Date: 3/29/2023

Addendum No. 1
For Project No. ENG2202902412

Description: Hovey Lake FWA, Behind Lake Wetland Construction

Location: Hovey Lake FWA, Posey County

FOR AGENCY: Department of Natural Resources

The information contained in this Addendum shall become a part of the basic plans and specifications the same as if original incorporated therein. The original plans and specifications shall remain in their entirety, except as modified by this Addendum. The items herein shall supersede information in the specifications and on the plans.

ITEM No. 1: Attached are the Pre-bid Meeting Agenda, Sign-In Sheet, Meeting Notes, Contractor Questions and Answers

ITEM No. 2: Attached are the revised design plans, excluding items that will not be bid in this contract. Non-password protected plans are available upon request @ zschoenherr@dnr.in.gov

ITEM No. 3: .XML surface files for this project are available upon request @ zschoenherr@dnr.in.gov

ITEM No. 4: The selected contractor is responsible for supplying and installing bid item "Seeding and Mulching". Attached are specifications for erosion and pollution control.

ITEM No. 5: The selected contractor may begin work on July 1st, 2023. The completion date for this project is October 15th, 2023.

ITEM No. 6: The selected contractor shall grade Dike 2 at sta. 19+00 - 19+50 at a slope 10:1 back down to existing roadway.

ITEM No. 7: Existing road access will be closed to the public once the project starts. The selected contractor shall maintain road access for oil companies with existing oil rigs near the project site.

ITEM No. 8: Compaction testing will not be required for this project. The selected contractor shall roll the entire dike system with a sheepsfoot roller once over, prior to final grade being met.

ITEM No. 9: Indiana DNR will mow project site prior to July 1st start date.

ITEM No. 10: Indiana DNR will remove gravel from roadway at sta. 19+00 – 32+35 on Dike 2.

ITEM No. 11: Two companies that are able to manufacture and deliver the water control structure outlined in design plans are as follows:

-Wisconsin Flow Gate and Culvert – 866-356-4283

-Energy Culvert – 618-942-7381

ITEM: No. 12: The following shall be omitted from Phase 1 bidding:

- 14" Schedule DR 11 HDPE, Cast-in-Place Reinforced Concrete, DU Class III Riprap, 1" Minus Base Rock, Pump Installation, Water Well Drilling, Supply of Electrical Power, and Dike and Access Road Surfacing.

END OF ADDENDUM

SIGN-IN SHEET

Hovey Lake – Behind Lake Wetland Restoration
ENG2202902412
Pre-Bid Meeting: 3/23/2023 @ Hovey Office and Teams

Name	Phone	Email	Business Name
Jomary Baller (Teams)	317-234-8731	jballer@dnr.IN.gov	DNR, Engineering
Zach Schoenherr	812-838-2927	zschoenherr@dnr.IN.gov	DNR, Fish & Wildlife
Todd Stearns (Teams)	317-499-2714	tstearns@dnr.IN.gov	DNR, Engineering
Jessie Baldwin (Teams)	270-452-2453	jessie.baldwin@naturaliri.com	Natural Renewable Innovations/Natural Resource Management Solutions
Chris Dornbusch (Teams)	812-329-9639	chrisd@tciturner.com	Turner Contracting Inc.
Chris Schaumberg (Teams)	317-838-9810	cschaumberg@williamscreekmgt.net	Williams Creek Mgmt. Corp
CJ Ransom (Teams)	812-719-3171	cransom@gruberinc.com	Gruber Industries Inc.
Justin Martin	812-836-4300	justin.martin@lutgringbros.com	Lutgring Bros., Inc.
Bret Lutgring	812-836-4300	bret.lutgring@lutgringbros.com	Lutgring Bros., Inc.
Brent Downen	812-845-2717	brent.d@bbidings.com	Blankenberger Bros.
Dan Langton	812-270-2758	Dlangton@russell-excavating.com	Russell's Excavating
Mark Wahl	812-499-9111	mwahl@russell-excavating.com	Russell's Exc.
Darren O'Risley	812-985-5974	dorisley@orisleyexcavating.com	O'Risley Exc.
CHRIS HAWKER	812-291-5156	chawker@K-Exc.com	KERNS EXCAVATING
Ryan Kerns	812-291-5156	Ryan@K-exc.com	Kerns Exc
Jerry Chastain	812-449-6400	Jerry.iii@Chastainexcavating.com	Chastain Excavating
Dexter Childress	812-683-1518	dchildress@omniearthworks.com	Omni earthworks
Phil Partenheimer	812-215-5005	ppartenheimer@kobersteins.com	Koberstein Contracting

AGENDA

Hovey Lake – Behind Lake Wetland Restoration
ENG2202902412
Pre-Bid Meeting: 3/23/2023 @ Hovey Office and Teams

Bids due: 1:31pm (Indianapolis Time), Tuesday, April 11, 2023. Bid opening via Teams @ 2:00pm. See Notice to Bidders (NTB)

Contractors must be prequalified by Indiana Department of Administration at time of bidding in one of the categories listed on the NTB

Include all required documents per the Instructions to Bidders including but not limited to:

Drug-Free Workplace Plan

MBE/WBE Good Faith Effort Worksheet

No Alternate Bids

Remediation Allowance = $5,000 – See Section 01020 of Specifications

Construction Period = October 15, 2023.

Bids are lump sum

No Wage Scale Requirement

Contractor must be a registered State Vendor before we can create a Purchase Order or make payment.

Project Scope: Phase 1 of the Hovey Lake Fish & Wildlife Area Wetland Project (Behind Lake) as shown on the plans. Includes but not limited to levees, ditches, water control structures, spillways, and well pads. Also includes implementation of the Stormwater Pollution Prevention Plan.

Contractor Questions to Zach Schoenherr by **noon on Wednesday, March 29**. zschoenherr@dnr.IN.gov

Check website for addenda, meeting notes, etc.

MEETING NOTES

Work cannot begin until July 1, 2023 due to habitat issues. Work should be completed to allow seeding by October 15, 2023.

Bid only includes work associated with Phase 1.

Owner will purchase and install surface rock and riprap

All permits have been obtained by the Owner.

Work associated with the well will not be included in this project. Only the dirt bumpout for future installation as shown in the grading plan. No concrete pad or utilities for the well.

Most of phase 1 work is shown on plan sheet 2 and 6

Temporary and permanent seeding to be performed by the Contractor.

Borrow for berm construction in phase 1 located in Unit 1 and a portion of Unit 3 as shown on the plans

Designer (Ducks Unlimited) will perform construction staking as needed.

AutoCad files can be obtained by requesting from Designer Ryan Conley @ rconley@ducks.org. Designer will confirm format due to password protected document.

Articulated trucks can be used on site. Access may need stabilized with rock at Contractor discretion. All disturbed areas to be restored back to original condition, except for improvements shown on the plans.

"Grade to Drain" = grade to drain toward existing 36" culvert

2 water control structures in Phase 1 (#1 and #3). Addenda will be issued to specify potential suppliers for this specific, aluminum structure.

1 24" x 80' culvert included in Phase 1 as shown on plans.

No tree clearing in Phase 1. Currently an agricultural field.

Stormwater Pollution Prevention Plan implementation is responsibility of the Contractor. Local SWCD staff will inspect periodically for compliance. Seeding/stabilization of berm required every 300' linear feet of berm completion. Ditch also must be seeded and stabilized with erosion control blanket every 300' feet of completion. Borrow areas must be stabilized 1 acre at a time. Any dewatering will require dewatering bags. Addenda will be issued with pertinent specifications of the plan.

Striping of topsoil is not a concern for this project.

*Compaction testing will be required. No soils report available. Requirements to be clarified in addenda. (see updated note at bottom of page)

DNR will mow and disc site prior to July 1 in attempt to dry out the site.

No keyway is required in the berm.

All vegetation along perimeter of project area must be left in place. No silt fence required; vegetation acts as natural buffer.

Survey control points will be reestablished by Designer prior to July 1.

Designer estimates 8 acres of seeding for project elements. This does not include haul routes or borrow areas. Contractor must account for seeding of these areas, too.

All quantities are estimates. The bid is lump sum. Contractor should confirm quantities to perform work as shown on the plans.

Bid items Pipe Installation – 14" Schedule DR 11 HDPE, Cast-in-Place Reinforced Concrete, DU Class III Riprap, 1" Minus Base Rock, Pump Installation, Water Well Drilling, Supply of Electrical Power, and Dike and Access Road Surfacing shall all be omitted from Phase 1 bidding.

Indiana DNR will remove gravel from roadway at sta. 19+00 – 32+35 on Dike 2.

The selected contractor shall grade Dike 2 at sta. 19+00 – 19+50 at a 10:1 slope back down to existing roadway.

Existing access will be closed to public. The selected contractor shall maintain access for oil companies with existing oil rigs near the project site.

*After the meeting, it was decided that soil compaction testing will not be required for this project. Sufficient soil compaction will be achieved with the use of a sheepsfoot roller. Contractor will be required to roll the entirety of the dike system once over, prior to final grade being met.

Addenda will be posted to DNR website at least 7 days prior to bid date.
https://www.in.gov/dnr/engineering/bidding/

BEHIND LAKE

HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

IN COOPERATION WITH

INDIANA DEPARTMENT OF NATURAL RESOURCES

PROJECT LOCATION MAP

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER
2	SPECIFICATIONS, NOTES, AND QUANTITIES
3	SCHEDULES
4	EXISTING COND. & TOPO
5	SITE PLAN
6	PHASE 1 (UNIT 1) SITE PLAN
7	PHASE 2 (UNIT 3) SITE PLAN
8	PHASE 3 (UNIT 2) SITE PLAN
9	WELL SITE PLAN
10	HDPE PIPE PROFILES
11	DIKE ALIGNMENT TABLES
12	DITCH ALIGNMENT TABLES
13 - 14	PROFILES - DIKE 1
15 - 16	PROFILES - DIKE 2 (BASE RD.)
17	PROFILES - DIKE 3
18	PROFILES - DIKE 4
19	PROFILES - DIKE 5
20 - 22	PROFILES - UNIT 1 BORROW DITCH
23	PROFILES - UNIT 2 BORROW DITCH
24	PROFILES - UNIT 3 BORROW DITCH 1
25	PROFILES - UNIT 3 BORROW DITCH 2
26	PROFILES - UNIT 3 BORROW DITCH 3
27	PROFILES - UNIT 3 BORROW DITCH 4
28 - 29	WCS DETAILS
30	WELL PAD DETAILS
31	WELL DETAILS
32	GEN. DETAILS

Know what's **below.** **Call before you dig.**

GREAT LAKES/ATLANTIC REGIONAL OFFICE
7322 NEWMAN BOULEVARD, BUILDING 1
DEXTER, MICHIGAN 48130
(734) 623-2000
www.ducks.org
DUCKS UNLIMITED

AFFIX SEAL: DUCKS UNLIMITED, INC.

ON:

COVER
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

CAD FILE: IN-125-3 Cover and Specs

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DUCKS UNLIMITED, INC. SHALL NOT ASSUME ANY RESPONSIBILITY FOR THE SAFETY OF THE WORK PERFORMED, PERSONS ENGAGED IN THE WORK, NEARBY STRUCTURES, OR OF OTHER PERSONS ON-SITE. THIS MATERIAL, DATA AND INFORMATION IS THE PROPERTY OF DUCKS UNLIMITED, INC. IT MAY NOT BE USED OR REPRODUCED FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF AN AUTHORIZED AGENT OF DUCKS UNLIMITED, INC. DUCKS UNLIMITED, INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS MATERIAL, DATA AND INFORMATION, INCLUDING, BUT NOT LIMITED TO, THE ACCURACY OF THE MATERIAL, DATA AND INFORMATION OR ITS SUITABILITY FOR ANY PURPOSE. ALL USE IS AT THE USERS SOLE RISK. BY USING ANY OF THIS MATERIAL, DATA AND INFORMATION, USER AGREES THAT DUCKS UNLIMITED, INC. IS NOT RESPONSIBLE FOR THEIR USE OF THE MATERIAL, DATA AND INFORMATION OR THE RESULTS THEREOF.
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

k:\plano c3d projects\in-125-3 behind lake\c3d_drawing\IN-125-3 Cover and Specs.dwg, 10/25/2022 4:43 PM, Bradley Kullmann, Cover Sheet, None

ESTIMATED QUANTITIES

NOTE	SPEC #	DESCRIPTION	UNIT	PHASE 1	PHASE 2	PHASE 3
1	201	MOBILIZATION	LS	1	1	1
2	202	SITE PREPARATION - TREE REMOVAL	AC	-	-	4
3	204	EMBANKMENT CONSTRUCTION	CY	49,291	18,615	13,465
4	301	WATER CONTROL STRUCTURE - 24"	EA	2	-	1
5	303	CULVERT INSTALLATION - 12"	LF	-	55	-
5	303	CULVERT INSTALLATION - 24"	LF	80	-	-
~~6~~	~~303~~	~~PIPE INSTALLATION - 14" SCHEDULE DR 11 HDPE~~	~~LF~~	~~335~~	-	-
~~7~~	~~304~~	~~CAST-IN-PLACE REINFORCED CONCRETE~~	~~CY~~	~~2~~	-	-
~~8~~	~~305~~	~~DU CLASS III RIPRAP~~	~~TN~~	~~1,477~~	507	805
~~9~~	~~305~~	~~1" MINUS BASE ROCK~~	~~TN~~	~~4~~	0	-
~~10~~	~~311~~	~~REMOVAL OF EXISTING CULVERTS~~	~~EA~~	~~1~~	1	-
~~11~~	~~313~~	~~PUMP INSTALLATION~~	~~EA~~	~~1~~	-	-
~~12~~	~~314~~	~~WATER WELL DRILLING~~	~~EA~~	~~1~~	-	-
~~13~~	~~315~~	~~SUPPLY OF ELECTRICAL POWER~~	~~LS~~	~~1~~	-	-
~~14~~	~~316~~	~~DIKE AND ACCESS ROAD SURFACING~~	~~TN~~	~~1,209~~	1,811	45
15	401	SOIL EROSION AND POLLUTION CONTROL	LS	1	1	1
16	402	SEEDING AND MULCHING	AC	8	4	3
17	404	TRAFFIC MAINTENANCE AND CONTROL	LS	1	1	1
18		36"X36" W8-2 DIP WARNING SIGNS	EA	2	2	-

LEGEND

- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL
- DITCH ℄
- DIKE ℄
- MAJOR CONTOUR
- MINOR CONTOUR
- TREE LINE
- UTILITY POLE
- OVERHEAD ELECTRIC
- EXISTING FIELD BOUNDARY
- EX. BASE RD. AND EX. ACCESS ROADS
- EX. OIL RIG PLATFORM
- PROPOSED DITCH
- PROPOSED DIKE
- PROPOSED WCS AND WELL PAD
- EX. HUNTING PIT
- PROPOSED FULL SERVICE LEVEL (FSL)
- PROPOSED RIPRAP
- PROPOSED BORROW AREA
- PROPOSED DIKE AND ROAD SURFACING

CONSTRUCTION NOTES:

1. BID ITEM FOR MOBILIZATION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL AND EQUIPMENT TO TRANSPORT ALL NEEDED LABOR, MATERIAL AND EQUIPMENT, TO AND FROM A PROJECT SITE, TO SUCCESSFULLY COMPLETE THAT PROJECT AS SHOWN ON THE PLANS.

2. BID ITEM FOR SITE PREPARATION - TREE REMOVAL SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR TREE CLEARING AND GRUBBING AS SHOWN ON THE PLANS. THE WORK SHALL INCLUDE THE REMOVAL OF ALL TREES, ROOTS, AND OTHER SURFACE LITTER IN ITS ENTIRETY.

3. BID ITEM FOR EMBANKMENT CONSTRUCTION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO EXCAVATE, HAUL, PLACE, AND COMPACT FILL MATERIAL TO CONSTRUCT EARTHWORK, AS SHOWN ON THE PLANS AND AS STAKED IN THE FIELD. ANY MATERIAL EITHER NEEDED OR REMAINING FROM THIS OPERATION SHALL BE UTILIZED FROM THE PROPOSED BORROW AREA.

4. BID ITEM FOR WATER CONTROL STRUCTURES - 24" SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PURCHASE AND INSTALL THE WATER CONTROL STRUCTURES. ANY CONDUIT, APPURTENANCES, AND HARDWARE NEEDED FOR THE WATER CONTROL STRUCTURES ARE CONSIDERED INCIDENTAL TO THE BID ITEM WATER CONTROL STRUCTURES - 24".

5. BID ITEM FOR CULVERT INSTALLATION - 12" & 24" SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PURCHASE AND INSTALL REQUIRED CULVERTS AS SHOWN ON THE PLANS.

6. BID ITEM FOR PIPE INSTALLATION - 14" SCHEDULE DR 11 HDPE SHALL INCLUDE THE SUPPLY OF LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO PURCHASE AND INSTALL 14" SCHEDULE DR 11 HDPE PIPE AS SHOWN ON THE PLANS. THIS BID ITEM SHALL INCLUDE ALL THRUST BLOCKS, FITTINGS, HARDWARE, VALVES, AND VENTS AS SHOWN ON THE PLANS. THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO FUSE WELD, PLACE, AND BACKFILL 14" SCHEDULE DR 11 HDPE PIPE SHALL BE CONSIDERED INCIDENTAL TO BID ITEM PIPE INSTALLATION - 14" SCHEDULE DR 11 HDPE.

7. BID ITEM FOR CAST-IN-PLACE REINFORCED CONCRETE SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE CONSTRUCTION AS SHOWN IN PLANS. **[TO BE COMPLETED IN A SEPARATE CONTRACT]**

8. BID ITEM FOR DU CLASS III RIPRAP SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL BID ITEM AS SHOWN ON THE PLANS. NON-WOVEN FILTER FABRIC IS REQUIRED BENEATH ALL ROCK/RIPRAP AND SHALL BE SECURED TO SLOPES AND BOTTOMS, USING PINS AS NOTED IN SPECIFICATION 305. QUANTITY IS BASED ON TONS. CONTRACTOR SHALL PROVIDE SCALE TICKETS WITH WEIGHTS INCLUDING TARE WEIGHTS, GROSS WEIGHTS, AND NET WEIGHTS OF MATERIAL DELIVERED. **[TO BE COMPLETED BY INDIANA DNR]**

9. BID ITEM FOR 1" MINUS BASE ROCK SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL BID ITEM AS SHOWN ON THE PLANS. NON-WOVEN FILTER FABRIC IS REQUIRED BENEATH ALL ROCK/RIPRAP AND SHALL BE SECURED TO SLOPES AND BOTTOMS, USING PINS AS NOTED IN SPECIFICATION 305. QUANITY IS BASED ON TONS. CONTRACTOR SHALL PROVIDE SCALE TICKETS WITH WEIGHTS INCLUDING TARE WEIGHTS, GROSS WEIGHTS, AND NET WEIGHTS OF MATERIAL DELIVERED. PROPER ENGINEER APPROVED COMPACTION EFFORT OF 1" MINUS BASE ROCK WILL BE REQUIRED UNDER ALL SLABS AND STRUCTURES. **[TO BE COMPLETED IN A SEPARATE CONTRACT]**

10. BID ITEM FOR REMOVAL OF EXISTING CULVERTS SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT TO SUCCESSFULLY REMOVE EXISTING CULVERTS ACCORDING TO PLANS. ALL REMOVED STRUCTURES/CULVERTS SHALL BE REMOVED FROM SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR.

11. BID ITEM FOR PUMP INSTALLATION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PURCHASE AND INSTALL PROPOSED PUMP AS SHOWN ON PLANS. **[TO BE COMPLETED IN A SEPARATE CONTRACT]**

12. BID ITEM FOR WATER WELL DRILLING SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE INSTALLATION OF THE WATER WELLS AND ASSOCIATED EQUIPMENT AS SHOWN ON THE PLANS. **[TO BE COMPLETED IN A SEPARATE CONTRACT]**

13. BID ITEM FOR SUPPLY OF ELECTRICAL POWER SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PROVIDE ELECTRICAL POWER TO WELL AS SHOWN ON PLANS. BID ITEM SHALL ALSO INCLUDE THE CONSTRUCTION OF ELEVATED PLATFORM FOR ELECTRICAL CONTROL PANELS AS SHOWN IN PLANS. PLATFORM MUST ADHERE TO IDNR AND POSEY COUNTY STANDARD CONSTRUCTION CODES. **[TO BE COMPLETED IN A SEPARATE CONTRACT]**

14. BID ITEM FOR DIKE AND ACCESS ROAD SURFACING SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO INSTALL BID ITEM AS SHOWN ON PLANS. BID ITEM FOR DIKE AND ACCESS ROAD SURFACING SHALL BE 1" MINUS CRUSHED ROCK OR ENGINEER APPROVED EQUAL. QUANTITY IS BASED ON TONS. CONTRACTORS SHALL PROVIDE SCALE TICKETS WITH WEIGHTS INCLUDING TARE WEIGHTS, GROSS WEIGHTS, AND NET WEIGHTS OF MATERIAL DELIVERED. **[TO BE COMPLETED BY INDIANA DNR]**

15. THE BID ITEM FOR SOIL EROSION AND POLLUTION CONTROL SHALL INCLUDE THE SUPPLY, INSTALLATION, AND MAINTENANCE OF ALL MATERIALS, IN COMPLIANCE WITH THE INDIANA DEPARTMENT OF NATURAL RESOURCES. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF WORK, AND WILL BE MAINTAINED UNTIL FINAL STABILIZATION OF THE SITE. CONTRACTOR SHALL MAINTAIN, INSPECT, AND PROVIDE ALL PROPER RECORDING AND REPORTING ACCORDING TO THE PERMIT REGULATIONS.

16. BID ITEM FOR SEEDING AND MULCHING SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO PURCHASE AND SPREAD SEED AND MULCH ON ALL DISTURBED AREAS. IDNR TO PROVIDE MIXTURE TYPE FOR CONTRACTOR TO PURCHASE FOR THE PROJECT.

17. BID ITEM FOR TRAFFIC MAINTENANCE AND CONTROL SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CLOSE BASE RD. DURING CONSTRUCTION. APPROPRIATE ENGINEER APPROVED SIGNS AND TYPE III BARRICADES, WARNING OF ROAD CLOSED, SHALL BE INSTALLED AND MAINTAINED THROUGH OUT CONSTRUCTION PROJECT.

18. BID ITEM FOR 36"X36" W8-2 DIP WARNING SIGNS SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL WARNING SIGNS AS SHOWN ON PLANS. W8-2 DIP WARNING SIGNS SHALL BE RETROREFLECTIVE AND CONFORM TO MUTCD STANDARDS.

GENERAL NOTES:

1. CONTRACTOR SHALL PLACE ALL STUMPS, TREES, AND LIMBS IN A STOCK PILE LOCATION AT DIRECTION OF INDIANA DNR. CONTRACTOR SHALL COORDINATE WITH INDIANA DNR FOR A STOCKPILE LOCATION.

2. ALL CONCRETE SHALL BE NORMAL WEIGHT, HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, 4% - 6% AIR ENTRAINMENT, AND 1" - 4" SLUMP.

3. DEWATERING AND WATER MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY, AND IS CONSIDERED INCIDENTAL TO THE PROJECT.

4. COSTS ASSOCIATED WITH CREATING/IMPROVING AREAS FOR STAGING IS CONSIDERED INCIDENTAL TO THE PROJECT. CONTRACTOR WILL BE REQUIRED TO SEED AND MULCH ALL CREATED/IMPROVED STAGING AREAS BEFORE COMPLETION OF PROJECT.

5. CONTRACTOR(S) SHALL ROUND AND TAPER ALL DIKE AND DITCH ENDS AT CONSTRUCTION LIMITS BETWEEN PHASES.

6. THE CONTRACTOR WILL BE REQUIRED TO USE MACHINE CONTROL FOR THIS PROJECT. THE CONTRACTOR WILL BE PROVIDED WITH FINISHED GROUND SURFACES. ADDITIONAL CONTROL POINTS WILL BE ESTABLISHED IN THE FIELD AS NEEDED FOR MACHINE CONTROL USAGE PRIOR TO CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR TYING INTO DUCKS UNLIMITED SURVEY CONTROL POINTS, EQUIP HEAVY EQUIPMENT, AND PERFORM THE WORK AS OUTLINED IN THESE PLANS.

INDIANA DNR WATERWAY PERMIT CONDITIONS:

1. DNR PROJECT SPECIFIC PERMIT CONDITIONS

   1.1. REVEGETATE ALL BARE AND DISTURBED AREAS WITH A MIXTURE OF NATIVE GRASSES, SEDGES, WILDFLOWERS, AND ALSO NATIVE HARDWOOD TREES AND SHRUBS IF ANY WOODY PLANTS ARE DISTURBED DURING CONSTRUCTION AS SOON AS POSSIBLE UPON COMPLETION. DO NOT USE ANY VARIETIES OF TALL FESCUE OR OTHER NON-NATIVE PLANTS, INCLUDING PROHIBITED INVASIVE SPECIES (SEE 312 IAC 18-3-25).
   1.2. MINIMIZE AND CONTAIN WITHIN THE PROJECT LIMITS INCHANNEL DISTURBANCE AND THE CLEARING OF TREES AND BRUSH.
   1.3. DO NOT WORK IN THE WATERWAY FROM APRIL 1 THROUGH JUNE 30 WITHOUT THE PRIOR WRITTEN APPROVAL OF THE DIVISION OF FISH AND WILDLIFE.
   1.4. APPROPRIATELY DESIGNED MEASURES FOR CONTROLLING EROSION AND SEDIMENT MUST BE IMPLEMENTED TO PREVENT SEDIMENT FROM ENTERING THE STREAM OR LEAVING THE CONSTRUCTION SITE; MAINTAIN THESE MEASURES UNTIL CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED.
   1.5. SEED AND PROTECT ALL DISTURBED STREAM BANKS AND SLOPES NOT PROTECTED BY OTHER METHODS THAT ARE 3:1 OR STEEPER WITH EROSION CONTROL BLANKETS THAT ARE HEAVY-DUTY, BIODEGRADABLE, AND NET FREE OR THAT USE LOOSE-WOVEN / LENO-WOVEN NETTING TO MINIMIZE THE ENTRAPMENT AND SNARING OF SMALL-BODIED WILDLIFE SUCH AS SNAKES AND TURTLES (FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR SELECTION AND INSTALLATION); SEED AND APPLY MULCH ON ALL OTHER DISTURBED AREAS.
   1.6. SUBMIT AS-BUILT PLANS, SIGNED, AND STAMPED BY A PROFESSIONAL ENGINEER, CERTIFYING THAT THE LEVEE WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND RECOMMENDATIONS TO THE DIVISION OF WATER, IDNR WITHIN 6 MONTHS OF PROJECT COMPLETION.
   1.7. NOTE: THIS APPROVAL IS ISSUED BASED ON THE TYPICAL REVIEW PROCESS PURSUANT TO INDIANA CODE 14-28-1 AND IN NO WAY IMPLIES THAT THE PROPOSED PROJECT MEETS ANY CERTIFICATION STANDARDS OR COMPLIES WITH OR IS EXEMPT FROM OTHER STATE OR FEDERAL REQUIREMENTS.
   1.8. EXCEPT FOR THE MATERIAL USED AS BACKFILL AS SHOWN ON THE PLANS SUBMITTED FOR THE PERMIT APPLICATION, PLACE ALL EXCAVATED MATERIAL LANDWARD OF THE FLOODWAY*.
   1.9. DO NOT LEAVE FELLED TREES, BRUSH, OR OTHER DEBRIS IN THE FLOODWAY*.
   1.10. UPON COMPLETION OF THE PROJECT, REMOVE ALL CONSTRUCTION DEBRIS FROM THE FLOODWAY*.
   1.11. OBTAIN THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT FOR ANY ADDITIONAL CONSTRUCTION, EXCAVATION OR FILLING IN OR ON THE FLOODWAY* BEYOND THE SCOPE OF THE PROJECT.
   1.12. NOTE: FOR REGULATORY PURPOSES, THE FLOODWAY IS DEFINED ON THE ATTACHED FLOODWAY MAP.
   1.13. PLEASE NOTE, SHOULD THE SCOPE OF THE PROJECT CHANGE TO ALTER THE LAND AND WATER CONSERVATION FUND (LWCF) SITE IN ANY WAY THAT IS NOT INTENDED FOR OUTDOOR RECREATION USE, THE DNR, DIVISION OF OUTDOOR RECREATION MUST BE CONTACTED AT 317-232-4075 OR BBRONSON@DNR.IN.GOV

2. DNR PROJECT GENERAL PERMIT CONDITIONS

   2.1. ANY MODIFICATIONS OR ADDITIONAL CONSTRUCTION BEYOND WHAT WAS SHOWN ON PLANS RECEIVED AT THE DIVISION OF WATER SHALL REQUIRE AN ADDITIONAL REVIEW AND APPROVAL FROM THE DEPARTMENT OF NATURAL RESOURCES.
   2.2. THIS PERMIT MUST BE POSTED AND MAINTAINED AT THE PROJECT SITE UNTIL THE PROJECT IS COMPLETED.
   2.3. THIS PERMIT SHALL NOT BE ASSIGNED OR TRANSFERRED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT OF NATURAL RESOURCES.
   2.4. IF ANY PREHISTORIC OR HISTORIC ARCHAEOLOGICAL ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION, DEMOLITION, OR EARTHMOVING ACTIVITIES, STATE LAW {INDIANA CODE 14-21-1-27 AND 29) REQUIRES THAT THE DISCOVERY MUST BE REPORTED TO THE DEPARTMENT OF NATURAL RESOURCES WITHIN TWO (2) BUSINESS DAYS.
   2.5. THIS PERMIT MAY BE REVOKED BY THE DEPARTMENT OF NATURAL RESOURCES FOR VIOLATION OF ANY CONDITION OR APPLICABLE STATUTE OR RULE.
   2.6. THE DEPARTMENT OF NATURAL RESOURCES SHALL HAVE THE RIGHT TO ENTER UPON THE SITE OF THE PERMITTED ACTIVITY FOR THE PURPOSE OF INSPECTING THE WORK AUTHORIZED UNDER THIS PERMIT.

*SEE PERMIT FOR ADDITIONAL ATTACHMENTS AND INFORMATION.

SPECIFICATIONS

101 GENERAL CONDITIONS
102 SUPPLEMENTAL CONDITIONS
201 MOBILIZATION
202 SITE PREPARATION
203 EXCAVATION
204 EMBANKMENT CONSTRUCTION
301 WATER CONTROL STRUCTURES
302 STRUCTURE AND CULVERT APPURTENANCES
303 CULVERT AND PIPE INSTALLATION
304 CAST-IN-PLACE REINFORCED CONCRETE
305 RIPRAP, REVETMENT AND AGGREGATE PLACEMENT
311 REMOVAL OF EXISTING CULVERTS AND STRUCTURES
313 PUMP INSTALLATION
314 WATER WELL DRILLING
315 SUPPLY OF ELECTRICAL POWER
316 DIKE AND ROAD SURFACING
401 SOIL EROSION AND POLLUTION CONTROL
402 SEEDING AND MULCHING
404 TRAFFIC MAINTENANCE AND CONTROL

BIDDING NOTES: PHASE 1

1. BID ITEMS DU CLASS III RIPRAP, 1" MINUS BASE ROCK, DIKE AND ACCESS ROAD SURFACING, ~~AND SEEDING AND MULCHING~~ WILL BE COMPLETED BY INDIANA DNR AND SHALL BE OMITTED FROM THE BID FOR PHASE 1.

2. BID ITEMS PIPE INSTALLATION - 14" SCHEDULE DR 11 HDPE, CAST-IN-PLACE REINFORCED CONCRETE, PUMP INSTALLATION, WATER WELL DRILLING, AND SUPPLY OF ELECTRICAL POWER WILL BE COMPLETED IN A SEPARATE CONTRACT AND SHALL BE OMITTED FROM THE BID FOR PHASE 1.

3. QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SPECIFIED ON THE PLAN SET. THE CONTRACT SHALL BE BID AS A LUMP SUM OF ALL BID ITEMS LISTED IN THE BID FOR PHASE 1.

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ON:

SPECIFICATIONS, NOTES, AND QUANTITIES
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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CAD FILE: IN-125-3 Cover and Specs
DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3

DU CLASS III RIPRAP, 1" MINUS BASE ROCK, DIKE AND ROAD SURFACING SCHEDULE

PHASE 1

LOCATION	DU CLASS III RIPRAP (TN)	1" MINUS BASE ROCK - CA6 (TN)	DIKE AND ACCESS ROAD SURFACING (TN)
UNIT 1 SPILLWAY	879	-	45
UNIT 3 SOUTH SPILLWAY	501	-	-
UNIT 1 WCS	17	-	-
UNIT 3 WCS	17	-	-
UNIT 3 DRAINAGE DITCH 24" CULVERT	17	-	-
UNIT 1 WELL OUTLET	17	-	-
UNIT 2 WELL OUTLET	12	-	-
UNIT 3 WELL OUTLET	17	-	-
CONCRETE WELL PAD BASE	-	4	-
DIKE 2 (BASE RD.) STA 19+00 - 32+35	-	-	1,254
PHASE 1 TOTALS	1,477	4	1,299

PHASE 2

LOCATION	DU CLASS III RIPRAP (TN)	1" MINUS BASE ROCK (TN)	DIKE AND ACCESS ROAD SURFACING (TN)
UNIT 3 NORTH SPILLWAY	498	-	-
UNIT 3 NORTH 12" CULVERT	9	-	-
DIKE 2 (BASE RD.) STA 0+00 - 19+00	-	-	1,493
DIKE 5 PARKING LOT AND BOAT RAMP	-	-	318
PHASE 2 TOTALS	507	0	1,811

PHASE 3

LOCATION	DU CLASS III RIPRAP (TN)	1" MINUS BASE ROCK (TN)	DIKE AND ACCESS ROAD SURFACING (TN)
UNIT 2 SPILLWAY	788	-	45
UNIT 2 WCS	17	-	0
PHASE 3 TOTALS	805	0	45
PROJECT TOTALS	2,789	4	3,155

*DIKE AND ACCESS ROAD SURFACING FOR UNIT 3 SPILLWAYS NORTH AND SOUTH INCLUDED IN DIKE 2(BASE RD.)

REMOVAL OF EXISTING CULVERTS SCHEDULE

PHASE 1

LOCATION	Ø (INCHES)	LENGTH (FT)
BASE RD. STA 21+95	36	38

PHASE 2

LOCATION	Ø (INCHES)	LENGTH (FT)
BASE RD. STA 6+90 - 7+20 19' LT	18	30

CULVERT INSTALLATION SCHEDULE

PHASE 1

LOCATION	Ø (INCHES)	UPSTREAM INV.	DOWNSTREAM INV.	LENGTH (FT)
DIKE 1 STA 25+00	24	346.0'	345.9	80

PHASE 2

LOCATION	Ø (INCHES)	UPSTREAM INV.	DOWNSTREAM INV.	LENGTH (FT)
DIKE 5 STA 1+60	12	350.2'	350.2'	55

EMBANKMENT CONSTRUCTION SCHEDULE

PHASE 1

FILL LOCATION	FILL (CY)	BORROW LOCATION	EMBANKMENT CONSTRUCTION (BORROW) (CY)
DIKE 1 STA 0+00 - 26+00	25,949	UNIT 1 BORROW DITCH STA 0+00 - 66+63	16,722
DIKE 2 (BASE RD.) STA 19+00 - 32+35	9,521	UNIT 1 BORROW AREA	12,798
DIKE 4 STA 0+00 - 12+38	5,392	UNIT 3 BORROW DITCH 1 STA 0+00 - 15+17	564
DIKE 2 WELL PAD	2,000	UNIT 3 BORROW DITCH 2 STA 0+00 - 1+75	79
UNIT 3 DRAINAGE DITCH 24" CULVERT	17	UNIT 3 BORROW DITCH 3 STA 0+00 - 17+25	1,720
-	-	UNIT 3 BORROW AREA 2	17,408
PHASE 1 FILL TOTAL	42,862	PHASE 1 EMBANKMENT CONSTRUCTION (BORROW) TOTAL (CY)	49,291

PHASE 2

FILL LOCATION	FILL (CY)	BORROW LOCATION	EMBANKMENT CONSTURCITON (BORROW) (CY)
DIKE 2 (BASE RD.) STA 0+00 - 19+00	4,864	UNIT 3 BORROW DITCH 2 STA 1+75 - 22+41	958
DIKE 3 STA 0+00 - 12+44	9,520	UNIT 3 BORROW DITCH 4 STA 0+00 - 12+59	1,020
DIKE 5 STA 0+00 - 2+56	720	UNIT 3 BORROW AREA 1	16,637
UNIT 3 DRAINAGE DITCH	1,083	-	-
PHASE 2 FILL TOTAL	16,187	PHASE 2 EMBANKMENT CONSTRUCTION (BORROW) TOTAL (CY)	18,615

PHASE 3

FILL LOCATION	FILL (CY)	BORROW LOCATION	EMBANKMENT CONSTRUCTION (BORROW) (CY)
DIKE 1 STA 26+00 - 43+01	11,709	UNIT 2 BORROW DITCH 0+00 - 22+35	1,782
-	-	UNIT 3 BORROW AREA 1	11,683
PHASE 3 FILL TOTAL	11,709	PHASE 3 EMBANKMENT CONTRUCTION (BORROW) TOTAL (CY)	13,465
PROJECT FILL TOTAL	70,758	PROJECT EMBANKMENT CONSTRUCTION TOTAL (CY)	81,371

*CUT/FILL RATIO = 115%

36"X36" W8-2 DIP WARNING SIGNS SCHEDULE

LOCATION	PHASE 1	PHASE 2	PHASE 3
BASE RD. STA 12+00 RT	-	1	-
BASE RD. STA 14+00 LT	-	1	-
BASE RD. STA 25+00 RT	1	-	-
BASE RD. STA 30+00 LT	1	-	-
TOTAL W8-2 DIP WARNING SIGNS	2	2	0

SEEDING AND MULCHING SCHEDULE

PHASE 1

LOCATION	ACRES
DIKE 1 STA 0+00 - 26+00	5.1
DIKE 2 (BASE RD.) STA 19+00 - 32+35	1.0
DIKE 4	1.9
PHASE TOTAL:	8.0 (8)

PHASE 2

LOCATION	ACRES
DIKE 2 (BASE RD.) STA 0+00 - 19+00	1.2
DIKE 3	2.0
DIKE 5	0.1
PHASE TOTAL:	3.3 (4)

PHASE 3

LOCATION	ACRES
DIKE 1 STA 26+00 - 43+01	2.2
PHASE TOTAL:	2.2 (3)

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k:\plano c3d projects\in-125-3 behind lake\c3d_drawing\IN-125-3 Cover and Specs.dwg, 10/25/2022 4:43 PM, Bradley Kullmann, Schedules, None

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ON:

SCHEDULES
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HOVEY LAKE FISH & WILDLIFE
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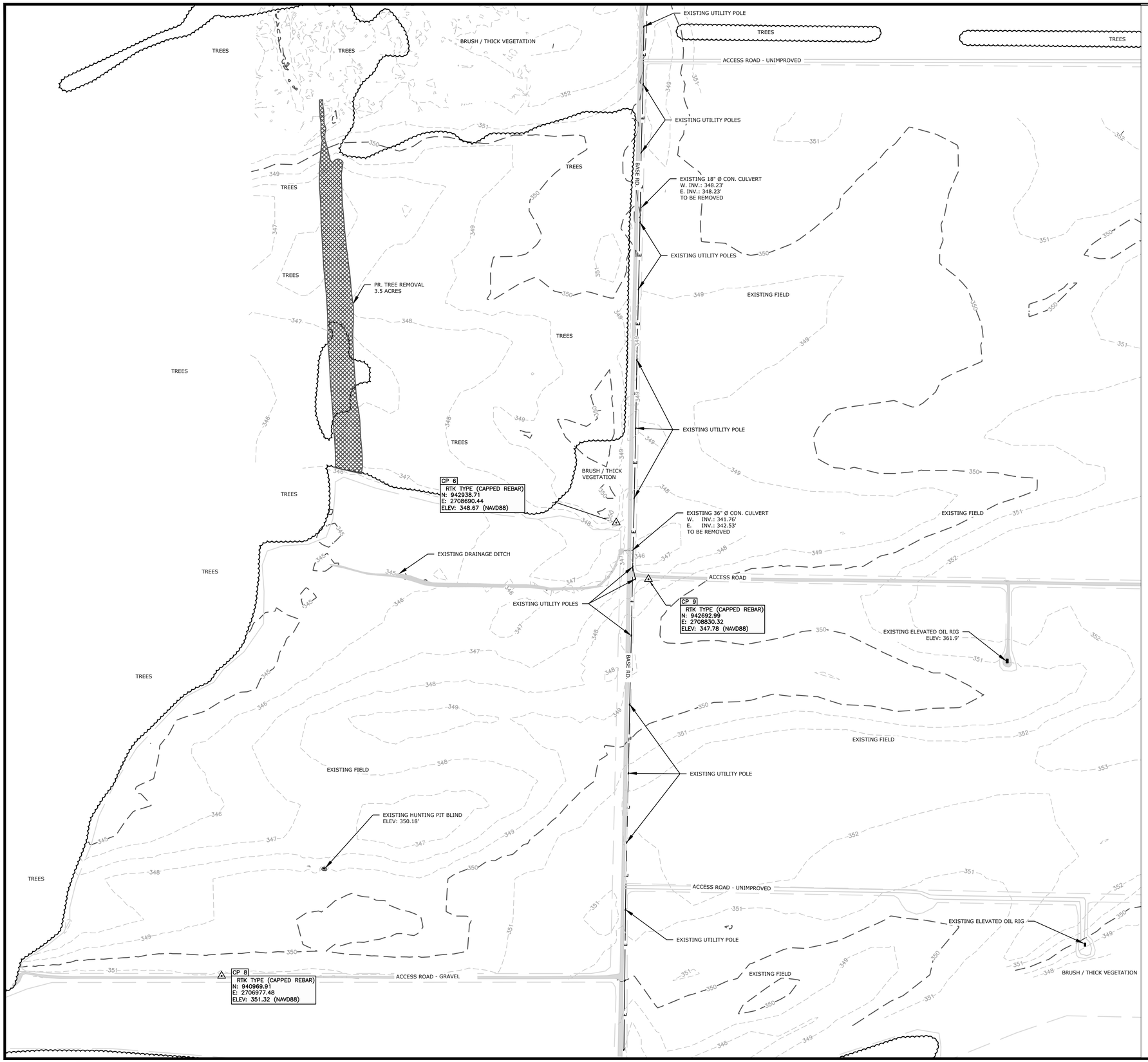
CAD FILE: IN-125-3 Cover and Specs
DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3



January 31, 2022

US–IN–125–3, Behind Lake
Topographic Survey Field Book: IN–125–3 Behind Lake

HORIZONTAL AND CONTROL
Coordinates are NAD 83 (CORS 2011), Indiana State Plane East Zone 3401, and units of measurement are in U.S. Survey Feet. Raw data was collected for 18 hours on January 24–25, 2022 using a Trimble R10 GPS Base Receiver, Trimble R10 GPS Rover, and Trimble R12 GPS Rover. Coordinates are established from Trimble R10 GPS base reciever and post processed with the NGS OPUS (National Geodetic Survey, Online Positioning User Service) solution for the occupied control point 9.

VERTICAL CONTROL
Elevations established from R10 GPS Base Reciever and post processed with the NGS OPUS solution for the occupied control point number 9. Vertical Datum was observed in NAVD 88, using GEOID18.

CONTROL POINT DATA

POINT #	ELEVATION	NORTH	EAST	DESCRIPTION
6	348.67	942938.71	2708690.44	SET CAPPED REBAR
8	351.32	940969.91	2706977.48	SET CAPPED REBAR
9	347.78	942692.99	2708830.32	SET CAPPED REBAR

GRAPHIC SCALE
200 0 100 200 400 800
1 inch = 200 feet

Know what's **below.** **Call** before you dig.

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ON:

EXISTING COND. & TOPO
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By

CAD FILE: IN-125-3 Existing Cond and Topo
DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3

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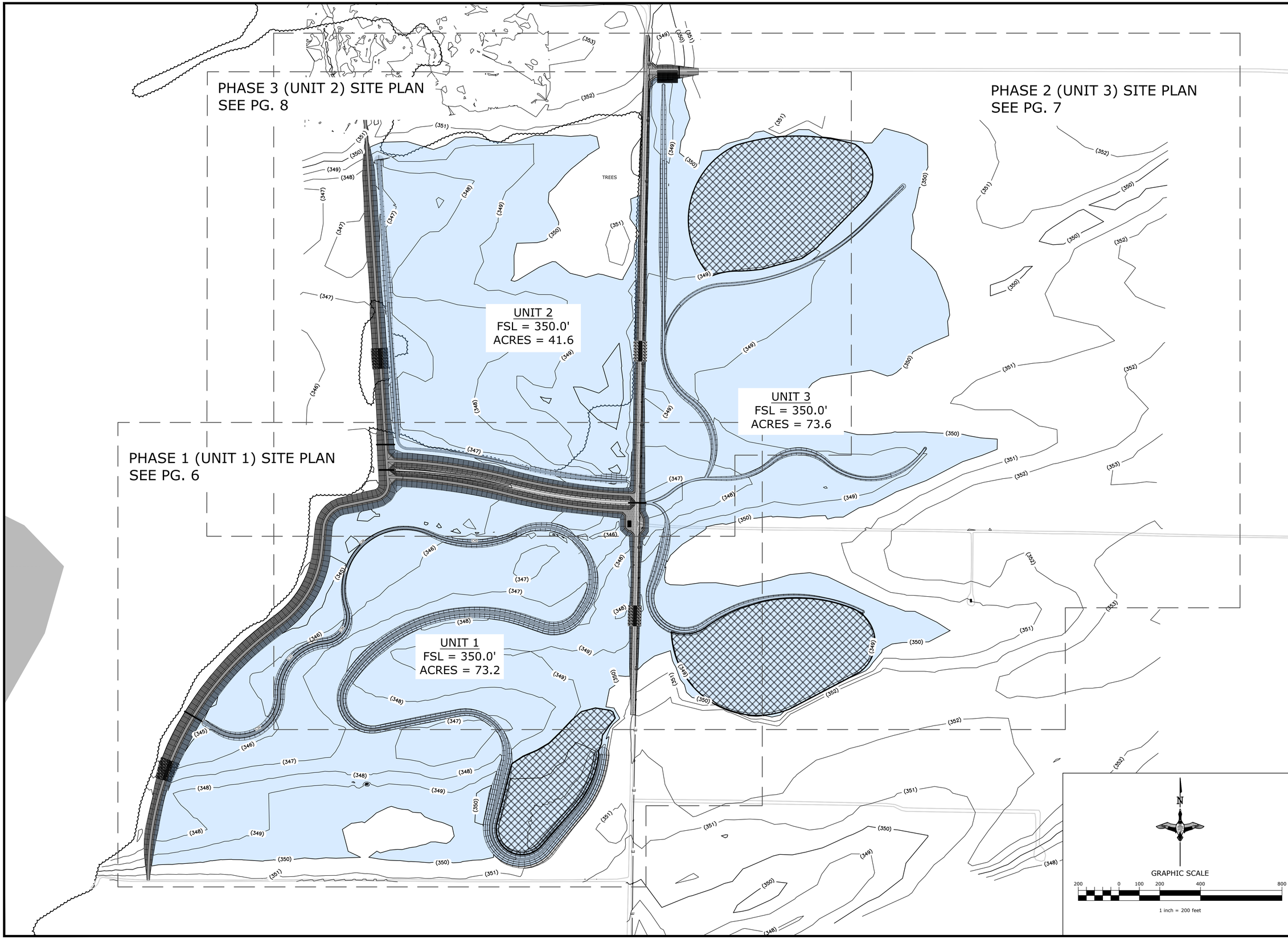
k:\giaro c3d projects\in-125-3 behind lake\c3d_drawing\IN-125-3 Existing Cond and Topo.dwg, 10/25/2022 4:43 PM, Bradley Kollmann, EXISTING COND. & TOPO, None



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ON:

SITE PLAN
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HOVEY LAKE FISH & WILDLIFE
AREA
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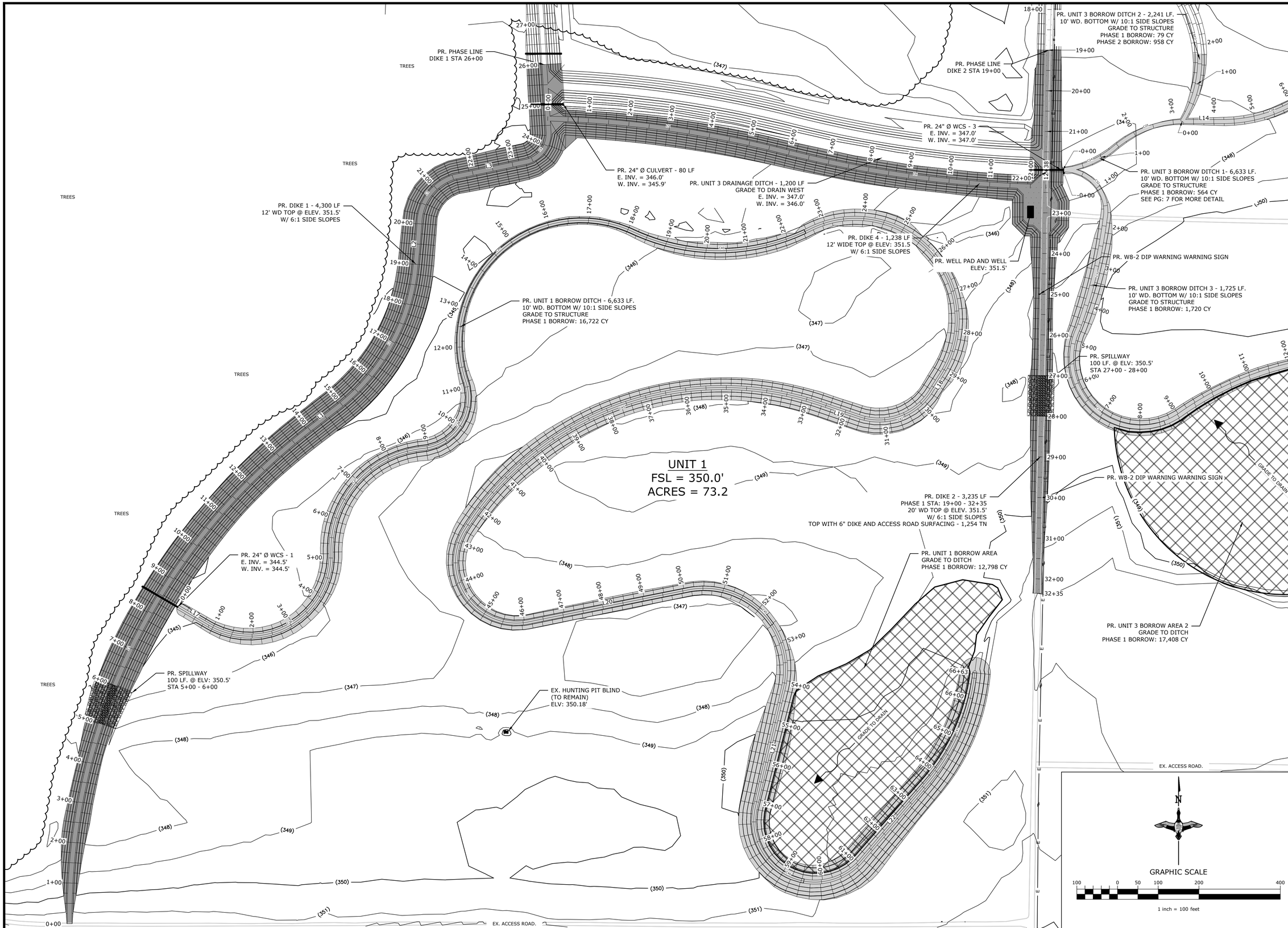
DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3



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PHASE 1 (UNIT 1) SITE PLAN
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

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CAD FILE: IN-125-3 Site Plan

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DRAWN BY: BK

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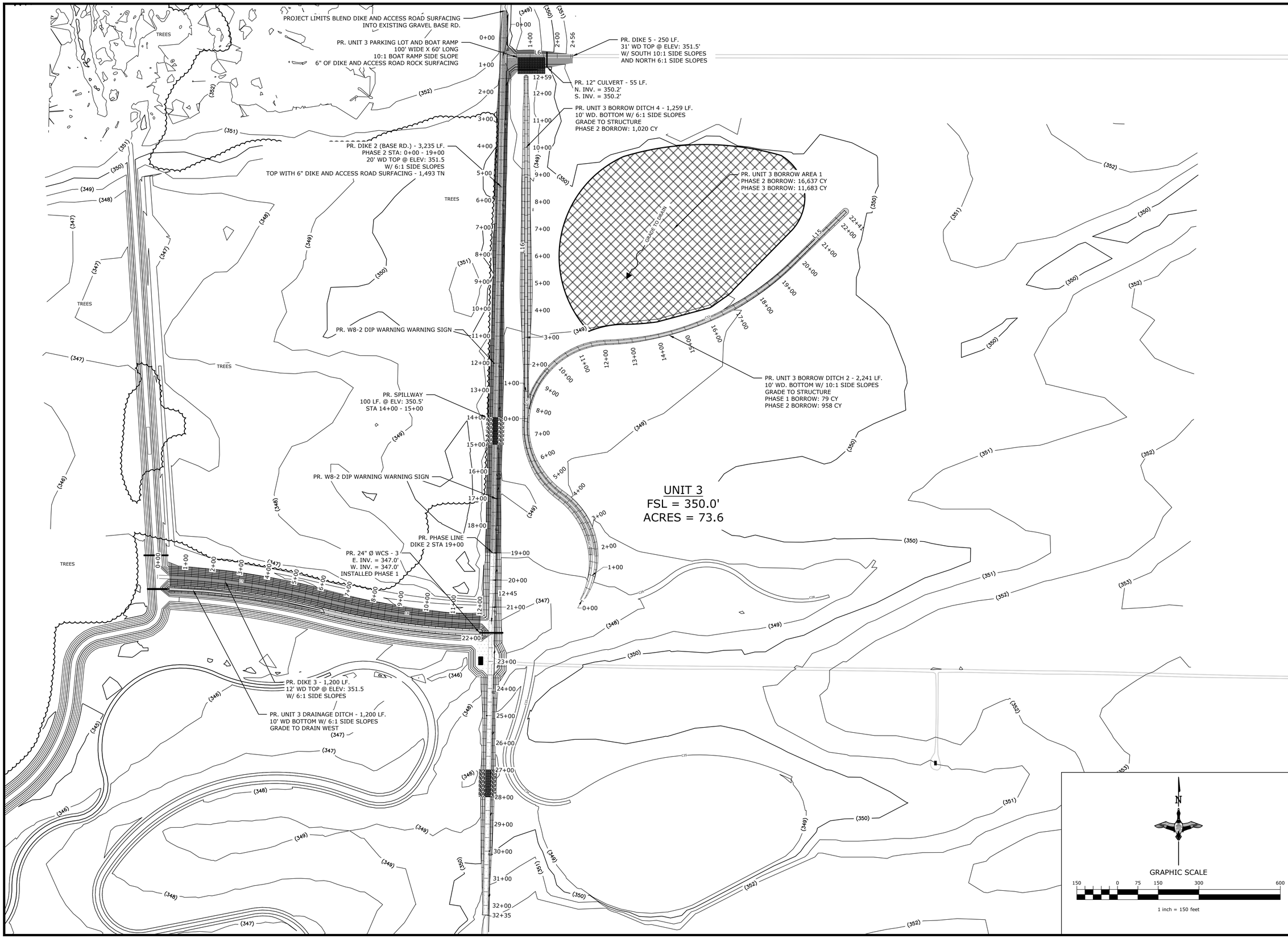

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ON:

PHASE 2 (UNIT 3) SITE PLAN
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

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CAD FILE: IN-125-3 Site Plan

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

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PROJECT NUMBER: US-IN-125-3

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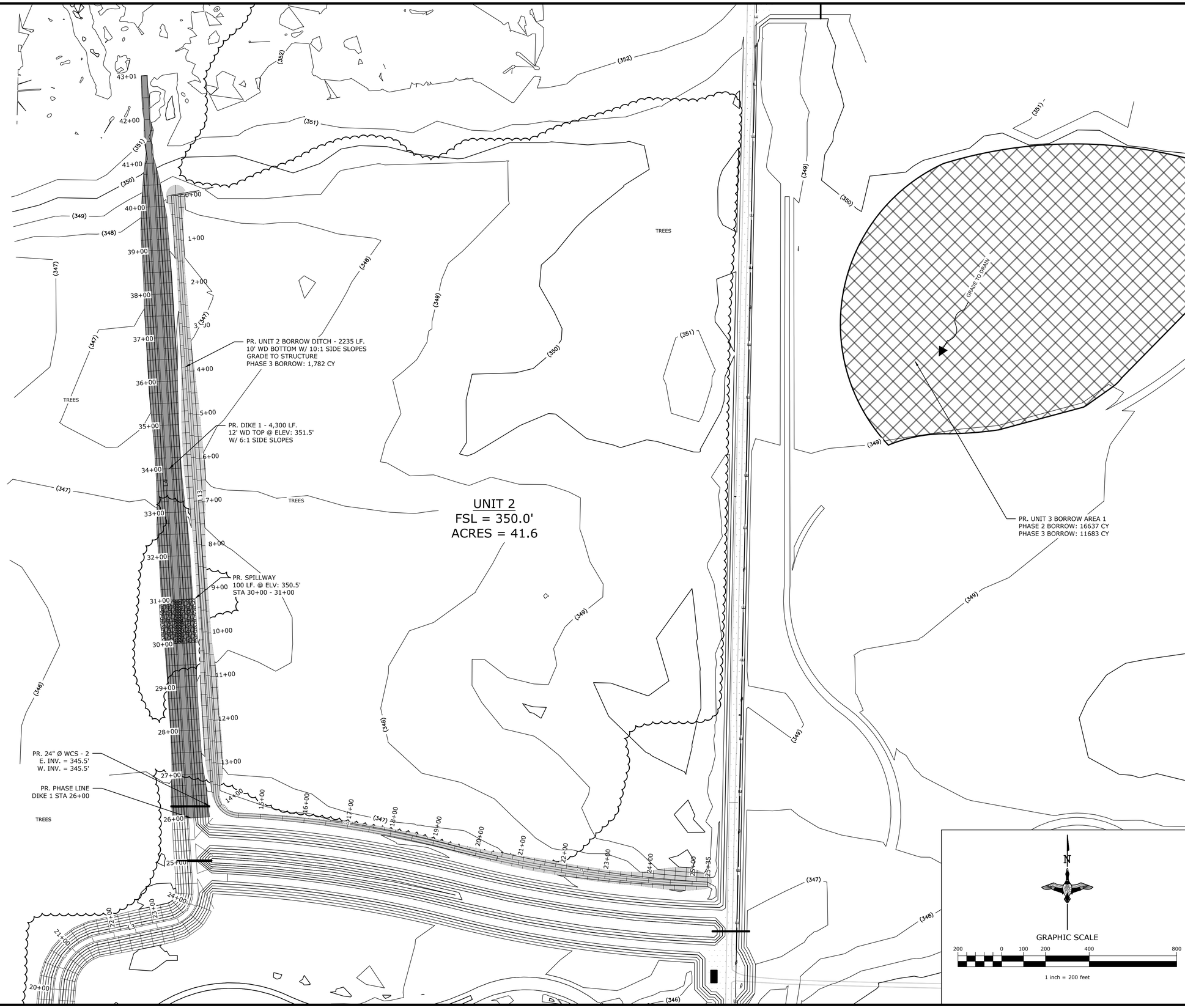

GREAT LAKES/ATLANTIC REGIONAL OFFICE
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DEXTER, MICHIGAN 48130
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DUCKS UNLIMITED

AFFIX SEAL: DUCKS UNLIMITED, INC.
ON:

PHASE 3 (UNIT 2) SITE PLAN
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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CAD FILE: IN-125-3 Site Plan
DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3

NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DUCKS UNLIMITED, INC. SHALL NOT ASSUME ANY RESPONSIBILITY FOR THE SAFETY OF THE WORK PERFORMED, PERSONS ENGAGED IN THE WORK, NEARBY STRUCTURES, OR OF OTHER PERSONS ON-SITE. THIS MATERIAL, DATA AND INFORMATION IS THE PROPERTY OF DUCKS UNLIMITED, INC. IT MAY NOT BE USED OR REPRODUCED FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF AN AUTHORIZED AGENT OF DUCKS UNLIMITED, INC. DUCKS UNLIMITED, INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS MATERIAL, DATA AND INFORMATION, INCLUDING, BUT NOT LIMITED TO, THE ACCURACY OF THE MATERIAL, DATA AND INFORMATION OR ITS SUITABILITY FOR ANY PURPOSE. ALL USE OF THE MATERIAL, DATA AND INFORMATION IS AT THE USERS SOLE RISK. BY USING ANY OF THIS MATERIAL, DATA AND INFORMATION, USER AGREES THAT DUCKS UNLIMITED, INC. IS NOT RESPONSIBLE FOR THEIR USE OF THE MATERIAL, DATA AND INFORMATION OR THE RESULTS THEREOF. IF THIS DOCUMENT IS NOT IN THE POSSESSION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR, THE DOCUMENT SHALL BEAR THE NOTATION "WARNING: IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF THE ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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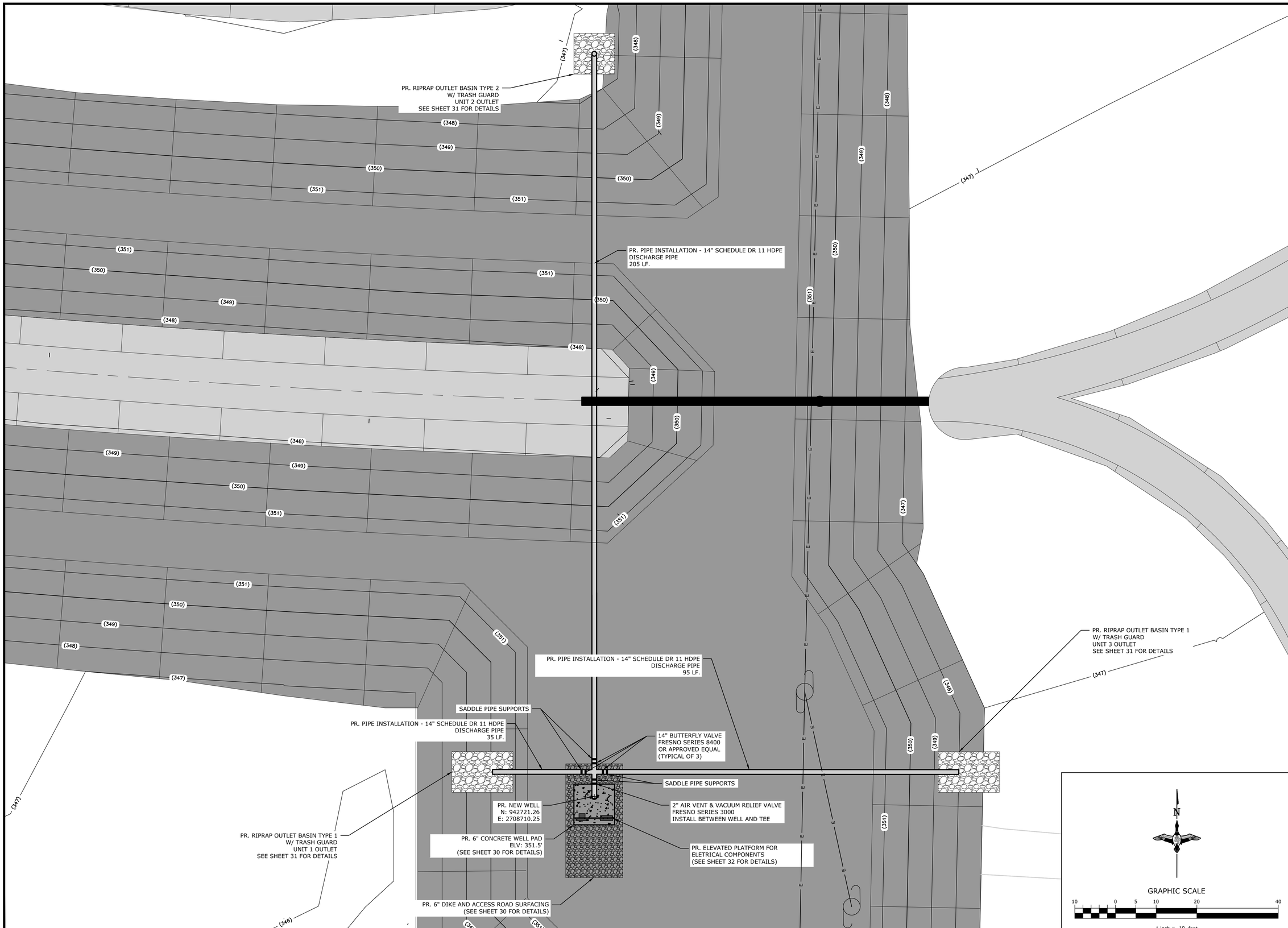

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AFFIX SEAL: DUCKS UNLIMITED, INC.

ON:

WELL SITE PLAN
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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CAD FILE: IN-125-3 Well Site Plan

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DUCKS UNLIMITED, INC. SHALL NOT ASSUME ANY RESPONSIBILITY FOR THE SAFETY OF THE WORK PERFORMED, PERSONS ENGAGED IN THE WORK, NEARBY STRUCTURES, OR OF OTHER PERSONS ON-SITE. THIS MATERIAL, DATA AND INFORMATION IS THE PROPERTY OF DUCKS UNLIMITED, INC. IT MAY NOT BE USED OR REPRODUCED FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF AN AUTHORIZED AGENT OF DUCKS UNLIMITED, INC. DUCKS UNLIMITED, INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS MATERIAL, DATA AND INFORMATION, INCLUDING, BUT NOT LIMITED TO, THE ACCURACY OF THE MATERIAL, DATA AND INFORMATION OR ITS SUITABILITY FOR ANY PURPOSE. ALL USE IS AT THE USER'S SOLE RISK. BY USING ANY OF THIS MATERIAL, DATA AND INFORMATION, USER AGREES THAT DUCKS UNLIMITED, INC. IS NOT RESPONSIBLE FOR THEIR USE OF THE MATERIAL, DATA AND INFORMATION OR THE RESULTS THEREOF.
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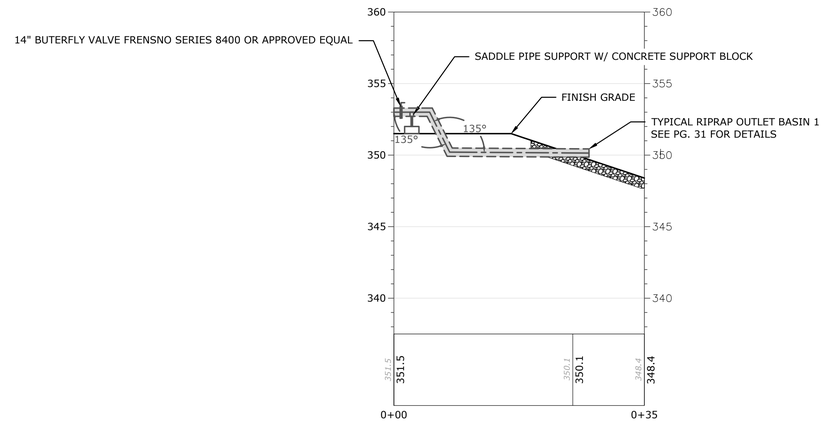
PROFILE
HDPE PIPE (WELL OUTLET – UNIT 1)



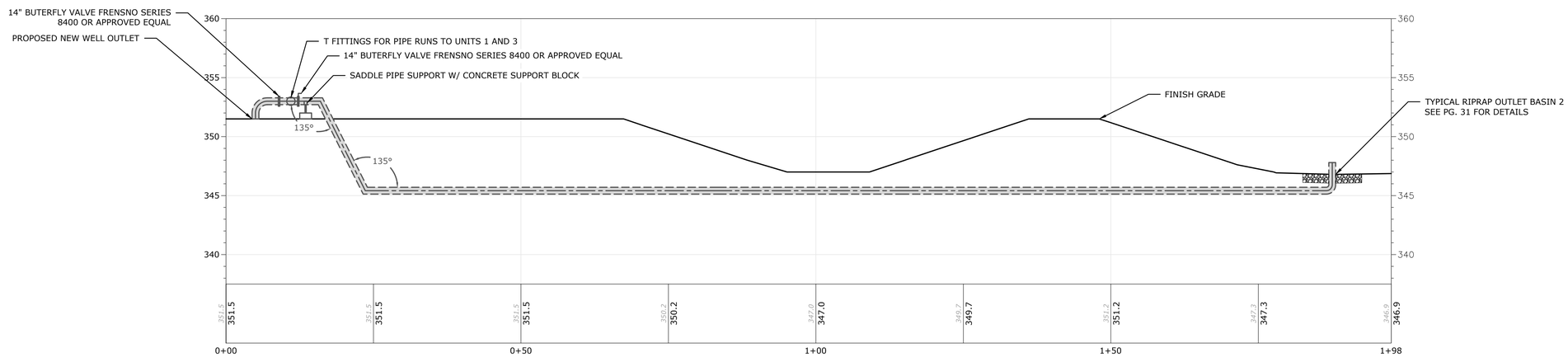
HORIZONTAL SCALE

1 inch = 10 feet

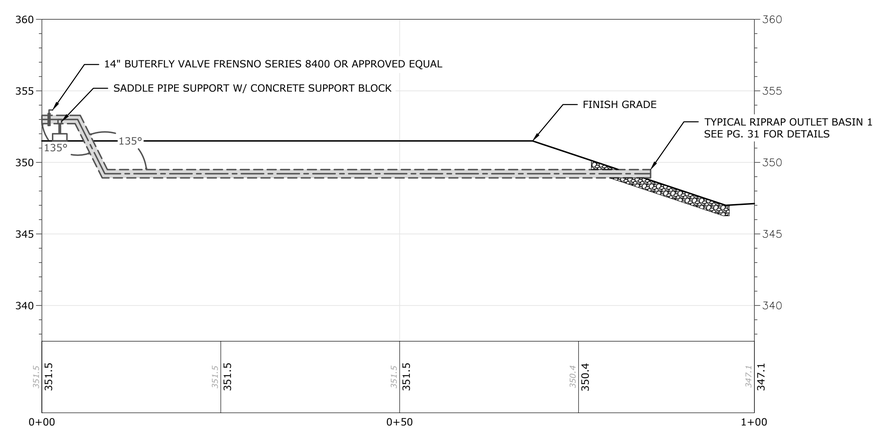
VERTICAL SCALE

1 inch = 2 feet

PROFILE
HDPE PIPE (WELL OUTLET – UNIT 2)



PROFILE
HDPE PIPE (WELL OUTLET – UNIT 3)



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ON:

HDPE PIPE PROFILES
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE
AREA
POSEY COUNTY, IN

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CAD FILE:
IN-125-3 Well Site Plan

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE:
05/19/2022

PROJECT NUMBER:
US-IN-125-3

DIKE 1 (UNIT 1 & 2 W. NS. LEVEE) CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
C1	0+00	N 940965.47 E 2706349.61	13+94.48	N 942177.49 E 2706934.53	N25° 45' 42.45"E 1345.78'	PI = 7+51.03 N 941716.45 E 2706341.67 Δ = 52°44'10" R = 1515.06' T = 751.03' L = 1394.48' E = 175.93'
L1	13+94.48	N 942177.49 E 2706934.53	14+88.84	N 942235.42 E 2707009.02	N52° 07' 47.35"E 94.36'	
C2	14+88.84	N 942235.42 E 2707009.02	18+97.71	N 942584.13 E 2707199.96	N28° 42' 13.53"E 397.57'	PI = 17+05.48 N 942368.40 E 2707180.03 Δ = 46°51'08" R = 500.00' T = 216.64' L = 408.86' E = 44.92'
L2	18+97.71	N 942584.13 E 2707199.96	20+00.76	N 942686.74 E 2707209.44	N5° 16' 39.70"E 103.05'	
C3	20+00.76	N 942686.74 E 2707209.44	21+52.60	N 942801.15 E 2707293.98	N36° 27' 40.08"E 142.25'	PI = 20+88.26 N 942774.23 E 2707210.72 Δ = 71°14'24" R = 122.12' T = 87.50' L = 151.84' E = 28.11'
L3	21+52.60	N 942801.15 E 2707293.98	23+32.43	N 942838.04 E 2707469.97	N78° 09' 43.52"E 179.82'	
C4	23+32.43	N 942838.04 E 2707469.97	24+34.45	N 942912.51 E 2707526.64	N37° 16' 16.51"E 93.58'	PI = 23+94.32 N 942850.74 E 2707530.55 Δ = 81°46'54" R = 71.48' T = 61.90' L = 102.03' E = 23.08'
L4	24+34.45	N 942912.51 E 2707526.64	43+00.98	N 944775.32 E 2707408.81	N3° 37' 10.50"W 1866.53'	

DIKE 2 (BASE RD. LEVEE) CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
L5	0+00	N 945012.54 E 2708794.71	32+35.49	N 941777.72 E 2708728.33	S1° 10' 31.93"W 3235.49'	

DIKE 3 (UNIT 2 S. LEVEE) CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
C7	0+00	N 943024.87 E 2707519.54	6+17.33	N 942940.23 E 2708129.76	S82° 06' 08.94"E 616.07'	PI = 3+09.93 N 943016.44 E 2707829.35 Δ = 12°40'39" R = 2790.00' T = 309.93' L = 617.33' E = 17.16'
C8	6+17.33	N 942940.23 E 2708129.76	12+44.96	N 942857.36 E 2708750.49	S82° 23' 45.59"E 626.23'	PI = 9+32.55 N 942862.72 E 2708435.31 Δ = 13°15'34" R = 2712.07' T = 315.22' L = 627.63' E = 18.26'

DIKE 4 (UNIT 1 N. LEVEE) CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
C5	0+00	N 942944.70 E 2707524.61	5+92.38	N 942862.68 E 2708110.09	S82° 01' 32.99"E 591.20'	PI = 2+97.37 N 942935.81 E 2707821.85 Δ = 12°31'27" R = 2710.00' T = 297.37' L = 592.38' E = 16.27'
C6	5+92.38	N 942862.68 E 2708110.09	12+38.24	N 942777.40 E 2708748.85	S82° 23' 43.86"E 644.42'	PI = 9+16.76 N 942782.91 E 2708424.51 Δ = 13°15'49" R = 2790.00' T = 324.38' L = 645.87' E = 18.79'

DIKE 5 (UNIT 3 N. LEVEE) CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
L6	0+00	N 944945.11 E 2708793.33	2+56.42	N 944945.11 E 2709049.74	N90° 00' 00.00"E 256.42'	

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ON:

DIKE ALIGNMENT TABLES
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE
AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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CAD FILE: IN-125-3 Site Plan

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

UNIT 1 BORROW DITCH CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
L17	0+00	N 941743.97 E 2706614.99	0+88.34	N 941699.54 E 2706691.35	S59° 48' 27.23"E 88.34'	
C36	0+88.34	N 941699.54 E 2706691.35	5+13.34	N 941877.86 E 2706991.85	N59° 18' 56.41"E 349.43'	PI = 4+47.33 N 941519.01 E 2707001.63 Δ = 121°45'13" R = 200.00' T = 358.99' L = 425.00' E = 210.94'
C37	5+13.34	N 941877.86 E 2706991.85	8+88.34	N 942133.47 E 2707217.29	N41° 24' 38.66"E 340.82'	PI = 7+46.24 N 942110.67 E 2706985.51 Δ = 85°56'37" R = 250.00' T = 232.90' L = 375.00' E = 91.68'
C38	8+88.34	N 942133.47 E 2707217.29	11+13.34	N 942298.05 E 2707323.42	N32° 48' 58.94"E 195.83'	PI = 10+45.86 N 942148.89 E 2707374.05 Δ = 103°07'57" R = 125.00' T = 157.52' L = 225.00' E = 76.09'
C39	11+13.34	N 942298.05 E 2707323.42	18+13.34	N 942666.51 E 2707734.00	N48° 05' 42.88"E 551.67'	PI = 18+14.81 N 942962.30 E 2707097.94 Δ = 133°41'25" R = 300.00' T = 701.48' L = 700.00' E = 462.93'
C40	18+13.34	N 942666.51 E 2707734.00	22+63.34	N 942672.90 E 2708168.92	N89° 09' 26.00"E 434.97'	PI = 20+54.87 N 942564.66 E 2707953.01 Δ = 51°33'58" R = 500.00' T = 241.53' L = 450.00' E = 55.28'
C41	22+63.34	N 942672.90 E 2708168.92	29+13.34	N 942315.67 E 2708492.18	S42° 08' 28.92"E 481.78'	PI = 31+63.86 N 943076.49 E 2708973.95 Δ = 148°58'08" R = 250.00' T = 900.53' L = 650.00' E = 684.58'
L18	29+13.34	N 942315.67 E 2708492.18	29+63.34	N 942273.43 E 2708465.43	S32° 20' 35.33"W 50.00'	
C42	29+63.34	N 942273.43 E 2708465.43	31+63.34	N 942211.62 E 2708290.51	S70° 32' 25.20"W 185.51'	PI = 30+81.37 N 942173.71 E 2708402.28 Δ = 76°23'40" R = 150.00' T = 118.03' L = 200.00' E = 40.87'
L19	31+63.34	N 942211.62 E 2708290.51	32+63.34	N 942243.75 E 2708195.81	N71° 15' 44.93"W 100.00'	
C43	32+63.34	N 942243.75 E 2708195.81	42+63.34	N 941934.74 E 2707321.24	S70° 32' 25.20"W 927.55'	PI = 38+53.47 N 942433.32 E 2707636.96 Δ = 76°23'40" R = 750.00' T = 590.13' L = 1000.00' E = 204.34'
C44	42+63.34	N 941934.74 E 2707321.24	46+13.34	N 941707.42 E 2707477.49	S34° 30' 06.95"E 275.83'	PI = 46+14.08 N 941638.41 E 2707133.60 Δ = 133°41'25" R = 150.00' T = 350.74' L = 350.00' E = 231.47'
L20	46+13.34	N 941707.42 E 2707477.49	50+13.34	N 941786.12 E 2707869.67	N78° 39' 10.78"E 400.00'	
C45	50+13.34	N 941786.12 E 2707869.67	54+13.34	N 941544.21 E 2708103.70	S44° 03' 04.41"E 336.59'	PI = 53+24.82 N 941847.41 E 2708175.06 Δ = 114°35'30" R = 200.00' T = 311.48' L = 400.00' E = 170.16'
L21	54+13.34	N 941544.21 E 2708103.70	57+13.34	N 941252.19 E 2708034.96	S13° 14' 40.39"W 300.00'	
C46	57+13.34	N 941252.19 E 2708034.96	61+13.34	N 941120.49 E 2708295.11	S63° 08' 59.35"E 291.58'	PI = 63+33.10 N 940648.92 E 2707892.97 Δ = 152°47'19" R = 150.00' T = 619.76' L = 400.00' E = 487.65'
L22	61+13.34	N 941120.49 E 2708295.11	63+63.34	N 941310.72 E 2708457.33	N40° 27' 20.91"E 250.00'	
C47	63+63.34	N 941310.72 E 2708457.33	66+63.34	N 941582.21 E 2708574.06	N23° 16' 01.47"E 295.52'	PI = 65+18.01 N 941428.41 E 2708557.68 Δ = 34°22'39" R = 500.00' T = 154.67' L = 300.00' E = 23.38'

UNIT 2 BORROW DITCH CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
L13	0+00	N 944500.76 E 2707481.32	13+76.14	N 943127.70 E 2707573.33	S3° 50' 01.31"E 1376.14'	
C21	13+76.14	N 943127.70 E 2707573.33	14+45.23	N 943084.06 E 2707620.10	S46° 58' 53.69"E 63.97'	PI = 14+17.08 N 943087.19 E 2707579.28 Δ = 77°14'58" R = 51.24' T = 40.94' L = 69.08' E = 14.35'
C22	14+45.23	N 943084.06 E 2707620.10	19+48.62	N 943008.59 E 2708116.86	S81° 21' 43.63"E 502.46'	PI = 16+97.86 N 943072.59 E 2707872.47 Δ = 12°04'15" R = 2389.40' T = 252.63' L = 503.39' E = 13.32'
C23	19+48.62	N 943008.59 E 2708116.86	25+35.26	N 942925.90 E 2708696.52	S81° 52' 51.04"E 585.52'	PI = 22+43.06 N 942936.15 E 2708402.25 Δ = 12°14'47" R = 2744.65' T = 294.44' L = 586.64' E = 15.75'

UNIT 3 BORROW DITCH 1 CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
C24	-0+00	N 942818.37 E 2708790.47	1+44.27	N 942875.39 E 2708920.56	N66° 19' 55.15"E 142.04'	PI = 0+74.47 N 942826.36 E 2708864.51 Δ = 35°00'52" R = 236.08' T = 74.47' L = 144.27' E = 11.47'
C25	1+44.27	N 942875.39 E 2708920.56	3+21.81	N 942937.43 E 2709083.42	N69° 08' 48.86"E 174.28'	PI = 2+36.47 N 942934.56 E 2708991.27 Δ = 38°08'34" R = 266.69' T = 92.20' L = 177.54' E = 15.49'
L14	3+21.81	N 942937.43 E 2709083.42	4+30.44	N 942937.43 E 2709192.06	N90° 00' 00.00"E 108.63'	
C26	4+30.44	N 942937.43 E 2709192.06	6+64.74	N 943017.85 E 2709407.42	N69° 31' 20.58"E 229.89'	PI = 5+52.23 N 942939.95 E 2709313.81 Δ = 38°34'42" R = 347.97' T = 121.78' L = 234.29' E = 20.70'
C27	6+64.74	N 943017.85 E 2709407.42	9+57.31	N 943020.97 E 2709675.11	N89° 20' 02.67"E 267.71'	PI = 8+43.32 N 943137.62 E 2709539.89 Δ = 82°54'06" R = 202.20' T = 178.59' L = 292.57' E = 67.57'
C28	9+57.31	N 943020.97 E 2709675.11	15+17.28	N 943084.67 E 2710163.24	N82° 33' 53.58"E 492.26'	PI = 13+38.09 N 942764.72 E 2709956.77 Δ = 99°27'37" R = 322.58' T = 380.78' L = 559.97' E = 176.47'

UNIT 3 BORROW DITCH 2 CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
C29	0+00	N 942937.43 E 2709083.71	4+36.18	N 943325.58 E 2709005.21	N11° 25' 59.45"W 396.01'	PI = 2+71.63 N 943168.36 E 2709226.73 Δ = 86°24'14" R = 289.24' T = 271.63' L = 436.18' E = 107.55'
C30	4+36.18	N 943325.58 E 2709005.21	12+10.89	N 943889.30 E 2709180.28	N17° 15' 09.89"E 590.28'	PI = 13+50.78 N 943864.19 E 2708266.04 Δ = 142°20'50" R = 311.82' T = 914.59' L = 774.70' E = 654.47'
C31	12+10.89	N 943889.30 E 2709180.28	19+76.23	N 944186.99 E 2709866.26	N66° 32' 28.00"E 747.78'	PI = 16+12.28 N 943904.20 E 2709581.40 Δ = 42°39'47" R = 1027.84' T = 401.39' L = 765.34' E = 75.60'
L15	19+76.23	N 944186.99 E 2709866.26	22+41.32	N 944372.74 E 2710055.38	N45° 30' 50.65"E 265.09'	

UNIT 3 BORROW DITCH 3 CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
C32	-0+00	N 942818.37 E 2708790.47	1+78.48	N 942702.04 E 2708894.97	S41° 55' 58.51"E 156.37'	PI = 1+22.55 N 942823.27 E 2708912.93 Δ = 100°43'03" R = 101.53' T = 122.55' L = 178.48' E = 57.61'
C33	1+78.48	N 942702.04 E 2708894.97	4+60.08	N 942429.00 E 2708828.45	S13° 41' 32.75"W 281.02'	PI = 3+19.85 N 942561.83 E 2708876.85 Δ = 12°39'46" R = 1274.15' T = 141.37' L = 281.60' E = 7.82'
C34	4+60.08	N 942429.00 E 2708828.45	9+11.74	N 942220.30 E 2709083.99	S50° 45' 40.10"E 329.94'	PI = 11+49.45 N 941806.23 E 2708532.82 Δ = 152°18'32" R = 169.91' T = 689.38' L = 451.67' E = 540.10'
C35	9+11.74	N 942220.30 E 2709083.99	17+25.26	N 942282.73 E 2709857.33	N85° 23' 03.65"E 775.86'	PI = 13+61.55 N 942478.46 E 2709452.34 Δ = 60°49'11" R = 766.38' T = 449.81' L = 813.52' E = 122.25'

UNIT 3 BORROW DITCH 4 CENTERLINE ALIGNMENT

Number	Start Station	Start Coordinates	End Station	End Coordinates	Tangent/Chord Bearing Length	Curve Data
L16	0+00	N 943608.46 E 2708878.56	12+59.22	N 944867.68 E 2708878.59	N0° 00' 04.75"E 1259.22'	

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ON:

DITCH ALIGNMENT TABLES
BEHIND LAKE
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AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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CAD FILE: IN-125-3 Site Plan
DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3

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HORIZONTAL SCALE

60 0 30 60 120

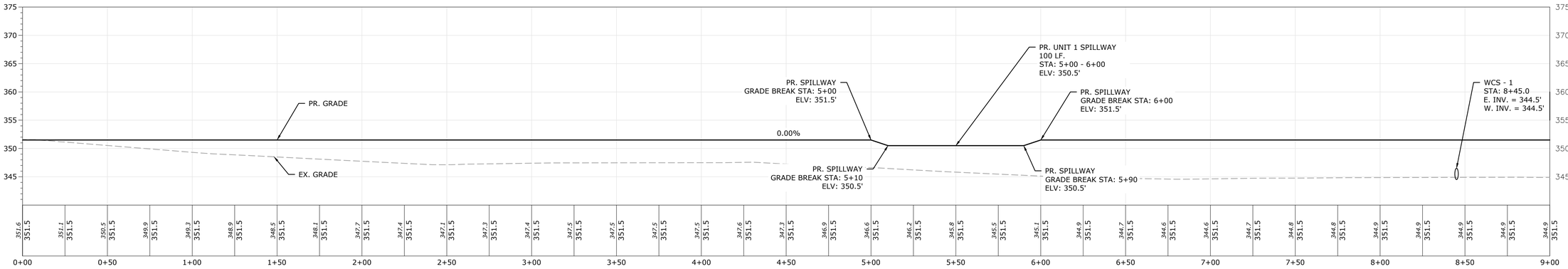
1 inch = 30 feet

VERTICAL SCALE

5 0 2.5 5 10

1 inch = 5 feet

PROFILE
DIKE 1 (UNIT 1 & 2 W. NS. LEVEE)



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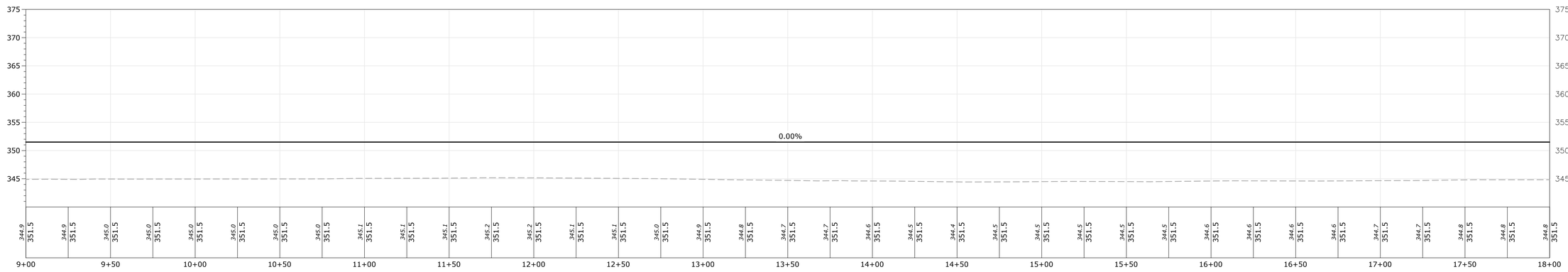

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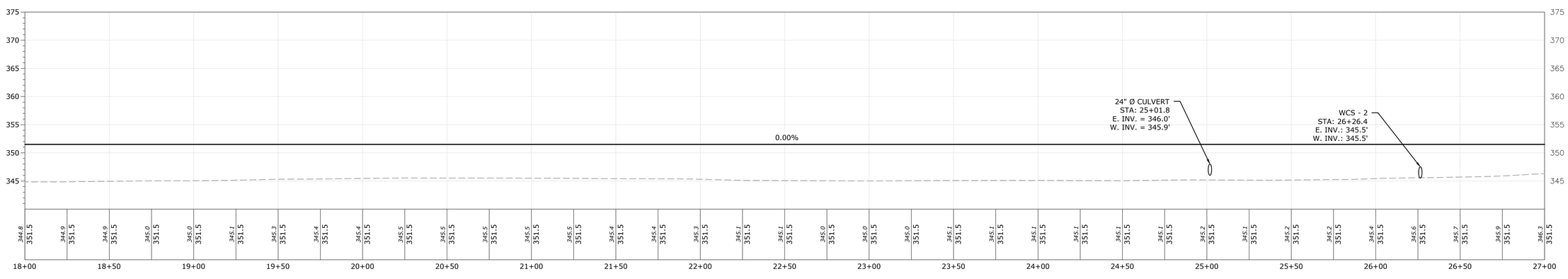
DIKE 1 (UNIT 1 & 2 W. NS. LEVEE)



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ON:

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AREA
POSEY COUNTY, IN

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FILENAME:
VFG - DIKE 1 (UNIT 1 & 2 W. NS. LEVEE) - (1) - (1)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE:
05/19/2022

PROJECT NUMBER:
US-IN-125-3

HORIZONTAL SCALE

60 0 30 60 120

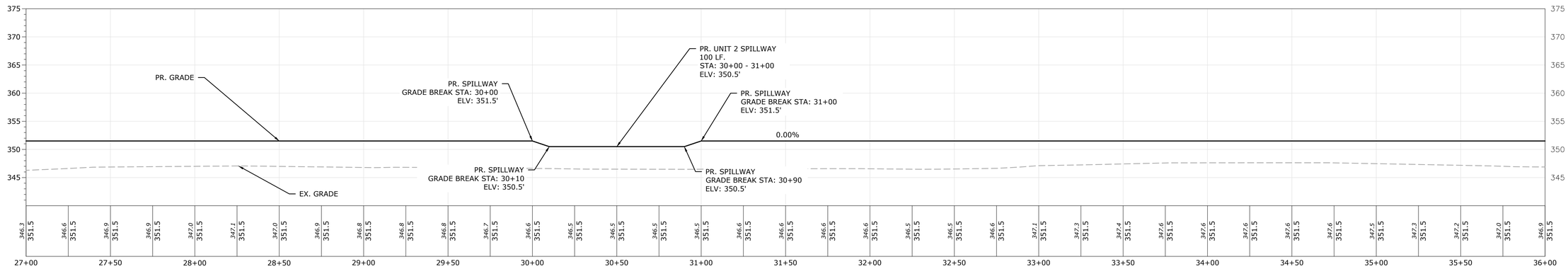
1 inch = 30 feet

VERTICAL SCALE

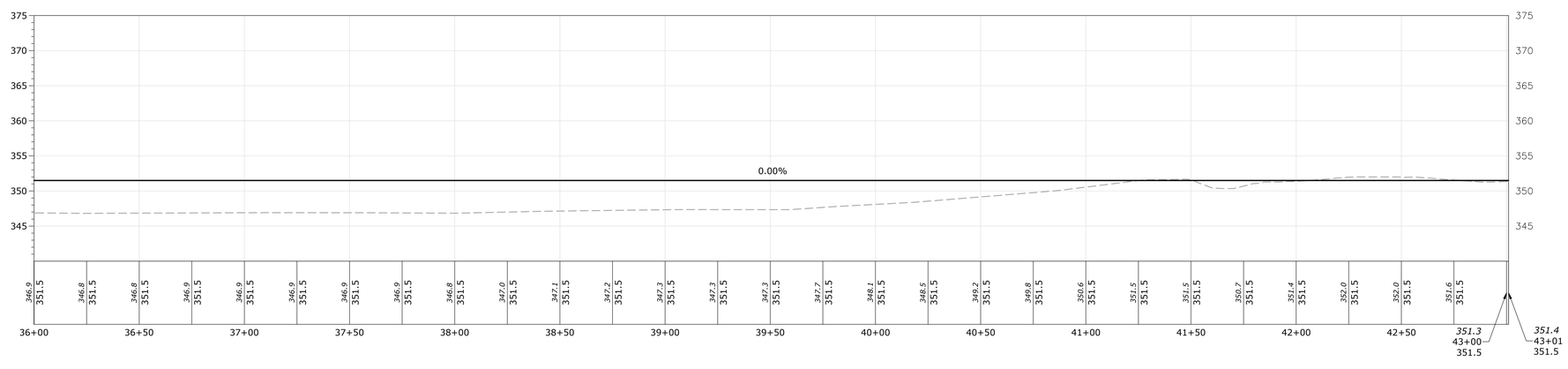
5 0 2.5 5 10

1 inch = 5 feet

PROFILE
DIKE 1 (UNIT 1 & 2 W. NS. LEVEE)



PROFILE
DIKE 1 (UNIT 1 & 2 W. NS. LEVEE)



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GRAPHIC FILE:
VFG - DIKE 1 (UNIT 1 & 2 W. NS. LEVEE) - (1) - (1)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE:
05/19/2022

PROJECT NUMBER:
US-IN-125-3

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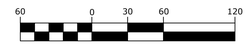
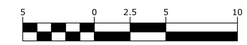
HORIZONTAL SCALE



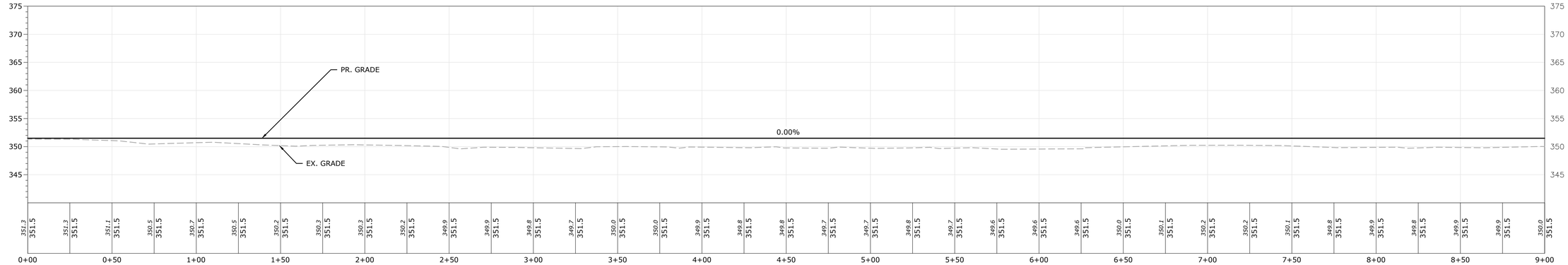
1 inch = 30 feet

VERTICAL SCALE

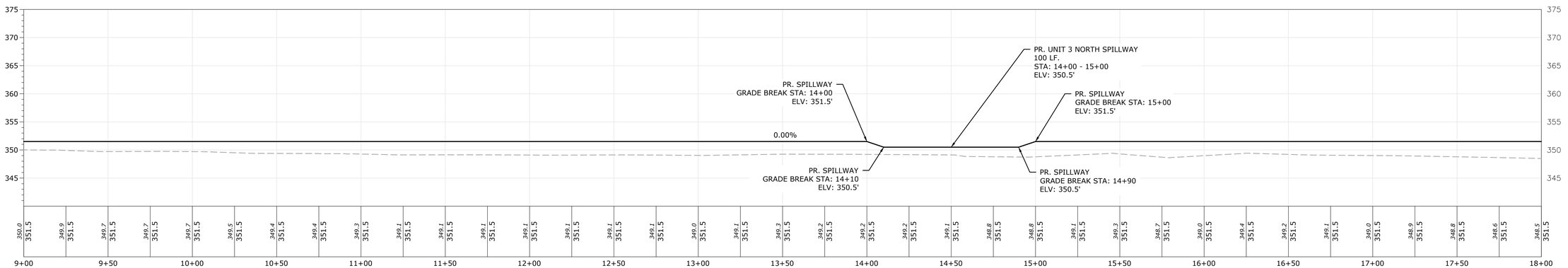


1 inch = 5 feet

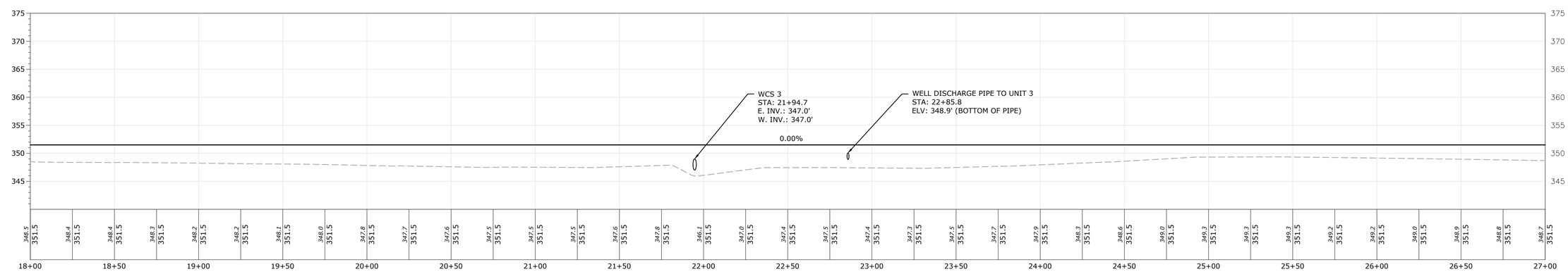
PROFILE
DIKE 2 (BASE RD. LEVEE)



PROFILE
DIKE 2 (BASE RD. LEVEE)



PROFILE
DIKE 2 (BASE RD. LEVEE)



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ON:

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POSEY COUNTY, IN

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VFG - DIKE 2 (BASE RD. LEVEE) - (2) - (2)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DUCKS UNLIMITED, INC. SHALL NOT ASSUME ANY RESPONSIBILITY FOR THE SAFETY OF THE WORK PERFORMED, PERSONS ENGAGED IN THE WORK, NEARBY STRUCTURES, OR OF OTHER PERSONS ON-SITE. THIS MATERIAL, DATA AND INFORMATION IS THE PROPERTY OF DUCKS UNLIMITED, INC. IT MAY NOT BE USED OR REPRODUCED FOR ANY PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF AN AUTHORIZED AGENT OF DUCKS UNLIMITED, INC. DUCKS UNLIMITED, INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS MATERIAL, DATA AND INFORMATION, INCLUDING, BUT NOT LIMITED TO, THE ACCURACY OF THE MATERIAL, DATA AND INFORMATION OR ITS SUITABILITY FOR ANY PURPOSE. ALL USE OF THE MATERIAL, DATA AND INFORMATION IS AT THE USERS SOLE RISK. BY USING ANY OF THIS MATERIAL, DATA AND INFORMATION, USER AGREES THAT DUCKS UNLIMITED, INC. IS NOT RESPONSIBLE FOR THEIR USE OF THE MATERIAL, DATA AND INFORMATION OR THE RESULTS THEREOF.
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HORIZONTAL SCALE

60 0 30 60 120

1 inch = 30 feet

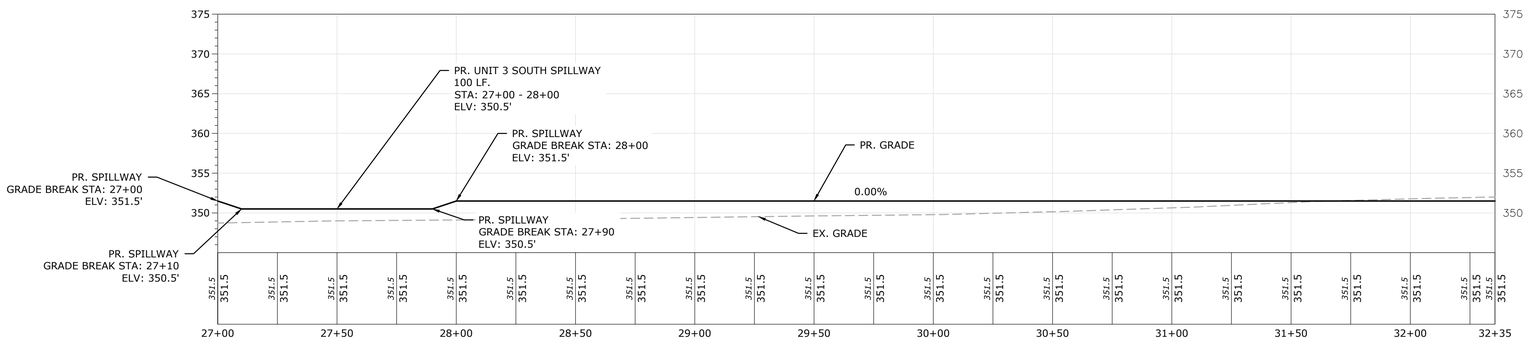
VERTICAL SCALE

5 0 2.5 5 10

1 inch = 5 feet

PROFILE

DIKE 2 (BASE RD. LEVEE)



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AFFIX SEAL: DUCKS UNLIMITED, INC.

ON:

PROFILES - DIKE 2 (BASE RD.)
BEHIND LAKE
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POSEY COUNTY, IN

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VFG - DIKE 2 (BASE RD. LEVEE) - (2) - (2)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

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HORIZONTAL SCALE

60 0 30 60 120

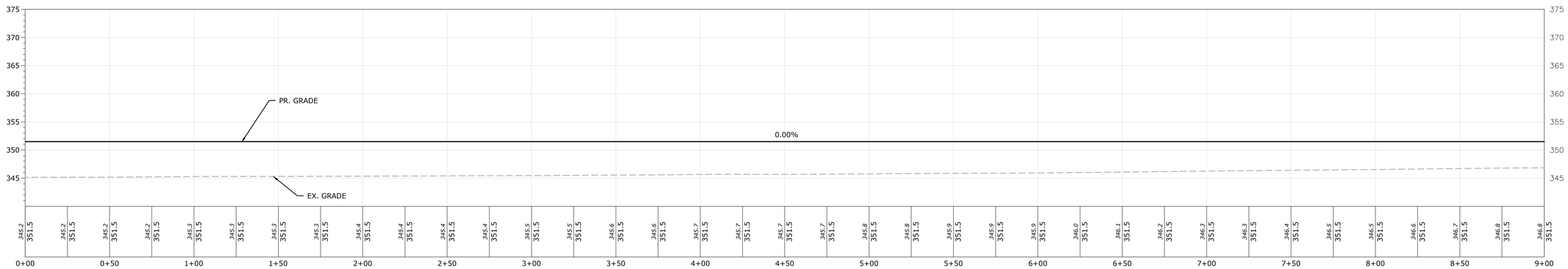
1 inch = 30 feet

VERTICAL SCALE

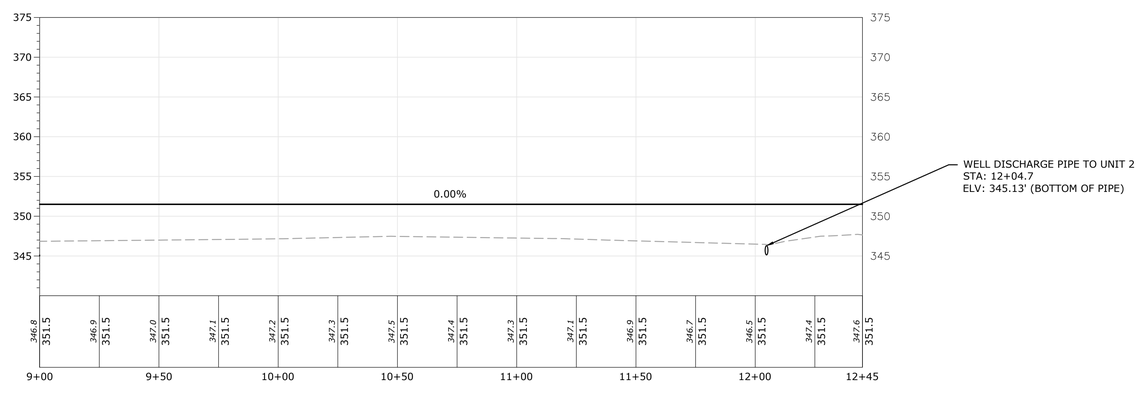
5 0 2.5 5 10

1 inch = 5 feet

PROFILE
DIKE 3 (UNIT 2 S. LEVEE)



PROFILE
DIKE 3 (UNIT 2 S. LEVEE)



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k:\plano c3d projects\in-125-3 behind lake\c3d_drawing\VFG - DIKE 3 (UNIT 2 S. LEVEE) - (3) - (3).dwg, 10/25/2022 4:46 PM, Bradley Kullmann, Dike 3 Profile - (1), None

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DEXTER, MICHIGAN 48130
(734) 623-2000
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DUCKS UNLIMITED

AFFIX SEAL: DUCKS UNLIMITED, INC.

ON:

PROFILES - DIKE 3
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE
AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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VFG - DIKE 3 (UNIT 2 S. LEVEE) - (3) - (3)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

HORIZONTAL SCALE

60 0 30 60 120

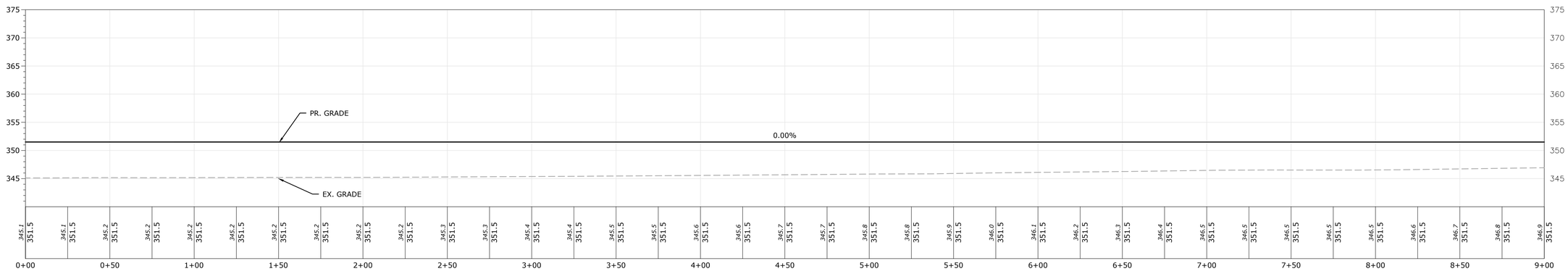
1 inch = 30 feet

VERTICAL SCALE

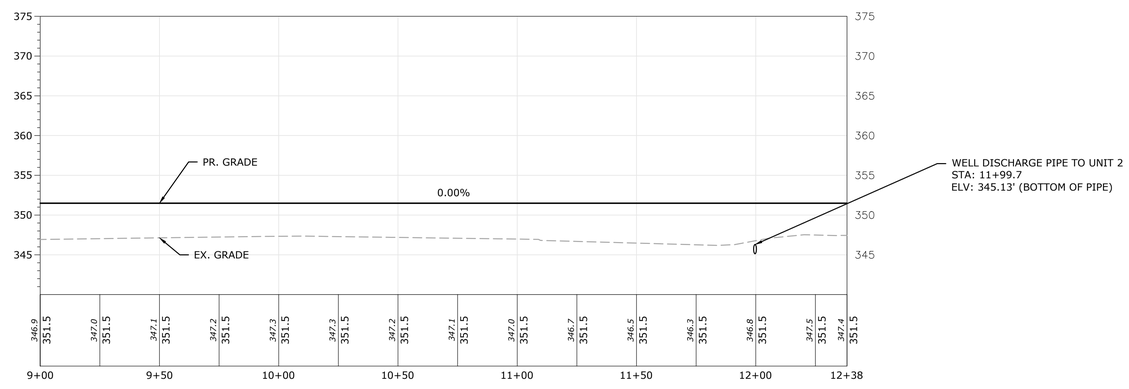
5 0 2.5 5 10

1 inch = 5 feet

PROFILE
DIKE 4 (UNIT 1 N. LEVEE)



PROFILE
DIKE 4 (UNIT 1 N. LEVEE)



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ON:

PROFILES - DIKE 4
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE
AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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VFG - DIKE 4 (UNIT 1 N. LEVEE) - (4) - (4)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

HORIZONTAL SCALE

60 0 30 60 120

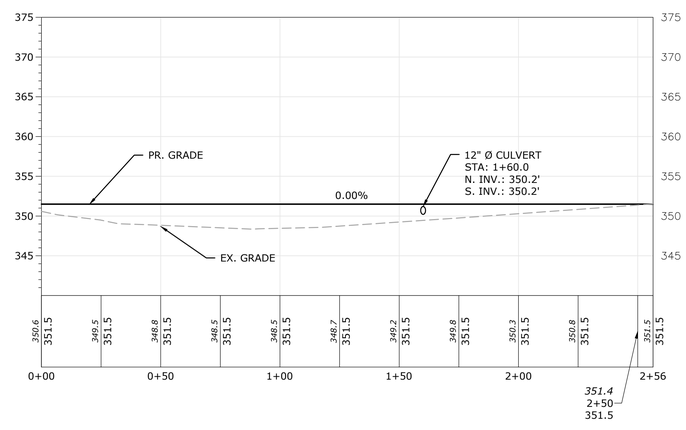
1 inch = 30 feet

VERTICAL SCALE

5 0 2.5 5 10

1 inch = 5 feet

PROFILE
DIKE 5 (UNIT 3 N. LEVEE)



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ON:

PROFILES - DIKE 5
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE
AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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VFG - DIKE 5 (UNIT 3 N. LEVEE) - (5) - (5)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE:
05/19/2022

PROJECT NUMBER:
US-IN-125-3

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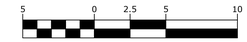
HORIZONTAL SCALE

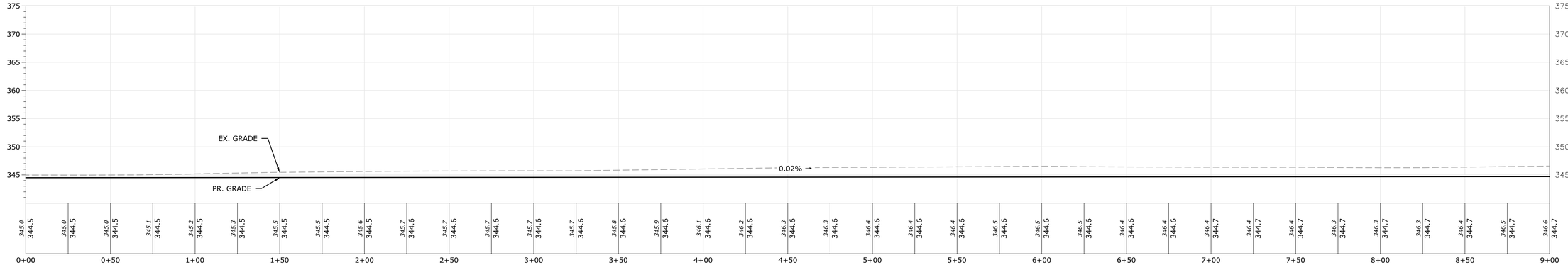
1 inch = 30 feet

VERTICAL SCALE

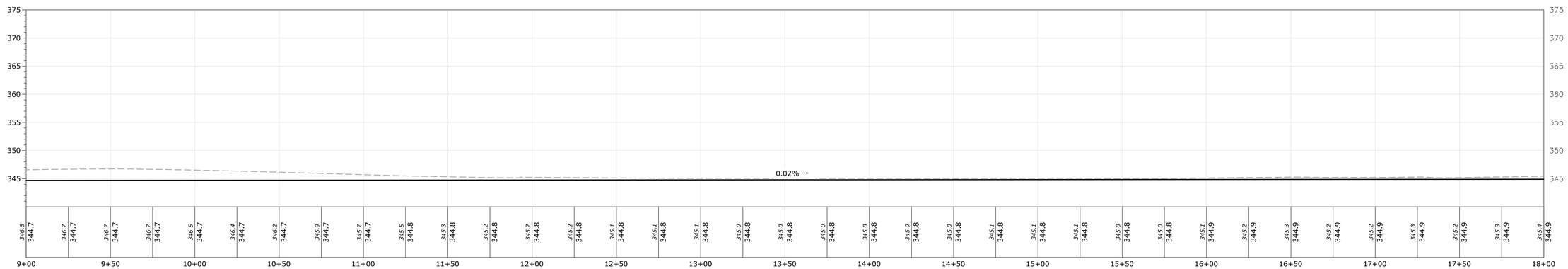


1 inch = 5 feet

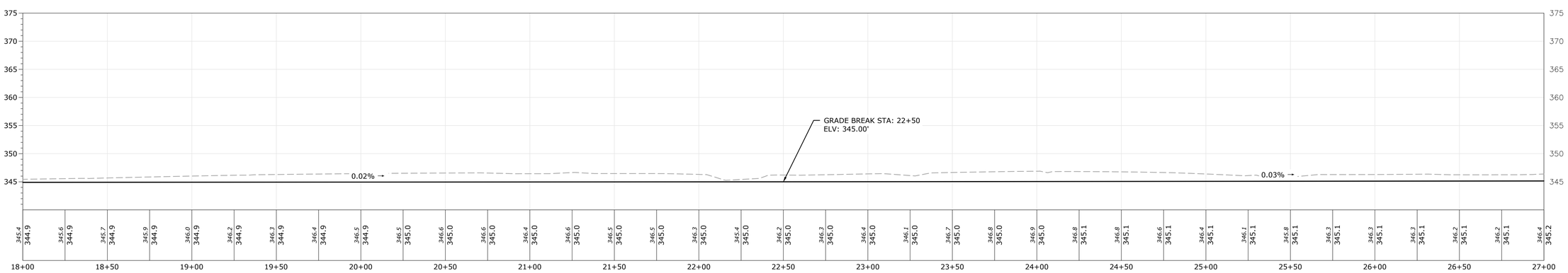
PROFILE
UNIT 1 BORROW DITCH



PROFILE
UNIT 1 BORROW DITCH



PROFILE
UNIT 1 BORROW DITCH



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AFFIX SEAL: DUCKS UNLIMITED, INC.

ON:

PROFILES - UNIT 1 BORROW DITCH
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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CAD FILE: VFG UNIT 1 BORROW - UNIT 1 BORROW DITCH - (1) - (16)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

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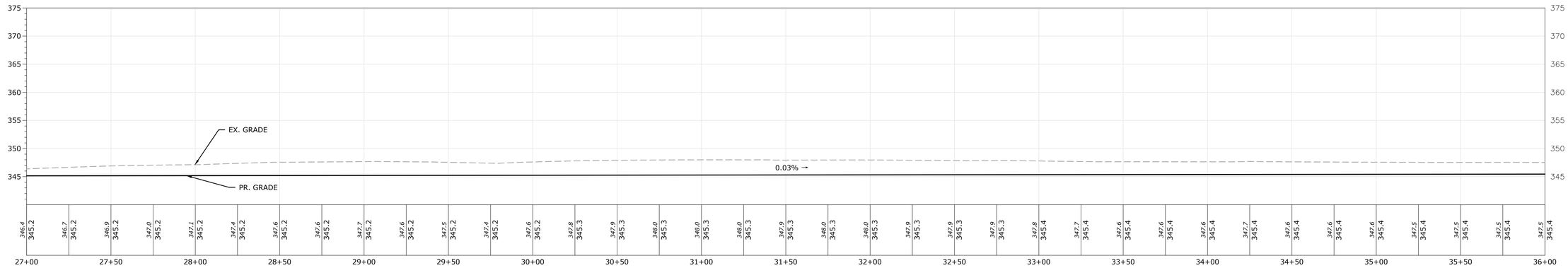
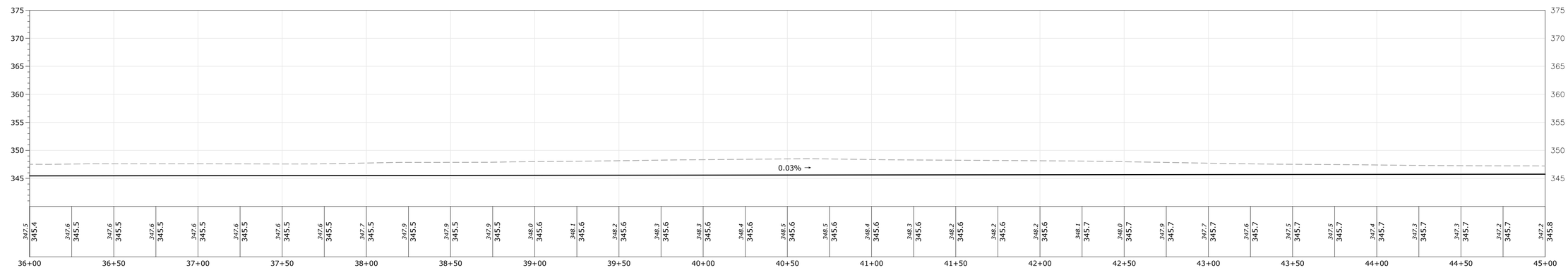
HORIZONTAL SCALE: 60 0 30 60 120 — 1 inch = 30 feet

VERTICAL SCALE: 5 0 2.5 5 10 — 1 inch = 5 feet

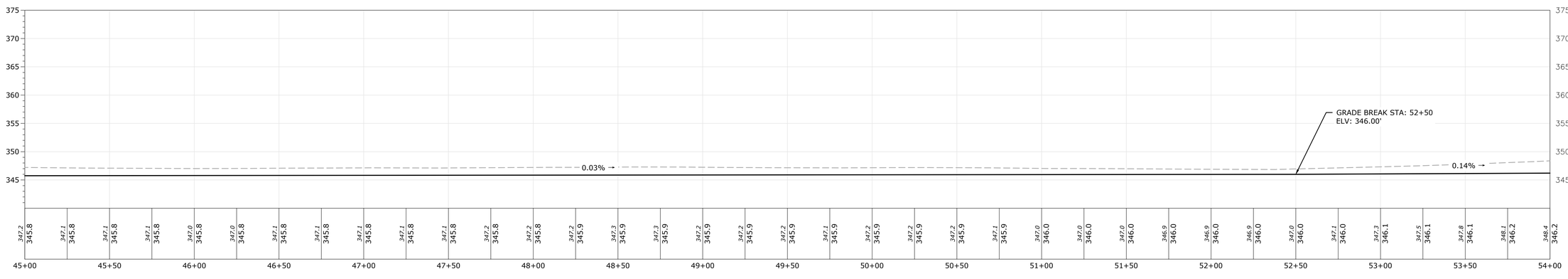
PROFILE
UNIT 1 BORROW DITCH



PROFILE
UNIT 1 BORROW DITCH



PROFILE
UNIT 1 BORROW DITCH



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AFFIX SEAL: DUCKS UNLIMITED, INC.
ON:

PROFILES - UNIT 1 BORROW DITCH
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

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VFG UNIT 1 BORROW DITCH - (1) - (16)

DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3

HORIZONTAL SCALE

60 0 30 60 120

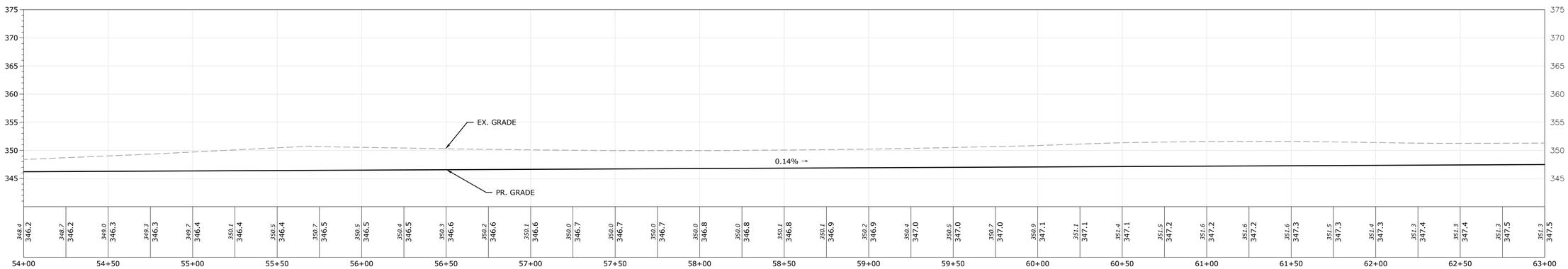
1 inch = 30 feet

VERTICAL SCALE

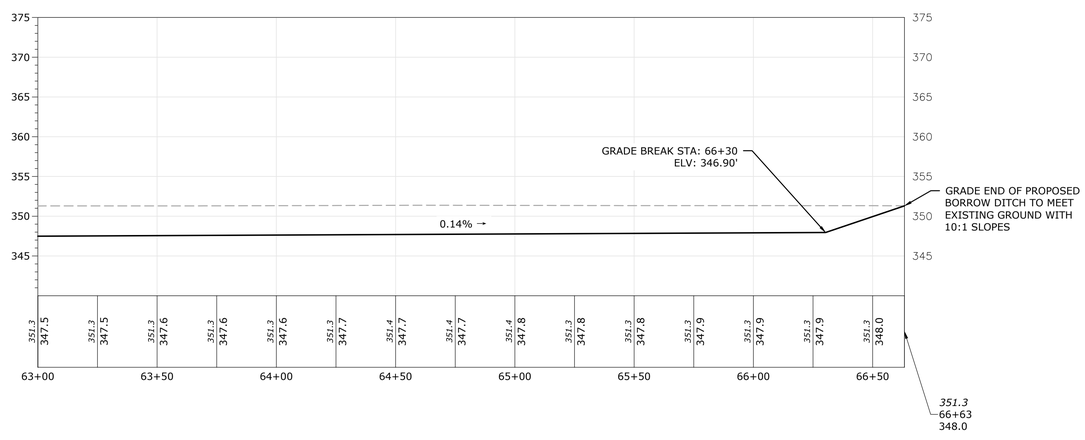
5 0 2.5 5 10

1 inch = 5 feet

PROFILE
UNIT 1 BORROW DITCH



PROFILE
UNIT 1 BORROW DITCH



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AFFIX SEAL: DUCKS UNLIMITED, INC.

ON:

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BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

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CAD FILE: VFG UNIT 1 BORROW - UNIT 1 BORROW DITCH - (1) - (16)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

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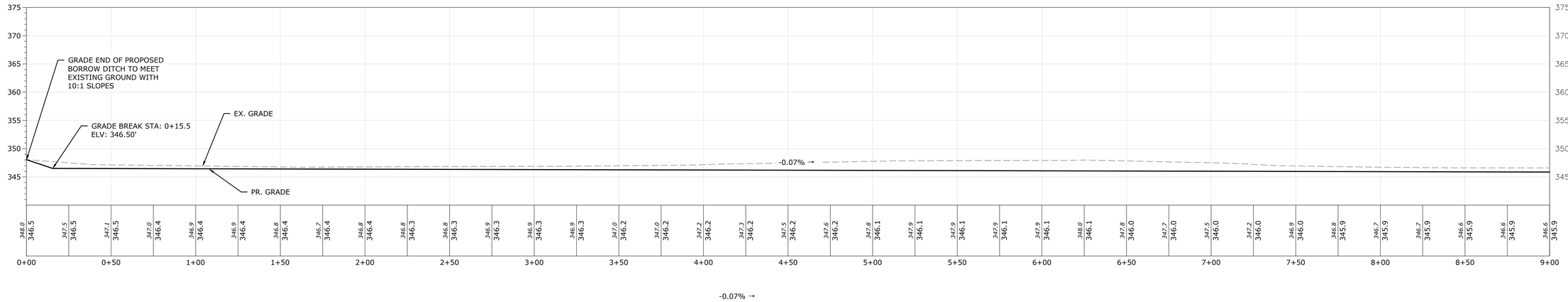
k:\glaro c3d projects\in-125-3 behind lake\c3d_drawing\VFG UNIT 1 BORROW - UNIT 1 BORROW DITCH - (1) - (16).dwg, 10/25/2022 4:47 PM, Bradley Kullmann, Sheet - (9), None

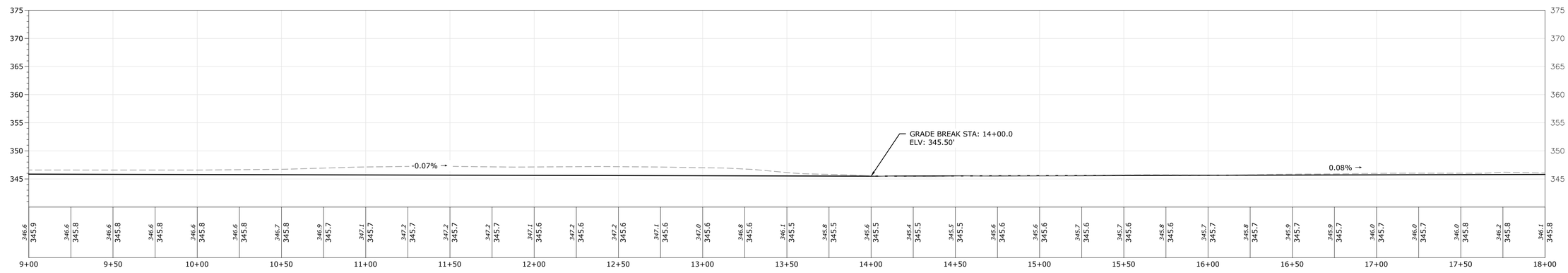
HORIZONTAL SCALE: 60 0 30 60 120 — 1 inch = 30 feet

VERTICAL SCALE: 5 0 2.5 5 10 — 1 inch = 5 feet

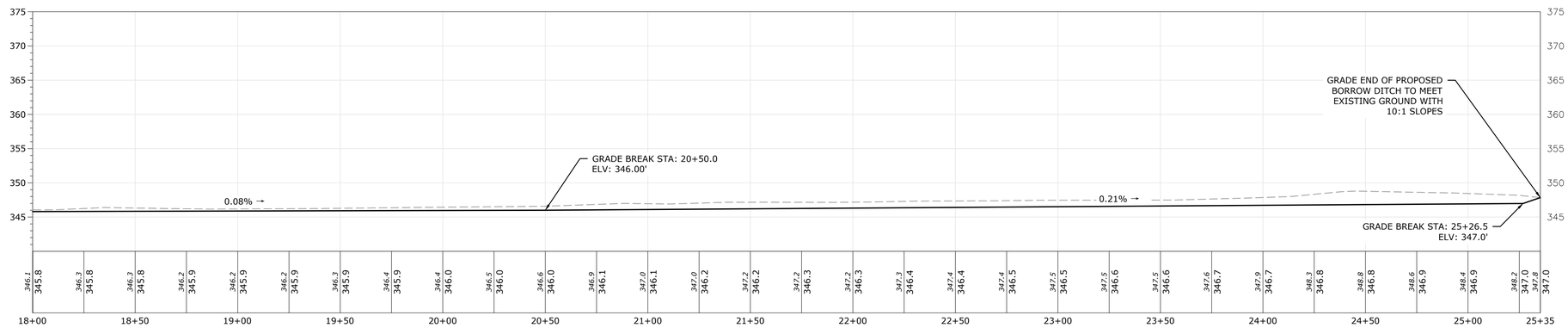
PROFILE
UNIT 2 BORROW DITCH



PROFILE
UNIT 2 BORROW DITCH



PROFILE
UNIT 2 BORROW DITCH



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(734) 623-2000
www.ducks.org
DUCKS UNLIMITED

AFFIX SEAL: DUCKS UNLIMITED, INC.
ON:

PROFILES - UNIT 2 BORROW DITCH
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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VFG - UNIT 2 BORROW DITCH - (7) - (8)

DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3

HORIZONTAL SCALE

60 0 30 60 120

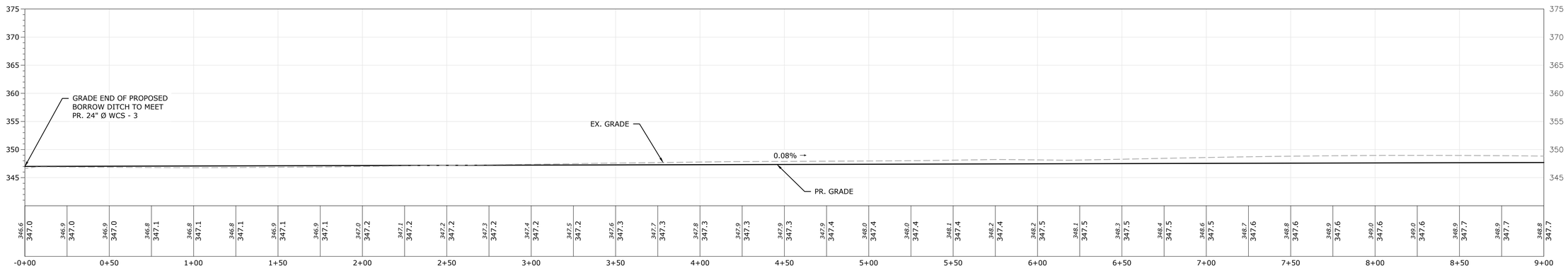
1 inch = 30 feet

VERTICAL SCALE

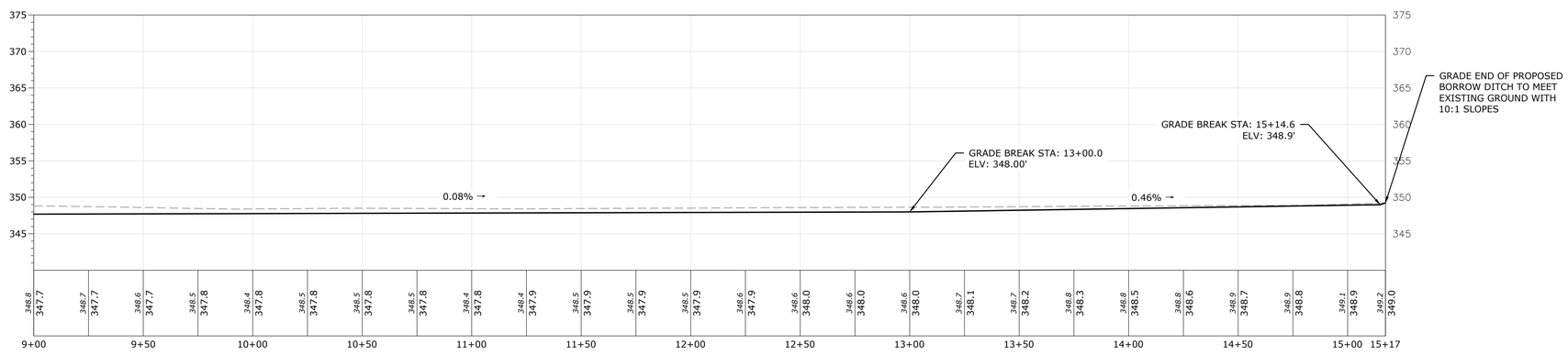
5 0 2.5 5 10

1 inch = 5 feet

PROFILE
UNIT 3 BORROW DITCH 1



PROFILE
UNIT 3 BORROW DITCH 1



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POSEY COUNTY, IN

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VFG - UNIT 3 BORROW DITCH 1 - (8) - (9)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

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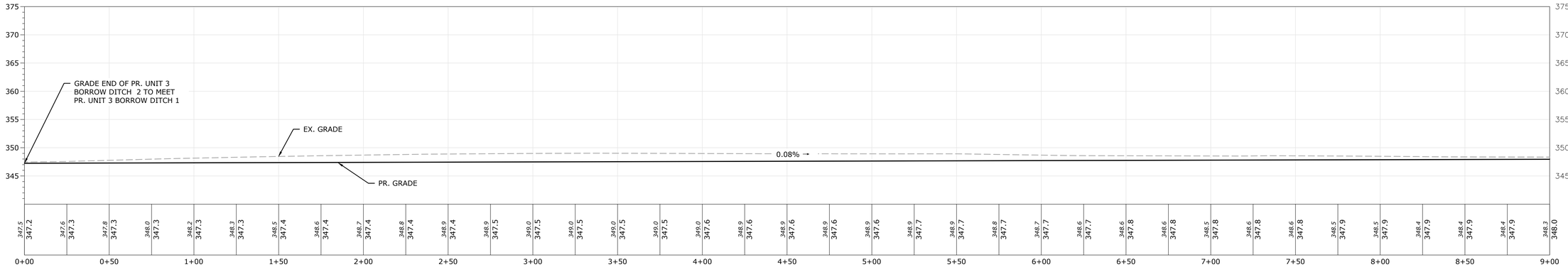
HORIZONTAL SCALE

1 inch = 30 feet

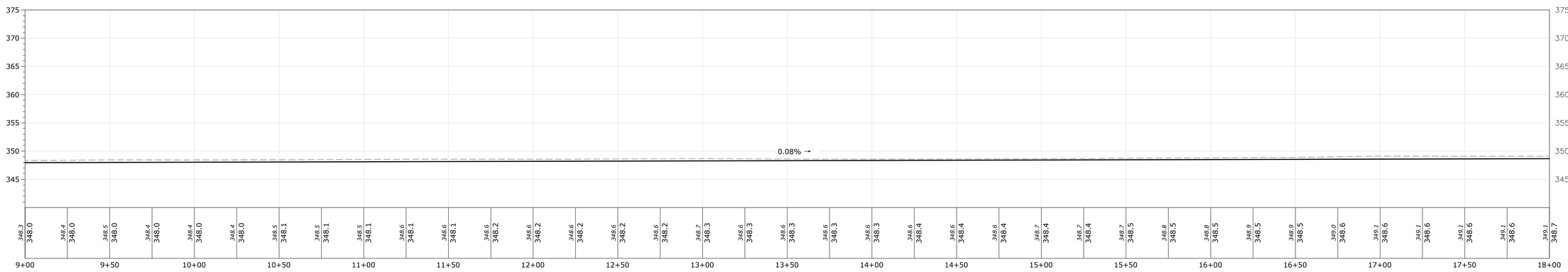
VERTICAL SCALE

1 inch = 5 feet

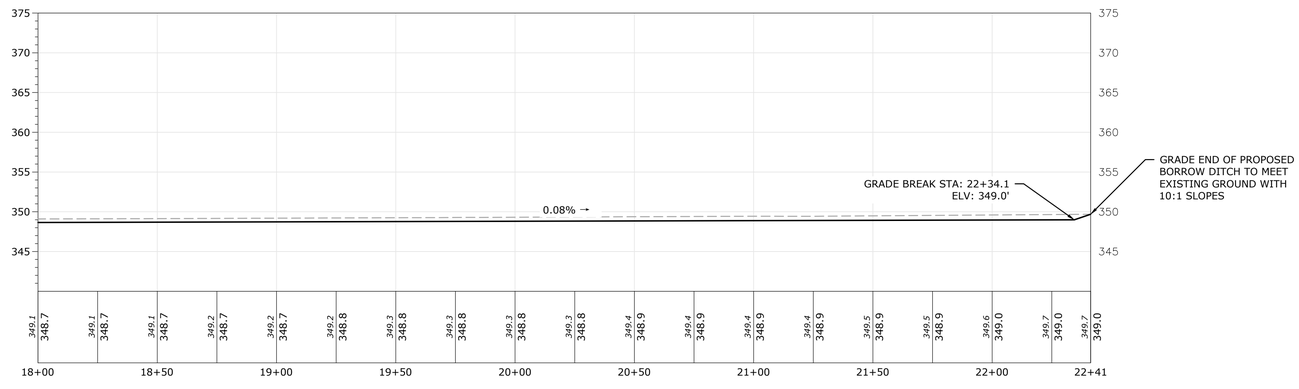
PROFILE
UNIT 3 BORROW DITCH 2



PROFILE
UNIT 3 BORROW DITCH 2



PROFILE
UNIT 3 BORROW DITCH 2



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BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

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VFG - UNIT 3 BORROW DITCH 2 - (9) - (10)

DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3

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HORIZONTAL SCALE

60 0 30 60 120

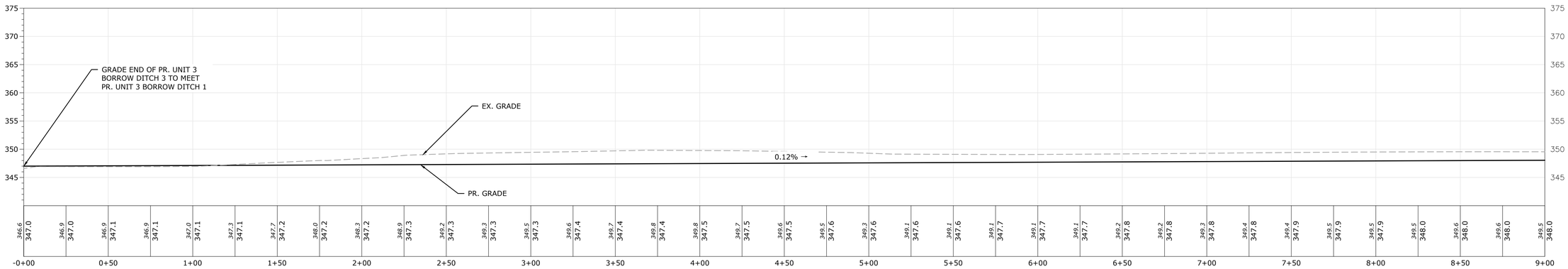
1 inch = 30 feet

VERTICAL SCALE

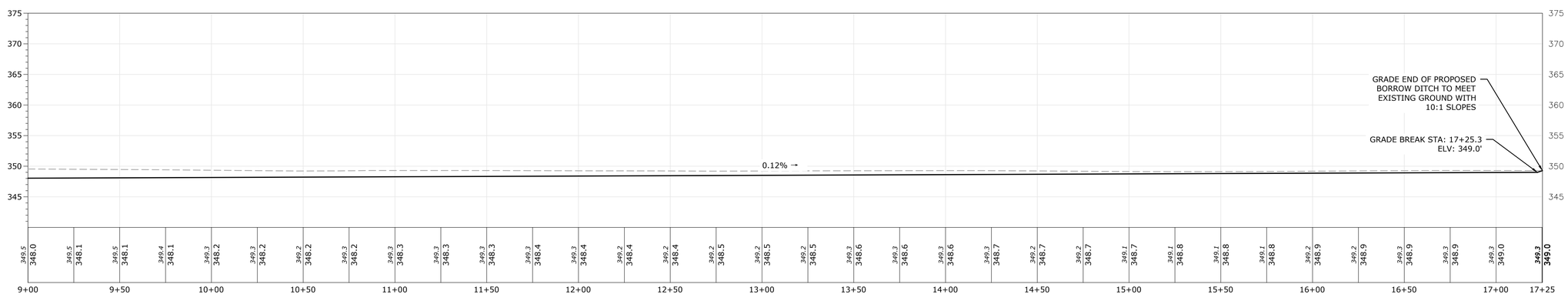
5 0 2.5 5 10

1 inch = 5 feet

PROFILE
UNIT 3 BORROW DITCH 3



PROFILE
UNIT 3 BORROW DITCH 3



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ON:

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BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

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VFG - UNIT 3 BORROW DITCH 3 - (10) - (11)

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

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HORIZONTAL SCALE

60 0 30 60 120

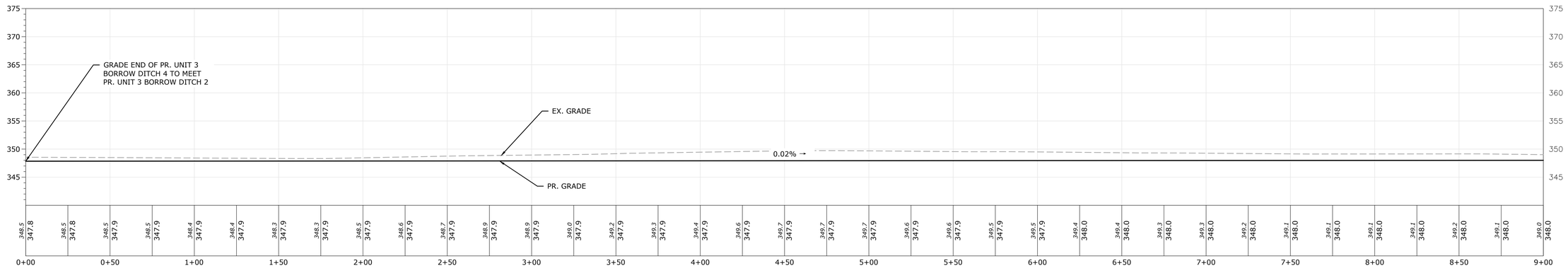
1 inch = 30 feet

VERTICAL SCALE

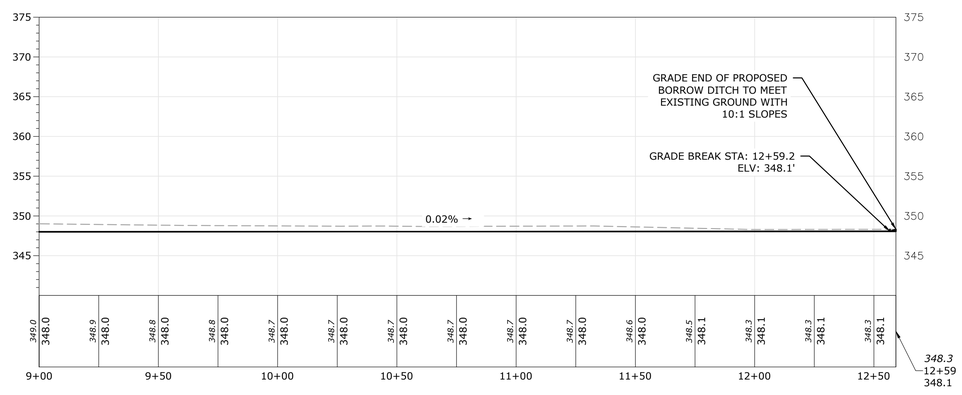
5 0 2.5 5 10

1 inch = 5 feet

PROFILE
UNIT 3 BORROW DITCH 4



PROFILE
UNIT 3 BORROW DITCH 4



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AFFIX SEAL: DUCKS UNLIMITED, INC.

ON:

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BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

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VFG - UNIT 3 BORROW DITCH 4 - (11) - (12)

DESIGNED BY: RC

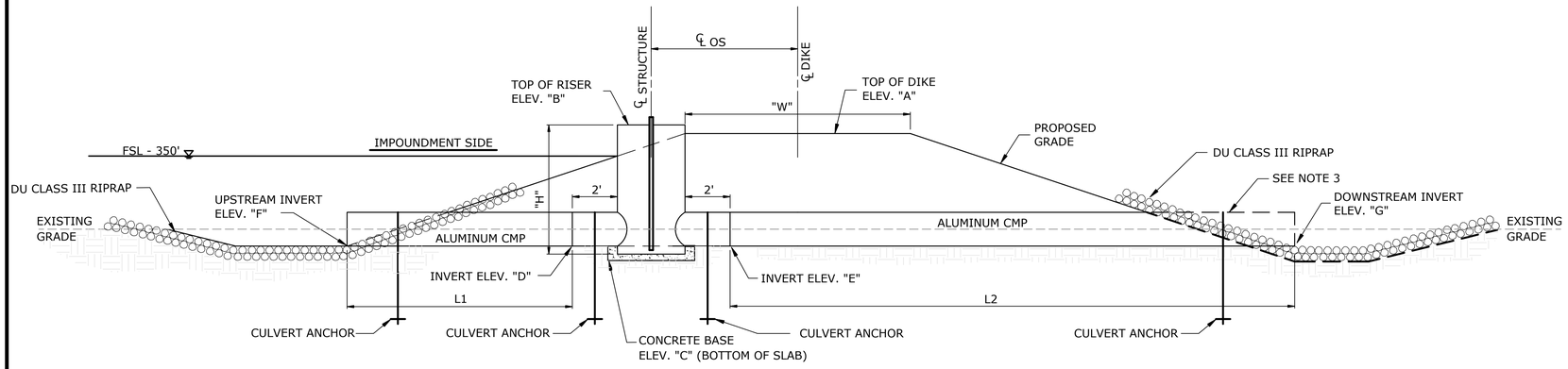
DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

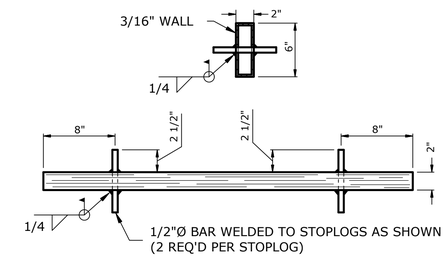
PROJECT NUMBER: US-IN-125-3



PROFILE OF ALUMINUM CMP WATER CONTROL STRUCTURE

NOT TO SCALE

STRUCTURE	PIPE		RISER		TOP OF DIKE EL. "A"	TOP OF RISER EL. "B"	CONCRETE BASE EL "C"	INLET I.E. EL. "D"	OUTLET I.E. EL. "E"	UPSTREAM INV. "F"	DOWNSTREAM INV. "G"	TOP WIDTH "W"	INLET LENGTH "L1"	OUTLET LENGTH "L2"	℄ -℄ OFFSET	RISER HEIGHT "H"	NO. OF STOPLOGS
	SIZE	GA.	SIZE	GA.													
WCS 1	24"	12	30"	12	351.50'	352.00'	343.50'	344.50'	344.50'	344.50'	344.50'	12'	41.0'	54.0'	7.25'	8.0'	11
WCS 2	24"	12	30"	12	351.50'	352.00'	344.50'	345.50'	345.50'	345.50'	345.50'	12'	33.5'	48.5'	7.25'	7.0'	9
WCS 3	24"	12	30"	12	351.50'	352.00'	346.00'	347.00'	347.00'	347.00'	347.00'	20'	26.5'	47.0'	13.25'	5.5'	6



NOTE: 1. WELD 1/2Ø BAR IN STOPLOGS.

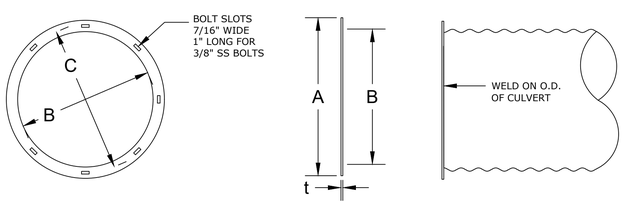
2. STOPLOGS SHALL BE 1" SHORTER THAN WIDTH BETWEEN STOPLOG GUIDES.

3. FABRICATOR TO PROVIDE 1-2" & 1-3" STOPLOG IN ADDITION TO STOPLOGS SPECIFIED.

ALUMINUM STOPLOG DETAIL

NOT TO SCALE

NOTES:
1. "H" INCLUDES 0.5' OF RISER EMBEDDED IN CONCRETE
2. ALL METAL PIPE SHALL BE CONNECTED WITH FLANGE COUPLERS
3. DOWNSTREAM PIPE OUTLET SHALL CONFORM TO SLOPE FOR PIPE DIAMETERS 30" AND LARGER
4. INLET AND/OR OUTLET PIPES GREATER THAN 20 LF. SHALL BE FABRICATED USING MULTIPLE SECTIONS NOT TO EXCEED 20 LF., CONNECTED W/ FLANGE COUPLERS. A FULL 20' SECTION MUST BE UTILIZED AS THE END SECTION OF PIPE.
5. CONTRACTOR SHALL FIELD CHECK ALL EXISTING ELEVATIONS PRIOR TO CONSTRUCTION AND MAKE ADJUSTMENTS, IF NEEDED.

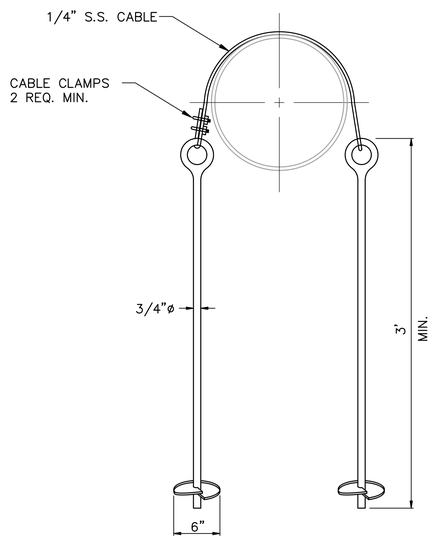


BASIC SIZE IN.	ALUM.	O.D. (A) FLANGE	I.D. (B) FLANGE	NO. HOLES	BOLT CIR. DIA. (C)	GASKET NO SECT
6	3/16	10	6	6	8	1
8	3/16	12	8	6	10	1
12	3/16	16	12	10	14	1
15	3/16	19	15	12	17	1
18	3/16	22	18	14	20	1
21	3/16	25	21	16	23	1
24	3/16	28	24	18	26	1
30	3/16	34	30	22	32	2
36	3/16	40	36	26	38	2
42	1/4	46	42	30	44	2
48	1/4	52	48	34	50	2

NOTES: 1. 6"- 36" FLANGES CUT FROM 3/16 ALUMINUM PLATE.
2. GASKETS DIE CUT FROM 1/8" PVC NITRILE FOAM ENSOLITE AND MATCHED TO CORRESPONDING FLANGE DIMENSIONS (BXD)(E) & NO HOLES.
3. 2 WASHERS PER SLOT.

FLANGE COUPLER DETAIL

NOT TO SCALE



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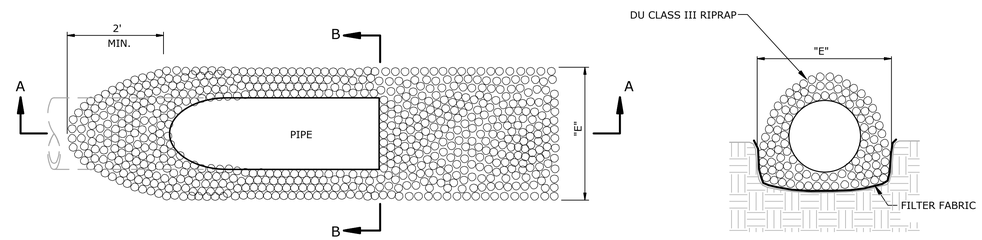
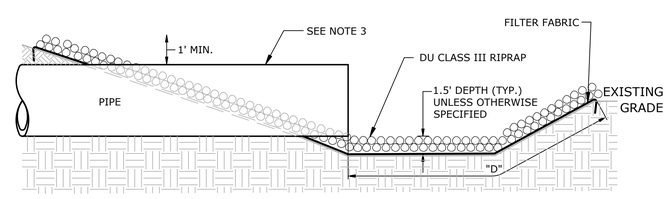
NOT TO SCALE



PLAN VIEW

SECTION B-B



SECTION A-A

DU CLASS III RIPRAP			
PIPE DIA.	D	E	TN
12"	5'	4'	8.6
15"	5'	4.25'	9.4
18"	5'	4.5'	10.4
21"	5.5'	5.75'	14.8
24"	6'	6'	16.4
27"	6.5'	6.25'	18.6
30"	7'	6.5'	20.4
36"	8'	7'	24.4
42"	9'	7.5'	28.6
48"	10'	8'	33.0
54"	12'	8.5'	39.6
60"	12.5'	9'	43.6

NOTES:
1. IF THE RIPRAP CLASS DESIGNATION IS NOT SPECIFIED ON THE CONSTRUCTION PLANS, CLASS 1 ROCK RIPRAP SHALL BE UTILIZED. THE ROCK SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
2. UNLESS OTHERWISE SPECIFIED, FILTER FABRIC SHALL BE UTILIZED IN THE INSTALLATION OF RIPRAP.
3. DOWNSTREAM CMP PIPE OUTLET SHALL CONFORM TO SLOPE FOR PIPE DIAMETERS 30" AND LARGER.
4. RIPRAP SHALL BE PLACED ON INLET AND OUTLET SIDE.
5. RIPRAP QUANTITIES IN TABLE ACCOUNTS FOR INLET AND OUTLET SIDE.

OUTLET AND RIPRAP DETAIL

NOT TO SCALE

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WCS DETAILS - 1
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'	'	'	'	'

CAD FILE: IN-125-3 Details

DESIGNED BY: RC

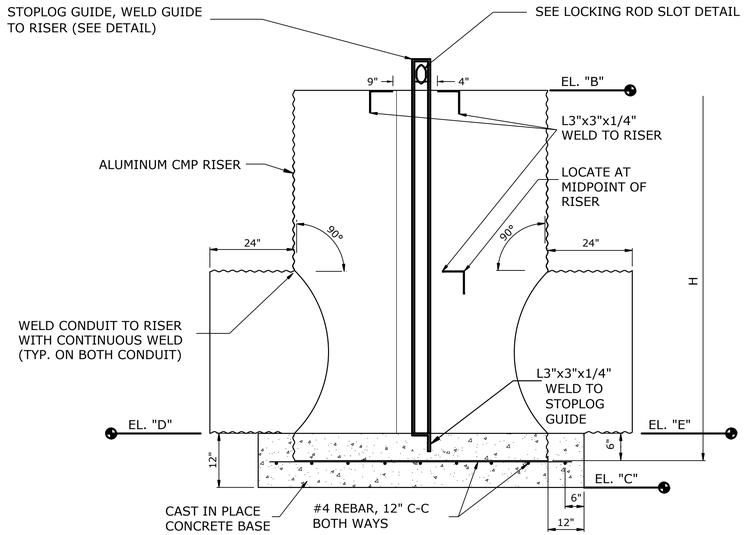
DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

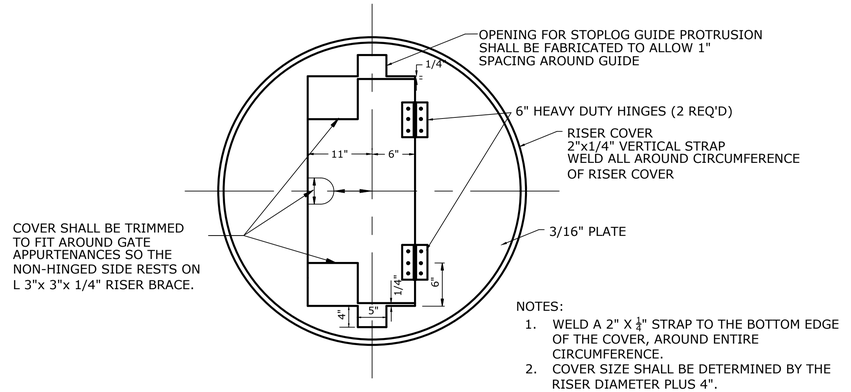
PROJECT NUMBER: US-IN-125-3



* SEE TABLE

TYP CMP GATE CONTROL STRUCTURE

NOT TO SCALE

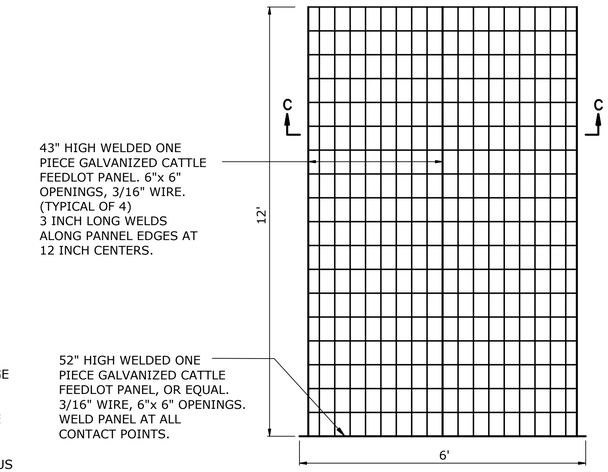


NOTES:

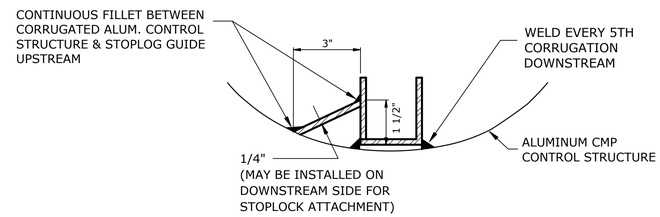
1. WELD A 2" X $\frac{1}{4}$" STRAP TO THE BOTTOM EDGE OF THE COVER, AROUND ENTIRE CIRCUMFERENCE.
2. COVER SIZE SHALL BE DETERMINED BY THE RISER DIAMETER PLUS 4".
3. HINGED DOOR LENGTH SHALL BE DETERMINED BY THE RISER DIAMETER MINUS 5" SIDE OF RISER.

GATE RISER COVER DETAIL

NOT TO SCALE

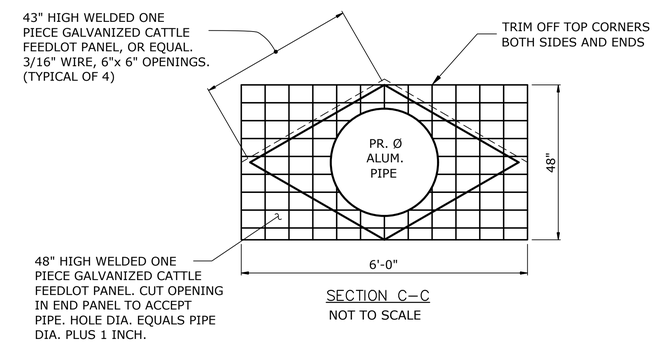


*APPLIES TO ALL WATER CONTROL STRUCTURES



STOPLOG GUIDE DETAIL

NOT TO SCALE

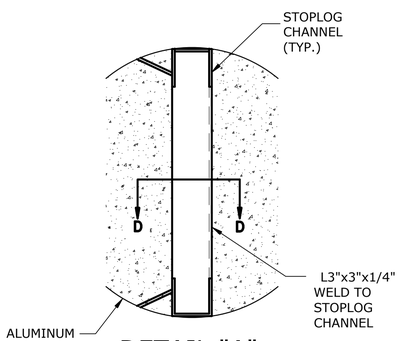


SECTION C–C

NOT TO SCALE

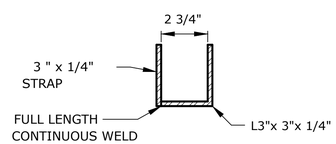
BEAVER DETERRENT DETAIL

NOT TO SCALE



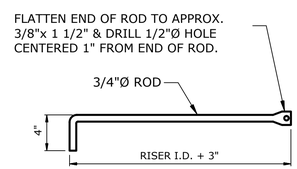
DETAIL "A"

NOT TO SCALE



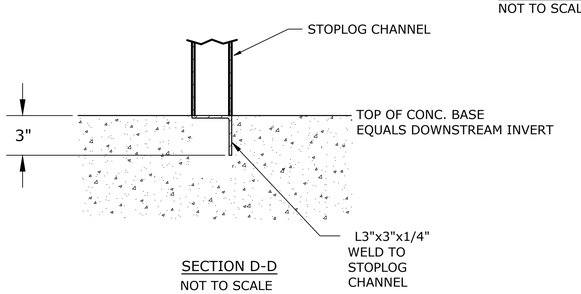
STOPLOG CHANNEL DETAIL

NOT TO SCALE



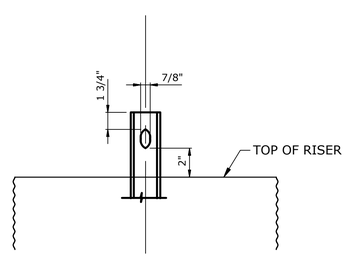
LOCKING ROD DETAIL

NOT TO SCALE



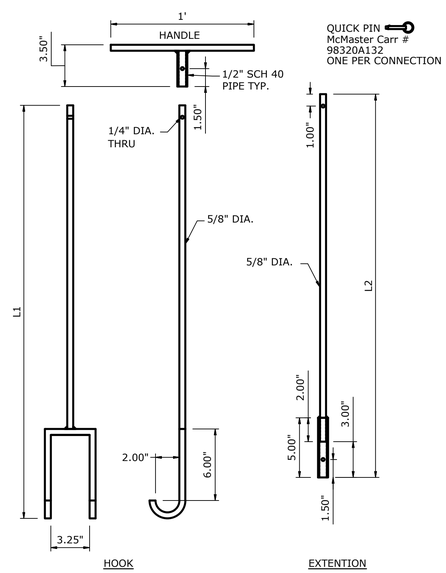
SECTION D-D

NOT TO SCALE



LOCKING ROD SLOT DETAIL

NOT TO SCALE



STOPLOG LIFTING HOOK DETAIL

NOT TO SCALE

NOTE: L1 AND L2 EQUAL HEIGHT OF RISER PLUS 1'
MAX LENGTH FOR EACH 5'. AFTER ADD A SECOND EXTENTION L3
2 PER STRUCTURE

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ON:

WCS DETAILS - 2
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE AREA
POSEY COUNTY, IN

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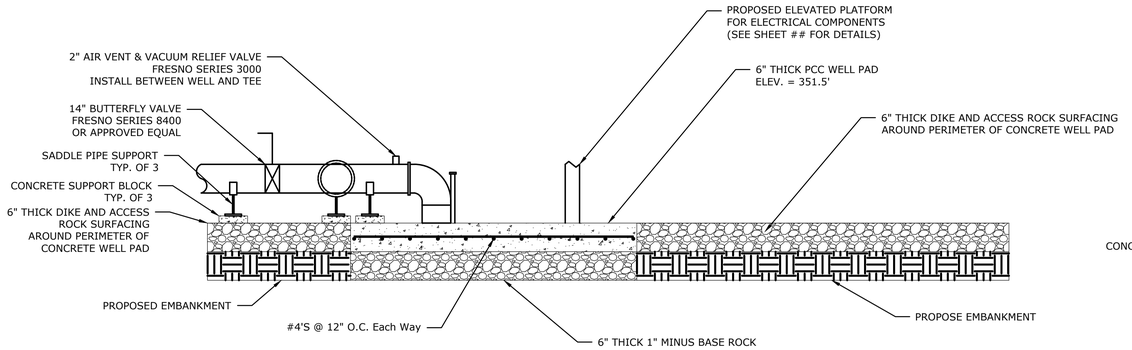
DESIGNED BY: RC
DRAWN BY: BK
SURVEYED BY: RC & BK
BIOLOGIST: DC
DATE: 05/19/2022
PROJECT NUMBER: US-IN-125-3

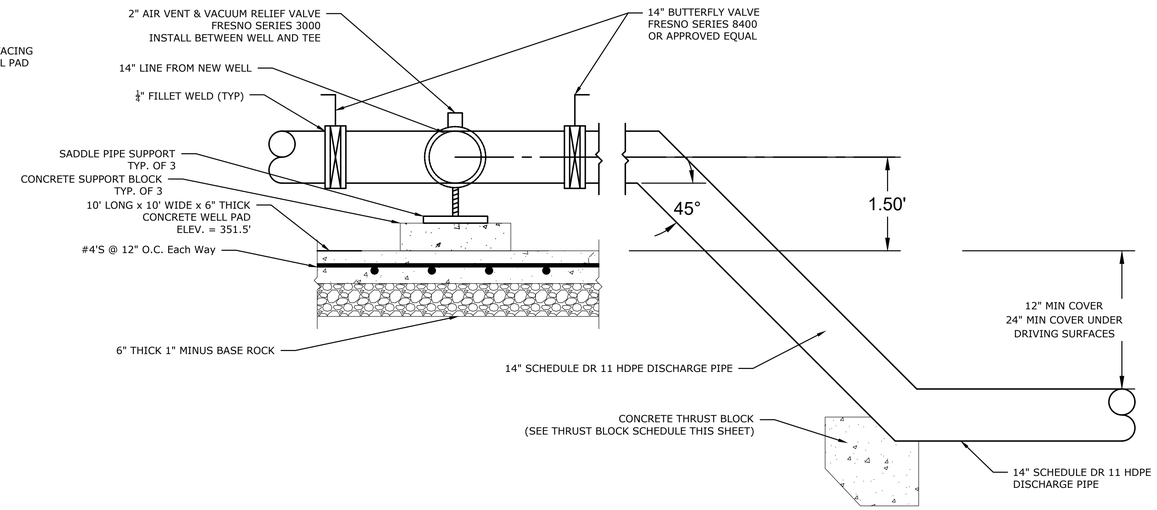


NOTES:

1. SUPPORT BLOCKS SHALL BE 14" ADJUSTABLE SADDLE PIPE SUPPORT TYPE OR ENGINEERS APPROVED EQUAL.
2. SADDLE PIPE SUPPORTS SHALL BE MOUNTED TO 24"X24"X4" CONCRETE SUPPORT BLOCKS. REINFORCEMENT WILL NOT BE REQUIRED FOR CONCRETE SUPPORT BLOCKS.

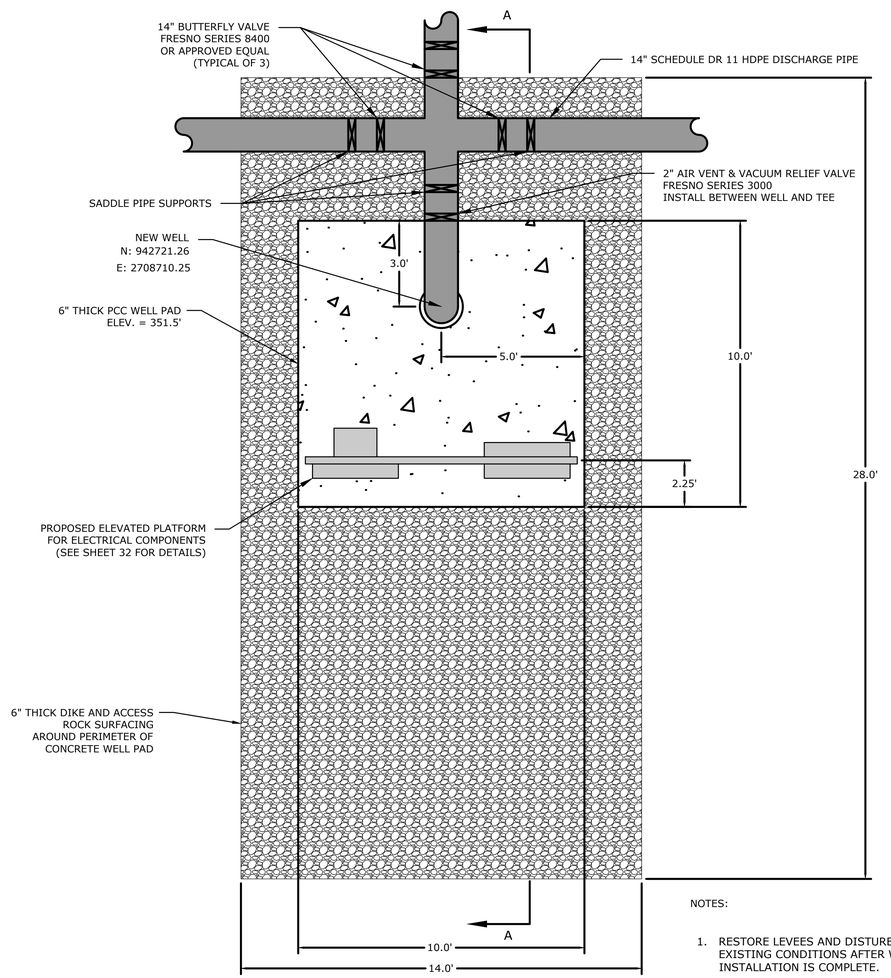
TYPICAL WELL PAD SECTION A-A'

NOT TO SCALE



TYPICAL DISCHARGE LINE AT WELL

NOT TO SCALE

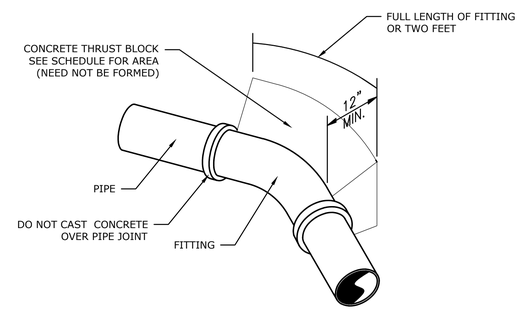


NOTES:

1. RESTORE LEVEES AND DISTURBED AREAS BACK TO EXISTING CONDITIONS AFTER WELL AND PIPE INSTALLATION IS COMPLETE.

TYPICAL WELL PAD DETAIL

NOT TO SCALE



THRUST BLOCK SCHEDULE BEARING AREA, SQ. FT.							
SIZE	TEE	END CAP	CROSS	90°	45°	22 1/2°	11 1/4°
24"	14.0	14.0	14.0	19.0	10.0	5.6	2.8
18"	8.2	8.2	8.2	11.6	6.3	3.1	1.6
16"	6.0	6.0	6.0	8.5	4.6	2.4	1.2
14"	4.7	4.7	4.7	6.1	3.6	1.8	0.9
12"	3.8	3.8	3.8	5.4	2.9	1.5	0.8
10"	2.7	2.7	2.7	3.8	2.1	1.1	0.6
8"	1.8	1.8	1.8	2.5	1.3	0.7	0.4
4"+6"	1.0	1.0	1.0	1.5	0.8	0.4	0.3

TYPICAL CONCRETE THRUST BLOCK DETAIL

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ON:

WELL PAD DETAILS
BEHIND LAKE
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DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE:
05/19/2022

PROJECT NUMBER:
US-IN-125-3

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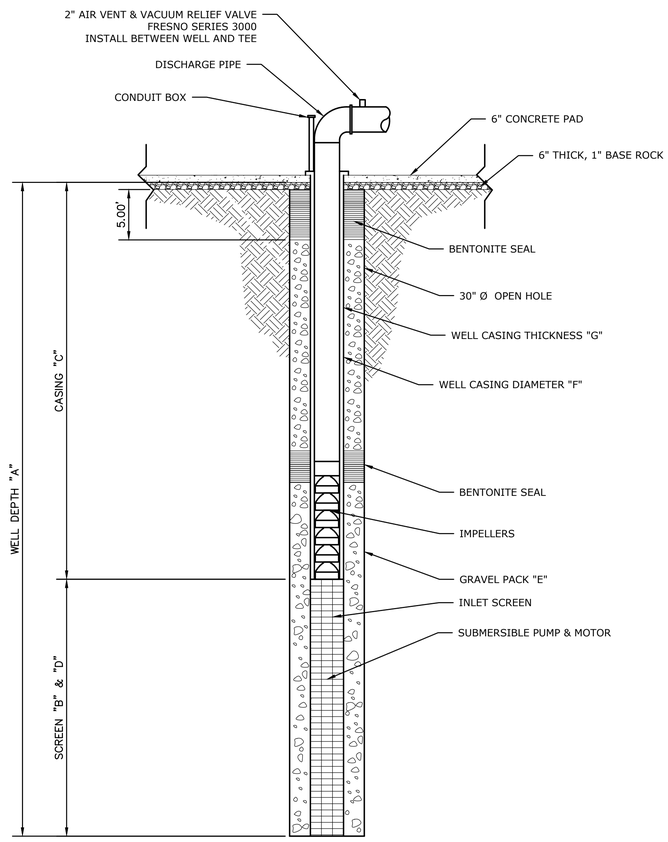


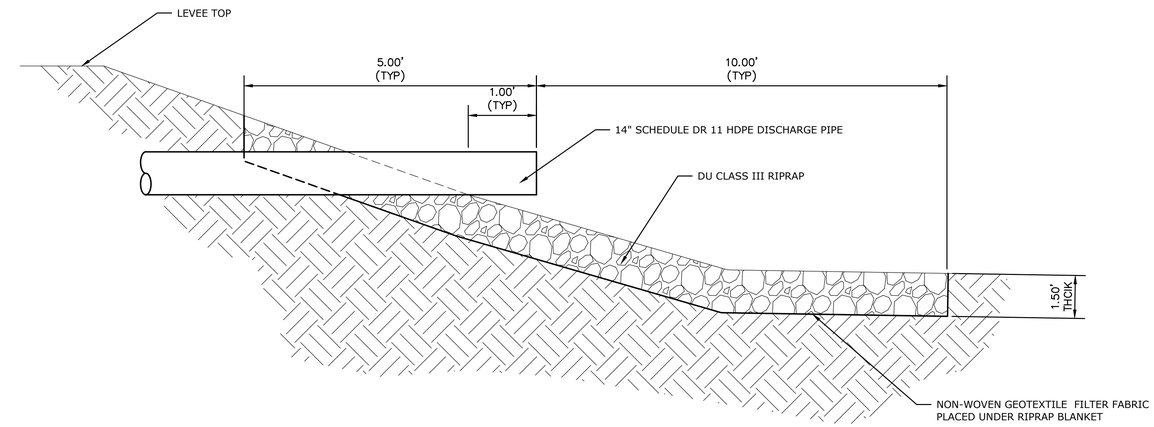
TYPICAL WELL DETAIL

NOT TO SCALE

WELL	DEPTH OF WELL "A"	LENGTH OF SCREEN "B"	LENGTH OF CASING "C"	STAINLESS STEEL SLOT SCREEN SIZE "D"	GRAVEL PACK "E"	WELL CASING DIAMETER "F"	WELL CASING THICKNESS "G"
MAIN WELL	100'-120'	30'	70'-90'	TBD	TBD	24"	0.375"

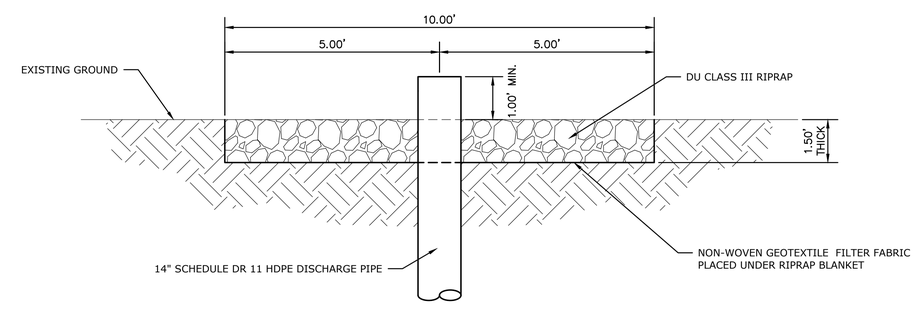
NOTES:

1. RESTORE LEVEES AND DISTURBED AREAS BACK TO EXISTING CONDITIONS AFTER WELL AND PIPE INSTALLATION IS COMPLETE.
2. CONTRACTOR SHALL SECURELY MOUNT GROUT PLATE TO CONCRETE AND DISCHARGE HEAD TO GROUT PLATE PER MANUFACTURERS WRITTEN SPECIFICATIONS.
3. CONTRACTOR SHALL PURCHASE AND INSTALL DISCHARGE PIPE AND APPURTENANCES TO EACH POOL AS SHOWN ON PLANS.
4. QUANTITIES & DIMENSIONS ARE TO BE DETERMINED AND VERIFIED BY WELL DRILLER AND TEST WELL.



TYPICAL RIPRAP OUTLET BASIN 1

NOT TO SCALE



TYPICAL RIPRAP OUTLET BASIN 2

NOT TO SCALE

NOTES:

1. WIDTH OF TYPICAL RIPRAP OUTLET BASINS 1 & 2 = 10FT

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DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

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PROJECT NUMBER:
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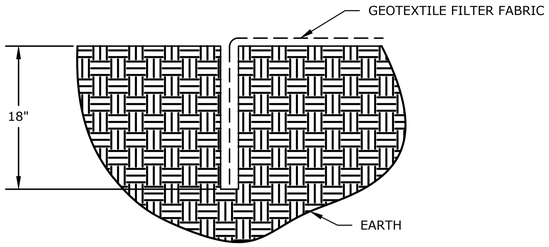
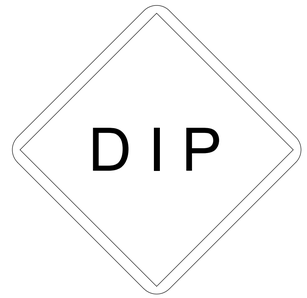


NOTES:

1. GEOTEXTILE FILTER FABRIC IS TO BE TRENCHED 18" DEEP ON ENDS. TRENCH IS TO BE FILLED WITH EXCAVATED MATERIAL AND COMPACTED.
2. GEOTEXTILE FILTER FABRIC SHALL BE A NON-WOVEN POLYESTER OR POLYPROPYLENE GEOTEXTILE.
3. GEOTEXTILE FILTER FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 150 POUNDS AS DETERMINED BY ASTM D4632.
4. GEOTEXTILE FILTER FABRIC SHALL HAVE A MAXIMUM OPENING SIZE EQUIVALENT TO A #70 U.S. STANDARD SIEVE.
5. CONTRACTOR SHALL SUPPLY ALL PINS AND OTHER ITEMS NECESSARY TO FASTEN THE FILTER FABRIC TO THE GROUND SO IT WILL NOT SLIDE OR FORM GAPS.

TYPICAL GEOTEXTILE FILTER FABRIC DETAIL

NOT TO SCALE



36"X36" W8-2 DIP WARNING SIGN

NOT TO SCALE

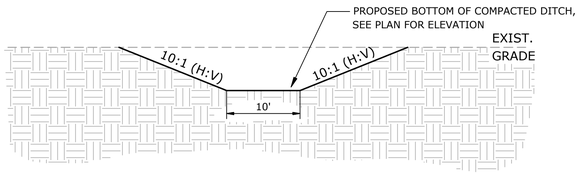
NOTES:

1. DIP WARNING SIGNS SHALL BE 36"X36" PER MUTCD TABLE 2C-2.
2. DIP WARNING SIGNS SHALL BE INSTALLED 200 LF FROM WARNED ALIGNMENT CHANGE (SPILLWAYS).
3. DIP WARNING SIGNS SHALL BE INSTALLED ON 4X4 POSTS WITH BREAK AWAY HOLES AT BASE (OR ENGINEERS APPROVED SUBSTITUTE) AND 8 FT FROM EDGE OF TRAVEL LANE.
4. DIP WARNING SIGNS SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 5' MEASURED FROM BOTTOM OF SIGN TO THE ELEVATION OF THE NEAR EDGE OF PAVEMENT,

TYPICAL PUMP CONTROL PANEL VIEW

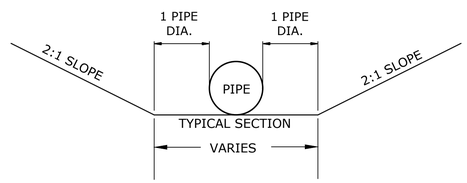
NOTES:

1. CONTRACTOR SHALL CONSTRUCT SIMILAR PLATFORM FOR PUMP CONTROLS PANEL.
2. MINIMUM ELEVATION OF ELECTRICAL PLATFORM = 381.5' (30' ABOVE GROUND LEVEL)



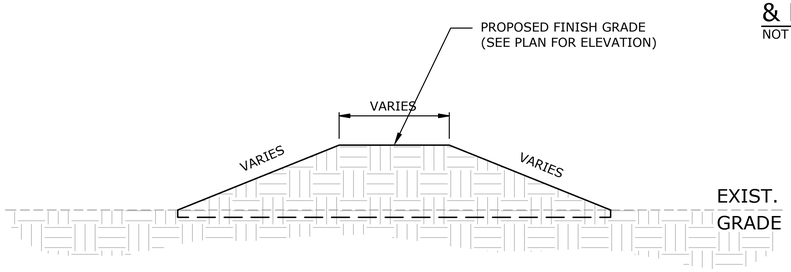
TYPICAL DITCH SECTION

NOT TO SCALE



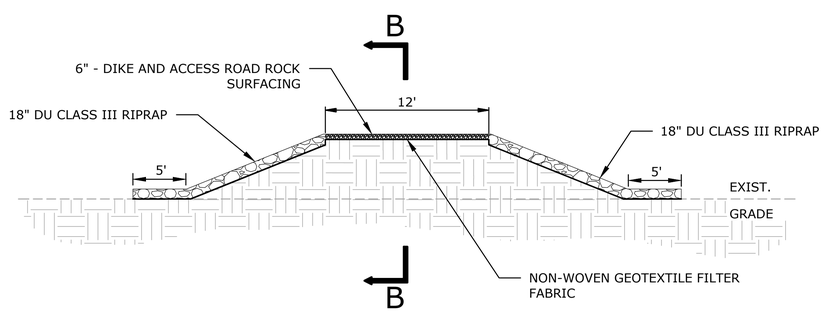
PIPE INSTALLATION & REMOVAL DETAIL

NOT TO SCALE



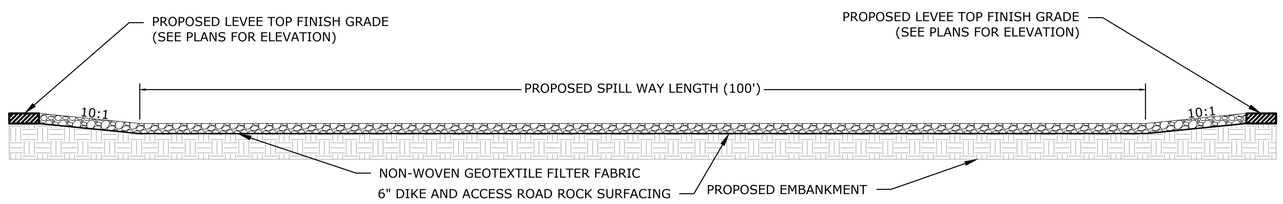
TYPICAL DIKE SECTION

NOT TO SCALE



TYPICAL SPILLWAY SECTION

NOT TO SCALE



TYPICAL SPILLWAY SECTION VIEW B-B

NOT TO SCALE

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k:\glaro c3d projects\in-125-3 behind lake\c3d_drawing\IN-125-3 Details.dwg, 10/25/2022 4:49 PM, Bradley Kollmann, Gen Details, None

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DEXTER, MICHIGAN 48130
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AFFIX SEAL: DUCKS UNLIMITED, INC.

ON:

GEN. DETAILS
BEHIND LAKE
HOVEY LAKE FISH & WILDLIFE
AREA
POSEY COUNTY, IN

Revision	Sheet	Revisions	Date	By
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CAD FILE: IN-125-3 Details

DESIGNED BY: RC

DRAWN BY: BK

SURVEYED BY: RC & BK

BIOLOGIST: DC

DATE: 05/19/2022

PROJECT NUMBER: US-IN-125-3

Hovey Lake FWA Behind Lake Wetland Construction

Erosion Control Practices

Erosion control practices:

- Dike Specs:
  - A mix of 7lbs/acre of switch grass and 25 lbs/acre of annual rye grass to be seeded on all sections of the dike.
  - To be seeded immediately after final grade has been met on the dike construction. As each 300 linear ft section of dike is completed and final grade is met, seeding will immediately follow.
  - Inspect within 24 hours of each rain event and at least once every seven calendar days until the vegetation is successfully established. Repair if needed.
  - Straw single net erosion control blankets will be installed after seeding.
  - Lay erosion control blankets on the seeded area so that they are in continuous contact with the soil with each up-slope or up-stream blanket overlapping the down-slope or down-stream blanket by at least eight inches.
    Tuck the uppermost edge of the upper blankets into a check slot (slit trench), backfill with soil and tamp down. Anchor the blankets in place by driving staples, pins, or stakes through the blanket and into the underlying soil.

- Ditch Specs:
  - Entire disturbed area of ditch to be temporarily seeded with 60 lbs/acre of buckwheat.
  - To be seeded immediately after final grade has been met on ditch construction. As each 300 linear ft section of ditch is completed and final grade is met, seeding will immediately follow.
  - Inspect within 24 hours of each rain event and at least once every seven calendar days until the vegetation is successfully established. Repair if needed.
  - Straw single net erosion control blankets will be installed after seeding.
  - Lay erosion control blankets on the seeded area so that they are in continuous contact with the soil with each up-slope or up-stream blanket overlapping the down-slope or down-stream blanket by at least eight inches.
  - Tuck the uppermost edge of the upper blankets into a check slot (slit trench), backfill with soil and tamp down. Anchor the blankets in place by driving staples, pins, or stakes through the blanket and into the underlying soil.

- Borrow Areas:
    - To be temporarily seeded with 60 lbs/acre of buckwheat.
    - To be seeded immediately after final grade has been met on each one acre section of borrow area.
    - Inspect within 24 hours of each rain event and at least once every seven calendar days until the vegetation is successfully established. Repair if needed.
    - Straw single net erosion control blankets will be installed after seeding.
    - Lay erosion control blankets on the seeded area so that they are in continuous contact with the soil with each up-slope or up-stream blanket overlapping the down-slope or down-stream blanket by at least eight inches.
    - Tuck the uppermost edge of the upper blankets into a check slot (slit trench), backfill with soil and tamp down. Anchor the blankets in place by driving staples, pins, or stakes through the blanket and into the underlying soil.

- Incidentally disturbed Areas:
    - To be temporarily seeded with 60 lbs/acre of buckwheat.
    - To be seeded upon completion of each section of disturbed area.
    - Inspect within 24 hours of each rain event and at least once every seven calendar days until the vegetation is successfully established. Repair if needed.
    - Straw single net erosion control blankets will be installed after seeding.
    - Lay erosion control blankets on the seeded area so that they are in continuous contact with the soil with each up-slope or up-stream blanket overlapping the down-slope or down-stream blanket by at least eight inches.
    - Tuck the uppermost edge of the upper blankets into a check slot (slit trench), backfill with soil and tamp down. Anchor the blankets in place by driving staples, pins, or stakes through the blanket and into the underlying soil.

- Dewatering
    - Dewatering bags must be used for any dewatering practices during construction.
    - Dewatering bags should be 8-ounce nonwoven geotextile fabric and filter at 177 microns.
    - Install the dewatering bag on a slope so incoming water flows downhill through the watering bag without creating more erosion. Strap the neck of the dewatering bag tightly to the discharge hose. To increase the efficiency of filtration, place the bag on an aggregate or hay bale bed to maximize water flow through the surface area of the bag.

Existing Natural Vegetation Buffer:

- A 50-foot buffer of natural vegetation must be left undisturbed around the project site.

Fueling Practices

- All equipment fueling will take place at a designated site indicated on the project map.
- Secondary containment will be required for all fueling procedures.
- All spills needed to be reported immediately to Zach Schoenherr – 812-270-0912.

Full Stormwater Pollution Prevention Plan will be provided to selected contractor.