

**WORK AUTHORIZATION NO. 7**

**PROJECT: Traffic Signal Design – O'Connor Dr at Great Oaks Dr., O'Connor Dr at Liberty Walk Dr., and O'Connor Dr. at Morgan Hill Trail**

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated September 3, 2015 and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and Kimley-Horn and Associates, Inc. (the "Engineer").

Part 1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is \$60,000.00.

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on September 30, 2019. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this 21 day of AUGUST, 2018.

ENGINEER:

Kimley-Horn and Associates, Inc.

By: 

Signature

Brian Boeck


Printed Name

Vice President

Title

COUNTY:

Williamson County, Texas

By: 

Signature

Darrell Gatta

Printed Name

County Judge

Title

## LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

**Attachment A - Services to be Provided by County**

**WORK AUTHORIZATION NO. 7**

**PROJECT: O'Connor Dr. at Great Oaks Dr., O'Connor Dr. at Liberty Walk Dr., and  
O'Connor Dr. at Morgan Hill Trail – Traffic Signal Designs**

**ATTACHMENT A  
Services to be provided by the County**

**Project Location:** O'Connor Dr. at Great Oaks Dr.  
O'Connor Dr. at Liberty Walk  
O'Connor Dr. at Morgan Hill Trail

**Project Description:** Traffic Signal Design and Support Services

**SCOPE OF WORK**

This project consists of the design and necessary support services for traffic signals at the intersections of O'Connor Dr. at Great Oaks Dr., O'Connor at Liberty Walk, and O'Connor Dr. at Morgan Hill Trail in Williamson County. O'Connor Dr. and Great Oaks Dr. are both four-lane divided roadways with left turn bays at critical intersections; Liberty Walk and Morgan Hill Trail are both two-lane undivided collector streets. All three intersections operate on an All-Way Stop Control sign.

Williamson County (the County) will proceed with design and support services for a traffic signal based on the traffic signal warrant study results resulting from Work Authorization #6 of the subject contract. The design and support services will consist of plans, specifications and estimates, and construction support services. The signal design will utilize a mast-arm configuration meeting the design requirements of the County and the Texas Department of Transportation (TxDOT) design standards and specifications.

**SERVICES TO BE PROVIDED BY THE COUNTY**

The County shall provide all information requested by K-H during the project, including but not limited to the following:

- Timely responses to requests for information or clarification; and
- Timely review of all submittals.
- Provide available copies of associated survey, roadway plans, studies and coordination with ongoing related county projects.
- Provide decisions in a timely manner.
- Process payment to the Engineer in a timely manner.

## **Attachment B - Services to be Provided by Engineer**

**WORK AUTHORIZATION NO. 7**

**PROJECT: O'Connor Dr. at Great Oaks Dr., O'Connor Dr. at Liberty Walk Dr., and  
O'Connor Dr. at Morgan Hill Trail – Traffic Signal Designs**

**ATTACHMENT B  
Services to be provided by the Engineer**

**Project Location:** O'Connor Dr. at Great Oaks Dr.  
O'Connor Dr. at Liberty Walk  
O'Connor Dr. at Morgan Hill Trail

**Project Description:** Traffic Signal Design and Support Services

**SCOPE OF WORK**

This project consists of the design and necessary support services for traffic signals at the intersections of O'Connor Dr. at Great Oaks Dr., O'Connor at Liberty Walk, and O'Connor Dr. at Morgan Hill Trail in Williamson County. O'Connor Dr. and Great Oaks Dr. are both four-lane divided roadways with left turn bays at critical intersections; Liberty Walk and Morgan Hill Trail are both two-lane undivided collector streets. All three intersections operate on an All-Way Stop Control sign.

Williamson County (the County) will proceed with design and support services for a traffic signal based on the traffic signal warrant study results resulting from Work Authorization #6 of the subject contract. The design and support services will consist of plans, specifications and estimates, and construction support services. The signal design will utilize a mast-arm configuration meeting the design requirements of the County and the Texas Department of Transportation (TxDOT) design standards and specifications.

**SERVICES TO BE PROVIDED BY THE ENGINEER**

**Task 1. Project Management**

The Engineer shall maintain project files throughout all phases of the project including documentation of all correspondence, meeting notes, telephone calls, emails, etc. Invoices and progress reports will be submitted monthly.

The Engineer will conduct one (1) field review meeting, and one (1) 90% plan review meeting.

Deliverables will include project correspondence, meeting notes, progress reports and invoices.

## **Task 2. Plans, Specifications and Estimates (PS&E)**

The Engineer will prepare construction documents including plans, specifications and estimates (PS&E).

### **Task 2A – Survey, Base Maps, and Design Standards Assembly**

This task includes the collection and organization of data by the Engineer for use in other tasks of this project. The specific type, quantity and other requirements of the data to be surveyed, collected, reduced, and/or organized by the Engineer are described in the following subtasks.

1. The Engineer will assemble applicable design standards and specifications from TxDOT. (TxDOT 2014 Standard Specifications.)
2. The Engineer will gather available existing record drawings and design file information of the Project from County files.
3. The Engineer will perform a field reconnaissance of the intersection to determine existing pavement widths, lane configurations, traffic control devices, and above ground utility locations.
4. The Engineer will coordinate with the County to obtain Level B SUE survey where and if necessary.
5. The Engineer will obtain aerials and Level D survey CADD files from the County. The Engineer will use these to develop base maps.

### **Task 2B – Preliminary Plans and Specifications**

The Engineer will prepare preliminary traffic signal designs for the project locations. The basic design parameters will be based on discussions with the County and applicable TxDOT standards. Using the base maps from Task 2A, The Engineer will prepare a conceptual layout showing the locations of the controller cabinet and signal poles. The conceptual layout will be utilized in a field review meeting with County staff and the electric utility provider. Adjustments will be made based on field conditions.

Following the field review meeting, the Engineer will produce, provide internal quality control/quality assurance for, and submit preliminary plans to the County for review and comment.

The plans will be prepared in accordance with the County and TxDOT design standards and will include the following:

- a. Title Sheet
- b. General Notes and Summary of Quantities

- c. Existing Layout
- d. Proposed Signal Layout
- e. Conduit Runs and Wiring Summaries
- f. Phasing and Detection Schemes
- g. ADA Ramps and Sidewalk Details
- h. Proposed Signing and Pavement Marking Layout
- i. Proposed Elevations
- j. TxDOT and County Standards

Deliverables: The Engineer will provide: Electronic copies (PDF) and two (2) hard copies of 90% complete PS&E for County review.

### **Task 2C – Final PS&E**

Following the review meeting described in Task 1, the Engineer will produce the final plans, specifications, engineer's opinion of probable construction cost, and bid document package. Final plans and specifications will be submitted to the County.

Deliverables: The Engineer will provide:

- a. One (1) copy of the final PS&E, sealed by a Professional Engineer.
- b. Final Engineer's Opinion of Probable Construction Cost
- c. All electronic files and calculations as requested by the County.

### **Task 3 – Construction Phase Services**

The Engineer will:

- (a) Requests for Information - RFIs (**1 per signal** assumed): Respond to reasonable and appropriate Contractor RFI and issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of Contractor's work. Any orders authorizing variations from the Contract Documents will be made by County.
- (b) Review Contractor Submittals and Shop Drawings (**2 per signal** assumed): Review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents. Such review and approvals or other action will not extend to means, methods, techniques, equipment choice and usage, sequences, schedules, or procedures of construction or to related safety precautions and programs.
- (c) Plan Revisions for Field Changes (**1 sheets per signal** assumed): Engineer will provide minor revisions to plans in order to address differing site conditions, third party accommodation, or other owner directed changes. Revisions to plans will include revision clouds around any changes, will include descriptions and quantities of changes, CAD files, and will be sealed by a professional engineer.
- (d) Attend Meetings (**1 hour per signal** assumed): Engineer will attend meetings at the project site and progress meetings as requested.

The Engineer shall not be responsible for the means, methods, techniques, sequences, or procedures of construction selected by the Contractor or the safety precautions and programs incidental to the work of the Contractor. The Engineer shall not guarantee the performance of the Contractor nor be responsible for the acts, errors, omissions, or the failure of the contractor to perform the construction work in accordance with the Contract Documents.

The County agrees to include in all construction contract provisions for Contract indemnification of both the County and the Engineer for Contractor's negligence and to name both the County and the Engineer as additional insured on the applicable contractor's insurance policies.

**Additional Services**

Any services not specifically provided for in the above scope will be considered additional services and may be performed at current contracted hourly rates.

## **Attachment C - Work Schedule**

# ATTACHMENT C: PROJECT SCHEDULE



**Project Name:** O'Connor Dr. at Great Oaks Dr., O'Connor Dr. at Liberty Walk Dr. and O'Connor Dr. at Morgan Hill Trail – Traffic Signal Designs

**Project Description:** Traffic Signal Design and Intersection Modifications

**Prepared By:** Kimley-Horn and Associates, Inc.

| Task # | Task Name                           | Jul<br>2018 | Aug<br>2018 | Sept<br>2018 | Oct<br>2018 | Nov<br>2018 | Dec<br>2018 | April<br>2019 | May<br>2019 |
|--------|-------------------------------------|-------------|-------------|--------------|-------------|-------------|-------------|---------------|-------------|
| 1      | Project Management                  |             |             |              |             |             |             |               |             |
| 2A     | Survey / Base Maps / Specifications |             |             |              |             |             |             |               |             |
| 2B     | Preliminary Design                  |             |             |              |             |             |             |               |             |
|        | County Review                       |             |             |              |             |             |             |               |             |
| 2C     | Finalize Plans                      |             |             |              |             |             |             |               |             |
|        | Bidding (by County)                 |             |             |              |             |             |             |               |             |
| 3      | Construction Phase Services         |             |             |              |             |             |             |               |             |

## **Attachment D - Fee Schedule**

Work Authorization 7 - Attachment EXHIBIT D  
Man Hours and Fee Estimate

Kimley»Horn

| PEASE for Traffic Signal Design And Intersection Improvements At |  |      |      |      |      |       |   |   |   | Signal Designs - O'Connor at Great Oaks Dr, O'Connor at Liberty Walk Dr, and O'Connor at Morgan Hill Trail |                                    |                                       |                     |                               |                         |                         |                      |          |               |
|--|--|------|------|------|------|-------|---|---|---|--|------------------------------------|---------------------------------------|---------------------|-------------------------------|-------------------------|-------------------------|----------------------|----------|---------------|
| DESCRIPTION OF WORK TASK   |  |      |      |      |      |       |   |   |   | Plan<br>Sheets   | PM /<br>Sr. Engineer I<br>\$160.00 | Engineer/<br>Professional<br>\$145.00 | Analyst<br>\$115.00 | Admin/<br>Clerical<br>\$75.00 | Total<br>Labor<br>Hours | Direct<br>Labor<br>Cost | Printing<br>Plotting | Mileage  | Total<br>Cost |
| <b>1. PROJECT MANAGEMENT</b>                                     |  |      |      |      |      |       |   |   |   |  |                                    |                                       |                     |                               |                         |                         |                      |          |               |
| 1  | Project Setup                                | -    | 2.0  | -    | -    | -     | - | - | - | -  | 2.0                                | -                                     | -                   | -                             | 4.0                     | \$570.00                | -                    | -        | \$570.00      |
| 2  | Meetings (up to 2)                           | -    | 6.0  | -    | -    | -     | - | - | - | -  | 6.0                                | 4.0                                   | -                   | -                             | 10.0                    | \$1,680.00              | -                    | -        | \$1,785.20    |
| 3  | Monthly Reporting / Invoicing                | -    | 4.0  | -    | -    | -     | - | - | - | -  | 4.0                                | -                                     | 4.0                 | -                             | 8.0                     | \$1,405.00              | -                    | -        | \$1,405.00    |
| 4  | Project Coordination                         | -    | 4.0  | -    | -    | -     | - | - | - | -  | 4.0                                | -                                     | -                   | -                             | 4.0                     | \$720.00                | -                    | -        | \$720.00      |
|  | <b>Subtotal</b>                              |      |      |      |      |       |   |   |   |  | 16.0                               | 4.0                                   | 4.0                 | 5.0                           | 29.0                    | \$4,295.00              |                      | \$723.20 | \$4,418.20    |
| <b>2. PS&amp;E</b>   |  |      |      |      |      |       |   |   |   |  |                                    |                                       |                     |                               |                         |                         |                      |          |               |
| <b>2A. BASE MAPS AND DESIGN STANDARDS</b>                        |  |      |      |      |      |       |   |   |   |  |                                    |                                       |                     |                               |                         |                         |                      |          |               |
| 1  | Assemble Design Standards and Specifications | -    | -    | -    | -    | -     | - | - | - | -  | -                                  | 1.0                                   | 4.0                 | -                             | 5.0                     | \$905.00                | -                    | -        | \$905.00      |
| 2  | Verify Available Record Drawings             | -    | -    | -    | -    | -     | - | - | - | -  | -                                  | 1.0                                   | 3.0                 | -                             | 4.0                     | \$460.00                | -                    | -        | \$460.00      |
| 3  | Isita Room                                   | -    | 6.0  | -    | -    | -     | - | - | - | -  | 6.0                                | -                                     | 6.0                 | -                             | 12.0                    | \$1,770.00              | -                    | \$73.92  | \$1,843.92    |
| 4  | Survey Coordination & Verification           | -    | -    | -    | -    | -     | - | - | - | -  | -                                  | 3.0                                   | -                   | -                             | 3.0                     | \$435.00                | -                    | -        | \$435.00      |
| 5  | Prepare Base Maps                            | -    | -    | -    | -    | -     | - | - | - | -  | -                                  | 3.0                                   | 9.0                 | -                             | 12.0                    | \$1,470.00              | -                    | -        | \$1,470.00    |
|  | <b>Subtotal</b>                              |      |      |      |      |       |   |   |   |  | 6.0                                | 8.0                                   | 22.0                | -                             | 36.0                    | \$4,770.00              |                      | \$73.92  | \$4,843.92    |
| <b>2B. PRELIMINARY SIGNAL PLANS</b>                              |  |      |      |      |      |       |   |   |   |  |                                    |                                       |                     |                               |                         |                         |                      |          |               |
| a  | Title Sheet                                  | 1.0  | 1.0  | 1.0  | 1.0  | 2.0   | - | - | - | 1.0  | 1.0                                | 2.0                                   | -                   | -                             | 3.0                     | \$375.00                | \$0.80               | -        | \$375.80      |
| b  | General Notes                                | 3.0  | 1.0  | 1.0  | 2.0  | 2.0   | - | - | - | 3.0  | 1.0                                | 2.0                                   | -                   | -                             | 5.0                     | \$700.00                | \$1.80               | -        | \$701.80      |
| c  | Quantity Estimates                           | 3.0  | 1.0  | 1.0  | 3.0  | 6.0   | - | - | - | 3.0  | 1.0                                | 3.0                                   | -                   | -                             | 10.0                    | \$1,305.00              | \$1.80               | -        | \$1,306.80    |
| d  | Signal Layout                                | 3.0  | 18.0 | 24.0 | 24.0 | 60.0  | - | - | - | 3.0  | 18.0                               | 24.0                                  | -                   | -                             | 102.0                   | \$13,620.00             | \$1.80               | -        | \$13,621.80   |
| e  | Signal Elevations                            | 3.0  | 2.0  | 3.0  | 3.0  | 9.0   | - | - | - | 3.0  | 2.0                                | 3.0                                   | -                   | -                             | 14.0                    | \$1,830.00              | \$1.80               | -        | \$1,831.80    |
| f  | Phasing and Wiring Diagrams                  | 3.0  | 3.0  | 3.0  | 6.0  | 15.0  | - | - | - | 3.0  | 3.0                                | 6.0                                   | -                   | -                             | 24.0                    | \$3,135.00              | \$1.80               | -        | \$3,136.80    |
| g  | Direction Schemes                            | 3.0  | 1.0  | 1.0  | 3.0  | 9.0   | - | - | - | 3.0  | 1.0                                | 3.0                                   | -                   | -                             | 10.0                    | \$1,650.00              | \$1.80               | -        | \$1,651.80    |
| h  | Conduit and Cabling Charts                   | 3.0  | 3.0  | 3.0  | 6.0  | 12.0  | - | - | - | 3.0  | 3.0                                | 6.0                                   | -                   | -                             | 21.0                    | \$2,790.00              | \$1.80               | -        | \$2,791.80    |
| i  | ADA Ramp Layout                              | 3.0  | 6.0  | 6.0  | 9.0  | 22.0  | - | - | - | 3.0  | 6.0                                | 9.0                                   | -                   | -                             | 27.0                    | \$3,765.00              | \$1.80               | -        | \$3,766.80    |
| j  | Standards                                    | 40.0 | 1.0  | 3.0  | 3.0  | 3.0   | - | - | - | 40.0   | 1.0                                | 3.0                                   | -                   | -                             | 7.0                     | \$950.00                | \$24.00              | -        | \$974.00      |
|  | <b>Subtotal</b>                              |      | 65.0 | 36.0 | 60.0 | 130.0 | - | - | - | 65.0   | 36.0                               | 60.0                                  | 130.0               | -                             | 226.0                   | \$30,130.00             | \$39.00              |          | \$30,169.00   |
| <b>2C. FINAL SIGNAL PLANS</b>                                    |  |      |      |      |      |       |   |   |   |  |                                    |                                       |                     |                               |                         |                         |                      |          |               |
| a  | Title Sheet                                  | 1.0  | 1.0  | 1.0  | 1.0  | 1.0   | - | - | - | 1.0  | 1.0                                | 1.0                                   | -                   | -                             | 3.0                     | \$440.00                | \$0.80               | -        | \$440.80      |
| b  | General Notes                                | 2.0  | 2.0  | 1.0  | 1.0  | 2.0   | - | - | - | 2.0  | 2.0                                | 1.0                                   | -                   | -                             | 3.0                     | \$660.00                | \$1.20               | -        | \$661.20      |
| c  | Quantity Estimates                           | 3.0  | 1.0  | 1.0  | 1.0  | 2.0   | - | - | - | 3.0  | 1.0                                | 1.0                                   | -                   | -                             | 4.0                     | \$665.00                | \$1.80               | -        | \$666.80      |
| d  | Signal Layout                                | 3.0  | 6.0  | 12.0 | 15.0 | 15.0  | - | - | - | 3.0  | 6.0                                | 12.0                                  | -                   | -                             | 33.0                    | \$4,545.00              | \$1.80               | -        | \$4,546.80    |
| e  | Signal Elevations                            | 3.0  | 1.0  | 2.0  | 2.0  | 3.0   | - | - | - | 3.0  | 1.0                                | 2.0                                   | -                   | -                             | 6.0                     | \$815.00                | \$1.80               | -        | \$816.80      |
| f  | Phasing and Wiring Diagrams                  | 3.0  | 1.0  | 2.0  | 2.0  | 3.0   | - | - | - | 3.0  | 1.0                                | 2.0                                   | -                   | -                             | 6.0                     | \$815.00                | \$1.80               | -        | \$816.80      |
| g  | Direction Schemes                            | 3.0  | 1.0  | 2.0  | 2.0  | 4.0   | - | - | - | 3.0  | 1.0                                | 2.0                                   | -                   | -                             | 7.0                     | \$930.00                | \$1.80               | -        | \$931.80      |
| h  | Conduit and Cabling Charts                   | 3.0  | 1.0  | 1.0  | 3.0  | 6.0   | - | - | - | 3.0  | 1.0                                | 3.0                                   | -                   | -                             | 10.0                    | \$1,305.00              | \$1.80               | -        | \$1,306.80    |
| i  | ADA Ramp Layout                              | 3.0  | 3.0  | 3.0  | 6.0  | 9.0   | - | - | - | 3.0  | 3.0                                | 6.0                                   | -                   | -                             | 11.0                    | \$1,450.00              | \$1.80               | -        | \$1,451.80    |
| j  | Standards                                    | 40.0 | 1.0  | 1.0  | 1.0  | 1.0   | - | - | - | 40.0   | 1.0                                | 1.0                                   | -                   | -                             | 3.0                     | \$440.00                | \$24.00              | -        | \$464.00      |
|  | <b>Subtotal</b>                              |      | 64.0 | 16.0 | 25.0 | 43.0  | - | - | - | 64.0   | 16.0                               | 25.0                                  | 43.0                | -                             | 86.0                    | \$11,870.00             | \$38.40              |          | \$11,908.40   |
| <b>3. CONSTRUCTION SUPPORT SERVICES</b>                          |  |      |      |      |      |       |   |   |   |  |                                    |                                       |                     |                               |                         |                         |                      |          |               |
| a  | Respond to RFIs (1 per signal)               | -    | 3.0  | -    | -    | 3.0   | - | - | - | -  | 3.0                                | -                                     | -                   | -                             | 6.0                     | \$885.00                | -                    | -        | \$885.00      |
| b  | Review Contractor Submittals (6)             | -    | 4.0  | -    | -    | 4.0   | - | - | - | -  | 4.0                                | -                                     | -                   | -                             | 4.0                     | \$720.00                | -                    | -        | \$720.00      |
| c  | Revision Sheets (up to 3)                    | -    | 3.0  | -    | -    | 3.0   | - | - | - | -  | 3.0                                | -                                     | -                   | -                             | 6.0                     | \$885.00                | -                    | -        | \$885.00      |
| d  | Signal Turn-on                               | -    | 6.0  | -    | -    | 6.0   | - | - | - | -  | 6.0                                | -                                     | -                   | -                             | 6.0                     | \$1,080.00              | -                    | \$49.26  | \$1,129.26    |
|  | <b>Subtotal</b>                              |      |      |      |      |       |   |   |   |  | 16.0                               | -                                     | 6.0                 | -                             | 22.0                    | \$3,570.00              |                      | \$49.26  | \$3,619.26    |
| <b>HOURS TOTALS</b>  |  |      |      |      |      |       |   |   |   |  | 52.0                               | 97.0                                  | 205.0               | 5.0                           | 399.0                   |                         |                      |          |               |
| <b>FEES TOTALS</b>   |  |      |      |      |      |       |   |   |   |  |                                    |                                       |                     |                               |                         | \$54,575.00             | \$77.40              | \$245.40 | \$54,897.80   |