

PAUL TODD AML RECLAMATION PROJECT

BID NO. IA-343

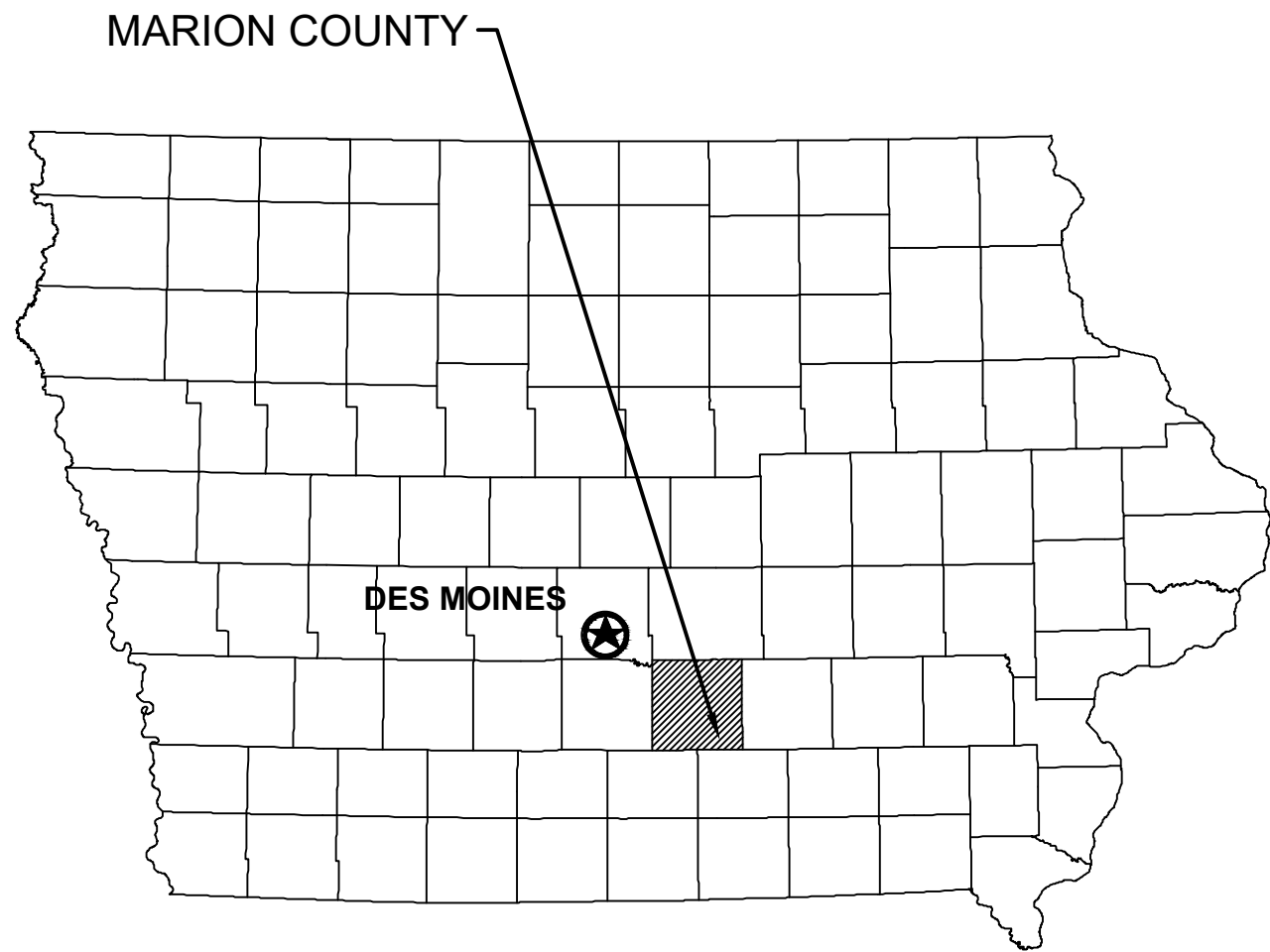
SECTION 27, TOWNSHIP 74 NORTH, RANGE 18 WEST, MARION COUNTY, IOWA

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

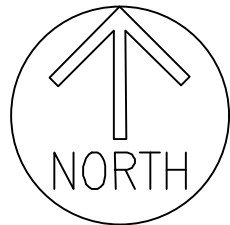
DIVISION OF SOIL CONSERVATION AND WATER QUALITY

GRANT NUMBER: S26AF00065

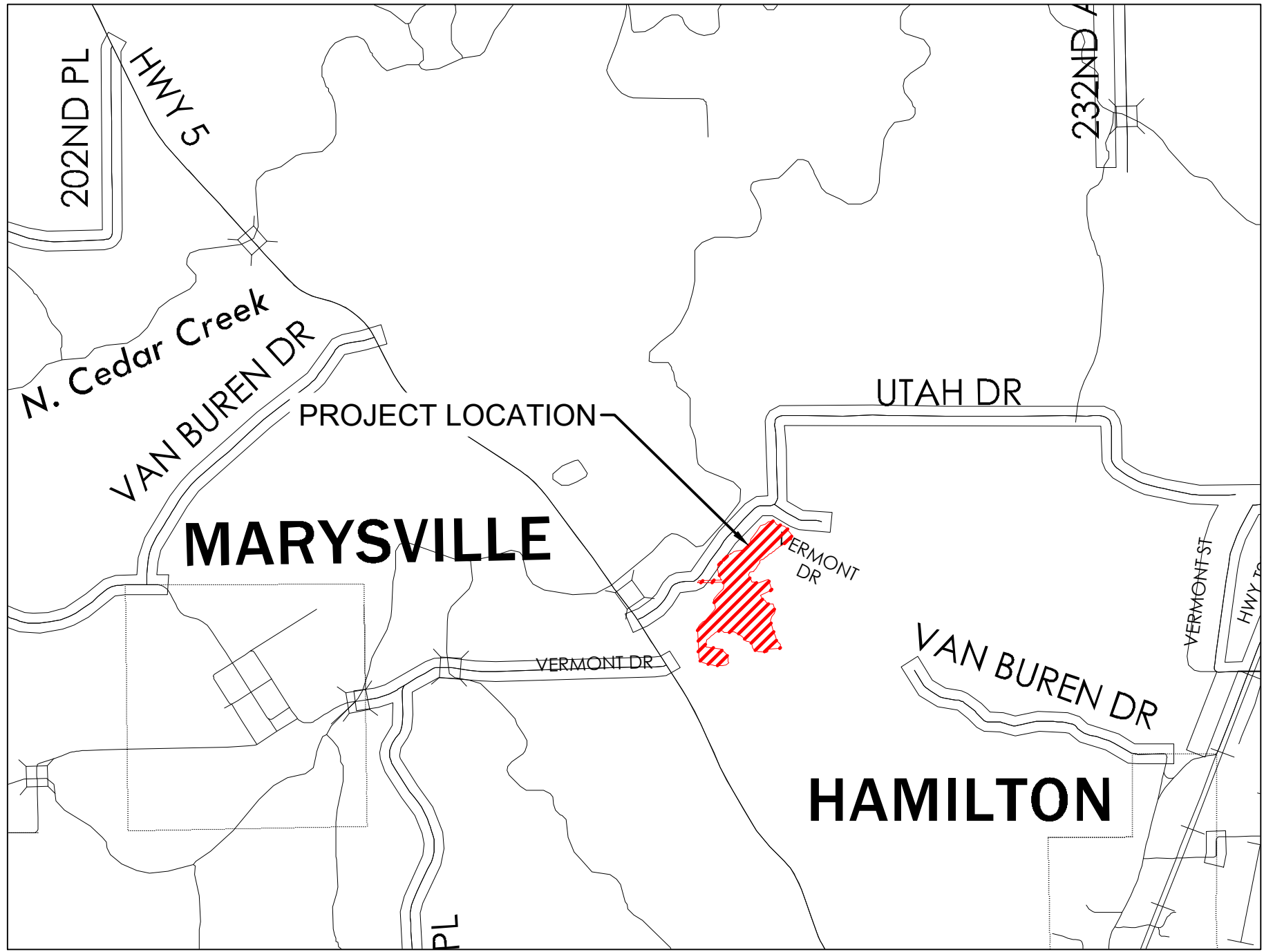
FUNDED BY:
U.S. DEPARTMENT OF THE INTERIOR
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT



STATE OF IOWA



MARION COUNTY



LOCAL VICINITY



PREPARED FOR:
DIVISION OF SOIL CONSERVATION AND WATER QUALITY
IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP
HOOVER STATE OFFICE BUILDING
1305 E. WALNUT STREET, FIFTH FLOOR
DES MOINES, IOWA 50319
(515) 281-5321

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

INDEX OF SHEETS:	
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CIVIL ENGINEER

A circular blue seal for a Licensed Professional Engineer. The outer ring contains the text 'LICENSED PROFESSIONAL ENGINEER'. The inner circle contains the name 'MICHAEL M. OTTEN' and the license number '28012'. At the bottom, it says 'IOWA'.	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:	Date: 8/13/2026
	Printed or typed name: MICHAEL M. OTTEN	
	License Number: 28012	
	My License Renewal Date is: DECEMBER 31, 2026	
PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL: ALL SHEETS		

S-H PROJECT NUMBER: 2142303680

ISSUED: 8/13/2026
REVISED: ---
CHKD. BY: LTM
GHK
DRAWN BY: MMO
DESIGN BY: MMO

PAUL TODD
AML RECLAMATION PROJECT
COVER SHEET

SHEET
1 OF 24

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: 184-000214

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 BOUNDARY 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 A 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 ARE INTENDED FOR CLARITY ONLY AND DOES NOT REPRESENT EXCLUSION OR ENDORSEMENT BY THE DIVISION OR 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.
- 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 BOUNDARY, 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 BOUNDARY AND NOT APPROVED BY ENGINEER.
- CONTRACTOR SHALL PROTECT ALL TREES THAT ARE NOT DESIGNATED TO BE REMOVED OR ARE OUTSIDE OF PROJECT BOUNDARY. CONTRACTOR SHALL NOT PARK OR TRAVEL WITH ANY VEHICLE UNDER THE DRIP LINE OF A TREE TO REMAIN.
- A SHRINKAGE FACTOR OF 12% 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 BOUNDARY 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	35.8	ACRE
3	OFF SITE WASTE DISPOSAL	02100	50	TON
4	BRUSH PILES	02100	5	EA
5	APPROVED SEDIMENT CONTROL MEASURES	02120	2,440	LF
6	SILT FENCE	02120	1,415	LF
7	FILTER SOCK	02120	240	LF
8	RECP, TYPE 3.B	02120	4,840	SY
9	STABILIZED CONSTRUCTION ENTRANCE - GRANULAR SURFACING	02120	40	TON
10	CLASS 'E' RIPRAP	02120	1,000	TON
11	STONE FILTER (3" MACADAM STONE)	02120	284	TON
12	EXCAVATION	02200	351,000	CY
13	TERRACES	02300	6,300	LF
14	CMP RISER-TERRACE (10")	02300	3	EA
15	CMP RISER-TERRACE (12")	02300	1	EA
16	CMP RISER-TERRACE (18")	02300	4	EA
17	CMP RISER-TERRACE (24")	02300	1	EA
18	HDPE PIPE (8")	02300	501	LF
19	HDPE PIPE (10")	02300	142	LF
20	HDPE PIPE (12")	02300	707	LF
21	HDPE PIPE (18")	02300	79	LF
22	PIPE OUTLET (8")	02300	3	EA
23	PIPE OUTLET (12")	02300	3	EA
24	PIPE OUTLET (18")	02300	1	EA
25	STRUCTURE - CONCRETE RISER (48")	02310	3	EA
26	PPHP PIPE (12")	02310	132	LF
27	PPHP PIPE (18")	02310	160	LF
28	PPHP PIPE (24")	02310	143	LF
29	WETLAND UNDERCUT AND REPLACEMENT	02400	3.6	ACRE
30	DEEP RIPPING, SUBGRADE	02400	7.8	ACRE
31	AGRICULTURAL LIME	02400	1,155.5	TON ECCE
32	MULCH, SUBGRADE (5 TONS/ACRE)	02400	39.4	ACRE
33	NITROGEN, N, WETLAND FERTILIZER (30 LBS/ACRE)	02400	108	LBS
34	SUBGRADE PREPARATION	02400	35.8	ACRE
35	FIELD FENCE INSTALLATION	02500	342	LF
36	FIELD FENCE, REMOVE AND REPLACE	02500	1,100	LF
37	SEEDBED PREPARATION	02700	34.1	ACRE
38	NITROGEN, N, SEEDING (50 LBS/ACRE)	02700	1,705	LBS
39	PHOSPHORUS, P, SEEDING (100 LBS/ACRE)	02700	3,410	LBS
40	POTASSIUM, K, SEEDING (160 LBS/ACRE)	02700	5,456	LBS
41	PERMANENT SEEDING, NATIVE MIX	02700	32.3	ACRE
42	PERMANENT SEEDING, WETLAND MIX	02700	1.8	ACRE
43	MULCH, SEEDING (2 TONS/ACRE)	02700	34.1	ACRE

REQUIRED CONSTRUCTION STAKING:

- PROJECT BOUNDARY AND ACCESS ROUTE
- RISERS, INTAKE STRUCTURES, AND PIPE OUTLETS
- ROCK RIFFLE AND LOG RIFFLE LOCATION AND ELEVATIONS
- BOUNDARIES FOR UNDERCUT EXCAVATION
- ALL CHANNELS
- TERRACE RIDGES

IF GPS GUIDED MACHINE CONTROL IS USED, ITEMS 4, 5, AND 6 MAY BE WAIVED

LEGEND:

- STA:45+00
● 711.89
--- 737 ---
--- 737 ---
--- 740 ---
--- 740 ---
--- NO BURN ---
--- NO BURN ---
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
DEEP RIPPING AREA
BRUSH PILE LOCATION

GRID STATION
EXISTING SPOT ELEVATION
EXISTING CONTOUR MINOR
EXISTING CONTOUR MAJOR
PROPOSED CONTOUR MINOR
PROPOSED CONTOUR MAJOR
PROJECT BOUNDARY
PROPOSED TERRACE RIDGELINE
EXISTING DRAINAGE DITCH OR STREAM
NO BURN RADIUS
EXISTING BARB-WIRE FENCE
PROPOSED FENCE
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
DEEP RIPPING AREA
BRUSH PILE LOCATION

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
- 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"
- PR = PLASTIC RISER
- CR = CONCRETE RISER
- DL = DAYLIGHT
- ASC = ANTI-SEEP COLLAR

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: 2142303680

SHIVEHATTERY
ARCHITECTURE+ENGINEERING

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

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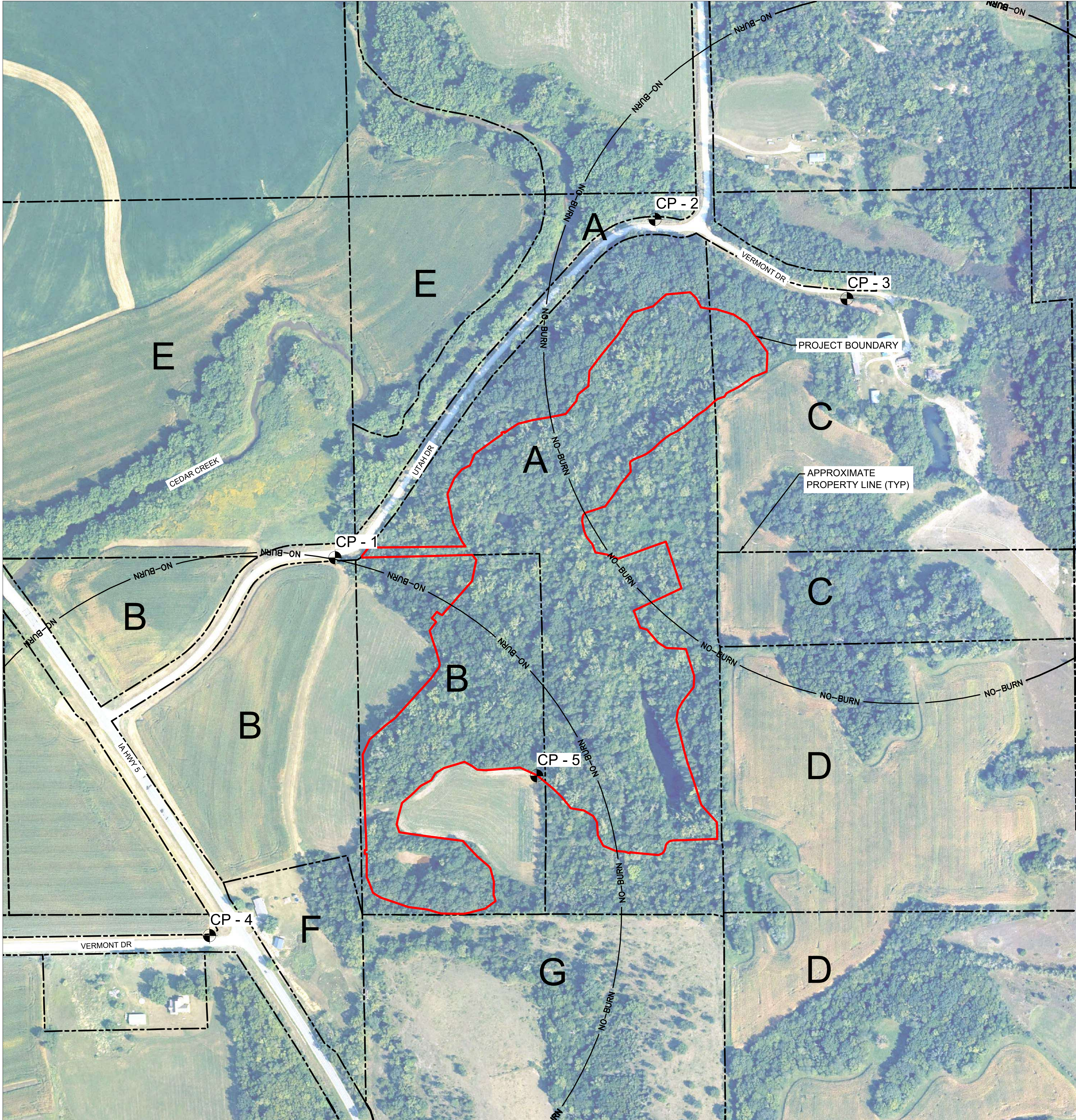
PAUL TODD
AML RECLAMATION PROJECT

PROJECT NOTES,
QUANTITIES, AND LEGEND

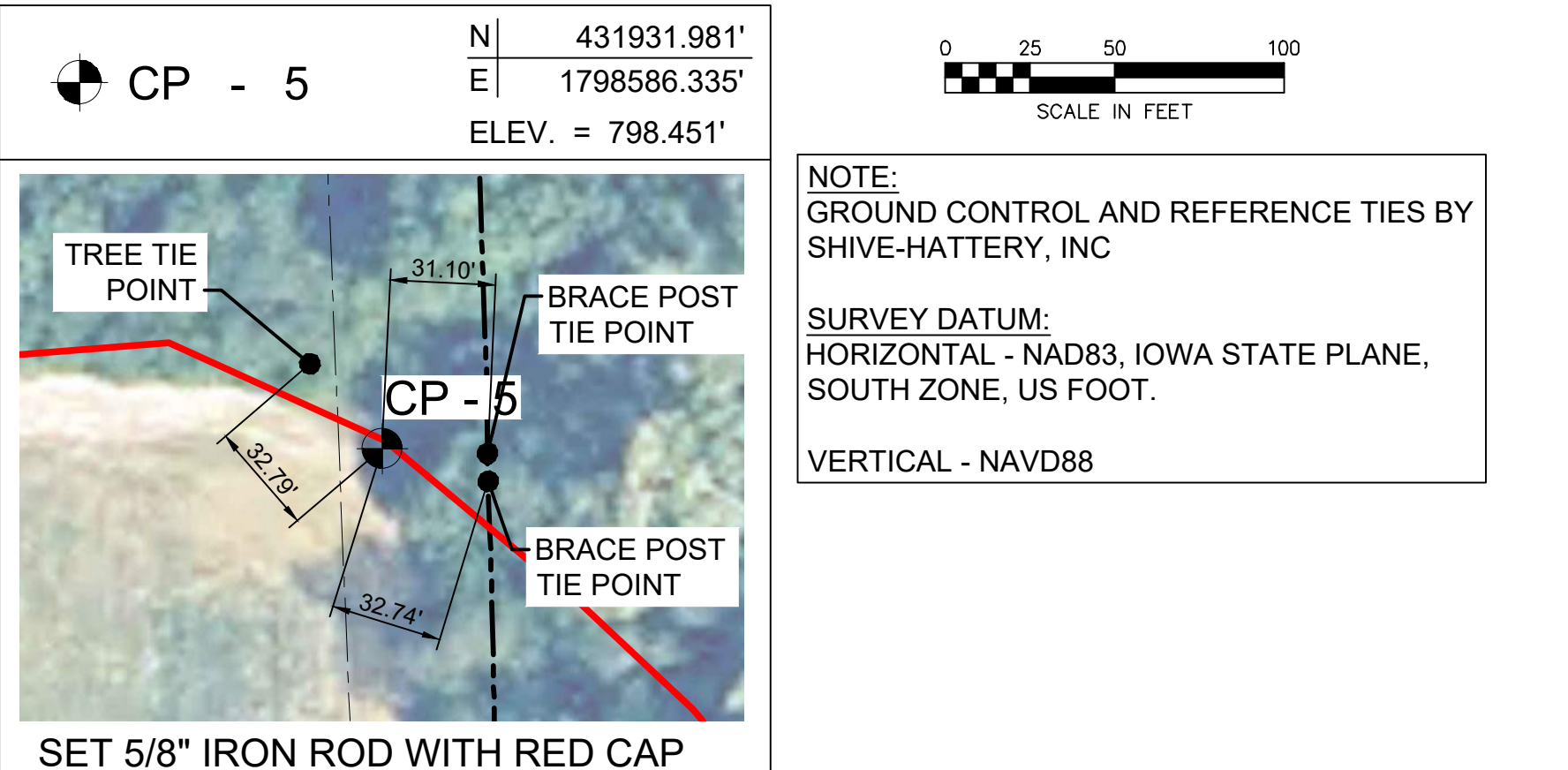
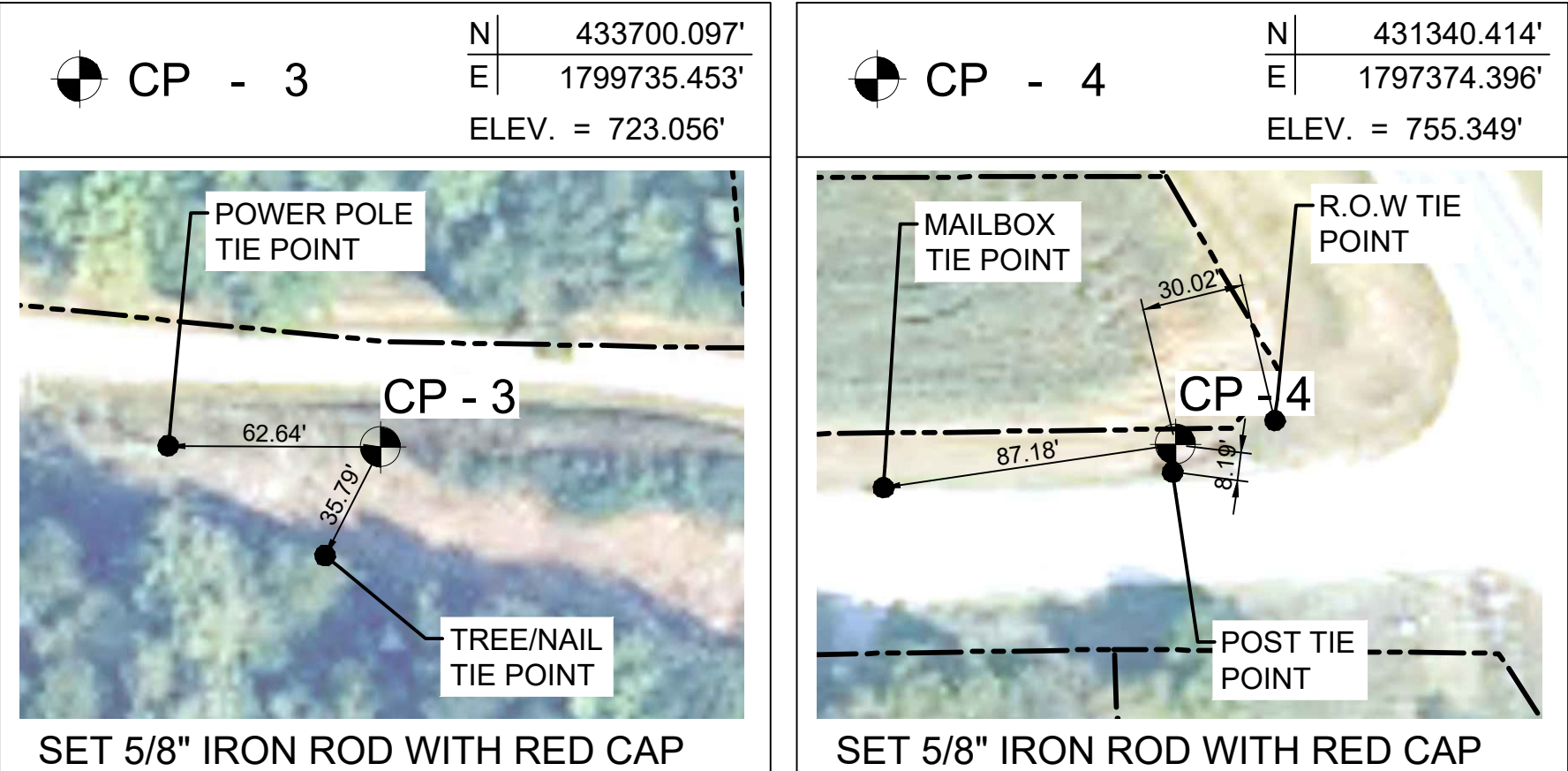
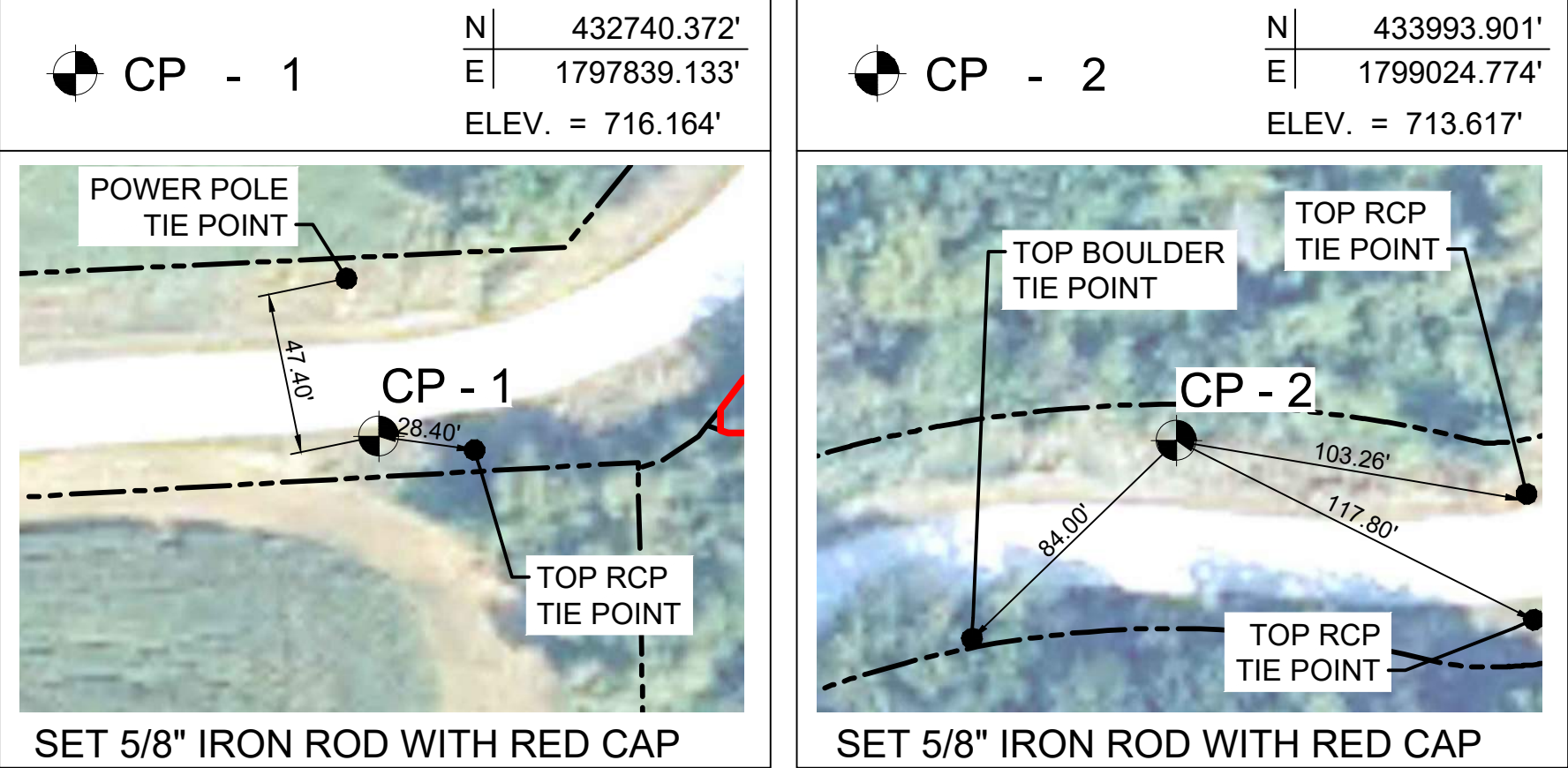
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SHEET
2 OF 24



SURVEY CONTROL



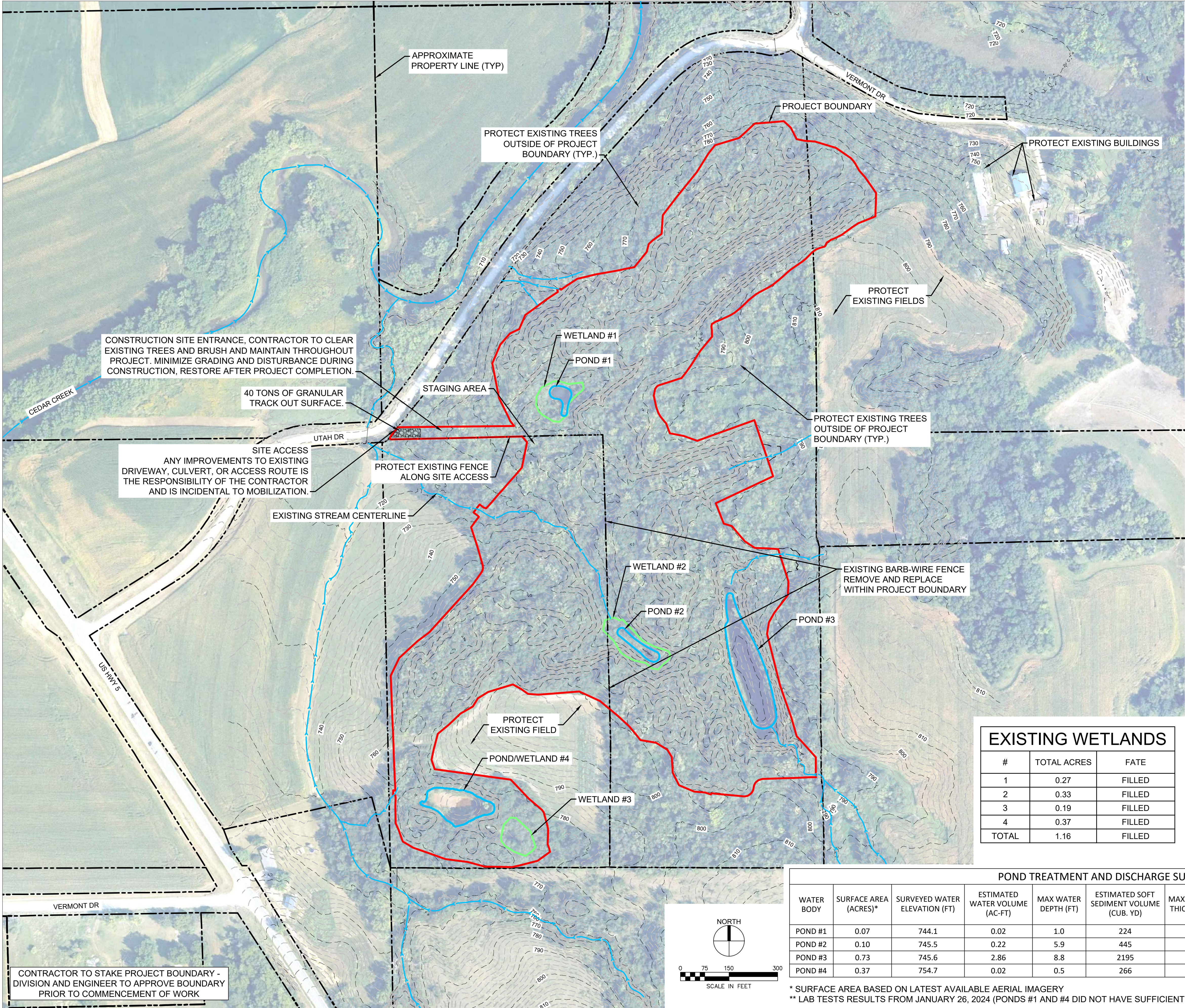
LANDOWNER TABLE

- A. MARION COUNTY
- B. BAILEY, JEREMY
- C. NICHOLS, JOHNNIE JR.
- D. ROCK VALLEY FARMS
- E. BAILEY, KEITH
- F. FORTUNE, CHRIS AND SHAWNA
- G. WALLACE, ROBI

- 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 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.
2.

CONTRACTOR TO STAKE PROJECT BOUNDARY, DIVISION AND ENGINEER TO APPROVE BOUNDARY PRIOR TO COMMENCEMENT OF WORK.



STAGING NOTES:

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

DEMOLITION NOTES:

- ALL DEBRIS AND TRASH ENCOUNTERED DURING CONSTRUCTION WITHIN THE PROJECT BOUNDARY OR DIRECTED BY THE ENGINEER, SHALL BE PROPERLY DISPOSED OF ACCORDING TO THE PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL STOCKPILE A LIMITED AMOUNT OF SMALL LOGS/TREES AND WOODY BRUSH FOR THE CONSTRUCTION OF BRUSH HABITAT PILES ON THE BAILEY PROPERTY IN THE LOCATIONS AS INDICATED ON SHEET 24.

SURVEY NOTES:

- LIMITED TOPOGRAPHIC SURVEY COMPLETED BY SHIVE- HATTERY ON 02-20-2024.
- DEPTH TO REFUSAL PROBING OF THE EXISTING PONDS WITHIN THE PROJECT AREA WAS COMPLETED BY SHIVE-HATTERY ON 01-23-2024.
- THIS DRAWING IS SET TO THE NAD 1983 IOWA STATE PLANE, SOUTH ZONE COORDINATE SYSTEM. ELEVATION INFORMATION IS BASED UPON THE NAVD 1988.
- 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.
- 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.
- 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 THE USGS AT: https://apps.nationalmap.gov/downloader/#/8/41.41960700078141/-93.79356384277057/usgs_topo/elevation-source-data-lidar-isfar/lidar-point-cloud
- AERIAL IMAGE OBTAINED FROM COUNTY GIS.
- WATER LEVEL OF PONDS REPORTED ON THIS SHEET ARE AS OF 01-23-2024. WATER LEVEL MAY VARY DEPENDING ON RECENT RAINFALL AMOUNTS.

EXISTING WETLANDS

#	TOTAL ACRES	FATE
1	0.27	FILLED
2	0.33	FILLED
3	0.19	FILLED
4	0.37	FILLED
TOTAL	1.16	FILLED

POND TREATMENT AND DISCHARGE SUMMARY

WATER BODY	SURFACE AREA (ACRES)*	SURVEYED WATER ELEVATION (FT)	ESTIMATED WATER VOLUME (AC-FT)	MAX WATER DEPTH (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	0.07	744.1	0.02	1.0	224	4.7	N/A	N/A	N/A	FILLED
POND #2	0.10	745.5	0.22	5.9	445	7.6	< 0.5	7.5	0.00	FILLED
POND #3	0.73	745.6	2.86	8.8	2195	7.6	< 0.5	8.1	0.00	FILLED
POND #4	0.37	754.7	0.02	0.5	266	6.2	N/A	N/A	N/A	FILLED

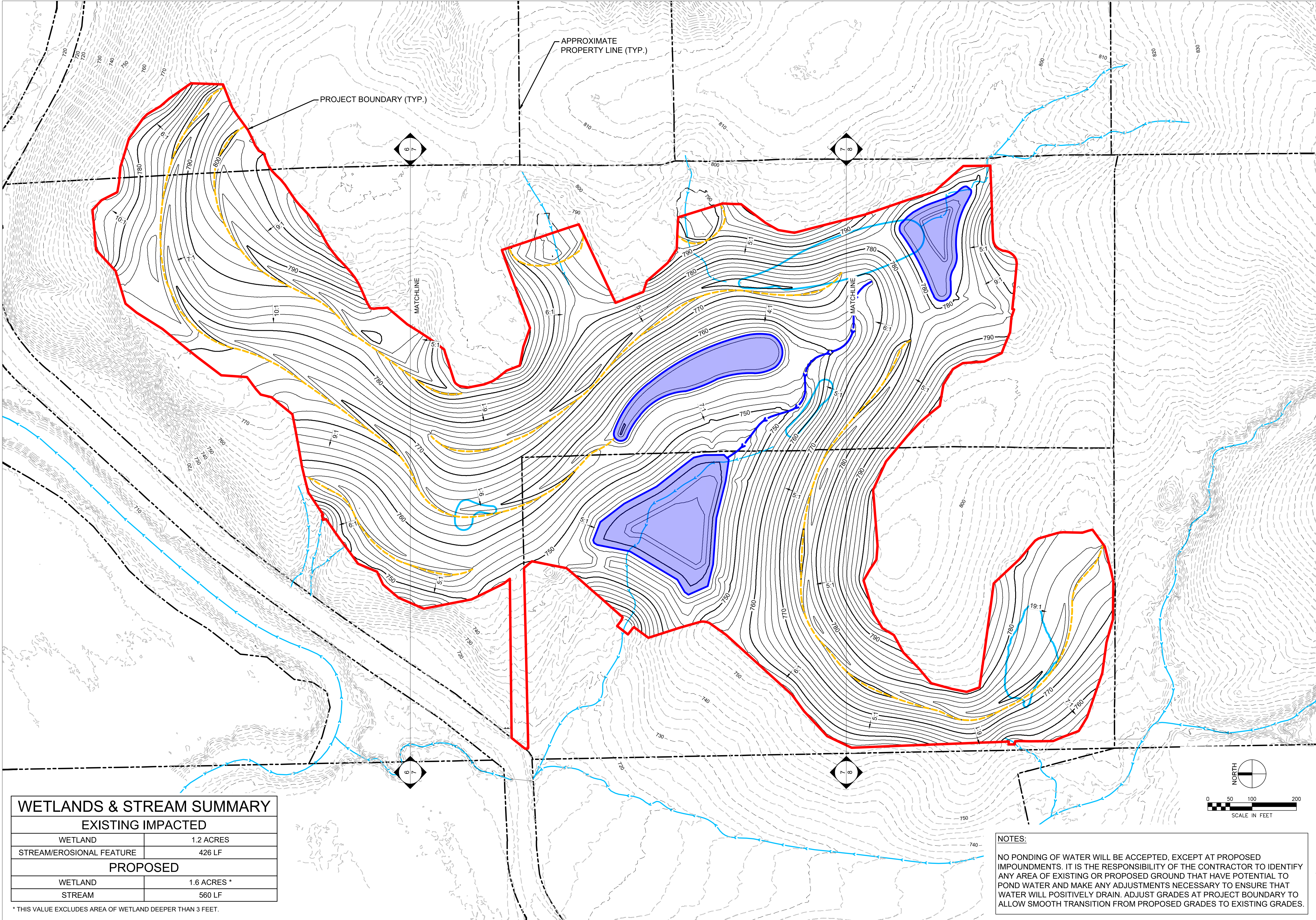
* SURFACE AREA BASED ON LATEST AVAILABLE AERIAL IMAGERY
** LAB TESTS RESULTS FROM JANUARY 26, 2024 (PONDS #1 AND #4 DID NOT HAVE SUFFICIENT WATER FOR WATER SAMPLING AT TIME OF SURVEY)

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PAUL TODD
AML RECLAMATION PROJECT
SITUATION PLAN -
EXISTING CONDITIONS



WETLANDS & STREAM SUMMARY	
EXISTING IMPACTED	
WETLAND	1.2 ACRES
STREAM/EROSIONAL FEATURE	426 LF
PROPOSED	
WETLAND	1.6 ACRES *
STREAM	560 LF

* THIS VALUE EXCLUDES AREA OF WETLAND DEEPER THAN 3 FEET.

NOTES:
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DESIGN BY: MMO

DRAWN BY: GHK

CHKD. BY: LTM

ISSUED: 8/13/2026

REVISED: ---

S-H PROJECT NUMBER: 2142303680

PAUL TODD

AML RECLAMATION PROJECT

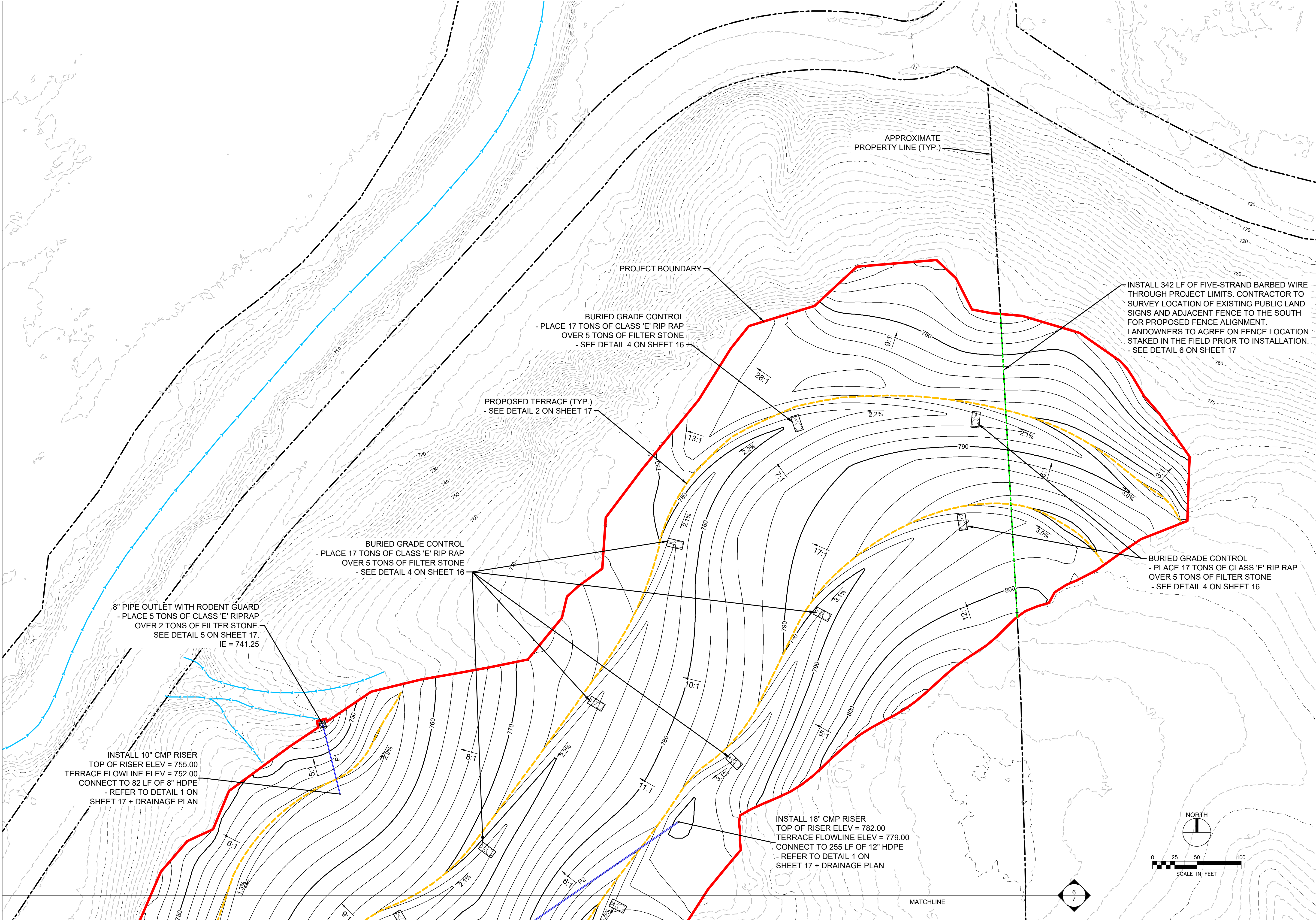
OVERALL GRADING PLAN



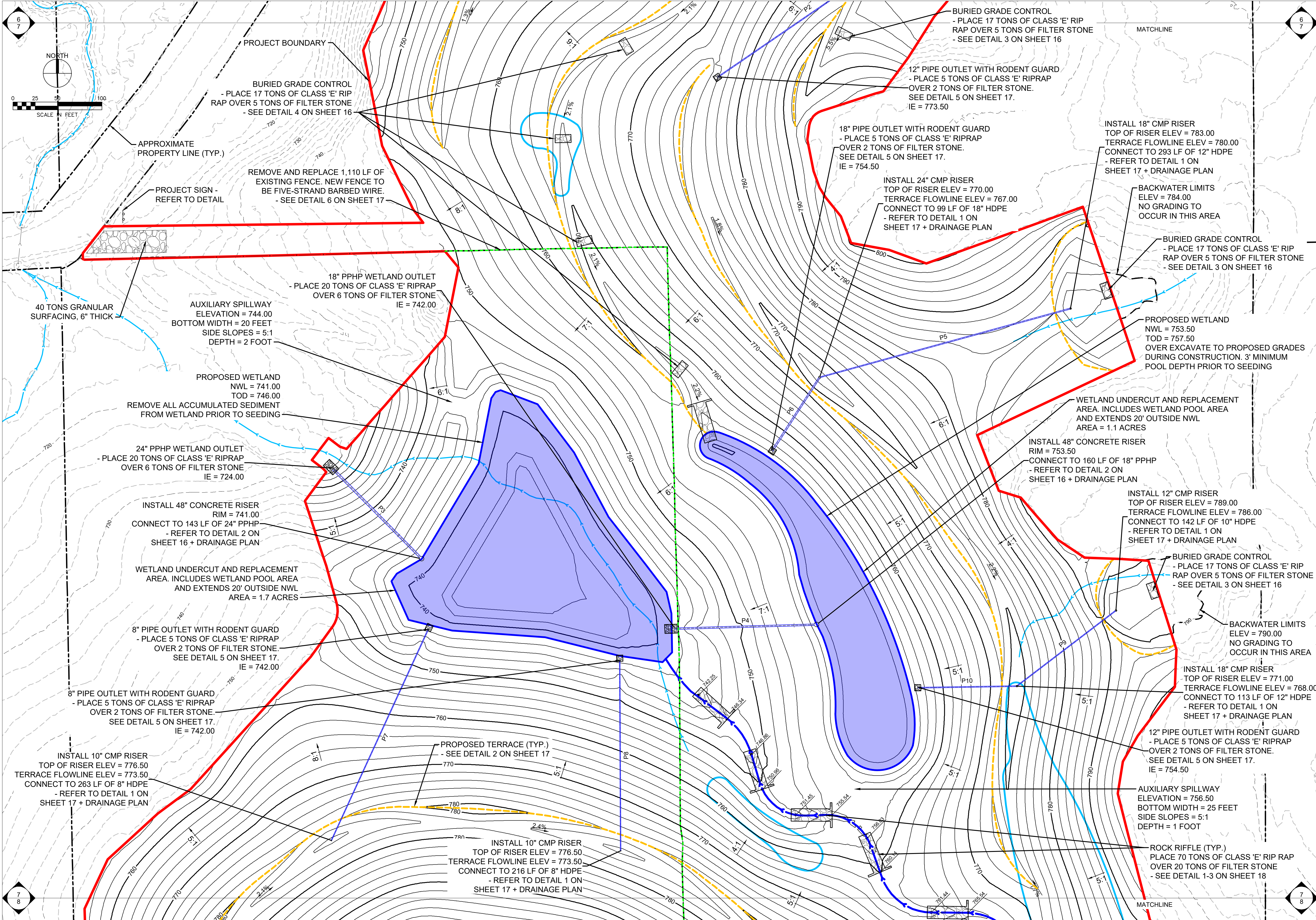
IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
1305 E. WALNUT STREET DES MOINES, IA 50319
(515) 281-5321



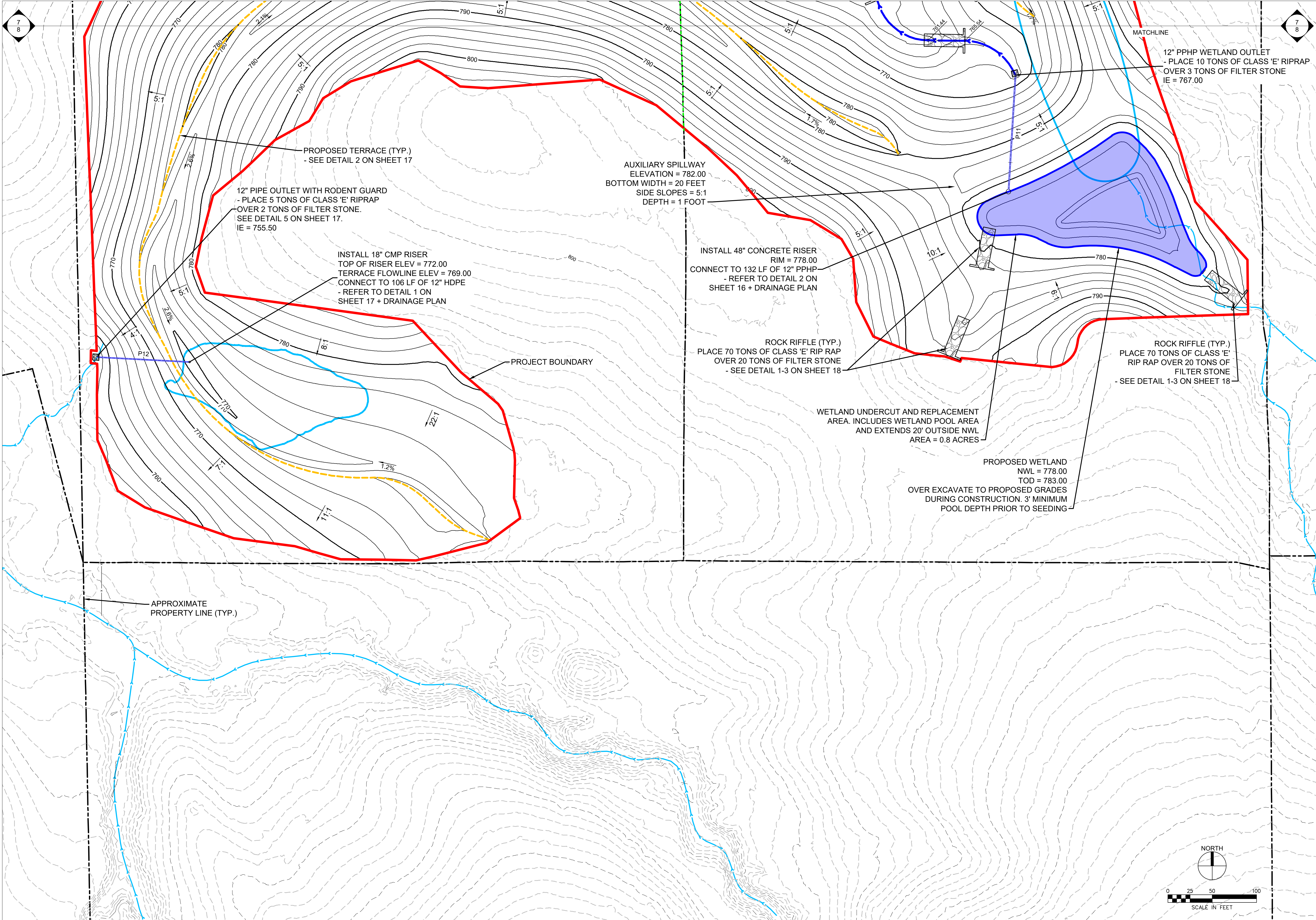
SHIVE-HATTERY
ARCHITECTURE+ENGINEERING
4125 Westown Parkway, Suite 100 | West Des Moines, Iowa 50266
515.223.8104 | fax: 515.223.0022 | shive-hattery.com
Iowa | Illinois | Missouri | Illinois Firm Number: 184-000214



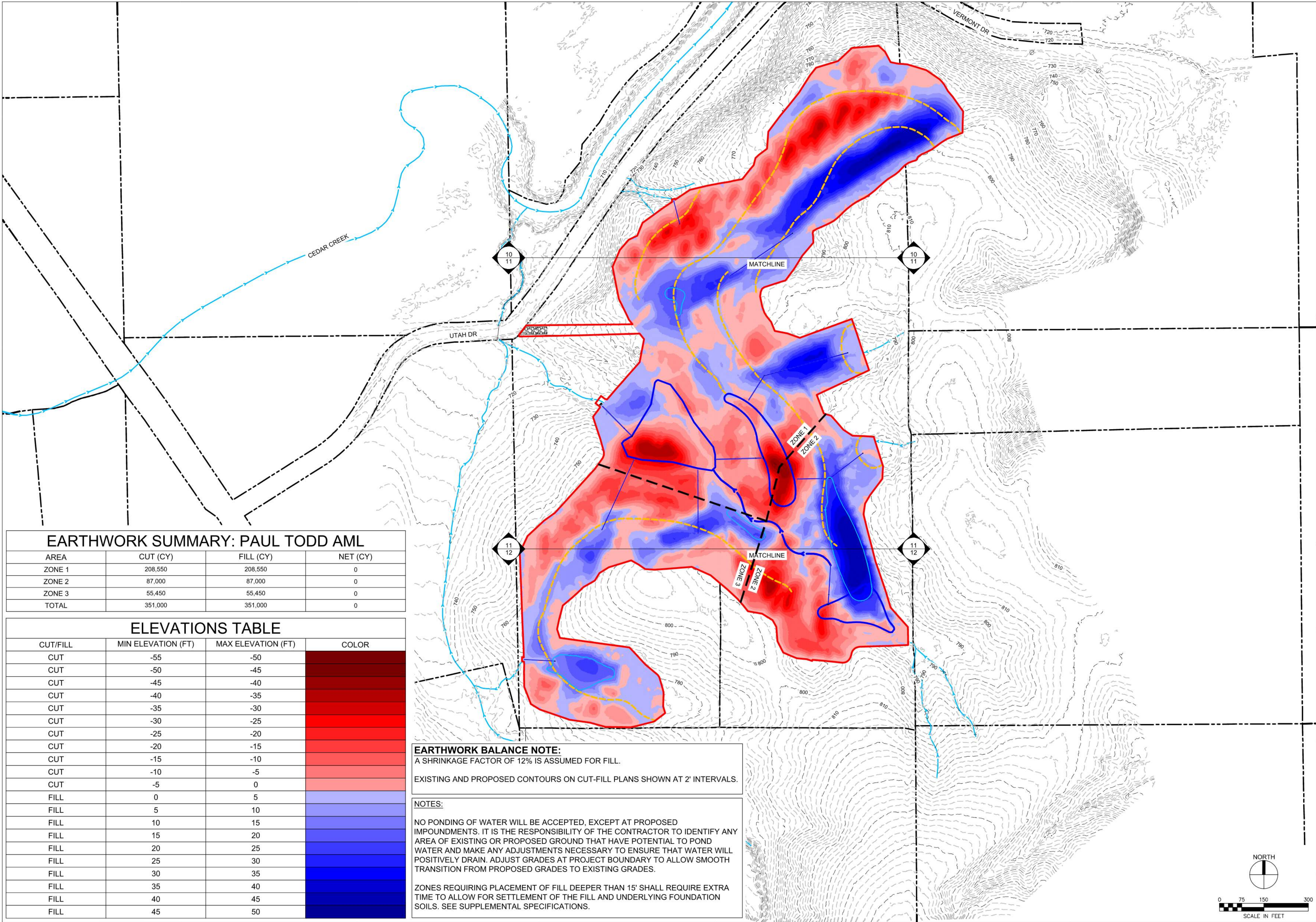
DESIGN BY: MMO	DRAWN BY: GHK	CHKD. BY: LTM	ISSUED: 8/13/2026	REVISED: ---	S-H PROJECT NUMBER: 2142303680
PAUL TODD AML RECLAMATION PROJECT			IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP DIVISION OF SOIL CONSERVATION AND WATER QUALITY HOOVER STATE OFFICE BUILDING 1305 E. WALNUT STREET DES MOINES, IA 50319 (515) 281-5321		
GRADING PLAN					
SHEET 6 OF 24			SHIVEHATTERY ARCHITECTURE+ENGINEERING 4125 Westown Parkway, Suite 100 West Des Moines, Iowa 50266 515.223.8104 fax: 515.223.0022 shivehattery.com Iowa Illinois Missouri Illinois Firm Number: 184-000214		



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PAUL TODD			SHIVEHATTERY ARCHITECTURE+ENGINEERING 4125 Westown Parkway, Suite 100 West Des Moines, Iowa 50266 515.223.8104 fax: 515.223.0022 shivehattery.com Iowa Illinois Missouri Illinois Firm Number: 184-000214		
GRADING PLAN			SHEET 8 OF 24		



EARTHWORK SUMMARY: PAUL TODD AML

AREA	CUT (CY)	FILL (CY)	NET (CY)
ZONE 1	208,550	208,550	0
ZONE 2	87,000	87,000	0
ZONE 3	55,450	55,450	0
TOTAL	351,000	351,000	0

ELEVATIONS TABLE

CUT/FILL	MIN ELEVATION (FT)	MAX ELEVATION (FT)	COLOR
CUT	-55	-50	
CUT	-50	-45	
CUT	-45	-40	
CUT	-40	-35	
CUT	-35	-30	
CUT	-30	-25	
CUT	-25	-20	
CUT	-20	-15	
CUT	-15	-10	
CUT	-10	-5	
CUT	-5	0	
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	
FILL	45	50	

EARTHWORK BALANCE NOTE:

A SHRINKAGE FACTOR OF 12% IS ASSUMED FOR FILL.

EXISTING AND PROPOSED CONTOURS ON CUT-FILL PLANS SHOWN AT 2' INTERVALS.

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ZONES REQUIRING PLACEMENT OF FILL DEEPER THAN 15' SHALL REQUIRE EXTRA TIME TO ALLOW FOR SETTLEMENT OF THE FILL AND UNDERLYING FOUNDATION SOILS. SEE SUPPLEMENTAL SPECIFICATIONS.

S-H PROJECT NUMBER: 2142303680

REVISED:

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CHKD. BY: LTM

GHK

DRAWN BY:

MMO

DESIGN BY:

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PAUL TODD
AML RECLAMATION PROJECT

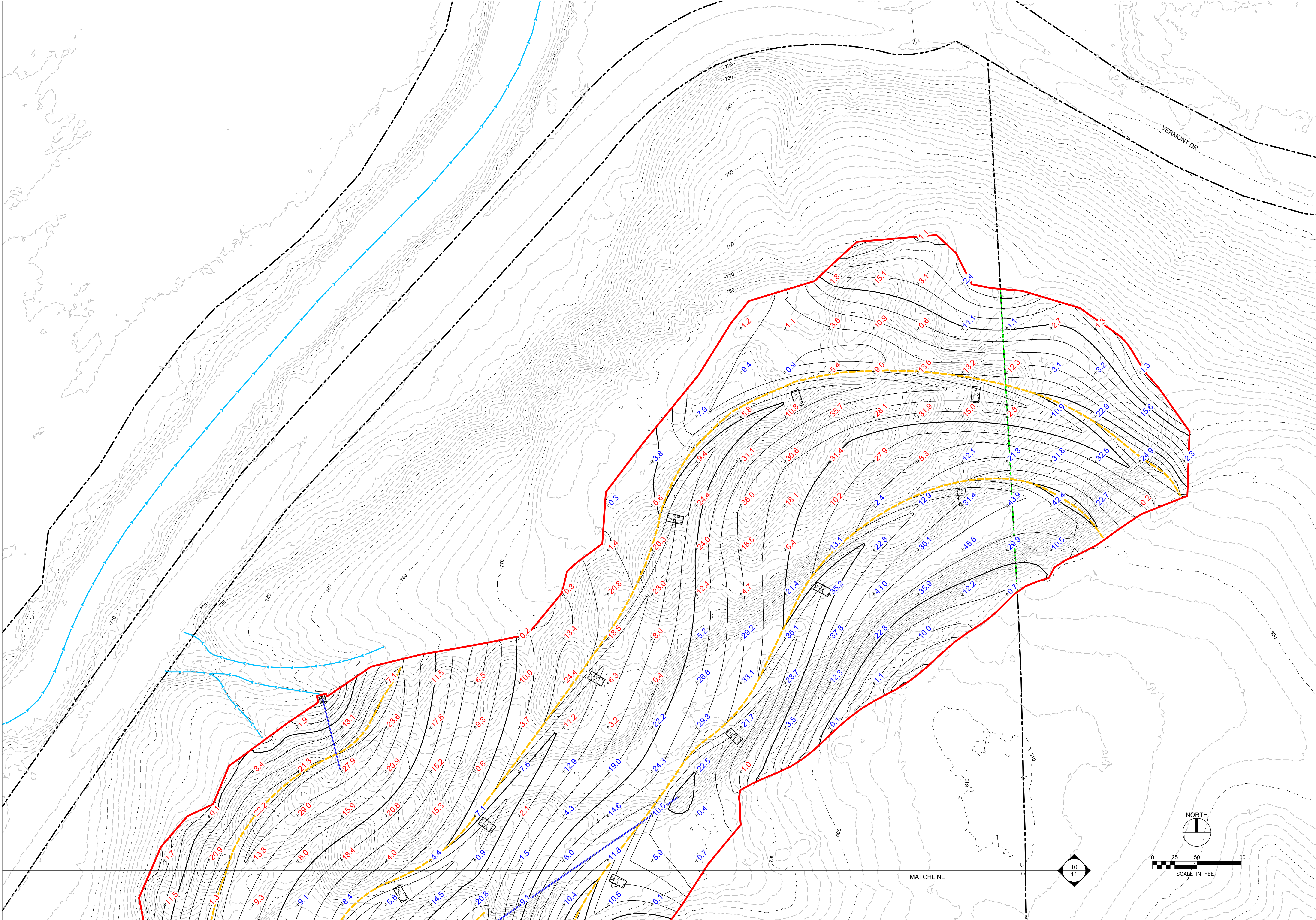
OVERALL CUT-FILL PLAN

SHEET

9 OF 24

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CUT-FILL PLAN					
SHEET 10 OF 24			 ARCHITECTURE+ENGINEERING 4125 Westown Parkway, Suite 100 West Des Moines, Iowa 50266 515.223.8104 fax: 515.223.0022 shivehattery.com Iowa Illinois Missouri Illinois Firm Number: 184-000214		