187665

**EXHIBIT E**

**CITY OF PORTLAND, OREGON**
**BUREAU OF TRANSPORTATION**
**PRELIMINARY ENGINEER'S ESTIMATE**
**NE 47th Ave: Columbia Blvd. to Cornfoot Rd. (excluding Bridges)**
**Date: November 16, 2015** **By: Landon Fisher**

PRELIMINARY ENGINEER'S ESTIMATE FOR THE IMPROVEMENT OF NE 47TH AVE FROM Columbia Blvd to Cornfoot Rd. (excluding bridges).

**VALUES IN BLUE ARE PERCENT OF CONTRACT.**

***###### BID ITEMS ######***

| NO. | ITEMS OF WORK AND MATERIALS | UNIT | TOTAL QUANTITY | | UNIT PRICE | TOTAL AMOUNT |
|---|---|---|---|---|---|---|
| 1 | MOBILIZATION | LS | 1.00 | $ | 200,393.13 | $200,393.13 |
| 2 | TEMPORARY PROTECTION & DIRECTION OF TRAFFIC | LS | 1.00 | $ | 60,117.94 | $60,117.94 |
| 3 | TEMPORARY SIGNS | SQFT | 192.00 | $ | 20.00 | $3,840.00 |
| 10 | TEMPORARY PLASTIC DRUMS | EACH | 50.00 | $ | 52.00 | $2,600.00 |
| 15 | STRIPING & STRIPE REMOVAL MOBILIZATION | EACH | 1.00 | $ | 425.00 | $425.00 |
| 19 | FLAGGERS | HOUR | 1,900.00 | $ | 48.50 | $92,150.00 |
| 21 | TEMPORARY TYPE ORANGE PLASTIC MESH FENCE | FOOT | 600.00 | $ | 3.60 | $2,162.73 |
| 23 | EROSION CONTROL | LS | 1.00 | $ | 20,039.31 | $20,039.31 |
| 28 | SEDIMENT FENCE, UNSUPPORTED | FOOT | 500.00 | $ | 2.50 | $1,250.00 |
| 29 | INLET PROTECTION | EACH | 16.00 | $ | 88.00 | $1,408.00 |
| 30 | POLLUTION CONTROL PLAN | LS | 1.00 | $ | 2,003.93 | $2,003.93 |
| 31 | CONTAMINATED MEDIA DISPOSAL | CUYD | 300.00 | $ | 163.00 | $48,900.00 |
| 43 | REMOVAL OF STRUCTURES & OBSTRUCTIONS | LS | 1.00 | $ | 60,117.94 | $60,117.94 |
| 45 | CLEARING AND GRUBBING | LS | 1.00 | $ | 51,601.23 | $51,601.23 |
| 46 | TREE ROOT REMOVAL | HOUR | 25.00 | $ | 178.00 | $4,450.00 |
| 49 | GENERAL EXCAVATION | CUYD | 4,111.00 | $ | 35.00 | $143,885.00 |
| 53 | 12 INCH SUBGRADE STABILIZATION | SQYD | 830.00 | $ | 21.90 | $18,177.00 |
| 54 | AGGREGATE DITCH LINING | SQYD | 10.00 | $ | 38.40 | $384.00 |
| 58 | SUBGRADE GEOTEXTILE | SQYD | 8,302.67 | $ | 1.25 | $10,410.82 |
| 65 | VIDEO INSPECTION OF SEWERS, MAINLINE | FOOT | 623.00 | $ | 8.00 | $4,984.00 |
| 66 | TRENCH EXCAVATION, COMMON | CUYD | 395.00 | $ | 12.00 | $4,740.00 |
| 69 | TRENCH FOUNDATION STABILIZATION | CUYD | 69.00 | $ | 45.00 | $3,105.00 |
| 70 | TRENCH BACKFILL, CLASS B | CUYD | 129.00 | $ | 30.00 | $3,870.00 |
| 72 | STORMWATER PLANTERS | SQFT | 2,110.00 | $ | 38.10 | $80,391.00 |
| 76 | 12 INCH PIPE, PVC AWWA C900, CI 150, BEDDING TYPE: D, COMPLETE | FOOT | 18.00 | $ | 95.00 | $1,710.00 |
| 83 | 12 INCH PIPE, HDPE ASTM F714 SDR 26 BEDDING TYPE:D, COMPLETE | FOOT | 623.00 | $ | 138.00 | $85,974.00 |
| 86 | 12 INCH PIPE, HDPE ASTM F714 SDR 26 BEDDING TYPE:D | FOOT | 460.00 | $ | 87.00 | $40,020.00 |
| 88 | CONCRETE MANHOLES, 48 INCH, 0-8 FT DEPTH | EACH | 6.00 | $ | 5,000.00 | $30,000.00 |
| 96 | CONCRETE INLETS, TYPE CG-2 | EACH | 20.00 | $ | 1,690.00 | $33,800.00 |
| 98 | CONCRETE INLETS, TYPE D | EACH | 2.00 | $ | 1,300.00 | $2,600.00 |
| 103 | CONCRETE INLETS, TYPE METAL | EACH | 12.00 | $ | 687.50 | $8,250.00 |
| 112 | CONNECTION TO EXISTING STRUCTURES | EACH | 4.00 | $ | 841.00 | $3,364.00 |
| 113 | ADJUSTING INLETS | EACH | 3.00 | $ | 664.00 | $1,992.00 |
| 115 | MINOR ADJUSTMENT OF MANHOLES | EACH | 8.00 | $ | 642.00 | $5,136.00 |
| 116 | MAJOR ADJUSTMENT OF MANHOLES | EACH | 1.00 | $ | 1,520.00 | $1,520.00 |
| 119 | TEMPORARY TRENCH RESURFACING | SQYD | 340.00 | $ | 20.00 | $6,800.00 |
| 122 | GRANULAR WALL BACKFILL | CUYD | 284.00 | $ | 63.90 | $18,148.01 |
| 134 | RETAINING WALL, CONVENTIONAL SEGMENTAL | SQFT | 3118.30 | $ | 43.30 | $135,022.39 |
| 145 | AGGREGATE BASE, 6 INCH THICK | SQYD | 8,303.00 | $ | 9.80 | $81,369.40 |
| 160 | PLAIN CONCRETE PAVEMENT, UNDOWELLED, 9 INCH THICK | SQYD | 8,303.00 | $ | 67.25 | $558,376.75 |
| 164 | CONCRETE CURBS, CURB AND GUTTER | FOOT | 2,890.00 | $ | 25.50 | $73,695.00 |
| 165 | CONCRETE CURBS, STANDARD CURB | FOOT | 2,890.00 | $ | 25.50 | $73,695.00 |
| 167 | CONCRETE CURBS, THICKENED CURB AND GUTTER | FOOT | 533.00 | $ | 37.70 | $20,094.10 |
| 169 | CONCRETE DRIVEWAYS | SQFT | 8,327.00 | $ | 8.40 | $69,946.80 |
| 171 | CONCRETE WALKS | SQFT | 17,556.00 | $ | 7.40 | $129,914.40 |
| 173 | MONOLITHIC CURB GUTTER AND SIDEWALKS | SQFT | 2,652.00 | $ | 12.30 | $32,619.60 |
| 177 | CONCRETE DRIVEWAY CONNECTIONS | SQFT | 1,924.00 | $ | 7.75 | $14,911.00 |
| | PEDESTRIAN RAIL | FOOT | 533.14 | $ | 208.29 | $111,047.73 |
| 205 | LONGITUDINAL PAVEMENT MARKING - PAINT | FOOT | 4,580.00 | $ | 0.46 | $2,106.80 |
| 207 | THERMOPLASTIC, NON-PROFILE, 120 MILS, EXTRUDED | FOOT | 4,800.00 | $ | 1.40 | $6,720.00 |
| 212 | PAVEMENT LEGEND, TYPE B-HS: BICYCLE LANE STENCIL | EACH | 4.00 | $ | 290.00 | $1,160.00 |
| 216 | REMOVE EXISTING SIGNS | LS* | 5.00 | $ | 41.70 | $208.50 |

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**EXHIBIT E**

| NO. | ITEMS OF WORK AND MATERIALS | UNIT | TOTAL QUANTITY | UNIT PRICE | TOTAL AMOUNT |
|---|---|---|---|---|---|
| 217 | REMOVE & REINSTALL EXISTING SIGNS | LS* | 1.00 | $ 167.00 | $167.00 |
| 218 | SIGN SUPPORT FOOTINGS, BREAKAWAY | LS* | 5.00 | $ 182.00 | $910.00 |
| 220 | PIPE SIGN SUPPORTS | LS* | 5.00 | $ 180.00 | $900.00 |
| 224 | TYPE "G" SIGNS IN PLACE | SQFT | 16.00 | $ 39.60 | $633.62 |
| 227 | TYPE "R" SIGNS IN PLACE | SQFT | 25.00 | $ 20.90 | $522.50 |
| 229 | TYPE "W1" SIGNS IN PLACE | SQFT | 21.25 | $ 19.00 | $403.75 |
| 235 | TYPE "Y1 "SIGNS IN PLACE | SQFT | 27.58 | $ 19.00 | $524.02 |
| 252 | LAWN SEEDING | SQYD | 1,162.00 | $ 4.00 | $4,648.00 |
| 253 | TOPSOIL | CUYD | 194.00 | $ 43.60 | $8,458.40 |
| 278 | CL-4R CHAIN-LINK FENCE WITH VINYL CLAD FABRIC | FOOT | 170.00 | $ 27.80 | $4,726.00 |
| 284 | REMOVE & REINSTALL MAILBOX SUPPORTS | EACH | 21.00 | $ 224.00 | $4,704.00 |

* Unit Price Shown is on Pound, Each, or Foot Basis as Applicable

TOTAL BID ITEMS $2,398,204.80

###### ANTICIPATED ITEMS ######

| NO. | ITEMS OF WORK AND MATERIALS | UNIT | QUANTITY | UNIT PRICE | TOTAL AMOUNT |
|---|---|---|---|---|---|
| 2 | RELOCATE WATER FACILITIES - FIRE HYDRANT | EACH | 3.00 | $ 20,000.00 | $60,000.00 |
| 3 | RELOCATE WATER FACILITIES - METER | EACH | 22.00 | $ 6,000.00 | $132,000.00 |
| 4 | STREET LIGHTING - UPGRADE LUMINAIRES | EACH | 9.00 | $ 600.00 | $5,400.00 |
| 5 | STREET LIGHTING - INSTALL ARMS AND LUMINAIRES | EACH | 4.00 | $ 5,000.00 | $20,000.00 |
| 7 | STORMWATER PLANTINGS AND PLANT ESTABLISHMENT | SQFT | 2110.00 | $ 20.00 | $42,200.00 |
| 11 | ASPHALT CEMENT ESCALATION | LS | 1.00 | $ 47,685.00 | $47,685.00 |
| 12 | FUEL ESCALATION | LS | 1.00 | $ 19,679.00 | $19,679.00 |
| 14 | BOLI FEE PAYMENT | LS | 1.00 | $ 2,398.20 | $2,398.20 |
| 15 | CONTRACT CONTINGENCY (REQUIREMENT TO ACCEPT BIDS UP TO 10% OVER ESTIMATE) | LS | 1.00 | $ 239,820.48 | $239,820.48 |

TOTAL ANTICIPATED ITEMS $569,182.68

**SCHEDULE SUMMARY**

| | | | |
|---|---|---|---|
| BID ITEMS | | | $2,398,204.80 |
| CONSTRUCTION CONTINGENCY | | 5% of Bid Items* | $119,910.00 |
| SUBTOTAL | | | $2,518,114.80 |
| ANTICIPATED ITEMS | | | $569,183.00 |
| **TOTAL CONSTRUCTION** | | | **$3,087,297.80** |
| PROJECT MANAGEMENT | | | $67,913.00 |
| DESIGN ENGINEERING | | | $351,700.00 |
| CONSTRUCTION MANAGEMENT | | | $377,400.00 |
| SUBTOTAL | | | $797,013.00 |
| PROJECT ENGINEERING & MANAGEMENT OVERHEAD | | 79.27% of PM, Eng, and CM | $631,792.00 |
| **TOTAL PROJECT ENGINEERING & MANAGEMENT** | | | **$1,428,805.00** |
| RIGHT-OF-WAY LAND, IMPROVEMENTS, AND DAMAGES | | | $11,654.00 |
| RIGHT-OF-WAY APPRAISAL, TITLE INSURANCE, AND NEGOTIATION | | | $35,700.00 |
| RIGHT-OF-WAY CONTINGENCY | | 30% of Land, Improve, and Damages | $3,529.00 |
| **TOTAL PROJECT RIGHT-OF-WAY** | | | **$50,883.00** |
| | *Years* | *Inflation* | |
| INFLATION RATE ON CONTRACT | 1 | 4.5% of Construction | $138,928.00 |
| INFLATION RATE ON PERSONNEL | 1 | 2.0% of Eng & Mgmt | $28,576.00 |
| ESTIMATE CONTINGENCY FOR UNDEFINED OR CHANGE IN SCOPE | | 15% of Const, Eng & Mgmt, and Inflation | $710,173.00 |
| **TOTAL PROJECT CONTINGENCY** | | | **$877,677.00** |

**TOTAL PROJECT ESTIMATE** **$5,444,662.80**