

**AGENDA**  
**REGULAR DRAINAGE MEETING**  
**October 23, 2019 8:30 AM**

1. Open Meeting
2. Approve Agenda
3. Approve Minutes  
October 9, 2019 Regular Drainage Meeting  
October 9, 2019 DD 25 Landowner Meeting

Documents:

[10\\_9\\_2019 - DRAINAGE MINUTES.PDF](#)  
[DD 25 LANDOWNER MTG 10\\_9\\_2019 - MINUTES.PDF](#)

4. DD 55 - Discuss W/ Possible Action, Wetlands Project

Documents:

[DD 55 HAR872234B WETLAND PERMITTING PLANS.PDF](#)  
[DD 55 WETLAND PROJECT EMAIL.PDF](#)

5. Discuss W/ Possible Action IRUA Check
6. Discuss W/ Possible Action, IRUA Invoices  
CGA - \$255.00 and Davis Brown Law - \$500.00 & \$20.00.
7. DD 25 Update On Lat 3 And Main Split

Documents:

[DD 25 6501 - LAT 3 AND MAIN SPLIT.PDF](#)  
[EMAIL FROM GALLETINE FOR LAT 3 AND MAIN SPLIT.PDF](#)

8. DD 124 - Update On WO #259  
Landowner Steve Kjormoe reported that the problem has gotten worse and is about 1/4 mile long in his field. He has contractor Justin Ross (Grundy County) working on private tile and has asked if he can have Ross do the repair to district tile.

9. Approval Of Out Of County Contractor  
Contractor Justin Ross, see attached Liability Insurance document.

Documents:

[ROSS COL.PDF](#)

10. DD 22 LAT 1 - Approve Work Order 276  
DD 22 LAT 1 - Randy Silvest stopped in to report a dry sinkhole in center of his wetland area, directly north of his house, LAT 1 runs directly through wetland where Randy reports sinkhole. He reports sinkhole is 6' to 8' across and 3' deep. Requests further investigation, repair, and to have Engineer contact him.

Documents:

[DD 22 LAT 1 WO 276.PDF](#)  
[DD 22 LAT 1 WO 276 MAP.PDF](#)

11. DD 38 - Approve Work Order Request #231

Justin Huebner called in to report issues with Lat 4 tile. Neighbor's parcel had repairs to Lat 4 that were expected to resolve his issues downstream, Huebner still has 7-8 acres that were flooded out in his parcel that were not resolved by neighbor's repair. Verified with Huebner current wet spot locations are the same as noted in DD38 Lat 4 Observation Report, dated 5-16-19. He requests further investigation & repair this fall, and to be contacted by Engineer.

Documents:

[6739 - DD38WO231 REPAIR SUMMARY.PDF](#)  
[DD 38 LAT 4 OBSERVATION REPORT 5-15-19.PDF](#)  
[DD 38.DOCX](#)

12. DD 48 - Approve Work Order Request #274

DD 48 - Larry Dougan came in to report the open ditch is meandering from current track into field, and requested repair. Asked to be contacted by Engineer when looking at ditch. See work order 151 attached.

Documents:

[WO 151 2016.PDF](#)  
[DD 48 WO 274.PDF](#)  
[MAP FOR WO 274.PDF](#)

13. DD 131 - Approve Work Order Request #275

-Blowout, Greg Huebner called in to report a blowout on DD 131 Main line, 100 yards directly east of building site, blowout is 8' to 10' across. See Work Order 275 attached.

Documents:

[DD 131 WO 275 MAP.PNG](#)

14. DD 154 - Discuss W/ Possible Action, Landowner Concerns

DD 154 - Roger Woolworth emailed photos with concerns of ponding on his property, in which he references flooding out of the drainage ditch after recent 1-1/2" of rain. Mr. Woolworth questions if the ditch/ground is cut wrong, creating the ponding of water. DD 154 has no recent projects / work orders in Tyler/Access, and does not look to have had any work done in very long time. Possibly related-There is an open ditch noted on Open Ditch Spraying Bids for DD 154 that is not reflected in GIS/Beacon.

Documents:

[DD 154 ROGER WOOLWORTH MAP.PDF](#)  
[DD 154 ROGER WOOLWORTH B 10-21-19.JPG](#)  
[DD 154 ROGER WOOLWORTH D 10-21-19.JPG](#)  
[DD 154 ROGER WOOLWORTH C 10-21-19.JPG](#)  
[DD 154 ROGER WOOLWORTH A 10-21-19.JPG](#)

15. Other Business

16. Adjourn Meeting



# REGULAR DRAINAGE MEETING

10/9/2019 - Minutes

1. Open Meeting

Hardin County Drainage District Board of Trustees Chairperson, Renee McClellan, opened the meeting. Also present were Trustee Lance Granzow. Landowner Tom and Cheryl Roberts. Contractor Matt DeSchamp, Mike Marquess, Attorney for DeSchamp, Lee Gallentine with Clapsaddle-Garber Associates (CGA), and Heather Thomas with Clapsaddle-Garber Associates (CGA), Becca Junker, previous Drainage Clerk, and Denise Smith, new Drainage Clerk.

2. Approve Agenda

Granzow moved, McClellan seconded to approve the agenda as presented. All ayes. Motion carried.

3. Approve Minutes

Granzow moved, McClellan seconded to approve the minutes as presented. All ayes. Motion carried.

4. Approve Claims For Payment

McClellan moved, Granzow seconded to approve the claims for payment with pay date of Friday, October 11, 2019. All ayes. Motion carried.

DD 86 - Professional Serv. After 7/26/19 to 9/27/19 Clapsaddle-Garber Assoc. \$1,223.00

DD 102 - Review of wetland plans Clapsaddle-Garber Assoc. \$643.40

DD 22 - Professional Serv. After 8/24/19 to 9/21/19 Clapsaddle-Garber Assoc. \$19,625.85

DD 1 - Cont. observe, contract admin D35 Rd Xing Clapsaddle-Garber Assoc. \$1,473.00

DD 109 - Reimbursement for work done Prochaska, Dennis \$778.17

DD 9 - Review of annexation information The Davis Brown Law Firm \$150.00

DD 9 - Inv. of Blowout on Lat 1 Clapsaddle-Garber Assoc. \$348.00

DD 9 - Annexation Clapsaddle-Garber Assoc. \$1,201.65

DD 25 - Const. Obsrv. Lat 3 & Main Clapsaddle- Garber Assoc. \$9,448.65

DD 34 - Const. Observ Main Clapsaddle-Garber Assoc. \$729.80

DD 56 - Work to date for Reclass Clapsaddle-Garber Assoc. \$2,312.00

DD 109 - Reimbursement Prochaska, Dennis \$2,174.94

DD 128 - Const. Obsrv open channel Clapsaddle-Garber Assoc. \$350.30

DD 146 - Field Obsrv to repair outlet on main Clapsaddle-Garber Assoc. \$150.65

DD 165 - Field Obsrv to repair sinkhole & outlet Clapsaddle-Garber Assoc. \$150.65

DD 167 - Inv. sinkhole Clapsaddle-Garber Assoc. \$220.50

DD 35-1 - Inv. sinkhole on Lat 1 Clapsaddle-Garber Assoc. \$142.30

DD 106 - Repair on main tile Clapsaddle-Garber Assoc. \$219.70

5. DD 72 - Discuss, With Possible Action, Contractor Update

It had previously been noted by Schlemme (June 13, 2018 minutes) in minutes that "DD 72 has a some rock/debris discovered in tile between during televising, the debris is in the middle of the tile line. Debris is approximately 1,000' from either of two available manholes and the distance to the area of debris is too far in the line to be jetted out, and that DeSchamp would install a new manhole to remove the debris. It was a good possibility that the debris may have flushed itself but this would need more televising. Marquess reminded everyone that this area is under a two year warranty and not part of substantial completion and they would like to complete this work before warranty time expires. The Trustees agreed for Schlemme to set a reminder for fall of 2019 to televise the tile, DeSchamp to dig up the manhole, and the district to pay for the televising costs. If debris remains, DeSchamp will remove it under warranty."

There is the possibility that the debris may have flushed itself, due to heavy rains this year, but the area would need to be televised again to confirm this. The plan was to dig up the bottom manhole and do televising. If tile is working, DeSchamp would prefer not to dig it up if the tile is flowing and there are no issues. Granzow noted he had heard nothing from the landowners, and requested we bring in the landowners to see if things are working and they are satisfied with the flow/work. It was noted that the work would need to be done after harvest and possibly in the spring, DeSchamp is willing to do work if debris is there, but may need an extension on the warranty if he can't get into field to do the work till spring.

Date set for DD 72 landowner meeting on December 4th, 2019 at 8:30 am.

6. DD 22 - Discuss, With Possible Action, Project Update & Pay Estimate #2

Heather Thomas with Clapsaddle-Garber Assoc. (CGA) gave an update on work on DD 22. Work is going well but slow due to very wet conditions, water in trenches. In last 3 weeks, only 3 days that they have been able to get pipe in the ground and are pumping a lot of water. Hoping for drier conditions for work to proceed next week, but may have to be pushed back due to more wet weather in the forecast. Thomas has noted updates from Randy Silvest, he is set to begin harvest this week weather permitting so they are pulling lath to get out of his way and open his accesses back up. Silvest did have concerns about excessive noise from the pumps running near his home, he says pump is running too much and disturbing him at home. Thomas spoke with Silvest and explained that pumps have to run due to wet conditions.

Gehrke did reach out to the County and two contractors, Trent Winter and Paul Williams to talk to them about the septic lines at Travis Ryerson's house, as septic lines lie over the top of the district tile and were damaged while work was being done on DD 22. Neither Winter or Williams are willing to do the repair work. Jeremy will do the septic repair himself, he will get a change order price to the Trustees for the septic repair.

CGA prepared the change order for the cross connections, Gehrke requested we make sure the structures are where we expect them to be to avoid any exploratory excavation. CGA pulled coordinates from Rankin's files to verify, as soon as conditions dry up CGA will probe to verify locations and Gehrke will submit a price. Gehrke will change their approach due to how much water is out there, once they get across C Avenue, they will run it parallel and come back and dig to remove old tile. There is just too much water to make much progress at this time. They are still south of Silvest's house at this time due to wet conditions, and they are out 7 days a week checking pumps. Jeremy is not sure he will make the December 1st deadline. CGA will hit estimated expenses around 1st of November, and are willing to pull back their hours and allow Gehrke to work while CGA are not present. CGA wanted to let Trustees know now, while there is still time to adjust.

Gallentine stated that Randy from CGA is getting a shot on every pipe to make sure concrete pipe is seated correctly. Thomas stated that work goes well in the morning but by 3:00 pm or so, work tends to slow down. Thomas noted concerns about joints being seated correctly later in the day.

Granzow stated to bring the subject back for review next week after he has had the chance to make some phone calls.

Pay estimate for Gehrke is for \$64,385.10, it is not in the claims for this week as Junker was not sure it would be approved.

Motion by Granzow to pay \$64,385.10 to Gehrke for claim, McClellan seconded. All ayes. Motion carried.

7. DD 9 - Discuss, With Possible Action, Legal

A letter was sent to property owner Sailer, and it was picked up on July 16th so we know the letter was received. No response has been received from Mr. Sailer, however that does not mean he is for/against the easement. Gallentine stated that CGA has a ROW acquisition agent on staff if Trustees would like CGA to work on obtaining the easement, and noted that the project could not go to bid letting until an easement agreement was reached. Gallentine gave recent cost examples; for a difficult case, costs were about \$6,000, and for less difficult cases, costs were about \$2,000, and CGA costs would most likely be less than an attorney.

Granzow stated that he does not believe in eminent domain unless it is the very last option. Granzow requested Junker to send a certified letter that response is needed to Mr. Sailer.

Landowners Tom & Cheryl Roberts asked for an update and if this project would be a reclassification. Granzow stated the plans are done and ready to go out to bid, however we do not want to go to bid until we have a ROW through the Sailer property to put in the tile. They have decided against annexation and will not annex any more land to go into the district to make it larger. They will still reclassify what is in the existing district. The area extends up through George loggers, and it was requested to extend Lat 1 through George's land and request was denied. Lat 1 that is inside RR ROW does not have an issue today and it was decided not to extend through George's property as all is working fine now. We are in a holding pattern now until we get ROW through Sailer's property. If Sailer's say no, we may have to go back to original outlet.

Roberts stated he had interaction with Adam Seward regarding trees to be cut, he stated that Seward had removed all small trees/brush but he has not returned yet for any large tree removal or to apply Tordon/growth retardant to small stumps. Roberts was concerned that he initially received a far lesser quote from Seward before Seward realized the County would be paying for the project, and Seward's price to the County was significantly higher. Granzow stated he would ask Seward for more details.

8. Discuss And Review, With Possible Action, Open Ditch Bid Letting

Open Ditch Bids for Brush Control expire at the end of 2019, and Junker noted we have a reminder in the calendar for bid letting notices to be sent in November, with bids due in December. Junkers requested more information on if we have added any new ditches or areas to the list. We also received a request from Joe Harrah to be added to the bid list. B&W Control Specialists have received the bid award since 1993, and we could not find a report for payments for this last bid cycle. Granzow thought he does the spraying once during the 3 year cycle, and he has consistently come in under bid costs. Granzow stated that we should reach out to Gallentine to see if any areas have been added.

9. Other Business

10. Adjourn Meeting

Motion by Hoffman to adjourn. Second by McClellan. All Ayes. Motion carried.

**DRAINAGE DISTRICT 25  
LANDOWNER MEETING  
10/09/2019 - MINUTES**

10/9/2019 - Minutes

1. Open Meeting

Hardin County Drainage District Board of Trustee Chairperson, Renee McClellan, opened the meeting. Also present were Trustee Lance Granzow, previous Drainage Clerk, Becca Junker and new Drainage Clerk, Denise Smith. Landowners; Leonard Penning, David Fincham, Denny Beckman, Denny Friest, Kevin Nessa, Leland Coburn, and Contractor Steve McDowell of McDowell and Sons, Mike Marquess attorney for Matt DeSchamp, Contractor Matt DeSchamp and Lee Gallentine with Clapsaddle-Garber Associates (CGA).

2. Approve Agenda

Granzow moved, McClellan seconded to approve the agenda as presented. All ayes. Motion carried.

3. Introductions/Attendance

Introductions were made and attendance verified.

4. Explanation Of Project/Cost

In previous meeting it was presented by Gallentine that there are 2 tiles going under the UPRR track in DD 25, one is private tile and one is district tile. The private tile lies above the district tile, and both are currently 10" clay tile. The district tile has a large cavity/void missing above the tile and there are a couple of small sinkholes developing. Current project permitted work includes replacing the 10" district tile crossing the tracks with a 12" tile at a cost of \$52,195.00.

The options previously discussed were:

1. Proceed per the original plans and offset the drainage district tile from the private tile.
2. Proceed per the original plans and offset the drainage district tile from the private tile but install an 18" tile under the railroad.
3. Remove the private tile and in return place 18" tile throughout the whole of the two 10" tiles.

Option #3 was discussed, if we went up to one 18" casing, which would be equivalent to the two 10" lines, costs go up by an additional \$25,605.00, which is in addition to the original cost of \$52,195.00. Total cost would be \$77,800.00. Granzow expressed concerns that the original 10" landowner tile would collapse and need eventual addressing anyway, so the 18" would address that issue. Both the private and district tile would utilize the 18" crossing then outlet back into both tiles. No reclassification would be needed.

5. Comments/Discussion

The costs of how this would be assessed were discussed. Kevin Nessa expressed concerns that costs should be assessed to those on the upper side of the crossing as it benefits them directly. Granzow stated that the \$52,195.00 would be assessed to the district and the additional \$25,605.00 would be assessed to those above the crossing as it benefits them directly. The private and district tiles would utilize the same 18" crossing and would then outlet to both tiles again. Granzow stated that we will use topography to determine assessment to those on the topside of crossing.

Granzow requested clarification from the landowner as to how they would like to proceed.

Gallentine stated that permits would need to be updated with the railroad. McDowell stated that work could not proceed until updated permit was granted. Gallentine recommended having the Attorney reach out to the Railroad as they make quicker headway with the Railroad. It was unclear whether existing permit could be updated or if a new permit would be needed. This may delay work until possibly next year while waiting on permit.

Granzow stated if we go forward with the 12" tile as it is permitted now, that if it needs addressed in the future, costs would be higher as it would be a whole new project which would incur additional costs. Coburn and Nessa agreed they were willing to accept costs and needed the outlet, as situation would not get better as existing tiles are 100 years old. It was agreed that although this may prolong the process it was the best choice. Granzow noted that this is a one time expense for this crossing and everyone on the topside understands that, all three landowners agreed (Fincham, Coburn, Friest).

District tile east of the tracks still needs to be televised and evaluated, and based on evaluation it may be replaced. What they have seen so far looks pretty good. That process will continue regardless of what happens with the crossing, weather delays may be expected. Fincham wants holes repaired this fall, McDowell says he will fill holes as soon as televising is done. A change order will have to be made with a estimated completion date in the future, to be updated when new permits are acquired.

Junker asked how attorney fees should be split in the future, McLellan expressed that Gallentine has dealt with the attorneys and can direct them how to split fees.

Friest asked how assessment would affect those with in-town lots in Garden City, Granzow said he would have to look at classification on those lots, it would most likely be assessed at the minimum \$5.00 per lot.

6. Possible Action

Motion by Granzow to approve going to the up-sized 18" tile for the crossing, directing Gallentine to work with attorneys to get permits, get assessment splits to all on the upper side of the crossing per topography. Seconded by McClellan. All ayes. Motion approved.

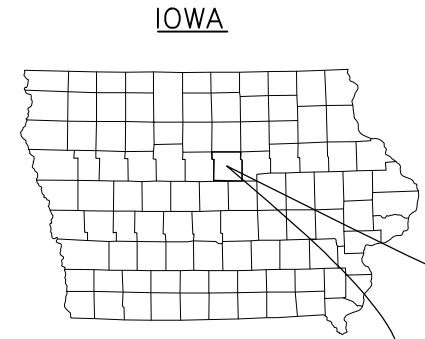
7. Other Business

8. Adjourn Meeting

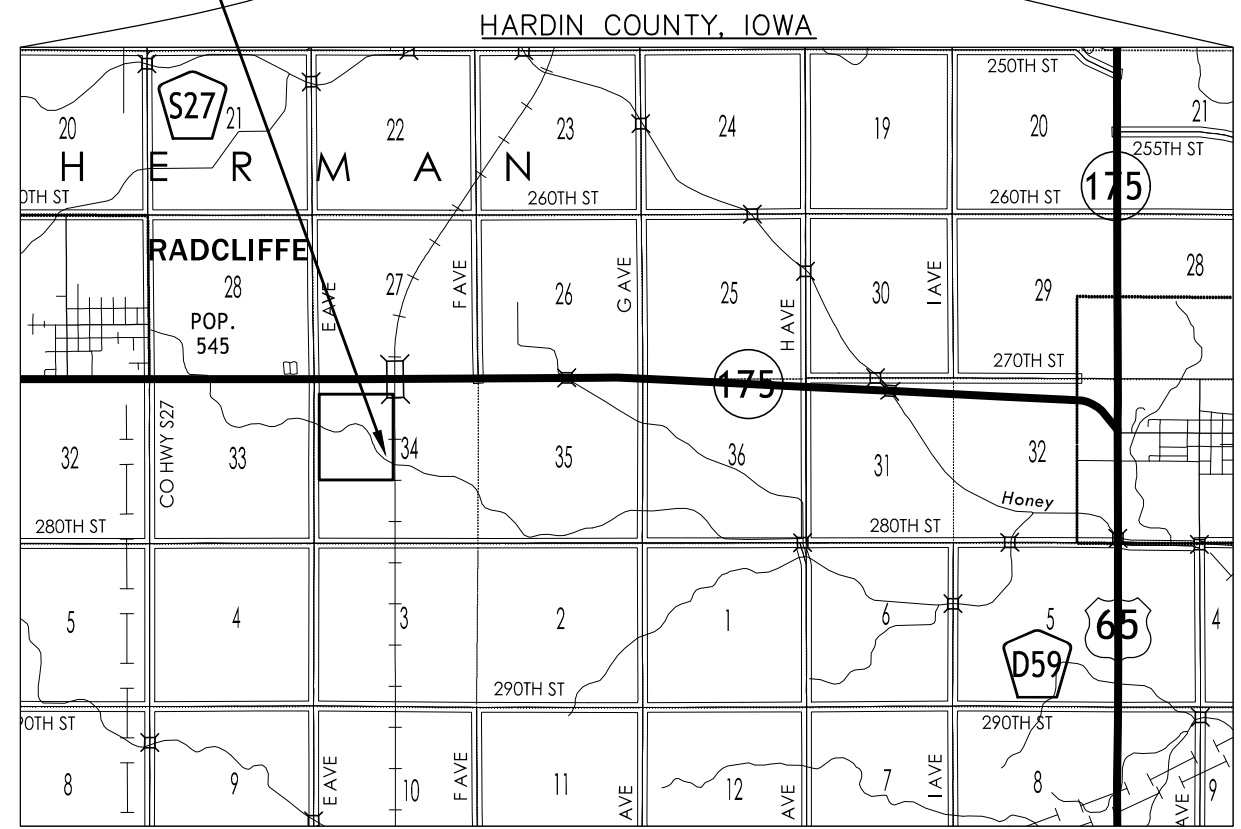
Meeting adjourned.



# CREP WETLAND PROJECT HAR872234 HARDIN COUNTY, IOWA



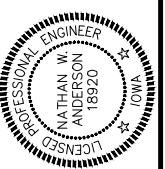
PROJECT LOCATION



SHEET INDEX	
SHEET	DESCRIPTION
A-1	TITLE SHEET
A-2	PROJECT INFORMATION AND QUANTITIES
R-1	EXISTING CONDITIONS & REMOVALS
C-1	PROJECT OVERVIEW
C-2	EMBANKMENT PLAN & PROFILE
C-3	PRIMARY SPILLWAY PLAN & PROFILE
C-4	DRAWDOWN PLAN & PROFILE
C-5	SEDIMENT FOREBAY PLAN
T-1	TILE 1 PLAN & PROFILE
T-2	TILE 2 PLAN & PROFILE
T-3	TILE 3 PLAN & PROFILE
T-4	TILE 4 PLAN & PROFILE
S-1	DRAWDOWN STRUCTURE DETAILS
S-2	SHEETPILE DETAILS
P-1	SEEDING PLAN
D-1	DETAILS

REVISIONS			
NO.	DATE	DESCRIPTION	ISSUED FOR REVIEW ONLY
1	7/10/19		ISSUED FOR PERMITTING
2	7/16/19		ISSUED FOR PERMITTING

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.  
*Nathan W. Anderson*  
 Nathan W. Anderson  
 License Number 18920  
 My license renewal date is December 31, 2017  
 Pages or sheets covered by this seal:



PROJECT PARTNERS



GENERAL NOTES

WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER OF THESE UTILITIES BY CALLING IOWA ONE CALL (1-800-292-8989) AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND SURVEYS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.



TITLE SHEET  
 CREP WETLAND HAR872234  
 HARDIN COUNTY, IOWA

SCALE:	AS SHOWN
PROJECT NO.	8738
DRAWN BY:	NWA
CHECKED BY:	TH
SHEET	A-1

SITE CHARACTERISTICS		
Project ID	Har872234	
Preliminary or Final Design	Final	
Drainage Area	1893	Acres
Wetland Pool Area	15.5	Acres
Deep Water Area (>3 ft deep)	1.8	Acres
Normal Pool Elevation	1136	Feet
Average Pool Depth	1.9	Feet
Maximum Pool Depth	9	Feet
Pool Storage	30.7	Acre-Feet
Berm Elevation	1142	Feet
Berm Storage	210	Acre-Feet
Length of Berm	511	Feet
Auxillary Spillway Elevation	NA	Feet
Auxillary Spillway Width	NA	Feet
Weir Width	60	Feet
Drop Height	7	Feet
Time of Concentration	4.6	Hours
Weighted Runoff Curve Number	88	----
25-year Storm Design Inflow	1387	CFS
100-year Storm Design Inflow	1928	CFS
100-year Flood Surface Elevation	1140.9	Feet

\* PRINCIPAL SPILLWAY DESIGN STORM (24-HOUR)  
 \*\* AUXILIARY SPILLWAY DESIGN STORM (24-HOUR)

#### EARTHWORK BALANCE SUMMARY

Item	Cubic Yards	Comment
Unadjusted Embankment	8,600	Core + Berm + Internal Diversions (Compacted Fill)
Shrinkage Factor	1.2	Assumed
Adjusted Embankment	10,320	(8600*1.2) Material Requiring Compaction to Specification
Non Borrow Excavation	2,900	Interior cuts (sediment basin & channel) + Core Core material gets recompacted in trench. Use other cuts to form interior diversions as this material is not suitable for embankment
Topsoil Stripping	4,100	Assumed 24" thick. Majority of stripped topsoil used for infills on north side (~2,500 CY) with remainder used to minimally cover embankment, tile overs, and other disturbances. Excess topsoil to be spoiled on infills. Does not include topsoiling for borrow areas. Borrow area topsoiling is incidental
Misc. Fill	950	Minimal Compaction (tile cover)
Balance	8,370	(10,320 + 950) - 2,900 (Borrow)

#### ESTIMATED QUANTITIES OF WORK AND LIST OF SPECIFICATIONS

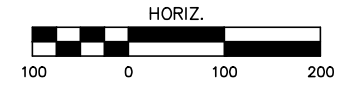
ITEM	DESCRIPTION	SPECIFICAITON	UNIT QUANTITY	UNIT
1	SITE STRIPPING	IA-1	1	LS
2	CLEARING AND GRUBBING	IA-1	1	AC
3	STRUCTURE AND CHANNEL SEEDING	IA-6	2	AC
4	BUFFER SEEDING - NEW	IA-6	15.5	AC
5	BUFFER SEEDING - EXISTING	IA-6	9.6	AC
6	MOBILIZATION	IA-8	1	LS
7	DRAIN TILE INVESTIGATION & REMOVAL	IA-9	1	LS
8	SHEET PILING	IA-13	2870	SF
9	EXCAVATION (P)	IA-21	10320	CY
10	EARTHFILL (P)	IA-23	10320	CY
11	TOPSOILING (P)	IA-1	4100	CY
12	CORRUGATED PE TILE - 8"	IA-9	1060	LF
13	CORRUGATED PE TILE - 12"	IA-9	929	LF
14	CORRUGATED METAL PIPE - 18"	IA-51	220	LF
15	CMP DRAWDOWN STRUCTURE	IA-51	1	EA
16	CMP RISER INLET STRUCTURE	IA-51	1	EA
17	CMP STOP LOG STORAGE STRUCTURE	IA-51	1	EA
18	CMP TILE OUTLET - 8"	IA-51	60	LF
19	CMP TILE OUTLET - 12"	IA-51	20	LF
20	RIPRAP	IA-61	1050	TON
21	CONCRETE GROUT FOR RIPRIAP	IA-62	200	CY



REVISIONS	
NO.	DESCRIPTION
1	ISSUED FOR REVIEW ONLY
2	ISSUED FOR PERMITTING

PROJECT INFORMATION AND QUANTITIES  
 CREP WETLAND - HAR872234  
 HARDIN COUNTY, IOWA

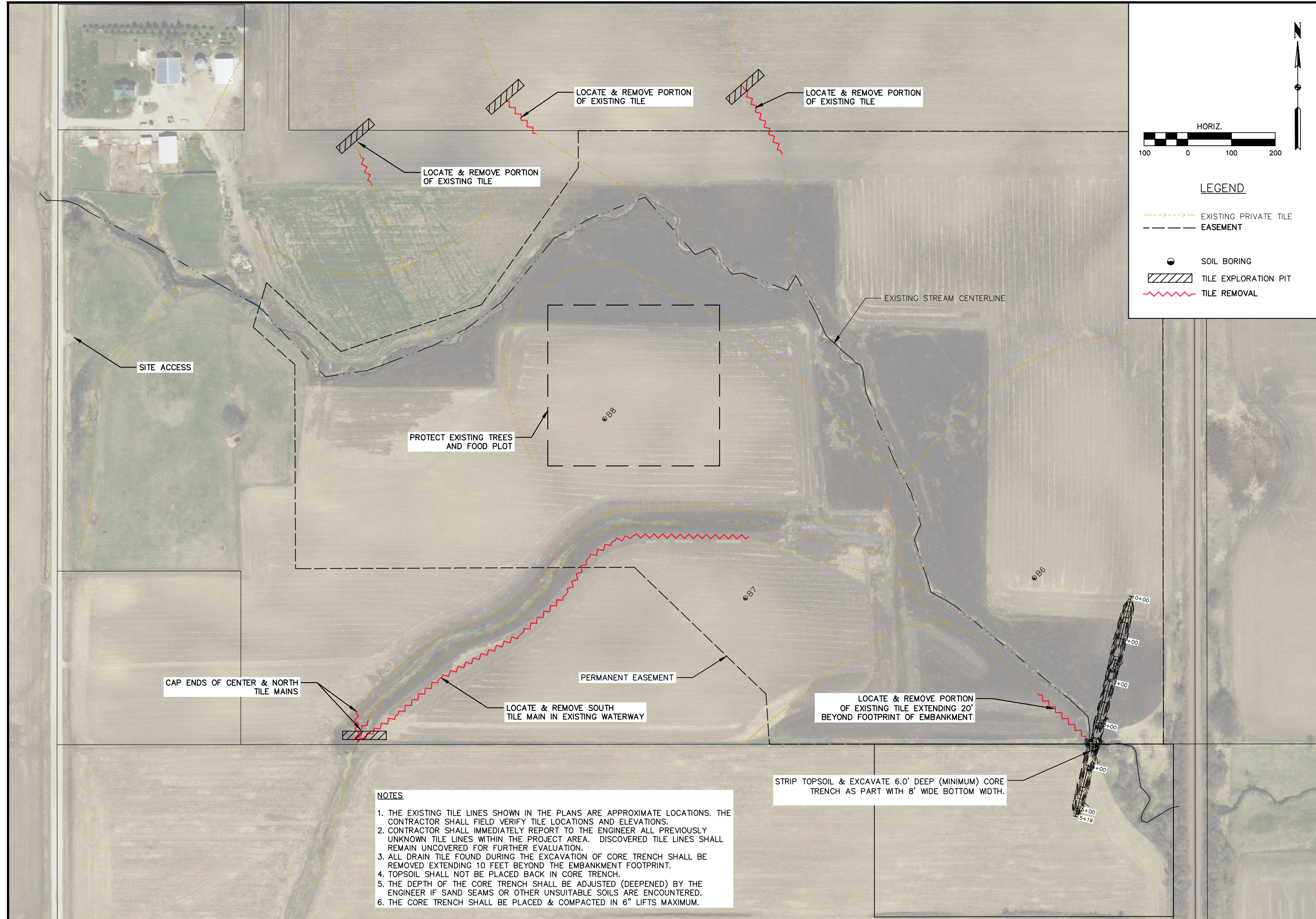
SCALE: AS SHOWN  
 PROJECT NO. 8738  
 DRAWN BY: NWA  
 CHECKED BY: TH  
 SHEET



**LEGEND**

- EXISTING PRIVATE TILE
- EASEMENT
- SOIL BORING
- ▨ TILE EXPLORATION PIT
- TILE REMOVAL

REVISIONS			
NO.	DATE	DESCRIPTION	
1	7/10/19	ISSUED FOR REVIEW ONLY	
2	7/16/19	ISSUED FOR PERMITTING	

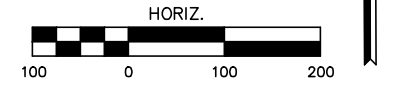
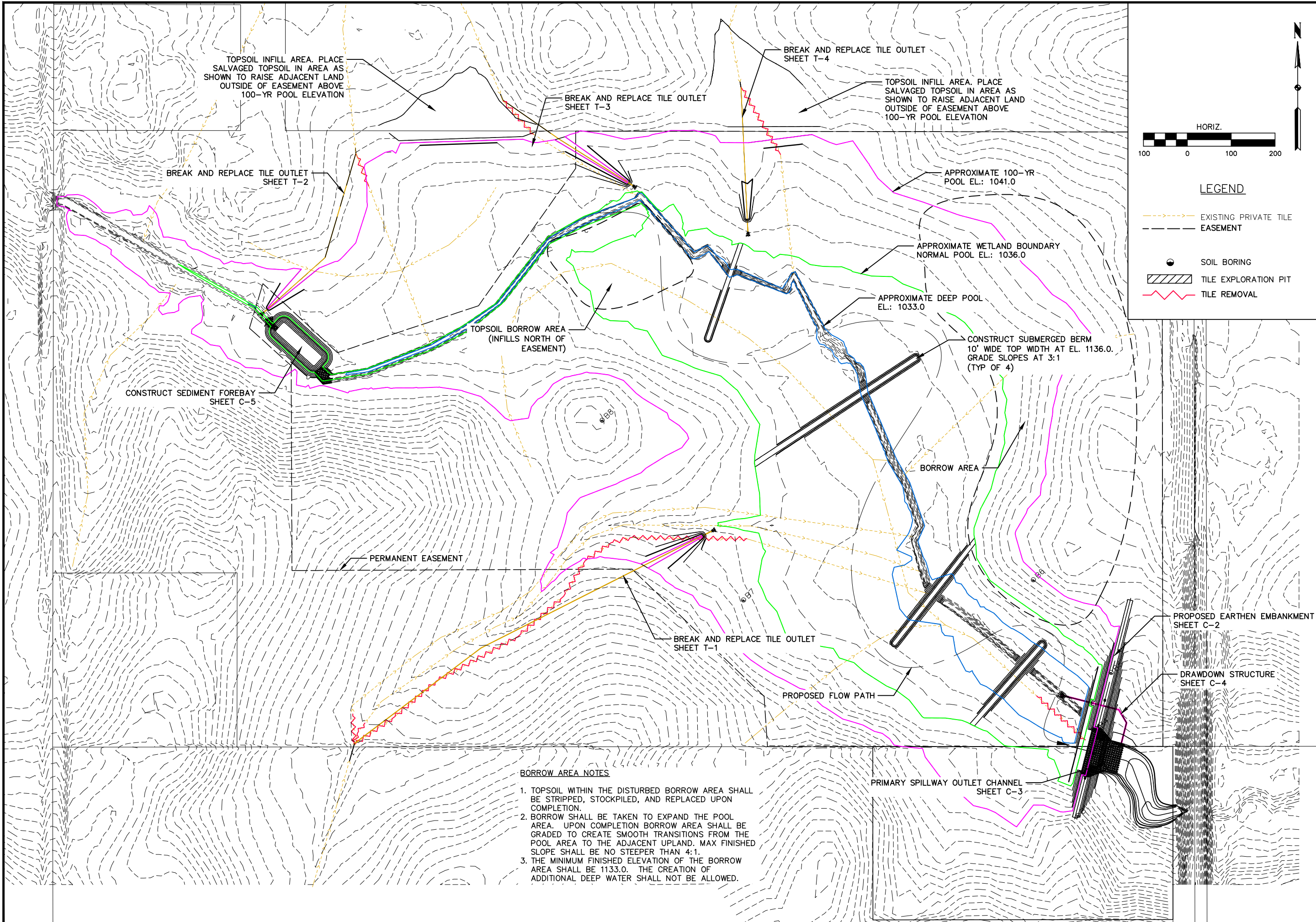


**NOTES**

1. THE EXISTING TILE LINES SHOWN IN THE PLANS ARE APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL FIELD VERIFY TILE LOCATIONS AND ELEVATIONS.
2. CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ALL PREVIOUSLY UNKNOWN TILE LINES WITHIN THE PROJECT AREA. DISCOVERED TILE LINES SHALL REMAIN UNCOVERED FOR FURTHER EVALUATION.
3. ALL DRAIN TILE FOUND DURING THE EXCAVATION OF CORE TRENCH SHALL BE REMOVED EXTENDING 10 FEET BEYOND THE EMBANKMENT FOOTPRINT.
4. TOPSOIL SHALL NOT BE PLACED BACK IN CORE TRENCH.
5. THE DEPTH OF THE CORE TRENCH SHALL BE ADJUSTED (DEEPEMED) BY THE ENGINEER IF SAND SEAMS OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED.
6. THE CORE TRENCH SHALL BE PLACED & COMPACTED IN 6" LIFTS MAXIMUM.

EXISTING CONDITIONS & REMOVALS  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	R-1



**LEGEND**

- EXISTING PRIVATE TILE
- EASEMENT
- SOIL BORING
- TILE EXPLORATION PIT
- TILE REMOVAL

**REVISIONS**

NO.	DATE	DESCRIPTION
1	7/10/19	ISSUED FOR REVIEW ONLY
2	7/16/19	ISSUED FOR PERMITTING

- BORROW AREA NOTES**
1. TOPSOIL WITHIN THE DISTURBED BORROW AREA SHALL BE STRIPPED, STOCKPILED, AND REPLACED UPON COMPLETION.
  2. BORROW SHALL BE TAKEN TO EXPAND THE POOL AREA. UPON COMPLETION BORROW AREA SHALL BE GRADED TO CREATE SMOOTH TRANSITIONS FROM THE POOL AREA TO THE ADJACENT UPLAND. MAX FINISHED SLOPE SHALL BE NO STEEPER THAN 4:1.
  3. THE MINIMUM FINISHED ELEVATION OF THE BORROW AREA SHALL BE 1133.0. THE CREATION OF ADDITIONAL DEEP WATER SHALL NOT BE ALLOWED.

PROJECT OVERVIEW SHEET  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

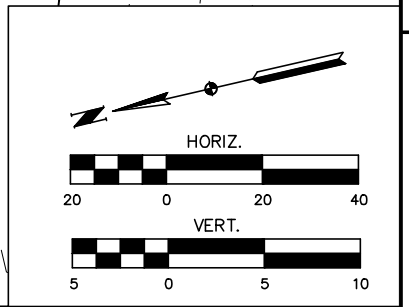
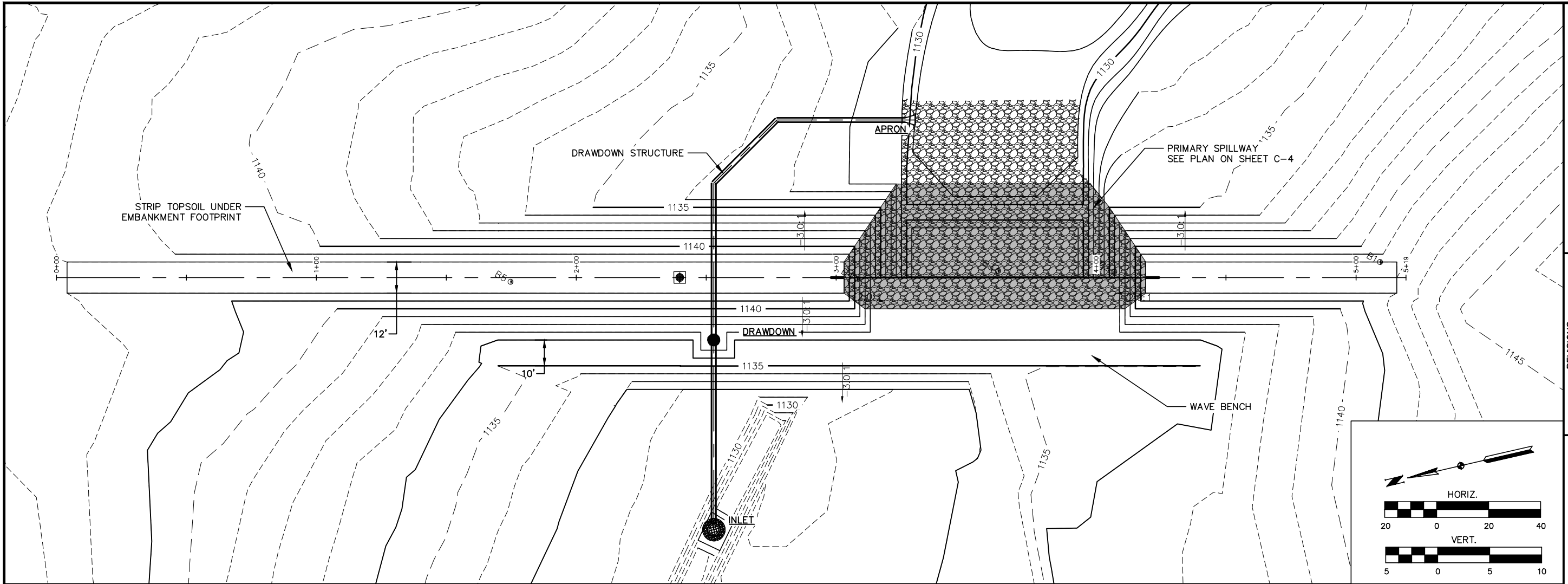
SCALE: AS SHOWN

PROJECT NO. 8734

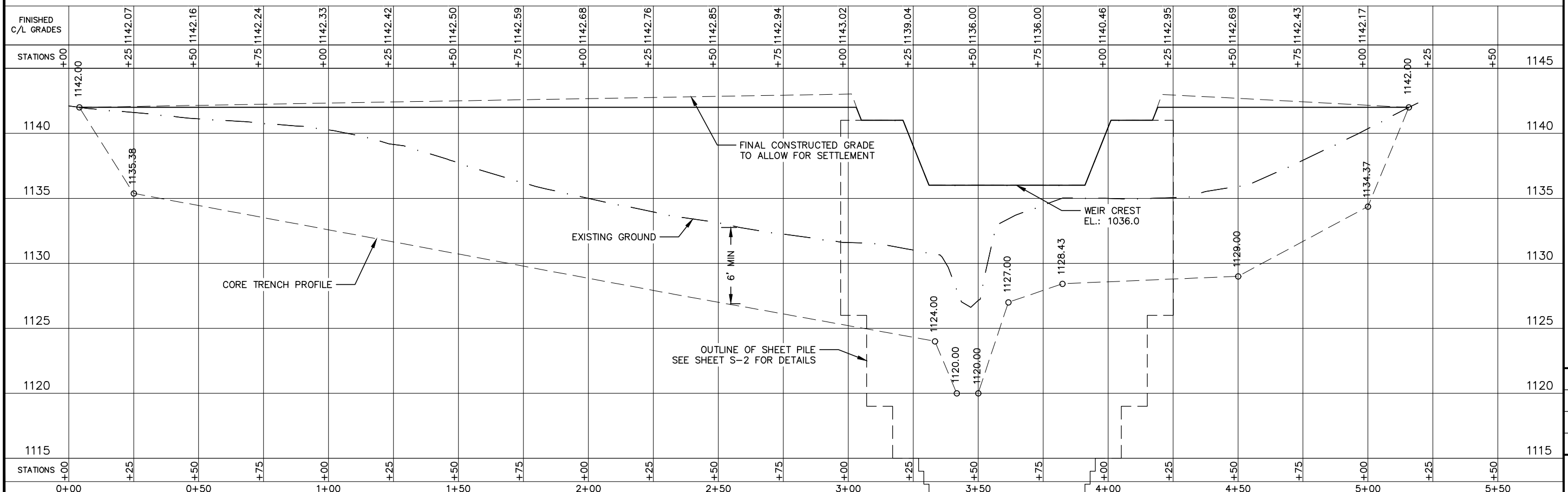
DRAWN BY: NWA

CHECKED BY: NA

SHEET C-1

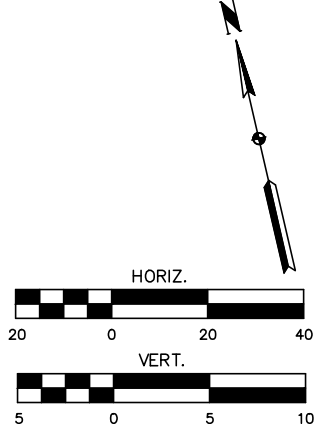
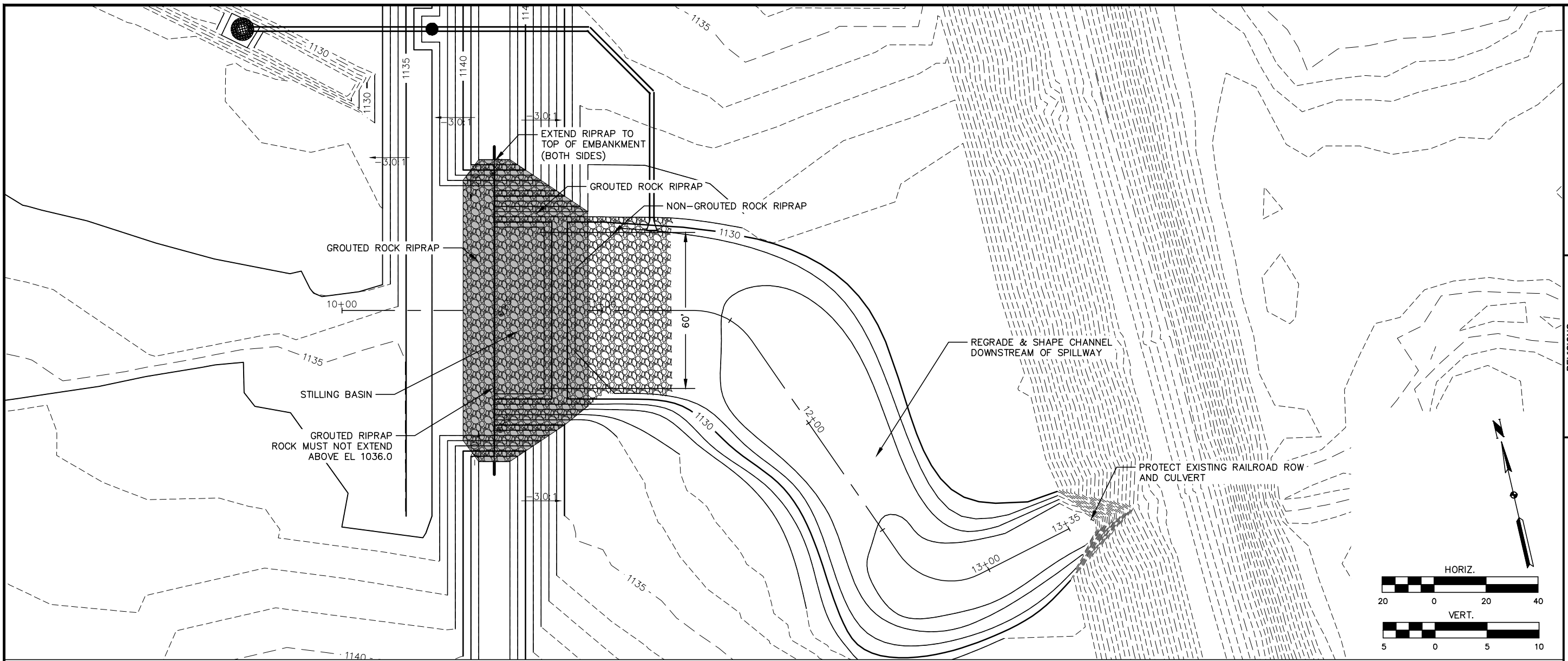


REVISIONS			
NO.	DATE	DESCRIPTION	
1	7/10/19	ISSUED FOR REVIEW ONLY	
2	7/16/19	ISSUED FOR PERMITTING	

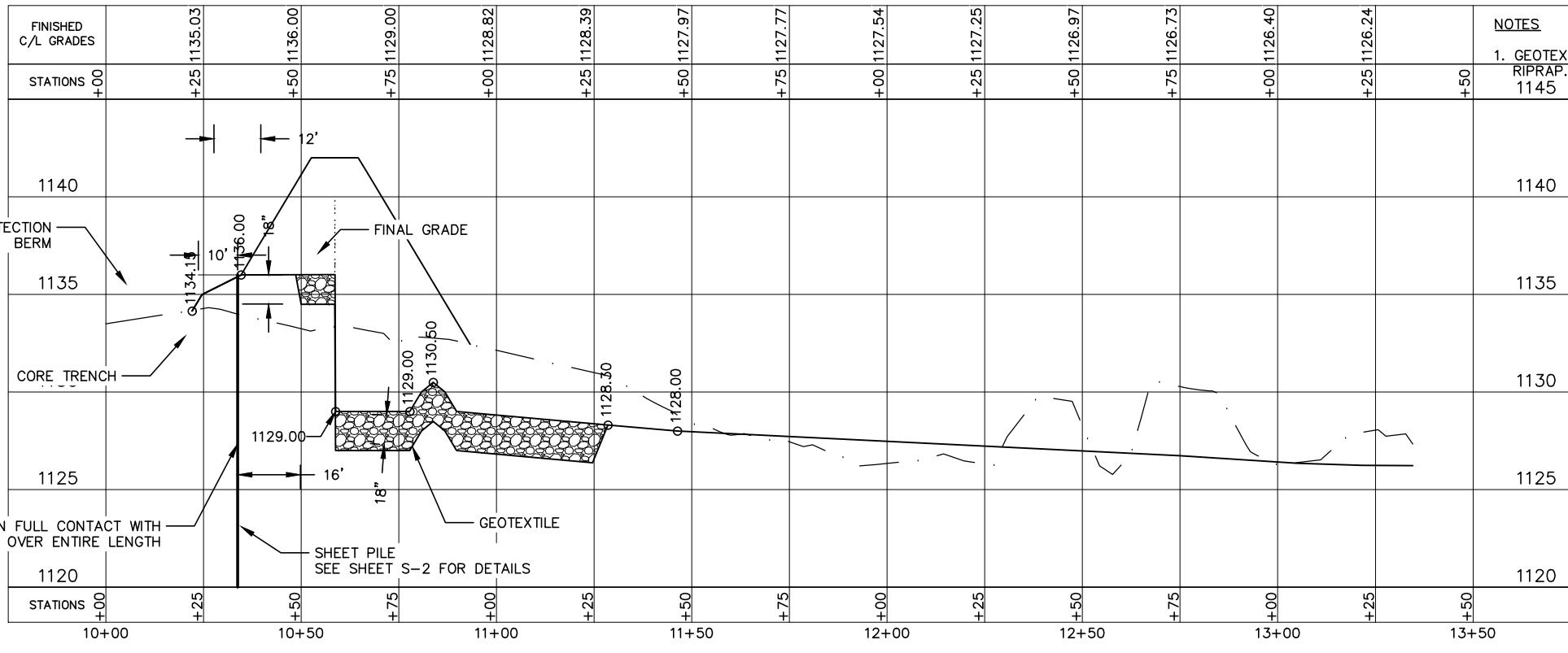


EMBANKMENT PLAN & PROFILE  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	C-2



REVISIONS			
NO.	DATE	DESCRIPTION	
1	8/15/16	ISSUED FOR REVIEW ONLY	
2	7/16/19	ISSUED FOR PERMITTING	

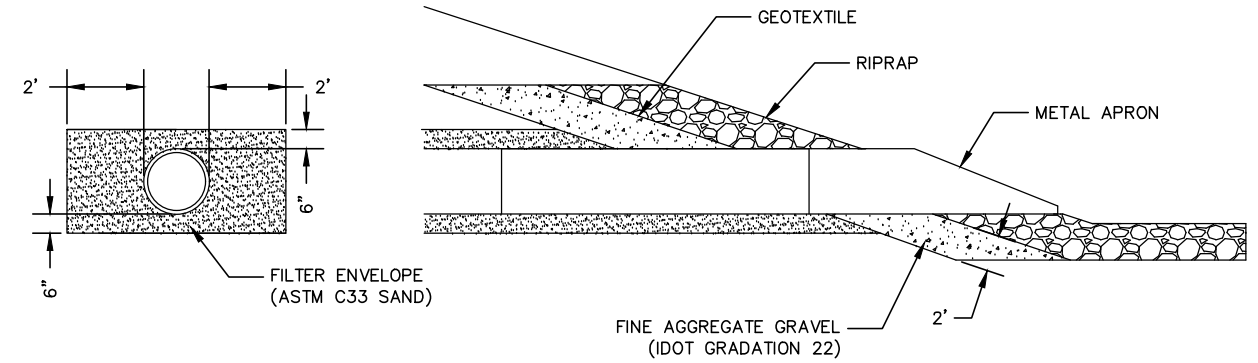
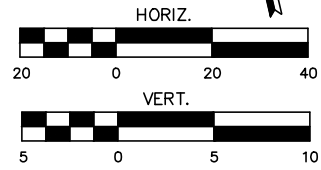
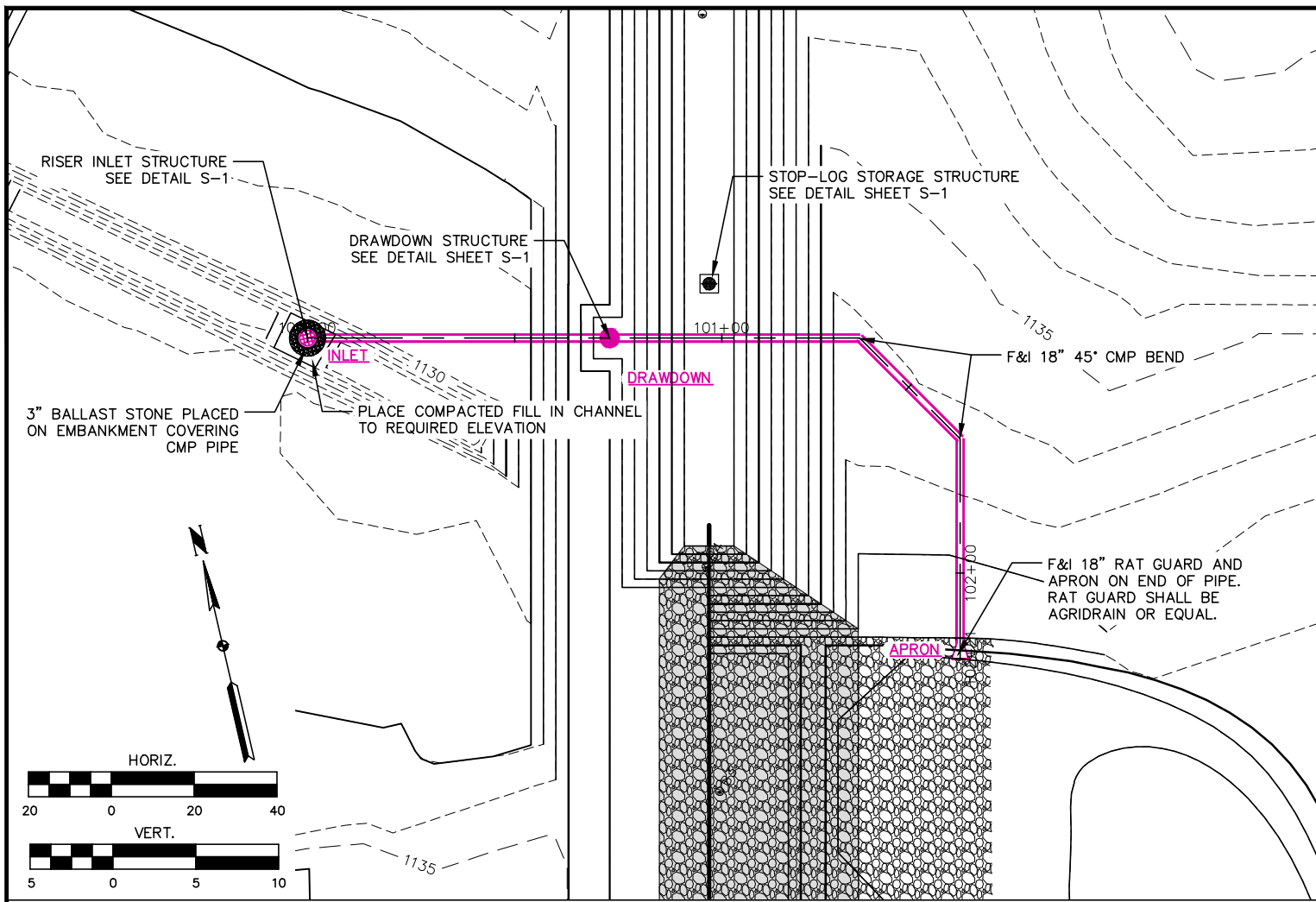


GROUT SHALL BE IN FULL CONTACT WITH SHEET PILE OVER ENTIRE LENGTH

NOTES  
1. GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP.

PRIMARY SPILLWAY PLAN & PROFILE  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

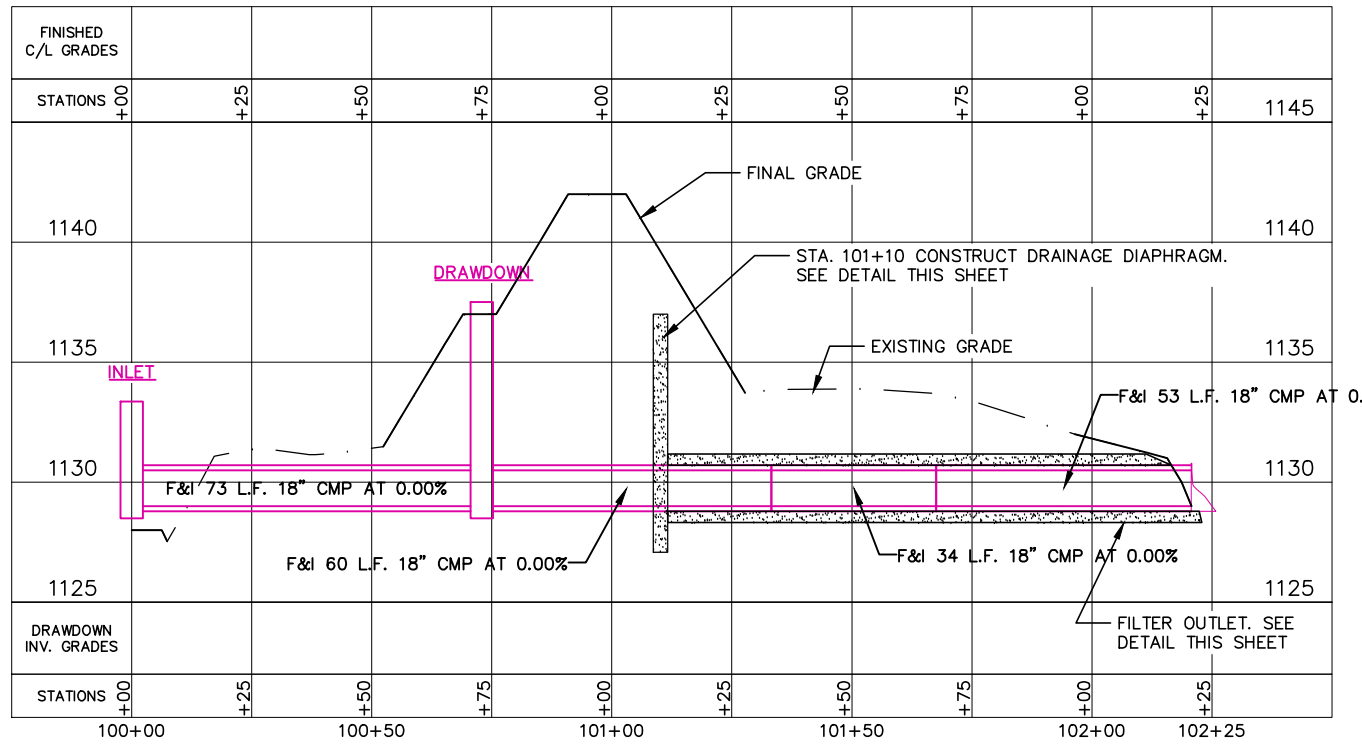
SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	C-3



NOTES

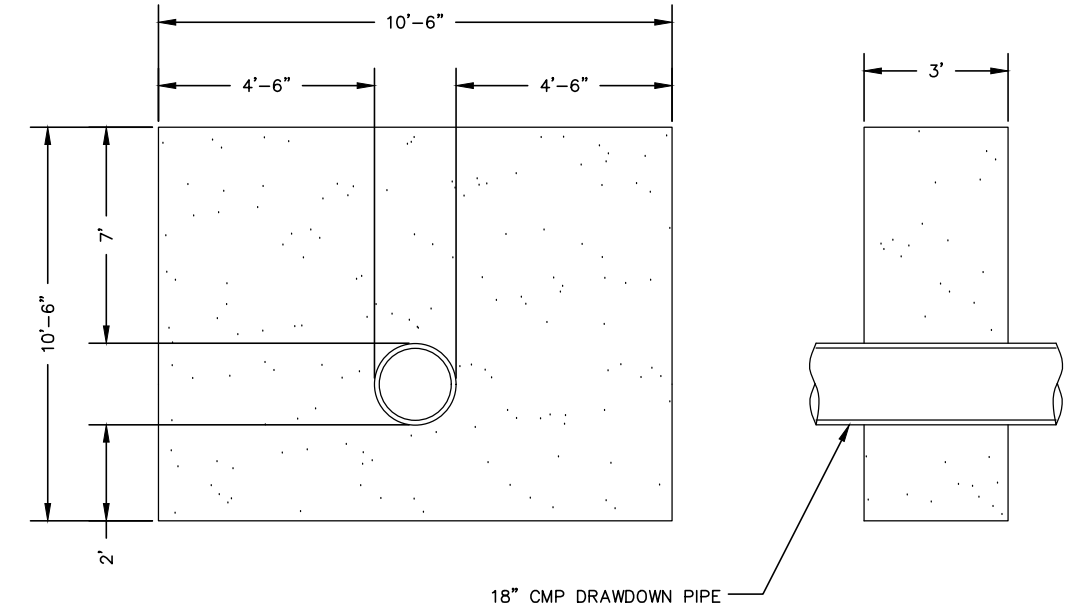
1. THE FILTER ENVELOPE SHALL FULLY SURROUND THE OUTLET PIPE FROM THE FILTER DIAPHRAGM TO OUTLET.
2. EXTEND GRAVEL LAYER 1' BEYOND FILTER FACE IN ALL DIRECTIONS.

FILTER OUTLET DETAIL  
NOT TO SCALE



NOTES

1. DRAINAGE DIAPHRAGM AND FILTER OUTLET MATERIAL SHALL BE ASTM C33 SAND.
2. FILTER MATERIAL SHALL BE PLACED IN 8" LIFTS MAXIMUM.

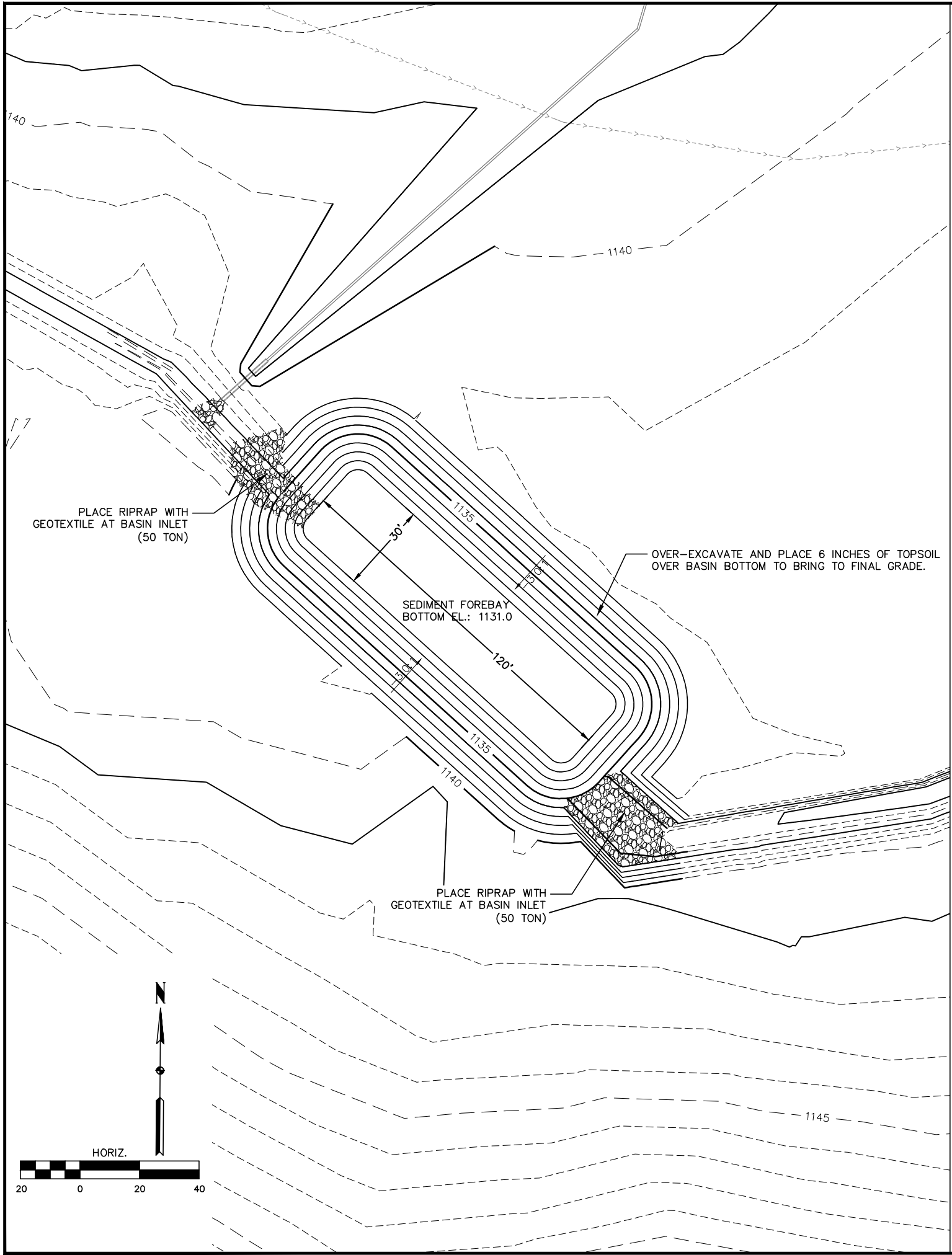


FILTER DIAPHRAGM DETAIL  
NOT TO SCALE

REVISIONS	
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DRAWDOWN PLAN & PROFILE  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	

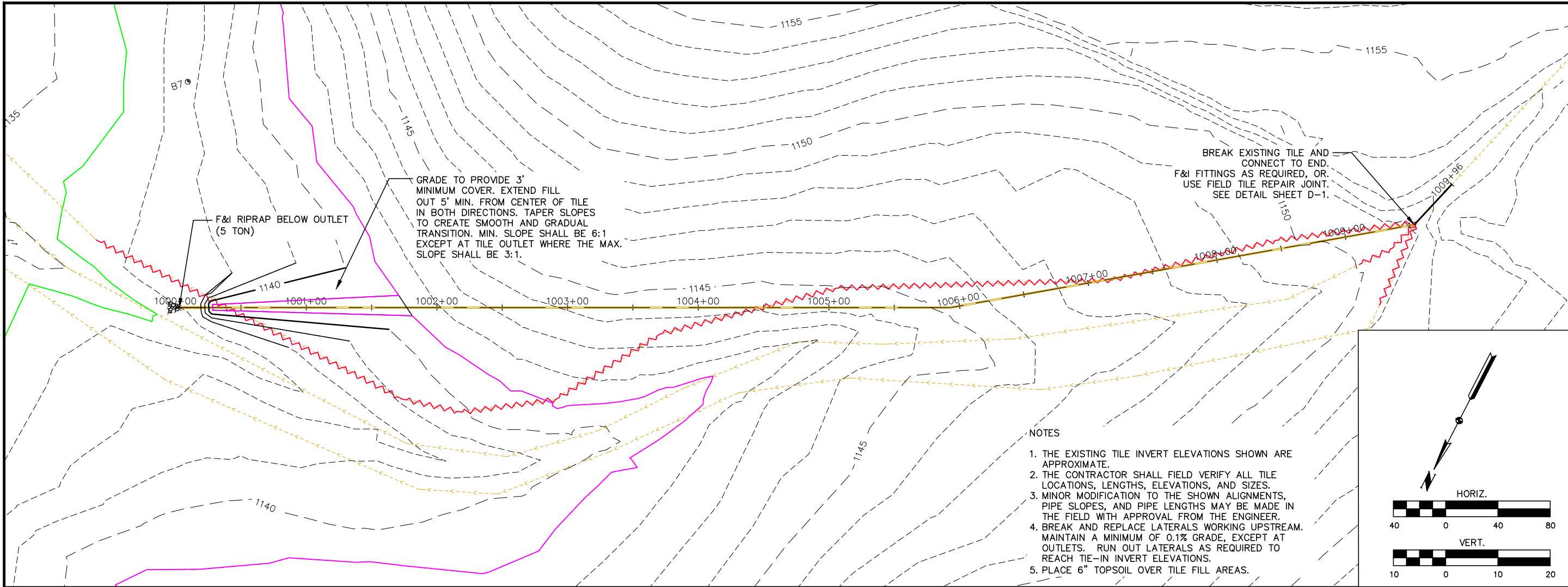


REVISIONS			
NO.	DATE	DESCRIPTION	ISSUED FOR PERMITTING
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2	7/16/19		ISSUED FOR PERMITTING

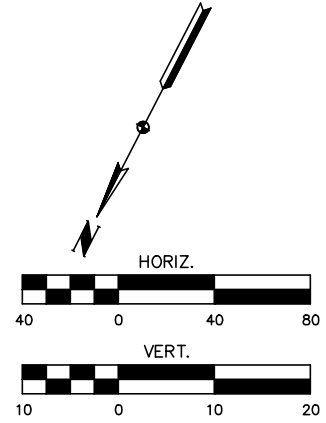
SEDIMENT FOREBAY PLAN  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	C-5

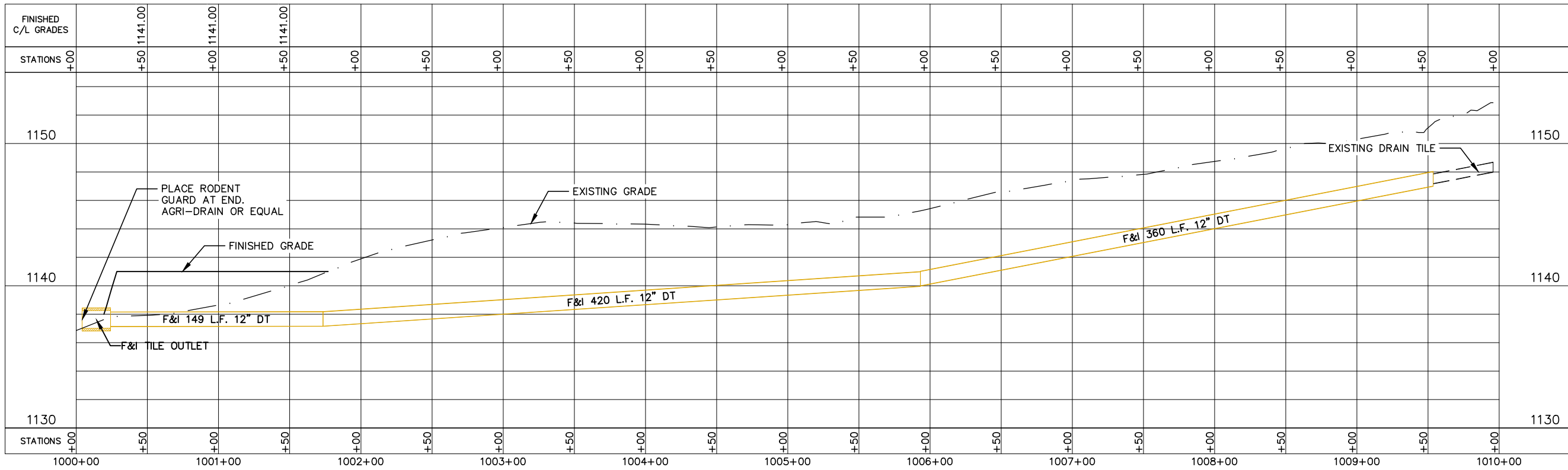




- NOTES**
1. THE EXISTING TILE INVERT ELEVATIONS SHOWN ARE APPROXIMATE.
  2. THE CONTRACTOR SHALL FIELD VERIFY ALL TILE LOCATIONS, LENGTHS, ELEVATIONS, AND SIZES.
  3. MINOR MODIFICATION TO THE SHOWN ALIGNMENTS, PIPE SLOPES, AND PIPE LENGTHS MAY BE MADE IN THE FIELD WITH APPROVAL FROM THE ENGINEER.
  4. BREAK AND REPLACE LATERALS WORKING UPSTREAM. MAINTAIN A MINIMUM OF 0.1% GRADE, EXCEPT AT OUTLETS. RUN OUT LATERALS AS REQUIRED TO REACH TIE-IN INVERT ELEVATIONS.
  5. PLACE 6" TOPSOIL OVER TILE FILL AREAS.



NO.	DATE	DESCRIPTION
1	7/10/19	ISSUED FOR REVIEW ONLY
2	7/16/19	ISSUED FOR PERMITTING



TILE 1 PLAN & PROFILE  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE: AS SHOWN

PROJECT NO. 8734

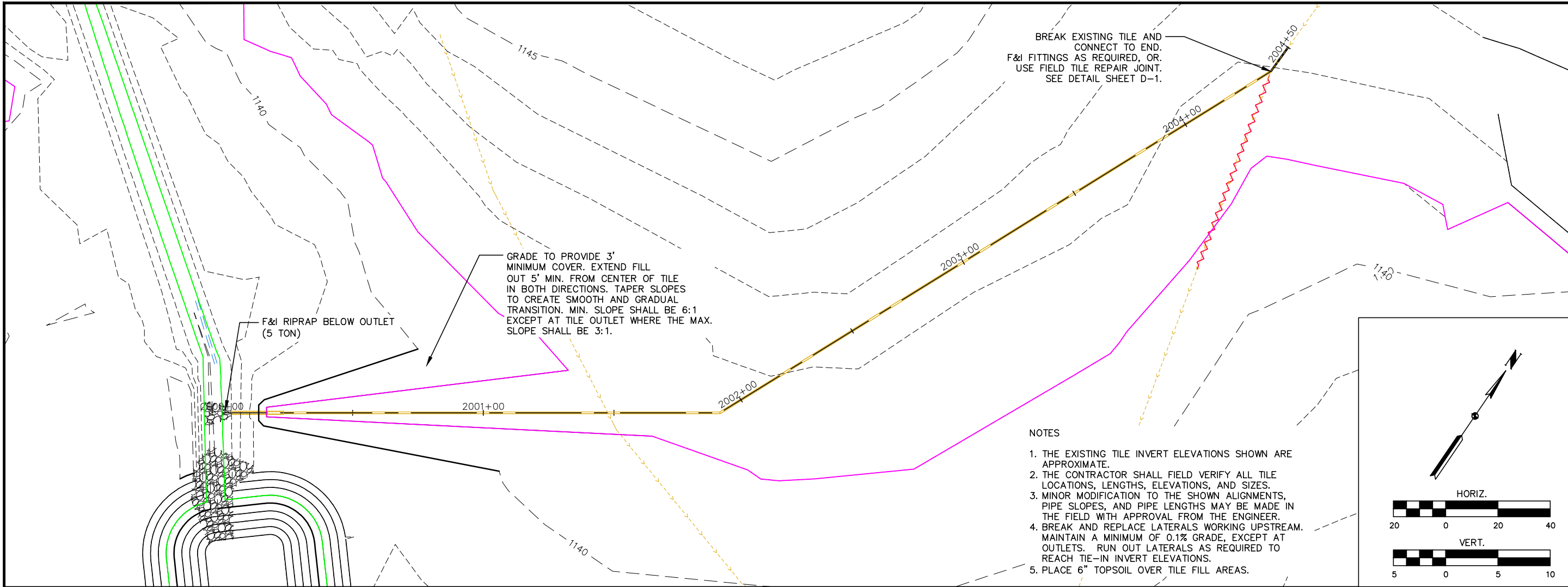
DRAWN BY: NWA

CHECKED BY: NA

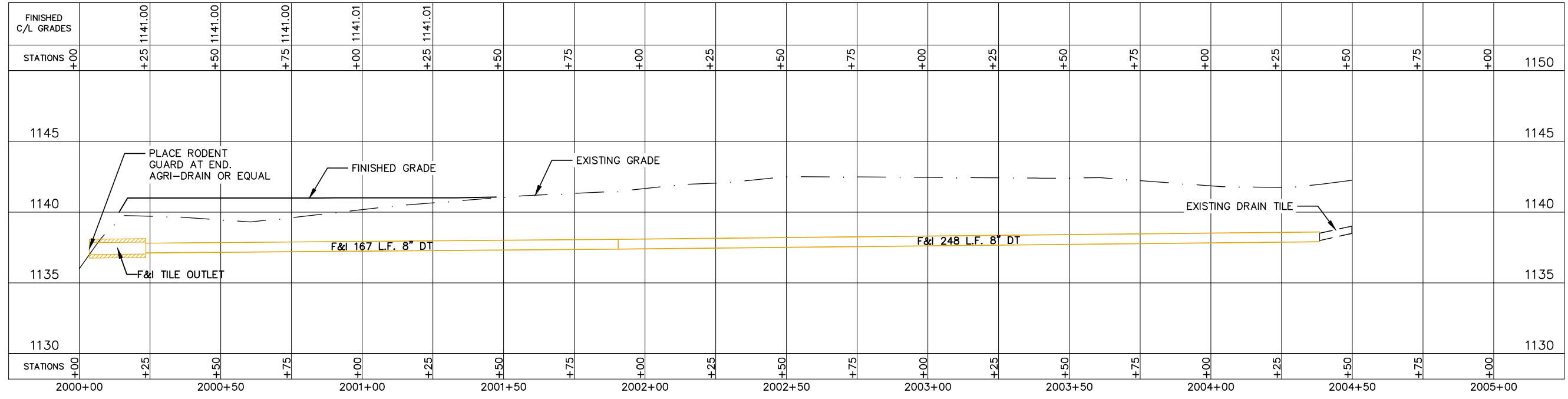
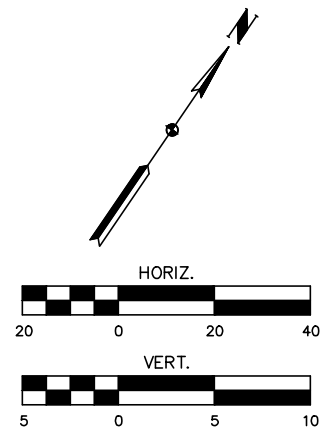
SHEET T-1

REVISIONS

NO.	DATE	DESCRIPTION
1	7/10/19	ISSUED FOR REVIEW ONLY
2	7/16/19	ISSUED FOR PERMITTING



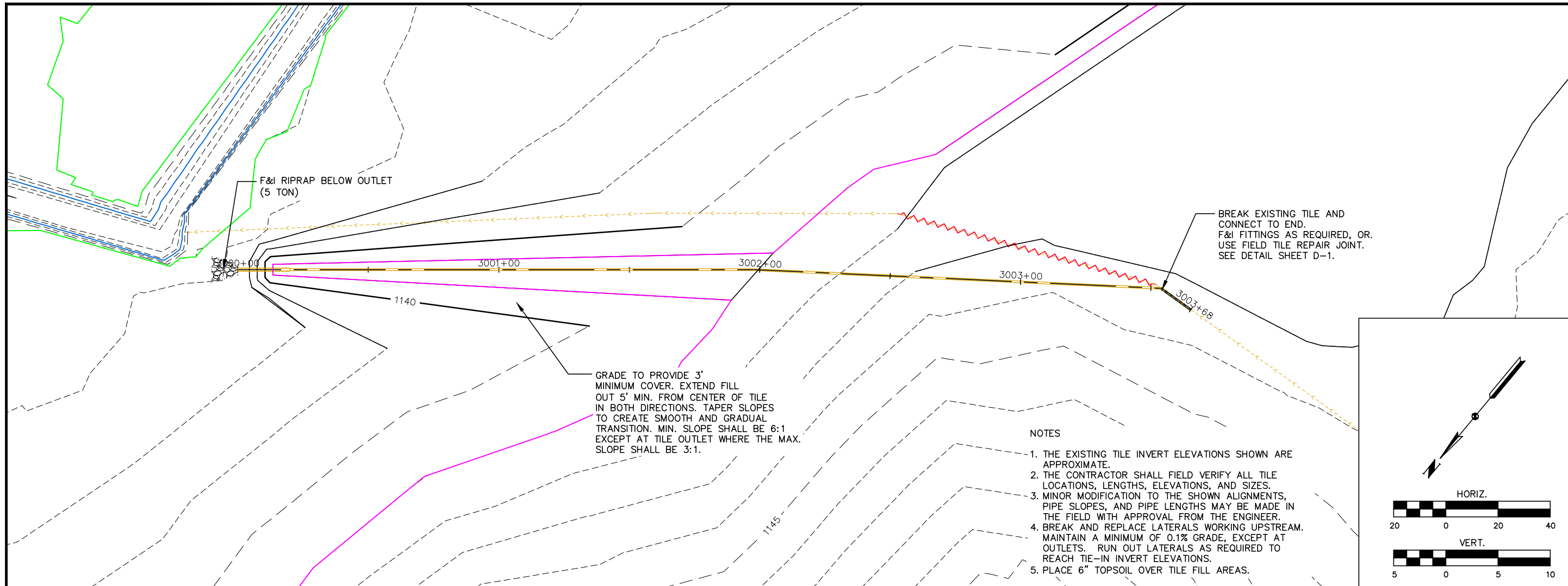
- NOTES
1. THE EXISTING TILE INVERT ELEVATIONS SHOWN ARE APPROXIMATE.
  2. THE CONTRACTOR SHALL FIELD VERIFY ALL TILE LOCATIONS, LENGTHS, ELEVATIONS, AND SIZES.
  3. MINOR MODIFICATION TO THE SHOWN ALIGNMENTS, PIPE SLOPES, AND PIPE LENGTHS MAY BE MADE IN THE FIELD WITH APPROVAL FROM THE ENGINEER.
  4. BREAK AND REPLACE LATERALS WORKING UPSTREAM. MAINTAIN A MINIMUM OF 0.1% GRADE, EXCEPT AT OUTLETS. RUN OUT LATERALS AS REQUIRED TO REACH TIE-IN INVERT ELEVATIONS.
  5. PLACE 6" TOPSOIL OVER TILE FILL AREAS.



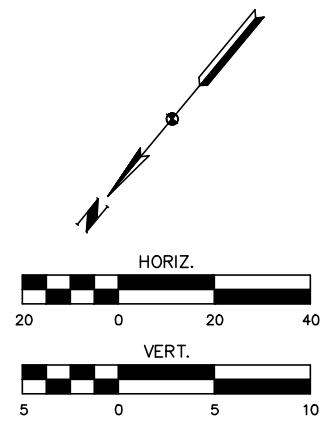
TILE 2 PLAN & PROFILE  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE: AS SHOWN

PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	T-2



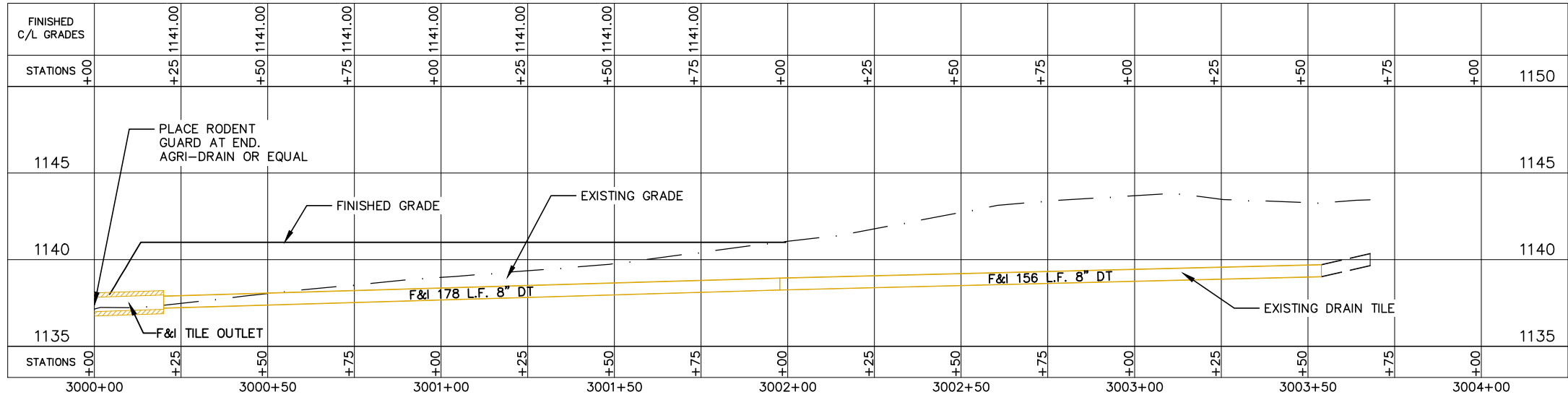
REVISIONS			
NO.	DATE	DESCRIPTION	ISSUED FOR PERMITTING
1	7/10/19	ISSUED FOR REVIEW ONLY	
2	7/16/19	ISSUED FOR PERMITTING	



GRADE TO PROVIDE 3' MINIMUM COVER. EXTEND FILL OUT 5' MIN. FROM CENTER OF TILE IN BOTH DIRECTIONS. TAPER SLOPES TO CREATE SMOOTH AND GRADUAL TRANSITION. MIN. SLOPE SHALL BE 6:1 EXCEPT AT TILE OUTLET WHERE THE MAX. SLOPE SHALL BE 3:1.

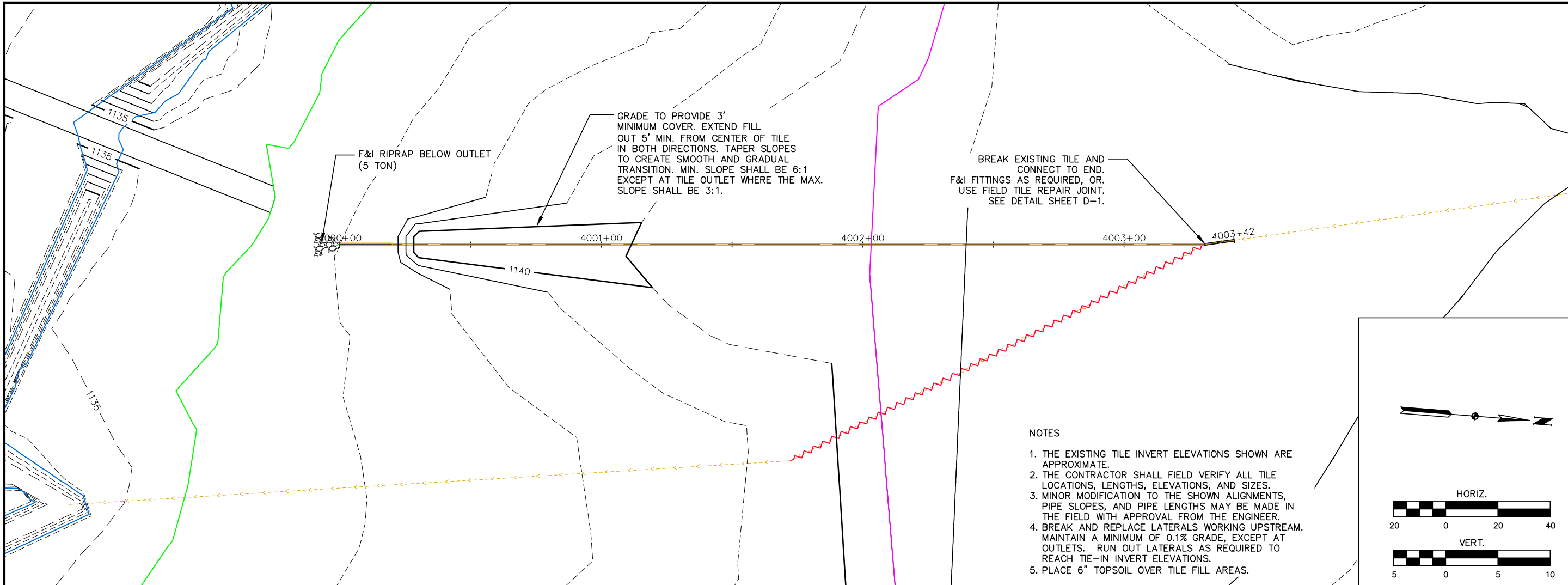
**NOTES**

1. THE EXISTING TILE INVERT ELEVATIONS SHOWN ARE APPROXIMATE.
2. THE CONTRACTOR SHALL FIELD VERIFY ALL TILE LOCATIONS, LENGTHS, ELEVATIONS, AND SIZES.
3. MINOR MODIFICATION TO THE SHOWN ALIGNMENTS, PIPE SLOPES, AND PIPE LENGTHS MAY BE MADE IN THE FIELD WITH APPROVAL FROM THE ENGINEER.
4. BREAK AND REPLACE LATERALS WORKING UPSTREAM. MAINTAIN A MINIMUM OF 0.1% GRADE, EXCEPT AT OUTLETS. RUN OUT LATERALS AS REQUIRED TO REACH TIE-IN INVERT ELEVATIONS.
5. PLACE 6" TOPSOIL OVER TILE FILL AREAS.



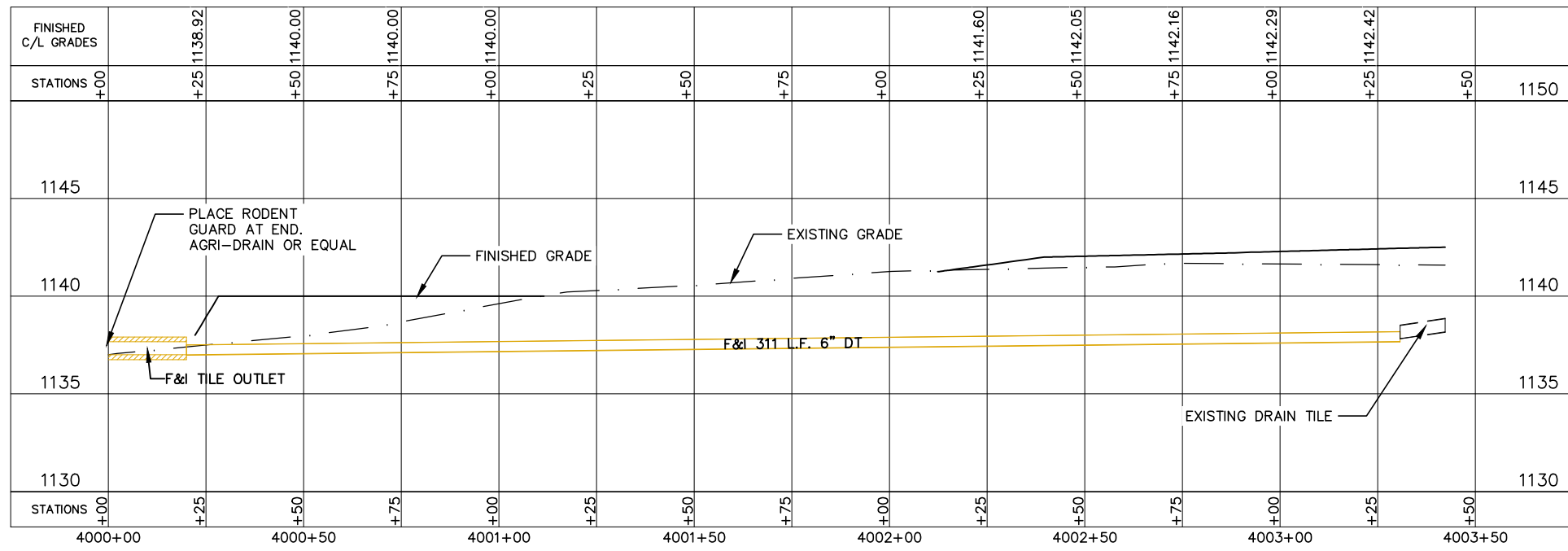
TILE 3 PLAN & PROFILE  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	T-3



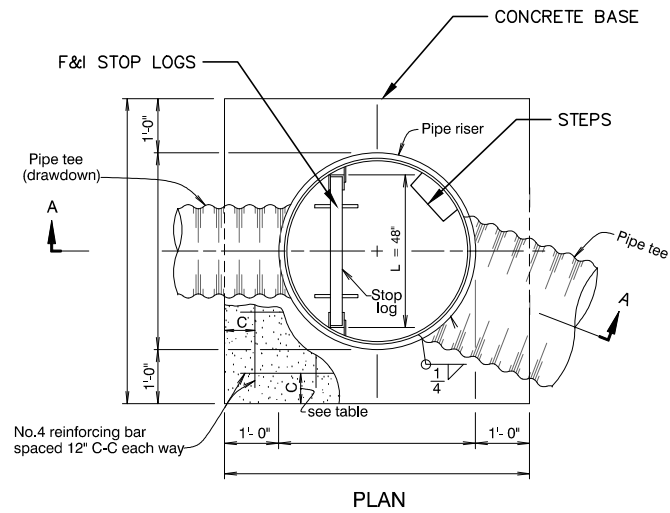
- NOTES**
1. THE EXISTING TILE INVERT ELEVATIONS SHOWN ARE APPROXIMATE.
  2. THE CONTRACTOR SHALL FIELD VERIFY ALL TILE LOCATIONS, LENGTHS, ELEVATIONS, AND SIZES.
  3. MINOR MODIFICATION TO THE SHOWN ALIGNMENTS, PIPE SLOPES, AND PIPE LENGTHS MAY BE MADE IN THE FIELD WITH APPROVAL FROM THE ENGINEER.
  4. BREAK AND REPLACE LATERALS WORKING UPSTREAM. MAINTAIN A MINIMUM OF 0.1% GRADE, EXCEPT AT OUTLETS. RUN OUT LATERALS AS REQUIRED TO REACH TIE-IN INVERT ELEVATIONS.
  5. PLACE 6" TOPSOIL OVER TILE FILL AREAS.

REVISIONS			
NO.	DATE	DESCRIPTION	ISSUED FOR REVIEW ONLY
1	7/10/19		ISSUED FOR PERMITTING
2	7/16/19		ISSUED FOR PERMITTING



TILE 4 PLAN & PROFILE  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	T-4



**REQUIREMENT TABLE**

X IN BOX INDICATES THE REQUIREMENTS THAT APPLY TO STRUCTURE    INDICATES - NOT APPLICABLE

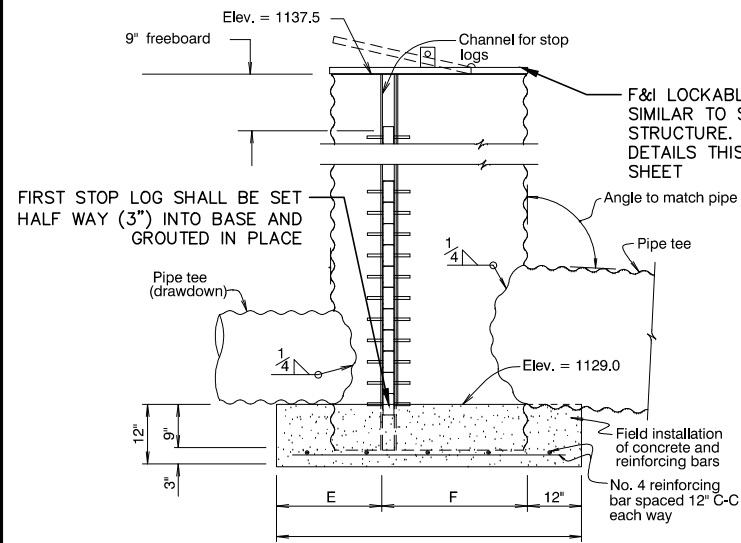
CONCRETE: CLASS     3000     3000M     4000

CORRUGATED METAL PIPE RISER: 54 " DIA., 10 GA., 11.5 FT.  
PIPE TEE: 18 " DIA., 14 GA., 4 FT. NOMINAL LENGTH, WELDED TO RISER  
PIPE TEE (DRAWDOWN): 18 " DIA., 14 GA., 4 FT. NOMINAL LENGTH, WELDED TO RISER

PIPE CLASSIFICATION	RISER	PIPE TEE	DRAWDOWN
ANNULAR CORRUGATION	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
HELICAL CORRUGATION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> TYPE I, FULL CIRCULAR CROSS-SECTION FABRICATED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> TYPE II, THIS IS TYPE I PIPE WHICH HAS BEEN REFORMED INTO A PIPE ARCH HAVING APPROXIMATELY A FLAT BOTTOM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CORRUGATION REQUIREMENTS - NOMINAL SIZE (INCH)			
<input checked="" type="checkbox"/> 2 2/3 x 1/2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 3 x 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COATINGS AND FABRICATION SEE METAL PIPE REQUIREMENTS AND COUPLING BANDS SHEET			

**FABRICATION AND INSTALLATION NOTES:**

- FOR FABRICATION OF RISERS ON HELICAL PIPE A FILLER STRIP MAY BE USED TO INSURE A WATERTIGHT SEAL BETWEEN THE RISER AND TEE.
- WHEN MORE THAN ONE COATING IS CHECKED IN THE COLUMN BOXES EACH TYPE IS ACCEPTABLE BUT ONLY ONE TYPE OF COATING SHALL BE USED IN EACH INSTALLATION.
- ALL WELDS AND HEAT AFFECTED AREAS ON GALVANIZED METAL TO BE TREATED IN ACCORDANCE WITH SPECIFICATIONS.
- NO. 4 REINFORCED BAR = 1/2" DIA. = 0.668 LB. PER LIN. FT.
- ALL SEAMS CUT, DUE TO FABRICATING IN HELICAL PIPE, SHALL BE WELDED FOR A LENGTH OF 1" FROM THE EDGE OF THE CUT AND TREATED ACCORDING TO SPECIFICATIONS.
- THE "L" DIMENSION OF THE RISER SHALL BE CHECKED PRIOR TO FABRICATION OF THE STRUCTURAL TUBING LENGTH.
- THE LOCKABLE LID SHALL BE FABRICATED FROM CMP, AND CUT IN A CIRCULAR SHAPE TO FIT THE RISER. HOLES SHALL BE DRILLED THROUGH THE CORRUGATIONS TO PASS THE LOCKING BAR.



**MATERIAL LIST FOR RISER CONCRETE BASE**

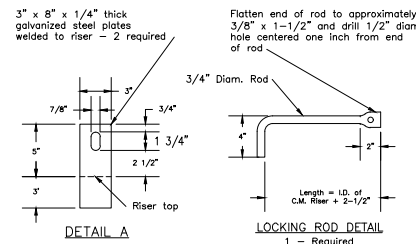
DIA. OF RISER IN INCHES	48	54	60	66	72	78
CONCRETE, CU.YDS.	1.33	1.56	1.81	2.08	2.37	2.68
NO. 4 REINFORCING BAR, LIN.FT.	66	84	91	112	120	144
LENGTH OF EACH BAR, FT.-IN.	5-6	6-0	6-6	7-0	7-6	8-0
TOTAL NUMBER OF BARS	12	14	14	16	16	18
TOTAL WEIGHT - NO. 4 BARS, LBS.	44.1	56.1	60.8	74.8	80.2	96.2

NO. 4 REINFORCING BAR = 1/2 IN. DIA. = 0.668 LBS./LIN.FT.

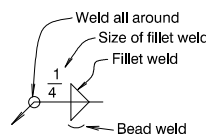
**TABLE FOR DIMENSIONS**

DIA. OF RISER IN INCHES	48	54	60	66	72	78
C SPACING IN INCHES	6	3	6	3	6	3
FOR L = 4' - 0"						
E SPACING IN FT./IN	3'-0"	2'-3"	2'-0"	1'-10"	1'-9"	1'-8"
F SPACING IN FT./IN	2'-0"	3'-3"	4'-0"	4'-8"	5'-3"	5'-10"
FOR L = 4' - 6"						
E SPACING IN FT./IN	3'-3"	2'-5"	2'-2"	2'-0"	1'-11"	
F SPACING IN FT./IN	2'-3"	3'-7"	4'-4"	5'-0"	5'-7"	
FOR L = 5' - 0"						
E SPACING IN FT./IN	3'-5"	2'-7"	2'-4"	2'-2"		
F SPACING IN FT./IN	2'-6"	3'-11"	4'-8"	5'-4"		

**LOCKING LID DETAILS**



**WELD SYMBOLS**

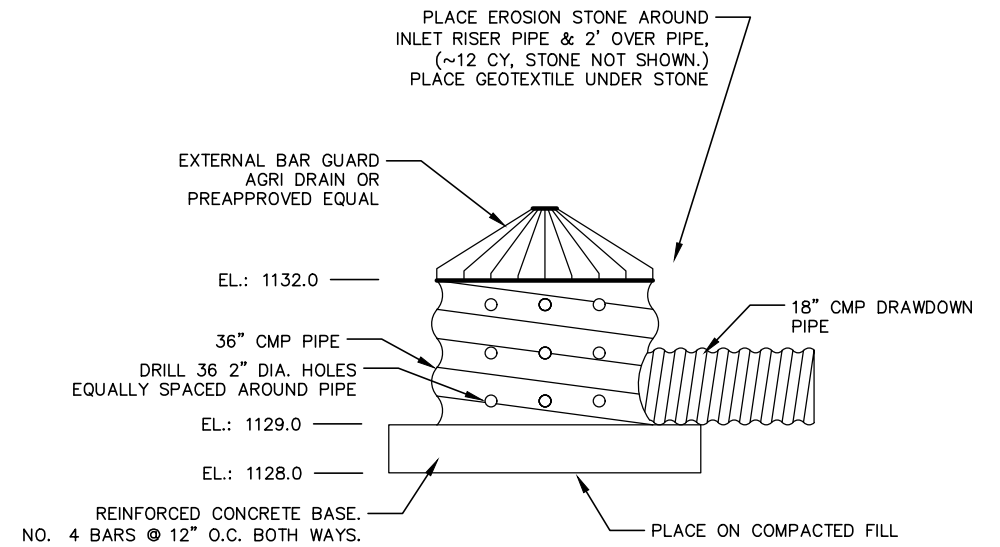


NOTE:  
Weld symbol placed above line indicates weld is on opposite side of joint to which arrow points.  
Weld symbol below line indicates weld is on side of joint to which arrow points.

\* THIS PLAN ADAPTED FROM NRCS STANDARD DETAIL

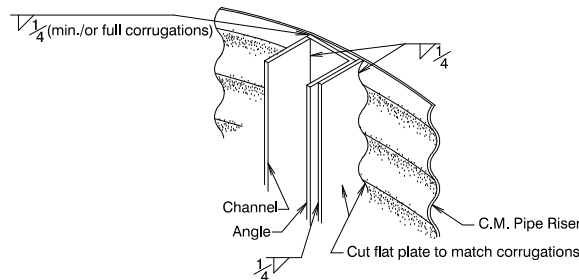
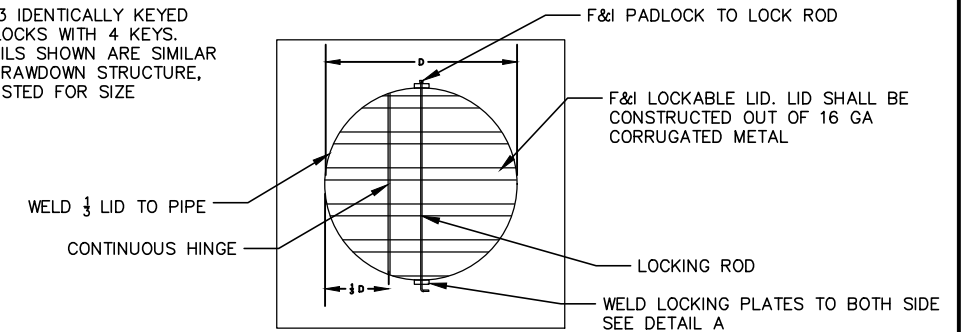
**DRAWDOWN STRUCTURE DETAIL**

SCALE: NONE



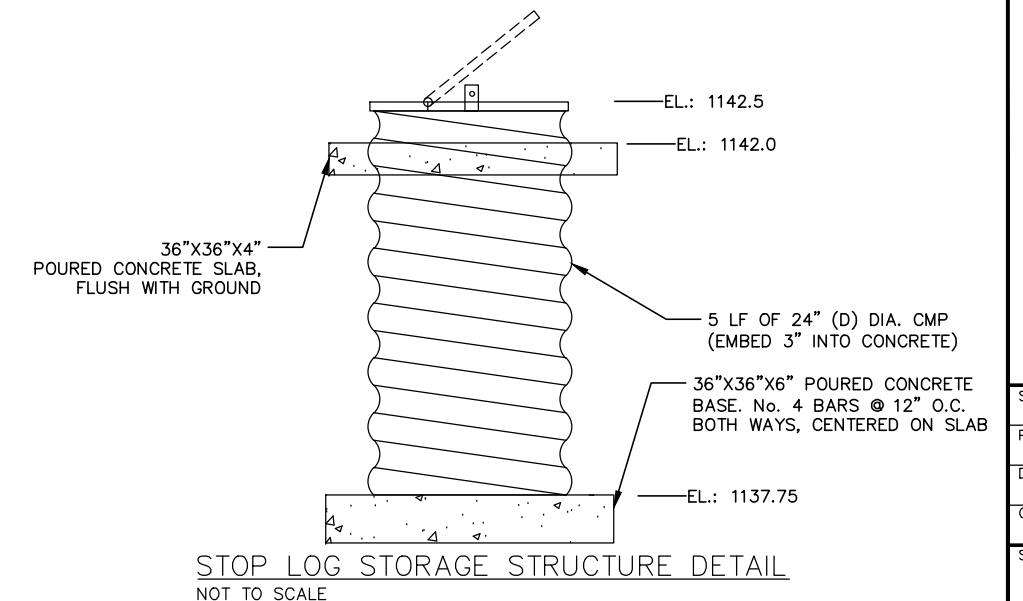
**NOTES**

- F&I 3 IDENTICALLY KEYED PADLOCKS WITH 4 KEYS.
- DETAILS SHOWN ARE SIMILAR TO DRAWDOWN STRUCTURE, ADJUSTED FOR SIZE



**NOTES**

- F&I 16, 2" WIDE X 6" DEEP STOP-LOGS, EXTENDING FROM INVERT EL. 1128.75 TO EL. 11136.75. STOP-LOGS SHALL BE MANUFACTURED ALUMINUM OR PVC.
- STOP LOG CHANNELS SHALL BE CONSTRUCTED TO ACCOMMODATE THE SUPPLIED STOP LOGS ACCORDING TO THE MANUFACTURER'S REQUIREMENTS. PRE-FABRICATED CHANNELS MAY USED IN LIEU OF CHANNEL SHOWN. CHANNEL AND STOP LOGS MUST PROVIDE A WATER-TIGHT SEAL. BOTTOM CHANNEL SHALL BE PROVIDED AND SHALL BE SET INTO CONCRETE. CONTRACTOR SHALL PROVIDE DETAILED SHOP DRAWINGS OF CONTROL STRUCTURE.
- STOP-LOG SET LEVEL SHALL BE AS DIRECTED BY THE OWNER. DO NOT SET LOGS UNTIL DIRECTED.
- CONTRACTOR SHALL FURNISH 2 10-LONG LIFTING RODS. SEE SPECIFICATIONS.

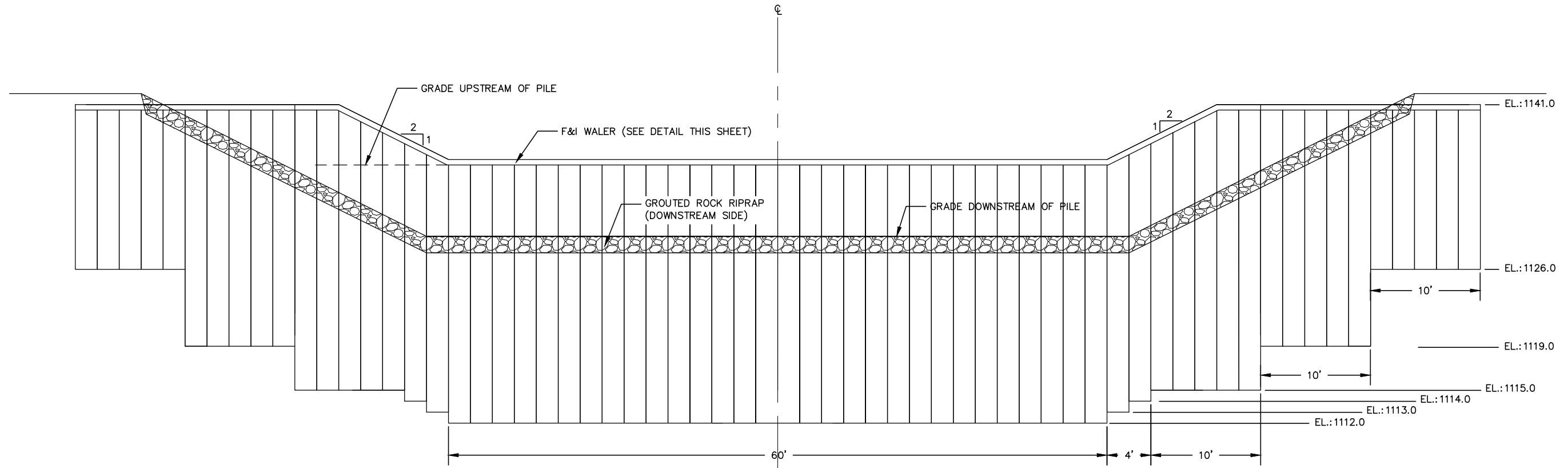


**REVISIONS**

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1	7/10/19			
2	7/16/19			

DRAWDOWN STRUCTURE DETAILS  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE: AS SHOWN  
PROJECT NO. 8734  
DRAWN BY: NWA  
CHECKED BY: NA  
SHEET S-1

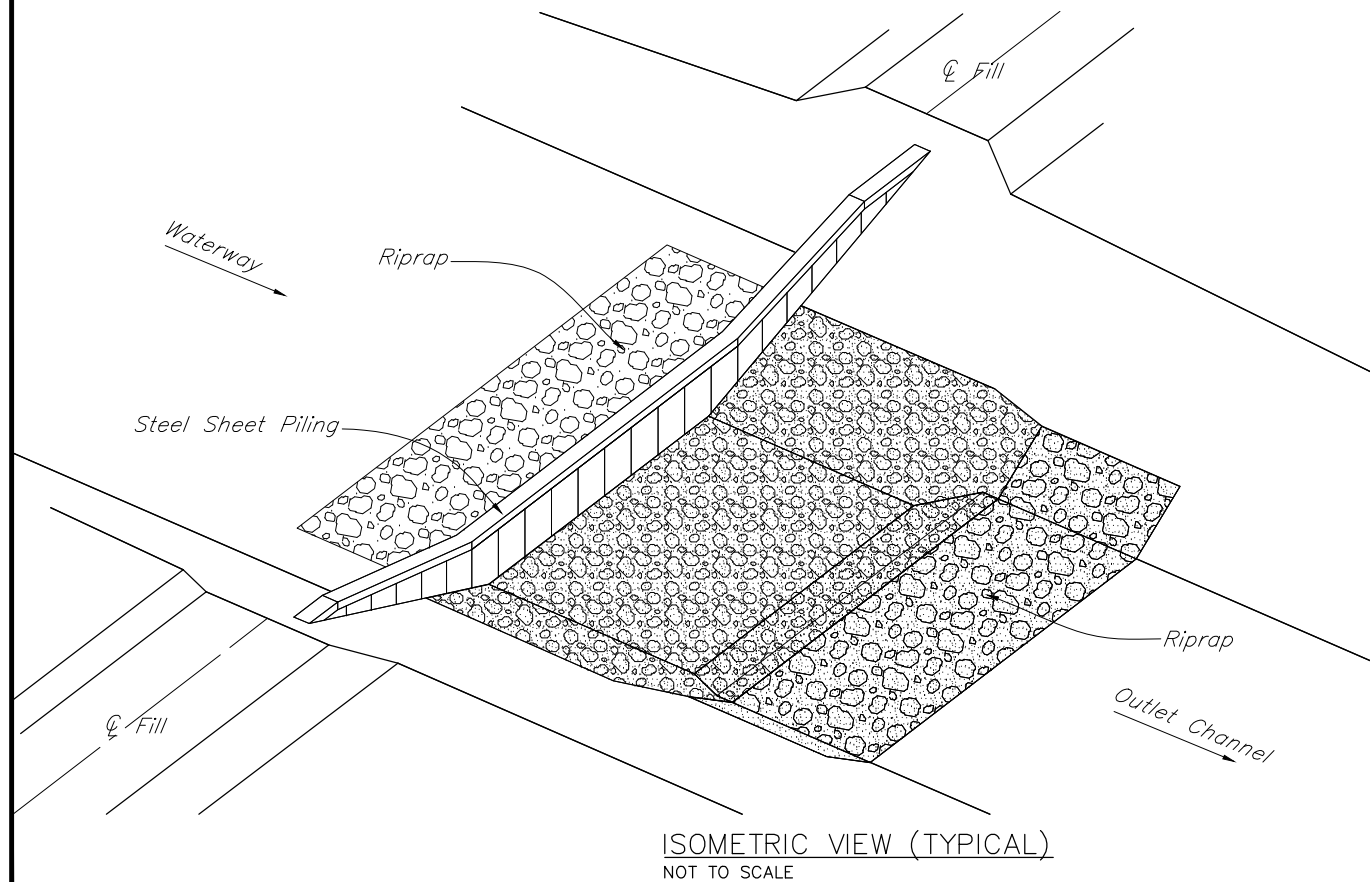


**SHEET PILE SECTION**

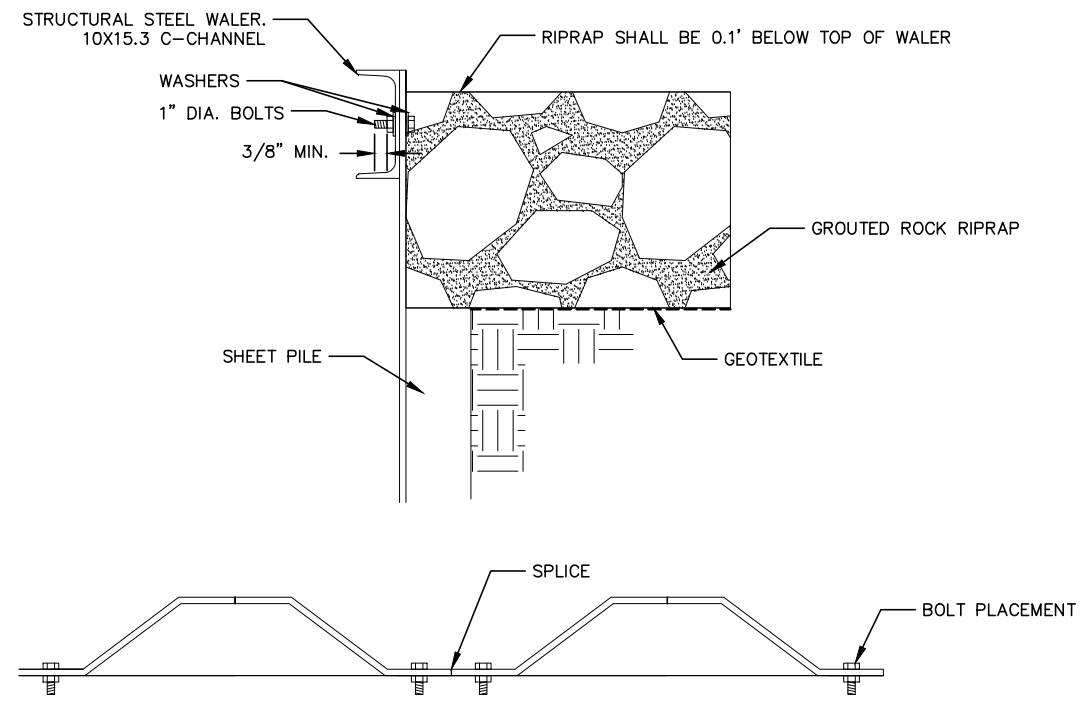
SCALE: 1"=5'

**SHEETPILE DESIGN CRITERIA**

MINIMUM SECTION MODULUS: 24 IN<sup>3</sup>/FT  
 MINIMUM THICKNESS: 0.35 INCHES  
 MINIMUM MOMENT OF INERTIA: 140 IN<sup>3</sup>/FT  
 MINIMUM GRADE STEEL: 36 KSI



**ISOMETRIC VIEW (TYPICAL)**  
NOT TO SCALE



**TYPICAL WALER DETAIL**  
NOT TO SCALE

REVISIONS	
NO.	DESCRIPTION
1	ISSUED FOR REVIEW ONLY
2	ISSUED FOR PERMITTING

SHEETPILE DETAILS  
 CREP WETLAND - HAR872234  
 HARDIN COUNTY, IOWA

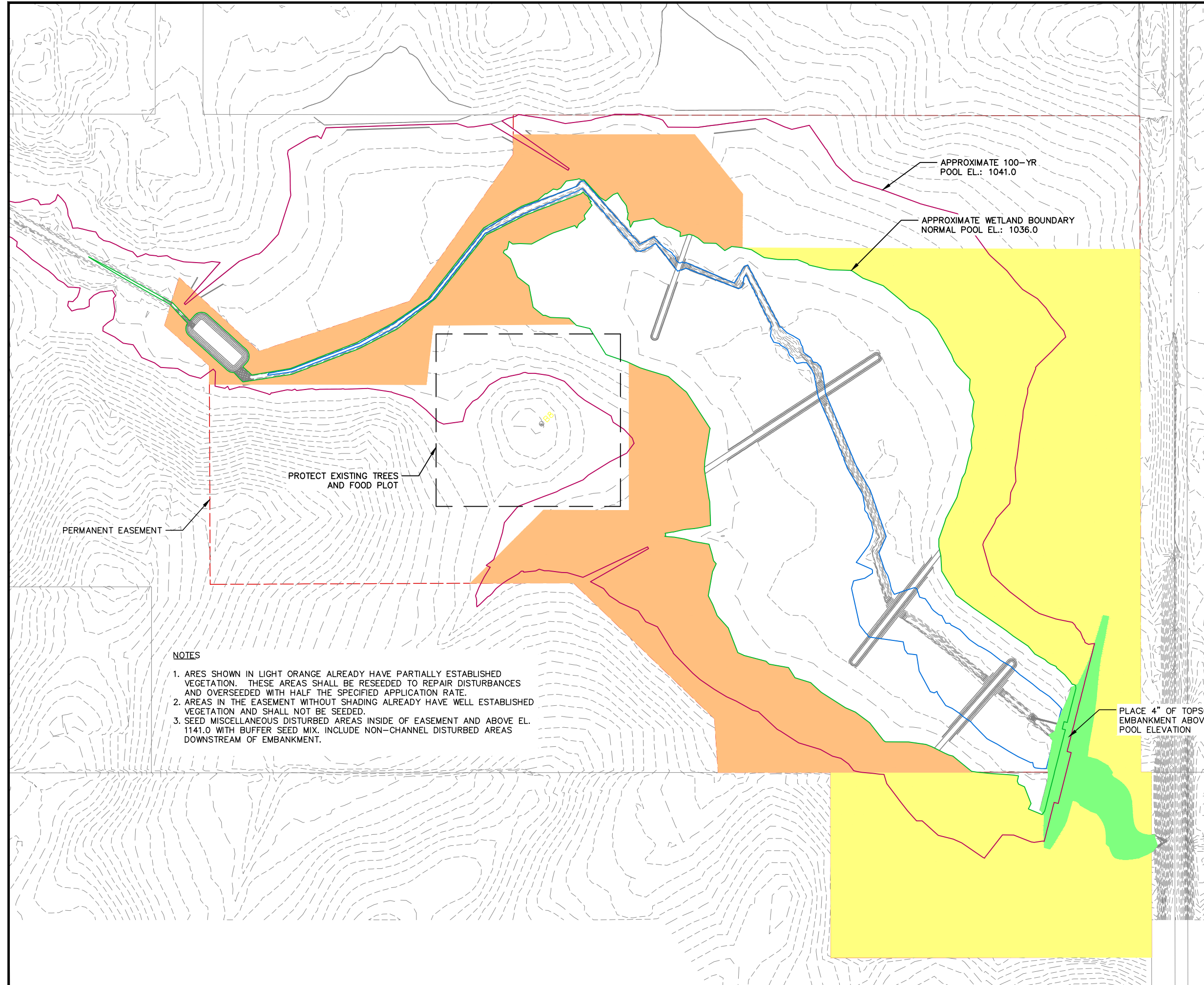
SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	S-2



**LEGEND**

- BROME SEED MIX (STRUCTURAL & CHANNEL SEEDING)
- BUFFER SEED MIX (NEW ESTABLISHMENT)
- BUFFER SEED MIX (EXISTING ESTABLISHMENT)

REVISIONS	
NO.	DESCRIPTION
1	7/10/19 ISSUED FOR REVIEW ONLY
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PROTECT EXISTING TREES AND FOOD PLOT

PERMANENT EASEMENT

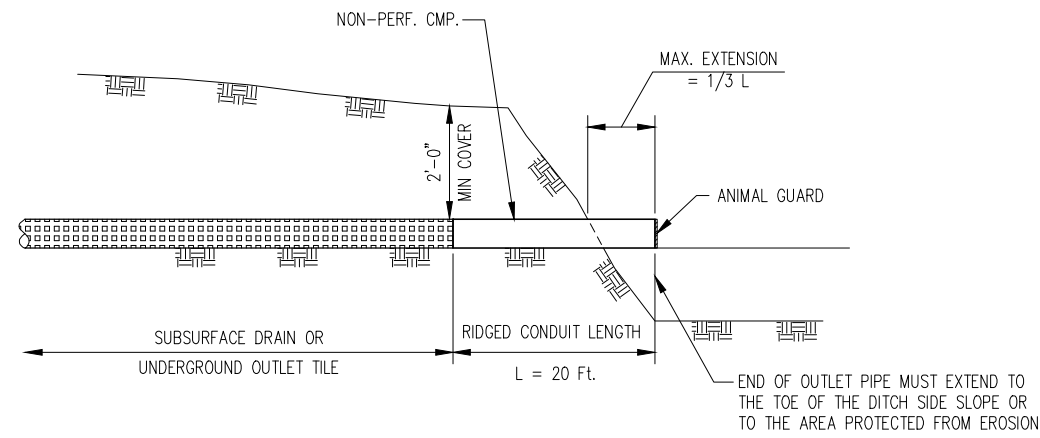
**NOTES**

1. AREAS SHOWN IN LIGHT ORANGE ALREADY HAVE PARTIALLY ESTABLISHED VEGETATION. THESE AREAS SHALL BE RESEEDING TO REPAIR DISTURBANCES AND OVERSEEDING WITH HALF THE SPECIFIED APPLICATION RATE.
2. AREAS IN THE EASEMENT WITHOUT SHADING ALREADY HAVE WELL ESTABLISHED VEGETATION AND SHALL NOT BE SEEDING.
3. SEED MISCELLANEOUS DISTURBED AREAS INSIDE OF EASEMENT AND ABOVE EL. 1141.0 WITH BUFFER SEED MIX. INCLUDE NON-CHANNEL DISTURBED AREAS DOWNSTREAM OF EMBANKMENT.

PLACE 4" OF TOPSOIL ON EMBANKMENT ABOVE NORMAL POOL ELEVATION

SEEDING PLAN  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

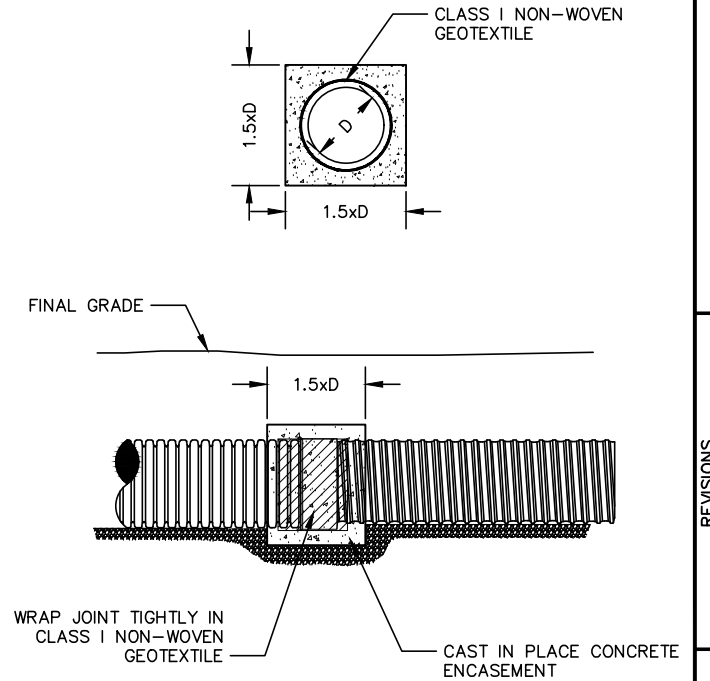
SCALE:	AS SHOWN
PROJECT NO.	8734
DRAWN BY:	NWA
CHECKED BY:	NA
SHEET	P-1



CROSS SECTION AT CENTERLINE OF PIPE

NOTE: TILE OUTLETS MAY BE CONNECTED TO THE UPSTREAM TILE WITH THE SAME NOMINAL DIAMETER PIPE SIZE, OR OUTLET MAY BE ONE NOMINAL SIZE LARGER WITH UPSTREAM TILE INSERTED INTO RIDGED PIPE. WHERE THE SAME NOMINAL DIAMETER PIPE SIZES ARE USED, PROVIDE ADAPTOR FITTING. WHERE DIFFERENT NOMINAL PIPE SIZES ARE USED, GROUT ANNULAR SPACE AROUND JOINT. OUTLETS LISTED ON BID SHEET ASSUME SAME NOMINAL DIAMETER. NO ADDITIONAL PAYMENT (FOR BOTH THE OUTLET PIPE AND INSERTED TILE) SHALL BE MADE IS LARGER NOMINAL DIAMETER PIPE IS USED.

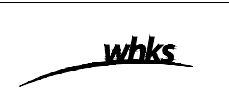
NOTE: FIELD TILE REPAIR JOINTS SHALL BE USED TO JOIN DIS-SIMILAR PIPE MATERIALS. WHEN CONNECTING SIMILAR MATERIAL MANUFACTURED FITTINGS MAY BE USED.



REVISIONS	
NO.	DESCRIPTION
1	ISSUED FOR REVIEW ONLY
2	ISSUED FOR PERMITTING

DRAIN TILE OUTLET DETAIL

REVISED: 8/11/18  
SHEET: 1 OF 1  
PLATE NO.



FIELD TILE REPAIR JOINT DETAIL

REVISED: 2/01/08  
SHEET:  
PLATE NO.

DETAILS  
CREP WETLAND - HAR872234  
HARDIN COUNTY, IOWA

SCALE: AS SHOWN  
PROJECT NO. 8734  
DRAWN BY: NWA  
CHECKED BY: NA  
SHEET D-1



## Denise Smith

---

**From:** Becca Junker  
**Sent:** Friday, October 11, 2019 10:27 AM  
**To:** Denise Smith  
**Subject:** FW: Another Wetland Project in Hardin County  
**Attachments:** Har872234B Permitting Plans.pdf

**From:** Bourland, Mike <Mike.Bourland@iowaagriculture.gov>  
**Sent:** Thursday, October 10, 2019 3:31 PM  
**To:** Becca Junker <BJunker@hardincountyia.gov>  
**Subject:** Another Wetland Project in Hardin County

Hi Becca

Attached is a set of plans for a wetland project in Hardin County. It is located in Drainage District 55 and Joint District 55 and 3 on the north side. We are wanting to make modifications to the tile as shown on the plans to daylight them into the wetland for nitrate reduction. The landowners have agreed to this project and we are wanting to get approval from the County to proceed with this project and plan to bid this project for construction in February 2020. Please let me know what we need to do at this time. Thanks for your help.

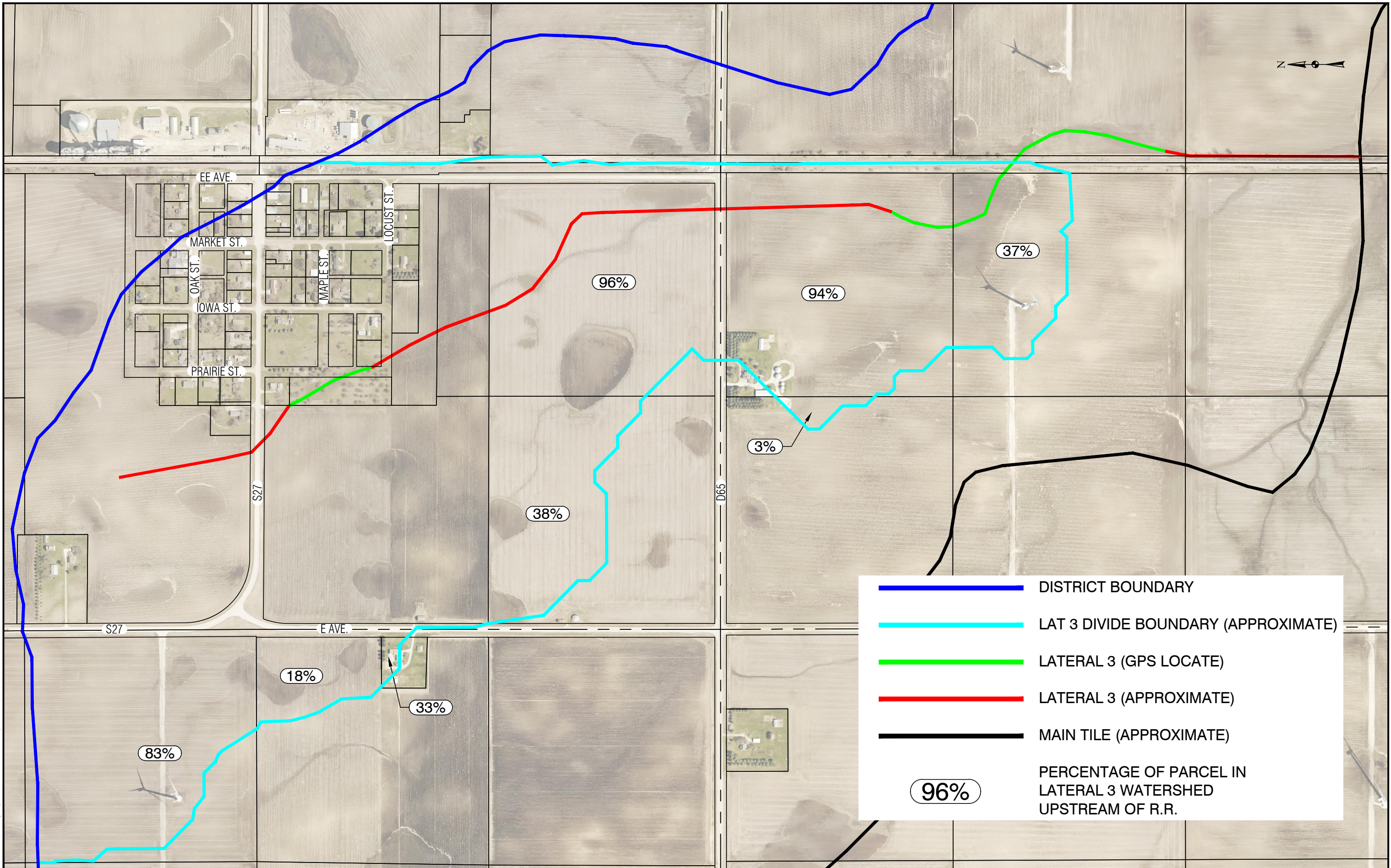
Also, when you get a chance, can you forward the meeting minutes to me for the other wetland project in Hardin County with Steve Perry. Thanks.

**Michael L. Bourland, P.E.**  
Senior Environmental Engineer



Wallace State Office Building  
502 E. 9<sup>th</sup> St. Des Moines, IA 50319

Phone: (515) 242-6130  
[Mike.Bourland@IowaAgriculture.gov](mailto:Mike.Bourland@IowaAgriculture.gov)



— DISTRICT BOUNDARY  
— LAT 3 DIVIDE BOUNDARY (APPROXIMATE)  
— LATERAL 3 (GPS LOCATE)  
— LATERAL 3 (APPROXIMATE)  
— MAIN TILE (APPROXIMATE)

96% PERCENTAGE OF PARCEL IN LATERAL 3 WATERSHED UPSTREAM OF R.R.

P:\6501\CAAD\Design\6501 - BOUNDARY.dwg - Layout - CGA Plan - 10-14-19 - 3:14pm - JVS333



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE

Clapsaddle-Garber Associates, Inc.  
 Toll Free (800) 542-7981  
 www.cgaconsultants.com

DESIGNED: JVS DATE: 10/14/2019  
 DRAWN: JVS DATE: 10/14/2019  
 CHECKED: LOG DATE: 10/15/2019  
 APPROVED: LOG DATE: 10/15/2019

**D.D. 25 LAT 3 DIVIDE**  
 HARDIN COUNTY, IOWA

LATERAL 3 DIVIDE MAP

PROJECT NO. 6501  
 SHEET NO. 1

## Denise Smith

---

**From:** Lee Gallentine <LGallentine@cgaconsultants.com>  
**Sent:** Tuesday, October 15, 2019 3:30 PM  
**To:** Denise Smith; Becca Junker  
**Subject:** DD 25 - Lateral 3  
**Attachments:** 6501 - Lat 3 and Main split.pdf

Denise and Becca,

Per the District Trustees' request at the last drainage meeting, we have developed the attached map that shows the % of area of individual parcels within the Lateral 3 watershed. Please note that this map is not comprehensive as any parcels that were obviously 100% within the Lateral 3 watershed, we did not label. Just let me know if you have any questions or need anything else.

Thanks,

**Lee O. Gallentine, PLS & PE**  
**Vice President**



**Clapsaddle-Garber Associates, Inc. (CGA)**

739 Park Avenue  
Ackley, Iowa 50601

Office: 641-847-3273  
Mobile: 515-689-5339  
[lgallentine@cgaconsultants.com](mailto:lgallentine@cgaconsultants.com)  
[www.cgaconsultants.com](http://www.cgaconsultants.com)

Ackley | Ames | Cedar Falls | Marshalltown | Webster City

[CLICK HERE to sign up for CGA news and updates!](#)





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
10/18/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Wellsburg Insurance Agency PO Box 248 Wellsburg, IA 50680	CONTACT NAME: Tom Beving	PHONE (A/C, No, Ext): 641-869-3724	FAX (A/C, No): 641-869-5508
	E-MAIL ADDRESS: tom@psblinsurance.com		
INSURED  Justin Ross DBA: Ross Excavating 12888 240th St Eldora, IA 50627	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A: Grinnell Mutual		
	INSURER B:		
	INSURER C:		
	INSURER D:		
	INSURER E:		
INSURER F:			

**COVERAGES****CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY			0000772689	06/02/2019	06/02/2020	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$ 5,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY \$ 1,000,000
	<input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						GENERAL AGGREGATE \$ 2,000,000
							PRODUCTS - COMP/OP AGG \$ 2,000,000
							\$
A	AUTOMOBILE LIABILITY			0000772690	06/02/2019	06/02/2020	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/> SCHEDULED AUTOS					BODILY INJURY (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS	<input type="checkbox"/> NON-OWNED AUTOS					PROPERTY DAMAGE (Per accident) \$
							\$
A	UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR			0000891493	06/02/2019	06/02/2020	EACH OCCURRENCE \$ 1,000,000
	EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE						AGGREGATE \$ 1,000,000
	DED <input type="checkbox"/> RETENTION \$						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						WC STATUTORY LIMITS OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y <input type="checkbox"/> N	N/A				E.L. EACH ACCIDENT \$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$
							E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

**CERTIFICATE HOLDER****CANCELLATION**Hardin County  
1215 Edgington Ave  
Eldora, IA 50627

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



# Drainage Work Order Request For Repair

## Hardin County

**Date:** 10/21/2019

**Work Order #:** WO00000276

**Drainage District:** DDs\DD 22 (51045)

**Sec-Twp-Rge:** 19-88-22      **Qtr Sec:** NE1/4

**Location/GIS:** 88-22-19-400-002

**Requested By:** Randy Silvest

**Contact Phone:** (641) 640-0171

**Contact Email:** \_\_\_\_\_

**Landowner (if different):** \_\_\_\_\_

**Description:** DD 22 Lat 1 - Randy Silvest stopped in to report a sinkhole in his wetland area, directly north of his house. He reports the sinkhole is 6' to 8' across and 3' deep in center of wetland area, Lat 1 runs directly through this wetland where he reports the sinkhole. He reports the sinkhole is dry and was discovered while he was mowing this past week. He requests further investigation and repair this fall, and to be contacted by Engineer.

**Repair labor, materials and equipment** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Repaired By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Please reference work order # and send statement for services to:** Hardin County Auditor's Office  
 Attn: Drainage Clerk  
 1215 Edgington Ave, Suite 1  
 Eldora, IA 50627  
 Phone (641) 939-8111  
 Fax (641) 939-8245

For Office Use Only

**Approved:** \_\_\_\_\_ **Date:** \_\_\_\_\_



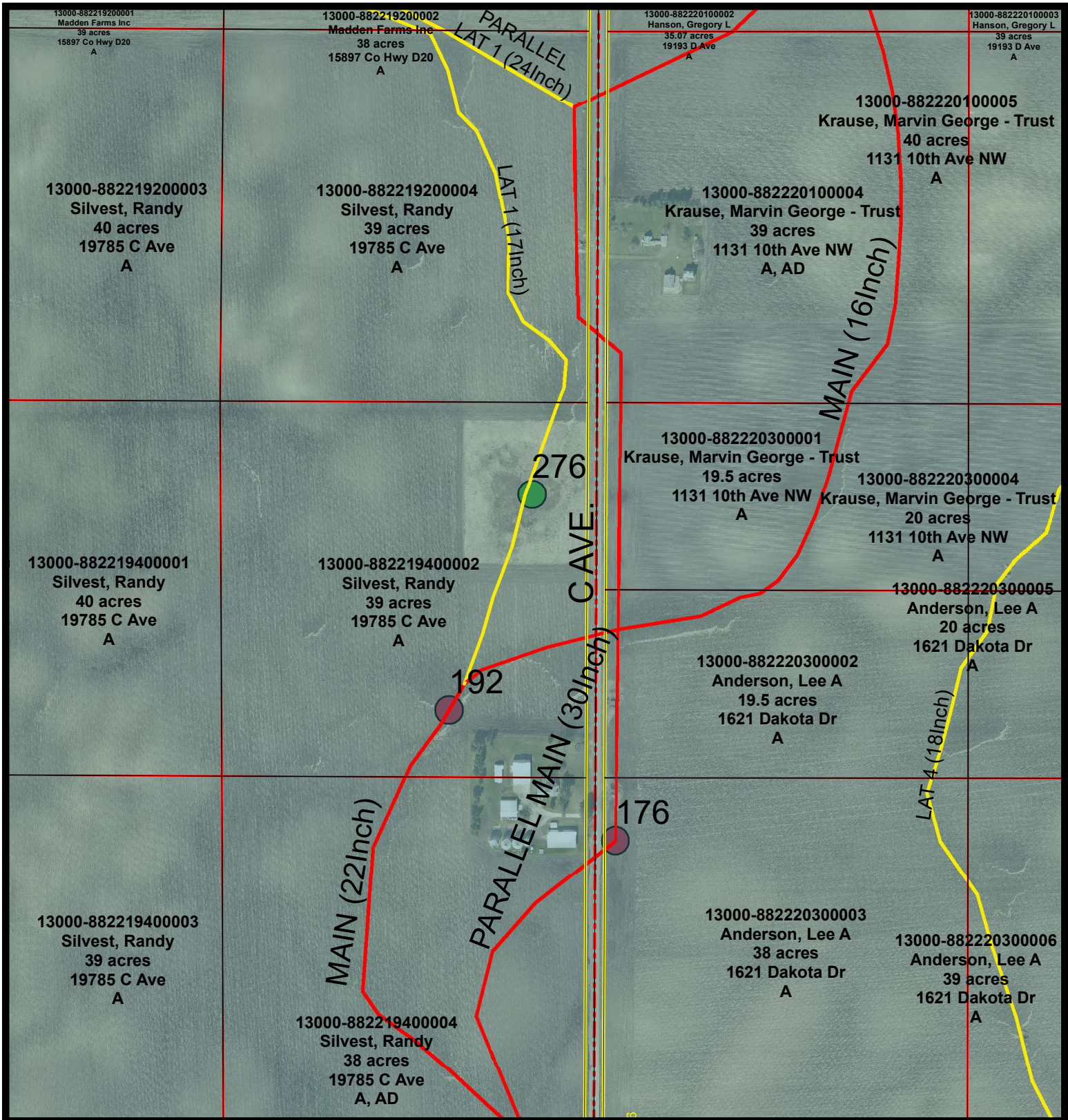
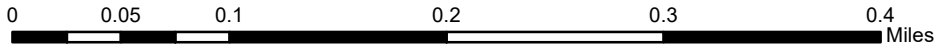
### Drainage Tiles

- Lateral
- Main
- Open Ditch
- Private Tile

# Hardin County Auditor's Office



Date: 10/21/2019



The Data is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. Hardin County makes no warranties, express or implied is to the use of the Data. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update. Cadastral Data represents land ownership, but does not define it. This Data does not replace a legal survey.



# Drainage Work Order Request For Repair Hardin County

Date: 10/29/2018

Work Order #: WO00000231

Drainage District: Drainage Districts \DD 38 (51063)

Sec-Twp-Rge: 15-89-22 Qtr Sec: NE

Location/GIS: 89-22-15-200-004

Requested By: Justin Huebner

Contact Phone: (641) 780-1423

Contact Email: \_\_\_\_\_

Landowner (if different): \_\_\_\_\_

Description: DD 38 Lat 4 - Water standing SW of hog buildings in SE NE 15-89-22. All crops are out except 15 acres under water. Would love to have it fixed right away to finish harvesting & could have a contractor out there in 2 days. Please call when going to be out.

Repair labor, materials and equipment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Repaired By: \_\_\_\_\_ Date: \_\_\_\_\_

Please reference work order # and send statement for services to:

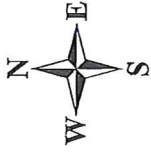
Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

Approved: \_\_\_\_\_ Date: \_\_\_\_\_



# Hardin County Auditor's Office



Date: 10/29/2018



The Data is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, timeliness, merchantability and fitness for use rests solely on the requester. Hardin County makes no warranties, express or implied is to the use of the Data. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update. Cadastral Data represents land ownership, but does not define it. This Data does not replace a legal survey.



## Drainage District:

#38 Lat 4

## Repair Summary:

- Per the recommendations of the previous investigation summary:
  - Excavated Lateral 4 tile in road ditch of 120<sup>th</sup> Street and jet cleaned tile upstream to remove sand/silt. Continued jet cleaning until reaching sinkhole/blowout. Removed approximately 3 tons of sand/silt that was restricting drainage in Lateral 4 tile.
  - During initial investigation, holes were cut into existing 15-inch VCP tile to gain access. Most of these were repaired with partial 15-inch dual wall HDPE collar and engineering fabric patches. 1 required a full repair of cracked/broken 15-inch VCP tile with 15-inch dual wall HDPE, 1-inch bedding/backfill rock, and concrete collars at connections. 1 inspection hole did not require repair, as 15-inch VCP tile was originally rolled out intact. So, rolled original VCP tile back into place and wrapped joints with engineering fabric. All inspection excavations were backfilled with on-site soil.
  - Blowout/sinkhole had saturated sandy base which required installing 3-inch rock for a subbase before starting repair. Repaired tile with 15-inch dual wall HDPE, 1-inch bedding/backfill rock, and concrete collars at connections. Backfilled with on-site soil and 3 tons of sand/silt removed by jet cleaning.
- During work to the Lateral 4 tile, upstream landowner (to south) reported a wet spot on the south side of the fenceline. Located Lateral 4 tile (12-inch VCP with 1" of sand in flowline) and determined that it is approximately 50' to 75' away from wet spot. Repaired with 15-inch dual wall HDPE, 1-inch bedding/backfill rock, and wrapped joints with engineering fabric.
- After work to Lateral 4 tile, upstream landowner (to south) reported additional wet spots in field on the south side of the fenceline. Visually observed site and found that there are wet spots in field, but none of them appear to be directly over assumed Lateral 4 tile route, there are no intakes in field at issue, and fields to south which are lower and have intakes appear to be dry.

## Contractor Time and Materials (spent while CGA was on-site):

See attached Tabulated Contractor Time and Materials Sheet.

## Additional Actions Recommended:

The Lateral 4 tile appears to be draining at this time. If poor drainage is reported along the Lateral 4 tile route again, it may need to be excavated at intervals to verify the cause. If restricted drainage is due to plugging by sand/silt again, it is recommended to investigate replacing portions of the tile with dual wall HDPE or dual wall polypropylene wrapped in a fabric sock with rock bedding/backfill to prevent sand/silt infiltration.



## Tabulated Contractor Time and Materials

Date	Totals	3/28/2019	3/29/2019	4/26/2019	4/30/2019
Workman (hrs.)	57.25	20.25	9	21	7
Mini Excavator (hrs.)	20.25	6.75	3	7	3.5
Jet Truck (hrs.)	9.75	6.75	3		
Water Tank Truck (hrs.)	9.75	6.75	3		
15" Dual Wall HDPE (ft.)	24			24	
3" Bedding Rock (loads)	1			1	
1" Bedding Rock (loads)	3			3	
Concrete Collar (ea.)	4			4	
Skid Loader (hrs.)	3.50				3.5

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

5/13/19

DAYS OF WEEK:

S M T W T F S

SHEET NO.

1 OF 1

PROJECT NUMBER:

6739

COUNTY, ROUTE, ROAD:

DO 38 LATY H.

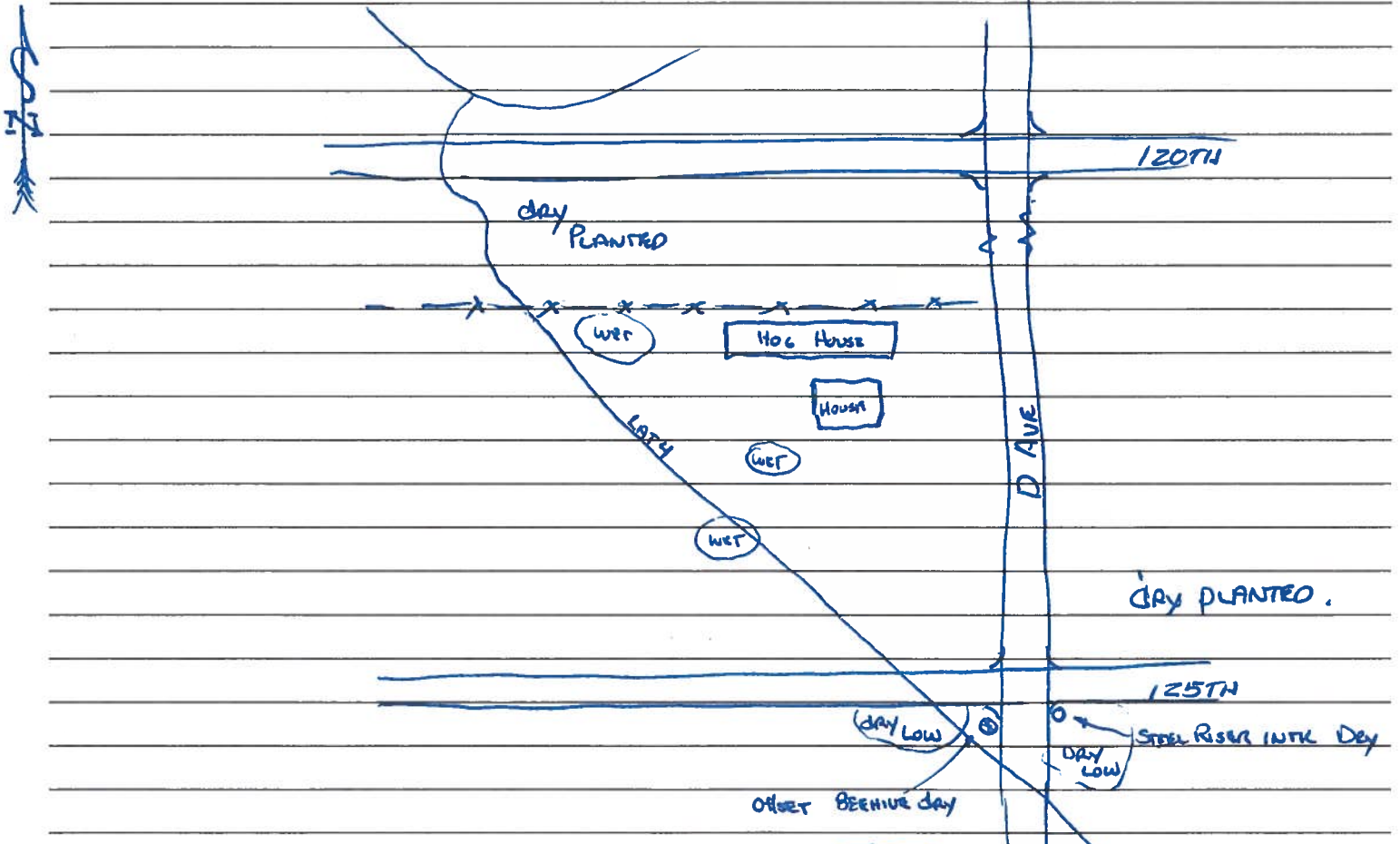
LOCATION:

125TH AND D. AVE

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

Sunny, 65°, CALM, drying CONDITIONS

ARRIVED @ 125TH AND D AVE., FOUND dry BEEHIVE IN SW QUAD, AND A dry STEEL RISER IN SE QUAD. FIELDS ARE ALSO dry IN ALL QUADS, EXCEPT NW QUAD. 3 SMALL WET AREAS STANDING WITH WATER, TOTAL 1-2 ACRES TOTAL, SO IF 18 ACRES WAS UNDER WATER, THE TILE MUST BE WORKING, EVEN IF SLOW. DEPENDING ON ROUTE OF TILE, CAN A PERSON THOROIZE WHAT MIGHT BE WRONG OR WHAT COULD IMPROVE. THERE IS NO INTAKES THAT I CAN SEE AROUND PONDS.



I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

*[Handwritten Signature]*

Date Prepared:

5/13/19

Reviewed by:

Engineer

Date Reviewed

**DRAINAGE DISTRICT # 38  
MINUTES**

**April 25, 2018**

Granzow moved, McClellan seconded to approve the 2018 drainage assessments as presented. All ayes. Motion carried.

District	Fund#	Amount Needed	Amount Levied	% Levied	Waivers
DD 38	51063	\$ 139.01	\$ 1,500.00	13.024%	10 Year

**October 31, 2018**

DD 38 - Approve Work Order Request #231

McClellan moved, Hoffman seconded to approve Work Order Request #231 for water standing in the SE NE 15-89-22. CGA is to hire a contractor to get the water flowing. All ayes. Motion carried.

**November 14, 2018**

DD 38 - Discuss, With Possible Action, Investigation Summary For Work Order #231

Gallentine presented the investigation summary for the standing water in 15-89-22. The landowner does not have the contractor available to start right away as originally suggested. Granzow moved, McClellan seconded to either assign the work via lottery system or lump with other projects, if possible, under a contract. All ayes. Motion carried.

**December 12, 2018**

McClellan moved, Granzow seconded to approve the claims for payment with pay date of Friday, December 14, 2018. All ayes. Motion carried.

DD 38 WO 231 ENG SVCS TO 11/23 Clapsaddle-Garber Assoc \$ 592.55

**January 16, 2019**

DD 38 - Discuss, With Possible Action, 2nd Investigation Summary For Work Order #231

Gallentine updated the Trustees that they found approximately 660 feet of 12" tile with 1 to 11 inches of sand in it. They recommend jet/vac clean to remove the sand/silt and allow dewatering of the tile. Once dewatered, they recommend excavation to determine the necessary tile repair. At this time, they believe it should be under the \$50,000 threshold, but will not know until they excavate. Hoffman moved, Granzow seconded to jet/vac clean and then excavate as discussed. All ayes. Motion carried.

**January 23, 2019**

Hoffman moved, Granzow seconded to approve the claims for payment with pay date of Friday, January 25, 2019. All ayes. Motion carried.

DD 38L4 WO 231 INVESTIGATION 5 HRS Williams Excavation LLC \$ 1,870.00

**March 6, 2019**

Granzow moved, Hoffman seconded to approve the claims for payment with pay date of Friday, March 8, 2019.

DD 38 WO 231 INVESTIGATION Clapsaddle-Garber Assoc \$ 1,867.75

**April 17, 2019**

Granzow moved, McClellan seconded to approve the claims for payment with pay date of Friday, April 19, 2019. All ayes. Motion carried.

DD 38 Ongoing Repairs Williams Excavation LLC \$7,425.00

DD 38 Clean silt out of setting holes Williams Excavation LLC \$746.00

**May 16, 2019**

DD 38 Lat 4 - Discuss, With Possible Action, Landowner Concern

Justin Huebner called to report standing water in his field. After much discussion, Granzow moved, McClellan seconded to request the landowner to verify the tile is plugged and not flowing. If it is found that the district tile is not flowing, the district will pay for the excavator work and research to repair. CGA is to notify the landowner of this motion so that if it is district tile he is comfortable with calling Lee right away to repair. All ayes. Motion Carried.

**June 12, 2019**

Approve Claims for Payment

Hoffman moved, Granzow seconded to approve the claims for payment with the pay date of Friday, June 14, 2019. All ayes. Motion carried.

DD 38 - Professional Services 4/26/19 - 5/31/2019

CGA \$ 854.40

**June 29, 2019**

DD 38 Lat 4- Discuss, With Possible Action, Repair Summary For Work Order #231

Gallentine presented the repair summary, and if there is poor drainage in the future CGA can do more investigation. In the fall it was determined that the landowner can go out and dig to find out if it is drainage district tile. No action required.

**July 17, 2019**

Hoffman moved, Granzow seconded to approve the claims for payment with pay date of Friday, July 19, 2019. All ayes. Motion carried.

DD 38 - Finalization of repair to lat 4 Clapsaddle-Garber Assoc 308.7



# Drainage Work Order

## Hardin County

Work Order # **151** Engineer Proj # **6486.1**

Repair  (Yes) Improvement  (Yes)

To Be Reclassified

(Print Map With I

Closed

Status

8/11/2016 Tina Schlemme

Date Request Taken By

48 Open Ditch 51072

DD# Lateral Fund #

Ellis 8 88 21 NE1/4

Twp Name Sec Twp Rge Qtr Sec

Requested By Larry Dougan

Address

Phone (641) 640-0536

Landowner Larry Dougan

Address/GIS#

Phone

Date Available For Repair

When ditch was cleaned out approx 10 years ago, all culverts were replaced but on in the SW NE Section 8. Is gone now and back into the field. Landowner requests to fix when crops are out.

Problem/Identification of Repair

### Attachments



### Payments

Date	Vendor	Amount	
5/26/2017	WILLIAMS EXC	\$4,409.00	OUTLETS/S
7/14/2017	RYKEN	\$2,116.00	ENG SVCS T
		\$0.00	
		\$0.00	
		\$0.00	
		\$0.00	
		\$0.00	
		\$0.00	
		\$0.00	
		\$0.00	

### Estimate/Contract

	Date	Amount	
Estimate			
Contract			
Chg Order 1			
Chg Order 2			
Chg Order 3			

**Comments**

**Request Form Showing Location)**

Payment Description

URF DRAINS

URF DRAINS REPAIR










Description






8/17/16-BOS approve once crops are out. DD usually pays to help keep banks from eroding. Hire contractor via lottery system.

10/25/16-Larry called. Corn is out & culverts can be replaced now. Wants to go w/Eng when goes to look at. Emailed Lee.

11/8-Larry called. Someone came out. One outlet tile is completely gone (south side on east end of farm). If come back out to look at there is another tile only 6" below ground that he has concerns about.

11/9-Lee says no in county contractors available. BOS ok'd out of county contractors for outstanding work.

2/17/17-Not able to find contractors. Will try again this Spring after thaw.

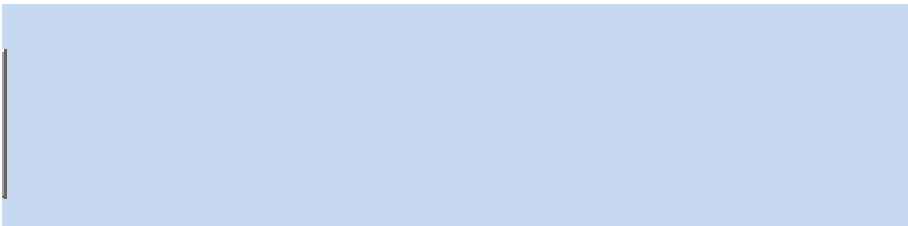
3/7/17-Surface drain was never installed and is now eroding away. Approx 500' east from the drain that has eroded away.

3/8-BOS ok new surface drain to be part of repair proj. (3/9-Called Larry to let him know.)

3/15/17-Waiting for Winters to submit all req'd paperwork.

3/29/17-Lee to research if surface drain or outlet that needs to installed. Ldowners pay for outlets.

6/8/17-Repair Summ: Identified other surface drains & tile condition. If left unrepaired, will lead to banks & siltation in ditch. BOS agree to address Ldowner complaints.



outlets in similar to erosion of no action as no	





# Drainage Work Order Request For Repair

## Hardin County

Date: 10/11/2019

Work Order #: WO00000274

Drainage District: DDs\DD 48 (51072)

Sec-Twp-Rge: \_\_\_\_\_ Qtr Sec: \_\_\_\_\_

Location/GIS: 88-21-08-200-004

Requested By: Larry Dougan

Contact Phone: (641) 640-0536

Contact Email: \_\_\_\_\_

Landowner (if different): \_\_\_\_\_

Description: DD 48 Larry Dougan came in to report the open ditch is meandering from current track into field, and requested repair. Asked to be contacted by Engineer when looking at ditch. See work order 151 attached.

Repair labor, materials and equipment: \_\_\_\_\_

\_\_\_\_\_

Repaired By: \_\_\_\_\_ Date: \_\_\_\_\_

Please reference work order # and send statement for services to:  
Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

Approved: \_\_\_\_\_ Date: \_\_\_\_\_



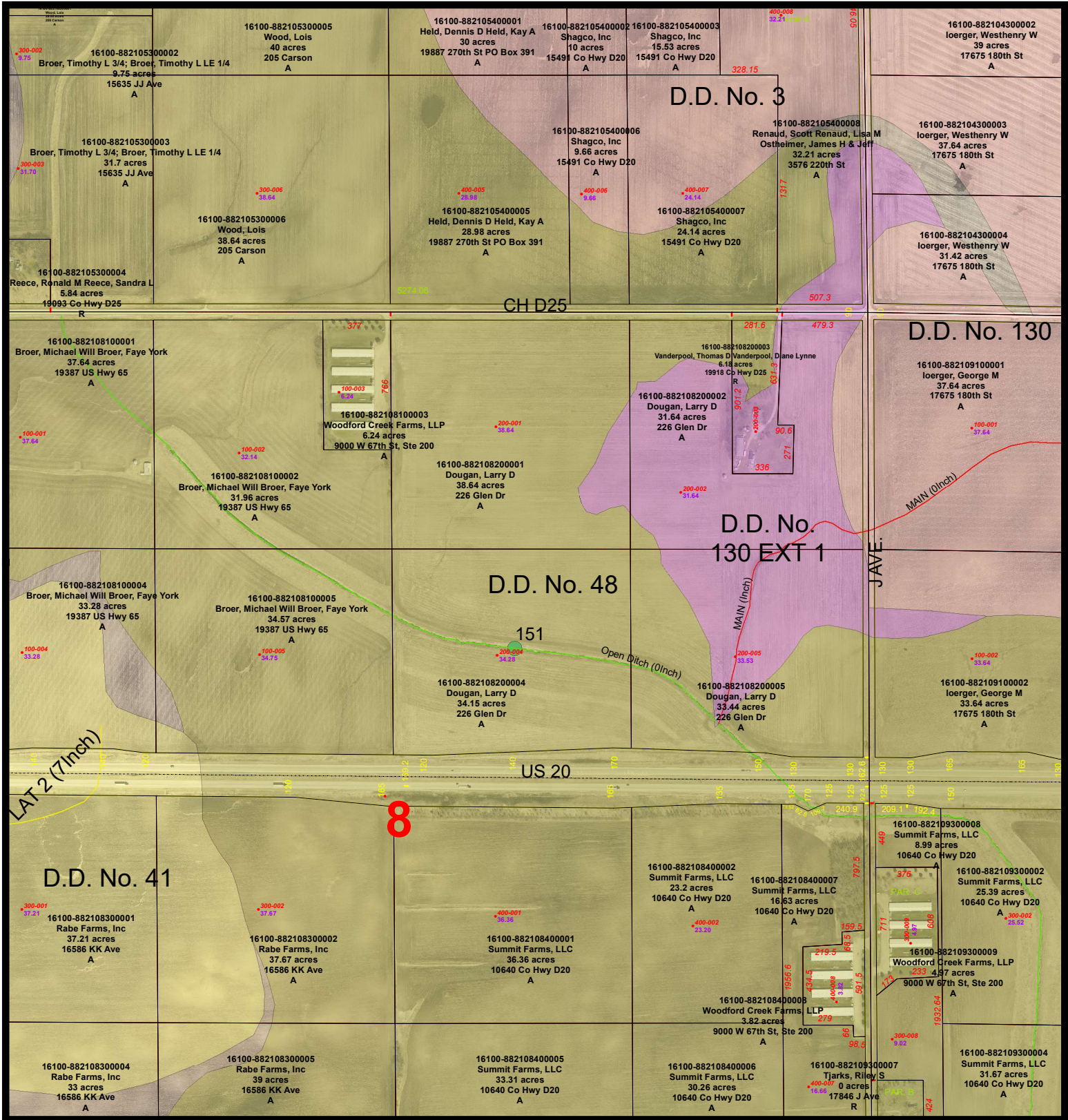
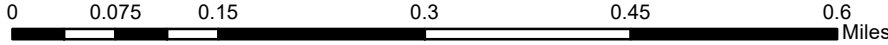
### Drainage Tiles

- Lateral
- Main
- Open Ditch
- Private Tile

# Hardin County Auditor's Office



Date: 10/11/2019



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892117100005

892117200002



Huebner, Gregory W (Deed)  
17637 125TH ST  
38.40 Acres Value \$207,180

[View: Report](#) | [Pictometry Imagery](#)

892117400001

892117300005



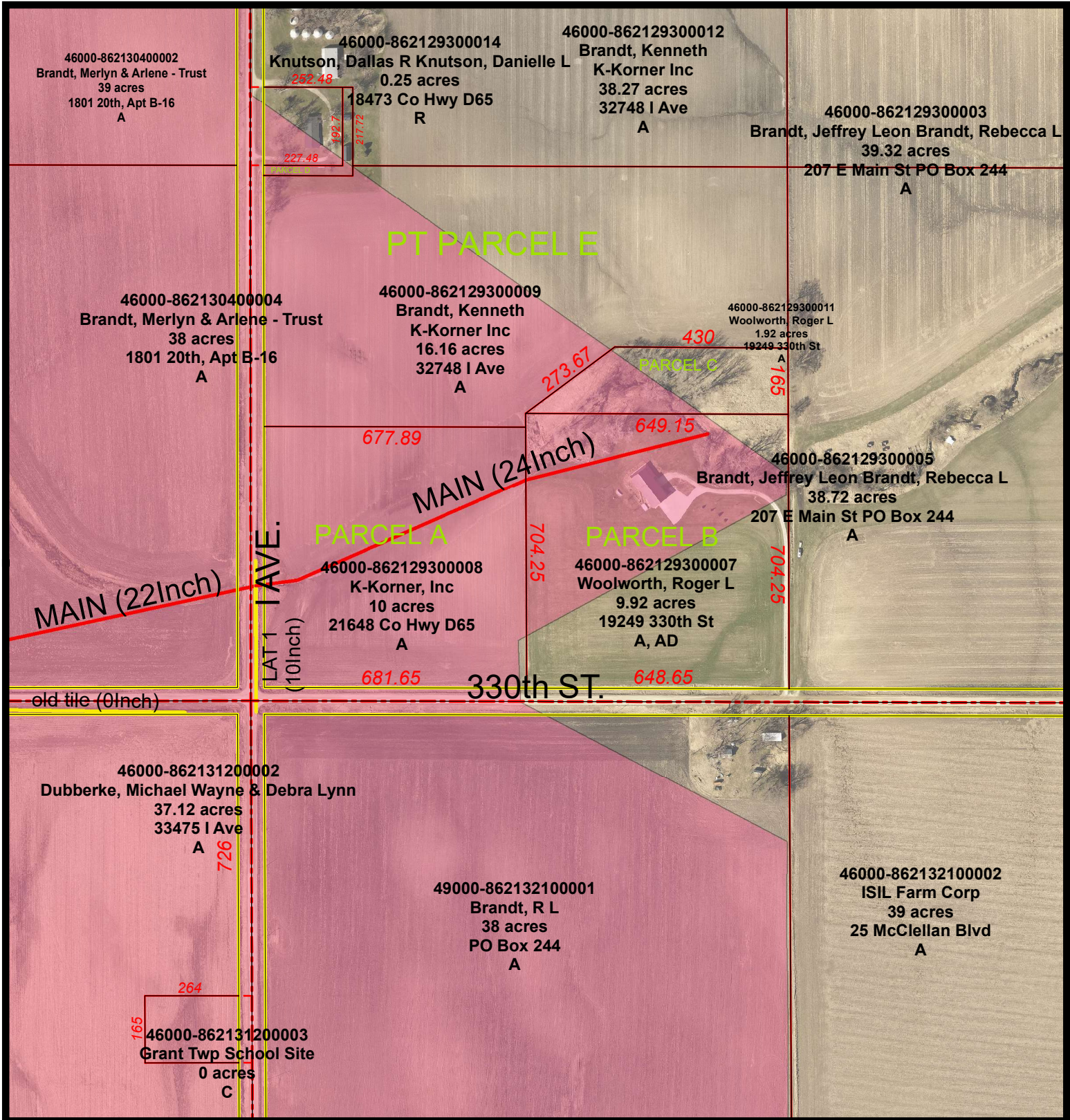
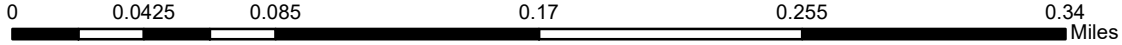
### Drainage Tiles

- Lateral
- Main
- Open Ditch
- Private Tile

# Hardin County Auditor's Office



Date: 10/21/2019



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