

157,000 ~ 2400 hrs W/L

1031 allowed now

**STATEMENT OF WORK
Wetland Restoration (657)
IOWA**

These deliverables apply to this individual practice. For other planned practice deliverables refer to those specific Statements of Work.

DESIGN

Deliverables:

1. Design documentation that will demonstrate that the criteria in NRCS practice standard have been met and are compatible with other planned and applied practices.
 - a. Practice purpose(s) as identified in the conservation plan.
 - b. List of required and/or facilitating practices.
 - c. List of required permits to be obtained by the client.
 - d. Impacts on adjacent properties and structures.
 - e. Compliance with NRCS national and state utility safety policy (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06).
 - f. List of facilitating practices
 - g. Practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - i. Compliance with Wetland Functional Assessment and Hydric Soils Determination
 - ii. Hydrology/Hydraulics
 - iii. Structural including hazard class as appropriate
 - iv. Vegetation
2. Written plans and specifications including sketches and drawings shall be provided to the client that adequately describes the requirements to install the practice and obtain necessary permits.
3. Design Report and Inspection Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512, Subpart D Quality Assurance Activities, 512.30 through 512.32).
4. Operation and Maintenance Plan
5. Certifications that the design meets practice standard criteria and comply with applicable laws and regulations (NEM Subpart A, 505.03(b)(2)).
6. Design modifications during installation as required.

INSTALLATION

Deliverables:

1. Pre Installation conference with client and contractor.
2. Verification that client has obtained required permits.
3. Staking and layout according to plans and specifications including applicable layout notes.
4. Installation inspection (according to inspection plan as appropriate).
 - a. Actual materials used.
 - b. Inspection records
5. Facilitate and implement required design modifications with client and original designer.
6. Advise client/NRCS on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation.
7. Certification that the installation process and materials meets design and permit requirements.

CHECK OUT

Deliverables:

1. As-Built documentation.
 - a. Extent of practice units applied
 - b. Drawings
 - c. Final quantities
2. Certification that the installation meets NRCS standards and specifications and is in compliance with permits (NEM Subpart A, 505.03(c)(1)).
3. Progress reporting.

STATEMENT OF WORK
Wetland Restoration (657)
IOWA

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - Wetland Restoration, 657.
- NRCS National Engineering Manual (NEM)
- NRCS Engineering Field Handbook (EFH), Part 210, Chapter 13, Wetland Restoration, Enhancement, or Creation
- NRCS National Environmental Compliance Handbook
- NRCS National Cultural Resources Handbook
- NRCS National Biology Manual
- NRCS National Biology Handbook
- NRCS National Food Security Act Manual

STATE CONTACT

Jim Ayen, State Resource Conservationist
515-284-4370
jim.ayen@ia.usda.gov

U.S. DEPARTMENT OF AGRICULTURE
Easement Number (if different) : 66-6114-7-7973
CONSERVATION PLAN
SCHEDULE OF OPERATIONS
 Page 1 of 5

3. NAME		4. COUNTY		5. STATE		6. CONTRACT OR AGREEMENT NO.		7. TOTAL ACRES UNDER CONTRACT				REF. NO.
IDNR (Anderson)		Winnebago		Iowa		66-6114-7-7973		92.9				
ITEM NO.	FIELD NO.	PLANNED CONSERVATION TREATMENT (Record of Decisions)	ESTIMATED AMOUNT (UNITS)	COST BASIS \$	COST SHARE OR PAYMENT RATE %	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR (For Non-Cost Share Items Show Units)						
						14	15	16	17	18		
						Year 2009	Year 2010	Year 2011	Year 2012	Year 2013		
8	9	10	11	12	13	24	25	26	27	28	34	
1	1	Conservation Cover Establishment of native grasses or grasses and forbs. Refer to the seeding plan and plan map for details.	57 ac.		100 AM							
2	1	Conservation Cover Establishment of introduced cool season grasses and/or legumes as a firebreak. Refer to the seeding plan and plan map for details.	10 ac.		100 AM							
3	1	Conservation Cover - Mowing Mow 2 times during first year of establishment of native grasses and/or forbs.	72.2 ac.		100 AM							
4	1	Conservation Cover - Mowing Mow 2 times during second year of establishment of native grasses and forbs.	72.2 ac.		100 AM							

OMB DISCLOSURE STATEMENT

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0578-0013. The time required to complete this information collection is estimated to average 0.69 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

PRIVACY ACT STATEMENT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C 522a). Furnishing this information is voluntary; however, failure to furnish correct, complete information will result in the withholding or withdrawal of such technical or financial assistance. The information may be furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other State or Federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

NONDISCRIMINATION STATEMENT

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**CONSERVATION PLAN
SCHEDULE OF OPERATIONS**

3. NAME		4. COUNTY		5. STATE		6. CONTRACT OR AGREEMENT NO.		7. TOTAL ACRES UNDER CONTRACT		REF. NO.	
IDNR (Anderson)		Winnebago		Iowa		66-6114-9-3609		92.9			
ITEM NO.	FIELD	PLANNED CONSERVATION TREATMENT (Record of Decisions)	ESTIMATED AMOUNT (UNITS)	COST BASIS \$	COST SHARE OR PAYMENT RATE %	COMPLETION SCHEDULE AND ESTIMATED COST-SHARE OR PAYMENT BY YEAR (For Non-Cost Share Items Show Units)					
						14	15	16	17	18	
						Year 2009	Year 2010	Year 2011	Year 2012	Year 2013	
8	9	10	11	12	13	24	25	26	27	28	34
5	1	Conservation Cover - Mowing Mow 1 time during first year of establishment of cool season grasses and for a fire break.	10 ac.		100 AM						
6	1	Dike Construct an embankment to protect land against overflow and/or regulate	2000 ft.		100 AM						
7	1	Tile Line Investigations. Locate sections of the existing subsurface drains.	2000 ft.		100 AM						
8	1	Tile Line Breaks Remove sections of the existing subsurface drains.	1800 ft.		100 am						

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						14	15	16	17	18	
						Year 2009	Year 2010	Year 2011	Year 2012	Year 2013	
8	9	10 <u>Shallow Water Excavation</u> Remove surface material to create a shallow pond.	11	12	13	24	25	26	27	28	34
9	1		6 ac.		100 AM						
10	1	<u>Natural Revegetation/Succession</u> The area will be allowed to undergo natural revegetation and natural succession of the plant communities.	acres	NC	NC						
11	1	<u>Conservation Cover</u> Establishment of native grasses or forbs in hydric areas. Refer to the seeding plan and plan map for details.	15.2 ac		100 AM						
12	1	<u>Use Exclusion</u> All livestock must be excluded from within the easement area.	92.9 ac	NC	NC	\$0.00					

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U.S. DEPARTMENT OF AGRICULTURE

**CONSERVATION PLAN
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						Year 2009	Year 2010	Year 2011	Year 2012	Year 2013	
8	9	10	11	12	13	24	25	26	27	28	34
12	1	<p>Operation and Maintenance The NRCS shall have the right to enter unto the easement area to undertake, at its own expense or on a cost-share basis with the Landowner or other entity, any activities to restore, protect, manage, maintain, enhance, and monitor the wetland and other natural values of the easement area. The NRCS, at its own cost, may apply to impound additional waters on the easement area in order to maintain or improve wetland or other natural values. The Landowner is responsible for noxious weed control and emergency control of pests as required by all Federal, State and local laws. A plan to control noxious weeds and pests must be approved in writing by the NRCS prior to implementation by the Landowner. Refer to recorded Easement for details.</p>	92.9 ac.	N/C	N/C	92.9 acres	92.9 acres	92.9 acres	92.9 acres	92.9 acres	

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WRP Engineering Plan Map

Date: 6/2/2010

District: WINNEBAGO SOIL & WATER CONSERVATION DISTRICT

Approximate Acres: 91.8

Legal Description: Section 20 & 21 of Logan

Field Office: THOMPSON SERVICE CENTER

Agency: NRCS

State and County: IA, WINNEBAGO

Land Units:



Legend

Practices (lines)

— <all other values>

Practice code

... 356

▶ 620

□ Cons plan WRP/T0720

□ Shallow Water Excavation/w s poil

— Tile Investigation

— Tile Breaks

◆ ANDERSON

□ Winnebago Co - Common Land Units



WRP Seeding Plan Map
Iowa DNR (Anderson site)

Date: 6/2/2010

District: WINNEBAGO SOIL & WATER CONSERVATION DISTRICT

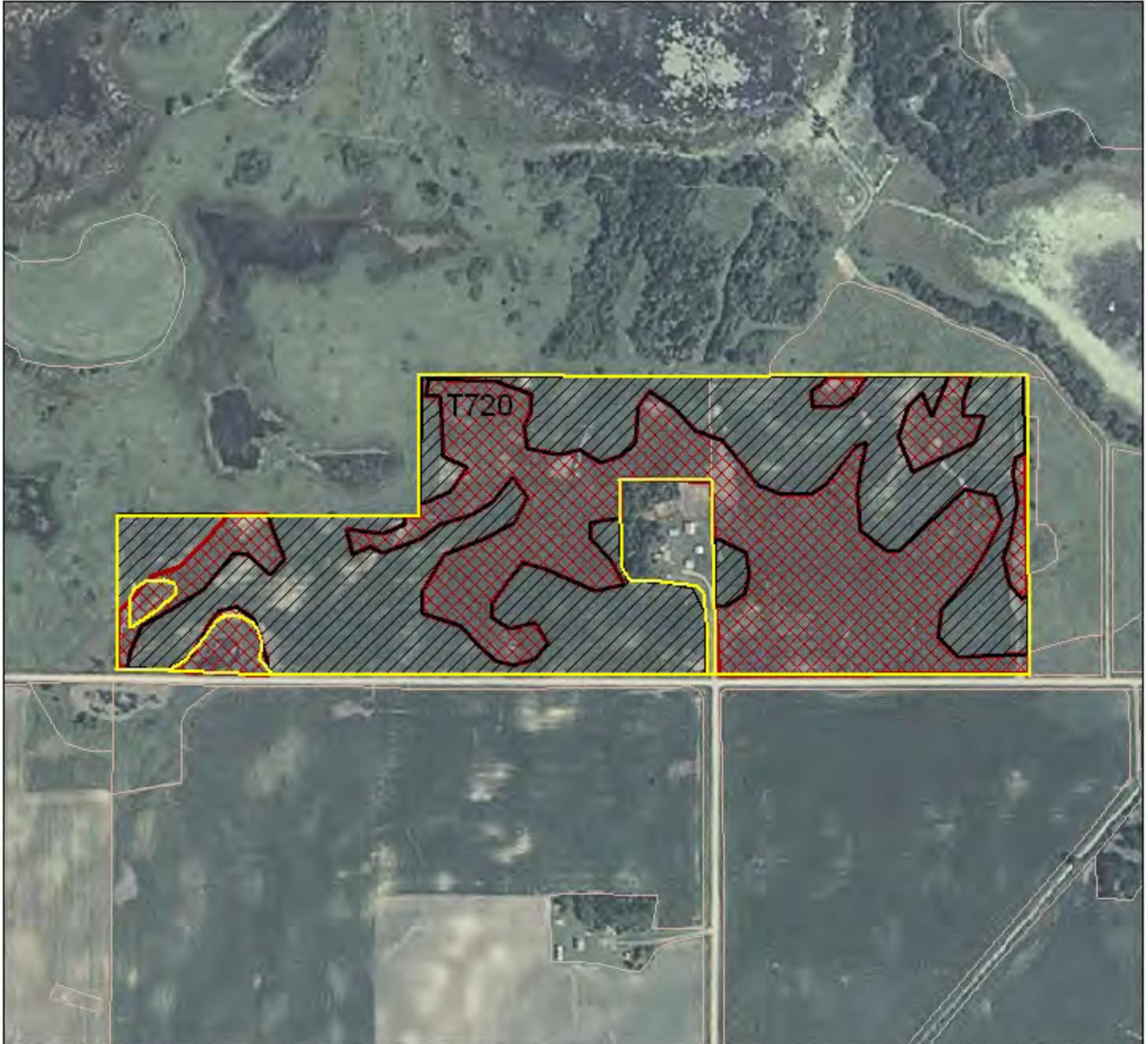
Approximate Acres: 91.8

Legal Description: Section 20 & 21 of Logan

Field Office: THOMPSON SERVICE CENTER
Agency: NRCS

State and County: IA, WINNEBAGO

Land Units:



Legend

 Consplan WRP/T0720

Practices (polygons)

 <all other values>

Practice code

 327 Upland Mix

 657 Wetland Mix

 Winnebago Co - Common Land Units



County Hancock	State Iowa	Project Wetland Reserve Program			
				Date	4/27/09
Cost Estimate/Bid Sheet James Anderson WRP				Sheet	1 of 1

Item	Quantity	Units	Cost/Unit	Total Cost
Mobilization)	\$
Earthfill for Dikes	2874	cu.yds		\$)
Shallow Water Excavation	1.40	acres)	\$)
Subsurface Drain Plugging & Removal	1350	ft.		\$
Tile Investigation	3000	ft.		\$)
Seeding of Dikes	1.01	acres		\$)
			Total)

As the contractor, I understand that these are all of the items that are in this contract. If I, as the contractor, find that any of the items above need to be changed to reflect any additional money or units, I will contact NRCS and the landowner immediately. If any additional items are completed prior to approval by NRCS, those items will not be cost shared by NRCS and will have to be settled between the contractor and the landowner.

Signed: _____ Date: _____
Contractor

Signed: _____ Date: _____

(Landowner's signature required only if this is the bid that will be used)

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-1 SITE PREPARATION

1. SCOPE

Site preparation work shall consist of clearing, grubbing, stripping, refuse removal, banksloping and structure removal on the site as necessary to rid the site of all undesirable materials on or near the surface and prepare the site for the structure. All woody growth within the construction area shall be cleared and all stumps and roots one inch in diameter or larger shall be grubbed from the site. In addition, all areas within 25 feet of the footprint of the structure shall be cleared and grubbed except as directed by NRCS. The work shall also consist of the removal and disposal of structures (including fences) that must be removed to perform other items of work.

2. FOUNDATION PREPARATION

The construction areas shall be stripped of all unsuitable materials such as organic matter, grasses, weeds, sod, debris, and stones larger than 6 inches in diameter.

In an earth embankment foundation area, all channel banks and sharp breaks shall be sloped to no steeper than 1.5:1.

The foundation area shall be thoroughly scarified before placement of fill material. The surface shall have moisture added or shall be compacted if necessary so that the first layer of fill material can be compacted and bonded to the foundation.

3. STRIPPED MATERIAL DISPOSAL

Suitable soil material shall be stockpiled for use as topsoil. The other stripped materials shall be buried, removed from the site, or disposed of as directed by the owner or NRCS.

Stockpiled materials around a construction site should not hinder subsequent construction operations.

4. DISPOSAL OF REFUSE MATERIALS

Waste materials from clearing and structure removal shall be burned or buried at locations approved by the owner. Buried materials shall be covered with a minimum of 2 feet of earthfill.

All refuse shall be disposed of in a manner which complies with all local and state regulations.

5. SALVAGE

Items to be salvaged shall be as shown on the drawings. Structures and fencing materials that are designated to be salvaged shall be carefully removed and neatly placed in the specified storage areas.

6. SPECIAL SPECIFICATIONS

None

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-5 POLLUTION CONTROL

1. SCOPE

The work shall consist of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air during construction operations.

2. MATERIALS

All materials furnished shall meet the requirements shown on the drawings or in the specifications.

3. EROSION AND SEDIMENT CONTROL MEASURES AND WORKS

The measures and works shall include, but are not limited to, the following:

Staging of Earthwork Activities: The excavation and moving of soil materials shall be scheduled so that areas unprotected from erosion will be minimized. These areas will be unprotected for the shortest time feasible.

Seeding: Structures and disturbed areas shall be seeded as soon as possible after construction is completed.

Temporary seedings may be used as an alternative to other stabilization measures as approved by NRCS.

Mulching: Construction areas that have been disturbed but have no construction activity scheduled for 21 days or more shall have erosion protection measures applied by the 14th day. This erosion protection may be mulching or other approved temporary measures. Construction areas left open during a winter shutdown period shall be protected by mulching.

All seeding and mulching shall be completed in accordance with the seeding plan and Iowa Construction Specification IA-6, Seeding and Mulching for Protective Cover.

The following works may be temporary. If they are installed as a temporary measure, they shall be removed and the area restored to its original state when they are no longer needed or when permanent measures are installed.

Diversions: Diversions may be required to divert clean runoff water away from work areas and to collect runoff from work areas for treatment and safe disposition.

Stream Crossings: Culverts or bridges may be required where construction equipment must cross streams.

Sediment Basins: Sediment basins may be required to settle and filter out sediment from eroding areas to protect properties and streams below the construction site.

Sediment Filters: Straw bale filters, geotextile sediment fences, or other equivalent methods may be used to trap sediment from areas of limited runoff. Sediment filters shall be properly anchored to prevent erosion under them.

Waterways: Waterways may be required for the safe removal of runoff from fields, diversions, and other structures or measures.

4. CHEMICAL POLLUTION

The Contractor shall provide watertight tanks or barrels or construct a sump sealed with plastic sheets to be used to dispose of chemical pollutants, such as drained lubricating or transmission oils, greases, soaps, concrete mixer wash water, asphalt, etc., produced as a by-product of the construction work. At the completion of the construction work, sumps shall be removed and the area restored without causing pollution.

Sanitary facilities such as chemical toilets or septic tanks shall not be placed adjacent to live streams, wells, or springs. They shall be located at a distance sufficient to prevent contamination of any water sources. At the completion of construction work, facilities shall be disposed of without causing pollution.

5. AIR POLLUTION

The burning of brush or trash or disposal of other materials shall adhere to local and state regulations.

Fire prevention measures shall be taken to prevent the start or the spreading of wild fires, which result from project work. Fire breaks or guards shall be constructed at locations shown on the drawings.

All public access or haul roads used by the contractor during construction of the project shall be sprinkled or otherwise treated to fully suppress dust. All dust control methods shall insure safe operations at all times. If chemical dust suppressants are used, the material shall be a commercially available product specifically designed for dust suppression and the application shall follow manufacturer's requirements and recommendations. A copy of the product data sheet and manufacturer's recommended application procedures shall be provided to the Engineer five working days before use.

6. MAINTENANCE, REMOVAL, AND RESTORATION

All pollution control measures and works shall be adequately maintained in a functional condition as long as needed during the construction operation. All temporary measures shall be removed and the site restored to as near original conditions as practical.

7. SPECIAL SPECIFICATIONS

None

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-6 SEEDING AND MULCHING FOR PROTECTIVE COVER

1. SCOPE

The work shall consist seeding, mulching, and fertilizing all disturbed areas and other areas as indicated on the drawings or otherwise designated.

2. SEEDBED PREPARATION AND APPLICATION

The entire area to be seeded shall be reasonably smooth and all washes and gullies shall be filled to conform to the desired cross-section before actual seedbed preparation is begun. At this stage of the operation, the required fertilizer and lime shall be applied uniformly and incorporated into the top 3 inches of the soil with suitable tillage equipment. The seedbed preparation operation shall be suspended when the soil is too wet or too dry. The seedbed shall be loosened to a depth of at least three inches.

On side slopes steeper than 2-1/2:1, the 3 inch minimum depth of seedbed preparation is not required, but the soil shall be worked enough to insure sufficient loose soil to provide adequate seed cover.

Unless otherwise specified, the seeding operation shall be performed immediately after preparation of the seedbed. The seed shall be drilled or broadcast by equipment that will insure uniform distribution of the seed.

3. MATERIALS

The seeding, fertilizing, and mulching requirements are as specified on Form IA-CPA-4.

Straw from cereal grains or hay will be used as mulching material. It shall be relatively free of weeds.

4. MULCH APPLICATION

The required mulching shall be performed as soon as possible after seeding unless otherwise specified. The mulch shall be applied uniformly over the area. The type and rate shall be as specified. When mulching is required, all areas seeded during any one day shall be mulched within 24 hours. The mulch may be spread by any means that results in a uniform cover.

The mulch shall be anchored. Anchoring of the mulch may be performed by a mulch anchoring tool or regular farm disk weighted and set nearly straight, by installation of mulch netting, or by other methods approved by NRCS.

5. SPECIAL SPECIFICATIONS

None

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-9 DRAINAGE TILE INVESTIGATION AND REMOVAL

1. SCOPE

This work will consist of the investigation, location, and removal of drainage tile near new or existing animal waste storage facilities.

2. INVESTIGATION AND LOCATION

An inspection trench at least 10 inches wide shall be dug at the location shown on the drawings or as directed by the engineer. The trench shall be at least 6 feet deep measured from the original ground line. The engineer shall examine the trench and excavated material to locate tile lines. Backfilling shall not be started without approval of the engineer. After inspection all trenches shall be backfilled.

3. TILE REMOVAL

On new facilities all tile lines located within the area bounded by the investigation trench shall be removed. Drainage tiles found upgrade from the structure shall be rerouted as directed by the engineer.

On existing facilities the owner shall contact IDNR for permission to remove the drainage tile under the structure. The structure shall be emptied of waste or lowered to a point below the tile prior to its removal. The structure must be retested for percolation and the results submitted to IDNR and approval received prior to reusing the structure. An alternative to removing tile on existing facilities is to grout the entire length of tile with concrete or Portland cement grout.

4. SPECIAL SPECIFICATIONS

None

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-21 EXCAVATION

1. SCOPE

The work shall consist of the excavation required by the drawings and specifications and disposal of the excavated materials.

2. USE OF EXCAVATED MATERIALS

Suitable materials from the specified excavations shall be used in the construction of required permanent earth fill. The suitability of materials for specific purposes shall be determined by the NRCS Inspector.

3. DISPOSAL OF WASTE MATERIAL

All surplus or waste material shall be disposed of in areas shown on the drawings or as approved by the NRCS Inspector. The waste material shall be smoothed and sloped to provide drainage.

4. STRUCTURE AND TRENCH EXCAVATION

Structure or trench excavations will conform with all safety requirements of OSHA.

5. BORROW EXCAVATION

When the quantities of suitable materials obtained from specified excavations are insufficient to construct the specified fills, additional materials shall be obtained from the designated borrow areas as shown on the drawings or as approved by the NRCS and the landowner.

Borrow areas shall be excavated and finally graded in a manner to eliminate steep or unstable side slopes or hazardous or unsightly conditions.

6. OVER-EXCAVATION

Excavation beyond the specified lines and grades shall be corrected by filling the resulting voids with compacted earthfill, except that if the earth is to become the subgrade for riprap, sand or gravel bedding or drainfill, the voids shall be filled with material conforming to the specifications for the riprap, bedding or drainfill, as appropriate.

7. SPECIAL SPECIFICATIONS

<i>None</i>

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

IA-23 EARTHFILL

1. SCOPE

The work shall consist of the construction of earthfills required by the drawings and specifications.

2. MATERIALS

All fill materials shall be obtained from required excavations and designated borrow areas. Fill materials shall contain no sod, brush, roots or other bio-degradable materials. Rocks larger than 6 inches in diameter shall be removed prior to compaction of the fill.

3. FOUNDATION PREPARATION

Foundations for earthfill shall be stripped to remove vegetation and other unsuitable materials. Foundation surfaces shall be scarified to a minimum depth of 2 inches.

Foundation and abutment surfaces shall not be sloped steeper than 1.5:1 unless otherwise shown on the drawings.

4. PLACEMENT

Fill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by NRCS. Fill shall not be placed upon a frozen surface, nor shall snow, ice, or frozen material be incorporated in the fill.

Adjacent to structures or pipes, fill shall be placed in a manner which will prevent damage. The height of the fill adjacent to structures or pipes shall be increased at approximately the same rate on all sides.

The materials used throughout the earthfill shall be essentially uniform. Selective placement shall be as shown on the drawings or approved by NRCS.

If the surface of any layer becomes too hard and smooth for proper bond with the succeeding layer, it shall be scarified to a depth of not less than 2 inches before the next layer is placed.

The top surfaces of embankments shall be maintained approximately level during construction, except that a cross-slope of approximately 2% shall be maintained to ensure effective drainage.

5. CONTROL OF MOISTURE CONTENT

The moisture content of the fill material shall be adequate for obtaining the required compaction. Material that is too wet shall be dried to meet this requirement, and material that is too dry shall have water added and mixed until the requirement is met.

The moisture content of the fill material shall be such that a ball formed with the hands does not crack or separate when struck sharply with a pencil and will easily ribbon out between the thumb and finger.

Earth foundations under and adjacent to concrete structures shall be prevented from drying and cracking before concrete and backfill are placed.

The application of water to the fill materials shall be accomplished at the borrow areas insofar as possible.

6. COMPACTION

Earthfill shall be compacted by one of the following methods as specified on the plans. If no method is specified, compaction will be in accordance Method 1.

Method 1 - Earthfill shall be placed so that the wheels of the loaded, rubber tired, hauling equipment traveling in a direction parallel to the centerline of fill pass over the entire surface of the layer being placed.

Method 2 - Two (2) complete passes of a tamping-type roller will be made over each layer. The roller shall be capable of exerting a minimum of one-hundred (100) pounds per square inch.

Method 3 - Minimum density shall be 90% of the maximum density as determined by ASTM 698.

The maximum thickness of a lift of fill before compaction shall be 9 inches, unless otherwise indicated on the drawings

Fill adjacent to structures, pipe conduits, and anti-seep collars shall be placed in layers not more than 4 inches thick and compacted to a density equivalent to that of the surrounding fill by hand tamping, manually directed power tampers, or plate vibrators. Care should be taken so that compaction around the spillway pipe does not cause uplift of the pipe resulting in a void beneath the pipe. Hand tamping only shall be used to compact the earthfill under the bottom half of circular pipes. Equipment shall not be operated within 2 feet of any structure or pipe.

Compacting of fill adjacent to structures shall not be started until the concrete is 7 days old.

7. SPECIAL SPECIFICATIONS

None

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

**IA-657 WETLAND RESTORATION, ENHANCEMENT
OR CREATION**

1. SCOPE

The work shall consist of activities involved with restoring, creating or enhancing wetlands.

2. GENERAL

Construction activities shall be carried out so that the wetland area shall be disturbed as little as possible. Existing naturally vegetated spillway areas shall not be disturbed.

3. ENVIRONMENT

Construction operations shall be carried out in such a manner that air and water pollution and erosion shall be minimized and held within legal limits. See Iowa Construction Specification IA-5, Pollution Control.

4. SUBSURFACE DRAIN PLUGGING OR REMOVAL

Subsurface drains shall be removed as shown on the plans. All envelope, filter material or other flow enhancing material shall be removed. The trench shall be backfilled in 12 inch layers and compacted with similar soil to obtain a density of not less than the adjacent natural soils.

The ends of the abandoned and disconnected drains shall be blocked with manufactured caps or plugs or with concrete.

Any additional subsurface drains located during construction shall be brought to the attention of the landowner and the Natural Resources Conservation Service. For subsurface drainage alterations, the upstream drainage must be maintained at its current capacity.

5. EMBANKMENT

The foundation area shall be cleared of trees, logs, stumps, roots, brush, boulders, sod, and rubbish. Topsoil and sod shall be stripped to a depth of six inches, stockpiled and spread on the completed earthfill. Foundation surfaces shall be sloped no steeper than 1:1 unless shown otherwise on the drawings. The foundation area shall be thoroughly scarified before placing fill material.

All trees and shrubs shall be cleared and grubbed within a minimum distance of 10 feet from an embankment or any spillway.

The cutoff trench and any other required excavations shall be dug to the lines and grades shown on the drawings or as staked in the field. Structure or trench excavations will conform to all safety requirements of OSHA.

Suitable excavated materials may be used in the permanent fill. All surplus or waste material shall be disposed of in areas shown on the drawings or as approved by the NRCS Inspector. The waste material shall be smoothed and sloped to provide drainage.

Borrow should not be taken from the wetland area within 10 feet of the embankment or as shown on the plans.

Fill material shall be free of detrimental amounts of sod, roots, frozen soil, stones more than 6 inches in diameter, and other objectionable material. The moisture content of the fill material shall be such that a ball formed with the hands does not crack or separate when struck sharply with a pencil and will easily ribbon out between the thumb and finger. Material that is too wet shall be dried, and material that is too dry shall have water added and mixed until the requirement is met.

The placing and spreading of fill material shall be started at the lowest point of the foundation and the fill brought up in horizontal layers not to exceed 9 inches in thickness prior to compaction.

Earth fill shall be compacted by one of the following methods as specified on the plans. If no method is specified, compaction will be Method 1.

Method 1 – Earthfill shall be placed so that the wheels of the loaded, rubber tired, hauling equipment traveling in a direction parallel to the centerline of fill pass over the entire surface of the layer being placed.

Method 2 – Two (2) complete passes of a tamping-type roller will be made over each layer. The roller shall be capable of exerting a minimum of one hundred (100) pounds per square inch.

Method 3 – Minimum density shall be 90% of the maximum density as determined by ASTM D-698.

The completed work shall conform to the lines, grades, and elevations shown on the drawings or as staked in the field.

6. ISLANDS, MOUNDS AND LOAFING AREAS

Islands shall be randomly located within the wetland area at locations shown on the drawings or as staked in the field.

Orientation of island shorelines shall be random with attention given to prevailing winds to limit wave damage. In general, the side of the island with the longest dimension shall be parallel to the prevailing wind direction.

Side slopes shall be as shown on the construction drawings, but in no case shall be steeper than 6:1.

Shapes shall be irregular.

Loafing areas shall be constructed in the areas shown on the drawings or as staked in the field and shall be graded to drain runoff water.

Elevation of at least one loafing area should be above maximum water level whenever possible.

Compaction of mounds is not necessary.

All excavated material not suitable for embankments, wetland dikes, and islands can be used for mounds or blended into surrounding topography to create a natural appearance. Spoil material shall not be spread on existing wetland areas.

Organic soils shall not be used to construct islands, loafing areas, dikes or embankments.

7. WATER CONTROL STRUCTURE

The structure shall be installed to the line and grade shown on the drawings. Excavations below grade shall be corrected by backfilling and compacting by hand-operated or power equipment as specified by NRCS.

Equipment shall not be operated within 2 feet of any structure or pipe. Fill adjacent to structures, pipe conduits, and anti-seep collars shall be placed in 4 inch layers and compacted to a density equivalent to that of the surrounding fill by means of hand tamping or manually directed power tampers. Care should be taken that compaction around the spillway pipe does not cause uplift on the pipe with a resulting void beneath the pipe. Hand tamping, only, should be used to compact the fill under the bottom half of the pipe.

Conduits installed in a trench shall be bedded and backfilled throughout the width of the embankment. Broken pieces of clay tile shall be kept away from the conduit. Friable soil shall be placed in 4 inch lifts and hand tamped to a depth of 2 feet above the conduit. The sides of the remaining trench under the embankment shall be sloped no steeper than 3 horizontal to 1 vertical and backfilled meeting embankment requirements.

8. FINISH

The surface of work areas shall be smooth and present a quality appearance.

9. SEEDING AND MULCHING

A protective cover of vegetation shall be established on all exposed surfaces of the embankment, spillway, borrow area, and other areas disturbed by construction as shown on the plans or staked in the field. Seeding and mulching shall be performed in accordance with the IA-CPA-4, Seeding Plan, and Construction Specification IA-6, Seeding and Mulching for Protective Cover.

10. SPECIAL SPECIFICATIONS

None

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATIONS**

IA-620 UNDERGROUND OUTLETS

1. SCOPE

This work shall consist of installation of underground outlets in accordance with an approved plan and design.

2. MATERIALS

Materials for underground outlets shall meet the requirements as shown in the plans and specifications. They shall be field inspected for any deficiencies such as thin spots or cracking prior to installation.

Conduit

The following reference specifications pertain to products currently acceptable for use as underground outlets:

Plastic

Corrugated polyethylene (PE) tubing and fittings 3-6 in.	ASTM F-405
Large diameter corrugated polyethylene (PE) tubing and fittings 8-24 in.	ASTM F-667
Corrugated polyvinyl chloride (PVC) tubing and compatible fittings 4-12 in.	ASTM F-800
Polyvinyl chloride (PVC) corrugated sewer pipe with a smooth interior and fittings 4-36 in.	ASTM F-949
Polyvinyl chloride (PVC) sewer pipe and fittings	ASTM D-2729
Type PSM polyvinyl chloride (PVC) sewer pipe and fittings	ASTM D-3034

Clay

Clay drain tile	ASTM C-4
Perforated clay drain tile	ASTM C-498
Vitrified clay pipe, extra strength, standard strength and perforated	ASTM C-700
Vitrified clay pipe, test methods	ASTM C-301

Concrete

Concrete drain tile 4-36 in.	ASTM C-412
Concrete pipe for irrigation or Drainage	ASTM C-118
Concrete pipe, manhole sections or tile test methods	ASTM C-497
Concrete sewer, storm drain and culvert pipe	ASTM C-14
Reinforced concrete culvert, storm drain and sewer pipe	ASTM C-76
Perforated concrete pipe	ASTM C-444
Portland cement	ASTM C-150

Other

Styrene-rubber (SR) plastic drain pipe and fitting	ASTM D-2852
Corrugated aluminum pipe for sewers and drains	ASTM B-745
Corrugated steel pipe, metallic-coated for sewers and drains	ASTM A-760

Inlet

The inlet shall be fabricated and installed as shown on the plans. Inlets must be of durable material, structurally sound, and resistant to damage by rodents or other animals. Inlets shall be of rigid material, which does not require supplemental support to remain in a vertical position. Materials, which meet these requirements include the following:

1. Corrugated metal pipe, galvanized or aluminum, 16 gauge,
2. Smooth steel pipe with 3/16 of an inch minimum thickness,
3. Smooth plastic pipe, polyvinyl chloride (PVC), with an SDR of 43 or less,
4. High-density polyethylene pipe (PE). Round pipe shall have an SDR of 43 or less. Square intakes shall have minimum wall thickness as shown in the following table:

<u>Nominal Size</u>	<u>Minimum Thickness</u>
6 inch	0.16 inch
8 inch	0.21 inch
10 inch	0.26 inch
12 inch	0.31 inch

All plastic and polyethylene inlets shall include an ultra-violet stabilizer to protect from solar degradation.

Perforations in the inlet shall be smooth and free of burrs. Unless otherwise specified, the above ground portion of the inlet shall have holes evenly spaced around the perimeter of the inlet in accordance with the following table:

<u>Inlet Size</u>	<u>Minimum Number of 1" Diameter Holes Per Foot of Inlet</u>
4 inch	20
5 inch	24
6 inch	30
8 inch	40
10 inch	50
12 inch	60

If slots or round holes other than 1 inch in diameter are provided, the total cross sectional area of the openings per foot shall be equivalent to that provided by 1 inch diameter round holes meeting the above criteria.

The below ground portion of the inlet may be perforated with holes 5/16 of an inch in diameter or less to provide drainage around the inlet.

Appurtenances (i.e. tees and elbows) for polyvinyl chloride (PVC) inlets shall be schedule 40 or heavier.

Additional subsurface drainage tubing or tile may be used in conjunction with the surface inlet to improve access and farmability around the inlet. These underground extensions (when used) shall have a minimum length of 10 feet.

The inlet shall be offset from the main conduit except as noted below. A minimum of 8 feet of non-perforated conduit shall be installed between the inlet and the main conduit. The minimum diameter of the offset line shall be 3 inches. When conduit capacity is based on orifice flow from the inlet, such inlets shall be fabricated so that an orifice can easily be installed.

Only the top inlet in a terrace system may be placed directly on the main conduit. If the top most inlet in a terrace system is placed directly on the main conduit, the conduit shall be non-perforated from the inlet to the toe of the terrace back slope.

Outlet

A continuous section of non-perforated conduit at least 16 feet long shall be used at the outlet. Acceptable materials for use at the outlet include the following:

1. Corrugated metal pipe, galvanized or aluminum, 16 gauge,
2. Smooth steel pipe with 3/16 of an inch minimum thickness,
3. Smooth plastic pipe, polyvinyl chloride (PVC), with a SDR of 26 or less or schedule 40 or heavier,
4. Dual wall corrugated polyethylene pipe

All plastic and polyethylene pipe outlets shall include an ultra-violet stabilizer.

The outlet shall be equipped with a flap-gate type rodent guard.

3. TRENCH EXCAVATION

Trench excavation shall be sufficient to provide required cover after other construction is completed. The cover over all conduit lines except metal pipe shall be 24 inches or more. The cover over metal pipe shall be 12 inches or more.

The trench bottom shall be smooth and free of exposed rock. If rock is encountered in the trench bottom, over-excavate the trench and place at least 2 inches of compacted earth or sand bedding in the trench to bring it up to the conduit grade. The bottom of the trench shall be grooved in the center for proper conduit bedding.

Maximum trench width shall be the conduit diameter plus 24 inches measured at the flow line. Minimum trench width shall be the conduit diameter plus 6 inches except when the trench is shaped to fit the conduit additional width is not required.

4. INSTALLATION

The underground outlet system shall be installed to the line and grade shown in the plans or as staked in the field. Conduit lines shall be installed and properly backfilled prior to placement of any other earthfill over the lines. A filter fabric wrap (sock) or equivalent shall be used if migration of soil particles around conduit is anticipated.

Conduit lines shall be joined with standard factory couplers, if applicable, to produce a continuous system. Internal couplers may be used if they do not cause excessive flow restrictions. Conduit ends shall be protected during installation.

All appurtenant structures, including trash and rodent guards, shall be installed promptly and provisions shall be made for protecting them during installation. All conduit ends except the outlet and inlets with screens shall be capped with standard factory end caps or concrete. When corrugated plastic tubing is used, no more than 5% stretch will be allowed.

Orifice plates, when specified, shall have smooth edges and fit tightly.

5. TRENCH BACKFILL

Conduits shall be bedded and backfilled throughout the base width of the basin embankment or terrace ridge. Friable soil material shall be placed in 6 inch layers and hand tamped to a depth of approximately 12 inches above the conduit. The sides of the remaining trench shall be sloped no steeper than 3 horizontal to 1 vertical and backfill placed in 6 inch layers and machine compacted.

Water packing may be used as an alternative to mechanical compaction. If the conduit is non-perforated, it shall be filled with water during the water packing procedure. The initial backfill, before wetting, shall be of sufficient depth to ensure complete coverage of the pipe after consolidation has taken place. Water packing is accomplished by adding water in such quantity as to thoroughly saturate the initial backfill without inundation. The wetted fill shall be allowed to dry until firm before final backfill is begun.

The remaining conduit shall be backfilled with selected bedding material containing no hard objects larger than 1½ inches in diameter to a minimum depth of 6 inches over the pipe. The tubing shall be held in place mechanically while select backfill material is placed around and over the pipe. This is to ensure that the proper conduit grade is maintained. All backfill material shall be placed so that deflection or displacement of the conduit will not occur. Large stones, frozen material and large dry clods are not allowed in the backfill material.

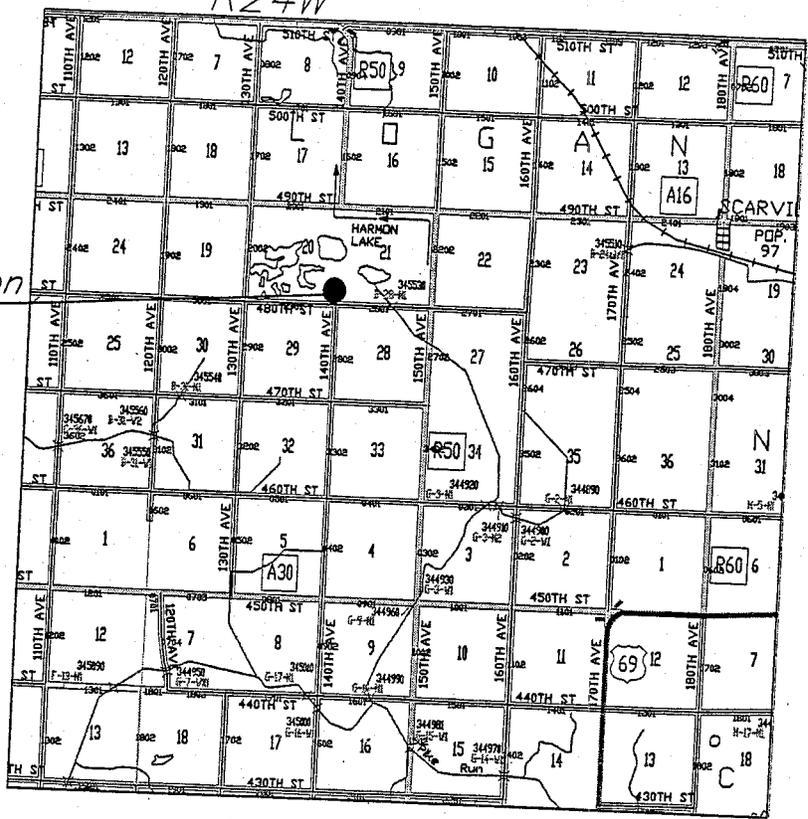
6. FINISH

Work areas shall be smoothed and left in a workmanlike manner. Vegetation or other protective cover shall be established as specified.

7. SPECIAL SPECIFICATIONS

None

R24W

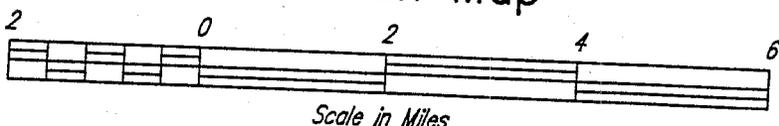


James Anderson
WRP Site

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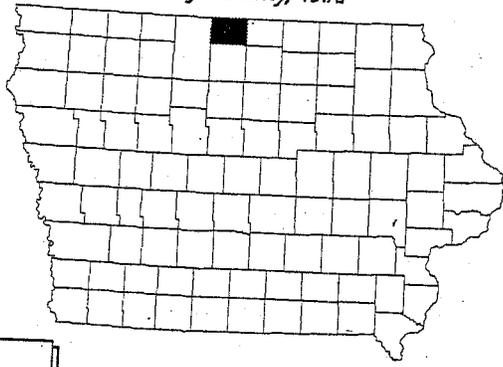


Location Map



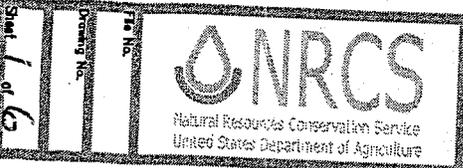
Scale in Miles

Winnebago County, Iowa



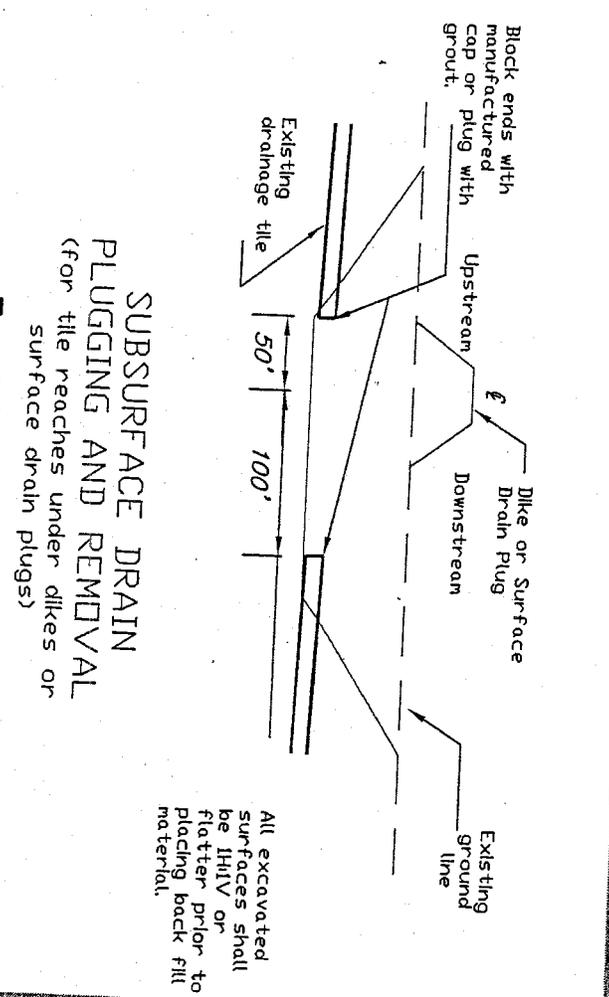
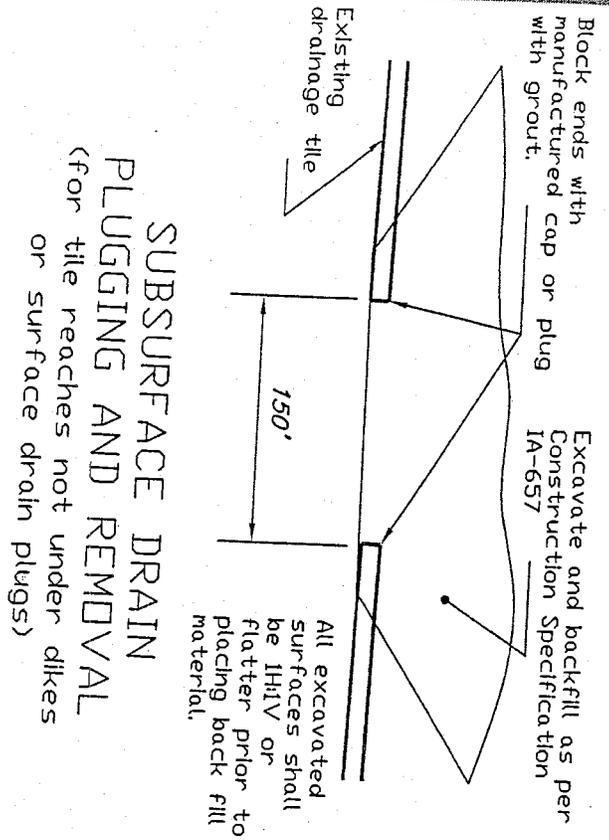
If a cultural resource is identified during construction, stop immediately and notify the Natural Resources Conservation Service Archeologist at (515) 284-4370.

CONTRACTOR IS RESPONSIBLE FOR CALLING IOWA ONE CALL 1-800-292-8989



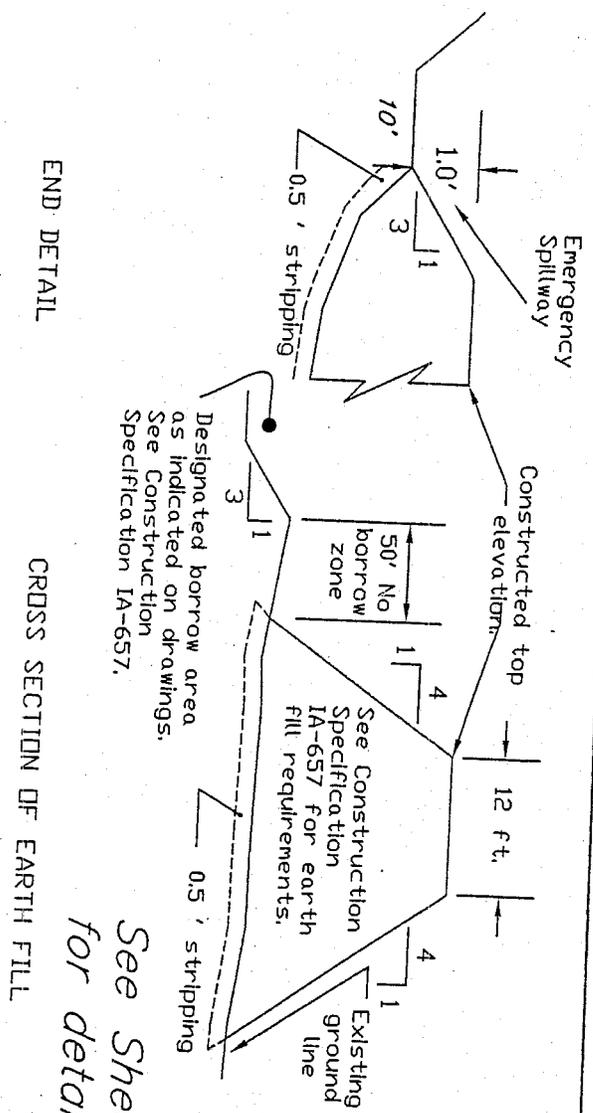
James Anderson WRP Location Map
Part of SE1/4 Sec.20 & SW1/4
Sec.21 T100N R24W
Winnebago County, Iowa

Designed	Larry Trauger	Date	02/08
Drawn	Larry Trauger	Date	02/08
Checked			
Approved	Larry Trauger	Date	02/08



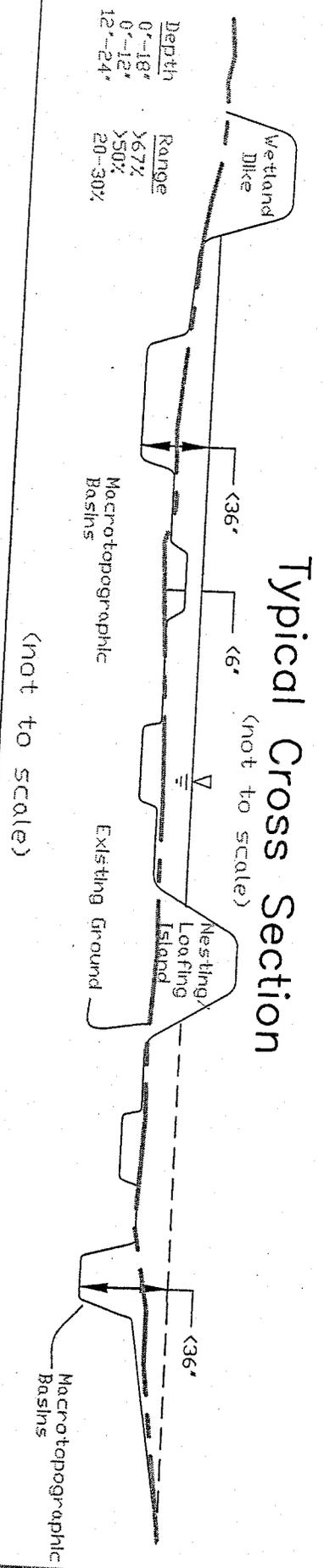
**SUBSURFACE DRAIN
PLUGGING AND REMOVAL**
(for tile reaches not under dikes
or surface drain plugs)

**SUBSURFACE DRAIN
PLUGGING AND REMOVAL**
(for tile reaches under dikes or
surface drain plugs)
For Dikes 1,2&3

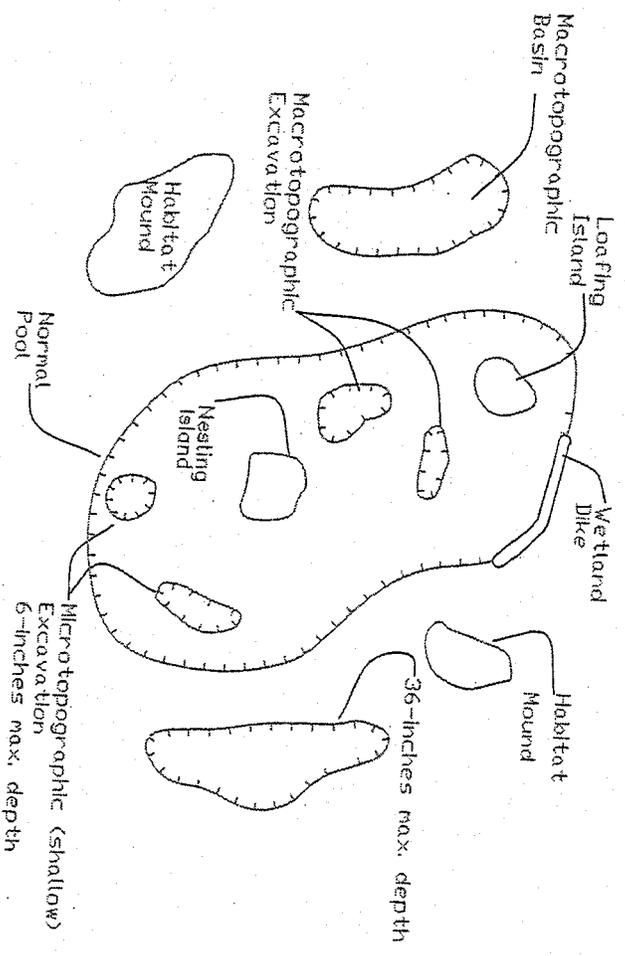


See Sheet 6 of 6
for details

END DETAIL
CROSS SECTION OF EARTH FILL
DIKE DETAIL - NO PIPE



Typical Pothole/Upland Wetland

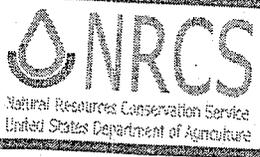


(not to scale)

See Construction Specification IA-657 for details.

SWE#1-See Sheet 6 of 6 for size and quantities

SWE - SHALLOW WATER EXCAVATION



Standard Details James Anderson
Wetland Restoration

	Name	Date
Designed	Larry Trauger	03/08
Drawn	Larry Trauger	03/08
Checked		
Approved		

Seeding Plan

Name: James Anderson WRP Dike Seeding

3/3/08

Tract No. 0

Field No. _____

Contract No. _____

Prepared by: Larry Trauger

Type of Seeding: ▼

Enter Acres:

Species	Acres	Per Acre Bulk		Total Needed
Brome	1.01	25	LBS	25.25
Choose only one.				
(Spring) Oats	1.01	1.5	Bushels	1.515
(Summer or Fall) winter rye		1.5	Bushels	0
Fertilizer & Lime		x	General Soil Test	
Lime (ECCE)				
Nitrogen	1.01	50		50.5
Phosphate (P205)	1.01	200		202
Potash (K20)	1.01	100		101

Seeding will be completed: ▼

Additional Seeding Criteria:

INCREASE SEEDING RATE BY 50% IF SEEDING INTO POOR SEEDBED CONDITIONS

*Seeding of a temporary cover crop may be needed if unable to seed permanent seeding during the recommended time frame.

Use 3 Bu/acre oats or 2 Bu/acre winter rye

Seeding was completed by: _____
(Date)

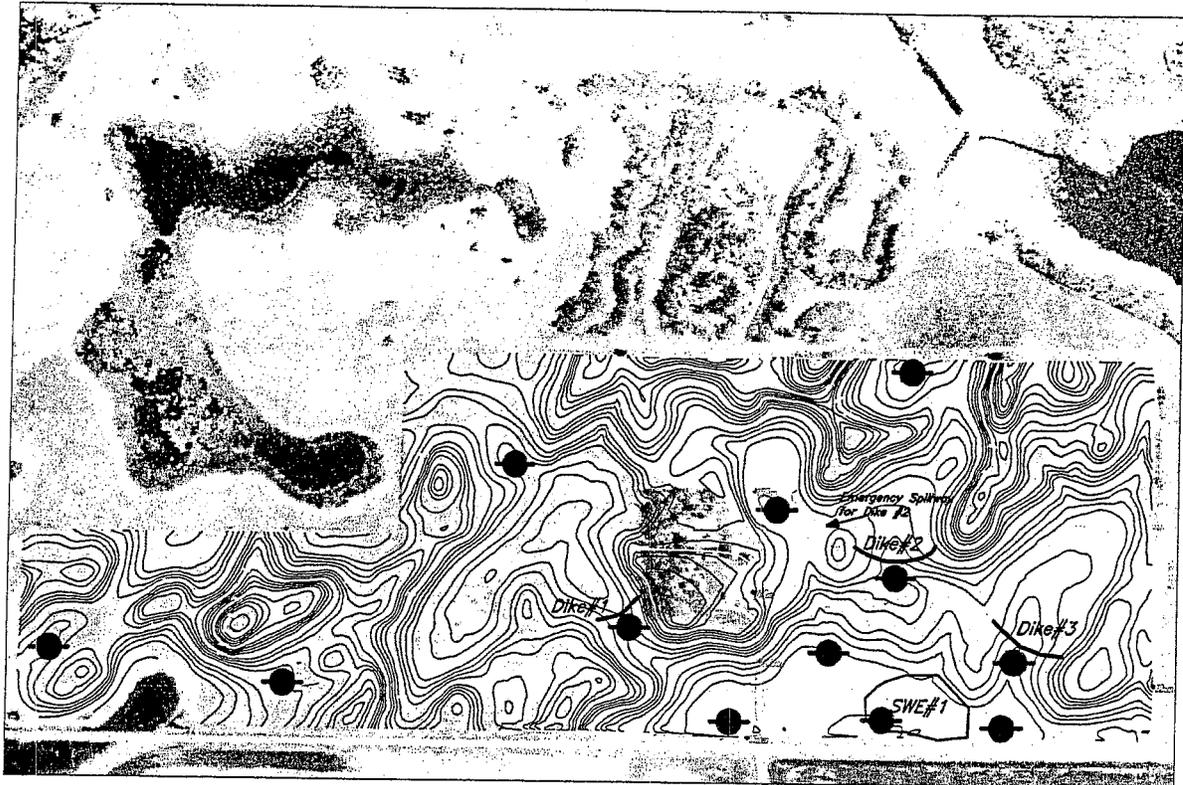
(Producer's Signature)

(Date)

Field Office _____

Certified by _____
(NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services. For state cost-share projects, attach receipts for seed, fertilizer, lime and mulch. For Federal cost-share, return receipts to Farm Service Agency.



Tile investigation will be needed to locate existing tile for plugging. Each tile plug will have an average of 200 ft. Total Tile Investigation is estimated at 3000 ft. For details, see sheet 6 of 6.

Legend

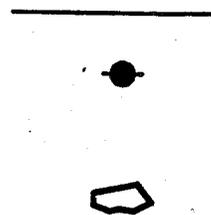
Description

Symbols

Dike - (See Sheet 3 of 6 for details)

*Subsurface Drain Plugging & Removal
(Under dikes and surface drain plug, see sheet 3 of 6)
(For all others, see sheet 3 of 6)*

*SWE - Shallow Water Excavation
(for typical cross section, see sheet 4 of 6, for average depth and area of excavation, see sheet 6 of 6)*



James Anderson - Site Map
Part of SE1/4 Sec.20 & SW1/4 Sec.21
T100N R24W
Winnebago County, IA.

Designed	<i>Larry Trauger</i>	Date	<i>02/08</i>
Drawn	<i>Larry Trauger</i>	Date	<i>02/08</i>
Checked			
Approved			



Sheet 2 of 6

James Anderson WRP
Summary Sheet
3/3/2008

Dike #	Top of Settled Fill Elev.	Top of Constructed Fill Elev.	Emergency Spillway Elev.	Earthfill cu.yds. (includes stripping)	Subsurface Drain Plugging and Removal (ft.)	Benchmark Elevation	Description of Benchmark
1	1176.00	1176.30	1175.00	478	150	1178.39	Epin#4 SW Corner of Acreage
2	1176.00	1176.40	1175.00	1267	150	1174.96	Epin#3 NE Corner of Acreage
3	1171.00	1171.40	1170.00	1129	150	1174.31	CP#1 SE corner of Farm
SWE #	Acres	Cu. Yds.					
1	1.40	1129.00					
Subsurface Drain Plugging & Removal					1350 ft.		
Tile Investigation					3000 ft.		
Seeding					1.01 acres		



IA - CPA - 4 REV.
October-06
(File Code 180-12-12)

Seeding Plan

Name DNR-Anderson excavation spoil seeding Date 9/9/2009
 Prepared by BSTM Tract No. WRP
 Type of Seeding: WRP Field Area (acres): 2.000 Contract No. 1

Seeding Mix Summary (WET)

Grasses	Scientific Name	Common Name	Lbs / Acre	Lbs
1	Andropogon gerardii	Big bluestem	1.40	2.80
2	Sorghastrum nutans	Indiangrass	1.40	2.80
3	Elymus virginicus	Virginia wildrye	2.40	4.80
4	Sporobolus asper	Rough dropseed	0.05	0.10
5	Carex vulpinoidea	Fox Sedge	0.05	0.10
6	Carex lanuginosa	Bull sedge	0.01	0.02
7	Scirpus atrovirens	Dark green bullrush	0.01	0.02
8				
9				
10			20.16 seeds/sq ft	
SUBTOTAL GRASSES			5.32	10.64

Forbs/Legumes	Scientific Name	Common Name	Ozs / Acre	Ozs
1				
2	Iris shrevei	Blue flag iris	2.00	4.00
3	Verbena hastata	Blue vervain	2.00	4.00
4	Eupatorium perfoliatum	Boneset	0.50	1.00
5	Lobelia cardinalis	Cardinal flower	0.30	0.60
6	Veronicastrum virginicum	Culver's root	0.30	0.60
7	Silphium perfoliatum	Cupplant	2.00	4.00
8	Zizia aurea	Golden alexenders	2.00	4.00
9	Ratibida pinnata	Gray-headed coneflower	2.00	4.00
10	Lobelia siphilitica	Great blue lobelia	0.20	0.40
11	Vernonia fasciculata	Ironweed	1.00	2.00
12	Eupatorium maculatum	Joe-pye weed	0.50	1.00
13	Pycnanthemum virginianur	Mountain mint	0.50	1.00
14	Thalictrum dasycarpum	Purple meadow rue	2.00	4.00
15	Desmodium canadense	Showy tick trefoil	1.00	2.00
16	Aster laevis	Smooth blue aster	1.00	2.00
17	Helenium autumnale	Sneezeweed	0.50	1.00
18	Asclepias incarnata	Swamp milkweed	2.00	4.00
19	Aster novae-angliae	New England aster	0.60	1.20
20	Liatris pycnostachya	Prairie blazing star	2.00	4.00

44.80

SEEDING MIX FLORISTIC QUALITY VALUES

21.26 seeds/sq ft

Average Coefficient of Conservatism 4.2
 Floristic Quality Index 20.8

6.72 13.44 \$0.00

Fertilizer & Lime	General Soil Test <input checked="" type="checkbox"/>	Total Needed lbs
Lime (ECCE) (Actual Lime)	0	0
Nitrogen	0	0
Phosphate (P205)	0	0
Potash (K20)	0	0

April 15 - July 1

Additional Seeding Criteria: Mow the area at least 2 times for the first two years

Seeding was completed by according to the above requirements.
 (Date)

 (Producer's Signature) _____
 (Date)

Field Office _____ Certified by _____
(NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services.
 For state cost-share projects, attach receipts for seed, fertilizer, lime and mulch.
 For Federal cost-share, return receipts to Farm Service Agency.

Seeding Plan

Prepared by

Harmon Lake - Anderson WRP

Greg Hanson

Date 12/2/2009

Tract No.

Field No.

Type of Seeding:

Midwest Dry-mesic Prairie

Acres

57.00

Contract No.

Seeding Mix Summary

Upland Mix

Graminoids	Scientific Name	Common Name	Seeds/Ft2	PLS Lbs / Acre	Total PLS lb
1	Andropogon gerardii	Big bluestem	0.50	0.14	7.98
2	Bouteloua curtipendula	Side-oats grama	2.00	0.91	51.87
3	Carex bicknellii	Bicknell's sedge	1.42	0.23	13.11
4	Carex brevior	Plains oval sedge	1.10	0.1	5.70
5	Carex gravida	Long-awned bracted sedge	0.45	0.1	5.70
6	Cyperus lupulinus	Slender flatsedge	0.00	0	0.00
7	Danthonia spicata	Poverty oat grass	0.25	0.03	1.71
8	Dichanthelium oligosanthes scribnerianum	Scribner's rosette grass	0.00	0	0.00
9	Elymus canadensis	Canada wild rye	0.50	0.26	14.82
10	Hesperostipa spartea	Porcupine grass	0.03	0.1	5.70
11	Juncus tenuis	Path rush	5.00	0.01	0.57
12	Koeleria macrantha	June grass	2.25	0.03	1.71
13	Panicum virgatum	Switchgrass	0.75	0.15	8.55
14	Pascopyrum smithii	Western wheatgrass	2.00	0.76	43.32
15	Schizachyrium scoparium	Little bluestem	2.29	0.42	23.94
16	Sorghastrum nutans	Indian grass	0.50	0.11	6.27
17	Sporobolus clandestinus	Rough rush grass	0.00	0	0.00
18	Sporobolus heterolepis	Prairie dropseed	1.00	0.17	9.69
19					
20					
21					
SUBTOTAL GRAMINOIDS			20.04	3.52	200.64

Forbs/Legumes	Scientific Name	Common Name	Seeds/Ft2		
1	Amorpha canescens	Lead plant	0.350	0.06	3.42
2	Anemone cylindrica	Windflower, thimbleweed	0.100	0.01	0.57
3	Asclepias tuberosa	Butterfly weed	0.220	0.14	7.98
4	Asclepias verticillata	Whorled milkweed	0.050	0.01	0.57
5	Baptisia bracteata glabrescens	Cream wild indigo	0.050	0.01	0.57
6	Brickellia eupatorioides	False boneset	0.400	0.03	1.71
7	Ceanothus americanus	New Jersey tea	0.020	0.01	0.57
8	Chamaecrista fasciculata	Partridge pea	1.000	1.01	57.57
9	Dalea candida	White prairie clover	3.870	0.55	31.35
10	Desmodium canadense	Showy tick-trefoil	0.150	0.07	3.99
11	Echinacea pallida	Pale coneflower	0.350	0.18	10.26
12	Eupatorium altissimum	Tall thoroughwort	0.250	0.01	0.57
13	Euphorbia corollata	Flowering spurge	0.050	0.01	0.57
14	Gentiana alba	Pale gentian	1.500	0.03	1.71
15	Heliopsis helianthoides	Ox-eye	0.500	0.22	12.54

16	<i>Lespedeza capitata</i>	Round-headed bush clover	0.150	0.05	2.85
17	<i>Liatris aspera</i>	Blazing star	0.400	0.07	3.99
18	<i>Monarda fistulosa</i>	Wild bergamot, horsemint	1.100	0.1	5.70
19	<i>Oligoneuron rigidum</i>	Stiff goldenrod	0.750	0.05	2.85
20	<i>Pedicularis canadensis</i>	Lousewort	0.150	0.01	0.57
21	<i>Potentilla arguta</i>	Prairie cinquefoil	2.100	0.02	1.14
22	<i>Pycnanthemum virginianum</i>	Common mountain mint	1.200	0.01	0.57
23	<i>Ratibida pinnata</i>	Gray-headed coneflower	2.260	0.15	8.55
24	<i>Rosa arkansana suffulta</i>	Sunshine rose	0.050	0.05	2.85
25	<i>Rudbeckia hirta</i>	Black-eyed Susan	0.260	0.26	14.82
26	<i>Ruellia humilis</i>	Wild petunia	0.150	0.01	0.57
27	<i>Silphium laciniatum</i>	Compass plant	0.020	0.05	2.85
28	<i>Solidago nemoralis</i>	Field goldenrod	1.350	0.01	0.57
29	<i>Symphotrichum laeve</i>	Smooth blue aster	0.900	0.04	2.28
30	<i>Symphotrichum sericeum</i>	Silky aster	0.300	0.01	0.57
31	<i>Triodanis perfoliata</i>	Venus' looking-glass	0.000	0	0.00
SUBTOTAL FORBS			20.00	3.24	184.68
TOTAL			40.04		

Required species in bold

SEEDING MIX FLORISTIC QUALITY VALUES

Average Coefficient of Conservatism	5.0
Floristic Quality Index	35.3

Additional Seeding Criteria:

Spring seeding dates are between April 15th to July 1st. Dormant Seeding dates are between November 15th to 1st

Seeding was completed by _____ according to the above requirements.
(Date)

(Producer's Signature)

(Date)

Field Office _____

Certified by _____

(NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services.

For state cost-share projects, attach receipts for seed, fertilizer, lime and mulch.

For Federal cost-share, return receipts to Farm Service Agency.

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*Required species in bold

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SEEDING MIX FLORISTIC QUALITY VALUES

Average Coefficient of Conservatism	5.3
Floristic Quality Index	35.6

Fertilizer & Lime	General Soil Test	Total Needed lbs
Lime (ECCE) (Actual Lime)	2000	0
Nitrogen	30	0
Phosphate (P205)	30	0
Potash (K2O)	40	0

Additional Seeding Criteria: Do not apply fertilizer. Frost seeding dates Feb 1st - March 15th.
 Spring seeding dates are between April 15th to July 1st. Dormant Seeding dates are between November 15th to freeze up.

Seeding was completed by _____ (Date) _____ according to the above requirements.
 _____ (Producer's Signature) _____ (Date)
 Field Office _____ Certified by _____ (NRCS Representative)

When seeding is completed, return seeding plan to the Natural Resources Conservation Services.
 For state cost-share projects, attach receipts for seed, fertilizer, lime and mulch.
 For Federal cost-share, return receipts to Farm Service Agency.