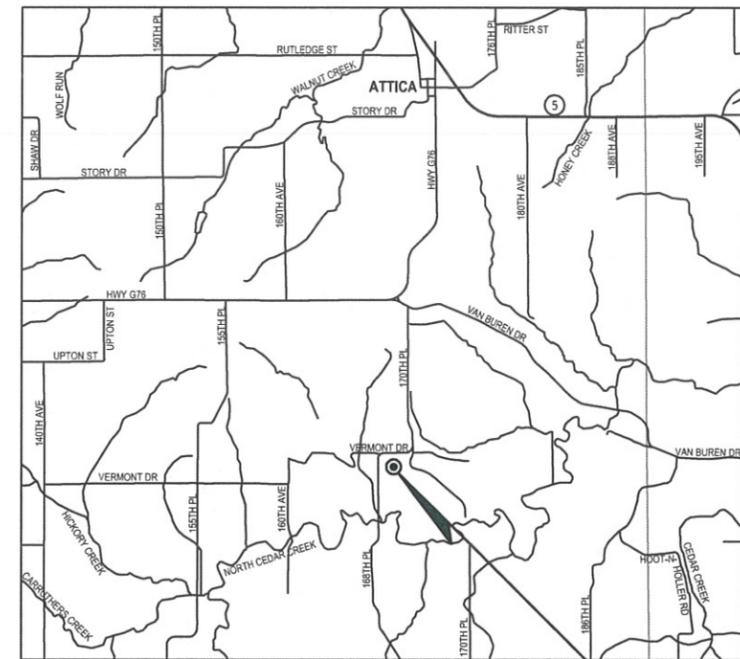
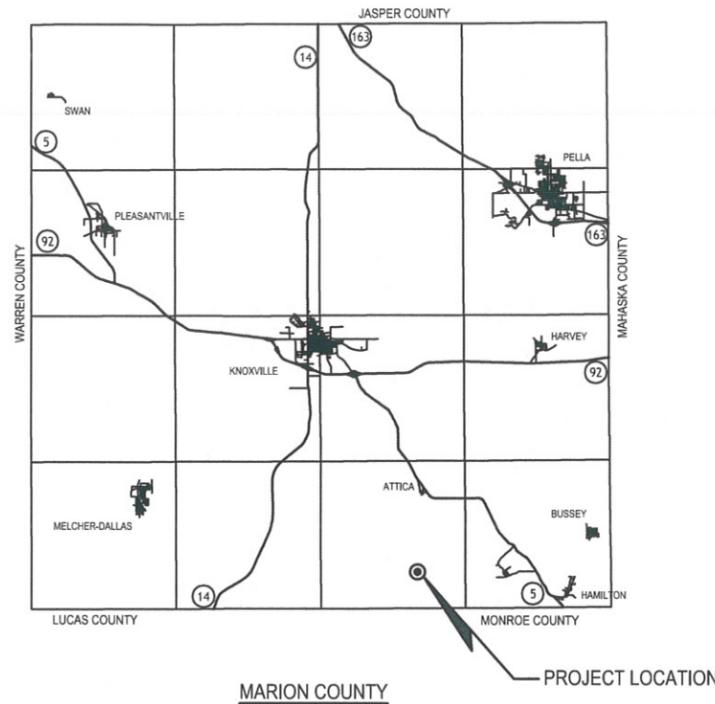


BROWN (IA-133) AML RECLAMATION PROJECT

W 1/2 SECTION 26 AND E 1/2 SECTION 27, TOWNSHIP 74N, RANGE 19W, MARION COUNTY, IOWA
DIVISION OF SOIL CONSERVATION AND WATER QUALITY
IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

FUNDED BY:
U.S. DEPARTMENT OF THE INTERIOR
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT
GRANT NO: S15AF20016



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:
LT LEON ASSOCIATES, INC.
500 E. LOCUST STREET, SUITE 400
DES MOINES, IOWA
TEL: (515) 422-7016

- INDEX OF SHEETS:
- 1 TITLE SHEET
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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

Signature: *Luis T. Leon* Date: 9/26/16

Name (printed or typed): LUIS T. LEON, P.E.
License Number: 18685
My license renewal date is: DECEMBER 31, 2017
Pages or sheets covered by this seal: ENTIRE DOCUMENT

FILE: 049.002

REVISED:

09-21-16

ISSUED:

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CHKD. BY:

BAY

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LTL



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



BROWN (IA-133)
AML RECLAMATION PROJECT

TITLE SHEET

SHEET
1 OF 15

GENERAL NOTES:

1. ALL IMPROVEMENTS SHOWN ON THESE PLANS SHALL COMPLY WITH THE GENERAL CONDITIONS, STANDARDS, AND SPECIFICATIONS SET FORTH IN PROJECT DOCUMENTS. THESE INCLUDE STANDARD CONSTRUCTION SPECIFICATIONS SET FORTH BY THE DIVISION OF SOIL CONSERVATION AND WATER QUALITY AS WELL AS THE SUPPLEMENTAL SPECIFICATIONS ESTABLISHED BY THE ENGINEER. SPECIFICATIONS OR STANDARDS INCORPORATED BY REFERENCE SHALL ALSO BE FOLLOWED.
2. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DIVISION'S STANDARD SPECIFICATIONS AND THE ENGINEER'S SUPPLEMENTAL SPECIFICATIONS.
3. 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 OF SOIL CONSERVATION AND WATER QUALITY.
4. REFERENCES TO PARTICULAR PRODUCTS, TRADENAMES, OR MANUFACTURERS IS INTENDED FOR CLARITY ONLY AND DO NOT REPRESENT EXCLUSION OR ENDORSEMENT BY THE STATE OF IOWA. EQUIVALENT PRODUCTS OR MATERIALS MAY BE SUITABLE, SUBJECT TO THE APPROVAL OF THE ENGINEER.
5. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE ENGINEER AND DIVISION PRIOR TO COMMENCING CONSTRUCTION.

UTILITY NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING 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 PAVED STREETS CAUSED BY TRENCHING AND GRADING OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE.
2. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, PUBLIC RECORDS, AND FIELD INVESTIGATION. THEIR LOCATIONS SHALL BE CONSIDERED TO BE APPROXIMATE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT IOWA ONE-CALL AND/OR EACH UTILITY COMPANY FOR THE FIELD LOCATION(S) OF EXISTING UTILITY LINES IN OR NEARBY THE CONSTRUCTION AREA PRIOR TO BEGINNING ANY CONSTRUCTION.
3. THERE MAY BE ADDITIONAL PRIVATE OR OTHER UNDERGROUND UTILITIES NOT SHOWN OR KNOWN AT THE TIME OF THE PUBLICATION OF THIS DRAWING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXISTENCE AND LOCATION OF ANY ADDITIONAL UNDERGROUND UTILITIES NOT SHOWN ON THIS DRAWING IN ORDER TO AVOID DAMAGE THERETO.
4. THE CONTRACTOR SHALL EXERCISE PROPER CAUTION TO PROTECT EXISTING UTILITY IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE THERETO AT NO ADDITIONAL EXPENSE TO THE OWNER OR DIVISION.

CONSTRUCTION SURVEY NOTES:

1. HORIZONTAL MEASUREMENTS ARE IN U.S. SURVEY FEET. THIS DRAWING IS SET TO THE NAD 1983 IOWA STATE PLANE, SOUTH ZONE COORDINATE SYSTEM.
2. ELEVATION MEASUREMENTS ARE BASED UPON THE NAVD 1988 AND ARE IN U.S. FEET.
3. EXISTING TOPOGRAPHY SHOWN ON THIS DRAWING WAS DEVELOPED FROM LIDAR INFORMATION FOR MARION COUNTY, IOWA AND SUPPLEMENTAL TOPOGRAPHIC SURVEY DATA. LIDAR DATA IS PUBLICLY AVAILABLE THROUGH THE NATIONAL RESOURCES GEOGRAPHIC INFORMATION SYSTEMS LIBRARY. LIDAR DATA WAS COLLECTED IN THE SPRING OF 2008 AND PUBLISHED FEBRUARY 19, 2010. IT IS MADE AVAILABLE THROUGH A PROGRAM OF THE IOWA DEPARTMENT OF NATURAL RESOURCES.
4. LOCAL CONTROL POINTS HAVE BEEN ESTABLISHED FOR THIS PROJECT. SEE SHEET 3.
5. SHOULD THERE EXIST SIGNIFICANT DIFFERENCES BETWEEN THE EXISTING ELEVATIONS SHOWN ON THE DRAWINGS AND THOSE REPORTED BY THE SURVEYING EQUIPMENT, THE CONTRACTOR SHALL DIRECT HIS SURVEYOR TO CALIBRATE THE GPS INSTRUMENTS TO THE EXISTING ELEVATIONS SHOWN.

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	SPEC. SECTION	QUANTITY	UNIT
1	MOBILIZATION	02100	1	LUMP SUM
2	SITE CLEARING AND PREPARATION	02100	16.8	ACRE
3	IMPOUNDMENT DISCHARGE	02110	1	LUMP SUM
4	SILT FENCE INSTALLATION	02120	400	LF
5	SILT FENCE REMOVAL	02120	400	LF
6	STABILIZED CONSTRUCTION ENTRANCE	02120	35	TON
7	STABILIZED CONSTRUCTION ENTRANCE REMOVAL	02120	1	LUMP SUM
8	EXCAVATION	02200	134,000	CY
9	FINISH GRADING	02200	16.4	ACRE
10	RIPRAP, CLASS 'B'	02300	835	TON
11	RIPRAP, CLASS 'E'	02300	775	TON
12	MACADAM STONE (USED FOR CHOKE STONE & FILTER STONE)	02300	480	TON
13	AGRICULTURAL LIME, SUBGRADE, (20 TON ECCE/ACRE)	02400	308	TON ECCE
14	MULCH, SUBGRADE, (5 TONS/ACRE)	02400	15.4	ACRE
15	AGRICULTURAL LIME, SEEDING, (5 TON ECCE/ACRE)	02700	77	TON ECCE
16	FERTILIZER, NITROGEN (N), (40 LB./ACRE)	02700	632	POUND
17	FERTILIZER, PHOSPHOROUS (P), (60 LB./ACRE)	02700	948	POUND
18	FERTILIZER, POTASSIUM (K), (100 LB./ACRE)	02700	1,580	POUND
19	MULCH, SEEDING (2 TONS/ACRE)	02700	15.8	ACRE
20	INTERIM SEEDING	02700	15.8	ACRE

PROJECT CONSTRUCTION NOTES:

1. QUANTITIES OF FERTILIZER AND LIME ARE ESTIMATED FOR BIDDING PURPOSES. ACTUAL QUANTITIES APPLIED WILL BE DETERMINED BY SOIL TESTS.
2. REQUIRED CONSTRUCTION STAKING: PROJECT LIMITS, TOP OF PROPOSED STREAMBANK, WETLAND BERM ALIGNMENT AND ELEVATION, WETLAND OUTLET LOCATION AND ELEVATION, CONSTRUCTED ROCK GRADE CONTROL STRUCTURE ALONG THE STREAM, CHANNEL ALIGNMENTS AND ELEVATIONS, AND ROUGH GRADING.
3. THE GRADES SHOWN ON PLANS INDICATE A BALANCE OF EARTHWORK MATERIALS WHEN AN ESTIMATED SHRINKAGE FACTOR OF 15% IS APPLIED. WITH THE APPROVAL OF THE ENGINEER AND DIVISION, CHANGES TO THE BALANCE OF EARTHWORK CAN BE MADE IF IT IS DETERMINED THE ESTIMATED SHRINKAGE FACTOR IS INACCURATE. SEE SPECIFICATION SECTION 02200,1.3 B.
4. THE SITE GRADING PLAN INCORPORATES NATURAL LANDFORM GRADING TECHNIQUES. THIS APPROACH RESULTS IN VARIED TERRAIN WITH MULTIPLE CHANNELS AND SUBRIDGES. THE CONTRACTOR IS REQUIRED TO CONSTRUCT THE RECLAMATION SURFACE AS DEPICTED ON THE PLANS. SITE GRADING SHALL BE COMPLETED TO ± 0.3 FEET OF DESIGN ELEVATIONS. THE CONTRACTOR SHALL PROVIDE A GRADE CHECKER FOR SLOPE STAKING AND OFFSETS. THE USE OF GPS MACHINE MOUNTED GRADE CONTROL EQUIPMENT FOR FINISH GRADING IS RECOMMENDED.
5. QUANTITIES OF TREE CLEARING ARE ESTIMATED FOR BIDDING PURPOSES. ACCORDING TO 2015 AERIAL IMAGERY FROM GOOGLE EARTH, APPROXIMATELY 10 AC OF THE SITE HAS TREES. SELECTIVE CLEARING SHOULD BE COMPLETED ON THE EAST SIDE OF THE PROJECT IN COORDINATION WITH THE ENGINEER AND DIVISION.
6. AREAS OUTSIDE THE PROJECT BOUNDARY SHOULD NOT BE DISTURBED. IF ANY DISTURBED AREAS ARE OUTSIDE OF THE PROJECT BOUNDARY AND NOT APPROVED BY THE ENGINEER OR DIVISION, THE AREA SHALL BE REPAIRED TO ITS EXISTING CONDITION AND SEEDED AT NO ADDITIONAL COST TO THE DIVISION.
7. ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ACCESS OFF OF 168TH PLACE AS SHOWN ON THE PLANS. BEFORE THE CLOSE OF THE PROJECT, THE CONTRACTOR SHALL REPAIR THE ACCESS ROAD TO ITS EXISTING CONDITION AND SEED THE AREA. QUANTITIES OF THE INTERIM SEEDING ARE ESTIMATED FOR BIDDING PURPOSES AND INCLUDE THE SITE ACCESS AS SHOWN ON THE PLANS. IF THE CONTRACTOR REQUIRES ADDITIONAL SITE ACCESS, APPROVAL FROM THE ENGINEER AND DIVISION IS REQUIRED.

LEGEND

- 810 EXISTING CONTOUR
- 810 PROPOSED CONTOUR
- EXISTING POND
- EXISTING FENCE
- SILT FENCE
- TEMPORARY EARTH BERM
- ¼ MILE BURN RADIUS LIMIT LINE
- EDGE OF ROADWAY SURFACE
- PROPERTY LINE
- PROJECT LIMITS
- NRCS WRP BOUNDARY
- EXISTING STREAM CENTERLINE
- PROPOSED CHANNEL CENTERLINE
- SURVEY CONTROL POINT
- POWER POLE
- RIPRAP OR EROSION STONE
- CONSTRUCTED WETLAND
- TEMPORARY SEDIMENT BASIN
- SITE ACCESS/STAGING AREA

FILE: 049.002

REVISED:

09-21-16

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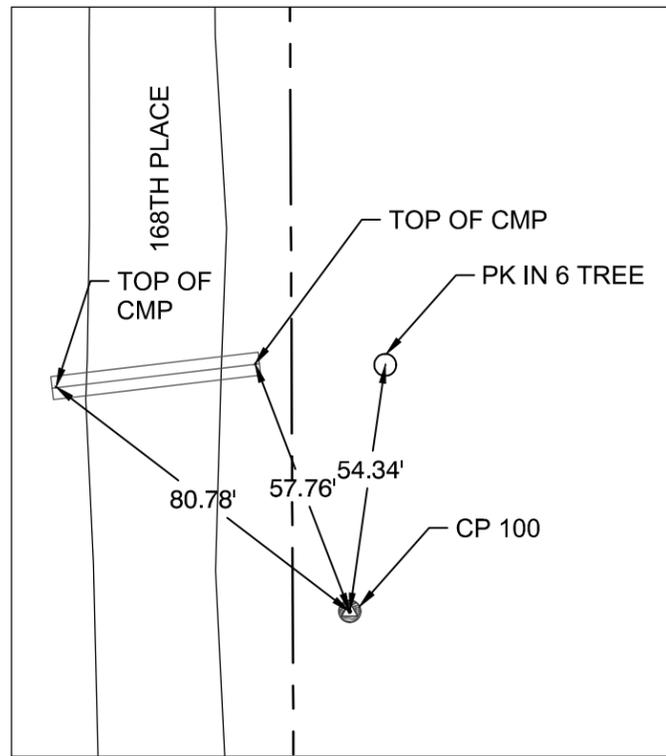
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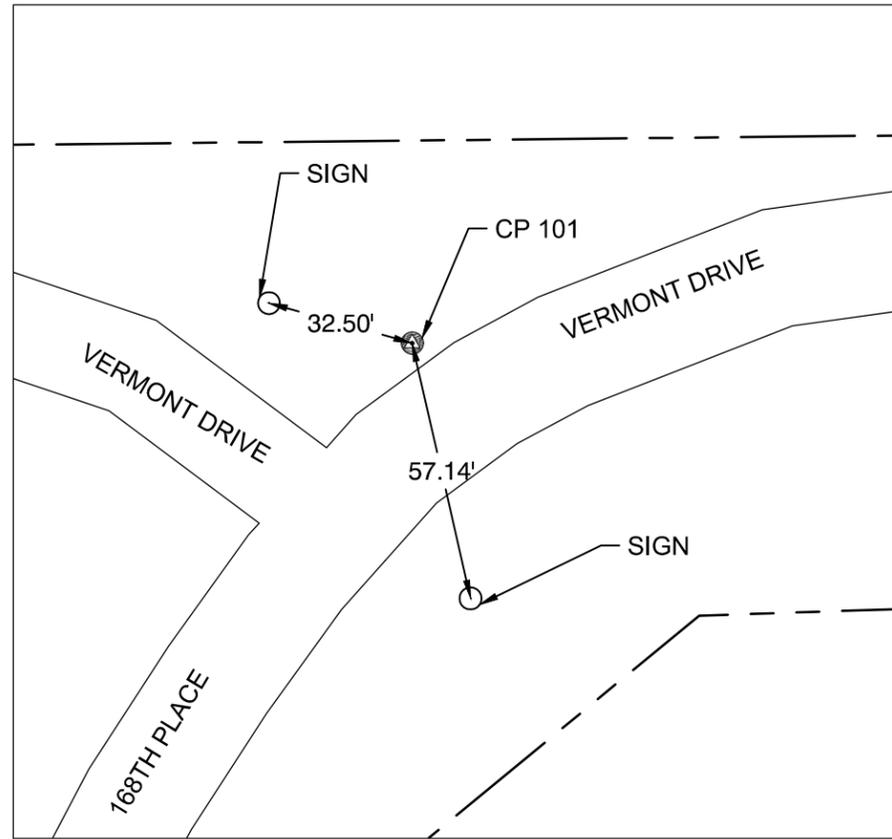
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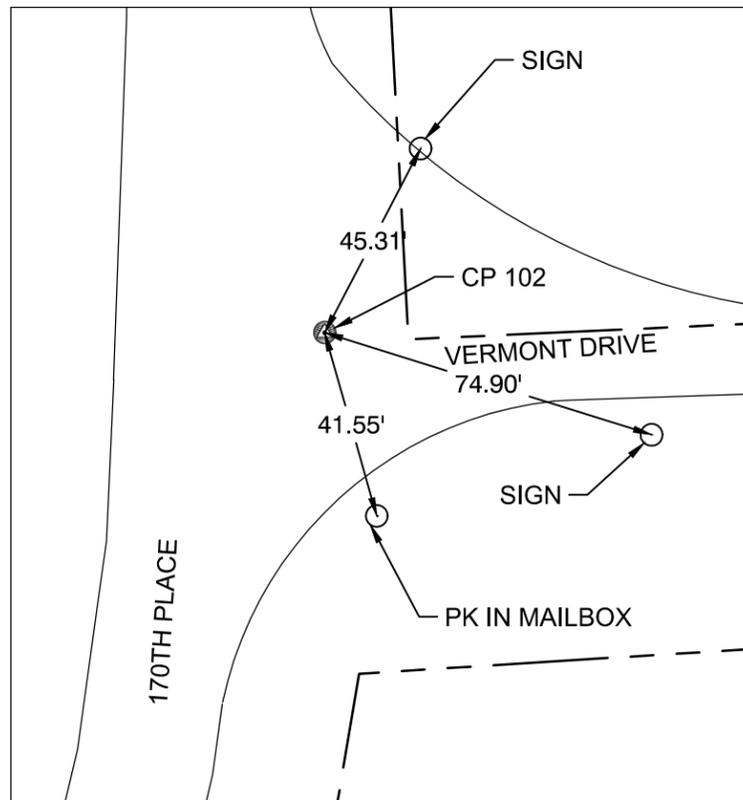
BROWN (IA-133)
AML RECLAMATION PROJECT
PROJECT NOTES, QUANTITIES AND LEGEND



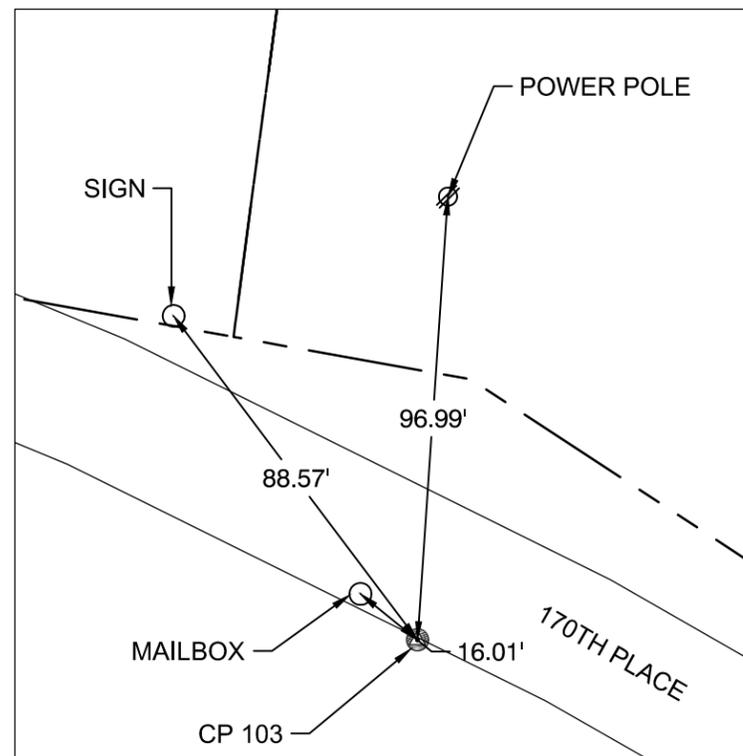
1 CONTROL POINT 100 LOCATION
SCALE: 1" = 40'



2 CONTROL POINT 101 LOCATION
SCALE: 1" = 40'



3 CONTROL POINT 102 LOCATION
SCALE: 1" = 40'



4 CONTROL POINT 103 LOCATION
SCALE: 1" = 40'

CONTROL POINTS COORDINATES						
DWG. SHEET	POINT I.D.	NORTH (FT.)	EAST (FT.)	ELEV. (FT.)	FOUND OR SET?	SIZE/TYPE
4	CP 100	431387.211	1770437.728	762.028	SET	5/8" I.R. W/RED CAP
4	CP 101	432461.739	1770473.833	814.605	SET	5/8" I.R. W/RED CAP
4	CP 102	432513.121	1771933.184	869.303	SET	5/8" I.R. W/RED CAP
4	CP 103	431639.338	1772499.459	750.883	SET	5/8" I.R. W/RED CAP

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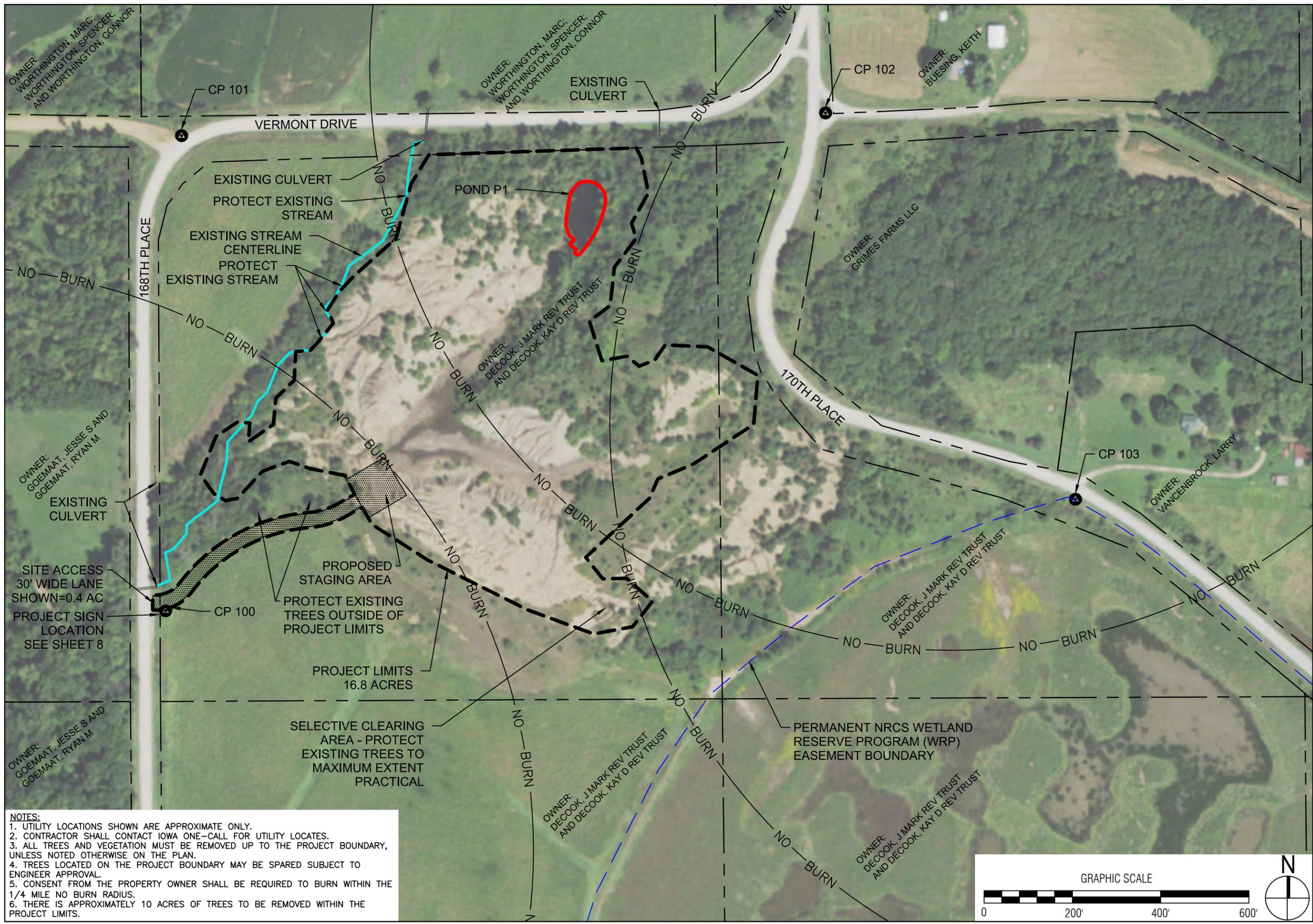
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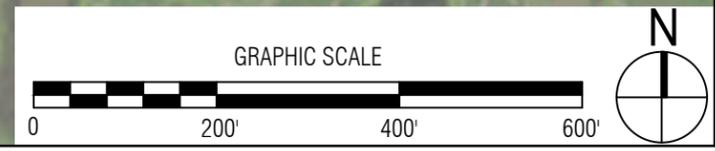


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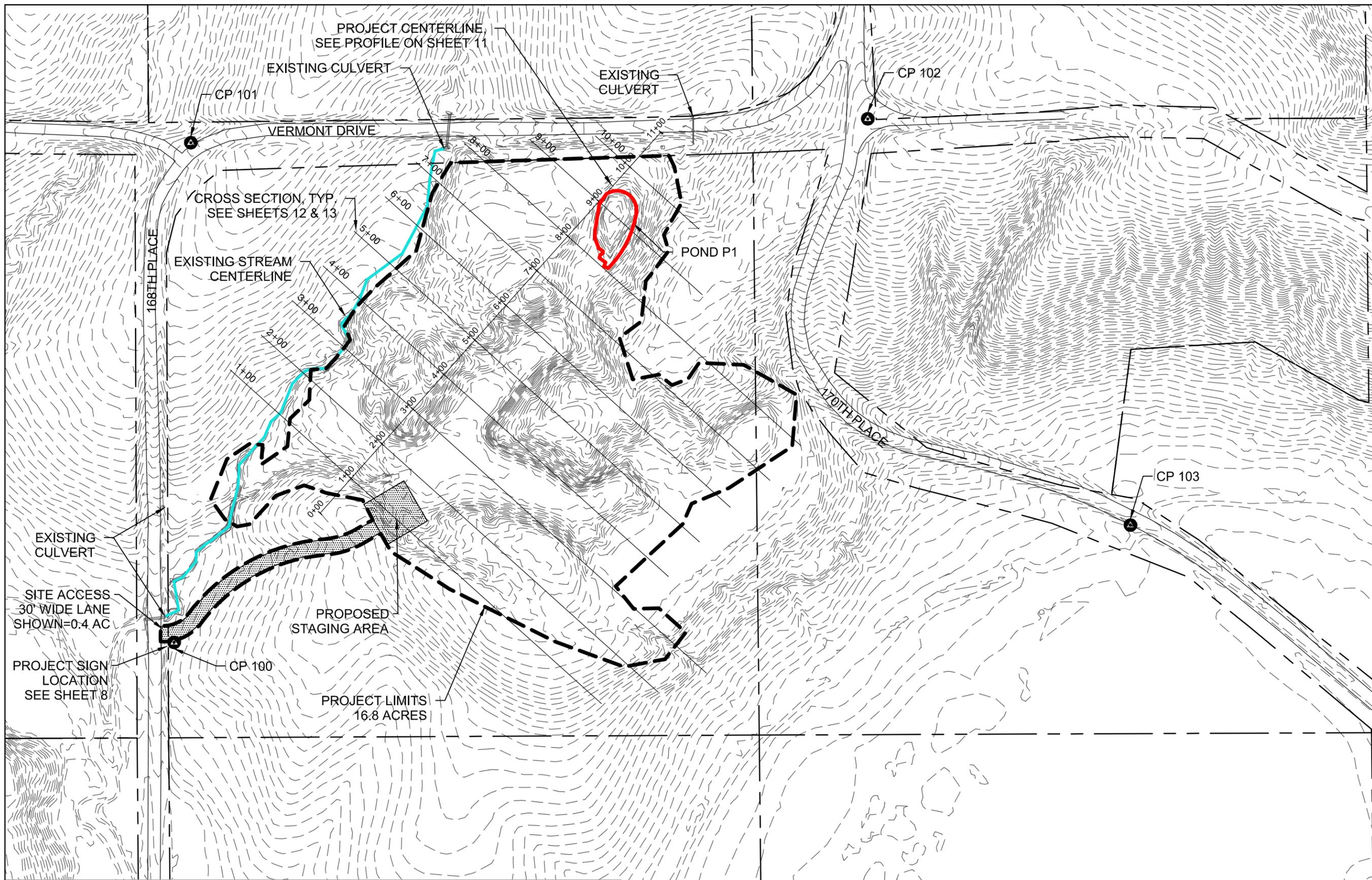
CONTROL POINT
COORDINATES AND TIES



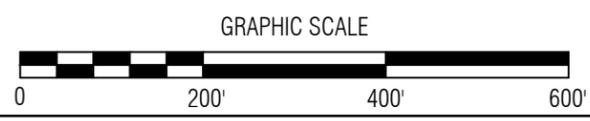
NOTES:
 1. UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY.
 2. CONTRACTOR SHALL CONTACT IOWA ONE-CALL FOR UTILITY LOCATES.
 3. ALL TREES AND VEGETATION MUST BE REMOVED UP TO THE PROJECT BOUNDARY, UNLESS NOTED OTHERWISE ON THE PLAN.
 4. TREES LOCATED ON THE PROJECT BOUNDARY MAY BE SPARED SUBJECT TO ENGINEER APPROVAL.
 5. CONSENT FROM THE PROPERTY OWNER SHALL BE REQUIRED TO BURN WITHIN THE 1/4 MILE NO BURN RADIUS.
 6. THERE IS APPROXIMATELY 10 ACRES OF TREES TO BE REMOVED WITHIN THE PROJECT LIMITS.



 <p>510 EAST LODGE STREET, SUITE 400 DES MOINES, IOWA 50319 PHONE: 515-272-7016 WWW.LTLLEON.COM</p>	
<p>FILE: 049.002</p>	<p>REVISIONS:</p>
<p>ISSUED: 09-21-16</p>	<p>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</p>
<p>CHKD. BY: LTL</p>	
<p>DRAWN BY: BAY</p>	<p>BROWN (IA-133) AML RECLAMATION PROJECT</p>
<p>DESIGN BY: LTL</p>	<p>SITUATION PLAN - CLEARING & SITE PREPARATION</p>
<p>SHEET 4 OF 15</p>	



POND INFORMATION								
POND	WATER SURFACE ELEV. (FT)	ESTIMATED WATER SURF. AREA (AC)	ESTIMATED MAX. WATER DEPTH (FT)	ESTIMATED AVG. MUCK DEPTH (FT)	EST. WATER VOLUME (GALLONS)	FATE OF WATER BODY?	WATER QUALITY	
							pH	IRON
P1	812	0.23	17	3	631,423	TO BE FILLED	7.80	<0.10



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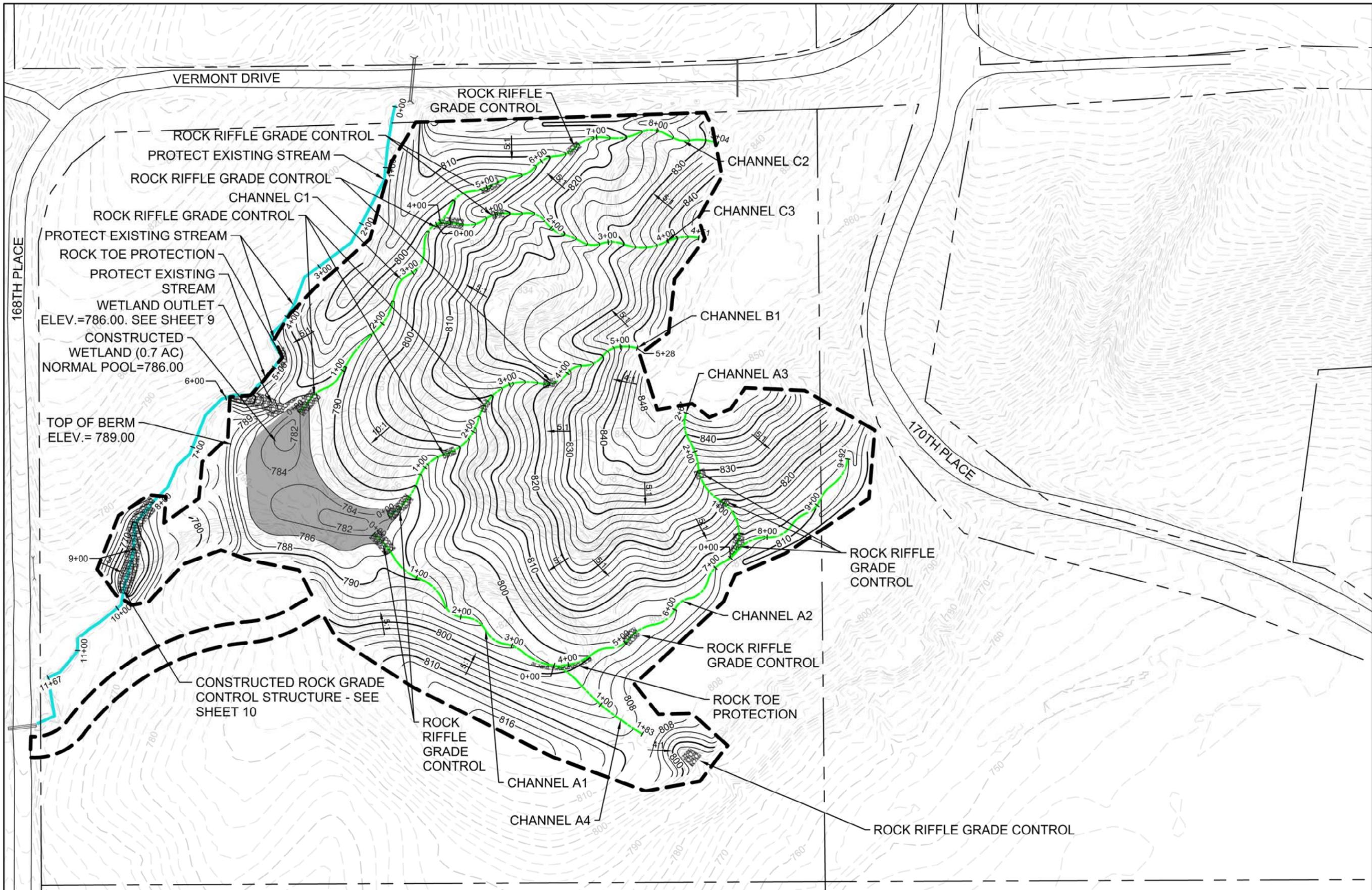
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**BROWN (IA-133)
 AML RECLAMATION PROJECT**

**SITUATION PLAN -
 SURVEY BASELINE DETAILS**

SHEET
5 OF 15



- NOTES:
1. PROPERTY LINES, SECTION LINES, AND FENCE LINES, IF SHOWN, ARE APPROXIMATE.
 2. AVOID DISTURBANCE OF EXISTING CHANNEL GRADE AND ALIGNMENT.
 3. PROPOSED GRADING CONTOURS ARE TO FINISHED GRADE.
 4. PROPOSED CONTOURS ARE SHOWN AT 2' INTERVALS IN ALL AREAS, UNLESS NOTED OTHERWISE. EXISTING CONTOURS ARE SHOWN AT 2' INTERVALS.

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GRADING PLAN					
SHEET 6 OF 15					