDARD WIDTH AND LENGTH; UNIFORMLY 1" TO 1-1/2" THICK WITH CLEAN CUT EDGES. SOD SHALL BE RELATIVELY FREE OF THATCH, UP TO ½" PERMISSIBLE. SOD SHALL BE MOWED UNIFORMLY BEFORE HARVESTING
D. DELIVERY, STORAGE, AND HANDLING: SOD SHALL BE HARVESTED, DELIVERED, AND TRANSPORTED WITHIN A PERIOD OF TWENTY-FOUR (24) HOURS.
   1. DO NOT HARVEST OR TRANSPORT SOD WHEN MOISTURE CONTENT MAY ADVERSELY AFFECT SOD SURVIVAL.
   2. PROTECT SOD FROM SUN, WIND, AND DEHYDRATION PRIOR TO INSTALLATION.
   3. DO NOT TEAR, STRETCH, OR DROP SOD DURING HANDLING AND INSTALLATION.

2.4 FERTILIZER

A. GRANULAR, NON-BURNING PRODUCE COMPOSED OF NOT LESS THAN 50% ORGANIC SLOW ACTING, GUARANTEED ANALYSIS PROFESSIONAL FERTILIZER CONFORMING TO THE FOLLOWING:
   1. TYPE A: STARTER FERTILIZER CONTAINING 20% NITROGEN, 26% PHOSPHORIC ACID, AND 6% POTASH BY WEIGHT, OR SIMILAR APPROVED COMPOSITION.
   2. TYPE B: SECONDARY FERTILIZER CONTAINING 31% NITROGEN, 3% PHOSPHORIC ACID, AND 10% POTASH BY WEIGHT, OR SIMILAR APPROVED COMPOSITION.

2.5 GRASS SEED MULCH

A. GREEN DYED CELLULOSE OR WOOD FIBER MULCH SUCH AS CONWED HYDROMULCH, WEYERHAUSER SILVA-FIBER OR CLEAN FRESH STRAW.

2.6 WATER

A. CLEAN, POTABLE AND FREE OF SUBSTANCE HARMFUL TO LAWN GROWTH. LAWN WATERING EQUIPMENT, HOSES OR OTHER METHODS OF WATER TRANSPORTATION FURNISHED BY CONTRACTOR.

PART 3 - EXECUTION

3.1 PREPARATION OF SEED BED/ SODDED AREAS

A. DE-COMPACTION: DE-COMPACT AREAS HEAVILY TRAFFICKED BY CONSTRUCTION ACTIVITIES WITH HOE OR OTHER LANDSCAPE ARCHITECT APPROVED METHOD PRIOR TO ROUGH GRADING.
B. ROUGH GRADING: GRADE SURFACES TO ASSURE DRAINAGE AWAY FROM STRUCTURES AND TO PREVENT PONDING AND POCKETS OF SURFACE DRAINAGE. PROVIDE SUBGRADE FREE FROM IRREGULAR SURFACE CHANGES AND AS FOLLOWS:
   1. ROUGH GRADE SHALL EQUAL PLUS/ MINUS 0.20 FT., SUB GRADE TOLERANCE SHALL BE FREE OF EXPOSED BOULDERS OR STONES EXCEEDING 1" IN GREATEST DIMENSION.
   2. FILL IN ALL AREAS OF SETTLEMENT TO PROPER GRADE BEFORE SUBSEQUENT PLACEMENT OF TOPSOIL.

C. TOPSOIL DEPTHS:
   1. LAWN: AREAS TO RECEIVE SOD OR SEED MUST HAVE MINIMUM SIX (6) INCHES AVERAGE DEPTH OF TOPSOIL PLACED.
   2. PLANTED BEDS: AREAS IDENTIFIED AS PLANTING BEDS SHALL HAVE MINIMUM TWELVE (12) INCHES AVERAGE DEPTH OF TOPSOIL PLACED.

D. FINE GRADING: GRADE AREA TO A SMOOTH, FREE DRAINING EVEN SURFACE WITH A LOOSE, MODERATELY COURSE TEXTURE. ROLL, SCARIFY, RAKE AND LEVEL AS NECESSARY TO OBTAIN A TRUE, EVEN LAWN SURFACE AND FILL DEPRESSIONS AS REQUIRED TO DRAIN. SEED BED TO BE APPROXIMATELY ½" - 1" BELOW ALL SIDEWALKS AND CURBS. DO NOT MOVE HEAVY OBJECTS EXCEPT NECESSARY LAWN MAKING EQUIPMENT OVER THE LAWN AREAS AFTER THE SOIL IS PREPARED UNLESS IT IS LOOSENED AND RE-GRADED. RESTORE PREPARED AREAS TO SPECIFIED CONDITION IF ERODED, SETTLED, OR OTHERWISE DISTURBED AFTER FINE GRADING.
E. FERTILIZING: APPLY TYPE A / STARTER FERTILIZER TO INDICATED TURF AREAS AT A RATE EQUAL TO 1.0 LB. OF ACTUAL NITROGEN PER 1,000 S.F. OR AS DIRECTED BY LANDSCAPE ARCHITECT. APPLY FERTILIZERS BY MECHANICAL DROP OR ROTARY DISTRIBUTOR, THOROUGHLY AND EVENLY INCORPORATED WITH SOIL TO A DEPTH OF 3" BY DICING OR OTHER APPROVED METHOD. FERTILIZE AREAS INACCESSIBLE TO POWER EQUIPMENT WITH HAND TOOLS AND INCORPORATE INTO SOIL.

3.2 INSTALLATION OF GRASS SEED

A. LANDSCAPE CONTRACTOR SHALL SEED ALL DISTURBED AREAS. THE FINAL GRADE AND TOPSOIL WITHIN +/- .10 FEET WILL BE IN PLACE FOR SEEDING CONTRACTOR.
B. GRASS SEED SHALL ONLY BE SOWN AT THE FOLLOWING TIMES:
   a. SPRING SEED PLANTING: APRIL 1 TO JUNE 1
   b. FALL SEED PLANTING: AUGUST 15 TO OCTOBER 1
   c. OR AS APPROVED BY THE LANDSCAPE ARCHITECT
C. PERFORM SEEDING WORK ONLY AFTER PLANTING AND OTHER WORK AFFECTING THE GROUND SURFACE HAVE BEEN COMPLETED. LIMIT PREPARATION OF SEED AREAS TO THOSE READY FOR IMMEDIATE SEEDING.
D. SEED IMMEDIATELY AFTER PREPARATION OF BED.
E. PERFORM SEEDING OPERATIONS WHEN SOIL IS DRY AND WHEN WINDS DO NOT EXCEED FIVE MILES PER HOUR.

F. SEEDING
   a. TO BE APPLIED AT APPROVED MANUFACTURED RATES IN CROSS DIRECTIONS WITH APPROVED SEED DRILLING OR SLICE SEEDING EQUIPMENT. APPLY 50% OF THE SEED IN EACH DIRECTION.
   b. APPLY HYDRO-MULCH WITH APPROVED HYDRO-MULCH EQUIPMENT IMMEDIATELY AFTER SEEDING. SLURRY TO BE COMPOSED OF CLEAN WATER AND MULCH. APPLY MULCH SLURRY AT MINIMUM RATE OF 1,500 POUNDS PER ACRE ON SLOPES STEEPER THAN 4:1. DIRECT SLURRY TO EVENLY COVER DESIGNATED SEED AREAS. REPAIR RUTS, DEPRESSIONS AND ALL DAMAGE CAUSED BY HYDRO-MULCHING EQUIPMENT.
   c. IMMEDIATELY RESEED AND REAPPLY HYDRO-MULCH TO AREAS THAT SHOW POOR GERMINATION.

G. HYDROMULCHING
   a. CONTRACTOR SHALL APPLY CELLULOSE FIBER MULCH AT A MINIMUM RATE OF 1500 POUNDS PER ACRE AND FERTILIZERS: BEST 6-20-20 OR BEST 15-15-15 OR APPROVED EQUAL APPLIED AT RATE APPROPRIATE FOR PRODUCT. ORGANIC TACKIFIER SHALL BE APPLIED AT RATE OF 70 POUNDS PER ACRE. HYDROSEED SEED MIX SHALL BE APPLIED AT THE 2,000 POUNDS PER ACRE.
   b. CONTRACTOR SHALL WATER ALL PLANT AREAS THOROUGHLY TO SATURATE UPPER LAYERS OF SOIL PRIOR TO THE HYDROSEEDING OPERATION. ALLOW THE PLANTING AREA SOIL SURFACE TO DRY OUT FOR ONE DAY ONLY PRIOR TO THE HYDROSEEDING APPLICATION.
   c. CONTRACTOR SHALL APPLY THE HYDROSEEDING IN THE FORM OF A SLURRY CONSISTING OF ORGANIC SOIL AMENDMENTS, COMMERCIAL FERTILIZER, AND ANY OTHER CHEMICALS THAT ARE CALLED OUT. WHEN HYDRAULICALLY SPRAYED ONTO THE SOIL, THE MULCH SHALL FORM A BLOTTER-LIKE MATERIAL. SPRAY THE AREA WITH A UNIFORM VISIBLE COAT, USING THE DARK COLOR OF THE CELLULOSE FIBER AS A VISUAL GUIDE. THE SLURRY SHALL BE APPLIED IN A DOWNWARD DRILLING MOTION VIA A FAN STREAM NOZZLE. CONTRACTOR SHALL INSURE THAT ALL OF THE SLURRY COMPONENTS ENTER AND MIX WITH THE SOIL.
   d. IF SLURRY COMPONENTS ARE LEFT FOR MORE THAN TWO HOURS IN THE MACHINE, ADD 50% MORE OF THE ORIGINALLY SPECIFIED SEED MIX TO ANY SLURRY MIXTURE WHICH HAS NOT BEEN APPLIED WITHIN THE TWO HOURS AFTER MIXING. ADD 75% MORE OF THE ORIGINAL SEED MIX TO ANY SLURRY MIXTURE WHICH HAS NOT BEEN APPLIED EIGHT (8) HOURS AFTER MIXING. ALL MIXTURES MORE THAN EIGHT (8) HOURS OLD, SHALL BE DISPOSED, OFFSITE, AT THE CONTRACTOR'S EXPENSE.
   e. CONTRACTOR SHALL REMOVE ALL SLURRY SPRAYED ONTO HARDSCAPE AREAS INCLUDING CONCRETE WALKS, FENCES, WALLS, BUILDINGS, ETC. AT THE CONTRACTOR'S EXPENSE.
   f. CONTRACTOR SHALL SAVE ALL SEED AND FERTILIZER TAGS AND FIBER MULCH BAGS FOR THE LANDSCAPE ARCHITECT TO VERIFY COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS.

3.4 MAINTENANCE

A. WATERING AND MAINTENANCE ACTIVITIES MUST BE REVIEWED AND APPROVED WITH THE LANDSCAPE ARCHITECT. UNLESS OTHERWISE APPROVED, THE FOLLOWING REQUIREMENTS ARE TO BE COMPLETED AT A MINIMUM:
   1. MAINTAIN NEW INSTALLED SEEDED/ SODDED LAWN AREAS IN AN ACCEPTABLE MANNER UNTIL FINAL ACCEPTANCE OF PROJECT, INCLUDING WATERING, SPOT WEEDING, MOWING, TRIMMING, REMOVAL OF CLIPPINGS, LEAF REMOVAL, APPLICATION OF HERBICIDES, FUNGICIDES, INSECTICIDES, AND RE-SEEDING UNTIL A FULL, UNIFORM STAND OF GRASS FREE OF WEED, UNDESIRABLE GRASS SPECIES, DISEASE, AND INSECTS IS ACHIEVED AND ACCEPTED BY THE LANDSCAPE ARCHITECT.
   2. WATER DAILY TO MAINTAIN ADEQUATE SURFACE SOIL MOISTURE FOR PROPER SEED GERMINATION. CONTINUE DAILY WATERING FOR NOT LESS THAN THIRTY (30) DAYS. THEREAFTER APPLY ONE-HALF (1/2) INCH WATER EVERY TWO OR THREE DAYS UNTIL ACCEPTED.
   3. REPAIR, RE-WORK, RE-SEED, AND OR SOD ALL RESPECTIVE AREAS THAT HAVE WASHED OUT, ARE ERODED, OR DID NOT CATCH.
   4. SET MOWER BLADES AT A MINIMUM HEIGHT OF TWO AND ONE-HALF (2-1/2) INCHES. NOT MORE THAN THIRTY (30) PERCENT OF THE GRASS LEAF/BLADE SHALL BE REMOVED AT THE INITIAL OR SUBSEQUENT MOWING. MOW ALL LAWNS BEFORE TURF REACHES A HEIGHT OF FOUR (4) INCHES.
   5. IF INFESTATION OF WEEDS OR CRABGRASS DEVELOPS, TREAT INFESTATION BY HAND WEEDING OR HERBICIDAL CONTROL. FURNISH AND INSTALL WEED CHEMICAL CONTROL AS RECOMMENDED BY MANUFACTURER. HERBICIDAL CONTROLS, INCLUDING RENOVATION BEFORE SEEDING OPERATIONS, SHALL BE ACCEPTABLE TO THE LANDSCAPE ARCHITECT.
   6. APPLY TYPE B FERTILIZER TO LAWNS APPROXIMATELY THIRTY (30) DAYS AFTER INSTALLATION AT A RATE EQUAL TO 1.0 LB. OF ACTUAL NITROGEN PER 1,000 SQ. FT. APPLY WITH MECHANICAL DROP OR ROTARY TYPE DISTRIBUTOR. WATER THE FERTILIZER THOROUGHLY INTO THE SOIL.

B. PROVIDE EROSION CONTROL MEASURES TO ADEQUATELY SLOW WATER AND IMPEDE SOIL LOSS AS REQUIRED AND DIRECTED BY THE LANDSCAPE ARCHITECT.
   1. EROSION CONTROL BLANKETS TO BE USED ON SEEDED SLOPES GREATER THAN 3:1.
   2. FIBER ROLLS TO BE USED ON SEEDED SLOPES GREATER THAN 2:1.
   3. STRAW BALE CHECKING OR OTHER APPROVED DEVICE IN DITCHES OR ERODED SWALES AS REQUIRED.

3.5 ACCEPTANCE

A. INSPECTION TO DETERMINE ACCEPTANCE OF INSTALLED LAWNS WILL BE MADE BY THE LANDSCAPE ARCHITECT, UPON CONTRACTOR'S REQUEST. PROVIDE NOTIFICATION AT LEAST THREE (3) WORKING DAYS BEFORE REQUESTED INSPECTION DATE.
   1. NEW LAWN AREAS WILL BE ACCEPTABLE PROVIDED ALL REQUIREMENTS, INCLUDING MAINTENANCE, HAVE BEEN COMPLIED WITH, AND A HEALTHY UNIFORM, CLOSE STAND OF GRASS IS ESTABLISHED FREE OF WEEDS, UNDESIRABLE GRASS SPECIES, DISEASE AND INSECTS.
   2. NO INDIVIDUAL LAWN AREAS SHALL HAVE BARE SPOTS OR UNACCEPTABLE COVER TOTALING MORE THAN TWO (2) PERCENT OF THE INDIVIDUAL AREAS, IN THOSE AREAS REQUESTED FOR INSPECTION.
   3. UPON ACCEPTANCE, THE CONTRACTOR WILL ASSUME LAWN MAINTENANCE.

END OF SECTION 31 14 00

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Item	Revision Description	Date	Drwn	Chk

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

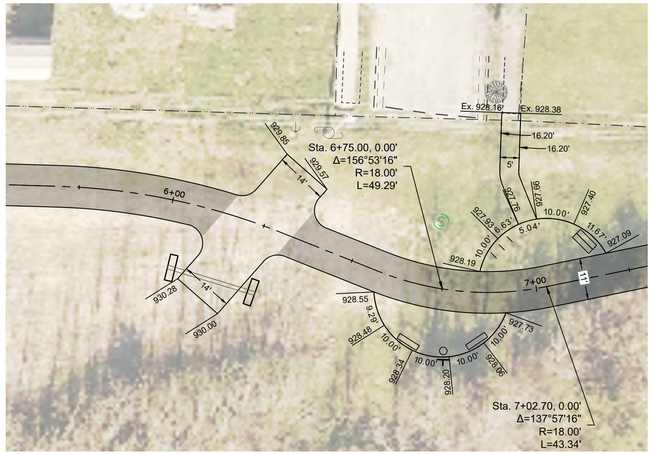
PLANTING SCHEDULE, NOTES & DETAILS

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110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

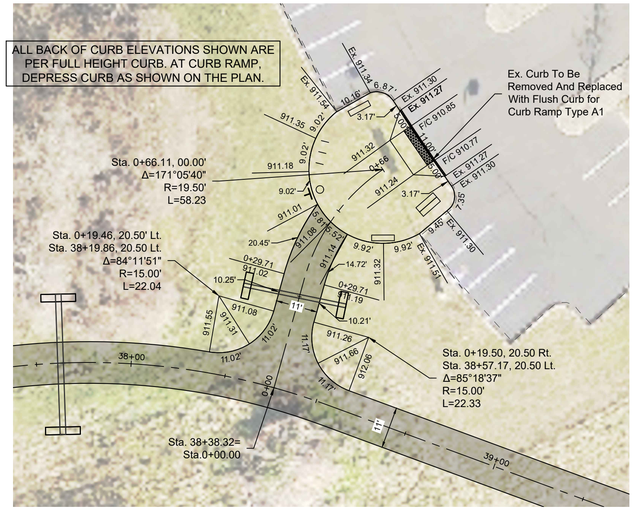
Drawing: 22-0273 LA PP
Drawn by: ADH
Checked By: CJO
Issue Date: 1/13/25
Sheet: 37g/161

Plot time: Jan 10, 2025 - 4:21pm
Drawing name: J:\2022\22-0273\LA\DWG\22-0273 LA PP.dwg - Layout Tab: L2.2

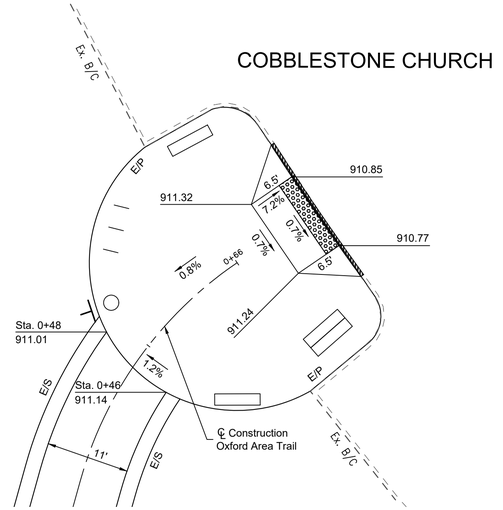
Trailhead 1
David Drive



Trailhead 2
Cobblestone Church Parking Lot



Curb Ramp Detail
Scale 1"=10'



Legend

- Prop. Bench (To be furnished and installed by the City of Oxford)
- Prop. Kiosk (To be constructed by contractor)
- Prop. Dog Bag Dispenser with Trash Receptacle (Standard Round Pet Waste Station, 5 gallon capacity with steel sign)
- Prop. Bike Racks (Park-It Powder Coated Steel Bike Racks, Surface Mount), 3 racks per station

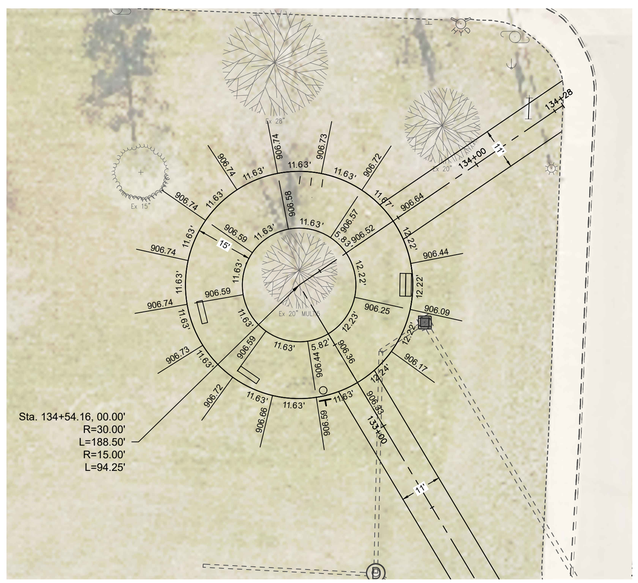
ALL TRAILHEADS TO BE CONSTRUCTED OF ITEM 608 - 5" CONCRETE WALK.

NOTE

ALL TRAILHEAD FURNITURE TO BE TREETOP PRODUCTS, BARCO PRODUCTS OR APPROVED EQUAL. ALL SHOP DRAWINGS FOR TRAILHEAD FURNITURE MUST BE APPROVED BY THE CITY PRIOR TO INSTALLATION.

BENCHES ARE SHOWN FOR PLANNING PURPOSES ONLY AND ARE TO BE FURNISHED AND INSTALLED BY THE CITY.

Trailhead 4
Chestnut Street



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HORIZONTAL
0 20 30
SCALE: 1" = 20'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	SJW	EMR
4	Revised per ODOT and City comments.	02-03-25	SM	EMR
5	Revised per Provider Note.	02-25-25	SM	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

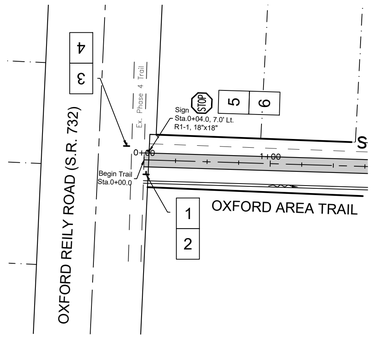
TRAILHEAD DETAILS

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Drawing: 22-0273 TRAILHEAD DETAILS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 38/161

Plot time: Feb 25, 2025 - 8:05am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 Trailhead Details.dwg - Layout Tab: 38 TH Details

Trail Intersection
Phase 4 Trail



1 OXFORD AREA TRAILS
↑ OXFORD COMMUNITY PARK

2 OXFORD AREA TRAILS
→ DAVID DRIVE TRAILHEAD

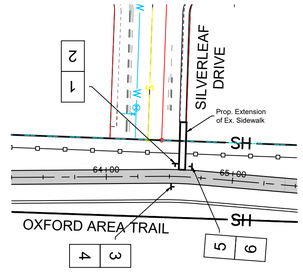
3 OXFORD AREA TRAILS
↑ TALAWANDA MIDDLE SCHOOL

4 OXFORD AREA TRAILS
← DAVID DRIVE TRAILHEAD

5 OXFORD AREA TRAILS
← TALAWANDA MIDDLE SCHOOL

6 OXFORD AREA TRAILS
→ OXFORD COMMUNITY PARK

Sidewalk Intersection
Silverleaf Drive



1 OXFORD AREA TRAILS
→ COBBLE-STONE CHURCH TRAILHEAD

2 OXFORD AREA TRAILS
← UPTOWN OXFORD HISTORIC DISTRICT

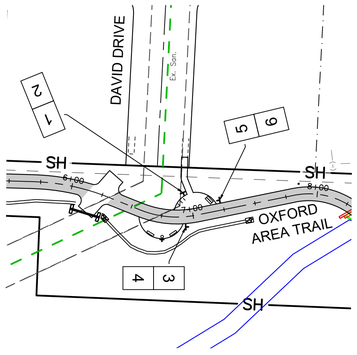
3 OXFORD AREA TRAILS
↑ UPTOWN OXFORD HISTORIC DISTRICT

4 OXFORD AREA TRAILS
← SILVERLEAF DRIVE

5 OXFORD AREA TRAILS
→ SILVERLEAF DRIVE

6 OXFORD AREA TRAILS
↑ COBBLE-STONE CHURCH TRAILHEAD

Trailhead 1
David Drive



1 OXFORD AREA TRAILS
← COBBLE-STONE CHURCH TRAILHEAD

2 OXFORD AREA TRAILS
→ OXFORD REILY ROAD (S.R. 732)

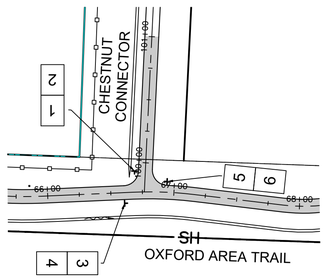
3 OXFORD AREA TRAILS
↑ COBBLE-STONE CHURCH TRAILHEAD

4 OXFORD AREA TRAILS
← DAVID DRIVE

5 OXFORD AREA TRAILS
↑ OXFORD REILY ROAD (S.R. 732)

6 OXFORD AREA TRAILS
→ DAVID DRIVE

Trail Intersection
Chestnut Connector



1 OXFORD AREA TRAILS
← TALAWANDA H. S. PEFFER PARK

2 OXFORD AREA TRAILS
→ SILVERLEAF DRIVE

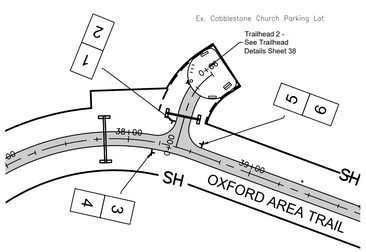
3 OXFORD AREA TRAILS
← BCRTA & AMTRAK STATION

4 OXFORD AREA TRAILS
← UPTOWN OXFORD HISTORIC DISTRICT

5 OXFORD AREA TRAILS
→ BCRTA & AMTRAK STATION

6 OXFORD AREA TRAILS
→ UPTOWN OXFORD HISTORIC DISTRICT

Trailhead 2
Cobblestone Church



1 OXFORD AREA TRAILS
← KEHR ROAD

2 OXFORD AREA TRAILS
→ DAVID DRIVE TRAILHEAD

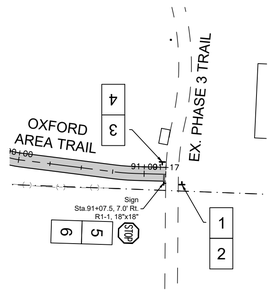
3 OXFORD AREA TRAILS
↑ KEHR ROAD

4 OXFORD AREA TRAILS
← COBBLE-STONE CHURCH TRAILHEAD

5 OXFORD AREA TRAILS
↑ DAVID DRIVE TRAILHEAD

6 OXFORD AREA TRAILS
→ COBBLE-STONE CHURCH TRAILHEAD

Trail Intersection
Phase 3 Trail



1 OXFORD AREA TRAILS
↑ PEFFER PARK

2 OXFORD AREA TRAILS
← UPTOWN OXFORD HISTORIC DISTRICT

3 OXFORD AREA TRAILS
↑ TALAWANDA HIGH SCHOOL

4 OXFORD AREA TRAILS
→ UPTOWN OXFORD HISTORIC DISTRICT

5 OXFORD AREA TRAILS
← PEFFER PARK

6 OXFORD AREA TRAILS
→ TALAWANDA HIGH SCHOOL

0 60 90
SCALE: 1" = 60'

Item	Revision Description	Date	Drwn	Chk:

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

WAYFINDING SIGNAGE

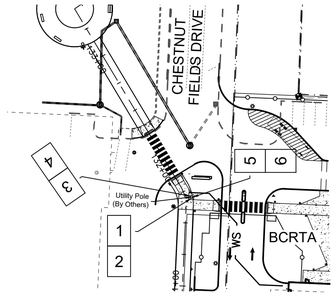
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Drawing: 22-0273 WAYFINDING
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 38A/161

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Plot time: Jan 10, 2025 - 7:45am
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 Wayfinding.DWG - Layout Tab: 33 P&P 82+75

BCRTA
Chestnut Fields



1
OXFORD AREA TRAILS
→
UPTOWN OXFORD HISTORIC DISTRICT

2
OXFORD AREA TRAILS
↖
CHESTNUT STREET TRAILHEAD

3
OXFORD AREA TRAILS
↖
UPTOWN OXFORD HISTORIC DISTRICT

4
OXFORD AREA TRAILS
↗
SILVERLEAF DRIVE

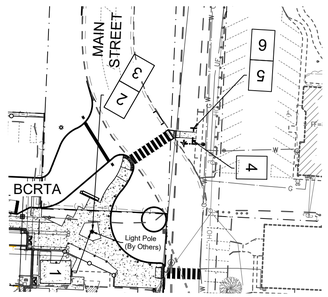
5
OXFORD AREA TRAILS
↗
CHESTNUT STREET TRAILHEAD

6
OXFORD AREA TRAILS
←
SILVERLEAF DRIVE

Note
SEE TYPICAL SECTIONS FOR GROUND-MOUNTED SIGN PLACEMENT DETAIL.

ALL WAYFINDING SIGNS TO BE DESIGNED BY THE CITY OF OXFORD. PRIOR TO FABRICATION OF SIGNS, CONTRACTOR SHALL OBTAIN ARTWORK FROM THE CITY OF OXFORD. SIZE OF SIGN SHALL BE 24"X18". SIGNS SHALL BE INSTALLED ON GROUND MOUNTED SUPPORT. NO. 3 POST.

BCRTA
Main Street



1
OXFORD AREA TRAILS
↖
UPTOWN OXFORD HISTORIC DISTRICT

2
OXFORD AREA TRAILS
↗
CHESTNUT STREET TRAILHEAD

3
OXFORD AREA TRAILS
↗
SILVERLEAF DRIVE

4
OXFORD AREA TRAILS
←
UPTOWN OXFORD HISTORIC DISTRICT

5
OXFORD AREA TRAILS
→
CHESTNUT STREET TRAILHEAD

6
OXFORD AREA TRAILS
→
SILVERLEAF DRIVE

N
0 60 90
SCALE: 1" = 60'

Item	Revision Description	Date	Drwn	Chk

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

WAYFINDING SIGNAGE

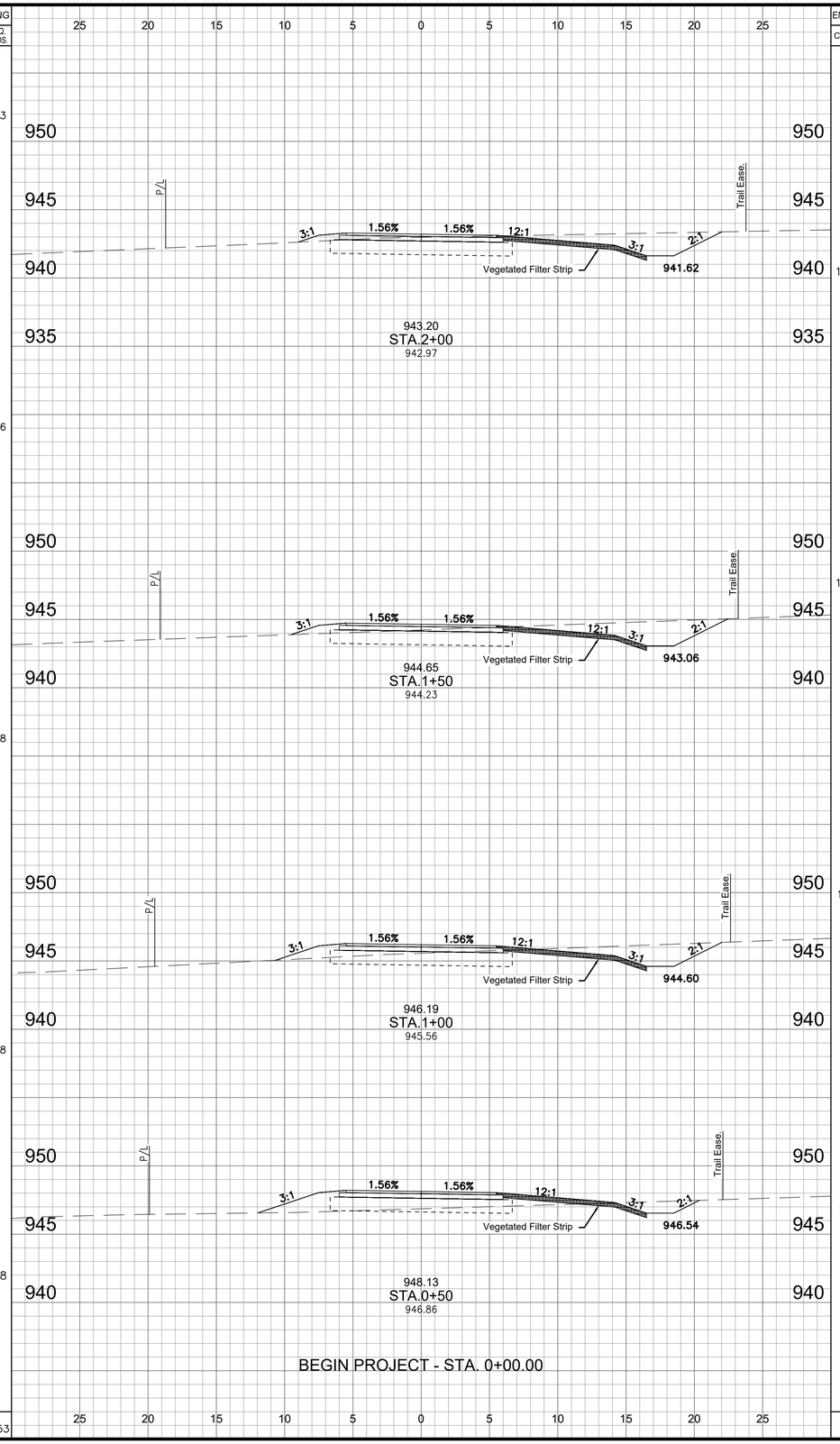
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Drawing: 22-0273 WAYFINDING
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 38B/161

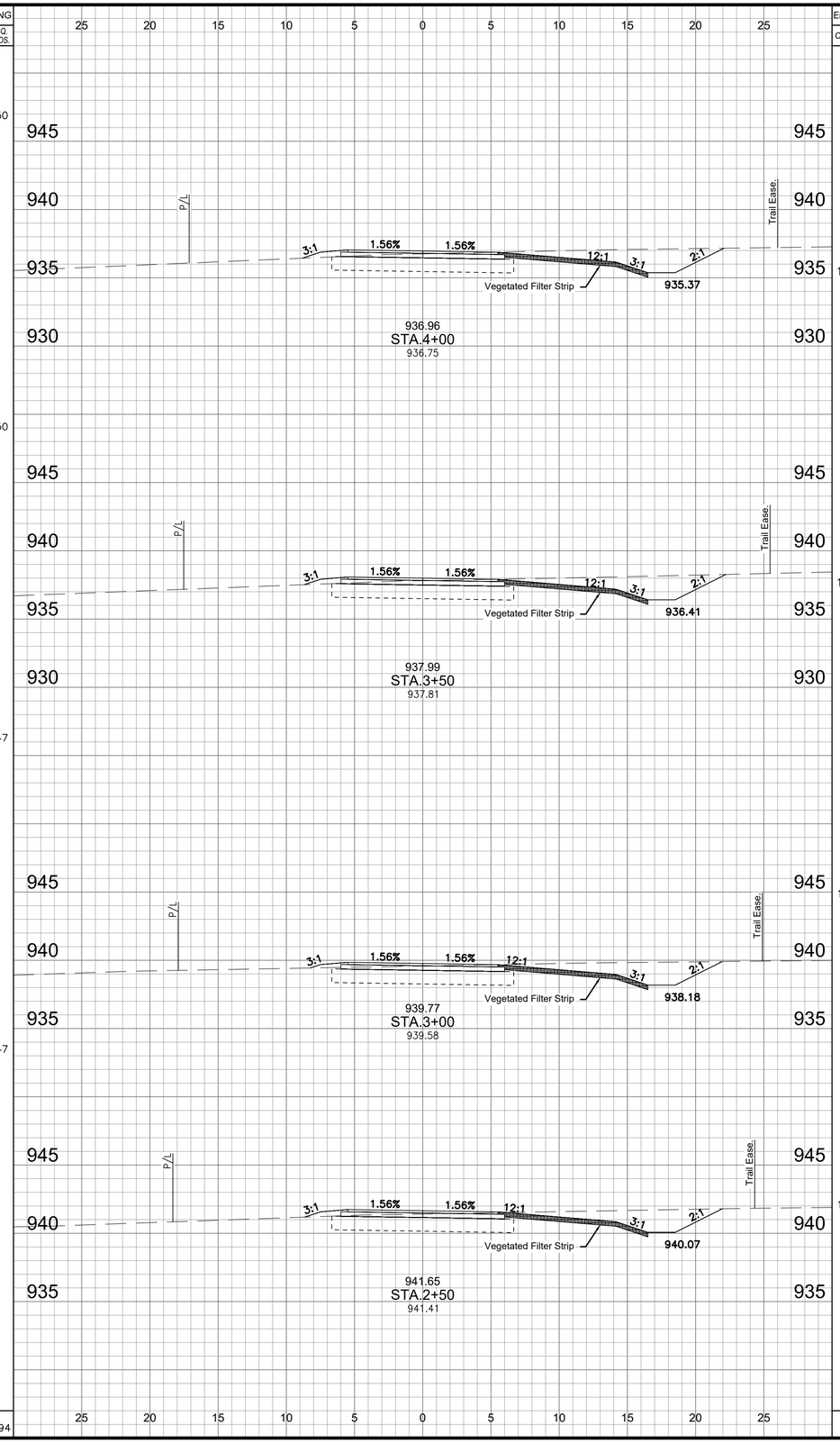
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Plot time: Jan 10, 2025 - 7:52am
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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10	53	16	1	29	2
10	56	15	2	29	3
0	58	24	7	24	7
11	58	11	5	13	22
10	28	3	19	3	19
0	253			95	34



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9	50	17	1	32	2
9	50	17	1	32	2
9	47	17	1	32	1
8	47	17	1	30	1
9	47	15	1	32	1
9	194			126	6



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HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

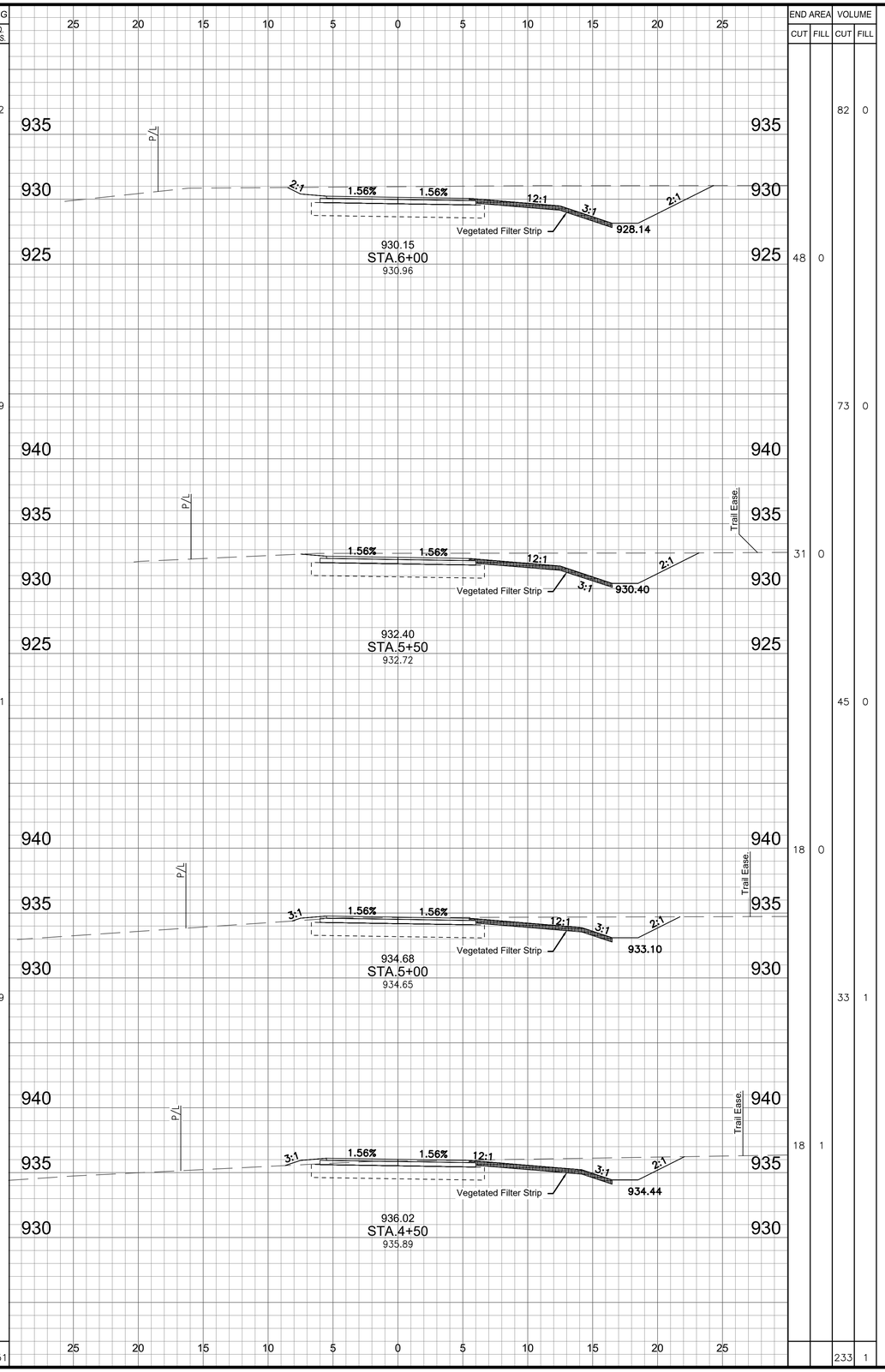
CROSS SECTIONS - STA. 0+50 TO 4+00

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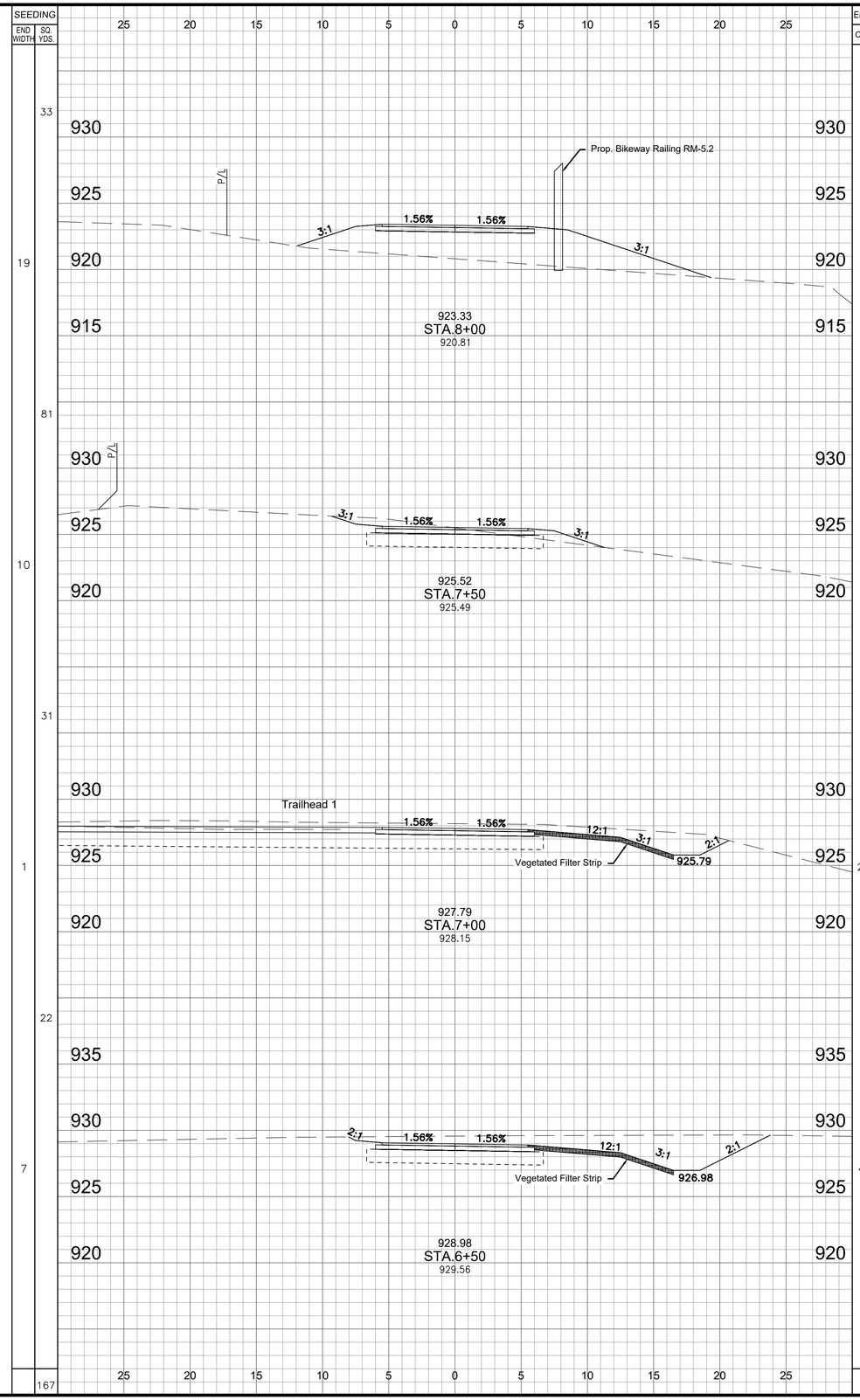
Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 39/161

Plot time: Jan 13, 2025 - 4:39pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 39 XS 0+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	42	48	0	82	0
6	39	31	0	73	0
5	31	45	0	18	0
9	39	18	1	33	1
151		233	1		



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
19	33	0	51	0	59
10	81	7	3	6	50
1	31	24	0	29	3
7	22	41	0	60	0
167		95	112		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 4+50 TO STA. 8+00

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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 40/161

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Plot time: Jan 13, 2025 - 4:19pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 40 XS 4+50

SEEDING END WIDTH	SEEDING SQ. YDS.	STA.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		10+00				
108					4	41
		9+50				
106					4	36
		9+00				
68					2	24
		8+50				
0					0	0
		8+00				
0					0	0
		7+50				
282					10	101

SEEDING END WIDTH	SEEDING SQ. YDS.	STA.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		12+00				
83					0	35
		11+50				
97					2	38
		11+00				
117					5	34
		10+50				
119					5	41
		10+00				
416					12	148

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 8+50 TO STA. 12+00

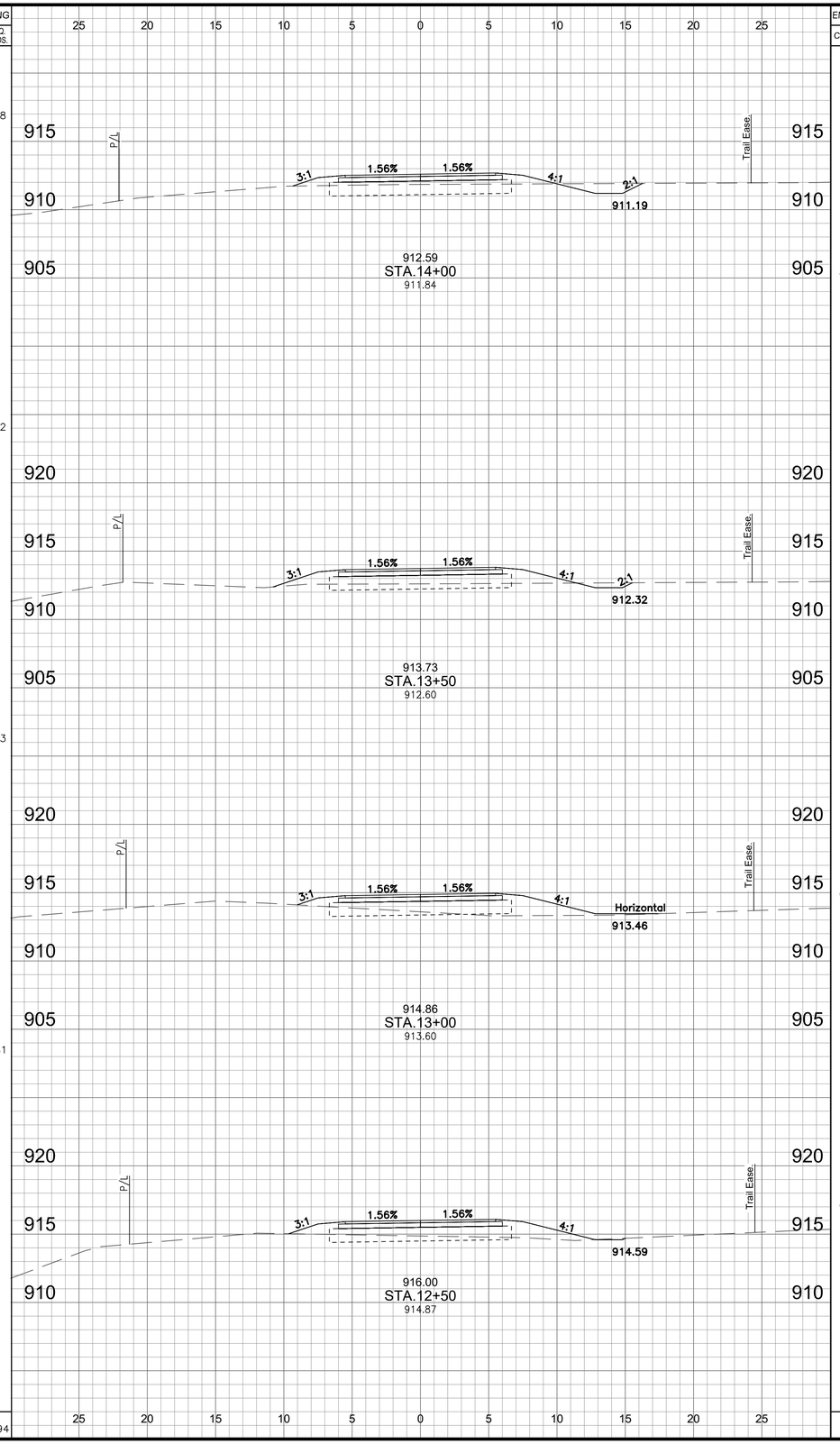
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 41/161

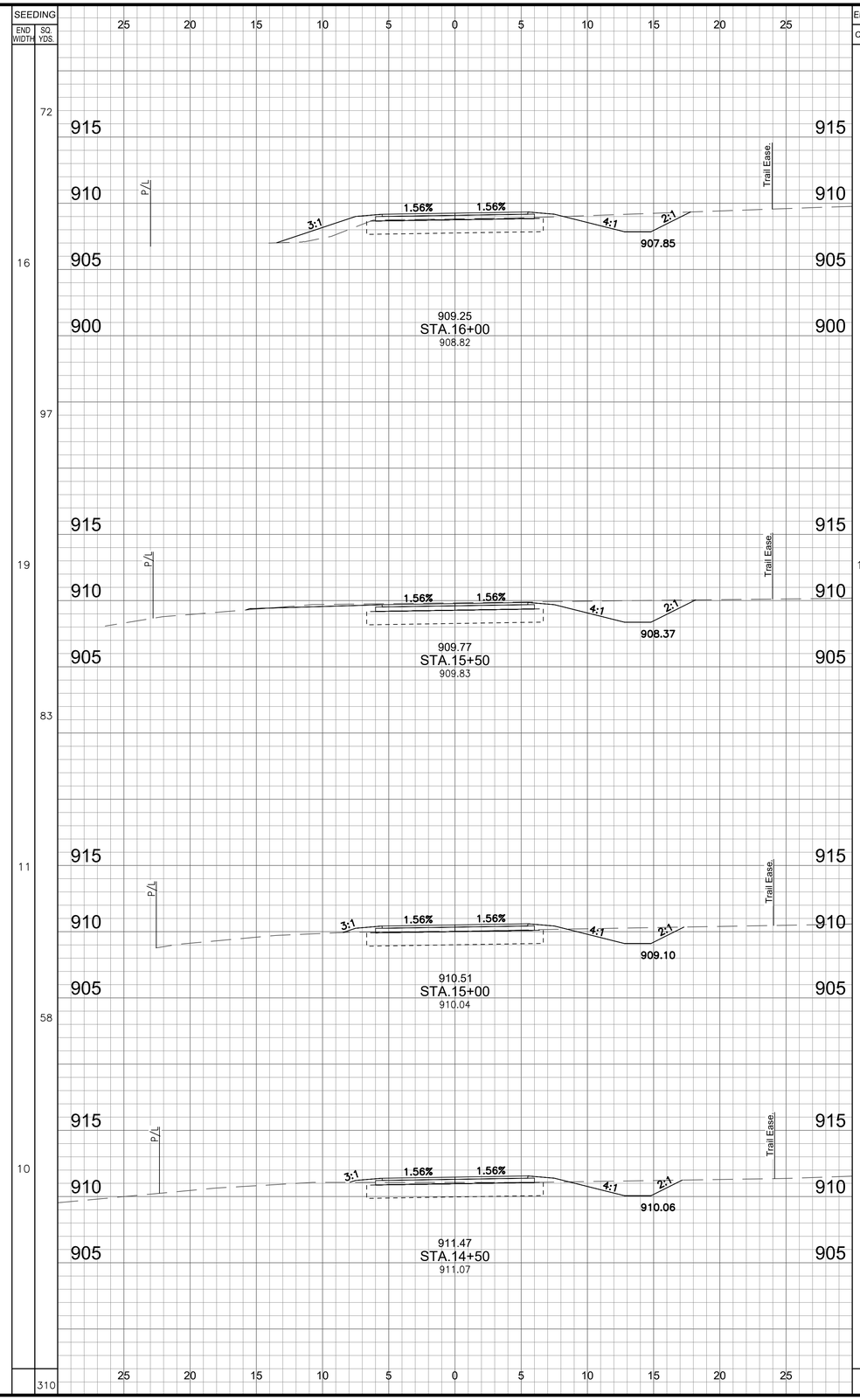
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Plot time: Jan 13, 2025 - 4:19pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 41 XS 8+50

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
11	58	3	7	9	7
15	72	1	14	4	19
15	83	0	17	1	29
14	81	0	15	0	30
	294			14	85



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
16	72	9	5	15	6
19	97	19	0	26	5
19	83	0	24	24	1
10	58	7	1	13	2
	310			78	14



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

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Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

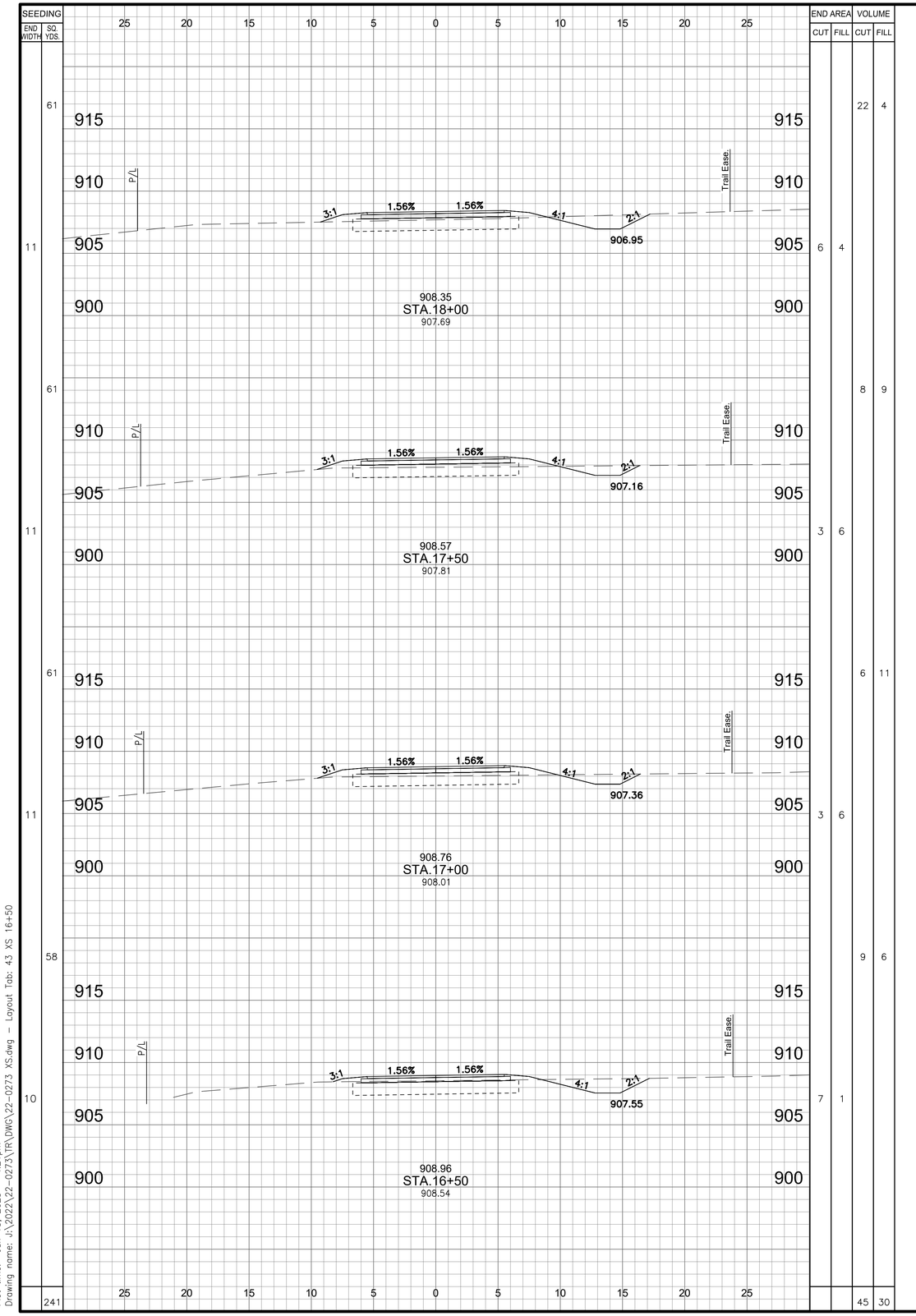
CROSS SECTIONS - STA. 12+50 TO STA. 16+00

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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 42/161

Plot time: Jan 13, 2025 - 4:20pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 42 XS 12+50

SEEDING END WIDTH	SEEDING SQ. YDS.	STA.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		16+50				
11	61	17+00	3	6	6	11
11	61	17+50	3	6	8	9
11	61	18+00	6	4	22	4
18	75	19+00	0	108	13	111
9	44	19+50	20	3	19	103
7	29	20+00	0	108	45	3
11	58		9	6	44	0
10	241		45	30	121	217
	208					



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 16+50 TO STA. 20+00

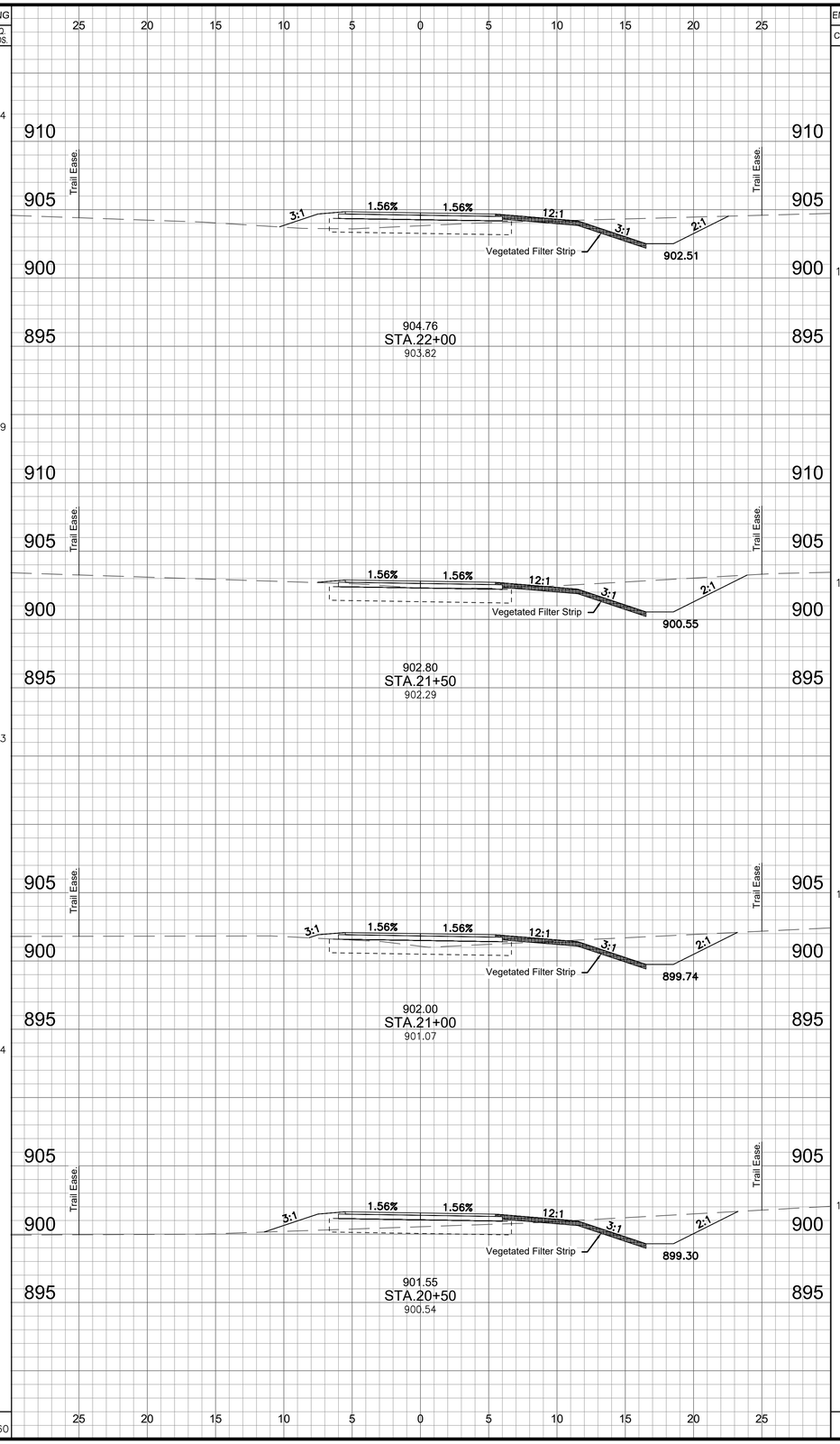
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 43/161

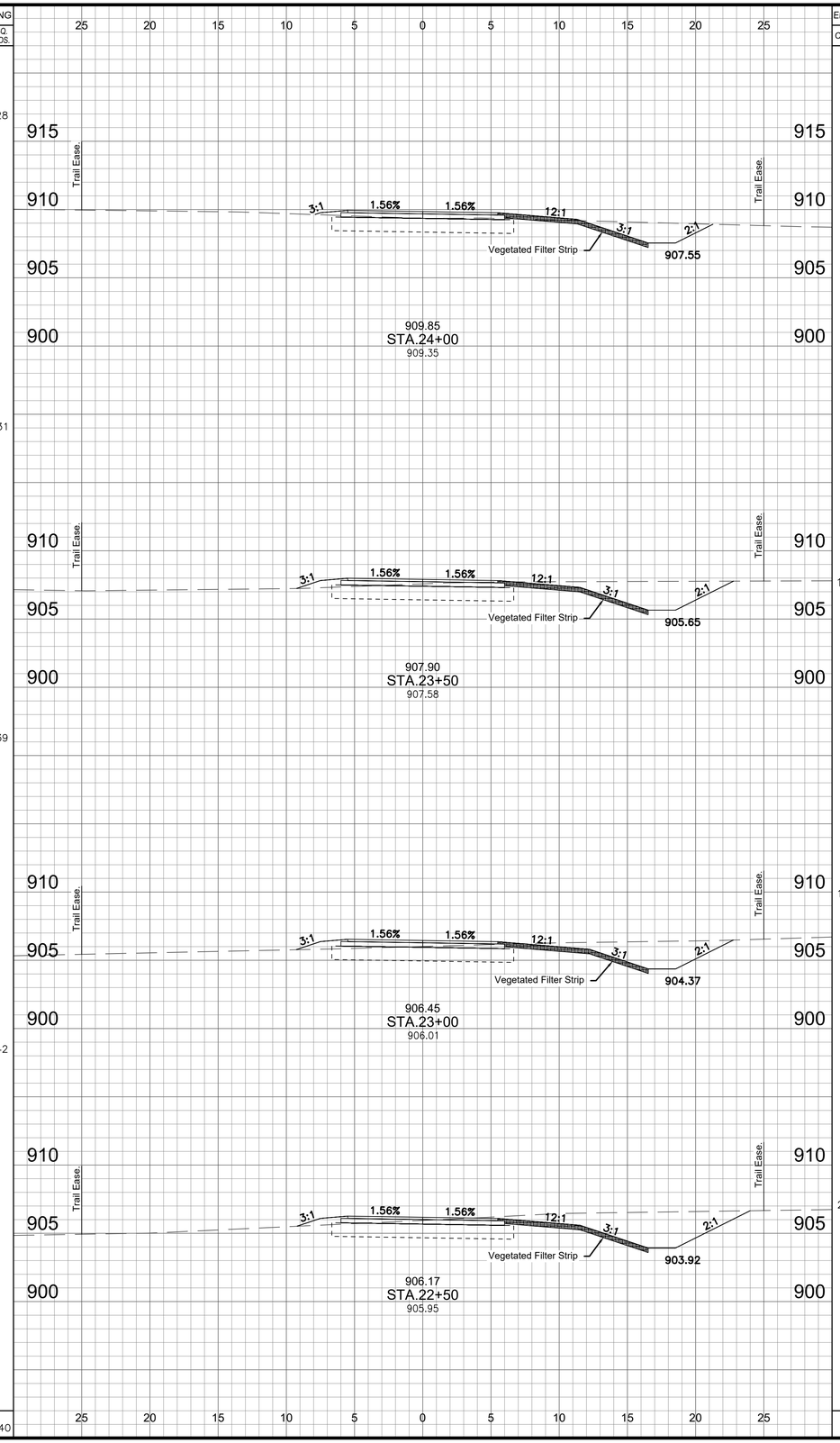
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Plot time: Jan 13, 2025 - 4:21pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 43 XS 16+50

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
8	44	12	10	37	10
6	39	19	1	29	10
6	33	15	5	31	6
10	44	14	12	27	16
	160			124	42



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
4	28	9	2	23	4
7	31	18	2	25	4
7	39	16	2	31	4
8	42	28	1	41	3
	140			120	15



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Date	Revision Description	Dwn:	Chk:
1	10-23-23	Revised per ODOT and City comments.	CPT	EMR
2	05-13-24	Revised per ODOT and City comments.	CPT	EMR
3	01-13-25	Revised per ODOT and City comments.	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 20+50 TO STA. 24+00

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Plot time: Jan 13, 2025 - 4:22pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 44 XS 20+50

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
6	33	913.45 STA.26+00 913.13	15	1	42	1
5	31	912.57 STA.25+50 911.91	9	5	22	6
4	25	911.69 STA.25+00 910.75	4	12	12	16
6	28	910.81 STA.24+50 910.37	16	2	19	13
	117				95	36

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
11	67	916.98 STA.28+00 916.55	7	2	7	21
12	64	916.10 STA.27+50 915.87	13	1	19	3
7	53	915.22 STA.27+00 915.32	31	0	41	1
6	36	914.33 STA.26+50 914.44	30	0	56	0
	220				123	25

Trail Ease. | 3:1 | 1.56% | 1.56% | 12:1 | 3:1 | 2:1 | Vegetated Filter Strip | 911.20 | 910.32 | 909.45 | 908.00 | 915.57 | 914.69 | 912.96 | 912.08

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 24+50 TO STA. 28+00

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Plot time: Jan 13, 2025 - 4:22pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 45 XS 24+50

SEEDING				END AREA		VOLUME	
END WIDTH	SQ. YDS.			CUT	FILL	CUT	FILL
37	172	919.06 STA.30+00 916.73	Prop. Bikeway Railing RM-5.2; Prop. Bikeway Railing RM-5.2; 12:1; 1.56%; 1.56%; 3:1; 2:1; 915.56; Trail Ease.	9	48	16	78
19	156	919.44 STA.29+50 917.13	Prop. Bikeway Railing RM-5.2; Prop. Bikeway Railing RM-5.2; 3:1; 1.56%; 1.56%; 4:1; 917.95; Trail Ease.	0	52	8	93
94	94	918.74 STA.29+00 916.84	Trail Ease.; 3:1; 1.56%; 1.56%; 4:1; 917.34; Trail Ease.	0	34	0	80
15	78	917.86 STA.28+50 916.46	Trail Ease.; 3:1; 1.56%; 1.56%; 4:1; 2:1; 916.45; Trail Ease.	1	21	1	51
500						25	302

SEEDING				END AREA		VOLUME	
END WIDTH	SQ. YDS.			CUT	FILL	CUT	FILL
17	94	915.06 STA.32+00 914.03	Trail Ease.; 3:1; 1.56%; 1.56%; 4:1; 2:1; 913.66; Trail Ease.	4	12	14	13
10	75	915.10 STA.31+50 913.61	Trail Ease.; 3:1; 1.56%; 1.56%; 12:1; 3:1; 2:1; 912.85; Stream 4; 12" Conduit, Type D; Vegetated Filter Strip; Trail Ease.	2	30	6	39
58	58	916.16 STA.31+00 914.55	Trail Ease.; 3:1; 1.56%; 1.56%; 12:1; 3:1; 2:1; 913.90; Vegetated Filter Strip; Trail Ease.	5	26	6	52
11	100	917.67 STA.30+50 915.69	Trail Ease.; 3:1; 1.56%; 1.56%; 3:1; 2:1; 914.92; Trail Ease.	8	36	12	57
327						38	161

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 28+50 TO STA. 32+00

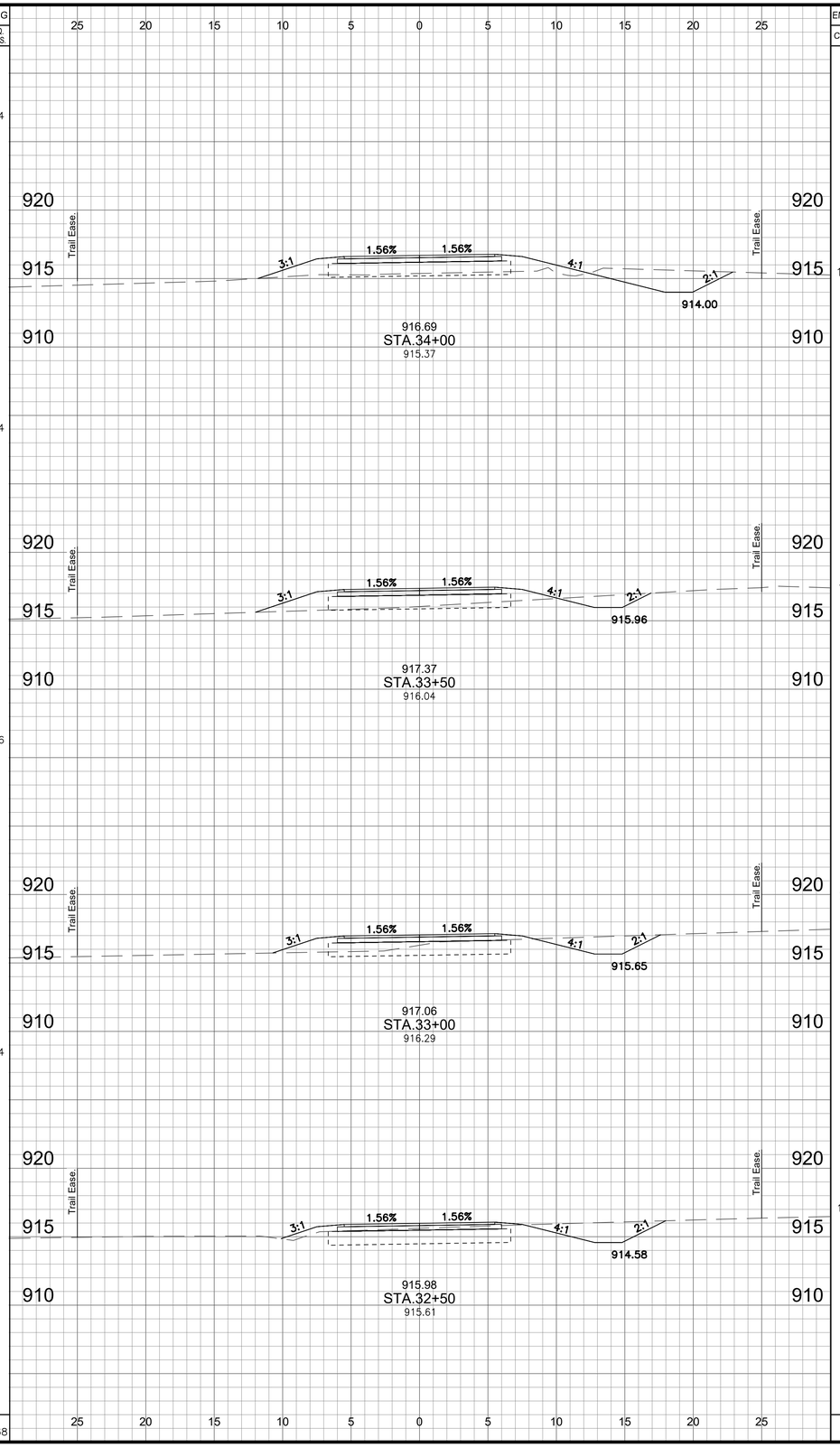
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 46/161

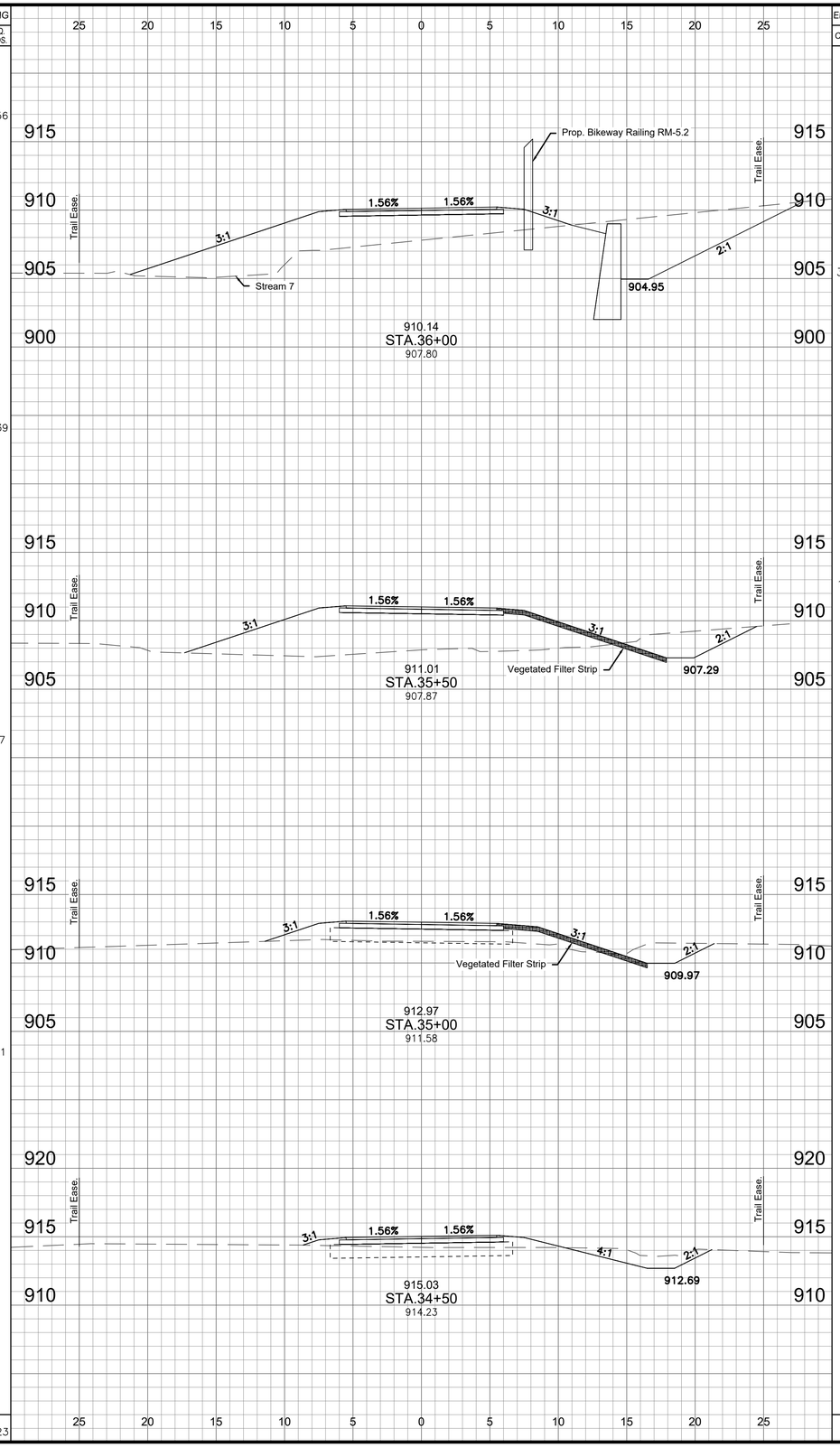
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Plot time: Jan 13, 2025 - 4:23pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 46 XS 28+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20	94	11	19	17	24
14	94	4	17	14	33
17	86	11	2	10	23
17	94	7	8	17	9
14	86	7	7	12	27
368		58	89	105	355



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
34	156	36	60	33	121
16	139	11	71	44	121
8	67	6	22	16	86
14	61	7	7	12	27
423		105	355	105	355



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HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 32+50 TO STA. 36+00

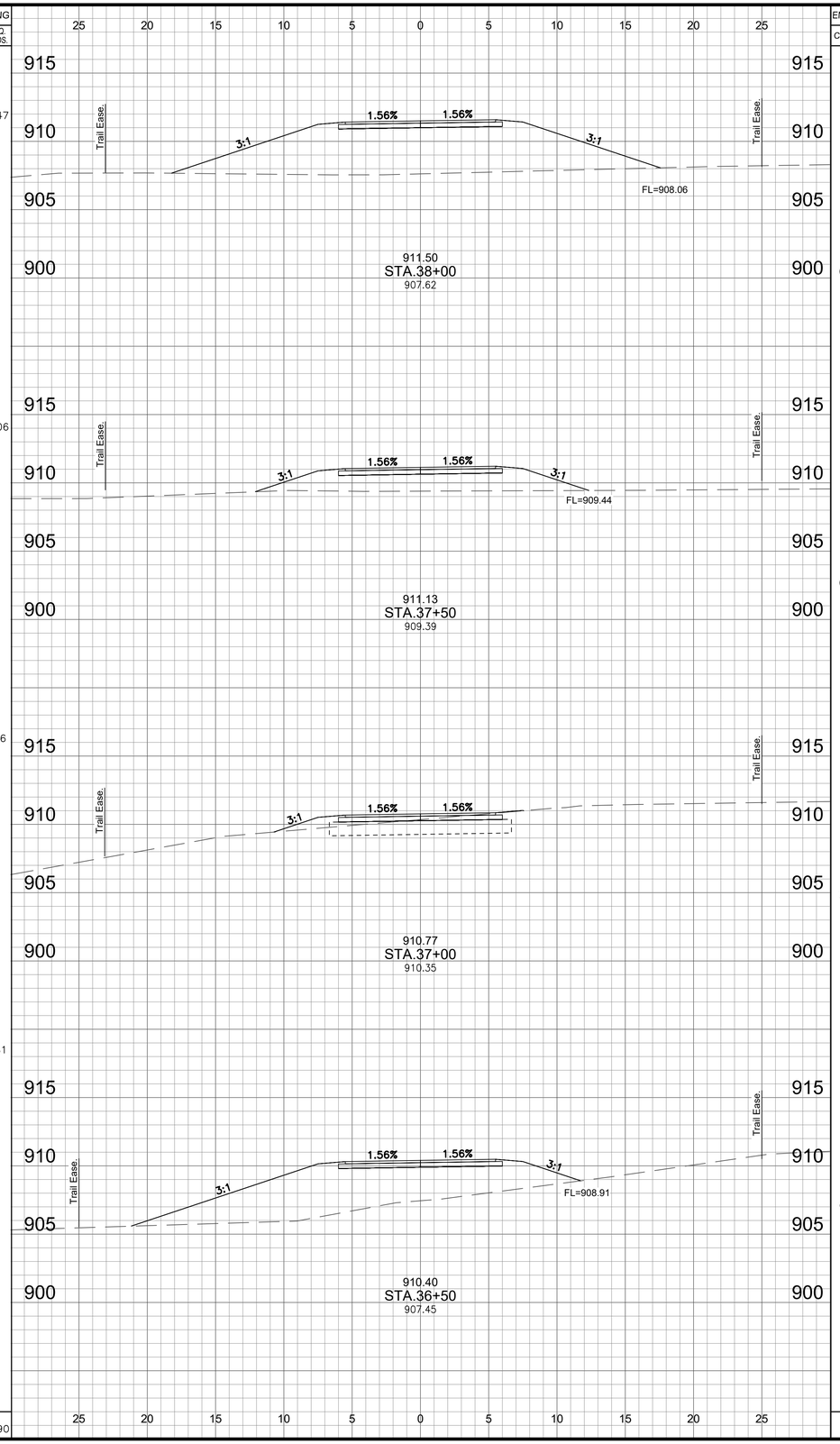
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023

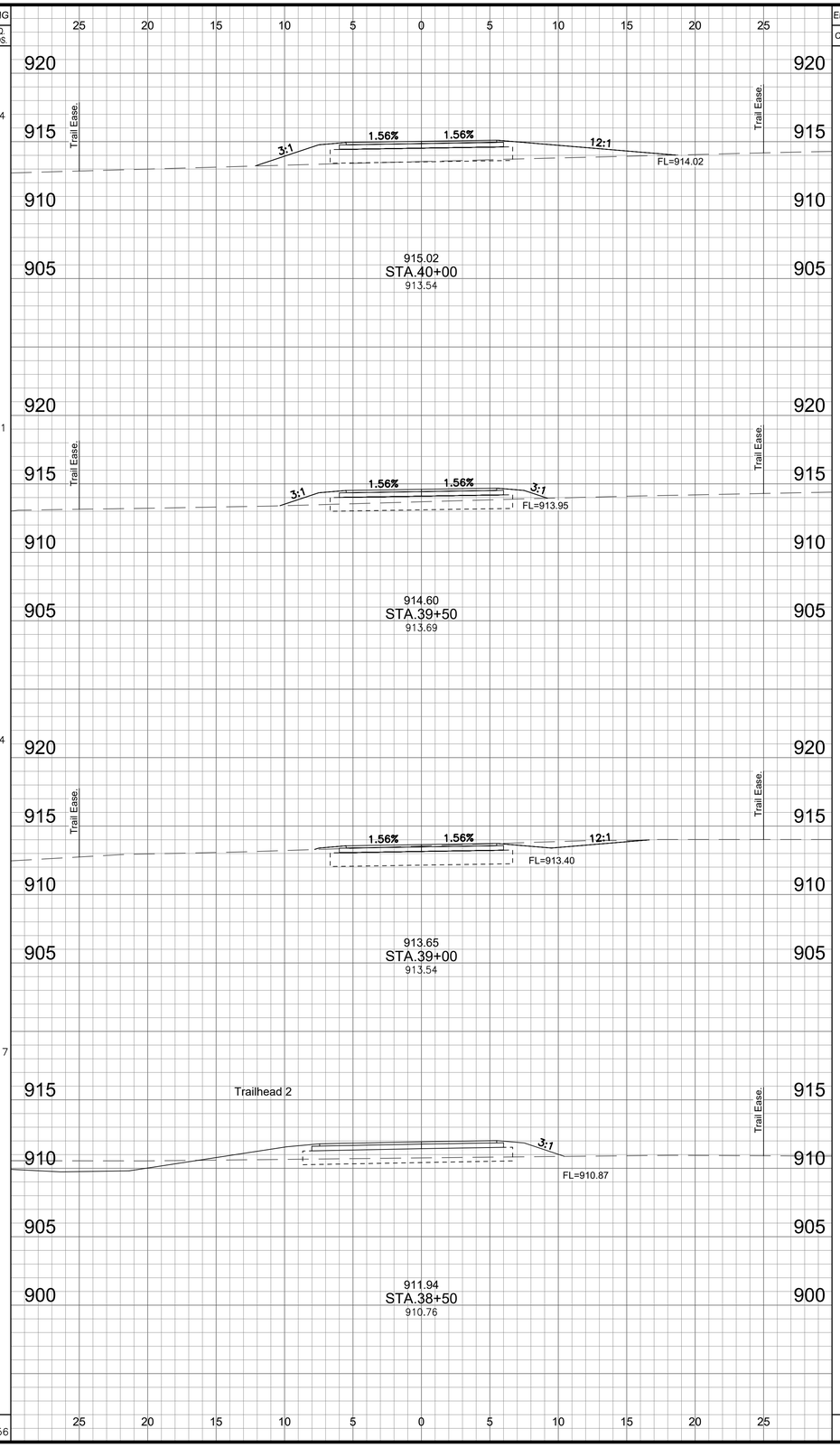
Sheet: 47/161

Plot time: Jan 13, 2025 - 4:24pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 47 XS 32+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
25	147	0	90	6	96
13	106	0	27	0	108
7	56	2	3	2	28
22	81	0	71	2	69
390				10	301



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
20	94	0	26	0	46
9	81	0	9	0	32
14	64	7	0	6	8
28	117	7	14	13	13
356				19	99



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 36+50 TO STA. 40+00

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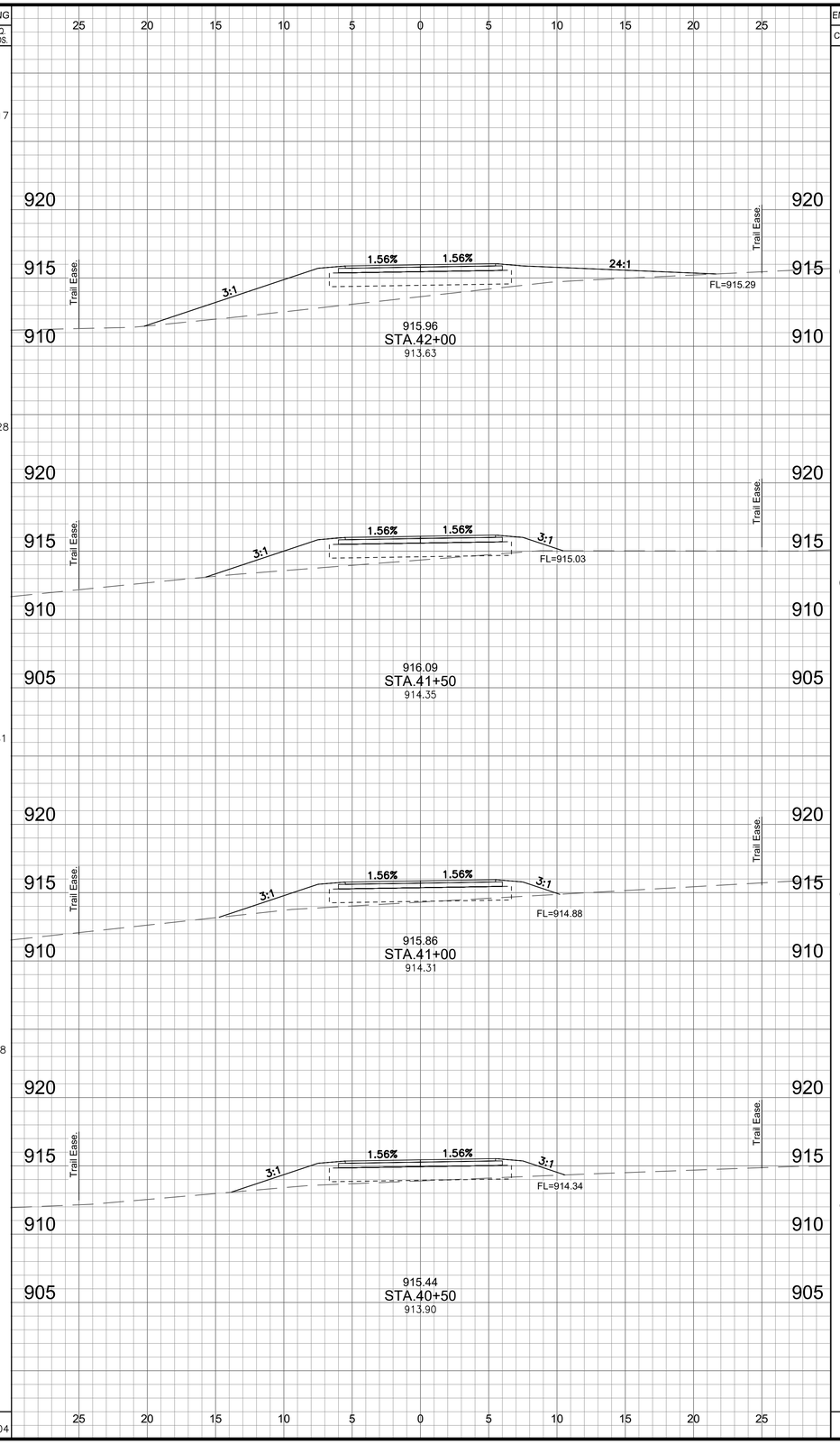
Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023

Sheet: 48/161

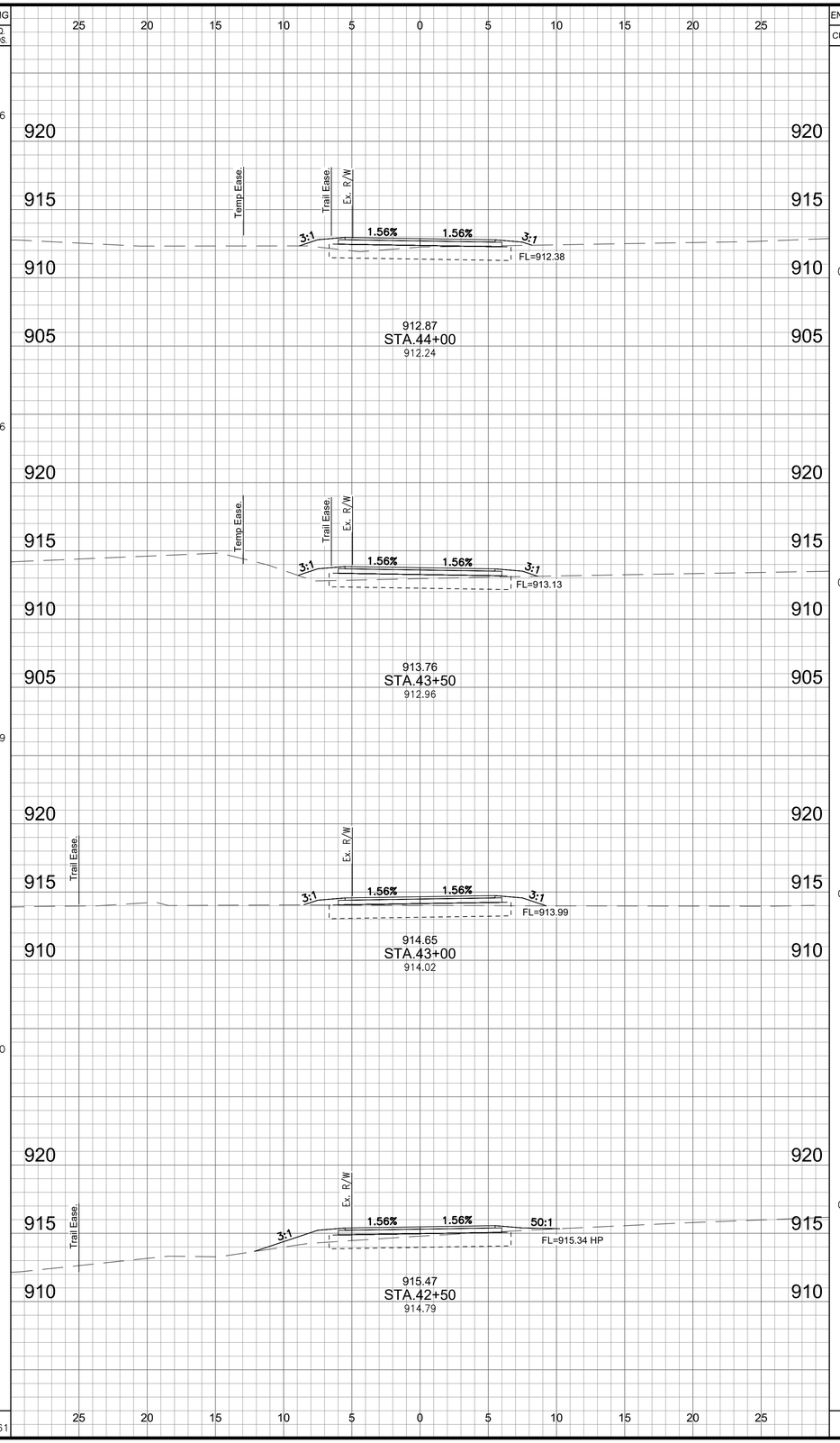
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Plot time: Jan 13, 2025 - 4:25pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 48 XS 36+50

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
31	117			0	59
		0	57		
15	128			0	81
		0	30		
14	81			0	51
		0	25		
14	78			0	45
		0	24		
	404			0	236



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
6	36			0	13
		0	4		
7	36			0	10
		0	7		
11	39			0	10
		0	7		
7	50			0	10
		0	4		
	161			0	43



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 40+50 TO STA. 44+00

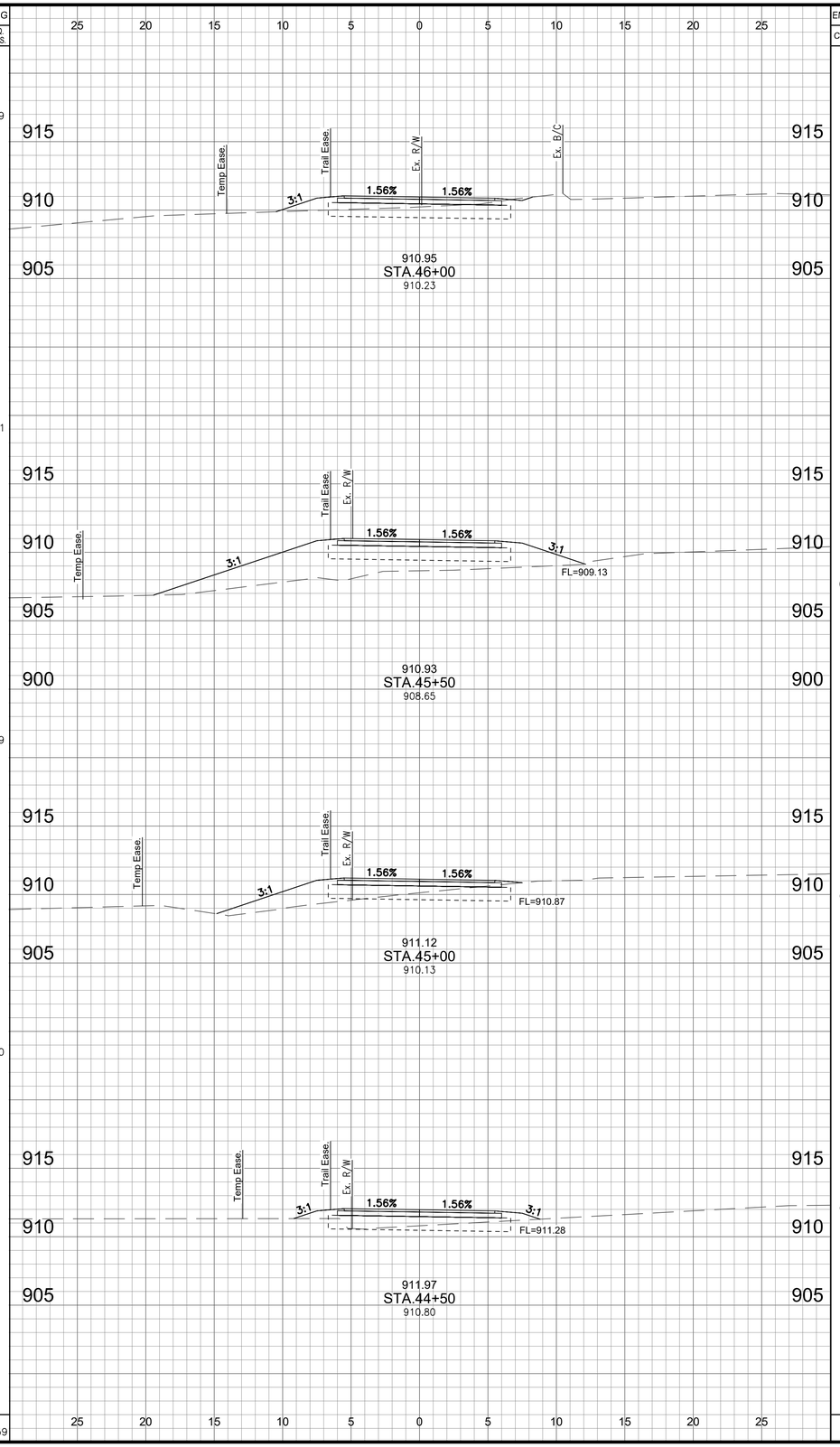
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Drawing:	22-0273 XS
Drawn by:	CPT
Checked By:	EMR
Issue Date:	07/03/2023
Sheet:	49/161

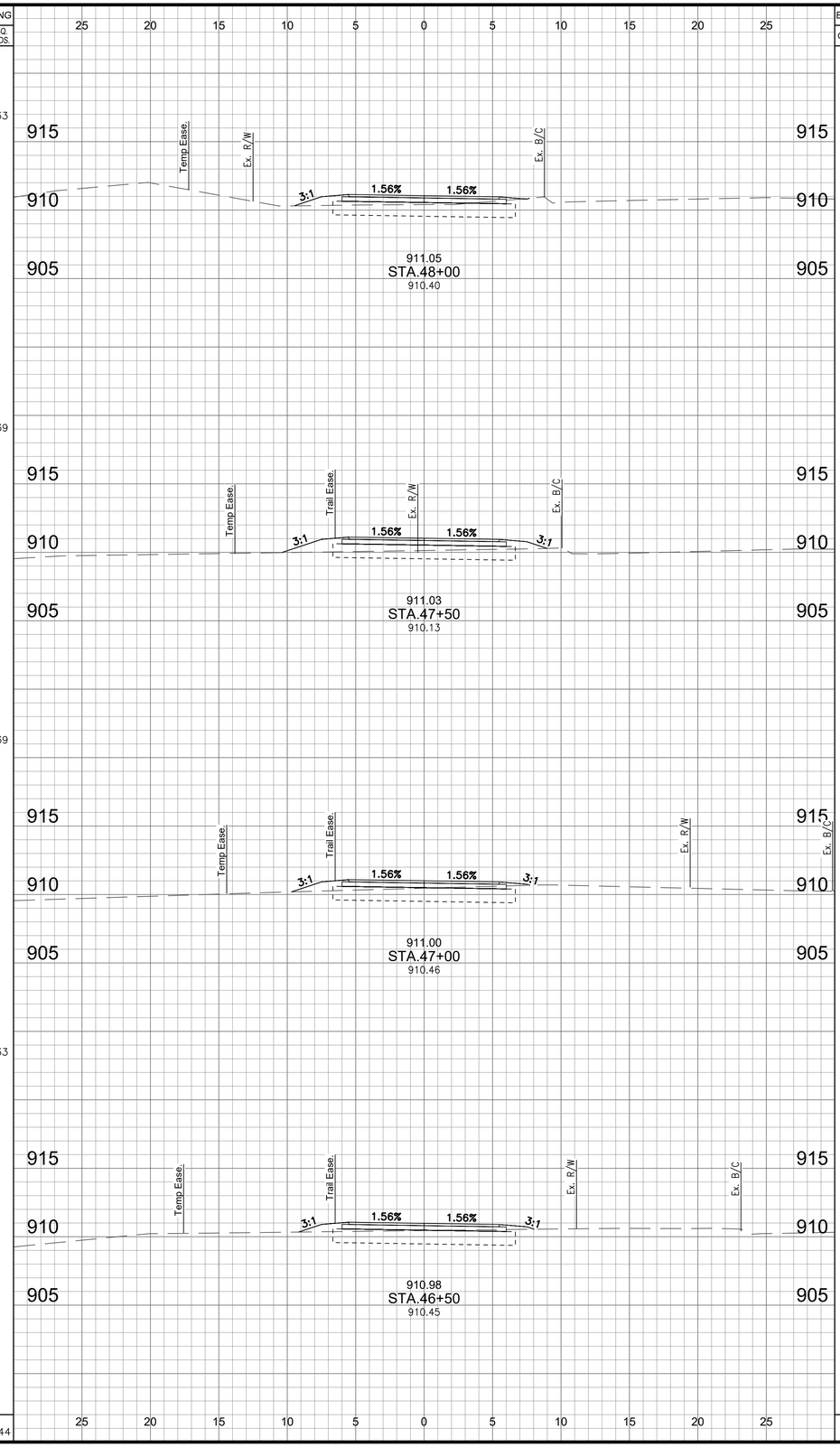
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Plot time: Jan 13, 2025 - 4:26pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 49 XS 40+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	39			1	7
21	81			1	53
11	89			0	62
7	50			0	24
	259			2	146



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6	33			2	6
8	39			1	12
6	39			1	11
6	33			1	5
	144			5	34



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

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BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 44+50 TO STA. 48+00

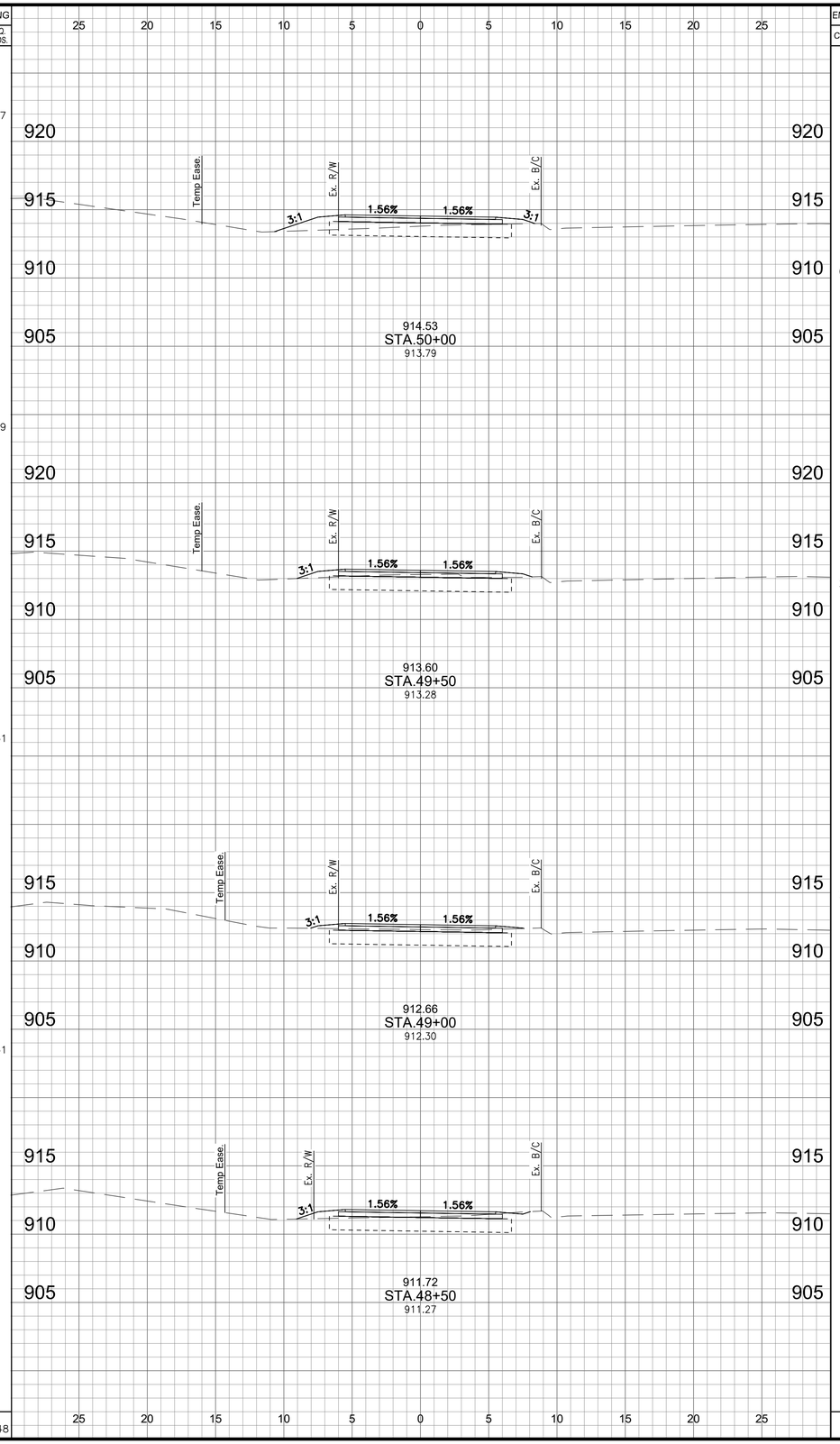
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023

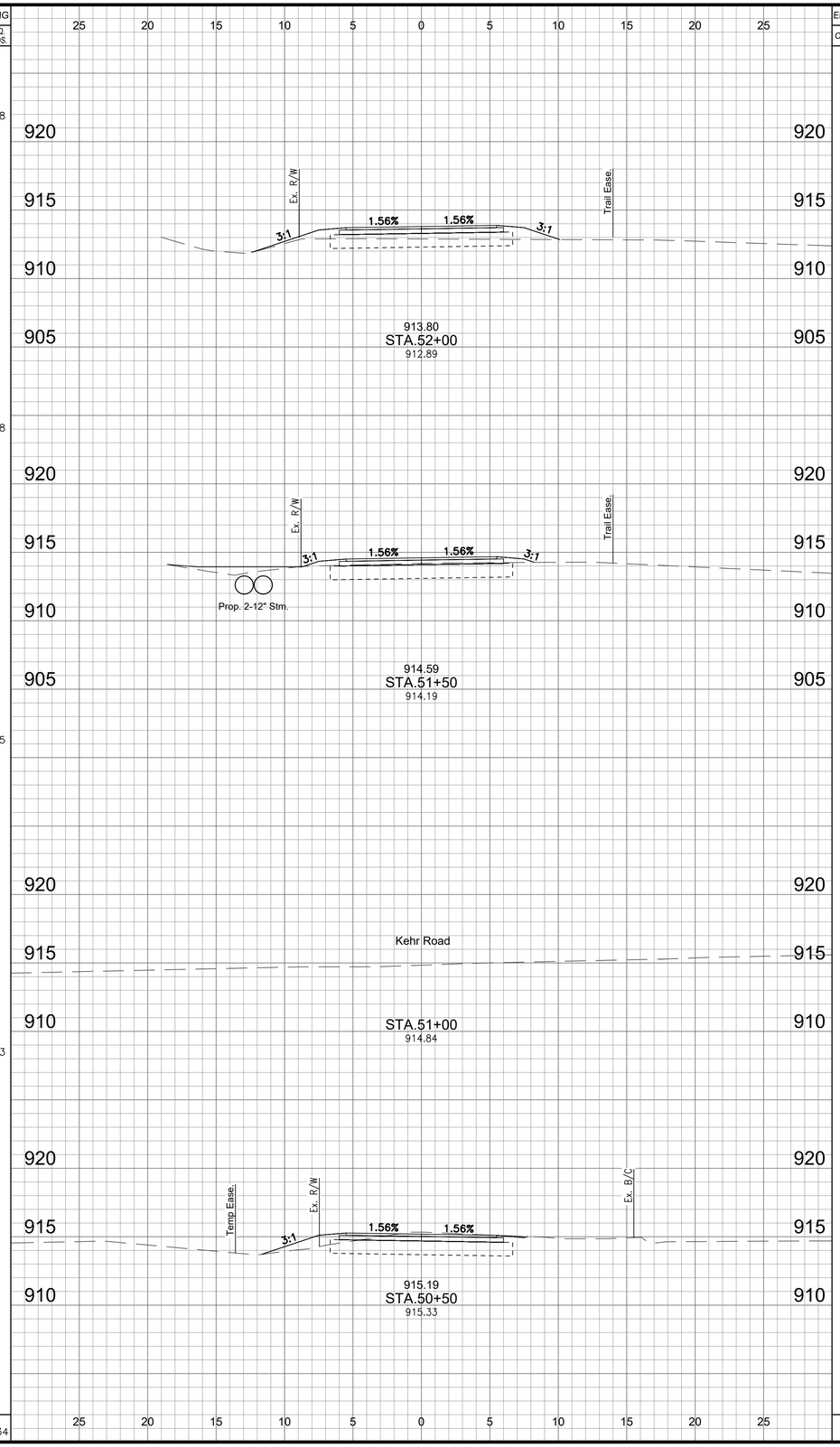
Sheet: 50/161

Plot time: Jan 13, 2025 - 4:26pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 50 XS 44+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	47	0	7	5	9
6	39	2	1	2	7
5	31	2	1	4	2
6	31	1	2	3	3
148				14	21



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12	58	0	10	0	19
16	78	1	1	1	10
75	75	1	1	1	1
9	23	0	0	5	3
234				7	33



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

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Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

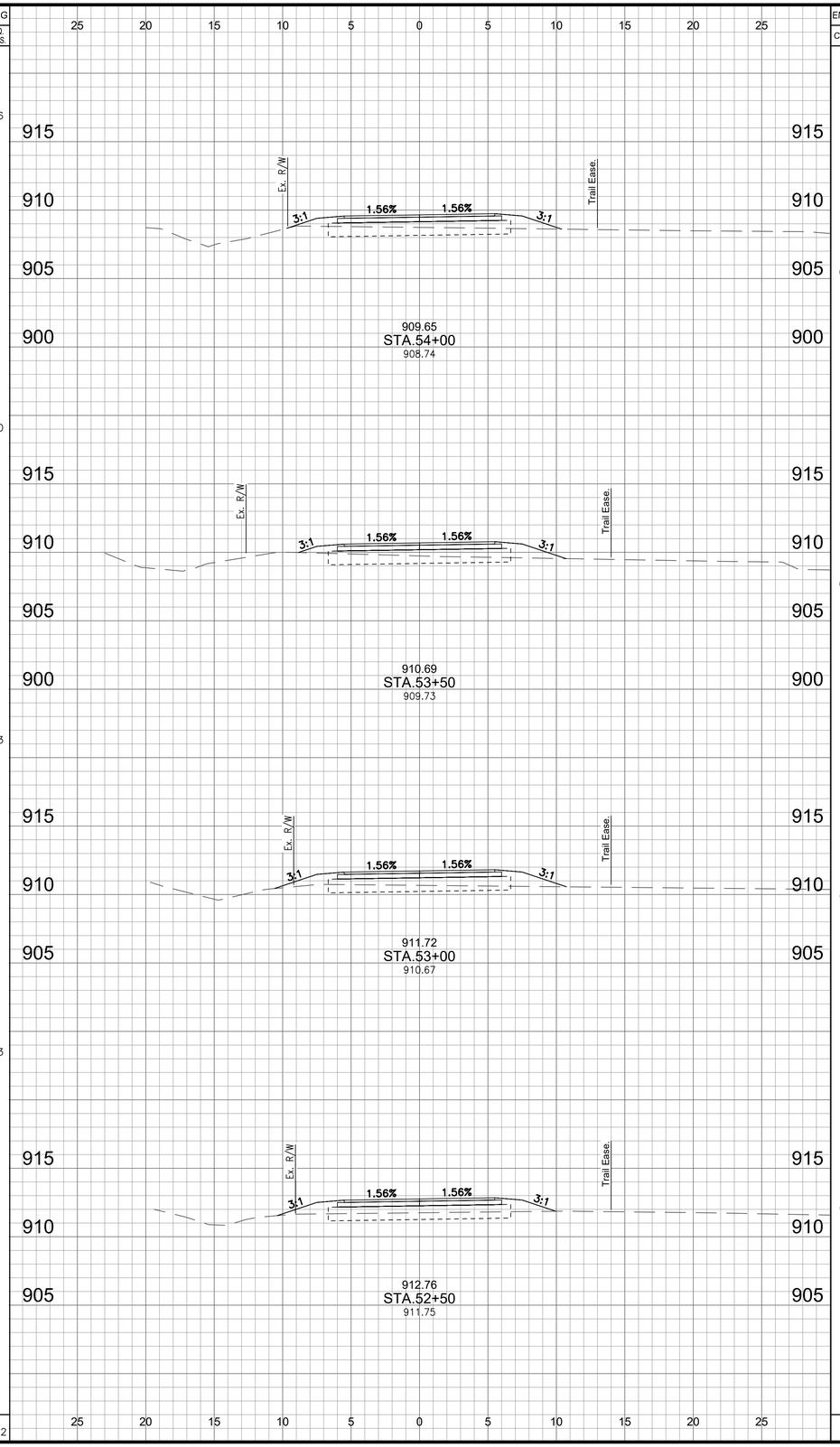
CROSS SECTIONS - STA. 48+50 TO STA. 52+00

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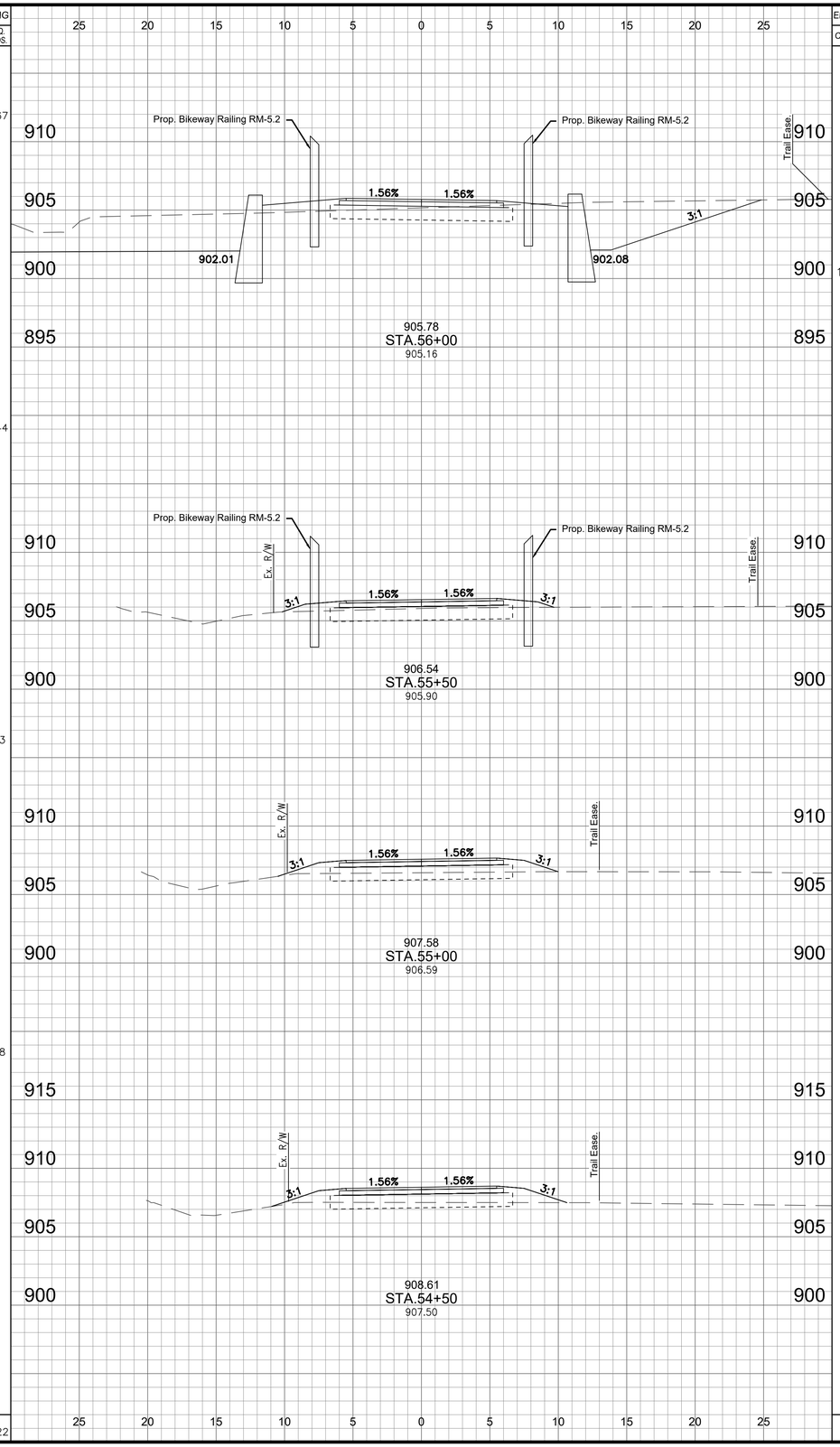
Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 51/161

Plot time: Jan 13, 2025 - 4:27pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 51 XS 48+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9	56	0	9	0	20
9	50	0	10	0	18
10	53	0	12	0	21
9	53	0	11	0	20
9	53	0	9	0	20
9	212	0	79		



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
15	167	15	38	15	38
15	43	4	15	4	15
14	144	8	14	8	14
0	9	5	0	5	0
0	53	15	0	15	0
0	58	22	0	22	0
0	11	13	0	13	0
52	422	60			



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

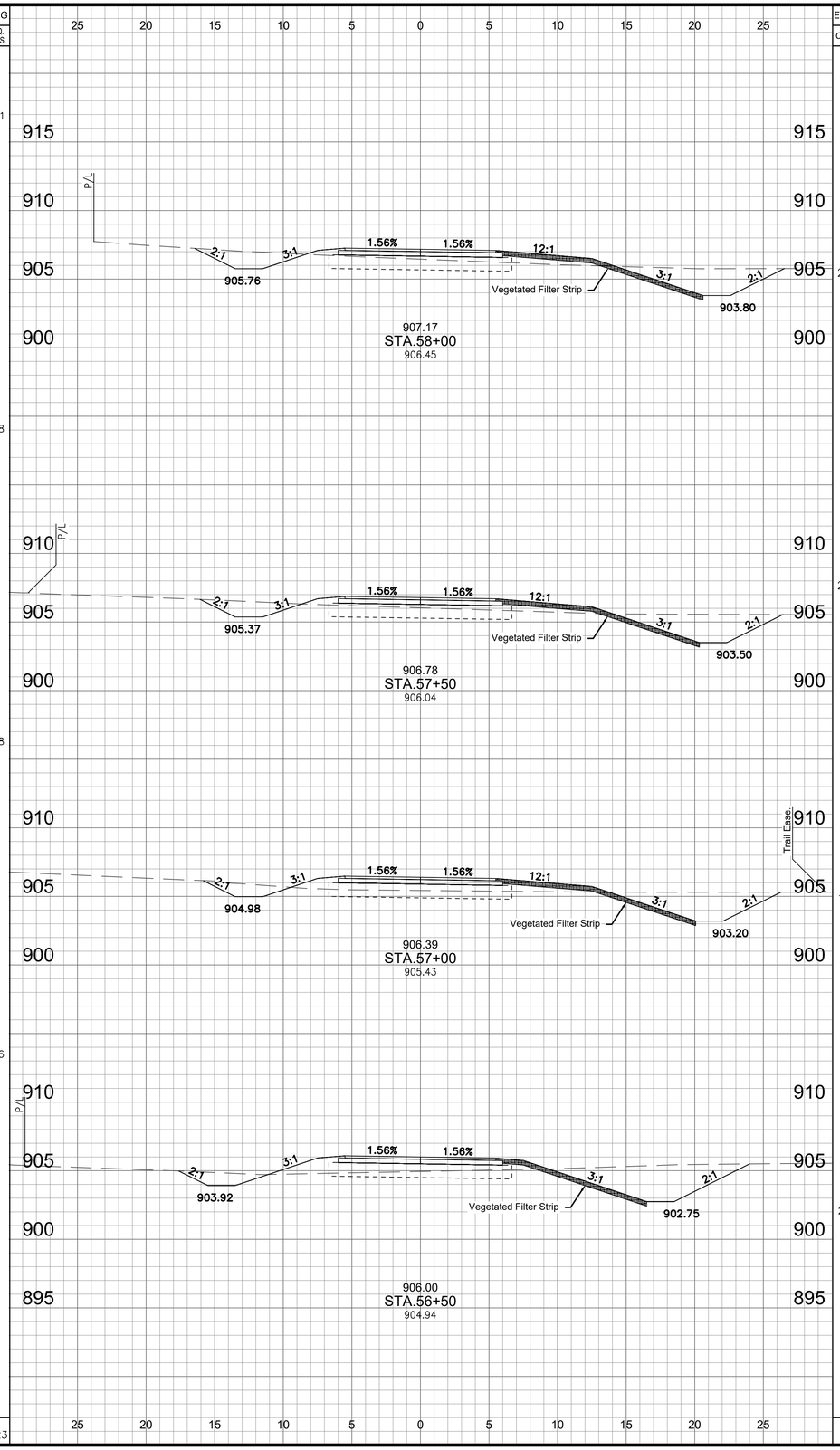
CROSS SECTIONS - STA. 52+50 TO STA. 56+00

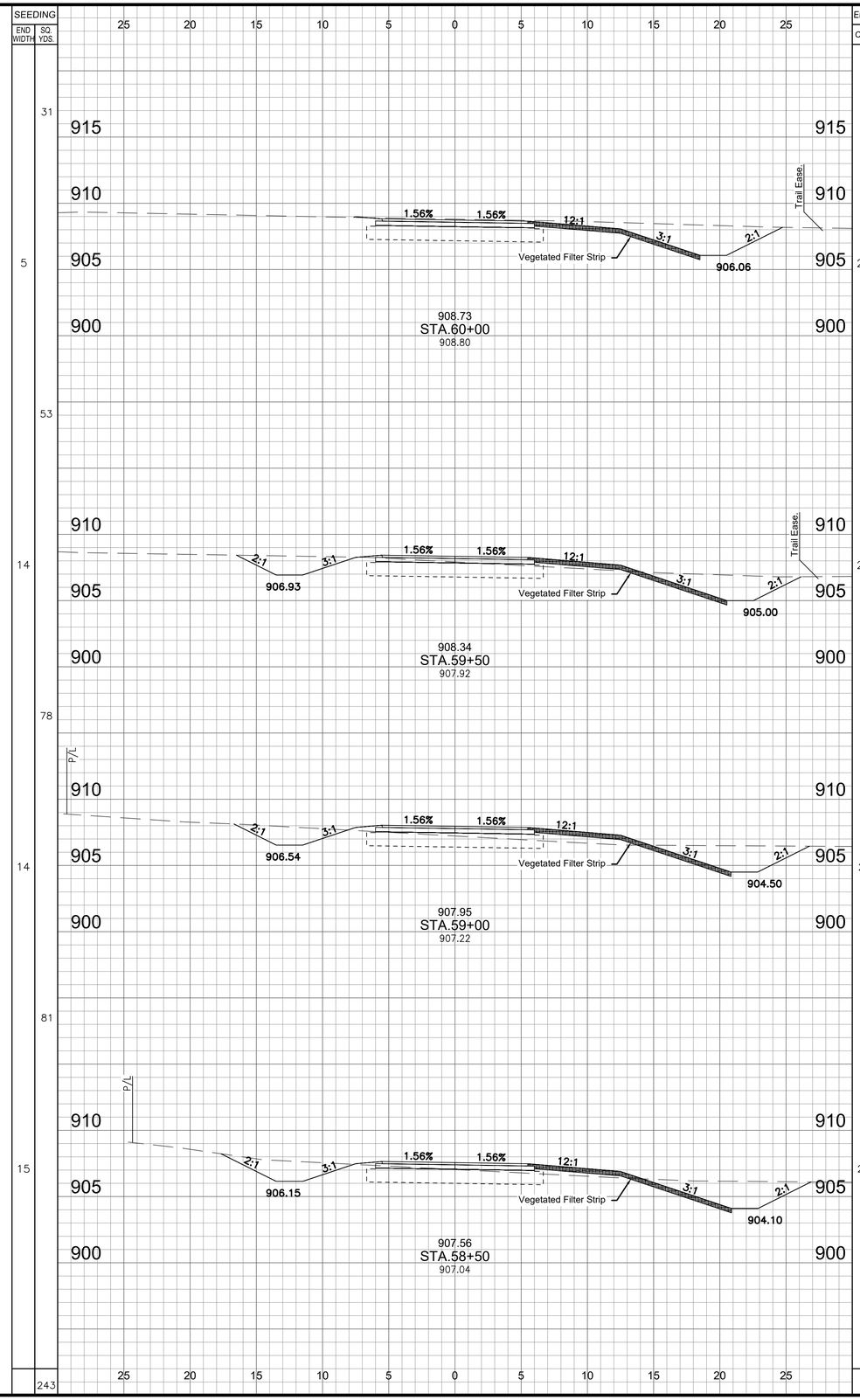
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Drawing: 22-0273 XS
Drawn by: CPT
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Issue Date: 07/03/2023
Sheet: 52/161

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Plot time: Jan 13, 2025 - 4:28pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 52 XS 52+50





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HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Dwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

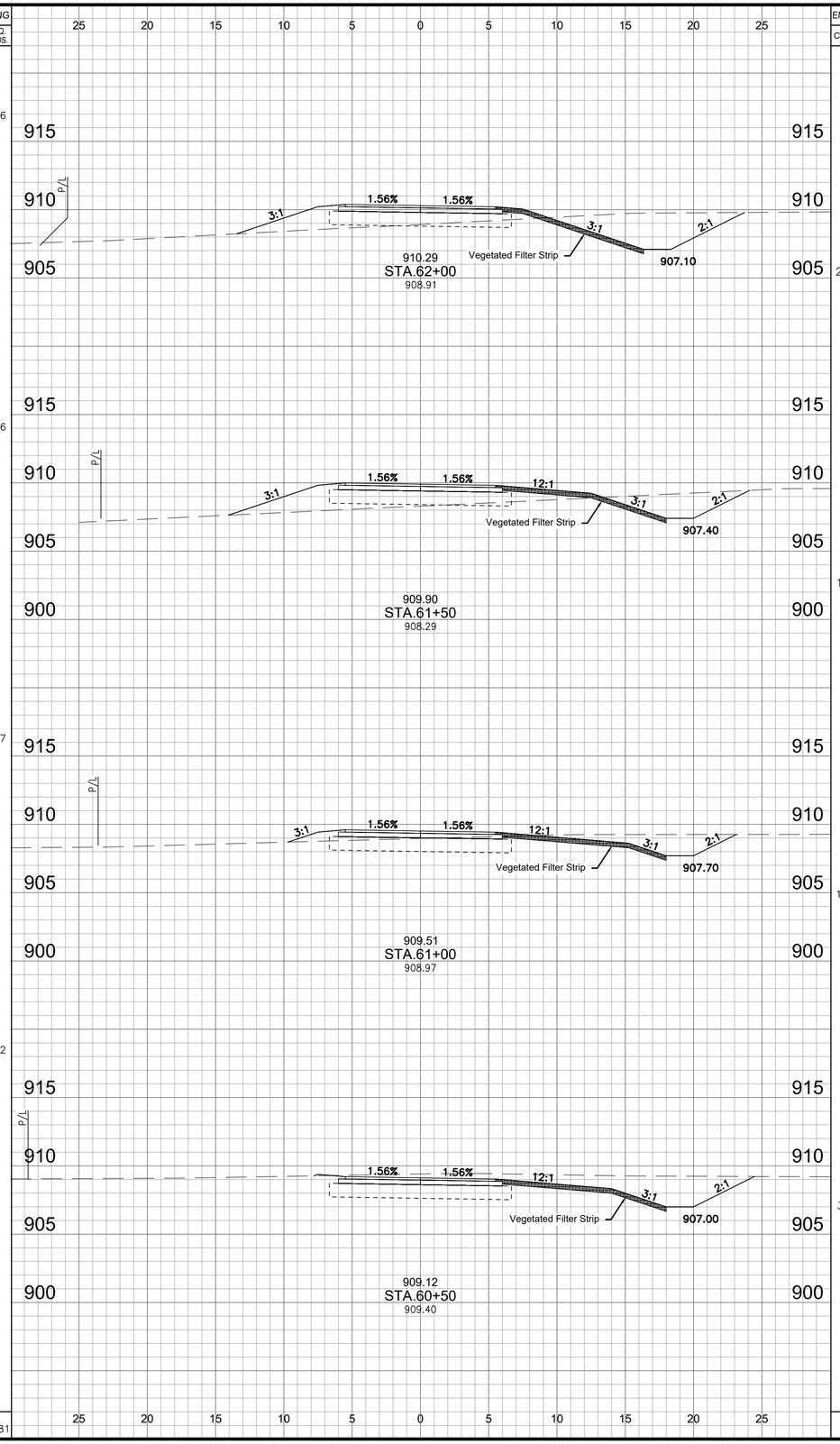
CROSS SECTIONS - STA. 56+50 TO STA. 60+00

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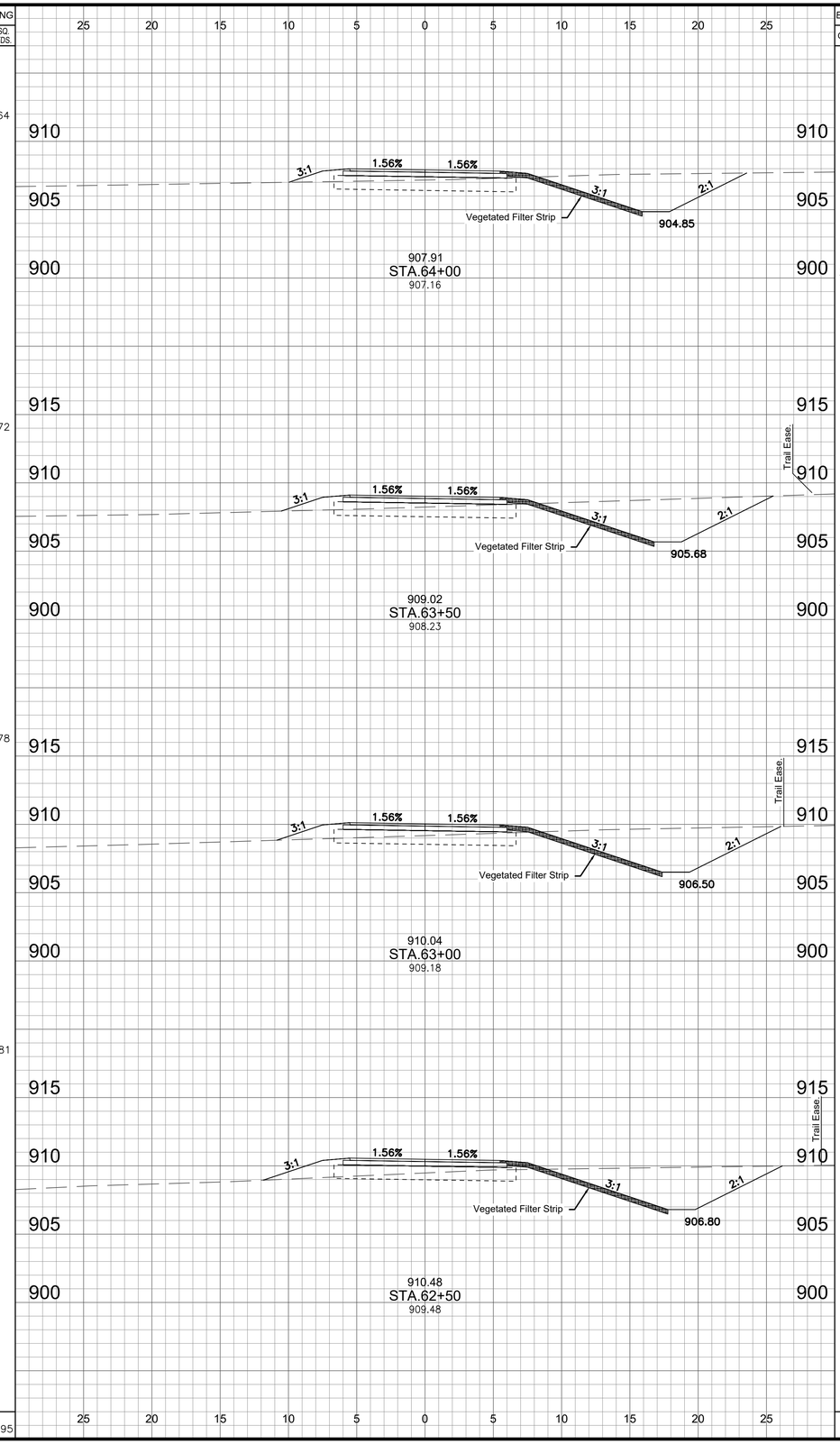
Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 53/161

Plot time: Jan 13, 2025 - 4:29pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 53 XS 56+50

SEEDING END WIDTH	SEEDING SQ. YDS.	STA	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	86	910.29 STA.62+00 908.91	22	20	48	30
15	86	909.90 STA.61+50 908.29	11	28	31	44
9	67	909.51 STA.61+00 908.97	12	3	21	29
6	42	909.12 STA.60+50 909.40	31	0	40	3
281			140	106		



SEEDING END WIDTH	SEEDING SQ. YDS.	STA	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12	64	907.91 STA.64+00 907.16	24	6	42	8
14	72	909.02 STA.63+50 908.23	30	7	50	12
14	78	910.04 STA.63+00 909.18	32	8	57	14
15	81	910.48 STA.62+50 909.48	30	12	57	19
295			206	53		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 60+50 TO STA. 64+00

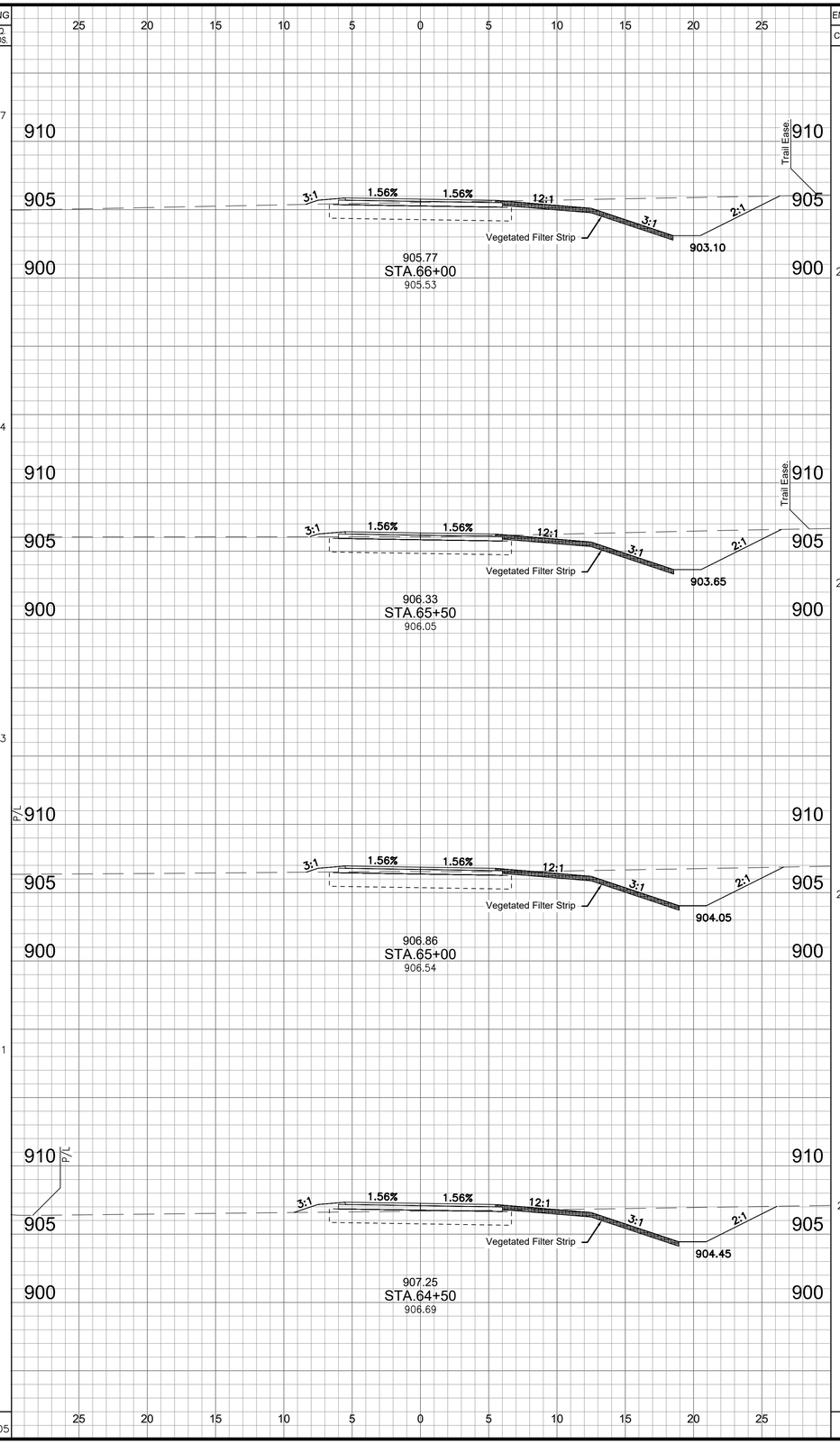
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Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 54/161

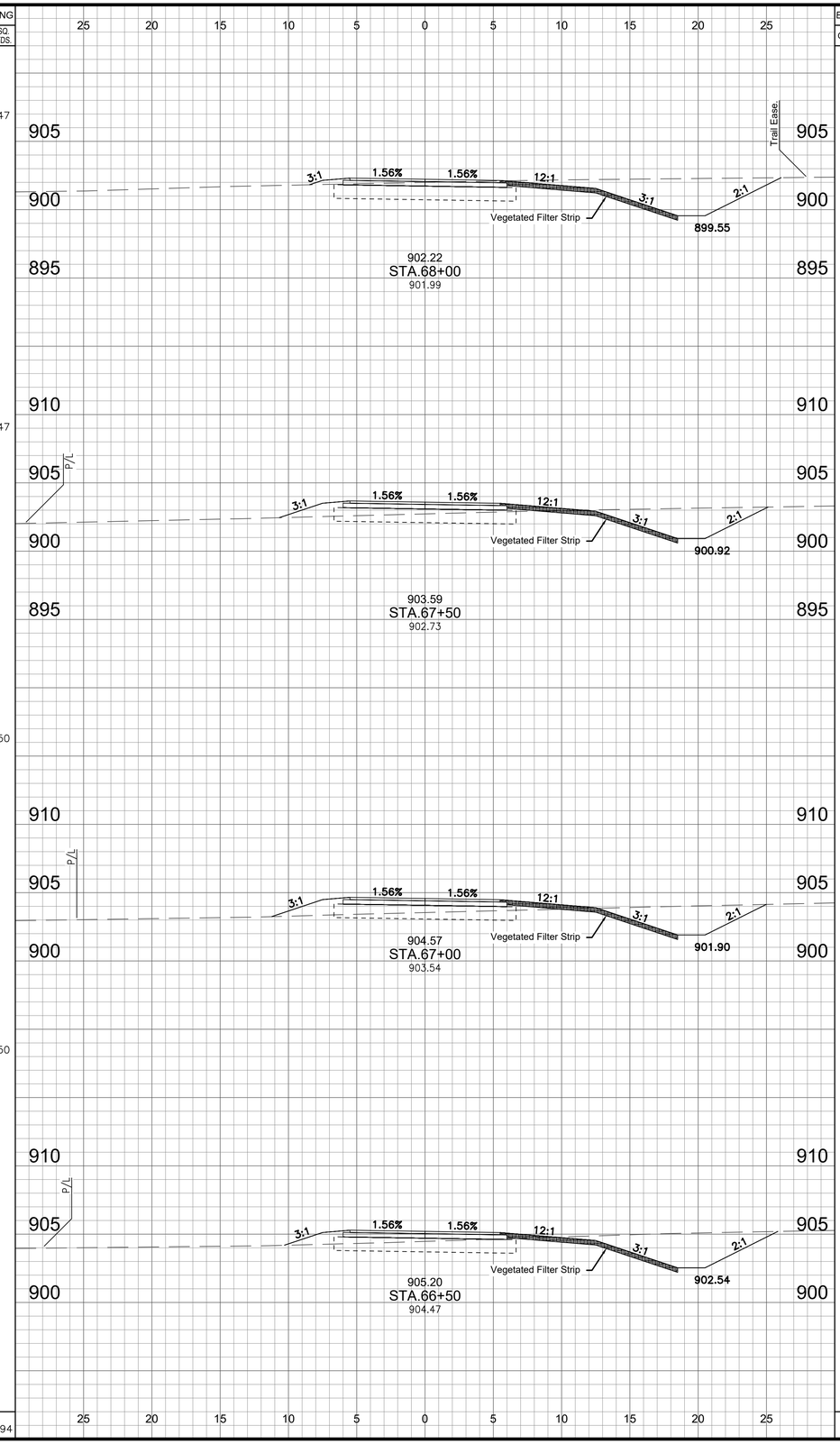
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Plot time: Jan 13, 2025 - 4:30pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 54 XS 60+50

SEEDING END WIDTH	SEEDING SQ. YDS.	STA	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	47	64+50			46	6
8	44	65+00	29	1	54	2
8	47	65+50	29	1		
11	53	65+00	26	1	51	2
11	61	64+50	21	3	44	4
205			195	14		



SEEDING END WIDTH	SEEDING SQ. YDS.	STA	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	47	68+00	29	1	78	1
9	47	67+50	17	9	43	9
9	50	67+00	15	13	30	20
9	50	66+50	21	6	33	18
194			184	48		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 64+50 TO STA. 68+00

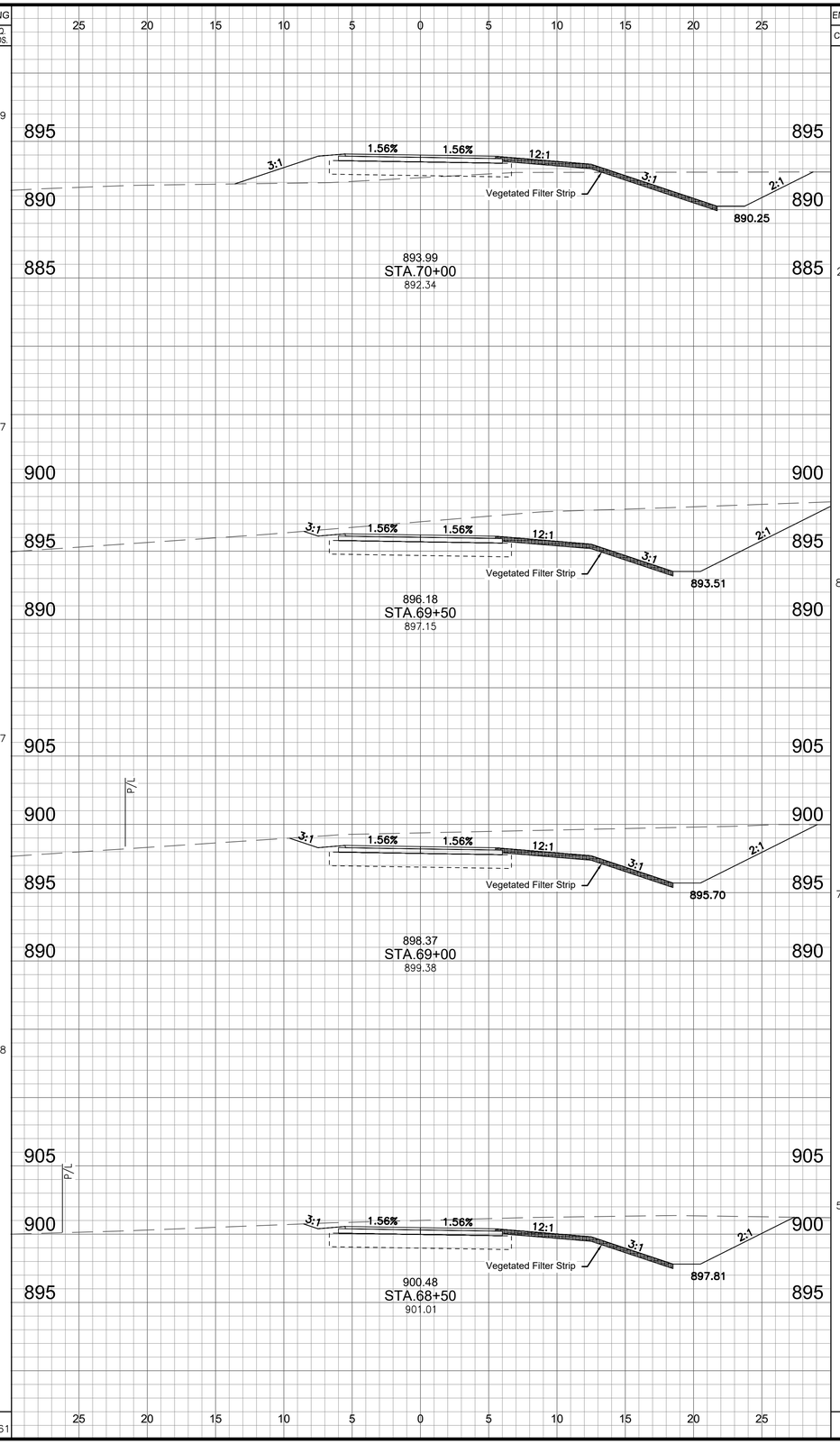
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 55/161

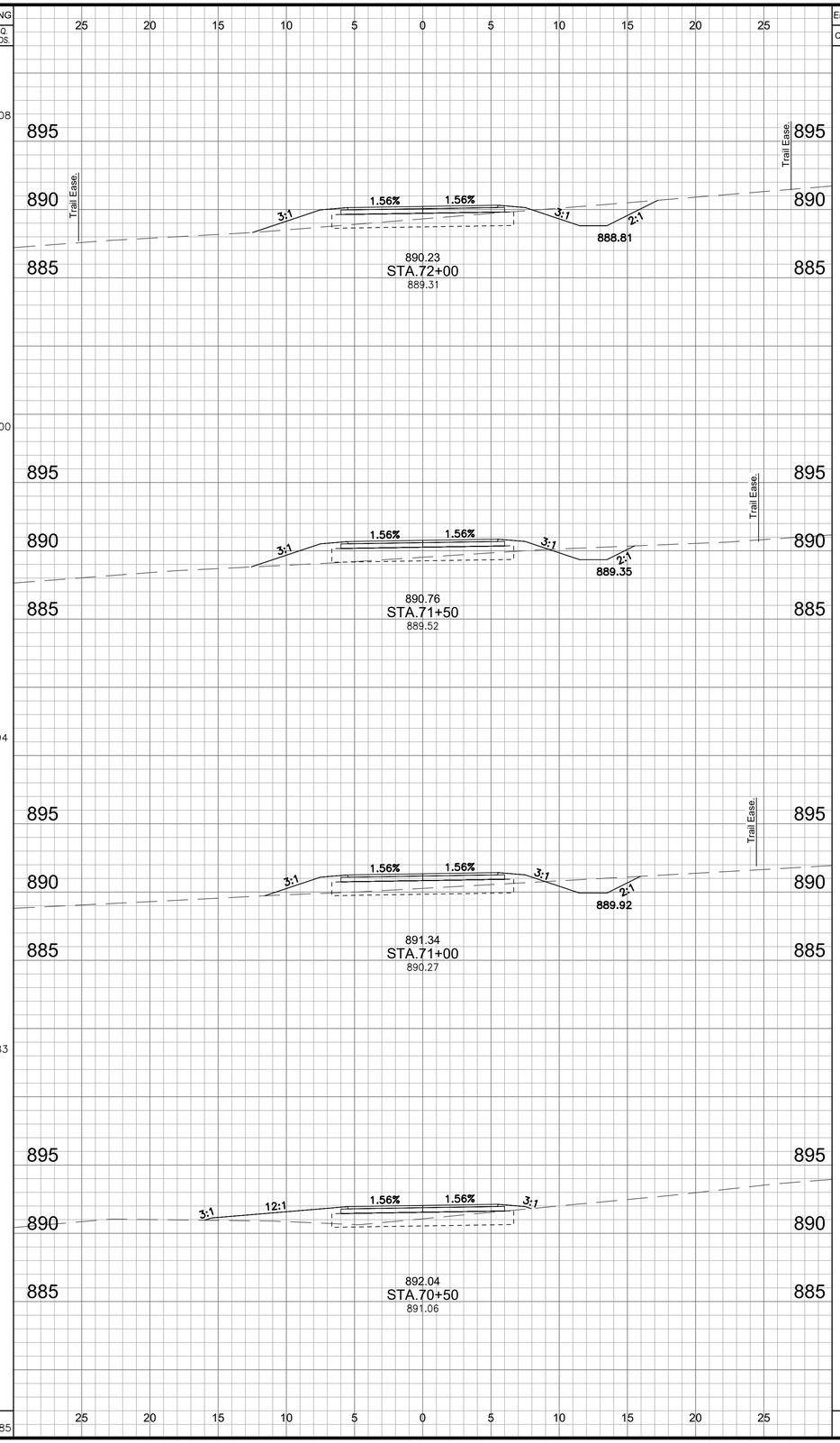
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Plot time: Jan 13, 2025 - 4:31pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 55 XS 64+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12	69	21	29	19	39
12	67	87	0	100	27
12	67	74	0	149	0
12	58	119	0		
9	55	0			
	261	387	66		



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
19	108	8	11	12	30
19	100	4	16	11	25
17	94	5	13	8	27
17	83	0	13	5	24
13	385	36	106		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Dwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 68+50 TO STA. 72+00

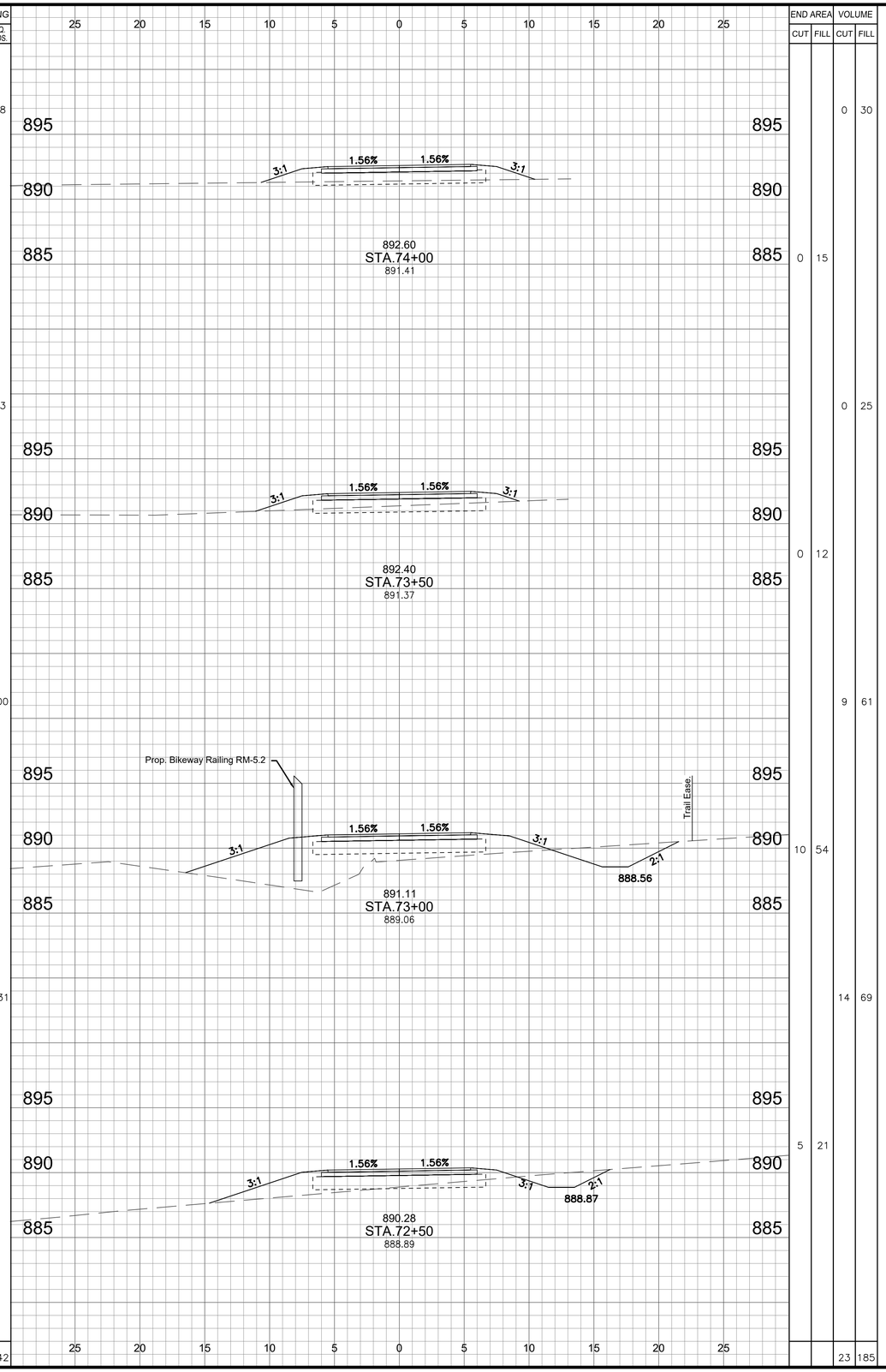
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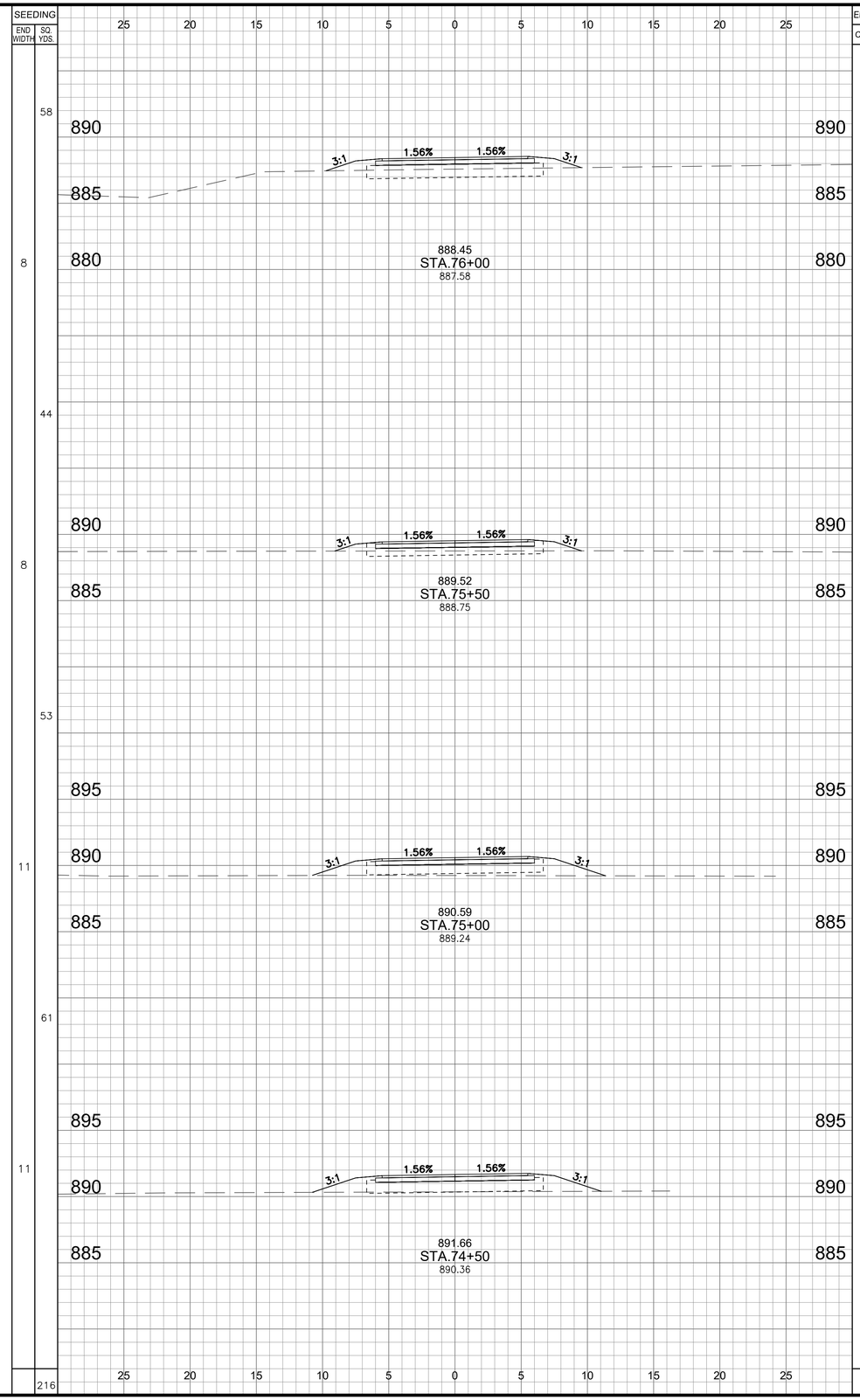
Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 56/161

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Plot time: Jan 13, 2025 - 4:31pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 56 XS 68+50

SEEDING END WIDTH	SEEDING SQ. YDS.	STA	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	58	74+00			0	30
10	53	73+50	0	15	0	25
9	100	73+00	0	12	9	61
	131	72+50	9	54	14	69
20	342	72+00	5	21	23	185
8	44	76+00	0	8	0	29
	53	75+50	0	6	0	13
	61	75+00	0	18	0	22
11	216	74+50	0	17	0	32
		74+00			0	96





HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 72+50 TO STA. 76+00

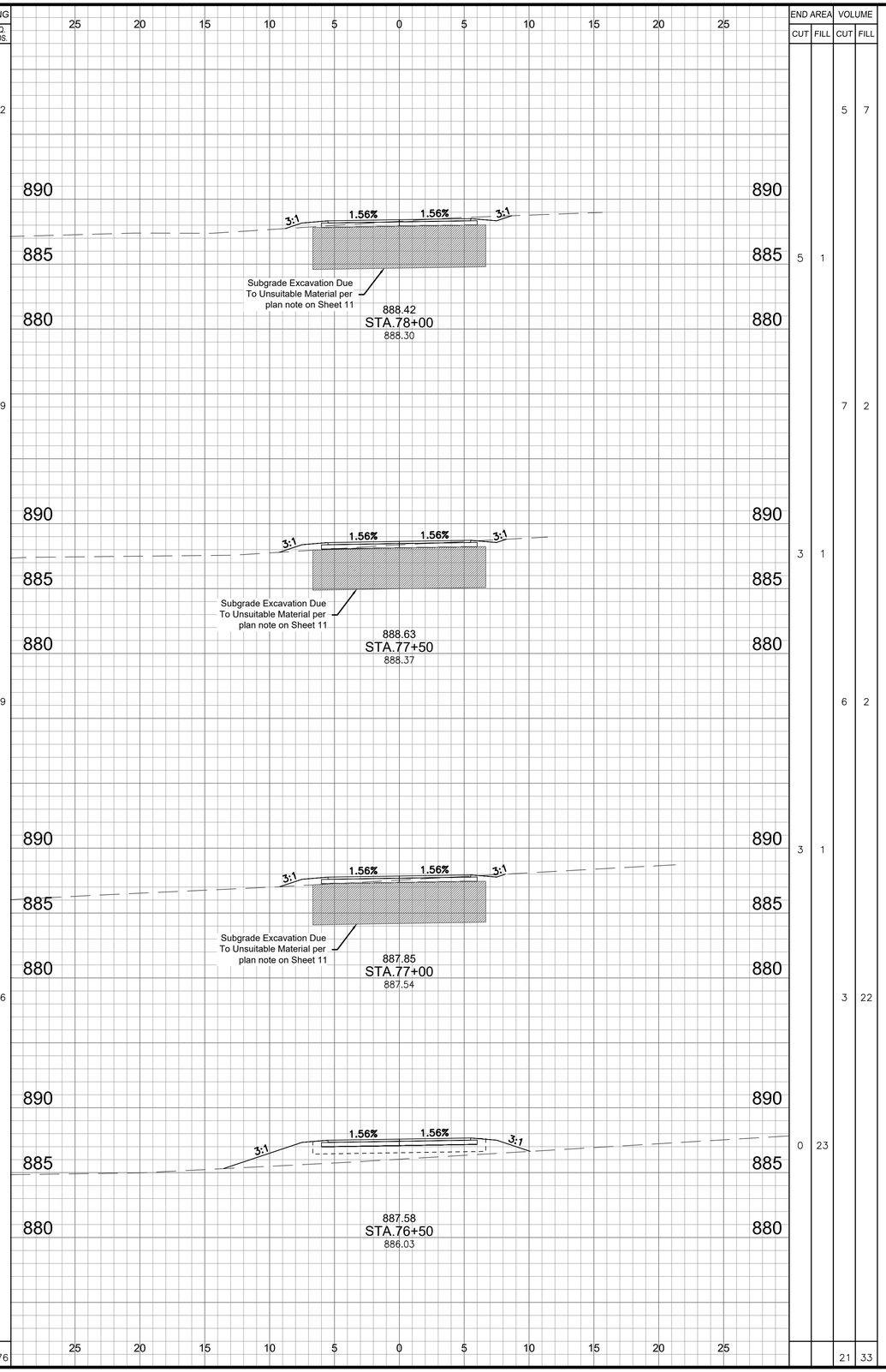
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Drawn by: CPT
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Issue Date: 07/03/2023
Sheet: 57/161

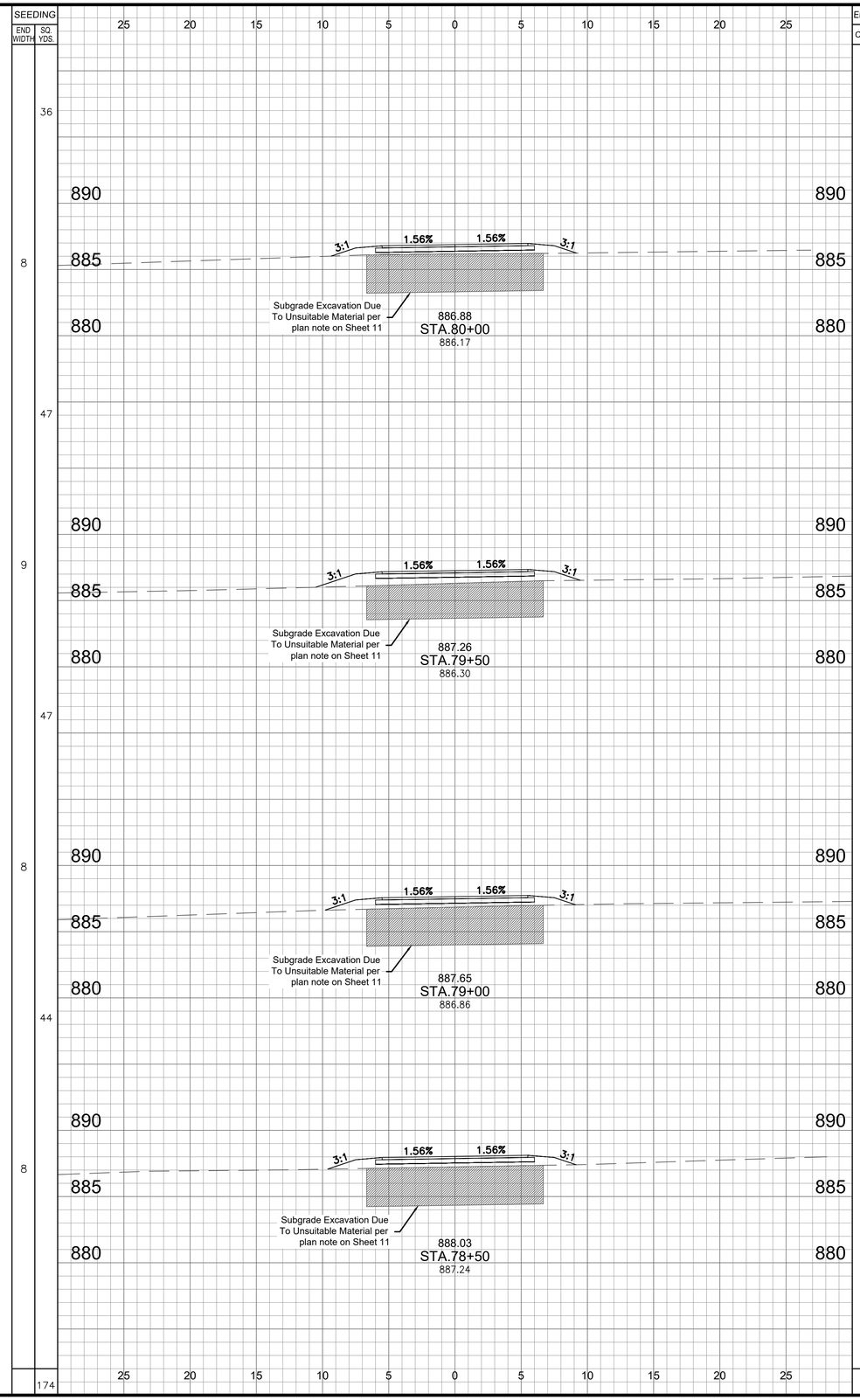
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Plot time: Jan 13, 2025 - 4:32pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 57 XS 72+50

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
7	42	5	1	5	7
7	39	3	1	7	2
7	39	3	1	6	2
7	56	0	23	3	22
7	176	21	33	6	49



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
8	36	0	5	6	6
9	47	0	10	0	14
8	47	0	16	0	16
8	44	0	7	0	13
8	174	0	7	6	49



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 76+50 TO STA. 80+00

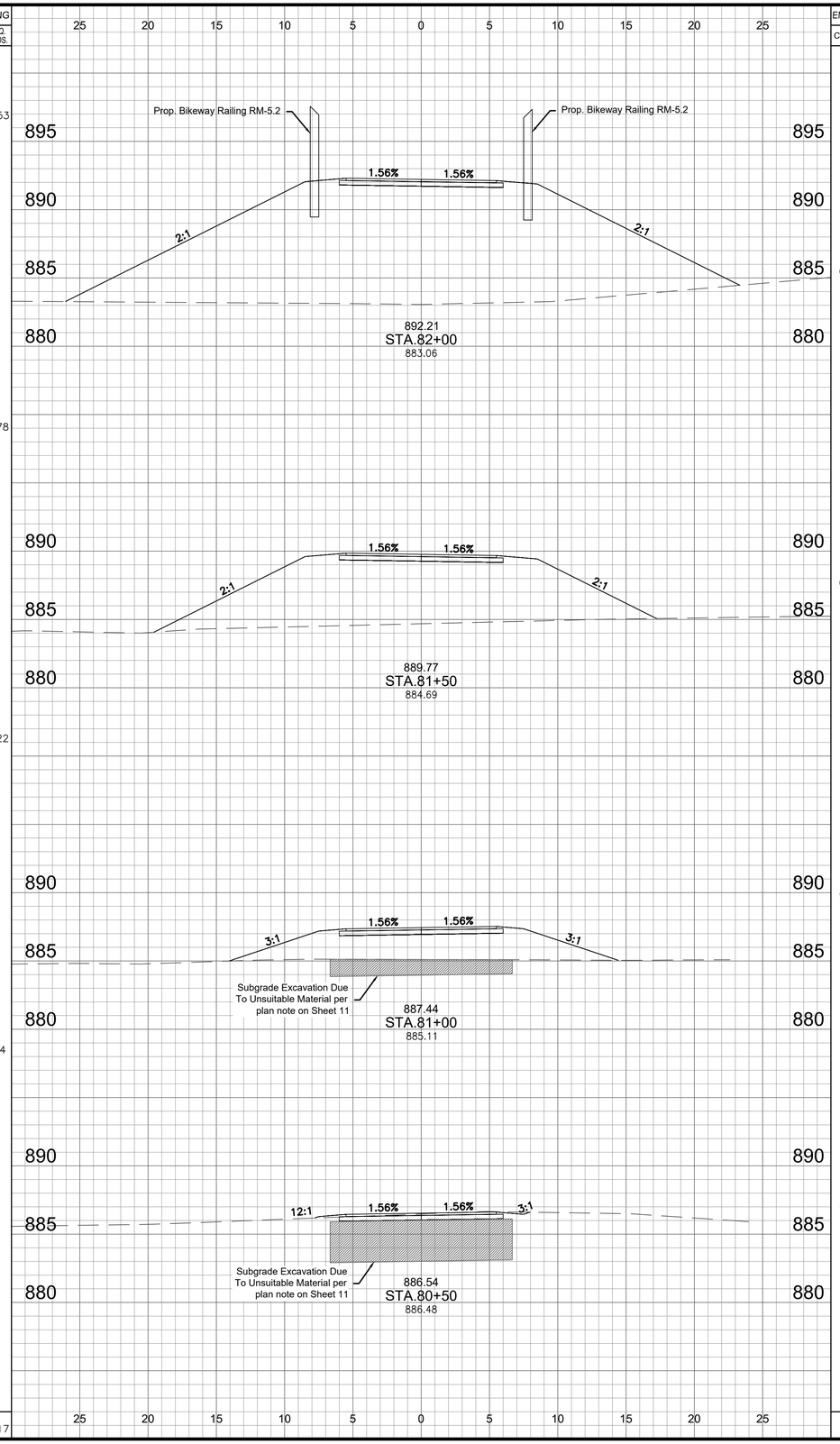
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 58/161

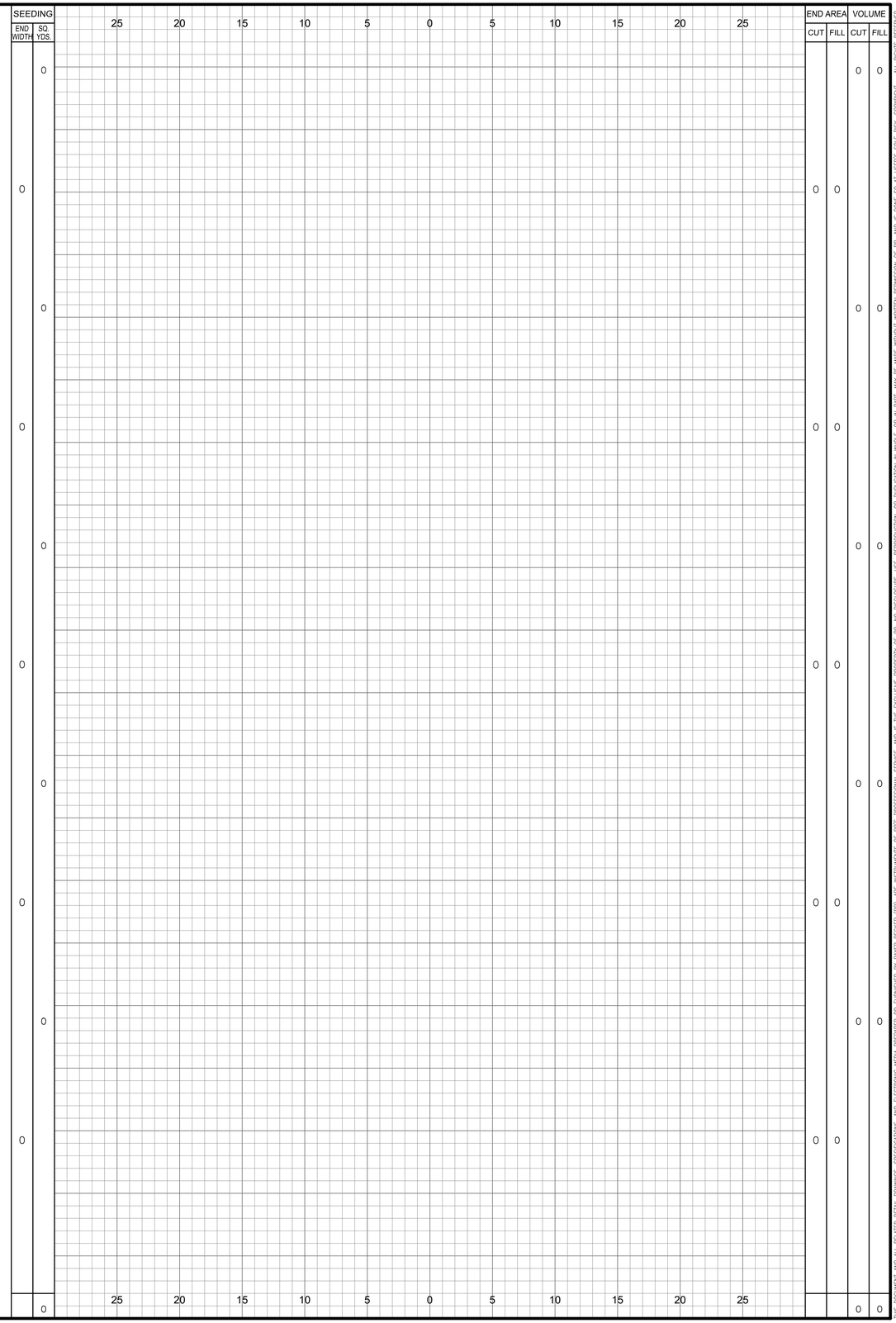
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Plot time: Jan 13, 2025 - 4:33pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 58 XS 76+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	253			0	725
38		0	290		
	178			0	386
26		0	127		
	122			0	157
18		0	43		
	64			6	41
5		6	1		
	617			6	1309



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	0			0	0
0		0	0		
	0			0	0
0		0	0		
	0			0	0
0		0	0		
	0			0	0
0		0	0		
	0			0	0
0		0	0		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

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Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 80+50 TO STA. 82+00

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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 59/161

Plot time: Jan 13, 2025 - 4:34pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 59 XS 80+50

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
		65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65				
	439	Prop. Bikeway Railing RM-5.2 — Prop. Bikeway Railing RM-5.2; 1.56% 1.56%; 2:1; 2:1; 900 895 890 885 880 875			0	178
77		898.25 STA.83+50 880.96	0	894		
	400				0	1476
		Prop. Bikeway Railing RM-5.2 — Prop. Bikeway Railing RM-5.2; 1.56% 1.56%; 2:1; 2:1; 900 895 890 885 880				
67			0	700		
	333	896.96 STA.83+00 881.95			0	1105
		Prop. Bikeway Railing RM-5.2 — Prop. Bikeway Railing RM-5.2; 1.56% 1.56%; 2:1; 2:1; 895 890 885 880				
53			0	493		
		894.66 STA.82+50 882.31				
	1172	65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65			0	4362

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 82+50 TO 83+50

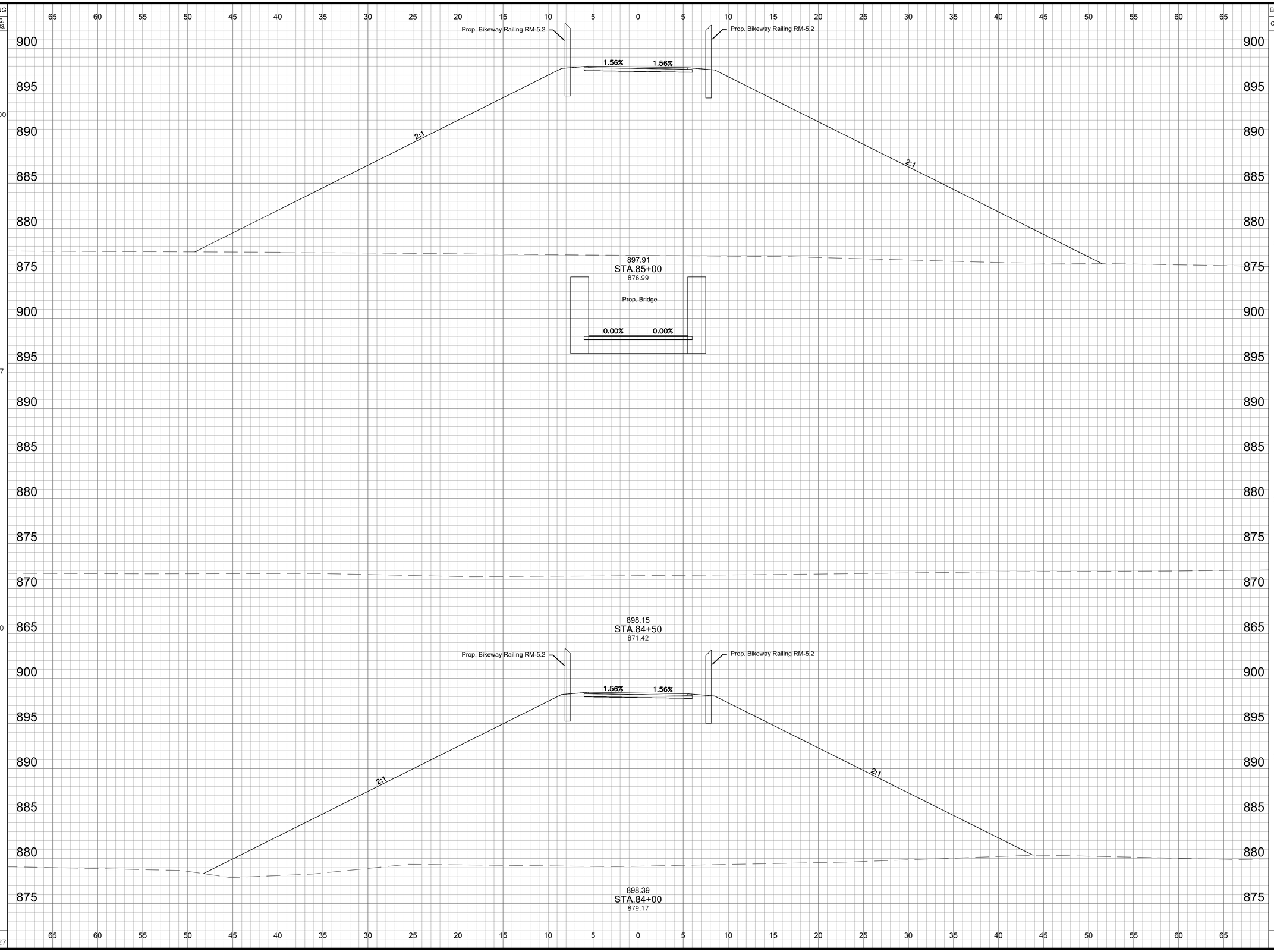
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 60/161

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Plot time: Jan 13, 2025 - 4:35pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 60 XS 82+50

SEEDING	
END WIDTH	SQ. YDS.
90	500
17	
0	
10	
81	
0	
	527



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	1229	0	2295
0	1030	0	2412
0	0	0	41
		0	76

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 84+00 TO STA. 85+00

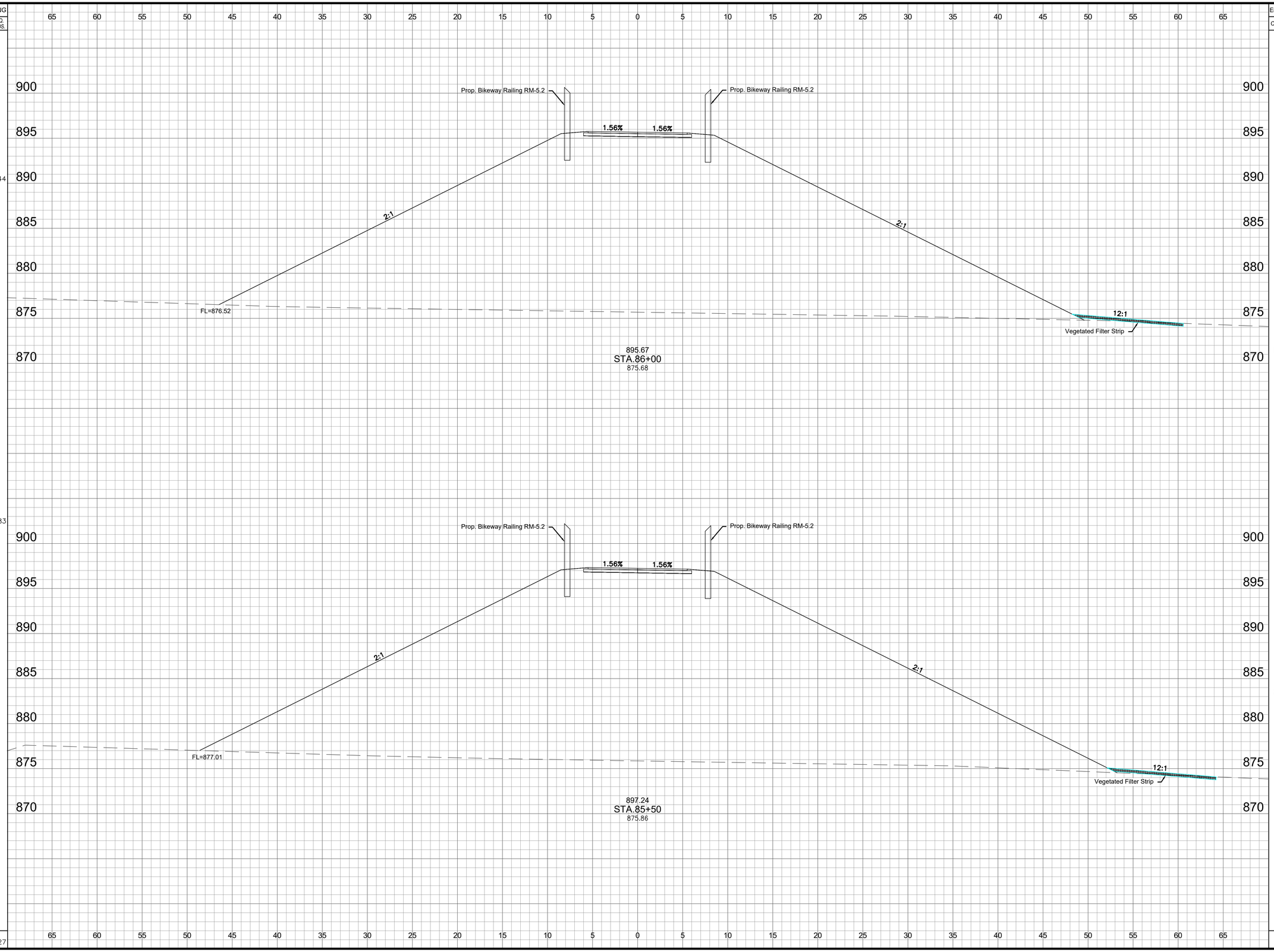
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Drawing:	22-0273 XS
Drawn by:	CPT
Checked By:	EMR
Issue Date:	07/03/2023
Sheet:	61/161

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Plot time: Jan 13, 2025 - 4:35pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 61 XS 84+00

SEEDING	
END WIDTH	SQ. YDS.
84	444
90	483
	927



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	1114	0	1924
0	1250	0	2189
0	411		

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 85+50 TO STA. 86+00

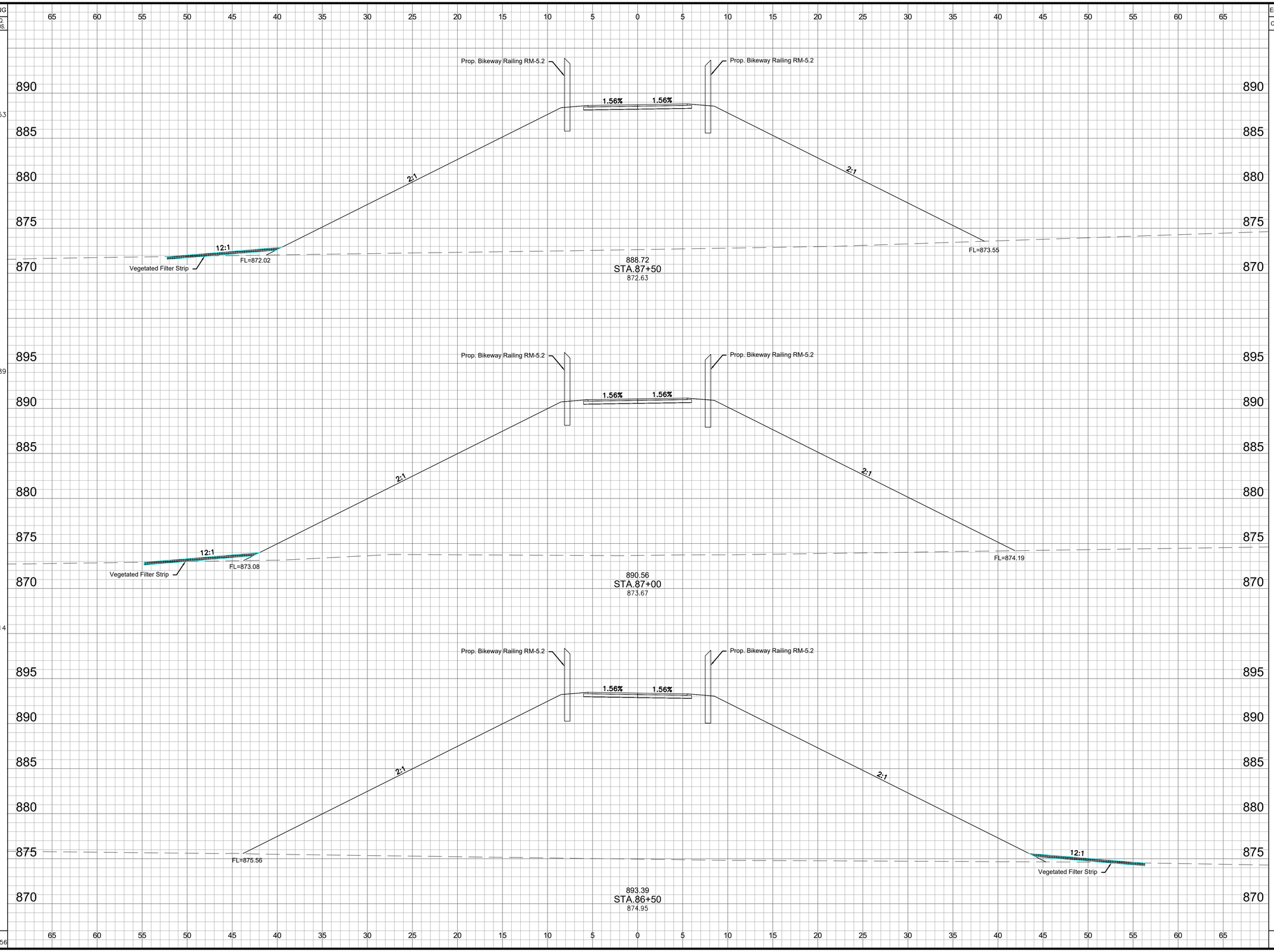
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 62/161

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Plot time: Jan 13, 2025 - 4:35pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 62 XS 85+50

SEEDING	
END WIDTH	SQ. YDS.
67	353
73	414
76	389
67	353
73	414
76	1156



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	766	0	1282
0	870	0	1515
0	964	0	1698
0	4495		

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 86+50 TO STA. 87+50

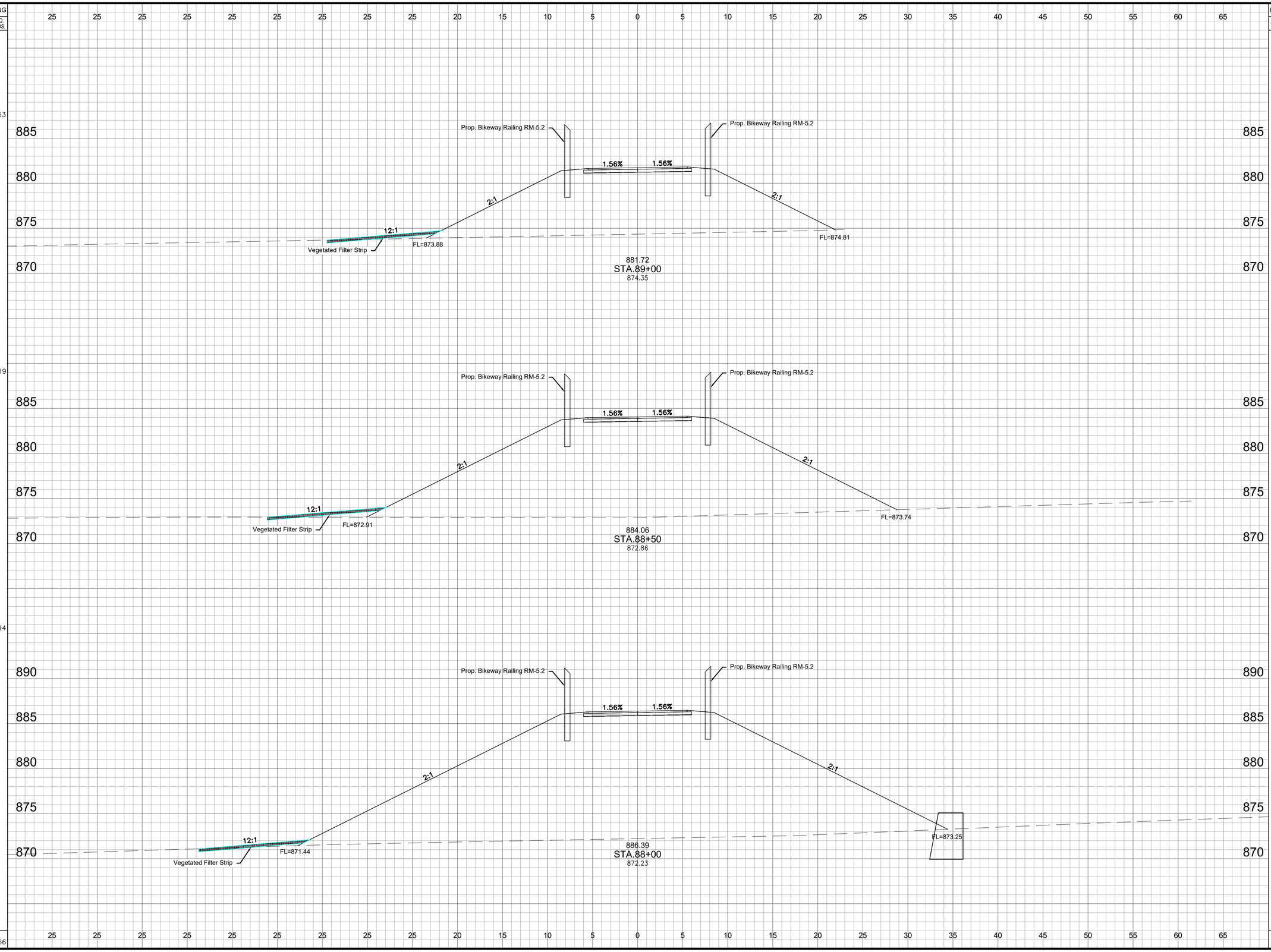
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Drawing:	22-0273 XS
Drawn by:	CPT
Checked By:	EMR
Issue Date:	07/03/2023
Sheet:	63/161

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Plot time: Jan 13, 2025 - 4:36pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 63 XS 86+50

SEEDING			END AREA		VOLUME	
END WIDTH	SQ. YDS.		CUT	FILL	CUT	FILL
33	153		0	220	0	306
46	219		0	409	0	582
60	294		0	619	0	952
	666				0	1840



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 88+00 TO STA. 89+00

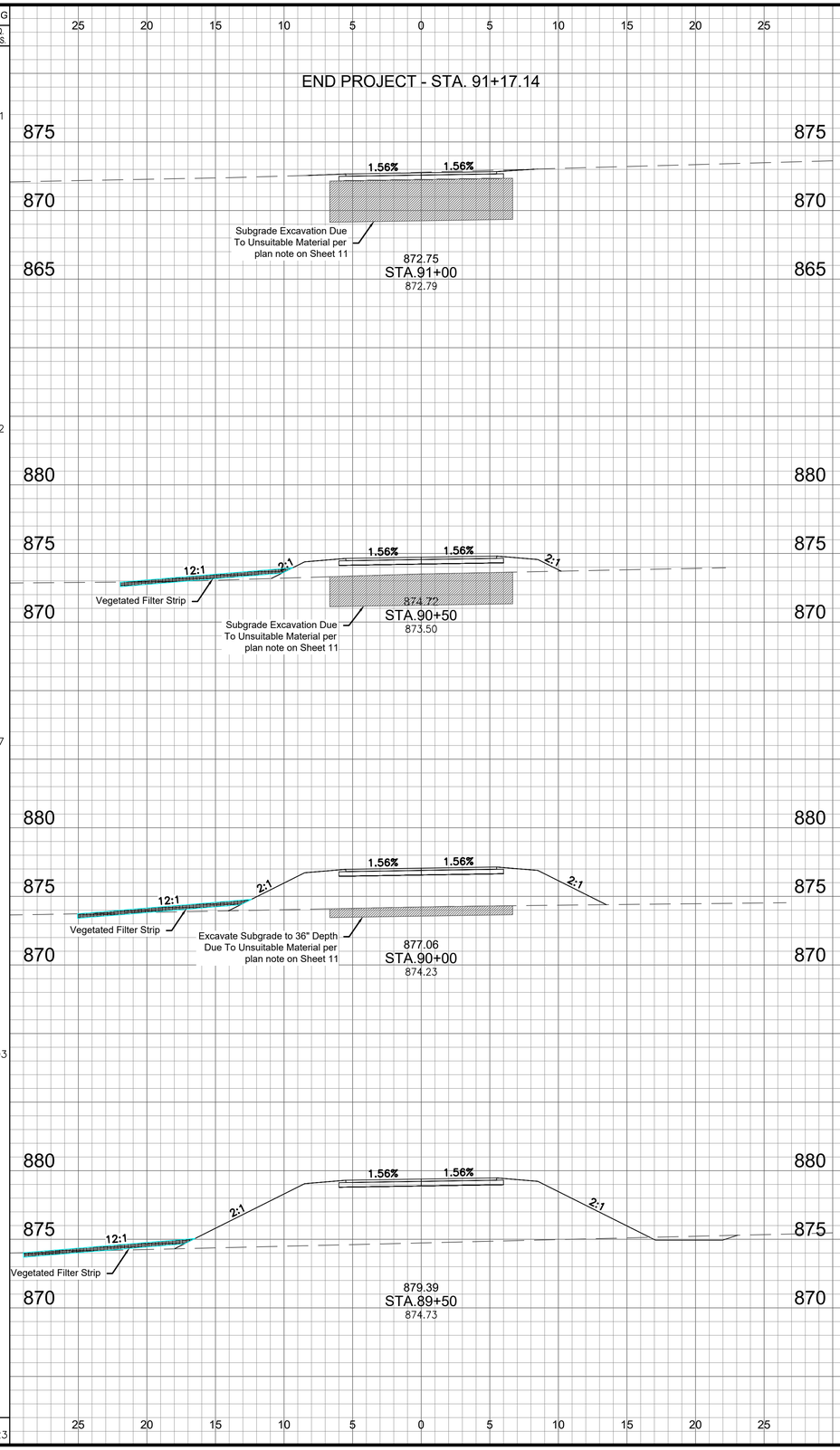
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Drawing: 22-0273 XS
Drawn by: CPT
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Issue Date: 07/03/2023
Sheet: 64/161

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Plot time: Jan 13, 2025 - 4:37pm
Drawing name: i:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 64 XS 88+00

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
6	11	0	0	0	66
9	42	6	0	4	0
	67	0	17	6	16
	103	0	64	0	162
	22	0	111	0	10
	223				244



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
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3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 89+50 TO STA. 90+50

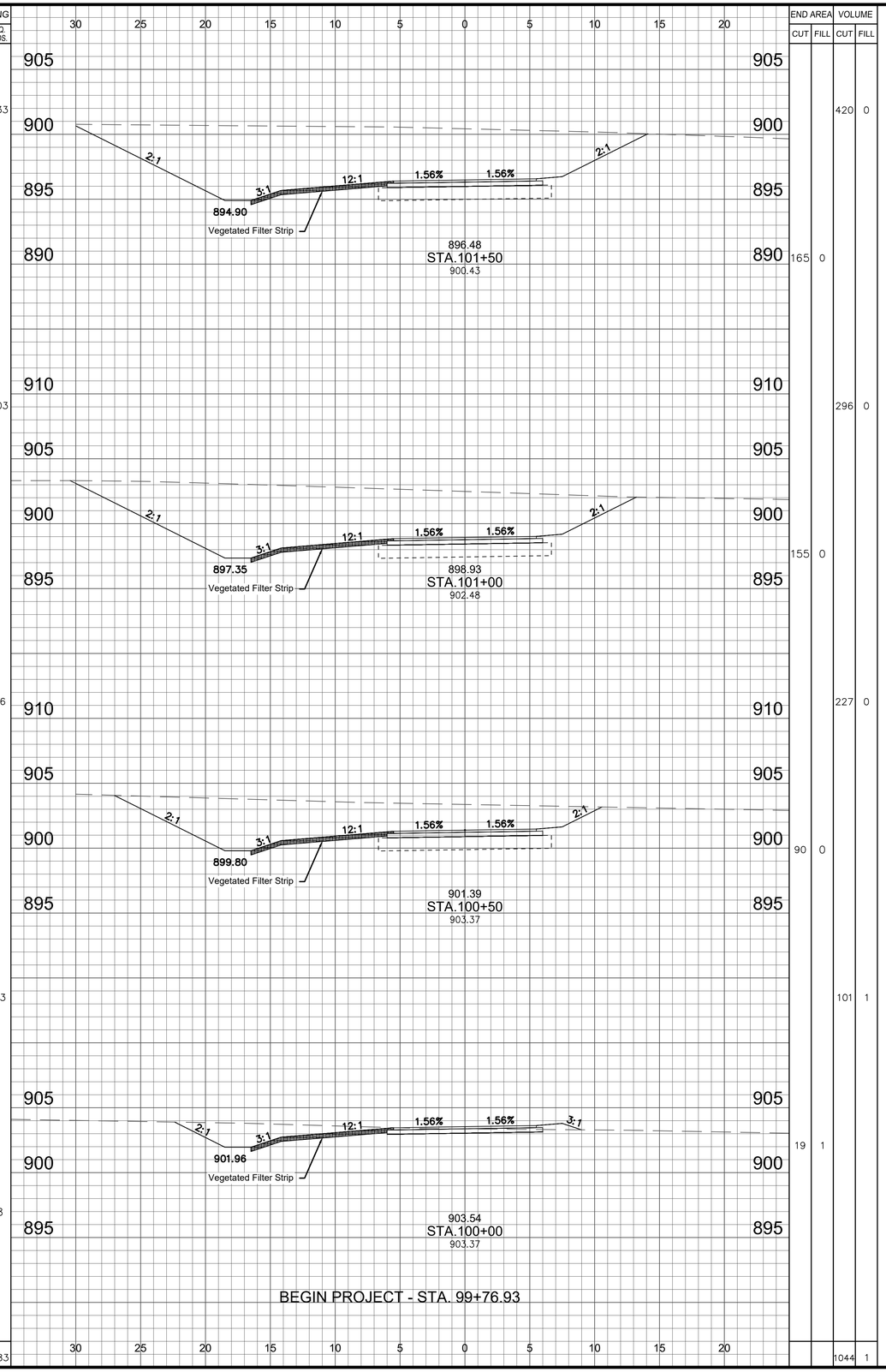
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Drawing: 22-0273 XS
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 65/161

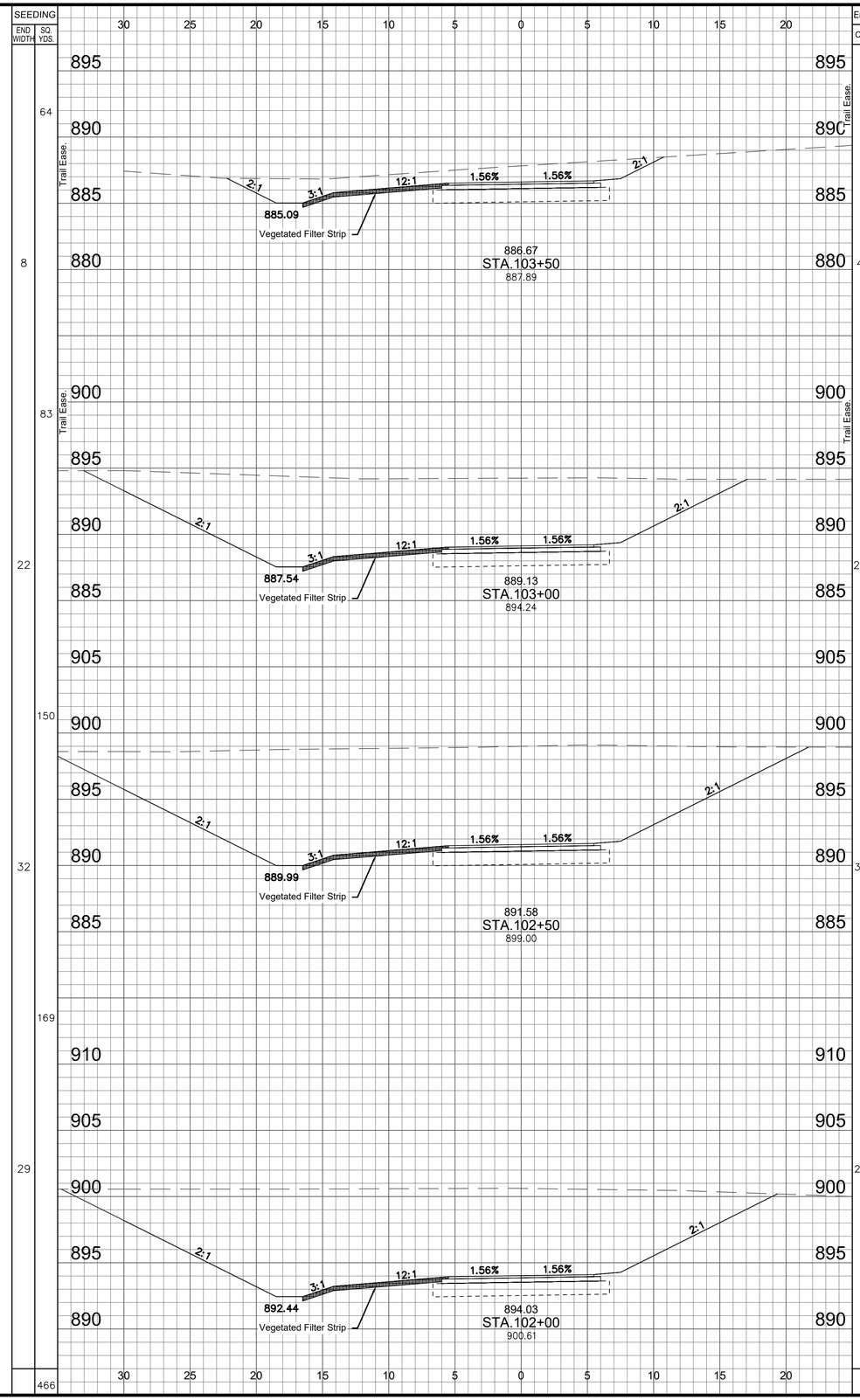
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Plot time: Jan 13, 2025 - 4:37pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS.dwg - Layout Tab: 65 XS 89+50

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	133			420	0
19		165	0		
	103			296	0
18		155	0		
	86			227	0
13		90	0		
	53			101	1
6		19	1		
0	8				
	383			1044	1



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	64			41	24
8		44	0		
	83			246	0
22		222	0		
	150			507	0
32		326	0		
	169			569	0
29		289	0		
	466			1363	24



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

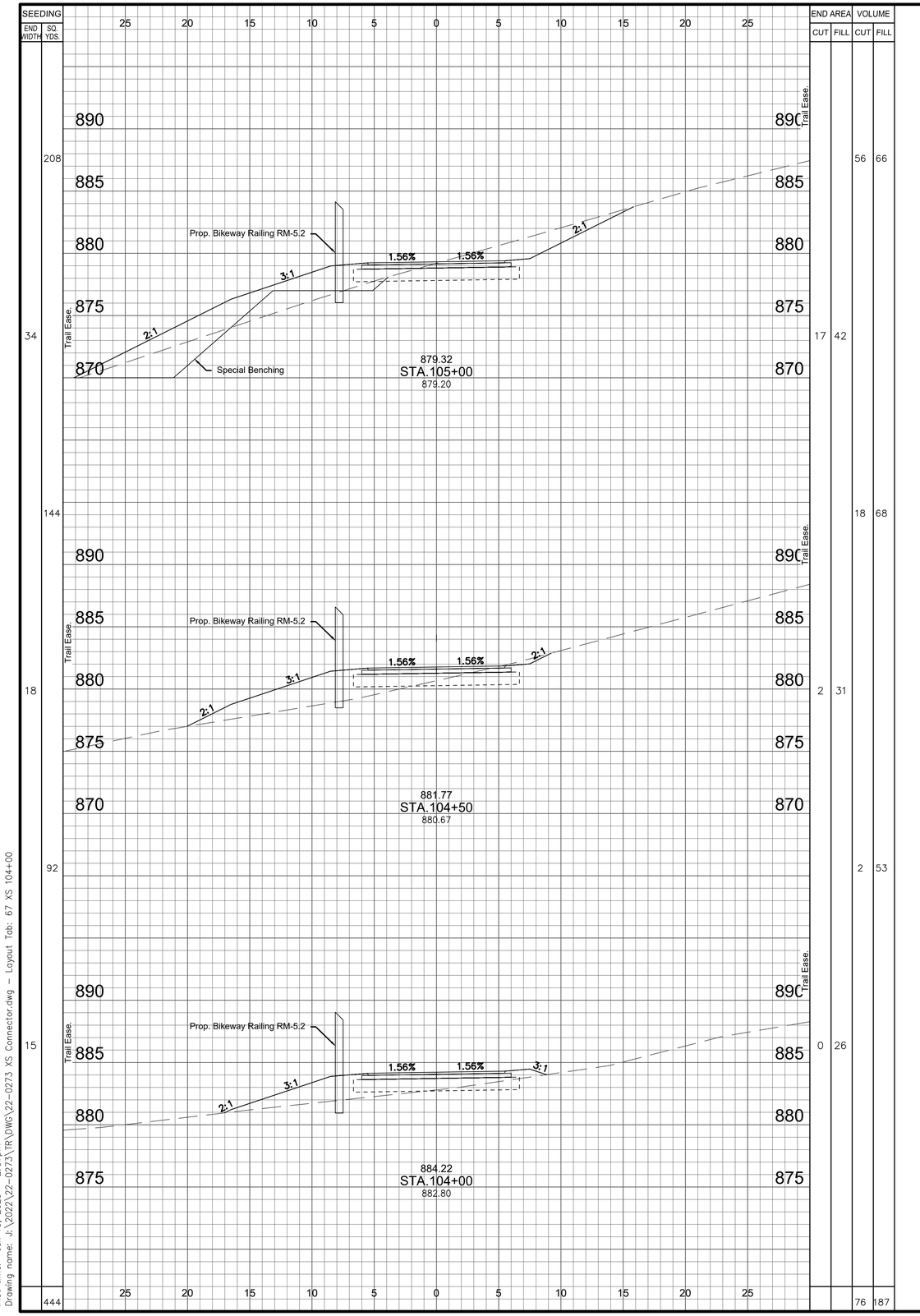
CROSS SECTIONS - STA. 100+00 TO STA. 103+50

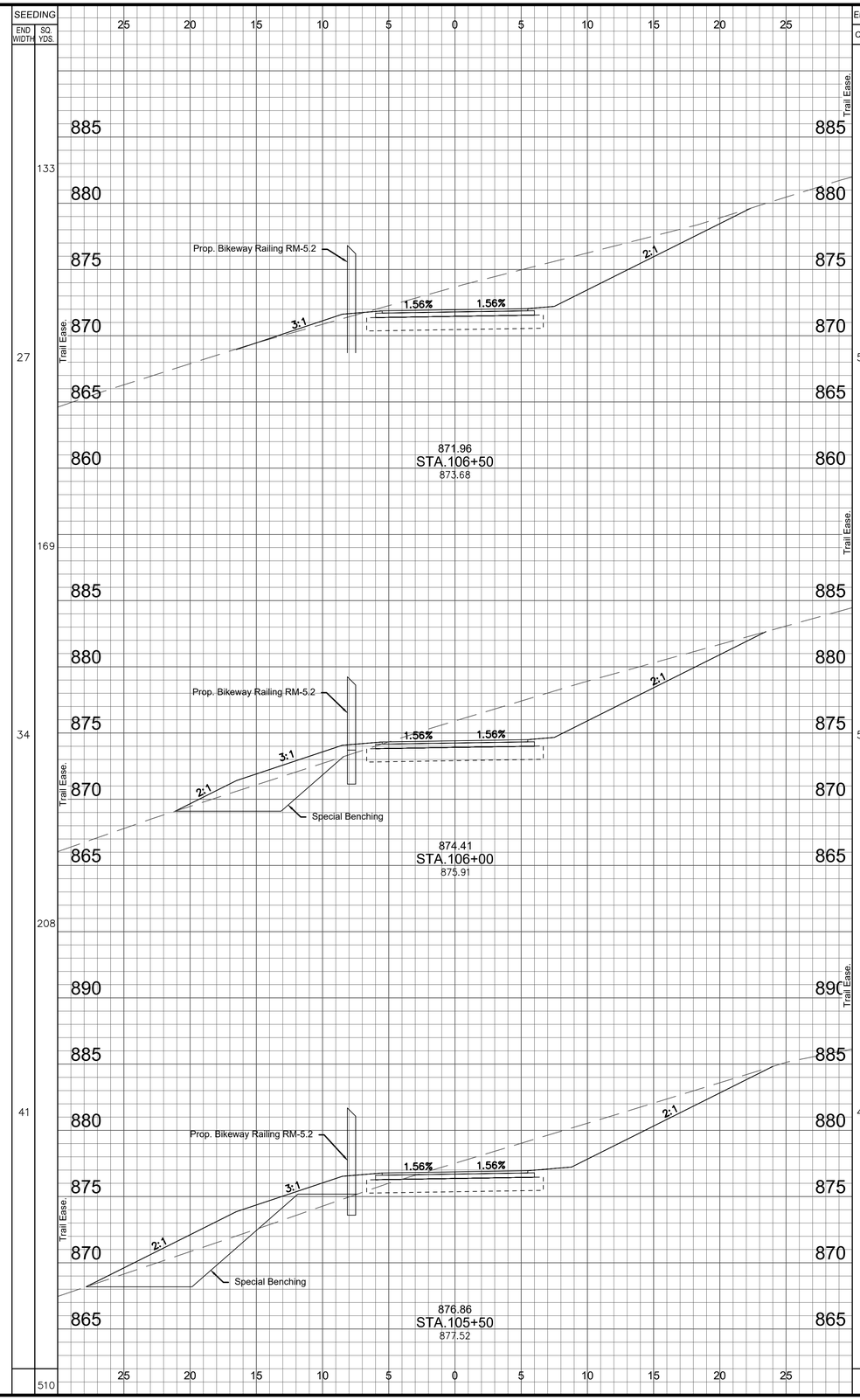
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Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 66/161

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Plot time: Jan 13, 2025 - 3:09pm
Drawing name: k:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 66 XS 100+00





HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn.	Chk.
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 104+00 TO STA. 106+50

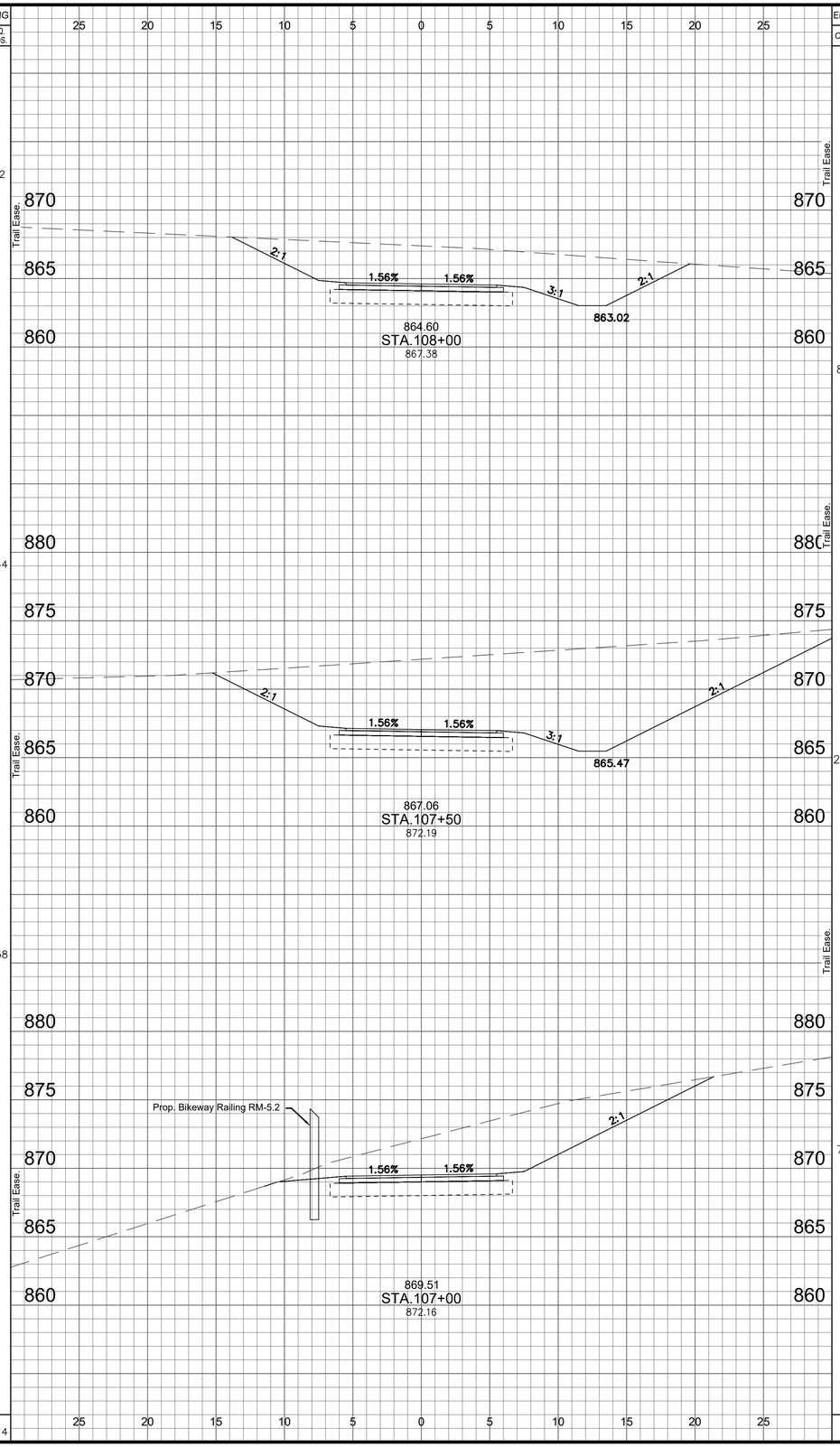
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Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 67/161

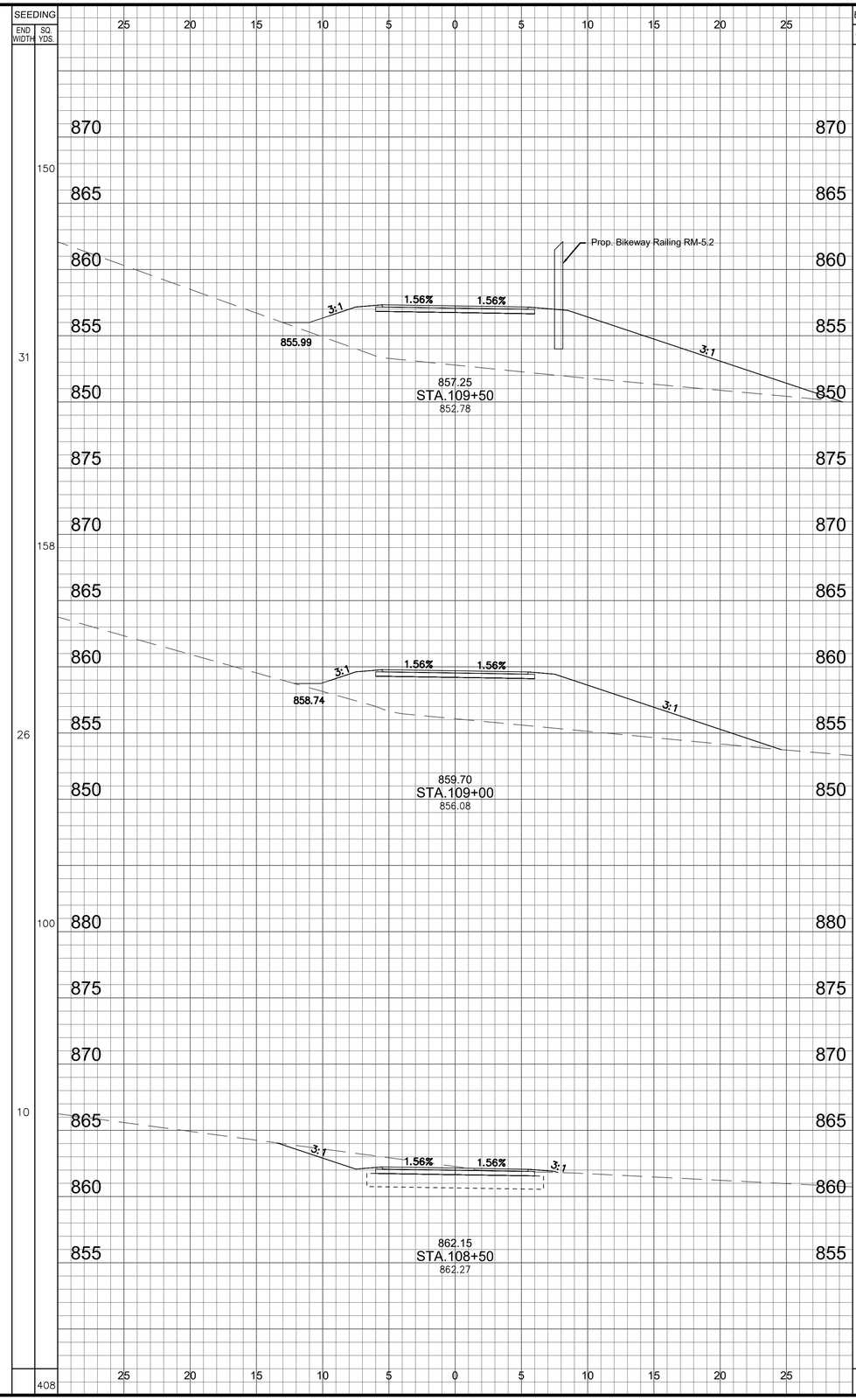
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Plot time: Jan 13, 2025 - 2:57pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 67 XS 104+00

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
92	23	87	0	93	0
164	36	209	0	274	0
158	21	78	0	266	0
414				633	0



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
150	31	0	124	0	193
158	26	0	86	0	194
100	10	12	80	13	0
408		12	467		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

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BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

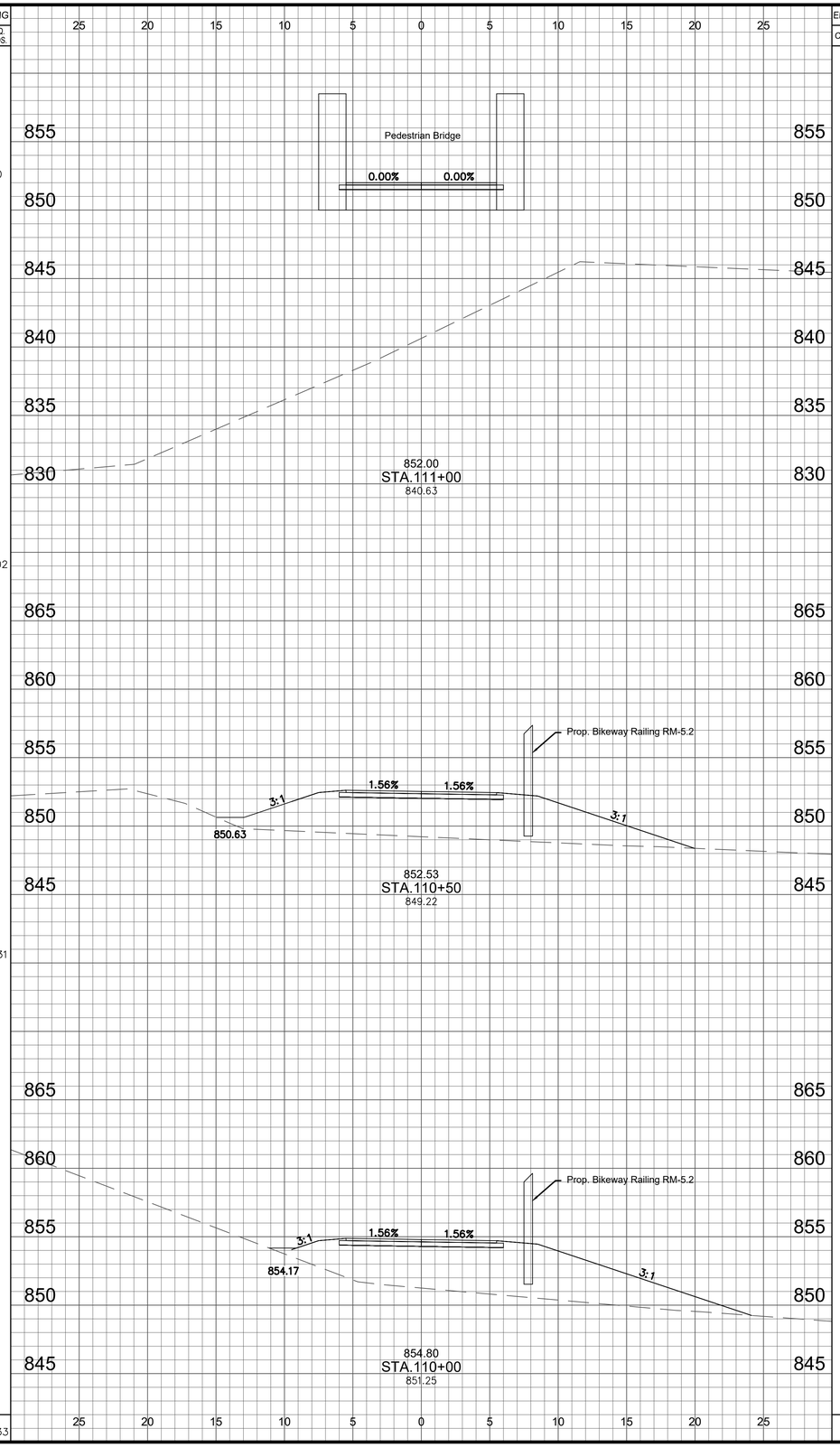
CROSS SECTIONS - STA. 107+00 TO STA. 109+50

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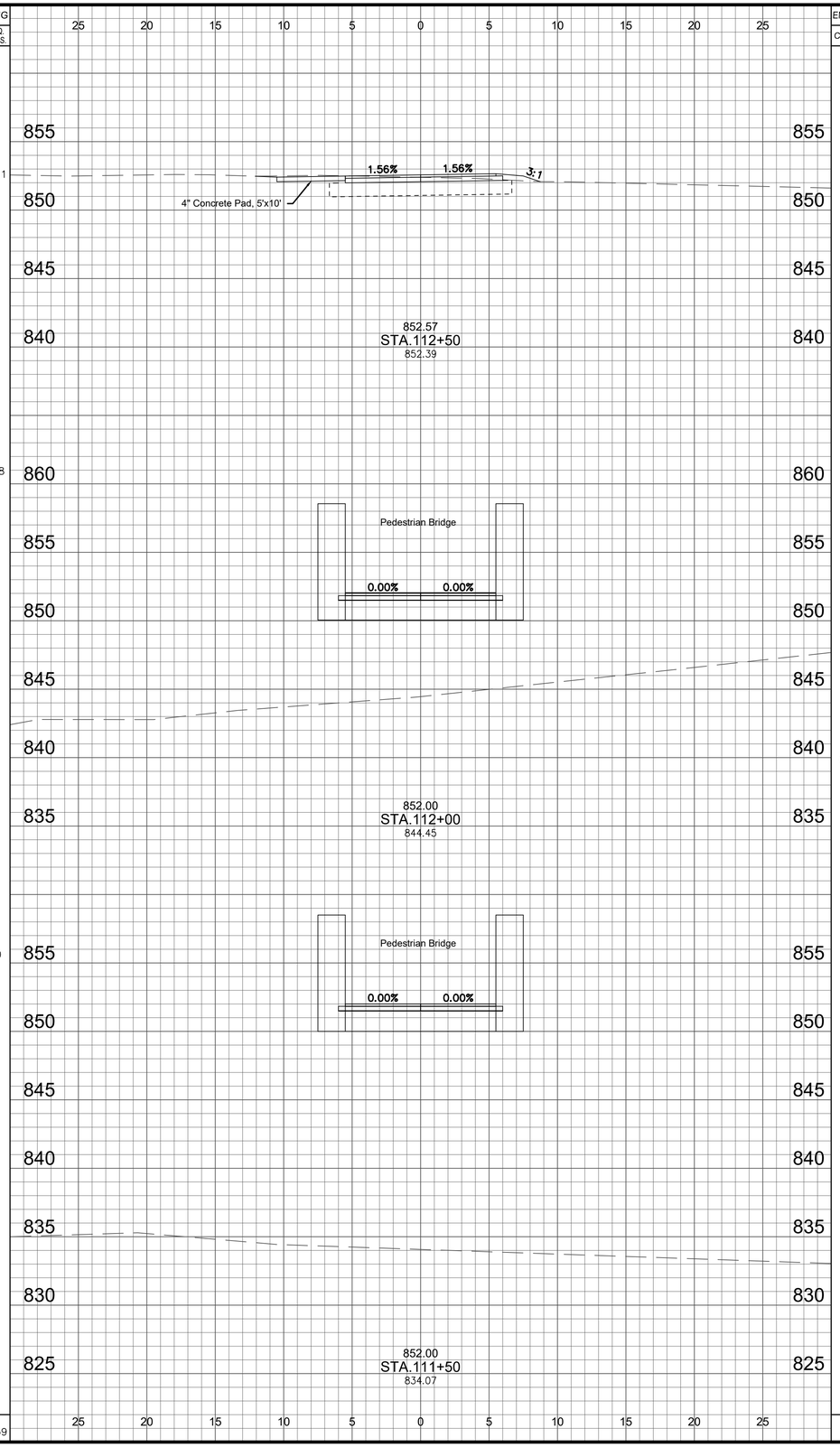
Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 68/161

Plot time: Jan 13, 2025 - 2:58pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 68 XS 107+00

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0	0	0	0	0
0	102	0	0	0	108
24	131	0	77	0	149
23	84	0	0	0	0
233		0	257		



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
111	6	6	151		
6	28	6	1	9	2
0	0	0	0		
0	0	0	0	0	0
139		15	153		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 110+00 TO STA. 112+50

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Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 69/161

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Plot time: Jan 13, 2025 - 2:59pm
Drawing name: k:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 69 XS 110+00

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		862.17 STA.114+50 860.46	0	26	0	40
14	69					
		859.78 STA.114+00 857.58	0	41	0	62
17	86					
		857.29 STA.113+50 854.35	0	162	0	206
34	153					
		854.81 STA.113+00 849.08	0	402	0	643
	414					

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		867.56 STA.116+50 863.12	0	126	0	298
32	203					
		865.38 STA.116+00 862.96	0	45	0	158
18	139					
		864.32 STA.115+50 862.85	0	117	0	127
11	64					
		863.68 STA.115+00 862.42	0	20	0	60
12	83					
			0	643	0	643
	489					

Prop. Bikeway Railing RM-5.2

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 113+00 TO STA. 116+50

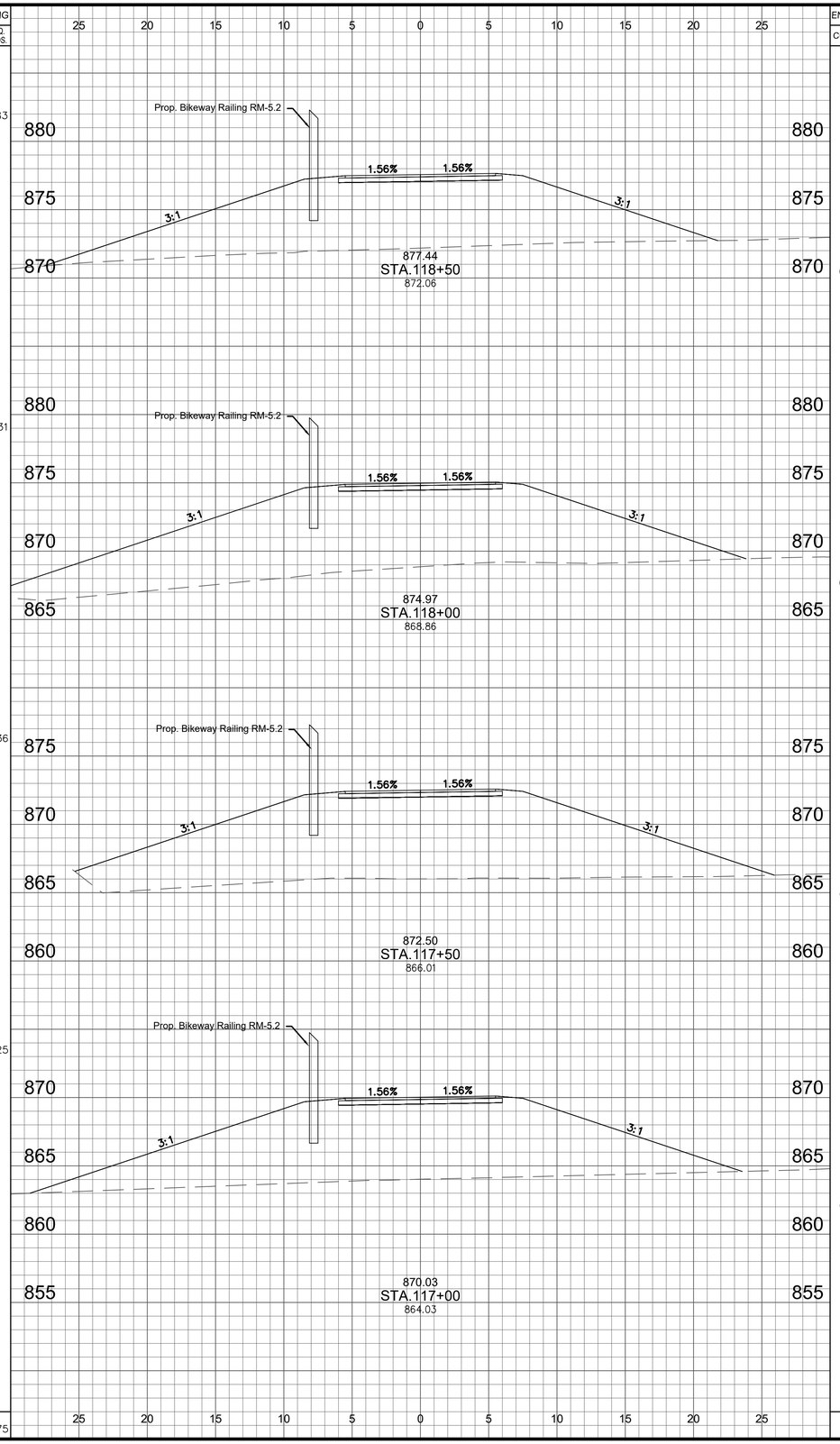
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110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 70/161

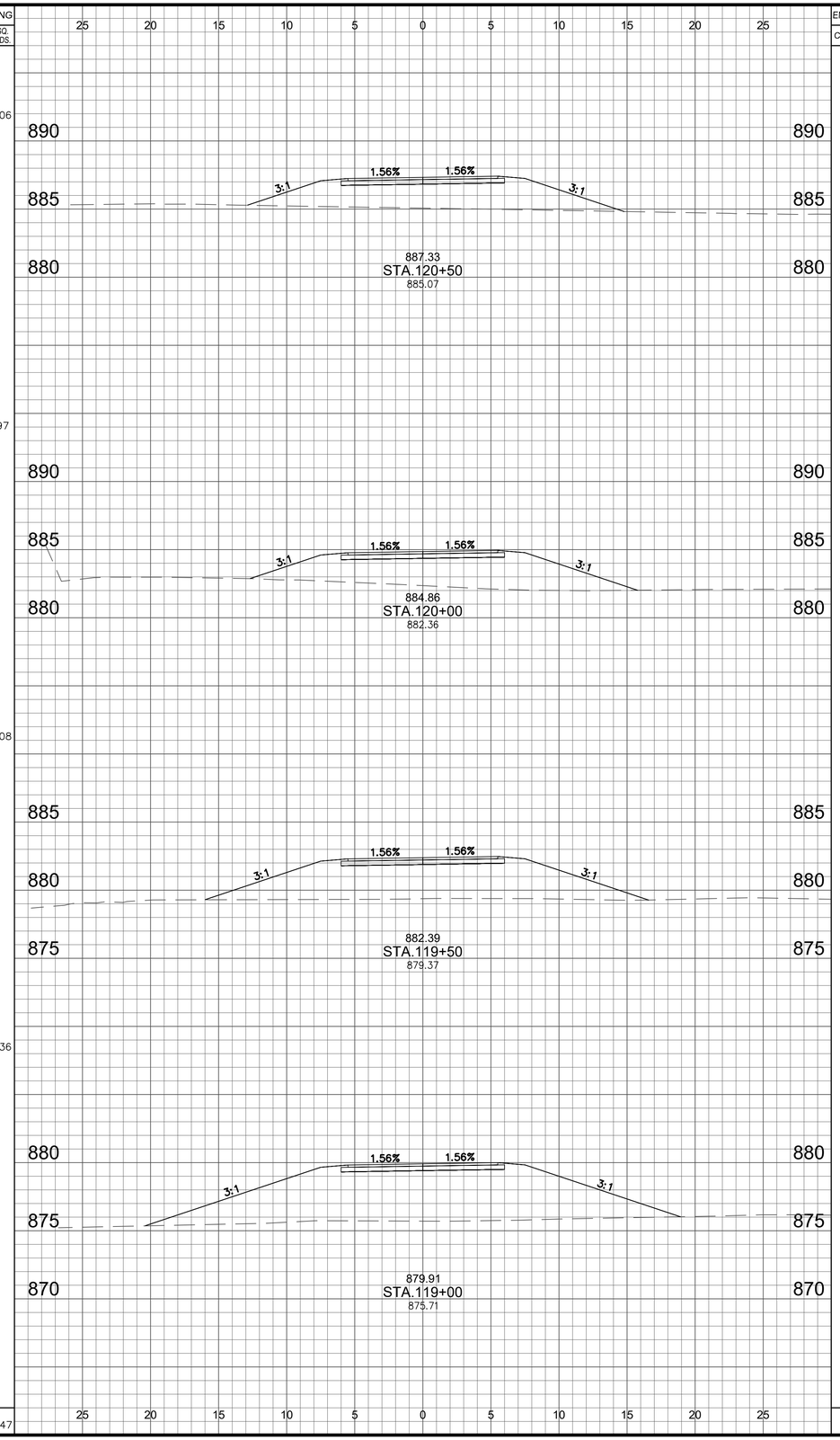
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Plot time: Jan 13, 2025 - 2:59pm
Drawing name: k:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 70 XS 113+00

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	183				0	250
38		877.44 STA.118+50 872.06	0	165		
	231				0	359
45		874.97 STA.118+00 868.86	0	223		
	236				0	411
40		872.50 STA.117+50 866.01	0	221		
	225				0	386
41		870.03 STA.117+00 864.03	0	196		
	875		0	1406		



SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	106				0	98
17		887.33 STA.120+50 885.07	0	41		
	97				0	82
18		884.86 STA.120+00 882.36	0	48		
	108				0	105
21		882.39 STA.119+50 879.37	0	65		
	136				0	157
28		879.91 STA.119+00 875.71	0	105		
	447		0	442		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

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3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 117+00 TO STA. 120+50

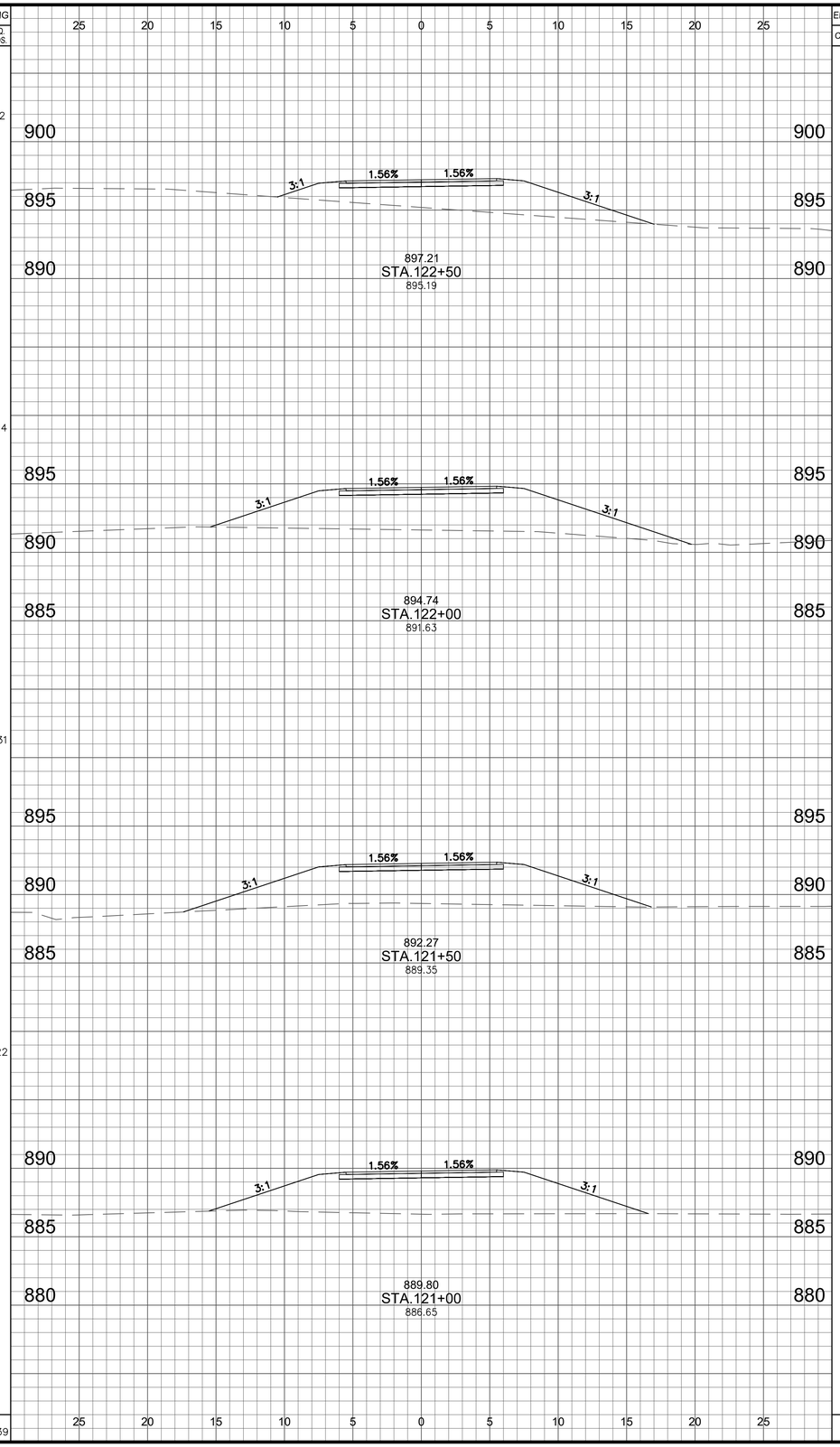
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Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 71/161

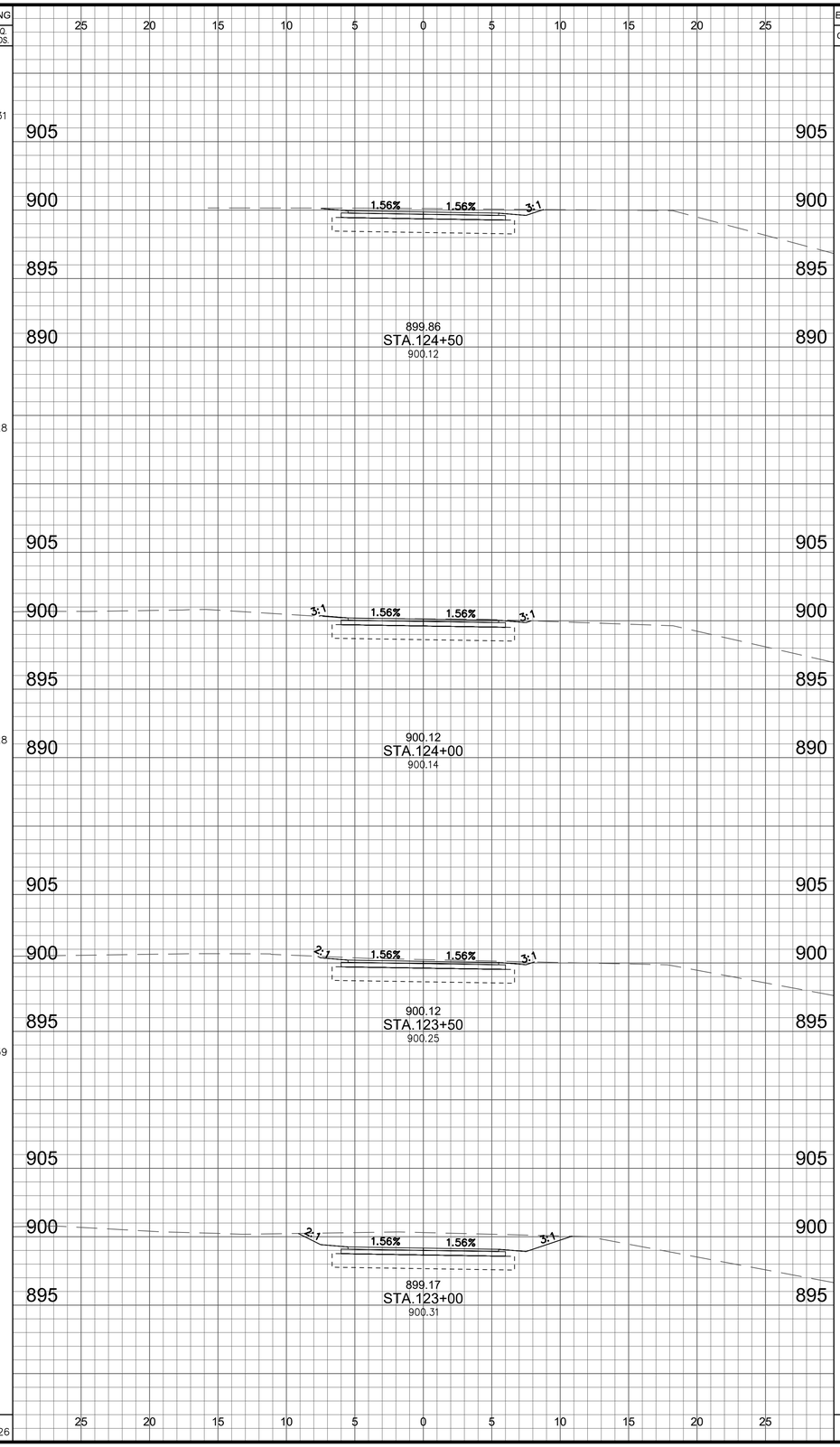
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Plot time: Jan 13, 2025 - 3:00pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 71 XS 117+00

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
17	72	0	38	23	35
24	114	0	70	0	100
23	131	0	66	0	126
21	122	0	65	0	121
	439		23		382



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
5	31	9	0	12	1
5	28	6	0	14	0
28	28	13	0	13	0
9	39	8	0	31	0
	126		1		70



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

Item	Revision Description	Date	Drwn	Chk
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-13-24	CPT	EMR
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BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

CROSS SECTIONS - STA. 121+00 TO STA. 124+50

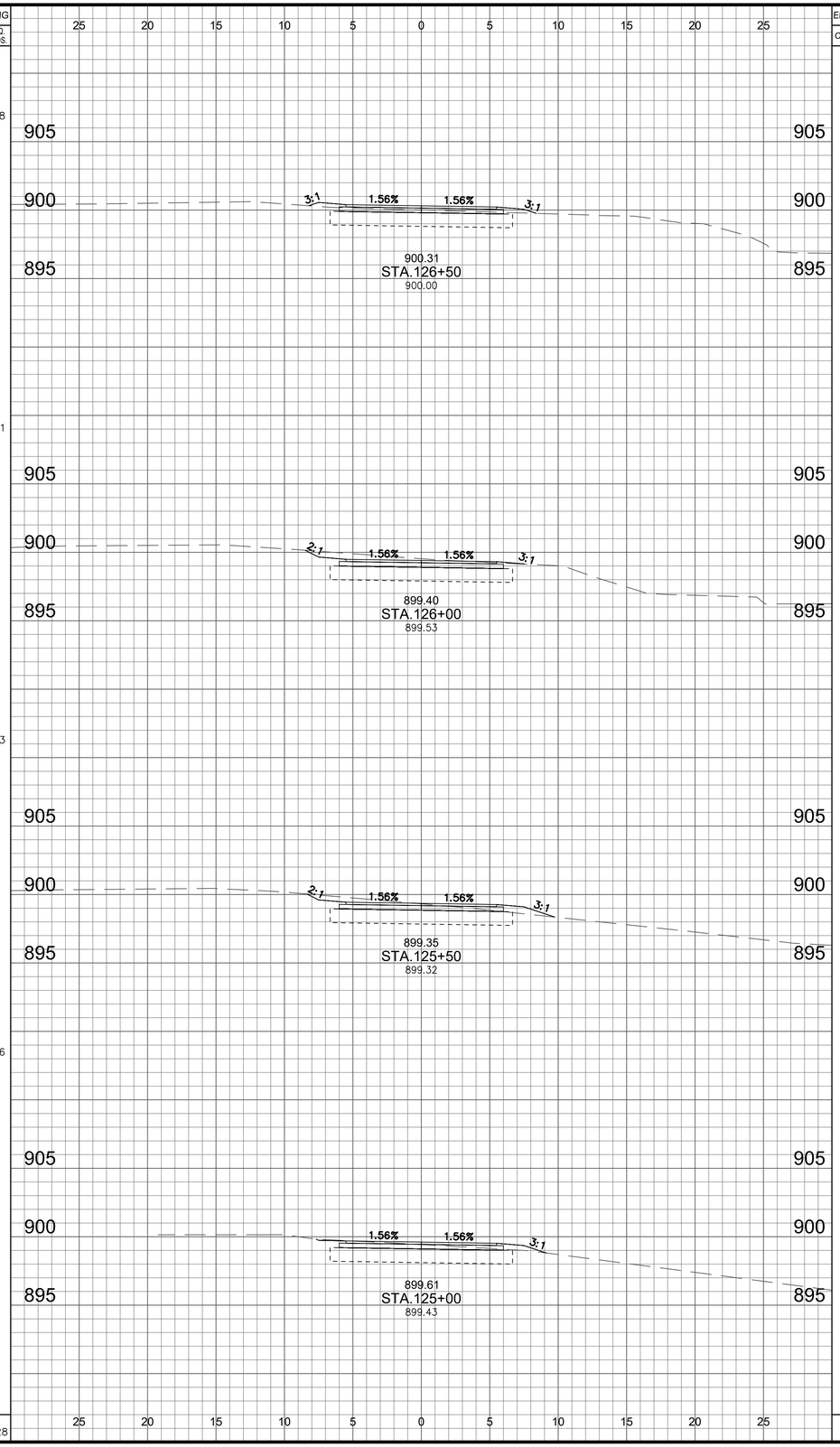
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Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 72/161

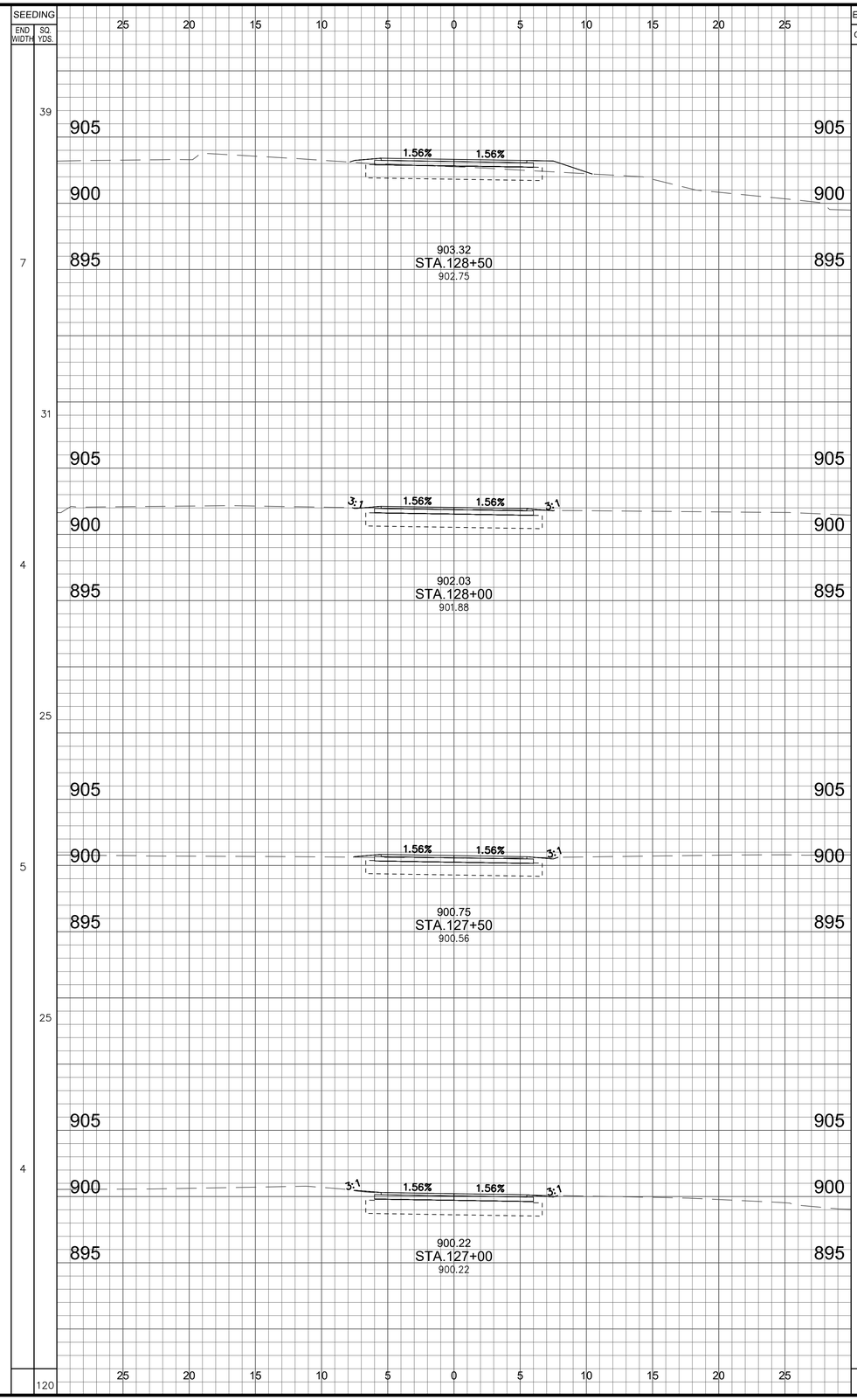
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Plot time: Jan 13, 2025 - 3:01pm
Drawing name: k:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 72 XS 121+00

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6	28	2	1	7	1
5	31	9	0	10	1
7	33	6	1	14	1
6	36	4	1	9	2
128				40	5



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
7	39	0	4	5	5
4	31	5	0	5	4
5	25	4	0	8	0
4	25	6	0	9	0
120				27	9



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

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3	Revised per ODOT and City comments.	01-13-25	TAE	EMR

BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

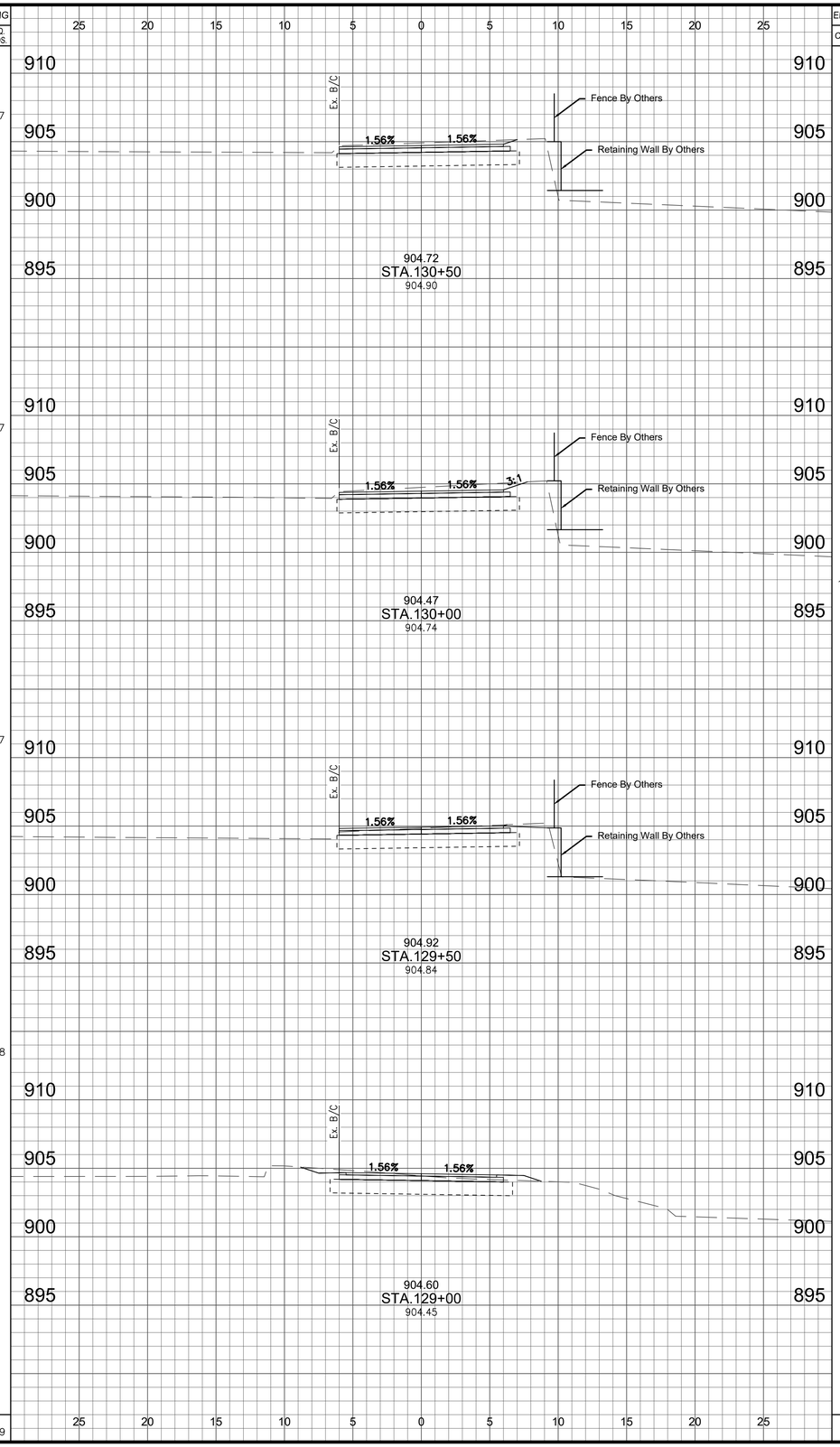
CROSS SECTIONS - STA. 125+00 TO STA. 128+50

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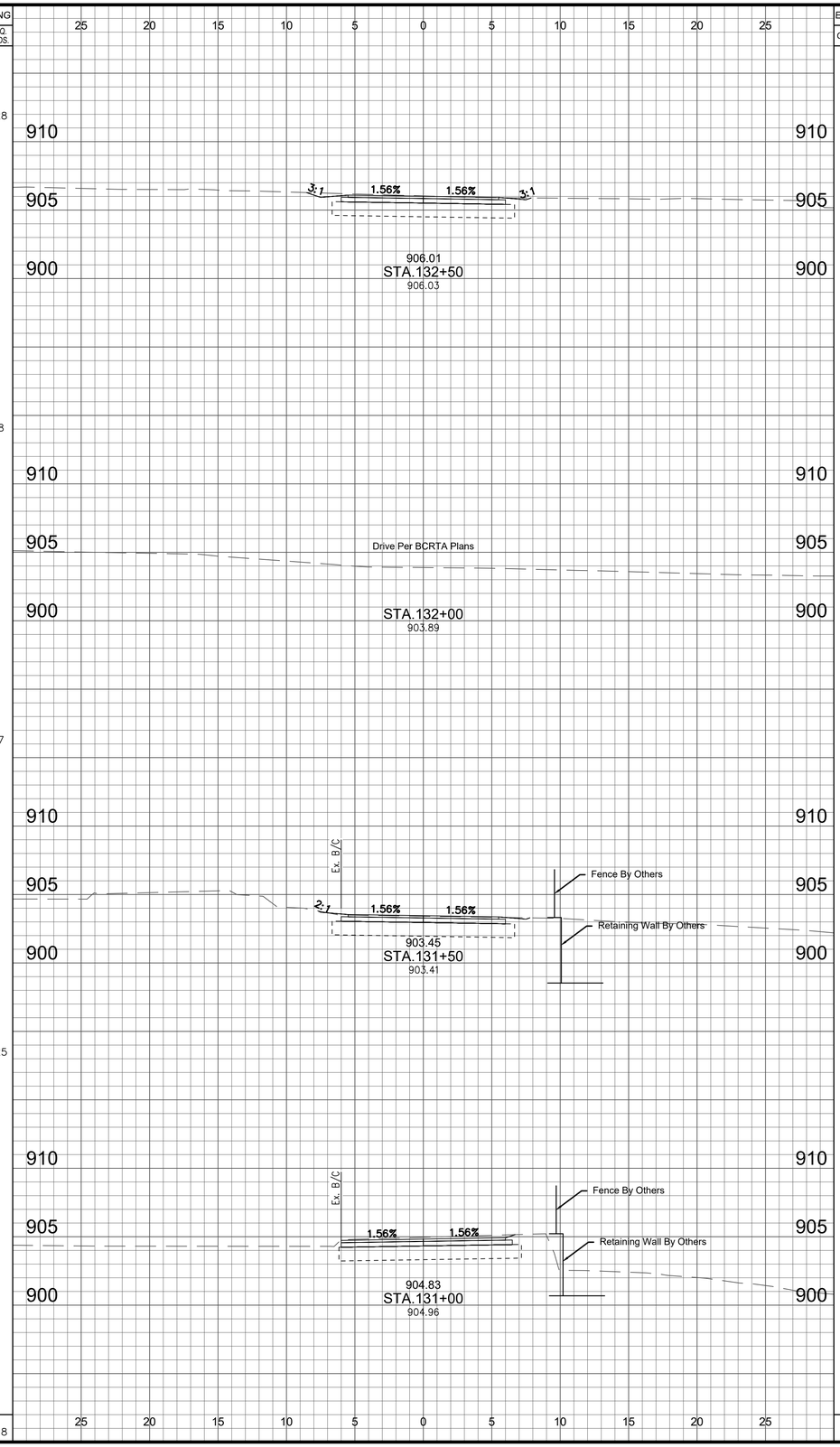
Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 73/161

Plot time: Jan 13, 2025 - 3:02pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 73 XS 125+00

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
3	17	9	0	13	0
3	17	10	0	18	0
7	17	5	1	14	1
7	28	5	1	9	2
3	79	54	3		



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
5	28	7	0	13	0
0	8	0	0	6	0
6	25	6	0	10	0
3	7	5	0	6	0
68		35	0		



HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

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BUT - OXFORD AREA TRAIL
PHASE 5
CITY OF OXFORD
BUTLER COUNTY, OHIO

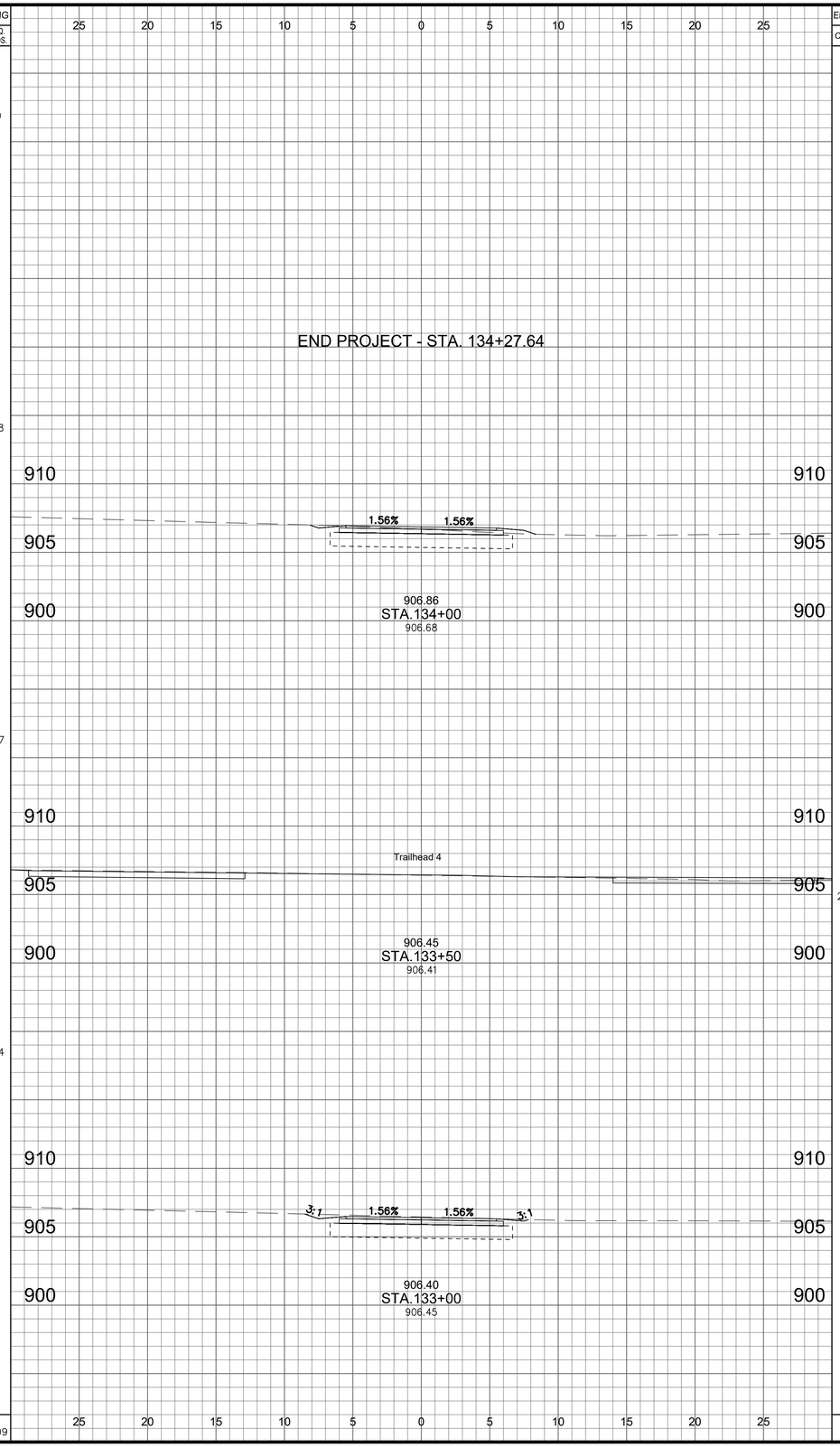
CROSS SECTIONS - STA. 129+00 TO STA. 132+50

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Checked By: EMR
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Sheet: 74/161

Plot time: Jan 13, 2025 - 3:02pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 74 XS 129+00

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
0	0	0	0	0	0
0	18	0	0	4	1
6	97	4	1	29	1
29	94	27	0	31	0
5	209	7	0	64	2



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

HORIZONTAL
0 5 7.5
SCALE: 1" = 5'

VERTICAL
0 5 7.5
SCALE: 1" = 5'

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BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

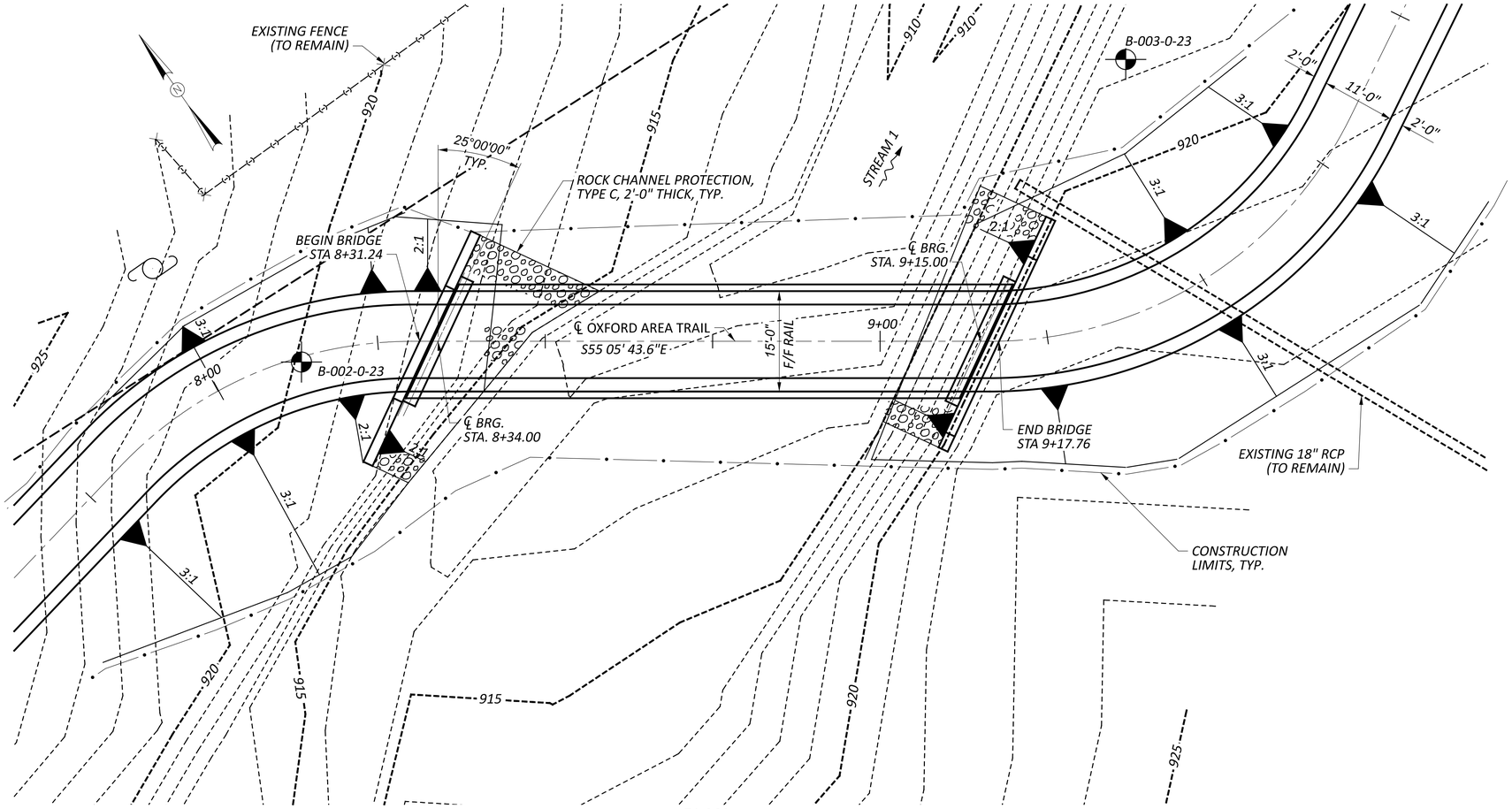
CROSS SECTIONS - STA. 133+00TO STA. 134+00

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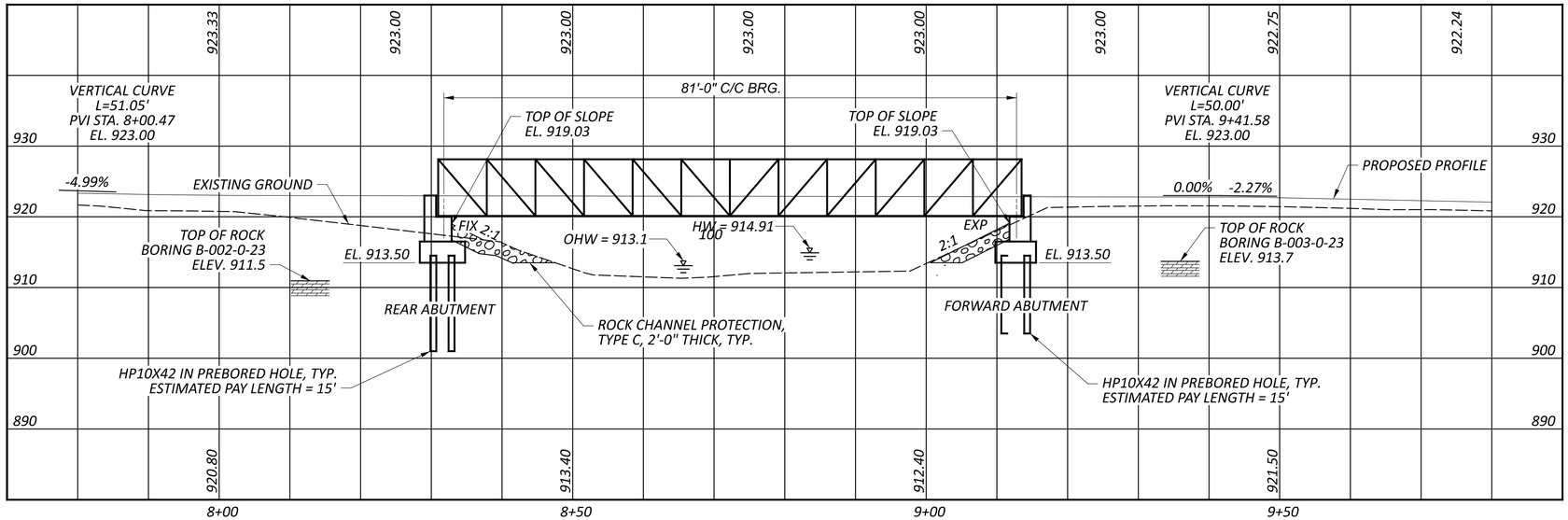
Drawing: 22-0273 XS CONNECTOR
Drawn by: CPT
Checked By: EMR
Issue Date: 07/03/2023
Sheet: 75/161

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Plot time: Jan 13, 2025 - 3:03pm
Drawing name: J:\2022\22-0273\TR\DWG\22-0273 XS Connector.dwg - Layout Tab: 75 XS 133+00



PLAN



ELEVATION

BENCHMARK DATA

BM #1 STA.	0+92.30,	ELEV.	945.86,	OFFSET	19.86',	LT.
BM #2 STA.	50+97.51	ELEV.	915.85,	OFFSET	41.79',	RT.
BM #3 STA.	73+29.54	ELEV.	890.58,	OFFSET	11.71',	RT.
BM #4 STA.	131+92.71	ELEV.	903.74,	OFFSET	116.84',	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

LEGEND

BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 0.67 SQ. MILES
Q (5) = 220 CFS V (5) = 5.18 FT/S
Q (100) = 567 CFS V (100) = 6.35 FT/S
STRUCTURE CLEARS THE 5 YEAR
DESIGN HW BY 6.00 FEET.

PROPOSED STRUCTURE

TYPE: PREFABRICATED STEEL TRUSS BRFIDGE W/CONCRETE DECK ON STUB ABUTMENTS

SPANS: 81'-0" C/C BEARINGS

ROADWAY: 15'-0" FACE/FACE RAILINGS

LOADING: PEDESTRIAN LOADING - 0.090 KSF
VEHICULAR LOADING - H15-44 (TRUCK ONLY)

SKEW: 25° 00' 00" LF

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

SUPERELEVATION: 0.0156 FT/FT

DECK AREA: 1290 SF

COORDINATES: LATITUDE 39° 29' 38.08"
LONGITUDE -84° 45' 22.25"

SITE PLAN
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 1

SFN 0964737

DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER BSM 09-20-24

PROJECT ID 117001

SUBSET	TOTAL
1	8

SHEET	TOTAL
P.76	161

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Untitled Sheet PAPERSIZE: 2.83333x1.83333 (ft.) DATE: 1/3/2025 TIME: 1:51:12 PM USER: msturdevant
V:\1736\active\173620161\engineering\117001\v00-Engineering\Structures\SFN_0000001 (Oxford Trail Bridge)\Sheets\117001_SFN01_SP001.dgn

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

REDUNDANCY
THE FOLLOWING ITEM(S) WERE CONSIDERED NON-REDUNDANT FOR DESIGN AND INCLUDE A LOAD MODIFIER EQUAL TO 1.05 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.4: TRUSS BRIDGE

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING
DESIGN LOADING INCLUDES:
PEDESTRIAN LIVE LOAD: 0.090 KIPS/SF
VEHICULAR LIVE LOAD: H15-44 (TRUCK ONLY)

DESIGN DATA
CONCRETE CLASS QC2:
COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1:
COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT:
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (ABUTMENTS)

STRUCTURAL STEEL - ASTM A709 GRADE 50:
YIELD STRENGTH = 50 KSI

STEEL H-PILES - ASTM A572: YIELD STRENGTH 50 KSI

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

GROUNDING
THE STRUCTURE SHALL BE GROUNDED PER ODOT STANDARD DRAWING HL-50.21

ITEM 507 - PREBORED HOLES, AS PER PLAN:

PREBORED HOLES SHALL EXTEND AT LEAST 10 FEET INTO BEDROCK AT EACH PILE. THE DIAMETER OF THE PREBORED HOLE SHALL BE A MINIMUM 2 INCH LARGER THAN THE DIAGONAL DIMENSION OF THE PILE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AN OPEN HOLE.

THE PREBORED HOLES SHALL BE CLEAN AND FREE OF DELETERIOUS MATERIALS PRIOR TO BACKFILLING OPERATIONS. BACKFILL THE VOID BETWEEN THE PILE AND THE PREBORED HOLE WITH CLASS QC MISC. CONCRETE UP TO THE TOP OF ROCK ELEVATION. ABOVE THE TOP OF ROCK, BACKFILL THE VOID TO THE BOTTOM OF FOOTING ELEVATION WITH GRANULAR MATERIAL CONFORMING TO 703.11, STRUCTURAL BACKFILL TYPE 2, EXCEPT 100 PERCENT OF THE MATERIAL SHALL PASS THROUGH A ¾ INCH SIEVE. PAYMENT FOR PREBORED HOLES INCLUDES THE BACKFILL MATERIAL.

PILE SPLICES
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

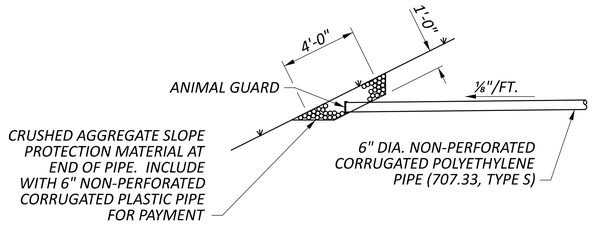
INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

ITEM 507 - STEEL PILES HP10x42, FURNISHED, AS PER PLAN:

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL PILES INTO PREBORED HOLES. PLACE EACH PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN ONE INCH BETWEEN THE TOP AND BOTTOM. SUPPORT THE PILE SO THAT IT DOES NOT MOVE DURING PLACEMENT OF THE BACKFILL MATERIAL. THE TOTAL FACTORED LOAD IS 95 KIPS PER PILE FOR THE ABUTMENT PILES.

ABUTMENT PILES:

HP10x42 PILES 20 FEET LONG, ORDER LENGTH.



DETAIL 1

SFN
0964737
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200
DESIGNER MRS | CHECKER EDA
REVIEWER BSM 09-20-24
PROJECT ID 117001
SUBSET 2 | TOTAL 8
SHEET P.77 | TOTAL 161

MODEL: Sheet PAPERSIZE: 2.83333x1.83333 (ft.) DATE: 10/3/2024 TIME: 11:08:47 AM USER: msturdevant
V:\1736\active\173620161\engineering\117001\400-Engineering\Structures\SFN_0000001 (Oxford Trail Bridge)\Sheets\117001_SFN01_SN001.dgn

ITEM 530, STRUCTURES - PREFABRICATED BRIDGE

1.0 GENERAL
1.1 SCOPE
THESE SPECIFICATIONS ARE FOR FULLY ENGINEERED HALF THROUGH TRUSS (NO OVERHEAD BRACING) BRIDGE OF STEEL CONSTRUCTION AND SHALL BE REGARDED AS MINIMUM STANDARDS FOR DESIGN AND FABRICATION. THE WORK INCLUDED UNDER THIS ITEM SHALL CONSIST OF DESIGN, FABRICATING, FINISHING AND TRANSPORTING THE STEEL TRUSS BRIDGE SUPERSTRUCTURE INCLUDING BEARINGS.

1.2 QUALIFIED BRIDGE MANUFACTURER
EACH CONTRACTOR IS REQUIRED TO IDENTIFY THEIR INTENDED SUPPLIER AS PART OF THE BID SUBMITTAL. QUALIFIED BRIDGE MANUFACTURERS MUST HAVE AT LEAST 5 YEARS OF EXPERIENCE FABRICATING THESE TYPES OF STRUCTURES. THE PREFABRICATED TRUSS SUPERSTRUCTURE SHALL BE SUPPLIED BY A MANUFACTURER ON ODOT'S PREQUALIFICATION LIST AS FOUND AT THE FOLLOWING WEBSITE:

HTTPS://WWW.DOT.STATE.OH.US/DIVISIONS/CONSTRUCTIONMGT/MATERIALS/MISCELLANEOUSLIST/STRUCTURALSTEELFABRICATORS.PDF

ALL SUPPLIERS SHALL FABRICATE THEIR PRODUCT UTILIZING A MODERN FABRICATION FACILITY OWNED AND OPERATED BY THE BRIDGE MANUFACTURER THAT INCLUDES THE USE OF CNC BEAM DRILLING MACHINES, NO BROKERS ARE ALLOWED.

1.3 BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL AND SUBMITTALS
THE BRIDGE MANUFACTURER SHALL HAVE AS A DIRECT EMPLOYEE, AN ENGINEER WHO IS EXPERIENCED IN BRIDGE DESIGN TO BE IN RESPONSIBLE CHARGE OF ALL ENGINEERING RELATED TASK AND DESIGN. THE ENGINEER SHALL HAVE A MINIMUM OF 10 YEARS OF EXPERIENCE IN BRIDGE DESIGN AND BE A CURRENTLY LICENSED CIVIL OR STRUCTURAL PROFESSIONAL ENGINEER IN THE STATE OF OHIO AND SHALL BE THE ENGINEER WHO WILL SEAL AND SIGN THE PLANS.

ENGINEERING DRAWINGS, 11X17 FORMAT, SHALL BE PREPARED AND SUBMITTED TO THE CONTRACTOR, ODOT, AND OWNER FOR THEIR REVIEW AFTER RECEIPT OF THE ORDER. SUBMITTAL DRAWINGS SHALL BE UNIQUE DRAWINGS, PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE BRIDGE BEING FABRICATED. ALL RELATIVE DESIGN INFORMATION SUCH AS MEMBER SIZE, ASTM/AASHTO MATERIAL SPECIFICATION, DIMENSIONS NECESSARY TO FABRICATE AND REQUIRED WELDING SHALL BE CLEARLY SHOWN ON THE DRAWINGS. DRAWINGS SHALL HAVE REFERENCED DETAILS AND SHEET NUMBERS. ALL DRAWINGS SHALL BE STAMPED, SIGNED AND DATED BY THE BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL.

STRUCTURAL CALCULATIONS FOR THE DESIGN OF THE BRIDGE SUPERSTRUCTURE SHALL BE PREPARED BY THE BRIDGE MANUFACTURER AND SUBMITTED FOR REVIEW AFTER RECEIPT OF THE ORDER. CALCULATIONS SHALL INCLUDE COMPLETE DESIGN, ANALYSIS AND CODE CHECKS FOR THE CONTROLLING MEMBERS, CONNECTIVITY AND SUPPORT CONDITIONS, TRUSS STABILITY CHECKS, DECK DESIGN, DEFLECTION CHECKS, BEARINGS AND ALL SPLICES.

2.0 APPLICABLE CODES AND STANDARDS
2.1 GOVERNING SPECIFICATIONS
BRIDGE SHALL BE DESIGNED IN COMPLIANCE WITH THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 (AASHTO PED) AND THE OHIO BRIDGE DESIGN MANUAL. CALCULATIONS SHALL BE IN ACCORDANCE WITH THIS DOCUMENT, AND FORMULAS SHALL REFERENCE THE APPROPRIATE SECTIONS.

2.2 OTHER REFERENCE CODES, SPECIFICATIONS AND STANDARDS
- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020 (AASHTO LRFD)
- AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, FIRST EDITION, 2005 (AASHTO SIGNS)
- AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION, 2017 (AISC)
- ANSI/AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 2016 (AISC 360)
- AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE, D1.1, 2015 (AWS D1.1)
- SETRA TECHNICAL GUIDE FOR FOOTBRIDGES, 2006 (SETRA)

THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES SHALL CONTROL IF ANY CONFLICTING REQUIREMENTS OCCUR WITH THE OTHER REFERENCE DOCUMENTS AND/OR OTHER LOCAL CODES.

3.0 BRIDGE SYSTEM TYPE
3.1 TRUSS STYLE
THE TRUSS STYLE SHALL BE THE THE MOST ECONOMICAL STYLE FOR THE GIVEN SPAN LENGTHS. THE VERTICAL TRUSSES SHALL BE DESIGNED SUCH THAT THE TOP AND BOTTOM CHORD MEMBERS ARE PARALLEL FOR THE ENTIRE LENGTH OF BRIDGE. THE INTERIOR VERTICALS OF THE TRUSSES SHALL BE PERPENDICULAR TO THE TOP FACE OF THE BOTTOM CHORD AND THE END VERTICALS OF THE TRUSSES SHALL BE PLUMB. TRUSSES SHALL BE LAID OUT SUCH THAT DIAGONALS SHALL BE AT AN ANGLE OF 30-DEGREES OR MORE WITH RESPECT TO THE BOTTOM CHORD.

3.2 DIAGONAL STYLE
THE VERTICAL TRUSS SHALL USE A SINGLE-DIAGONAL, PRATT CONFIGURATION, WHERE ALL THE DIAGONALS ARE IN TENSION FOR GRAVITY LOADS.

3.3 FLOOR BEAM LOCATION
THE BRIDGE SHALL UTILIZE AN H-SECTION CONFIGURATION WHERE THE ENDS OF THE FLOOR BEAMS ARE WELDED ONLY TO THE INTERIOR FACE OF THE VERTICALS. THE DISTANCE FROM THE TOP OF DECK TO THE BOTTOM OF THE BOTTOM CHORD SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER DURING FINAL DESIGN.

4.0 BRIDGE GEOMETRY
4.1 SPAN LENGTH
THE BRIDGES WILL CONSIST OF SIMPLE SPAN TRUSSES. THE TOTAL DISTANCE OF THE BRIDGE FROM CENTER TO CENTER OF BEARING AT THE ABUTMENTS WILL BE AS SHOWN IN THE PLANS.

4.2 WIDTH
THE BRIDGE WIDTH SHALL PROVIDE A MINIMUM CLEARANCE OF 15'-0" BETWEEN ALL INTERIOR RAILING ELEMENTS.

4.3 TOP OF TRUSS HEIGHT ABOVE DECK
THE TOP OF THE TOP CHORD SHALL NOT BE LESS THAN 48" ABOVE THE DECK (MEASURED FROM THE HIGH POINT OF THE DECK). NOTE THAT THIS DIMENSION MAY BE EXCEEDED DUE TO TRUSS HEIGHT REQUIREMENTS FOR STRUCTURAL, DEFLECTION AND VIBRATION REQUIREMENTS. THE SAME HEIGHT SHALL BE USED FOR BOTH SPANS.

4.4 LOWER STEEL CLEARANCE
THE BRIDGE MANUFACTURER SHALL DETERMINE THE DISTANCE FROM THE TOP OF THE DECK (MEASURED FROM THE HIGHEST POINT OF THE DECK) TO THE BOTTOM OF ANY STEEL MEMBER.

4.5 TRUSS BAY SPACING
THE NUMBER OF BAYS AND THE DIMENSION OF THE PANEL POINTS SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER.

4.6 CAMBER
EACH SINGLE SIMPLE-SPAN BRIDGE SHALL HAVE A VERTICAL CAMBER DIMENSION AT THE MID-SPAN EQUAL TO 100% OF THE ANTICIPATED FULL DEAD LOAD DEFLECTION.

4.7 ELEVATION DIFFERENCE
THE TOP OF THE DECKS AT EACH END OF THE BRIDGE SHALL BE CONSTRUCTED WITH A VERTICAL ELEVATION DIFFERENCE AS SHOWN ON THE PLANS.

5.0 STRUCTURAL DESIGN LOADS
5.1 DEAD LOAD
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR THE TOTAL BRIDGE WEIGHT INCLUDING THE FINAL DECK SYSTEM.

5.2 PEDESTRIAN LOADING (PL)
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR A UNIFORM PEDESTRIAN LOADING OF 90 PSF OR AN H15 TRUCK. THIS LOADING SHALL BE PATTERNED TO PRODUCE THE MAXIMUM LOAD EFFECTS. CONSIDERATION OF DYNAMIC LOAD ALLOWANCE IS NOT REQUIRED WITH THIS LOADING.

5.3 VEHICLE LOAD (VL)
WHEN VEHICULAR ACCESS IS NOT PREVENTED BY PERMANENT PHYSICAL METHODS, THE SUPERSTRUCTURE AND DECK SYSTEM SHALL BE DESIGNED FOR EACH OF THE FOLLOWING CONCENTRATED/VEHICULAR LOADS:
- A CONCENTRATED LOAD OF 1,000 POUNDS PLACED ON ANY AREA 2.5' BY 2.5' SQUARE.
- A SINGLE TRUCK SHALL BE PLACED TO PRODUCE THE MAXIMUM LOAD EFFECTS AND SHALL NOT BE PLACED IN COMBINATION WITH THE PEDESTRIAN LOAD. THE DYNAMIC LOAD ALLOWANCE NEED NOT BE CONSIDERED FOR THIS LOADING. THE TRUCK SHALL BE AN H15 VEHICLE.

5.4 WIND LOAD (WS)
PEDESTRIAN BRIDGES SHALL BE DESIGNED FOR WIND LOADS AS SPECIFIED IN AASHTO SIGNS, ARTICLES 3.8 AND 3.9. THE LOADING SHALL BE APPLIED OVER THE EXPOSED AREA IN FRONT ELEVATIONS OF BOTH TRUSSES INCLUDING ALL ENCLOSURES.

IN ADDITION TO THE WIND LOAD SPECIFIED ABOVE, A VERTICAL UPLIFT LINE LOAD AS SPECIFIED IN AASHTO LRFD ARTICLE 3.8.2 AND DETERMINED AS THE FORCE CAUSED BY A PRESSURE OF 20 PSF OVER THE FULL DECK WIDTH, SHALL BE APPLIED CONCURRENTLY. THIS LOADING SHALL BE APPLIED AT THE WINDWARD QUARTER POINT OF THE DECK WIDTH.

5.5 SEISMIC (EQ)
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR SEISMIC LOADING AS SPECIFIED IN SECTION 3.10 OF AASHTO LRFD. THE TRANSVERSE LOADS SHALL BE CALCULATED CONSIDERING THE TRANSVERSE PERIOD OF THE BRIDGE AND LONGITUDINAL LOADS SHALL BE CALCULATED USING A PERIOD OF ZERO. A RESPONSE MODIFICATION FACTOR OF 0.8 SHALL BE USED FOR THE CALCULATION OF FORCES APPLIED TO THE BRIDGE ANCHORAGE. A RESPONSE MODIFICATION FACTOR OF 1.0 SHALL BE USED FOR THE CALCULATION OF BEARING REACTIONS. THE TRANSVERSE SEISMIC LOAD SHALL BE APPLIED TO ALL THE BEARINGS AND THE LONGITUDINAL SEISMIC LOAD SHALL BE APPLIED TO THE FIXED BEARINGS ONLY. THE VERTICAL BEARING REACTIONS SHALL BE CALCULATED USING AN OVERTURNING FORCE ON THE BRIDGE BASED ON THE CENTER OF GRAVITY OF THE BRIDGE TIMES THE TRANSVERSE SEISMIC LOAD.

5.6 FATIGUE LOAD (FL)
THE FATIGUE LOADING SHALL BE AS SPECIFIED IN SECTION 11 OF AASHTO SIGNS. THE NATURAL WIND GUST SPECIFIED IN ARTICLE 11.7.1.2 AND THE TRUCK-INDUCED GUST SPECIFIED IN ARTICLE 11.7.1.3 OF AASHTO SIGNS ONLY NEED ONLY BE CONSIDERED, AS APPROPRIATE.

5.7 COMBINATION OF LOADS
THE LOAD COMBINATIONS AND LOAD FACTORS TO BE USED SHALL BE AS SPECIFIED IN AASHTO LRFD TABLE 3.4.1-1, WITH THE FOLLOWING EXCEPTIONS:
- LOAD COMBINATIONS STRENGTH II, STRENGTH IV, AND STRENGTH V NEED NOT BE CONSIDERED.
- THE LOAD FACTOR FOR FATIGUE I LOAD COMBINATION SHALL BE TAKEN AS 1.0, AND FATIGUE II LOAD COMBINATION NEED NOT BE CONSIDERED.

6.0 STRUCTURAL DESIGN CRITERIA
STRUCTURAL DESIGN OF THE BRIDGE STRUCTURE SHALL BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF OHIO, WHO IS EXPERIENCED IN TRUSS BRIDGE DESIGN, AND DONE IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRATICES AND PRINCIPLES.

6.1 MODELING
THE BRIDGE SHALL BE MODELED AND ANALYZED UTILIZING A THREE-DIMENSIONAL COMPUTER SOFTWARE WHICH SHALL ACCOUNT FOR MOMENTS INDUCED IN MEMBERS DUE TO JOINT FIXITY WHERE APPLICABLE. MOMENTS DUE TO BOTH TRUSS DEFLECTION AND JOINT ECCENTRICITY MUST BE CONSIDERED. ALL LOADS LISTED IN SECTION 5 OF THESE SPECIFICATIONS SHALL BE APPLIED TO THE MODEL AND ANALYZED APPROPRIATELY.

6.2 LATERAL FRAME AND MEMBER DESIGN
THE BRIDGE SHALL BE DESIGNED AND PROPORTIONED SUCH THAT APPROPRIATE LATERAL STIFFNESS IS PROVIDED LOCALLY AND GLOBALLY, TO ENSURE THAT THE STRUCTURE IS STABLE.

BRIDGE GENERAL NOTES (2)
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 1

SFN 0964737

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

PROJECT ID: 117001

SUBSET	TOTAL
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SHEET	TOTAL
P.78	161

BUT-OXFORD AREA TRAIL PHASE 5

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FOR BRIDGES WITHOUT ANY OVERHEAD MEMBERS (HALF-THROUGH TRUSSES), THE VERTICAL TRUSS MEMBERS, THE FLOOR BEAMS AND THEIR CONNECTIONS SHALL BE PROPORTIONED TO RESIST A LATERAL FORCE APPLIED AT THE TOP OF THE TRUSS VERTICALS AT THE CENTER OF THE TOP CHORD. THIS LATERAL FORCE SHALL BE APPLIED AS AN ADDITIONAL LOAD TO THE TOP OF THE VERTICAL AT THE CENTER OF THE TOP CHORD, CREATING A CANTILEVER MOMENT, WHICH IS THEN ADDED TO THE FORCES OBTAINED FROM THE THREE-DIMENSIONAL MODEL. THE MAGNITUDE OF THIS LATERAL FORCE SHALL NOT BE LESS THAN 0.01/K TIMES THE AVERAGE FACTORED DESIGN COMPRESSIVE FORCE IN THE TWO ADJACENT TOP CHORD MEMBERS INCREASED BY A FACTOR OF SAFETY OF 1.33.

THE TOP CHORD SHALL BE ANALYZED AS A COLUMN WITH ELASTIC LATERAL SUPPORTS AT THE PANEL POINTS, CONSIDERING ALL MOMENTS DUE TO IN-PLANE AND OUT-OF-PLANE BENDING, ALONG WITH MOMENTS DUE TO ECCENTRICITIES OF THE MEMBERS.

THE U-FRAME STIFFNESS OF THE VERTICALS AND FLOOR BEAMS SHALL BE AS SPECIFIED IN AASHTO PED ARTICLE 7.1.2, ASSUMING THAT THE VERTICAL AND FLOOR BEAM CONNECTION IS RIGID. THIS MEANS THAT THE FOLLOWING MUST BE MET:

- ON H-SECTION FLOOR BEAM CONNECTIONS, THE FLOOR BEAM WIDTH SHALL BE AT LEAST 80% OF THE VERTICAL FACE WIDTH IN ORDER TO PREVENT ANY DEFORMATION DUE TO TUBE WALL PLASTIFICATION OF THE VERTICAL MEMBER FACES UNDER SERVICE LOADS. THE CONNECTION DESIGN WILL BE CHECKED AT STRENGTH I & STRENGTH III LOAD COMBINATIONS.
- ON UNDERHUNG FLOOR BEAM CONNECTIONS, THE VERTICAL WIDTH SHALL MATCH THE BOTTOM CHORD WIDTH IN ORDER TO TRANSFER VERTICAL MOMENTS THROUGH THE WALLS OF THE BOTTOM CHORD TO THE VERTICALS WITH NO DEFORMATION OF THE CHORD SIDE WALLS DUE TO SIDEWALL YIELDING OR CRIPPLING UNDER SERVICE LOADS. THE CONNECTION DESIGN WILL BE CHECKED AT STRENGTH I & STRENGTH III LOAD COMBINATIONS.
- THE VERTICAL AND FLOOR BEAM MEMBERS SHALL NOT BE CONNECTED TO FACES OF THE BOTTOM CHORD AT A 90-DEGREES TO ONE ANOTHER.
- ALL FIXED END MOMENTS IN THE FLOOR BEAMS AND VERTICALS DUE TO FLOOR BEAM ROTATIONS, IN ADDITION TO THE LOADS DERIVED FROM A U-FRAME ANALYSIS HAVE BEEN ACCOUNTED FOR IN THE STRENGTH DESIGN OF THE CONNECTIONS.

THE VERTICAL AND FLOOR BEAM MEMBERS SHALL BE PROPORTIONED SUCH THAT THE EFFECTIVE LENGTH FACTOR, K, USED IN THE DESIGN OF THE TOP CHORD SHALL NOT BE GREATER THAN 2.0.

THE END VERTICALS SHALL BE DESIGNED AS A SIMPLE CANTILEVER TO CARRY THE LOADS OBTAINED FROM THE THREE-DIMENSIONAL MODEL, PLUS THE CANTILEVER MOMENT DUE TO A LATERAL LOAD OF 0.01 TIMES THE AXIAL FORCE IN THE END VERTICAL, APPLIED LATERALLY AT THE TOP END OF THE END VERTICAL AT THE CENTER OF THE TOP CHORD.

THE FLOOR BEAMS SHALL BE SIZED FOR THE FORCES OBTAINED FROM A SIMPLE SPAN, PINNED END ANALYSIS, OR FROM THE FORCES OBTAINED FROM THE THREE-DIMENSIONAL MODEL, WHICHEVER CONTROLS.

THE DIAGONALS AND BRACE DIAGONALS SHALL BE ANALYZED AS PINNED-END CONNECTION MEMBERS.

INTERIOR VERTICALS SHALL BE ANALYZED AS PINNED-END CONNECTIONS UNLESS LONGITUDINAL FORCES ARE APPLIED TO THE VERTICALS SUCH AS WHEN THE BRACE DIAGONALS ARE CONNECTED TO FLOOR BEAMS ON AN H-SECTION FLOOR BEAM CONFIGURATION. WHEN LONGITUDINAL FORCES ARE APPLIED TO THE VERTICALS THEY SHALL BE ANALYZED AS FIXED-END CONNECTIONS.

ALL OTHER MEMBERS SHALL BE ANALYZED AS FIXED-END CONNECTIONS.

HSS MEMBER CONNECTIONS SHALL BE EVALUATED PER THE REQUIREMENTS OF AISC 360 CHAPTERS J & K.

6.3 DEFLECTIONS
THE VERTICAL DEFLECTION OF THE BRIDGE DUE TO THE UNFACTORED PEDESTRIAN LIVE LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.DEFLECTIONS
THE VERTICAL DEFLECTION OF THE BRIDGE DUE TO THE UNFACTORED PEDESTRIAN LIVE LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.

THE HORIZONTAL DEFLECTION OF THE BRIDGE UNDER UNFACTORED WIND LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.

6.4 FRACTURE CRITICAL MEMBERS (FCM)
ALL ITEMS DESIGNATED FCM ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS AND SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIRMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. TUBULAR FCM AND CMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 8.2.3 - TUBULAR FRACTURE CRITICAL MEMBERS OF THE LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.

6.5 VIBRATIONS
VIBRATION OF THE STRUCTURE SHALL NOT CAUSE DISCOMFORT OR CONCERN TO THE USERS OF THE BRIDGES. TO ASSURE THIS, THE FUNDAMENTAL FREQUENCY (F) OF THE PEDESTRIAN BRIDGE IN THE VERTICAL DIRECTION, WITHOUT LIVE LOAD, SHALL BE GREATER THAN 3.0 HERTZ (HZ) TO AVOID THE FIRST HARMONIC. THE FUNDAMENTAL FREQUENCY OF THE PEDESTRIAN BRIDGE IN THE LATERAL DIRECTION, SHALL BE GREATER THAN 1.3 HZ. IF THE FUNDAMENTAL FREQUENCY CANNOT SATISFY THESE LIMITATIONS, THEN THE BRIDGE SHOULD BE PROPORTIONED SUCH THAT EITHER OF THE FOLLOWING CRITERIA ARE SATISFIED:

$$F > 2.86 * LN(180/W$$

OR

$$W > 180 * E^{(-0.35*F)}$$

WHERE W IS THE WEIGHT OF THE BRIDGE IN KIPS AND F IS THE FUNDAMENTAL FREQUENCY IN THE VERTICAL DIRECTION IN HZ.

FOR BRIDGES LONGER THAN 85 FT AND SHORTER THAN 125 FT THE VERTICAL AND HORIZONTAL VIBRATION MUST ALSO MEET THE REQUIREMENTS FOR BRIDGE CLASS III WITH A MEAN COMFORT LEVEL IN ACCORDANCE WITH SETRA.

7.0 DECK SYSTEM
7.1 DECK SYSTEM
DECK TO BE COMPRISED OF REINFORCED CONCRETE, 6-INCH MINIMUM THICKNESS, DESIGNED TO SPAN FROM FLOOR BEAM TO FLOOR BEAM.

REINFORCED CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (145 POUNDS PER CUBIC FOOT MAXIMUM) AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS, WITH AN AIR CONTENT OF 6% +/- 1.5%.

CONCRETE MIX DESIGN, MATERIALS, QUALITY, MIXING, PLACEMENT, FINISHING AND TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT C&MS 499 AND 511.

THE SURFACE OF DECK CONCRETE SHALL BE FINISHED WITH A SIDEWALK FINISH ODOT C&MS 511.18.

STAY-IN-PLACE GALVANIZED (G90 COATING) METAL FORM DECK SHALL BE USED AND SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF THE WET CONCRETE PLUS A 20 POUNDS PER SQUARE FOOT CONSTRUCTION LOAD. FORM DECK SHALL BE SHOP ATTACHED TO FLOOR BEAMS VIA SELF-DRILLING FASTENERS, WELDING OR POWER ACTUATED FASTENERS. WELDING SHALL NOT BE USED ON PAINTED OR GALVANIZED BRIDGES. THE LONGITUDINAL SHEET LAPS SHALL BE ATTACHED WITH SELF-DRILLING SELF-TAPPING FASTENERS AT 36-INCH MAXIMUM SPACING. THE ATTACHMENT OF THE FORM DECK TO THE FLOOR BEAMS IS ONLY NECESSARY TO KEEP THE FORM DECK IN PLACE DURING TRANSPORTATION AND DURING THE CONCRETE PLACEMENT. THE FORM DECK IS NOT TO BE USED FOR DIAPHRAGM ACTION OR COMPOSITE ACTION AND PROVIDES NO STRUCTURAL BENEFIT TO THE TRUSS OR THE DECK AFTER THE CONCRETE IS SET. METAL FORM DECK PANELS SHALL BE OF A LENGTH TO SPAN A MINIMUM OF TWO BAYS OF THE TRUSS SUPPORTS. THE TOP OF DECK TO BOTTOM OF FORM DECK SHALL BE AS REQUIRED TO SUPPORT THE ANTICIPATED LOADS BUT SHALL NOT BE LESS THAN 5".

THE CONCRETE DECK SHALL BE DESIGNED TO SPAN LONGITUDINALLY FROM FLOOR BEAM TO FLOOR BEAM AND TO SUPPORT THE LOADS SPECIFIED IN SECTION 5.0 OF THESE SPECIFICATIONS.

A DISTRIBUTION WIDTH OF DECK IS ALLOWED, TO SUPPORT THE ANTICIPATED VEHICLE WHEEL LOADS. THIS DISTRIBUTION WIDTH (E IN FEET) SHALL BE THE NARROWER OF THE FOLLOWING:

* $E = 4 + .06S$
  - WHERE S IS THE FLOOR BEAM SPACING MINUS ONE-HALF OF THE FLOOR BEAM WIDTH.
* ONE-HALF OF THE TOTAL DRIVING WIDTH OF THE BRIDGE
* 0.75 TIMES THE LATERAL WHEEL SPACING OF THE VEHICLE.
* $0.6S + \text{WHEEL WIDTH}$
  - WHERE S IS THE FLOOR BEAM SPACING MINUS ONE-HALF OF THE FLOOR BEAM WIDTH.
  - THE WHEEL WIDTH (IN INCHES) IS $2.5 * \sqrt{((0.01*P)/2.5)}$, WHERE P IS THE WHEEL LOAD IN POUNDS

REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 EPOXY COATED BARS. ALL BAR BENDS, ANCHORAGE AND SPLICES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS. TOP REINFORCING SHALL HAVE A MINIMUM CLEARANCE OF 2" TO THE TOP OF DECK.

BRIDGE MANUFACTURER SHALL DESIGNATE THE ESTIMATED SLAB THICKNESS AND REINFORCING REQUIREMENTS AT TIME OF QUOTATION. THESE ESTIMATES ARE TO BE USED FOR QUOTING PURPOSES ONLY. ACTUAL QUANTITIES MAY VARY DURING THE FINAL DESIGN PROCESS, WITH COSTS VARIANCES DUE TO ANY CHANGES TO THE QUANTITIES BEING THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUPPLY ALL CONCRETE AND REINFORCING MATERIALS.

8.0 MATERIALS OF CONSTRUCTION
8.1 STRUCTURAL STEEL
ALL MEMBERS OF THE TRUSS AND DECK SUPPORT SYSTEM SHALL BE FABRICATED FROM SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SHAPES (HSS), WITH THE EXCEPTION THAT FLOOR BEAMS MAY BE WIDE FLANGE SHAPES. ALL OPEN ENDS OF END POSTS AND FLOOR SUPPORT BEAMS SHALL BE CAPPED. DRAIN HOLES SHALL BE PROVIDED FOR ALL SECTIONS AT THE LOW POINT OF THE MEMBER THAT MAY BECOME FILLED WITH WATER.

ALL BRIDGES SHALL BE FABRICATED USING A847 FOR HSS SECTIONS AND A588 FOR STRUCTURAL SHAPES AND PLATES.

MINIMUM NOMINAL THICKNESS OF PRIMARY HOLLOW STRUCTURAL SHAPES SHALL BE 1/4". ROLLED SHAPES SHALL HAVE A MINIMUM THICKNESS OF 1/4".

8.2 FASTENERS
STRUCTURAL BOLTS USED TO FIELD SPLICE OR CONNECT ALL MAIN MEMBERS SHALL BE ASTM F3125 GRADE A325. THE NUTS FOR THESE STRUCTURAL BOLTS SHALL BE ASTM A563. THE BRIDGE MANUFACTURER SHALL DETERMINE THE FINISH OF THE STRUCTURAL BOLTS. THEY WILL BE EITHER TYPE 3 (WEATHERING) OR TYPE 1 (HOT-DIPPED OR MECHANICALLY GALVANIZED) AS SPECIFIED BY THE BRIDGE MANUFACTURER.

SELF-DRILLING FASTENERS FOR ATTACHMENT OF THE FORM DECKING SHALL BE #14 X 1" ZINC PLATED HEX WASHER HEAD TEK SCREWS.

POWER ACTUATED FASTENERS SHALL BE HILTI SHEET METAL NAIL X-ENP-19 FASTENER.

OTHER MISCELLANEOUS FASTENERS SHALL BE ASTM A307 ZINC PLATED OR GALVANIZED, AS DETERMINED BY THE BRIDGE MANUFACTURER.

9.0 FINISH
FOR CORROSION RESISTANT HIGH-STRENGTH LOW-ALLOY (WEATHERING) STEEL NO SURFACE FINISH TREATMENT IS NECESSARY. ALL EXPOSED SURFACES OF STRUCTURAL STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 6, SSPC-SP6 COMMERCIAL BLAST CLEANING. EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK OR FROM THE OUTSIDE AND BOTTOM OF THE STRUCTURE. ALL OTHER SURFACES TO HAVE STANDARD MILL FINISH. THE STEEL WILL BE ALLOWED TO FORM A PROTECTIVE WEATHERING PATINA OVER TIME.

10.0 ATTACHMENTS
10.1 SAFETY RAILS
SAFETY RAIL SYSTEM SHALL BE PLACED ON THE INSIDE OF THE STRUCTURE, SPACED SO AS TO PREVENT A 4" SPHERE FROM PASSING THROUGH THE SIDE TRUSS FOR THE FULL HEIGHT OF THE SIDE TRUSS, OR 48", WHICHEVER IS LESS. THE TOP OF THE TOP CHORD MAY BE CONSIDERED THE TOP OF THE RAIL SYSTEM.

RAIL SYSTEM SHALL CONSIST OF VERTICAL PICKETS IN BETWEEN HORIZONTAL TOP AND BOTTOM RAILS. THE TOP AND BOTTOM HORIZONTAL RAIL SHALL BE HSS 1 X 1 X 1/8 WELDED DIRECTLY TO THE TRUSS VERTICALS. IN BETWEEN THESE RAILS, VERTICAL PICKETS SHALL BE ½" ROUND BAR WELDED TO THE TOP AND BOTTOM RAIL. THE MAXIMUM UNSUPPORTED LENGTH SHALL BE 7'-0" IF PLACED ON THE INSIDE OF THE STRUCTURE AND 8'-0" IF PLACED ON THE OUTSIDE OF THE STRUCTURE. IF THE VERTICAL SPACING IS GREATER THAN THE MAXIMUM UNSUPPORTED LENGTH, MID-BAY SUPPORTS WILL BE REQUIRED. WHEN THE RAIL SYSTEM IS PLACED ON THE INSIDE OF THE STRUCTURE AND NOT COVERED BY THE END VERTICAL, THE ENDS OF THE HORIZONTAL RAILS NEAR THE END OF THE BRIDGE SHALL BE CAPPED AND GROUND SMOOTH. IF A TOE PLATE IS ALSO SPECIFIED, THEN THE BOTTOM HORIZONTAL RAIL MAY BE MODIFIED TO BE USED AS A STEEL TOE PLATE AS SPECIFIED. IF A RUB RAIL IS ALSO SPECIFIED, THEN THE TOP HORIZONTAL RAIL MAY BE MODIFIED TO BE USED AS A STEEL RUB RAIL AS SPECIFIED.

EACH ELEMENT OF THE PEDESTRIAN RAIL SYSTEM SHALL BE DESIGNED TO THE STANDARDS SET FORTH IN SECTION 13.10 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 9TH EDITION FOR COMBINATION RAILINGS.

GENERAL NOTES (3)
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 1

BUT-OXFORD AREA TRAIL PHASE 5

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0964737

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

PROJECT ID
117001

SUBSET	TOTAL
4	8

SHEET	TOTAL
P.79	161

10.2 PIPE HANDRAIL
AN 8-INCH WIDE SMOOTH RUB RAIL SHALL BE INSTALLED ON EACH SIDE OF THE BRIDGE, SET TO EXTEND FROM 40 INCHES TO 48 INCHES ABOVE THE DECK.

10.3 EXPANSION JOINT
THE GAP BETWEEN THE END OF THE BRIDGE DECK AND THE BACK WALL OF THE FOUNDATION SYSTEM SHALL BE SIZED TO ACCOMMODATE BRIDGE MOVEMENTS DUE TO THERMAL EXPANSION OF THE BRIDGE OVER THE DESIGN TEMPERATURE RANGE. THE GAPS AT THE PIER AND ABUTMENTS SHALL BE COVERED WITH A STEEL COVER WHICH ATTACHES TO THE BRIDGE AND EXTENDS OVER THE GAP AND ONTO THE ADJOINING DECK OR TOP OF THE FOUNDATION SYSTEM BACK WALL. THE STEEL COVER SHALL HAVE ITS EDGES ROUNDED OR BEVELED AT A 45- DEGREE ANGLE.

11.0 BEARINGS
11.1 BEARING TYPE
BEARING TYPE AND SIZE SHALL BE DESIGNED BY THE BRIDGE MANUFACTURER BASED ON ANTICIPATED LOADS AND MOVEMENTS.

11.2 DESIGN TEMPERATURE RANGE THE DESIGN TEMPERATURE RANGE WILL BE 150 DEGREES PER ODOT BDM S1003.21 WITH AN ASSUMED ERECTION TEMPERATURE OF 60 DEGREES.

11.3 NON-SHRINK GROUTING
THE BRIDGE WILL BE SUPPLIED WITH A LOWER SETTING PLATE. THIS SETTING PLATE SHALL BE LEVELED AND SHIMMED TO THE PROPER ELEVATION. THE SPACE BETWEEN THE LOWER SURFACE OF THE SETTING PLATE AND THE FOUNDATION SURFACE SHALL BE FILLED WITH A NON-SHRINK GROUT CAPABLE OF ACHIEVING A MINIMUM COMPRESSIVE STRENGTH EQUAL TO OR GREATER THAN THE STRENGTH OF THE FOUNDATION CONCRETE. THE COST OF THE LEVELING, SHIMMING, AND NON-SHRINK GROUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

12.1 ANCHOR BOLTS
BRIDGE MANUFACTURER SHALL DESIGN THE DIAMETER AND GRADE OF ANCHOR BOLTS, BASED ON THE SHEAR AND TENSILE STRENGTH OF THE ANCHOR BOLT MATERIAL ONLY. ALL DESIGN CONSIDERATIONS REGARDING CONCRETE BREAKOUT STRENGTH IN SHEAR AND TENSION, PULLOUT STRENGTH, CONCRETE SIDE-FACE BLOWOUT STRENGTH, CONCRETE PRY OUT STRENGTH, EMBEDMENT DEPTH, TYPE OF ANCHORAGE OR ANY OTHER CONCRETE FAILURE MODES ARE THE RESPONSIBILITY OF THE FOUNDATION ENGINEER AND SHALL BE SHOWN ON THE FINAL CONTRACT PLANS. ALL ANCHOR BOLTS SHALL BE GALVANIZED. THE FOUNDATION ENGINEER SHALL DETERMINE IF THE ANCHOR BOLTS SHALL BE CAST-IN-PLACE, DRILLED/EPOXY, OR EXPANSION ANCHORS. ANCHOR BOLTS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.

13.0 FABRICATION
13.1 WELDING
WELDING PROCEDURES AND WELD QUALIFICATION TEST PROCEDURES SHALL CONFORM TO THE PROVISIONS OF AWS D1.1. FILLER METAL SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWS FILLER METAL SPECIFICATION AND SHALL MATCH THE CORROSION PROPERTIES OF THE BASE METAL.

13.2 WELDERS
WELDERS SHALL BE QUALIFIED FOR EACH PROCESS AND POSITION USED WHILE FABRICATING THE BRIDGE. QUALIFICATION TESTS SHALL BE IN ACCORDANCE WITH AWS D1.1. ALL WELD QUALIFICATIONS AND RECORDS SHALL BE KEPT IN ACCORDANCE WITH THE FABRICATOR'S QUALITY ASSURANCE MANUAL WHICH HAS BEEN APPROVED AND AUDITED BY AISC AS THE BASIS FOR CERTIFICATION.

13.3 SHOP SPLICES
SHOP SPLICES FOR MAIN TRUSS MEMBERS SHALL BE FULL PENETRATION WELDS ALL AROUND THE PERIMETER OF THE MEMBER. THESE SHOP SPLICES SHALL BE PERFORMED USING A FULL PERIMETER BACKING PLATE. AFTER WELDING OF THE SHOP SPLICES, THE WELD SHALL BE GROUND SMOOTH TO MATCH THE PERIMETER OF THE MEMBER. GRINDING THESE WELDS SMOOTH IS REQUIRED AND WILL BE GROUNDS FOR REJECTION OF THE BRIDGE UPON DELIVERY IF NOT COMPLETED.

SHOP SPLICES FOR ALL HORIZONTAL RAIL COMPONENTS TO BE LOCATED AT THE CENTERLINE OF THE TRUSS VERTICALS, EACH END WELDED TO THE TRUSS VERTICAL AND SEAL WELDED TOGETHER. EXPOSED SURFACE OF THE SEAL WELDS AS SEEN FROM THE DECK SHALL BE GROUND SMOOTH.

SHOP SPLICED FOR ALL HORIZONTAL STRINGERS TO BE LOCATED AT THE CENTERLINE OF THE FLOOR BEAMS, EACH END WELDED TO THE FLOOR BEAM AND SEAL WELDED TOGETHER.

13.4 BOLTED SPLICES
FOR SHIPPING PURPOSES, THE BRIDGE MAY BE FABRICATED IN SECTIONS. SECTIONS SHALL BE FIELD ASSEMBLED USING BOLTED CONNECTIONS. NO FIELD WELDING OF MEMBERS SHALL BE ALLOWED.

THE CHORD MEMBERS OF THE BRIDGE SHALL BE BOLTED SUCH THAT AT LEAST TWO FACES OF THE MEMBER ARE BOLTED. THIS IS TO PROVIDE REASONABLE FORCE DISTRIBUTION AROUND THE PERIMETER OF THE MEMBER. BOLTED SPLICES SHALL BE DESIGNED AND FABRICATED SUCH THAT THE HEAD OF THE BOLT AND WASHER ARE THE ONLY ITEM EXPOSED. NO THROUGH-BOLTING OF THE MEMBER IS ALLOWED. THE NUTS OF THE FASTENER CANNOT BE WELDED TO THE INTERNAL SPLICE PLATE AND SHALL BE HELD IN PLATE WITH A NUT CAPTURE SYSTEM PER PATENT US 10,267,345 B2 OR EQUAL.

THE DIAGONALS AND BRACE DIAGONALS SHALL BE BOLTED UTILIZING A THROUGH-BOLT SYSTEM WITH PLATES ON THE EXTERIOR FACES OF THE MEMBERS. AN INTERNAL STIFFENING PLATE IS REQUIRED TO KEEP THE MEMBER FROM CRUSHING DURING THE BOLT TIGHTENING PROCESS.

ALL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED OR SLIP-CRITICAL CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS. RECOMMENDED TIGHTENING METHOD OF ALL STRUCTURAL BOLTS SHALL BE TURN-OF-THE-NUT PRETENSIONING.

14.0 QUALITY CONTROL
14.1 AISC CERTIFICATION
THE BRIDGE SHALL BE FABRICATED IN A SHOP OWNED BY THE BRIDGE MANUFACTURER. THIS FACILITY SHALL HAVE UP TO DATE QUALITY CERTIFICATION BY AISC AS CERTIFIED BRIDGE FABRICATOR - ADVANCED (MAJOR) WITH FRACTURE CRITICAL ENDORSEMENT AND COMPLEX COATING ENDORSEMENT (P1-ENCLOSED OR P2-COVERED).

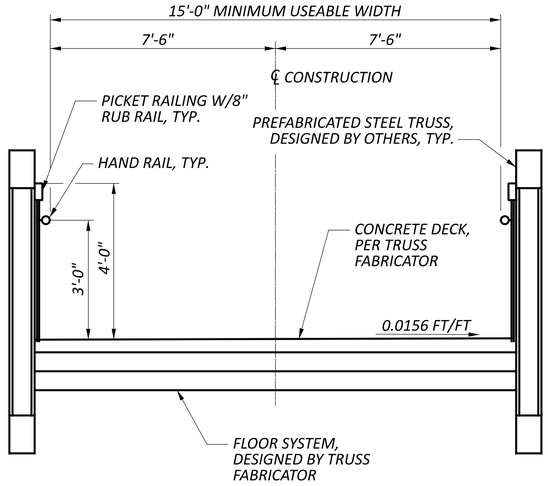
14.2 CERTIFIED WELD INSPECTOR
THE BRIDGE MANUFACTURER SHALL EMPLOY AT LEAST TWO CERTIFIED WELD INSPECTORS (CWI), WITH ENDORSEMENT BY AWS QC1. AT LEAST ONE CWI SHALL BE PRESENT DURING THE COMPLETE FABRICATION OF THE BRIDGE. THE CWI SHALL PROVIDE WRITTEN DOCUMENTATION THAT THE BRIDGE HAS BEEN FABRICATED IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPROVED DESIGN DRAWINGS.

14.3 DOCUMENTATION
MATERIAL CERTIFICATIONS SHALL BE AVAILABLE FOR REVIEW FOR ALL MATERIALS WITHIN THE BRIDGE. TRACEABILITY OF HEAT NUMBERS IS REQUIRED FOR ALL STRUCTURAL STEEL.

DOCUMENTATION SHOWING THE PERFORMANCE OF ALL CRITICAL QUALITY CHECKS SHALL ALSO BE MADE AVAILABLE FOR REVIEW BY THE ENGINEER OR OWNER.

14.4 NON-DESTRUCTIVE TESTING
ALL WELDS WITHIN THE STRUCTURE, SHALL BE VISUALLY INSPECTED FOR CONFORMANCE TO SIZE, UNDER CUT, PROFILE AND FINISH.

ALL SHOP SPLICES OF MAIN TRUSS MEMBERS SHALL BE MAGNETIC PARTICLE



TYPICAL SECTION
PREFABRICATED STEEL TRUSS

15.0 DELIVERY AND ERECTION
15.1 DELIVERY
DELIVERY SHALL BE MADE VIA TRUCK TO A LOCATION NEAREST THE SITE WHICH IS ACCESSIBLE TO NORMAL OVER-THE-ROAD EQUIPMENT. ALL TRUCKS DELIVERING BRIDGE MATERIALS WILL NEED TO BE UNLOADED AT THE TIME OF ARRIVAL. IF THE ERECTION CONTRACTOR NEEDS SPECIAL DELIVERY OR DELIVERY IS RESTRICTED, THEY SHALL NOTIFY THE BRIDGE MANUFACTURER PRIOR TO BID DATE. THIS INCLUDES SITE ISSUES WHICH MAY PREVENT OVER-THE-ROAD EQUIPMENT FROM ACCESSING THE SITE. STEERABLE DOLLIES ARE NOT USED IN THE COST PROVIDED BY THE BRIDGE MANUFACTURER. DETERMINING THE LENGTH OF BRIDGE SECTION WHICH CAN BE DELIVERED IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COMMUNICATED TO THE BRIDGE MANUFACTURER PRIOR TO THE BID DATE.

15.2 INSTALLATION & LIFTING PROCEDURES.
THE BRIDGE MANUFACTURER WILL PROVIDE STANDARD TYPICAL WRITTEN PROCEDURES FOR LIFTING AND SPLICING THE BRIDGE. ALL ACTUAL MEANS, METHODS, EQUIPMENT AND SEQUENCE OF ERECTION USED ARE THE RESPONSIBILITY OF THE CONTRACTOR.

16.0 WARRANTY
THE BRIDGE MANUFACTURER SHALL WARRANT, AT THE TIME OF DELIVERY, THAT IT HAS CONVEYED GOOD TITLE TO ITS STEEL STRUCTURE, FREE OF LIENS AND ENCUMBRANCES CREATED BY THE BRIDGE MANUFACTURER, AND THAT ITS STEEL STRUCTURE IS FREE OF DEFECTS IN DESIGN, MATERIAL AND WORKMANSHIP. THIS WARRANTY SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR FROM THE EARLIER DATE OF DELIVERY OR 60 DAYS AFTER FINAL FABRICATION IS COMPLETE. PAINT, GALVANIZING AND OTHER SPECIAL COATINGS, IF WARRANTED, SHALL BE WARRANTED BY THE COATING MANUFACTURER IN ACCORDANCE WITH THEIR WARRANTY PROVISIONS AND ARE NOT COVERED UNDER THE BRIDGE MANUFACTURER'S WARRANTY.

THIS WARRANTY SHALL NOT COVER DEFECTS IN THE STEEL STRUCTURE CAUSED BY ABUSE, MISUSE, OVERLOADING, ACCIDENT, IMPROPER INSTALLATION, MAINTENANCE, ALTERATION, OR ANY OTHER CAUSE NOT EXPRESSLY WARRANTED. THIS WARRANTY SHALL NOT COVER DAMAGE RESULTING FROM OR RELATING TO THE USE OF ANY KIND OF DE-ICING MATERIAL. THIS WARRANTY SHALL BE VOID UNLESS OWNER'S RECORDS ARE SUPPLIED THAT SHOW COMPLIANCE WITH THE MINIMUM GUIDELINES SPECIFIED IN THE IN THE BRIDGE MANUFACTURER'S INSPECTION AND MAINTENANCE PROCEDURES.

REPAIR, REPLACEMENT, OR ADJUSTMENT, IN BRIDGE MANUFACTURER'S SOLE DISCRETION, SHALL BE THE EXCLUSIVE REMEDY FOR ANY DEFECTS UNDER THIS WARRANTY. THIS WARRANTY SHALL EXCLUDE LIABILITY FOR ANY INDIRECT, CONSEQUENTIAL, OR INCIDENTAL DAMAGES.

17.0 PAYMENT
ITEM 530, SPECIAL - STRUCTURES, PREFABRICATED BRIDGE, WILL BE PAID FOR AT THE LUMP SUM CONTRACT UNIT PRICE. THIS WORK SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO DESIGN, FURNISH, UNLOAD, ERECT AND INSTALL THE ENTIRE SUPERSTRUCTURE WITH APPURTENANCES (INCLUDING, BUT NOT LIMITED TO: CONCRETE DECK, BEARINGS, RAILINGS AND JOINT PLATES)

BUT-OXFORD AREA TRAIL PHASE 5

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GENERAL NOTES (4)
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 1

SFN 0964737

DESIGN AGENCY

Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER BSM 09-20-24

PROJECT ID 117001

SUBSET	TOTAL
5	8

SHEET	TOTAL
P.80	161

ESTIMATED QUANTITIES								
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER.	GEN.	SHEET NO.
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING			LUMP	
503	21300	LUMP	LS	UNCLASSIFIED EXCAVATION	LUMP			
507	00101	320	FT	STEEL PILES HP10X42, FURNISHED, AS PER PLAN	320			2 | 8
507	92201	160	FT	PREBORED HOLES, AS PER PLAN	160			2 | 8
509	10000	6612	LB	EPOXY COATED REINFORCING STEEL	6612			
511	43512	73	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	73			
518	20000	55	SY	PREFABRICATED GEOCOMPOSITE DRAIN	55			
518	40000	56	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	56			
518	40010	88	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	88			
SPECIAL	53000200	LUMP	LS	STRUCTURE, MISC.: PREFABRICATED BRIDGE, 81'-0" SPAN		LUMP		
601	32204	65	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC			65	

BUT-OXFORD AREA TRAIL PHASE 5

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ESTIMATED QUANTITIES
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 1

SFN
0964737

DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

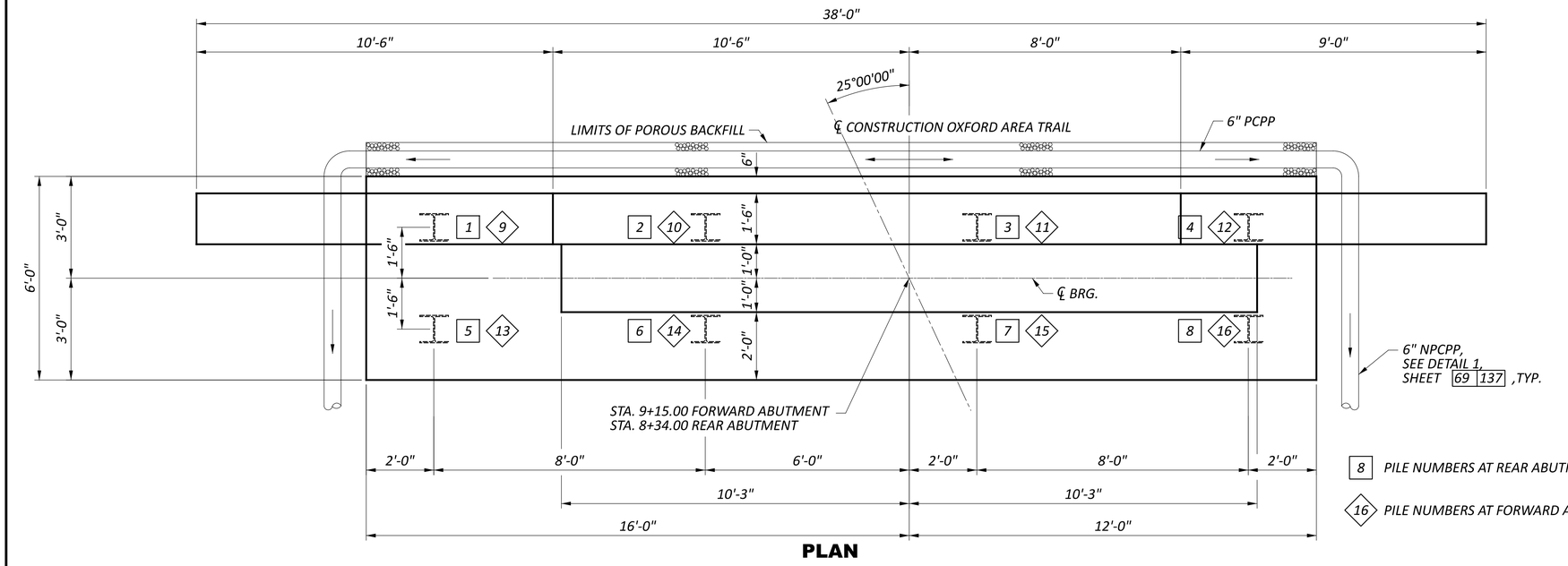
DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

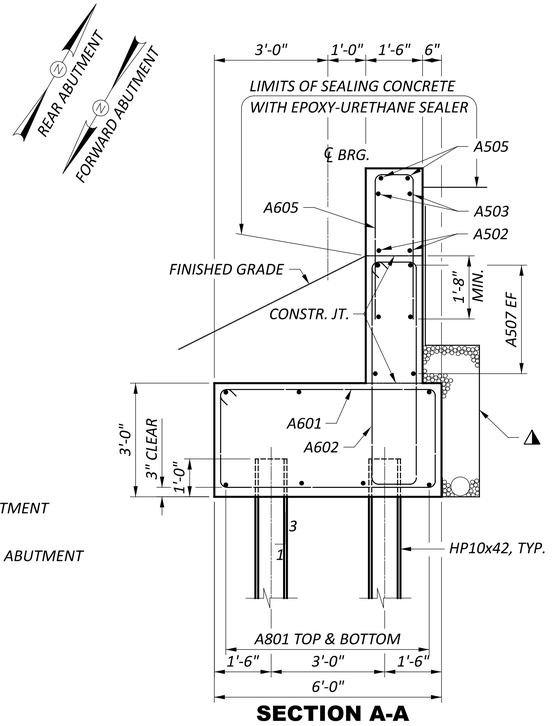
PROJECT ID
117001

SUBSET	TOTAL
6	8

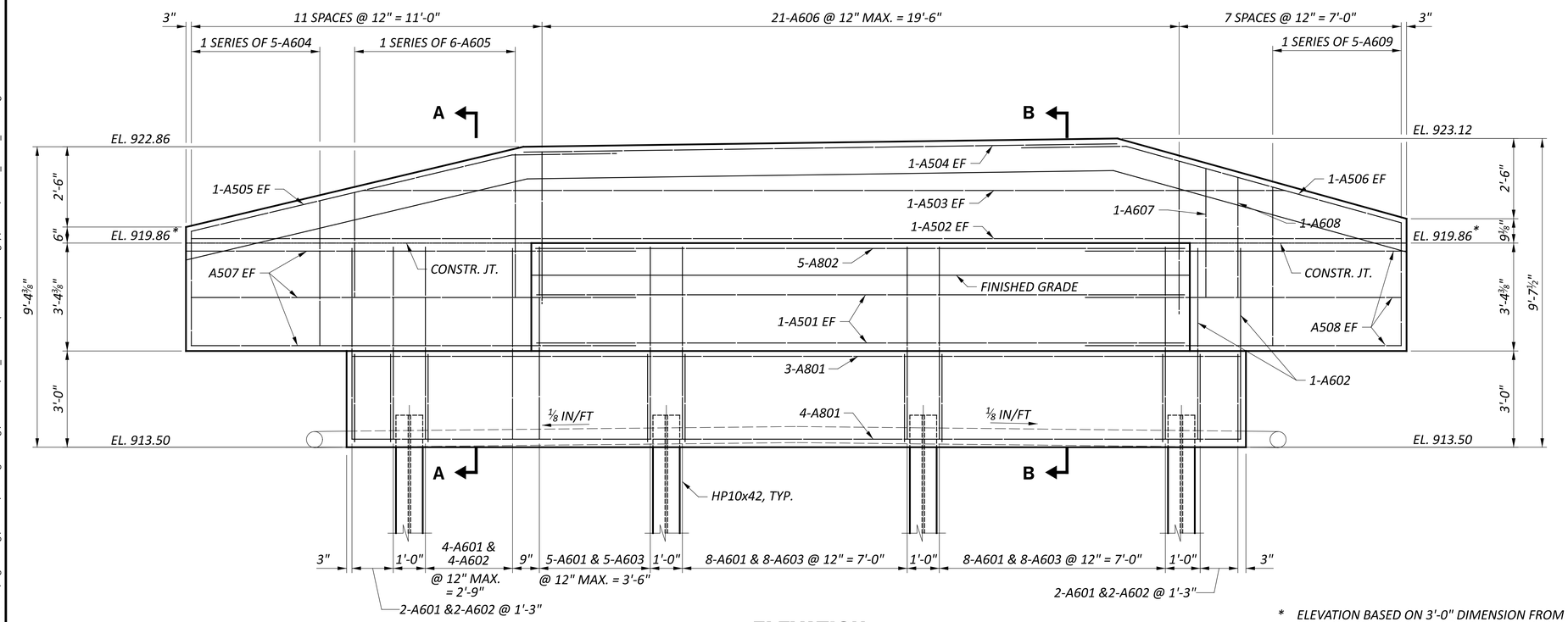
SHEET	TOTAL
P.81	161



PLAN



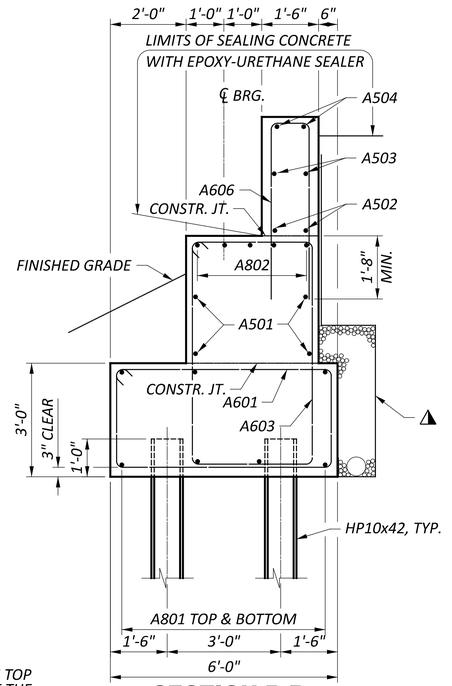
SECTION A-A



ELEVATION

* *ELEVATION BASED ON 3'-0" DIMENSION FROM TOP OF DECK TO BEAM SEAT. ADJUST AS NEEDED IF THE ACTUAL DIMENSION VARIES FROM THIS.*

◭ *PREFABRICATED GEOCOMPOSITE DRAINAGE SYSTEM IN ACCORDANCE WITH C&MS 518.*



SECTION B-B

ABUTMENT DETAILS
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 1

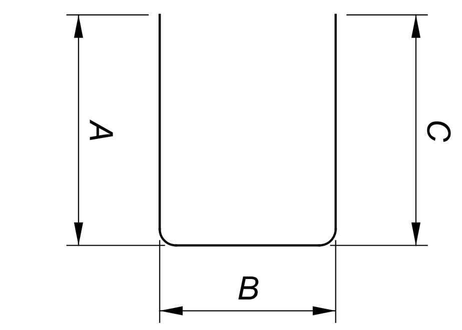
SFN	0964737
DESIGN AGENCY	Stantec
	10200 Alliance Road, Suite 300 Cincinnati, OH 45242 (513) 842-8200
DESIGNER	MRS
CHECKER	EDA
REVIEWER	BSM 09-20-24
PROJECT ID	117001
SUBSET	7
TOTAL	8
SHEET	P.82
TOTAL	161

BUT-OXFORD AREA TRAIL PHASE 5

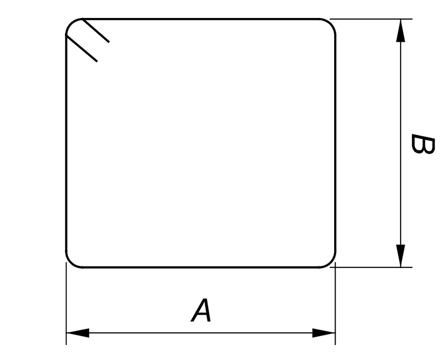
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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
REAR ABUTMENT											
A801	7	27'-8"	517	STR.							
A801	5	20'-2"	269	STR.							
A601	29	16'-10"	733	3	5'-8"	2'-7"					
A602	8	14'-6"	174	3	1'-2"	5'-11					
A603	21	18'-6"	584	3	3'-2"	5'-11					
	1	9'-8"				3'-5"					
A604	SERIES OF	TO	80	3	1'-2"	TO					
	5	11'-6"				4'-5"					
	1	7'-4"			3'-3"		3'-3"				
A605	SERIES OF	TO	77	2	TO	1'-2"	TO				
	6	9'-8"			4'-5"		4'-5"				
A606	21	10'-4"	326	2	4'-9"	1'-2"	4'-9"				
A607	1	8'-10"	13	2	4'-0"	1'-2"	4'-0"				
A608	1	8'-4"	13	2	3'-9"	1'-2"	3'-9"				
	1	10'-4"				3'-10"					
A609	SERIES OF	TO	78	3	1'-2"	TO					
	5	12'-6"				4'-11"					
A501	4	20'-2"	84	STR.							
A502	2	37'-8"	58	STR.							
A503	2	28'-9"	60	STR.							
A504	2	18'-5"	38	STR.							
A505	2	13'-6"	28	19	10'-3"	3'-2"	8"				
A506	2	12'-1"	25	19	8'-10"	3'-1"	11"				
A507	6	13'-10"	87	STR.							
A508	6	9'-10"	62	STR.							
	SUB-TOTAL		3306								

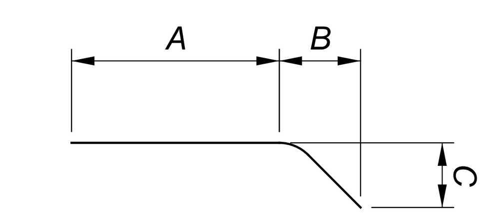
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
FORWARD ABUTMENT											
A801	7	27'-8"	517	STR.							
A801	5	20'-2"	269	STR.							
A601	29	16'-10"	733	3	5'-8"	2'-7"					
A602	8	14'-6"	174	3	1'-2"	5'-11					
A603	21	18'-6"	584	3	3'-2"	5'-11					
	1	9'-8"				3'-6"					
A604	SERIES OF	TO	80	3	1'-2"	TO					
	5	11'-8"				4'-6"					
	1	7'-4"			3'-3"		3'-3"				
A605	SERIES OF	TO	77	2	TO	1'-2"	TO				
	6	9'-8"			4'-5"		4'-5"				
A606	21	10'-4"	326	2	4'-9"	1'-2"	4'-9"				
A607	1	8'-10"	13	2	4'-0"	1'-2"	4'-0"				
A608	1	8'-4"	13	2	3'-9"	1'-2"	3'-9"				
	1	8'-4"				3'-9"					
A609	SERIES OF	TO	78	3	1'-2"	TO					
	5	10'-6"				4'-10"					
A501	4	20'-2"	84	STR.							
A502	2	37'-8"	58	STR.							
A503	2	28'-9"	60	STR.							
A504	2	18'-5"	38	STR.							
A505	2	13'-6"	28	19	10'-3"	3'-2"	8"				
A506	2	12'-1"	25	19	8'-10"	3'-1"	11"				
A507	6	13'-10"	87	STR.							
A508	6	9'-10"	62	STR.							
	SUB-TOTAL		3306								



TYPE-2



TYPE-3



TYPE-19

REINFORCING STEEL LIST
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 1

SFN 0964737

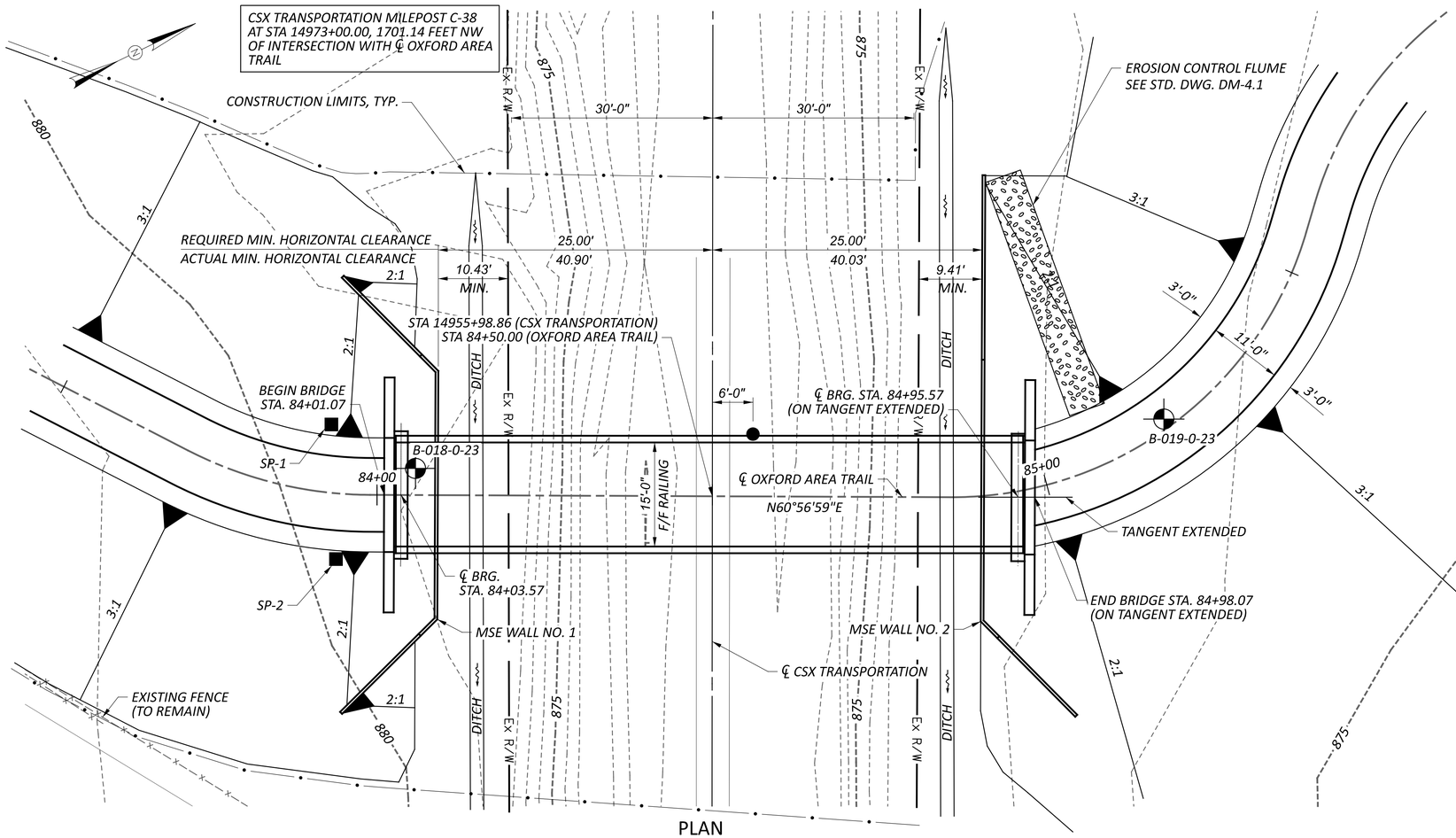
DESIGN AGENCY

Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA
REVIEWER	
BSM	09-20-24
PROJECT ID	
117001	
SUBSET	TOTAL
8	8
SHEET	TOTAL
P.83	161

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Untitled Sheet PAPERSIZE: 2.83333x1.83333 (ft.) DATE: 10/3/2024 TIME: 11:11:11 AM USER: msturdevant
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BENCHMARK DATA

BM #1 STA.	0+92.30,	ELEV.	945.86,	OFFSET	19.86',	LT.
BM #2 STA.	50+97.51	ELEV.	915.85,	OFFSET	41.79',	RT.
BM #3 STA.	73+29.54	ELEV.	890.58,	OFFSET	11.71',	RT.
BM #4 STA.	131+92.71	ELEV.	903.74,	OFFSET	116.84',	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

LEGEND

- BORING LOCATION
- 23'-0" REQUIRED MINIMUM VERTICAL CLEARANCE
  23'-0" ACTUAL MINIMUM VERTICAL CLEARANCE
- SETTLEMENT PLATFORM

PROPOSED STRUCTURE

TYPE: PREFABRICATED STEEL TRUSS BRFIDGE W/CONCRETE DECK ON STUB ABUTMENTS BEHIND MSE WALLS

SPANS: 92'-0" C/C BEARINGS

ROADWAY: 15'-0" FACE/FACE RAILINGS

LOADING: PEDESTRIAN LOADING - 0.090 KSF
VEHICULAR LOADING - H15-44 (TRUCK ONLY)

SKEW: 0° 00' 00"

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

SUPERELEVATION: 0.0156 FT/FT

DECK AREA: 1455 SF

COORDINATES: LATITUDE 39° 29' 36.05"
LONGITUDE -84° 44' 12.04"

SITE PLAN
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

SFN	0964739
DESIGN AGENCY	Stantec
	10200 Alliance Road, Suite 300 Cincinnati, OH 45242 (513) 842-8200
DESIGNER	MRS
CHECKER	EDA
REVIEWER	BSM 09-20-24
PROJECT ID	117001
SUBSET	1
TOTAL	13
SHEET	P.84
TOTAL	161

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 1/3/2025 TIME: 2:06:05 PM USER: msturdevant
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REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING:

VFP-1-90 REVISED 07-21-23

AND TO SUPPLEMENTAL SPECIFICATIONS:
840 DATED 07-19-24

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

REDUNDANCY
THE FOLLOWING ITEM(S) WERE CONSIDERED NON-REDUNDANT FOR DESIGN AND INCLUDE A LOAD MODIFIER EQUAL TO 1.05 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.4: TRUSS BRIDGE

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING
DESIGN LOADING INCLUDES:
PEDESTRIAN LIVE LOAD: 0.090 KIPS/SF
VEHICULAR LIVE LOAD: H15-44 (TRUCK ONLY)

DESIGN DATA
CONCRETE CLASS QC2:
COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1:
COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT:
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (ABUTMENTS)

STRUCTURAL STEEL - ASTM A709 GRADE 50:
YIELD STRENGTH = 50 KSI

STEEL H-PILES - ASTM A572: YIELD STRENGTH 50 KSI

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILES TO BEDROCK
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 87 KIPS PER PILE FOR THE ABUTMENT PILES.

ABUTMENT PILES:
HP10x42 PILES 50 FEET LONG, ORDER LENGTH

GROUNDING
THE STRUCTURE SHALL BE GROUNDED PER ODOT STANDARD DRAWING HL-50.21

PILE SPLICES
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS 840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 1.2 K/FT APPLIED PERPENDICULAR TO THE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

ITEM SPECIAL–SETTLEMENT PLATFORMS

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN AND RECORDED AT EACH OF THE FOLLOWING SETTLEMENT MONITORING PERIODS:

1) THREE TIMES A WEEK FOR THE FIRST 2 WEEKS;

2) ON A WEEKLY BASIS THEREAFTER UNTIL AS DETERMINED BY THE ENGINEER.

THE ESTIMATED WAITING PERIOD IS 21 CALENDER DAYS FOR THE ABUTMENTS.

THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). IN ORDER TO CREATE THE GRAPH, USE THE SETTLEMENT PLATFORM SPREADSHEET LOCATED AT HTTP://WWW.DOT.STATE.OH.US/DIVISIONS/ENGINEERING/GEOTECHNICAL/ENGLISH.XLS IN THE OGE WEBSITE PUBLICATIONS AND DOCUMENTS SECTION. A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO THE OFFICE OF GEOTECHNICAL ENGINEERING, ATTENTION: GEOTECHNICAL DESIGN COORDINATOR, AFTER EACH SETTLEMENT READING IS RECORDED.

SETTLEMENT PLATFORMS SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:

BEHIND REAR BRIDGE ABUTMENT
STA 83+96.00, 8.00' LT SP-1
STA 83+96.00, 8.00' RT SP-2

MATERIALS: SOUND LUMBER SUCH AS 19MM (3/4-INCH) EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 64MM (2-1/2-INCH) STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 915MM X 915MM X 3.2MM (36" X 36" X 1/8") MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

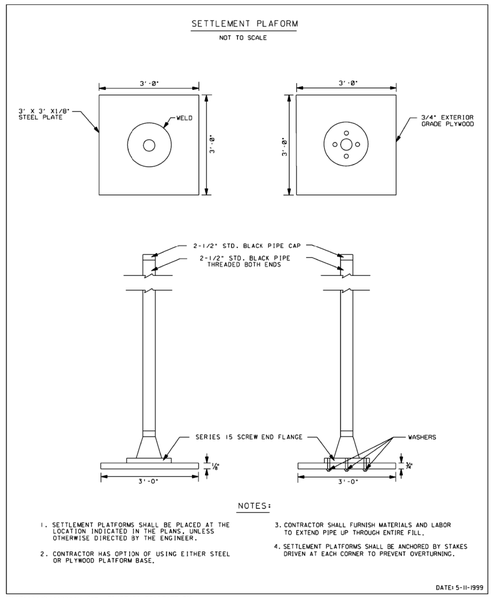
PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

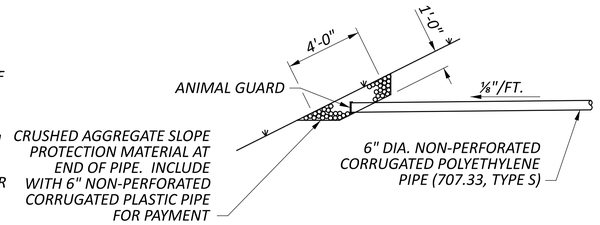
METHOD OF MEASUREMENT: THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL – SETTLEMENT PLATFORMS" WHICH IS COMPENSATION FOR CONSTRUCTING MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK:

ITEM 203 SETTLEMENT PLATFORM 2 EACH





DETAIL 1

MSE WALL NOTES:

1. MSE WALLS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 840. CONCRETE FACING PANELS SHALL BE 5 1/2" THICK MINIMUM, CENTERED ON LEVELING PAD.

2. FOR ITEM 203 - EMBANKMENT, AS PER PLAN, SEE ROADWAY GENERAL NOTES FOR DETAILS.

3. FOUNDATION BEARING RESISTANCE: THE WALL 1 REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 3.3 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 4.8 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 7.9 KIPS PER SQUARE FOOT.

   THE WALL 2 REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 3.6 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 5.3 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 8.4 KIPS PER SQUARE FOOT.

SOIL PROPERTIES

MATERIAL TYPE	SHORT TERM (UNDRAINED)		LONG TERM (DRAINED)	
	FRICTION ANGLE (DEGREES)	COHESION (PSF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
REINFORCED FILL	34	0	34	0
RETAINED FILL	30	0	30	0
EMBANKMENT FILL	0	2,500	26	250
SILT (A-4b)	0	1,800	24	170
SILT AND CLAY (A-6a)	0	2,000	26	200
SANDY SILT (A-4a)	0	2,500	27	300
FOUNDATION PREP	34	0	34	0

IT IS ASSUMED FAILURE SURFACES EXTEND AROUND LIMITS OF MSE STRUCTURES.

GENERAL NOTES (1)
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

SFN 0964739

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

PROJECT ID: 117001

SUBSET	TOTAL
2	13

SHEET	TOTAL
P.85	161

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/7/2024 TIME: 2:44:36 PM USER: msturdevant
V:\1736\active\173620161\engineering\117001\400-Engineering\Structures\SFN_0000002 (RR Bridge)\Sheets\117001_SFN02_SN001.dgn

ITEM 530, STRUCTURES - PREFABRICATED BRIDGE

1.0 GENERAL
1.1 SCOPE
THESE SPECIFICATIONS ARE FOR FULLY ENGINEERED HALF THROUGH TRUSS (NO OVERHEAD BRACING) BRIDGE OF STEEL CONSTRUCTION AND SHALL BE REGARDED AS MINIMUM STANDARDS FOR DESIGN AND FABRICATION. THE WORK INCLUDED UNDER THIS ITEM SHALL CONSIST OF DESIGN, FABRICATING, FINISHING AND TRANSPORTING THE STEEL TRUSS BRIDGE SUPERSTRUCTURE INCLUDING BEARINGS.

1.2 QUALIFIED BRIDGE MANUFACTURER
EACH CONTRACTOR IS REQUIRED TO IDENTIFY THEIR INTENDED SUPPLIER AS PART OF THE BID SUBMITTAL. QUALIFIED BRIDGE MANUFACTURERS MUST HAVE AT LEAST 5 YEARS OF EXPERIENCE FABRICATING THESE TYPES OF STRUCTURES. THE PREFABRICATED TRUSS SUPERSTRUCTURE SHALL BE SUPPLIED BY A MANUFACTURER ON ODOT'S PREQUALIFICATION LIST AS FOUND AT THE FOLLOWING WEBSITE:

HTTPS://WWW.DOT.STATE.OH.US/DIVISIONS/CONSTRUCTIONMGT/MATERIALS/MISCELLANEOUSLIST/STRUCTURALSTEELFABRICATORS.PDF

ALL SUPPLIERS SHALL FABRICATE THEIR PRODUCT UTILIZING A MODERN FABRICATION FACILITY OWNED AND OPERATED BY THE BRIDGE MANUFACTURER THAT INCLUDES THE USE OF CNC BEAM DRILLING MACHINES, NO BROKERS ARE ALLOWED.

1.3 BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL AND SUBMITTALS
THE BRIDGE MANUFACTURER SHALL HAVE AS A DIRECT EMPLOYEE, AN ENGINEER WHO IS EXPERIENCED IN BRIDGE DESIGN TO BE IN RESPONSIBLE CHARGE OF ALL ENGINEERING RELATED TASK AND DESIGN. THE ENGINEER SHALL HAVE A MINIMUM OF 10 YEARS OF EXPERIENCE IN BRIDGE DESIGN AND BE A CURRENTLY LICENSED CIVIL OR STRUCTURAL PROFESSIONAL ENGINEER IN THE STATE OF OHIO AND SHALL BE THE ENGINEER WHO WILL SEAL AND SIGN THE PLANS.

ENGINEERING DRAWINGS, 11X17 FORMAT, SHALL BE PREPARED AND SUBMITTED TO THE CONTRACTOR, ODOT, AND OWNER FOR THEIR REVIEW AFTER RECEIPT OF THE ORDER. SUBMITTAL DRAWINGS SHALL BE UNIQUE DRAWINGS, PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE BRIDGE BEING FABRICATED. ALL RELATIVE DESIGN INFORMATION SUCH AS MEMBER SIZE, ASTM/AASHTO MATERIAL SPECIFICATION, DIMENSIONS NECESSARY TO FABRICATE AND REQUIRED WELDING SHALL BE CLEARLY SHOWN ON THE DRAWINGS. DRAWINGS SHALL HAVE REFERENCED DETAILS AND SHEET NUMBERS. ALL DRAWINGS SHALL BE STAMPED, SIGNED AND DATED BY THE BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL.

STRUCTURAL CALCULATIONS FOR THE DESIGN OF THE BRIDGE SUPERSTRUCTURE SHALL BE PREPARED BY THE BRIDGE MANUFACTURER AND SUBMITTED FOR REVIEW AFTER RECEIPT OF THE ORDER. CALCULATIONS SHALL INCLUDE COMPLETE DESIGN, ANALYSIS AND CODE CHECKS FOR THE CONTROLLING MEMBERS, CONNECTIVITY AND SUPPORT CONDITIONS, TRUSS STABILITY CHECKS, DECK DESIGN, DEFLECTION CHECKS, BEARINGS AND ALL SPLICES.

2.0 APPLICABLE CODES AND STANDARDS
2.1 GOVERNING SPECIFICATIONS
BRIDGE SHALL BE DESIGNED IN COMPLIANCE WITH THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 (AASHTO PED) AND THE OHIO BRIDGE DESIGN MANUAL. CALCULATIONS SHALL BE IN ACCORDANCE WITH THIS DOCUMENT, AND FORMULAS SHALL REFERENCE THE APPROPRIATE SECTIONS.

2.2 OTHER REFERENCE CODES, SPECIFICATIONS AND STANDARDS
- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020 (AASHTO LRFD)
- AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, FIRST EDITION, 2005 (AASHTO SIGNS)
- AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION, 2017 (AISC)
- ANSI/AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 2016 (AISC 360)
- AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE, D1.1, 2015 (AWS D1.1)
- SETRA TECHNICAL GUIDE FOR FOOTBRIDGES, 2006 (SETRA)

THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES SHALL CONTROL IF ANY CONFLICTING REQUIREMENTS OCCUR WITH THE OTHER REFERENCE DOCUMENTS AND/OR OTHER LOCAL CODES.

3.0 BRIDGE SYSTEM TYPE
3.1 TRUSS STYLE
THE TRUSS STYLE SHALL BE THE THE MOST ECONOMICAL STYLE FOR THE GIVEN SPAN LENGTHS. THE VERTICAL TRUSSES SHALL BE DESIGNED SUCH THAT THE TOP AND BOTTOM CHORD MEMBERS ARE PARALLEL FOR THE ENTIRE LENGTH OF BRIDGE. THE INTERIOR VERTICALS OF THE TRUSSES SHALL BE PERPENDICULAR TO THE TOP FACE OF THE BOTTOM CHORD AND THE END VERTICALS OF THE TRUSSES SHALL BE PLUMB. TRUSSES SHALL BE LAID OUT SUCH THAT DIAGONALS SHALL BE AT AN ANGLE OF 30-DEGREES OR MORE WITH RESPECT TO THE BOTTOM CHORD.

3.2 DIAGONAL STYLE
THE VERTICAL TRUSS SHALL USE A SINGLE-DIAGONAL, PRATT CONFIGURATION, WHERE ALL THE DIAGONALS ARE IN TENSION FOR GRAVITY LOADS.

3.3 FLOOR BEAM LOCATION
THE BRIDGE SHALL UTILIZE AN H-SECTION CONFIGURATION WHERE THE ENDS OF THE FLOOR BEAMS ARE WELDED ONLY TO THE INTERIOR FACE OF THE VERTICALS. THE DISTANCE FROM THE TOP OF DECK TO THE BOTTOM OF THE BOTTOM CHORD SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER DURING FINAL DESIGN.

4.0 BRIDGE GEOMETRY
4.1 SPAN LENGTH
THE BRIDGES WILL CONSIST OF SIMPLE SPAN TRUSSES. THE TOTAL DISTANCE OF THE BRIDGE FROM CENTER TO CENTER OF BEARING AT THE ABUTMENTS WILL BE AS SHOWN IN THE PLANS.

4.2 WIDTH
THE BRIDGE WIDTH SHALL PROVIDE A MINIMUM CLEARANCE OF 15'-0" BETWEEN ALL INTERIOR RAILING ELEMENTS.

4.3 TOP OF TRUSS HEIGHT ABOVE DECK
THE TOP OF THE TOP CHORD SHALL NOT BE LESS THAN 48" ABOVE THE DECK (MEASURED FROM THE HIGH POINT OF THE DECK). NOTE THAT THIS DIMENSION MAY BE EXCEEDED DUE TO TRUSS HEIGHT REQUIREMENTS FOR STRUCTURAL, DEFLECTION AND VIBRATION REQUIREMENTS. THE SAME HEIGHT SHALL BE USED FOR BOTH SPANS.

4.4 LOWER STEEL CLEARANCE
THE BRIDGE MANUFACTURER SHALL DETERMINE THE DISTANCE FROM THE TOP OF THE DECK (MEASURED FROM THE HIGHEST POINT OF THE DECK) TO THE BOTTOM OF ANY STEEL MEMBER.

4.5 TRUSS BAY SPACING
THE NUMBER OF BAYS AND THE DIMENSION OF THE PANEL POINTS SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER.

4.6 CAMBER
EACH SINGLE SIMPLE-SPAN BRIDGE SHALL HAVE A VERTICAL CAMBER DIMENSION AT THE MID-SPAN EQUAL TO 100% OF THE ANTICIPATED FULL DEAD LOAD DEFLECTION.

4.7 ELEVATION DIFFERENCE
THE TOP OF THE DECKS AT EACH END OF THE BRIDGE SHALL BE CONSTRUCTED WITH A VERTICAL ELEVATION DIFFERENCE AS SHOWN ON THE PLANS.

5.0 STRUCTURAL DESIGN LOADS
5.1 DEAD LOAD
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR THE TOTAL BRIDGE WEIGHT INCLUDING THE FINAL DECK SYSTEM.

5.2 PEDESTRIAN LOADING (PL)
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR A UNIFORM PEDESTRIAN LOADING OF 90 PSF OR AN H15 TRUCK. THIS LOADING SHALL BE PATTERNED TO PRODUCE THE MAXIMUM LOAD EFFECTS. CONSIDERATION OF DYNAMIC LOAD ALLOWANCE IS NOT REQUIRED WITH THIS LOADING.

5.3 VEHICLE LOAD (VL)
WHEN VEHICULAR ACCESS IS NOT PREVENTED BY PERMANENT PHYSICAL METHODS, THE SUPERSTRUCTURE AND DECK SYSTEM SHALL BE DESIGNED FOR EACH OF THE FOLLOWING CONCENTRATED/VEHICULAR LOADS:
- A CONCENTRATED LOAD OF 1,000 POUNDS PLACED ON ANY AREA 2.5' BY 2.5' SQUARE.
- A SINGLE TRUCK SHALL BE PLACED TO PRODUCE THE MAXIMUM LOAD EFFECTS AND SHALL NOT BE PLACED IN COMBINATION WITH THE PEDESTRIAN LOAD. THE DYNAMIC LOAD ALLOWANCE NEED NOT BE CONSIDERED FOR THIS LOADING. THE TRUCK SHALL BE AN H15 VEHICLE.

5.4 WIND LOAD (WS)
PEDESTRIAN BRIDGES SHALL BE DESIGNED FOR WIND LOADS AS SPECIFIED IN AASHTO SIGNS, ARTICLES 3.8 AND 3.9. THE LOADING SHALL BE APPLIED OVER THE EXPOSED AREA IN FRONT ELEVATIONS OF BOTH TRUSSES INCLUDING ALL ENCLOSURES.

IN ADDITION TO THE WIND LOAD SPECIFIED ABOVE, A VERTICAL UPLIFT LINE LOAD AS SPECIFIED IN AASHTO LRFD ARTICLE 3.8.2 AND DETERMINED AS THE FORCE CAUSED BY A PRESSURE OF 20 PSF OVER THE FULL DECK WIDTH, SHALL BE APPLIED CONCURRENTLY. THIS LOADING SHALL BE APPLIED AT THE WINDWARD QUARTER POINT OF THE DECK WIDTH.

5.5 SEISMIC (EQ)
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR SEISMIC LOADING AS SPECIFIED IN SECTION 3.10 OF AASHTO LRFD. THE TRANSVERSE LOADS SHALL BE CALCULATED CONSIDERING THE TRANSVERSE PERIOD OF THE BRIDGE AND LONGITUDINAL LOADS SHALL BE CALCULATED USING A PERIOD OF ZERO. A RESPONSE MODIFICATION FACTOR OF 0.8 SHALL BE USED FOR THE CALCULATION OF FORCES APPLIED TO THE BRIDGE ANCHORAGE. A RESPONSE MODIFICATION FACTOR OF 1.0 SHALL BE USED FOR THE CALCULATION OF BEARING REACTIONS. THE TRANSVERSE SEISMIC LOAD SHALL BE APPLIED TO ALL THE BEARINGS AND THE LONGITUDINAL SEISMIC LOAD SHALL BE APPLIED TO THE FIXED BEARINGS ONLY. THE VERTICAL BEARING REACTIONS SHALL BE CALCULATED USING AN OVERTURNING FORCE ON THE BRIDGE BASED ON THE CENTER OF GRAVITY OF THE BRIDGE TIMES THE TRANSVERSE SEISMIC LOAD.

5.6 FATIGUE LOAD (FL)
THE FATIGUE LOADING SHALL BE AS SPECIFIED IN SECTION 11 OF AASHTO SIGNS. THE NATURAL WIND GUST SPECIFIED IN ARTICLE 11.7.1.2 AND THE TRUCK-INDUCED GUST SPECIFIED IN ARTICLE 11.7.1.3 OF AASHTO SIGNS ONLY NEED ONLY BE CONSIDERED, AS APPROPRIATE.

5.7 COMBINATION OF LOADS
THE LOAD COMBINATIONS AND LOAD FACTORS TO BE USED SHALL BE AS SPECIFIED IN AASHTO LRFD TABLE 3.4.1-1, WITH THE FOLLOWING EXCEPTIONS:
- LOAD COMBINATIONS STRENGTH II, STRENGTH IV, AND STRENGTH V NEED NOT BE CONSIDERED.
- THE LOAD FACTOR FOR FATIGUE I LOAD COMBINATION SHALL BE TAKEN AS 1.0, AND FATIGUE II LOAD COMBINATION NEED NOT BE CONSIDERED.

6.0 STRUCTURAL DESIGN CRITERIA
STRUCTURAL DESIGN OF THE BRIDGE STRUCTURE SHALL BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF OHIO, WHO IS EXPERIENCED IN TRUSS BRIDGE DESIGN, AND DONE IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRATICES AND PRINCIPLES.

6.1 MODELING
THE BRIDGE SHALL BE MODELED AND ANALYZED UTILIZING A THREE-DIMENSIONAL COMPUTER SOFTWARE WHICH SHALL ACCOUNT FOR MOMENTS INDUCED IN MEMBERS DUE TO JOINT FIXITY WHERE APPLICABLE. MOMENTS DUE TO BOTH TRUSS DEFLECTION AND JOINT ECCENTRICITY MUST BE CONSIDERED. ALL LOADS LISTED IN SECTION 5 OF THESE SPECIFICATIONS SHALL BE APPLIED TO THE MODEL AND ANALYZED APPROPRIATELY.

6.2 LATERAL FRAME AND MEMBER DESIGN
THE BRIDGE SHALL BE DESIGNED AND PROPORTIONED SUCH THAT APPROPRIATE LATERAL STIFFNESS IS PROVIDED LOCALLY AND GLOBALLY, TO ENSURE THAT THE STRUCTURE IS STABLE.

GENERAL NOTES (2)
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

SFN 0964739
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200
DESIGNER MRS | CHECKER EDA
REVIEWER BSM 09-20-24
PROJECT ID 117001
SUBSET 3 | TOTAL 13
SHEET P.86 | TOTAL 161

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/7/2024 TIME: 2:46:10 PM USER: msturdevant
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FOR BRIDGES WITHOUT ANY OVERHEAD MEMBERS (HALF-THROUGH TRUSSES), THE VERTICAL TRUSS MEMBERS, THE FLOOR BEAMS AND THEIR CONNECTIONS SHALL BE PROPORTIONED TO RESIST A LATERAL FORCE APPLIED AT THE TOP OF THE TRUSS VERTICALS AT THE CENTER OF THE TOP CHORD. THIS LATERAL FORCE SHALL BE APPLIED AS AN ADDITIONAL LOAD TO THE TOP OF THE VERTICAL AT THE CENTER OF THE TOP CHORD, CREATING A CANTILEVER MOMENT, WHICH IS THEN ADDED TO THE FORCES OBTAINED FROM THE THREE-DIMENSIONAL MODEL. THE MAGNITUDE OF THIS LATERAL FORCE SHALL NOT BE LESS THAN 0.01/K TIMES THE AVERAGE FACTORED DESIGN COMPRESSIVE FORCE IN THE TWO ADJACENT TOP CHORD MEMBERS INCREASED BY A FACTOR OF SAFETY OF 1.33.

THE TOP CHORD SHALL BE ANALYZED AS A COLUMN WITH ELASTIC LATERAL SUPPORTS AT THE PANEL POINTS, CONSIDERING ALL MOMENTS DUE TO IN-PLANE AND OUT-OF-PLANE BENDING, ALONG WITH MOMENTS DUE TO ECCENTRICITIES OF THE MEMBERS.

THE U-FRAME STIFFNESS OF THE VERTICALS AND FLOOR BEAMS SHALL BE AS SPECIFIED IN AASHTO PED ARTICLE 7.1.2, ASSUMING THAT THE VERTICAL AND FLOOR BEAM CONNECTION IS RIGID. THIS MEANS THAT THE FOLLOWING MUST BE MET:

- ON H-SECTION FLOOR BEAM CONNECTIONS, THE FLOOR BEAM WIDTH SHALL BE AT LEAST 80% OF THE VERTICAL FACE WIDTH IN ORDER TO PREVENT ANY DEFORMATION DUE TO TUBE WALL PLASTIFICATION OF THE VERTICAL MEMBER FACES UNDER SERVICE LOADS. THE CONNECTION DESIGN WILL BE CHECKED AT STRENGTH I & STRENGTH III LOAD COMBINATIONS.
- ON UNDERHUNG FLOOR BEAM CONNECTIONS, THE VERTICAL WIDTH SHALL MATCH THE BOTTOM CHORD WIDTH IN ORDER TO TRANSFER VERTICAL MOMENTS THROUGH THE WALLS OF THE BOTTOM CHORD TO THE VERTICALS WITH NO DEFORMATION OF THE CHORD SIDE WALLS DUE TO SIDEWALL YIELDING OR CRIPPLING UNDER SERVICE LOADS. THE CONNECTION DESIGN WILL BE CHECKED AT STRENGTH I & STRENGTH III LOAD COMBINATIONS.
- THE VERTICAL AND FLOOR BEAM MEMBERS SHALL NOT BE CONNECTED TO FACES OF THE BOTTOM CHORD AT A 90-DEGREES TO ONE ANOTHER.
- ALL FIXED END MOMENTS IN THE FLOOR BEAMS AND VERTICALS DUE TO FLOOR BEAM ROTATIONS, IN ADDITION TO THE LOADS DERIVED FROM A U-FRAME ANALYSIS HAVE BEEN ACCOUNTED FOR IN THE STRENGTH DESIGN OF THE CONNECTIONS.

THE VERTICAL AND FLOOR BEAM MEMBERS SHALL BE PROPORTIONED SUCH THAT THE EFFECTIVE LENGTH FACTOR, K, USED IN THE DESIGN OF THE TOP CHORD SHALL NOT BE GREATER THAN 2.0.

THE END VERTICALS SHALL BE DESIGNED AS A SIMPLE CANTILEVER TO CARRY THE LOADS OBTAINED FROM THE THREE-DIMENSIONAL MODEL, PLUS THE CANTILEVER MOMENT DUE TO A LATERAL LOAD OF 0.01 TIMES THE AXIAL FORCE IN THE END VERTICAL, APPLIED LATERALLY AT THE TOP END OF THE END VERTICAL AT THE CENTER OF THE TOP CHORD.

THE FLOOR BEAMS SHALL BE SIZED FOR THE FORCES OBTAINED FROM A SIMPLE SPAN, PINNED END ANALYSIS, OR FROM THE FORCES OBTAINED FROM THE THREE-DIMENSIONAL MODEL, WHICHEVER CONTROLS.

THE DIAGONALS AND BRACE DIAGONALS SHALL BE ANALYZED AS PINNED-END CONNECTION MEMBERS.

INTERIOR VERTICALS SHALL BE ANALYZED AS PINNED-END CONNECTIONS UNLESS LONGITUDINAL FORCES ARE APPLIED TO THE VERTICALS SUCH AS WHEN THE BRACE DIAGONALS ARE CONNECTED TO FLOOR BEAMS ON AN H-SECTION FLOOR BEAM CONFIGURATION. WHEN LONGITUDINAL FORCES ARE APPLIED TO THE VERTICALS THEY SHALL BE ANALYZED AS FIXED-END CONNECTIONS.

ALL OTHER MEMBERS SHALL BE ANALYZED AS FIXED-END CONNECTIONS.

HSS MEMBER CONNECTIONS SHALL BE EVALUATED PER THE REQUIREMENTS OF AISC 360 CHAPTERS J & K.

6.3 DEFLECTIONS
THE VERTICAL DEFLECTION OF THE BRIDGE DUE TO THE UNFACTORED PEDESTRIAN LIVE LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.DEFLECTIONS
THE VERTICAL DEFLECTION OF THE BRIDGE DUE TO THE UNFACTORED PEDESTRIAN LIVE LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.

THE HORIZONTAL DEFLECTION OF THE BRIDGE UNDER UNFACTORED WIND LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.

6.4 FRACTURE CRITICAL MEMBERS (FCM)
ALL ITEMS DESIGNATED FCM ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS AND SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIRMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. TUBULAR FCM AND CMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 8.2.3 - TUBULAR FRACTURE CRITICAL MEMBERS OF THE LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.

6.5 VIBRATIONS
VIBRATION OF THE STRUCTURE SHALL NOT CAUSE DISCOMFORT OR CONCERN TO THE USERS OF THE BRIDGES. TO ASSURE THIS, THE FUNDAMENTAL FREQUENCY (F) OF THE PEDESTRIAN BRIDGE IN THE VERTICAL DIRECTION, WITHOUT LIVE LOAD, SHALL BE GREATER THAN 3.0 HERTZ (HZ) TO AVOID THE FIRST HARMONIC. THE FUNDAMENTAL FREQUENCY OF THE PEDESTRIAN BRIDGE IN THE LATERAL DIRECTION, SHALL BE GREATER THAN 1.3 HZ. IF THE FUNDAMENTAL FREQUENCY CANNOT SATISFY THESE LIMITATIONS, THEN THE BRIDGE SHOULD BE PROPORTIONED SUCH THAT EITHER OF THE FOLLOWING CRITERIA ARE SATISFIED:

$$F > 2.86 * LN(180/W$$

OR

$$W > 180 * E^{(-0.35*F)}$$

WHERE W IS THE WEIGHT OF THE BRIDGE IN KIPS AND F IS THE FUNDAMENTAL FREQUENCY IN THE VERTICAL DIRECTION IN HZ.

FOR BRIDGES LONGER THAN 85 FT AND SHORTER THAN 125 FT THE VERTICAL AND HORIZONTAL VIBRATION MUST ALSO MEET THE REQUIREMENTS FOR BRIDGE CLASS III WITH A MEAN COMFORT LEVEL IN ACCORDANCE WITH SETRA.

7.0 DECK SYSTEM
7.1 DECK SYSTEM
DECK TO BE COMPRISED OF REINFORCED CONCRETE, 6-INCH MINIMUM THICKNESS, DESIGNED TO SPAN FROM FLOOR BEAM TO FLOOR BEAM.

REINFORCED CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (145 POUNDS PER CUBIC FOOT MAXIMUM) AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS, WITH AN AIR CONTENT OF 6% +/- 1.5%.

CONCRETE MIX DESIGN, MATERIALS, QUALITY, MIXING, PLACEMENT, FINISHING AND TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT C&MS 499 AND 511.

THE SURFACE OF DECK CONCRETE SHALL BE FINISHED WITH A SIDEWALK FINISH ODOT C&MS 511.18.

STAY-IN-PLACE GALVANIZED (G90 COATING) METAL FORM DECK SHALL BE USED AND SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF THE WET CONCRETE PLUS A 20 POUNDS PER SQUARE FOOT CONSTRUCTION LOAD. FORM DECK SHALL BE SHOP ATTACHED TO FLOOR BEAMS VIA SELF-DRILLING FASTENERS, WELDING OR POWER ACTUATED FASTENERS. WELDING SHALL NOT BE USED ON PAINTED OR GALVANIZED BRIDGES. THE LONGITUDINAL SHEET LAPS SHALL BE ATTACHED WITH SELF-DRILLING SELF-TAPPING FASTENERS AT 36-INCH MAXIMUM SPACING. THE ATTACHMENT OF THE FORM DECK TO THE FLOOR BEAMS IS ONLY NECESSARY TO KEEP THE FORM DECK IN PLACE DURING TRANSPORTATION AND DURING THE CONCRETE PLACEMENT. THE FORM DECK IS NOT TO BE USED FOR DIAPHRAGM ACTION OR COMPOSITE ACTION AND PROVIDES NO STRUCTURAL BENEFIT TO THE TRUSS OR THE DECK AFTER THE CONCRETE IS SET. METAL FORM DECK PANELS SHALL BE OF A LENGTH TO SPAN A MINIMUM OF TWO BAYS OF THE TRUSS SUPPORTS. THE TOP OF DECK TO BOTTOM OF FORM DECK SHALL BE AS REQUIRED TO SUPPORT THE ANTICIPATED LOADS BUT SHALL NOT BE LESS THAN 5".

THE CONCRETE DECK SHALL BE DESIGNED TO SPAN LONGITUDINALLY FROM FLOOR BEAM TO FLOOR BEAM AND TO SUPPORT THE LOADS SPECIFIED IN SECTION 5.0 OF THESE SPECIFICATIONS.

A DISTRIBUTION WIDTH OF DECK IS ALLOWED, TO SUPPORT THE ANTICIPATED VEHICLE WHEEL LOADS. THIS DISTRIBUTION WIDTH (E IN FEET) SHALL BE THE NARROWER OF THE FOLLOWING:

* E = 4 + .06S
  - WHERE S IS THE FLOOR BEAM SPACING MINUS ONE-HALF OF THE FLOOR BEAM WIDTH.
* ONE-HALF OF THE TOTAL DRIVING WIDTH OF THE BRIDGE
* 0.75 TIMES THE LATERAL WHEEL SPACING OF THE VEHICLE.
* 0.6S + WHEEL WIDTH
  - WHERE S IS THE FLOOR BEAM SPACING MINUS ONE-HALF OF THE FLOOR BEAM WIDTH.
  - THE WHEEL WIDTH (IN INCHES) IS 2.5 *$\sqrt{((0.01*P)/2.5)}$, WHERE P IS THE WHEEL LOAD IN POUNDS

REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 EPOXY COATED BARS. ALL BAR BENDS, ANCHORAGE AND SPLICES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS. TOP REINFORCING SHALL HAVE A MINIMUM CLEARANCE OF 2" TO THE TOP OF DECK.

BRIDGE MANUFACTURER SHALL DESIGNATE THE ESTIMATED SLAB THICKNESS AND REINFORCING REQUIREMENTS AT TIME OF QUOTATION. THESE ESTIMATES ARE TO BE USED FOR QUOTING PURPOSES ONLY. ACTUAL QUANTITIES MAY VARY DURING THE FINAL DESIGN PROCESS, WITH COSTS VARIANCES DUE TO ANY CHANGES TO THE QUANTITIES BEING THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUPPLY ALL CONCRETE AND REINFORCING MATERIALS.

8.0 MATERIALS OF CONSTRUCTION
8.1 STRUCTURAL STEEL
ALL MEMBERS OF THE TRUSS AND DECK SUPPORT SYSTEM SHALL BE FABRICATED FROM SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SHAPES (HSS), WITH THE EXCEPTION THAT FLOOR BEAMS MAY BE WIDE FLANGE SHAPES. ALL OPEN ENDS OF END POSTS AND FLOOR SUPPORT BEAMS SHALL BE CAPPED. DRAIN HOLES SHALL BE PROVIDED FOR ALL SECTIONS AT THE LOW POINT OF THE MEMBER THAT MAY BECOME FILLED WITH WATER.

ALL BRIDGES SHALL BE FABRICATED USING A847 FOR HSS SECTIONS AND A588 FOR STRUCTURAL SHAPES AND PLATES.

MINIMUM NOMINAL THICKNESS OF PRIMARY HOLLOW STRUCTURAL SHAPES SHALL BE 1/4". ROLLED SHAPES SHALL HAVE A MINIMUM THICKNESS OF 1/4".

8.2 FASTENERS
STRUCTURAL BOLTS USED TO FIELD SPLICE OR CONNECT ALL MAIN MEMBERS SHALL BE ASTM F3125 GRADE A325. THE NUTS FOR THESE STRUCTURAL BOLTS SHALL BE ASTM A563. THE BRIDGE MANUFACTURER SHALL DETERMINE THE FINISH OF THE STRUCTURAL BOLTS. THEY WILL BE EITHER TYPE 3 (WEATHERING) OR TYPE 1 (HOT-DIPPED OR MECHANICALLY GALVANIZED) AS SPECIFIED BY THE BRIDGE MANUFACTURER.

SELF-DRILLING FASTENERS FOR ATTACHMENT OF THE FORM DECKING SHALL BE #14 X 1" ZINC PLATED HEX WASHER HEAD TEK SCREWS.

POWER ACTUATED FASTENERS SHALL BE HILTI SHEET METAL NAIL X-ENP-19 FASTENER.

OTHER MISCELLANEOUS FASTENERS SHALL BE ASTM A307 ZINC PLATED OR GALVANIZED, AS DETERMINED BY THE BRIDGE MANUFACTURER.

9.0 FINISH
FOR CORROSION RESISTANT HIGH-STRENGTH LOW-ALLOY (WEATHERING) STEEL NO SURFACE FINISH TREATMENT IS NECESSARY. ALL EXPOSED SURFACES OF STRUCTURAL STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 6, SSPC-SP6 COMMERCIAL BLAST CLEANING. EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK OR FROM THE OUTSIDE AND BOTTOM OF THE STRUCTURE. ALL OTHER SURFACES TO HAVE STANDARD MILL FINISH. THE STEEL WILL BE ALLOWED TO FORM A PROTECTIVE WEATHERING PATINA OVER TIME.

10.0 ATTACHMENTS
10.1 SAFETY RAILS
SAFETY RAIL SYSTEM SHALL BE PLACED ON THE INSIDE OF THE STRUCTURE, SPACED SO AS TO PREVENT A 4" SPHERE FROM PASSING THROUGH THE SIDE TRUSS FOR THE FULL HEIGHT OF THE SIDE TRUSS, OR 48", WHICHEVER IS LESS. THE TOP OF THE TOP CHORD MAY BE CONSIDERED THE TOP OF THE RAIL SYSTEM.

RAIL SYSTEM SHALL CONSIST OF VERTICAL PICKETS IN BETWEEN HORIZONTAL TOP AND BOTTOM RAILS. THE TOP AND BOTTOM HORIZONTAL RAIL SHALL BE HSS 1 X 1 X 1/8 WELDED DIRECTLY TO THE TRUSS VERTICALS. IN BETWEEN THESE RAILS, VERTICAL PICKETS SHALL BE ½" ROUND BAR WELDED TO THE TOP AND BOTTOM RAIL. THE MAXIMUM UNSUPPORTED LENGTH SHALL BE 7'-0" IF PLACED ON THE INSIDE OF THE STRUCTURE AND 8'-0" IF PLACED ON THE OUTSIDE OF THE STRUCTURE. IF THE VERTICAL SPACING IS GREATER THAN THE MAXIMUM UNSUPPORTED LENGTH, MID-BAY SUPPORTS WILL BE REQUIRED. WHEN THE RAIL SYSTEM IS PLACED ON THE INSIDE OF THE STRUCTURE AND NOT COVERED BY THE END VERTICAL, THE ENDS OF THE HORIZONTAL RAILS NEAR THE END OF THE BRIDGE SHALL BE CAPPED AND GROUND SMOOTH. IF A TOE PLATE IS ALSO SPECIFIED, THEN THE BOTTOM HORIZONTAL RAIL MAY BE MODIFIED TO BE USED AS A STEEL TOE PLATE AS SPECIFIED. IF A RUB RAIL IS ALSO SPECIFIED, THEN THE TOP HORIZONTAL RAIL MAY BE MODIFIED TO BE USED AS A STEEL RUB RAIL AS SPECIFIED.

EACH ELEMENT OF THE PEDESTRIAN RAIL SYSTEM SHALL BE DESIGNED TO THE STANDARDS SET FORTH IN SECTION 13.10 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 9TH EDITION FOR COMBINATION RAILINGS.

GENERAL NOTES (3)
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

SFN 0964739

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

PROJECT ID: 117001

SUBSET	TOTAL
4	13

SHEET	TOTAL
P.87	161

BUT-OXFORD AREA TRAIL PHASE 5

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10.2 PIPE HANDRAIL
AN 8-INCH WIDE SMOOTH RUB RAIL SHALL BE INSTALLED ON EACH SIDE OF THE BRIDGE, SET TO EXTEND FROM 40 INCHES TO 48 INCHES ABOVE THE DECK.

10.3 EXPANSION JOINT
THE GAP BETWEEN THE END OF THE BRIDGE DECK AND THE BACK WALL OF THE FOUNDATION SYSTEM SHALL BE SIZED TO ACCOMMODATE BRIDGE MOVEMENTS DUE TO THERMAL EXPANSION OF THE BRIDGE OVER THE DESIGN TEMPERATURE RANGE. THE GAPS AT THE PIER AND ABUTMENTS SHALL BE COVERED WITH A STEEL COVER WHICH ATTACHES TO THE BRIDGE AND EXTENDS OVER THE GAP AND ONTO THE ADJOINING DECK OR TOP OF THE FOUNDATION SYSTEM BACK WALL. THE STEEL COVER SHALL HAVE ITS EDGES ROUNDED OR BEVELED AT A 45- DEGREE ANGLE.

11.0 BEARINGS
11.1 BEARING TYPE
BEARING TYPE AND SIZE SHALL BE DESIGNED BY THE BRIDGE MANUFACTURER BASED ON ANTICIPATED LOADS AND MOVEMENTS.

11.2 DESIGN TEMPERATURE RANGE THE DESIGN TEMPERATURE RANGE WILL BE 150 DEGREES PER ODOT BDM S1003.21 WITH AN ASSUMED ERECTION TEMPERATURE OF 60 DEGREES.

11.3 NON-SHRINK GROUTING
THE BRIDGE WILL BE SUPPLIED WITH A LOWER SETTING PLATE. THIS SETTING PLATE SHALL BE LEVELED AND SHIMMED TO THE PROPER ELEVATION. THE SPACE BETWEEN THE LOWER SURFACE OF THE SETTING PLATE AND THE FOUNDATION SURFACE SHALL BE FILLED WITH A NON-SHRINK GROUT CAPABLE OF ACHIEVING A MINIMUM COMPRESSIVE STRENGTH EQUAL TO OR GREATER THAN THE STRENGTH OF THE FOUNDATION CONCRETE. THE COST OF THE LEVELING, SHIMMING, AND NON-SHRINK GROUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

12.1 ANCHOR BOLTS
BRIDGE MANUFACTURER SHALL DESIGN THE DIAMETER AND GRADE OF ANCHOR BOLTS, BASED ON THE SHEAR AND TENSILE STRENGTH OF THE ANCHOR BOLT MATERIAL ONLY. ALL DESIGN CONSIDERATIONS REGARDING CONCRETE BREAKOUT STRENGTH IN SHEAR AND TENSION, PULLOUT STRENGTH, CONCRETE SIDE-FACE BLOWOUT STRENGTH, CONCRETE PRY OUT STRENGTH, EMBEDMENT DEPTH, TYPE OF ANCHORAGE OR ANY OTHER CONCRETE FAILURE MODES ARE THE RESPONSIBILITY OF THE FOUNDATION ENGINEER AND SHALL BE SHOWN ON THE FINAL CONTRACT PLANS. ALL ANCHOR BOLTS SHALL BE GALVANIZED. THE FOUNDATION ENGINEER SHALL DETERMINE IF THE ANCHOR BOLTS SHALL BE CAST-IN-PLACE, DRILLED/EPOXY, OR EXPANSION ANCHORS. ANCHOR BOLTS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.

13.0 FABRICATION
13.1 WELDING
WELDING PROCEDURES AND WELD QUALIFICATION TEST PROCEDURES SHALL CONFORM TO THE PROVISIONS OF AWS D1.1. FILLER METAL SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWS FILLER METAL SPECIFICATION AND SHALL MATCH THE CORROSION PROPERTIES OF THE BASE METAL.

13.2 WELDERS
WELDERS SHALL BE QUALIFIED FOR EACH PROCESS AND POSITION USED WHILE FABRICATING THE BRIDGE. QUALIFICATION TESTS SHALL BE IN ACCORDANCE WITH AWS D1.1. ALL WELD QUALIFICATIONS AND RECORDS SHALL BE KEPT IN ACCORDANCE WITH THE FABRICATOR'S QUALITY ASSURANCE MANUAL WHICH HAS BEEN APPROVED AND AUDITED BY AISC AS THE BASIS FOR CERTIFICATION.

13.3 SHOP SPLICES
SHOP SPLICES FOR MAIN TRUSS MEMBERS SHALL BE FULL PENETRATION WELDS ALL AROUND THE PERIMETER OF THE MEMBER. THESE SHOP SPLICES SHALL BE PERFORMED USING A FULL PERIMETER BACKING PLATE. AFTER WELDING OF THE SHOP SPLICES, THE WELD SHALL BE GROUND SMOOTH TO MATCH THE PERIMETER OF THE MEMBER. GRINDING THESE WELDS SMOOTH IS REQUIRED AND WILL BE GROUNDS FOR REJECTION OF THE BRIDGE UPON DELIVERY IF NOT COMPLETED.

SHOP SPLICES FOR ALL HORIZONTAL RAIL COMPONENTS TO BE LOCATED AT THE CENTERLINE OF THE TRUSS VERTICALS, EACH END WELDED TO THE TRUSS VERTICAL AND SEAL WELDED TOGETHER. EXPOSED SURFACE OF THE SEAL WELDS AS SEEN FROM THE DECK SHALL BE GROUND SMOOTH.

SHOP SPLICED FOR ALL HORIZONTAL STRINGERS TO BE LOCATED AT THE CENTERLINE OF THE FLOOR BEAMS, EACH END WELDED TO THE FLOOR BEAM AND SEAL WELDED TOGETHER.

13.4 BOLTED SPLICES
FOR SHIPPING PURPOSES, THE BRIDGE MAY BE FABRICATED IN SECTIONS. SECTIONS SHALL BE FIELD ASSEMBLED USING BOLTED CONNECTIONS. NO FIELD WELDING OF MEMBERS SHALL BE ALLOWED.

THE CHORD MEMBERS OF THE BRIDGE SHALL BE BOLTED SUCH THAT AT LEAST TWO FACES OF THE MEMBER ARE BOLTED. THIS IS TO PROVIDE REASONABLE FORCE DISTRIBUTION AROUND THE PERIMETER OF THE MEMBER. BOLTED SPLICES SHALL BE DESIGNED AND FABRICATED SUCH THAT THE HEAD OF THE BOLT AND WASHER ARE THE ONLY ITEM EXPOSED. NO THROUGH-BOLTING OF THE MEMBER IS ALLOWED. THE NUTS OF THE FASTENER CANNOT BE WELDED TO THE INTERNAL SPLICE PLATE AND SHALL BE HELD IN PLATE WITH A NUT CAPTURE SYSTEM PER PATENT US 10,267,345 B2 OR EQUAL.

THE DIAGONALS AND BRACE DIAGONALS SHALL BE BOLTED UTILIZING A THROUGH-BOLT SYSTEM WITH PLATES ON THE EXTERIOR FACES OF THE MEMBERS. AN INTERNAL STIFFENING PLATE IS REQUIRED TO KEEP THE MEMBER FROM CRUSHING DURING THE BOLT TIGHTENING PROCESS.

ALL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED OR SLIP-CRITICAL CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS. RECOMMENDED TIGHTENING METHOD OF ALL STRUCTURAL BOLTS SHALL BE TURN-OF-THE-NUT PRETENSIONING.

14.0 QUALITY CONTROL
14.1 AISC CERTIFICATION
THE BRIDGE SHALL BE FABRICATED IN A SHOP OWNED BY THE BRIDGE MANUFACTURER. THIS FACILITY SHALL HAVE UP TO DATE QUALITY CERTIFICATION BY AISC AS CERTIFIED BRIDGE FABRICATOR - ADVANCED (MAJOR) WITH FRACTURE CRITICAL ENDORSEMENT AND COMPLEX COATING ENDORSEMENT (P1-ENCLOSED OR P2-COVERED).

14.2 CERTIFIED WELD INSPECTOR
THE BRIDGE MANUFACTURER SHALL EMPLOY AT LEAST TWO CERTIFIED WELD INSPECTORS (CWI), WITH ENDORSEMENT BY AWS QC1. AT LEAST ONE CWI SHALL BE PRESENT DURING THE COMPLETE FABRICATION OF THE BRIDGE. THE CWI SHALL PROVIDE WRITTEN DOCUMENTATION THAT THE BRIDGE HAS BEEN FABRICATED IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPROVED DESIGN DRAWINGS.

14.3 DOCUMENTATION
MATERIAL CERTIFICATIONS SHALL BE AVAILABLE FOR REVIEW FOR ALL MATERIALS WITHIN THE BRIDGE. TRACEABILITY OF HEAT NUMBERS IS REQUIRED FOR ALL STRUCTURAL STEEL.

DOCUMENTATION SHOWING THE PERFORMANCE OF ALL CRITICAL QUALITY CHECKS SHALL ALSO BE MADE AVAILABLE FOR REVIEW BY THE ENGINEER OR OWNER.

14.4 NON-DESTRUCTIVE TESTING
ALL WELDS WITHIN THE STRUCTURE, SHALL BE VISUALLY INSPECTED FOR CONFORMANCE TO SIZE, UNDER CUT, PROFILE AND FINISH.

ALL SHOP SPLICES OF MAIN TRUSS MEMBERS SHALL BE MAGNETIC PARTICLE

15.0 DELIVERY AND ERECTION
15.1 DELIVERY
DELIVERY SHALL BE MADE VIA TRUCK TO A LOCATION NEAREST THE SITE WHICH IS ACCESSIBLE TO NORMAL OVER-THE-ROAD EQUIPMENT. ALL TRUCKS DELIVERING BRIDGE MATERIALS WILL NEED TO BE UNLOADED AT THE TIME OF ARRIVAL. IF THE ERECTION CONTRACTOR NEEDS SPECIAL DELIVERY OR DELIVERY IS RESTRICTED, THEY SHALL NOTIFY THE BRIDGE MANUFACTURER PRIOR TO BID DATE. THIS INCLUDES SITE ISSUES WHICH MAY PREVENT OVER-THE-ROAD EQUIPMENT FROM ACCESSING THE SITE. STEERABLE DOLLIES ARE NOT USED IN THE COST PROVIDED BY THE BRIDGE MANUFACTURER. DETERMINING THE LENGTH OF BRIDGE SECTION WHICH CAN BE DELIVERED IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COMMUNICATED TO THE BRIDGE MANUFACTURER PRIOR TO THE BID DATE.

15.2 INSTALLATION & LIFTING PROCEDURES.
THE BRIDGE MANUFACTURER WILL PROVIDE STANDARD TYPICAL WRITTEN PROCEDURES FOR LIFTING AND SPLICING THE BRIDGE. ALL ACTUAL MEANS, METHODS, EQUIPMENT AND SEQUENCE OF ERECTION USED ARE THE RESPONSIBILITY OF THE CONTRACTOR.

16.0 WARRANTY
THE BRIDGE MANUFACTURER SHALL WARRANT, AT THE TIME OF DELIVERY, THAT IT HAS CONVEYED GOOD TITLE TO ITS STEEL STRUCTURE, FREE OF LIENS AND ENCUMBRANCES CREATED BY THE BRIDGE MANUFACTURER, AND THAT ITS STEEL STRUCTURE IS FREE OF DEFECTS IN DESIGN, MATERIAL AND WORKMANSHIP. THIS WARRANTY SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR FROM THE EARLIER DATE OF DELIVERY OR 60 DAYS AFTER FINAL FABRICATION IS COMPLETE. PAINT, GALVANIZING AND OTHER SPECIAL COATINGS, IF WARRANTED, SHALL BE WARRANTED BY THE COATING MANUFACTURER IN ACCORDANCE WITH THEIR WARRANTY PROVISIONS AND ARE NOT COVERED UNDER THE BRIDGE MANUFACTURER'S WARRANTY.

THIS WARRANTY SHALL NOT COVER DEFECTS IN THE STEEL STRUCTURE CAUSED BY ABUSE, MISUSE, OVERLOADING, ACCIDENT, IMPROPER INSTALLATION, MAINTENANCE, ALTERATION, OR ANY OTHER CAUSE NOT EXPRESSLY WARRANTED. THIS WARRANTY SHALL NOT COVER DAMAGE RESULTING FROM OR RELATING TO THE USE OF ANY KIND OF DE-ICING MATERIAL. THIS WARRANTY SHALL BE VOID UNLESS OWNER'S RECORDS ARE SUPPLIED THAT SHOW COMPLIANCE WITH THE MINIMUM GUIDELINES SPECIFIED IN THE IN THE BRIDGE MANUFACTURER'S INSPECTION AND MAINTENANCE PROCEDURES.

REPAIR, REPLACEMENT, OR ADJUSTMENT, IN BRIDGE MANUFACTURER'S SOLE DISCRETION, SHALL BE THE EXCLUSIVE REMEDY FOR ANY DEFECTS UNDER THIS WARRANTY. THIS WARRANTY SHALL EXCLUDE LIABILITY FOR ANY INDIRECT, CONSEQUENTIAL, OR INCIDENTAL DAMAGES.

17.0 PAYMENT
ITEM 530, SPECIAL - STRUCTURES, PREFABRICATED BRIDGE, WILL BE PAID FOR AT THE LUMP SUM CONTRACT UNIT PRICE. THIS WORK SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO DESIGN, FURNISH, UNLOAD, ERECT AND INSTALL THE ENTIRE SUPERSTRUCTURE WITH APPURTENANCES (INCLUDING, BUT NOT LIMITED TO: CONCRETE DECK, BEARINGS, RAILINGS AND JOINT PLATES)

GENERAL NOTES (4)
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

BUT-OXFORD AREA TRAIL PHASE 5

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SFN
0964739

DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

PROJECT ID
117001

SUBSET	TOTAL
5	13

SHEET	TOTAL
P.88	161

CSX TRANSPORTATION COORDINATION NOTES

REFER TO THE CSX TRANSPORTATION PUBLIC PROJECT INFORMATION MANUAL FOR ADDITIONAL REQUIREMENTS NEEDED FOR WORKING ON/ABOVE/ADJACENT TO CSXT. SPECIFIC SECTIONS THAT PERTAIN TO THIS PROJECT ARE SPECIAL PROVISIONS FOR CONSTRUCTION NEAR CSXT PROPERTY, OVERHEAD BRIDGE CRITERIA, CONSTRUCTION SUBMISSION CRITERIA, AND INSURANCE REQUIREMENTS FOR PUBLIC PROJECTS.

CONTRACTOR ACCESS WILL BE LIMITED TO THE IMMEDIATE PROJECT AREA ONLY. THE CSXT RIGHT-OF-WAY OUTSIDE THE PROJECT AREA MAY NOT BE USED FOR CONTRACTOR ACCESS TO THE PROJECT SITE AND NO TEMPORARY AT-GRADE CROSSINGS WILL BE ALLOWED.

THE CONTRACTOR WILL BE REQUIRED TO ABIDE BY THE PROVISIONS OF THE AGENCY/CSXT CONSTRUCTION AGREEMENT. PERIODICALLY, THROUGHOUT THE PROJECT DURATION, THE CONTRACTOR MAY BE REQUIRED TO MEET, DISCUSS AND, IF NECESSARY, TAKE IMMEDIATE ACTION AT THE DISCRETION OF CSXT PERSONNEL AND/OR THEIR AUTHORIZED REPRESENTATIVE, TO COMPLY WITH PROVISIONS OF THAT AGREEMENT AND THESE SPECIFICATIONS.

IT IS THE RESPONSIBILITY OF THE INDIVIDUAL OWNERS OF WIRELINES, PIPELINES, UTILITIES, ETC. TO COORDINATE DIRECTLY WITH CSXT REAL ESTATE AND FACILITIES MANAGEMENT (REFM) GROUP. THIS INCLUDES ALL NEW INSTALLATIONS AND THE ADJUSTMENT, MODIFICATION, REMOVAL OR RETIREMENT IN PLACE OF ALL EXISTING FACILITIES.

THE CONTRACTOR MAY NOT USE CSXT RIGHT-OF-WAY FOR STORAGE OF MATERIALS OR EQUIPMENT DURING CONSTRUCTION WITHOUT PRIOR CSXT APPROVAL. THE CSXT RIGHT-OF-WAY MUST ALWAYS REMAIN CLEAR FOR RAILROAD USE. EQUIPMENT MAY NOT BE POSITIONED TO BLOCK THE RAILROAD ACCESS ROAD, TRACK AREA OR ANY PART OF THE CSXT RIGHT-OF-WAY WITHOUT PRIOR CSXT APPROVAL. ALL MOVEMENTS OF EQUIPMENT WITHIN RAILROAD RIGHT-OF-WAY MUST BE COORDINATED WITH THE RAILROAD FLAGGER.

THE ROADWAY AUTHORITY, OR DESIGNATED CONTRACTOR, SHALL COORDINATE WITH THE RAILROAD WHENEVER THE CONTRACTOR'S WORK ACTIVITIES ARE LOCATED OVER, UNDER OR WITHIN THE RAILROAD'S RIGHT-OF-WAY.

ANY DAMAGE CAUSED BY THE PROJECT WORK TO THE TRACK OR RAILROAD PROPERTY WILL REQUIRE REPAIR IMMEDIATELY UPON NOTIFICATION FROM THE RAILROAD OR THEIR DESIGNATED REPRESENTATIVE. IF THE DAMAGE AFFECTS THE TRACK, TRACK STRUCTURE, RAILROAD FACILITIES, OR TRAIN OPERATIONS AS DETERMINED BY THE RAILROAD, THE REPAIRS WILL BE PERFORMED BY THE RAILROAD AT THE CONTRACTOR'S EXPENSE INCLUDING ALL ASSOCIATED COSTS OF DELAYS TO THE RAILROAD.

DURING TRAIN MOVEMENTS THROUGH THE PROJECT LOCATION, VEHICLES, EQUIPMENT, AND PERSONNEL WILL NOT BE ALLOWED TO OPERATE WITHIN TWENTY-FIVE (25) FEET OF THE TRACK.

CSXT SHALL BE NOTIFIED AT LEAST FIVE (5) DAYS IN ADVANCE OF THE PRE-CONSTRUCTION MEETING.

THE CONTRACTOR SHALL COORDINATE ALL WORK ON, OVER OR ADJACENT TO THE RAILROADS WITHIN THE PROJECT'S LIMITS. THE CONTRACTOR SHALL CONTACT CSX RAILROAD AT LEAST THIRTY (30) DAYS IN ADVANCE IN ORDER TO COORDINATE THE NECESSARY WORK. UNDER NO CIRCUMSTANCES SHALL THERE BE ANY WORK WITHIN THE RAILROAD RIGHT-OF-WAY WITHOUT THE PROPER AUTHORIZATION AND/OR FLAG PROTECTION FROM THE RAILROAD.

THE USE OF ACETYLENE GAS IS PROHIBITED FOR USE ON OR OVER CSX PROPERTY. TORCH CUTTING SHALL BE PERFORMED UTILIZING OTHER MATERIALS SUCH AS PROPANE.

CSXT REQUIRES THAT THE CONTRACTOR SUBMIT AND RECEIVE ACCEPTANCE OF A COMPREHENSIVE MEANS & METHODS SUBMITTAL (CSXT CONSTRUCTION SUBMISSION CRITERIA, ISSUED MAY 2023) DETAILING SCOPE WORK WITHIN CSXT TRACKS OR RIGHT-OF-WAY, OR OTHER WORK WHICH PRESENTS THE POTENTIAL TO AFFECT CSXT PROPERTY OR OPERATIONS TO UNDERTAKING THE WORK.

SUBSTRUCTURE FOUNDATION EXCAVATION AND CONSTRUCTION THAT MAY REQUIRE SHORING OR OTHER PROTECTION OF RAILROAD TRACK(S).

INSTALLATION OF PILES AND SHEETING FOR ABUTMENT FOUNDATIONS, PIER FOUNDATIONS, RETAINING WALL FOUNDATIONS, TEMPORARY AND PERMANENT SHORING AND OTHER STRUCTURES ON OR ADJACENT TO CSX'S RIGHT-OF-WAY, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT A DETAILED TRACK MONITORING PROGRAM FOR CSX'S APPROVAL PRIOR TO PERFORMING ANY WORK NEAR CSX'S RIGHT-OF-WAY.

CONTRACTOR SHALL VERIFY THE EXISTING TOP OF RAIL ELEVATIONS RELATIVE TO PLAN BENCHMARKS TO ENSURE DESIGNED RAILROAD MINIMUM VERITCAL CLEARANCE IS ACHIEVED.

THE CONTRACTOR SHALL SUBMIT A DETAILED PROCEDURE FOR ERECTING OVER OR ADJACENT TO CSX'S TRACKS OR RIGHT-OF-WAY. THE PROCEDURE SHALL CLEARLY INDICATE THE CAPACITY OF CRANES, LOCATION OF CRANES WITH RESPECT TO THE TRACKS AND CALCULATED LIFTING LOADS. THE ERECTION PROCEDURE MUST BE APPROVED BY CSX'S CONSTRUCITON ENGINEERING AND INSPECTION REPRESENTATIVE. GIRDERS OR GIRDER SYSTEMS SHALL BE STABLE AT ALL TIMES DURING ERECTION. NO CRANE MAY UNHOOK PRIOR TO STABILIZING THE BEAM OR GIRDER.

ALL LIFTING EQUIPMENT AND CONNECTION DEVICES SHALL HAVE A CAPACITY FOR 150% OF THE ACTUAL LIFTING LOAD. THE FACTOR OF SAFETY PROVIDED BY THE MANUFACTURER IN THE LIFTING CAPACITY DATA SHALL NOT BE CONSIDERED IN THE 150% REQUIREMENT.

DURING BEAM ERECTION AND PRIOR TO PERMANENTLY INSTALLING ANCHOR DOWELS / TIE RODS, AND CONSTRUCTING CONCRETE DECK, THE CONTRACTOR SHALL FIELD VERIFY THE VERITCAL CLEARANCE OVER EXISTING RAILROAD TRACKS AT EXTERIOR EDGE OF FASCIA BEAMS. THE VERTICAL CLEARANCE SHALL BE MEASURED FROM TOP OF RAILS TO THE LOWEST OBSTRUCTION, WITHIN SIX FEET (6'-0") OF THE TRACK CENTERLINE, IN EITHER DIRECTION.

IF THE MINIMUM VERTICAL CLEARANCE OVER RAILROAD TRACKS IS LESS THAN 23'-0 AT ANY LOCATION, NOTIFY THE ENGINEER FOR FURTHER EVALUATION. THE ENGINEER WILL DETERMINE IF INSTALLING SHIM PLATES AND / OR BEAING LOAD PLATE MODIFICATIONS ARE REQUIRED.

TEMPORARY CONSTRUCTION CLEARANCES (HORIZONTAL & VERTICAL) PROPOSED - FOR EXISTING OR LESS THAN STANDARD CONDITIONS - SHALL BE SUBJECT TO APPROVAL BY CSXT. TYPICALLY REDUCTION IN CONSTRUCTION CLEARANCES ARE NOT PERMITTED.

PER CSXT SOIL AND WATER MANAGEMENT POLICY, CSXT REQUIRES ALL SPOILS GENERATED AND NOT REUSED FROM WITHIN THE PROPERTY TO BE PROPERLY DISPOSED IN A RAILROAD APPROVED DISPOSAL FACILITY. THE MANAGEMENT OF SOILS GENERATED FROM CSXT PROPERTY SHOULD BE PLANNED FOR AND PROPERLY PERMITTED (IF APPLICABLE) PRIOR TO INITIATING ANY WORK ON RAILROAD'S PROPERTY. CSXT ENVIRONMENTAL DEPARTMENT WILL HANDLE WASTE CHARACTERIZATION AND PROFILING FOR DELIVERY TO AN APPROVED FACILITY.

DURING AND AFTER COMPLETION OF CONSTRUCTION, THE OUTSIDE PARTY OR ITS CONTRACTOR SHALL CLEAR CSXT'S DRAINAGE DITCHES OF ALL DEBRIS TO THE SATISFACTION OF CSXT'S CONSTRUCTION MONITORING REPRESENTATIVE.

A WORK SITE SAFETY PLAN THAT INCLUDES A RECOGNITION TO KEEP ALL PERSONNEL FROM FOULING CSXT RAIL OPERATIONS, A FALL PROTECTION PLAN DESCRIBING THE MEASURES TO BE TAKEN WHEN REQUIRED, AND A FIRE PROTECTION PLAN SHALL BE PRESENTED AND ACCEPTED BY CSXT FOR WORK ON, OVER OR ADJACENT CSXT PROPERTY.

ALL WASTE MATERIALS GENERATED BY THIS PROJECT, INCLUDING WASHING WITH CLEANING SOLVENTS, BLASTING, SCRAPING, BRUSHING AND/OR PAINTING OPERATIONS, SHALL BE THE RESPONSIBILITY OF THE AGENCY OR ITS CONTRACTOR, AND SHALL BE CONTAINED, COLLECTED AND PROPERLY DISPOSED OF BY THE STATE OR ITS CONTRACTOR. THE STATE AND ITS CONTRACTOR AGREE TO FULLY COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS, REGULATIONS, STATUTES AND ORDINANCES AT ALL TIMES.

CSXT MAY REQUIRE FULL TIME RAILROAD FLAGGING FOR ANY PROJECT TASKS THAT MAY HAVE THE POTENTIAL TO FOUL THE TRACK OR CAUSE A HAZARD TO TRAIN MOVEMENTS.

CSXT HAS SOLE AUTHORITY TO DETERMINE THE NEED FOR TRACK PROTECTION REQUIRED TO PROTECT ITS OPERATIONS AND PROPERTY. IN GENERAL, TRACK PROTECTION WILL BE REQUIRED WHENEVER CONTRACTOR OR EQUIPMENT ARE, OR ARE LIKELY TO BE, WORKING WITHIN FIFTY (50) FEET OF TRACK OR OTHER TRACK CLEARANCES AS SPECIFIED BY CSXT.

UPON COMPLETION OF THE WORK ON CSXT PROPERTY, THE CONTRACTOR SHALL REQUEST THE OWNER TO ARRANGE A FINAL INSPECTION OF THE PROJECT WITH THE RAILROAD'S PROJECT ENGINEER OR THEIR AUTHORIZED REPRESENTATIVE.

CSXT SHALL BE FURNISHED AS-BUILT DRAWINGS SHOWING ACTUAL OPERATING CLEARANCES AS CONSTRUCTED PRIOR TO PROJECT COMPLETION AND CLOSEOUT.

BUT-OXFORD AREA TRAIL PHASE 5

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GENERAL NOTES (5)
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

SFN 0964739

DESIGN AGENCY

Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER BSM 09-20-24

PROJECT ID 117001

SUBSET	TOTAL
6	13

SHEET	TOTAL
P.89	161

ESTIMATED QUANTITIES								
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER.	GEN.	SHEET NO.
SPEC	203E65000	2	EACH	SETTLEMENT PLATFORM			2	
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING			LUMP	
505	11100	LUMP	LS	PILE DRIVING EQUIPMENT MOBILIZATION	LUMP			
507	00100	1000	FT	STEEL PILES HP10X42, FURNISHED	1000			
507	00150	900	FT	STEEL PILES HP10X42, DRIVEN	900			
509	10000	6380	LB	EPOXY COATED REINFORCING STEEL	6380			
511	43512	66	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	66			
518	20000	45	SY	PREFABRICATED GEOCOMPOSITE DRAIN	45			
518	40000	66	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	66			
SPECIAL	53000200	LUMP	LS	STRUCTURE, MISC.: PREFABRICATED BRIDGE, 92'-0" SPAN		LUMP		
607	39931	94	FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC, AS PER PLAN		94		9 | 13

ESTIMATED QUANTITIES - WALL 1					
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	SHEET #
203	20001	91	CY	EMBANKMENT, AS PER PLAN	13/13
203	35110	102	CY	GRANULAR MATERIAL, TYPE B	
203	35120	54	CY	GRANULAR MATERIAL, TYPE C	
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING	
512	10050	101	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
601	37501	45	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN	13/13
840	20000	1072	SF	MECHANICALLY STABILIZED EARTH WALL	
840	21000	203	CY	WALL EXCAVATION	
840	22000	142	SY	FOUNDATION PREPARATION	
840	23000	780	CY	SELECT GRANULAR BACKFILL	
840	23050	68	CY	NATURAL SOIL	
840	25010	157	FT	6" DRAINAGE PIPE, PERFORATED	
840	25020	94	FT	6" DRAINAGE PIPE, NON-PERFORATED	
840	26000	77	FT	CONCRETE COPING	
840	27000	2.5	DAY	ON-SITE ASSISTANCE	
840	28000	LUMP	LS	SGB INSPECTION AND COMPACTION TESTING	

ESTIMATED QUANTITIES - WALL 2					
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	SHEET #
203	20001	108	CY	EMBANKMENT, AS PER PLAN	13/13
203	35110	95	CY	GRANULAR MATERIAL, TYPE B	
203	35120	67	CY	GRANULAR MATERIAL, TYPE C	
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING	
512	10050	123	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
601	37501	57	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN	13/13
840	20000	1269	SF	MECHANICALLY STABILIZED EARTH WALL	
840	21000	269	CY	WALL EXCAVATION	
840	22000	119	SY	FOUNDATION PREPARATION	
840	23000	1093	CY	SELECT GRANULAR BACKFILL	
840	23050	95	CY	NATURAL SOIL	
840	25010	190	FT	6" DRAINAGE PIPE, PERFORATED	
840	25020	89	FT	6" DRAINAGE PIPE, NON-PERFORATED	
840	26000	92	FT	CONCRETE COPING	
840	27000	2.5	DAY	ON-SITE ASSISTANCE	
840	28000	LUMP	LS	SGB INSPECTION AND COMPACTION TESTING	

BUT-OXFORD AREA TRAIL PHASE 5

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ESTIMATED QUANTITIES
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

SFN 0964739

DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

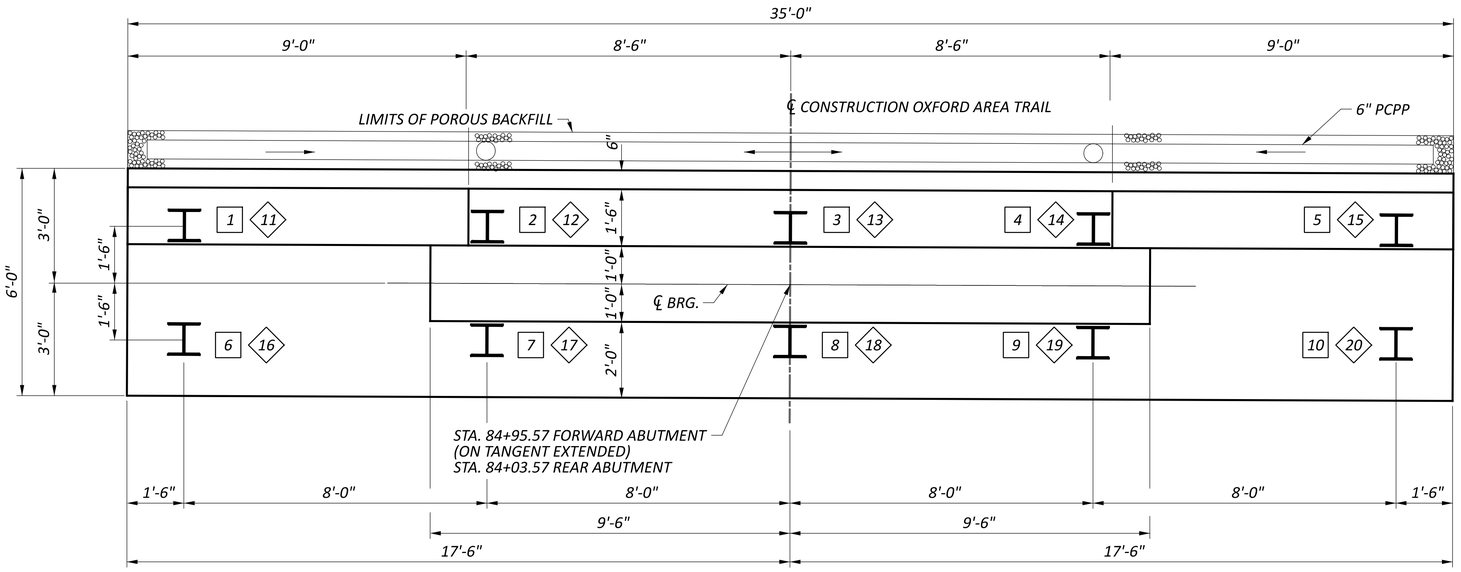
DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

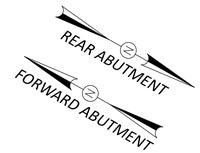
PROJECT ID
117001

SUBSET	TOTAL
7	13

SHEET	TOTAL
P.90	161

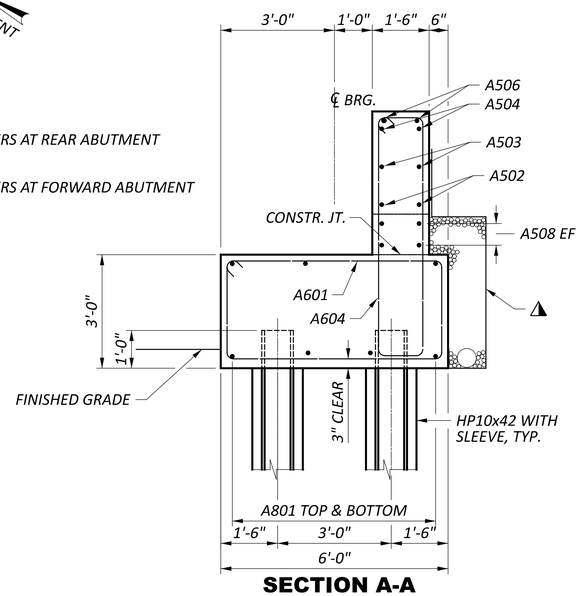


PLAN

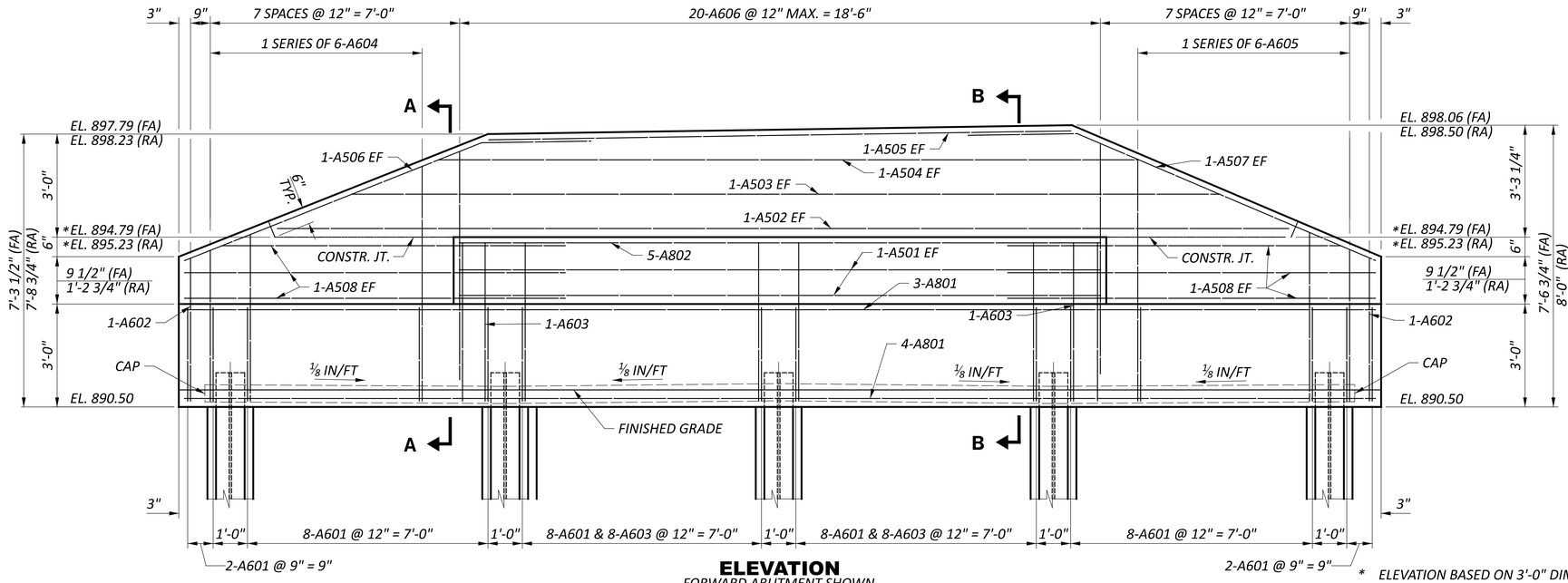


8 PILE NUMBERS AT REAR ABUTMENT

18 PILE NUMBERS AT FORWARD ABUTMENT

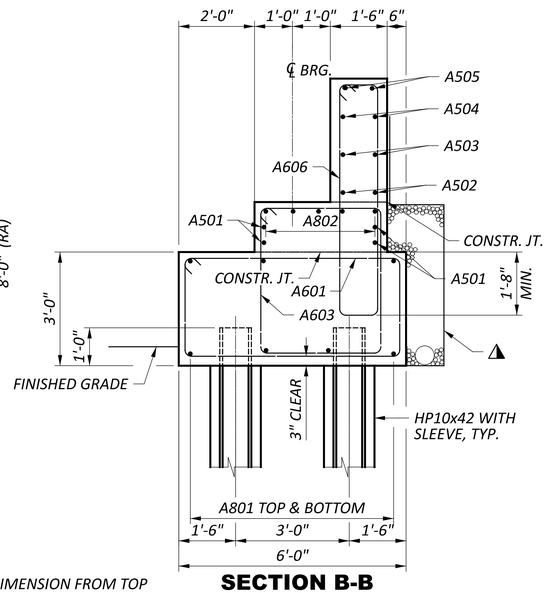


SECTION A-A



ELEVATION

FORWARD ABUTMENT SHOWN
REAR ABUTMENT OPPOSITE HAND



SECTION B-B

* ELEVATION BASED ON 3'-0" DIMENSION FROM TOP OF DECK TO BEAM SEAT. ADJUST AS NEEDED IF THE ACTUAL DIMENSION VARIES FROM THIS.

⚠ PREFABRICATED GEOCOMPOSITE DRAINAGE SYSTEM IN ACCORDANCE WITH C&MS 518.

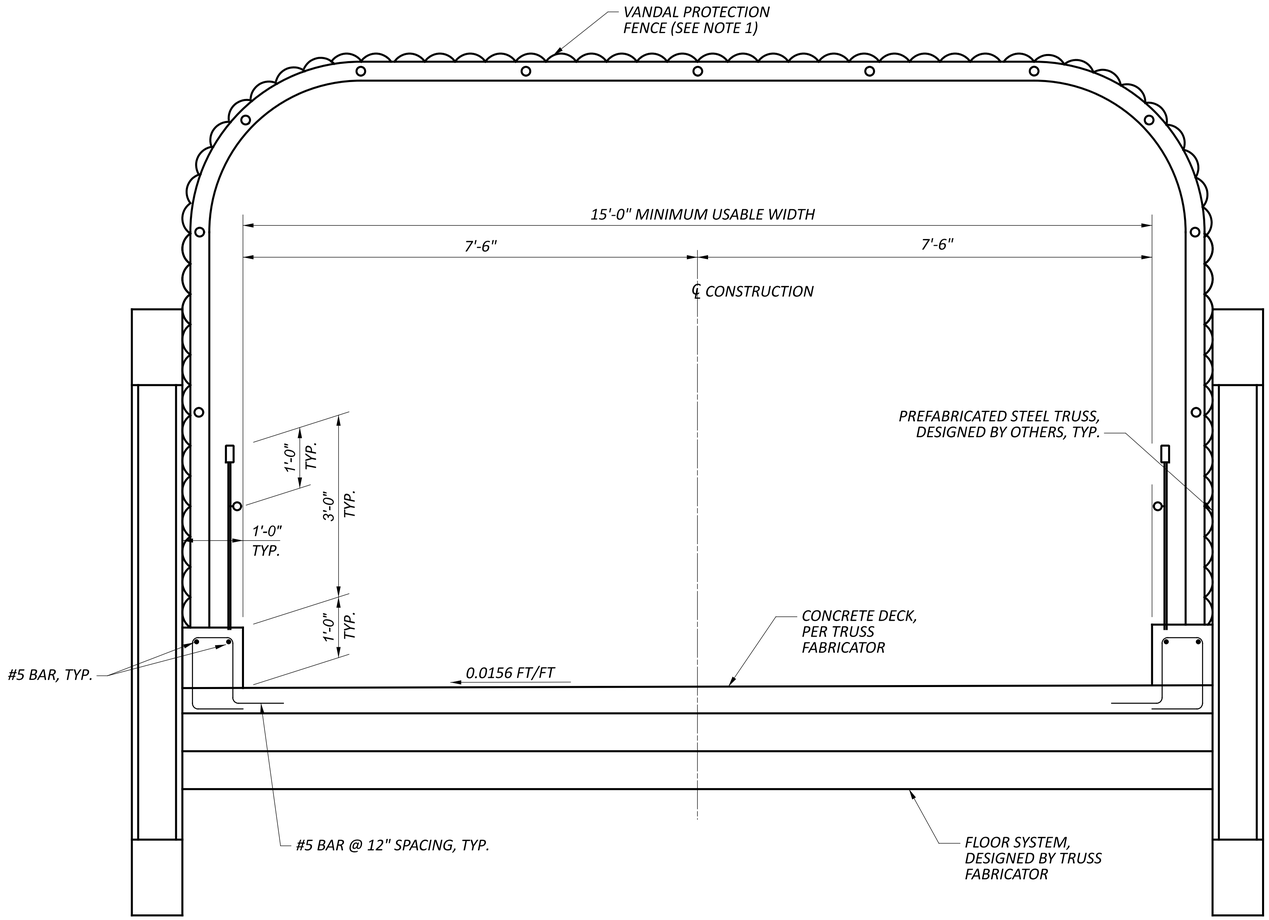
LEGEND:
FA - FORWARD ABUTMENT
RA - REAR ABUTMENT

ABUTMENT DETAILS
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

BUT-OXFORD AREA TRAIL PHASE 5

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SFN 0964739
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200
DESIGNER MRS | CHECKER EDA
REVIEWER BSM 09-20-24
PROJECT ID 117001
SUBSET 8 | TOTAL 13
SHEET P.91 | TOTAL 161



TYPICAL SECTION
PREFABRICATED STEEL TRUSS

ITEM 607 - VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC, AS PER PLAN.

VANDAL PROTECTION FENCE SHALL BE PER ODOT STD. DWG. VDP-1-90, WITH POST SECTION PS-1 AND BASEPLATE BP-3, WITH THE FOLLOWING MODIFICATIONS:

1. *FABRIC SHALL EXTEND COMPLETELY ACROSS TOP OF TRAIL.*
2. *CURVATURE AT TOP OF POST SECTION PS-1 SHALL EXTEND THROUGH A 90 DEGREE ANGLE, IN PLACE OF 76 DEGREE ANGLE SHOWN ON STANDARD DRAWING.*
3. *THE 2.875" O.D. PIPE SHALL BE EXTENDED ACROSS THE TOP OF THE TRAIL JOINING THE POSTS ON EACH SIDE IN A CONTINOUS FRAME. A SPLICE MAY BE USED IN THE HORIZONTAL SECTION OF PIPE AT THE FABRICATOR'S OPTION.*
4. *TOP LINE RAILS SHALL BE EQUALLY SPACED AS SHOWN IN THE TYPICAL SECTION.*
5. *END POSTS FOR THE FENCE SHALL BE LOCATED ON THE CENTERLINE OF BEARING AT THE ABUTMENTS WITH POSTS SPACED AT 5'-9" ALONG THE BRIDGE.*

TYPICAL SECTION
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

BUT-OXFORD AREA TRAIL PHASE 5

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SFN 0964739

DESIGN AGENCY

Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

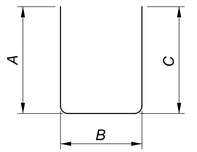
PROJECT ID: 117001

SUBSET	TOTAL
9	13

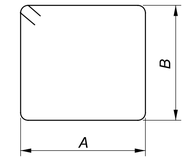
SHEET	TOTAL
P.92	161

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
REAR ABUTMENT											
A801	7	34'-8"	648	STR.							
A802	5	18'-8"	249	STR.							
A601	36	16'-10"	910	3	5'-8"	2'-7"					
A602	2	9'-0"	27	3	1'-2"	3'-2"					
A603	18	14'-0"	379	3	3'-2"	3'-8"					
	1	10'-4"				3'-10"					
A604	SERIES OF	TO	111	3	1'-2"	TO					
	6	14'-4"				5'-10"					
	1	10'-6"				3'-11"					
A605	SERIES OF	TO	114	3	1'-2"	TO					
	6	14'-10"				6'-1"					
A606	20	12'-6"	376	2	5'-10"	1'-2"	5'-10"				
A501	2	18'-8"	39	STR.							
A502	2	29'-5"	62	STR.							
A503	2	25'-3"	53	STR.							
A504	2	20'-4"	42	STR.							
A505	2	16'-11"	35	STR.							
A506	2	12'-3"	26	19	9'-3"	3'-0"	1'-1"				
A507	2	12'-5"	27	19	9'-5"	3'-0"	1'-3"				
A508	8	11'-1"	92	STR.							
SUB-TOTAL			3190								

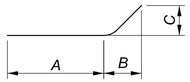
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
FORWARD ABUTMENT											
A801	7	34'-8"	648	STR.							
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A604	SERIES OF	TO	111	3	1'-2"	TO					
	6	14'-4"				5'-10"					
	1	10'-6"				3'-11"					
A605	SERIES OF	TO	114	3	1'-2"	TO					
	6	14'-10"				6'-1"					
A606	20	12'-6"	376	2	5'-10"	1'-2"	5'-10"				
A501	2	18'-8"	39	STR.							
A502	2	29'-5"	62	STR.							
A503	2	25'-3"	53	STR.							
A504	2	20'-4"	42	STR.							
A505	2	16'-11"	35	STR.							
A506	2	12'-3"	26	19	9'-3"	3'-0"	1'-1"				
A507	2	12'-5"	27	19	9'-5"	3'-0"	1'-3"				
A508	8	11'-1"	92	STR.							
SUB-TOTAL			3190								



TYPE-2



TYPE-3



TYPE-19

REINFORCING STEEL LIST
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 10/7/2024 TIME: 2:42:59 PM USER: msturdevant
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SFN
0964739

DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

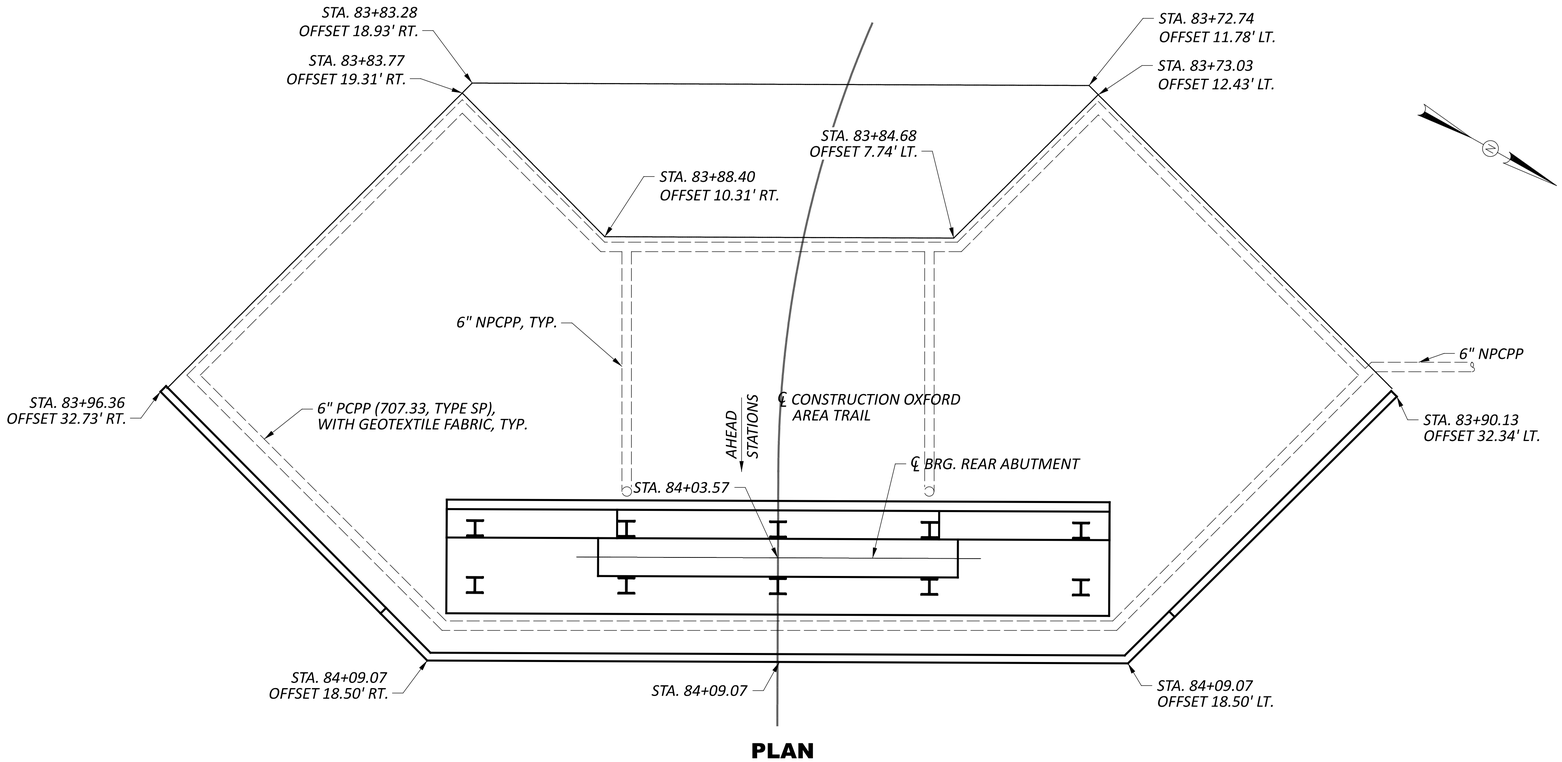
DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

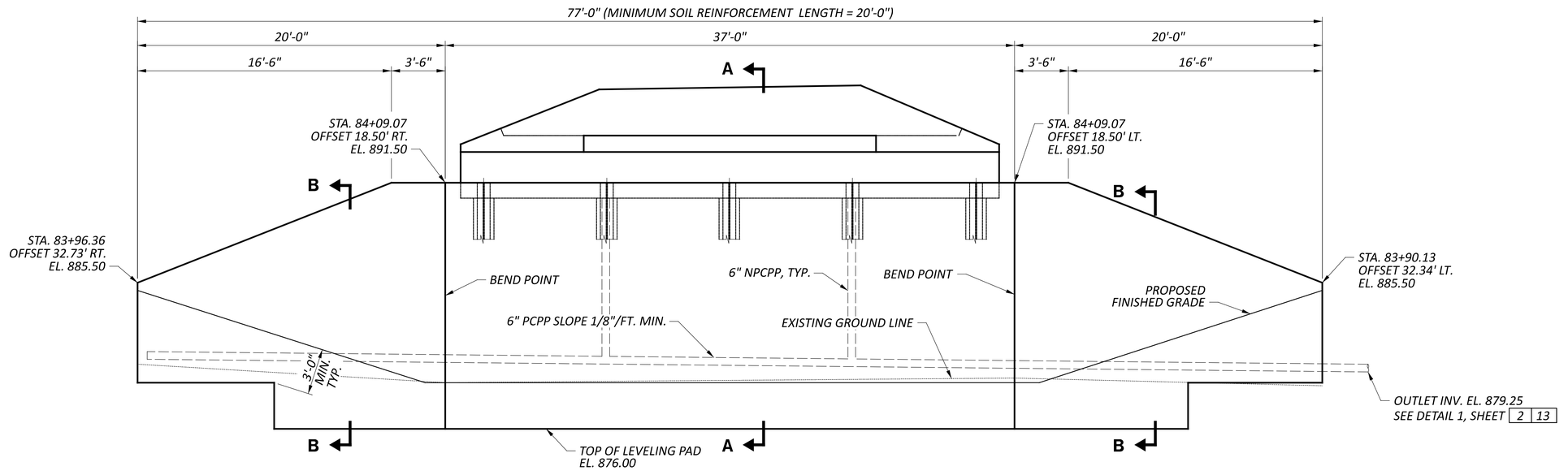
PROJECT ID
117001

SUBSET	TOTAL
10	13

SHEET	TOTAL
P.93	161



PLAN



ELEVATION - DEVELOPED VIEW

NOTES:
1. ALL STATIONS AND OFFSETS ARE TO FACE OF WALL.
2. FOR SECTIONS A-A AND B-B, SEE SHEET 13 13 .

LEGEND:
NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
PCPP = PERFORATED CORRUGATED PLASTIC PIPE

WALL 1 DETAILS
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

BUT-OXFORD AREA TRAIL PHASE 5

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SFN
0964739

DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

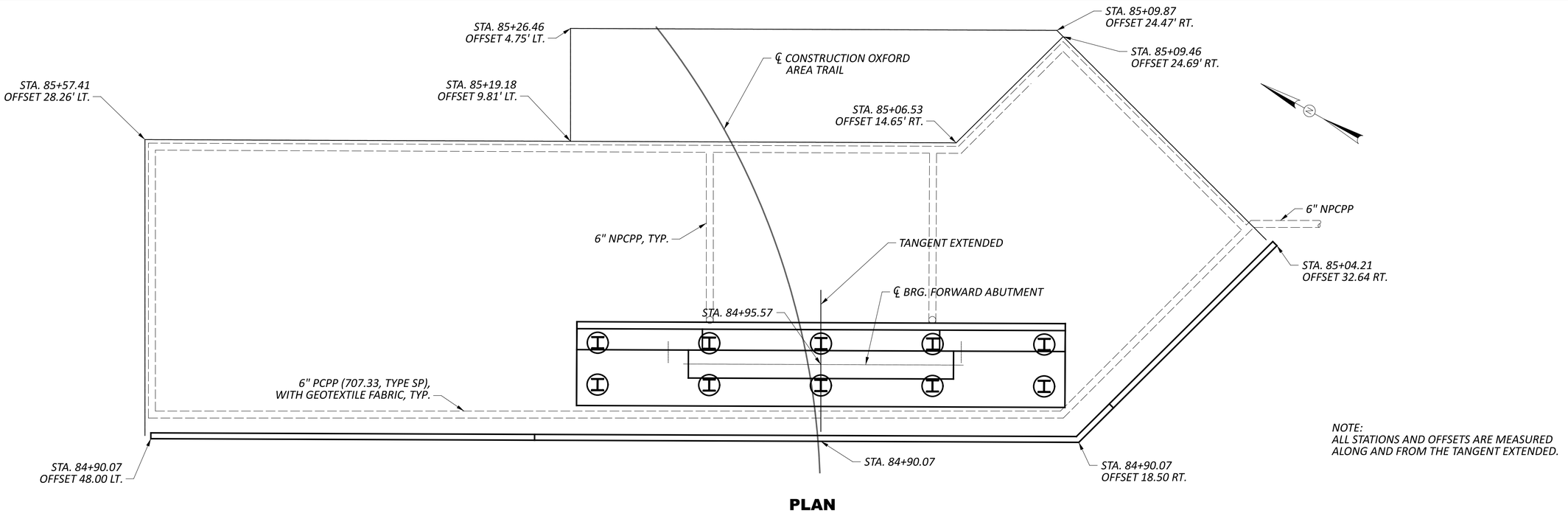
DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

PROJECT ID
117001

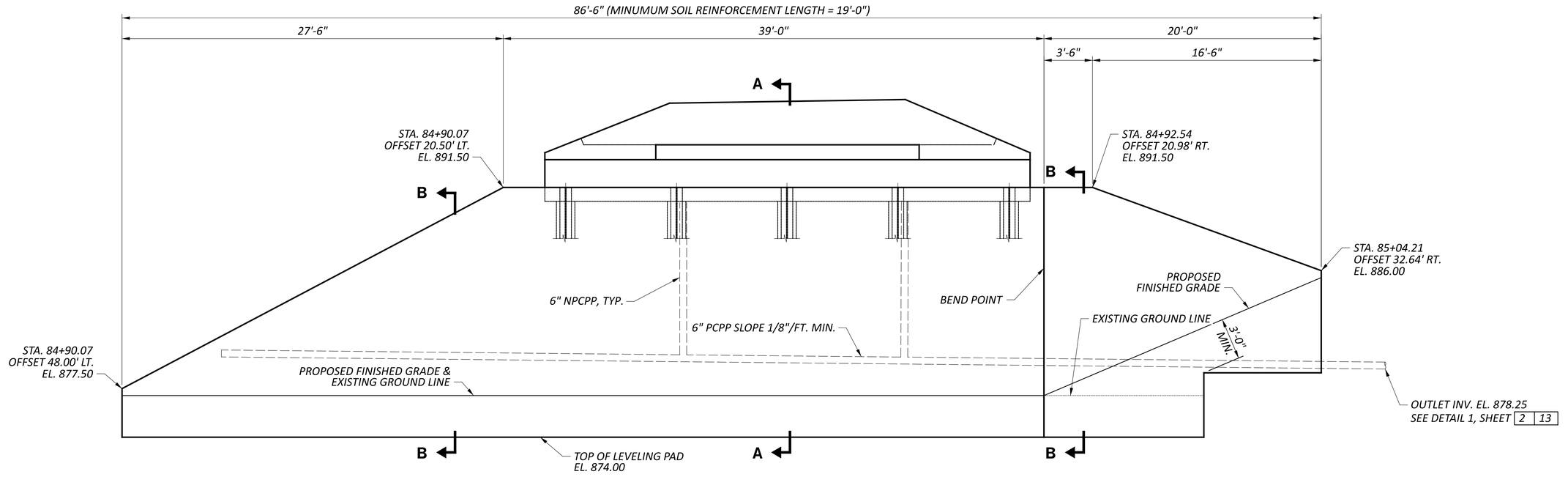
SUBSET	TOTAL
11	13

SHEET	TOTAL
P.94	161



NOTE:
ALL STATIONS AND OFFSETS ARE MEASURED ALONG AND FROM THE TANGENT EXTENDED.

PLAN



ELEVATION - DEVELOPED VIEW

NOTES:
1. ALL STATIONS AND OFFSETS ARE TO FACE OF WALL.
2. FOR SECTIONS A-A AND B-B, SEE SHEET 13 13.

LEGEND:
NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
PCPP = PERFORATED CORRUGATED PLASTIC PIPE

WALL 2 DETAILS
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

SFN 0964739

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

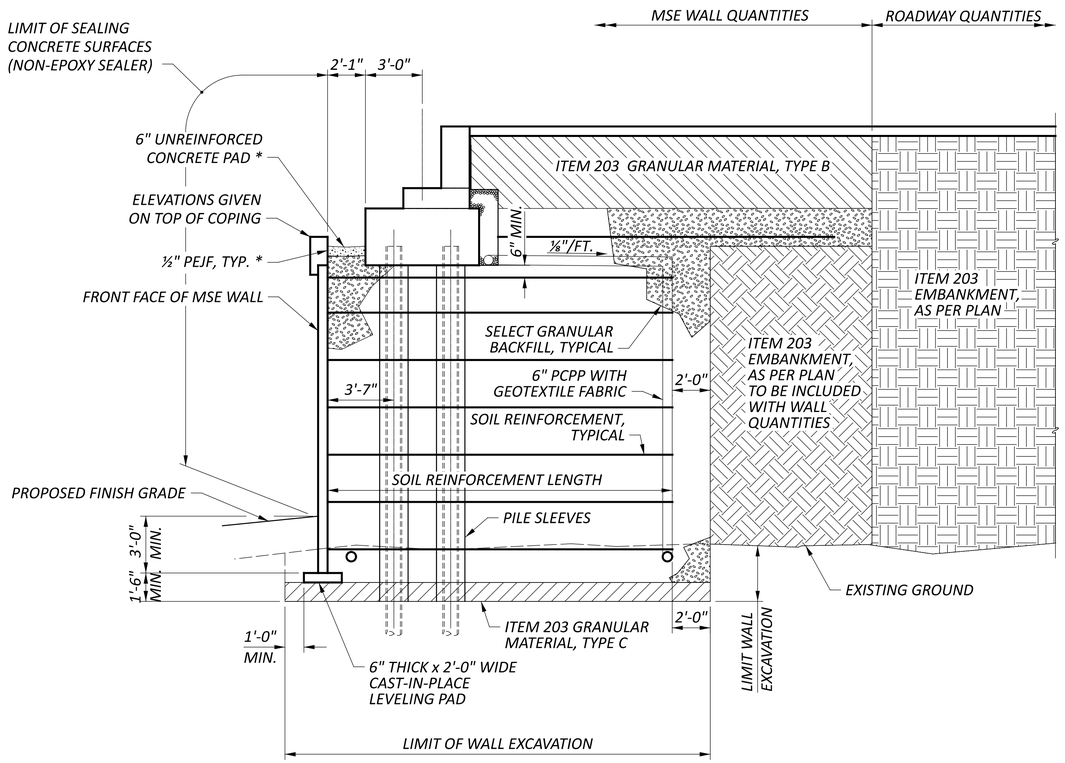
PROJECT ID: 117001

SUBSET	TOTAL
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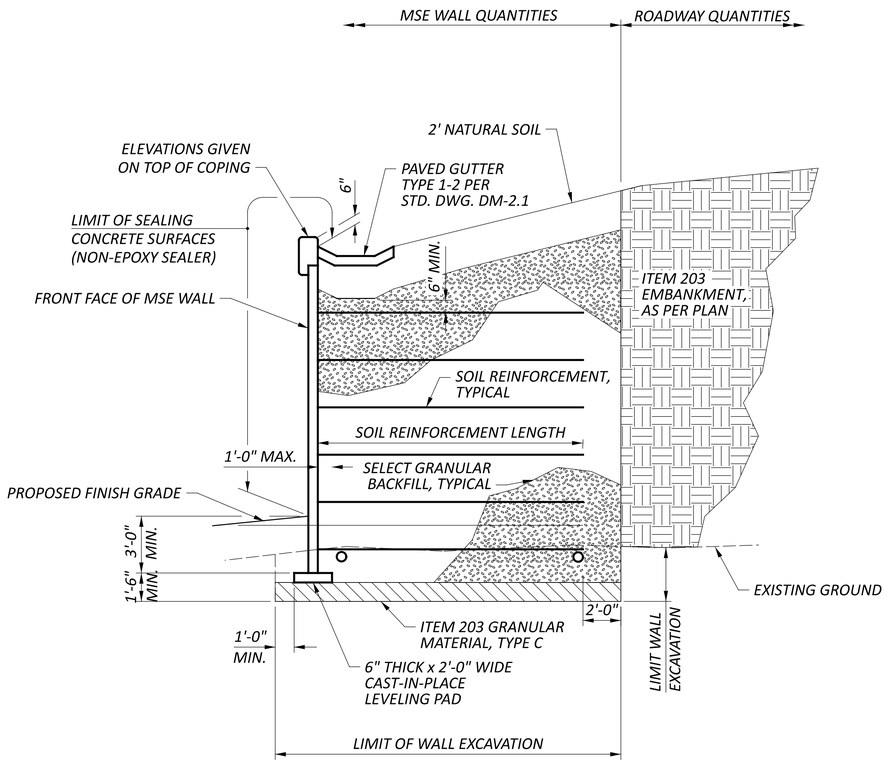
SHEET	TOTAL
P.95	161

BUT-OXFORD AREA TRAIL PHASE 5

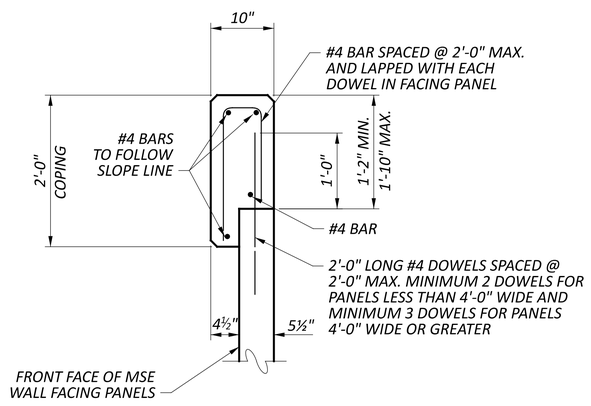
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SECTION A-A

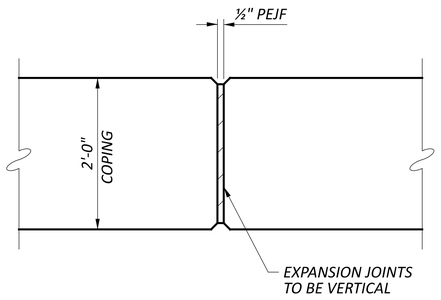


SECTION B-B



MSE WALL COPING

ALL REINFORCING STEEL TO BE EPOXY COATED



COPING EXPANSION JOINTS

MSE WALL NOTES:

1. *MSE WALLS SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 840.*
2. *FOR ITEM 203 - EMBANKMENT, AS PER PLAN. SEE ROADWAY GENERAL NOTES FOR DETAILS.*

LEGEND:

* *INCLUDE FOR PAYMENT WITH ITEM 601, PAVED GUTTER, TYPE 1-2, AS PER PLAN*

WALL SECTIONS
BUT-OXFORD AREA TRAIL PHASE 5
OVER CSX TRANSPORTATION

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 10/7/2024 TIME: 2:38:50 PM USER: msturdevant
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SFN 0964739

DESIGN AGENCY

Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

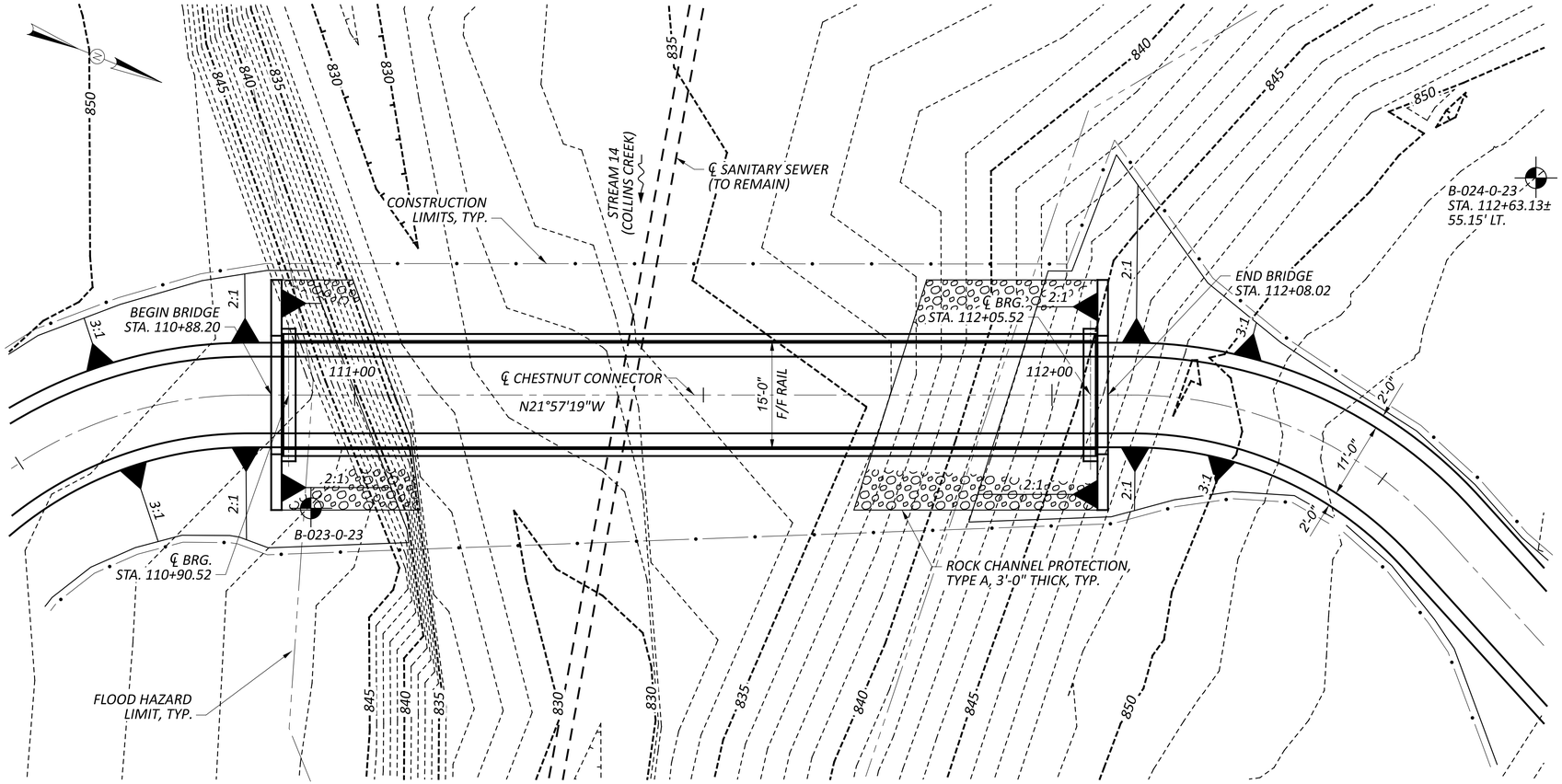
DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

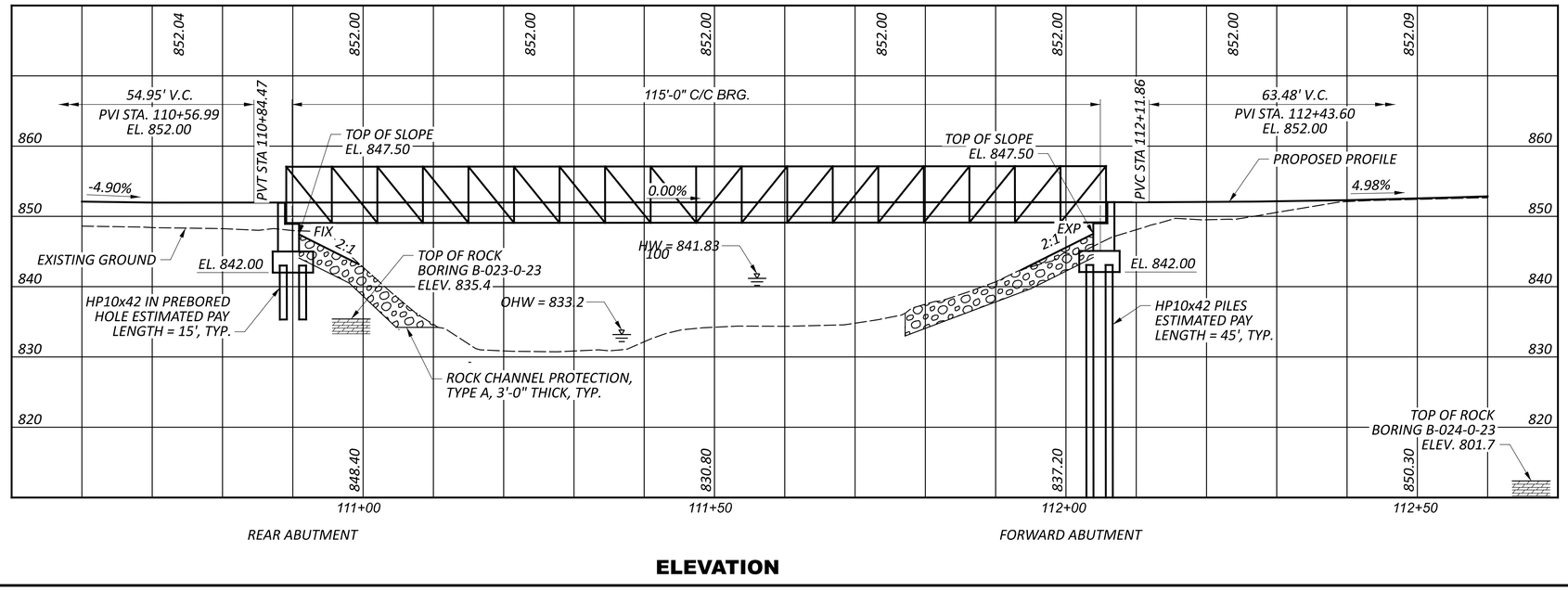
PROJECT ID: 117001

SUBSET	TOTAL
13	13

SHEET	TOTAL
P.96	161



PLAN



ELEVATION

BENCHMARK DATA

BM #1 STA.	0+92.30,	ELEV.	945.86,	OFFSET	19.86',	LT.
BM #2 STA.	50+97.51,	ELEV.	915.85,	OFFSET	41.79',	RT.
BM #3 STA.	73+29.54,	ELEV.	890.58,	OFFSET	11.71',	RT.
BM #4 STA.	131+92.71,	ELEV.	903.74,	OFFSET	116.84',	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

LEGEND

BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 4.90 SQ. MILES
Q (5) = 1574 CFS V (5) = 5.11 FT/S
Q (100) = 3980 CFS V (100) = 11.69 FT/S
STRUCTURE CLEARS THE 5 YEAR
DESIGN HW BY 7.17 FEET.

PROPOSED STRUCTURE

TYPE: PREFABRICATED STEEL TRUSS BRFIDGE W/CONCRETE DECK ON STUB ABUTMENTS

SPANS: 115'-0" C/C BEARINGS

ROADWAY: 15'-0" FACE/FACE RAILINGS

LOADING: PEDESTRIAN LOADING - 0.090 KSF
VEHICULAR LOADING - H15-44 (TRUCK ONLY)

SKEW: 0° 00' 00" LF

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

CROWN: 0.0156 FT/FT

DECK AREA: 1800 SF

COORDINATES: LATITUDE 39° 29' 43.22"
LONGITUDE -84° 44' 33.57"

SITE PLAN
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 14 (COLLINS CREEK)

SFN 0964741

DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

PROJECT ID: 117001

SUBSET	TOTAL
1	8

SHEET	TOTAL
P.97	161

BUT-OXFORD AREA TRAIL PHASE 5
MODEL: Untitled Sheet PAPERSIZE: 2.83333x1.83333 (ft.) DATE: 1/3/2025 TIME: 2:12:58 PM USER: msturdevant
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DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

REDUNDANCY
THE FOLLOWING ITEM(S) WERE CONSIDERED NON-REDUNDANT FOR DESIGN AND INCLUDE A LOAD MODIFIER EQUAL TO 1.05 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.4: TRUSS BRIDGE

OPERATIONAL IMPORTANCE
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING
DESIGN LOADING INCLUDES:
PEDESTRIAN LIVE LOAD: 0.090 KIPS/SF
VEHICULAR LIVE LOAD: H15-44 (TRUCK ONLY)

DESIGN DATA
CONCRETE CLASS QC2:
COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1:
COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT:
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (ABUTMENTS)

STRUCTURAL STEEL - ASTM A709 GRADE 50:
YIELD STRENGTH = 50 KSI

STEEL H-PILES - ASTM A572: YIELD STRENGTH 50 KSI

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILES TO BEDROCK
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 100 KIPS PER PILE FOR THE ABUTMENT PILES.

FORWARD ABUTMENT PILES:
HP10x42 PILES 50 FEET LONG, ORDER LENGTH

PILE SPLICES
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

GROUNDING
THE STRUCTURE SHALL BE GROUNDED PER ODOT STANDARD DRAWING HL-50.21

ITEM 507 - PREBORED HOLES, AS PER PLAN:

PREBORED HOLES SHALL EXTEND AT LEAST 5 FEET INTO BEDROCK AT EACH PILE. THE DIAMETER OF THE PREBORED HOLE SHALL BE A MINIMUM 2 INCH LARGER THAN THE DIAGONAL DIMENSION OF THE PILE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AN OPEN HOLE.

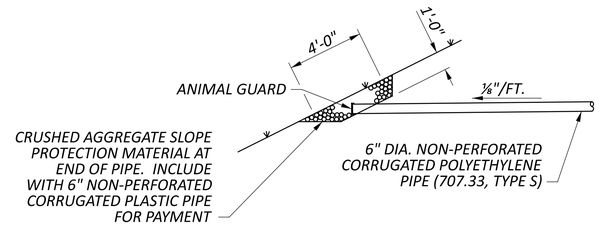
THE PREBORED HOLES SHALL BE CLEAN AND FREE OF DELETERIOUS MATERIALS PRIOR TO BACKFILLING OPERATIONS. BACKFILL THE VOID BETWEEN THE PILE AND THE PREBORED HOLE WITH CLASS QC MISC. CONCRETE UP TO THE TOP OF ROCK ELEVATION. ABOVE THE TOP OF ROCK, BACKFILL THE VOID TO THE BOTTOM OF FOOTING ELEVATION WITH GRANULAR MATERIAL CONFORMING TO 703.11, STRUCTURAL BACKFILL TYPE 2, EXCEPT 100 PERCENT OF THE MATERIAL SHALL PASS THROUGH A ¾ INCH SIEVE. PAYMENT FOR PREBORED HOLES INCLUDES THE BACKFILL MATERIAL.

ITEM 507 - STEEL PILES HP10x42, FURNISHED, AS PER PLAN:

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL PILES INTO PREBORED HOLES. PLACE EACH PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN ONE INCH BETWEEN THE TOP AND BOTTOM. SUPPORT THE PILE SO THAT IT DOES NOT MOVE DURING PLACEMENT OF THE BACKFILL MATERIAL. THE TOTAL FACTORED LOAD IS 100 KIPS PER PILE FOR THE ABUTMENT PILES.

REAR ABUTMENT PILES:

HP10x42 PILES 20 FEET LONG, ORDER LENGTH.



DETAIL 1

GENERAL NOTES (1)
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 14 (COLLINS CREEK)

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Sheet PAPERSIZE: 2.83333x1.83333 (ft.) DATE: 10/3/2024 TIME: 11:12:54 AM USER: msturdevant
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SFN
0964741

DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

PROJECT ID
117001

SUBSET	TOTAL
2	8

SHEET	TOTAL
P.98	161

ITEM 530, STRUCTURES - PREFABRICATED BRIDGE

1.0 GENERAL
1.1 SCOPE
THESE SPECIFICATIONS ARE FOR FULLY ENGINEERED HALF THROUGH TRUSS (NO OVERHEAD BRACING) BRIDGE OF STEEL CONSTRUCTION AND SHALL BE REGARDED AS MINIMUM STANDARDS FOR DESIGN AND FABRICATION. THE WORK INCLUDED UNDER THIS ITEM SHALL CONSIST OF DESIGN, FABRICATING, FINISHING AND TRANSPORTING THE STEEL TRUSS BRIDGE SUPERSTRUCTURE INCLUDING BEARINGS.

1.2 QUALIFIED BRIDGE MANUFACTURER
EACH CONTRACTOR IS REQUIRED TO IDENTIFY THEIR INTENDED SUPPLIER AS PART OF THE BID SUBMITTAL. QUALIFIED BRIDGE MANUFACTURERS MUST HAVE AT LEAST 5 YEARS OF EXPERIENCE FABRICATING THESE TYPES OF STRUCTURES. THE PREFABRICATED TRUSS SUPERSTRUCTURE SHALL BE SUPPLIED BY A MANUFACTURER ON ODOT'S PREQUALIFICATION LIST AS FOUND AT THE FOLLOWING WEBSITE:

HTTPS://WWW.DOT.STATE.OH.US/DIVISIONS/CONSTRUCTIONMGT/MATERIALS/MISCELLANEOUSLIST/STRUCTURALSTEELFABRICATORS.PDF

ALL SUPPLIERS SHALL FABRICATE THEIR PRODUCT UTILIZING A MODERN FABRICATION FACILITY OWNED AND OPERATED BY THE BRIDGE MANUFACTURER THAT INCLUDES THE USE OF CNC BEAM DRILLING MACHINES, NO BROKERS ARE ALLOWED.

1.3 BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL AND SUBMITTALS
THE BRIDGE MANUFACTURER SHALL HAVE AS A DIRECT EMPLOYEE, AN ENGINEER WHO IS EXPERIENCED IN BRIDGE DESIGN TO BE IN RESPONSIBLE CHARGE OF ALL ENGINEERING RELATED TASK AND DESIGN. THE ENGINEER SHALL HAVE A MINIMUM OF 10 YEARS OF EXPERIENCE IN BRIDGE DESIGN AND BE A CURRENTLY LICENSED CIVIL OR STRUCTURAL PROFESSIONAL ENGINEER IN THE STATE OF OHIO AND SHALL BE THE ENGINEER WHO WILL SEAL AND SIGN THE PLANS.

ENGINEERING DRAWINGS, 11X17 FORMAT, SHALL BE PREPARED AND SUBMITTED TO THE CONTRACTOR, ODOT, AND OWNER FOR THEIR REVIEW AFTER RECEIPT OF THE ORDER. SUBMITTAL DRAWINGS SHALL BE UNIQUE DRAWINGS, PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE BRIDGE BEING FABRICATED. ALL RELATIVE DESIGN INFORMATION SUCH AS MEMBER SIZE, ASTM/AASHTO MATERIAL SPECIFICATION, DIMENSIONS NECESSARY TO FABRICATE AND REQUIRED WELDING SHALL BE CLEARLY SHOWN ON THE DRAWINGS. DRAWINGS SHALL HAVE REFERENCED DETAILS AND SHEET NUMBERS. ALL DRAWINGS SHALL BE STAMPED, SIGNED AND DATED BY THE BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL.

STRUCTURAL CALCULATIONS FOR THE DESIGN OF THE BRIDGE SUPERSTRUCTURE SHALL BE PREPARED BY THE BRIDGE MANUFACTURER AND SUBMITTED FOR REVIEW AFTER RECEIPT OF THE ORDER. CALCULATIONS SHALL INCLUDE COMPLETE DESIGN, ANALYSIS AND CODE CHECKS FOR THE CONTROLLING MEMBERS, CONNECTIVITY AND SUPPORT CONDITIONS, TRUSS STABILITY CHECKS, DECK DESIGN, DEFLECTION CHECKS, BEARINGS AND ALL SPLICES.

2.0 APPLICABLE CODES AND STANDARDS
2.1 GOVERNING SPECIFICATIONS
BRIDGE SHALL BE DESIGNED IN COMPLIANCE WITH THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 (AASHTO PED) AND THE OHIO BRIDGE DESIGN MANUAL. CALCULATIONS SHALL BE IN ACCORDANCE WITH THIS DOCUMENT, AND FORMULAS SHALL REFERENCE THE APPROPRIATE SECTIONS.

2.2 OTHER REFERENCE CODES, SPECIFICATIONS AND STANDARDS
- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020 (AASHTO LRFD)
- AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, FIRST EDITION, 2005 (AASHTO SIGNS)
- AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION, 2017 (AISC)
- ANSI/AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 2016 (AISC 360)
- AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE, D1.1, 2015 (AWS D1.1)
- SETRA TECHNICAL GUIDE FOR FOOTBRIDGES, 2006 (SETRA)

THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES SHALL CONTROL IF ANY CONFLICTING REQUIREMENTS OCCUR WITH THE OTHER REFERENCE DOCUMENTS AND/OR OTHER LOCAL CODES.

3.0 BRIDGE SYSTEM TYPE
3.1 TRUSS STYLE
THE TRUSS STYLE SHALL BE THE THE MOST ECONOMICAL STYLE FOR THE GIVEN SPAN LENGTHS. THE VERTICAL TRUSSES SHALL BE DESIGNED SUCH THAT THE TOP AND BOTTOM CHORD MEMBERS ARE PARALLEL FOR THE ENTIRE LENGTH OF BRIDGE. THE INTERIOR VERTICALS OF THE TRUSSES SHALL BE PERPENDICULAR TO THE TOP FACE OF THE BOTTOM CHORD AND THE END VERTICALS OF THE TRUSSES SHALL BE PLUMB. TRUSSES SHALL BE LAID OUT SUCH THAT DIAGONALS SHALL BE AT AN ANGLE OF 30-DEGREES OR MORE WITH RESPECT TO THE BOTTOM CHORD.

3.2 DIAGONAL STYLE
THE VERTICAL TRUSS SHALL USE A SINGLE-DIAGONAL, PRATT CONFIGURATION, WHERE ALL THE DIAGONALS ARE IN TENSION FOR GRAVITY LOADS.

3.3 FLOOR BEAM LOCATION
THE BRIDGE SHALL UTILIZE AN H-SECTION CONFIGURATION WHERE THE ENDS OF THE FLOOR BEAMS ARE WELDED ONLY TO THE INTERIOR FACE OF THE VERTICALS. THE DISTANCE FROM THE TOP OF DECK TO THE BOTTOM OF THE BOTTOM CHORD SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER DURING FINAL DESIGN.

4.0 BRIDGE GEOMETRY
4.1 SPAN LENGTH
THE BRIDGES WILL CONSIST OF SIMPLE SPAN TRUSSES. THE TOTAL DISTANCE OF THE BRIDGE FROM CENTER TO CENTER OF BEARING AT THE ABUTMENTS WILL BE AS SHOWN IN THE PLANS.

4.2 WIDTH
THE BRIDGE WIDTH SHALL PROVIDE A MINIMUM CLEARANCE OF 15'-0" BETWEEN ALL INTERIOR RAILING ELEMENTS.

4.3 TOP OF TRUSS HEIGHT ABOVE DECK
THE TOP OF THE TOP CHORD SHALL NOT BE LESS THAN 48" ABOVE THE DECK (MEASURED FROM THE HIGH POINT OF THE DECK). NOTE THAT THIS DIMENSION MAY BE EXCEEDED DUE TO TRUSS HEIGHT REQUIREMENTS FOR STRUCTURAL, DEFLECTION AND VIBRATION REQUIREMENTS. THE SAME HEIGHT SHALL BE USED FOR BOTH SPANS.

4.4 LOWER STEEL CLEARANCE
THE BRIDGE MANUFACTURER SHALL DETERMINE THE DISTANCE FROM THE TOP OF THE DECK (MEASURED FROM THE HIGHEST POINT OF THE DECK) TO THE BOTTOM OF ANY STEEL MEMBER.

4.5 TRUSS BAY SPACING
THE NUMBER OF BAYS AND THE DIMENSION OF THE PANEL POINTS SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER.

4.6 CAMBER
EACH SINGLE SIMPLE-SPAN BRIDGE SHALL HAVE A VERTICAL CAMBER DIMENSION AT THE MID-SPAN EQUAL TO 100% OF THE ANTICIPATED FULL DEAD LOAD DEFLECTION.

4.7 ELEVATION DIFFERENCE
THE TOP OF THE DECKS AT EACH END OF THE BRIDGE SHALL BE CONSTRUCTED WITH A VERTICAL ELEVATION DIFFERENCE AS SHOWN ON THE PLANS.

5.0 STRUCTURAL DESIGN LOADS
5.1 DEAD LOAD
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR THE TOTAL BRIDGE WEIGHT INCLUDING THE FINAL DECK SYSTEM.

5.2 PEDESTRIAN LOADING (PL)
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR A UNIFORM PEDESTRIAN LOADING OF 90 PSF OR AN H15 TRUCK. THIS LOADING SHALL BE PATTERNED TO PRODUCE THE MAXIMUM LOAD EFFECTS. CONSIDERATION OF DYNAMIC LOAD ALLOWANCE IS NOT REQUIRED WITH THIS LOADING.

5.3 VEHICLE LOAD (VL)
WHEN VEHICULAR ACCESS IS NOT PREVENTED BY PERMANENT PHYSICAL METHODS, THE SUPERSTRUCTURE AND DECK SYSTEM SHALL BE DESIGNED FOR EACH OF THE FOLLOWING CONCENTRATED/VEHICULAR LOADS:
- A CONCENTRATED LOAD OF 1,000 POUNDS PLACED ON ANY AREA 2.5' BY 2.5' SQUARE.
- A SINGLE TRUCK SHALL BE PLACED TO PRODUCE THE MAXIMUM LOAD EFFECTS AND SHALL NOT BE PLACED IN COMBINATION WITH THE PEDESTRIAN LOAD. THE DYNAMIC LOAD ALLOWANCE NEED NOT BE CONSIDERED FOR THIS LOADING. THE TRUCK SHALL BE AN H15 VEHICLE.

5.4 WIND LOAD (WS)
PEDESTRIAN BRIDGES SHALL BE DESIGNED FOR WIND LOADS AS SPECIFIED IN AASHTO SIGNS, ARTICLES 3.8 AND 3.9. THE LOADING SHALL BE APPLIED OVER THE EXPOSED AREA IN FRONT ELEVATIONS OF BOTH TRUSSES INCLUDING ALL ENCLOSURES.

IN ADDITION TO THE WIND LOAD SPECIFIED ABOVE, A VERTICAL UPLIFT LINE LOAD AS SPECIFIED IN AASHTO LRFD ARTICLE 3.8.2 AND DETERMINED AS THE FORCE CAUSED BY A PRESSURE OF 20 PSF OVER THE FULL DECK WIDTH, SHALL BE APPLIED CONCURRENTLY. THIS LOADING SHALL BE APPLIED AT THE WINDWARD QUARTER POINT OF THE DECK WIDTH.

5.5 SEISMIC (EQ)
THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR SEISMIC LOADING AS SPECIFIED IN SECTION 3.10 OF AASHTO LRFD. THE TRANSVERSE LOADS SHALL BE CALCULATED CONSIDERING THE TRANSVERSE PERIOD OF THE BRIDGE AND LONGITUDINAL LOADS SHALL BE CALCULATED USING A PERIOD OF ZERO. A RESPONSE MODIFICATION FACTOR OF 0.8 SHALL BE USED FOR THE CALCULATION OF FORCES APPLIED TO THE BRIDGE ANCHORAGE. A RESPONSE MODIFICATION FACTOR OF 1.0 SHALL BE USED FOR THE CALCULATION OF BEARING REACTIONS. THE TRANSVERSE SEISMIC LOAD SHALL BE APPLIED TO ALL THE BEARINGS AND THE LONGITUDINAL SEISMIC LOAD SHALL BE APPLIED TO THE FIXED BEARINGS ONLY. THE VERTICAL BEARING REACTIONS SHALL BE CALCULATED USING AN OVERTURNING FORCE ON THE BRIDGE BASED ON THE CENTER OF GRAVITY OF THE BRIDGE TIMES THE TRANSVERSE SEISMIC LOAD.

5.6 FATIGUE LOAD (FL)
THE FATIGUE LOADING SHALL BE AS SPECIFIED IN SECTION 11 OF AASHTO SIGNS. THE NATURAL WIND GUST SPECIFIED IN ARTICLE 11.7.1.2 AND THE TRUCK-INDUCED GUST SPECIFIED IN ARTICLE 11.7.1.3 OF AASHTO SIGNS ONLY NEED ONLY BE CONSIDERED, AS APPROPRIATE.

5.7 COMBINATION OF LOADS
THE LOAD COMBINATIONS AND LOAD FACTORS TO BE USED SHALL BE AS SPECIFIED IN AASHTO LRFD TABLE 3.4.1-1, WITH THE FOLLOWING EXCEPTIONS:
- LOAD COMBINATIONS STRENGTH II, STRENGTH IV, AND STRENGTH V NEED NOT BE CONSIDERED.
- THE LOAD FACTOR FOR FATIGUE I LOAD COMBINATION SHALL BE TAKEN AS 1.0, AND FATIGUE II LOAD COMBINATION NEED NOT BE CONSIDERED.

6.0 STRUCTURAL DESIGN CRITERIA
STRUCTURAL DESIGN OF THE BRIDGE STRUCTURE SHALL BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF OHIO, WHO IS EXPERIENCED IN TRUSS BRIDGE DESIGN, AND DONE IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRATICES AND PRINCIPLES.

6.1 MODELING
THE BRIDGE SHALL BE MODELED AND ANALYZED UTILIZING A THREE-DIMENSIONAL COMPUTER SOFTWARE WHICH SHALL ACCOUNT FOR MOMENTS INDUCED IN MEMBERS DUE TO JOINT FIXITY WHERE APPLICABLE. MOMENTS DUE TO BOTH TRUSS DEFLECTION AND JOINT ECCENTRICITY MUST BE CONSIDERED. ALL LOADS LISTED IN SECTION 5 OF THESE SPECIFICATIONS SHALL BE APPLIED TO THE MODEL AND ANALYZED APPROPRIATELY.

6.2 LATERAL FRAME AND MEMBER DESIGN
THE BRIDGE SHALL BE DESIGNED AND PROPORTIONED SUCH THAT APPROPRIATE LATERAL STIFFNESS IS PROVIDED LOCALLY AND GLOBALLY, TO ENSURE THAT THE STRUCTURE IS STABLE.

BRIDGE GENERAL NOTES (2)
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 14 (COLLINS CREEK)

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Sheet PAPERSIZE: 2.83333x1.83333 (ft.) DATE: 10/3/2024 TIME: 11:13:04 AM USER: msturdevant
V:\1736\active\173620161\engineering\117001\400-Engineering\Structures\SFN_0000003 (Chestnut Connector Bridge)\Sheets\117001_SFN03_SN002.dgn

SFN 0964741

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

PROJECT ID
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SUBSET	TOTAL
3	8

SHEET	TOTAL
P.99	161

FOR BRIDGES WITHOUT ANY OVERHEAD MEMBERS (HALF-THROUGH TRUSSES), THE VERTICAL TRUSS MEMBERS, THE FLOOR BEAMS AND THEIR CONNECTIONS SHALL BE PROPORTIONED TO RESIST A LATERAL FORCE APPLIED AT THE TOP OF THE TRUSS VERTICALS AT THE CENTER OF THE TOP CHORD. THIS LATERAL FORCE SHALL BE APPLIED AS AN ADDITIONAL LOAD TO THE TOP OF THE VERTICAL AT THE CENTER OF THE TOP CHORD, CREATING A CANTILEVER MOMENT, WHICH IS THEN ADDED TO THE FORCES OBTAINED FROM THE THREE-DIMENSIONAL MODEL. THE MAGNITUDE OF THIS LATERAL FORCE SHALL NOT BE LESS THAN 0.01/K TIMES THE AVERAGE FACTORED DESIGN COMPRESSIVE FORCE IN THE TWO ADJACENT TOP CHORD MEMBERS INCREASED BY A FACTOR OF SAFETY OF 1.33.

THE TOP CHORD SHALL BE ANALYZED AS A COLUMN WITH ELASTIC LATERAL SUPPORTS AT THE PANEL POINTS, CONSIDERING ALL MOMENTS DUE TO IN-PLANE AND OUT-OF-PLANE BENDING, ALONG WITH MOMENTS DUE TO ECCENTRICITIES OF THE MEMBERS.

THE U-FRAME STIFFNESS OF THE VERTICALS AND FLOOR BEAMS SHALL BE AS SPECIFIED IN AASHTO PED ARTICLE 7.1.2, ASSUMING THAT THE VERTICAL AND FLOOR BEAM CONNECTION IS RIGID. THIS MEANS THAT THE FOLLOWING MUST BE MET:

- ON H-SECTION FLOOR BEAM CONNECTIONS, THE FLOOR BEAM WIDTH SHALL BE AT LEAST 80% OF THE VERTICAL FACE WIDTH IN ORDER TO PREVENT ANY DEFORMATION DUE TO TUBE WALL PLASTIFICATION OF THE VERTICAL MEMBER FACES UNDER SERVICE LOADS. THE CONNECTION DESIGN WILL BE CHECKED AT STRENGTH I & STRENGTH III LOAD COMBINATIONS.
- ON UNDERHUNG FLOOR BEAM CONNECTIONS, THE VERTICAL WIDTH SHALL MATCH THE BOTTOM CHORD WIDTH IN ORDER TO TRANSFER VERTICAL MOMENTS THROUGH THE WALLS OF THE BOTTOM CHORD TO THE VERTICALS WITH NO DEFORMATION OF THE CHORD SIDE WALLS DUE TO SIDEWALL YIELDING OR CRIPPLING UNDER SERVICE LOADS. THE CONNECTION DESIGN WILL BE CHECKED AT STRENGTH I & STRENGTH III LOAD COMBINATIONS.
- THE VERTICAL AND FLOOR BEAM MEMBERS SHALL NOT BE CONNECTED TO FACES OF THE BOTTOM CHORD AT A 90-DEGREES TO ONE ANOTHER.
- ALL FIXED END MOMENTS IN THE FLOOR BEAMS AND VERTICALS DUE TO FLOOR BEAM ROTATIONS, IN ADDITION TO THE LOADS DERIVED FROM A U-FRAME ANALYSIS HAVE BEEN ACCOUNTED FOR IN THE STRENGTH DESIGN OF THE CONNECTIONS.

THE VERTICAL AND FLOOR BEAM MEMBERS SHALL BE PROPORTIONED SUCH THAT THE EFFECTIVE LENGTH FACTOR, K, USED IN THE DESIGN OF THE TOP CHORD SHALL NOT BE GREATER THAN 2.0.

THE END VERTICALS SHALL BE DESIGNED AS A SIMPLE CANTILEVER TO CARRY THE LOADS OBTAINED FROM THE THREE-DIMENSIONAL MODEL, PLUS THE CANTILEVER MOMENT DUE TO A LATERAL LOAD OF 0.01 TIMES THE AXIAL FORCE IN THE END VERTICAL, APPLIED LATERALLY AT THE TOP END OF THE END VERTICAL AT THE CENTER OF THE TOP CHORD.

THE FLOOR BEAMS SHALL BE SIZED FOR THE FORCES OBTAINED FROM A SIMPLE SPAN, PINNED END ANALYSIS, OR FROM THE FORCES OBTAINED FROM THE THREE-DIMENSIONAL MODEL, WHICHEVER CONTROLS.

THE DIAGONALS AND BRACE DIAGONALS SHALL BE ANALYZED AS PINNED-END CONNECTION MEMBERS.

INTERIOR VERTICALS SHALL BE ANALYZED AS PINNED-END CONNECTIONS UNLESS LONGITUDINAL FORCES ARE APPLIED TO THE VERTICALS SUCH AS WHEN THE BRACE DIAGONALS ARE CONNECTED TO FLOOR BEAMS ON AN H-SECTION FLOOR BEAM CONFIGURATION. WHEN LONGITUDINAL FORCES ARE APPLIED TO THE VERTICALS THEY SHALL BE ANALYZED AS FIXED-END CONNECTIONS.

ALL OTHER MEMBERS SHALL BE ANALYZED AS FIXED-END CONNECTIONS.

HSS MEMBER CONNECTIONS SHALL BE EVALUATED PER THE REQUIREMENTS OF AISC 360 CHAPTERS J & K.

6.3 DEFLECTIONS
THE VERTICAL DEFLECTION OF THE BRIDGE DUE TO THE UNFACTORED PEDESTRIAN LIVE LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.DEFLECTIONS
THE VERTICAL DEFLECTION OF THE BRIDGE DUE TO THE UNFACTORED PEDESTRIAN LIVE LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.

THE HORIZONTAL DEFLECTION OF THE BRIDGE UNDER UNFACTORED WIND LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.

6.4 FRACTURE CRITICAL MEMBERS (FCM)
ALL ITEMS DESIGNATED FCM ARE FRACTURE CRITICAL MEMBERS AND COMPONENTS AND SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIRMENTS OF SECTION 12 OF THE AASHTO/AWS BRIDGE WELDING CODE D1.5. TUBULAR FCM AND CMPONENTS SHALL BE FURNISHED AND FABRICATED ACCORDING TO THE REQUIREMENTS OF SECTION 8.2.3 - TUBULAR FRACTURE CRITICAL MEMBERS OF THE LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.

6.5 VIBRATIONS
VIBRATION OF THE STRUCTURE SHALL NOT CAUSE DISCOMFORT OR CONCERN TO THE USERS OF THE BRIDGES. TO ASSURE THIS, THE FUNDAMENTAL FREQUENCY (F) OF THE PEDESTRIAN BRIDGE IN THE VERTICAL DIRECTION, WITHOUT LIVE LOAD, SHALL BE GREATER THAN 3.0 HERTZ (HZ) TO AVOID THE FIRST HARMONIC. THE FUNDAMENTAL FREQUENCY OF THE PEDESTRIAN BRIDGE IN THE LATERAL DIRECTION, SHALL BE GREATER THAN 1.3 HZ. IF THE FUNDAMENTAL FREQUENCY CANNOT SATISFY THESE LIMITATIONS, THEN THE BRIDGE SHOULD BE PROPORTIONED SUCH THAT EITHER OF THE FOLLOWING CRITERIA ARE SATISFIED:

$$F > 2.86 * LN(180/W$$

OR

$$W > 180 * E^{(-0.35*F)}$$

WHERE W IS THE WEIGHT OF THE BRIDGE IN KIPS AND F IS THE FUNDAMENTAL FREQUENCY IN THE VERTICAL DIRECTION IN HZ.

FOR BRIDGES LONGER THAN 85 FT AND SHORTER THAN 125 FT THE VERTICAL AND HORIZONTAL VIBRATION MUST ALSO MEET THE REQUIREMENTS FOR BRIDGE CLASS III WITH A MEAN COMFORT LEVEL IN ACCORDANCE WITH SETRA.

7.0 DECK SYSTEM
7.1 DECK SYSTEM
DECK TO BE COMPRISED OF REINFORCED CONCRETE, 6-INCH MINIMUM THICKNESS, DESIGNED TO SPAN FROM FLOOR BEAM TO FLOOR BEAM.

REINFORCED CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (145 POUNDS PER CUBIC FOOT MAXIMUM) AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS, WITH AN AIR CONTENT OF 6% +/- 1.5%.

CONCRETE MIX DESIGN, MATERIALS, QUALITY, MIXING, PLACEMENT, FINISHING AND TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT C&MS 499 AND 511.

THE SURFACE OF DECK CONCRETE SHALL BE FINISHED WITH A SIDEWALK FINISH ODOT C&MS 511.18.

STAY-IN-PLACE GALVANIZED (G90 COATING) METAL FORM DECK SHALL BE USED AND SHALL BE DESIGNED TO SUPPORT THE WEIGHT OF THE WET CONCRETE PLUS A 20 POUNDS PER SQUARE FOOT CONSTRUCTION LOAD. FORM DECK SHALL BE SHOP ATTACHED TO FLOOR BEAMS VIA SELF-DRILLING FASTENERS, WELDING OR POWER ACTUATED FASTENERS. WELDING SHALL NOT BE USED ON PAINTED OR GALVANIZED BRIDGES. THE LONGITUDINAL SHEET LAPS SHALL BE ATTACHED WITH SELF-DRILLING SELF-TAPPING FASTENERS AT 36-INCH MAXIMUM SPACING. THE ATTACHMENT OF THE FORM DECK TO THE FLOOR BEAMS IS ONLY NECESSARY TO KEEP THE FORM DECK IN PLACE DURING TRANSPORTATION AND DURING THE CONCRETE PLACEMENT. THE FORM DECK IS NOT TO BE USED FOR DIAPHRAGM ACTION OR COMPOSITE ACTION AND PROVIDES NO STRUCTURAL BENEFIT TO THE TRUSS OR THE DECK AFTER THE CONCRETE IS SET. METAL FORM DECK PANELS SHALL BE OF A LENGTH TO SPAN A MINIMUM OF TWO BAYS OF THE TRUSS SUPPORTS. THE TOP OF DECK TO BOTTOM OF FORM DECK SHALL BE AS REQUIRED TO SUPPORT THE ANTICIPATED LOADS BUT SHALL NOT BE LESS THAN 5".

THE CONCRETE DECK SHALL BE DESIGNED TO SPAN LONGITUDINALLY FROM FLOOR BEAM TO FLOOR BEAM AND TO SUPPORT THE LOADS SPECIFIED IN SECTION 5.0 OF THESE SPECIFICATIONS.

A DISTRIBUTION WIDTH OF DECK IS ALLOWED, TO SUPPORT THE ANTICIPATED VEHICLE WHEEL LOADS. THIS DISTRIBUTION WIDTH (E IN FEET) SHALL BE THE NARROWER OF THE FOLLOWING:

* E = 4 + .06S
  - WHERE S IS THE FLOOR BEAM SPACING MINUS ONE-HALF OF THE FLOOR BEAM WIDTH.
* ONE-HALF OF THE TOTAL DRIVING WIDTH OF THE BRIDGE
* 0.75 TIMES THE LATERAL WHEEL SPACING OF THE VEHICLE.
* 0.6S + WHEEL WIDTH
  - WHERE S IS THE FLOOR BEAM SPACING MINUS ONE-HALF OF THE FLOOR BEAM WIDTH.
  - THE WHEEL WIDTH (IN INCHES) IS 2.5 *$\sqrt{((0.01*P)/2.5)}$, WHERE P IS THE WHEEL LOAD IN POUNDS

REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 EPOXY COATED BARS. ALL BAR BENDS, ANCHORAGE AND SPLICES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS. TOP REINFORCING SHALL HAVE A MINIMUM CLEARANCE OF 2" TO THE TOP OF DECK.

BRIDGE MANUFACTURER SHALL DESIGNATE THE ESTIMATED SLAB THICKNESS AND REINFORCING REQUIREMENTS AT TIME OF QUOTATION. THESE ESTIMATES ARE TO BE USED FOR QUOTING PURPOSES ONLY. ACTUAL QUANTITIES MAY VARY DURING THE FINAL DESIGN PROCESS, WITH COSTS VARIANCES DUE TO ANY CHANGES TO THE QUANTITIES BEING THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUPPLY ALL CONCRETE AND REINFORCING MATERIALS.

8.0 MATERIALS OF CONSTRUCTION
8.1 STRUCTURAL STEEL
ALL MEMBERS OF THE TRUSS AND DECK SUPPORT SYSTEM SHALL BE FABRICATED FROM SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SHAPES (HSS), WITH THE EXCEPTION THAT FLOOR BEAMS MAY BE WIDE FLANGE SHAPES. ALL OPEN ENDS OF END POSTS AND FLOOR SUPPORT BEAMS SHALL BE CAPPED. DRAIN HOLES SHALL BE PROVIDED FOR ALL SECTIONS AT THE LOW POINT OF THE MEMBER THAT MAY BECOME FILLED WITH WATER.

ALL BRIDGES SHALL BE FABRICATED USING A847 FOR HSS SECTIONS AND A588 FOR STRUCTURAL SHAPES AND PLATES.

MINIMUM NOMINAL THICKNESS OF PRIMARY HOLLOW STRUCTURAL SHAPES SHALL BE 1/4". ROLLED SHAPES SHALL HAVE A MINIMUM THICKNESS OF 1/4".

8.2 FASTENERS
STRUCTURAL BOLTS USED TO FIELD SPLICE OR CONNECT ALL MAIN MEMBERS SHALL BE ASTM F3125 GRADE A325. THE NUTS FOR THESE STRUCTURAL BOLTS SHALL BE ASTM A563. THE BRIDGE MANUFACTURER SHALL DETERMINE THE FINISH OF THE STRUCTURAL BOLTS. THEY WILL BE EITHER TYPE 3 (WEATHERING) OR TYPE 1 (HOT-DIPPED OR MECHANICALLY GALVANIZED) AS SPECIFIED BY THE BRIDGE MANUFACTURER.

SELF-DRILLING FASTENERS FOR ATTACHMENT OF THE FORM DECKING SHALL BE #14 X 1" ZINC PLATED HEX WASHER HEAD TEK SCREWS.

POWER ACTUATED FASTENERS SHALL BE HILTI SHEET METAL NAIL X-ENP-19 FASTENER.

OTHER MISCELLANEOUS FASTENERS SHALL BE ASTM A307 ZINC PLATED OR GALVANIZED, AS DETERMINED BY THE BRIDGE MANUFACTURER.

9.0 FINISH
FOR CORROSION RESISTANT HIGH-STRENGTH LOW-ALLOY (WEATHERING) STEEL NO SURFACE FINISH TREATMENT IS NECESSARY. ALL EXPOSED SURFACES OF STRUCTURAL STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 6, SSPC-SP6 COMMERCIAL BLAST CLEANING. EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK OR FROM THE OUTSIDE AND BOTTOM OF THE STRUCTURE. ALL OTHER SURFACES TO HAVE STANDARD MILL FINISH. THE STEEL WILL BE ALLOWED TO FORM A PROTECTIVE WEATHERING PATINA OVER TIME.

10.0 ATTACHMENTS
10.1 SAFETY RAILS
SAFETY RAIL SYSTEM SHALL BE PLACED ON THE INSIDE OF THE STRUCTURE, SPACED SO AS TO PREVENT A 4" SPHERE FROM PASSING THROUGH THE SIDE TRUSS FOR THE FULL HEIGHT OF THE SIDE TRUSS, OR 48", WHICHEVER IS LESS. THE TOP OF THE TOP CHORD MAY BE CONSIDERED THE TOP OF THE RAIL SYSTEM.

RAIL SYSTEM SHALL CONSIST OF VERTICAL PICKETS IN BETWEEN HORIZONTAL TOP AND BOTTOM RAILS. THE TOP AND BOTTOM HORIZONTAL RAIL SHALL BE HSS 1 X 1 X 1/8 WELDED DIRECTLY TO THE TRUSS VERTICALS. IN BETWEEN THESE RAILS, VERTICAL PICKETS SHALL BE ½" ROUND BAR WELDED TO THE TOP AND BOTTOM RAIL. THE MAXIMUM UNSUPPORTED LENGTH SHALL BE 7'-0" IF PLACED ON THE INSIDE OF THE STRUCTURE AND 8'-0" IF PLACED ON THE OUTSIDE OF THE STRUCTURE. IF THE VERTICAL SPACING IS GREATER THAN THE MAXIMUM UNSUPPORTED LENGTH, MID-BAY SUPPORTS WILL BE REQUIRED. WHEN THE RAIL SYSTEM IS PLACED ON THE INSIDE OF THE STRUCTURE AND NOT COVERED BY THE END VERTICAL, THE ENDS OF THE HORIZONTAL RAILS NEAR THE END OF THE BRIDGE SHALL BE CAPPED AND GROUND SMOOTH. IF A TOE PLATE IS ALSO SPECIFIED, THEN THE BOTTOM HORIZONTAL RAIL MAY BE MODIFIED TO BE USED AS A STEEL TOE PLATE AS SPECIFIED. IF A RUB RAIL IS ALSO SPECIFIED, THEN THE TOP HORIZONTAL RAIL MAY BE MODIFIED TO BE USED AS A STEEL RUB RAIL AS SPECIFIED.

EACH ELEMENT OF THE PEDESTRIAN RAIL SYSTEM SHALL BE DESIGNED TO THE STANDARDS SET FORTH IN SECTION 13.10 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 9TH EDITION FOR COMBINATION RAILINGS.

GENERAL NOTES (3)
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 14 (COLLINS CREEK)

SFN 0964741

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

PROJECT ID: 117001

SUBSET	TOTAL
4	8

SHEET	TOTAL
P.100	161

BUT-OXFORD AREA TRAIL PHASE 5

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10.2 PIPE HANDRAIL
AN 8-INCH WIDE SMOOTH RUB RAIL SHALL BE INSTALLED ON EACH SIDE OF THE BRIDGE, SET TO EXTEND FROM 40 INCHES TO 48 INCHES ABOVE THE DECK.

10.3 EXPANSION JOINT
THE GAP BETWEEN THE END OF THE BRIDGE DECK AND THE BACK WALL OF THE FOUNDATION SYSTEM SHALL BE SIZED TO ACCOMMODATE BRIDGE MOVEMENTS DUE TO THERMAL EXPANSION OF THE BRIDGE OVER THE DESIGN TEMPERATURE RANGE. THE GAPS AT THE PIER AND ABUTMENTS SHALL BE COVERED WITH A STEEL COVER WHICH ATTACHES TO THE BRIDGE AND EXTENDS OVER THE GAP AND ONTO THE ADJOINING DECK OR TOP OF THE FOUNDATION SYSTEM BACK WALL. THE STEEL COVER SHALL HAVE ITS EDGES ROUNDED OR BEVELED AT A 45- DEGREE ANGLE.

11.0 BEARINGS
11.1 BEARING TYPE
BEARING TYPE AND SIZE SHALL BE DESIGNED BY THE BRIDGE MANUFACTURER BASED ON ANTICIPATED LOADS AND MOVEMENTS.

11.2 DESIGN TEMPERATURE RANGE THE DESIGN TEMPERATURE RANGE WILL BE 150 DEGREES PER ODOT BDM S1003.21 WITH AN ASSUMED ERECTION TEMPERATURE OF 60 DEGREES.

11.3 NON-SHRINK GROUTING
THE BRIDGE WILL BE SUPPLIED WITH A LOWER SETTING PLATE. THIS SETTING PLATE SHALL BE LEVELED AND SHIMMED TO THE PROPER ELEVATION. THE SPACE BETWEEN THE LOWER SURFACE OF THE SETTING PLATE AND THE FOUNDATION SURFACE SHALL BE FILLED WITH A NON-SHRINK GROUT CAPABLE OF ACHIEVING A MINIMUM COMPRESSIVE STRENGTH EQUAL TO OR GREATER THAN THE STRENGTH OF THE FOUNDATION CONCRETE. THE COST OF THE LEVELING, SHIMMING, AND NON-SHRINK GROUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

12.1 ANCHOR BOLTS
BRIDGE MANUFACTURER SHALL DESIGN THE DIAMETER AND GRADE OF ANCHOR BOLTS, BASED ON THE SHEAR AND TENSILE STRENGTH OF THE ANCHOR BOLT MATERIAL ONLY. ALL DESIGN CONSIDERATIONS REGARDING CONCRETE BREAKOUT STRENGTH IN SHEAR AND TENSION, PULLOUT STRENGTH, CONCRETE SIDE-FACE BLOWOUT STRENGTH, CONCRETE PRY OUT STRENGTH, EMBEDMENT DEPTH, TYPE OF ANCHORAGE OR ANY OTHER CONCRETE FAILURE MODES ARE THE RESPONSIBILITY OF THE FOUNDATION ENGINEER AND SHALL BE SHOWN ON THE FINAL CONTRACT PLANS. ALL ANCHOR BOLTS SHALL BE GALVANIZED. THE FOUNDATION ENGINEER SHALL DETERMINE IF THE ANCHOR BOLTS SHALL BE CAST-IN-PLACE, DRILLED/EPOXY, OR EXPANSION ANCHORS. ANCHOR BOLTS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.

13.0 FABRICATION
13.1 WELDING
WELDING PROCEDURES AND WELD QUALIFICATION TEST PROCEDURES SHALL CONFORM TO THE PROVISIONS OF AWS D1.1. FILLER METAL SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWS FILLER METAL SPECIFICATION AND SHALL MATCH THE CORROSION PROPERTIES OF THE BASE METAL.

13.2 WELDERS
WELDERS SHALL BE QUALIFIED FOR EACH PROCESS AND POSITION USED WHILE FABRICATING THE BRIDGE. QUALIFICATION TESTS SHALL BE IN ACCORDANCE WITH AWS D1.1. ALL WELD QUALIFICATIONS AND RECORDS SHALL BE KEPT IN ACCORDANCE WITH THE FABRICATOR'S QUALITY ASSURANCE MANUAL WHICH HAS BEEN APPROVED AND AUDITED BY AISC AS THE BASIS FOR CERTIFICATION.

13.3 SHOP SPLICES
SHOP SPLICES FOR MAIN TRUSS MEMBERS SHALL BE FULL PENETRATION WELDS ALL AROUND THE PERIMETER OF THE MEMBER. THESE SHOP SPLICES SHALL BE PERFORMED USING A FULL PERIMETER BACKING PLATE. AFTER WELDING OF THE SHOP SPLICES, THE WELD SHALL BE GROUND SMOOTH TO MATCH THE PERIMETER OF THE MEMBER. GRINDING THESE WELDS SMOOTH IS REQUIRED AND WILL BE GROUNDS FOR REJECTION OF THE BRIDGE UPON DELIVERY IF NOT COMPLETED.

SHOP SPLICES FOR ALL HORIZONTAL RAIL COMPONENTS TO BE LOCATED AT THE CENTERLINE OF THE TRUSS VERTICALS, EACH END WELDED TO THE TRUSS VERTICAL AND SEAL WELDED TOGETHER. EXPOSED SURFACE OF THE SEAL WELDS AS SEEN FROM THE DECK SHALL BE GROUND SMOOTH.

SHOP SPLICED FOR ALL HORIZONTAL STRINGERS TO BE LOCATED AT THE CENTERLINE OF THE FLOOR BEAMS, EACH END WELDED TO THE FLOOR BEAM AND SEAL WELDED TOGETHER.

13.4 BOLTED SPLICES
FOR SHIPPING PURPOSES, THE BRIDGE MAY BE FABRICATED IN SECTIONS. SECTIONS SHALL BE FIELD ASSEMBLED USING BOLTED CONNECTIONS. NO FIELD WELDING OF MEMBERS SHALL BE ALLOWED.

THE CHORD MEMBERS OF THE BRIDGE SHALL BE BOLTED SUCH THAT AT LEAST TWO FACES OF THE MEMBER ARE BOLTED. THIS IS TO PROVIDE REASONABLE FORCE DISTRIBUTION AROUND THE PERIMETER OF THE MEMBER. BOLTED SPLICES SHALL BE DESIGNED AND FABRICATED SUCH THAT THE HEAD OF THE BOLT AND WASHER ARE THE ONLY ITEM EXPOSED. NO THROUGH-BOLTING OF THE MEMBER IS ALLOWED. THE NUTS OF THE FASTENER CANNOT BE WELDED TO THE INTERNAL SPLICE PLATE AND SHALL BE HELD IN PLATE WITH A NUT CAPTURE SYSTEM PER PATENT US 10,267,345 B2 OR EQUAL.

THE DIAGONALS AND BRACE DIAGONALS SHALL BE BOLTED UTILIZING A THROUGH-BOLT SYSTEM WITH PLATES ON THE EXTERIOR FACES OF THE MEMBERS. AN INTERNAL STIFFENING PLATE IS REQUIRED TO KEEP THE MEMBER FROM CRUSHING DURING THE BOLT TIGHTENING PROCESS.

ALL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED OR SLIP-CRITICAL CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS. RECOMMENDED TIGHTENING METHOD OF ALL STRUCTURAL BOLTS SHALL BE TURN-OF-THE-NUT PRETENSIONING.

14.0 QUALITY CONTROL
14.1 AISC CERTIFICATION
THE BRIDGE SHALL BE FABRICATED IN A SHOP OWNED BY THE BRIDGE MANUFACTURER. THIS FACILITY SHALL HAVE UP TO DATE QUALITY CERTIFICATION BY AISC AS CERTIFIED BRIDGE FABRICATOR - ADVANCED (MAJOR) WITH FRACTURE CRITICAL ENDORSEMENT AND COMPLEX COATING ENDORSEMENT (P1-ENCLOSED OR P2-COVERED).

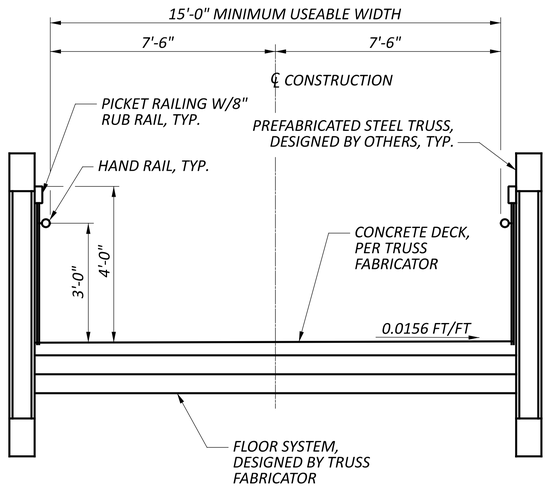
14.2 CERTIFIED WELD INSPECTOR
THE BRIDGE MANUFACTURER SHALL EMPLOY AT LEAST TWO CERTIFIED WELD INSPECTORS (CWI), WITH ENDORSEMENT BY AWS QC1. AT LEAST ONE CWI SHALL BE PRESENT DURING THE COMPLETE FABRICATION OF THE BRIDGE. THE CWI SHALL PROVIDE WRITTEN DOCUMENTATION THAT THE BRIDGE HAS BEEN FABRICATED IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPROVED DESIGN DRAWINGS.

14.3 DOCUMENTATION
MATERIAL CERTIFICATIONS SHALL BE AVAILABLE FOR REVIEW FOR ALL MATERIALS WITHIN THE BRIDGE. TRACEABILITY OF HEAT NUMBERS IS REQUIRED FOR ALL STRUCTURAL STEEL.

DOCUMENTATION SHOWING THE PERFORMANCE OF ALL CRITICAL QUALITY CHECKS SHALL ALSO BE MADE AVAILABLE FOR REVIEW BY THE ENGINEER OR OWNER.

14.4 NON-DESTRUCTIVE TESTING
ALL WELDS WITHIN THE STRUCTURE, SHALL BE VISUALLY INSPECTED FOR CONFORMANCE TO SIZE, UNDER CUT, PROFILE AND FINISH.

ALL SHOP SPLICES OF MAIN TRUSS MEMBERS SHALL BE MAGNETIC PARTICLE



TYPICAL SECTION
PREFABRICATED STEEL TRUSS

15.0 DELIVERY AND ERECTION
15.1 DELIVERY
DELIVERY SHALL BE MADE VIA TRUCK TO A LOCATION NEAREST THE SITE WHICH IS ACCESSIBLE TO NORMAL OVER-THE-ROAD EQUIPMENT. ALL TRUCKS DELIVERING BRIDGE MATERIALS WILL NEED TO BE UNLOADED AT THE TIME OF ARRIVAL. IF THE ERECTION CONTRACTOR NEEDS SPECIAL DELIVERY OR DELIVERY IS RESTRICTED, THEY SHALL NOTIFY THE BRIDGE MANUFACTURER PRIOR TO BID DATE. THIS INCLUDES SITE ISSUES WHICH MAY PREVENT OVER-THE-ROAD EQUIPMENT FROM ACCESSING THE SITE. STEERABLE DOLLIES ARE NOT USED IN THE COST PROVIDED BY THE BRIDGE MANUFACTURER. DETERMINING THE LENGTH OF BRIDGE SECTION WHICH CAN BE DELIVERED IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COMMUNICATED TO THE BRIDGE MANUFACTURER PRIOR TO THE BID DATE.

15.2 INSTALLATION & LIFTING PROCEDURES.
THE BRIDGE MANUFACTURER WILL PROVIDE STANDARD TYPICAL WRITTEN PROCEDURES FOR LIFTING AND SPLICING THE BRIDGE. ALL ACTUAL MEANS, METHODS, EQUIPMENT AND SEQUENCE OF ERECTION USED ARE THE RESPONSIBILITY OF THE CONTRACTOR.

16.0 WARRANTY
THE BRIDGE MANUFACTURER SHALL WARRANT, AT THE TIME OF DELIVERY, THAT IT HAS CONVEYED GOOD TITLE TO ITS STEEL STRUCTURE, FREE OF LIENS AND ENCUMBRANCES CREATED BY THE BRIDGE MANUFACTURER, AND THAT ITS STEEL STRUCTURE IS FREE OF DEFECTS IN DESIGN, MATERIAL AND WORKMANSHIP. THIS WARRANTY SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR FROM THE EARLIER DATE OF DELIVERY OR 60 DAYS AFTER FINAL FABRICATION IS COMPLETE. PAINT, GALVANIZING AND OTHER SPECIAL COATINGS, IF WARRANTED, SHALL BE WARRANTED BY THE COATING MANUFACTURER IN ACCORDANCE WITH THEIR WARRANTY PROVISIONS AND ARE NOT COVERED UNDER THE BRIDGE MANUFACTURER'S WARRANTY.

THIS WARRANTY SHALL NOT COVER DEFECTS IN THE STEEL STRUCTURE CAUSED BY ABUSE, MISUSE, OVERLOADING, ACCIDENT, IMPROPER INSTALLATION, MAINTENANCE, ALTERATION, OR ANY OTHER CAUSE NOT EXPRESSLY WARRANTED. THIS WARRANTY SHALL NOT COVER DAMAGE RESULTING FROM OR RELATING TO THE USE OF ANY KIND OF DE-ICING MATERIAL. THIS WARRANTY SHALL BE VOID UNLESS OWNER'S RECORDS ARE SUPPLIED THAT SHOW COMPLIANCE WITH THE MINIMUM GUIDELINES SPECIFIED IN THE IN THE BRIDGE MANUFACTURER'S INSPECTION AND MAINTENANCE PROCEDURES.

REPAIR, REPLACEMENT, OR ADJUSTMENT, IN BRIDGE MANUFACTURER'S SOLE DISCRETION, SHALL BE THE EXCLUSIVE REMEDY FOR ANY DEFECTS UNDER THIS WARRANTY. THIS WARRANTY SHALL EXCLUDE LIABILITY FOR ANY INDIRECT, CONSEQUENTIAL, OR INCIDENTAL DAMAGES.

17.0 PAYMENT
ITEM 530, SPECIAL - STRUCTURES, PREFABRICATED BRIDGE, WILL BE PAID FOR AT THE LUMP SUM CONTRACT UNIT PRICE. THIS WORK SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO DESIGN, FURNISH, UNLOAD, ERECT AND INSTALL THE ENTIRE SUPERSTRUCTURE WITH APPURTENANCES (INCLUDING, BUT NOT LIMITED TO: CONCRETE DECK, BEARINGS, RAILINGS AND JOINT PLATES)

GENERAL NOTES (4)
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 14 (COLLINS CREEK)

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Sheet PAPERSIZE: 2.83333x1.83333 (ft.) DATE: 10/3/2024 TIME: 11:13:28 AM USER: msturdevant
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SFN 0964741

DESIGN AGENCY

Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

PROJECT ID: 117001

SUBSET	TOTAL
5	8

SHEET	TOTAL
P.101	161

ESTIMATED QUANTITIES					CHESTNUT CONNECTOR BRIDGE OVER COLLINS CREEK			
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER.	GEN.	SHEET NO.
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING			LUMP	
503	21300	LUMP	LS	UNCLASSIFIED EXCAVATION	LUMP			
505	11100	LUMP	LS	PILE DRIVING EQUIPMENT MOBILIZATION	LUMP			
507	00100	400	FT	STEEL PILES HP10X42, FURNISHED	400			
507	00101	160	FT	STEEL PILES HP10X42, FURNISHED, AS PER PLAN	160			
507	00150	360	FT	STEEL PILES HP10X42, DRIVEN	360			
507	92201	40	FT	PREBORED HOLES, AS PER PLAN	40			
509	10000	5934	LB	EPOXY COATED REINFORCING STEEL	5934			
511	43512	63	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	63			
518	20000	45	SY	PREFABRICATED GEOCOMPOSITE DRAIN	45			
518	40000	66	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	66			
518	40010	80	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	80			
SPECIAL	53000200	LUMP	LS	STRUCTURE, MISC.: PREFABRICATED BRIDGE, 115'-0" SPAN		LUMP		
601	32204	169	CY	ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC			169	

BUT-OXFORD AREA TRAIL PHASE 5

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ESTIMATED QUANTITIES
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 14 (COLLINS CREEK)

SFN
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DESIGN AGENCY

Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

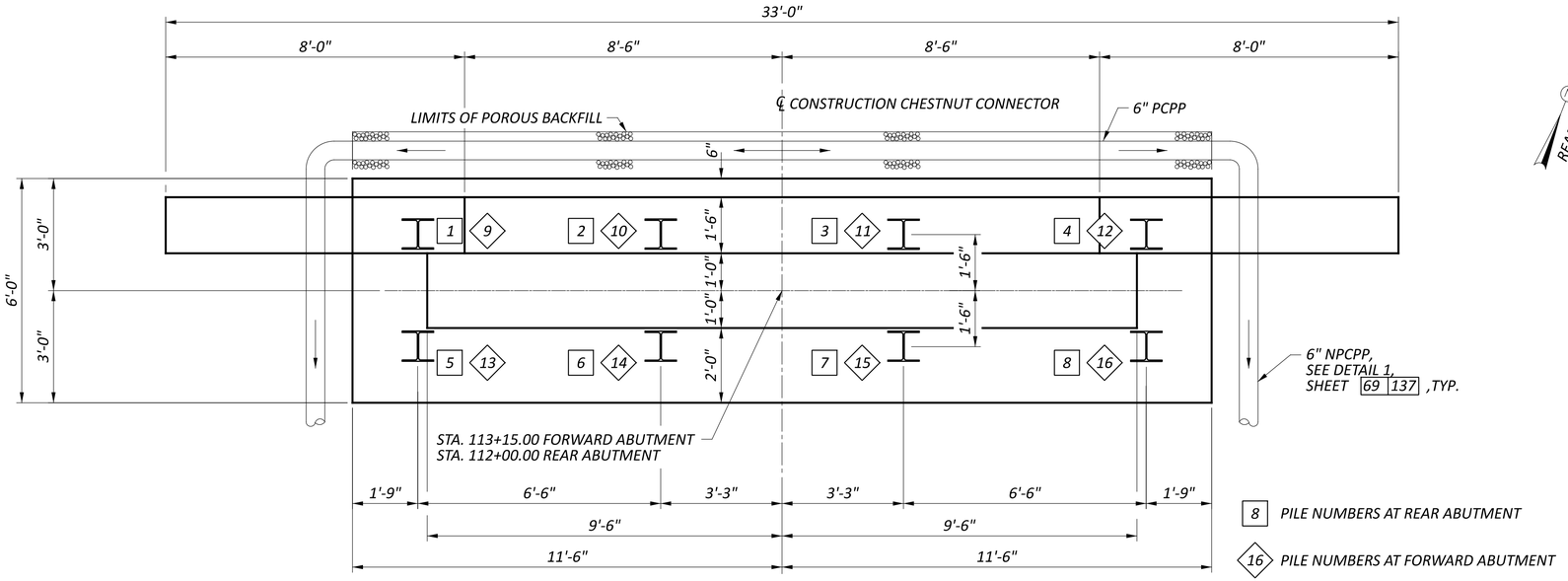
DESIGNER	CHECKER
MRS	EDA

REVIEWER
BSM 09-20-24

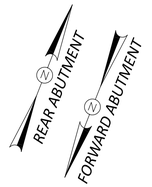
PROJECT ID
117001

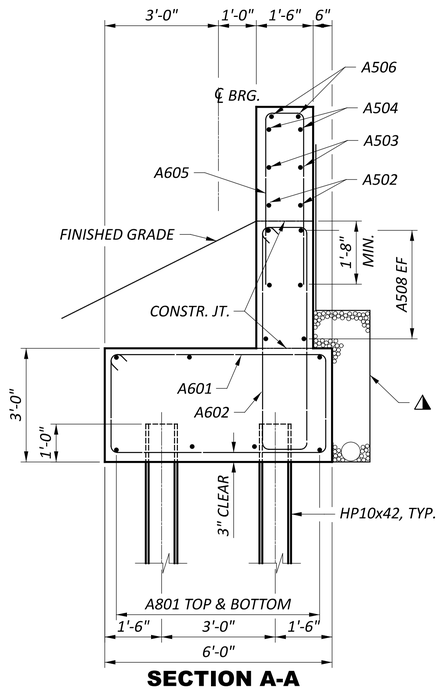
SUBSET	TOTAL
6	8

SHEET	TOTAL
P.102	161

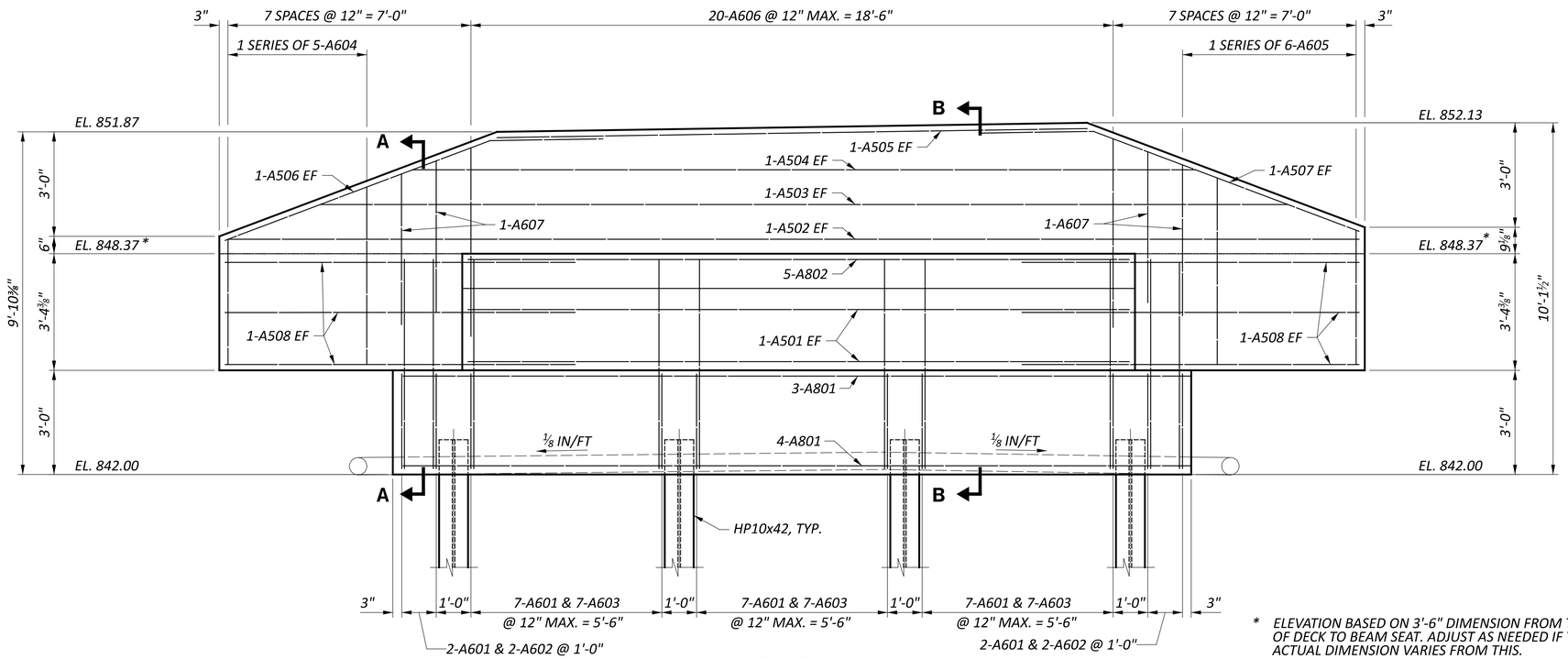


PLAN





SECTION A-A

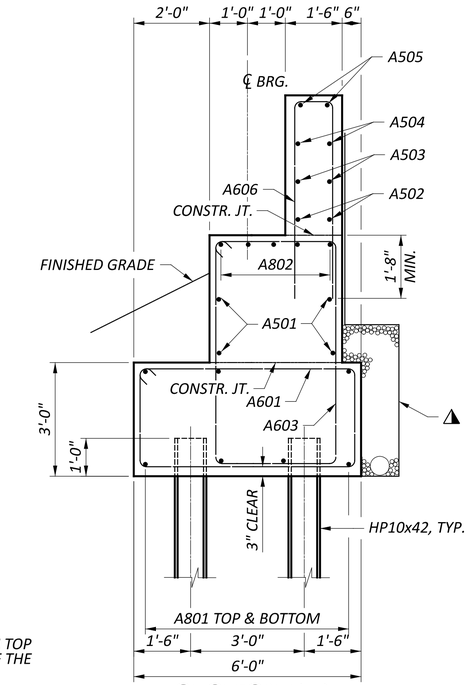


ELEVATION

FORWARD ABUTMENT SHOWN
REAR ABUTMENT OPPOSITE HAND

* *ELEVATION BASED ON 3'-6" DIMENSION FROM TOP OF DECK TO BEAM SEAT. ADJUST AS NEEDED IF THE ACTUAL DIMENSION VARIES FROM THIS.*

◭ *PREFABRICATED GEOCOMPOSITE DRAINAGE SYSTEM IN ACCORDANCE WITH C&MS 518.*



SECTION B-B

BUT-OXFORD AREA TRAIL PHASE 5

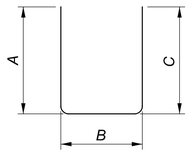
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ABUTMENT DETAILS
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 14 (COLLINS CREEK)

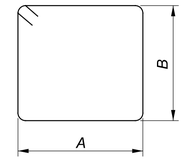
SFN
0964741
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200
DESIGNER MRS
CHECKER EDA
REVIEWER BSM 09-20-24
PROJECT ID 117001
SUBSET 7
TOTAL 8
SHEET P.103
TOTAL 161

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
REAR ABUTMENT											
A801	7	22'-8"	424	STR.							
A802	5	17'-8"	236	STR.							
A601	25	16'-10"	632	3	5'-8"	2'-7"					
A602	4	14'-6"	87	3	1'-2"	5'-11"					
A603	21	18'-6"	584	3	5'-11"	3'-2"					
	1	9'-10"				3'-7"					
A604	SERIES OF	TO	85	3	1'-2"	TO					
	5	12'-10"				5'-1"					
	1	10'-4"				3'-10"					
A605	SERIES OF	TO	89	3	1'-2"	TO					
	5	13'-4"				5'-4"					
A606	20	11'-4"	340	2	5'-3"	1'-2"	5'-3"				
A607	4	9'-6"	57	2	4'-4"	1'-2"	4'-4"				
A501	4	17'-8"	74	STR.							
A502	2	32'-8"	68	STR.							
A503	2	29'-10"	62	STR.							
A504	2	22'-6"	47	STR.							
A505	2	17'-0"	35	STR.							
A506	2	11'-1"	23	19	8'-1"	3'-0"	1'-1"				
A507	2	11'-2"	23	19	8'-2"	3'-0"	1'-2"				
A508	12	8'-1"	101	STR.							
SUB-TOTAL			2967								

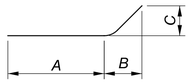
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
FORWARD ABUTMENT											
A801	7	22'-8"	424	STR.							
A802	5	17'-8"	236	STR.							
A601	25	16'-10"	632	3	5'-8"	2'-7"					
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A603	21	18'-6"	584	3	5'-11"	3'-2"					
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	5	12'-10"				5'-1"					
	1	10'-4"				3'-10"					
A605	SERIES OF	TO	89	3	1'-2"	TO					
	5	13'-4"				5'-4"					
A606	20	11'-4"	340	2	5'-3"	1'-2"	5'-3"				
A607	4	9'-6"	57	2	4'-4"	1'-2"	4'-4"				
A501	4	17'-8"	74	STR.							
A502	2	32'-8"	68	STR.							
A503	2	29'-10"	62	STR.							
A504	2	22'-6"	47	STR.							
A505	2	17'-0"	35	STR.							
A506	2	11'-1"	23	19	8'-1"	3'-0"	1'-1"				
A507	2	11'-2"	23	19	8'-2"	3'-0"	1'-2"				
A508	12	8'-1"	101	STR.							
SUB-TOTAL			2967								



TYPE-2



TYPE-3



TYPE-19

REINFORCING STEEL LIST
BUT-OXFORD AREA TRAIL PHASE 5
OVER STREAM 14 (COLLINS CREEK)

BUT-OXFORD AREA TRAIL PHASE 5

MODEL: Untitled Sheet PAPERSIZE: 2.83333x1.83333 (ft.) DATE: 10/3/2024 TIME: 11:14:48 AM USER: msturdevant
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SFN 0964741

DESIGN AGENCY

Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

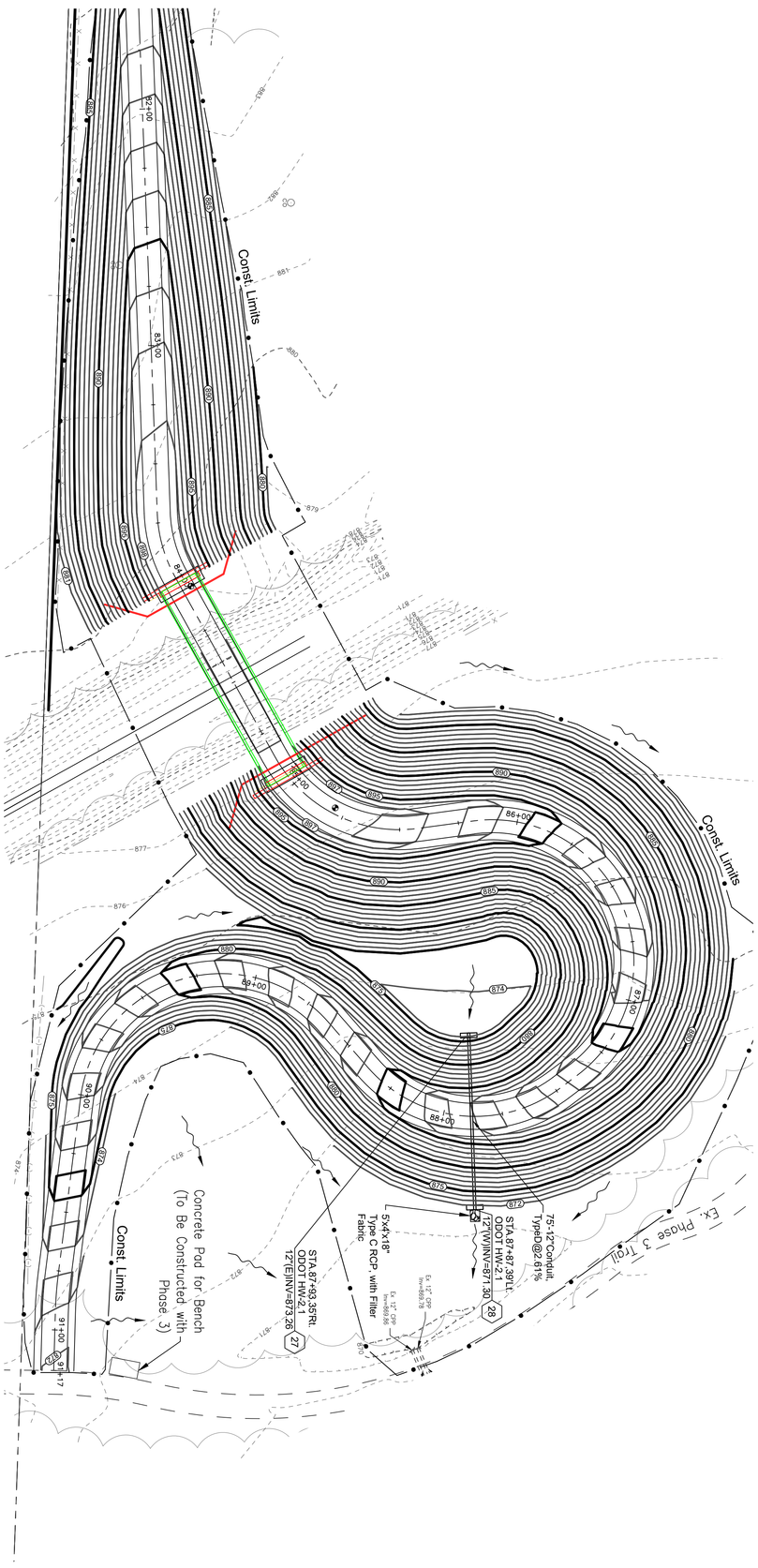
DESIGNER	CHECKER
MRS	EDA

REVIEWER: BSM 09-20-24

PROJECT ID: 117001

SUBSET	TOTAL
8	8

SHEET	TOTAL
P.104	161



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105/161

Sheet

Issue Date: 07/03/2023

Checked By: EMR

Drawn By: CPT

Drawing: 22-0273 TR

bayer becker
www.bayerbecker.com
110 South College Avenue, Suite 101
Oxford, OH 45056 - 513.523.4270

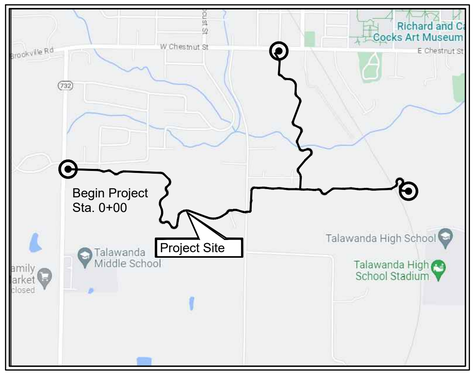
BUT - OXFORD AREA TRAIL PHASE 5

CITY OF OXFORD
BUTLER COUNTY, OHIO

RAILROAD BRIDGE GRADING PLAN

Item	Revision Description	Date	Drwn:	Chk:
1	Revised per ODOT and City comments.	10-23-23	CPT	EMR
2	Revised per ODOT and City comments.	05-24-24	CPT	EMR
3	Revised per ODOT and City comments.	01-13-25	JLE	EMR

HORIZONTAL
SCALE: 1" = 30'
0 30 45



LOCATION MAP
(nts)
LATITUDE: 39°29'35" LONGITUDE: -84°44'47"

PORTION TO BE IMPROVED - - - - - - - - - - - - - - - - -

RIGHT OF WAY LEGEND SHEET BUT-OXFORD AREA TRAIL PHASE 5

BUTLER COUNTY, OHIO
SECTIONS 27 & 34, TOWN 5, RANGE 1
CONGRESS LANDS WEST OF THE MIAMI RIVER
CITY OF OXFORD

PROJECT DESCRIPTION

THE SCOPE OF WORK TO BE PERFORMED UNDER THIS IMPROVEMENT SHALL GENERALLY CONSIST OF THE CONSTRUCTION OF APPROXIMATELY 1.7 MILES OF MULTI-USE TRAIL FROM OXFORD REILY ROAD (SR732) TO PHASE 3 OF THE TRAIL AND APPROXIMATELY 0.7 MILE OF MULTI-USE TRAIL CONNECTION TO CHESTNUT STREET.

PLANS PREPARED BY:

FIRM NAME : Bayer Becker
R/W DESIGNER: Etta M. Reed P.E.,
R/W REVIEWER: Jeffrey O. Lambert P.S,
FIELD REVIEWER:
PRELIMINARY FIELD REVIEW DATE: 5-16-24
OWNERSHIP UPDATED BY: Jeffrey O. Lambert P.S
DATE COMPLETED: 10-16-24
FIELD REVIEWER:
FINAL FIELD REVIEW DATE:
FINAL R/W PLAN DATE:

INDEX OF SHEETS:

LEGEND SHEET	*106*
CENTERLINE PLATS	*107-109*
PROPERTY MAPS	*110-112*
SUMMARY OF ADDITIONAL R/W	*113*
R/W DETAIL SHEETS	*114-123*

TYPES OF TITLE LEGEND
SH = STANDARD HIGHWAY EASEMENT
T = TEMPORARY EASEMENT

STRUCTURE KEY
- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way Fee (Ex) Ex R/W
Right of Way Fee (Pr) R/W
Standard Highway Ease.(Ex) Ex SH
Standard Highway Ease.(Pr) SH
Temporary Right of Way (Pr) TMP
Channel Ease. (Pr) CH
Utility Easement (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)

Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr) , Tree (Ex) , Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) , Mailbox (Pr)
Light (Ex) , Telephone Marker (Ex) TEL
Fire Hydrant (Ex) , Water Meter (Ex)
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

UTILITY OWNERSHIP

TYPE	*NAME & ADDRESS*
GAS	*GLENWOOD ENERGY* *5181 COLLEGE CORNER PIKE* *OXFORD, OH 45056* *ATTN: NICOLE LEWIS (513-523-2555)*
ELECTRIC	*DUKE ENERGY* *139 E. FOURTH STREET, ROOM 467* *CINCINNATI, OH 45202* *ATTN: CRAIG HUTCHINSON (513-287-3852)*
WATER	*CITY OF OXFORD* *WATER DISTRIBUTION DIVISION* *4935 TRENTON-OXFORD ROAD* *OXFORD, OH 45056* *ATTN: RON CASEY (513-523-5014)*
SANITARY SEWER	*CITY OF OXFORD* *WASTEWATER COLLECTION DIVISION* *501 MCKEE AVENUE* *OXFORD, OH 45056* *ATTN: LEN WAGNER (513-523-2017)*
STORM WATER	*CITY OF OXFORD* *STREETS AND MAINTENANCE DIVISION* *945 S. MAIN STREET* *OXFORD, OH 45056* *ATTN: ERIC KEEBLER (513-523-8412)*
TELEPHONE	*FRONTIER COMMUNICATIONS* *6464 WESTBROOK ROAD* *CLAYTON, OH 45315* *ATTN: CHARLES BERNACCHI (937-833-0468)*

I, Jeffrey O. Lambert, P.S. have conducted a survey of the existing conditions for the Ohio Department of Transportation between August 4, 2018 and July 14, 2023. The results of that survey are contained herein. See the Survey Parameters note affixed to these plans for the horizontal and vertical survey parameters used for this project. As a part of this project, I have reestablished the locations of the existing boundary lines, the existing center line of Right of Way and the existing Right of Way limits as necessary for the property takes contained herein. As a part of this project I have established the proposed boundary lines, calculated the Gross Take, present road occupied (PRO), Net Take and Net Residue herein. As a part of this work, right of way monuments will be set at the locations shown herein per the Memorandum of Understanding between the Board of Registration for Engineers and Surveyors and the Ohio Department of Transportation dated 9-22-2010. All of my work contained herein was conducted in accordance with the Ohio Administrative Code Chapter 4733-37 Standards for Boundary Surveys unless so noted. The words “I and my” as used herein are to mean that either myself or someone working under my direct supervision.

NOTES:
THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

UTILITIES ARE SHOWN AS FOUND ON THESES SITES IN RESPONSE TO OUPS TICKETS.

SURVEYOR'S SEAL
BAYER BECKER

RIGHT OF WAY
LEGEND SHEET

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

DESIGNER
EMR
REVIEWER
jol 10-16-24
PROJECT ID
117001
SUBSET RW.106 TOTAL 161

Plot time: Oct 18, 2024 - 11:53pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW - Layout Tab: Legend

I, Jeffrey O. Lambert, P.S. have conducted a survey of the existing conditions for the Ohio Department of Transportation between August 4, 2018 and July 14, 2023. The results of that survey are contained herein. See the Survey Parameters note affixed to these plans for the horizontal and vertical survey parameters used for this project. As a part of this project, I have reestablished the locations of the existing boundary lines, the existing center line of Right of Way and the existing Right of Way limits as necessary for the property takes contained herein. As a part of this project I have established the proposed boundary lines, calculated the Gross Take, present road occupied (PRO), Net Take and Net Residue herein. As a part of this work, right of way monuments will be set at the locations shown herein per the Memorandum of Understanding between the Board of Registration for Engineers and Surveyors and the Ohio Department of Transportation dated 9-22-2010. All of my work contained herein was conducted in accordance with the Ohio Administrative Code Chapter 4733-37 Standards for Boundary Surveys unless so noted. The words "I and my" as used herein are to mean that either myself or someone working under my direct supervision.

SURVEYOR'S SEAL

CENTERLINE PLAT
BUT-OXFORD AREA TRAIL
PHASE 5

BUTLER COUNTY, OHIO
SECTIONS 27 & 34, TOWN 5, RANGE 1
CONGRESS LANDS WEST OF THE MIAMI RIVER
CITY OF OXFORD

BASIS OF EX. C/L OF OF R/W WIDTH:

THE CENTERLINE OF RIGHT OF WAY AND RIGHT OF WAY LIMITS WERE ESTABLISHED BY USING DEEDS, PLATS AND SURVEYS OF RECORD AS NOTED. INCLUDING P.E. 620, PG. C, P.E. 800, PG A, P.E. 3973, PGS A-C, S.V. 5, PG. 5, S.V. 9, PG. 81, S.V. 61, PG. 147 & O.R. 10103, PG. 1051 (PLAT)

THE STATIONING WAS ESTABLISHED USING THE BEGINNING OF WORK AT THE EAST EDGE OF THE EXISTING TRAIL (PHASE 4) STATION 0+00 IN OXFORD REILY ROAD AS SHOWN.

REFERENCES: AS SHOWN AND NOTED ALONG WITH TAX MAPS

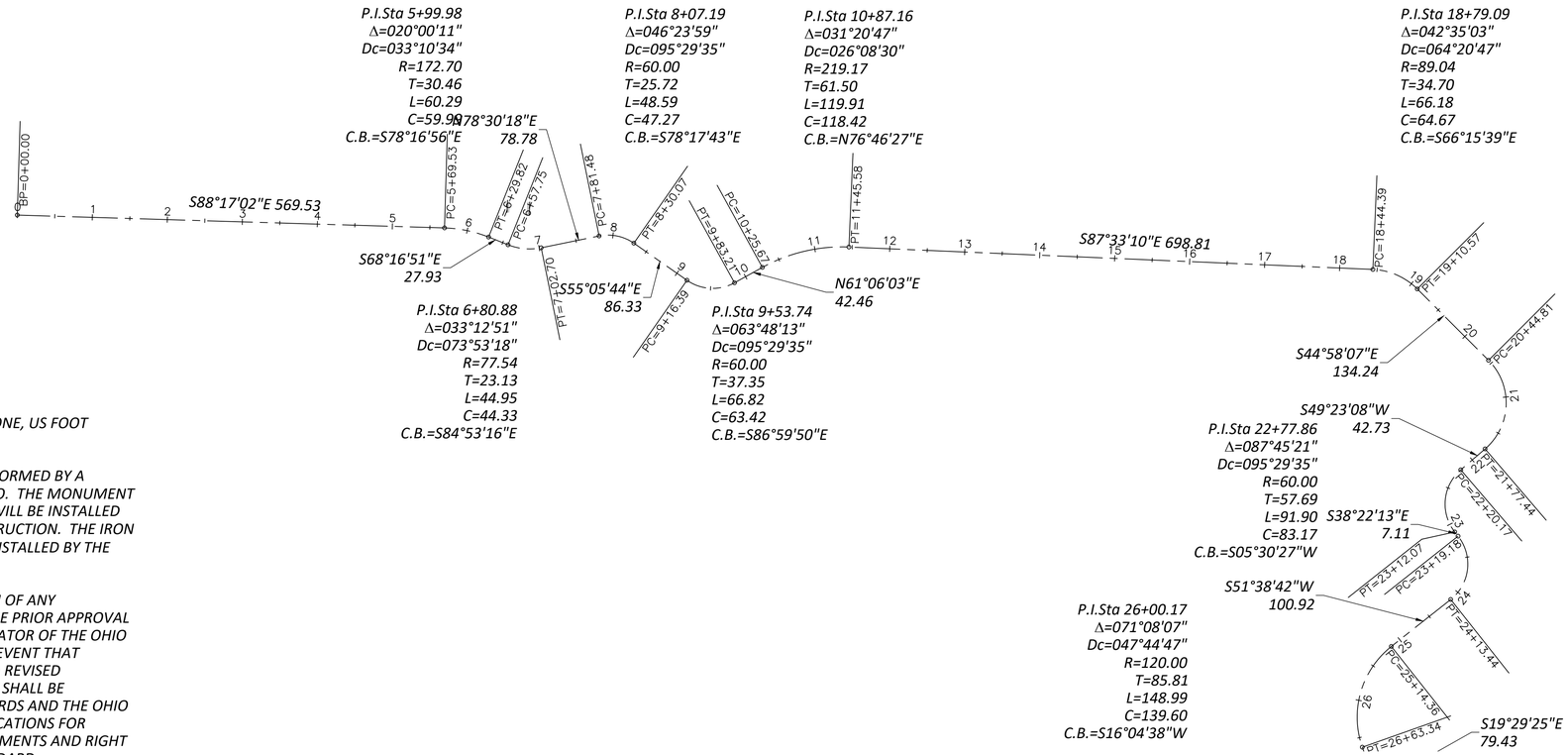
VOLUME _____

PLAT NO. _____

BUTLER COUNTY ENGINEERS

RECORD OF LAND SURVEYS

HORIZONTAL SCALE IN FEET
0 50 100 200



BASIS OF BEARINGS:

NAD83 (2011) OHIO STATE PLANES, SOUTH ZONE, US FOOT

SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN IN THIS TABLE, REQUIRE PRIOR APPROVAL FROM THE DISTRICT REAL ESTATE ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. IN THE EVENT THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

SURVEYING PARAMETERS

THE FOLLOWING VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS WERE USED FOR ALL SURVEYING ON THIS PROJECT:

POSITIONING METHOD: ODOT REAL TIME NETWORK (2011)

VERTICAL POSITIONING-
OROTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 12A

HORIZONTAL POSITIONING-
REFERENCE FRAME: NAD83 (2011 ADJ, 2010.0)
ELLIPSOID: GRS 80
COORDINATE SYSTEM: NAD83 OHIO STATE PLANES, SOUTH ZONE, US FOOT

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER - 3.280833333 U.S. SURVEY FEET.

USE THE POSITION METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGES OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

CENTERLINE & MONUMENT COORDINATE TABLE

Station Offset (From CL/ R/W)		Project Coordinates (See Survey Parameters)		Monument Description		R/W Mon. Expected To Be Disturbed
Station	Offset	Northing(US Ft)	Easting(US Ft)	Pt. #	Description	R/W Mon. (623 Type B)
Existing Monuments						
PC 46+57.49	111.48'LT	551319.318	1334056.956	103	Iron Pin 5/8" DDS	0
PC 46+72.91	223.16'LT	551432.418	1334003.571	105	Iron Pin 5/8" NOT LEDG	0
PC 46+65.86	269.11'LT	551435.509	1333945.443	106	Iron Pin 5/8" DDS	0
PC 43+47.84	254.56'LT	551386.615	1333876.668	107	Iron Pin 5/8" DDS	0
PC 41+47.00	309.42'LT	551468.850	1333797.133	108	Iron Pin 5/8"	0
PC 40+54.92	445.86'LT	551628.722	1333757.928	109	Iron Pin 5/8"	0
PC 40+44.11	562.94'LT	551742.312	1333788.286	110	Iron Pin 5/8" BENT	0
PC 41+41.94	156.06'RT	551033.856	1333631.385	115	Iron Pin 5/8"	0
PC 41+49.41	154.51'RT	551032.723	1333638.931	116	Iron Pin 5/8" BENT	0
PC 47+58.05	1.48'LT	551295.528	1334242.611	701	Iron Pin 5/8" DDS	1
PC 47+85.97	412.76'LT	551708.400	1334209.698	703	Iron Pin 5/8" CRUSHED	0
PC 47+21.96	266.81'LT	551561.152	1334211.832	704	Iron Pin 5/8" DDS	0
PC 55+84.48	103.64'LT	551796.225	1334568.999	705	Iron Pin 5/8" CRUSHED CAP	0
PC 50+97.51'	41.79'RT	551223.477	1334571.389	708	Iron Pin 3/4"	0
PC 57+50.62	28.86'LT	551762.846	1334800.936	8100	Iron Pin 5/8"	0
PC 58+18.20	23.37'LT	551760.349	1334870.757	8700	Iron Pin 5/8" DDS	0
					QUANTITY CARRIED TO GENERAL SUMMARY	1

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.R.F. IRON PIN FOUND W/ ID CAP
- I.R.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

CENTERLINE PLAT
BUT-OXFORD AREA TRAIL PHASE 5

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 • 513.336.6500

DESIGNER EMR

REVIEWER jol 10-16-24

PROJECT ID 117001

SUBSET RW.107 | TOTAL 161

Plot time: Oct 18, 2024 – 2:03pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW CL – Layout Tab: CL

CENTERLINE PLAT
BUT-OXFORD AREA TRAIL
PHASE 5

BUTLER COUNTY, OHIO
SECTIONS 27 & 34, TOWN 5, RANGE 1
CONGRESS LANDS WEST OF THE MIAMI RIVER
CITY OF OXFORD

VOLUME _____

PLAT NO. _____

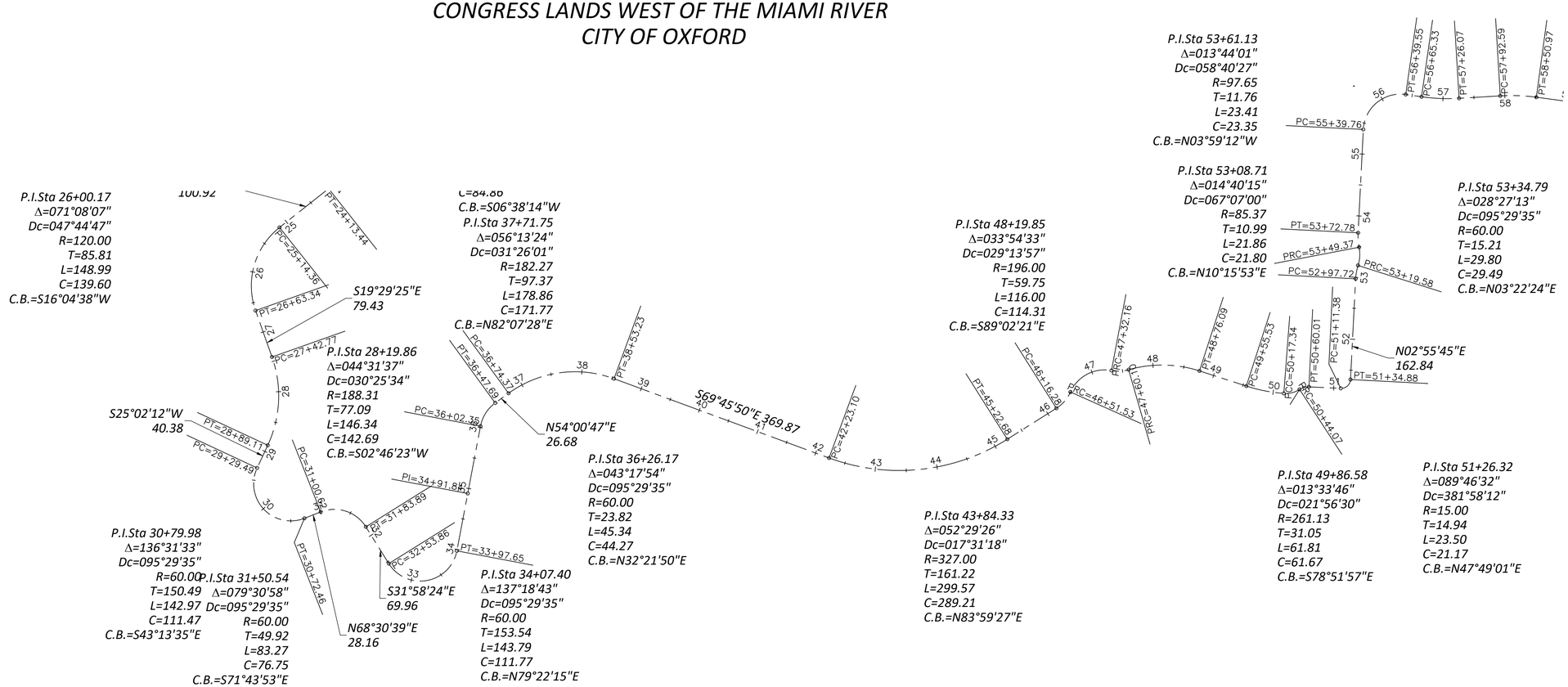
BUTLER COUNTY ENGINEERS

RECORD OF LAND SURVEYS

HORIZONTAL SCALE IN FEET
0 50 100 200

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET



CENTERLINE & MONUMENT COORDINATE TABLE

Station Offset (From CL/ R/W)		Project Coordinates (See Survey Parameters)		Monument Description		R/W Mon. Expected To Be Disturbed
Station	Offset	Northing(US Ft)	Easting(US Ft)	Pt. #	Description	R/W Mon. (623 Type B)
Existing Monuments						
PC 58+85.46	28.38'LT	551757.850	1334940.800	8701	Iron Pin 5/8" DDS	0
PC 59+56.78	35.02'LT	551755.365	1335010.772	8702	Iron Pin 5/8" DDS	0
PC 32+79.50	93.64'RT	550885.498	1333017.130	8703	Iron Pin 5/8" CAP N.L.	0
PC 30+21.94	181.03'RT	550895.477	1332784.514	8704	Iron Pin 5/8" DDS .8AG	0
PC 0+92.30	19.86'LT	552115.824	1331136.760	8913	Iron Pin 1/2"	0
PC 5+41.87	16.26'LT	552098.764	1331586.026	8919	Iron Pin 1/2"	0
PC 73+29.54	11.71'RT	551708.026	1336305.663	31017	Iron Pin 5/8" BROSEY VRS	0
PC 108+99.08 (CC)	395.65'RT	552383.968	1336331.377	33100	Iron Pin 5/8" BROSEY	0
PC 47+03.79	112.26'LT	551399.749	1334157.775	200113	Iron Pin 5/8" DDS	0
					QUANTITY CARRIED TO GENERAL SUMMARY	0

CENTERLINE & MONUMENT COORDINATE TABLE

Station Offset (From CL/ R/W)		Project Coordinates (See Survey Parameters)		Monument Description		Monuments to be set During Construction
Station	Offset	Northing(US Ft)	Easting(US Ft)	Pt. #	Description	R/W Mon. (623 Type B)
Proposed Monuments						
PC 0+03.41	21.57'RT	552077.080	1331046.675	800	SH Mon. (623 Type B)	1
PC 5+76.04	27.88'RT	552053.553	1331617.804	801	SH Mon. (623 Type B)	1
PC 5+79.47	89.84'RT	551991.605	1331615.252	802	SH Mon. (623 Type B)	1
PC 11+60.66	86.63'RT	551969.023	1332163.442	803	SH Mon. (623 Type B)	1
PC 11+60.56	24.63'RT	552030.971	1332165.994	804	SH Mon. (623 Type B)	1
PC 18+17.26	23.62'RT	552003.942	1332822.134	805	SH Mon. (623 Type B)	1
PC 18+16.85	24.03'LT	552051.561	1332823.765	806	SH Mon. (623 Type B)	1
PC 25+14.36	25.00'RT	551543.821	1332859.297	807	SH Mon. (623 Type B)	1
PC 25+14.36	25.00'LT	551504.612	1332890.324	808	SH Mon. (623 Type B)	1
PC 31+00.62	25.00'RT	551041.930	1332950.363	809	SH Mon. (623 Type B)	1
PC 31+00.62	25.00'LT	551088.454	1332932.046	810	SH Mon. (623 Type B)	1
PC 36+02.35	25.00'RT	551198.886	1333223.603	811	SH Mon. (623 Type B)	1
35+95.28	25.00'LT	551201.232	1333173.160	812	SH Mon. (623 Type B)	1
PC 42+23.23	25.00'RT	551128.704	1333752.994	813	SH Mon. (623 Type B)	1
PC 43+08.36	24.96'LT	551158.272	1333846.733	814	SH Mon. (623 Type B)	1
PC 43+10.35	6.50'LT	551139.718	1333846.974	815	SH Mon. (623 Type B)	1
					QUANTITY CARRIED TO GENERAL SUMMARY	16

CENTERLINE PLAT
BUT-OXFORD AREA TRAIL PHASE 5

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6500

DESIGNER EMR

REVIEWER jol 10-16-24

PROJECT ID 117001

SUBSET RW.108 | TOTAL 161

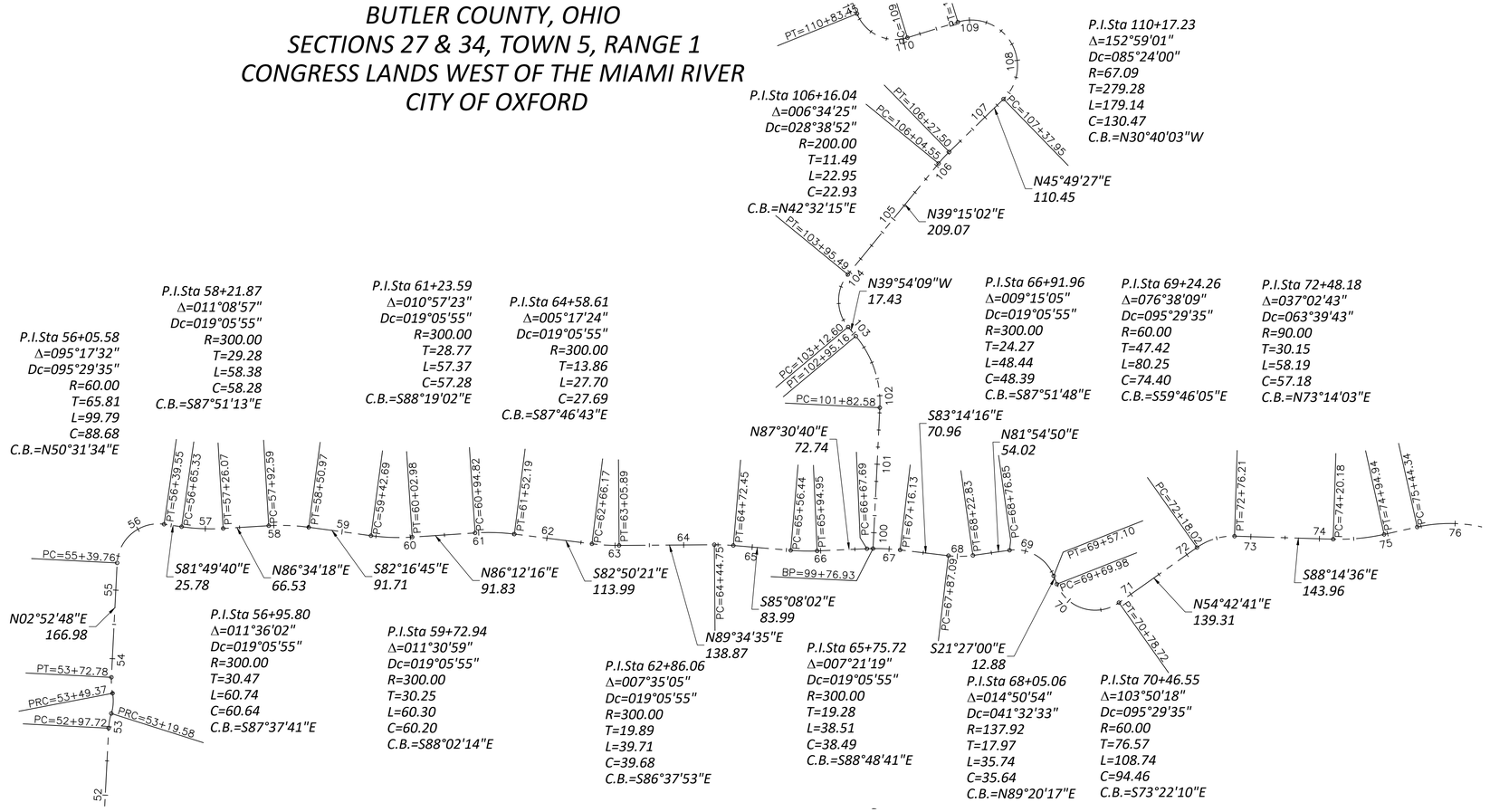
Plot time: Oct 18, 2024 – 2:04pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW CL – Layout Tab: CL

CENTERLINE PLAT
BUT-OXFORD AREA TRAIL
PHASE 5

BUTLER COUNTY, OHIO
SECTIONS 27 & 34, TOWN 5, RANGE 1
CONGRESS LANDS WEST OF THE MIAMI RIVER
CITY OF OXFORD

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET



CENTERLINE & MONUMENT COORDINATE TABLE						
Station Offset (From CL/ R/W)		Project Coordinates (See Survey Parameters)		Monument Description		Monuments to be set During Construction
Station	Offset	Northing(US Ft)	Easting(US Ft)	Pt. #	Description	R/W Mon. (623 Type B)
Proposed Monuments						
43+10.51	4.96'LT	551138.175	1333846.994	834	SH Mon. (623 Type B)	1
45+26.12	4.89'LT	551188.459	1334049.438	835	SH Mon. (623 Type B)	1
45+27.27	6.50'LT	551190.435	1334049.551	816	SH Mon. (623 Type B)	1
47+55.42	6.42'LT	551299.811	1334239.124	817	SH Mon. (623 Type B)	1
51+13.99	20.76'RT	551244.080	1334592.441	818	SH Mon. (623 Type B)	1
51+21.68	30.53'RT	551243.019	1334615.086	819	SH Mon. (623 Type B)	1
53+10.49	13.19'RT	551451.438	1334625.750	820	SH Mon. (623 Type B)	1
53+61.96	12.48'RT	551505.537	1334627.726	821	SH Mon. (623 Type B)	1
55+31.08	13.00'RT	551673.041	1334636.153	822	SH Mon. (623 Type B)	1
55+93.11	51.13'LT	551769.053	1334617.931	836	SH Mon. (623 Type B)	1
55+96.27	28.65'RT	551705.595	1334666.385	823	SH Mon. (623 Type B)	1
69+18.72	37.43'RT	551660.635	1335945.124	824	SH Mon. (623 Type B)	1
70+28.56	65.43'RT	551550.969	1336022.216	825	SH Mon. (623 Type B)	1
71+92.57	24.75'RT	551699.963	1336191.487	826	SH Mon. (623 Type B)	1
73+29.91	38.29'LT	551757.990	1336307.564	827	SH Mon. (623 Type B)	1
72+62.25	40.40'LT	551760.798	1336233.761	828	SH Mon. (623 Type B)	1
					QUANTITY CARRIED TO GENERAL SUMMARY	16

CENTERLINE & MONUMENT COORDINATE TABLE						
Station Offset (From CL/ R/W)		Project Coordinates (See Survey Parameters)		Monument Description		Monuments to be set During Construction
Station	Offset	Northing(US Ft)	Easting(US Ft)	Pt. #	Description	R/W Mon. (623 Type B)
Proposed Monuments						
71+96.60	25.23'LT	551713.095	1336165.902	829	SH Mon. (623 Type B)	1
100+02.07 (CC)	52.65'LT	551730.924	1335674.310	830	SH Mon. (623 Type B)	1
100+03.05 (CC)	30.00'RT	551727.928	1335756.911	831	SH Mon. (623 Type B)	1
103+12.82 (CC)	37.21 'LT	552002.745	1335660.606	839	SH Mon. (623 Type B)	1
107+75.58 (CC)	30.00'LT	552397.894	1335905.227	832	SH Mon. (623 Type B)	1
107+84.16 (CC)	30.00'RT	552395.919	1335965.684	833	SH Mon. (623 Type B)	1
					QUANTITY CARRIED TO GENERAL SUMMARY	6

VOLUME _____

PLAT NO. _____

BUTLER COUNTY ENGINEERS

RECORD OF LAND SURVEYS

HORIZONTAL SCALE IN FEET
0 50 100 200

CENTERLINE PLAT
BUT-OXFORD AREA TRAIL PHASE 5

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

DESIGNER EMR
REVIEWER jol 10-16-24
PROJECT ID 117001
SUBSET RW.109 TOTAL 161

Plot time: Oct 18, 2024 - 2:04pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW CL - Layout Tab: CL

BUTLER COUNTY, OHIO
SECTIONS 27 & 34, TOWN 5, RANGE 1
CONGRESS LANDS WEST OF THE MIAMI RIVER
CITY OF OXFORD

HORIZONTAL SCALE IN FEET
0 50 100 200

PROPERTY MAP
BUT-OXFORD AREA TRAIL PHASE 5

DANA DRIVE

OXFORD REILY ROAD

Southern Knolls #12 P.E. 800, Pg. A

Southern Knolls #11 P.E. 697, Pg. D

Southern Knolls #10 P.E. 629, Pg. A

Southern Knolls #9 P.E 620, Pg. C

2196 2195 2194 2193 2192 2191 2190 2179 2097 2098 2099 2100 2101 2086 2085 2084 2083 2082 1735 1736 1737 1738

Ex R/W

Begin R/W Acquisition
Sta. 0+03.76

Sta. 00+00 OXFORD AREA TRAIL
PHASE 5

CL OXFORD AREA TRAIL
PHASE 5

SECTION 27, TOWN 5, RANGE 1
SECTION 34, TOWN 5, RANGE 1

City of Oxford

1
Lot #2664
EVR Investments, LLC
O.R. 7033, Pg. 1435
O.R. 7033, Pg. 1447
67.376 Acres
H4100-132-000-001

2
Part of Lot #3695
Cobblestone Community Church, Inc.
O.R. 7951, Pg. 589
28.488 Acres
H4100-132-000-014
S.V. 61, Pg. 147

ROBERTS DR

3988
(Open Space)

3986

South Farm
Section 4
O.R. ___, Pg. _

O.R
Lo
(Op

So

STRUCTURE KEY
- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

REV. BY	DATE	DESCRIPTION

FINAL R/W PLAN DATE:

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

DESIGNER	EMR
REVIEWER	jol 10-16-24
PROJECT ID	117001
SUBSET	RW.110
TOTAL	161

Plot time: Oct 18, 2024 – 1:53pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW – Layout Tab: Property

BUTLER COUNTY, OHIO
SECTIONS 27 & 34, TOWN 5, RANGE 1
CONGRESS LANDS WEST OF THE MIAMI RIVER
CITY OF OXFORD

N

HORIZONTAL SCALE IN FEET
0 50 100 200

SECTION 27, TOWN 5, RANGE 1

SECTION 34, TOWN 5, RANGE 1

1735 1736 1737 1738 1739

2082

SECTION 27, TOWN 5, RANGE 1
SECTION 34, TOWN 5, RANGE 1

(2) Part of Lot #3695
Cobblestone Community Church, Inc.
O.R. 7951, Pg. 589
28.488 Acres
H4100-132-000-014
S.V. 61, Pg. 147

(4) Lot #3555
South Farm Development, LLC
O.R. 7389, Pg. 1792
4.204 Acres
H4100-137-000-040
S.V. 46, Pg. 50

Heron Pond
O.R. 10103, Pg. 1051

5 4056 | 6 4057 | 7 4058 | 8 4059

(2)

(3) South Farm Section 4
O.R. ____, Pg. ____
Lot #3989
(Open Space)

3645 3646 3647 3648 3649 3650 3651 36

Silverleaf Secti
P.E. 3973,

Ex R/W

CL OXFORD AREA TRAIL
PHASE 5

2886

Ex R/W

2896

3962

South Farm Subdivision
Section 1
P.E. 2357, Pg. A

KEHR ROAD

3988 (Open Space)

3986

3987 (Open Space)

South Farm Section 4
O.R. ____, Pg. ____

ROBERTS DRIVE

SECTION 34, TOWN 5, RANGE 1

SH

I.R.S.

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

REV. BY	DATE	DESCRIPTION

FINAL R/W PLAN DATE:

PROPERTY MAP
BUT-OXFORD AREA TRAIL PHASE 5

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6300 Tylersville Road, Suite A
Mason, OH 45040 • 513.336.6600

DESIGNER	EMR
REVIEWER	jol 10-16-24
PROJECT ID	117001
SUBSET	RW.111
TOTAL	161

Plot time: Oct 18, 2024 – 1:53pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW – Layout Tab: Property

BUTLER COUNTY, OHIO
SECTIONS 27 & 34, TOWN 5, RANGE 1
CONGRESS LANDS WEST OF THE MIAMI RIVER
CITY OF OXFORD

N

HORIZONTAL SCALE IN FEET
0 50 100 200

PROPERTY MAP
BUT-OXFORD AREA TRAIL PHASE 5

SECTION 27, TOWN 5, RANGE 1

SECTION 34, TOWN 5, RANGE 1

SECTION 27, TOWN 5, RANGE 1
SECTION 34, TOWN 5, RANGE 1

CL CHESTNUT CONNECTOR

End R/W Acquisition
Sta. 108+92.57

Sta. 66+84.73 AREA OXFORD TRAIL
Sta. 99+76.93 CHESTNUT CONNECTOR

CL OXFORD AREA TRAIL
PHASE 5

End R/W Acquisition
Sta. 73+30.25

Lot #813
The Village of Oxford
D.B. 432, Pg. 170
Second Tract
H4000-110-000-001
S.V. 5, Pg. 5

10
Part Lot #812
Lara C. Osborne, TR.
O.R. 9649, Pg. 347
15.081 Acres
H4000-116-000-012
S.V. 9, Pg. 81

Lot #613
The Village of Oxford
D.B. 432, Pg. 170
Second Tract
H4000-110-000-001
S.V. 5, Pg. 5

Part Lot #6
Duvall Properties, LLC
O.R. 7362, Pg. 2167
96.044 Ac.
H3610-038-000-034

9
Lot #3732
Abraham A. & Eulin M. Kuranga
O.R. 9474, Pg. 1261
40.113 Acres
H4100-132-000-015
S.V. 9, Pg. 81

4
Lot #3555
South Farm Development, LLC
O.R. 7389, Pg. 1792
4.204 Acres
H4100-137-000-040
S.V. 46, Pg. 50

Heron Pond
O.R. 10103, Pg. 1051

Silverleaf Meadows
Section 1
P.E. 3973, Pgs. A-C

South Farm
Section 4
O.R. ___, Pg. ___
Lot #3989
(Open Space)

South Farm
Section 4
O.R. ___, Pg. ___

South Farm Subdivision
Section 1
P.E. 2357, Pg. A

3645 3646 3647 3648 3649 3650 3651 3652 3653 3654 3655 3656 3657 3658
4056 4057 4058 4059
3988 (Open Space)
3986
3962
2896
2886
3987 (Open Space)

Ex R/W
SH
ROBERTS DRIVE
KEHR ROAD
BOOTH ROAD
City of Oxford

STRUCTURE KEY
- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

REV. BY	DATE	DESCRIPTION
FINAL R/W PLAN DATE:		

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 • 513.336.6600

DESIGNER	EMR
REVIEWER	jol 10-16-24
PROJECT ID	117001
SUBSET	RW.112
TOTAL	161

Plot time: Oct 18, 2024 – 1:53pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW – Layout Tab: Property

TOTAL NUMBER OF:
6 - OWNERSHIPS 00 - TOTAL TAKES
10 - PARCELS 00- OWNERSHIPS W/STRUCTURES INVOLVED

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE CITY OF OXFORD, BUTLER COUNTY OHIO.
ANY RIGHT OF WAY ACQUIRED IN THE NAME OF ANOTHER AGENCY WILL CONTAIN THE "v" PARCEL IDENTIFIER AND THE NAME OF THAT AGENCY WILL BE SHOWN IN THE REMARKS COLUMN.

PARCEL NO.	OWNER	SHEEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		REMARKS
			BOOK	PAGE								LEFT	RIGHT	
1-SH	EVR INVESTMENTS, LLC	114,115	7033	1435	H4100-132-000-001	67.376	0.000	2.606	0.000	2.606	NO			EX. UTILITY & SANITARY SEWER EASEMENT AREA = 0.384 ACRES
			7033	1447										SH EASEMENT IS AN IRREGULAR SHAPE AND IS ON BOTH SIDES OF CENTERLINE
2-SH	COBBLESTONE COMMUNITY CHURCH, INC.	115-118	7951	589	H4100-132-000-014	28.488	0.000	2.914	0.000	2.914	NO			SH EASEMENT IS CENTERED ON THE CENTERLINE AND MEANDERS THROUGH THE PROPERTY
														AND IS ON BOTH SIDES OF THE CENTERLINE
3-SH	LOT #3989 SOUTH FARM DEVELOPMENT, LLC	118,119	____	____	H4100-132-000-___	0.686	0.000	0.008	0.000	0.008	NO			LOT TO BE RECORDED PRIOR
3-T						0.686	0.000	0.042	0.000	0.042	NO			TEMPORARY FOR TRAIL CONSTRUCTION
4-SH	LOT #3555 SOUTH FARM DEVELOPMENT, LLC	119,120	7389	1792	H4100-137-000-040	4.204	0.000	0.060	0.000	0.060	NO			
4-T						4.204	0.000	0.050	0.000	0.050	NO			TEMPORARY FOR TRAIL CONSTRUCTION
5-T	LOT #4056 HPCT PROPERTIES, INC.	119,120	9717	1928	H4100-137-000-062	0.353	0.000	0.010	0.000	0.010	NO			TEMPORARY FOR TRAIL CONSTRUCTION
6-T	LOT #4057 HPCT PROPERTIES, INC.	119,120	9717	1928	H4100-137-000-063	0.187	0.000	0.010	0.000	0.010	NO			TEMPORARY FOR TRAIL CONSTRUCTION
7-T	LOT #4058 HPCT PROPERTIES, INC.	119,120	9717	1928	H4100-137-000-064	0.213	0.000	0.014	0.000	0.014	NO			TEMPORARY FOR TRAIL CONSTRUCTION
8-T	LOT #4059 HPCT PROPERTIES, INC.	119,120	9717	1928	H4100-137-000-065	0.367	0.000	0.022	0.000	0.022	NO			TEMPORARY FOR TRAIL CONSTRUCTION
9-SH	ABRAHAM A. & EULIN M. KURANGA	119-122	9474	1261	H4100-132-000-015	40.113	0.000	2.787	0.000	2.787	NO			SH EASEMENT IS AN IRREGULAR SHAPE AND IS ON BOTH SIDES OF CENTERLINE
10-SH	LARA C. OSBORNE, TR.	122	9649	347	H4000-116-000-012	15.081	0.000	0.123	0.000	0.123	NO			SH EASEMENT IS AN IRREGULAR SHAPE AND IS ON THE LEFT AND RIGHT SIDES OF THE CENTERLINE
10-SH2	LARA C. OSBORNE, TR.	122,123	9649	347	H4000-116-000-012	15.081	0.000	1.252	0.000	1.252	NO			SH EASEMENT IS AN IRREGULAR SHAPE AND IS ON THE LEFT AND RIGHT SIDES OF THE CENTERLINE

TYPES OF TITLE LEGEND
WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
A = AERIAL EASEMENT
SL = SLOPE EASEMENT
PRE = PROPERTY RIGHT EASEMENT

NOTE: ALL TEMPORARY PARCELS TO BE OF 18 MONTH DURATION

NOTE: UNDER NO CIRCUMSTANCE ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OF EQUIPMENT BY THE CONTRACTOR UNLESS NOTES OTHERWISE.

NET RESIDUE = RECORD AREA - TOTAL PRO - TAKE
NET TAKE = GROSS TAKE - PRO IN TAKE
ALL AREAS IN ACRES

REV. BY	DATE	DESCRIPTION

FILED REVIEW BY:
OWNERSHIP VERIFIED BY: DATE:
PLAN COMPLETION DATE: DATE:

SUMMARY OF ADDITIONAL RIGHT OF WAY
LEGEND SHEET

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

DESIGNER EMR
REVIEWER jol 10-16-24
PROJECT ID 117001
SUBSET RW.113 TOTAL 161

Plot time: Oct 18, 2024 - 1:53pm
Drawing name: J:\2022_22-0273\SV\DWG\22-0273 RW - Layout Tab: Summary

RIGHT OF WAY DETAIL SHEET - BUT-OXFORD AREA TRAIL PHASE 5
STA. 0+00 TO 11+00

HORIZONTAL SCALE IN FEET
0 10 20 40

N

Ex R/W

OXFORD REILY ROAD

0+04.09
20.27 LT.

S87°49'42"E
5.00'

0+09.09
20.23 LT.

2196

2195

2194

Southern
Knolls #12
P.E. 800, Pg. A

2193

2192

2191

Ex 7.50' Duke Easement
D.B. 1011, Pg. 441

S87°49'42"E 1771.44'

Ex U

S88°17'02"E

1-SH

N02°38'18"E
41.84'

0+03.41
21.57 RT.

S87°38'28"E 571.61'

MATCH LINE - STA. 5+00

1

Lot #2664
EVR Investments, LLC
O.R. 7033, Pg. 1435
O.R. 7033, Pg. 1447
H4100-132-000-001

MATCH LINE - STA. 5+00

2190

Southern
Knolls #11
P.E. 697, Pg. D

2179

6+33.53
28.76 LT.

Ex R/W

C/L

Ex R/W

7+04.31
38.18 LT.

2097

2098

Southern
Knolls #10
P.E. 629, Pg. A

2099

2100

Ex 7.50' Duke Easement
D.B. 1011, Pg. 441

MATCH LINE - STA. 11+00

S87°49'42"E 1771.44'

PC=5+09.53

PI=6+28.82

RC=6+57.75

PT=6+87.97

PC=8+18.97

PI=8+30.97

PC=9+10.09

PI=9+83.21

PC=10+56.67

S87°38'28"E 571.61'

5+76.04
27.88 RT.

Ex 30' Sanitary
Sewer Easement
D.B. 1688, Pg. 270

1-SH

1

Lot #2664
EVR Investments, LLC
O.R. 7033, Pg. 1435
O.R. 7033, Pg. 1447
67.376 Acres
H4100-132-000-001

Ex. Drainage Way

S02°21'32"W
62.00'

5+79.47
89.84 RT.

S87°38'28"E 548.66'

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

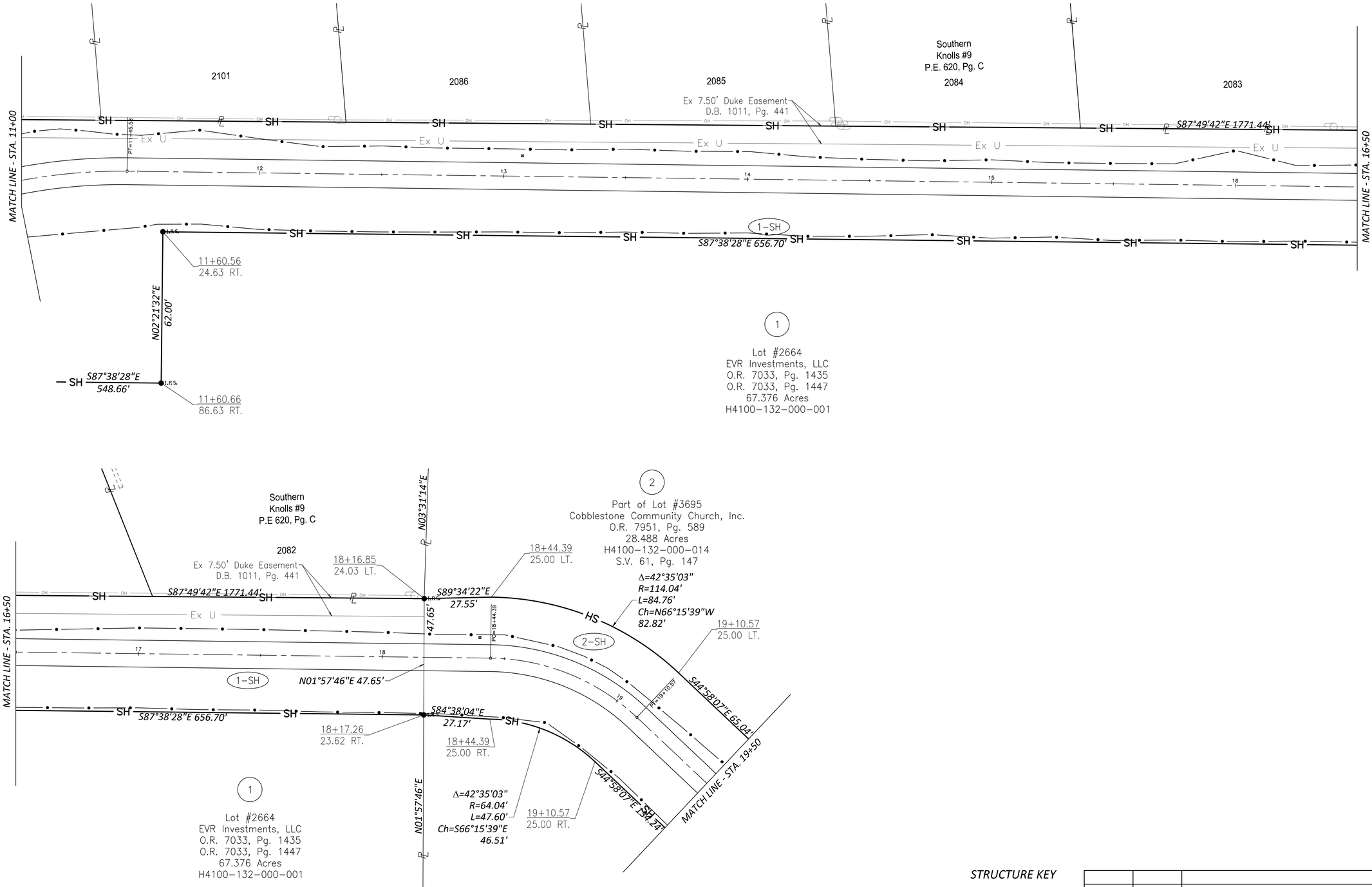
REV. BY	DATE	DESCRIPTION

PLAN COMPLETION DATE:

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

DESIGNER	EMR
REVIEWER	jol 10-16-24
PROJECT ID	117001
SUBSET	RW.114
TOTAL	161

Plot time: Oct 18, 2024 - 1:55pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW - Layout Tab: RW



STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

REV. BY	DATE	DESCRIPTION

PLAN COMPLETION DATE:

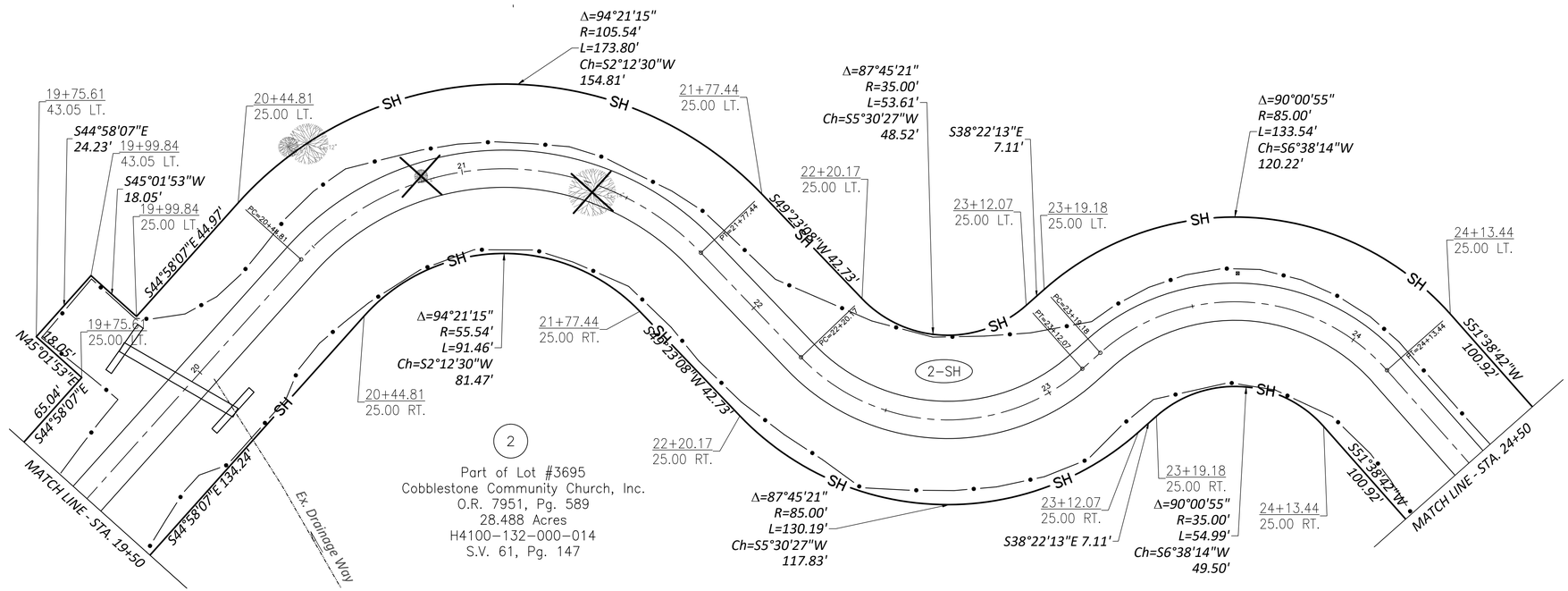
HORIZONTAL SCALE IN FEET
0 10 20 40

RIGHT OF WAY DETAIL SHEET - BUT-OXFORD AREA TRAIL PHASE 5 STA. 11+00 TO 19+50

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 • 513.336.6600

DESIGNER: EMR
REVIEWER: jol 10-16-24
PROJECT ID: 117001
SHEET: RW.115 TOTAL: 161

Plot time: Oct 18, 2024 – 1:55pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW – Layout Tab: RW



HORIZONTAL SCALE IN FEET
0 10 20 40

RIGHT OF WAY DETAIL SHEET - BUT-OXFORD AREA TRAIL PHASE 5 STA. 19+50 TO 29+50

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

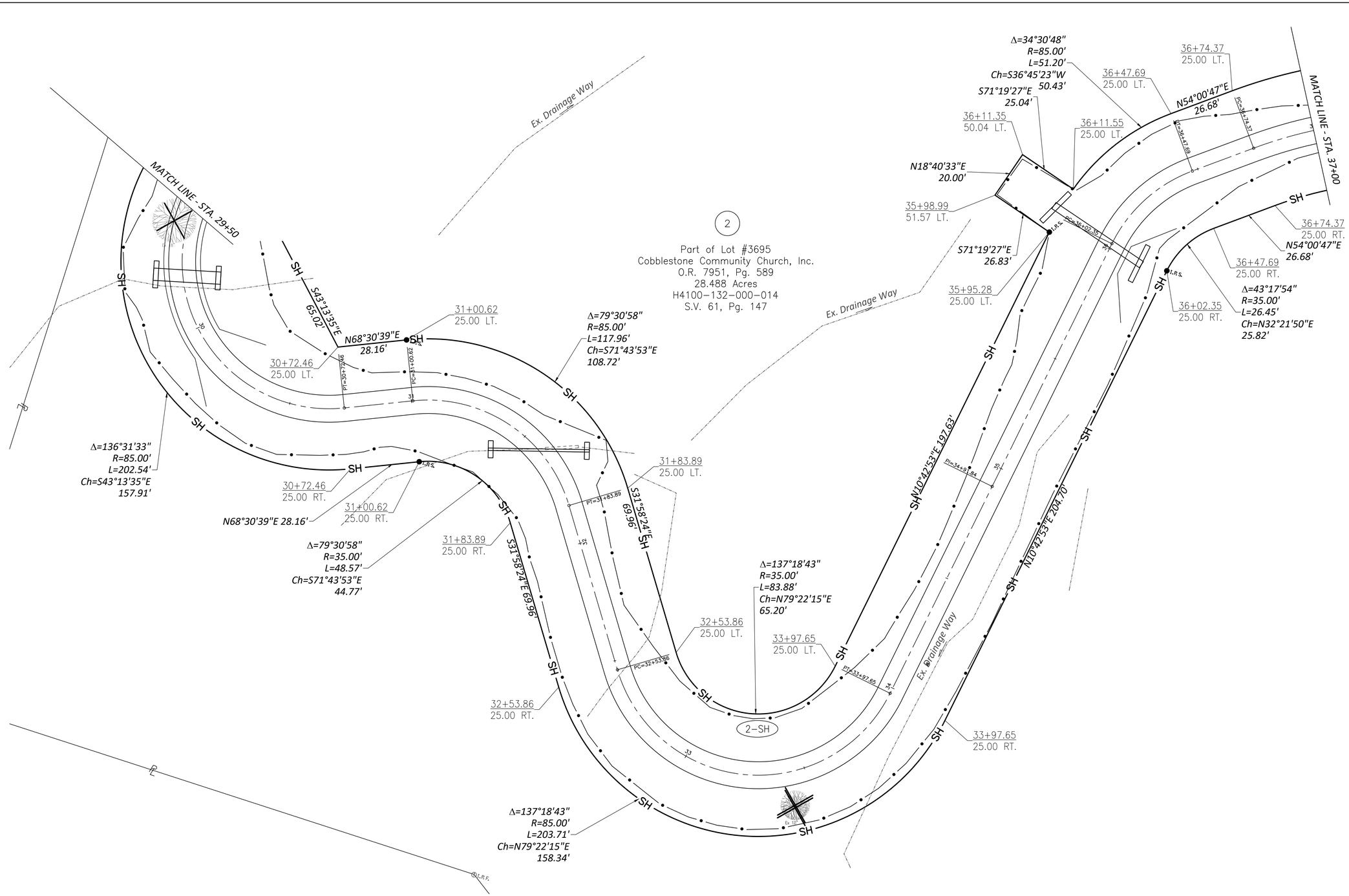
REV. BY	DATE	DESCRIPTION

PLAN COMPLETION DATE:

DESIGN AGENCY
bayer becker
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600
www.bayerbecker.com

DESIGNER	EMR
REVIEWER	jol 10-16-24
PROJECT ID	117001
SHEET	RW.116
TOTAL	161

Plot time: Oct 18, 2024 - 1:55pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW - Layout Tab: RW



HORIZONTAL SCALE IN FEET
0 10 20 40

RIGHT OF WAY DETAIL SHEET - BUT-OXFORD AREA TRAIL PHASE 5
STA. 29+50 TO 37+00

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

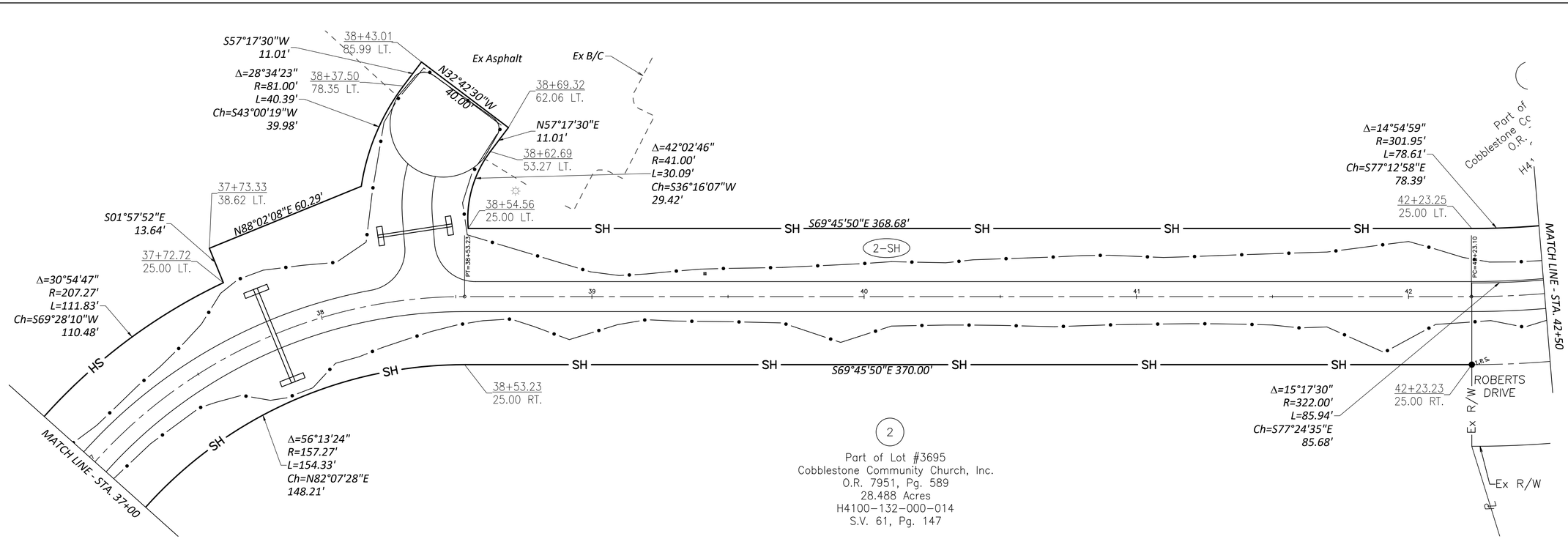
REV. BY	DATE	DESCRIPTION

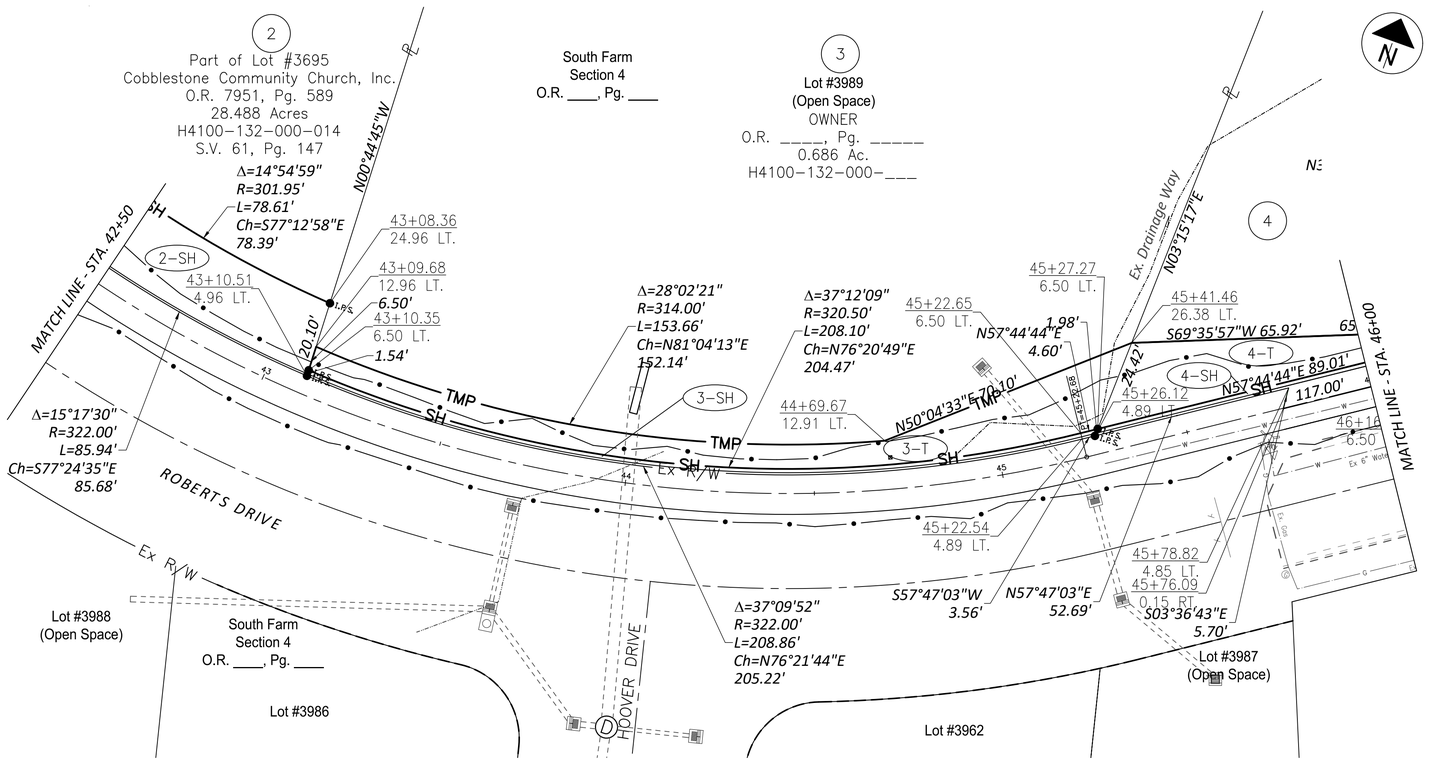
PLAN COMPLETION DATE:

DESIGN AGENCY
bayer becker
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600
www.bayerbecker.com

DESIGNER	EMR
REVIEWER	jol 10-16-24
PROJECT ID	117001
SHEET	RW.117
TOTAL	161

Plot time: Oct 18, 2024 - 1:55pm
Drawing name: J:\2022\22-0273\SW\DWG\22-0273 RW - Layout Tab: RW





RIGHT OF WAY DETAIL SHEET - BUT-OXFORD AREA TRAIL PHASE 5 STA. 37+00 TO 46+00

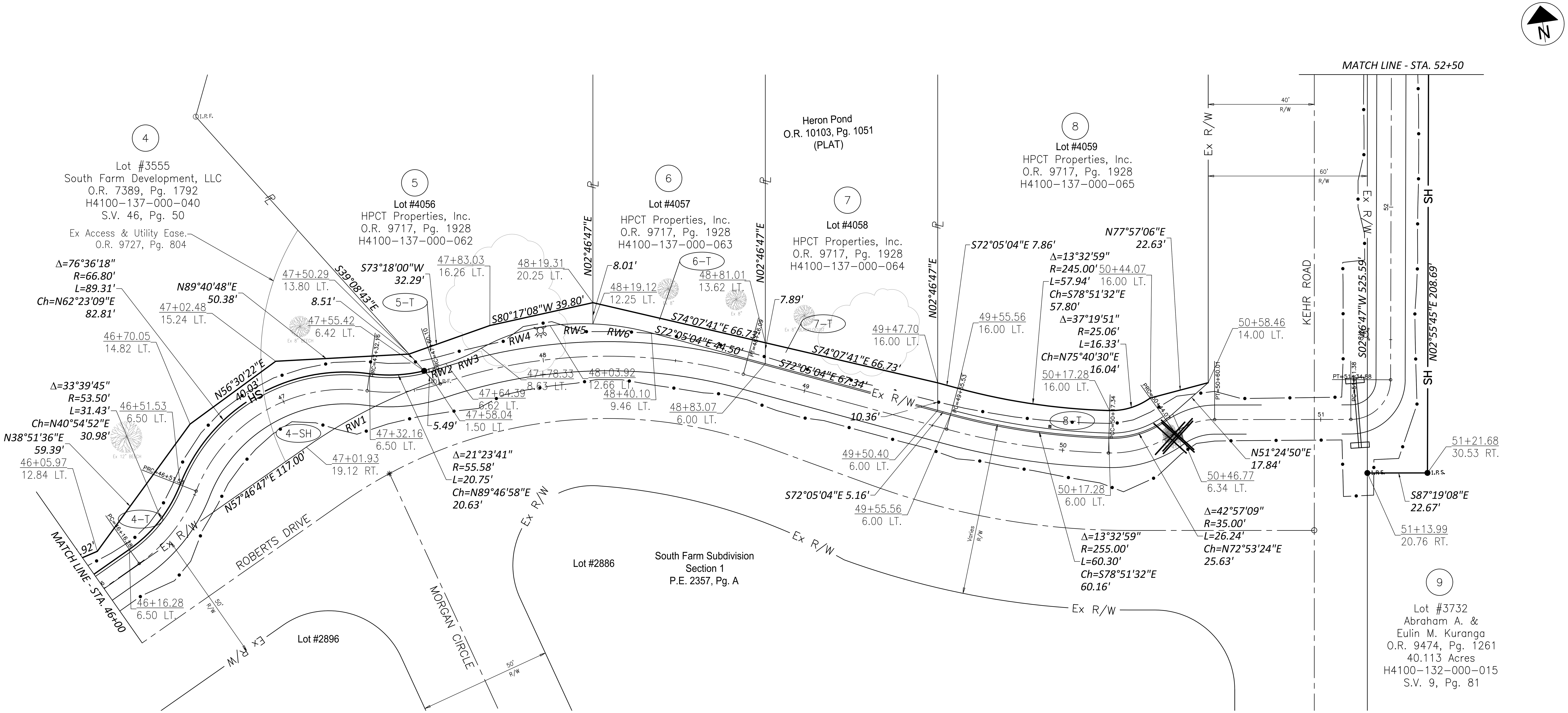
REV. BY	DATE	DESCRIPTION

PLAN COMPLETION DATE:

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

DESIGNER: EMR
REVIEWER: jol 10-16-24
PROJECT ID: 117001
SHEET: RW.118
TOTAL: 161

Plot time: Oct 18, 2024 - 1:56pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW - Layout Tab: RW



RIGHT OF WAY DETAIL SHEET - BUT-OXFORD AREA TRAIL PHASE 5
STA. 46+00 TO 52+50

EXISTING RW CURVE TABLE

Curve	Delta	Radius	Length	Chord
RW1	15°41'54"	197.89'	54.22'	S65°37'44"W 54.05'
RW2	2°27'53"	200.00'	8.60'	S74°08'09"W 8.60'
RW3	11°59'15"	70.00'	14.65'	N69°22'28"E 14.62'
RW4	22°27'30"	70.00'	27.44'	S74°36'36"W 27.26'
RW5	9°16'09"	100.00'	16.18'	N89°31'35"W 16.16'
RW6	12°48'27"	100.00'	22.35'	N78°29'18"W 22.31'

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

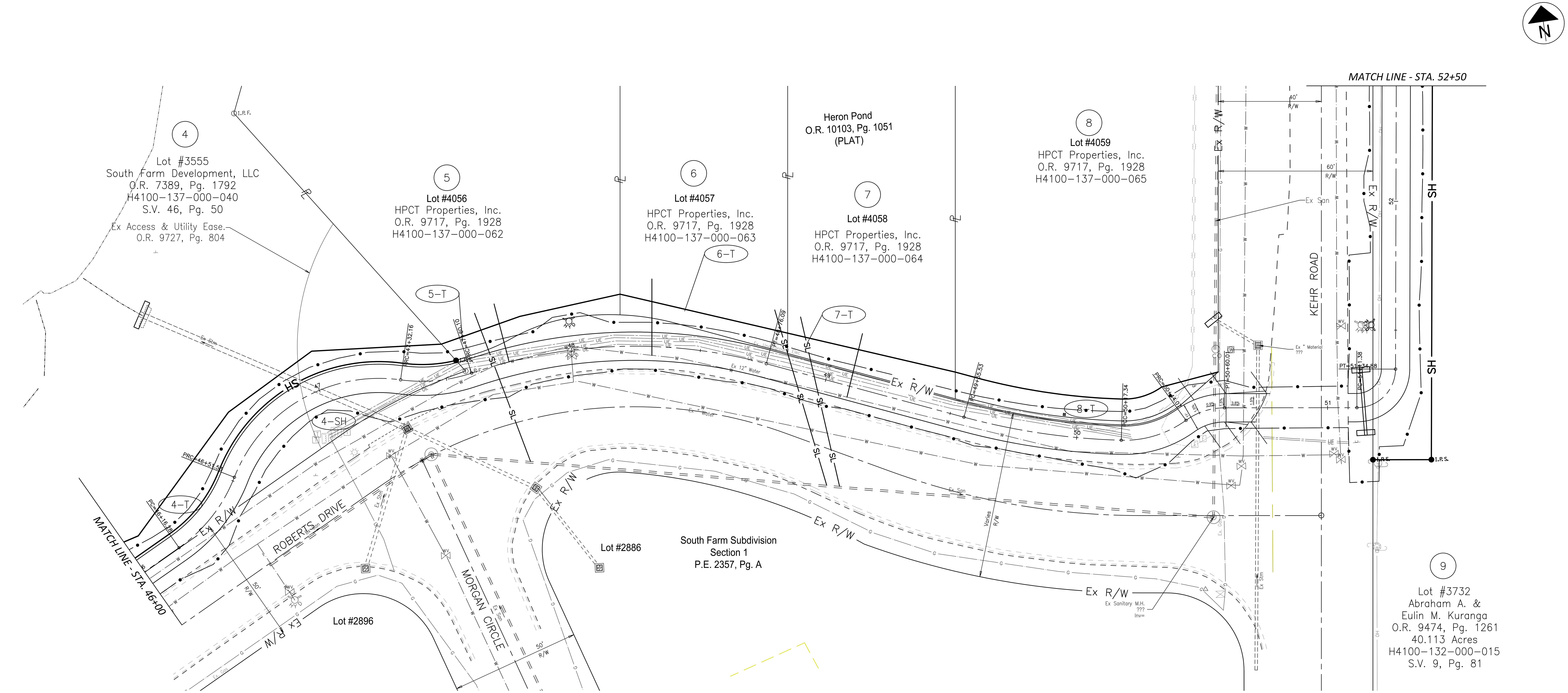
REV. BY	DATE	DESCRIPTION

PLAN COMPLETION DATE:

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 · 513.336.6600

DESIGNER: EMR
REVIEWER: jol 10-16-24
PROJECT ID: 117001
SHEET: RW.119 TOTAL: 161

Plot time: Oct 18, 2024 – 1:56pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW – Layout Tab: RW



RIGHT OF WAY TOPO SHEET - BUT-OXFORD AREA TRAIL PHASE 5
STA. 46+00 TO 52+50

STRUCTURE KEY

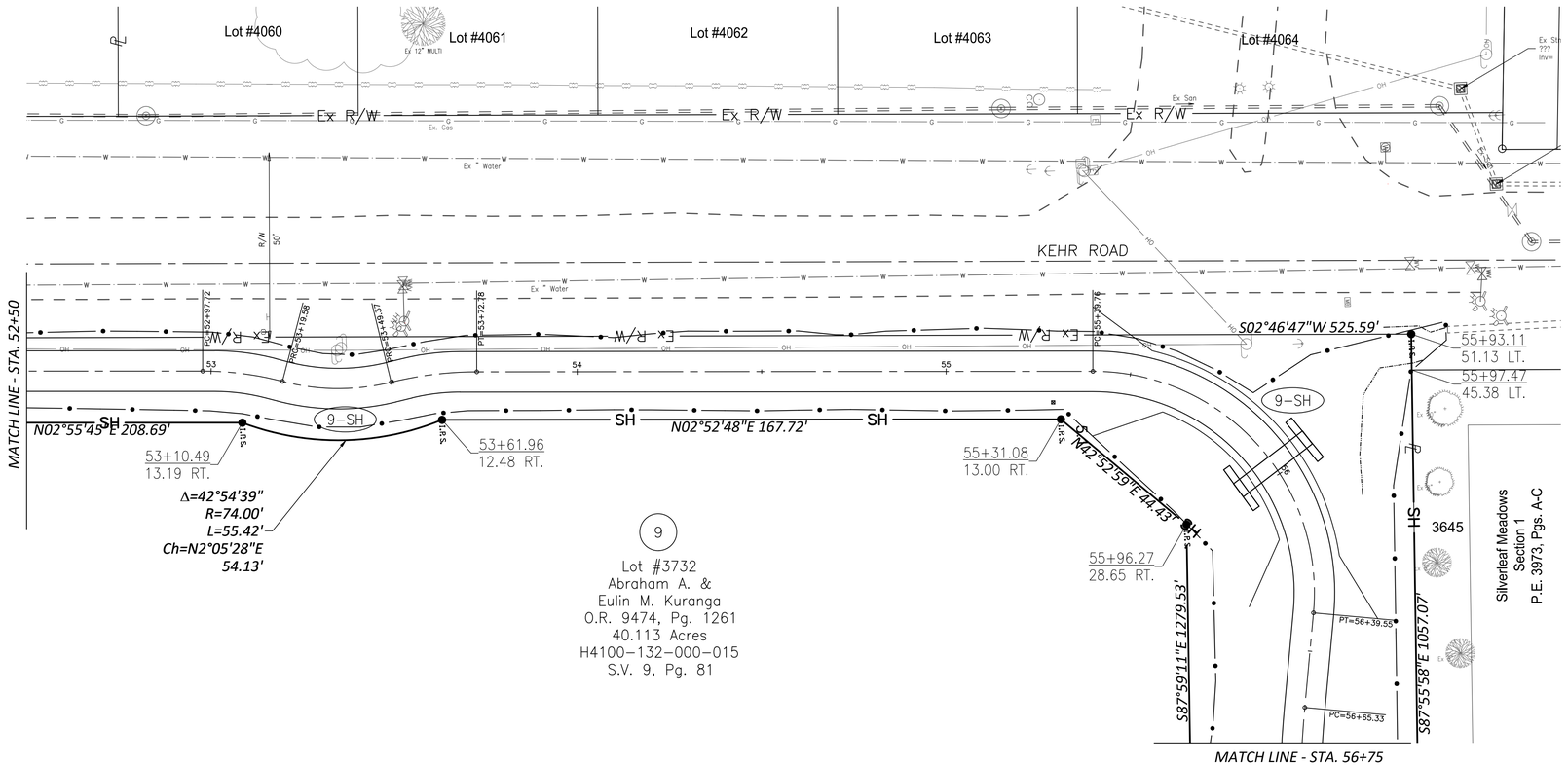
- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

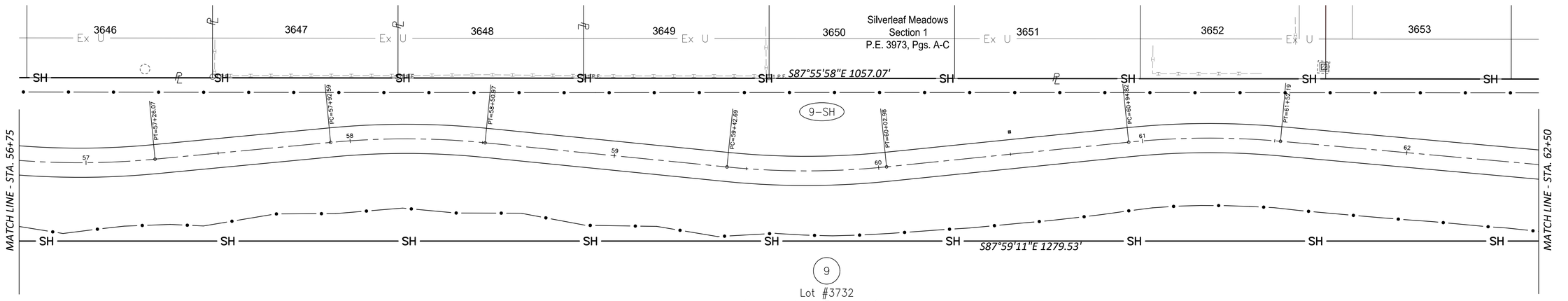
REV. BY	*DATE*	*DESCRIPTION*

PLAN COMPLETION DATE:

DESIGN AGENCY	bayer becker, www.bayerbecker.com, 6900 Tylersville Road, Suite A, Mason, OH 45040 • 513.336.6600
DESIGNER	EMR
REVIEWER	jol 10-16-24
PROJECT ID	117001
SHEET	RW.120
TOTAL	161

Plot time: Oct 18, 2024 - 1:56pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW - Layout Tab: RW





HORIZONTAL SCALE IN FEET
0 10 20 40

RIGHT OF WAY DETAIL SHEET - BUT-OXFORD AREA TRAIL PHASE 5
STA. 52+50 TO 62+50

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

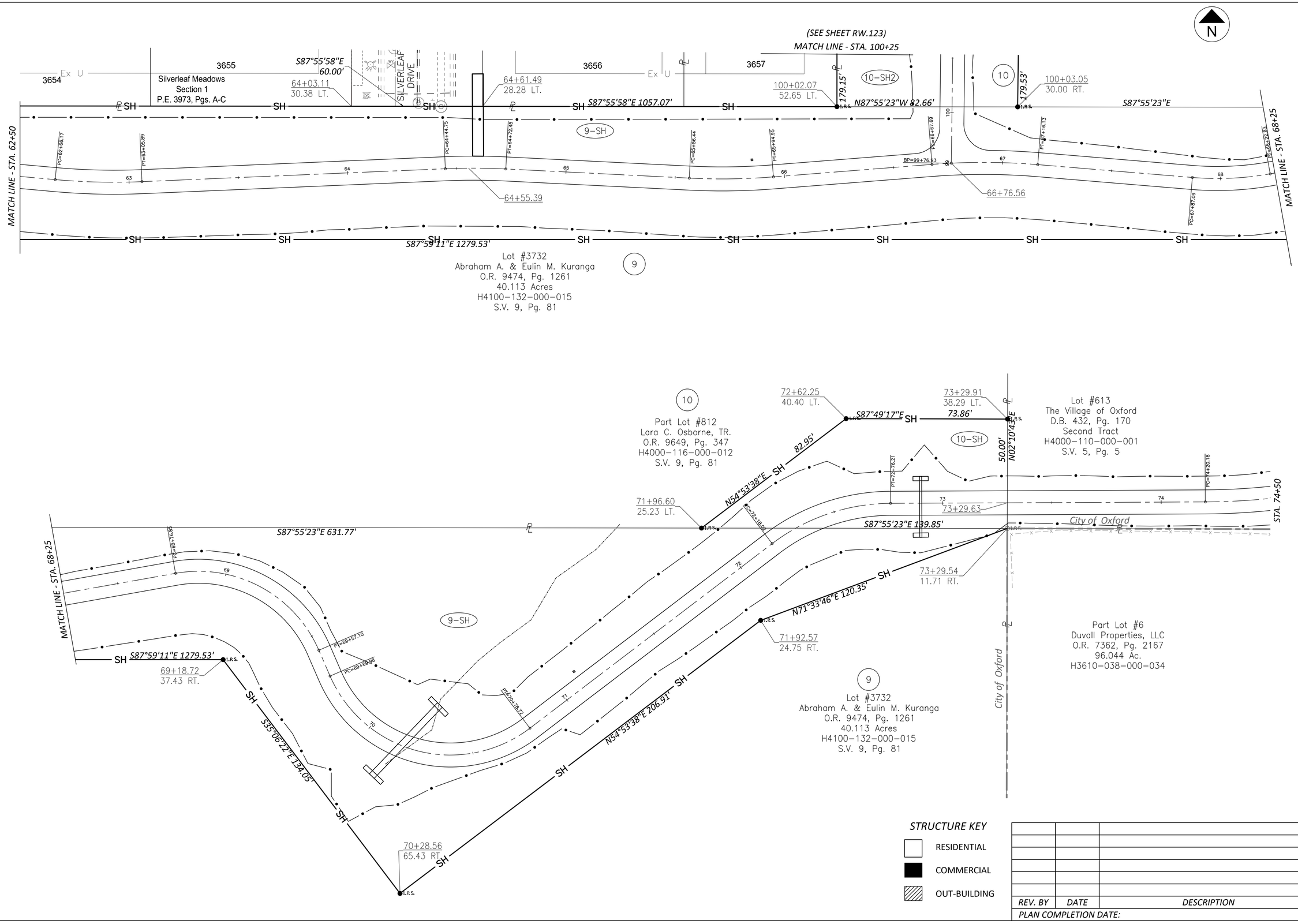
REV. BY	DATE	DESCRIPTION

PLAN COMPLETION DATE:

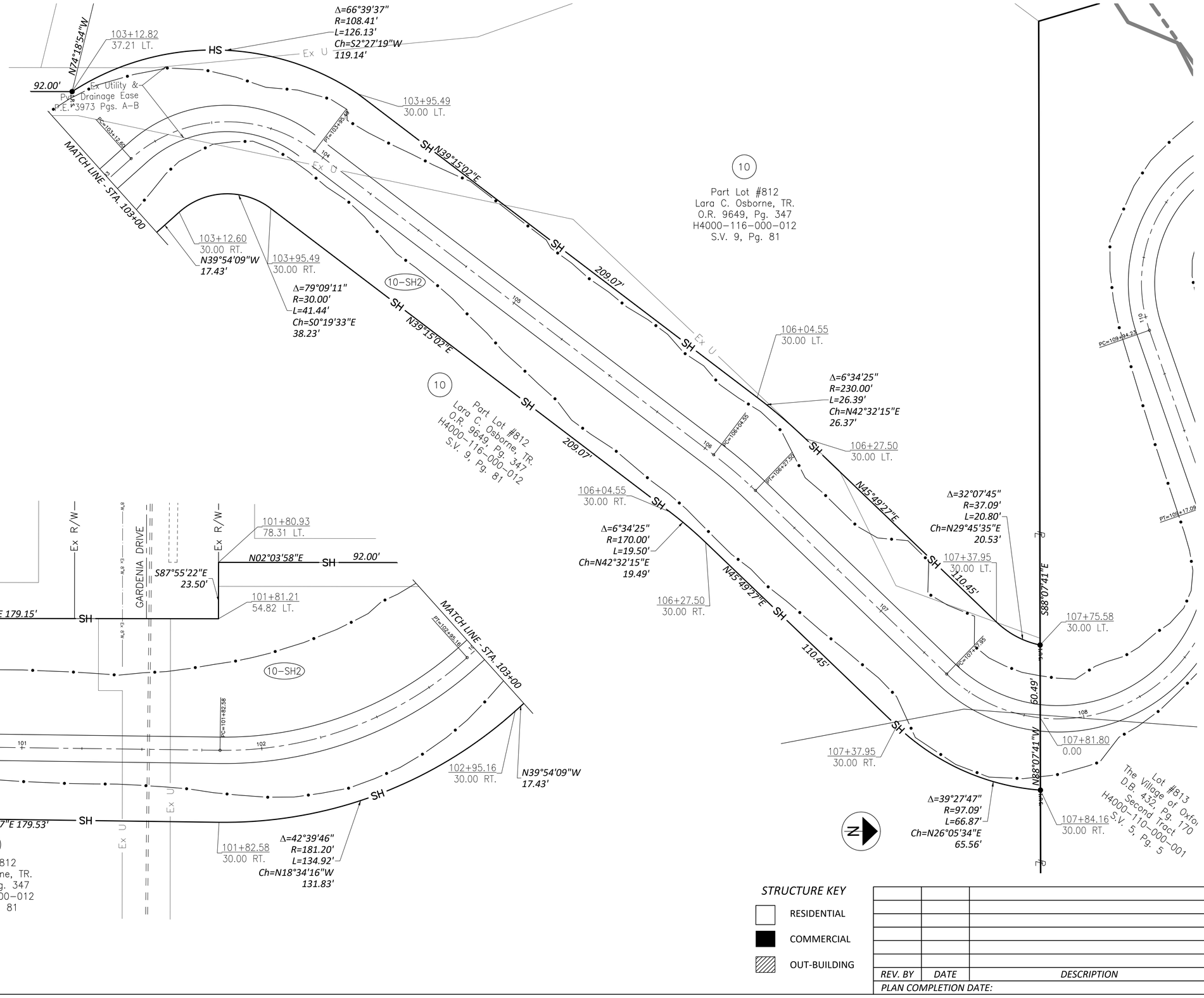
DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

DESIGNER: EMR
REVIEWER: jol 10-16-24
PROJECT ID: 117001
SHEET: RW.121
TOTAL: 161

Plot time: Oct 18, 2024 – 1:56pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW – Layout Tab: RW



Plot time: Oct 18, 2024 - 1:56pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW - Layout Tab: RW



RIGHT OF WAY DETAIL SHEET - BUT-OXFORD AREA TRAIL PHASE 5
STA. 100+25 TO 108+50

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

REV. BY	DATE	DESCRIPTION

PLAN COMPLETION DATE:

DESIGN AGENCY
bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.398.6800

DESIGNER	EMR
REVIEWER	jol 10-16-24
PROJECT ID	117001
SHEET	RW.123
TOTAL	161

Plot time: Oct 18, 2024 – 1:57pm
Drawing name: J:\2022\22-0273\SV\DWG\22-0273 RW – Layout Tab: RW

PROJECT DESCRIPTION

THIS PROJECT, OXFORD AREA TRAIL PHASE 5, IS THE EXPLORATION FOR A NEW BIKE TRAIL LOCATED SOUTH OF OXFORD, OHIO IN BUTLER COUNTY.

HISTORIC RECORDS

THE ODOT TRAFFIC INFORMATION MANAGEMENT SYSTEM (TIMS) PROVIDED DOCUMENTATION FOR 3 GEOTECHNICAL PROJECTS LOCATED ALONG OXFORD REILY ROAD, WEST CHESTNUT STREET, AND KEHR ROAD. THE OXFORD REILY ROAD PROJECT, LOCATED LESS THAN 200 FEET WEST OF THE PROJECT LOCATION, WAS FOR A ROADWAY IMPROVEMENT (BUT-732-7.22) COMPLETED IN 1959. THE MAJORITY OF THE 25 BORINGS ENCOUNTERED PRIMARILY FINE-GRAINED SOILS (A-4A). BEDROCK WAS DESCRIBED AS SHALE AND LIMESTONE. THE WEST CHESTNUT STREET PROJECT, LOCATED THAN 1,000 FEET WEST OF THE PROJECT LOCATION, WAS FOR A BRIDGE REPLACEMENT (BUT-732-8.43) COMPLETED IN 2001. TWO BORINGS WERE COMPLETED, ENCOUNTERING PRIMARILY FINE-GRAINED SOILS (A-4A AND A-6A). THESE BORINGS REACHED AUGER REFUSAL AT DEPTHS RANGING FROM 10 TO 14 FEET. THE KEHR ROAD PROJECT, LOCATED APPROXIMATELY 1,000 FEET NORTH OF THE PROJECT LOCATION, INCLUDED FOUNDATION BORINGS FOR A BRIDGE (BUT-KEHR ROAD) COMPLETED IN 1970. TWO BORINGS WERE COMPLETED ENCOUNTERING APPROXIMATELY 6 INCHES OF TOPSOIL FOLLOWED BY PRIMARILY FINE-GRAINED SOILS (A-4A AND A-6A). BEDROCK WAS NOT NOTED FOR THIS PROJECT.

GEOLOGY

THE PROJECT SITE IS LOCATED WITHIN THE SOUTHERN OHIO LOAMY TILL PLAIN PHYSIOGRAPHIC REGION. THE REGION IS CHARACTERIZED BY A SURFACE OF LOAMY TILL COMPOSED OF END AND RECESSIONAL MORAINES BETWEEN FLAT-LYING GROUND MORAINES. BOULDER BELTS AND STREAM VALLEYS FILLED WITH OUTWASH ARE COMMON IN THIS REGION. THE REGION HAS MODERATE RELIEF OF 200 FEET WITH ELEVATIONS OF 530 TO 1,150 FEET. OVERBURDEN SOILS AT THE PROJECT SITE ARE UNDERLAIN PRIMARILY BY SEDIMENTARY BEDROCK FROM THE WAYNESVILLE FORMATION OF THE ORDOVICIAN AGE. BEDROCK OF THIS FORMATION IS TYPICALLY INTERBEDDED SHALE AND LIMESTONE, COMPOSED OF APPROXIMATELY 70 PERCENT SHALE AND 30 PERCENT LIMESTONE. THE BEDROCK IS DESCRIBED AS GRAY TO BLUISH GRAY WEATHERING LIGHT GRAY WITH PLANAR, IRREGULAR, AND THIN TO THICK BEDDING. SOILS ARE ALSO UNDERLAIN BY SEDIMENTARY BEDROCK FROM THE DRAKES FORMATION, WHITEWATER FORMATION, AND LIBERTY FORMATION OF THE ORDOVICIAN AGE IN THE FAR WESTERN AND SOUTHERN REGIONS OF THE SITE. BEDROCK OF THIS FORMATION IS TYPICALLY INTERBEDDED WITH SHALE AND LIMESTONE, COMPOSED OF APPROXIMATELY 60 PERCENT SHALE AND 40 PERCENT LIMESTONE. THE BEDROCK IS DESCRIBED AS GRAY WEATHERING LIGHT TO YELLOWISH GRAY WITH PLANAR, IRREGULAR, AND THIN TO THICK BEDDING.

RECONNAISSANCE

STANTEC REPRESENTATIVES VISITED THE SITE ON JUNE 9, 2023 TO EXAMINE FIELD CONDITIONS AND BORING LOCATIONS. THE LAND SURROUNDING THE PROJECT SITE CAN BE DESCRIBED AS RESIDENTIAL AND AGRICULTURAL. A RAILROAD LINE LIES TO THE EAST OF THE PROJECT SITE AND RUNS PARALLEL TO UNITED STATES (US) 27. ROADWAY CONDITIONS SURROUNDING THE PROJECT SITE WERE DESCRIBED AS FAIR. THE EASTERN PORTION OF THE PROJECT AREA IS DENSELY WOODED. A LANDFILL IS LOCATED NORTH OF THE PROPOSED LOCATION OF THE CHESTNUT CONNECTOR BRIDGE

SUBSURFACE EXPLORATION

STANTEC ADVANCED TWENTY-SEVEN BORINGS NEAR THE PROPOSED TRAIL PATH AND BRIDGE ABUTMENT LOCATIONS TO OBTAIN GEOTECHNICAL DATA FOR THE PROJECT IN GENERAL ACCORDANCE WITH THE ODOT SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS (SGE). THE BORINGS WERE DRILLED WITH A CME 45 OR CME 55 TRACK-MOUNTED DRILL RIGS USING 4.25-INCH I.D. HOLLOW-STEM AUGERS. DISTURBED SOIL SAMPLES WERE OBTAINED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT CONTINUOUS OR 2.5-FOOT INTERVALS. THE ENERGY RATIO (ER) OF THE AUTOMATIC HAMMER AND DRILL ROD SYSTEM WAS MEASURED TO BE 87.6 PERCENT ON APRIL 14, 2021 FOR THE CME 45. THE ENERGY RATIO (ER) OF THE AUTOMATIC HAMMER AND DRILL ROD SYSTEM WAS MEASURED TO BE 87.5 PERCENT JANUARY 5, 2023 FOR THE CME 55

EXPLORATION FINDINGS

SURFICIAL SOILS ENCOUNTERED AT THE SITE INCLUDE 1 TO 8 INCHES OF TOPSOIL. MODERATE AND LOW PLASTICITY FINE-GRAINED SOILS WERE ENCOUNTERED THROUGHOUT THE SITE WITH THE EXCEPTION OF A FEW THIN COARSE-GRAINED SOIL LAYERS. THE SOILS ENCOUNTERED CLASSIFIED AS SILT AND CLAY (A-6A), SILTY CLAY (A-6B), CLAY (A-7-6), SANDY SILT (A-4A), AND SILT (A-4B). THE SOILS WERE DESCRIBED AS SOFT TO HARD. BORING B-002-0-23 CONTAINED A 2.5-FOOT THICK LAYER OF GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY (A-2-7), AND BORING B-027-0-23 CONTAINED A 3-FOOT THICK LAYER OF GRAVEL AND/OR STONE FRAGMENTS WITH SAND (A-1-B). THESE COARSE-GRAINED SOILS WERE DESCRIBED AS LOOSE TO DENSE.

INTERBEDDED SHALE AND LIMESTONE WAS ENCOUNTERED IN ALL BORINGS. THE SHALE WAS DESCRIBED AS GRAY TO DARK GRAY, HIGHLY TO MODERATELY WEATHERED, HIGHLY TO MODERATELY FRACTURED, LAMINATED WITH THIN TO VERY THIN BEDDING, AND WEAK. LIMESTONE WAS DESCRIBED AS LIGHT GRAY, MODERATELY WEATHERED, MEDIUM GRAINED, MEDIUM BEDDED, AND MODERATELY STRONG.

GROUNDWATER WAS ENCOUNTERED AT DEPTHS 29.5, 26.5, AND 4.5 FEET IN BORINGS B-018-0-23, B-019-0-23, AND B-026-0-23, RESPECTIVELY. GROUNDWATER WAS NOT ENCOUNTERED IN OTHER BORINGS WHILE DRILLING; HOWEVER, DETECTION OF GROUNDWATER MAY HAVE BEEN OBSCURED BY THE ADDITION OF WATER DURING ROCK CORING FOR THE BRIDGE FOUNDATION BORINGS.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2023.

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	1	1
GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY	A-2-7	1	2
SANDY SILT	A-4a	26	28
SILT	A-4b	3	3
SILT AND CLAY	A-6a	21	22
SILTY CLAY	A-6b	7	5
CLAY	A-7-6	9	10
	TOTAL	68	71
TOPSOIL	VISUAL		
INTERBEDD SHALE AND LIMESTONE	VISUAL		

BORING LOCATION - PLAN VIEW

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

WC INDICATES WATER CONTENT IN PERCENT.

X/Y/D" NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT):
X= NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED).
Y/D"= NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.

ST INDICATES A SHELBY TUBE SAMPLE.

SS INDICATES A SPLIT SPOON SAMPLE, STANDARD PENETRATION TEST.

TR INDICATES THE TOP OF ROCK.

W— INDICATES FREE WATER.

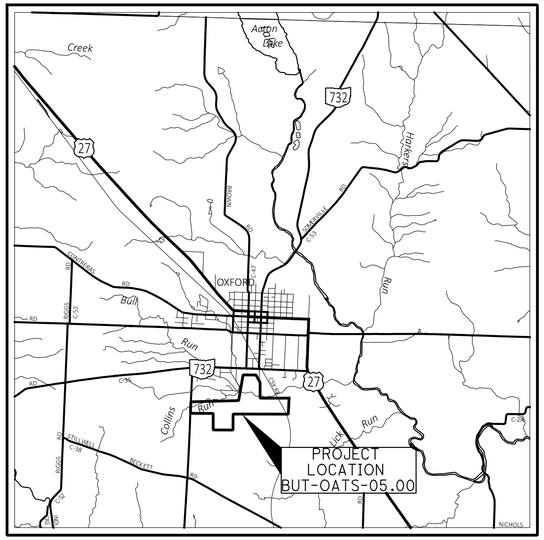
UCR UNCONFINED COMPRESSIVE STRENGTH (ROCK) SHOWN IN (PSI).

RECON. - EK & JS 06/09/23

DRILLING - GT & DC 06/13/23 - 07/25/23

DRAWN - MJ 10/2023-11/2023 & 05/2024

REVIEWED - EK 09/20/2024



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE		

BEDROCK TEST SUMMARY

EXPLOR. ID	SAMPLE ELEV. (FT.)	SAMPLE DEPTH (FT.)	QU (PSI)	LITHOLOGY
B-002-0-23	891.8'-891.5' 891.4'-891.0'	26.7'-27.0' 27.1'-27.5'	8,070 837	LIMESTONE SHALE
B-003-0-23	900.9'-900.5'	28.8'-29.2'	759	SHALE
B-018-0-23	841.0'-840.6'	39.2'-39.6'	251	SHALE
B-019-0-23	839.1'-838.7'	37.1'-37.5'	259	SHALE
B-024-0-23	794.2'-793.8'	58.0'-58.4'	628	SHALE

SOIL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 | TOTAL 0
SHEET P.124 | TOTAL 161

BUT-OATS-05.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 1:36:09 PM USER: MJennings
V:\1736\active\173620161\engineering\11700\400-Engineering\Geotechnical\Sheets\11700_IC001.dgn

SUMMARY OF SOIL TEST DATA
Oxford Area Trail Phase V

EXPLOR. ID	FROM-TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO4
B-001-0-23	00.00-01.50	SS-1	15	100	0.75	4	1	5	56	34	38	26	12	10	A-6a (9)	-
STA. 3+37, 1' Lt.	01.50-03.00	SS-2	29	67	4.5					SAME AS SS-1				16	A-6a (VISUAL)	100
Latitude = 39.493955	03.00-04.50	SS-3	14/50/5"	100	4.5					SAME AS SS-4				15	A-4a (VISUAL)	-
Longitude = -84.757902	04.50-06.00	SS-4	28/50/5"	100	1.5	46	10	8	15	21	26	16	10	8	A-4a (0)	-
B-002-0-23	00.00-01.50	SS-1	12	87	4.5	6	2	5	42	45	49	29	20	18	A-7-6 (14)	-
STA. 8+10, 2' Rt.	01.50-03.00	SS-2	32	53	4.5					SAME AS SS-1				19	A-7-6 (VISUAL)	100
Latitude = 39.493926	03.00-04.50	SS-3	63	73	4.5	60	7	5	11	17	44	24	20	15	A-2-7 (1)	-
Longitude = -84.756246	04.50-06.00	SS-4	64	100	4.5					SAME AS SS-3				12	A-2-7 (VISUAL)	-
	06.00-07.08	SS-5	10/26/50/1"	92	4.5				SHALE, GRAY, HIGHLY WEATHERED, WEAK					12	Rock (VISUAL)	-
B-003-0-23	00.00-01.50	SS-1	18	87	2	0	2	7	58	33	36	23	13	10	A-6a (9)	-
STA. 9+69, 28' Lt.	01.50-03.00	SS-2	26	80	4.5					SAME AS SS-1				20	A-6a (VISUAL)	100
Latitude = 39.493843	03.00-04.50	SS-3	55	80	4.5	31	4	3	24	38	42	24	18	14	A-7-6 (9)	-
Longitude = -84.755794	04.50-06.00	SS-4	9/50/2"	100	-				SHALE, GRAY, HIGHLY WEATHERED, WEAK					13	Rock (VISUAL)	-
	06.00-07.33	SS-5	13/36/50/4"	98	-				SHALE, GRAY, HIGHLY WEATHERED, WEAK					10	Rock (VISUAL)	-
B-004-0-23	00.00-01.50	SS-1	26	93	4.5	2	6	13	48	31	34	20	14	9	A-6a (10)	-
STA. 14+81, 6' Lt.	01.50-03.00	SS-2	37	67	4.5					SAME AS SS-1				14	A-6a (VISUAL)	100
Latitude = 39.493918	03.00-04.50	SS-3	26	87	4.5					SAME AS SS-4				10	A-6a (VISUAL)	-
Longitude = -84.753972	04.50-06.00	SS-4	38	100	4.5	14	8	13	31	34	29	18	11	12	A-6a (6)	-
B-005-0-23	00.00-01.50	SS-1	9	93	2.5	3	5	19	40	33	36	21	15	14	A-6a (10)	-
STA. 18+89, 9' Rt.	01.50-03.00	SS-2	45	73	3					SAME AS SS-1				11	A-6a (VISUAL)	100
Latitude = 39.493827	03.00-04.50	SS-3	29	93	2.75					SAME AS SS-4				11	A-4a (VISUAL)	-
Longitude = -84.752548	04.50-06.00	SS-4	28	100	4	33	10	13	24	20	25	16	9	10	A-4a (2)	-
B-006-0-23	00.00-01.50	SS-1	9	100	1.75	2	5	7	51	35	43	24	19	18	A-7-6 (12)	-
STA. 25+07, 1' Lt.	01.50-03.00	SS-2	15	53	1.75					SAME AS SS-1				23	A-7-6 (VISUAL)	100
Latitude = 39.492521	03.00-04.50	SS-3	7	73	1.5					SAME AS SS-1				16	A-7-6 (VISUAL)	-
Longitude = -84.752533	04.50-06.00	SS-4	41	100	3.75	34	8	13	24	21	25	17	8	9	A-4a (2)	-
B-007-0-23	00.00-01.50	SS-1	4	67	1.5					SAME AS SS-2				19	A-6a (VISUAL)	100
STA. 29+72, CL	01.50-03.00	SS-2	13	73	3	9	3	11	47	30	35	23	12	16	A-6a (9)	-
Latitude = 39.491337	03.00-04.50	SS-3	39	40	4.5					SAME AS SS-4				18	A-7-6 (VISUAL)	-
Longitude = -84.75271	04.50-06.00	SS-4	90	60	4.5	38	3	1	17	41	42	22	20	12	A-7-6 (9)	-
B-008-0-23	00.00-01.50	SS-1	20	80	3.75	23	5	11	29	32	47	26	21	22	A-7-6 (11)	-
STA. 34+00, CL	01.50-03.00	SS-2	51	67	4.5					SAME AS SS-1				13	A-7-6 (VISUAL)	100
Latitude = 39.490973	03.00-04.08	SS-3	20/15/50/1"	92	4.5	42	7	3	14	34	35	20	15	15	A-6a (4)	-
Longitude = -84.75159																

SUMMARY OF SOIL TEST DATA
Oxford Area Trail Phase V

EXPLOR. ID	FROM-TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO4
B-009-0-23	00.00-01.50	SS-1	20	78	4.5	0	2	7	56	35	37	24	13	11	A-6a (9)	-
STA. 40+56, 17' Lt.	01.50-03.00	SS-2	18	78	4					SAME AS SS-4				13	A-4a (VISUAL)	100
Latitude = 39.491787	03.00-04.50	SS-3	12	53	1.5					SAME AS SS-4				14	A-4a (VISUAL)	-
Longitude = -84.750111	04.50-05.83	SS-4	3/6/50/4"	100	2.5	15	13	20	31	21	20	12	8	11	A-4a (3)	-
B-010-0-23	00.00-01.50	SS-1	39	87	-	45	5	10	23	17	39	26	13	11	A-6a (2)	-
STA. 46+43, 4' Lt.	03.50-05.00	SS-2	71	60	4.5					SAME AS SS-1				12	A-6a (VISUAL)	100
Latitude = 39.491756	05.00-06.50	SS-3	42	80	4.5					SAME AS SS-4				16	A-6a (VISUAL)	-
Longitude = -84.748185	06.50-07.58	SS-4	6/43/50/1"	100	4.5	41	11	6	17	25	31	19	12	8	A-6a (2)	-
B-011-0-23	00.00-01.50	SS-1	4	67	2	4	5	13	44	34	43	26	17	17	A-7-6 (11)	-
STA. 50+60, 23' Lt.	01.50-03.00	SS-2	6	67	2					SAME AS SS-1				14	A-7-6 (VISUAL)	100
Latitude = 39.491949	03.00-04.50	SS-3	23	73	4.5	21	4	12	34	29	39	23	16	16	A-6b (8)	-
Longitude = -84.746809	04.50-06.00	SS-4	18	67	3.75					SAME AS SS-3				21	A-6b (VISUAL)	-
B-012-0-23	00.00-01.50	SS-1	16	80	4.5					SAME AS SS-2				13	A-6b (VISUAL)	100
STA. 56+40, 17' Lt.	01.50-03.00	SS-2	18	73	4.5	10	6	15	31	38	39	21	18	11	A-6b (10)	-
Latitude = 39.49323	03.00-04.50	SS-3	26	100	4.5					SAME AS SS-4				10	A-4a (VISUAL)	-
Longitude = -84.817525	04.50-06.00	SS-4	26	100	3	14	10	26	35	15	17	16	1	13	A-4a (3)	-
B-013-0-23	00.00-01.50	SS-1	18	67	4.5					SAME AS SS-2				9	A-6a (VISUAL)	100
STA. 60+95, 18' Lt.	01.50-03.00	SS-2	29	100	4.5	18	7	20	31	24	33	18	15	9	A-6a (6)	-
Latitude = 39.493237	03.00-04.50	SS-3	18	87	2.5					SAME AS SS-4				11	A-4a (VISUAL)	-
Longitude = -84.744705	04.50-06.00	SS-4	9	100	2	22	14	22	25	17	18	13	5	11	A-4a (1)	-
B-014-0-23	00.00-01.50	SS-1	32	100	4.5	24	9	17	28	22	24	15	9	8	A-4a (3)	-
STA. 65+07, 10' Lt.	01.50-03.00	SS-2	22	73	4					SAME AS SS-3				11	A-4a (VISUAL)	1600
Latitude = 39.493217	03.00-04.50	SS-3	19	73	4.5	15	11	19	30	25	24	15	9	10	A-4a (4)	-
Longitude = -84.743243	04.50-06.00	SS-4	4	67	1.5					SAME AS SS-1 B-011-0-23				11	A-7-6 (VISUAL)	-
B-015-0-23	00.00-01.50	SS-1	18	53	4.5					SAME AS SS-2				14	A-4a (VISUAL)	100
STA. 69+29, 3' Lt.	01.50-03.00	SS-2	26	100	2	19	14	22	30	15	20	14	6	9	A-4a (2)	-
Latitude = 39.493204	03.00-04.50	SS-3	35	100	3	18	13	24	28	17	17	13	4	10	A-4a (2)	-
Longitude = -84.741754	04.50-06.00	SS-4	51	100	4					SAME AS SS-3				7	A-4a (VISUAL)	-
B-016-0-23	00.00-01.50	SS-1	7	73	2					SAME AS SS-3				18	A-4a (VISUAL)	100
STA. 74+84, 3' Rt.	01.50-03.00	SS-2	16	67	1.5	0	1	4	59	36	47	28	19	21	A-7-6 (13)	-
Latitude = 39.493268	03.00-04.50	SS-3	6	100	1.25	10	9	17	47	17	23	19	4	18	A-4a (6)	-
Longitude = -84.740166	04.50-06.00	SS-4	15	100	0.5					SAME AS SS-3				19	A-4a (VISUAL)	-

SOIL PROFILE - ROADWAY/BIKE TRAIL
SUMMARY OF SOIL TEST DATA

DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER
MSJ

REVIEWER
EMK 09-20-24

PROJECT ID
117001

SUBSET 0 | TOTAL 0

SHEET P.125 | TOTAL 161

BUT-OATS-05.00

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 9/19/2024 TIME: 9:45:55 AM USER: MJennings
V:\736\active\736206l\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_IC002.dgn

SUMMARY OF SOIL TEST DATA
Oxford Area Trail Phase V

EXPLOR. ID	FROM-TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO4
B-017-0-23	00.00-01.50	SS-1	9	93	3.5	0	2	8	62	28	35	25	10	13	A-4b (8)	-
STA. 79+72, 13' Rt.	01.50-03.00	SS-2	23	80	4.5				SAME AS SS-1					17	A-4b (VISUAL)	100
Latitude = 39.493257	03.00-04.50	SS-3	20	100	2.5	16	10	20	33	21	21	14	7	11	A-4a (4)	-
Longitude = -84.738317	04.50-06.00	SS-4	19	100	1.5				SAME AS SS-3					11	A-4a (VISUAL)	-
B-018-0-23	00.00-01.50	SS-1	9	93	0.5	2	3	4	62	29	34	25	9	11	A-4b (8)	-
STA. 84+48, 4' Lt.	01.50-03.00	SS-2	15	87	0.75				SAME AS SS-1					14	A-4b (VISUAL)	100
Latitude = 39.49354	03.00-04.50	SS-3	22	73	4.5				SAME AS SS-1					15	A-4b (VISUAL)	-
Longitude = -84.736776	04.50-06.00	SS-4	16	100	2.5	8	9	26	30	27	31	17	14	17	A-6a (6)	-
	07.50-09.50	ST-1	ST	4	4.5				SAME AS SS-4					12	A-6a (VISUAL)	-
	10.00-11.50	SS-6	51	100	4.5				SAME AS SS-4					10	A-6a (VISUAL)	-
	12.50-14.00	SS-7	54	100	4.5	13	8	17	42	20	19	14	5	7	A-4a (5)	-
	15.00-16.50	SS-8	74	100	4.5				SAME AS SS-7					7	A-4a (VISUAL)	-
	17.50-19.00	SS-9	57	100	4.5	19	10	17	29	25	21	13	8	6	A-4a (4)	-
	20.00-21.50	SS-10	83	100	4.5				SAME AS SS-9					8	A-4a (VISUAL)	-
	22.50-24.00	SS-11	55	100	4.5	14	9	17	35	25	21	14	7	9	A-4a (5)	-
	25.00-26.50	SS-12	32	100	4.5				SAME AS SS-11					12	A-4a (VISUAL)	-
	30.00-31.25	SS-13	18/27/50/3"	100	4.5				SHALE, GRAY, HIGHLY WEATHERED, WEAK					16	Rock (VISUAL)	-
B-019-0-23	00.00-01.50	SS-1	7	93	0.75	0	3	7	57	33	36	26	10	15	A-4b (8)	-
STA. 85+60, 2' Rt.	01.50-03.00	SS-2	23	87	4.5				SAME AS SS-1					16	A-4a (VISUAL)	100
Latitude = 39.49354	03.00-04.50	SS-3	28	100	3	9	8	25	34	24	26	17	9	9	A-4a (5)	-
Longitude = -84.736336	04.50-06.00	SS-4	32	100	3.5				SAME AS SS-3					12	A-4a (VISUAL)	-
	07.50-09.00	SS-5	38	100	4.5	14	9	17	40	20	20	15	5	10	A-4a (5)	-
	10.00-11.50	SS-6	63	100	4.5				SAME AS SS-5					10	A-4a (VISUAL)	-
	12.50-14.00	SS-7	98	100	4.5	17	12	19	31	21	20	13	7	8	A-4a (3)	-
	15.00-16.33	SS-8	12/44/50/4"	100	4.5				SAME AS SS-7					10	A-4a (VISUAL)	-
	17.50-19.00	SS-9	80	100	4.5				SAME AS SS-7					7	A-4a (VISUAL)	-
	20.00-21.50	SS-10	70	100	4.5	10	9	15	37	29	22	14	8	9	A-4a (6)	-
	22.50-24.00	SS-11	47	100	4.5				SAME AS SS-10					10	A-4a (VISUAL)	-
	25.00-26.50	SS-12	39	100	4.5	7	8	14	40	31	24	16	8	11	A-4a (7)	-
	27.50-28.42	SS-13	30/50/5"	100	0.5				SHALE, GRAY, HIGHLY WEATHERED, WEAK					15	Rock (VISUAL)	-
B-020-0-23	00.00-01.50	SS-1	12	80	2.25	8	2	7	53	30	40	24	16	13	A-6b (10)	-
STA. 86+99, 327' Lt.	01.50-03.00	SS-2	18	73	4.5				SAME AS SS-3					18	A-4a (VISUAL)	100
Latitude = 39.494539	03.00-04.50	SS-3	25	100	1.5	9	9	26	39	17	17	14	3	13	A-4a (4)	-
Longitude = -84.736776	04.50-06.00	SS-4	23	100	1.5				SAME AS SS-3					11	A-4a (VISUAL)	-

SUMMARY OF SOIL TEST DATA
Oxford Area Trail Phase V

EXPLOR. ID	FROM-TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO4
B-021-0-23	00.00-01.50	SS-1	28	80	4.5	15	11	19	31	24	22	14	8	7	A-4a (4)	-
STA. 103+02, 36' LT.	01.50-03.00	SS-2	55	80	4.5					SAME AS SS-1				7	A-4a (VISUAL)	470
Latitude = 39.494214	03.00-04.50	SS-3	79	93	3.5					SAME AS SS-4				8	A-4a (VISUAL)	-
Longitude = -84.742803	04.50-06.00	SS-4	53	87	4.5	16	7	14	39	24	20	13	7	9	A-4a (6)	-
B-022-0-23	00.00-01.50	SS-1	25	87	4.5	26	8	13	28	25	29	19	10	9	A-4a (4)	-
STA. 107+64, CL	01.50-03.00	SS-2	26	57	4.5					SAME AS SS-3				12	A-6a (VISUAL)	780
Latitude = 39.495067	03.00-04.50	SS-3	26	87	4.5	11	6	12	33	38	28	16	12	13	A-6a (8)	-
Longitude = -84.741797	04.50-06.00	SS-4	48	93	4.5					SAME AS SS-1				13	A-4a (VISUAL)	-
B-023-0-23	00.00-01.50	SS-1	13	73	1.75	11	11	25	32	21	36	24	12	13	A-6a (4)	-
STA. 110+94, 16' Rt.	01.50-03.00	SS-2	15	27	4.5					SAME AS SS-3				19	A-7-6 (VISUAL)	100
Latitude = 39.495361	03.00-04.50	SS-3	13	60	4.5	17	5	14	29	35	48	26	22	18	A-7-6 (12)	-
Longitude = -84.742589	04.50-06.00	SS-4	19	57	4.5	17	5	14	29	35	48	26	22	17	A-7-6 (12)	-
	07.50-09.00	ST-1	ST	53	-					SAME AS SS-3				-	A-7-6 (VISUAL)	-
	10.00-11.50	SS-5	28	100	4.5	12	5	9	33	41	35	19	16	17	A-6b (10)	-
	12.50-13.83	SS-6	26/38/50/4"	100	1.75				SHALE, GRAY, HIGHLY WEATHERED, WEAK					16	Rock (VISUAL)	-
B-024-0-23	00.00-01.50	SS-1	29	100	4.5	26	6	15	28	25	33	19	14	6	A-6a (5)	-
STA. 112+46, 48' Lt.	01.50-03.00	SS-2	18	67	4.5					SAME AS SS-1				6	A-6a (VISUAL)	100
Latitude = 39.495833	03.00-04.50	SS-3	29	80	4.5	18	10	17	29	26	31	18	13	12	A-6a (5)	-
Longitude = -84.743056	04.50-06.00	SS-4	20	53	4.5					SAME AS SS-3				9	A-6a (VISUAL)	-
	07.50-09.00	SS-5	10	67	2	20	8	15	31	26	33	19	14	16	A-6a (6)	-
	10.00-11.50	SS-6	15	60	2					SAME AS SS-5				16	A-6a (VISUAL)	-
	12.50-14.00	SS-7	39	53	1.25	33	7	12	26	22	34	18	16	13	A-6b (5)	-
	15.00-16.50	SS-8	26	40	3	33	7	12	26	22	34	18	16	14	A-6b (5)	-
	17.50-19.00	SS-9	41	13	1.75					SAME AS SS-8				12	A-6b (VISUAL)	-
	20.00-21.50	SS-10	34	53	1.75					SAME AS SS-8				12	A-6b (VISUAL)	-
	22.50-24.00	SS-11	19	67	1.5					SAME AS SS-8				13	A-6a (VISUAL)	-
	25.00-26.50	SS-12	13	93	-	14	7	14	35	30	27	16	11	13	A-6a (6)	-
	27.50-29.00	SS-13	12	100	2.25					SAME AS SS-12				11	A-6a (VISUAL)	-
	30.00-31.50	SS-14	18	100	1.5	25	5	9	29	32	30	17	13	17	A-6a (6)	-
	35.00-36.50	SS-15	13	100	1.5					SAME AS SS-14				17	A-6a (VISUAL)	-
	40.00-41.50	SS-16	44	80	0.75					SAME AS SS-14				4	A-6a (VISUAL)	-
	45.00-46.50	SS-17	38	67	4.5	23	5	4	21	47	38	22	18	15	A-6b (10)	-
	50.00-51.33	SS-18	16/20/50/4"	100	4.5				SHALE, GRAY, HIGHLY WEATHERED, WEAK					14	Rock (VISUAL)	-
B-025-0-23	00.00-01.50	SS-1	28	73	1	41	10	13	19	17	37	24	13	6	A-6a (1)	-
STA. 123+52, 22' Rt.	01.50-03.00	SS-2	13	60	4.5					SAME AS SS-1				17	A-6a (VISUAL)	100
Latitude = 39.498294	03.00-04.50	SS-3	7	80	1.5	40	2	4	33	21	38	23	15	23	A-6a (6)	-
Longitude = -84.742989	04.50-06.00	SS-4	13	80	2					SAME AS SS-3				21	A-6a (VISUAL)	-

SUMMARY OF SOIL TEST DATA
Oxford Area Trail Phase V

EXPLOR. ID	FROM-TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO4
B-026-0-23	00.00-01.50	SS-1	10/30/50/4"	100	-	40	12	12	20	16	32	22	10	8	A-4a (0)	-
STA. 128+08, CL	01.50-03.00	SS-2	25/50/3"	100	-					SAME AS SS-1				8	A-4a (VISUAL)	100
Latitude = 39.499034	03.00-04.50	SS-3	25	60	2.5					SAME AS SS-3 B-025-0-23				9	A-6a (VISUAL)	-
Longitude = -84.743971	04.50-06.00	SS-4	10	93	1.5	18	15	20	28	19	25	17	8	15	A-4a (2)	-
B-027-0-23	00.00-01.50	SS-1	15	60	4.5					SAME AS SS-2				13	A-1-b (VISUAL)	100
STA. 132+02, 9' Lt.	01.50-03.00	SS-2	60	80	4.5	51	18	13	13	5	NP	NP	NP	15	A-1-b (0)	-
Latitude = 39.499963	03.00-04.50	SS-3	12	100	0.5	20	13	22	28	17	20	14	6	13	A-4a (2)	-
Longitude = -84.744297	04.50-06.00	SS-4	7	100	1					SAME AS SS-3				13	A-4a (VISUAL)	-

SOIL PROFILE - ROADWAY/BIKE TRAIL
SUMMARY OF SOIL TEST DATA

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL 0
SHEET P.126 TOTAL 161

BUT-OATS-05.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/7/2025 TIME: 9:00:25 AM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_IC003.dgn

One Dimensional Consolidation of Soils Using Incremental Loading

ASTM D 2435

Project Name OATS PHASE V
Source B-023-0-23, 7.0'-7.2'
Description Lean Clay with Sand (CL), brown, moist, firm
Specimen Type Undisturbed

Project No. 173620161
Lab ID 146
Date Received 08/07/2023

LL N/A
PL N/A
PI N/A

Specific Gravity 2.64 ASTM D 854, Dry

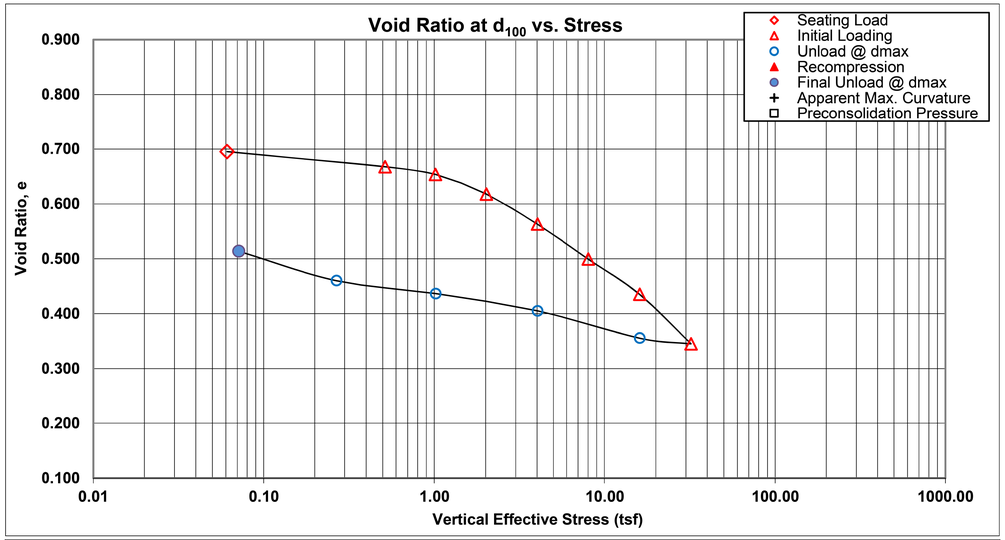
Prepared Using Cutting Ring
Test Method B - for 60 min.
Test Condition Inundated at 0.05 tsf

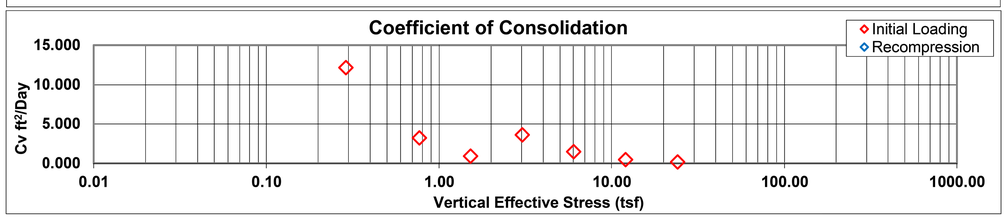
Initial Specimen Conditions

Moisture Content (%)	19.3
Dry Unit Weight (pcf)	97.0
Void Ratio	0.695
Degree of Saturation (%)	73.2
Initial Specimen Height (in)	1.0090
Equivalent Height of Solids (in)	0.595

Final Specimen Conditions

Moisture Content (%)	21.6
Dry Unit Weight (pcf)	108.6
Void Ratio	0.514
Degree of Saturation (%)	110.8
Final Specimen Height (in)	0.9011
Preconsolidation Pressure* (tsf)	
Void Ratio @ Preconsolidation Pressure	





Comments From B-023-0-23 SS-4:
A-7-6 (clay)
%GR = 17, %CS = 5, %FS = 14, %SI = 29, %CL = 35
LL = 48, PL = 26

Reviewed By KG

Uniaxial Compressive Strength of Intact Rock Core Specimens

ASTM D 7012, Method C

Project Name OATS PHASE V
Lithology Limstone with shale, light gray, moderately hard
Hole Number B-002-0-23 Depth (ft) 26.727.0'

Project Number 173620161
Lab ID UCR-147
Date Received 08/07/2023

Temperature (°C) 21
Moisture Condition As Prepared, Moist
Date Tested 08/29/2023

Side Planeness	N/A	Height (in)	4.297	Wet Unit Weight (pcf)	165.7
Perpendicularity	N/A	Diameter (in)	1.983	Dry Unit Weight (pcf)	N/A
End Planeness	N/A	Area (in²)	3.088	Moisture Content (%)	N/A
Parallelism	N/A				

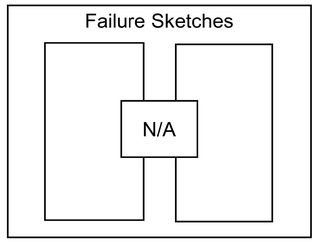
Dimensions were not confirmed.

Loading Rate (lbf/sec) 31
Peak Load (lbf) 24908

Failure Type Undetermined

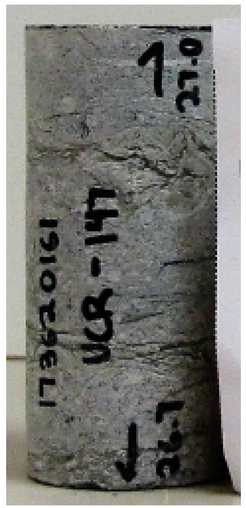
Compressive Strength (psi) 8070
Compressive Strength (psf) 1162080
Compressive Strength (tsf) 581

Failure Sketches

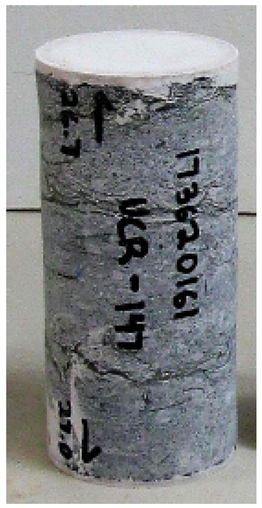


Comments Fragile nature of specimen inhibited preparation, required capping of ends with Hydro-Stone.
Dimensional tolerances were not confirmed.
No external faults observed after test.

Pre Test



Post Test



Reviewed By RJ

SOIL PROFILE - ROADWAY/BIKE TRAIL
LABORATORY TEST DATA

DESIGN AGENCY
Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL 0
SHEET P.127 TOTAL 161

BUT-OATS-0.5.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 9/19/2024 TIME: 10:56:01 AM USER: MJennings
V:\1736\active\173620161\engineering\1700\400-Engineering\Geotechnical\Sheets\1700LID001.dgn

Uniaxial Compressive Strength of Intact Rock Core Specimens

ASTM D 7012, Method C

Project Name: OATS PHASE V
Project Number: 173620161
Lithology: Shale with limestone, light gray, moderately hard
Lab ID: UCR-148
Hole Number: B-002-0-23
Depth (ft): 27.1'-27.5'
Date Received: 08/07/2023

Temperature (°C): 21
Moisture Condition: As Prepared, Moist
Date Tested: 08/29/2023

Side Planeness: N/A
Perpendicularity: N/A
End Planeness: N/A
Parallelism: N/A
Dimensions were not confirmed.

Height (in): 4.630
Diameter (in): 1.973
Area (in^2): 3.058

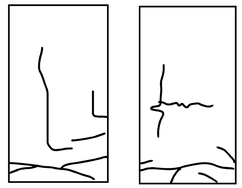
Wet Unit Weight (pcf): 155.8
Dry Unit Weight (pcf): N/A
Moisture Content (%): N/A

Loading Rate (lbf/sec): 18
Peak Load (lbf): 2560

Failure Type: Undetermined

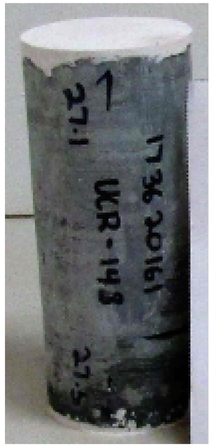
Compressive Strength (psi): 837
Compressive Strength (psf): 120528
Compressive Strength (tsf): 60

Failure Sketches



Comments: Fragile nature of specimen inhibited preparation, required capping of ends with Hydro-Stone. Dimensional tolerances were not confirmed.

Pre Test



Post Test



Reviewed By RJ

Uniaxial Compressive Strength of Intact Rock Core Specimens

ASTM D 7012, Method C

Project Name: OATS PHASE V
Project Number: 173620161
Lithology: Shale with limestone, light gray, moderately hard
Lab ID: UCR-149
Hole Number: B-003-0-23
Depth (ft): 28.8'-29.2'
Date Received: 08/07/2023

Temperature (°C): 21
Moisture Condition: As Prepared, Moist
Date Tested: 08/29/2023

Side Planeness: N/A
Perpendicularity: N/A
End Planeness: N/A
Parallelism: N/A
Dimensions were not confirmed.

Height (in): 4.836
Diameter (in): 1.948
Area (in^2): 2.981

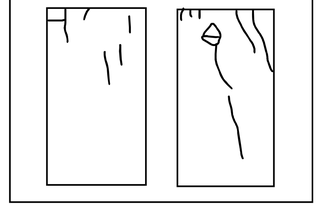
Wet Unit Weight (pcf): 156.7
Dry Unit Weight (pcf): N/A
Moisture Content (%): N/A

Loading Rate (lbf/sec): 16
Peak Load (lbf): 2263

Failure Type: Undetermined

Compressive Strength (psi): 759
Compressive Strength (psf): 109296
Compressive Strength (tsf): 55

Failure Sketches

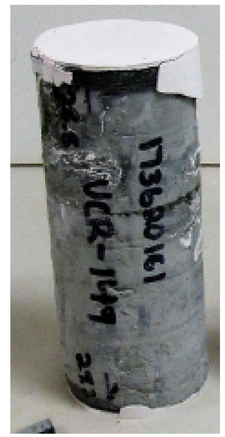


Comments: Fragile nature of specimen inhibited preparation, required capping of ends with Hydro-Stone. Dimensional tolerances were not confirmed.

Pre Test



Post Test



Reviewed By RJ

SOIL PROFILE - ROADWAY/BIKE TRAIL
LABORATORY TEST DATA

DESIGN AGENCY
Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

DESIGNER: MSJ
REVIEWER: EMK 09-20-24
PROJECT ID: 117001
SUBSET: 0 TOTAL: 0
SHEET: P.128 TOTAL: 161

BUT-OATS-0.5.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 9/19/2024 TIME: 10:48:38 AM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_ID002.dgn

Uniaxial Compressive Strength of Intact Rock Core Specimens

ASTM D 7012, Method C

Project Name: OATS PHASE V
Project Number: 173620161
Lithology: Shale with limestone, gray, moderately hard
Lab ID: UCR-150
Hole Number: B-018-0-23
Depth (ft): 39.2'-39.6'
Date Received: 08/07/2023

Temperature (°C): 21
Moisture Condition: As Prepared, Moist
Date Tested: 08/29/2023

Side Planeness: N/A
Perpendicularity: N/A
End Planeness: N/A
Parallelism: N/A
Dimensions were not confirmed.

Height (in): 4.446
Diameter (in): 1.975
Area (in^2): 3.065

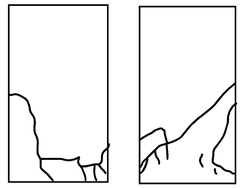
Wet Unit Weight (pcf): 153.5
Dry Unit Weight (pcf): N/A
Moisture Content (%): N/A

Loading Rate (lbf/sec): 6
Peak Load (lbf): 769

Failure Type: Undetermined

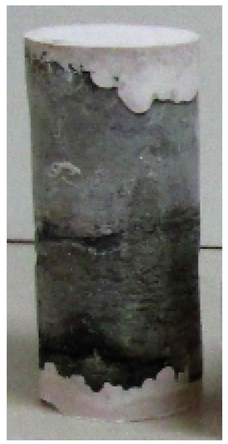
Compressive Strength (psi): 251
Compressive Strength (psf): 36144
Compressive Strength (tsf): 18

Failure Sketches

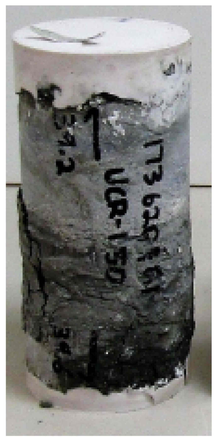


Comments: Fragile nature of specimen inhibited preparation, required capping of ends with Hydro-Stone.
Dimensional tolerances were not confirmed.

Pre Test



Post Test



Reviewed By RJ

Uniaxial Compressive Strength of Intact Rock Core Specimens

ASTM D 7012, Method C

Project Name: OATS PHASE V
Project Number: 173620161
Lithology: Shale with limestone, gray, moderately hard
Lab ID: UCR-151
Hole Number: B-019-0-23
Depth (ft): 37.1'-37.5'
Date Received: 08/07/2023

Temperature (°C): 21
Moisture Condition: As Prepared, Moist
Date Tested: 08/29/2023

Side Planeness: N/A
Perpendicularity: N/A
End Planeness: N/A
Parallelism: N/A
Dimensions were not confirmed.

Height (in): 4.819
Diameter (in): 1.955
Area (in^2): 3.002

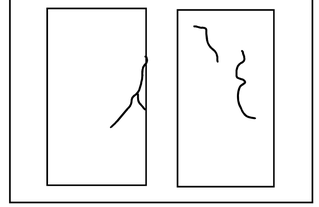
Wet Unit Weight (pcf): 144.8
Dry Unit Weight (pcf): N/A
Moisture Content (%): N/A

Loading Rate (lbf/sec): 5
Peak Load (lbf): 779

Failure Type: Undetermined

Compressive Strength (psi): 259
Compressive Strength (psf): 37296
Compressive Strength (tsf): 19

Failure Sketches

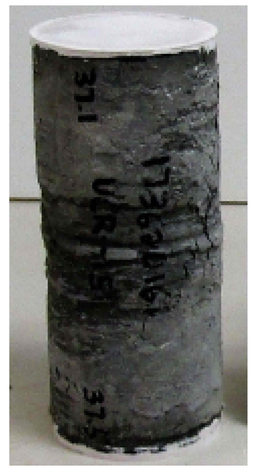


Comments: Fragile nature of specimen inhibited preparation, required capping of ends with Hydro-Stone.
Dimensional tolerances were not confirmed.

Pre Test



Post Test



Reviewed By RJ

SOIL PROFILE - ROADWAY/BIKE TRAIL
LABORATORY TEST DATA

DESIGN AGENCY
Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

DESIGNER: MSJ
REVIEWER: EMK 09-20-24
PROJECT ID: 117001
SUBSET: 0 TOTAL: 0
SHEET: P.129 TOTAL: 161

BUT-OATS-0.5.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 9/19/2024 TIME: 10:49:40 AM USER: MJennings
V:\1736\active\173620161\engineering\11700\400-Engineering\Geotechnical\Sheets\11700LID003.dgn

Uniaxial Compressive Strength of Intact Rock Core Specimens

ASTM D 7012, Method C

Project Name: OATS PHASE V
Project Number: 173620161
Lithology: Limestone with shale, gray, moderately hard
Lab ID: UCR-152
Hole Number: B-023-0-23
Depth (ft): 28.4'-29.0'
Date Received: 08/07/2023

Temperature (°C): N/A
Moisture Condition: As Prepared, Moist
Date Tested: 11/13/2019

Side Planeness: N/A
Perpendicularity: N/A
End Planeness: N/A
Parallelism: N/A
Dimensions were not confirmed.

Height (in): N/A
Diameter (in): N/A
Area (in^2): N/A

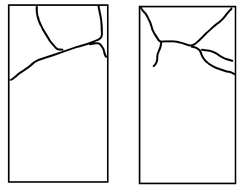
Wet Unit Weight (pcf): N/A
Dry Unit Weight (pcf): N/A
Moisture Content (%): N/A

Loading Rate (lbf/sec): 0
Peak Load (lbf): 0

Failure Type: Undetermined

Compressive Strength (psi):
Compressive Strength (psf):
Compressive Strength (tsf):

Failure Sketches



Comments: Fragile nature of specimen inhibited preparation, required capping of ends with Hydro-Stone. Dimensional tolerances were not confirmed.

Pre Test



Post Test



Reviewed By RJ

Uniaxial Compressive Strength of Intact Rock Core Specimens

ASTM D 7012, Method C

Project Name: OATS PHASE V
Project Number: 173620161
Lithology: Shale with limestone, light gray, moderately hard
Lab ID: UCR-153
Hole Number: B-024-0-23
Depth (ft): 58.0'-58.4'
Date Received: 08/07/2023

Temperature (°C): 21
Moisture Condition: As Prepared, Moist
Date Tested: 08/29/2023

Side Planeness: N/A
Perpendicularity: N/A
End Planeness: N/A
Parallelism: N/A
Dimensions were not confirmed.

Height (in): 4.617
Diameter (in): 1.967
Area (in^2): 3.038

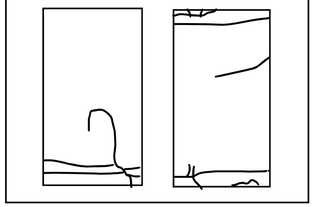
Wet Unit Weight (pcf): 149.8
Dry Unit Weight (pcf): N/A
Moisture Content (%): N/A

Loading Rate (lbf/sec): 14
Peak Load (lbf): 1907

Failure Type: Undetermined

Compressive Strength (psi): 628
Compressive Strength (psf): 90432
Compressive Strength (tsf): 45

Failure Sketches



Comments: Fragile nature of specimen inhibited preparation, required capping of ends with Hydro-Stone. Dimensional tolerances were not confirmed.

Pre Test



Post Test



Reviewed By RJ

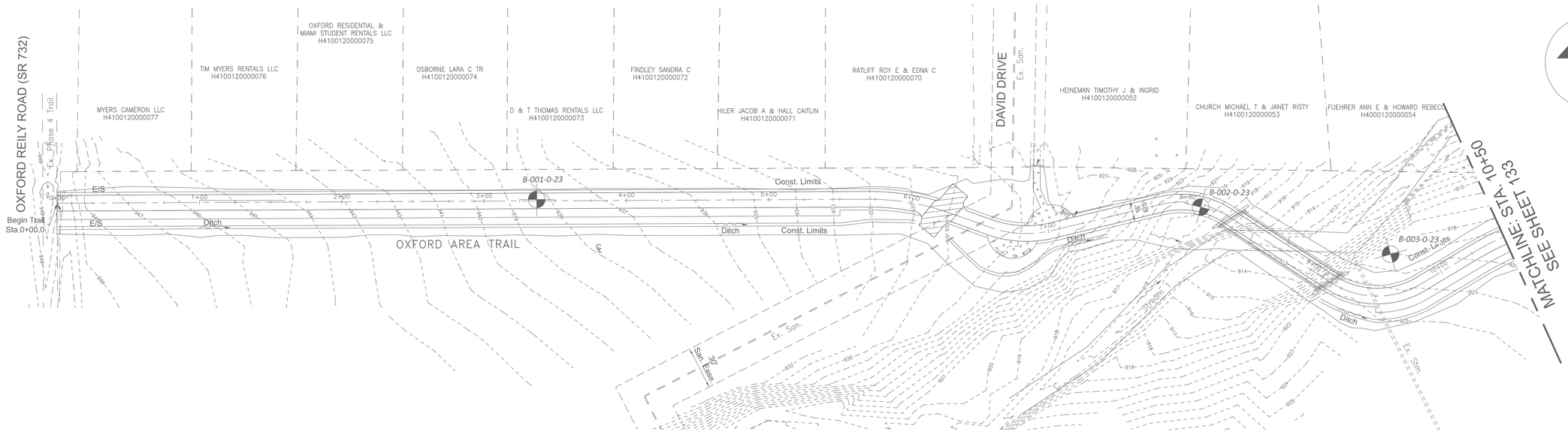
SOIL PROFILE - ROADWAY/BIKE TRAIL
LABORATORY TEST DATA

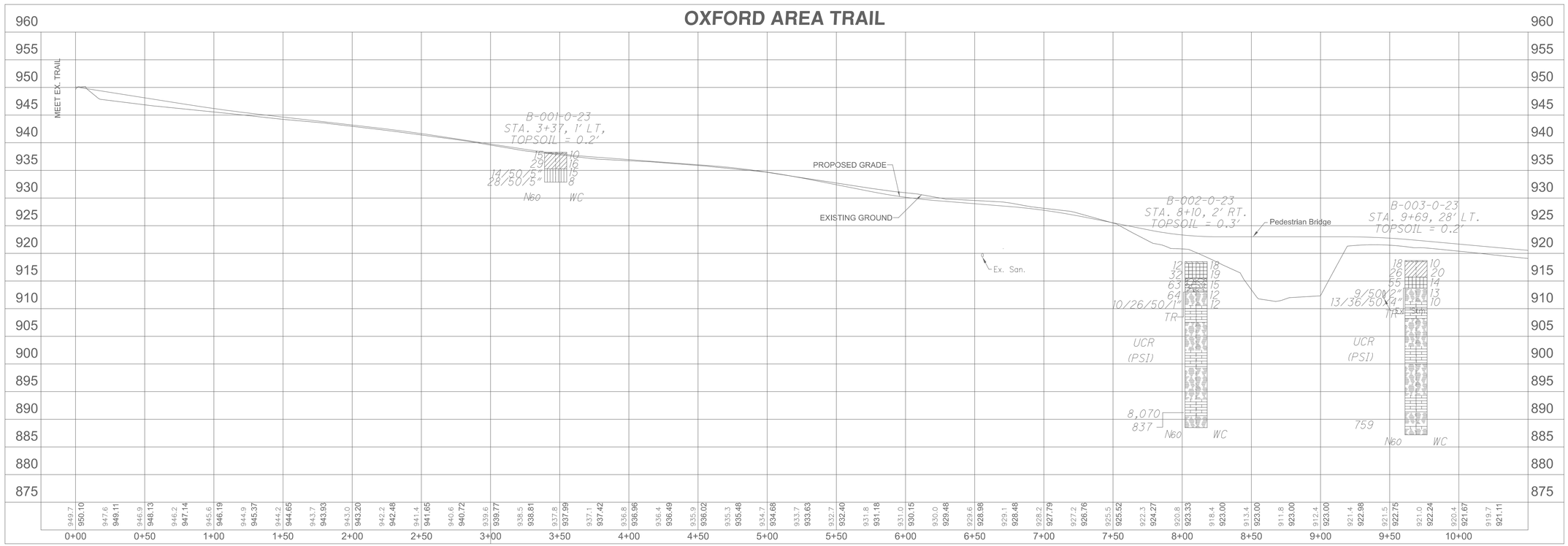
DESIGN AGENCY
Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

DESIGNER: MSJ
REVIEWER: EMK 09-20-24
PROJECT ID: 117001
SUBSET: 0 TOTAL: 0
SHEET: P.130 TOTAL: 161

BUT-OATS-0.5.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 9/19/2024 TIME: 10:50:38 AM USER: MJennings
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HORIZONTAL SCALE IN FEET
0 20 40 80

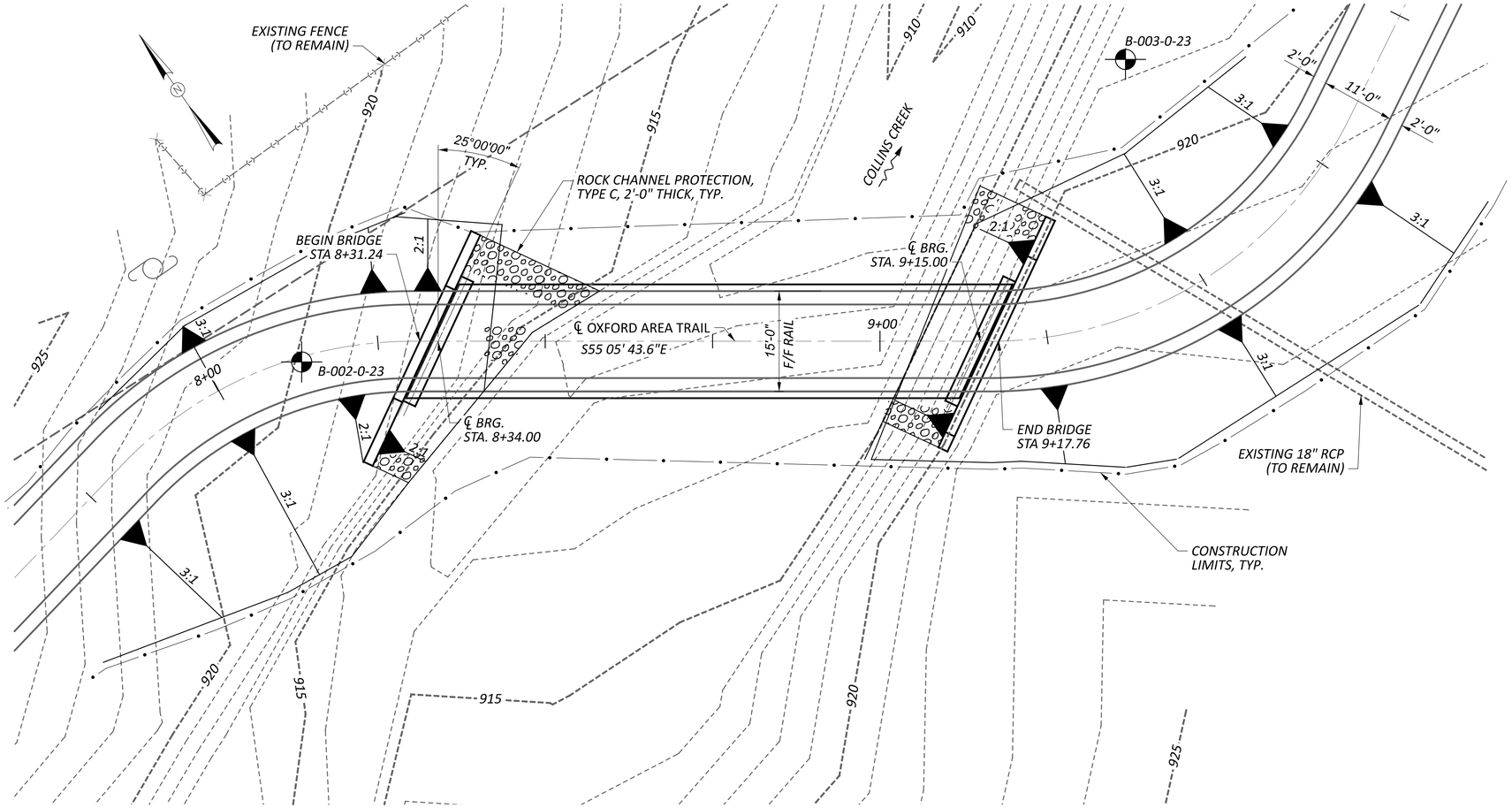
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

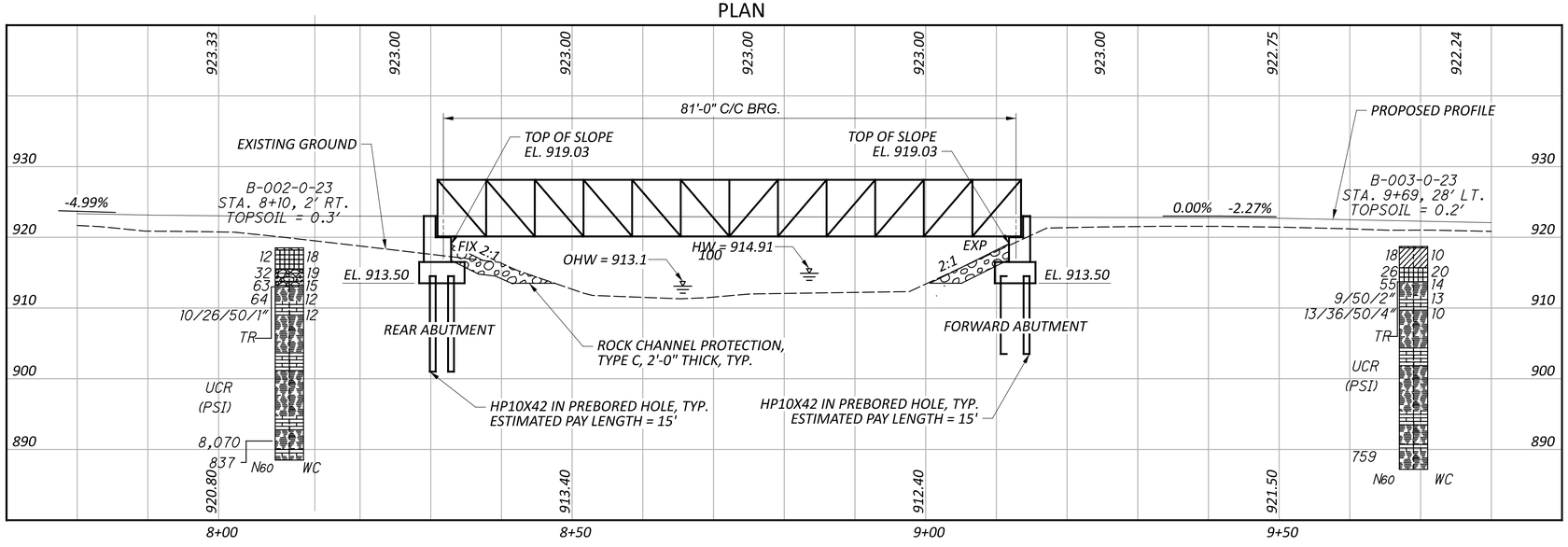
DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL
SHEET P.131 TOTAL 161

BUT-OATS-0.5.00

MODEL: 11 P_P 0+00 PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 1:44:32 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_JP001.dgn



PLAN



ELEVATION

HORIZONTAL
SCALE IN FEET
0 5 10 20

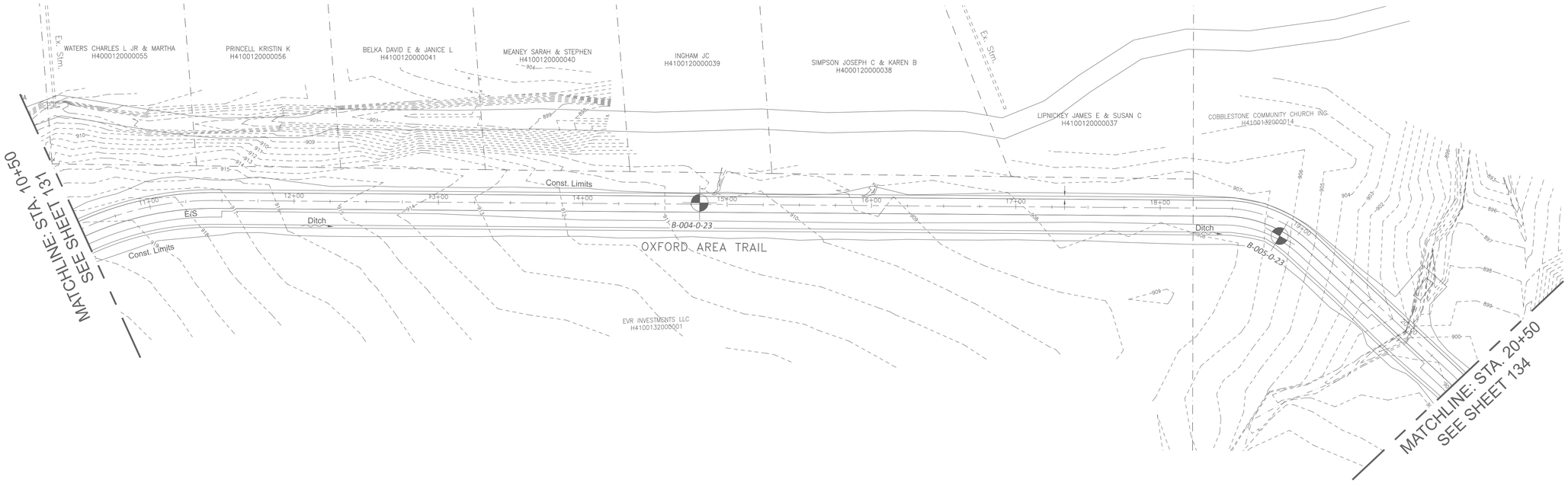
GEOTECHNICAL PROFILE - BRIDGE
OXFORD AREA TRAIL - BRIDGE OVER COLLINS CREEK

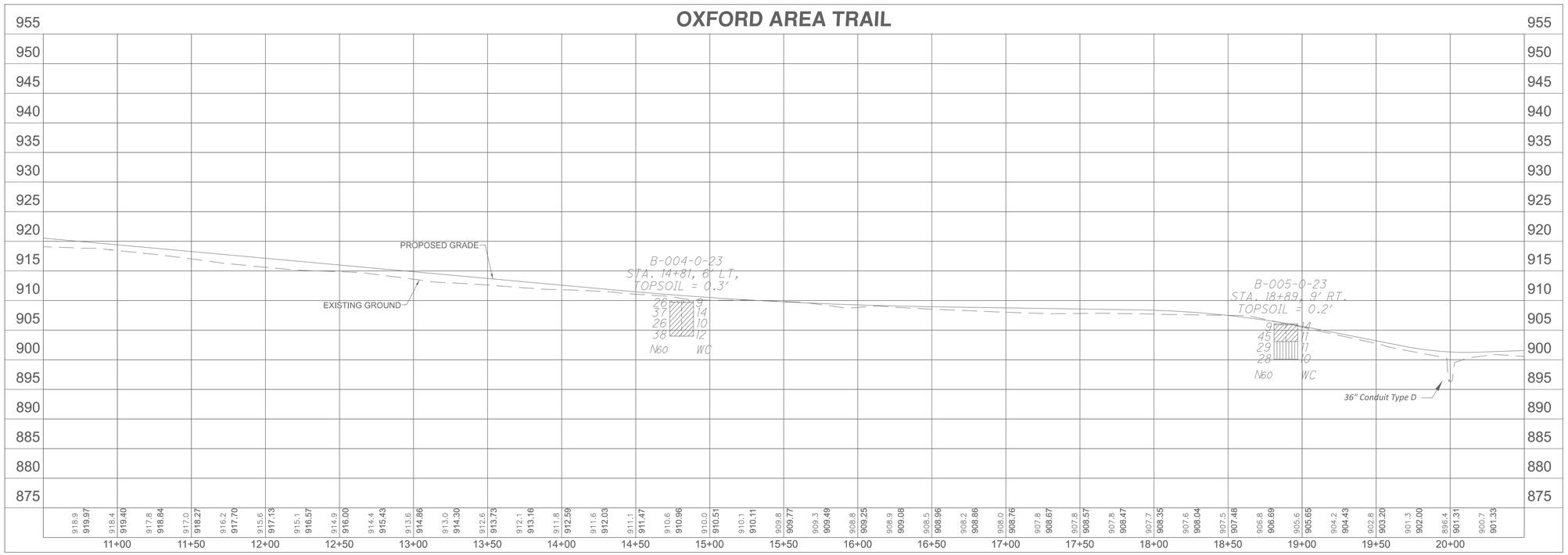
DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	MSJ
REVIEWER	EMK 09-20-24
PROJECT ID	117001
SUBSET	0
TOTAL	0
SHEET	P.132
TOTAL	161

BUT-OATS-0.5.00

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 3:25:09 PM USER: MJennings
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HORIZONTAL SCALE IN FEET
0 20 40 80

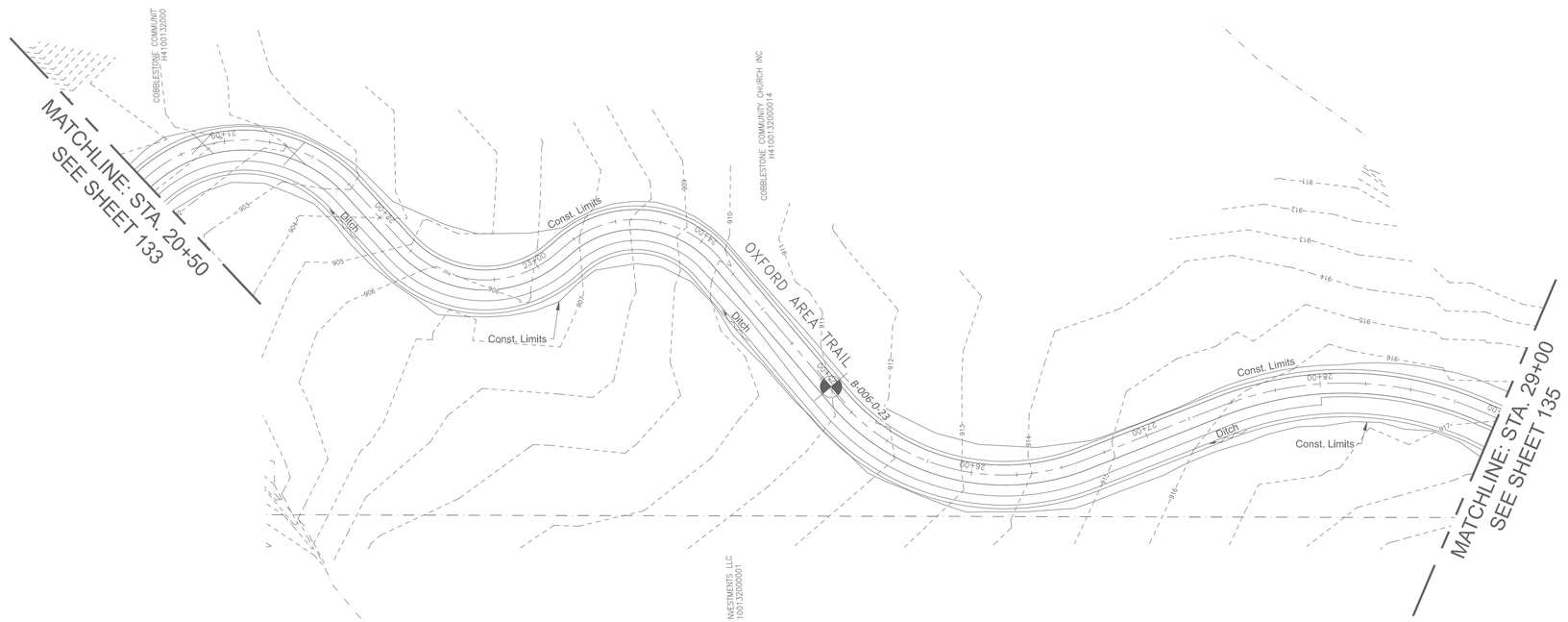
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

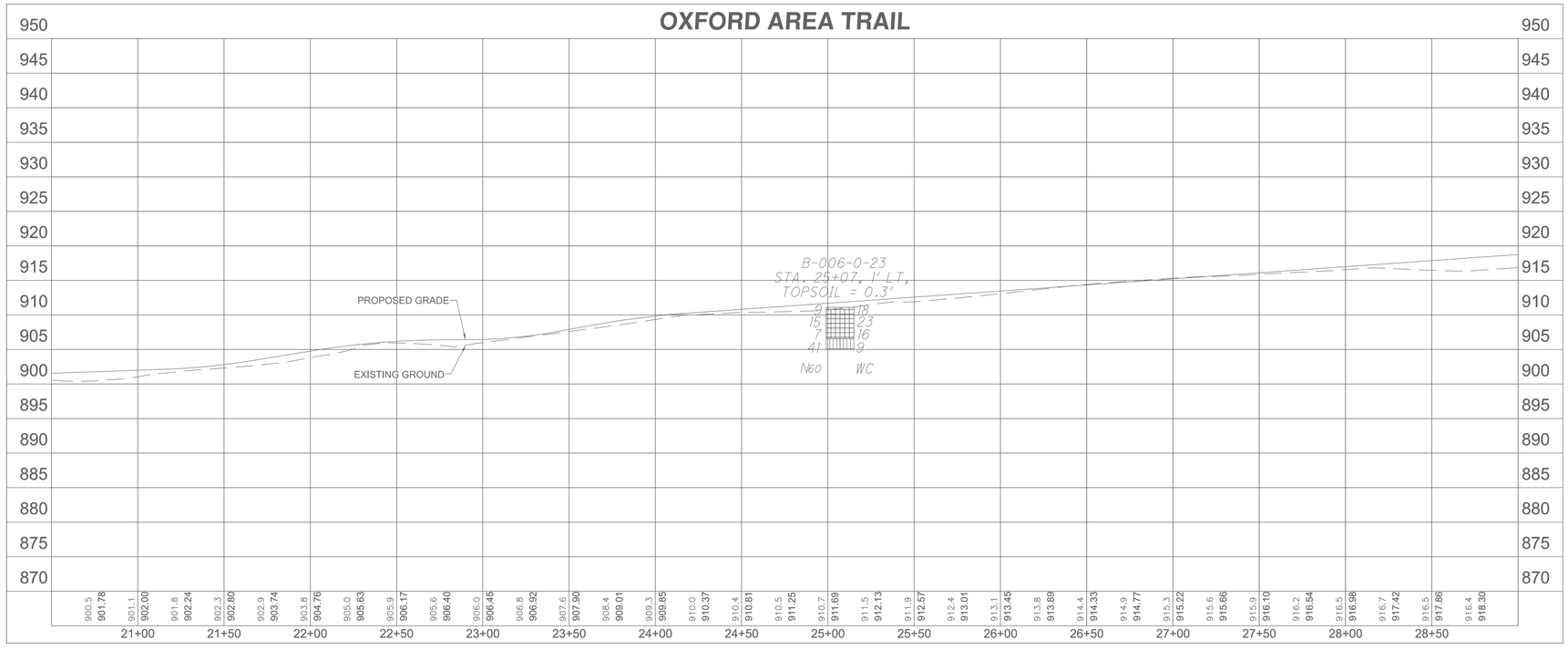
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL 0
SHEET P.133 TOTAL 161

BUT-OATS-0.5.00

MODEL: 12 P_P 10+50 PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 1:47:57 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_JP001_.dgn





HORIZONTAL
SCALE IN FEET
0 20 40 80

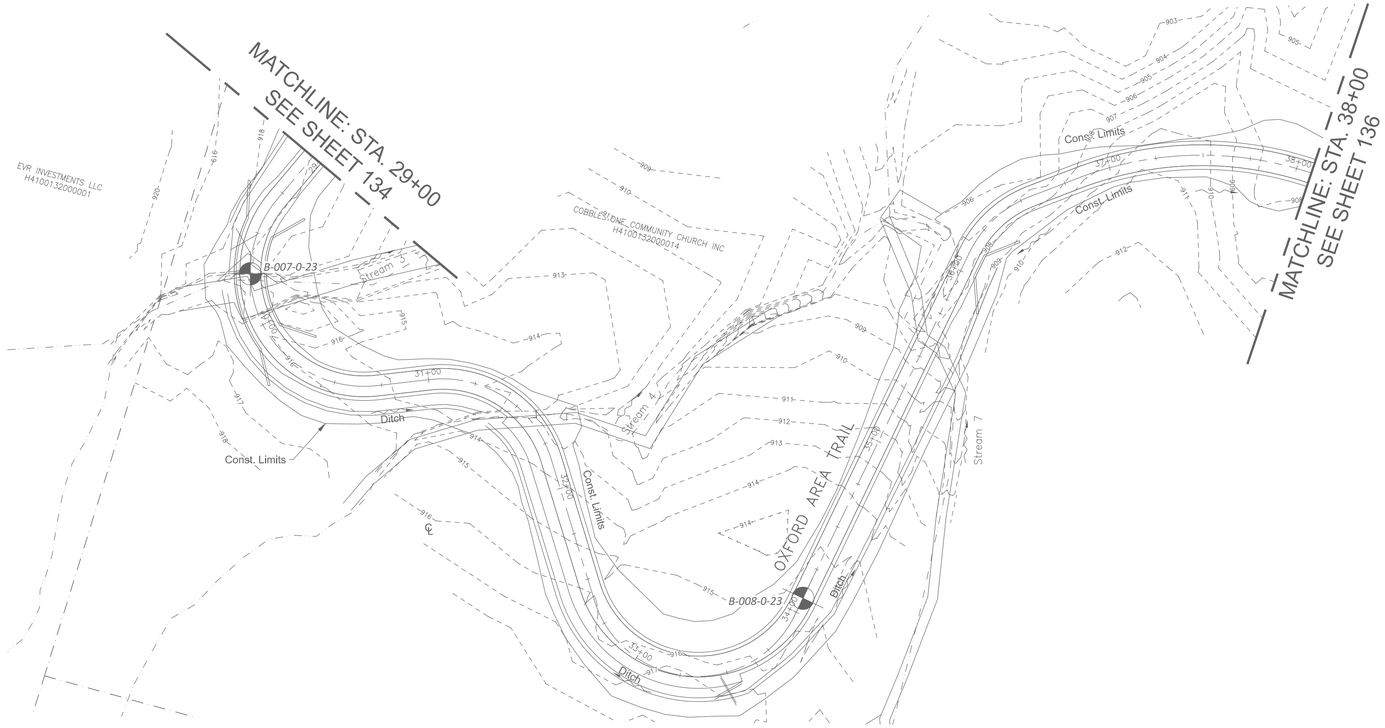
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

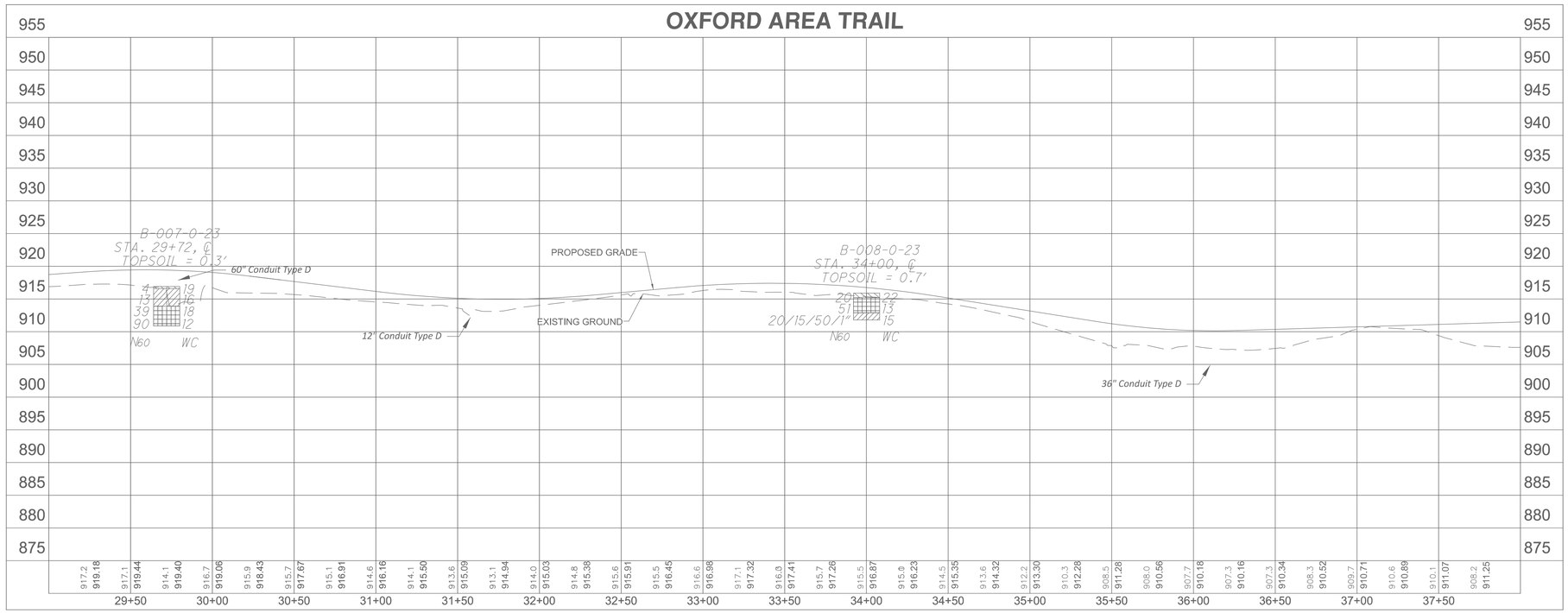
DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL
SHEET P.134 TOTAL 161

BUT-OATS-0.5.00

MODEL: 13.P_P 20+50 PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 1:50:12 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_JP001.dgn





HORIZONTAL SCALE IN FEET
0 20 40 80

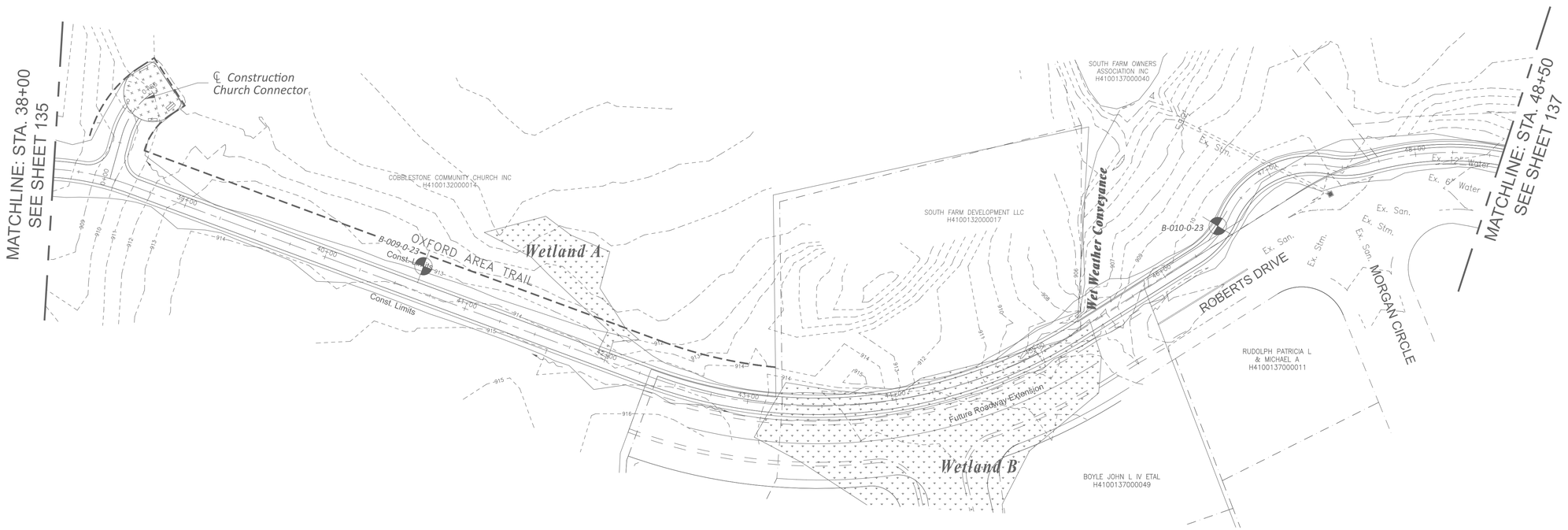
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

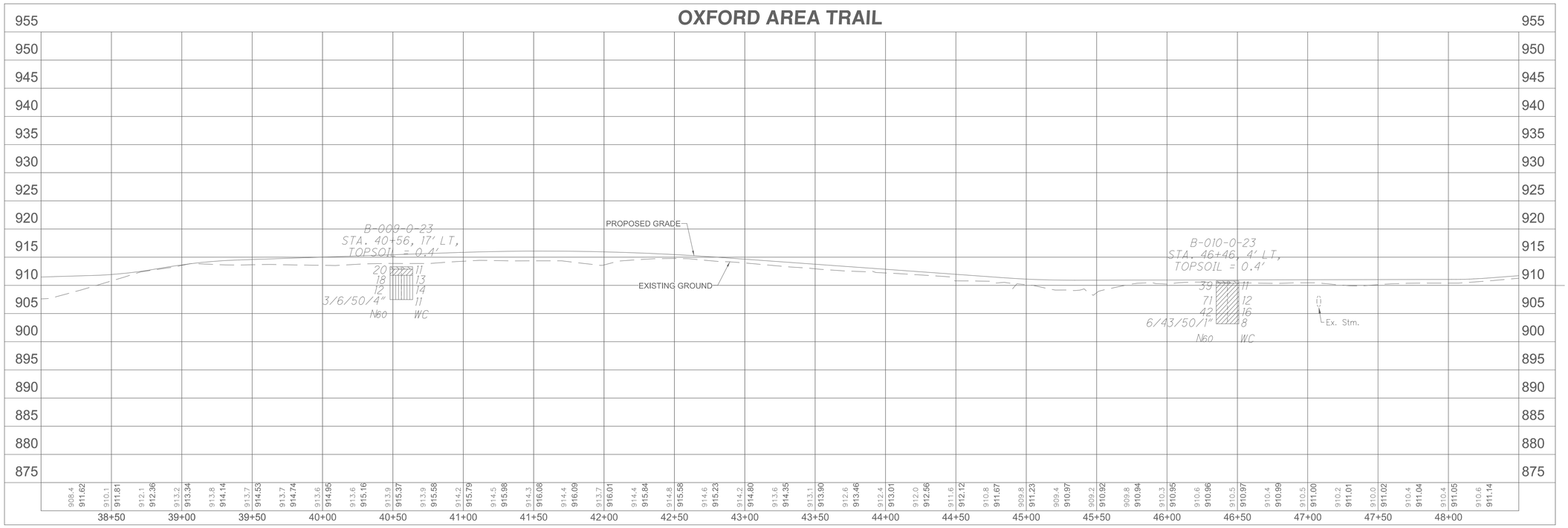
BUT-OATS-0.5.00

MODEL: 14 P_29+00 PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 1:55:41 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_IP001 .dgn

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL 0
SHEET P.135 TOTAL 161





HORIZONTAL SCALE IN FEET
0 20 40 80

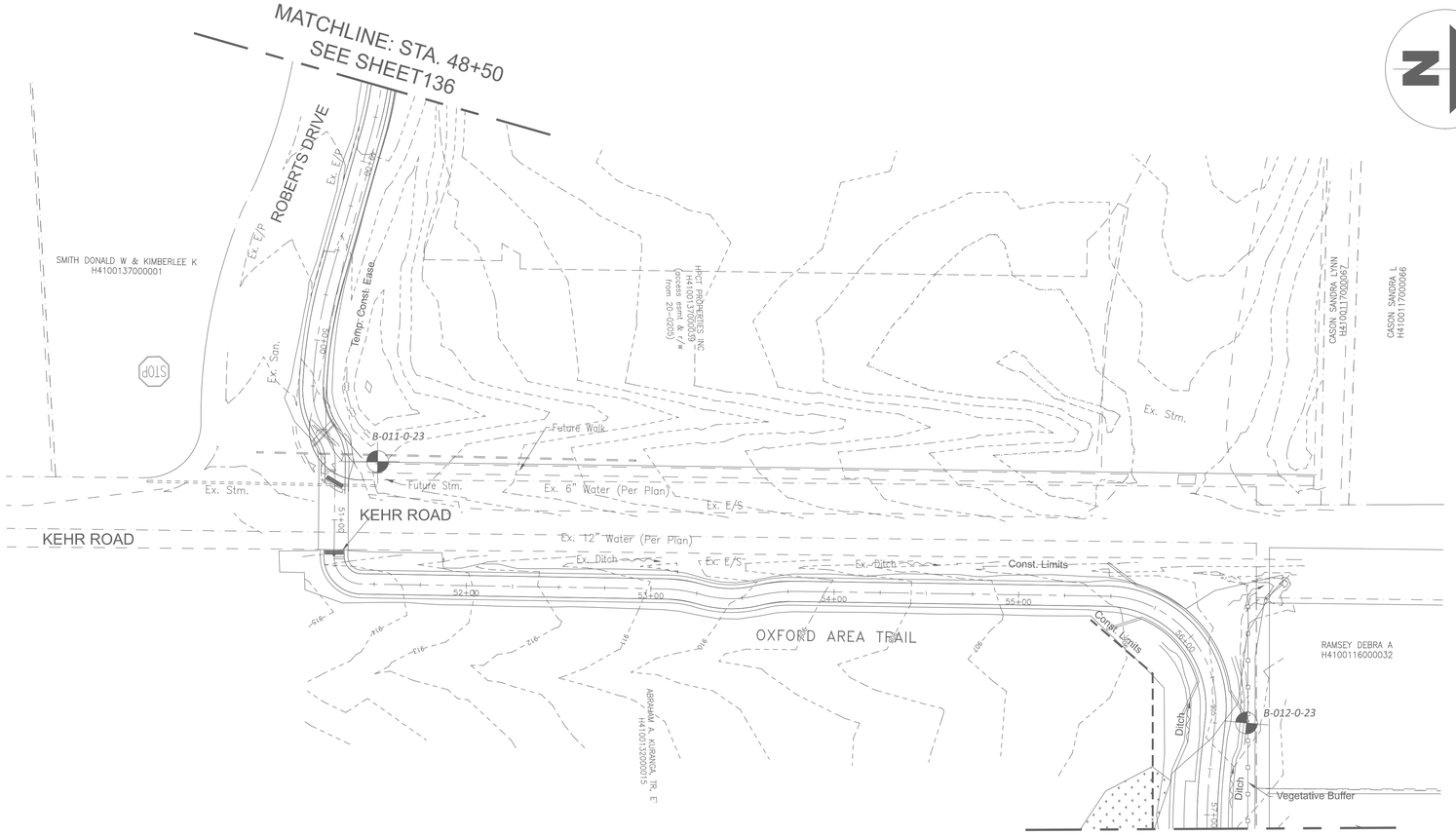
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

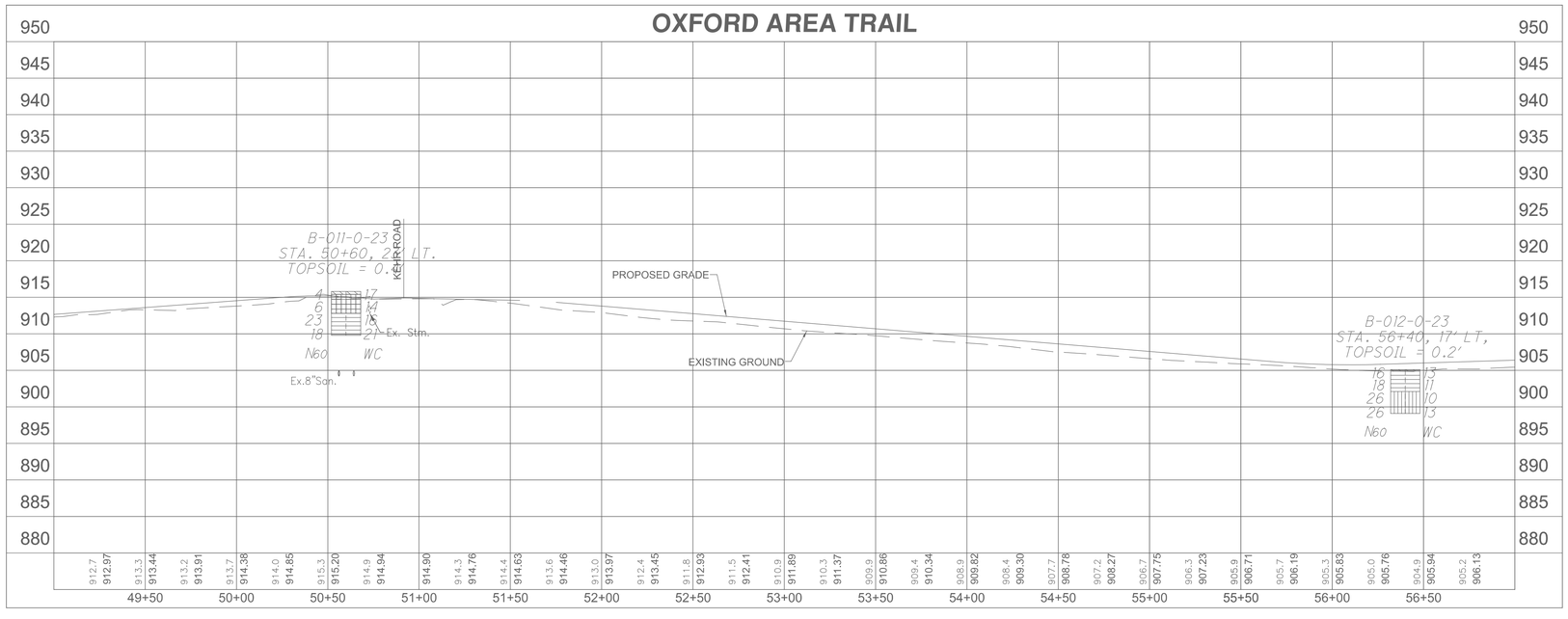
DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	MSJ
REVIEWER	EMK 09-20-24
PROJECT ID	117001
SUBSET	0
TOTAL	0
SHEET	P.136
TOTAL	161

BUT-OATS-0.5.00

MODEL: 15 P_P 38+00 PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 1:57:13 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_IP001.dgn





HORIZONTAL SCALE IN FEET
0 20 40 80

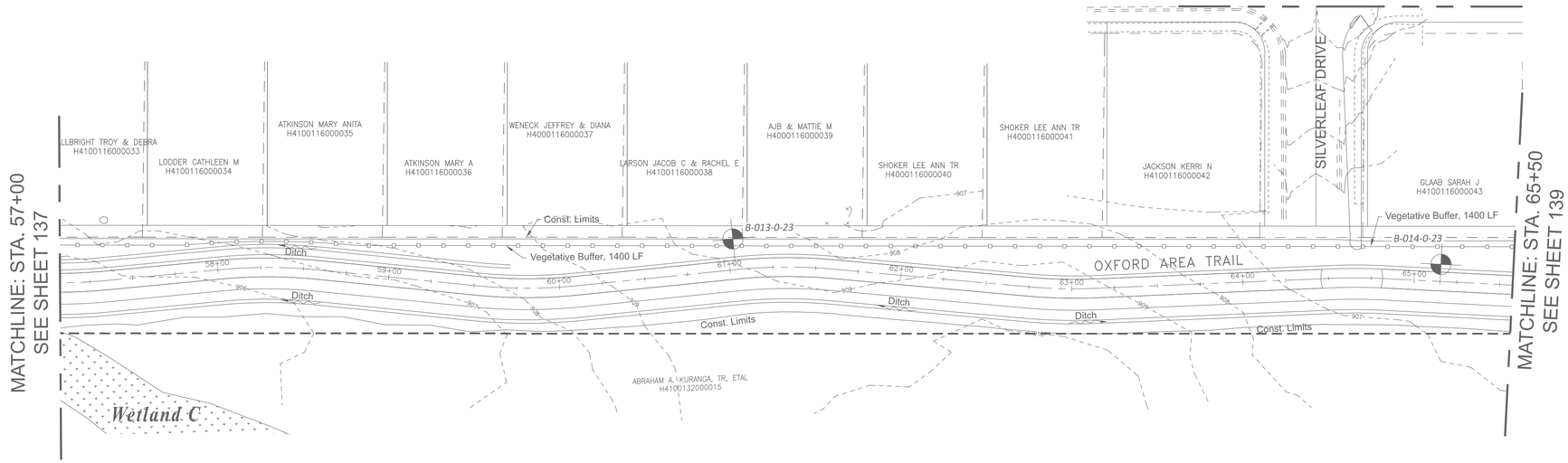
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

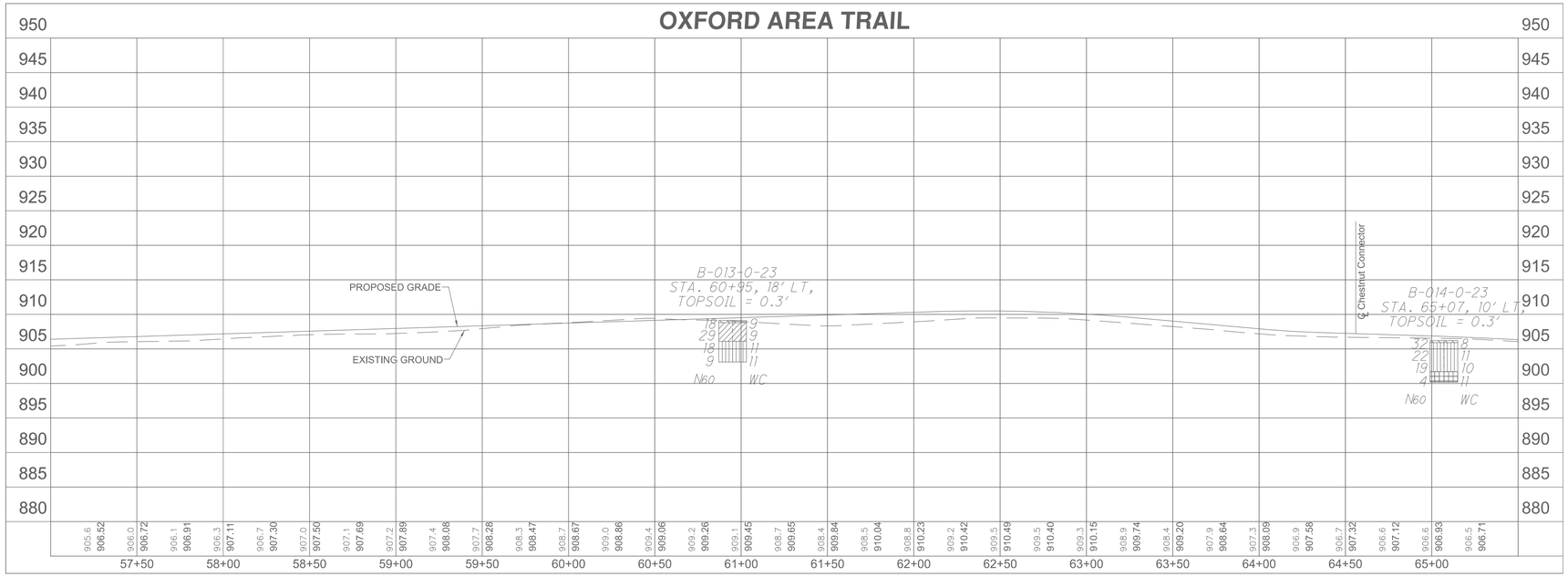
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL 0
SHEET P.137 TOTAL 161

BUT-OATS-0.5.00

MODEL: 16 P_P 48-50 PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 1:58:48 PM USER: MJennings
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HORIZONTAL SCALE IN FEET
0 20 40 80

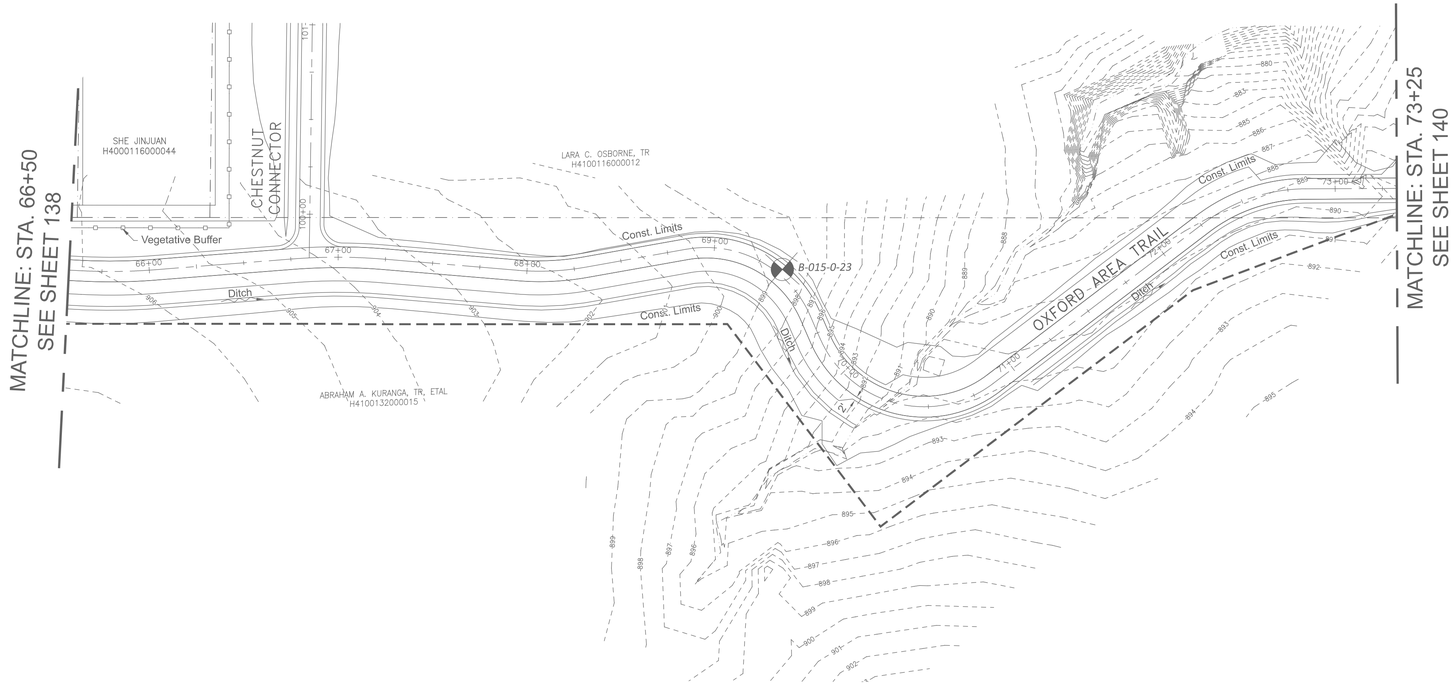
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

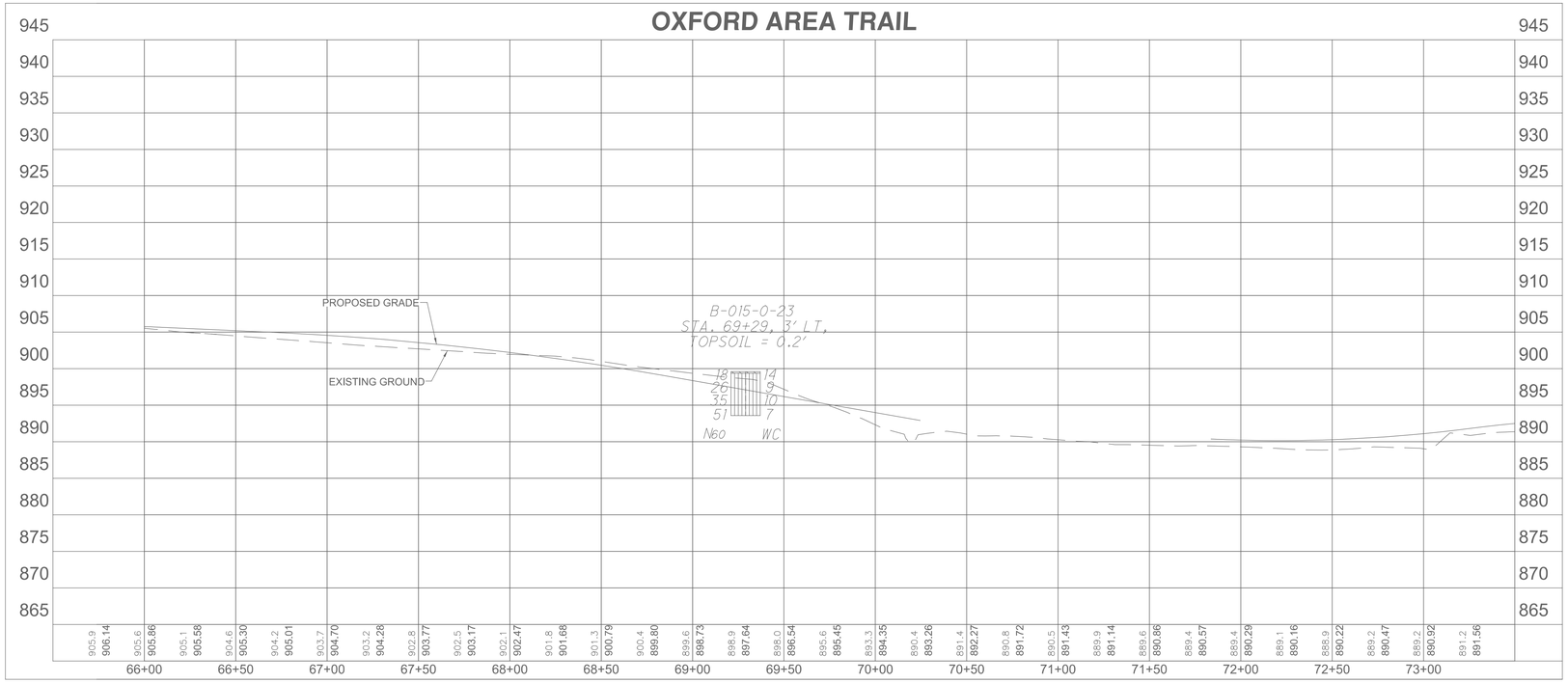
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 | TOTAL 0
SHEET P.138 | TOTAL 161

BUT-OATS-0.5.00

MODEL: 17 P_57+00 PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 2:00:54 PM USER: MJennings
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HORIZONTAL SCALE IN FEET
0 20 40 80

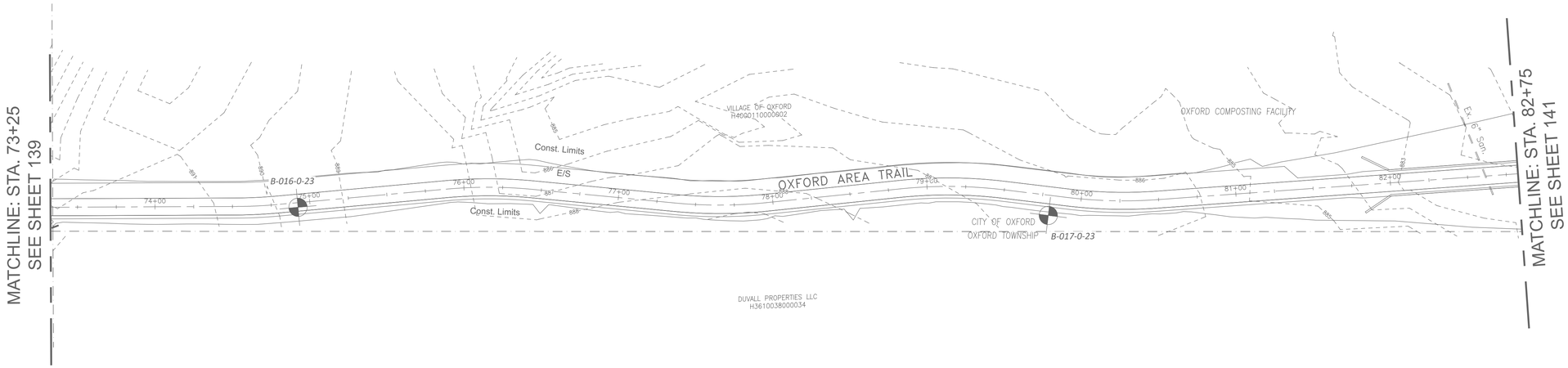
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

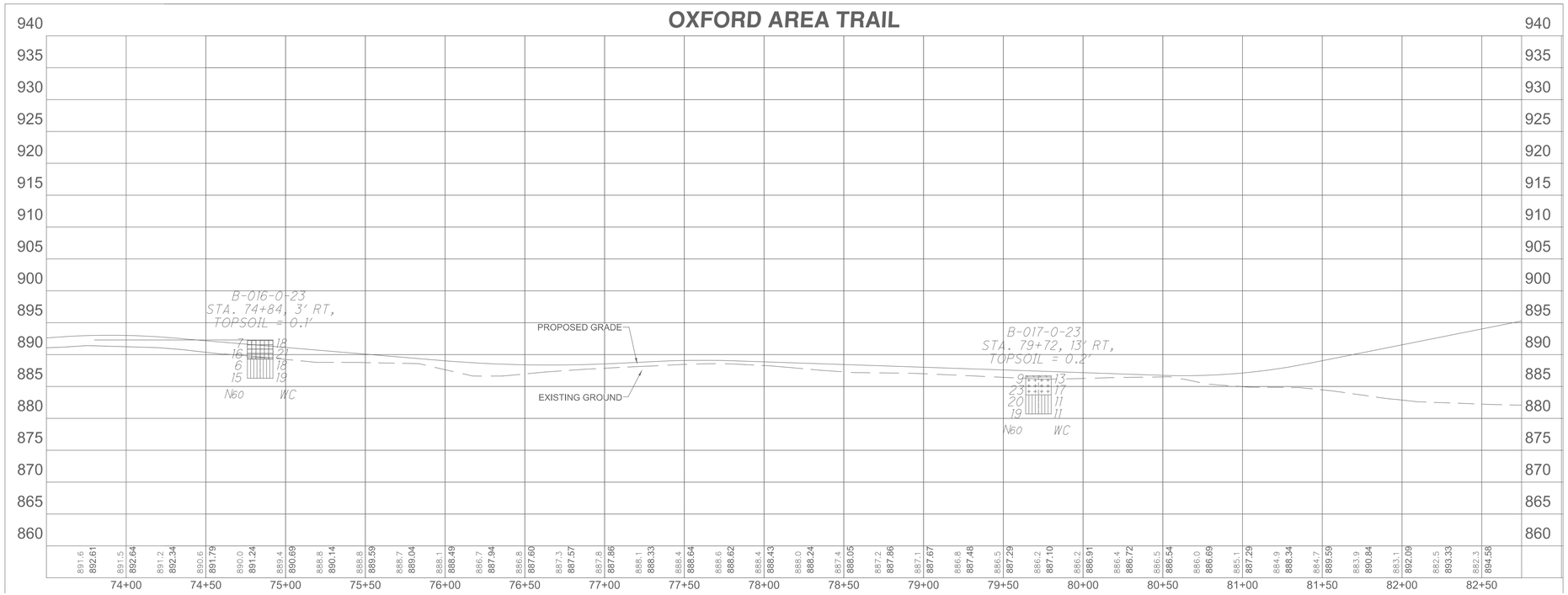
BUT-OATS-0.5.00

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V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_JP001.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL 0
SHEET P.139 TOTAL 161





HORIZONTAL SCALE IN FEET
0 20 40 80

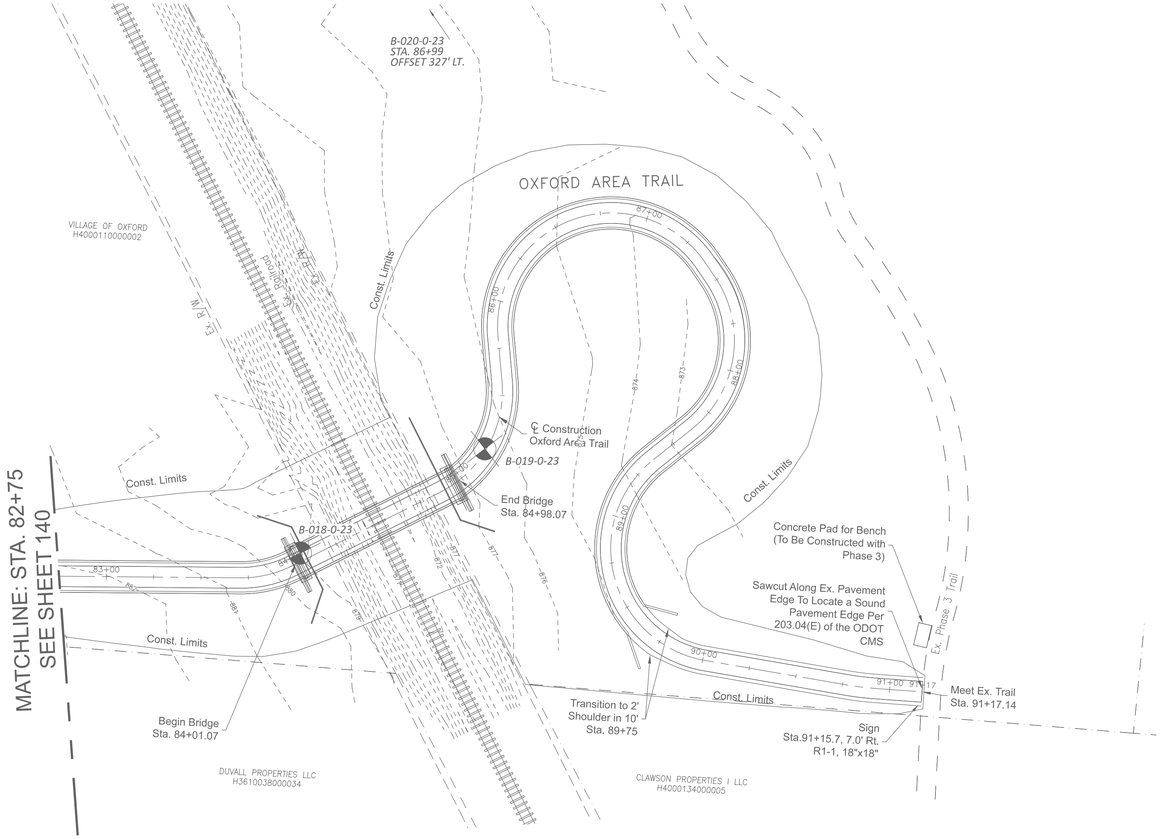
GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

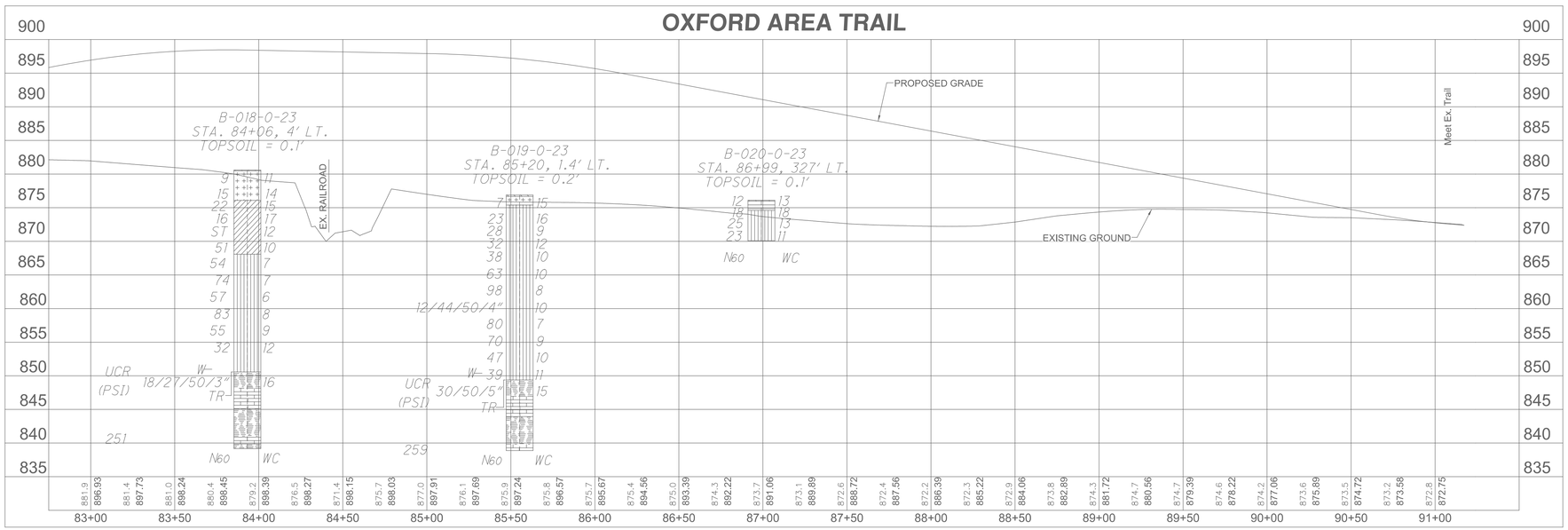
BUT-OATS-0.5.00

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DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	MSJ
REVIEWER	EMK 09-20-24
PROJECT ID	117001
SUBSET	0
TOTAL	0
SHEET	P.140
TOTAL	161





HORIZONTAL
SCALE IN FEET
0 20 40 80

GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL PHASE 5

DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER
MSJ

REVIEWER
EMK 09-20-24

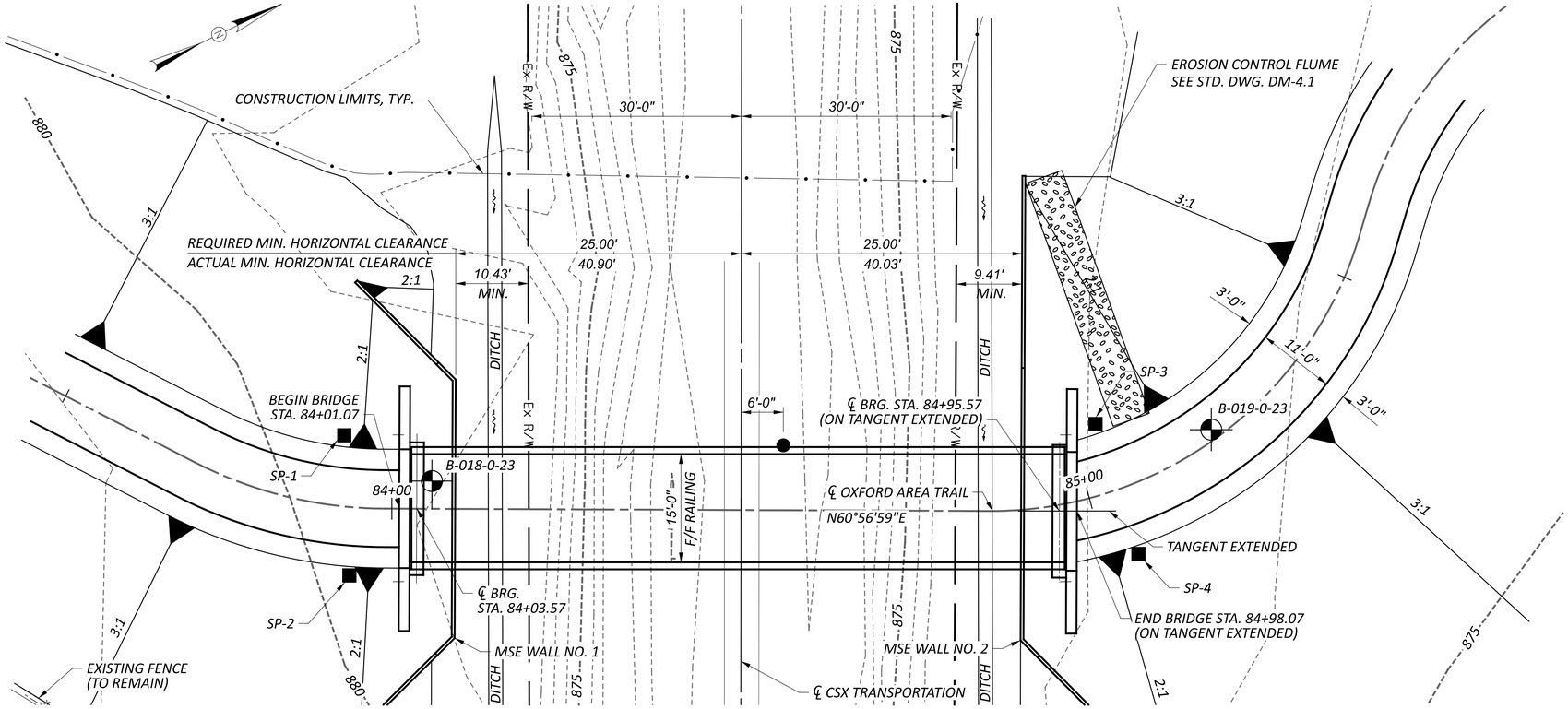
PROJECT ID
117001

SUBSET 0 | TOTAL 0

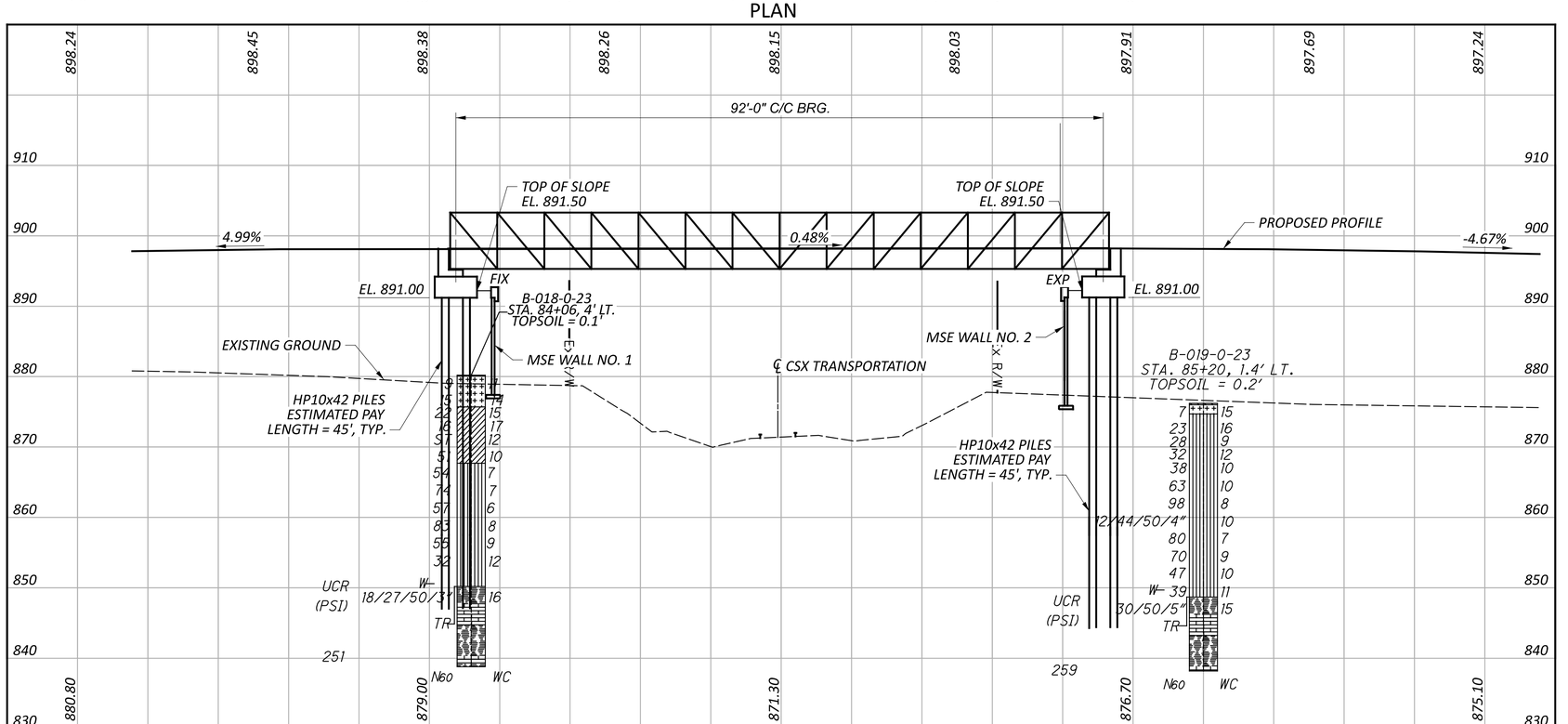
SHEET P.141 | TOTAL 161

BUT-OATS-0.5.00

MODEL: 20 P_P 82+75 PAPERSIZE: 34x22 (in.) DATE: 1/7/2025 TIME: 10:12:56 AM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_P001.dgn



PLAN



HORIZONTAL
SCALE IN FEET
0 5 10 20

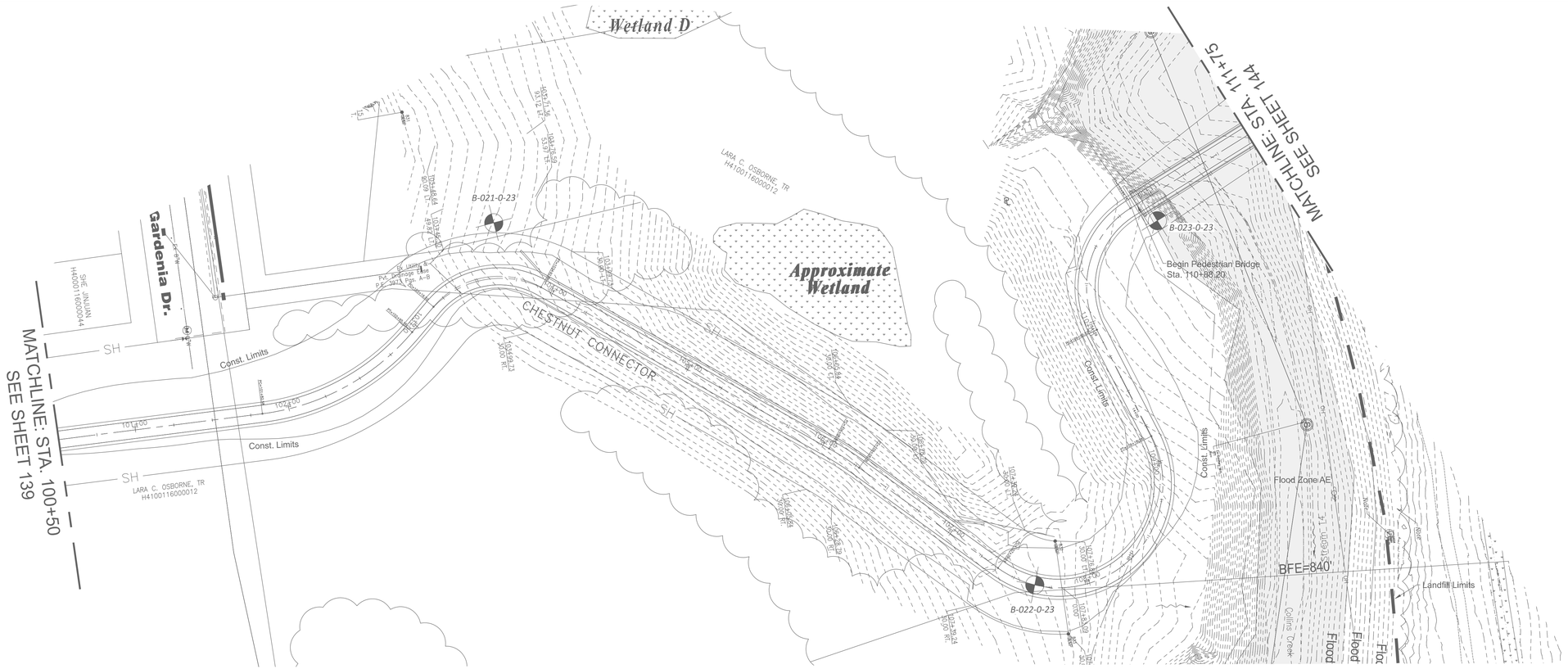
GEOTECHNICAL PROFILE - BRIDGE
OXFORD AREA TRAIL - BRIDGE OVER CSX TRANSPORTATION

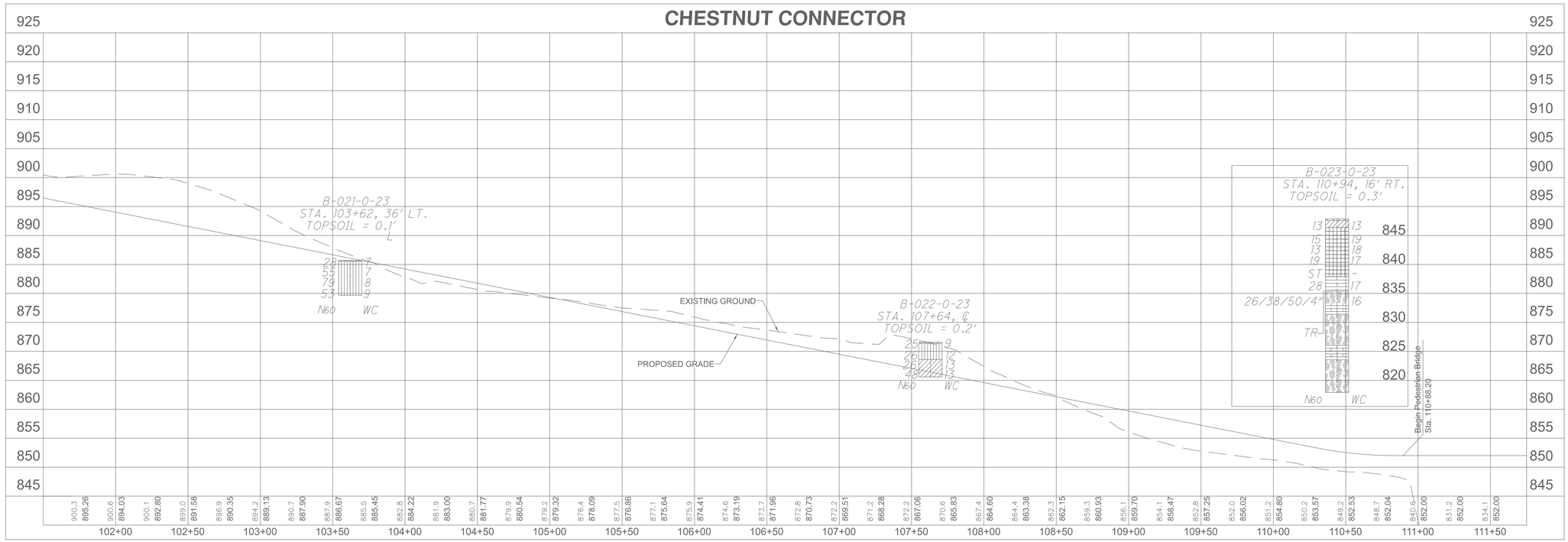
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	MSJ
REVIEWER	EMK 09-20-24
PROJECT ID	117001
SUBSET	0
TOTAL	0
SHEET	P.142
TOTAL	161

BUT-OATS-0.5.00

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 1/7/2025 TIME: 1:35:16 PM USER: MJennings
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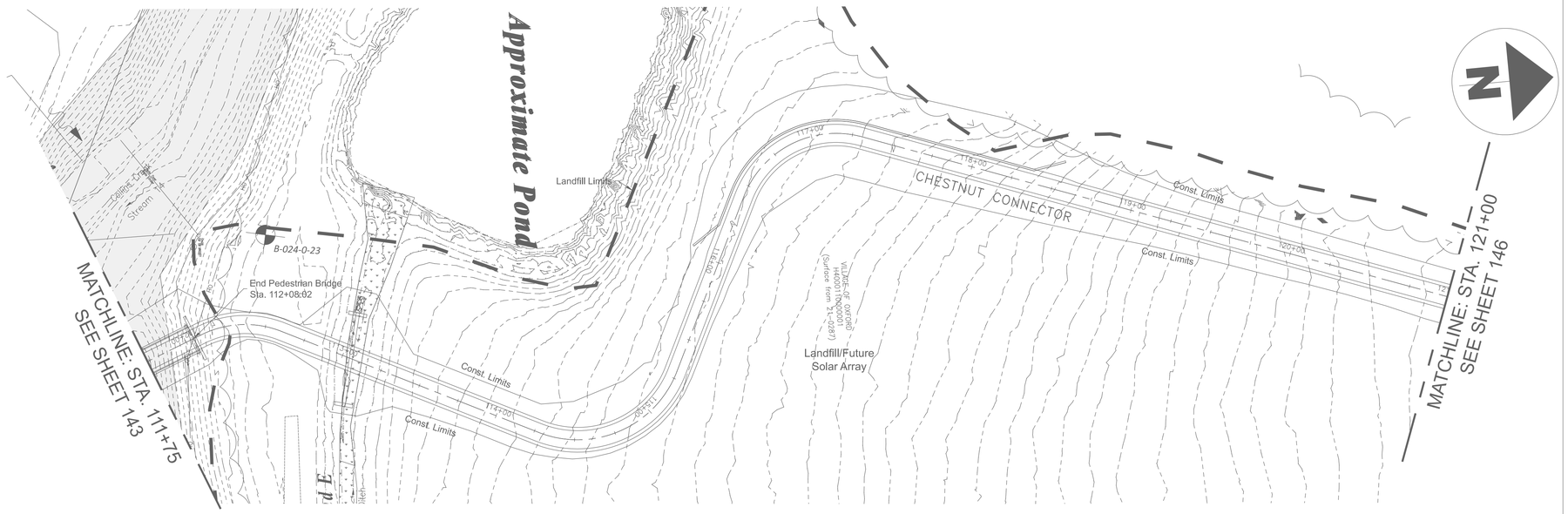


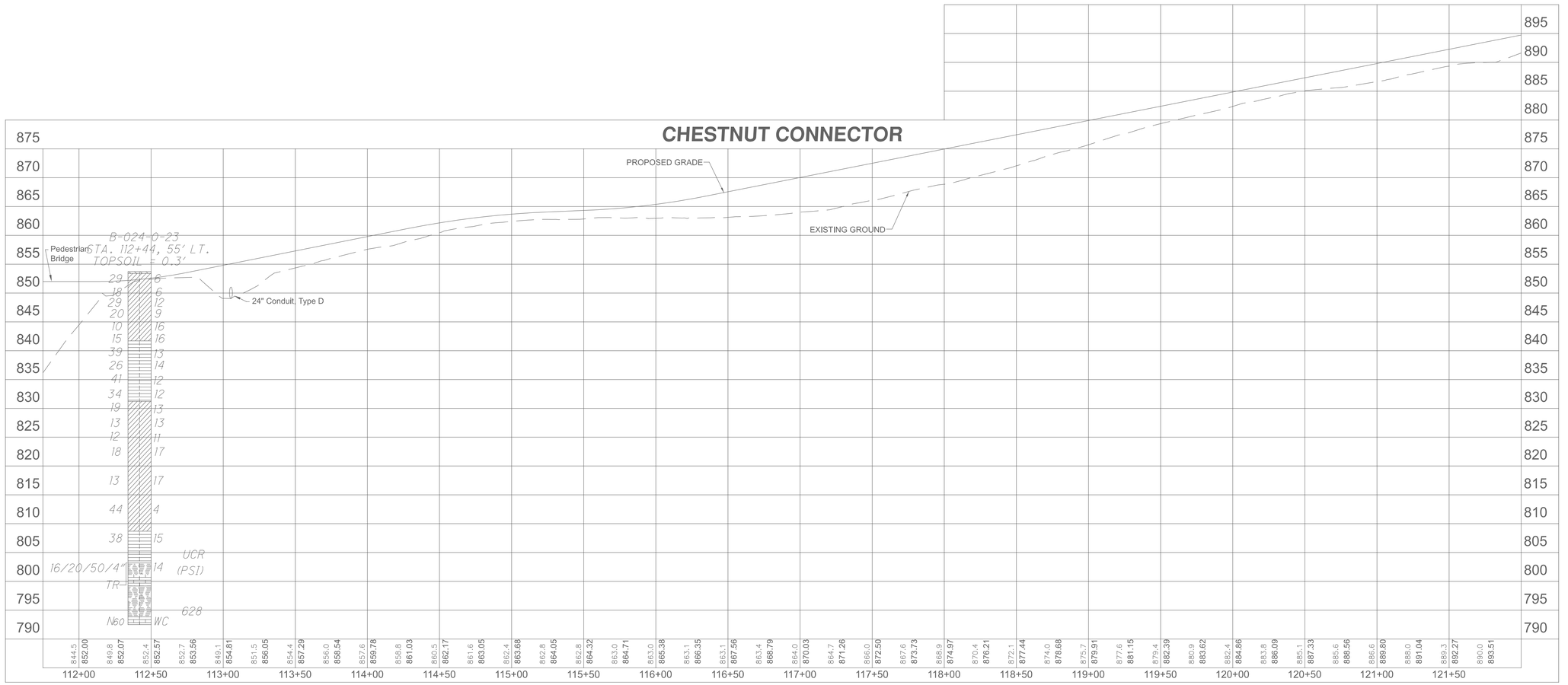
HORIZONTAL SCALE IN FEET
0 20 40 80

GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL - CHESTNUT CONNECTOR

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER	MSJ
REVIEWER	EMK 09-20-23
PROJECT ID	117001
SUBSET	0
TOTAL	0
SHEET	P.143
TOTAL	161





GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL - CHESTNUT CONNECTOR

DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER
MSJ

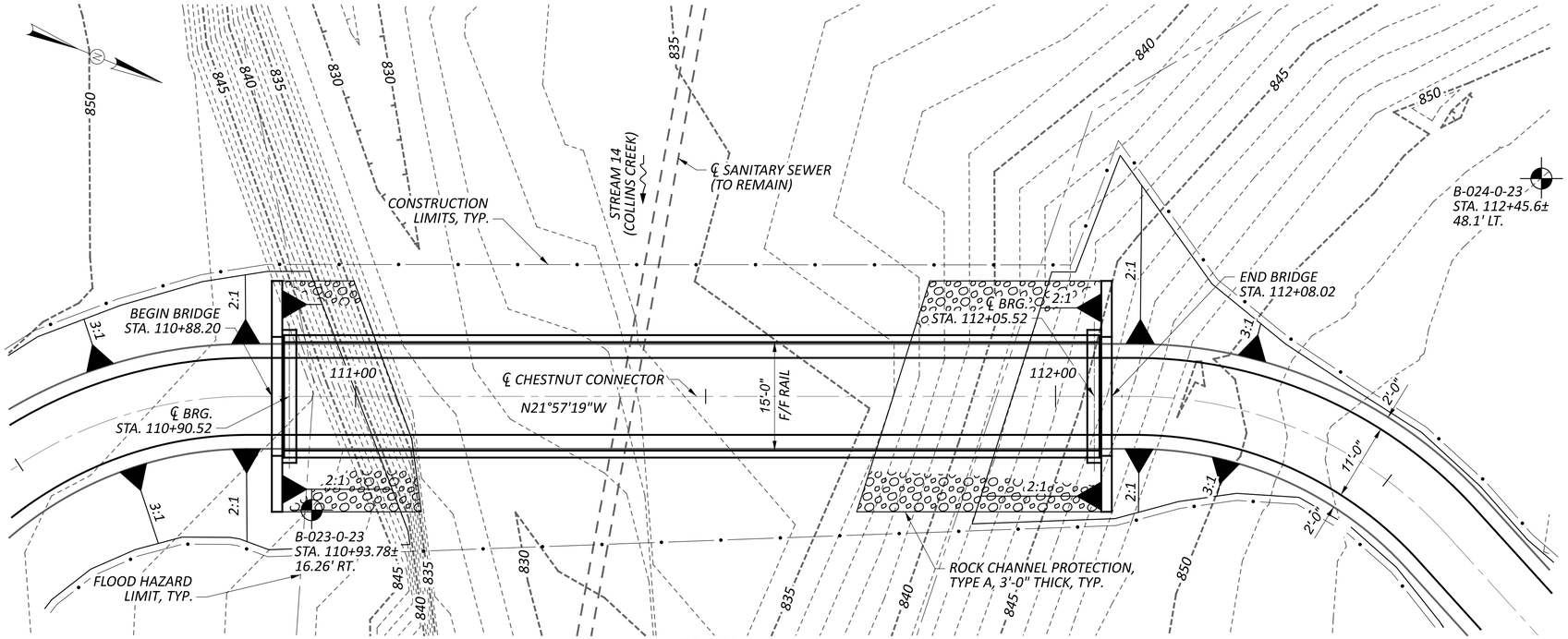
REVIEWER
EMK 09-20-23

PROJECT ID
117001

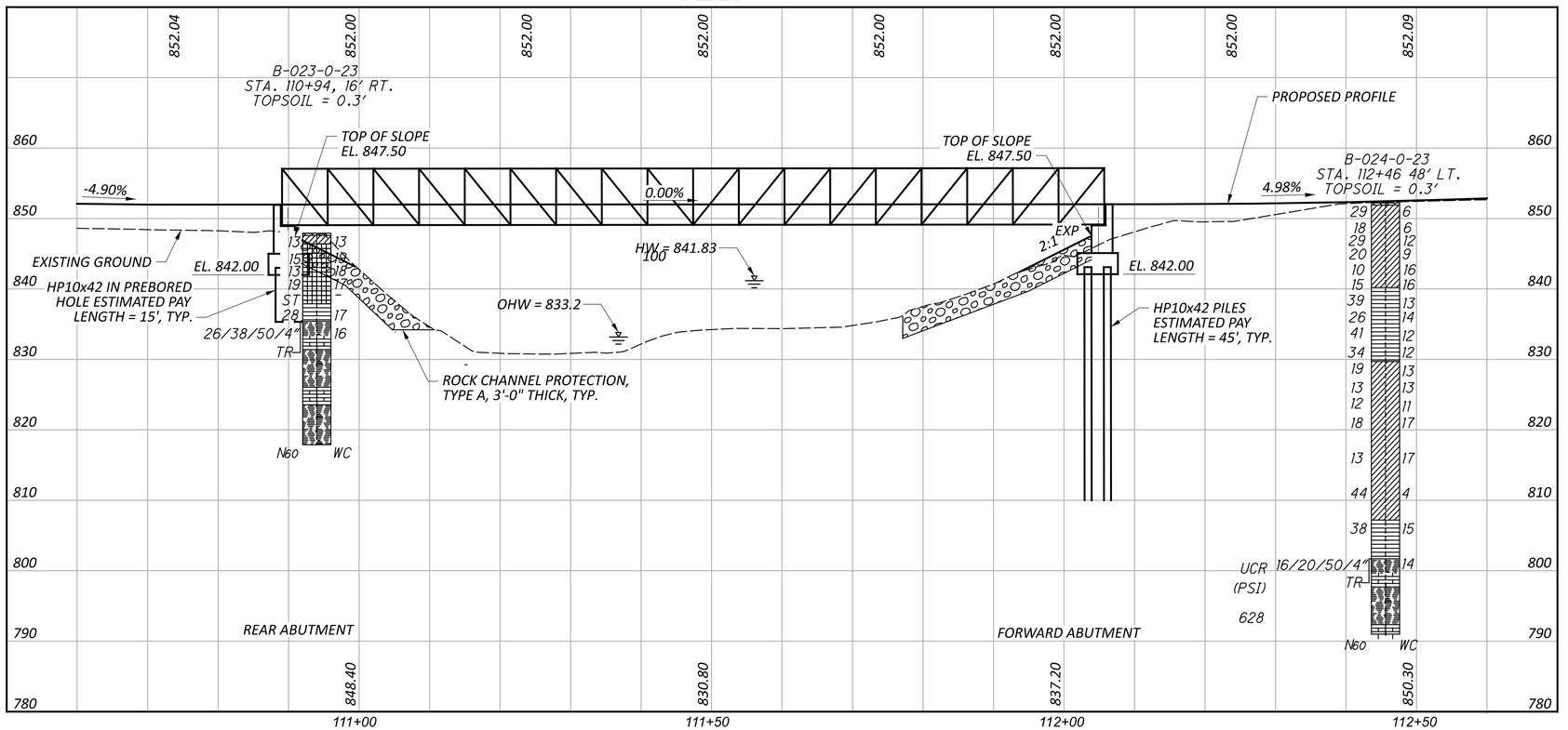
SUBSET	TOTAL
0	0

SHEET	TOTAL
P.144	161

Plot time: May 28, 2024 - 9:47am?Drawing name: i:\2022\22-0273\TR\DWG\Convert 240521\22-0273 P&P Connector-CONVERT.dwg - Layout Tab: Model



PLAN



ELEVATION

HORIZONTAL SCALE IN FEET
0 5 10 20

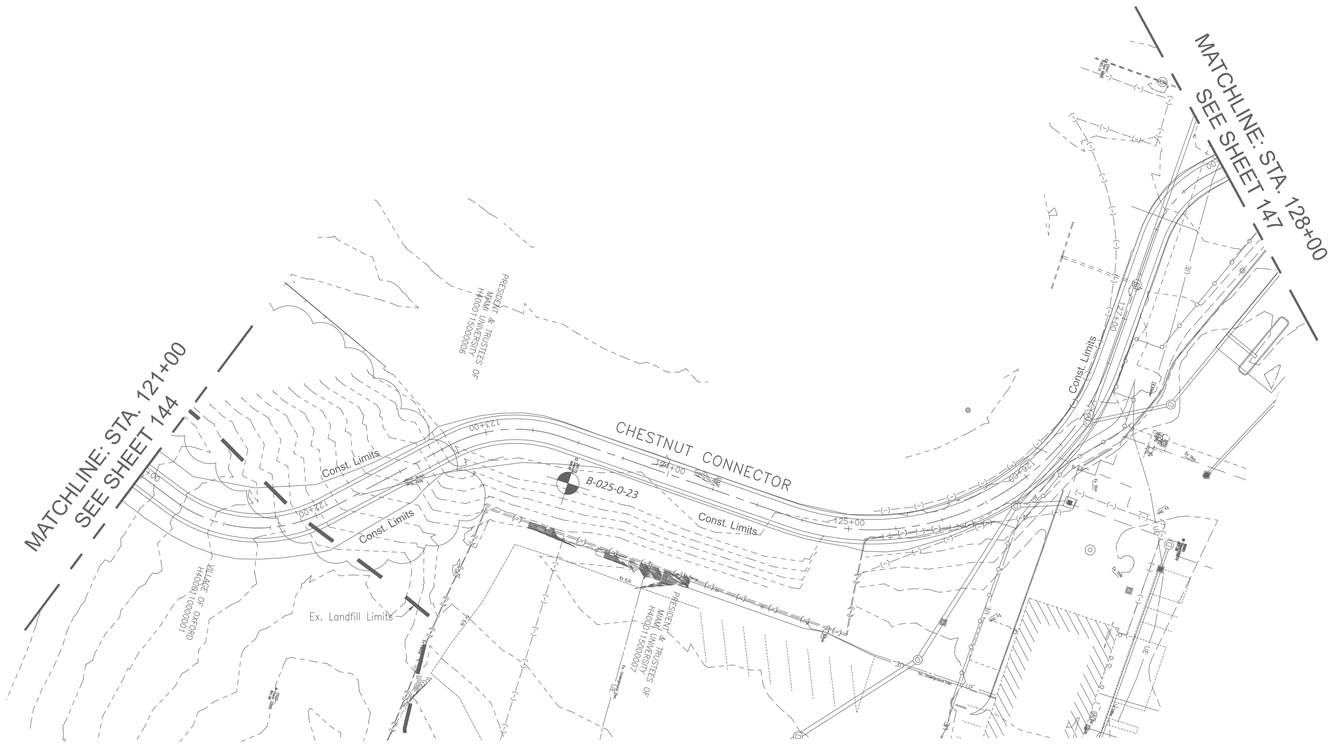
GEOTECHNICAL PROFILE - BRIDGE
OXFORD AREA TRAIL - CHESTNUT CONNECTOR OVER COLLINS CREEK

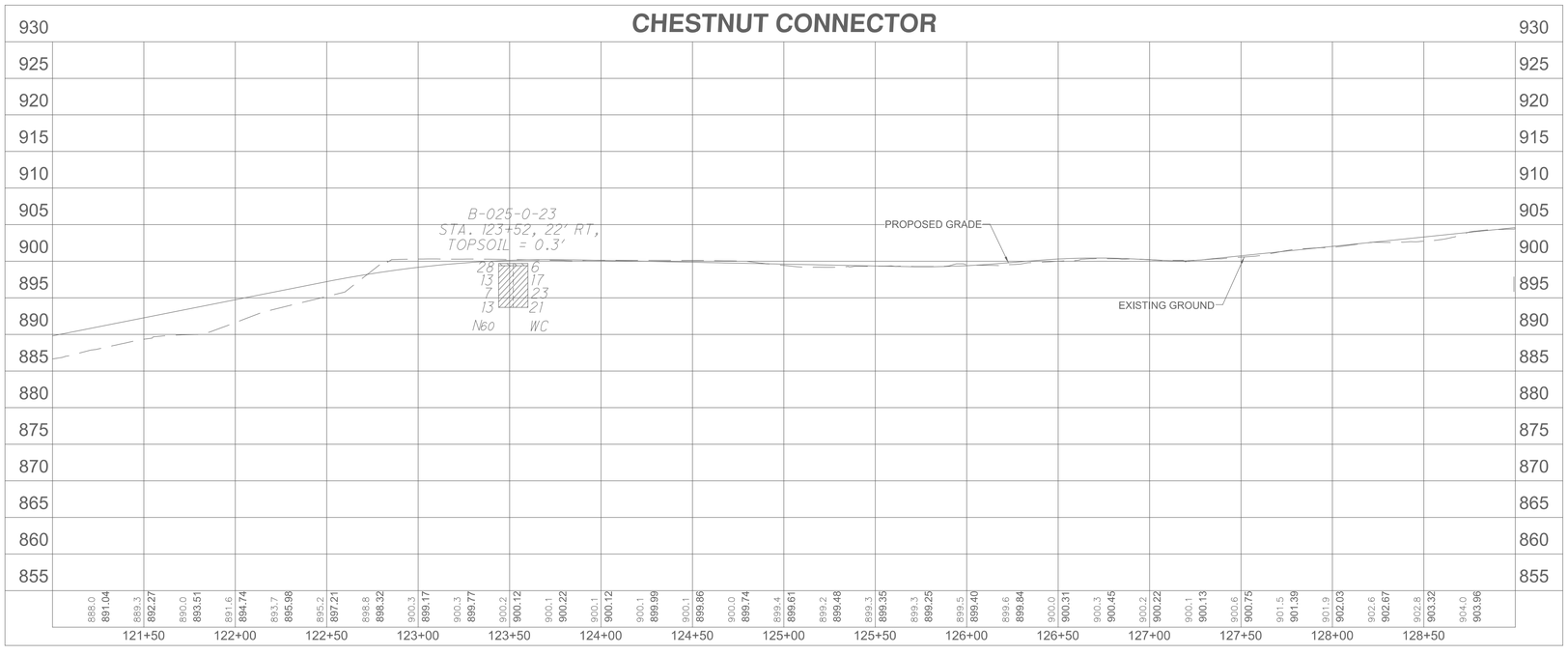
DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-24
PROJECT ID 117001
SUBSET 0 TOTAL 0
SHEET P.145 TOTAL 161

BUT-OATS-0.5.00

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 1/7/2025 TIME: 1:40:59 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_SFN03_ZP003.dgn







GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL - CHESTNUT CONNECTOR

DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

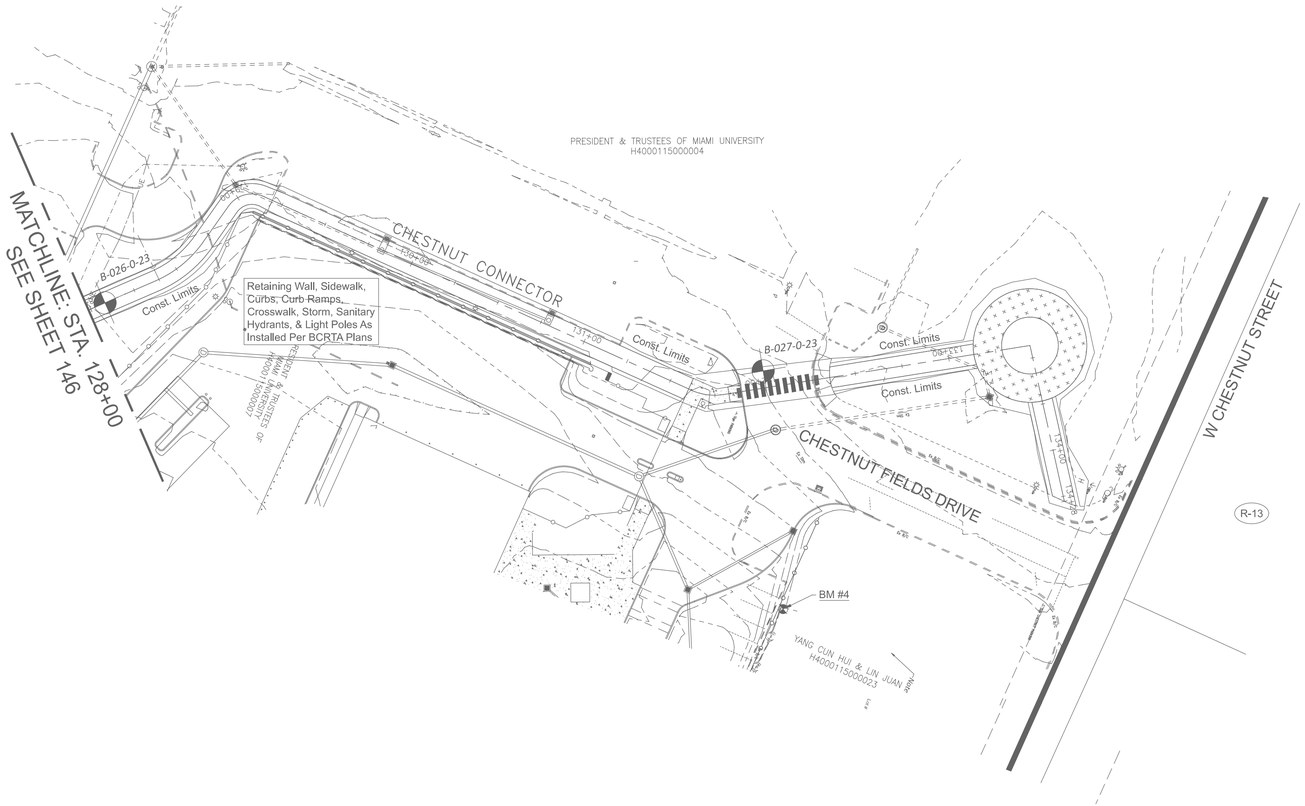
DESIGNER
MSJ

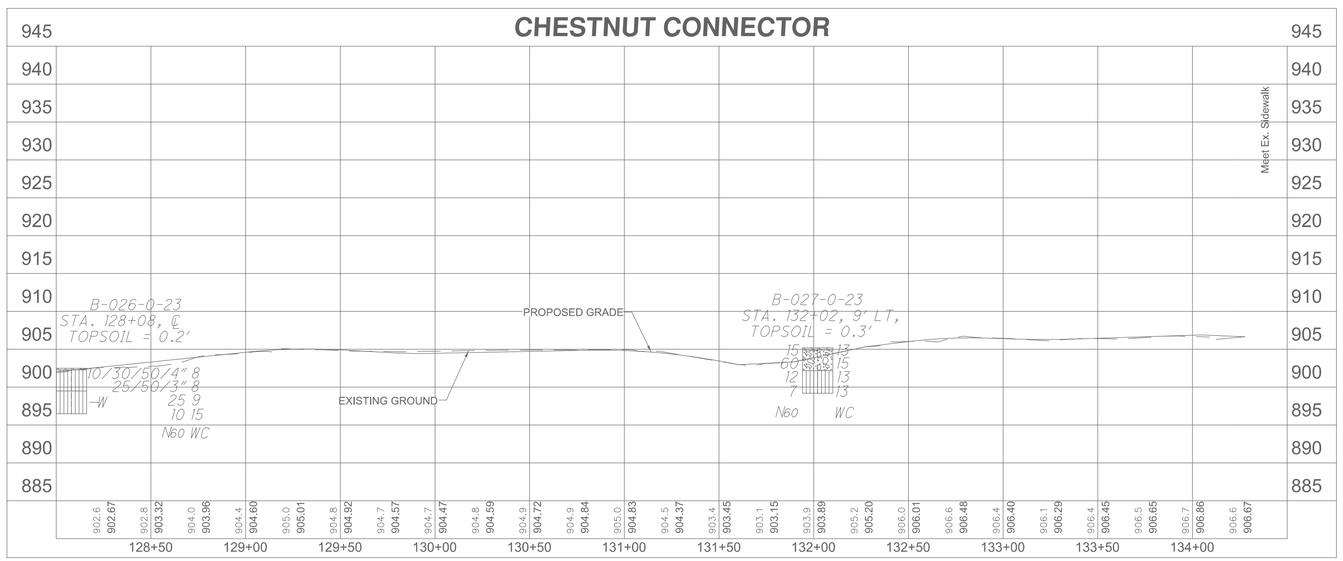
REVIEWER
EMK 09-20-23

PROJECT ID
117001

SUBSET 0 | TOTAL 0

SHEET P.146 | TOTAL 161





HORIZONTAL SCALE IN FEET
0 20 40 80

GEOTECHNICAL PROFILE - ROADWAY/BIKE TRAIL
BUT-OXFORD AREA TRAIL - CHESTNUT CONNECTOR

DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER MSJ
REVIEWER EMK 09-20-23
PROJECT ID 117001
SUBSET 0 TOTAL 0
SHEET P.147 TOTAL 161

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 2:38:58 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_ZL002.dgn

PROJECT: OXFORD AREA TRAIL PHASE V
TYPE: STRUCTURE FOUNDATION
PID: 117001 SFN: N/A
START: 6/21/23 END: 6/22/23

DRILLING FIRM / OPERATOR: STANTEC / GT
SAMPLING FIRM / LOGGER: STANTEC / NU
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NQ2

DRILL RIG: CME 45#3T (815)
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 4/14/21
ENERGY RATIO (%): 87.6

STATION / OFFSET: 8+10, 2' RT.
ALIGNMENT: BIKE TRAIL
ELEVATION: 918.5 (MSL) EOB: 31.0 ft.
LAT / LONG: 39.493926, -84.756246

EXPLORATION ID: B-002-0-23
PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
BROWN, **TOPSOIL**	918.2																	
STIFF TO VERY STIFF, BROWN, **CLAY**, TRACE GRAVEL, TRACE SAND, "AND" SILT, DAMP	915.5		1 4 4	12	87	SS-1	4.50	6	2	5	42	45	49	29	20	18	A-7-6 (14)	
			4 11 11	32	53	SS-2	4.50	-	-	-	-	-	-	-	-	19	A-7-6 (V)	
VERY DENSE, GRAY TO DARK BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND, SILT, AND CLAY**, MOIST			4 13 30	63	73	SS-3	4.50	60	7	5	11	17	44	24	20	15	A-2-7 (1)	
			13 20 24	64	100	SS-4	4.50	-	-	-	-	-	-	-	-	12	A-2-7 (V)	
	911.5	TR	10 26 50/1"	-	92	SS-5A	4.50	-	-	-	-	-	-	-	-	12	A-2-7 (V)	
						SS-5B	-	-	-	-	-	-	-	-	-	-	Rock (V)	
INTERBEDDED SHALE (75%) AND LIMESTONE (25%), SLIGHTLY TO HIGHLY FRACTURED, RQD 38%, REC. 98%; **SHALE**, DARK GRAY, MODERATELY TO HIGHLY WEATHERED, WEAK, FINE GRAINED, LAMINATED; **LIMESTONE**, LIGHT GRAY, MODERATELY WEATHERED, MODERATELY STRONG TO STRONG, FINE TO MEDIUM GRAINED, THIN BEDDED.			17		97	NQ2-1											CORE	
			74		100	NQ2-2											CORE	
			60		96	NQ2-3											CORE	
			9		100	NQ2-4											CORE	
FROM 26.7 FT. TO 27.0 FT., UCR = 8,070 PSI FROM 27.1 FT. TO 27.5 FT., UCR = 837 PSI			26		100	NQ2-5											CORE	
	887.5	EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED WHILE DRILLING.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

SHEET P. 148 | TOTAL 161
PROJECT ID 117001
REVIEWER EMK 09-20-24
DESIGNER MSJ
DESIGN AGENCY

Stantec
10320 Alliance Road
Suite 300
Cincinnati, OH 45242
(513) 842-3400

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL OVER COLLINS CREEK
BORING LOG B-002-0-23

B-002-0-23



Run #:	Depth		Recovery		RQD	
NQ2-1	7.5'	11.0'	41'/42'	98%	7'/42'	17%
NQ2-2	11.0'	16.1'	60'/61'	98%	44'/61'	72%
NQ2-3	16.1'	21.1'	58'/60'	97%	36'/60'	60%
173620161-OATS PHASE V						

B-002-0-23



Run #:	Depth		Recovery		RQD	
NQ2-4	21.1'	26.1'	60'/60'	100%	5'/60'	8%
173620161-OATS PHASE V						

B-002-0-23



Run #:	Depth		Recovery		RQD	
NQ2-5	26.1'	31.1'	60'/60'	100%	16'/60'	27%
173620161-OATS PHASE V						

SHEET P. 149 | TOTAL 161

PROJECT ID 117001

REVIEWER EMK 09-20-23

DESIGNER MSJ

Stantec
10200 Alliance Road
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGN AGENCY

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL OVER COLLINS CREEK
BORING LOG B-002-0-23 (ROCK CORE PHOTOS)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 2:41:32 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_ZL003.dgn

PROJECT: OXFORD AREA TRAIL PHASE V	DRILLING FIRM / OPERATOR: STANTEC / GT	DRILL RIG: CME 45#3T (815)	STATION / OFFSET: 9+69, 28' LT.	EXPLORATION ID B-003-0-23
TYPE: STRUCTURE FOUNDATION	SAMPLING FIRM / LOGGER: STANTEC / NU	HAMMER: CME AUTOMATIC	ALIGNMENT: BIKE TRAIL	
PID: 117001 SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 4/14/21	ELEVATION: 918.7 (MSL) EOB: 31.5 ft.	PAGE 1 OF 1
START: 6/21/23 END: 6/21/23	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 87.6	LAT / LONG: 39.493843, -84.755794	

MATERIAL DESCRIPTION AND NOTES	ELEV. 918.7	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
BROWN, **TOPSOIL**	918.5																	
VERY STIFF, BROWN, **SILT AND CLAY**, TRACE SAND, DAMP	915.7		1 5 7	18	87	SS-1	2.00	0	2	7	58	33	36	23	13	10	A-6a (9)	
			5 7 11	26	80	SS-2	4.50	-	-	-	-	-	-	-	-	20	A-6a (V)	
HARD, LIGHT TO DARK BROWN, **CLAY**, SOME GRAVEL, TRACE SAND, SOME SILT, DAMP	913.7	TR	13 19 19	55	80	SS-3	4.50	31	4	3	24	38	42	24	18	14	A-7-6 (9)	
			9 50/2"	-	100	SS-4A SS-4B	- -	- -	- -	- -	- -	- -	- -	- -	- -	13 -	A-7-6 (V) Rock (V)	
INTERBEDDED SHALE (65%) AND LIMESTONE (35%), MODERATELY TO HIGHLY FRACTURED, RQD 19%, REC. 71%; **SHALE**, GRAY TO DARK GRAY, HIGHLY TO MODERATELY WEATHERED, WEAK, FINE GRAINED, THINLY LAMINATED TO LAMINATED; **LIMESTONE**, LIGHT GRAY, MODERATELY WEATHERED, MODERATELY STRONG TO STRONG, FINE TO MEDIUM GRAINED, THIN BEDDED.			13 36 50/4"	-	98	SS-5	-	-	-	-	-	-	-	-	-	10	Rock (V)	
			0		49	NQ2-1											CORE	
			30		76	NQ2-2											CORE	
			0		50	NQ2-3											CORE	
			34		86	NQ2-4											CORE	
FROM 28.8 FT. TO 29.2 FT., UCR = 759 PSI			26		90	NQ2-5											CORE	
	887.2	EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED WHILE DRILLING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

SHEET P-150 | TOTAL 161
PROJECT ID 117001
REVIEWER EMK 09-20-24
DESIGNER MSJ
DESIGN AGENCY Stantec
11687 Lebanon Road
Suite 300
Cincinnati, OH 45241
(513) 842-3400

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL OVER COLLINS CREEK
BORING LOG B-003-0-23

B-003-0-23



Run #:	Depth		Recovery		RQD	
NQ2-1	7.4'	11.5'	24'/49'	49%	0'/49'	0%
NQ2-2	11.5'	16.5'	46'/60'	77%	18'/60'	30%
NQ2-3	16.5'	21.5'	30'/60'	50%	0'/60'	0%
173620161-OATS PHASE V						

B-003-0-23



Run #:	Depth		Recovery		RQD	
NQ2-4	21.5	26.5'	52/60	87%	20/60	33%
NQ2-5	26.5'	31.5'	54/60	90%	16/60	27%
173620161-OATS PHASE V						

SHEET P. 151 | TOTAL 161

PROJECT ID 117001

REVIEWER EMK 09-20-24

DESIGNER MSJ

DESIGN AGENCY

Stantec
10320 Alliance Road
Suite 300
Cincinnati, OH 45242
(513) 842-8200

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL OVER COLLINS CREEK
BORING LOG B-003-0-23 (ROCK CORE PHOTOS)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 2:44:53 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_ZL008.dgn

PROJECT: OXFORD AREA TRAIL PHASE V
TYPE: STRUCTURE FOUNDATION
PID: 117001 SFN: N/A
START: 6/22/23 END: 6/22/23

DRILLING FIRM / OPERATOR: STANTEC / GT
SAMPLING FIRM / LOGGER: STANTEC / NU
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NQ2

DRILL RIG: CME 45#3T (815)
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 4/14/21
ENERGY RATIO (%): 87.6

STATION / OFFSET: 84+48, 4' LT.
ALIGNMENT: BIKE TRAIL
ELEVATION: 880.2 (MSL) EOB: 41.4 ft.
LAT / LONG: 39.493540, -84.736776

EXPLORATION ID B-018-0-23
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
DARK BROWN, **TOPSOIL**	880.1		1 3 3	9	93	SS-1	0.50	2	3	4	62	29	34	25	9	11	A-4b (8)	
STIFF TO VERY STIFF, LIGHT TO DARK BROWN, **SILT**, TRACE GRAVEL, TRACE SAND, SOME CLAY, DAMP			4 5 5	15	87	SS-2	0.75	-	-	-	-	-	-	-	-	14	A-4b (V)	
			4 6 9	22	73	SS-3	4.50	-	-	-	-	-	-	-	-	15	A-4b (V)	
	875.7																	
VERY STIFF TO HARD, BROWN, **SILT AND CLAY**, TRACE GRAVEL, SOME SAND, DAMP TO MOIST			4 4 7	16	100	SS-4	2.50	8	9	26	30	27	31	17	14	17	A-6a (6)	
					4	ST-1	4.50	-	-	-	-	-	-	-	-	12	A-6a (V)	
			5 17 18	51	100	SS-6	4.50	-	-	-	-	-	-	-	-	10	A-6a (V)	
	867.7																	
HARD, BROWN TO GRAY, **SANDY SILT**, LITTLE GRAVEL, SOME TO "AND" CLAY, DAMP			6 14 23	54	100	SS-7	4.50	13	8	17	42	20	19	14	5	7	A-4a (5)	
			6 17 34	74	100	SS-8	4.50	-	-	-	-	-	-	-	-	7	A-4a (V)	
			10 17 22	57	100	SS-9	4.50	19	10	17	29	25	21	13	8	6	A-4a (4)	
			8 16 41	83	100	SS-10	4.50	-	-	-	-	-	-	-	-	8	A-4a (V)	
			26 17 21	55	100	SS-11	4.50	14	9	17	35	25	21	14	7	9	A-4a (5)	
			5 9 13	32	100	SS-12	4.50	-	-	-	-	-	-	-	-	12	A-4a (V)	
	850.2	W 850.6 TR																
INTERBEDDED SHALE (95%) AND LIMESTONE (5%), MODERATELY TO HIGHLY FRACTURED, RQD 42%, REC. 100%; **SHALE**, GRAY TO DARK GRAY, HIGHLY TO MODERATELY WEATHERED, WEAK, VERY FINE GRAINED TO FINE GRAINED, LAMINATED; **LIMESTONE**, LIGHT GRAY, MODERATELY WEATHERED, MODERATELY STRONG, FINE GRAINED, THIN BEDDED.			18 27 50/3"	-	100	SS-13	4.50	29	8	7	21	35	33	19	14	16	Rock (V)	
			48		100	NQ2-1											CORE	
FROM 39.2 FT. TO 39.6 FT., UCR = 251 PSI			36		100	NQ-2											CORE	
	838.8	EOB																

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

SHEET P. 152 TOTAL 161
PROJECT ID 117001
REVIEWER EMK 09-20-24
DESIGNER MSJ
DESIGN AGENCY Stantec
11687 Lebanon Road
Suite 300
Cincinnati, OH 45242
(513) 842-3000

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL OVER CSX TRANSPORTATION
BORING LOG B-018-0-23

B-018-0-23



Run #:	Depth		Recovery		RQD	
NQ2-1	31.4'	36.4'	60'/60'	100%	29'/60'	48%

173620161-OATS PHASE V

B-018-0-23



Run #:	Depth		Recovery		RQD	
NQ2-2	36.4'	41.4'	60'/60'	100%	22'/60'	37%

173620161-OATS PHASE V

SHEET	TOTAL
P-153	161

PROJECT ID: 117001

REVIEWER: EMK 09-20-24

DESIGNER: MSJ

Stantec
10320 Alliance Road
Suite 300
Cincinnati, OH 45242
(513) 842-3000

DESIGN AGENCY

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL OVER CSX TRANSPORTATION
BORING LOG B-018-0-23 (ROCK CORE PHOTOS)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/6/2025 TIME: 2:47:29 PM USER: MJennings
V:\1736\active\173620161\engineering\117001\400-Engineering\Geotechnical\Sheets\117001_ZL009.dgn

PROJECT:OXFORD AREA TRAIL PHASE V
TYPE: STRUCTURE FOUNDATION
PID: 117001 SFN: N/A
START: 6/22/23 END: 6/22/23

DRILLING FIRM / OPERATOR: STANTEC / GT
SAMPLING FIRM / LOGGER: STANTEC / NU
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NQ2

DRILL RIG: CME 45#3T (815)
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 4/14/21
ENERGY RATIO (%): 87.6

STATION / OFFSET: 85+60, 2' RT.
ALIGNMENT: BIKE TRAIL
ELEVATION: 876.2 (MSL) EOB: 38.0 ft.
LAT / LONG: 39.493540, -84.736336

EXPLORATION ID B-019-0-23

MATERIAL DESCRIPTION AND NOTES	ELEV. 876.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
BROWN, **TOPSOIL**	876.0																	
MEDIUM STIFF, BROWN, **SILT**, TRACE SAND, SOME CLAY, MOIST	874.7		1 2 3	7	93	SS-1	0.75	0	3	7	57	33	36	26	10	15	A-4b (8)	
VERY STIFF TO HARD, BROWN TO GRAY, **SANDY SILT**, TRACE TO LITTLE GRAVEL, SOME CLAY, DAMP			3 7 9	23	87	SS-2	4.50	-	-	-	-	-	-	-	-	16	A-4a (V)	
			4 8 11	28	100	SS-3	3.00	9	8	25	34	24	26	17	9	9	A-4a (5)	
			7 11 11	32	100	SS-4	3.50	-	-	-	-	-	-	-	-	12	A-4a (V)	
			4 13 13	38	100	SS-5	4.50	14	9	17	40	20	20	15	5	10	A-4a (5)	
			6 11 32	63	100	SS-6	4.50	-	-	-	-	-	-	-	-	10	A-4a (V)	
			6 30 37	98	100	SS-7	4.50	17	12	19	31	21	20	13	7	8	A-4a (3)	
			12 44 50/4"	-	100	SS-8	4.50	-	-	-	-	-	-	-	-	10	A-4a (V)	
			13 24 31	80	100	SS-9	4.50	-	-	-	-	-	-	-	-	7	A-4a (V)	
			12 24 24	70	100	SS-10	4.50	10	9	15	37	29	22	14	8	9	A-4a (6)	
			9 12 20	47	100	SS-11	4.50	-	-	-	-	-	-	-	-	10	A-4a (V)	
			6 13 14	39	100	SS-12	4.50	7	8	14	40	31	24	16	8	11	A-4a (7)	
		W 849.7																
	848.7	TR																
INTERBEDDED SHALE (95%) AND LIMESTONE (5%), MODERATELY TO HIGHLY FRACTURED, RQD 34%, REC. 78%; **SHALE**, GRAY TO DARK GRAY, MODERATELY TO HIGHLY WEATHERED, WEAK, VERY FINE GRAINED, LAMINATED; **LIMESTONE**, LIGHT GRAY, MODERATELY WEATHERED, MODERATELY STRONG, FINE TO MEDIUM GRAINED, MEDIUM BEDDED.			30 50/5"	-	100	SS-13	0.50	-	-	-	-	-	-	-	-	15	Rock (V)	
			22		56	NQ2-1											CORE	
			38		82	NQ2-2											CORE	
FROM 37.1 FT. TO 37.5 FT., UCR = 259 PSI	838.2	EOB	38		92	NQ2-3											CORE	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

Stantec
11687 Lebanon Road
Suite 300
Cincinnati, OH 45240
(513) 842-8200
DESIGN AGENCY

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL OVER CSX TRANSPORTATION
BORING LOG B-019-0-23

B-019-0-23



Run #:	Depth		Recovery		RQD	
NQ2-1	28.6'	31.7'	24'/37'	65%	10'/37'	27%
NQ2-2	31.7'	36.7'	49'/60'	82%	23'/60'	38%
NQ2-3	36.7'	38.0'	14'/17'	82%	6'/17'	35%
173620161-OATS PHASE V						

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL OVER CSX TRANSPORTATION
BORING LOG B-019-0-23 (ROCK CORE PHOTO)

PROJECT: OXFORD AREA TRAIL PHASE V	DRILLING FIRM / OPERATOR: STANTEC / DC	DRILL RIG: CME 45#3T (815)	STATION / OFFSET: 110+94, 16' RT.	EXPLORATION ID B-023-0-23
TYPE: STRUCTURE FOUNDATION	SAMPLING FIRM / LOGGER: STANTEC / NU	HAMMER: CME AUTOMATIC	ALIGNMENT: BIKE TRAIL	
PID: 117001 SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 4/14/21	ELEVATION: 847.9 (MSL) EOB: 30.0 ft.	PAGE 1 OF 1
START: 7/25/23 END: 7/25/23	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 87.6	LAT / LONG: 39.495361, -84.742589	

MATERIAL DESCRIPTION AND NOTES	ELEV. 847.9	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
STIFF, BROWN, **SILT AND CLAY**, SOME SAND, DAMP	847.6 / 846.4	1	2 4 5	13	73	SS-1	1.75	11	11	25	32	21	36	24	12	13	A-6a (4)	
STIFF TO VERY STIFF, BROWN, **CLAY**, LITTLE GRAVEL, LITTLE SAND, SOME SILT, DAMP		2	4 5 5	15	27	SS-2	4.50	-	-	-	-	-	-	-	-	19	A-7-6 (V)	
		3																
		4	4 4 5	13	60	SS-3	4.50	17	5	14	29	35	48	26	22	18	A-7-6 (12)	
SS-4 COMBINED WITH SS-3 FOR CLASSIFICATION		5	5 6 7	19	57	SS-4	4.50	-	-	-	-	-	-	-	-	17	A-7-6 (V)	
		6																
		7																
		8			40	ST-1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	A-7-6 (V)	
	837.9	9																
VERY STIFF TO HARD, BROWN TO GRAY, **SILTY CLAY**, LITTLE GRAVEL, LITTLE SAND, DAMP		10	6 5 14	28	100	SS-5	4.50	12	5	9	33	41	35	19	16	17	A-6b (10)	
	835.4	11																
		12																
INTERBEDDED SHALE (80%) AND LIMESTONE (20%), MODERATELY TO HIGHLY FRACTURED, RQD 33%, REC. 97%;	TR	13	26 38 50/4"	-	100	SS-6	1.75	-	-	-	-	-	-	-	-	16	Rock (V)	
SHALE, GRAY TO DARK GRAY, MODERATELY TO HIGHLY WEATHERED, WEAK, VERY FINE GRAINED, LAMINATED;		14																
		15	30		85	NQ2-1											CORE	
LIMESTONE, LIGHT GRAY, MODERATELY WEATHERED, MODERATELY STRONG, FINE TO MEDIUM GRAINED, MEDIUM BEDDED.		16																
		17																
		18	34		100	NQ2-2											CORE	
		19																
		20																
		21																
		22																
		23	46		96	NQ2-3											CORE	
		24																
		25																
		26																
		27																
		28	75		100	NQ2-4											CORE	
	817.9	29																
	EOB	30																

NOTES: GROUNDWATER NOT ENCOUNTERED WHILE DRILLING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL CHESTNUT CONNECTOR OVER COLLINS CREEK
BORING LOG B-023-0-23

B-023-0-23



Run #:	Depth		Recovery		RQD	
NQ2-1	14.0'	16.0''	20'/24'	83%	7'/24'	29%
NQ2-2	16.0'	21.0'	60'/60'	100%	20'/60'	33%
173620161-OATS PHASE V						

B-023-0-23



Run #:	Depth		Recovery		RQD	
NQ2-3	21.0'	26.0'	58'/60'	97%	28'/60'	47%
NQ2-4	26.0'	30.0'	50'/50'	100%	36'/50'	72%
173620161-OATS PHASE V						

Stantec
11687 Lebanon Road
Suite 300
Cincinnati, OH 45242
(513) 842-3400

DESIGN AGENCY

DESIGNER MSJ

REVIEWER EMK 09-20-24

PROJECT ID 117001

SHEET P-157 TOTAL 161

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL CHESTNUT CONNECTOR OVER COLLINS CREEK
BORING LOG B-023-0-23 (ROCK CORE PHOTOS)

PROJECT:OXFORD AREA TRAIL PHASE V	DRILLING FIRM / OPERATOR: STANTEC / GT	DRILL RIG: CME 55T #1 (709)	STATION / OFFSET: 112+46, 48' LT.	EXPLORATION ID B-024-0-23
TYPE: STRUCTURE FOUNDATION	SAMPLING FIRM / LOGGER: STANTEC / NU	HAMMER: CME AUTOMATIC	ALIGNMENT: BIKE TRAIL	
PID: 117001 SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 1/5/23	ELEVATION: 852.2 (MSL) EOB: 61.2 ft.	PAGE 1 OF 2
START: 6/15/23 END: 6/20/23	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 87.5	LAT / LONG: 39.495833, -84.743056	

MATERIAL DESCRIPTION AND NOTES	ELEV. 852.2	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
BROWN, **TOPSOIL**	851.9																	
STIFF TO VERY STIFF, BROWN TO GRAY, **SILT AND CLAY**, LITTLE TO SOME GRAVEL, SOME SAND, DAMP			7 8 12	29	100	SS-1	4.50	26	6	15	28	25	33	19	14	6	A-6a (5)	
			8 7 5	18	67	SS-2	4.50	-	-	-	-	-	-	-	-	6	A-6a (V)	
			3 7 13	29	80	SS-3	4.50	18	10	17	29	26	31	18	13	12	A-6a (5)	
			4 7 7	20	53	SS-4	4.50	-	-	-	-	-	-	-	-	9	A-6a (V)	
			3 3 4	10	67	SS-5	2.00	20	8	15	31	26	33	19	14	16	A-6a (6)	
			2 3 7	15	60	SS-6	2.00	-	-	-	-	-	-	-	-	16	A-6a (V)	
	840.2																	
STIFF TO VERY STIFF, BROWN, **SILTY CLAY**, SOME GRAVEL, LITTLE SAND, DAMP			18 17 10	39	53	SS-7	1.25	33	7	12	26	22	34	18	16	13	A-6b (5)	
SS-8 COMBINED WITH SS-7 FOR CLASSIFICATION			8 8 10	26	40	SS-8	3.00	-	-	-	-	-	-	-	-	14	A-6b (V)	
			10 12 16	41	13	SS-9	1.75	-	-	-	-	-	-	-	-	12	A-6b (V)	
			12 12 11	34	53	SS-10	1.75	-	-	-	-	-	-	-	-	12	A-6b (V)	
	829.7																	
STIFF TO HARD, BROWN, **SILT AND CLAY**, LITTLE TO SOME GRAVEL, LITTLE TO SOME SAND, DAMP TO MOIST			3 7 6	19	67	SS-11	1.50	-	-	-	-	-	-	-	-	13	A-6a (V)	
			4 4 5	13	93	SS-12	-	14	7	14	35	30	27	16	11	13	A-6a (6)	
			5 3 5	12	100	SS-13	2.25	-	-	-	-	-	-	-	-	11	A-6a (V)	
			4 3 9	18	100	SS-14	1.50	25	5	9	29	32	30	17	13	17	A-6a (6)	
			5 4 5	13	100	SS-15	1.50	-	-	-	-	-	-	-	-	17	A-6a (V)	
			11 12 18	44	80	SS-16	0.75	-	-	-	-	-	-	-	-	4	A-6a (V)	
	807.2																	
HARD, GRAY, **SILTY CLAY**, SOME GRAVEL, TRACE SAND, DAMP			4 11 15	38	67	SS-17	4.50	23	5	4	21	47	40	22	18	15	A-6b (10)	
	803.2																	

BORING CONTINUES

SHEET	TOTAL
P-158	161

PROJECT ID: 117001

REVIEWER: EMK 09-20-24

DESIGNER: MSJ

DESIGN AGENCY: Stantec, 10200 Alliance Road, Suite 300, Cincinnati, OH 45242, (513) 842-8200

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL CHESTNUT CONNECTOR OVER COLLINS CREEK
BORING LOG B-024-0-23

CONTINUED LOG OF BORING

PROJECT: OXFORD AREA TRAIL PHASE V	DRILLING FIRM / OPERATOR: STANTEC / GT	DRILL RIG: CME 55T #1 (709)	STATION / OFFSET: 112+46, 48' LT.
TYPE: STRUCTURE FOUNDATION	SAMPLING FIRM / LOGGER: STANTEC / NU	HAMMER: CME AUTOMATIC	ALIGNMENT: BIKE TRAIL
PID: 117001 SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 1/5/23	ELEVATION: 852.2 (MSL) EOB: 61.2 ft.
START: 6/15/23 END: 6/20/23	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 87.5	LAT / LONG: 39.495833, -84.743056

EXPLORATION ID B-024-0-23

PAGE 2 OF 2

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
(CONTINUED) HARD, GRAY, **SILTY CLAY**, SOME GRAVEL, TRACE SAND, DAMP	803.2	49																
	801.7	TR 50	16 20 50/4"	-	100	SS-18A SS-18B	4.50 -	-	-	-	-	-	-	-	-	14 -	A-6b (V) Rock (V)	
INTERBEDDED SHALE (90%) AND LIMESTONE (10%), MODERATELY TO HIGHLY FRACTURED, RQD 68%, REC. 100%; **SHALE**, GRAY, MODERATELY TO HIGHLY WEATHERED, WEAK, VERY FINE GRAINED, LAMINATED; **LIMESTONE**, LIGHT GRAY, MODERATELY WEATHERED, MODERATELY STRONG, FINE TO MEDIUM GRAINED, MEDIUM BEDDED.		51 52 53 54 55 56	55		100	NQ2-1											CORE	
FROM 58.0 FT. TO 58.4 FT., UCR = 628 PSI		57 58 59 60	60		100	NQ2-2											CORE	
	791.0	EOB 61																

NOTES: GROUNDWATER NOT ENCOUNTERED WHILE DRILLING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL CHESTNUT CONNECTOR OVER COLLINS CREEK
BORING LOG B-024-0-23 (CONTINUED)

B-024-0-23



Run #:	Depth		Recovery		RQD	
NQ2-1	51.4'	56.2'	56'/56'	100%	31'/56'	55%
NQ2-2	56.2'	60.2'	60'/60'	100%	48'/60'	80%

173620161-OATS PHASE V

Stantec
11687 Lebanon Road
Suite 300
Cincinnati, OH 45240
(513) 842-3400

DESIGN AGENCY

DESIGNER MSJ

REVIEWER EMK 09-20-24

PROJECT ID 117001

SHEET P. 161 | TOTAL 161

GEOTECHNICAL PROFILE - STRUCTURE
OXFORD AREA TRAIL CHESTNUT CONNECTOR OVER COLLINS CREEK
BORING LOG B-024-0-23 (ROCK CORE PHOTO)