Supplemental
Construction Specifications

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS
TAYLOR AML RECLAMATION PROJECT (IA-166, FRA 23-037)

SC-01 – SPECIAL CONDITIONS

A. The purpose of this Section of the Specifications is to provide supplementary information that is required to clarify the Construction Specifications and to set supplementary requirements, modifications, and/or deletions from the Construction Specifications that are required to adapt said Construction Specifications to this particular project.

B. References to Section, Paragraph, and Subparagraph numbers used in these Supplemental Conditions are intended to coincide with reference numbers for corresponding Sections, Paragraphs, and Subparagraphs in the Construction Specifications.

C. Where there is any variance between the Construction Specifications and these Supplemental Conditions, the Supplemental Conditions shall take precedence.

D. Where any section of the Construction Specifications is modified, or any Paragraph, Subparagraph, or Clause thereof is changed or deleted by these Supplemental Conditions, the unaltered provisions of that Section, Paragraph, Subparagraph, or Clause in the Construction Specifications shall remain in effect. Unless these Supplemental Provisions make specific reference to the modification or deletion of a Paragraph, Subparagraph, or Clause in the Construction Specifications, no changes are intended, and paragraphs contained in these Special Conditions are intended only to supplement, amplify, or clarify said Construction Specifications.

SECTION 1 - DEFINITIONS

1-04 ENGINEER: French-Reneker-Associates, Inc.
1501 South Main Street
Fairfield, IA 52556

1-06 WORK OR PROJECT: Work to be done and equipment, supplies, and materials to be furnished under the Contract, General Conditions, Special Conditions, Construction Specifications, Supplemental Construction Specifications, Plans, Addenda, and Modifications to these Contract Documents issued subsequent to their initial printing unless some other meaning is indicated by the context. The Project is the Taylor AML Reclamation Project, Wapello County, Iowa.

1-27 ABBREVIATIONS: Include the following:

AWWA	American Water Works Association
ECCE	Effective Calcium Carbonate Equivalent
Iowa SUDAS	Iowa Statewide Urban Design and Specifications 2025 Edition

SECTION 2 – PLANS, SPECIFICATIONS, AND RELATED DATA

2-01 INTENT OF PLANS AND SPECIFICATIONS:

The intent of the plans and specifications shall be as described in Section 2-01 of the General Conditions and as further described herein.
The Construction Specifications which follow and which govern the materials furnished and work performed under this Contract are divided, classified, designated, and arranged as follows:

SECTION 02000	SUBSURFACE INVESTIGATION
SECTION 02010	FIELD ENGINEERING
SECTION 02100	MOBILIZATION, SITE CLEARING, AND PREPARATION
SECTION 02120	SEDIMENT AND EROSION CONTROL
SECTION 02200	EARTHWORK, ROUGH GRADING
SECTION 02220	EARTHWORK, DAMS
SECTION 02230	EARTHWORK SHAFTS
SECTION 02300	DRAINAGE SYSTEMS, GENERAL
SECTION 02310	DRAINAGE SYSTEMS, DAMS AND STRUCTURES
SECTION 02400	SUBGRADE PREPARATION
SECTION 02700	PERMANENT SEEDING

No attempt has been made to segregate the work to be performed by any trade, subcontract, or proposal item under any one Section of the Construction Specifications. Any segregation between trade or craft jurisdiction limits and the establishment of subcontract limits shall be solely a matter of agreement between the Contractor and the Contractor's subcontractors. The Construction Specifications govern the construction of the entire work, and the provisions thereof govern each item and unit of work to which such provisions apply.

The Plans, upon which the bids and the Contract are based, are listed for information and reference as follows:

Sheet Title	Sheet Number
Title Sheet	1
Project Notes, Quantities, and Legend	2
Situation Plan - Burn Radii & Survey Control	3
Situation Plan – Existing Conditions, Clearing & Site Preparation	4
Post-Reclamation Grading Plan	5
Cut & Fill	6
Dam Plan and Profile	7
Drainage & Terrace Plan	8
Drainageway Plan and Profile	9
Typical Details – Project Signage	10
Typical Details – Terraces	11
Typical Details – Stream & Riffles	12
Cross Sections	13 – 14
SWPPP Summary	15
SWPPP BMP Plan	16

2-05 PLANS AND SPECIFICATIONS AT JOB SITE: After subparagraph C, "Record Survey Note," add the following new subparagraph:

D. RECORD SURVEYS

Throughout the Contract, the Division may direct changes in the work as approved by Change Orders and/or Contract Amendments. In the event Division believes such a change is significant enough to warrant the preparation of a record survey, the Contractor shall provide a field survey and record drawing and shall be entitled to compensation thereof. If a record survey is requested, it shall be so indicated in the Change Order or Contract Amendment, and the requirements for the field survey and record drawing shall be provided to the Contractor. The Contractor shall include the cost for the survey and record drawing either in the lump sum price for the change work or as an additional item in the event the change in work is covered by bid unit prices.

2-09 SCHEDULE OF ALTERNATES:

This project does not include any alternate bids.

SECTION 3 – ENGINEER – DIVISION – CONTRACTOR RELATIONS

None

SECTION 4 – SCOPE OF WORK

None

SECTION 5 – MATERIALS AND WORKMANSHIP

None

SECTION 6—LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

6-01 INSURANCE AND RELATED PROVISIONS: In addition to the requirements outlined in Section 6-01 of Document N, the Contractor shall provide a certificate of insurance listing Wapello County as an additional insured. The insurance policy shall be in effect for the duration of the work within the Wapello County ROW and shall provide the following minimum coverage:

Public Liability Insurance:
Per Person: $100,000
Each Occurrence: $300,000

Property Damages Insurance:
Each Occurrence: $50,000

6-10 TRAFFIC CONTROL WITHIN AND ABUTTING THE PROJECT: The Contractor shall provide traffic control signage as shown on the Plans, in accordance with the Iowa DOT Standard Road Plans in Appendix B, and in accordance with Iowa DOT Specifications Section 2528. The cost for furnishing, installing, maintaining, and removing the traffic control shall be included in the price for traffic control. Compensation for traffic control shall be at the Contract lump sum price, with partial payment made in relation to the percentage of the project completed.

SECTION 7 – MEASUREMENT AND PAYMENT

7-01 MEASUREMENT: The Contractor shall provide a final pay quantity survey, which will include a determination of the actual quantities of all bid items except lump sum items. All bid items measured by weight must be substantiated by weight tickets furnished to the Engineer. All bid items measured by length shall be taped in the field jointly by the Contractor and the Engineer. All bid items measured by the number of each unit installed shall be counted in the field by the Contractor, accompanied by the Engineer. All bid items measured by area, except those measured in acres, shall be measured in the field jointly by the Contractor and the Engineer. All bid items measured by the cubic yard or acre shall be surveyed by the Contractor-retained personnel. In lieu of a survey of cubic yard or acre items, the Contractor may request that the Division accepts plan (bid) quantities for those items.

In the event surveying is performed for an item to be measured by the cubic yard or acre, it shall be performed in the presence of the Engineer after said item is completely in place. Surveying shall be performed by a licensed surveyor or a licensed engineer retained by the Contractor. Final quantities used for payment purposes that rely on surveying shall be certified by the licensed surveyor or licensed Engineer. For cubic yard items, submit the survey data as required in the Construction Specifications. For items

measured by the acre, submit to the Engineer a scaled drawing showing the limits of the measured item, with area calculations performed and certified by the licensed surveyor or licensed Engineer.

In the event the Contractor wishes to accept the plan (bid) quantities for any items measured by the square yard, cubic yard, or acre, the Contractor shall submit a request to the Engineer and the Division. If the Division does not agree to plan quantities, the Contractor shall be required to furnish a survey as above for any item not approved. In evaluating the Contractor's request to accept plan quantities, the Division will consider whether or not the Contractor has performed the work to the full intent of the Contract and has completed grading in conformance with the grades shown on the Plans. Bid items measured by the square yard, square, cubic yard, or acre, which can be considered for the request to accept plan (bid) quantity, include:

Bid Item 3	Site Clearing and Preparation (Acre)
Bid Item 6	Excavation (C.Y.)
Bid Item 7	Undercut Excavation, Earth Dam (C.Y.)
Bid Item 8	Impervious Fill, Earth Dam (C.Y.)
Bid Item 23	Subgrade Preparation (Acre)
Bid Item 25	Mulch, Subgrade (Acre)
Bid Item 27	Wetland Undercut and Replacement (Acre)
Bid Item 28	Wetland Mulch, Subgrade (Acre)
Bid Item 29	Seedbed Preparation (Acre)
Bid Item 33	Upland Seeding (Acre)
Bid Item 34	Wetland Fringe Seeding (Acre)
Bid Item 35	Mulch, Seeding (Acre)

SECTION 8—DAVIS-BACON AND RELATED ACT PROVISIONS

None

SECTION 02000 – SUBSURFACE INVESTIGATION

None

SECTION 02010 - FIELD ENGINEERING

None

SECTION 02100 - MOBILIZATION, SITE CLEARING & PREPARATION

1.3 QUALITY ASSURANCE –

D. Delete: "or in the Appendix"

3.1 SITE ACCESS—*Add the following paragraphs after Paragraph D:*

E. The Owner has obtained a Wapello County Driveway Permit for granular surfacing the construction entrance. The site access may be widened at the intersection with the county road at the Contractor's option. If the Contractor elects to widen the accesses, the cost for excavation, pipe, and surfacing shall be included with the price for Mobilization. Site access modifications will require a Wapello County Driveway Permit prior to commencing work.

3.4 OFFICE AND LAY-DOWN AREA – *Replace Paragraphs B and C with the following paragraphs:*

B. A Contractor's office is not required for this project. The Contractor is responsible for establishing sanitary facilities during construction as described in Section 6-13 of Document N.

3.8 DEBRIS REMOVAL AND DISPOSAL—*Replace Paragraph B—Burning of Landscape Waste with the following:*

1. There are multiple residences within ¼ mile of the project limits. Burning of cleared and grubbed material is therefore not permitted on this project.
2. All cleared and grubbed material shall be chipped and removed from the site, chipped and reused for subgrade mulching, or buried in accordance with Section 3.8(C).

3.10 CLEANUP AND DEBRIS—*Add the following to the end of Paragraph C.*

At the end of the project, any portions of the access route falling within the cultivated farm field shall be de-compacted. This shall be achieved with a ripper on the back of a bulldozer to an approximate depth of 24 inches.

4.1 MEASUREMENT AND PAYMENT—*Add the following to the end of the first paragraph of Paragraph B(1). Mobilization:*

The following additional item is included with the price for Mobilization:

1. Deep ripping portions of the access route within the cultivated farm field.

SECTION 02120 – SEDIMENT AND EROSION CONTROL

1.1 DESCRIPTION – *Add the following paragraph:*

D. The bidding documents include bid items for "approved" temporary sediment control measures. During the shop drawing phase, the Contractor shall submit the sediment control device they plan to use in the areas shown in Sheet 16 of the Plans. The Contractor may use silt fencing, wattles, or earthen sediment berms.

2.7 MATERIALS – *Replace Paragraph 1 of A. Wattles with the following paragraph:*

1. Netting for wattles shall be degradable with an open weave having a nominal diameter of twelve (12) inches.

3.3 INSTALLATION OF SEDIMENT AND EROSION CONTROL METHODS – *Replace Paragraph 6 of F. Silt Fences with the following paragraph:*

6. The silt fence shall be removed as described herein. The accumulated sediment shall be removed from the upstream face of the silt fence, spread uphill, and graded to provide positive gravity drainage. The portion of the silt fence fabric above the ground shall be cut off at ground level and removed from the site. The portion of the silt fence fabric below grade shall remain in place. The zip ties or wire ties shall be removed from the fence posts, and the posts shall be removed.

3.3 INSTALLATION OF SEDIMENT AND EROSION CONTROL METHODS – *Replace Paragraph 3 of K. Temporary Rolled Erosion Control Products (RECPs) with the following paragraph:*

3. The seedbed shall be prepared, the seed placed, and fertilizer applied in accordance with Section 2700 before installation of the RECP. In addition to this section, RECP shall be installed in accordance with Iowa DOT Standard Road Plans: EC-101 or EC-103, depending on location.

Add the following paragraphs 6 and 7 to K. Temporary Rolled Erosion Control Products (RECPs):

6. A minimum quantity of RCEPs is shown on the Plans. The final location and quantity of RECP shall be determined by the Engineer during construction.

7. Temporary RECP shall be considered a permanent erosion control practice and shall not be removed after installation.

4.1 MEASUREMENT AND PAYMENT – *Add the following to the end of the respective paragraphs in Section B:*

6. *Silt Fences:* Measurement and payment for installation and removal of silt fence shall be as described in Section 2120(4.1)B.6 of the Construction Specifications, except the fence fabric removal shall be as described in Section 2120(3.3)F of these Supplemental Construction Specifications in lieu of the Construction Specifications.

15. *Stabilized Construction Entrance:* The cost for the stabilized construction entrance shall be included with the price for the Macadam Stone Base.

4.2 SUMMARY – *Add the following to Section 4.2:*

Proposal Bid Items applicable to work covered by this SECTION are as follows:

Description	Unit
Approved Temporary Sediment Control Measures- Installation	Linear Foot

Approved Temporary Sediment Control Measures: This item includes furnishing and installing, maintaining, and removing approved sediment control measures (silt fencing, wattles, or temporary earthen sediment berms) as described in Section 2120. Installation, measurement, and payment shall be as described for each respective sediment control measure as described for that measure in Section 2120. If, during construction, temporary sediment control devices are declared permanent by the Engineer or Division, the full amount shall still be paid to the Contractor.

SECTION 02200 – EARTHWORK, ROUGH GRADING

1.4 JOB CONDITIONS – *Add the following paragraph to 1.4C:*

C. Earthwork Balance

3. The earthwork for this project is summarized below.

EARTHWORK SUMMARY			
Description	CUT (C.Y.)	FILL (C.Y.)	FILL + SHRINK (C.Y.)
EXCAVATION	18,090	15,840	-
IMPERVIOUS FILL, EARTH DAM	-	3,995	-
FILL, EXCLUDING IMPERVIOUS	-	11,845	13,266*
UNDERCUT EXCAVATION	2,025	2,025	-
TOTAL IMPERVIOUS FILL		6,020	7,224^
TOTAL EXCAVATION	20,115		20,490

**12% Shrink used for general site grading (Spec. 02200)*
^20% shrink used for impervious fill (Spec. 02220(3.7))

3.6 CARE OF WATER—*Clarification to paragraph 3.6:*

This site contains significant acid mine drainage seeping from the toe of the stream banks. Refer to the drawings for anticipated flow rates and water quality test results. Caring for this water shall be the Contractor's responsibility and might require bypass pumping in addition to the methods described in 3.6.

The Contractor is not responsible for treating the acid mine drainage to meet the water quality requirements listed in Section 02110(3.7) prior to discharging from the site.

3.9 FILL PLACEMENT AND COMPACTION—*Clarification to paragraph 3.9G:*

Refer to Section 02220(3.7) Impervious Fill Placement for compaction of all fills deeper than 15 feet.

SECTION 02220 – EARTHWORK, DAMS

2.1 FILL MATERIAL—*Clarification to paragraph 2.1(A) Impervious Fill Material:*

In addition to Section 2.1(A), Impervious Fill shall meet the recommendations of the Geotechnical Exploration by Allender-Butzke-Engineers, Inc. in Appendix A. Impervious fill shall be Pre-Illinoian glacial till and lean clay (CL) or cohesive alluvium (CL). Fat clay (CH) found in soil boring No. 5 is not acceptable for impervious fill.

SECTION 02230 – EARTHWORK, SHAFTS

1.1 DESCRIPTION – *Add this paragraph before Paragraph F:*

It has been reported that a shaft might be present onsite, but no shaft has been located during the design process. If a shaft is encountered that needs to be stabilized, the stabilization will be considered Extra Work as described in Section 7-03 of Document N.

SECTION 02300 – DRAINAGE SYSTEMS, GENERAL

2.3 OUTLETS FOR TILING OR PIPE- *Add the following after Paragraph E:*

F. Precast concrete aprons shall be Class II or Class III aprons meeting the requirements of Iowa DOT Section 2416.02 and Iowa DOT Standard Road Plan DR-201. Connections between RCP aprons and DWPE pipe shall be made with chemical-resistant polyseal couplers by Marmac, or equivalent.

3.9 RIPRAP DITCHES & OTHER RIPRAP WORK - *Replace Paragraph E with the following:*

E. Grout shall not be provided with the riprap.

4.1 MEASUREMENT AND PAYMENT: *Add the following to the end of the respective paragraphs in Paragraph B:*

1. *Terrace*: A bid item has not been provided for the construction of the terraces. The cost for the terrace earthwork shall be included with the price for the excavation, as described in Section 2200 of the Construction Specifications.

2. *Riser* – Terraces: This item includes furnishing and installing the terrace risers as shown on the plans and as described in Section 2300 of the Construction Specifications. In lieu of providing a silt fence around the terrace risers, straw wattles in accordance with Section 2120(2.1)F of the Construction Specifications, shall be furnished and installed around each riser. The cost for furnishing, installing, and cleaning the sediment from the straw wattles shall be included with the price for the terrace risers.

7. *Filter Fabric:* The cost of filter fabric shall be included with the price of the associated item of construction. Separate payments will not be made for filter fabric.

4.3 MEANDERED CHANNELS—*Add the following new section:*

A. The Contractor shall perform the initial construction of the meandered channels during the rough grading operations. The meandered channels shall be brought to the final design grades immediately prior to subgrade preparation.

B. After the conclusion of the bake period and immediately prior to the seeding operations, the Contractor shall perform a second grading of the meandered channel to correct any erosion or sedimentation. The Engineer reserves the right to require a second staking of the meandered channel prior to the second grading.

C. After the second grading is completed, the Contractor shall provide light compaction of the soil to consolidate loose fill and create a firm bottom in each meandered stream channel.

D. The cost of construction of the meandered channels shall be included with the price of excavation. There will be no measurement of the quantity of material moved with the second channel grading operation.

SECTION 02310 – DRAINAGE SYSTEMS, DAMS, AND STRUCTURES

2.2 DRAINAGE CONDUITS—*Add the following Section I after Section H.*

I. Steel-Reinforced Polyethylene Pipe (SRPE)

1. SRPE shall have a smooth interior and corrugated exterior reinforced with steel ribs encased in polyethylene. The pipe shall be manufactured with a helical winding process, resulting in a continuously fusion-welded lap seam along the pipe. The SRPE shall be DuroMaxx pipe as manufactured by Contech Engineered Solutions, or equivalent.

2. The pipe profile shall meet the requirements of ASTM F2562 or AASHTO M335 and MP40. The polyethylene resin shall meet the requirements of cell classification 345464C as defined in ASTM D3350.

3. The pipe joints shall be electro-fusion or extrusion welded to provide water-tight joints at up to 30 psi of pressure.

4. The pipe shall have the approximate minimum dimensions.

Nominal Pipe Size (in)	Outside Diameter (in)	Unit Weight (lb/ft)	Minimum Waterway Wall Thickness (in)
48	49.5	29.1	0.130
72	74.1	65.6	0.220

5. The 12” diameter low-level control pipe (P-1A) shall be 12” diameter, DR 32.5 polyethylene, and manufactured by the same company as the SRPE. The PE shall be joined to the SRPE via field welds as recommended by the manufacturer. The PE inlet shall be protected with beveled pipe guard in accordance with Iowa DOT Standard Road Plan DR-212

2.4 DROP INLETS AND OPEN-SIDED AREA INTAKES – *Replace Paragraph A. Drop Inlets with the following A. Drop Inlets:*

1. Drop inlets shall be constructed of SRPE as described in Supplemental Specifications Section 02310(2.2)I. The inlet structure shall be pre-manufactured to the dimensions shown on the Plans. All

connections between the premanufactured drop inlet and proposed piping shall be made with field-welded joints in accordance with the pipe manufacturer's recommendations.

2. The concrete anti-floatation base for the drop inlets shall meet the requirements of Section 02310(2.6)B.

3. The flowable mortar around the connection between the vertical and horizontal pipes in the drop inlet structure shall meet the requirements of Iowa DOT Section 2506.02.

4. The granular base and backfill around the drop inlets shall meet the requirements of Class I granular bedding and backfill material in Iowa SUDAS 3010(2.02).

3.8 PIPE – *Add the following paragraphs:*

E. Pipe shall be trenched and backfilled with a Class P-1 or Class F-2 trench, as shown on the Plans. The sand for backfill shall meet the requirements of ASTM C-33 (Iowa DOT Gradation #1). The Contractor shall take care to locate suitable backfill material that is readily friable and does not consist of large clods or chunks of shale. Backfill in contact with the pipe shall be completed carefully to obtain good pipe-to-backfill contact and reduce any potential water piping along the outside of the pipe. Placement of sand backfill shall generally meet the requirements of Section 02310(3.7).

F. The SRPE pipe shall be constructed in accordance with ASTM D2321 and the manufacturer's installation recommendations. The Contractor shall take care not to damage the pipe during transportation and installation. Pipe shall be lifted with nylon straps. Chains or cables are not permitted to lift or place pipe.

G. SRPE pipe is subject to expansion or contraction with changes in temperature. The SRPE shall be allowed to adjust to the trench temperature prior to backfilling.

H. Field welding of pipe joints shall be completed by the manufacturer's representative.

I. The pipe shall be tested for leakage and deflection in accordance with Iowa SUDAS Section 4060 at least 30 days after backfilling.

3.9 STRUCTURES: DROP INLETS AND OPEN SIDED AREA INTAKES—*Replace Paragraphs A(2) and A(3) with the following:*

2. The drop inlet trench shall be excavated, and the subgrade prepared by scarifying and re-compacting to a 6" depth.

3. The concrete footing shall be placed to the minimum dimensions shown on the Plans, with the base of the drop inlet cast into the concrete. It is not necessary to form the concrete. The trench walls may serve as the forms. The concrete footing shall be allowed to cure for a minimum of 24 hours prior to placing the flowable mortar. The Contractor shall be aware of potential floatation during the cure time and provide trench dewatering or fill the structure with water as necessary.

4. The proposed pipes shall be connected to the drop structure in accordance with the recommendations of the pipe manufacturer.

5. The outside of the drop structure shall be wrapped with an 8-mil polyethylene wrap to prevent any potential trench settlement from compressing the drop structure. The polyethylene wrap shall be attached to the drop structure securely enough to hold the polyethylene wrap in place throughout the backfilling process. This shall be achieved with tile tape, or equivalent.

6. The lower portions of the drop structure shall be backfilled with flowable mortar as shown on the Plans and as described herein. The flowable mortar shall be placed in 8-inch maximum lifts and consolidated after each lift to eliminate any voids or air pockets. The pipe shall be secured against floatation during the backfilling operation. The flowable mortar shall be allowed to cure for at least 48 hours prior to backfilling the remainder of the structure with granular material.

7. The drop structure shall be backfilled with Class I granular material placed in 12-inch maximum lifts. Each lift shall be compacted with three passes of a walk-behind vibratory plate compactor. The lifts shall be brought up evenly on all sides so the fill is kept at approximately the same elevation at all times.

4.1 UNIT PRICES – *Add the following to the end of Paragraph B.3:*

3. In addition, this item includes furnishing and installing the beveled pipe guard for the 12-inch PE.

SECTION 02400 – SUBGRADE PREPARATION (WITHOUT COVER MATERIAL)

1.3 QUALITY ASSURANCE – *Add the following paragraph:*

D. Agricultural Lime, Mulch, and Wetland Fertilizer shall be applied with the Engineer and/or Division present at all times.

3.6 LIME – MULCH APPLICATION – *Add the following to Paragraph A.1:*

A. Application Rates

1. The application rate of lime shall be based upon the results of soil tests conducted in accordance with Section 2400, 3.3D, Testing, of the Construction Specifications. For bidding purposes, it is estimated that the lime shall be applied at the rate of 40 tons of ECCE per acre.

SECTION 02700 - SEEDING

1.3 QUALITY ASSURANCE – *Add the following paragraph:*

H. All seeding shall take place with the Engineer and/or Division present.

2.4 SEED – *Add the following to the end of Paragraph D:*

D. Seed Mixture: Seed mixtures shall consist of the varieties, mixtures, and application rates by pound pure live seed (PLS) per acre as stated below. The locations of the various seed mixtures are shown on the Plans.

Upland Seeding:

Common Name	Scientific Name	Rate (Lbs. PLS/ac)
Alfalfa	*medicago sativa*	8.0
Alsike clover	t*rifolium hybridum L.*	4.0
Orchardgrass	*dactylis glomerata*	6.0
Partridge pea	*chamaecrista fasciculate*	5.0
Perennial ryegrass	*lolium perenne L.*	3.0
Red clover	*trifolium pratense L.*	3.0
Redtop	*agrostis gigantea*	3.0
Smooth brome	*bromus inermis*	4.0
Timothy	*phleum pratense L.*	6.0
Virginia wild rye	*elymus virginicus*	6.0
	TOTAL	48.0

Wetland Fringe Seeding - Above Water Line:

Common Name	Scientific Name	Rate (Lbs. PLS/ac)
Virginia wildrye	*elymus virginicus*	10.60
Fowl manna grass	*glyceria striata*	0.70
Blue joint grass	*calamagrostis canadensis*	0.70
Prairie cordgrass	*spartina pectinata*	4.00
Fox sedge	*carex vulpinoden*	0.03
Bebb's sedge	*carex bebbii*	0.04
Spike rush	*eleocharis palustris*	0.05
Rice cut grass	*leersia oryzoides*	0.04
Shortawn foxtail	*alopercurus acqualis*	10.60
Cup plant	*silphium prefoliatum*	0.70
	TOTAL	27.46

All the seed mixtures shall include a nurse crop in addition to the species listed above. The nurse crop applied shall depend on the seeding period, as described below:

Spring and Fall Cover Crop (April 1-May 30, and August 15-September 15):
Oats, Avena sativa, 32 lb PLS/ac

Dormant Cover Crop (November 15 to freeze up):
Winter Wheat, triticum aestivum, 45 lb PLS/ac

3.3 SEEDBED PREPARATION – *Clarification.*

The entire area to be seeded shall have the seedbed disked to a depth of at least 6" in accordance with this Section, even if the area had little to no dirtwork activities completed.

3.4 LIMING AND FERTILIZING – *Replace Paragraphs C and D with the following paragraphs:*

C. The application rate of agricultural limestone shall be based upon the results of soil tests conducted in accordance with Section 2700, 3.2, Testing, of the Construction Specifications. For bidding purposes, it is estimated that the lime shall be applied at the rate of 5 tons of ECCE per acre.

D. The application rate of fertilizer shall be based upon the results of soil tests conducted in accordance with Section 2700, 3.2, Testing, of the Construction Specifications. For bidding purposes, it is estimated that the fertilizer shall be applied at a rate of 40 pounds of nitrogen, 100 pounds of phosphorus, and 200 pounds of potassium per acre.

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