

**Technical Specifications – Main Street Pump Station – Shoreline Erosion Repair
 Project Number PW#2023.080 for the Lake County Public Works
 Department, Lake County, Illinois**

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GENERAL REQUIREMENTS

Mobilization / Project Administration / Demobilization

Description: This work shall consist of project mobilization, demobilization, and project administration in accordance with the contract documents, applicable sections of division 100 of the Standard Specifications for Road and Bridge Construction in Illinois (SSRBC), and section 671 of the SSRBC.

Basis of Payment: This work will be paid for at the contract lump sum price indicated on the contract documents for "Mobilization / Project Administration / Demobilization". The amount the Contractor shall receive payment for is outlined in the below schedule.

- Upon mobilization to the site to begin construction 50 percent of this pay item will be paid.
- When ten percent of the original contract amount is earned an addition 25 percent of this pay item will be paid.
- When 90 percent of the contract value is earned the remaining 25 percent of this pay item will be paid.

Pre-Construction Video

Description: The Contractor will be required prior to mobilizing to the site prepare a pre-construction video and photograph log throughout the entire project area.

Construction Requirements: The video shall be taken proceeding in both directions linearly along the project area. The video shall be of adequate quality to identify existing defects and existing conditions of all appurtenances that may be damaged during the construction activities.

In addition to the video, a photograph log of specific items within and adjacent to the right-of-way, property lines, and project limits shall be prepared to document special items within the boundaries of the project. It is up to the Contractor's discretion of what to collect in this photograph log based on their anticipated disturbance areas.

The video log and photograph log shall be supplied to the County upon completion prior to mobilization of equipment to the project site. The documents shall be supplied on a USB thumb drive or external hard drive based on the data size of the documents. It is up to the Contractor to determine if the video and photolog created is adequate to document the existing conditions on and around the project site. Any and all claims that arise out of the project due to the Contractor's logs not providing adequate evidence of damage prior to construction shall be repaired and/or replaced to the satisfaction of the County and the authority having jurisdiction (AHJ) at no additional cost to the County.

Basis of Payment: This work will be paid for at the contract lump sum price for "Pre-Construction Video", and include all labor material and equipment necessary to perform the work as specified herein.

Temporary Facilities

Description: The Contractor shall provide temporary facilities as needed for their construction operations. The temporary facilities shall be approved by the County prior to mobilization to the project site and be in

good working condition and shall meet the requirements of State and Local Health Regulations and Ordinances.

Equipment: Portable facilities must at a minimum include portable washroom facilities and hand-washing stations. All other facilities must be discussed at the pre-construction meeting for approval by the County.

Construction Requirements: The portable restroom and hand-washing stations shall be serviced on a weekly basis or as determined necessary by the County. The location of such facilities shall be approved by the County prior to their delivery.

Basis of Payment: This work shall be paid for at the contract lump sum price for "Temporary Facilities". Upon mobilization to the project site the Contractor shall receive payment for 50 percent of this pay item. The remaining 50 percent will be paid for upon the placement of turf restoration materials and demobilization of the temporary facilities.

Project Record Drawing Requirements

Description: The Contractor shall document the installation of the proposed gabion baskets and shoreline stabilization measures and provide record drawings at the conclusion of the project.

Construction Requirements: The Contractor shall coordinate the preparation of record drawing documentation. The Contractor will be responsible for preparing the required electronic documents for submittal to the County. The Contractor shall coordinate to give a minimum of 2 days notice when work is going to take place for as-built documents.

Gabion Basket As-Built: The Contractor shall be required to provide as-built top of wall and middle of wall elevations at locations corresponding to those shown on the proposed grading plan. As-built bottom of wall grades will not be required due to the bottom of the wall being buried. Instead, the contractor shall provide as-built elevations of the finished stream bottom grade at the locations where the proposed grading plan identified bottom of wall and finished grade elevations.

Stabilized Slope As-Built: The Contractor shall be required to provide as-built elevations at locations corresponding to those shown on the proposed grading plan for the stone and vegetative slope areas. additional as-built elevations shall be collected at 2.5' horizontal intervals extending along the slope between the elevations called out at the top and bottom of the streambank on the proposed grading plan. Spot elevations at the top, bottom, and centerline of the stone ditch are also required.

Open Space As-Built: For all open space areas disturbed by construction activity, the Contractor shall be required to provide as-built elevations at a maximum 15' grid. High and low points of berms, swales, ditches, and ridges shall be captured as well.

Drawings must be signed and sealed by a Professional Engineer or Professional Land Surveyor Licensed in the State of Illinois. Drawings shall be created using CAD, approved record drawing files shall be submitted in either ArcGIS (preferred), MicroStation, or AutoCAD format with one paper copy. Under either

circumstance, an Adobe PDF of the Record Documents shall be included. Submitted drawings shall be no smaller than 11" x 17" or larger than 24" x 36". The scale shall be 1"= 50' or greater.

State Plane Coordinates, Eastern Zone, NAD 83 NSRS2007, with minimum sub foot accuracy. Vertical datum shall be NAVD88. The drawings shall include any and all approved field changes. All structures (manholes, valve vaults, valve boxes, hydrants, b-boxes) shall have GPS coordinates including northing, easting and vertical elevation.

Basis of Payment: This work will not be measured or paid for separately but shall be included in the various items the as-built information is required for.

SOIL EROSION CONTROL/PRE-CONSTRUCTION PREPARATION

Erosion Control Installation and Monitoring

Description: This work shall be in accordance with section 280 of the SSRBC and as specified herein.

Construction Requirements: Silt fence as shown on the drawings shall be installed prior to mobilizing equipment to stabilize the shoreline. Additional silt fence as needed based on the Contractor's operations shall be installed to prevent sediment from leaving the construction areas as determined necessary by the Engineer or the County.

A sediment containment bag shall be on site at all times for any necessary dewatering operations. The bag shall be sized accordingly in order to ensure proper operation. The bag shall be replaced and/or cleaned as necessary per the manufacturers recommendation in order to ensure proper operations. No dewatering operations can take place without the proper use of the sediment containment bag. Dewatering locations and operations shall be approved by the Engineer and the County.

The contractor shall install and maintain a cofferdam on site throughout the entirety of the project. The cofferdam design shall be submitted to the Engineer for approval prior to fabrication and installation.

The cofferdam alignment shall be installed as depicted on sheets 2 and 5 of the engineering plans and shall comply with the cofferdam detail on sheet 9 of the engineering plans. The Lake County Stormwater Management Commission (LCSMC) and the Engineer shall approve the installed cofferdam prior to the commencement of construction operations. The cofferdam shall be installed in accordance with Article 502.06 of the SSRBC, as well as the manufacturer recommendations.

The cofferdam shall be maintained for the duration of the project, to the satisfaction of LCSMC and the Engineer. The cofferdam shall be watertight and of sufficient strength to resist all imposed loads and to maintain a dry work area. The cofferdam shall be maintained throughout the project and removed upon completion of the work, with all disturbed areas restored to original condition.

Phasing of construction will be permitted with partial cofferdam installation if desired by the contractor. All modifications to the cofferdam layout will require reapproval by LCSMC and the Engineer.

All installed erosion control items shall be in proper working condition and any repairs as deemed necessary by the Engineer or County shall be performed within two working days. Failure to properly maintain erosion control items as determined by the Engineer or County will subject the Contractor to a \$500 per diem fine until the deficiency has been properly addressed. This fine will be documented by the Engineer or County and assessed on the next pay request submitted by the Contractor.

The Contractor shall provide and maintain a qualified Designated Erosion Control Inspector (DECI) for the duration of construction activities associated with the project, as required by LCSMC. The DECI shall be responsible for conducting inspections of erosion and sediment control measures, documenting site conditions, distributing documentation, identifying deficiencies, and recommending corrective actions

necessary to maintain compliance with permit requirements and approved erosion and sediment control plans. Inspections shall be performed weekly and following any rain event that produces 0.5 inches or more of rainfall. The Contractor shall promptly address any deficiencies identified by the DECI and maintain all inspection records.

Following establishment of all vegetation temporary erosion control measures shall be removed and disposed of offsite. Any additional disturbance from removal of the temporary erosion control measures shall be restored in accordance with the restoration requirements listed in the contract. The additional restoration will not be paid for separately but shall be included in the cost of the erosion control item that is being removed.

Method of Measurement: Silt fence as shown on the contract documents shall be paid for per linear foot installed as marked out in the field by the Engineer. All additional silt fence required based on the Contractor's operations and as determined necessary by the Engineer or County will not be measured or paid for separately.

Basis of Payment:

Silt fence will be paid for per linear foot for "Silt Fence".

Sediment filter bag operation and maintenance will be paid for per the contract lump sum price for "Dewatering (Includes Sediment Containment Filter Bag)". This item will have 25 percent of its value paid for upon mobilization of equipment to the site. The final 75 percent of this item will be paid upon final acceptance of the turf restoration measures.

Monitoring, maintenance and removal of erosion control items shall be paid for per the contract lump sum price for "Erosion Control Monitoring, Maintenance and Removal". This item will be paid for at the construction percentage complete value on each pay request.

All costs associated with providing the DECI, performing inspections, preparing reports, maintaining records, implementing corrective actions, and complying with permit requirements shall be considered incidental to the Contract. No separate measurement or payment will be made for this work, and all associated costs shall be included in the Contractor's bid prices for the various Contract items.

Cofferdam installation and maintenance shall be paid for per the contract lump sum price for "Cofferdam". This item shall have 50% of its value paid upon installation and approval by the Owner and Lake County Stormwater Management Commission (LCSMC). The final 50% of this item will be paid upon removal of the cofferdam at the conclusion of the project. All costs associated with cofferdam installation, maintenance, and removal shall be included in the contract unit price.

Tree and Shrub Protection and Root Pruning

Description: This work shall include root pruning, tree protection, and other landscape material protection as required by the contract. All work shall be in accordance with section 201 of the SSRBC and as specified herein.

Construction Requirements: The Contractor will be responsible for root pruning trees and shrubs within the construction area that will be affected by their operations. Root pruning shall be performed at the locations shown on the plans or as directed by the Engineer. All root pruning shall be done by approved equipment and be reviewed by an arborist or as approved by the County.

Root pruning shall consist of cutting tree and shrub roots in a clean and controlled manner to minimize damage to trees and shrubs designated to remain. Roots shall be cut cleanly using appropriate tools; tearing, ripping, or breaking of roots shall not be permitted.

Tree protection fencing shall be installed at the locations shown on the plans or as directed by the Engineer and shall be placed prior to the start of any construction activities in the vicinity of protected trees. The fencing shall be installed in a secure and stable manner and shall remain in place for the duration of construction activities unless otherwise directed by the Engineer.

Any damage done to trees, shrubs, or other plant material by the Contractor's negligence shall be repaired or replaced to the satisfaction of the County or AHJ at no additional cost to the County.

Basis of Payment: All protection of tree and plant material shall be paid for per linear foot for "Tree Protection Fence". This work will be paid for 100 percent of its value upon completion of the shoreline stabilization. A portion of this pay item may be paid as determined appropriate by the County.

Root pruning will be paid for per linear foot for "Root Pruning".

CONSTRUCTION PREPARATION

Traffic Control and Protection

Description: Traffic control shall be according to the applicable sections of the SSRBC, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", and any special details and Highway Standards listed in the plans and the Special provisions contained herein.

Construction Requirements: Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

Delays to the Contractor caused by complying with these requirements will be considered included in the cost of the contract, and no additional compensation will be allowed.

No roadways within the project area shall be closed without prior written approval from the County and Grant Township. The Contractor must present to the County and Grant Township, a detour plan with a detailed description addressing how access will be maintained and all applicable signage. Submittal of a road closure request to the County and Grant Township does not guarantee approval. Any additional traffic control devices required for road closures per the Contractor's request shall not be paid for separately but shall be included in the cost of the contract.

This item shall include barricades and other traffic control measures necessary to separate the project area from the parking lot. The parking lot shall remain open throughout construction, and activities such as employee parking and deliveries shall not be compromised.

Basis of Payment: Traffic control items shall be paid for per the contract lump sum price for "Traffic Control and Protection".

These items will be paid out according to the following schedule.

- Upon mobilization for performing work in the subject area 25 percent of the value shall be paid.
- Upon completion of the shoreline stabilization 50 percent of the value shall be paid.
- Upon demobilization of the traffic control devices the remaining 25 percent shall be paid.

Temporary Construction Fencing

Description: This item shall be for temporary fence as needed to protect the work zone from the public and LCPW employees on-site, and protect existing features from disturbance and as needed based on the Contractor's sequence of operations. All work shall be in accordance with section 664 of the SSRBC and as specified herein.

Construction Requirements: Temporary fence required by the Contractor's operations shall be installed and maintained throughout the time the temporary fence is required. Fences adjacent to roadways shall be

adequately protected from traffic as outlined in the contract documents in accordance with the roadside safety guide published for local roadways in the State of Illinois.

The Contractor shall determine limits of temporary fence for protection of items within and adjacent to the right of way from the Contractor's operations. Any damage to existing features to remain due to the Contractor's operations shall be restored in kind to the satisfaction of the County.

Basis of Payment: This work will be paid for at the contract lump sum price for "Temporary Construction Fencing". Payment of this item will be paid for at the percentage complete of the project for each pay request submitted.

DEMOLITION

Vegetation Removal

Description: This work shall include tree removal, stump removal, site clearing, and other landscape material removal as required by the contract. All work shall be in accordance with Section 201 of the SSRBC and as specified herein.

Construction Requirements: Tree removal and clearing and grubbing shall be performed within the limits depicted by the "Clearing and Grubbing" hatch on sheet 2 of the engineering plans or as directed by the County.

Tree removal shall be defined as the removal of all trees exceeding 6 inches in trunk diameter but not exceeding 15 inches in trunk diameter. Trees exceeding 15 inches in diameter shall be covered by the supplemental unit pricing pay item Tree Removal (Over 15 Units Diameter). Trees with a trunk diameter less than 6 inches shall be included under the clearing and grubbing pay item. The full removal of tree root structures is included in tree removal. Any damage done to trees, shrubs, or other plant material to remain by the Contractor's negligence shall be repaired or replaced in kind to the satisfaction of the County at no additional cost to the County. Tree removal shall be in accordance with Articles 201.04 and 201.09 of the SSRBC.

Clearing and grubbing shall entail the removal of all saplings and trees with trunk diameters less than 6 inches, as well as brush, shrubs, stumps, logs, and other vegetation. Associated root structures are included in this pay item. Any damage done to trees, shrubs, or other plant material to remain by the Contractor's negligence shall be repaired or replaced to the satisfaction of the County at no additional cost to the County. Fence removal is not included in clearing and grubbing. Clearing and grubbing shall be in accordance with Articles 201.08 and 201.09 of the SSRBC.

Basis of Payment: Tree removal for trees between 6 and 15 inches in trunk diameter will be paid for per inch units for "Tree Removal (6 to 15 Units Diameter)".

Clearing and grubbing of all brush and trees not exceeding 6 inches in diameter will be paid for per the contract lump sum price for "Clearing and Grubbing".

Fence Removal

Description: This work shall include the removal of existing fences, fence posts, associated foundations, chain link fabric mesh, gates, and any associated appurtenances, as required by the contract.

Construction Requirements: Fence removal shall be performed as shown on the plans or as directed by the County or Engineer.

Fence removal shall consist of the complete removal of existing fence materials, including posts, associated foundations, rails, chain link fabric mesh, wires, gates, and associated hardware and

appurtenances. All resulting voids shall be backfilled with suitable material and compacted to match adjacent ground conditions.

Any damage to fences or related facilities designated to remain that is caused by the Contractor's negligence shall be repaired or replaced to the satisfaction of the County at no additional cost to the County.

Removed fence materials shall be disposed of legally off-site.

Basis of Payment: Fence removal will be paid for per linear foot for "Fence Removal".

SHORELINE IMPROVEMENTS

Earth Excavation and Haul-Off

Description: This work shall include the excavation, haul-off, loading, hauling, and legal disposal of excess earth materials, as required by the contract. All work shall be in accordance with Articles 202.01-202.05 of the SSRBC and as specified herein.

Construction Requirements: Earth excavation shall be performed within the limits depicted by the "Earth/Gravel Removal" hatch on sheet 2 of the engineering plans or as directed by the Engineer.

Earth excavation shall consist of removing all earthen and gravel materials necessary to achieve the proposed finished grades depicted on the engineering plans. Excavated materials shall be loaded, transported, and disposed of legally off-site.

All excavation and haul-off operations shall be conducted in a manner that minimizes disturbance to adjacent areas. Areas disturbed by earth removal operations shall not be left exposed during any periods of inactivity. If the site becomes inactive for any reason, open excavation areas must be temporarily stabilized and blanketed. Any damage to existing site features designated to remain that is caused by the Contractor's negligence shall be repaired or replaced to the satisfaction of the County at no additional cost to the County.

Basis of Payment: Earth excavation and haul-off work will be paid for per cubic yard for "Earth Excavation".

Gabion Basket Retaining Wall

Description: This work shall consist of furnishing and installing gabion baskets. This includes providing all materials and appurtenances necessary to assemble the basket cages and fill them with stone, as well as constructing the gabion basket retaining wall as depicted on the engineering plans and as required by the contract. The gabion basket retaining wall shall be installed in accordance with Section 284 of the SSRBC.

Construction Requirements: The gabion basket retaining wall shall be constructed at the locations and elevations shown on the engineering plans or as directed by the Engineer.

Gabion baskets shall be erected, assembled, and anchored in accordance with the applicable provisions of the SSRBC. Steel wire shall be galvanized per ASTM A641 and aluminized per ASTM A809. Baskets shall be placed on prepared bedding that is properly graded and compacted to provide uniform support. Bedding shall be paid for separately, in accordance with the RR-1 Backfill and Bedding pay item.

Gabion baskets shall be filled with approved RR-3 stone material that meets the gradation and quality requirements specified in Article 284.02 of the SSRBC and the detail located on sheets 3, 4, and 6. Stone shall be placed such that the baskets are filled uniformly and tightly. Baskets shall be laced and secured to adjacent baskets to form a stable, continuous structure.

Care shall be taken during construction to prevent damage to adjacent site features designated to remain. Any such damage caused by the Contractor's negligence shall be repaired or replaced to the satisfaction of the County at no additional cost to the County.

The heavy duty non-woven geotextile fabric to be placed below and behind the gabion basket retaining wall shall also be included in this item.

Basis of Payment: Gabion basket retaining wall will be paid for per face square foot for "Gabion Basket Retaining Wall".

Bedding and Backfill

Description: This work shall include furnishing, placing, and compacting RR-1 stone bedding beneath the gabion basket retaining wall and furnishing, placing, and compacting RR-1 backfill material behind the gabion basket retaining wall, as required by the Contract. This item is separate from the gabion basket retaining wall pay item. All work shall be performed in accordance with the applicable provisions of the SSRBC and as specified herein.

Construction Requirements: RR-1 stone bedding shall be placed beneath the gabion basket retaining wall at the locations and thickness shown on the plans or as directed by the Engineer. The bedding material shall be placed on a suitable subgrade (compacted to 95% modified proctor density) and graded to provide uniform support for the gabion baskets.

RR-1 backfill material shall be placed behind the gabion basket retaining wall at the locations shown on the plans or as directed by the Engineer. Backfill shall be placed in a manner that does not disturb or damage the gabion baskets or compromise the stability of the wall. The material shall be placed and compacted in lifts, with a maximum lift depth of 24 inches.

Placement of both the RR-1 stone bedding and backfill shall be coordinated with the construction of the gabion basket retaining wall to ensure proper alignment, drainage, and structural performance. Any damage to the gabion basket retaining wall or other site features designated to remain that is caused by the Contractor's negligence shall be repaired or replaced to the satisfaction of the County at no additional cost to the County.

Basis of Payment: RR-1 backfill and bedding will be paid for per ton for "RR-1 Backfill and Bedding".

Slope Stabilization

Description: This work shall include grading and stabilizing areas of streambank using either vegetation slope stabilization or stone slope stabilization, including materials, grading, placement, and all operations necessary to provide long-term slope stability, as required by the Contract. All stone slope stabilization work shall be performed in accordance with Section 281 of the SSRBC and as specified herein.

Construction Requirements: Slope stabilization via stone and vegetation shall be performed within the limits depicted by the respective “Stone Rip Rap (RR-3)” and “Native Grass Restoration IDOT Class 4 Seed” hatches on sheet 3 of the engineering plans or as directed by the Engineer.

Areas designated for stone slope stabilization shall be graded to a maximum slope of 2:1 in accordance with the proposed grading. Following grading, a heavy-duty non-woven geotextile fabric shall be placed directly on the subgrade of the prepared slope. The subgrade shall be compacted to 95% modified proctor density.

RR-3 stone shall be placed on the geotextile fabric to a minimum depth of 27 inches. The stone shall be placed in a manner that provides a stable and uniform layer resistant to displacement from stream flow. At the top of the stone slope, a minimum of 6 inches of topsoil shall be placed over the upper portion of the stone to aid in transition to adjacent ground and facilitate vegetative growth.

Areas designated for vegetation slope stabilization shall be graded to a maximum slope of 3:1 in accordance with the proposed grading. At the base of the stabilized slope, a toe protection consisting of RR-3 stone shall be provided. The RR-3 stone base shall be 27 inches in depth, 3 feet in width, and shall extend from a point 6 inches below the normal water level down to the bottom of the streambed.

Above the stone toe, the graded slope shall be prepared to receive vegetative stabilization. IDOT Class 4 seeding shall be applied and will be paid for under a separate pay item.

All slope stabilization work shall be constructed in accordance with the details on sheets 3, 4, and 6 and in a manner that minimizes disturbance to the stream and surrounding areas. Any damage to adjacent streambanks, erosion control measures, or site features designated to remain that is caused by the Contractor's negligence shall be repaired or restored to the satisfaction of the County at no additional cost to the County.

Basis of Payment: Stone slope stabilization will be paid for per square yard for “Stone Slope Stabilization”.

Vegetation slope stabilization will be paid for per square yard for “Vegetation Slope Stabilization”.

Rip Rap Ditch

Description: This work shall include furnishing and installing the RR-3 stone riprap ditch along the streambank in the vegetative slope stabilization area, including stone material, placement, and grading, as required by the Contract. All work shall be performed in accordance with Sections 281 and 283 of the SSRBC and as specified herein.

Construction Requirements: The RR-3 stone riprap ditch shall be constructed at a 27 inch depth of stone at the location depicted on sheet 3 of the engineering plans and graded as depicted on sheet 4 of the engineering plans. The upstream end of the ditch shall match into the existing swale on site.

The ditch shall be graded to provide a stable channel section and to direct flow toward the stream at an angle perpendicular to the flow of the stream unless otherwise directed by the Engineer. Heavy duty non-woven geotextile fabric shall be placed on the subgrade beneath the RR-3 stone.

At the discharge into the stream, the riprap shall be placed to form a stable transition between the ditch and the streambed, ensuring that erosion, scour, or undercutting of the streambank is prevented. Any damage to the streambank, adjacent slopes, erosion control measures, or other site features designated to remain that is caused by the Contractor's negligence shall be repaired or restored to the satisfaction of the County at no additional cost to the County.

Basis of Payment: Rip rap ditch will be paid for per square yard for "Rip Rap Ditch".

Chain Link Fence

Description: This work shall include furnishing and installing a 6-foot-tall galvanized chain link fence, including posts, foundations, chain link fabric mesh, fittings, and all appurtenances, as required by the Contract. All work shall be performed in accordance with Section 664 of the SSRBC and as specified herein.

Construction Requirements: The galvanized chain link fence shall be installed at the alignment shown on sheet 3 of the engineering plans or as directed by the Engineer. The fence shall be assembled in accordance with the detail on sheet 10 of the engineering plans.

The fence shall consist of 6-foot-tall galvanized chain link fabric supported by terminal/corner posts, line posts, top and bottom rail, tension wire, and associated fittings. Fence posts shall be set plumb and securely anchored in 4' deep concrete footings per the fence detail. The fence fabric shall be stretched taut and securely fastened to the framework. Fence fabric selvage shall be knuckled at the top and bottom.

The Contractor shall coordinate color selection with the County prior to installation.

This work shall include furnishing and installing barbed wire atop the proposed chain link fence, including extension arms, barbed wire strands, and all associated hardware. Extension arms shall be aligned uniformly and securely fastened to the fence framework at all posts. Barbed wire shall be installed taut, properly anchored, and evenly tensioned along the length of the fence. Barbed wire shall be installed in accordance with Articles 665.03 and 1006.28 of the SSRBC.

Warning signs stating "WARNING: BARBED WIRE – CAN CAUSE SERIOUS INJURY" shall be posted at 50 ft. intervals on both sides of the fence. Signs shall be 10 in. x 14 in. and shall have black text on a yellow background.

The fence shall be installed in a neat and workmanlike manner. Any damage to existing site features designated to remain that is caused by the Contractor's negligence shall be repaired or replaced to the satisfaction of the County at no additional cost to the County.

No gates are included under this item.

Basis of Payment: The chain link fence will be paid for per linear foot for “Chain Link Fence, Galvanized, 6 ft”.

RESTORATION

Turf Restoration

Description: This work shall consist of work as necessary to achieve a healthy stand of turf in all areas disturbed as part of the construction operations. Work shall be in conformance with sections 211, 250, and 251 of the SSRBC and as specified herein. This work includes establishing turf in the proposed vegetative slope area, as well as all other areas disturbed by construction activity, as deemed necessary by the County.

Materials: All seed shall be IDOT Class 4 seed. Erosion control blankets shall be North American Green (NAG) S75 or S150. See sheet 5 of the engineering plans for blanket type placement locations.

Construction Requirements: Pulverized topsoil shall be placed to a minimum depth of six (6) inches and not be placed until the area has been shaped, trimmed, and finished to the lines and grades as directed by the engineering plans and the satisfaction of the County. All irregularities, depressions, or high points in the surface shall be filled or smoothed out before topsoil is placed. The surface of the topsoil shall be blended to match the existing terrain and adjacent roadway, and be free from clods, stones, sticks, and debris. Topsoil placement shall be conducted in accordance with sheet notes 4a, 4b, and 4c on page 3 of the engineering plans and Articles 211.01-211.06 of the SSRBC.

The Contractor shall furnish and place the IDOT class 4 seed, and be produced and tested in the current year, be of good quality, and free of weeds. All seeding work shall be in accordance with Articles 250.05-250.07 of the SSRBC and as specified on the engineering plans.

Nitrogen and potassium fertilizer nutrient applications shall be in accordance with Article 1081.08 of the SSRBC and as specified on the engineering plans. Fertilizer nutrients shall be applied at a 1:1 ratio in accordance with Article 250.04 of the Standard Specifications. Fertilizer shall be applied uniformly over the prepared seedbed prior to or during seeding operations. Fertilizer shall be applied in accordance with manufacturer recommendations.

Immediately following seed and fertilizer placement erosion control blanket shall be installed on all disturbed surfaces per the manufacturer's recommendations. Erosion control blanket shall be NAG S75 or S150, as indicated on the SESC plan on sheet 5 of the engineering plans. Erosion control blanket shall be installed in accordance with Article 251.04 of the SSRBC and in accordance with manufacturer recommendations.

It is recommended that the Contractor shall water the area every other day at a rate of three (3) gallons per square yard, however, it is the sole and exclusive responsibility of the Contractor to make required adjustments to the watering rate or schedule based on weather to achieve a healthy growth of turf.

To be acceptable for final payment, the landscaped areas shall undergo a 30-day period of establishment beginning on the last day that seed is sowed. During this period, the Contractor shall be responsible for, at no additional cost to the County, watering, removing weeds and maintaining the seeded areas and

repairing any damage to the seeded areas due to but not limited to, errant vehicles, severe weather or all other causes. At the end of the 30-day period of establishment, the County will inspect the landscaped area and if deemed unsatisfactory, the Contractor shall be required to provide means and methods necessary to establish a live, healthy turf area. Should the seed not germinate because of prevailing cool weather, the period of establishment may be adjusted as determined by the County. It shall be the sole and exclusive responsibility of the Contractor, not the County, for maintaining and monitoring the landscape restoration during the period of establishment.

Areas will not be deemed as established until at a minimum there is 75% growth in a 1'x1' box of any restoration area.

Any areas that experience settlement shall be repaired at no additional cost to the County.

Upon project completion and expiration of two periods of establishment noted above any additional failure by the Contractor to achieve a healthy growth of vegetation as defined will be considered failure to complete the project on time and the liquidated damages will be applied accordingly.

The Contractor shall provide the County with proper documentation on the landscaping materials supplied to the project such as topsoil source, topsoil certification, fertilizer bags, seed tags, and seed bags.

Method of Measurement: All work associated with "Topsoil Furnish and Place, Variable Depth", "Seeding, IDOT Class 4", and "Erosion Control Blanket" will be measured per square yard of area as laid out by the Engineer or County.

All work associated with "Nitrogen Fertilizer Nutrient" and "Potassium Fertilizer Nutrient" will be measured per pound applied as determined by the Engineer or County.

Basis of Payment: Work will be paid per square yard for "Topsoil Furnish and Place, Variable Depth", "Seeding, IDOT Class 4", and "Erosion Control Blanket".

Work will be paid per pound applied for "Nitrogen Fertilizer Nutrient" and "Potassium Fertilizer Nutrient".

SUPPLEMENTAL UNIT PRICING

IDOT Class 1 Seed

Description: This work shall include furnishing and placing IDOT Class 1 seed, as required by the Contract. At the direction of the County, this seed may be placed in lieu of IDOT Class 4 seed in locations where restoration is depicted on the plans. If additional restoration is performed that is not a direct result of the Contractor's operations, this item may be used in conjunction with the unit prices established in the base bid for other restoration measures.

Construction Requirements: The Contractor shall furnish and place the IDOT class 1 seed, and be produced and tested in the current year, be of good quality, and free of weeds. All seeding work shall be in accordance with Articles 250.05-250.07 of the SSRBC and as specified on the engineering plans. IDOT class 1 seed shall be placed at locations designated by the County.

Basis of Payment: Work will be paid per square yard for "Seeding, IDOT Class 1" per the supplemental unit price included in the contract following final acceptance of the turf.

Tree Removal (Over 15 Units Diameter)

Description: This work shall entail the removal of trees exceeding 15 units in diameter, including associated root systems. All work shall be in accordance with Section 201 of the SSRBC and as specified herein.

Construction Requirements: This item shall apply to any trees exceeding 15 inches in trunk diameter located within the limits depicted by the "Clearing and Grubbing" hatch on sheet 2 of the engineering plans, or as directed by the County. Trees with a trunk diameter between 6 and 15 inches shall be covered by the base bid item Tree Removal (6 to 15 units Diameter).

The full removal of tree root structures is included in tree removal. Any damage done to trees, shrubs, or other plant material to remain by the Contractor's negligence shall be repaired or replaced in kind to the satisfaction of the County at no additional cost to the County. Tree removal shall be in accordance with Articles 201.04 and 201.09 of the SSRBC.

Basis of Payment: Tree removal for trees over 15 inches in trunk diameter will be paid for per inch units for "Tree Removal (Over 15 Units Diameter) per the supplemental unit price included in the contract following full tree removal.