TT MTG 4-6-16

# RUSSELL TOWNSHIP GEAUGA COUNTY, OHIO Bid Specifications

Contract RS-158-16

#### The Asphalt Resurfacing of Watt Road, TR 158

May 4, 2016 Bids Received Until - May 4, 2016 Bid Openina -12:15 P.M. 12:00 P.M. Russell Administration Bldg. Russell Administration Bldg. c/o Charles Walder 8501 Kinsman Road Novelty, OH 44072 8501 Kinsman Road OF Novelty, OH 44072 66714 Prepared under the supervision of Shane E. Hajjar, P.E. P.E. 66714 Geauga County Deputy Engineer Date \_ 4/ 16 **Plans/Specifications Approved by Russell Township Board of Trustees** Date 4/6/2016Date 4/6/2016Date 4/6/2016Garv G. Gabram Justin Madden ulu Jamés Mueller

# LEGAL NOTICE

Russell Township

Notice is hereby given that sealed bids will be received by the Russell Township Board of Trustees, c/o Charles Walder, Fiscal Officer, 8501 Kinsman Road, Novelty, Ohio 44072 until 12:00 P.M. official local time on May 4, 2016. Bids received will be publicly opened and read aloud at 12:15 P.M. the same day at the same location, for **The Asphalt Resurfacing of Watt Road, TR 158 in Russell Township**. The Engineer's estimate for this project is **\$480,000.00**.

Copies of the plans and/or specifications may be obtained digitally online at <u>http://www.co.geauga.oh.us/Departments/Engineer/OnlinePlans.aspx</u> or a hardcopy is available at the Geauga County Engineer's Office, 12665 Merritt Road, Chardon, OH 44024.

A bid guaranty in the amount of one hundred percent (100%) of the bid amount or a certified check, cashier's check or letter of credit pursuant to Chapter 1305 of the Ohio Revised Code in the amount of ten percent (10%) of the total bid amount shall accompany each bid. The bid shall be let upon a unit price basis.

Bids may be held by the Russell Township Board of Trustees for a period not to exceed sixty (60) days from the date of opening, for the purpose of reviewing the bids and investigating the qualifications of bidders, prior to awarding the contract.

The Russell Township Board of Trustees reserves the right to reject any and all bids, to waive any informalities or irregularities in the bids received, and to accept any bid or bids which are deemed most favorable to the Board at the time and under conditions stipulated, all in accord with the applicable provisions of laws of the State of Ohio governing the conduct of the Russell Township Board of Trustees.

BY THE ORDER OF THE RUSSELL TOWNSHIP BOARD OF TRUSTEES

Charles Walder, Fiscal Officer

Publish: April 14, 2016





## DESCRIPTION OF WORK The Asphalt Resurfacing of Watt Road, TR 158 Russell Township, Geauga County

#### Section 1 General

<u>The Construction and Material Specifications</u> dated 2013 published by the Ohio Department of Transportation (ODOT) and the <u>Modifications to the Ohio Department of</u> <u>Transportation's 2013 Construction and Material Specifications for Geauga County</u> dated 2016 shall govern this project except where otherwise noted in this Specification Booklet. The <u>Standard Contract Provisions for Contracts Prepared by the Geauga</u> <u>County Engineer's Office</u> dated 2016 shall govern the contractual agreement for this project. These Documents are available on the Geauga County Engineer's Web Site, go to <u>http://www.co.geauga.oh.us/Departments/Engineer/Documents.aspx</u> to view these documents or they may be picked up at the Engineer's Office. The requirements of Section 4115 of the Ohio Revised Code with regards to prevailing wages shall be followed for this project.

The project shall include the asphalt resurfacing of entire length of Watt Road (TR 158) and the replacement of two (2) culverts in Russell Township. The project limits are generally shown on the location map. The project includes approximately 1.93 miles of roadway.

#### <u>Section 2</u> Inspection and Notification

A pre-construction conference shall be scheduled by the Engineer with the Contractor prior to the start of construction. The Contractor shall submit a detailed Schedule of Operations for approval prior to the pre-construction meeting. The Contractor shall notify the Engineer at least seven (7) days in advance of the beginning of construction, so the Engineer may schedule the inspection.

The Contractor shall notify the local fire department, police and other appropriate agencies that may require the use of the road during emergency situations of the anticipated road work. If any area becomes inaccessible at any time, the Contractor shall immediately notify the agencies of these locations. The Contractor shall schedule his work and coordinate with the local schools as listed below to accommodate the pick-up and delivery of school students if applicable.

#### PHONE NUMBERS FOR LOCAL OFFICIALS:

| Geauga County Sheriff            | (440) 635-1234 |
|----------------------------------|----------------|
| State Highway Patrol             | (440) 635-1381 |
| Novelty Post Office              | (440) 338-3746 |
| West Geauga School District      | (440) 729-5951 |
| Russell Township Road Department | (440) 338-5309 |
| Russell Township Fire Department | (440) 338-6161 |

The Contractor shall be required to contact the Ohio Utilities Protection Service (OUPS) at phone number (800) 362-2764 and Ohio Oil & Gas Producers Underground Producers Service (OGPUPS) at phone number (614) 715-2984, a minimum of two (2) working days prior to commencing any work.

#### UTILITY OWNERS AND CONTACT PERSONNEL

| Jeff Heidnik    | (440) 413-9809  |
|-----------------|---|
| Bryan Dayton    | (330) 664-2409  |
| Mark Robinson   | (440) 717-6845  |
| Jon Hobby       | (440) 285-5474  |
| Jerry Walsh     | (330) 207-0894  |
| James Janis     | (216) 476-6142  |
| Kenneth Kreager | (330) 877-6747  |
| Linda Mahne     | (330) 487-5494  |
| Eric Lindberg   | (330) 720-8185  |
|                 | Jeff Heidnik<br>Bryan Dayton<br>Mark Robinson<br>Jon Hobby<br>Jerry Walsh<br>James Janis<br>Kenneth Kreager<br>Linda Mahne<br>Eric Lindberg |

#### Section 3 Maintaining Traffic

#### ODOT Item 614 – Maintaining Traffic

Traffic shall be maintained for the duration of the project. The Contractor shall furnish at least two (2) employees to serve as traffic control flaggers and the work zone shall follow the specifications set forth in ODOT SCD MT-97.11. The Contractor may need to use three (3) flaggers when working at major intersections in order to properly maintain traffic.

All traffic control devices shall be placed at the direction of the Engineer. The sign quantities in brackets are the minimum number of signs to be installed. Additional signs may be required and installed as directed by the Engineer. The Contractor shall post [five (5)] "On or About" Timeline signs at the start, end and intersecting roadways. "ROAD WORK AHEAD" (W20-1) signs [eleven (11)] shall be placed on Kinsman Road, Watt Road, Memory Lane, Pekin Road, and Fairmount Road at the project beginning and project end locations and in each direction of intersecting roadways. At each end of the project and intersecting roadway One (1) Type III Portable Barricade with two (2) Type B Flashing Warning Lights on each fixture, OM1-1 on back and Road Closed (R-11-2) on front signs [four (4)] for paving and culvert installations. The Contractor shall install orange "NO EDGE LINES" signs [eight (8)] at the beginning and end locations of the project and every one-half mile in each direction along the project or as directed by the Engineer. The Contractor shall also install white "DO NOT PASS" signs [eight (8)] at these locations until the application of the final pavement markings. After the placement of the intermediate course, the Contractor shall install "LOW SHOULDER" signs [six (6)] at the project beginning and project end locations and intersecting side roads. These signs shall remain in place until the completion of the shoulder work. The Contractor shall furnish and maintain "BUMP" signs [ten (10)] at the butt joints at the project beginning location, the project ending location, and at all side roads for both directions of travel until the final overlay course is placed.

All work and traffic control devices shall be in accordance with ODOT Item 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all labor, equipment and materials shall be included in the Lump Sum contract price for ODOT Item 614, Maintaining Traffic, unless separately itemized in the plan.

#### ODOT Item 614 – Work Zone Center Line, Class II, As Per Plan [3.86 MILE]

The Contractor shall furnish and install temporary retro-reflective centerline pavement markings on the roadway following the applications of the asphalt intermediate and surface courses.

#### Section 4 Construction

#### ♦ ♦ Watt Road – T.R. 158 [1.93 Mile] ♦ ♦ ♦

#### ODOT Item 202 – Wearing Course Removed [350.0 SY]

Butt joints, per ODOT SCD BP-3.1, shall be required at the following locations, as marked by the Engineer:

| • | Kinsman Road, SR 87 | (85 SY) |
|---|---------------------|---------|
| • | Memory Lane         | (60 SY) |
| • | Pekin Road (South)  | (75 SY) |
| ٠ | Pekin Road (North)  | (70 SY) |
| • | Fairmount Road      | (60 SY) |

#### ODOT Item 301 - Asphalt Concrete Base, PG64-22 [2100.0 CY]

The Contractor shall place an asphalt concrete base course in one pass of full width of eighteen feet (18') at an average depth of three inches (3"). A minimum thickness of two inches (2") and a maximum thickness of six inches (6") shall be placed to correct the desired cross-slope, as directed by Engineer. A contingency quantity has been included to be used as directed by the Engineer to achieve proper cross slope.

Minimum driveway aprons for vehicle access shall be paved with this course at the direction of the Engineer. Mailbox approaches will be paved with this course at the direction of the Engineer. Two (2) rollers shall be used when compacting this course in order to get proper compaction and proper finish. A vibratory roller shall serve as the breakdown and finish roller and compact the course with vibration used in only one direction of travel. A pneumatic roller shall be the second roller.

#### ODOT Item 301 - Asphalt Concrete Base, PG64-22 (Driveways) [75.0 CY]

The Contractor shall place up to a ten feet (10') long apron at each driveway as directed by the Engineer. This operation shall be performed after the mainline base course and prior to the application of the mainline surface course. The lengths of aprons are subject to change at the direction of the Engineer.

#### ODOT Item 407 – Tack Coat, As Per Plan [2800 GAL]

Tack coat shall be applied to the existing asphalt surface prior to the placement of the base course. The Engineer may adjust the application rate of 0.09 gallons per square yard. An additional quantity of tack coat to be placed on the base course of asphalt prior to the placement of the surface course is included in the total quantity for this item. This quantity has been calculated at the application rate of 0.04 gallons per square yard and shall only be used at direction of the Engineer.

# ODOT Item 441 – Asphalt Concrete Surface Course, Type 1, (448) PG64-22, As Per Plan [760.0 CY]

The Contractor shall place a surface course in one pass of full width of eighteen feet (18') consisting of an average compacted depth of one and one-quarter inches (1.25"). Mailbox approaches will be paved with this course at the direction of the Engineer. The Contractor shall use two (2) rollers to compact the surface course including one vibratory roller and one tandem roller. The vibratory roller shall be used to breakdown and compact the course with vibration used in only one direction of travel. The tandem roller shall be used as the finish roller. The surface course shall not be placed the same day as the base course. A contingency quantity has been included to be used as directed by the Engineer to achieve proper cross slope.

# ODOT Item 441 – Asphalt Concrete Surface Course, Type 1, (448) PG64-22 (Driveways) [70.0 CY]

The Contractor shall place up to a ten feet (10') long apron at all drives as directed by the Engineer. The paving of these driveways shall be a separate operation from the mainline paving. The lengths of aprons are subject to change at the direction of the Engineer. Driveway aprons shall be placed after the placement of the base course and before the placement of the surface course.

### ODOT Item 617 - Compacted Aggregate (RACP), As Per Plan [400.0 CY]

Upon the completion of the paving, the Contractor shall place the shoulder material along the roadway. The shoulder material shall not be placed on the same day as the placement of the surface course. The stabilized shoulder shall have a width of one and one-half feet (1.5') and an average depth of four and one-quarter inches (4.25").

#### ODOT Item 642 – Center Line, Type 1, As Per Plan [1.93 MILE] ODOT Item 642 – Edge Line, Type 1 [3.86 MILE] ODOT Item 644 – Stop Line [80.0 FEET]

The Contractor shall use the logs and electronic distance measuring equipment to apply "T" markings on the pavement to establish the beginning and ending points of all no-passing zones as shown in each log.

The Contractor shall provide a computerized Data Logging System (DLS) report in the form of a spreadsheet to the Engineer as described in ODOT Spec. 641.04 for each section of roadway listed in these specifications. A sample copy of the proposed DLS spreadsheet shall be provided for approval prior to the preconstruction meeting.

One (1) stop bar, per ODOT SCD TC-71.10, shall be placed as listed at the location below. The Engineer will mark the exact location.

- Kinsman Road, (20 FEET)
- Pekin Road, South (20 FEET)
- Pekin Road, North (20 FEET)
- Fairmount Road (20 FEET)

#### ODOT Item Special – Mailbox, Removed and Reset [50 EACH]

The Contractor shall remove and reset existing mailbox assemblies in accordance with the Geauga County Mailbox Post Support Detail, as directed by the Engineer. Mailbox supports that need to be replaced will be supplied to the Contractor by the Engineer at no charge. The Contractor shall maintain access to all mailboxes for the duration of the project. The Contractor may be required to supply temporary mailboxes, as directed by the Engineer. This item shall be included under Special Item – Mailbox, Removed and Reset.

#### <u>Guardrail</u>

ODOT Item 202 – Anchor Assembly Removed, Type A [1 EACH] ODOT Item 202 – Guardrail Removed [50.0 FEET] ODOT Item 606 – Anchor Assembly, Type E-98 [1 EACH] ODOT Item 606 – Guardrail, Type 5 Using 9' Posts [162.5 FEET] ODOT Item 626 – Barrier Reflectors, Type A2 [5 EACH]

Located at Station 0+15 to Station 2+27.5 on the east side of roadway, the work includes the removal of one (1) Type A Anchor Assembly, located at the end of SR 87 guardrail section, and 50' of Type 4 Guardrail. The contractor shall install one (1) Type E-98 Anchor Assembly, and 162.5' of Type 5 Guardrail between Stations 0+15 to Stations 2+27.5. A total of five (5) Barrier Reflectors, Type A2 shall be installed on this run.

This item shall consist of furnishing and installing any of the guardrail end terminals as listed on The Ohio Department of Transportation's Roadway Engineering's web page under Roadside Safety Devices for approved Guardrail End Treatments. Installation shall be at the locations specified in the plans in accordance with the manufacturer's specifications

The face of the type E impact head shall be covered with a sheet of Type G reflective sheeting, per CMS 730.19.

Refer to the manufacturer's instructions regarding the installation of, and grading around the foundation tubes and ground strut. The top of any foundation tube should be less than 4" above the ground. The placement of the foundation tubes should be an appropriate depth below the level line in order to maintain the finished guardrail height of 29" from the edge of the shoulder.

On site grading is required if the top of the foundation tubes or top of the ground strut does project more than 4".

**Delineators shall be included** and shall comply with Standard Construction Drawing TC-61.10 and CMS 620. A Type C Delineator shall be installed on a flexible post at the head of all Type E units located on the right side of the through roadway. A Type D Delineator shall be installed on a flexible post at the head of all Type E units located on the left side of the through roadway.

Payment for the above work shall be made at the unit price bid for Item 606, Anchor Assembly, Type E, Each, and shall include all labor, tools, equipment and materials necessary to construct a complete and functional anchor assembly system, including all related transitions, reflective sheeting, hardware, grading, embankment and excavation not separately specified, as required by the Engineer.

#### Culverts:

CULV 158 - 0.27

ODOT Item 202 – Structure Removed [1 LUMP] ODOT Item 203 – Borrow, As Per Plan [50 CY] ODOT Item 203 – Ditch Relocation [150 FEET] ODOT Item 503 – Cofferdams and Excavation Bracing [1 LUMP] ODOT Item 511 – Concrete, Misc: Cutoff Walls, As Per Plan [4.0 CY] ODOT Item 512 – Type 2 Waterproofing [70.0 SY] ODOT Item 659 – Seeding and Mulching, Class 1 [100 SY] ODOT Item 671 – Erosion Control Mat, Type C [100.0 SY] ODOT Item 811 – 6'x3' Conduit, Type A, 706.05, As Per Plan [56.0 FEET] ODOT Item 811 – Precast Block Wingwalls, As Per Plan [4 EACH]

Located at Station 14+25 of the roadway, the work includes the removal of one (1) 3'x3' stone/concrete box structure. The Contractor shall install 56.0 Feet of a 6'x3' box structure at a 30 degree LF skew in the same location as the existing structure. The Contractor shall relocate the existing ditches to flow into the new box culvert. Borrow quantity is to be used at the direction of the Engineer. Bedding material shall be #57 aggregate and backfill shall be low strength mortar. The Contractor shall place six (6) inches of 301 Asphalt Concrete Base in two three (3) inch lifts on top of the 304 aggregate base. All backfill and asphalt cost shall be included in item 811 6'x3' Conduit. For further details see attached detail sheet number one of two.

CULV 158 - 1.09

ODOT Item 202 – Pipe Removed, 24" and Under [36.0 FEET] ODOT Item 602 – Concrete Masonry Headwall, HW-2.2 [0.3 CY] ODOT Item 811 – 15" Conduit, Type A, 706.02, As Per Plan [48.0 FEET] ODOT Item 811 – 15" Conduit, Type D, 707.33, As Per Plan [20.0 FEET] ODOT Item 811 – Catch Basin, CB 2-2B, As Per Plan [1 EACH]

Located at Station 57+55 of the roadway, the work includes the removal of one (1) 15" Reinforced Concrete Pipe. The Contractor shall install 48.0 Feet of 15" Reinforced Concrete Pipe and a 2-2B Catch Basin (West Side), with the addition of two stub pipes West and South at the inlet end of the culvert. The cost of all labor and materials required to tie the four (4) inch plastic pipe into the catch basin shall be paid for under 811 Catch Basin. The Contractor shall place six (6) inches of 301 Asphalt Concrete Base in two three (3) inch lifts on top of the 304 aggregate base. All backfill and asphalt cost shall be included in Item 811 15" Conduit. For further details see attached detail sheet number two of two.

# Section 5 Quantity Breakdown

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Watt Road, TR 158

| Length                               | 1.93 MILE                           |                 |        |            |
|--------------------------------------|-------------------------------------|-----------------|--------|------------|
| Pavement Width 18 FEET No. of Drives |                                     | ). of Drives    | 68     | EACH       |
| Shoulder Width 1.5 FEET              |                                     |                 |        |            |
| TEM 102                              | Contract Borformonee Bond and Br    | omium           | 4      |            |
|                                      | Anchor Assembly Removed Type        |                 | 1      |            |
|                                      | Anchol Assembly Removed, Type A     | ٩               | 50.0   | EEET       |
| ITEM 202                             | Bing Removed 24" and Linder         |                 | 26.0   |            |
|                                      | Structure Removed                   |                 | 30.0   |            |
|                                      | Mooring Course Removed              |                 | 350.0  | SV         |
| ITEM 202                             | Porrow As Por Plan                  |                 | 500.0  |            |
| ITEM 202                             | Ditob Bolocation                    |                 | 450    |            |
|                                      | Apphalt Concrete Rese, DC 64.22     |                 | 2100.0 |            |
|                                      | Asphalt Concrete Base, PG 64-22     |                 | 2100.0 |            |
|                                      | Asphalt Concrete Base, PG 64-22 (   | Driveways)      | 10.0   |            |
|                                      | Tack Coat, As Per Plan              | Turne 1 $(149)$ | 2600   | GAL        |
|                                      | Asphalt Concrete Surface Course,    | туре т, (440)   | 700.0  | <u>~</u> V |
|                                      | PG64-22, AS Per Plan                |                 | 760.0  |            |
| 11 EW 441                            | Asphalt Concrete Surface Course,    | Type 1, (448)   | 70.0   | C1         |
|                                      | PG64-22 (Driveways)                 |                 | 4      |            |
|                                      | Concrete Mine: Cutoff Molle As De   | J<br>In Dian    | 1      | CV         |
|                                      | Concrete, Misc: Cuton Walls, As Pe  | er Plan         | 4.0    | CT<br>eV   |
|                                      | Concerts Mesonry Lloadwall (IMA)    | 0               | 10.0   | OY CY      |
|                                      | Concrete Masonry Headwall, HVV-2    |                 | 0.3    |            |
|                                      | Anchor Assembly, Type E-98          |                 | 100 5  |            |
|                                      | Guardrall, Type 5 Using 9 Posts     |                 | 102.5  |            |
|                                      |                                     |                 | 1      | LUMP       |
|                                      | Work Zone Center Line, Class II, As | s Per Plan      | 3.80   | MILE       |
|                                      | Compacted Aggregate (RACP), As      | Per Plan        | 400.0  | CY         |
| 11EM 624                             | Mobilization                        |                 | 1      | LUMP       |
| 11EM 626                             | Barrier Reflectors, Type A2         |                 | 5      | EACH       |
| ITEM 642                             | Center Line, Type 1, As Per Plan    |                 | 1.93   | MILE       |
| IIEM 642                             | Edge Line, Type 1, As Per Plan      |                 | 3.86   | MILE       |
| 11EM 644                             | Stop Line                           |                 | 80.0   | FEET       |
| 11EM 659                             | Seeding and Mulching, Class 1       |                 | 100    | SY         |
| IIEM 6/1                             | Erosion Control Mat, Type C         |                 | 100.0  | SY         |
| ITEM 811                             | 15" Conduit, Type A, 706.02         |                 | 48.0   | FEET       |
| ITEM 811                             | 15" Conduit, Type D, 706.33         |                 | 20.0   | FEET       |
| ITEM 811                             | 6'x3' Conduit, Type A, 706.05, As F | 'er Plan        | 56.0   | FEET       |
| ITEM 811                             | Catch Basin, CB 2-2B, As Per Plan   |                 | 1      | EACH       |
| ITEM 811                             | Precast Block Wingwall, As Per Pla  | n               | 4      | EACH       |
| ITEM SPEC                            | Mailbox, Removed and Reset          |                 | 50     | EACH       |





| Office of the Geauga County Engineer |     |          |
|--------------------------------------|-----|----------|
| ESTIMATE OF COST                     |     |          |
| Geauga County                        |     |          |
| Watt Road, TR 158                    |     |          |
|                                      | MAJ | 4/5/2016 |

### Scope of Work:

- Place 3" average of 301 Base Course.,
  Place 1.25" of 441 Surface Course, Type 1.
  Place 1.5' RACP shoulder material.
- Remove and Extend Guardrail at Start of Project
- Replace Two Culverts for Twp, 0.27, 1.09 County to Replace Culvert at 1.92

- Twp to Handle Remaining and Ditching

|      | TH- 1.93 MILE                                  | # OF DRIVES- |     | 68<br>15  | EA | CH<br>FT          |
|------|--|--------------|-----|-----------|----|-------------------|
| tom  |  | Ouentity     | IIn | it Drico  | 7  | LI<br>Total Prico |
| 103  | Contract Performance Bond and Premium          |              | \$  | 4 500 00  | S  | 4 500 00          |
| 202  | Anchor Assembly Removed Type A                 | 1 EACH       | ŝ   | 100.00    | \$ | 100.00            |
| 202  | Guardrail Removed                              | 50 FEET      | \$  | 2.00      | \$ | 100.00            |
| 202  | Pipe Removed, 24" and Under, As Per Plan       | 36 FEET      | \$  | 10.00     | \$ | 360.00            |
| 202  | Structure Removed                              | 1 LUMP       | \$  | 3.000.00  | \$ | 3.000.00          |
| 202  | Wearing Course Removed                         | 350.0 SY     | \$  | 10.00     | \$ | 3,500.00          |
| 203  | Borrow. As Per Plan                            | 50 CY        | \$  | 20.00     | \$ | 1,000.00          |
| 203  | Ditch Relocation                               | 150 FEET     | \$  | 10.00     | \$ | 1,500.00          |
| 301  | Asphalt Concrete Base Course, PG64-22          | 2100.0 CY    | \$  | 110.00    | \$ | 231,000.00        |
| 301  | Asphalt Concrete Base Course, (Driveways)      |              |     |           |    |                   |
|      | PG64-22  | 75.0 CY      | \$  | 180.00    | \$ | 13,500.00         |
| 407  | Tack Coat, As Per Plan                         | 2800 GAL     | \$  | 2.00      | \$ | 5,600.00          |
| 441  | Asphalt Concrete Surface Course, (448) Type 1, |              |     |           |    |                   |
|      | PG64-22, As Per Plan                           | 760.0 CY     | \$  | 140.00    | \$ | 106,400.00        |
| 441  | Asphalt Concrete Surface Course, (448) Type 1, |              |     |           |    |                   |
|      | PG64-22, Driveways                             | 70.0 CY      | \$  | 200.00    | \$ | 14,000.00         |
| 503  | Cofferdams and Excavation Bracing              | 1 LUMP       | \$  | 2,000.00  | \$ | 2,000.00          |
| 511  | Concrete, Misc: Cutoff Walls, As Per Plan      | 4.0 CY       | \$  | 500.00    | \$ | 2,000.00          |
| 512  | Type 2 Waterproofing                           | 70.0 SY      | \$  | 15.00     | \$ | 1,050.00          |
| 602  | Concrete Masonry Precast Headwall, HW-2.2      | 0.3 CY       | \$  | 1,500.00  | \$ | 450.00            |
| 606  | Anchor Assembly, Type E-98                     | 1 EACH       | \$  | 2,000.00  | \$ | 2,000.00          |
| 606  | Guardrail, Type 5 Using 9' Posts               | 162.5 FEET   | \$  | 20.00     | \$ | 3,250.00          |
| 614  | Maintaining Traffic                            | 1 LUMP       | \$  | 13,600.00 | \$ | 13,600.00         |
| 614  | Work Zone Center Line, Class II, As Per Plan   | 3.86 MILES   | \$  | 200.00    | \$ | 772.00            |
| 617  | Compacted Aggregate (RACP), As Per Plan        | 400.0 CY     | \$  | 35.00     | \$ | 14,000.00         |
| 624  | Mobilization                                   | 1 LUMP       | \$  | 13,108.50 | \$ | 13,108.50         |
| 626  | Barrier Reflectors, Type A2                    | 5 EACH       | \$  | 12.50     | \$ | 62.50             |
| 642  | Center Line, Type 1, As Per Plan               | 1.93 MILES   | \$  | 900.00    | \$ | 1,737.00          |
| 642  | Edge Line, Type 1, As Per Plan                 | 3.86 MILES   | \$  | 500.00    | \$ | 1,930.00          |
| 644  | Stop Line, As Per Plan                         | 80.0 FEET    | \$  | 20.00     | \$ | 1,600.00          |
| 659  | Seeding and Mulching, Class 1                  | 100 SY       | 5   | 4.00      | \$ | 400.00            |
| 6/1  | Erosion Control Mat, Type C                    | 100.0 SY     | \$  | 5.00      | \$ | 500.00            |
| 811  | 15" Conduit, Type A, 706.02, As Per Plan       | 48.0 FEE1    | \$  | 60.00     | \$ | 2,880.00          |
| 811  | 15" Conduit, Type D, 707.33, As Per Plan       | 20.0 FEET    | \$  | 40.00     | \$ | 800.00            |
| 811  | 6x3 Conduit, Type A, 706.05, As Per Plan       | 56.0 FEET    | \$  | 425.00    | \$ | 23,800.00         |
| 811  | Catch Basin, CB 2-2B, As Per Plan              | 1 EACH       | \$  | 1,500.00  | \$ | 1,500.00          |
| 811  | Precast Block Wingwalls, As Per Plan           | 4 EACH       | \$  | 100.00    | \$ | 3,000.00          |
| SPEC | Malidox, Remove and Reset                      | 50 EACH      | \$  | 100.00    | -  | 5,000.00          |
|      |  |              |     |           | 5  | 480 000 00        |