

# PELLA NORTH AND SOUTH AML RECLAMATION PROJECT

## BID NO. IA-292 & IA-293

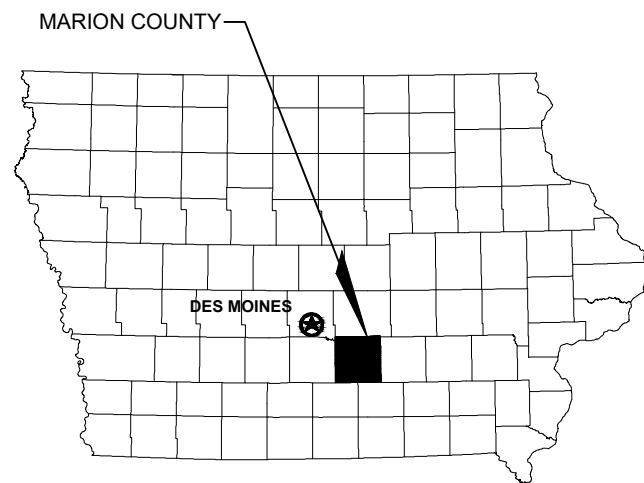
SECTIONS 23 & 26, TOWNSHIP 76N, RANGE 18W, MARION COUNTY

### IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

### DIVISION OF SOIL CONSERVATION AND WATER QUALITY

GRANT NUMBER: S23AF00089

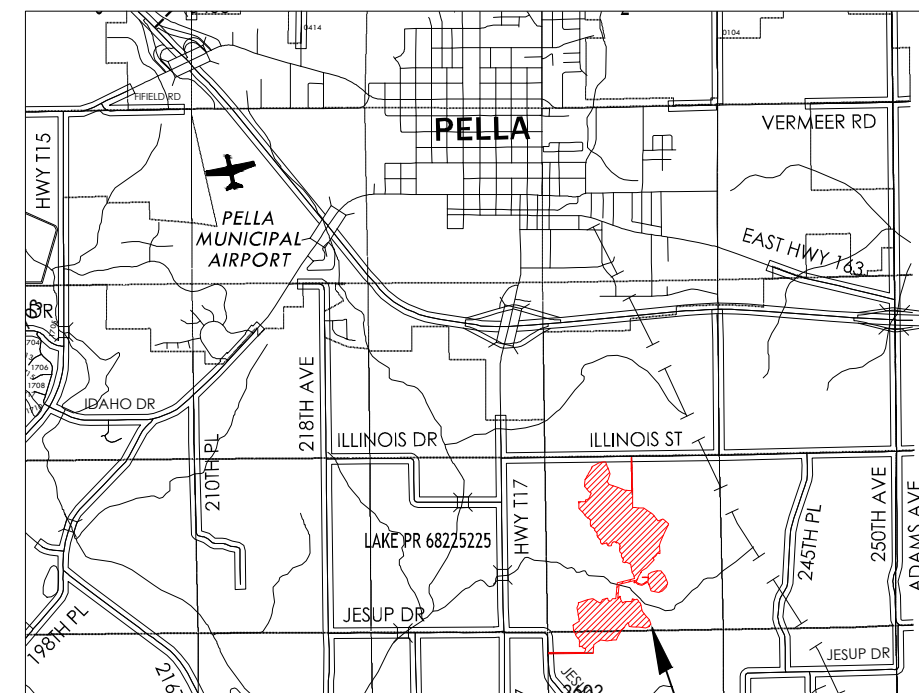
FUNDED BY:  
U.S. DEPARTMENT OF THE INTERIOR  
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT



STATE OF IOWA



MARION COUNTY



LOCAL VICINITY

**INDEX OF SHEETS:**

- 1 COVER SHEET
- 2 PROJECT QUANTITIES
- 3 PROJECT NOTES AND LEGEND
- 4 SURVEY CONTROL
- 5 SITUATION PLAN - EXISTING CONDITIONS
- 6 - 15 GRADING PLANS
- 16 - 19 CUT/FILL PLANS
- 20 - 21 DRAINAGE PLANS
- 22 - 23 PROJECT DETAILS
- 24 - 30 PIPE PROFILES
- 31 - 38 CROSS SECTIONS
- 39 - 41 STREAM CHANNEL PROFILES
- 42 SWPPP & SEEDING PLAN
- 43 SWPPP NOTES

PREPARED FOR:  
DIVISION OF SOIL CONSERVATION AND WATER QUALITY  
IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP  
HENRY A. WALLACE BUILDING  
502 E. 9TH STREET  
DES MOINES, IOWA 50319  
(515) 281-4246

ENGINEER:  
SHIVE-HATTERY, INC.  
4125 WESTOWN PARKWAY, SUITE 100  
WEST DES MOINES, IOWA 50266  
PHONE - (515) 223-8104

### CIVIL ENGINEER



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

Signature: *Luke Monat* Date: 6/27/2024

Printed or typed name: LUKE MONAT  
License Number: 22610

My License Renewal Date is: DECEMBER 31, 2024

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL:  
ALL SHEETS

S-H PROJECT NUMBER: 2142203050

**SHIVE-HATTERY**  
ARCHITECTURE+ENGINEERING  
4125 Westown Parkway, Suite 100 | West Des Moines, Iowa 50266  
515.223.8104 | Fax: 515.223.0622 | shive-hattery.com  
Iowa | Illinois | Missouri | Illinois Firm Number: 194-000214

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HENRY A. WALLACE BUILDING  
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(515) 281-4246



DESIGN BY: MMO DRAWN BY: ANI

PELLA NORTH AND SOUTH  
AML RECLAMATION PROJECT

COVER SHEET

SHEET

1 OF 43

PROJECT BID QUANTITIES:

#	ITEM DESCRIPTION	SPEC. SECTION	TOTAL QUANTITY	UNITS	NORTH QUANTITY	SOUTH QUANTITY
1	MOBILIZATION	02100	1	LS		
2	SITE CLEARING AND PREPARATION	02100	162.0	ACRE	108.5	53.5
3	OFF SITE WASTE DISPOSAL	02100	60	TON	40.0	20.0
4	IMPOUNDMENT DISCHARGE	02110	1	LS		
5	HYDRATED LIME	02110	6	TON	3	3
6	APPROVED SEDIMENT CONTROL MEASURES	02120	8,450	LF	6,600	1,850
7	FILTER SOCK	02120	855	LF	540	315
8	GRANULAR SURFACING - STABILIZED CONSTRUCTION ENTRANCE	02120	200	TON	100	100
9	EXCAVATION	02200	1,338,600	CY	830,700	507,900
10	OVER-EXCAVATION AND REPLACEMENT, POND MUCK	02200	10,048	CY	8,658	1,390
11	CLASS 'E' RIPRAP	02300	1,685	TON	540	1,145
12	STONE FILTER (3" MACADAM STONE)	02300	509	TON	172	337
13	TERRACES	02300	23,080	LF	15,620	7,460
14	CMP RISER-TERRACE (10")	02300	24	EA	15	9
15	CMP RISER-TERRACE (12")	02300	27	EA	18	9
16	DWPE PIPE (8")	02300	4,295	LF	2,916	1,379
17	DWPE PIPE (10")	02300	2,865	LF	1,884	981
18	DWPE PIPE (12")	02300	1,038	LF	548	490
19	PIPE OUTLET (8")	02300	6	EA	2	4
20	PIPE OUTLET (10")	02300	10	EA	8	2
21	PIPE OUTLET (12")	02300	8	EA	5	3
22	STRUCTURE - CONCRETE RISER (48")	02310	6	EA	3	3
23	PPHP PIPE (12")	02310	1,185	LF	572	613
24	FIELD FENCE, REMOVE AND REPLACE	02500	6,687	LF	4,415	2,272
25	WETLAND UNDERCUT AND REPLACEMENT	02400	12.5	ACRE	8.8	3.7
26	DEEP RIPPING, SUBGRADE	02400	68.9	ACRE	19.1	49.8
27	AGRICULTURAL LIME, SUBGRADE (40 TONS ECCE/ACRE)	02400	6,980	TON	4,692	2,288
28	MULCH, SUBGRADE (5 TONS/ACRE)	02400	174.5	ACRE	117.3	57.2
29	NITROGEN, N, WETLAND FERTILIZER (30 LBS/ACRE)	02700	375	LBS	264	111
30	AGRICULTURAL LIME, SEEDING (10 TONS ECCE/ACRE)	02400	1,528	TON	1,016	512
31	NITROGEN, N, SEEDING (50 LBS/ACRE)	02700	7,640	LBS	5,080	2,560
32	PHOSPHORUS, P (100 LBS/ACRE)	02700	15,280	LBS	10,160	5,120
33	POTASSIUM, K (160 LBS/ACRE)	02700	24,448	LBS	16,256	8,192
34	TEMPORARY SEEDING, OATS	02700	152.8	ACRE	101.6	51.2
35	MULCH, SEEDING (2 TONS/ACRE)	02700	152.8	ACRE	101.6	51.2

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ISSUED: 6/27/2024

CHKD. BY: LTM

ANI

PELLA NORTH AND SOUTH  
 AML RECLAMATION PROJECT

PROJECT QUANTITIES

DESIGN BY: MMO

DRAWN BY: ANI

SHEET

2 OF 43

**GENERAL NOTES:**

1. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
2. CONTRACTOR IS RESPONSIBLE FOR ALL SURVEY LAYOUT AND CONTROL REQUIRED TO COMPLETE ALL WORK.
3. WORK DONE CONTRARY TO THE INSTRUCTIONS OF THE OWNER'S REPRESENTATIVE, WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR ANY EXTRA WORK DONE WITHOUT AUTHORITY WILL NOT BE PAID FOR.
4. CONTOURS AND SPOT ELEVATIONS SHOWN ARE TO FINISHED GRADE.
5. THE CONTRACTOR SHALL KEEP ALL ROADS OPEN TO THROUGH TRAFFIC AT ALL TIMES.
6. NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION FROM THE DIVISION.
7. SOME CONTOUR LINES MAY NOT BE SHOWN FOR CLARITY.
8. BURNING OF LANDSCAPE WASTE PRODUCED IN CLEARING, GRUBBING AND CONSTRUCTION OPERATIONS SHALL BE LIMITED TO LOCATIONS LOCATED AT LEAST 1/4 MILE FROM ANY BUILDING INHABITED BY ANYONE OTHER THAN THE LANDOWNER OR TENANT CONDUCTING THE OPEN BURNING. PERMISSION IS REQUIRED TO BURN WITHIN 1/4 MILE OF INHABITED RESIDENCES. CONTRACTOR TO INSTALL TEMPORARY SIGNAGE WHEN BURNING OPERATIONS COULD AFFECT VISIBILITY ON ADJACENT ROADS - COORDINATE WITH LOCAL GOVERNING OFFICIALS.
9. SUBMIT MANUFACTURER'S CERTIFICATION AND MATERIAL DATA FOR ALL MATERIALS DELIVERED TO THE PROJECT SITE AS REQUESTED BY THE OWNERS REPRESENTATIVE.
10. THE FOLLOWING STANDARD ROAD PLANS OF THE IOWA DEPARTMENT OF TRANSPORTATION ARE INCLUDED BY REFERENCE:  
MI-103 & MI-104      DETAILS FOR FIELD FENCE CONSTRUCTION  
EC-201                      EROSION CONTROL DETAILS FOR SILT FENCE
11. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEPARTMENT OF NATURAL RESOURCES (DNR) NPDES PERMIT AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS AND REQUIRED CONTAINMENT STRUCTURES. THE DIVISION HAS OBTAINED THE DNR GENERAL PERMIT #2 FOR THE PROJECT AND A TEMPLATE SWPPP HAS BEEN PREPARED BY THE ENGINEER. THE DIVISION WILL PERFORM SWPPP INSPECTIONS, MAINTAIN, AND UPDATE THE SWPPP AS REQUIRED TO MEET ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS. REFER TO THE SWPPP AND SWPPP DRAWINGS FOR ADDITIONAL INFORMATION.
12. THE DIVISION HAS RECEIVED A DETERMINATION FROM THE U.S. ARMY CORPS THAT A SECTION 404 NATIONWIDE PERMIT IS REQUIRED AND HAS BEEN OBTAINED BY THE DIVISION. DO NOT DISTURB ANY DELINEATED WETLANDS THAT ARE NOT SHOWN TO BE DISTURBED AND MITIGATED.
13. REFERENCE TO PARTICULAR PRODUCTS, TRADENAMES, OR MANUFACTURERS IS INTENDED FOR CLARITY ONLY AND DOES NOT REPRESENT ENDORSEMENT BY THE STATE OF IOWA. EQUIVALENT PRODUCTS OR MATERIALS MAY BE SUITABLE, SUBJECT TO APPROVAL OF THE ENGINEER OR DIVISION.
14. NEITHER SHIVE-HATTERY NOR THE DIVISION GUARANTEE THE WETLANDS TO FILL OR MAINTAIN A CONSISTENT POOL OF WATER.
15. REFERENCES TO "DIVISION" SHALL MEAN "DIVISION OF SOIL CONSERVATION & WATER QUALITY"
16. ALL IMPROVEMENTS SHOWN ON THESE PLANS SHALL COMPLY WITH THE GENERAL CONDITIONS, STANDARDS, AND SPECIFICATIONS SET FORTH IN PROJECT DOCUMENTS. SPECIFICATIONS OR STANDARDS INCORPORATED BY REFERENCE SHALL ALSO BE FOLLOWED.
17. REFERENCES TO PARTICULAR PRODUCTS, TRADENAMES, OR MANUFACTURERS ARE INTENDED FOR CLARITY ONLY AND DO NOT REPRESENT EXCLUSION OR ENDORSEMENT BY THE DIVISION OR THE STATE OF IOWA. EQUIVALENT PRODUCTS OR MATERIALS MAY BE SUITABLE, SUBJECT TO THE APPROVAL OF THE ENGINEER.
18. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE ENGINEER AND/OR DIVISION PRIOR TO COMMENCING CONSTRUCTION.

**UTILITY NOTES:**

1. THE LOCATIONS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHOWN IN THESE PLANS ARE APPROXIMATE ONLY AND WERE OBTAINED FROM RECORDS MADE AVAILABLE TO SHIVE-HATTERY, INC. THERE MAY BE OTHER EXISTING UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS NOT KNOWN TO SHIVE-HATTERY, INC. AND NOT SHOWN ON THIS DRAWING. THE VERIFICATION OF EXISTENCE OF, AND THE DETERMINATION OF, THE EXACT LOCATION OF, UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR(S).
2. IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES VERBAL NOTICE TO IOWA ONE-CALL 1-800-292-8989, NOT LESS THAN 48 HOURS BEFORE EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS. THE CONTRACTOR IS RESPONSIBLE OF CONTACTING IOWA ONE-CALL.
3. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL OPEN UTILITY TRENCH EXCAVATIONS SHALL BE PROTECTED.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND/OR PRIVATE UTILITIES AND PUBLIC ROADWAYS, INCLUDING ANY NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF ANY CONFLICTS WITH THE DRAWINGS OCCUR. ANY DAMAGE TO EXISTING UTILITIES AND/OR PUBLIC ROADWAYS CAUSED BY CONTRACTOR TRENCHING SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

**PROJECT CONSTRUCTION NOTES:**

1. REPLACE ANY PROPERTY MONUMENTS REMOVED OR DESTROYED BY CONSTRUCTION. MONUMENTS SHALL BE REPLACED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE IOWA CODE AND SHALL BE SET BY A LAND SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF IOWA. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND COMPLETED AT NO ADDITIONAL COST TO THE DIVISION.
2. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SPECIFICALLY CALLED OUT, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
3. ALL DEBRIS AND TRASH ENCOUNTERED DURING CONSTRUCTION WITHIN THE PROJECT LIMITS, OR DIRECTED BY THE ENGINEER, SHALL BE PROPERLY DISPOSED OF ACCORDING TO THE PROJECT REQUIREMENTS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION DE-WATERING THAT IS REQUIRED, EXCLUDING IMPOUNDMENT DISCHARGE, AT NO ADDITIONAL COST TO THE DIVISION.
5. REPAIR OR REPLACE DAMAGE TO EXISTING FACILITIES (TILE, UTILITIES, FENCES, ETC.) DESIGNATED TO REMAIN, AT NO ADDITIONAL EXPENSE TO THE DIVISION. ALL AREAS DISTURBED BY CONSTRUCTION, INCLUDING STAGING AREAS AND HAUL ROUTES, ARE TO BE REWORKED TO THEIR EXISTING CONDITIONS AND SEEDED AT NO ADDITIONAL COST TO THE DIVISION IF OUTSIDE OF PROJECT LIMITS AND NOT APPROVED BY ENGINEER.
6. CONTRACTOR SHALL PROTECT ALL TREES THAT ARE NOT DESIGNATED TO BE REMOVED OR ARE OUTSIDE OF PROJECT LIMITS. CONTRACTOR SHALL NOT PARK OR TRAVEL WITH ANY VEHICLE UNDER THE DRIP LINE OF A TREE TO REMAIN. A SHRINKAGE FACTOR OF 12.5% WAS ESTIMATED FOR THIS PROJECT. THE CONTRACTOR SHALL MAKE CHANGES IN EARTHWORK AS NEEDED TO ADJUST FOR INACCURACIES INHERENT WITH ESTIMATING THE SHRINKAGE FACTOR. THESE CHANGES SHALL ONLY BE MADE AFTER CONSULTATION AND APPROVAL BY THE ENGINEER AND DIVISION. NO ADDITIONAL COMPENSATION SHALL BE GIVEN FOR ANY GRADE ADJUSTMENTS DUE TO DEVIATIONS OF SHRINKAGE FACTOR.
8. NO PONDING OF WATER WILL BE ACCEPTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY AREAS OF EXISTING OR PROPOSED GROUND THAT HAVE POTENTIAL TO POND WATER AND MAKE ANY ADJUSTMENTS NECESSARY TO ENSURE THAT WATER WILL POSITIVELY DRAIN. ADJUST GRADES AT PROJECT LIMITS TO ALLOW SMOOTH TRANSITION FROM PROPOSED GRADES TO EXISTING GRADES.
9. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE COORDINATED WITH THE GOVERNING AUTHORITY AND SHALL BE DONE IN ACCORDANCE WITH THEIR STANDARDS.
10. NO TREES SHALL BE CLEARED BETWEEN THE DATES OF APRIL 1 TO SEPTEMBER 30.
11. CONTRACTORS WILL BE REQUIRED TO COMPLETE THE DETAILED GRADING SHOWN ON THE PLANS WITHIN THE SPECIFIED GRADING TOLERANCES. CONTRACTORS WILL BE REQUIRED TO COMPLETE SURVEY LAYOUT OF FINAL GRADES OR USE STAKE-LESS GRADING TECHNIQUES TO MEET PROPOSED GRADES AND PROJECT TOLERANCES.

**REQUIRED CONSTRUCTION STAKING:**

1. PROJECT BOUNDARY AND ACCESS ROUTE
2. RISERS, INTAKE STRUCTURES, AND PIPE OUTLETS
3. BOUNDARIES FOR UNDERCUT EXCAVATION
4. ALL CHANNELS
5. TERRACE RIDGES

IF GPS GUIDED MACHINE CONTROL IS USED, ITEMS 3, 4, AND 5 MAY BE WAIVED

**LEGEND:**

STA:45+00	GRID STATION
● 711.89	EXISTING SPOT ELEVATION
--- 737 ---	EXISTING CONTOUR MINOR
- - - 737 - - -	EXISTING CONTOUR MAJOR
— 740 —	PROPOSED CONTOUR MINOR
— 740 —	PROPOSED CONTOUR MAJOR
—	PROJECT LIMITS
—	PROPOSED TERRACE RIDGELINE
—	REMOVE/REPLACE FENCE
—	EXISTING DRAINAGE DITCH OR STREAM
—	NO BURN RADIUS
	PROPOSED RIP-RAP
—	PROPOSED STORM PIPE
—	PROPOSED STREAM
⊙	INTAKE
⊙	POWER POLE
—	SHEET MATCH LINE
- - - - -	PROPERTY LINE (APPROX)
⊙	CONTROL POINT
—	SILT FENCE
	EXISTING WETLAND
	EXISTING POND
	PROPOSED POND/WETLAND

**GLOSSARY OF COMMON ABBREVIATIONS:**

1. PG = PROPOSED GRADE
2. EG = EXISTING GRADE
3. FG = FORM GRADE ELEVATION; THE LOWEST INLET OPENING ELEVATION FOR A RISER OR STRUCTURE TO RECEIVE WATER FROM A POND OR CHANNEL
4. IE = INVERT ELEVATION
5. HDPE = DUAL-WALL CORRUGATED HIGH DENSITY POLYETHYLENE CONDUIT (I.E. ADS N12 OR APPROVED EQUIVALENT)
6. PPHP = POLYPROPYLENE HIGH PERFORMANCE CORRUGATED DUAL-WALL PIPE (I.E. ADS HP STORM OR APPROVED EQUIVALENT)
7. RIM = ELEVATION OF A STRUCTURE LID
8. LF = LINEAL FEET
9. FL = FLOWLINE
10. HP = HIGH POINT ELEVATION, TYPICALLY IN A TERRACE FLOWLINE
11. CL = CENTERLINE
12. EX. = "EXISTING" I.E. "EXISTING CMP CULVERT"

NOTE: THE LEGEND OF SYMBOLS, LINETYPES, AND LIST OF ABBREVIATIONS SHOWN ABOVE ARE GENERIC. NOT ALL SYMBOLS, LINETYPES, OR ABBREVIATIONS LISTED APPEAR ON THE ACCOMPANYING DRAWINGS FOR THIS PROJECT. SYMBOLS, LINETYPES, OR ABBREVIATIONS NOT LISTED HERE ARE SPECIFICALLY CALLED OUT WHERE NECESSARY.

S-H PROJECT NUMBER: 2142203050

ISSUED: 6/27/2024  
REVISED: ---

CHKD. BY: LTM

ANI

DRAWN BY:

MMO

DESIGN BY:

**SHIVEHATTERY**  
ARCHITECTURE+ENGINEERING

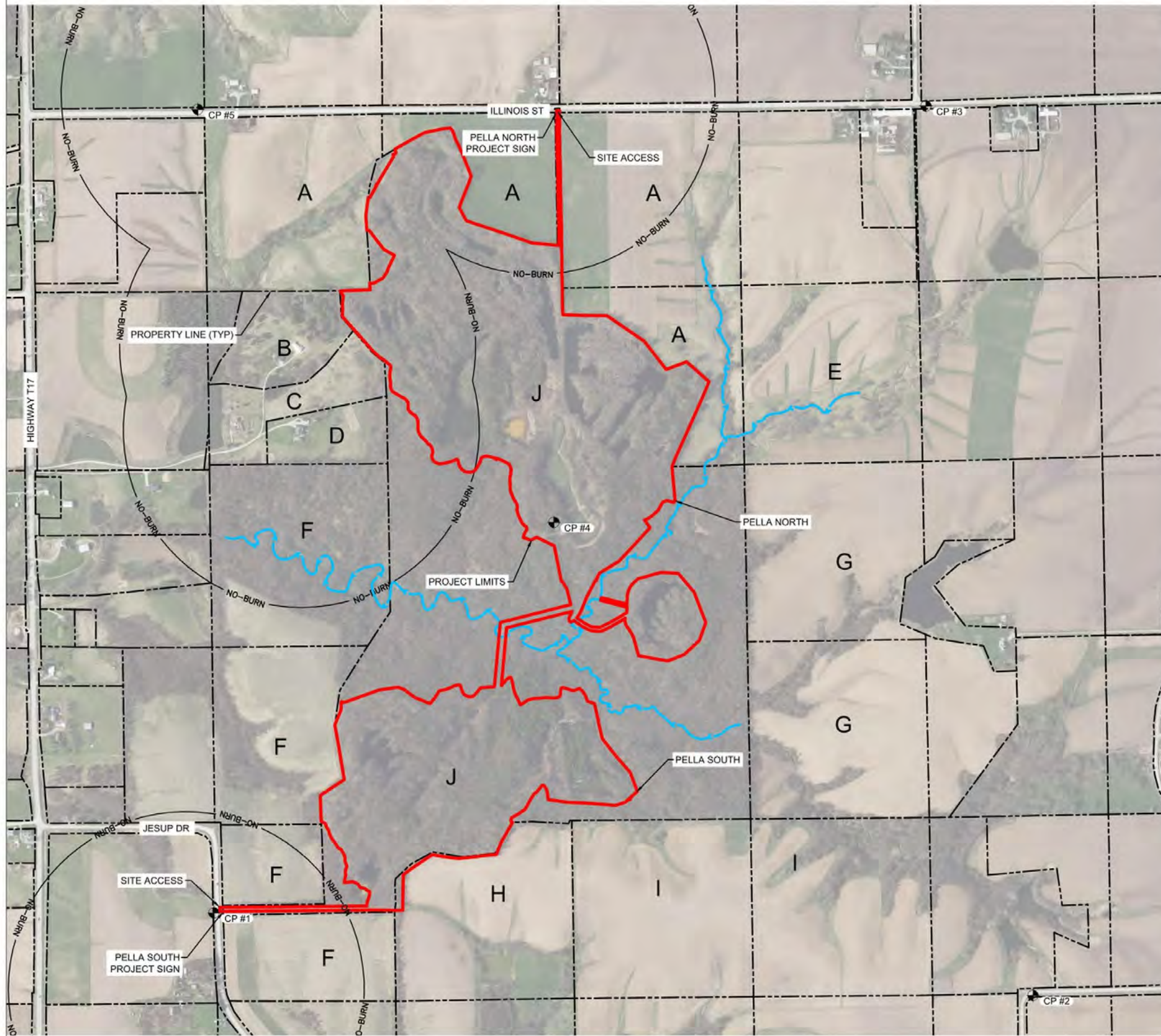
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PELLA NORTH AND SOUTH  
AML RECLAMATION PROJECT

PROJECT NOTES AND LEGEND



**LANDOWNER TABLE**

- A. VERHOEF
- B. WATSON
- C. SEELYE
- D. VAN GORP
- E. VAN ROEKEL
- F. REMPE
- G. VAN DONSELAAR
- H. VER PLOEG
- I. VER MEER
- J. STATE OF IOWA CONSERVATION COMMISSION

**NOTES:**

1. BURNING OF LANDSCAPE WASTE PRODUCED IN CLEARING, GRUBBING AND CONSTRUCTION OPERATIONS SHALL BE LIMITED TO LOCATIONS LOCATED AT LEAST 1/4 MILE FROM ANY BUILDING INHABITED BY OTHER THAN THE LANDOWNER OR TENANT CONDUCTING THE OPEN BURNING. PERMISSION IS REQUIRED TO BURN WITHIN 1/2 MILE OF INHABITED RESIDENCES. CONTRACTOR TO INSTALL TEMPORARY SIGNAGE WHEN BURNING OPERATIONS COULD AFFECT VISIBILITY ON ADJACENT ROADS - COORDINATE WITH LOCAL GOVERNING OFFICIALS.
2. CONTRACTOR TO STAKE PROJECT LIMITS. DIVISION AND ENGINEER TO APPROVE LIMITS PRIOR TO COMMENCEMENT OF WORK.

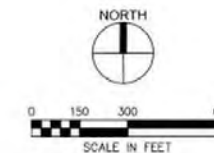
**SURVEY CONTROL**

<p>CP - 1 N 496770.606 E 1802518.645 ELEV. = 831.913</p>
<p>CP - 2 N 496157.064 E 1808593.438 ELEV. = 841.627</p>
<p>CP - 3 N 502758.637 E 1807798.403 ELEV. = 875.150</p>
<p>CP - 4 N 499668.344 E 1805039.382 ELEV. = 834.453</p>
<p>CP - 5 N 502732.228 E 1802398.641 ELEV. = 840.571</p>

NOTE:  
GROUND CONTROL AND REFERENCE TIES BY SHIVE-HATTERY, INC.

SURVEY DATUM:  
HORIZONTAL - NAD83, IOWA STATE PLANES, SOUTH ZONE, US FOOT.

VERTICAL - NAVD88



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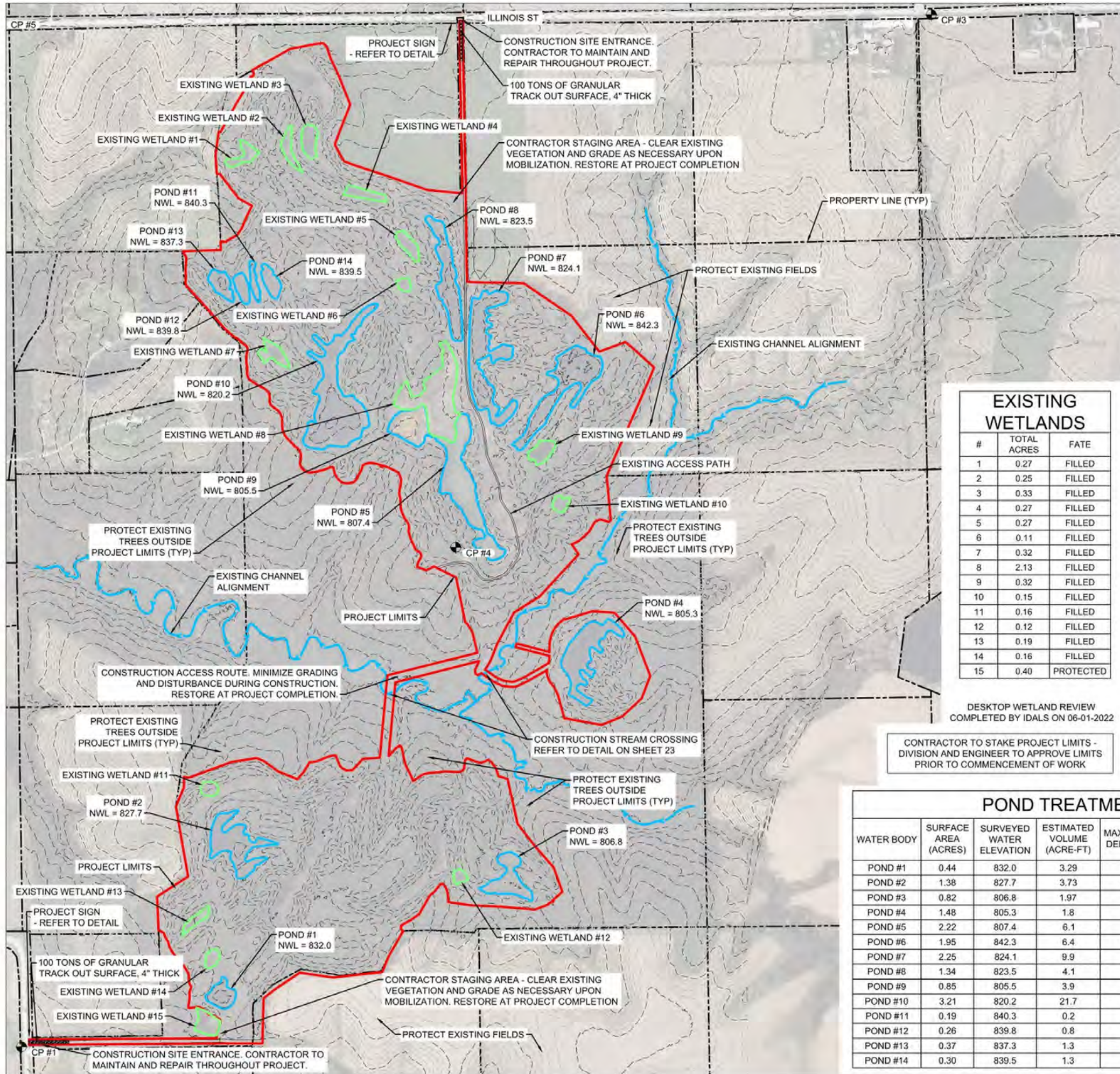
**SHIVEHATTERY**  
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515.233.6104 | fax: 515.223.6022 | shivehattery.com  
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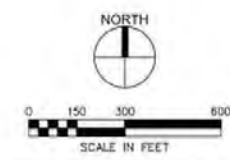


### EXISTING WETLANDS

#	TOTAL ACRES	FATE
1	0.27	FILLED
2	0.25	FILLED
3	0.33	FILLED
4	0.27	FILLED
5	0.27	FILLED
6	0.11	FILLED
7	0.32	FILLED
8	2.13	FILLED
9	0.32	FILLED
10	0.15	FILLED
11	0.16	FILLED
12	0.12	FILLED
13	0.19	FILLED
14	0.16	FILLED
15	0.40	PROTECTED

DESKTOP WETLAND REVIEW COMPLETED BY IDALS ON 06-01-2022

CONTRACTOR TO STAKE PROJECT LIMITS - DIVISION AND ENGINEER TO APPROVE LIMITS PRIOR TO COMMENCEMENT OF WORK



### POND TREATMENT AND DISCHARGE SUMMARY

WATER BODY	SURFACE AREA (ACRES)	SURVEYED WATER ELEVATION	ESTIMATED VOLUME (ACRE-FT)	MAX WATER DEPTH (FT)	MAX SEDIMENT THICKNESS (FT)	IRON (mg/L)*	pH*	ESTIMATED HYDRATED LIME NEEDED FOR NEUTRALIZATION (TONS)	FATE
POND #1	0.44	832.0	3.29	15.0	8.2	<.5	7.5	0.016	FILLED
POND #2	1.38	827.7	3.73	12.0	8.4	3.370	7.1	0.124	FILLED
POND #3	0.82	806.8	1.97	8.0	14.8	0.904	7.7	0.018	FILLED
POND #4	1.48	805.3	1.8	4.7	3.5	0.888	7.2	0.015	FILLED
POND #5	2.22	807.4	6.1	6.5	5.8	<.5	8.1	0.030	FILLED
POND #6	1.95	842.3	6.4	14.0	6.2	<.5	7.6	0.032	FILLED
POND #7	2.25	824.1	9.9	18.0	11.5	<.5	8.5	0.049	FILLED
POND #8	1.34	823.5	4.1	9.0	4.5	<.5	7.8	0.020	FILLED
POND #9	0.85	805.5	3.9	14.0	6.3	<.5	7.7	0.019	FILLED
POND #10	3.21	820.2	21.7	14.5	5.3	<.5	8.2	0.107	FILLED
POND #11	0.19	840.3	0.2	3.0	2.9	<.5	7.6	0.001	FILLED
POND #12	0.26	839.8	0.8	6.5	7.0	<.5	7.5	0.004	FILLED
POND #13	0.37	837.3	1.3	9.0	11.9	<.5	7.5	0.006	FILLED
POND #14	0.30	839.5	1.3	8.5	6.7	<.5	7.5	0.006	FILLED

### DEBRIS PHOTOS:



### DEMOLITION NOTES:

1. ALL DEBRIS AND TRASH ENCOUNTERED DURING CONSTRUCTION WITHIN THE PROJECT LIMITS SHALL BE PROPERLY DISPOSED OF ACCORDING TO THE PROJECT SPECIFICATIONS.

### SURVEY NOTES:

1. LIMITED TOPOGRAPHIC SURVEY COMPLETED BY SHIVE-HATTERY IN JUNE 2022.
2. HYDROGRAPHIC SURVEY OF THE PONDS COMPLETED BY SHIVE-HATTERY IN MAY 2022.
3. DEPTH TO REFUSAL PROBING OF THE PONDS COMPLETED BY SHIVE-HATTERY IN FEBRUARY 2023.
4. THIS DRAWING IS SET TO THE NAD 1983 IOWA STATE PLANE, SOUTH ZONE COORDINATE SYSTEM. ELEVATION INFORMATION IS BASED ON NAVD 1988.
5. EXISTING SURFACE INFORMATION SHOWN WAS BASED ON LIGHT DETECTION AND RANGING (LIDAR) INFORMATION FROM THE IOWA DNR. LIDAR WAS COLLECTED IN THE SPRING OF 2020 AND PUBLISHED MARCH, 2022. LIDAR DATA IS PUBLICLY AVAILABLE FROM IOWA GEODATA. <https://geodata.iowa.gov/>
6. DURABLE CONTROL POINTS WERE ESTABLISHED FOR THIS PROJECT. CONTRACTOR SHALL FIELD VERIFY THEIR LOCATIONS AND ELEVATIONS IF ANY ADDITIONAL CONTROL POINTS ARE REQUIRED, SUCH WORK BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.
7. IF SIGNIFICANT DIFFERENCES EXIST BETWEEN THE LIDAR ELEVATIONS SHOWN AND THOSE REPORTED BY SURVEYING EQUIPMENT, THE CONTRACTOR SHALL CALIBRATE THE SURVEYING INSTRUMENTS TO THE LIDAR INFORMATION IN CONSULTATION WITH THE ENGINEER. REFER TO PROJECT SPECIFICATIONS.
8. AERIAL IMAGE OBTAINED FROM COUNTY GIS.
9. NWL OF PONDS REPORTED ON THIS SHEET ARE AS OF MAY 2022. NWL MAY VARY DEPENDING ON RECENT RAINFALL AMOUNTS.

S-H PROJECT NUMBER: 2142203050

REVISED: 6/27/2024  
ISSUED: LTM  
CHKD BY: ANI  
DRAWN BY: MMO

DIVISION OF SOIL CONSERVATION AND WATER QUALITY  
IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP  
HENRY A. WALLACE BUILDING  
502 E. 9th STREET, DES MOINES, IOWA 50319  
(515) 281-4246

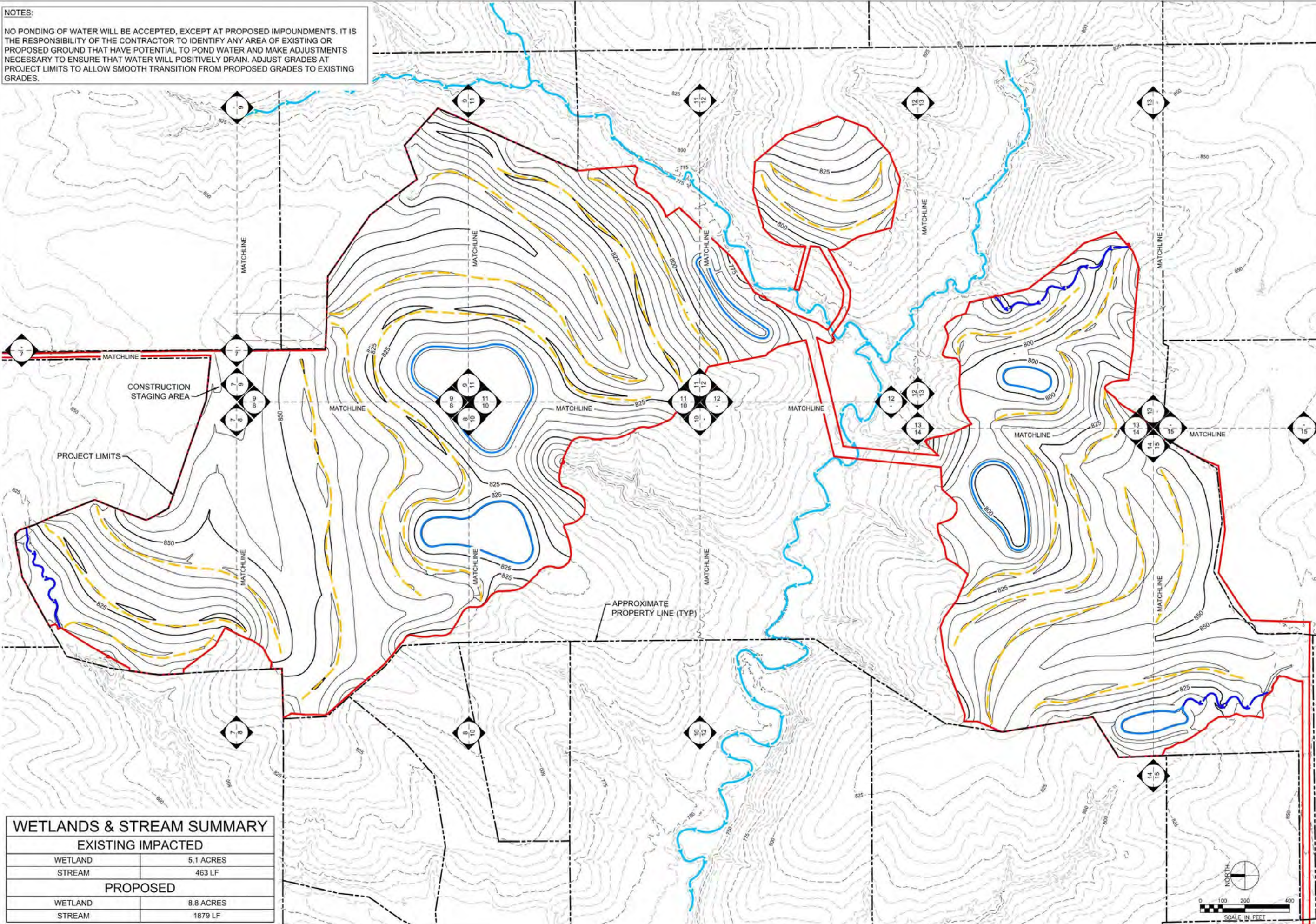
PELLA NORTH AND SOUTH  
AML RECLAMATION PROJECT

SITUATION PLAN - EXISTING CONDITIONS

SHEET  
**5** OF 43

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**NOTES:**  
 NO PONDING OF WATER WILL BE ACCEPTED, EXCEPT AT PROPOSED IMPOUNDMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY AREA OF EXISTING OR PROPOSED GROUND THAT HAVE POTENTIAL TO POND WATER AND MAKE ADJUSTMENTS NECESSARY TO ENSURE THAT WATER WILL POSITIVELY DRAIN. ADJUST GRADES AT PROJECT LIMITS TO ALLOW SMOOTH TRANSITION FROM PROPOSED GRADES TO EXISTING GRADES.



**WETLANDS & STREAM SUMMARY**

EXISTING IMPACTED	
WETLAND	5.1 ACRES
STREAM	463 LF
PROPOSED	
WETLAND	8.8 ACRES
STREAM	1879 LF

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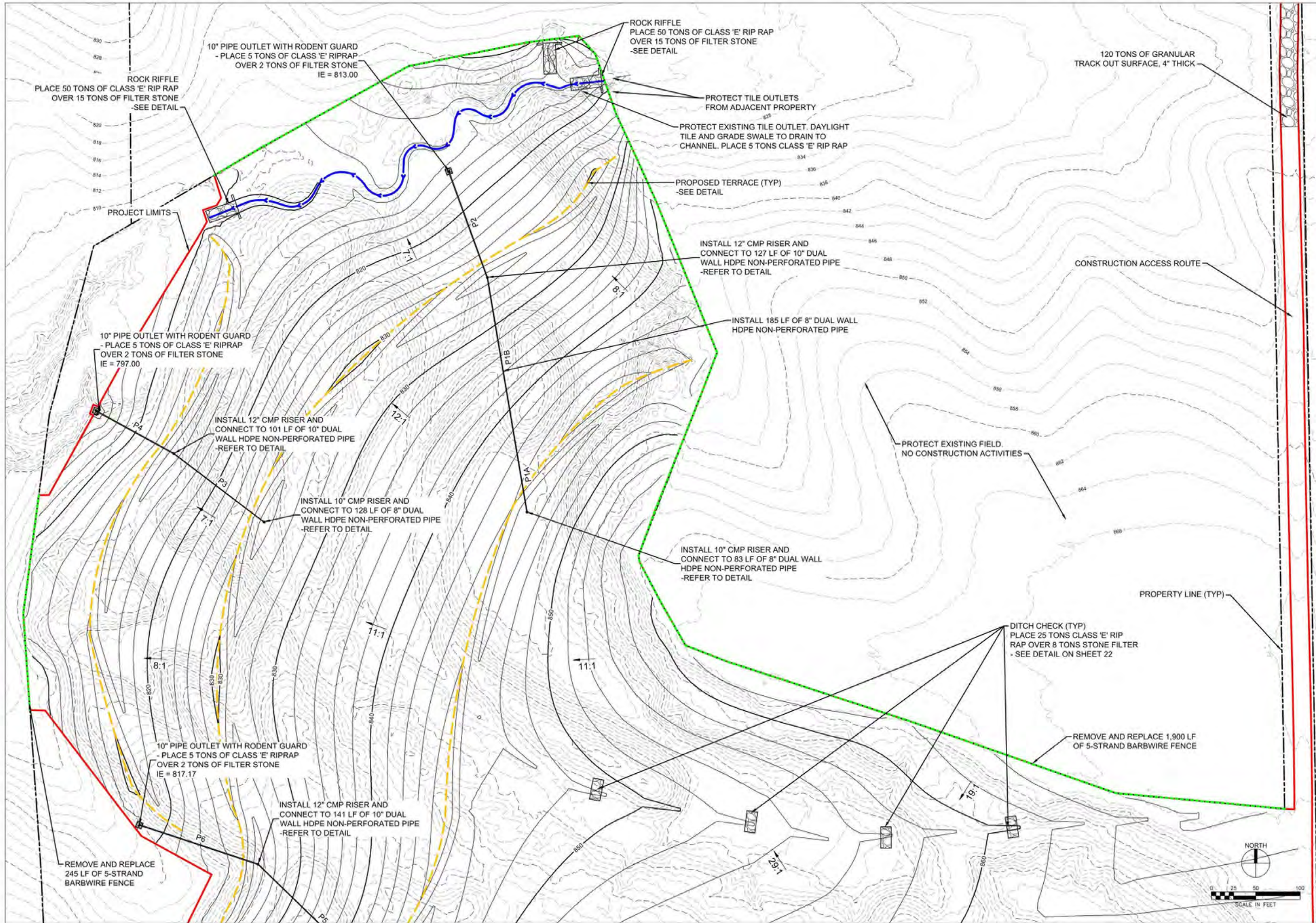


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PELLA NORTH AND SOUTH  
 AML RECLAMATION PROJECT  
 GRADING PLAN - OVERALL

SHEET  
**6** OF **43**

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ROCK RIFFLE  
PLACE 50 TONS OF CLASS 'E' RIP RAP  
OVER 15 TONS OF FILTER STONE  
-SEE DETAIL

10" PIPE OUTLET WITH RODENT GUARD  
- PLACE 5 TONS OF CLASS 'E' RIPRAP  
OVER 2 TONS OF FILTER STONE  
IE = 813.00

ROCK RIFFLE  
PLACE 50 TONS OF CLASS 'E' RIP RAP  
OVER 15 TONS OF FILTER STONE  
-SEE DETAIL

120 TONS OF GRANULAR  
TRACK OUT SURFACE, 4" THICK

PROTECT TILE OUTLETS  
FROM ADJACENT PROPERTY

PROTECT EXISTING TILE OUTLET. DAYLIGHT  
TILE AND GRADE SWALE TO DRAIN TO  
CHANNEL. PLACE 5 TONS CLASS 'E' RIP RAP

PROPOSED TERRACE (TYP)  
-SEE DETAIL

INSTALL 12" CMP RISER AND  
CONNECT TO 127 LF OF 10" DUAL  
WALL HDPE NON-PERFORATED PIPE  
-REFER TO DETAIL

INSTALL 185 LF OF 8" DUAL WALL  
HDPE NON-PERFORATED PIPE

CONSTRUCTION ACCESS ROUTE

PROJECT LIMITS

10" PIPE OUTLET WITH RODENT GUARD  
- PLACE 5 TONS OF CLASS 'E' RIPRAP  
OVER 2 TONS OF FILTER STONE  
IE = 797.00

INSTALL 12" CMP RISER AND  
CONNECT TO 101 LF OF 10" DUAL  
WALL HDPE NON-PERFORATED PIPE  
-REFER TO DETAIL

INSTALL 10" CMP RISER AND  
CONNECT TO 128 LF OF 8" DUAL  
WALL HDPE NON-PERFORATED PIPE  
-REFER TO DETAIL

PROTECT EXISTING FIELD.  
NO CONSTRUCTION ACTIVITIES

INSTALL 10" CMP RISER AND  
CONNECT TO 83 LF OF 8" DUAL WALL  
HDPE NON-PERFORATED PIPE  
-REFER TO DETAIL

PROPERTY LINE (TYP)

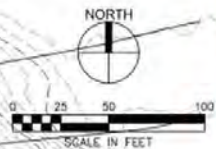
10" PIPE OUTLET WITH RODENT GUARD  
- PLACE 5 TONS OF CLASS 'E' RIPRAP  
OVER 2 TONS OF FILTER STONE  
IE = 817.17

INSTALL 12" CMP RISER AND  
CONNECT TO 141 LF OF 10" DUAL  
WALL HDPE NON-PERFORATED PIPE  
-REFER TO DETAIL

DITCH CHECK (TYP)  
PLACE 25 TONS CLASS 'E' RIP  
RAP OVER 8 TONS STONE FILTER  
-SEE DETAIL ON SHEET 22

REMOVE AND REPLACE 1,900 LF  
OF 5-STRAND BARBWIRE FENCE

REMOVE AND REPLACE  
245 LF OF 5-STRAND  
BARBWIRE FENCE



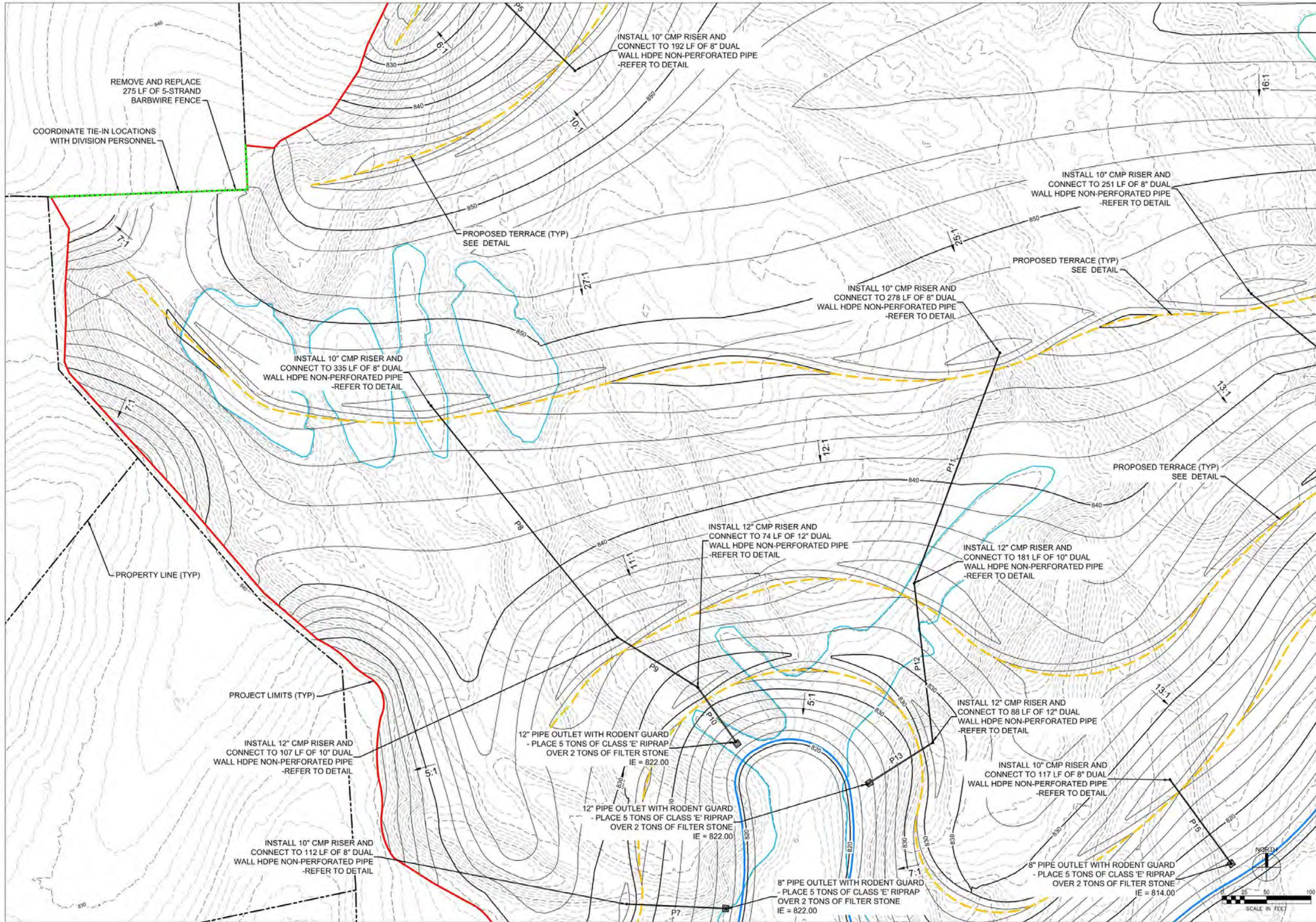
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PELLA NORTH AND SOUTH  
AML RECLAMATION PROJECT

DIVISION OF SOIL CONSERVATION  
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IOWA DEPARTMENT OF AGRICULTURE  
AND LAND STEWARDSHIP  
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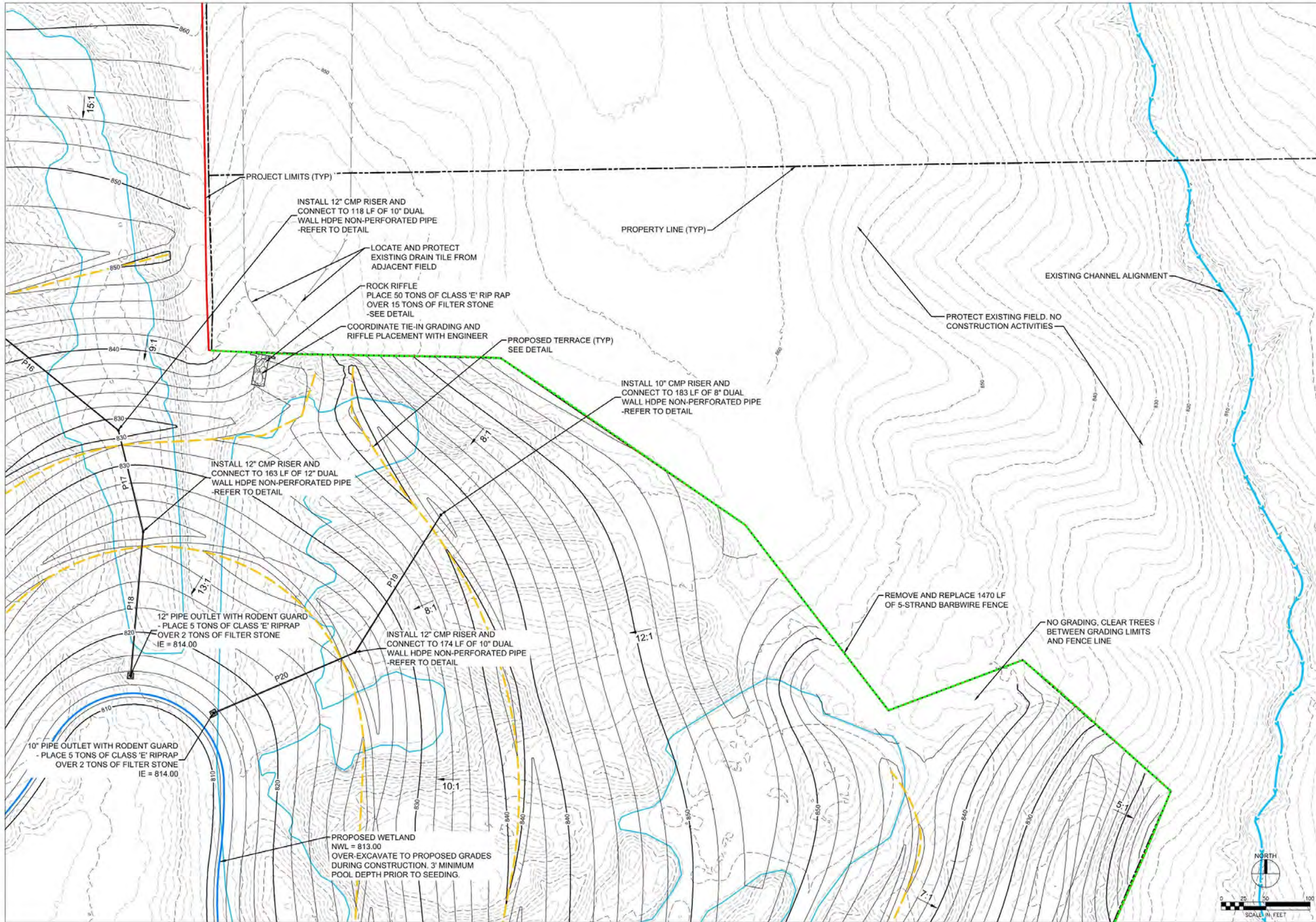


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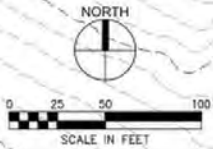
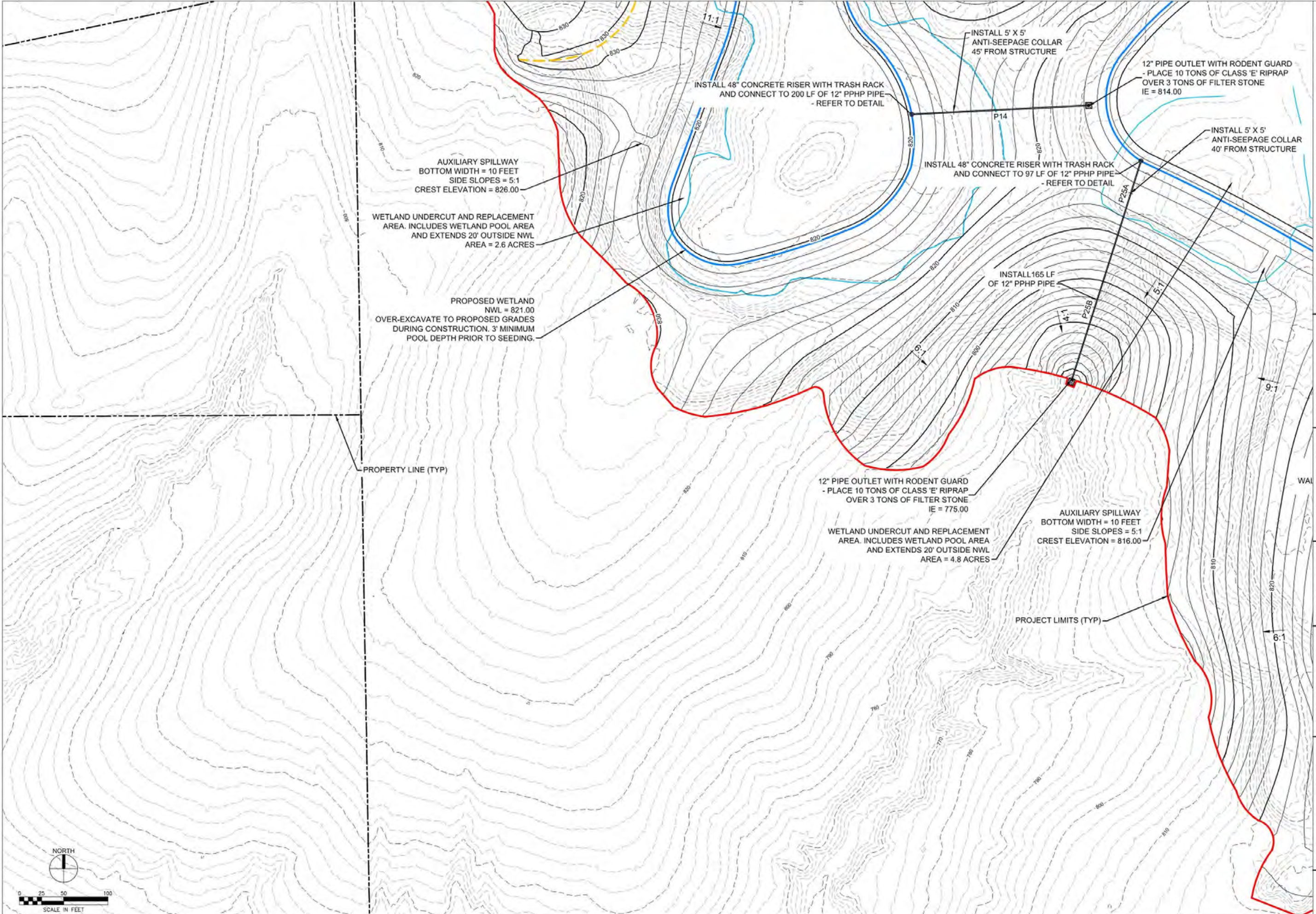


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PELLA NORTH AND SOUTH AML RECLAMATION PROJECT			GRADING PLAN		
SHEET <b>8</b> OF <b>43</b>			SHIVEHATTERY ARCHITECTURE+ENGINEERING 4425 Western Parkway, Suite 100   West Des Moines, Iowa 50266 515.233.6104   fax: 515.233.0022   shivehattery.com Iowa   Illinois   Missouri   Illinois Firm Number: 184-000214		





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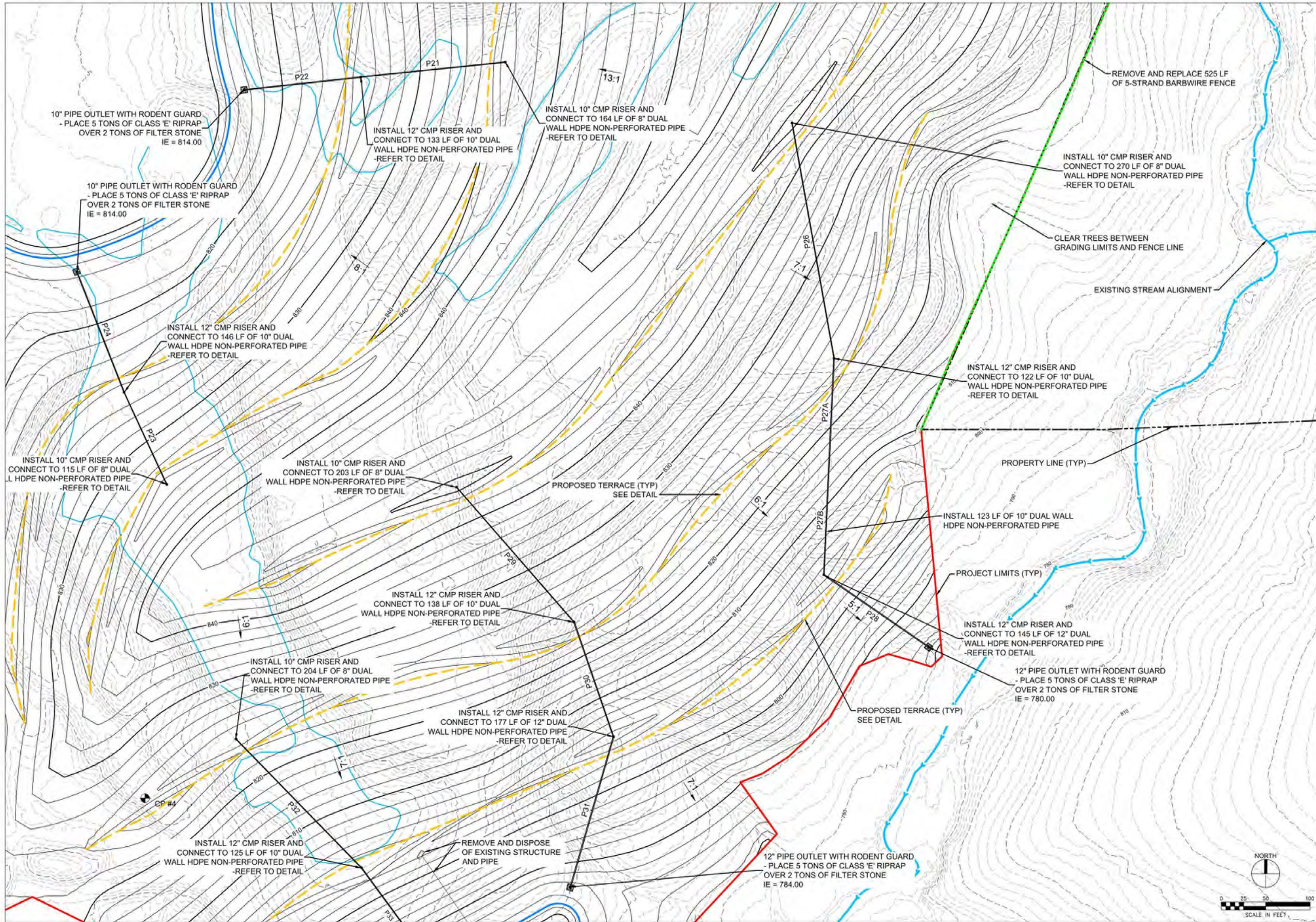
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PELLA NORTH AND SOUTH  
AML RECLAMATION PROJECT

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AND LAND STEWARDSHIP  
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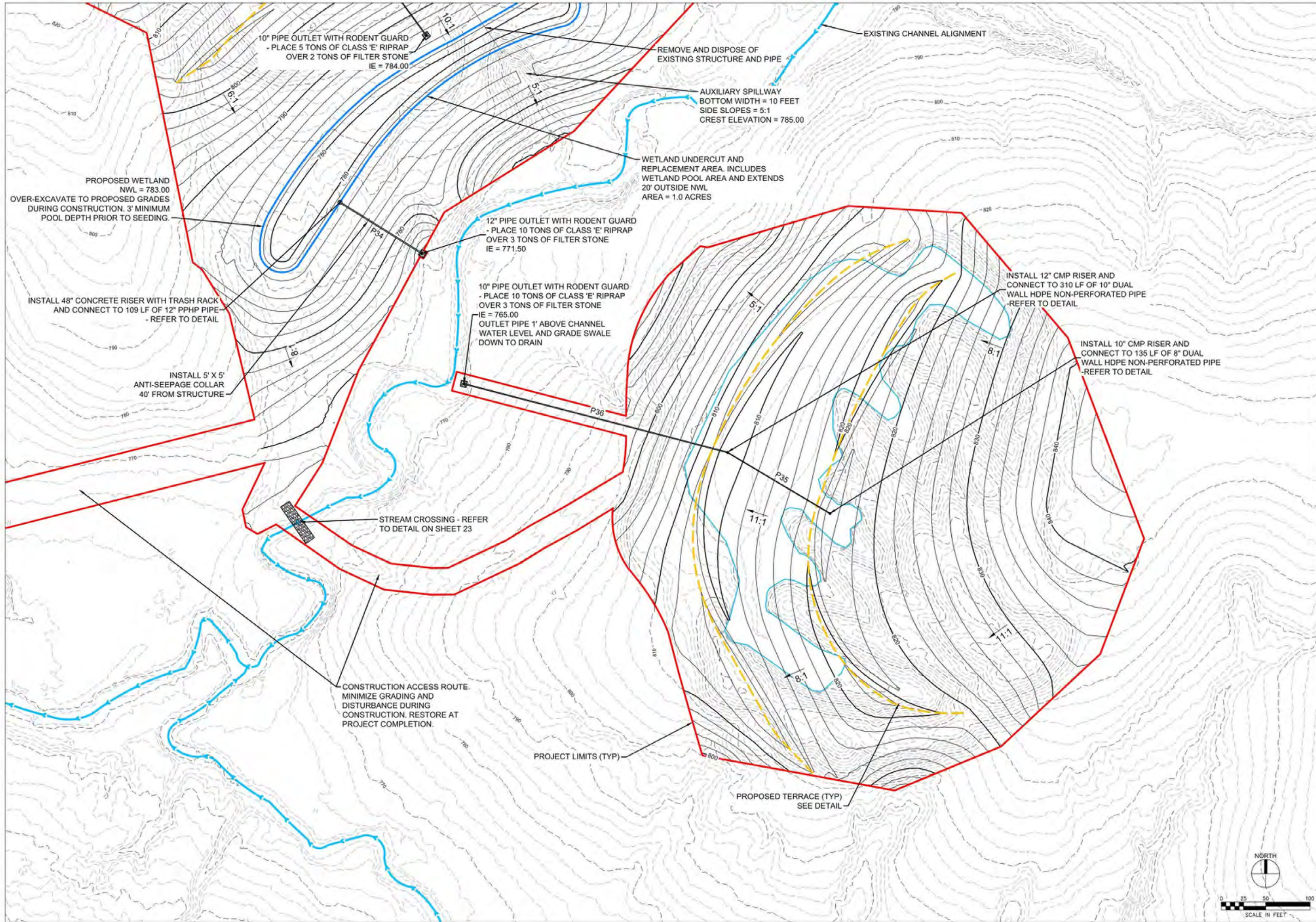


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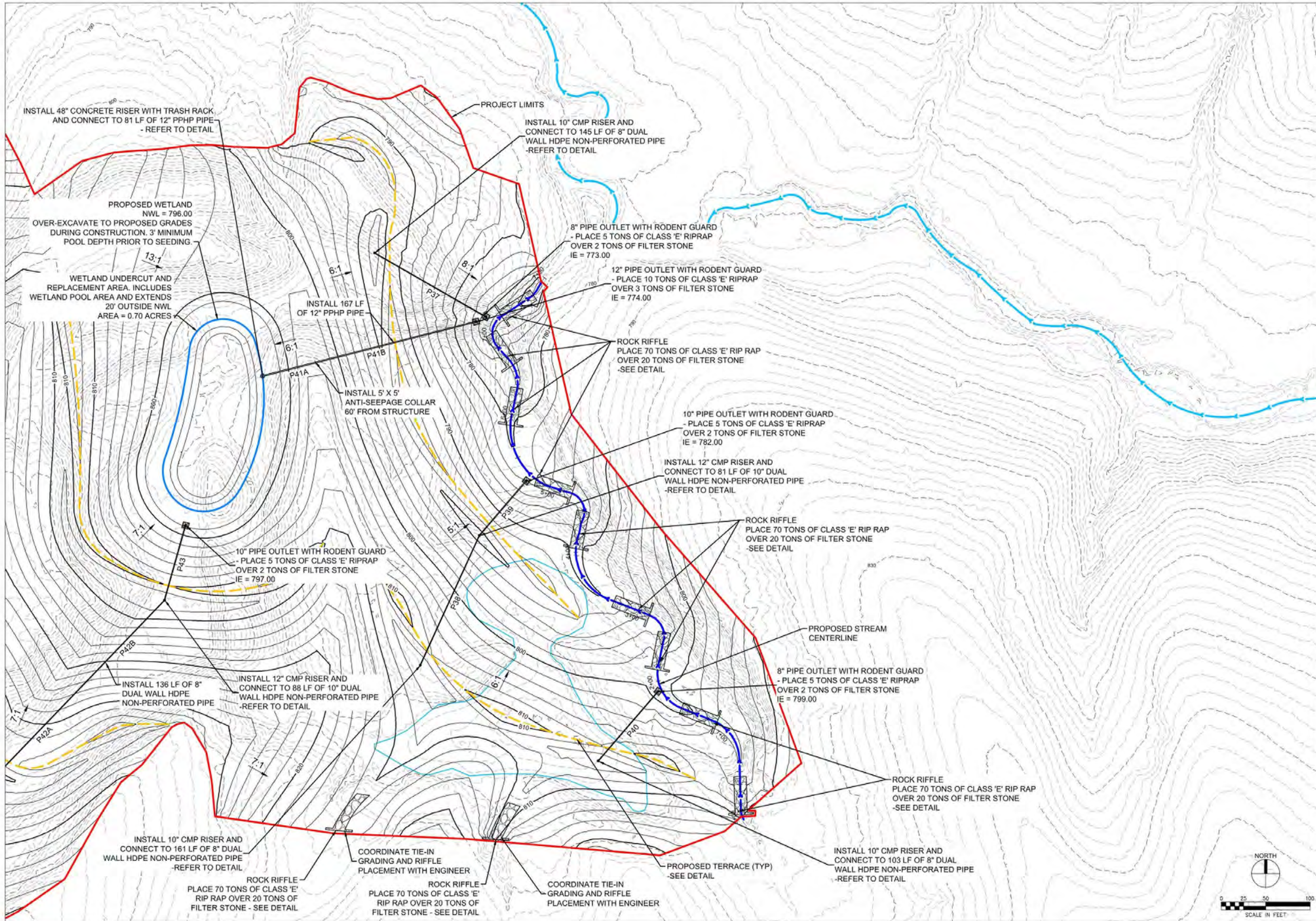


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<b>PELLA NORTH AND SOUTH          AML RECLAMATION PROJECT</b>					
<b>GRADING PLAN</b>					
SHEET <b>11 OF 43</b>					

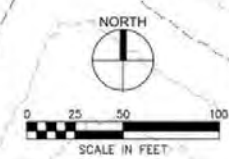
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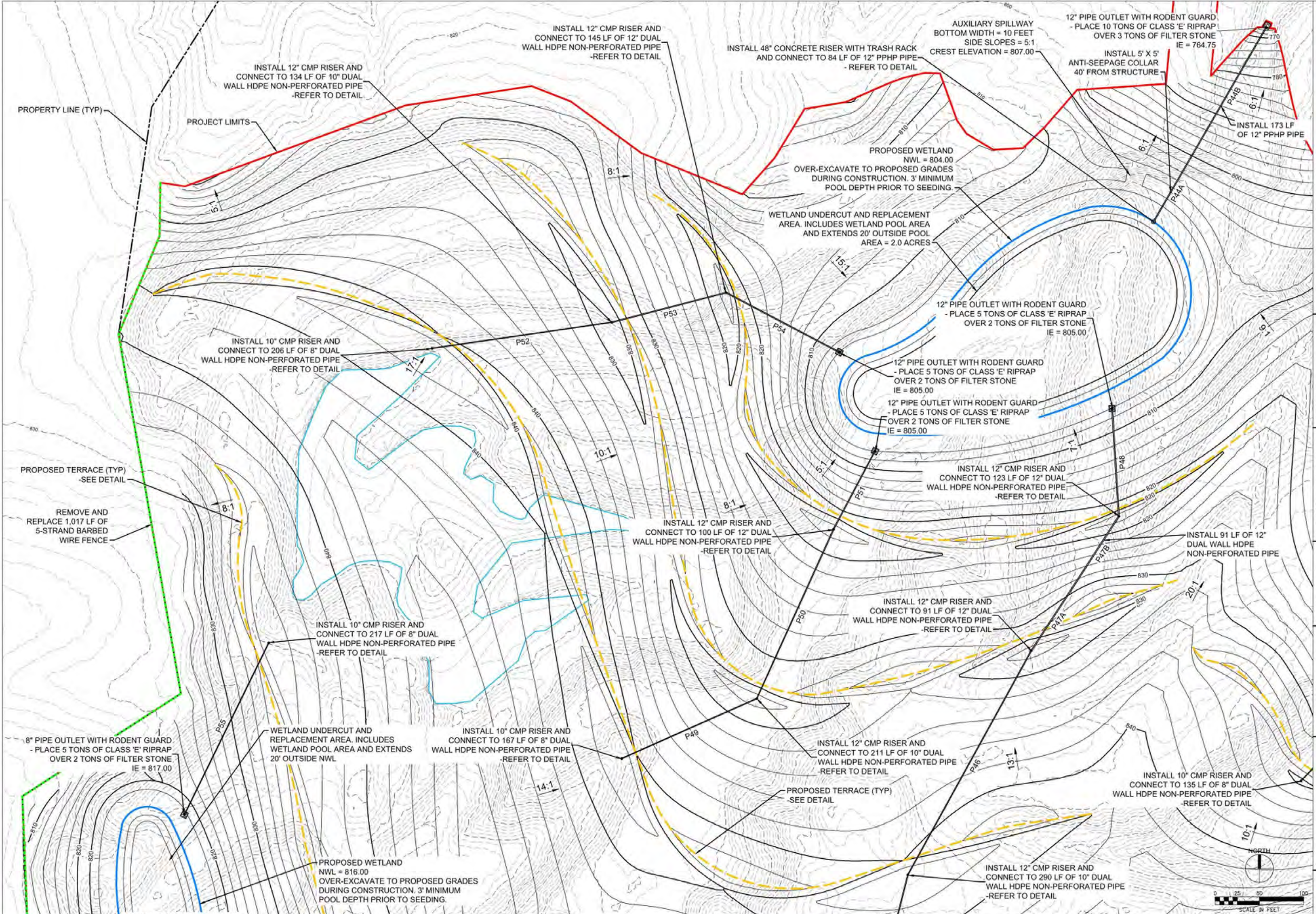


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GRADING PLAN					
SHEET <b>12 OF 43</b>			SHIVEHATTERY ARCHITECTURE+ENGINEERING 4425 Western Parkway, Suite 100   West Des Moines, Iowa 50266 515.233.6104   Fax: 515.233.6022   shivehattery.com Iowa   Illinois   Missouri   Minnesota   Wisconsin   Indiana   Ohio   Michigan   Pennsylvania   New York   New Jersey   Delaware   Maryland   Virginia   North Carolina   South Carolina   Georgia   Florida   Alabama   Louisiana   Texas   Oklahoma   Kansas   Nebraska   Colorado   Utah   Arizona   Nevada   Idaho   Montana   Wyoming   North Dakota   South Dakota   Nebraska   Oklahoma   Texas		



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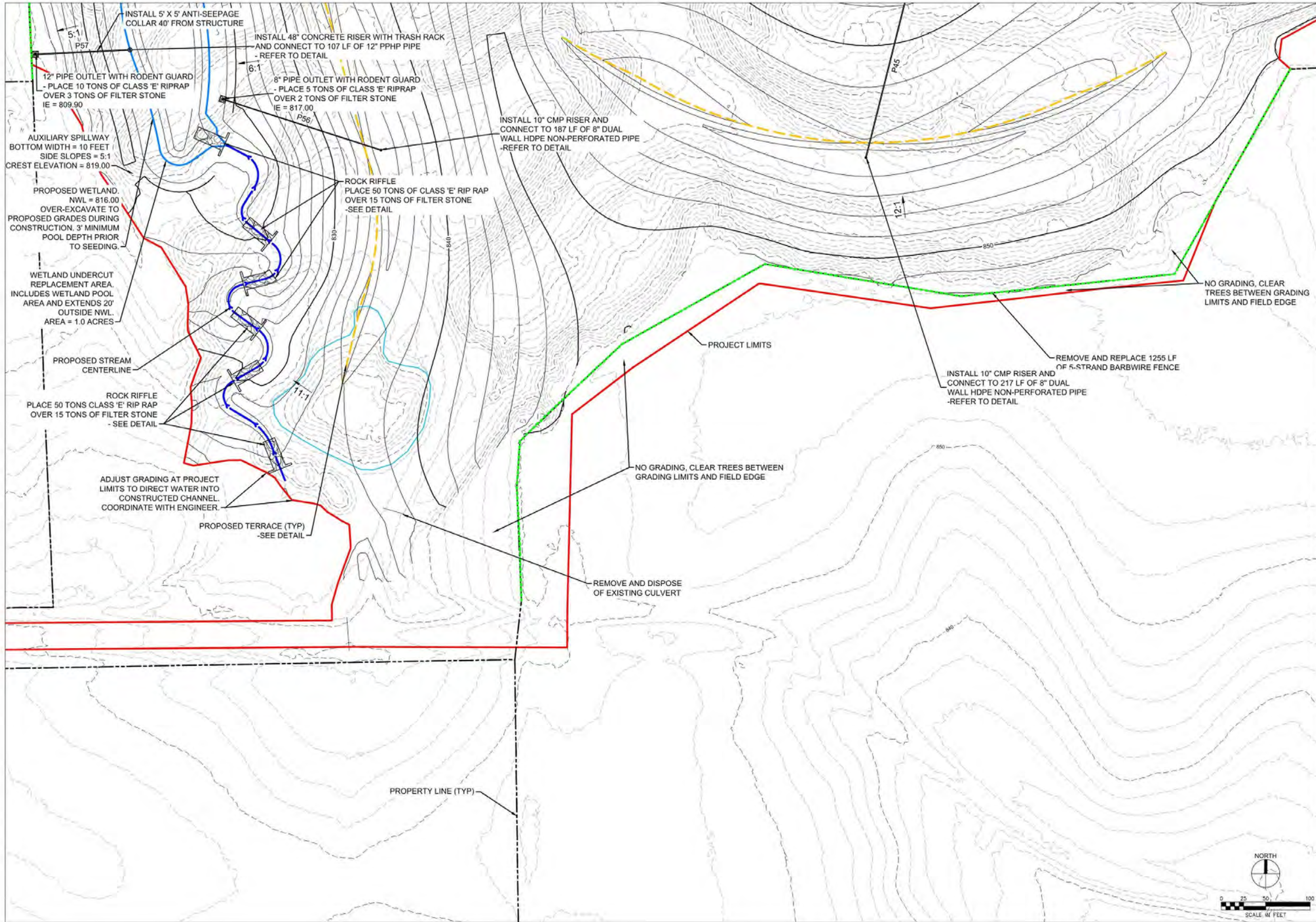


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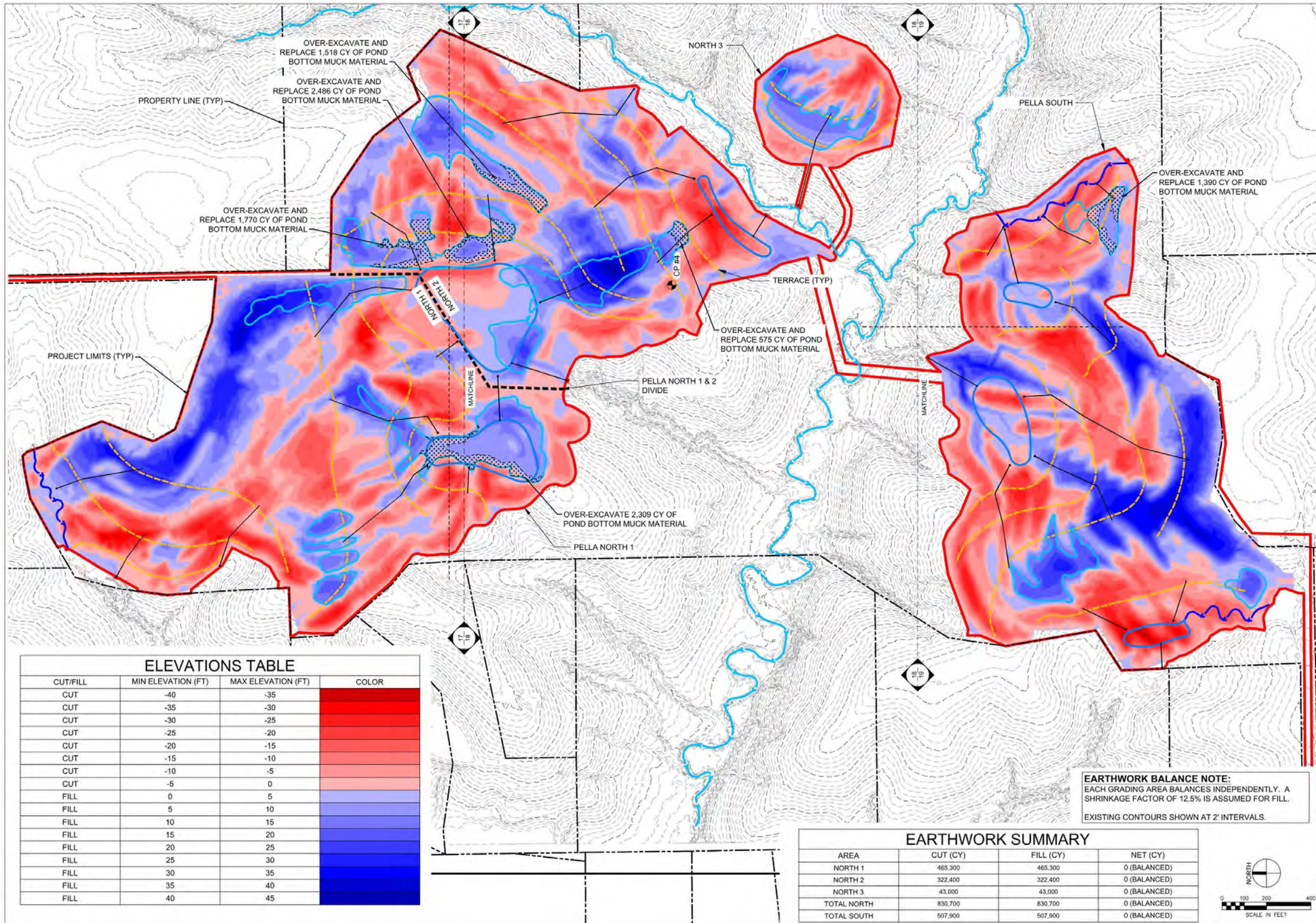
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PELLA NORTH AND SOUTH  
 AML RECLAMATION PROJECT  
 GRADING PLAN



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GRADING PLAN					
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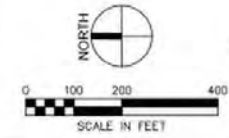
**ELEVATIONS TABLE**

CUT/FILL	MIN ELEVATION (FT)	MAX ELEVATION (FT)	COLOR
CUT	-40	-35	[Red color swatch]
CUT	-35	-30	
CUT	-30	-25	
CUT	-25	-20	
CUT	-20	-15	
CUT	-15	-10	
CUT	-10	-5	
CUT	-5	0	[Blue color swatch]
FILL	0	5	
FILL	5	10	
FILL	10	15	
FILL	15	20	
FILL	20	25	
FILL	25	30	
FILL	30	35	
FILL	35	40	
FILL	40	45	

**EARTHWORK BALANCE NOTE:**  
 EACH GRADING AREA BALANCES INDEPENDENTLY. A SHRINKAGE FACTOR OF 12.5% IS ASSUMED FOR FILL.  
 EXISTING CONTOURS SHOWN AT 2' INTERVALS.

**EARTHWORK SUMMARY**

AREA	CUT (CY)	FILL (CY)	NET (CY)
NORTH 1	465,300	465,300	0 (BALANCED)
NORTH 2	322,400	322,400	0 (BALANCED)
NORTH 3	43,000	43,000	0 (BALANCED)
TOTAL NORTH	830,700	830,700	0 (BALANCED)
TOTAL SOUTH	507,900	507,900	0 (BALANCED)



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PELLA NORTH AND SOUTH  
 AML RECLAMATION PROJECT  
 CUT-FILL PLAN - OVERALL



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