January 14, 2009

Yakima County Public Services
128 N. 2nd St.
Fourth Floor County Courthouse
Yakima, Washington 98901

Project C 3297; North Track Road

Yakima County Public Services is soliciting Bids from manufactures to supply and deliver one (1) Prefabricated Box Culvert.

All Bids must be sealed and delivered to the Office of the County Road Engineer of Yakima County, Attn. Mark Brzoska, 128 N. 2nd Street, fourth floor County Courthouse, Yakima, Washington 98901.

Bids must be received by no later than 2:00 PM, Tuesday, January 27, 2009. The bid can be submitted on a form supplied by the bidder.

Specifications:
Provide one Prefabricated Box Culvert with a Minimum 17 Ft. span, 5 ft to 6 ft rise, and minimum width of 38 ft., with 6 ft. wing walls as detailed on the attached layout.

Design Criteria
- The culvert shall be constructed in accordance with the 2008 Standard Specifications for Road, Bridge Municipal Construction (English) as published by the Washington State Department of Transportation (WSDOT) and the following special provisions. http://www.wsdot.wa.gov/publications/manuals/fulltext/M41-10/SS2008.pdf

- The prefabricated three sided structure shall be designed in accordance with the current AASHTO LRFD Bridge Design Specifications, for an HL-93 vehicular live load.

- Footings shall be prefabricated with 5,000 psf allowable soil bearing.

- The culvert shall be constructed of Concrete, Corrugated Galvanized Steel, or Corrugated Aluminum.

Shop Drawings
For three sided structures, the Contractor shall submit one set of design calculations to the County Engineer and two sets of shop drawings for the County Engineer's approval.
The Contractor shall affirm with the design calculations submitted with the shop drawings for the Engineer's approval, that the three sided structure conforms to the specified design criteria. The design calculations shall include analysis of the following elements if applicable:

1. Flexure (substructure and superstructure).
2. Compression in the walls.
3. Shear (substructure and superstructure).
4. Design footing bearing pressure versus allowable soil bearing pressure.
5. Deflection.
6. Minimum and maximum reinforcement ratios.
7. Distribution of flexural reinforcement.
8. Fatigue.

In addition to items 1 through 9 under shop drawing content requirements, the following shop drawing details shall be submitted:

1. Footing and slab base details.
2. Wingwall and cutoff wall details.
3. Erection and backfill procedure.
4. Complete, site specific, itemized bar list for all steel reinforcement.

All design calculations and shop drawings for the three sided structure shall be stamped and signed by a Professional Engineer in accordance with Section 6-01.9.

- Concrete culverts shall meet the requirements of Section 6-02, and Corrugated Steel, or Corrugated Aluminum culverts shall meet the requirements of Section 9-05.6(8).

Section 6-02 of the Standard Specifications is supplemented with the following:

**Precast Concrete Panels**
Section 6-02.3(28) is supplemented with the following:

**Precast Reinforced Concrete Three Sided Structures**

**Manufacturing Plant Quality Control Program**
The manufacturing plant of precast reinforced concrete three sided structures shall be certified by one of the organizations specified in Section 6-02.3(28).

**Design Criteria**
Precast reinforced concrete three sided structures shall be precast rigid frames with monolithic upper corners internally reinforced for moment and shear resistance, except as otherwise noted. Individually precast concrete panels shall be connected together to form the specified three sided frame geometry.

**Casting**
Section 6-02.3(28)B is supplemented with the following:
(April 30, 2001)

Precast Reinforced Concrete Three Sided Structure
Prior to shipping, the precast reinforced concrete three sided structure fabricator shall furnish the Inspector a complete documentation package for each structure.

The documentation package shall include the following information for each structure:

1. Concrete batch tickets.
2. Concrete cylinder break results.
3. Material certifications.
4. Copies of all changes from the Plans and Specifications.

Job Site Acceptance
Concrete culvert shall be stamped “Approved for shipment” by the WSDOT. Corrugated Steel, or Corrugated Aluminum culvert shall have a Manufacturers Certificate of Compliance and Mill Certificate of the metal used in fabrication.

The culvert shall be delivered no later than March 2, 2009. The culvert shall be delivered to the project site which is approximately 10 miles south of the City of Yakima, Washington (see attached vicinity map).

Contact one of the following personnel to make arrangements for delivery.
   Dale Murphy     (509) 574-2348     Cell (509) 961-3695
   or     Mark Brzoska   (509) 574-2312

The bid amount shall included all applicable sales tax and delivery costs

The County will issue a Purchase Order to the supplier who submits the lowest Total Price for Delivered Prefabricated Box Culvert. Yakima County will pay for the Prefabricated Box Culvert within 30 days after acceptance of the culvert and receipt of an invoice.

Materials fabricated in the State of Washington shall be subject to prevailing wages for the State of Washington.

Questions please contact Mark Brzoska at 509 574-2312.
Precast Reinforced Concrete Three Sided Structure
The precast reinforced concrete three sided structure fabricator shall notify the Washington State Department of Transportation Materials and Fabrication Inspection Section at least five working days in advance of beginning fabrication of the structures for this project.

Whenever the minimum concrete cover dimension from the face of concrete to the face of the top mat of steel reinforcing bars is less than 1-1/2", the top mat of steel reinforcing bars in the span unit shall be epoxy-coated in accordance with Sections 6-02.3(24)H and 9-07.3.

The Contractor may strip forms from precast reinforced concrete three sided structures after the concrete reaches a minimum compressive strength of 3,000 psi, provided the precast reinforced concrete three sided structure remains in the casting bed in accordance with Section 6-02.3(28)G as supplemented in these Special Provisions. All damage from stripping is the Contractor's responsibility.

Precast Reinforced Concrete Three Sided Structures
The Contractor shall finish all exposed surfaces of the structure with a Class 2 finish.

The Contractor shall mark the following information, using waterproof paint, on the inside of a vertical leg of each section of the structure:

- Design Loads
- Span and Rise dimension
- Job Number
- Fabrication Date
- Manufacturer's Name and Trademark

Handling and Storage
Section 6-02.3(28)G is supplemented with the following:

(April 30, 2001)
Precast Reinforced Concrete Three Sided Structures
The Contractor shall not move three sided structure sections from the casting bed into storage until the concrete reaches a minimum compressive strength of 70 percent of the final design strength specified in the shop drawing and design calculation submittal.

The Contractor shall pick, move, and store the three sided structure sections in the cast position until the concrete reaches a minimum compressive strength equal to the final design strength specified in the shop drawing and design calculation submittal.

Shipping
Section 6-02.3(28)H is supplemented with the following: