

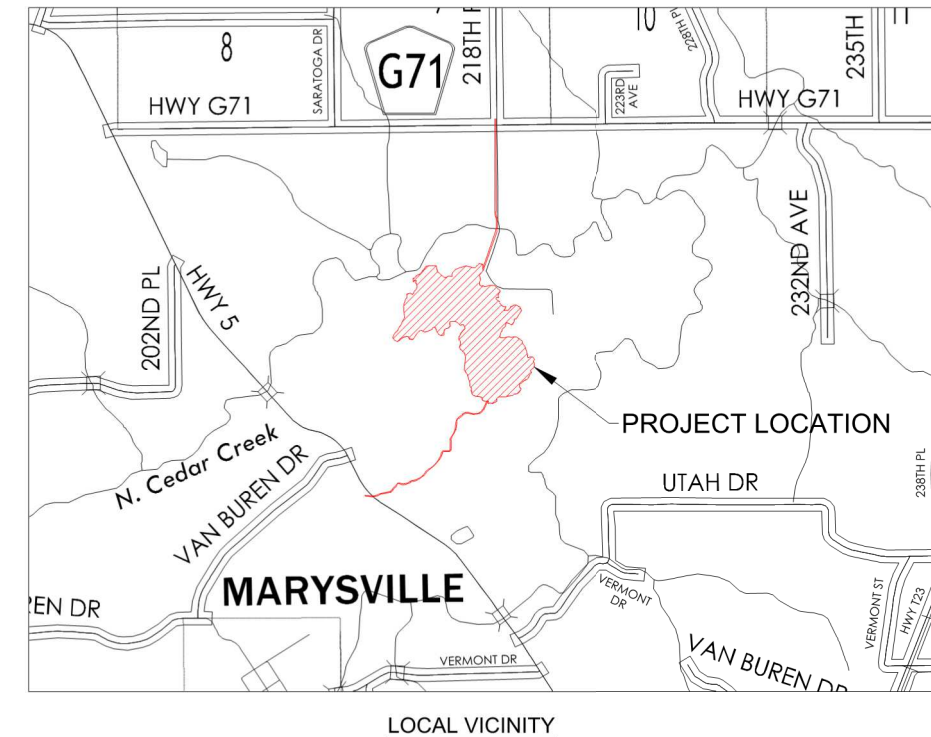
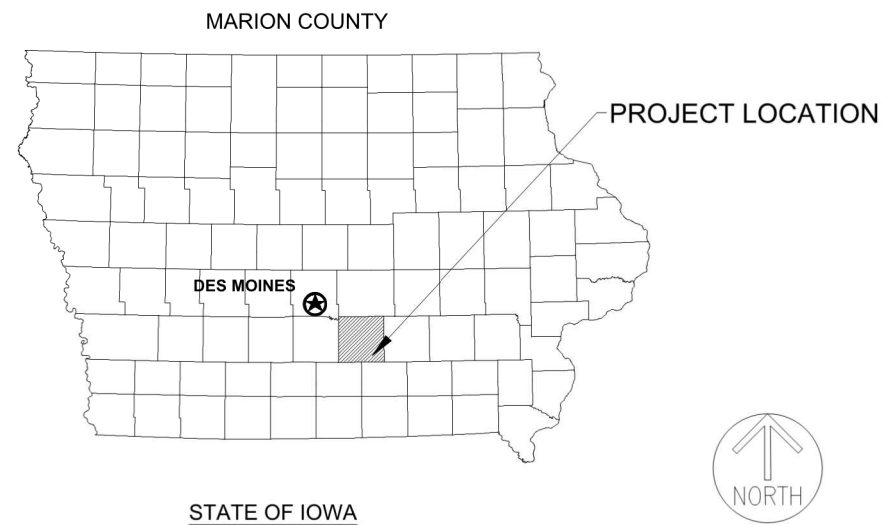
WOODRUFF NORTH AML (IA-142) RECLAMATION PROJECT

SECTIONS 16, 21, TOWNSHIP 74N, RANGE 18W, MARION COUNTY

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION AND WATER QUALITY

GRANT NUMBER: S23AF00015

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



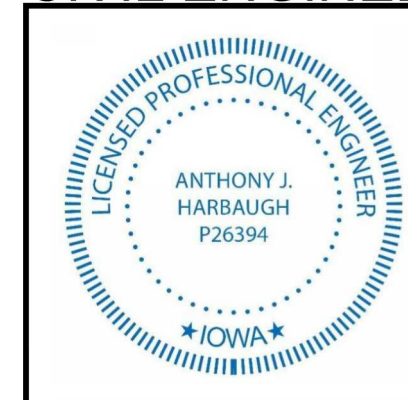
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PREPARED FOR:
DIVISION OF SOIL CONSERVATION AND WATER QUALITY
IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP
HENRY A. WALLACE BUILDING
502 E. 9TH STREET
DES MOINES, IOWA 50319
(515) 281-4246

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: *Anthony J. Harbaugh* Date: 06/30/2023

Printed or typed name: ANTHONY J. HARBAUGH
License Number: 26394
My License Renewal Date is: DECEMBER 31, 2023

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

S-H PROJECT NUMBER: 2142203060

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



DESIGN BY: AJH
DRAWN BY: GHK
WOODRUFF AML
AML RECLAMATION PROJECT
COVER SHEET

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 | Indiana Firm Number: 194-000214

GENERAL NOTES:

- 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.
- CONTRACTOR IS RESPONSIBLE FOR ALL SURVEY LAYOUT AND CONTROL REQUIRED TO COMPLETE ALL WORK.
- WORK DONE CONTRARY TO THE INSTRUCTIONS OF THE OWNERS REPRESENTATIVE, WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR ANY EXTRA WORK DONE WITHOUT AUTHORITY WILL NOT BE PAID FOR.
- CONTOURS AND SPOT ELEVATIONS SHOWN ARE TO FINISHED GRADE.
- THE CONTRACTOR SHALL KEEP ALL ROADS OPEN TO THROUGH TRAFFIC AT ALL TIMES.
- NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION FROM THE DIVISION.
- SOME CONTOUR LINES MAY NOT BE SHOWN FOR CLARITY.
- 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.
- SUBMIT MANUFACTURER'S CERTIFICATION AND MATERIAL DATA FOR ALL MATERIALS DELIVERED TO THE PROJECT SITE AS REQUESTED BY THE OWNERS REPRESENTATIVE.
- 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
- 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.
- 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.
- 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.
- NEITHER SHIVE-HATTERY NOR THE DIVISION GUARANTEE THE WETLANDS TO FILL OR MAINTAIN A CONSISTENT POOL OF WATER.
- REFERENCES TO "DIVISION" SHALL MEAN "DIVISION OF SOIL CONSERVATION & WATER QUALITY"
- 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.
- OWNERSHIP: THIS DOCUMENT, AND THE IDEAS AND DESIGN CONTAINED IN THIS DOCUMENT, ARE AN INSTRUMENT OF PROFESSIONAL SERVICE, AND MAY NOT BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THE DIVISION.
- 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.
- CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE ENGINEER AND/OR DIVISION PRIOR TO COMMENCING CONSTRUCTION.

UTILITY NOTES:

- 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).
- 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.
- THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL OPEN UTILITY TRENCH EXCAVATIONS SHALL BE PROTECTED.
- 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:

- 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.
- 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.
- 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.
- CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION DE-WATERING THAT IS REQUIRED, EXCLUDING IMPOUNDMENT DISCHARGE, AT NO ADDITIONAL COST TO THE DIVISION.
- 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.
- 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.
- 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.
- ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE COORDINATED WITH THE GOVERNING AUTHORITY AND SHALL BE DONE IN ACCORDANCE WITH THEIR STANDARDS.
- NO TREES SHALL BE CLEARED BETWEEN THE DATES OF APRIL 1 TO SEPTEMBER 30.
- 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.

BID QUANTITIES

#	ITEM DESCRIPTION	SPEC. SECTION	QUANTITY	UNITS
1	MOBILIZATION	02100	1	LS
2	SITE CLEARING AND PREPARATION	02100	124.0	ACRE
3	OFF SITE WASTE DISPOSAL	02100	20	TON
4	IMPOUNDMENT DISCHARGE	02110	1	LS
5	HYDRATED LIME	02110	10	TON
6	APPROVED SEDIMENT CONTROL MEASURES	02120	7,500	LF
7	FILTER SOCK	02120	570	LF
8	STABILIZED CONSTRUCTION ENTRANCE - GRANULAR SURFACING	02120	80	TON
9	EXCAVATION	02200	1,307,955	CY
10	CLASS 'E' RIPRAP	02300	1,495	TON
11	STONE FILTER (3" MACADAM STONE)	02300	530	TON
12	TERRACES	02300	16,784	LF
13	RISER-TERRACE (10")	02300	32	EA
14	RISER-TERRACE (12")	02300	6	EA
15	DWPE PIPE (8")	02300	4,499	LF
16	DWPE PIPE (10")	02300	1,948	LF
17	DWPE PIPE (12")	02300	651	LF
18	DWPE PIPE (15")	02300	161	LF
19	PIPE OUTLET (8")	02300	11	EA
20	PIPE OUTLET (10")	02300	7	EA
21	PIPE OUTLET (12")	02300	3	EA
22	PIPE OUTLET (15")	02300	1	EA
23	STRUCTURE - CONCRETE RISER (48")	02310	6	EA
24	PPHP PIPE (12")	02310	908	LF
25	PPHP PIPE (15")	02310	512	LF
26	WETLAND UNDERCUT AND REPLACEMENT	02400	5.8	ACRE
27	AGRICULTURAL LIME, SUBGRADE (40 TONS ECCE/ACRE)	02400	4,650	TON
28	MULCH, SUBGRADE (5 TONS/ACRE)	02400	121.9	ACRE
29	NITROGEN, N, WETLAND FERTILIZER (30 LBS/ACRE)	02400	174	LBS
30	AGRICULTURAL LIME, SEEDING (10 TONS ECCE/ACRE)	02700	1,223	TON
31	NITROGEN, N, SEEDING (50 LBS/ACRE)	02700	6,115	LBS
32	PHOSPHORUS, P, SEEDING (100 LBS/ACRE)	02700	12,230	LBS
33	POTASSIUM, K, SEEDING (160 LBS/ACRE)	02700	19,568	LBS
34	PERMANENT SEEDING, UPLAND MIX	02700	116.1	ACRE
35	PERMANENT SEEDING, WETLAND MIX	02700	6.2	ACRE
36	MULCH, SEEDING (2 TONS/ACRE)	02700	122.3	ACRE

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
- 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:

- PG = PROPOSED GRADE
- EG = EXISTING GRADE
- FG = FORM GRADE ELEVATION; THE LOWEST INLET OPENING ELEVATION FOR A RISER OR STRUCTURE TO RECEIVE WATER FROM A POND OR CHANNEL
- IE = INVERT ELEVATION
- INV = INVERT; THE LOWEST FLOWLINE ELEVATION OF A CONDUIT, RISER TEE, OR STRUCTURE
- HDPE = DUAL-WALL CORRUGATED HIGH DENSITY POLYETHYLENE CONDUIT (I.E. ADS N12 OR APPROVED EQUIVALENT)
- PPHP = POLYPROPYLENE HIGH PERFORMANCE CORRUGATED DUAL-WALL PIPE (I.E. ADS HP STORM OR APPROVED EQUIVALENT)
- RIM = ELEVATION OF A STRUCTURE LID
- LF = LINEAL FEET
- FL = FLOWLINE
- HP = HIGH POINT ELEVATION, TYPICALLY IN A TERRACE FLOWLINE
- CL = CENTERLINE
- PC = POINT OF CURVATURE, TRANSITION FROM A STRAIGHT LINE TO A CURVE
- PT = POINT OF TANGENCY, TRANSITION FROM A CURVE TO A STRAIGHT LINE
- PI = POINT OF INTERSECTION OR BEND POINT ON A LINE
- 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: 2142203060

SHIVE-HATTERY
ARCHITECTURE+ENGINEERING

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515.223.8104 | fax: 515.223.0622 | shive-hattery.com
Iowa | Illinois | Missouri | Illinois Firm Number: 184-000214

REVISED: ---

ISSUED: 06/30/2023

CHKD. BY: LTM

GHK

DRAWN BY:

AJH

IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HENRY A. WALLACE BUILDING
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WOODRUFF AML
AML RECLAMATION PROJECT
PROJECT QUANTITIES,
NOTES, AND LEGEND

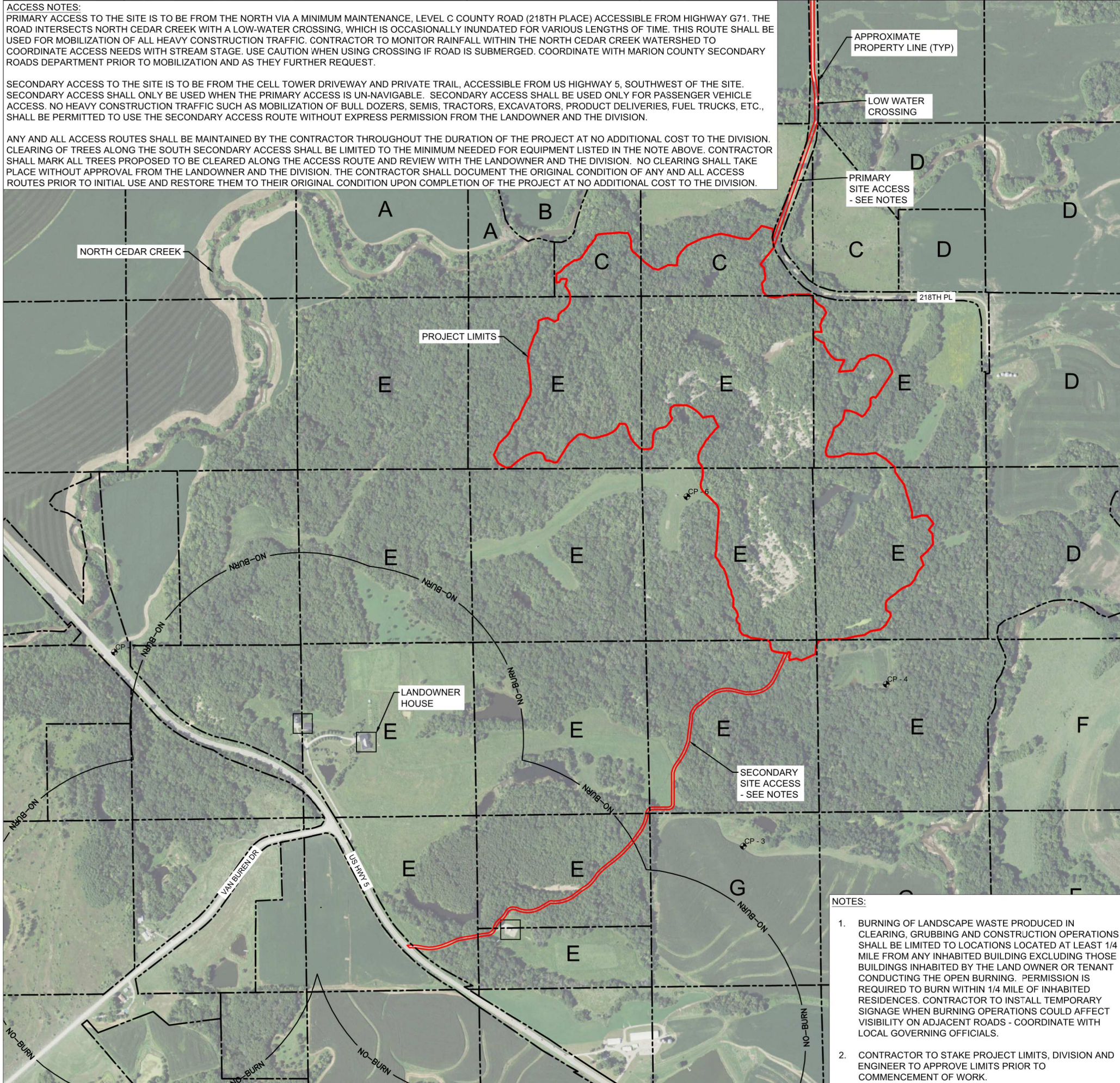
SHEET

2 OF 37

ACCESS NOTES:
 PRIMARY ACCESS TO THE SITE IS TO BE FROM THE NORTH VIA A MINIMUM MAINTENANCE, LEVEL C COUNTY ROAD (218TH PLACE) ACCESSIBLE FROM HIGHWAY G71. THE ROAD INTERSECTS NORTH CEDAR CREEK WITH A LOW-WATER CROSSING, WHICH IS OCCASIONALLY INUNDATED FOR VARIOUS LENGTHS OF TIME. THIS ROUTE SHALL BE USED FOR MOBILIZATION OF ALL HEAVY CONSTRUCTION TRAFFIC. CONTRACTOR TO MONITOR RAINFALL WITHIN THE NORTH CEDAR CREEK WATERSHED TO COORDINATE ACCESS NEEDS WITH STREAM STAGE. USE CAUTION WHEN USING CROSSING IF ROAD IS SUBMERGED. COORDINATE WITH MARION COUNTY SECONDARY ROADS DEPARTMENT PRIOR TO MOBILIZATION AND AS THEY FURTHER REQUEST.

SECONDARY ACCESS TO THE SITE IS TO BE FROM THE CELL TOWER DRIVEWAY AND PRIVATE TRAIL, ACCESSIBLE FROM US HIGHWAY 5, SOUTHWEST OF THE SITE. SECONDARY ACCESS SHALL ONLY BE USED WHEN THE PRIMARY ACCESS IS UN-NAVIGABLE. SECONDARY ACCESS SHALL BE USED ONLY FOR PASSENGER VEHICLE ACCESS. NO HEAVY CONSTRUCTION TRAFFIC SUCH AS MOBILIZATION OF BULL DOZERS, SEMIS, TRACTORS, EXCAVATORS, PRODUCT DELIVERIES, FUEL TRUCKS, ETC., SHALL BE PERMITTED TO USE THE SECONDARY ACCESS ROUTE WITHOUT EXPRESS PERMISSION FROM THE LANDOWNER AND THE DIVISION.

ANY AND ALL ACCESS ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT AT NO ADDITIONAL COST TO THE DIVISION. CLEARING OF TREES ALONG THE SOUTH SECONDARY ACCESS SHALL BE LIMITED TO THE MINIMUM NEEDED FOR EQUIPMENT LISTED IN THE NOTE ABOVE. CONTRACTOR SHALL MARK ALL TREES PROPOSED TO BE CLEARED ALONG THE ACCESS ROUTE AND REVIEW WITH THE LANDOWNER AND THE DIVISION. NO CLEARING SHALL TAKE PLACE WITHOUT APPROVAL FROM THE LANDOWNER AND THE DIVISION. THE CONTRACTOR SHALL DOCUMENT THE ORIGINAL CONDITION OF ANY AND ALL ACCESS ROUTES PRIOR TO INITIAL USE AND RESTORE THEM TO THEIR ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT AT NO ADDITIONAL COST TO THE DIVISION.



- NOTES:**
- BURNING OF LANDSCAPE WASTE PRODUCED IN CLEARING, GRUBBING AND CONSTRUCTION OPERATIONS SHALL BE LIMITED TO LOCATIONS LOCATED AT LEAST 1/4 MILE FROM ANY INHABITED BUILDING EXCLUDING THOSE BUILDINGS INHABITED BY THE LAND OWNER 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.
 - CONTRACTOR TO STAKE PROJECT LIMITS, DIVISION AND ENGINEER TO APPROVE LIMITS PRIOR TO COMMENCEMENT OF WORK.

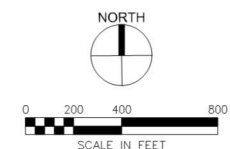
LANDOWNER TABLE SURVEY CONTROL

- A. BAILEY, JEREMY
- B. VANDE NOORD & PAUL REV
- C. STEELE, LEONORA
- D. MITCHELL, RYAN
- E. BAILEY, RYAN
- F. ROWLEY, RICHARD
- G. BAILEY, KEITH

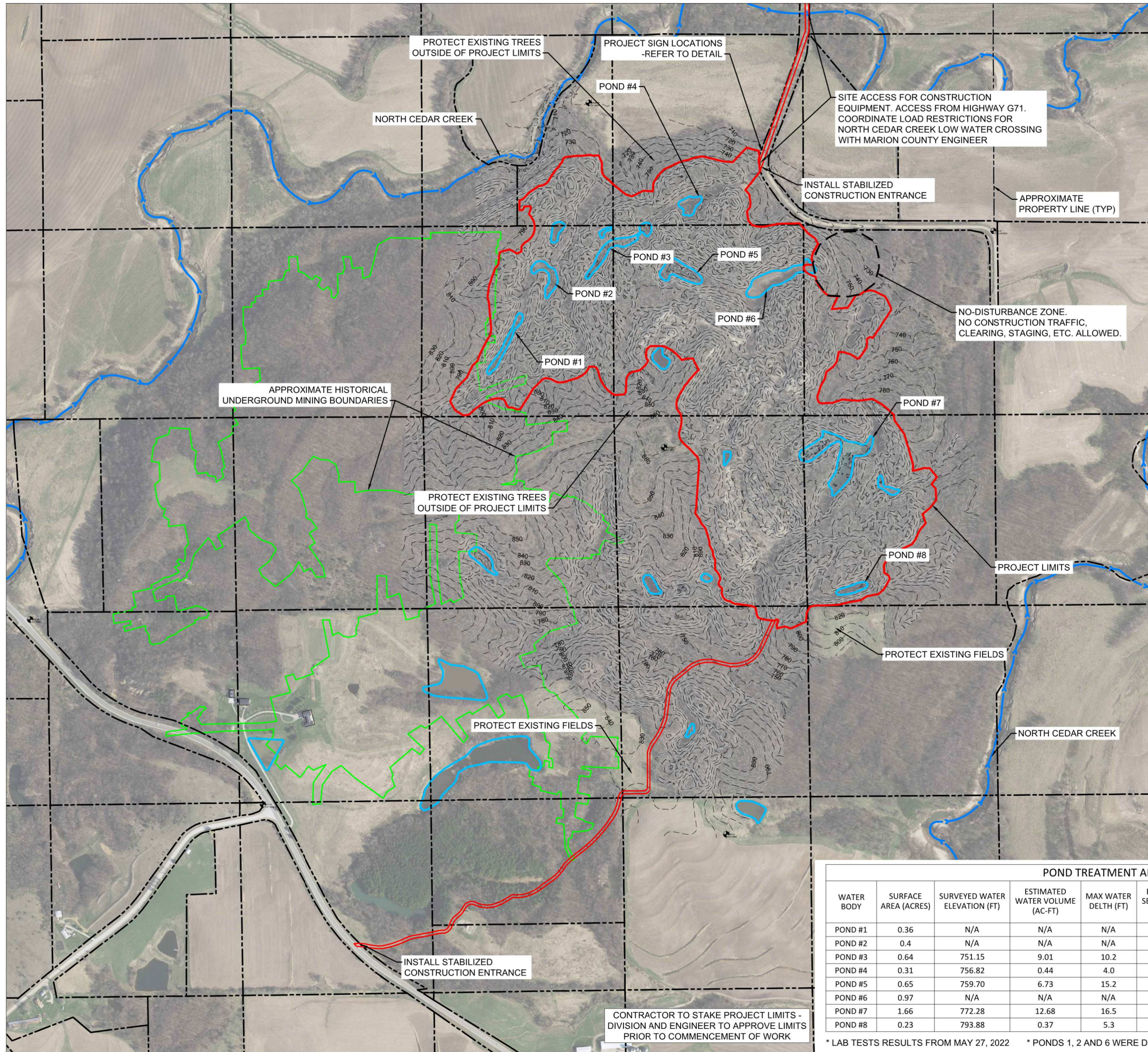
<p>CP - 3</p> <p>SET 5/8" IRON ROD WITH RED CAP</p>	<p>N 436442.2560'</p> <p>E 1795951.8350'</p> <p>ELEV. = 793.514'</p>
<p>CP - 4</p> <p>SET 5/8" IRON ROD WITH RED CAP</p>	<p>N 437681.7850'</p> <p>E 1797044.3930'</p> <p>ELEV. = 807.406'</p>
<p>CP - 5</p> <p>SET 5/8" IRON ROD WITH RED CAP</p>	<p>N 441501.2360'</p> <p>E 1794998.9560'</p> <p>ELEV. = 709.826'</p>
<p>CP - 6</p> <p>SET 5/8" IRON ROD WITH RED CAP</p>	<p>N 439117.3390'</p> <p>E 1795521.9830'</p> <p>ELEV. = 862.094'</p>
<p>CP - 7</p> <p>SET 5/8" IRON ROD WITH RED CAP</p>	<p>N 437927.1840'</p> <p>E 1791135.5940'</p> <p>ELEV. = 732.494'</p>

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

SURVEY DATUM:
 HORIZONTAL - NAD83, IOWA STATE PLANES, SOUTH ZONE, US FOOT.
 VERTICAL - NAVD88



<p>DESIGN BY: AJH</p> <p>DRAWN BY: GHK</p> <p>CHKD. BY: LTM</p> <p>ISSUED: 06/30/2023</p> <p>REVISED: ---</p> <p>S-H PROJECT NUMBER: 2142203060</p>	<p>WOODRUFF AML AML RECLAMATION PROJECT</p> <p>SURVEY CONTROL</p>	<p>SHIVEHATTERY ARCHITECTURE+ENGINEERING</p> <p>4105 Westown Parkway, Suite 100 West Des Moines, Iowa 50266 515.223.0104 fax: 515.223.0622 shivehattery.com Iowa Illinois Missouri Illinois Firm Number: 184-000214</p>
<p>3 OF 37</p>	<p>SHEET</p>	<p>IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP DIVISION OF SOIL CONSERVATION AND WATER QUALITY HENRY A. WALLACE BUILDING 502 E. 9th STREET, DES MOINES, IOWA 50319 (515) 281-4246</p>



DEBRIS PHOTOS:



STAGING NOTES:

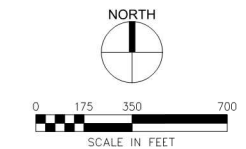
1. CONTRACTOR STAGING AND LAYDOWN AREAS TO BE DETERMINED BY CONTRACTOR AND LOCATED WITHIN THE PROJECT LIMITS. THE ESTABLISHMENT OF STAGING AND LAYDOWN AREAS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

DEMOLITION NOTES:

1. 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 SPECIFICATIONS.

SURVEY NOTES:

1. LIMITED TOPOGRAPHIC SURVEY COMPLETED BY SHIVE-HATTERY ON 09-22-2022.
2. THIS DRAWING IS SET TO THE NAD 1983 IOWA STATE PLANE, SOUTH ZONE COORDINATE SYSTEM. ELEVATION INFORMATION IS BASED UPON THE NAVD 1988.
3. 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.
4. CONTRACTOR SHALL VERIFY SURVEY CONTROL AND EXISTING SURFACE PRIOR TO CONSTRUCTION. 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 DIVISION. REFER TO PROJECT SPECIFICATIONS.
5. EXISTING SURFACE INFORMATION SHOWN IS 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. AERIAL IMAGE OBTAINED FROM COUNTY GIS.



POND TREATMENT AND DISCHARGE SUMMARY										
WATER BODY	SURFACE AREA (ACRES)	SURVEYED WATER ELEVATION (FT)	ESTIMATED WATER VOLUME (AC-FT)	MAX WATER DELTH (FT)	ESTIMATED SOFT SEDIMENT VOLUME (CUB. YD)	MAX SEDIMENT THICKNESS (FT)	IRON (MG/L)*	pH*	ESTIMATE HYDRATED LIME NEEDED FOR NEUTRALIZATION (TONS)	FATE
POND #1	0.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FILLED
POND #2	0.4	N/A	N/A	N/A	N/A	N/A	5.7	6.8	N/A	FILLED
POND #3	0.64	751.15	9.01	10.2	2364.57	10.2	0.0	7.5	0.00	FILLED
POND #4	0.31	756.82	0.44	4.0	264.61	2.0	0.0	7.5	0.00	FILLED
POND #5	0.65	759.70	6.73	15.2	1997.59	10.1	0.0	7.8	0.00	FILLED
POND #6	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FILLED
POND #7	1.66	772.28	12.68	16.5	9911.14	12.9	0.0	7.2	0.00	FILLED
POND #8	0.23	793.88	0.37	5.3	210.50	1.5	4.3	6.9	0.02	FILLED

* LAB TESTS RESULTS FROM MAY 27, 2022 * PONDS 1, 2 AND 6 WERE DRY WHEN SURVEYED/SAMPLED

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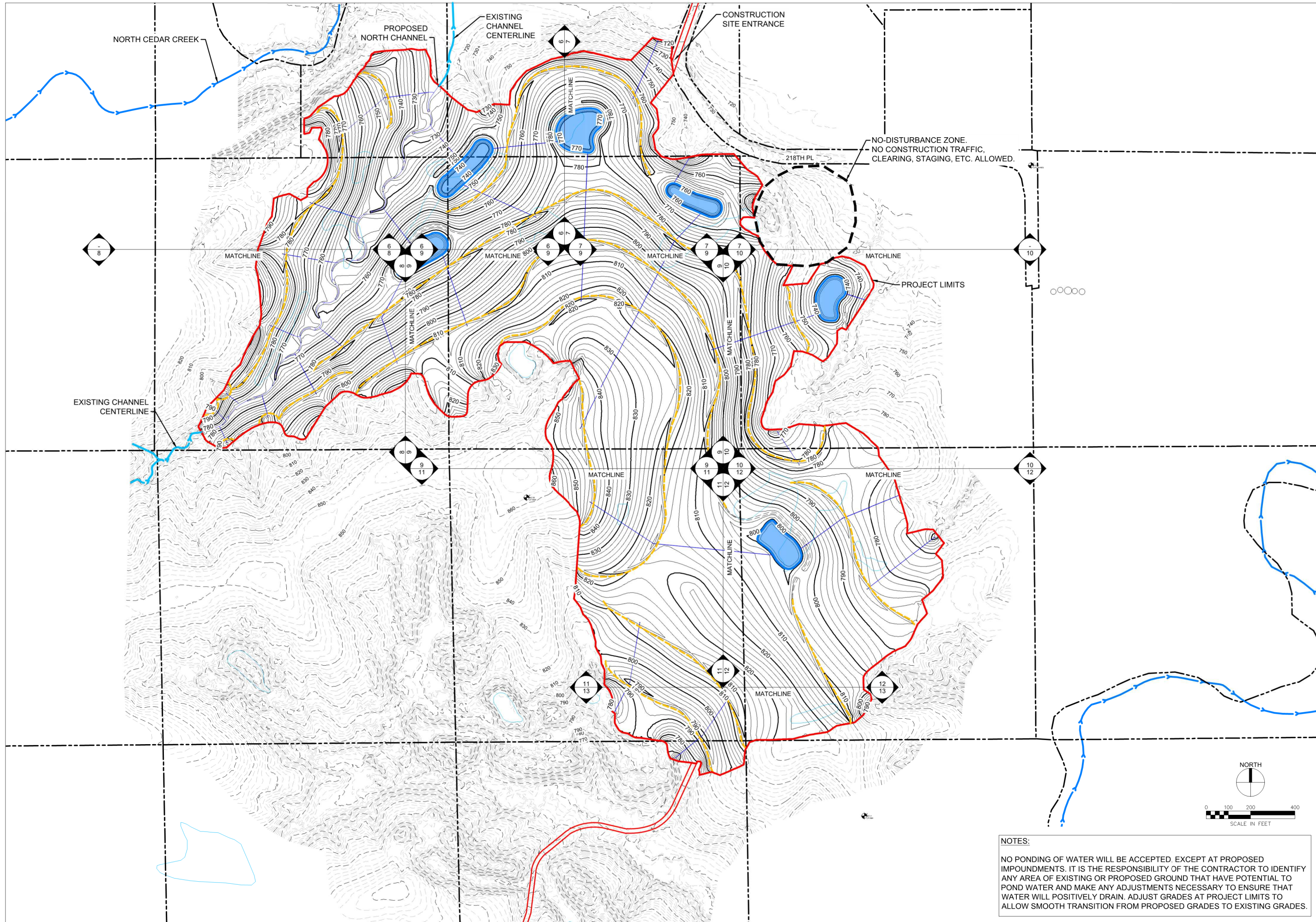
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SITUATION PLAN -
EXISTING CONDITIONS

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

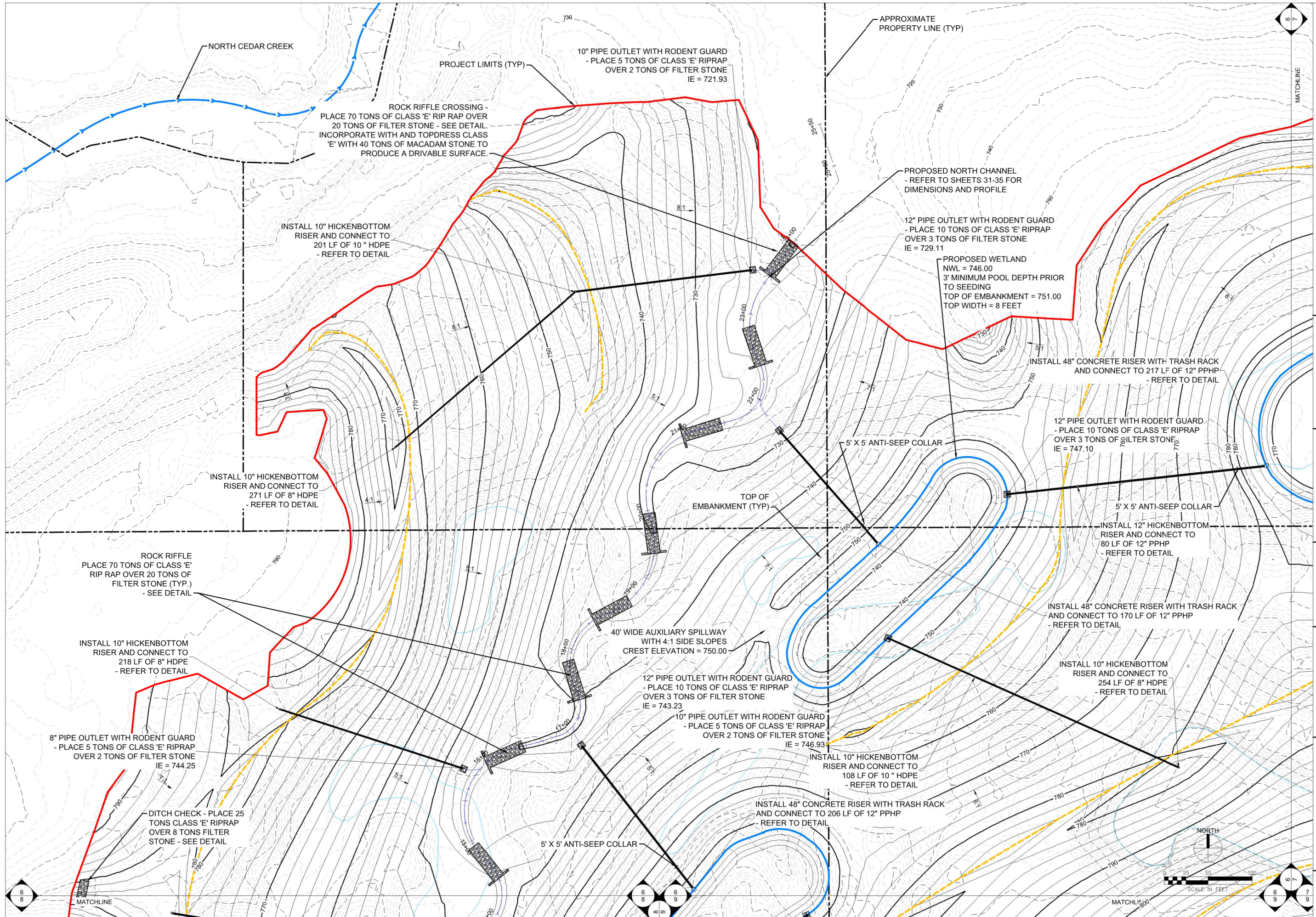
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NOTES:
 NO PONDING OF WATER WILL BE ACCEPTED, EXCEPT AT PROPOSED IMPOUNDMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY AREA OF EXISTING OR PROPOSED GROUND THAT HAVE POTENTIAL TO POND WATER AND MAKE ANY ADJUSTMENTS NECESSARY TO ENSURE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

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GRADING PLAN - OVERALL		SHEET 5 of 37			



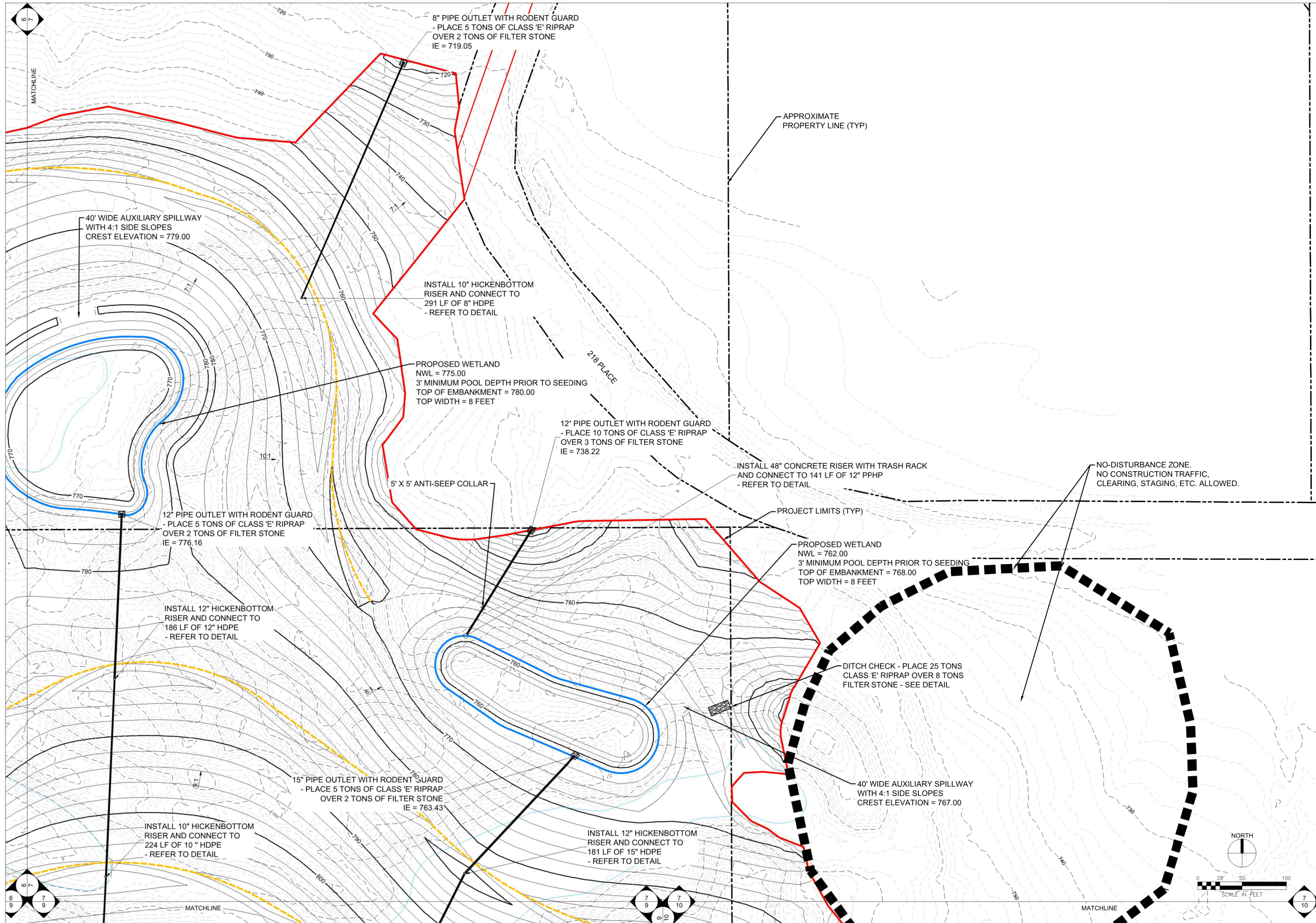
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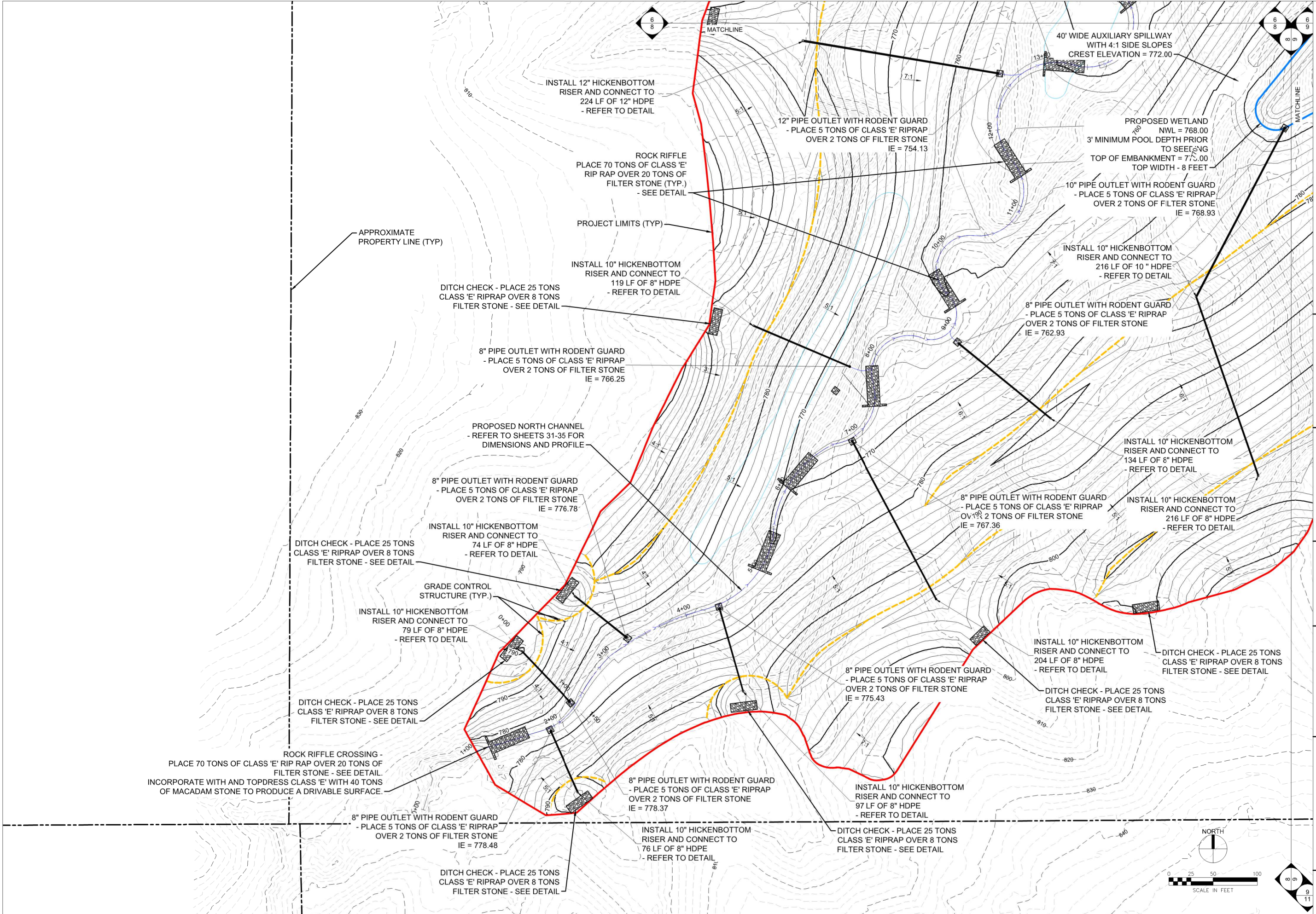
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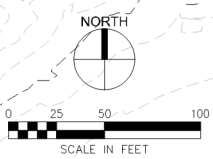
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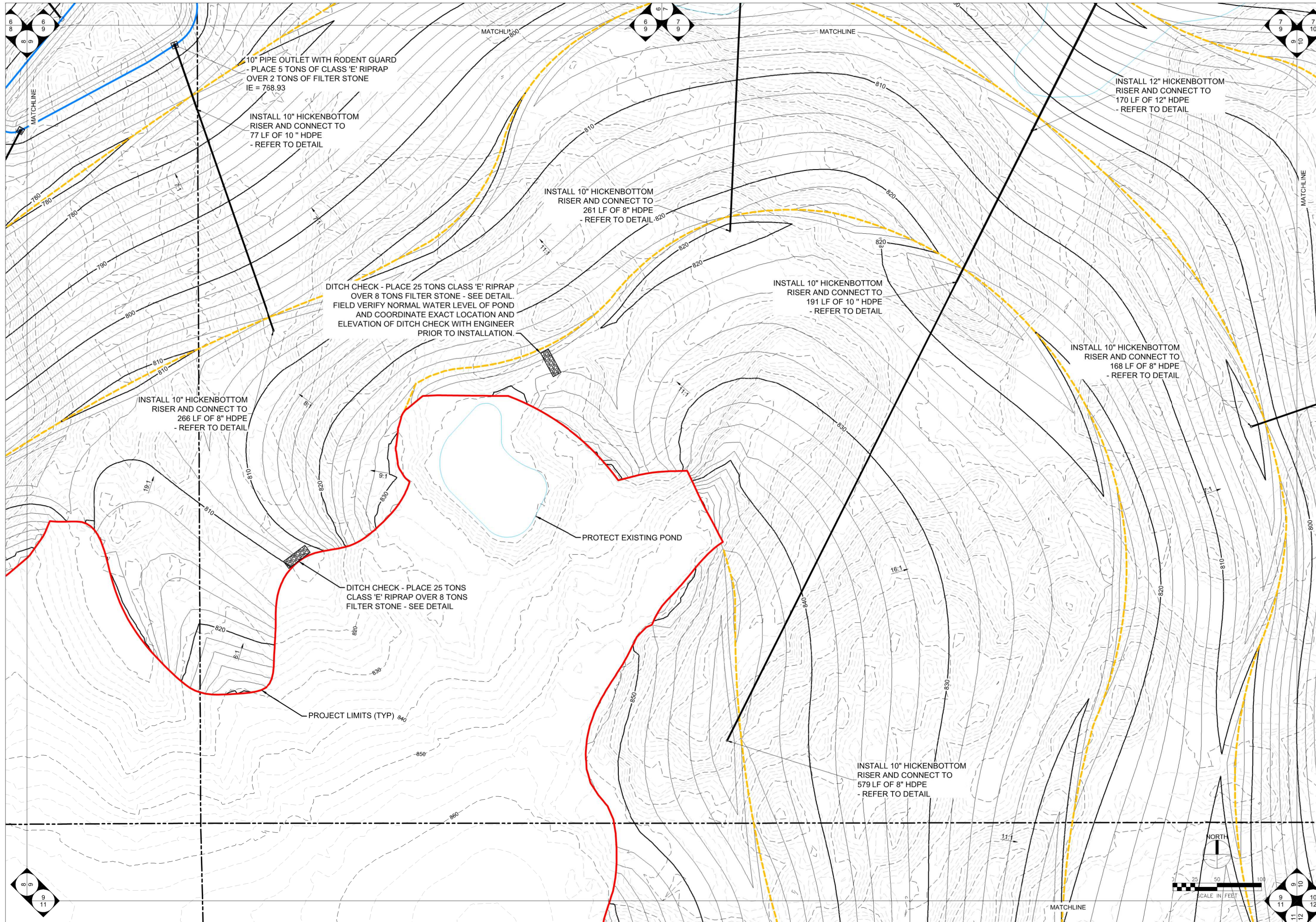


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<p>WOODRUFF AML AML RECLAMATION PROJECT</p>	<p>DESIGN BY: AJH</p>
<p>GRADING PLAN</p>	<p>SHEET 8 OF 37</p>





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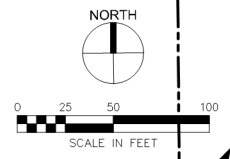
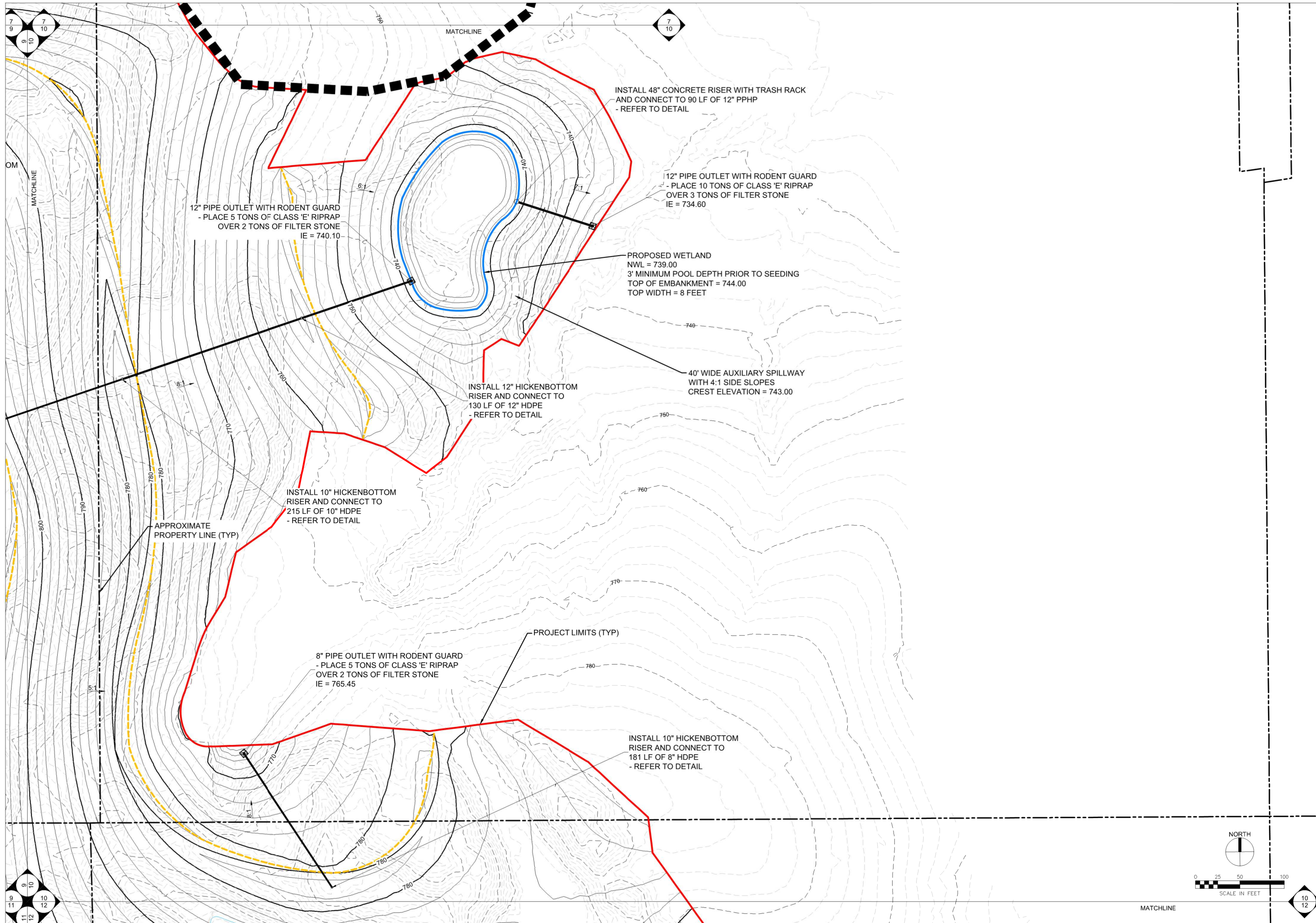



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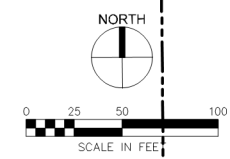
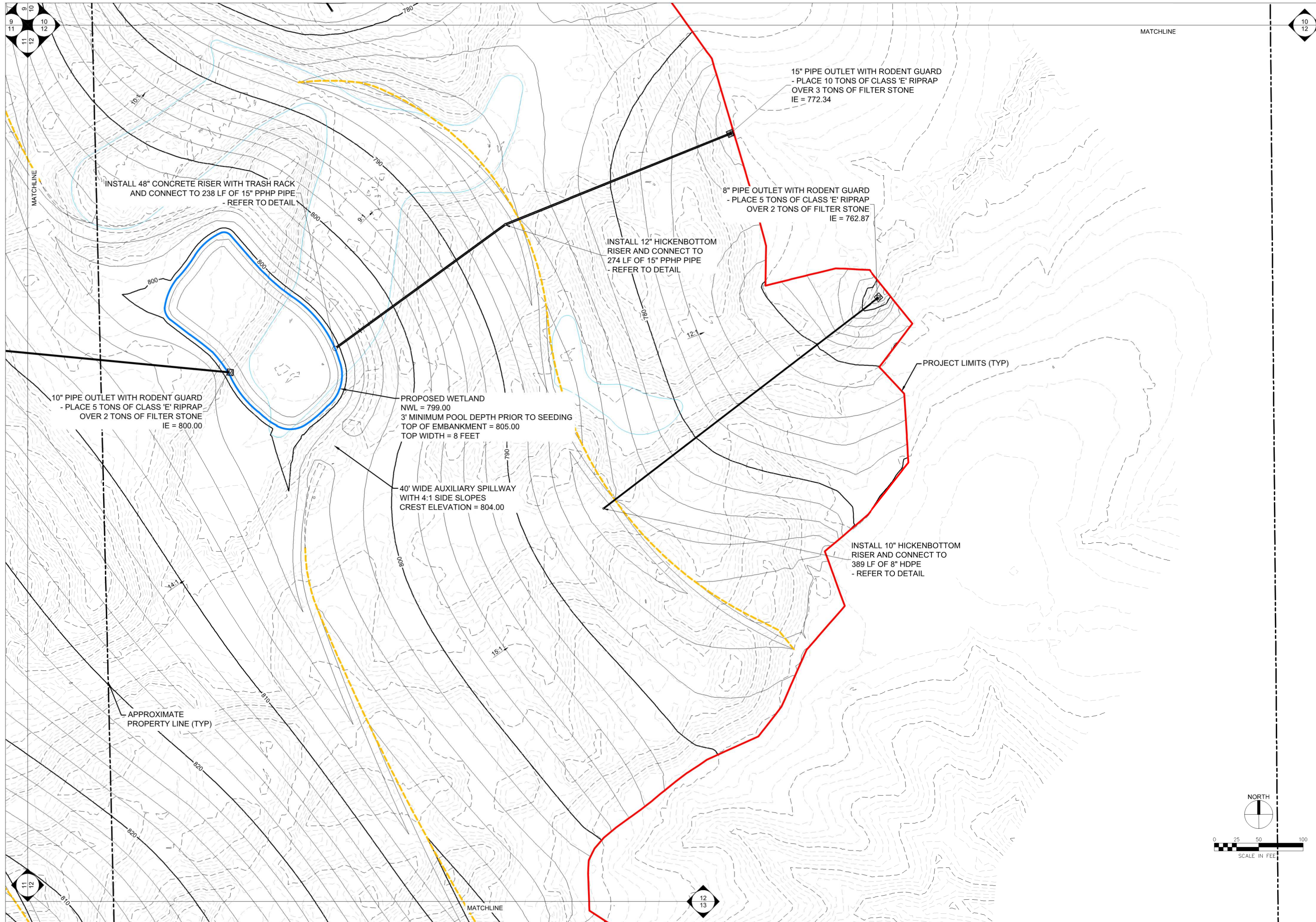
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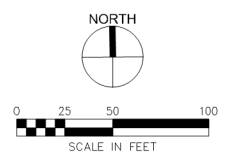
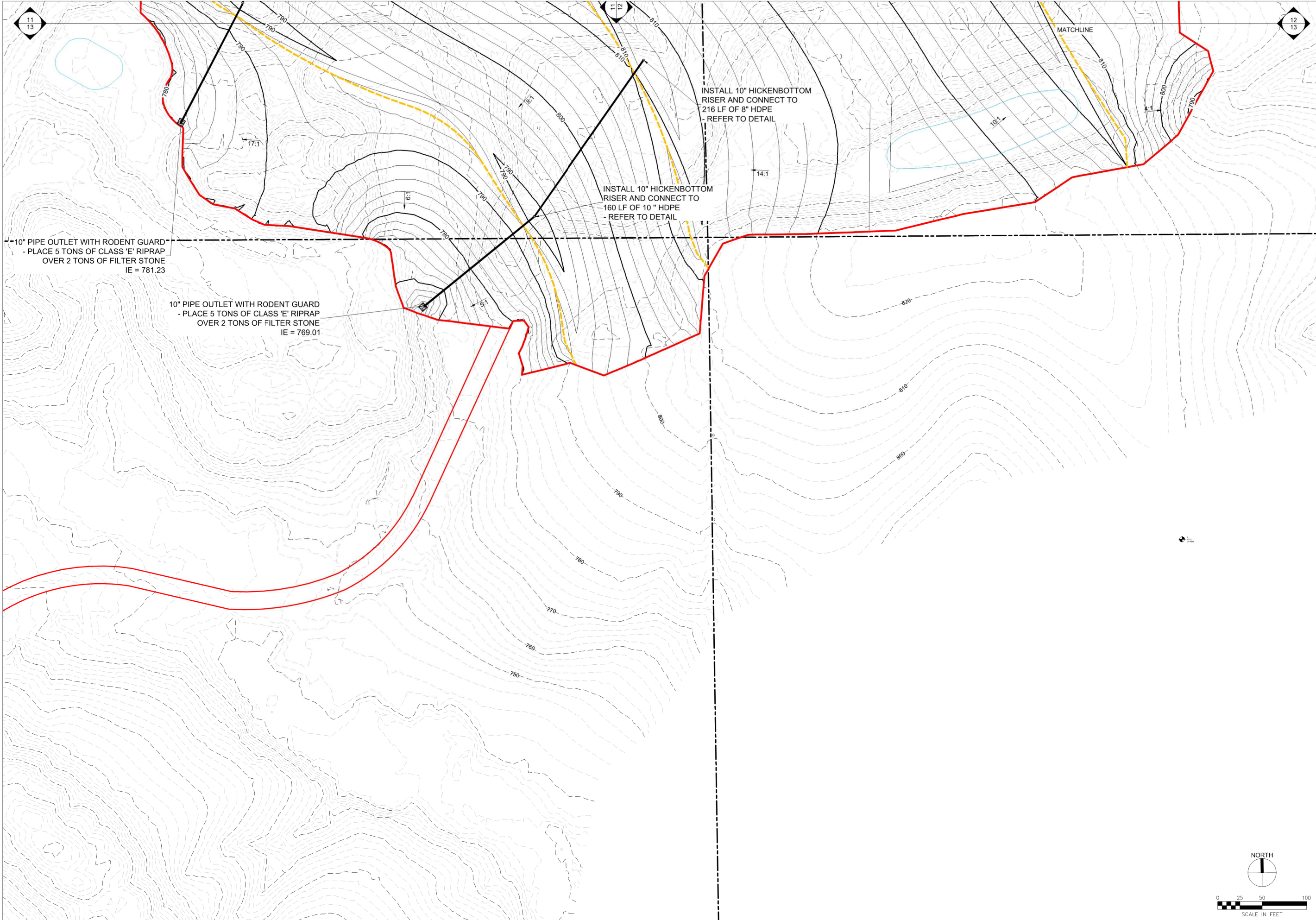
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