



**Sturgis Watershed  
Fishing Piers**

**City of Sturgis  
1040 Harley-Davidson Way  
Sturgis, SD 57785**

**INSTRUCTIONS TO BIDDERS**  
**FOR**  
**Sturgis Watershed Fishing Piers**  
**City of Sturgis, South Dakota**

Sealed bids will be received by the Finance Office, City of Sturgis, South Dakota, until **1:00** pm, MDT September 13, 2017 at the office of the City of Sturgis, 1040 Harley-Davidson Way, Sturgis, SD 57785, and will be publicly opened and read. All BIDS shall be made on forms provided by the City of Sturgis.

Plans and Specifications may be obtained from the City website. Any questions may be directed to the City Engineer (Liz Wunderlich) at 605-347-4422 ext 224.

Each bid envelope shall contain one Bid only, and be marked with the words, "Sealed Bid- City of Sturgis."

**PROJECT DESCRIPTION:** The project includes placing fishing piers in existing ponds. Access is limited, and large equipment will not be able to access the ponds.

Each bid shall contain a certified check or a cashier's check, for five percent of the amount of the bid. Such check shall be certified or issued by either a state or a national bank and payable to the City of Sturgis. In lieu of a check, a bid may contain a bid bond for ten percent of the amount of the bid. Such bond is to be issued by a surety authorized to do business in South Dakota payable to the City of Sturgis, as a guaranty that the bidder will enter into a contract with the City of Sturgis.

The contract shall be awarded within thirty days of the bid opening by written notice to the lowest responsible and responsive bidder whose bid meets the requirements and criteria. The City of Sturgis may reject any and all bids and re-advertise for bids if none of the bids are satisfactory. The City of Sturgis may waive technical irregularities in the bid of the low bidder which irregularities do not alter the price, quality, or quantity of the services.

**NOTICE OF AWARD**

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

**PROJECT Description: Sturgis Watershed Fishing Piers**

The **OWNER** has considered the BID submitted by you for the above described **WORK** in response to its Advertisement for bids dated  13th day of  September , 2017, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of

\$ \_\_\_\_\_ (as per the attached unit prices)

You are required by the Information for Bidders to execute the Agreement and furnish the required **Contractors Performance Bond, Payment Bond and Certificates of Insurance** within fifteen (15) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said **BONDS** within fifteen (15) days from the date of this Notice of Award, said **OWNER** will be entitled to consider all your rights arising out of the **OWNERS** acceptance of your **BID** as abandoned and as a forfeiture of your **BID BOND**. The **OWNER** will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this **NOTICE OF AWARD** to the **OWNER**.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2017.

On behalf of the City of Sturgis: \_\_\_\_\_

City Manager- Daniel Ainslie

**ACCEPTANCE OF NOTICE**

Receipt of the above **NOTICE OF AWARD** is hereby acknowledged by the contractor:

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2017

Name \_\_\_\_\_

Signature \_\_\_\_\_

Title \_\_\_\_\_

## AGREEMENT

**THIS AGREEMENT**, made this \*\*\*\*\* date by and between the **CITY OF STURGIS**, hereinafter called the “**OWNER**” and \*\*\*\*\* on hereinafter called “**CONTRACTOR**”.

WITNESSETH: That for and in consideration of the payments and agreement hereinafter mentioned:

1. The **CONTRACTOR** will commence and complete the construction of:  
**Sturgis Watershed Fishing Piers**
2. The **CONTRACTOR** will furnish all the materials, supplies, tools, equipment, labor and other services necessary for the construction and completion of the **PROJECT** described herein.
3. The **CONTRACTOR** hereby agrees to complete all **WORK** with a 100% completion no later than November 17, 2017. The completion date may be changed by the City Engineer if weather prohibits the Contractor from working. Contractor further agrees that besides mobilization costs, that payment will be issued by the City until the piers or clearing is 100% completed.
4. The **CONTRACTOR** agrees to perform all the **WORK** described in the **CONTRACT DOCUMENTS** and comply with the terms therein for the sum of \$ \*\*\*\* using the Unit Price as shown in the **BID SCHEDULE**.
5. The term “**CONTRACT DOCUMENTS**” means and includes the following:
  - A. Advertisement for Bids
  - B. BID
  - C. Payment and Performance Bonds
  - D. Notice of Award
  - E. Agreement
  - F. Notice to Proceed
  - G. General Conditions EJDC C-700 Standard General Conditions of the Construction Contract (2007)
  - H. Special Provisions
  - I. General Specifications

J. South Dakota Department of Transportation Specifications

K. Drawings

- 6. The **OWNER** will review payment to the **CONTRACTOR** at the first Council Meeting each Month. The **CONTRACTOR** will complete a pay estimate and submit no later than the last Monday of each month to sign and submit to the **OWNER**.
- 7. This Agreement will be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns. **IN WITNESS WHEREOF**, the parties hereto have executed, or caused to be executed by their duly authorized officials, four copies of this Agreement will be deemed an original on the date first above written.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2017

On behalf of the City of Sturgis: \_\_\_\_\_

City Manager- Daniel Ainslie

(SEAL)

ATTEST \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

**ACCEPTANCE OF AGREEMENT**

Contractor \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Signature \_\_\_\_\_

(SEAL)

ATTEST \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

**Notice to Proceed  
FOR  
Sturgis Watershed  
Fishing Piers**

PROJECT DESCRIPTION: The project includes placing fishing piers in existing ponds. Access is limited, and large equipment will not be able to access the ponds.

You are hereby notified to commence **WORK** in accordance with the Agreement dated this \_\_\_\_\_ day of \_\_\_\_\_, 2017, on or soon after the date of \_\_\_\_\_, 2017.

The date of completion of all **WORK** is **November 17, 2017**.

**City of Sturgis**

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City Manager- Daniel Ainslie

**Special Provisions**  
**FOR**  
**Sturgis Watershed**  
**Fishing Piers**  
**City of Sturgis, South Dakota**

PROJECT DESCRIPTION: The project includes work items and materials to complete several fishing areas on the four dams of the Sturgis Watershed. The intent of the city is that the four ponds will become a walk in fishing destination. In order to provide safe areas for people to fish, several areas need to be cleared of small trees and bushes, and a few fishing piers placed.

Access restrictions: Road access to the watershed is across private property. Thus, a gate key will be issued to the contractor and it may only be used for city business. No duplicate keys may be made.

In addition, the road is a very narrow single vehicle track with steep shoulder drops in some places.

The easiest access to the dams is across a bridge that is not load rated. A Ford Expedition crosses it without issue, but bigger equipment would be brought in at the contractor's own risk. The contractor would have to fix any damage caused by the contractor. The project is designed to be able to be built almost by hand.

A secondary access that does not cross the bridge can be accessed by a logging road that is slightly overgrown and has some fallen trees that would need to be moved to get a vehicle through.

The project MUST be coordinated with the City Engineer. The intent is that the piers are built in the fall of 2017. However, weather may preclude work. Work would be allowed if the road into ponds is dry. If the road is icy, then the contractor can wait to work until spring.

**There is no electricity or water at the site.**

**There are no toilets on site.**

**General Specifications**

General specifications are from the US Forest Service and are included in this proposal.

**Site Conditions**

If artifacts are discovered during excavation, work must stop in that area, and the engineer must be notified.

The contractor is responsible for the prevention and suppression costs of fires which are caused by their employees, suppliers, or subcontractors.

Construction sites shall be maintained in a sanitary condition at all times. Waste material at those sites shall be disposed of promptly at an appropriate waste disposal site.

Construction will not be allowed during wet and muddy conditions. The surface will be completely dry before overland travel will be allowed. At the end of construction the haul road should be in a similar (or better) condition as it was before construction.

### **Submittals**

The Contractor shall submit a construction schedule plan to the City Engineer. Submittals are required for all materials at least 7 days prior to approval. Submittals will be accepted only from the Contractor. Submittals may be emailed to lwunderlich@sturgisgov.com.

### **Contractor furnished progress schedule**

The Contractor must stay in contact with the Engineer and keep her informed of when the Contractor is working on site, giving her a few days notice before work begins.

### **Clearing Pond 1**

The Contractor has approximately 120 - 150 of shoreline that needs an average of 8-10 feet of clearing of small shrubs and trees. An estimated amount of 1200 sf of clearing will be necessary. No large trees will be removed. The surface should be free of organic material, and rocks raked if necessary so that no obvious tripping hazards remain. Payment will be by SF of area field measured.

### **Clearing Pond 2**

The Contractor needs to clear approximately 500 Square feet of small brush from the road to shoreline. There is a natural shelf existing. The contractor will place a timber stairs down to the pier. Reference sheet 12 or Forest Service standard 936-20-02.

### **Clearing Pond 3**

The Contractor will need to clear a trail approximately 48 inches wide from the landing where the road goes on the west side down approximately 150 feet to a sandy spit area. The trail will just be compacted earth.

The pier will be built on the sandy spit area. The contractor will clear all organic matter from an area approximately 2 feet from the abutment in addition to the pier abutment area.

### **Clearing Pond 4**

This area is mainly clear of brush, but all organic material needs to be removed from the approximately 130 sf (20 feet by 13 foot triangle).

Piers

The contractor will build one pier at a time, so that any difficulties encountered in the first one can be resolved before the next one is completed.

The material inside the abutments must be compacted.

## **General Specifications**

## **Section 106 - Measurement & Payment**

### **106.01 Measurement & Payment**

Compensation provided for in the contract is full payment for performing all contract work in a complete and acceptable manner. All risk, loss, damage, or expense arising out of the nature or prosecution of the work is included in the compensation provided by the contract.

Work required by the contract will not be paid for directly unless a PAY ITEM for the work is DESIGNATED IN THE SCHEDULE OF ITEMS.

Work referenced for measurement under another section will not be paid for directly unless a PAY ITEM for the work is DESIGNATED IN THE SCHEDULE OF ITEMS for the referenced section.

Work not paid for directly is considered to be included under the other contract PAY ITEMS.

Unless otherwise shown, work measured and paid for under one PAY ITEM will not be paid for under any other PAY ITEM.

The quantity to be paid for is the quantity DESIGNATED IN THE SCHEDULE OF ITEMS. No payment will be made for work performed in excess of that staked, ordered, or otherwise authorized.

When more than one class, size, or thickness is specified in the SCHEDULE OF ITEMS for any PAY ITEM, suffixes will be added to the item number to differentiate between the items.

### **106.02 Determination of Quantities**

The following measurements and calculations are used to determine contract quantities.

For individual construction items, longitudinal and lateral measurements for area computations shall be made horizontally or corrected to horizontal measurement unless otherwise specified. Measurements for seeding, mulching, geotextiles, netting, erosion control blankets, and sodding shall be along slope lines.

The average end area method shall be used to compute volumes of excavation or embankment. However, if in the judgment of the CO the average end area method is impractical, measurement shall be made by volume in hauling vehicles, or by other three-dimensional methods.

Structures shall be measured according to neat lines SHOWN ON THE DRAWINGS, or as altered by the CO in writing to fit field conditions.

For items that have linear measurements, such as pipe culverts, fencing, guardrails, and underdrains, measurements shall be made parallel to the base or foundation upon which the structures are placed. Pipe and pipe arch culverts shall be measured along center of invert, and arches shall be measured at spring line.

For aggregates weighed for payment, the tonnage weight shall not be adjusted for moisture content, unless otherwise provided in SPECIAL PROJECT SPECIFICATIONS.

For standard manufactured items (such as fence, wire, plates, rolled shapes, and pipe conduits) identified by gauge, weight, section dimensions, and so forth, such identifications shall be considered the nominal weights or dimensions. Unless controlled by tolerances in cited specifications, manufacturer's tolerances shall be accepted.

### **106.03 Units of Measurement**

Payment will be by units defined and determined according to measure. Unless otherwise specified, the meanings of the following terms are as follows:

**(a) Cubic Yard in Place (yd<sup>3</sup>).** Measure solid volumes by the average end area method as follows:

(1) Measure cross-sections of the original ground and use with design or staked templates, or take other comparable measurements to determine the end areas. Do not measure work outside of the established lines or slopes.

(2) If any portion of the work is acceptable, but is not completed to the established lines and slopes, remeasure cross sections or comparable measurements of that portion of the work. Deduct any quantity outside the designated or staked limits. Use these measurements to calculate new end areas.

(3) Compute the quantity using the average end areas multiplied by the horizontal distance along a centerline or reference line between the end areas. Deduct any quantity outside the designed or staked limits.

Where it is impractical to measure material by the average end area method, other methods involving three-dimensional measurements may be used.

Measure liquid volumes in accordance with Subsection 106.03(h).

**(b) Cubic Yard in the Hauling Vehicle.** Measure the cubic yard volume in the hauling vehicle using three-dimensional measurements at the point of delivery. Use vehicles bearing a legible identification mark with the body shaped so the actual contents may be readily and accurately determined. Before use, mutually agree in writing upon the volume of material to be hauled by each vehicle. Vehicles carrying less than the agreed volume may be rejected or accepted at the reduced volume.

Level selected loads. If leveling reveals that the vehicle was hauling less than the approved volume, reduce the quantity of all material received since the last leveled load by the same ratio as the ratio of the current leveled load volume to the agreed volume. Payment will not be made for material in excess of the agreed volume.

Material measured in the hauling vehicle may be weighed and converted to cubic yards for payment purposes if the conversion factors are mutually agreed to in writing.

Compute measurement-using measurements of material in the hauling vehicles at the point of delivery. Load vehicles to at least their water-level capacity. Leveling of the loads may be required when vehicles arrive at the delivery point.

**(c) Each.** One entire unit, which may consist of one or more parts. The quantity is the actual number of units completed and accepted.

**(d) Acre (ac).** **43,560 ft<sup>2</sup>.** Make longitudinal and transverse measurements for area computations horizontally. Do not make deductions from the area computation for individual exclusions having an area of 500 ft<sup>2</sup> or less.

**(e) Hour (h).** Measurement will be for the actual number of hours ordered and performed by the Contractor.

**(f) Pound (lb).** If sacked or packaged material is furnished, the net weight as packed by the manufacturer may be used.

**(g) Mile (mi).** **5,280 feet.** Measure horizontal along the centerline of each roadway, approach road, or ramp.

**(h) Gallon (gal).** The quantity may be measured by any of the following methods:

(1) Measured volume container.

(2) Metered volume. Use an approved metering system.

(3) Commercially packaged volumes.

**(i) Lump Sum.** Do not measure directly. The bid amount is complete payment for all work described in the contract and necessary to complete the work for that item.

**(j) Foot (ft).** Measure from end to end, parallel to the base or foundation being measured, or horizontal.

**(k) Station.** 100 feet measured horizontally.

**(l) Square Yard (yd<sup>2</sup>).** Measure on a plane parallel to the surface being measured or horizontal.

Where measurement is horizontal, make no deductions from the area computation for individual exclusions having an area of 10 ft<sup>2</sup> or less.

For pavement structure courses, measure the width horizontally to include the top design width and allowable curve widening. Do not include side slopes. Measure the length horizontally along the centerline of each roadway, approach road, or ramp.

**(m) Thousand Board Feet (Mbf).** 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

**(n) Ton (T).** 2,000 pounds.

No adjustment in contract unit price will be made for variations in quantity due to differences in the specific gravity or moisture content.

Use net certified scale weights, or weights based on certified volumes.

#### **106.04 Methods of Measurement**

One of the following methods of measurement for determining final payment is DESIGNATED IN THE SCHEDULE OF ITEMS for each PAY ITEM:

**(a) Designed Quantities (DQ).** These quantities denote the final number of units to be paid for under the terms of the contract. They are based upon the original design data available prior to advertising the project. Original design data include the preliminary survey information, design assumptions, calculations, drawings, and the presentation in the contract. Changes in the number of units DESIGNATED IN THE SCHEDULE OF ITEMS may be authorized under any of the following conditions:

(1) Changes in the work authorized by the CO.

(2) A determination by the CO that errors exist in the original design that cause a PAY ITEM quantity to change by 15 percent or more.

(3) A written request submitted to the CO showing evidence of errors in the original design that cause the quantity of a PAY ITEM to change by 15 percent or more. The evidence must be verifiable and consist of calculations, drawings, or other data that show how the designed quantity is in error.

**(b) Staked Quantities (SQ).** These quantities are determined from staked measurements prior to construction.

**(c) Actual Quantities (AQ).** These quantities are determined from measurements of completed work.

**(d) Vehicle Quantities (VQ).** These quantities are measured or weighed in hauling vehicles.

**(e) Lump Sum Quantities (LSQ).** These quantities denote one complete unit of work as required by or described in the contract, including necessary materials, equipment, and labor to complete the job.

### **106.06 Earthwork Tolerances**

Where tolerances are shown in the contract, they are intended to define “reasonably close conformity.” Make adjustments of horizontal or vertical alignment within the tolerances specified in this contract, or shifts of balance points up to 100 feet, as necessary to produce the designed roadway section and to balance earthwork. Such adjustments will not be considered “changes.”

## **Section 557 - Timber Structures**

### **Description**

**557.01 Work.** Furnish, fabricate, and erect structural timber, including all required yard lumber and hardware.

### **Materials**

**557.02 Requirements.** Furnish material that conforms to the following:

#### **Hardware & Structural Steel**

Furnish machine and carriage bolts that meet the requirements of ASTM A 307, drift pins and dowels that meet the requirements of ASTM A 575, and galvanized hardware that meets the requirements of AASHTO M 232.

Ensure that all structural steel shapes, rods, glued laminated deck panel dowels, and plates are structural steel that meets the requirements of AASHTO M 183. Ensure that galvanizing meets the requirements of AASHTO M 111.

Furnish bolts with square or hexagonal heads, nuts or dome-headed bolts as SHOWN ON THE DRAWINGS, and nails that are cut or round nails of standard form. Use cut, round, or boat spikes, as specified. Use washers that are malleable iron castings, and plain or cut washers that are American Standard Plain Washers.

#### **Treated Structural Timber & Lumber**

Treat the wood and mark each piece of treated timber in accordance with AASHTO M 133. Use the type of treatment and minimum net retention of preservative that are SHOWN ON THE DRAWINGS. Completely and accurately fabricate all treated timber before it is treated. Except for Southern Pine, incise all surfaces greater than 2 inches in width; including glued laminated members, before treatment. Treat glued laminated timbers in accordance with AWPA C28. Furnish inspection certification of treatment from an agency accredited by ALSC.

Use the assay method to determine retention of preservatives in all lumber and timbers.

Ensure that treatment meets the requirements in the current edition of the WWPI's "Best Management Practices for the Use of Treated Wood in Aquatic Environments."

### **Structural Glued Laminated Timber**

Furnish structural glued laminated timber that meets the requirements specified in the current edition of AITC 117. Use the combination symbol, protection, quality marks, certificates, and preservation treatment that are SHOWN ON THE DRAWINGS.

Ensure that manufacture, marking, and quality control of structural glued laminated timber are in conformance with ANSI/AITC A190.1, Structural Glued Laminated Timber.

Ensure that members are manufactured as industrial-appearance grade for wet use conditions, using a phenol-resorcinol resin type of adhesive throughout. Use only single- or multiple-piece laminations with boded edge joints.

Ensure that caulking compound used to seal deck panel joints meets the requirements of FSS TT-S-001543 (com.) and is brown or bronze in color.

Furnish the following compliance certificates to the CO upon delivery of the materials to the jobsite:

(a) Verification of compliance with grading rules and species of timber and lumber. Provide certification by an agency accepted as competent by the American Lumber Standards Committee (ALSC).

(b) Lot certification of each charge for preservative, penetration in inches, and retention in pounds per cubic foot (assay method) by a qualified independent inspection and testing agency. In addition, have the producer of the treated products provide written certification that Best Management Practices (BMP's) in accordance with "Best Management Practices for Treated Wood in Western Aquatic Environments," published by the Western Wood Preservation Institute (WWPI) and Canadian Institute of Treated Wood, were followed, including a description and appropriate documentation of the applicable BMP's used.

(c) Certification from a qualified inspection and testing agency indicating that all glued laminated members are in accordance with the requirements of American National Standard for Wood Products, "Structural Glued Laminated Timber" (ANSI/AITC A190.1), modified as SHOWN ON THE DRAWINGS.

(d) Such other certifications as SHOWN ON THE DRAWINGS or called for in the SPECIAL PROJECT SPECIFICATIONS.

Incise all glued laminated and solid sawn members thicker than 2 inches in accordance with AWP standard C1, unless otherwise SHOWN ON THE DRAWINGS.

Provide shop drawings for all timber 21 days in advance of fabrication when SHOWN ON THE DRAWINGS or in the SPECIAL PROJECT SPECIFICATIONS. Show all dimensions and fabrication details for all cut, framed, or bored timbers.

## Construction

**557.03 Structural Excavation.** Excavate, backfill, and dispose of material for the construction of structures. Preserve channels; shore and brace; construct cofferdams; seal foundations; dewater; excavate; prepare foundations; backfill; and subsequently remove safety features and cofferdams.

**557.04 General.** Consider the elevations of the bottoms of footings or foundations when SHOWN ON THE DRAWINGS to be approximate elevations. The CO may order, in writing, changes in the elevations of footings and foundations when necessary to secure a satisfactory foundation.

Excavate trenches or foundation pits to a width and length that allows room for work. Provide a firm foundation of uniform density throughout its length and width. Do not place footings until the depth of excavation and the foundation material have been approved in writing.

Follow Occupational Safety and Health Administration (OSHA) safety regulations (29 CFR, part 1926, subpart P, Excavation), or OSHA-approved State Plan requirements for sloping the sides of excavations and for using shoring, bracing, and other safety features. When sides of excavations are sloped for safety considerations, provide one copy of the design that demonstrates conformity with OSHA regulations. Submit working drawings and construction details when required by the SPECIAL PROJECT SPECIFICATIONS where support systems, shield systems, or other protective systems are used. Ensure that drawings demonstrate conformity with regulations.

Remove safety features when no longer necessary. Remove shoring and bracing to at least 12 inches below the surface of the finished ground.

Conserve suitable material for structural backfill from excavated material. Do not deposit excavated material in or near a waterway. Do not stockpile excavated material closer than 3 feet from the edge of the excavation.

Remove all water as necessary to perform work.

**557.05 Backfill.** Backfill structural excavation with material from on site.

Place backfill in horizontal layers that, when compacted, do not exceed 6 inches in depth. Compact each layer with a mechanical tamper until visible deformation of the layer ceases.

Extend each layer to the limits of the excavation or to natural ground.

**557.06 Treated Timber.** Fabricate timbers before treatment. Handle treated timber according to the Consumer Information Sheet published by AWPA. Do not cut, frame, or bore treated timber after treatment unless approved by the CO. Handle treated timbers carefully and do not drop, damage outer fibers, or penetrate the surface with tools. Do not use cant dogs, hooks, or pike poles.

Field treat all cuts, abrasions, bolt holes, and recesses that occur after treatment with two liberal applications of a compatible preservative in accordance with the requirements specified in AWPA standard M4, Standard for the Care of Pressure-Treated Wood Products.

Unless otherwise specified, copper naphthenate solutions may be used for field treatments of material originally treated with copper naphthenate, pentachlorophenol, creosote, creosote solution, or waterborne preservatives. Prepare the preservative solution by blending copper naphthenate preservative that meets P8 requirements with a solvent conforming to AWPA standard P9. Ensure that the resulting preservative solution concentration contains a minimum of 2 percent copper metal.

Plug all unused holes with preservative-treated plugs. Perform all field-applied preservative treatment with necessary precautions so as to prevent any soil and/or water contamination.

Use slings or other devices to protect corners of heavy construction timbers and banded packages of lighter construction timber.

**557.07 Workmanship.** Cut and form all lumber and construction timber so all joints will have even bearing over the entire contact surface. Do not use shims in making joints. Construct all joints to be closed. Drive nails and spikes to set the heads flush with the wood surface. Use the same end, face, and edge of the timber member for all layout dimensions. Bore all holes from mating faces.

**557.08 Holes for Bolts, Drift Pins & Lag Screws.** Drill holes before preservative treating the wood unless stated as field drilled in the plans.

Bore holes for round drift pins the same size as the pin.

Bore holes for machine bolts with a bit 1/8 inch larger than the diameter of the bolt.

Bore holes for lag screws with a bit not larger than the body of the screw at the base of the thread. Drill the depth of lag screw bolt holes 1 inch less than the length under the screw head and with a diameter approximately 50 percent of the shank diameter.

**557.09 Hardware.** Furnish the hardware as SHOWN ON THE DRAWINGS, as specified below.

Finally tighten all nuts to provide proper bearing. After final tightening, check or burr all bolts effectively with a pointing tool to prevent loosening of the nuts.

Ensure that all hardware for timber structures is galvanized, except for the glued laminated deck panel dowels. Ensure that all fasteners, including nails, spikes, bolts, washers, and timber connectors, other than malleable iron, are galvanized.

**557.10 Stringers.** Place solid sawn stringers in position so that knots near edges are in the top portions of the stringers.

Outside stringers may have butt joints with the ends cut on a taper. Lap interior stringers to take bearing over the full width of the cap at each end. Securely fasten the lapped ends with drift pins, as required. Stagger the joints where stringers are two panels in length.

**557.11 Plank Floors.** Use plank that is surfaced as SHOWN ON THE DRAWINGS.

Lay the planks heart side down with 1/4 inches space between them for seasoned material, and with tight joints for unseasoned material. Spike each plank securely to each stringer. Carefully grade the planks as to thickness and lay so that no two adjacent planks vary in thickness by more than 1/16 inch.

**Measurement**

**557.12 Method.** Measure the quantities as each for each structure furnished and constructed.

**Payment**

**557.13 Basis.** The accepted quantities will be paid for at the contract unit price for each pay item shown in the SCHEDULE OF ITEMS.

Payment will be made under:

<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
------------------------	------------------------

<b>557(02) Treated structural timber and lumber .....</b>	<b>L.S.</b>
<b>(wall)</b>	

<b>557(03) Treated structural timber and lumber .....</b>	<b>L.S.</b>
<b>(Fishing Platforms – )</b>	

## Section 601 - Mobilization

### Description

**601.01 Work.** Move personnel, equipment, material, and incidentals to the project, and perform all activities necessary to accomplish work at the project site. Obtain permits, insurance, and bonds.

### Measurement

**601.02 Method.** Measure mobilization by the lump sum.

### Payment

**601.03 Basis.** The accepted quantity, measured as provided above, will be paid at the contract price per unit of measurement for the PAY ITEM listed below that is DESIGNATED IN THE SCHEDULE OF ITEMS.

The mobilization lump sum will be paid as follows:

- (a) If applicable, bond premiums will be reimbursed according to FAR clause 52.232–5, Payment Under Fixed-Price Construction Contracts, after receipt of evidence of payment.
- (b) Fifty percent of the lump sum, not to exceed 5 percent of the original contract amount, will be paid following completion of 5 percent of the original contract amount, not including mobilization.
- (c) Payment of the remaining portion of the lump sum, up to 10 percent of the original contract amount, will be paid following completion of 10 percent of the original contract amount, not including mobilization.
- (d) Any portion of the lump sum in excess of 10 percent of the original contract amount will be paid after final acceptance.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
601(01) Mobilization .....	Lump Sum

**Section 933 - Trail Stairways**

**Description**

**933.01 Work.** This work shall consist of excavation and placing embankment and furnishing all materials and labor necessary for constructing crib ladder stairways as SHOWN ON THE DRAWINGS.

**Materials**

**933.02 Requirements.** Use materials meeting the requirements as SHOWN ON THE DRAWINGS.

**Construction**

**933.03 General.** Construct stairways at locations as SHOWN ON THE DRAWINGS and designated on the ground.

**933.04 Excavation and Embankment.** Excavate and place embankment in accordance with Section 912.

**933.05 Crib Ladder Stairway.** Construct by laying two carriages parallel to each other, firmly supported for their entire length. Connect carriage timbers with splice timbers as SHOWN ON THE DRAWINGS. Set risers perpendicular to carriage timbers as SHOWN ON THE DRAWINGS.

**Measurement**

**933.06 Method.** Measure along the centerline of the stairway for the length of the carriage timbers.

**Payment**

**933.07 Basis.** The accepted quantities will be paid for at the contract unit price for each pay item shown in the SCHEDULE OF ITEMS.

Make payment under:

<b><u>PAY ITEM</u></b>	<b><u>PAY UNIT</u></b>
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933(01) Crib Ladder Stairway .....	L.F.
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### Section 941 - Aggregate Surfacing

**Description**

**941.01 Work** This work consists of furnishing, hauling, placing, and compacting aggregate surfacing.

**Materials**

**941.02 Requirements** Aggregate shall be Minnekahta Limestone crusher fines materials meeting the following requirements:

Gradation for trail aggregate.		
<b>Sieve Size  (inch)</b>	<b>% by Weight Passing Designated Sieve  (AASHTO T 27 and T 11)</b>	
	<b>Grading Designation</b>	
		<b>Crusher Fines</b>
1/4		100
No. 8		53-83
No. 16		33-53
No. 40		20-40
No. 200		12-20

For estimating purposes only the aggregate source used was Hills Materials (Hot Springs Quarry)

**941.03 Handling Materials.** Stockpile, remove, transport, and spread aggregates in a manner that will preserve specified gradation and avoid contamination. Do not intermingle stockpiles of aggregate having different gradations.

**941.04 Sampling Aggregate.** Submit test results and a Certificate of Compliance verifying that aggregate gradation meets contract requirements. Sample the material before incorporation into the work at the producer's plant or stockpile.

The sampling will not be considered a final acceptance and will not preclude later sampling and testing after final processing of the material. Such sampling does not relieve the contractor of responsibility of providing quality control measures to ensure compliance with contract requirements.

### **Construction**

**941.05 Preparation of Subgrade.** Prepare and finish trailbed as required under Section 912. Obtain written approval of the CO before placing aggregate.

**941.06 Spreading and Compacting.** Use aggregate that is uniformly mixed at optimum moisture content and spread and compact to the final thickness and width as SHOWN ON THE DRAWINGS. Obtain compaction by mechanical vibratory compactors over the full area of each layer until visual displacement ceases, but not fewer than three complete passes.

Immediately following final spreading, smoothing, and compacting, correct any irregularities or depressions that develop by adding or removing material until the surface is smooth, uniform, and compacted.

**941.07 Acceptance, Testing, Sampling, and Tolerances.** Do not vary the total compacted thickness of the aggregate by more or less than ½ inch from the specified thickness or place it consistently below or above the specified depth.

Do not vary the aggregate width by more than ± 3 inches from the specified width or place it consistently narrower or wider than the specified width.

### **Measurement**

**941.08 Method** Measure the quantities as in place compacted cubic yards of aggregate.

### **Payment**

**941.09 Basis.** The accepted quantities will be paid for at the contract unit price for each pay item shown in the SCHEDULE OF ITEMS.

Make payment under:

**PAY ITEM PAY UNIT**

**941(01) Aggregate Surfacing** ..... **C.Y.**

**Section 952 – Sign and Post Installation**

**Description**

**952.01 Work.** This work consists of furnishing and installing signs and posts.

**Materials**

**952.02 Requirements.** Use materials meeting the requirements as SHOWN ON THE DRAWINGS.

**Construction**

**952.03 General.** Erect signs and posts at the locations SHOWN ON THE DRAWINGS or DESIGNATED ON THE GROUND.

**952.04 Sign Installation.** Tighten hardware snug, but do not damage the sign panel surface.

**952.05 Post Installation.** Dig post hole width not more than three times the width of the post and to the depth SHOWN ON THE DRAWINGS. If necessary because of obstacles, the posthole may be moved within the tolerances approved by the Engineer. .

Compact suitable material between the post and the posthole in 4-inch layers to produce a solid and plumb installation.

**Measurement**

**952.06 Method.** Measure the quantities as each for each sign furnished and installed.

**Payment**

**952.07 Basis.** The accepted quantities will be paid for at the contract unit price for each pay item shown in the SCHEDULE OF ITEMS.

Make payment under:

**PAY ITEM PAY UNIT**

**952(01) Furnish and Install Sign** ..... **EA**