

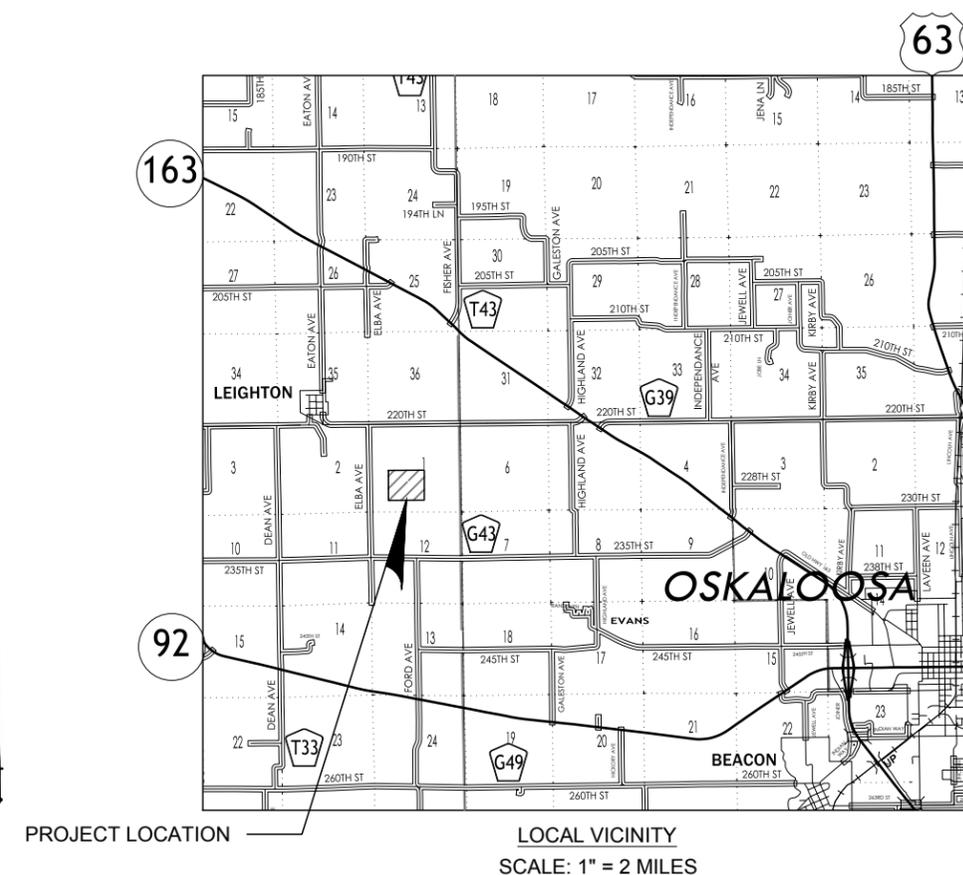
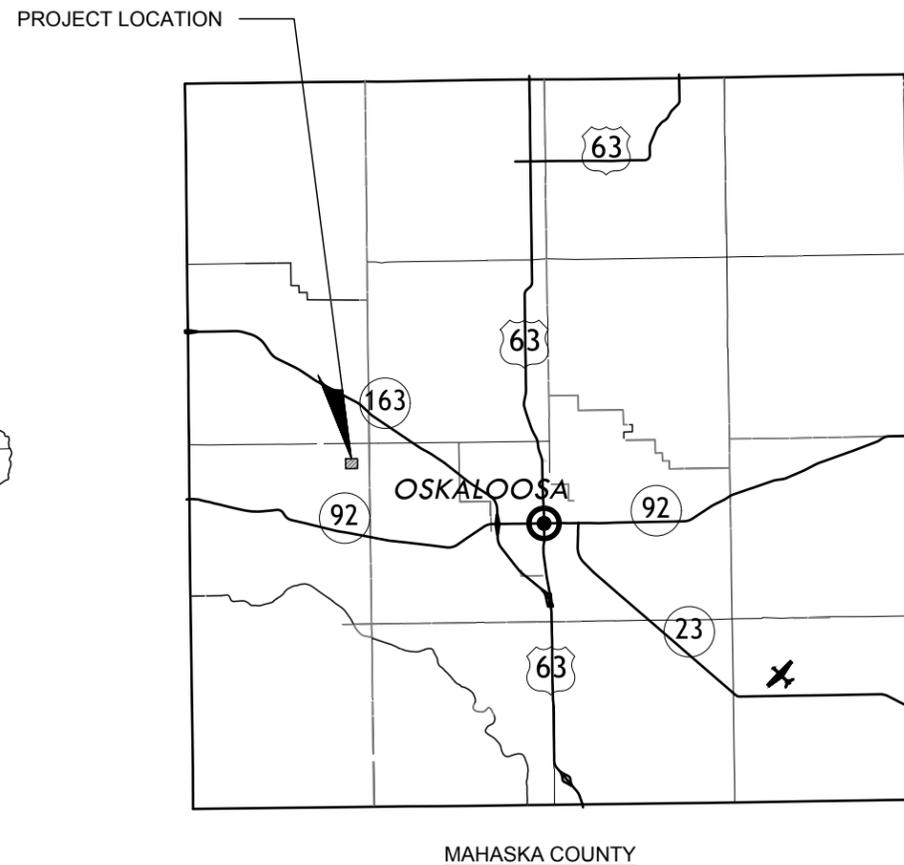
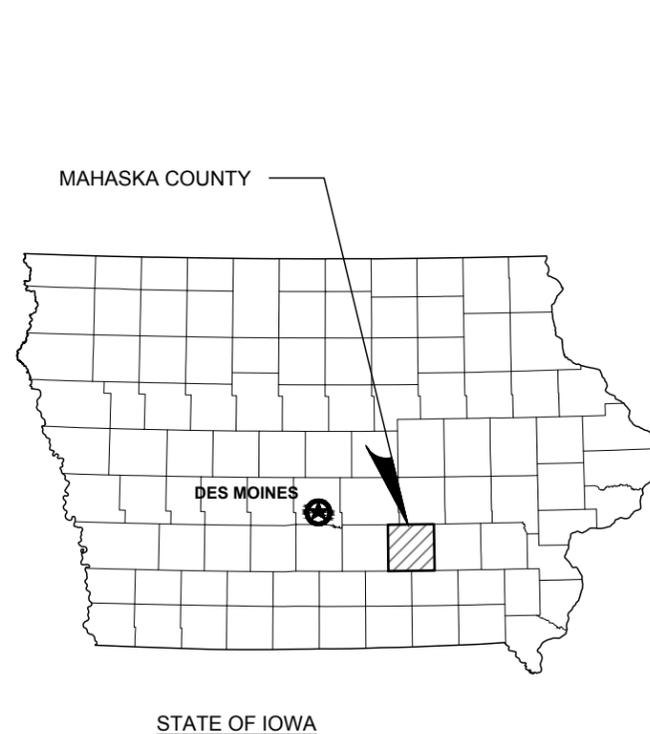
# MEMMELAAR (IA-055)

## AML PERMANENT SEEDING PROJECT

NE 1/4 SW 1/4 SECTION 01, TOWNSHIP 75N, RANGE 17W, MAHASKA COUNTY

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

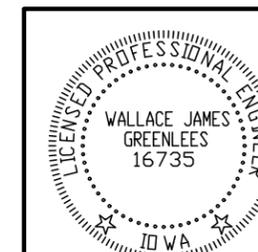


Note: Road bridge on Elba Avenue between the Memmelaar site & 220th Street is out of service. Access site by taking Elba Avenue northbound from 235th Street.

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

ENGINEER:  
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MINES & MINERALS BUREAU  
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INDEX OF SHEETS:  
1 COVER SHEET  
2 PROJECT NOTES  
3 SEEDING AREA PLAN



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: *Wallace J. Greenlees* Date: 09-21-2016

Name (printed or typed): WALLACE J. GREENLEES

License Number: 16735

My license renewal date is: 12-31-2016

Pages or sheets covered by this seal: ENTIRE DOCUMENT

FILE: MEMMELAAR_SEEDING.DWG	DESCRIPTION:
REVISION: 1	DATE:
REVISION: 2	
REVISION: 3	
REVISION: 4	
ISSUED: 09-02-2016	REVISED: NONE
CHKD. BY: RC	ISSUED: 09-02-2016
DRAWN BY: WJG	ISSUED: 09-02-2016
DESIGN BY: WJG	ISSUED: 09-02-2016
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	
MEMMELAAR AML PERMANENT SEEDING PROJECT	
COVER SHEET	

MEMMELAAR AML PERMANENT SEEDING PROJECT -- FALL 2016

GENERAL:

1. FOLLOW ALL STANDARD AND SUPPLEMENTAL SPECIFICATIONS SET FORTH BY THE DIVISION OF SOIL CONSERVATION AND WATER QUALITY (HEREINAFTER "DIVISION"). COPIES OF APPLICABLE STANDARD SPECIFICATIONS WILL BE PROVIDED OR MADE AVAILABLE UPON REQUEST.
2. PROVIDE NOTICE TO THE DIVISION AT LEAST 48 HOURS PRIOR TO THE ANTICIPATED START OF WORK FOR THIS PROJECT.
3. DIVISION OR ENGINEER SHALL BE PRESENT PRIOR TO AND AT THE COMMENCEMENT OF SEEDING TO APPROVE SEED MIX AND PLANTING EQUIPMENT.

APPLICABLE STANDARD SPECIFICATIONS INCORPORATED BY REFERENCE:

1. SECTION 02105 - MOBILIZATION, PERMANENT SEEDING
2. SECTION 02120 - SEDIMENT AND EROSION CONTROL
3. SECTION 02420 - SEED BED PREPARATION, PERMANENT SEEDING
4. SECTION 02720 - PERMANENT SEEDING

PROJECT QUANTITIES:

1. APPLICATION RATES FOR AGRICULTURAL LIME AND SPECIFIED NUTRIENTS HAVE BEEN DETERMINED FROM SOIL TESTING IN ACCORDANCE WITH SECTION 02420.
2. AREAS FOR SEEDING AND SPECIFIED REPAIR AREAS HAVE BEEN DETERMINED BY THE DIVISION USING FIELD MEASUREMENTS AND/OR INFORMATION DEVELOPED AS PART OF THE ORIGINAL RECLAMATION PROJECT.

EXECUTION, MEASUREMENT, AND PAYMENT:

1. UNLESS MODIFIED BY SUPPLEMENTAL SPECIFICATIONS PROVIDED HEREIN, EXECUTION, MEASUREMENT AND PAYMENT FOR WORK ITEMS ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARD SPECIFICATIONS INDICATED.

SEED MIX, SEED APPLICATION RATE, & SEEDING PERIOD:

1. THE SEED MIX AND THE SEEDING APPLICATION RATE SHALL BE AS SPECIFIED ON TABLE 1.
2. CONFORM TO SEEDING PERIODS STIPULATED BELOW TABLE 1. UNLESS OTHERWISE DIRECTED BY DIVISION.

SUPPLEMENTAL SPECIFICATIONS:

1. SOIL TESTING FOR THIS PROJECT WAS PERFORMED BY THE DIVISION PRIOR TO COMMENCEMENT OF THIS WORK. AG LIME AND FERTILIZER QUANTITIES HAVE BEEN DETERMINED FROM THE RECOMMENDATIONS DEVELOPED BY THAT TESTING.
2. MOWING SHALL BE PERFORMED PRIOR TO SEEDING TO FACILITATE THE BREAKDOWN AND DECAY OF EXISTING VEGETATION. USE OF A FLAIL-TYPE MOWER TO ACCOMPLISH THIS WORK IS PREFERRED. CONDITION OF SITE PRIOR TO SEEDING SHALL BE APPROVED BY DIVISION. IF ADDITIONAL MOWING IS REQUIRED DUE TO DELAYS BETWEEN INITIAL MOWING AND SEEDING, THIS ADDITIONAL WORK SHALL BE COMPLETED AT CONTRACTOR'S OWN EXPENSE. MOWING IS TO BE BID AS A LUMP SUM, NOT ON A PER ACRE BASIS.
3. REFER TO SPECIFICATION SECTION 02720, PART 3.3, D FOR SEEDING EQUIPMENT REQUIREMENTS.
4. FOR MEASUREMENT OF AREAS TO BE SEEDED, THE CONTRACTOR IS NOT REQUIRED TO PERFORM FIELD MEASUREMENTS AS STIPULATED IN 02720, PART 3.7 C.
5. SEEDING APPLICATION RATES SHALL BE AT THE SEEDING RATE SPECIFIED ON TABLE 1. PERMANENT SEEDING DATES SHOWN IN SECTION 32720 ARE MODIFIED PER NOTE BELOW TABLE 1.
6. APPLY CEREAL RYE GRASS (*Secale cereale*) FOR COVER CROP ON WHERE SPECIFIED AT A RATE OF 30 LB/ACRE OR 0.6 LB/100 S.Y. COST OF CEREAL RYE GRASS SEED AND THE LABOR TO APPLY AND INCORPORATE IT IS INCIDENTAL TO BID UNIT PRICE FOR UPLAND SEEDING. HAND SEEDING AND HAND RAKING TO INCORPORATE SEED MAY BE REQUIRED FOR SMALL AREAS.
7. ALL WORK OF THIS CONTRACT SHALL BE COMPLETE BY MAY 30, 2017.

TABLE: ESTIMATED QUANTITIES

ITEM NO.	ITEM	SPEC. SECTION	QTY.	UNITS
1	MOBILIZATION	2105	1	LUMP SUM
2	TSC REMOVAL	2420	1	LUMP SUM
3	MOWING	2420	1	LUMP SUM
4	AG LIME, SEEDING	2720	22	TON ECCE
5	NITROGEN, N	2720	495	LB
6	PHOSPHOROUS, P	2720	1210	LB
7	POTASSIUM, K	2720	3080	LB
8	UPLAND SEEDING	2720	11	ACRE

BID QUANTITY NOTES:

1. Applied fertilizer rates are to be: N-P-K = 45-110-280 Lbs. per acre
2. Agricultural lime is to applied at a rate of 2 ton ECCE per acre
3. TSC means "Temporary Sediment Controls"

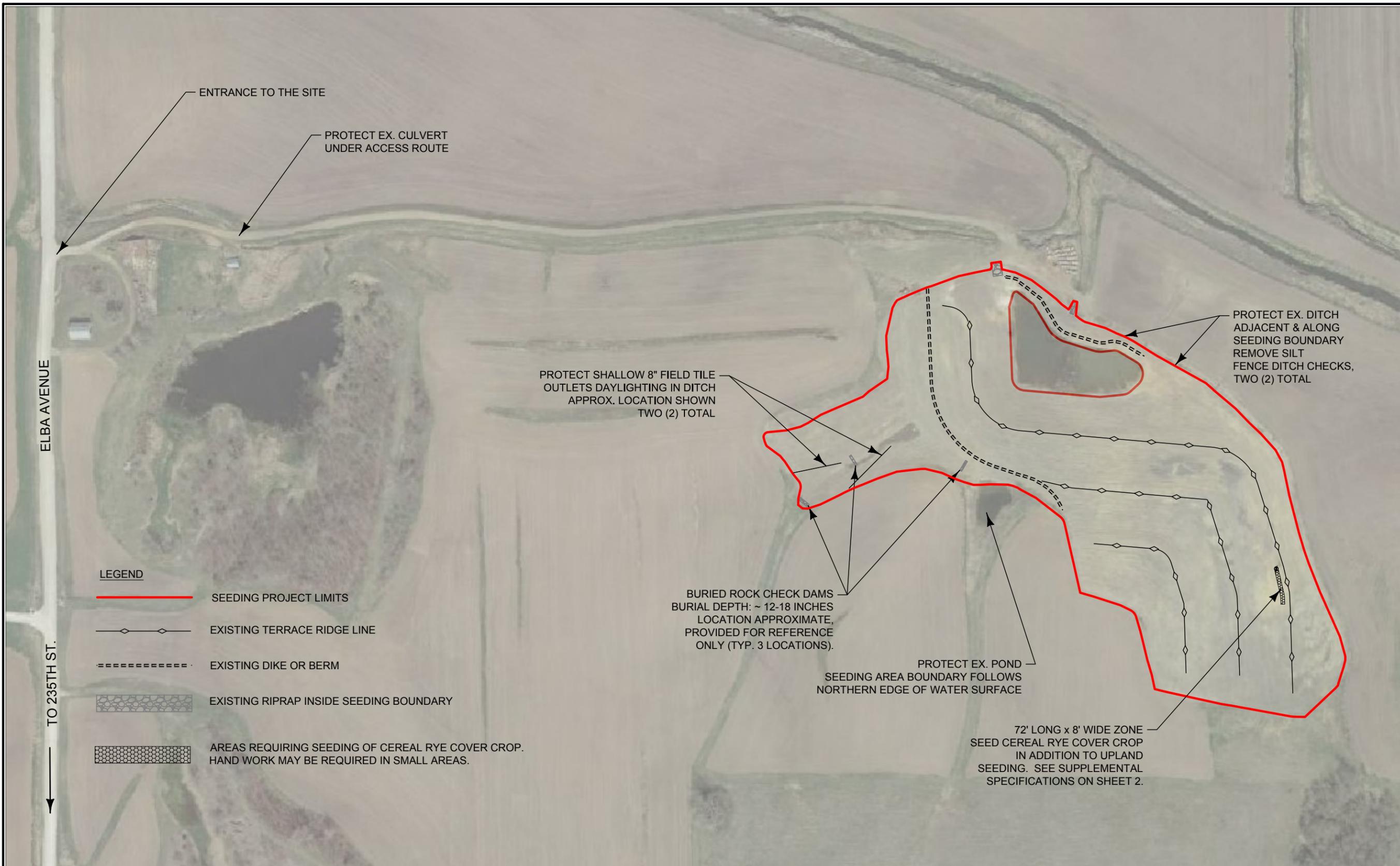
TABLE 1.: UPLAND SEED MIX WITH POLLINATOR SPECIES

Common Name	Scientific Name	Seeding Rate (Lb. PLS/ac)
Timothy	<i>phleum pretense</i>	7.0
Indian grass	<i>sorgastrum nutans</i>	5.0
Orchard grass	<i>dactylic glomerata</i>	5.0
Canada Wildrye	<i>Elymus canadensis</i>	6.0
Big bluestem	<i>Andropogon gerardii</i>	6.0
Purple prairie clover	<i>dalea purpurea</i>	0.3
Alsike clover	<i>trifolium hybridum</i>	3.0
Alfalfa	<i>medicago sativa</i>	5.0
Swamp Milkweed	<i>Asclepias incarnate</i>	0.3
Common Milkweed	<i>Asclepias syriaca</i>	0.3
Foxglove Beardtongue	<i>Penstemon digitalis</i>	0.2
Common Mt. Mint	<i>Pycnanthemum virginianum</i>	0.2
Showy Goldenrod	<i>Solidago speciose</i>	0.3
Smooth Blue Aster	<i>Symphotrichum laeve</i>	0.2
Golden Alexanders	<i>Zizia aurea</i>	0.3
Culver's Root	<i>Veronicastrum virginicum</i>	0.2
	TOTAL	39.3

Note: Substitutions are allowed with prior Division approval.

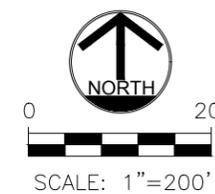
Spring Seeding Period: April 15 - July 1  
Dormant Seeding Period: November 15 - Ground Freeze

DESIGN BY: WJG	DRAWN BY: WJG	CHKD. BY: RC	ISSUED: 09-02-2016	REVISED: 09-21-16	FILE: MEMMELAAR_SEEDING.DWG	DESCRIPTION:	CHANGED MOWING TO LUMP SUM
						DATE:	09-21-16
						REVISION:	1 09-21-16
							2 09-21-16
						3	
						4	
							
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							
MEMMELAAR AML PERMANENT SEEDING PROJECT							
PROJECT NOTES							
SHEET 2 OF 3							



**NOTES THIS SHEET:**

1. AERIAL IMAGERY COURTESY OF GOOGLE EARTH, APRIL 2016
- 2.



FILE: MEMMELAAR\_SEEDING.DWG

REVISION:	DATE:	DESCRIPTION:
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ISSUED: 09-02-2016 REVISED: 00-00-00

CHKD. BY: RC

ISSUED BY: WJG

DESIGN BY: WJG

DRAWN BY: WJG

MEMMELAAR  
AML PERMANENT SEEDING PROJECT

SEEDING AREA PLAN

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