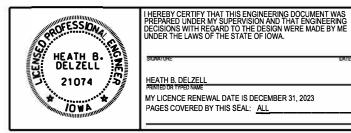
IOWA DEPARTMENT OF NATURAL RESOURCES

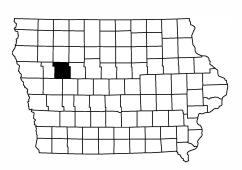
FOR BLACK HAWK MARSH WPA STREAMBANK STABILIZATION

SAC COUNTY, IOWA

PROJECT # 23-01-81-01



DIRECTORY						
PROJECT MANAGER		CONSTRUCTION INSPECTOR				
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES			
ADDRESS	502 EAST 9TH STREET	ADDRESS				
CITY,STATE,ZIP	DES MOINES, IA, 50319	CITY,STATE,ZIP				
CONTACT	HEATH DELZELL	CONTACT	JEFF FELTS			
TELEPHONE	515-979-0104	TELEPHONE	515-250-3712			
FAX	515-281-8685	FAX				
EMAIL	heath.delzell@dnr.iowa.gov	EMAIL	jeff.felts@dnr.iowa.gov			



PROJECT DESCRIPTION THIS PROJECT CONSISTS OF ARMORING APPROXIMATELY 2,430 FEET OF STREAMBANK WITH FIELDSTONE.

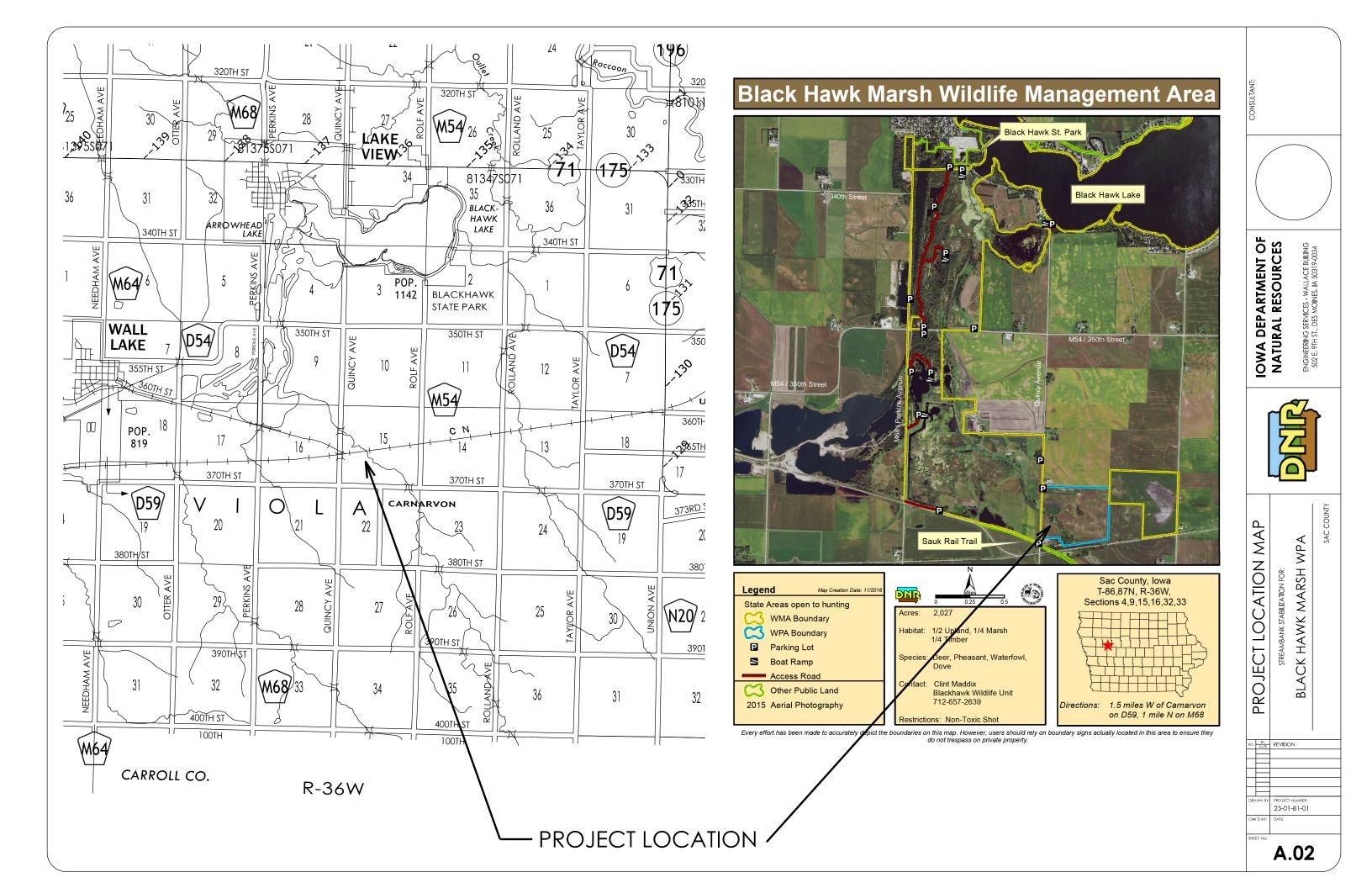


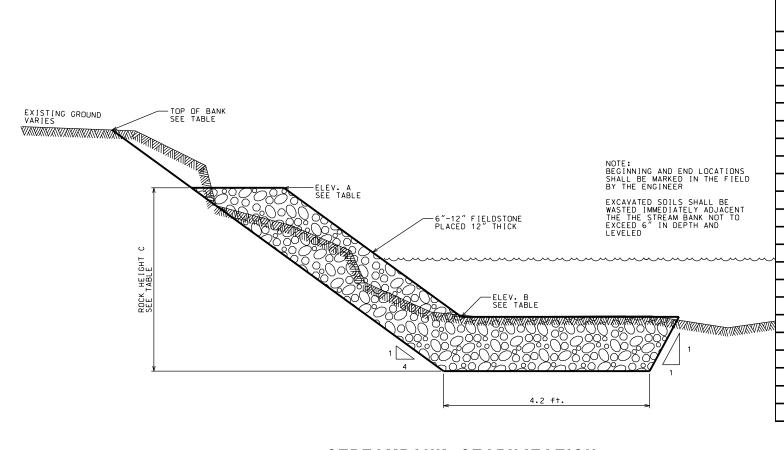
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	SHEET INDEX				
A.01	COVER SHEET				
A.02	LOCATION MAP				
B.01	TYPICAL CROSS SECTIONS AND DETAILS	Ė			
C.01 D.01	QUANTITIES AND GENERAL INFORMATION SITE PLAN	CONSULTANT			
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		- 10	COVER SHEEL	STREAMBANK STABILIZATION FOR:	BLACK HAWK MARSH WP
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SHEET INDEX





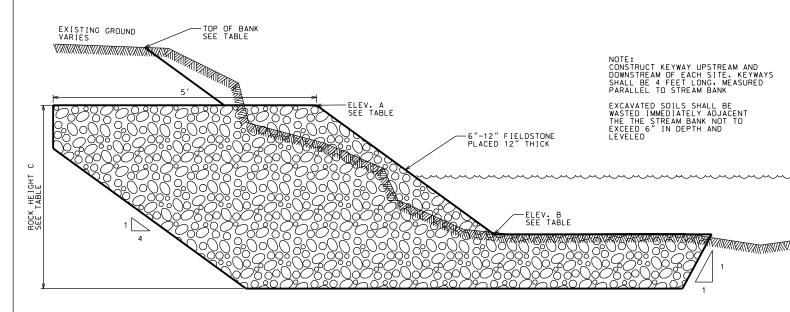
	Length	Rock Quantity	Upstream Top	A - Top c	of Rock Elev.	B - Toe o	f Rock Elev.	C - Rock	T
Site #	(ft.)	(tons)	Of Bank Elev.	Upstream	Downstream	Upstream	Downstream	Height (ft.)	
1	92	94	94.6	92.2	91.7	89.7	89.2	3.5	1
2	92	82	93.8	89.2	88.7	87.2	86.7	3.0	1
3	92	82	93.6	90.4	89.9	88.4	87.9	3.0	
4	142	127	94.5	90.4	89.7	88.4	87.7	3.0	
5	92	82	91.4	90.6	90.1	88.6	88.1	3.0	
6	92	82	93.6	90.1	89.6	88.1	87.6	3.0	
7	112	100	93.6	92.3	91.7	90.3	89.7	3.0	
8	112	100	94.5	91.7	91.1	89.7	89.1	3.0	
9	172	154	94.5	91.9	91.0	89.9	89.0	3.0	
10	172	154	94.7	92.0	91.1	90.0	89.1	3.0	
11	12	11	95.0	92.7	92.6	90.7	90.6	3.0	
12	142	127	94.8	91.6	90.9	89.6	88.9	3.0	╽
16	142	127	93.5	91.6	90.9	89.6	88.9	3.0	
17	72	64	96.3	92.1	91.7	90.1	89.7	3.0	
18	72	64	93.9	92.8	92.4	90.8	90.4	3.0	
19	142	127	84.5	91.8	91.1	89.8	89.1	3.0	
20	92	82	93.3	89.8	89.3	87.8	87.3	3.0	
21	142	127	94.8	91.6	90.9	89.6	88.9	3.0	
22	92	82	92.4	91.5	91.0	89.5	89.0	3.0	
23	92	82	94.2	91.2	90.7	89.2	88.7	3.0	
24	92	94	95.2	93.0	92.5	90.5	90.0	3.5	
Totals	2262	2,045							-

ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

IOWA DEPARTMENT OF NATURAL RESOURCES

STREAMBANK STABILIZATION

NOT TO SCALE



STREAMBANK	KEYWAY

NOT TO SCALE

		Rock Quantity	Upstream Top	A - Top o	of Rock Elev.	B - Toe o	of Rock Elev.	C - Rock		
	Site#	(tons, both keyways)	Of Bank Elev.	Upstream	Downstream	Upstream	Downstream	Height (ft.)	S	
	1	19	94.6	92.2	91.7	89.7	89.2	3.5	DETAILS	
	2	16	93.8	89.2	88.7	87.2	86.7	3.0	回	∢
	3	16	93.6	90.4	89.9	88.4	87.9	3.0		×
	4	16	94.5	90.4	89.7	88.4	87.7	3.0	AND	ambank stabilization for: HAWK MARSH WPA
	5	16	91.4	90.6	90.1	88.6	88.1	3.0		Streambank Stabilization for: K HAWK MARSH
~	6	16	93.6	90.1	89.6	88.1	87.6	3.0	9	M M
	7	16	93.6	92.3	91.7	90.3	89.7	3.0	SECTIONS	STAB
	8	16	94.5	91.7	91.1	89.7	89.1	3.0	S SI	BANK A
NII.	9	16	94.5	91.9	91.0	89.9	89.0	3.0	CROSS	
(W)	10	16	94.7	92.0	91.1	90.0	89.1	3.0	꽁	BLACK
	11	16	95.0	92.7	92.6	90.7	90.6	3.0		\
	12	16	94.8	91.6	90.9	89.6	88.9	3.0	TYPICAL	
	16	16	93.5	91.6	90.9	89.6	88.9	3.0	ΙŁ	
	17	16	96.3	92.1	91.7	90.1	89.7	3.0		l
	18	16	93.9	92.8	92.4	90.8	90.4	3.0	NO. BY DATE	REVISION
	19	16	84.5	91.8	91.1	89.8	89.1	3.0		
	20	16	93.3	89.8	89.3	87.8	87.3	3.0		
	21	16	94.8	91.6	90.9	89.6	88.9	3.0	DRAWN BY:	PROJECT NUMBER:
	22	16	92.4	91.5	91.0	89.5	89.0	3.0	CHK'D BY:	23-01-81-01 DATE:
	23	16	94.2	91.2	90.7	89.2	88.7	3.0	SHEET No:	
	24	19	95.2	93.0	92.5	90.5	90.0	3.5		B.01
	Totals	339								D.U 1

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	Mobilization	Lump Sum	1
2	6"-12" Fieldstone	Tons	2,384
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ITEM NO.	DESCRIPTION					
2	A. This line item includes the supply and installation of native fieldstone material. Material gradation shall generally be in compliance with the following Percent Passing Size 100 12" 85 6" - 11" 50 6" - 9" 15 2" - 3" Due to the limited availability and gradation of fieldstone, the material does not have to directly meet the size specified. At a minimum, the material shall be well graded between 12" and 6" stones. The engineer shall approve the gradation prior to delivery and placement.					

GENERAL NOTES

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

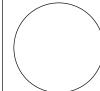
It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.



IOWA DEPARTMENT OF NATURAL RESOURCES ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034



BLACK HAWK MARSH WPA

QUANTITIES AND GENERAL INFORMATION NO. BY REVISION

23-01-81-01

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IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

STREAMBANK STABILIZATION FOR:

BLACK HAWK MARSH WPA

SITE PLAN

NO. BY REVISION 23-01-81-01

D.01