

**AMENDMENT NO. 1**  
**To**  
**AGREEMENT FOR**  
**PROFESSIONAL ENGINEERING DESIGN SERVICES**  
**For**

**“IMPROVEMENTS TO LEE’S SUMMIT ROAD, ANDERSON DRIVE TO U.S. 40 HWY”**  
**COUNTY PROJECT NO. 3122; FEDERAL PROJECT NO. STP-3301 (454)**

This Agreement Amendment is made by and between **HNTB Corporation**, hereinafter called “Engineer” or “Consultant”, and the **County of Jackson, Missouri**, hereinafter called “County”, this 15<sup>th</sup> day of April 2013.

Whereas, it is the mutual desire of the parties hereto to amend the Agreement, entered into on the March 3, 2010, by Resolution #17197, hereinafter called the “Original Agreement”.

Therefore, it is hereby agreed that the Original Agreement be amended as follows:

**ARTICLE I – ADDITIONAL SERVICES:**

The following items as described herein and summarized on attached Exhibits A&B are additional services to be provided by the Engineer:

- 1) Extend schedule that was outlined in the Original Agreement;
- 2) Attend additional planning meetings with MoDOT personnel;
- 3) Modify current bidding documents to comply with MoDOT standards so that project construction can be let and administered by MoDOT (field inspection by County personnel);
- 4) Perform additional design as required to extend the project limits 500’ on the north end of Lee’s Summit Road and make changes in the pavement thickness throughout; and,
- 5) Design water main changes and upgrades within the project limits and incorporate water main construction in the project plans. The cost for water main design will be divided equally between Kansas City and Jackson County.

**ARTICLE II – PERIOD OF SERVICE:**

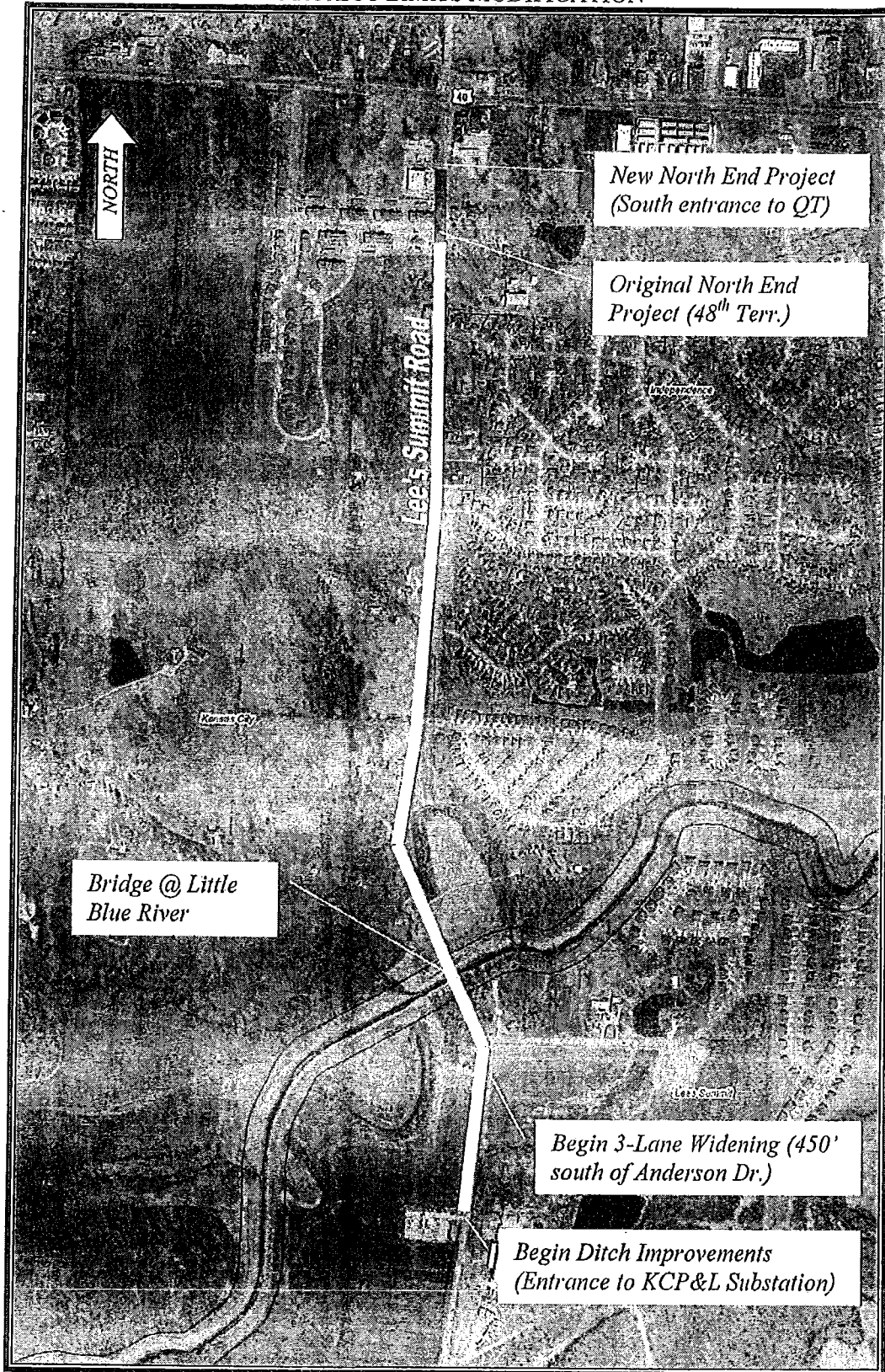
The Period of Service for both the Original Agreement and this Amendment No. 1 shall be through completion of construction of the improvements. All other services and deliverables not described herein shall remain as stated in the Original Agreement.

**ARTICLE III – PAYMENTS TO ENGINEER:**

The payment provision shall be revised as described below:

<b>FILED</b>
<b>APR 15 2013</b>
<b>MARY JO SPINO</b>
<b>COUNTY CLERK</b>

IMPROVEMENTS TO LEE'S SUMMIT ROAD, PROJECT NO. 3122  
PROJECT LIMITS MODIFICATION



COUNTY will pay not-to-exceed fee of **\$224,706** as compensation for required additional services, including expenses, as set forth in the attached Engineer's Proposals Exhibits A&B, and outlined below:

Modification of current roadway plans (Exhibit A)	\$94,350
Design of water main improvements (Exhibit B)	\$130,356
<b>TOTAL Not-To-Exceed Fee</b>	<b>\$224,706</b>

All payments to the Engineer for these Additional Services shall be made in conformance with the payment terms in the Original Agreement.


**ARTICLE IV – ATTACHMENTS:**

- Exhibit A     Scope of Services For Additional Roadway Design Services on Lee's Summit Road
- Exhibit B     Scope of Services for Water Main Relocations

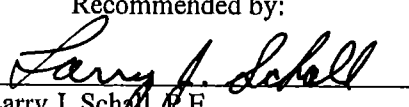
This amendment will be deemed a part of, and be subject to, all terms and conditions of the Original Agreement. Except as modified above, the Existing Agreement will remain in full force and effect.

IN WITNESS WHEREOF, Jackson County, Missouri, has caused these presents to be executed in its behalf by its duly authorized agent; and the Engineer has hereunto set its hand and seal.

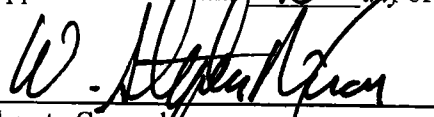
Approved by:

  
Michael Sanders  
County Executive

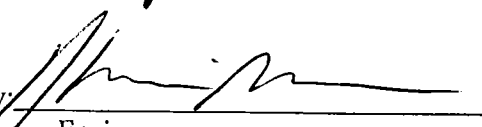
Recommended by:

  
Larry J. Schell, P.E.  
Director of Public Works

Approved to form this 15<sup>th</sup> day of April, 20 13

  
County Counselor


ATTEST BY:

By:   
Engineer

  
Clerk of the County Legislature

REVENUE CERTIFICATE

I hereby certify that there is a balance otherwise unencumbered to the credit of the appropriation to which this Agreement is chargeable, and a cash balance otherwise unencumbered in the treasury from which payment is to be made, each sufficient to meet the obligation of \$ 224,706.<sup>00</sup> which is hereby authorized.

April 9, 2013  
Date   
Finance Director

Account Code 015 - 1540 - 8070      15402013001

Tax ID # \_\_\_\_\_

# Exhibit A

## SCOPE OF SERVICES

### For additional roadway design services on Lee's Summit Road

Project No.: Jackson County # 3122 / Federal Aid Project STP-3301(454)

#### AMMENDMENT DESCRIPTION

The following Scope of Work describes the requested additional Design Professional services associated with improvements to Lee's Summit Road from 1400 feet south of Anderson Drive, north to 500 feet south of US 40 Highway.

This amendment consists of design services for additional effort not requested in the original engineering contract between Jackson County and HNTB. The County's request for additional services has been triggered by the following changes to assumptions of project delivery and schedule within the current agreement:

- Jackson County will transfer to MoDOT the role of "agency in charge" of administering and letting the construction contract. By transferring this role to MoDOT, the construction plans prepared by HNTB will now need to be modified to MoDOT format for *select and specific* elements of the project. The plan set in its entirety will not be modified into MoDOT format plans. However, the bid items and specifications will need to be in MoDOT format. The project manual and specifications prepared by HNTB will now need to follow more of a MoDOT format, rather than a previously assumed County bid.
- Time extension to the original contract. The schedule of completion for the design phase has extended beyond the schedule established in the original engineering contract. Under the current agreement, the construction plans were to be completed September 1, 2011. It is now our understanding that the date for letting the construction project will now be in October 2013. As a result of the extension to the design and construction schedule, HNTB is requesting:
  - A schedule extension,
  - Compensation for additional project management, meetings, and coordination required with Jackson County, MoDOT, KCMO and utilities thru the time extension period. HNTB is requesting compensation for these duties for the time period of June 2012 thru October 2013.
- Jackson County in conjunction with Kansas City, MO and MoDOT has decided to adjust the project limits. The south project limits remain unchanged, but the full roadway section is to be shifted approximately 850 feet to the north to station 112±00 with limited entrance and ditch improvements south of this point. The north project limits are to be shifted approximately 500 feet north to roadway station 179±00. Furthermore, per Kansas City's request, Jackson County has requested HNTB to modify the roadway pavement section to match the City's latest standard section without geogrid. Making these changes at this stage of the project will require considerable rework as identified in the task breakout below.
- Jackson County has requested other miscellaneous engineering tasks outside the scope of services for the original agreement. These tasks are included within the scope of services and fee estimate for this amendment. The tasks include specific engineering and design tasks, as requested by the County, or tasks requested by MoDOT due to the County's transfer of "agency in charge" of construction administration.

## **AMENDMENT TASKS**

### **Additional Roadway design tasks**

1. Assemble KCMO, County, and APWA standard drawings (for non-MoDOT bid items) and insert into current plan set (roadway, drainage, traffic control, erosion control)
2. Add MoDOT job number to 90% complete plans.
3. Coordination with MoDOT for adjacent project Traffic Control/Sequencing Plans. Assumes no changes in currently designed traffic control/sequencing plans, but coordination on timing of the sequencing plans prepared to ensure that no conflicts or traffic sequencing issues will be created by construction of the intersection of US 40 & Lee's Summit Road.
4. Revise roadway typical sections, grading model, cross sections and quantities for change in pavement section. Assumes using 2" Type 3 AC Surface on 9" Type 1 AC Base on 6" Type 5 Aggregate Base on 6" compacted suitable soil (no modification)
5. Design and plan revisions due to changing project limits. Includes revisions to the following sheets: title, alignment, typicals, demolition, roadway plan/profile, side street/driveway/intersection details, storm sewer profiles, pavement marking, signing, lighting, traffic control, erosion control and cross sections. Also includes revising quantities accordingly

### **Additional Drainage design tasks**

#### **Design Modifications to trapezoidal channel between 52nd and 54th Street**

Modify ditch geometry from original design. Modifications requested by County to increase earthwork (cut), 2 yr. storm "pilot channel" for low flow conditions.

1. Design trapezoidal ditch with 2-yr storm low flow channel.
2. Hydraulic design of "pilot channel". Layout of pilot channel within trapezoidal channel.

### **Additional Bridge design tasks**

1. Bridge pier aesthetics, coordination with preferred option, and development of details. Aesthetics of the bridge piers as requested by the County was not originally anticipated in the original agreement.
2. Coordination with USGS regarding stream gauge attachment to new bridge.
3. Coordinate and revise details and quantities to add a single 4" conduit as requested by Comcast

### **Bid Items, Project Manual, and Specifications**

#### ***Bid Item Modifications***

1. Coordinate with County on determination of project bid items that should be "COUNTY" or "CITY" bid items vs. "MoDOT" bid items.
2. Convert requested bid items to "MoDOT" bid item name and "MoDOT" bid item number
3. Convert requested "County" bid items to "MoDOT" special bid item number (leave bid item name as "county")
4. Adjust notes and callouts on current plan & profile sheets, typicals, and details sheets and summary of quantity tables to reflect bid item name changes
5. Enter project bid items into MoDOT Estimator program for engineer's estimate

***Project Manual – Specifications*** (effort is in addition to the original scoped effort to compile technical specifications for a County bid project)

Prepare JSP's for non-standard MoDOT Bid Items (City/County standard items)

1. Roadway JSP's, included Traffic Management Plan JSP

2. Bridge JSP's
3. Drainage JSP's
4. Landscaping/BMP/Erosion Control JSP's
5. Calculation and determination of Working Days estimate for the construction contract length per MoDOT requirements. Review with County and MoDOT once initial estimate is made. Make any adjustments per review.
6. Prepare bid form
7. Special conditions section. (General notes from plans, construction completion date, liquidated damages, geotechnical information, permit information)
8. Address MoDOT and County comments on PS&E submittal for specifications and engineer's estimate.

#### **Additional Project Coordination**

1. Attend 4 Core Team Monthly Core Team meetings with MoDOT, County, and City. Assumes 3 hours per meeting to attend, prepare and respond as necessary.
2. Meetings with KCMO Water Services. Coordination meetings and assistance with cost-sharing and agency partnership agreement. Assumes up to three two-hour meetings and up to ten hours of miscellaneous coordination time.
3. Project management, phone calls, correspondence with Jackson County, MoDOT and KCMO. Assumes 4 hours per month beginning in June 2012 and extending thru September 2013 (letting)
4. Attend additional utility coordination meeting. Assumes 2 hour meeting plus preparation time and preparing meeting minutes
5. Additional utility coordination due to longer design phase schedule

#### **AMENDMENT ASSUMPTIONS**

1. The current roadway plans are at an approximate 90% complete stage. The plans will remain in the same CAD format, which is not MoDOT standard. However, the scope of services does include time to convert the current project border to a MoDOT standard border and provide the quantity summary tables for ALL bid items.
2. The current roadway plans will not be modified to conform to MoDOT standards related to design content and methodology except as noted in above. Example: Plans will not be modified to show phased earthwork in cross sections, cross sections at sign structures, itemized traffic control quantities, etc. The same assumptions used for developing a County set of bid plans with respect to engineering content and presentation will apply.
3. MoDOT will not require full size plan submittals for PS&E, final PS&E, or for bid plans. Deliverable will be PDF format on a DVD or posted to MoDOT's FTP site.
4. No other changes to the 90% complete design plans are included except those specifically included herein.

## **SCHEDULE**

The following schedule has been developed under the time frame requirements of MoDOT's schedule for P.S. & E. submittal and review of the road project. The schedule and milestones for the additional services are:

- January 16, 2013: Notice to Proceed
- NTP-March 2013: Preparation of project manual and design plan changes/modifications.
- NTP thru July 2013: Continued coordination with MoDOT and County on the preparation of design plan adjustments and finalization of utility coordination, MoDOT in-house design of the US40/Lee's Summit Road intersection, and traffic control plans
- June 1, 2013: P.S.&E. Submittal to MoDOT
- July 2013: Address P.S.&E. Comments
- August 1, 2013: Submit Bid P.S.&E. Package
- Mid-September 2013: MoDOT to advertise the construction project
- Mid-October 2013: Bid opening
- December 2013: Begin Construction
- April/May 2015: End Construction



EXHIBIT A - Scope of Services

# HNTB

HNTB Job No. 49917: Improvements to Lee's Summit Road (40 Highway to Anderson Road)  
 Jackson County Project No. 3122

## PERSON-HOUR TASK BREAKOUT FOR: HNTB SUMMARY

Task Summary	Direct Labor	
	Hours	Cost
Additional Roadway Design Tasks	210	\$22,578
Additional Drainage Design Tasks	16	\$1,885
Additional Bridge Design Tasks	68	\$8,444
Bld Items, Project Manual, and Specifications	296	\$39,724
Additional Coordination	122	\$20,180
<b>SUBTOTAL (LABOR - DESIGN ONLY)</b>	<b>712</b>	<b>\$92,811</b>

## HNTB DIRECT EXPENSES

Expense Item	Cost
Additional Roadway Design Tasks	\$1,139
Additional Drainage Design Tasks	\$0
Bld Items, Project Manual, and Specifications	\$0
Additional Coordination	\$400
<b>SUBTOTAL (DIRECT EXPENSES)</b>	<b>\$1,539</b>

## HNTB SUBCONSULTANT EXPENSES

Expense Item	Cost
None	\$0
<b>SUBTOTAL (SUBCONSULTANT EXPENSES)</b>	<b>\$0</b>

<b>TOTAL (DESIGN AND EXPENSES) =</b>	<b>\$94,350</b>
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# HNTB

HNTB Job No. 49917: Improvements to Lee's Summit Road (40 Highway to Anderson Road)

## PERSON-HOUR TASK BREAKOUT FOR: HNTB SUMMARY

Items	Principal	Senior Project Manager	Senior Engineer	Design Engineer III	Technician	TOTAL
<b>Additional Roadway Design Tasks</b>						
A:						
1.		1		4	10	15
2.				1	2	3
3.		6		8		14
4.		0				0
5.		0	0		0	0
4.		0	0	0	0	0
B:						
1.		2		2	4	8
2.		1		8	4	13
3.		1		4	4	9
C:						
1.					4	4
2.		1		8	24	33
3.		1		6	6	13
4.		1	2	16	8	27
5.		4	2	6	12	22
6.				6	16	26
7.				8	4	12
8.		1		2	8	11
		<b>SUBTOTAL</b>				<b>210</b>
		<b>SUBTOTAL</b>				<b>210</b>
		<b>2012-2013 LABOR BILLING RATE (\$/Hour)</b>				
		<b>SUBTOTAL COST</b>				
		0	19	4	81	106
		\$265.00	\$182.00	\$160.00	\$130.00	\$75.00
		80	\$3,458	\$640	\$10,530	\$7,950
						\$22,578

EXPENSES:	
plotting/reprow	\$839
mileage	\$300
<b>Total Expenses</b>	<b>\$1,139</b>







HNTB Job No. 49917: Improvements to Lee's Summit Road (40 Highway to Anderson Road)

PERSON-HOUR TASK BREAKOUT FOR: HNTB SUMMARY

		Principal	Senior Project Manager	Senior Engineer	Design Engineer III	Tech.	Clerical	TOTAL	
<b>Bid Items, Project Manual, and Specifications</b>									
<b>A.</b>		<b>BID ITEMS AND COST ESTIMATE</b>							
1.	Coordinate with County on determination of project bid items that should be "COUNTY" or "CITY" bid items vs. "MoDOT" bid items.		4		2			6	
2.	Convert requested bid items to "MoDOT" bid item name and "MoDOT" bid item number		3		28			31	
3.	Convert requested "County" bid items to "MoDOT" special bid item number (leave bid item name as "county")		3		28			31	
4.	Adjust notes and callouts on current plan & profile sheets, typicals, and details sheets and summary of quantity tables to reflect bid item name changes				6	24		30	
5.	Enter project bid items into MoDOT Estimator program for engineer's estimate		1		24			25	
		<b>SUBTOTAL</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>88</b>	<b>24</b>	<b>0</b>	<b>123</b>
<b>B.</b>		<b>PROJECT MANUAL/SPECIFICATIONS</b>							
		Prepare JSP's for non-standard MoDOT Bid Items (City/County standard items)							
1.	Roadway JSP's		2		16			18	
2.	Bridge JSP's		2	8	2			12	
3.	Drainage JSP's		2	4	12			18	
4.	Landscaping/BMP/Erosion Control JSP's		2		16			18	
5.	Calculation and determination of Working Days estimate for the construction contract length per MoDOT requirements. Review with County and MoDOT once initial estimate is made. Make any adjustments per review.		6		20			26	
6.	Prepare bid form		1		4	2		7	
7.	Special conditions section. (General notes from plans, construction completion date, liquidated damages, geotechnical information, permit information)		4	4	12	2		22	
8.	Address MoDOT and County comments on PS&E submittal for specifications and engineer's estimate.		4	4	28			36	
9.	Develop "Traffic Management Plan" document/JSP for project manual. Coordinate with County/MoDOT on approval of the TMP.		8		8			16	
		<b>SUBTOTAL</b>	<b>0</b>	<b>31</b>	<b>20</b>	<b>118</b>	<b>4</b>	<b>0</b>	<b>173</b>
		<b>SUBTOTAL</b>	<b>0</b>	<b>42</b>	<b>20</b>	<b>206</b>	<b>28</b>	<b>0</b>	<b>296</b>
		<b>2012-2013 LABOR BILLING RATE (\$/Hour)</b>	<b>\$265.00</b>	<b>\$182.00</b>	<b>\$160.00</b>	<b>\$130.00</b>	<b>\$75.00</b>	<b>\$90.00</b>	
		<b>SUBTOTAL COST</b>	<b>\$0</b>	<b>\$7,644</b>	<b>\$3,200</b>	<b>\$26,780</b>	<b>\$2,100</b>	<b>\$0</b>	<b>\$39,724</b>



HNTB Job No. 49917: Improvements to Lee's Summit Road (40 Highway to Anderson Road)

PERSON-HOUR TASK BREAKOUT FOR: HNTB SUMMARY

Items			Principal	Senior Project Manager	Section / Project Manager	Senior Engineer	Design Engineer III	Tech.	TOTAL
<b>Additional Coordination</b>									
<b>ADDITIONAL MEETINGS AND COORDINATION</b>									
1.	Attend 4 Core Team meetings with MoDOT, County, and City. (assume 3 hours per meeting)			12					12
2.	(For roadway team only) Meetings with KCMO Water Services. Coordination meetings and assistance with cost-sharing and agency partnership agreement.			16					16
3.	Project management, phone calls, correspondence with Jackson County, MoDOT and KCMO. Assumes 4 hours per month beginning in June 2012 and extending thru September 2013 billing)			64					64
4.	Attend additional Utility Coordination Meeting. (Assume 2 hour mtg. plus prep time and preparing meeting minutes)			4		4	8		16
5.	Additional utility coordination due to longer design phase schedule			4		2	8		14
<b>SUBTOTAL</b>			0	100	0	0	6	16	122
<b>SUBTOTAL</b>			0	100	0	0	6	16	122
<b>2012-2013 LABOR BILLING RATE (\$/Hour)</b>			\$265.00	\$182.00	\$0.00	\$160.00	\$130.00	\$75.00	
<b>SUBTOTAL COST</b>			\$0	\$18,200	\$0	\$0	\$780	\$1,200	\$20,180

## REVISED FEE SCHEDULE - LEE'S SUMMIT ROAD

Rates Valid Through 7-1-2013

CLASSIFICATION:	RATE:
<b>ROADWAY</b>	
Principal	\$265
Sr. Project Manager	\$182
Senior Engineer	\$160
Design Engineer III	\$130
Design Engineer II	\$118
Design Engineer	\$110
Technician	\$75
Clerical/Project Admin.	\$90
<b>GEO/TECHNICAL</b>	
Department Leader	\$170
Senior Engineer	\$155
Design Engineer	\$120
Technician	\$80
<b>BRIDGE</b>	
Department Leader/Senior Project Manager	\$190
Task Leader/Senior Engineer	\$174
Engineer II	\$140
Engineer	\$124
Technician	\$100
<b>Hydraulics/Hydrology</b>	
Task Manager/Senior Engineer	\$170
Engineer II	\$115
Engineer	\$90
Technician	\$75
<b>ENVIRONMENTAL/NEPA</b>	
Department Leader	\$225
Senior Environmental Planner	\$148
Technician/Jr. Planner	\$100
<b>PUBLIC INVOLVEMENT</b>	
Public Involvement manager	\$120
Clerical	\$90
<b>ELECTRICAL/LIGHTING</b>	
Senior Engineer	\$185
Design Engineer	\$165
Technician	\$130
<b>URBAN PLANNING/BMP</b>	
Landscape Architect Lead	\$135
Design Landscape Architect	\$120

**Exhibit B****SCOPE OF SERVICES FOR WATER MAIN RELOCATIONS**

Owner: City of Kansas City, Missouri, Water Services Division  
 Design Professional: HNTB  
 Project: Water line Transmission and Distribution Relocations and Replacements -  
 Lee's Summit Road

**CONTRACT NO.**

Project No.: Jackson County # 3122 / Federal Aid Project STP-3301(454)

**PROJECT DESCRIPTION**

The following Scope of Work describes the Design Professional's services associated with Water Main Relocations on Lee's Summit Road from a location 350 feet south of Anderson Drive to a location 500ft south of US 40 highway, in Jackson County, Missouri.

Specific Design services will follow KCMO Water Department's Standards and Specifications for Water Main Extensions and Relocations, the Rules and Regulations for Water Service Lines

The project in general consists of evaluating the proposed improvements to Lee's Summit Road and determining the extent of conflicts with existing water, which would require relocation of the facilities. The Basic Scope of Services for this project includes project administration; pick up survey, preliminary investigations, preliminary and final design, bidding phase services, construction phase services, and preparation of construction drawings for the following items of work:

- Design of the relocation of the existing 24" water transmission main along the Lee's Summit Road roadway improvements.
- Design of 12" replacement distribution main in two (2) locations along Lee's Summit Road:
  - Southern end of the roadway project to Anderson Drive.
  - Station 157+50 to 179+00 of the roadway project
- Design of 6" replacement distribution main in two(2) locations:
  - Along Phelps Road west of Lee's Summit Road within the project limits
  - Along Lee's Summit Road from Station 149+00 to 157+50.

For General Design Guidelines for water main relocations and abandonments, see the latest version of Rules and The Regulations for Water Main Extensions and Relocations, KCMO WSD Procedures for Engineers, pages 8 through 10 are incorporated herein by reference.

The basic Scope of Services for this project shall consist of Tasks 100 through 117 described below:

**PROJECT ADMINISTRATION**

100. **Conduct Project Administration Services.** DESIGN PROFESSIONAL will provide the management functions required to successfully complete the work, including project correspondence with the COUNTY and CITY; consultation with the COUNTY and CITY staff; supervision and coordination of services; development of a quality control/quality assurance plan; scheduling and assignment of personnel resources, administration and coordination of sub consultants; coordination with KCMO Public Works Department, Missouri Department of Transportation (MoDOT) and Jackson County Public Works; continuous monitoring of work progress; and invoicing for the work performed. DESIGN PROFESSIONAL will conduct an initial project meeting to clarify the COUNTY and CITY's intended scope of work, schedule, budget requirements, and other special requirements for the project; to review pertinent available data, and to present DESIGN PROFESSIONAL's initial work plan and work schedule to confirm they meet the COUNTY's expectations.



## PRELIMINARY DESIGN

- 101. Conduct Field and Records Investigations.** DESIGN PROFESSIONAL will conduct field investigations and records reviews of available information about the project site including the base survey data, and drawings for the proposed public improvements for the Lee's Summit Road improvements. The geotechnical information obtained during the roadway design phase will be utilized as well. These services will include the following tasks:
- A. Preliminary Utility and Records Investigation
    - a. Contact utilities and gather information on location of their existing facilities and utility requirements. Document utility contacts using the standard CITY's utility notification form. Have utilities located and marked. Provide CITY copies of all utility maps or drawings relating to existing facilities received by DESIGN PROFESSIONAL.
    - b. Contact utilities and other State and local agencies concerning planned or proposed improvements which might affect the proposed water improvements. Maintain record of utilities contacted and information provided.
    - c. DESIGN PROFESSIONAL shall investigate and obtain record information about the proposed public improvement projects along Lee's Summit Road, which could impact water main within the project area.
    - d. Conduct a review meeting with CITY's staff upon completion of the field and records investigations to obtain approval of proposed water relocations or abandonments.
    - e. Assume no permanent and temporary construction easements are required. All waterline relocations will be within the existing right of way. Design exceptions may be required where available space for utilities is limited by existing R/W, the proposed road improvements, and adjacent private building structures.
  - B. DESIGN PROFESSIONAL shall incorporate the results of geotechnical field investigation performed for the Lee's Summit Road Roadway Improvements project on the waterline drawings as needed. Information will include the location of borings in plan view and indicating in the profile view the depth of each boring and refusal.
- 102. Prepare Preliminary Layout Drawing.** DESIGN PROFESSIONAL shall prepare a Preliminary Layout Drawing indicating recommendations for new water mains and appurtenances including proposed alignment, size of main, valve and hydrant locations, other appurtenances, and proposed abandoned mains and appurtenances.
- A. In preparing the Preliminary Layout Drawings, DESIGN PROFESSIONAL shall inspect the project site and conduct a records investigation including reviewing historical water main as-constructed drawings, the break database, and obtain other utility and base information necessary for determining the preliminary proposed improvements. The Preliminary Layout Drawing shall consist of a mark-up or overlay on a current KCMO Water Atlas Map or GIS-generated base map for the area, including existing water infrastructure, storm, sewers or other relevant features in plan view.
  - B. DESIGN PROFESSIONAL shall meet with COUNTY and CITY staff, review the Preliminary Layout Drawing, and receive CITY's comments. DESIGN PROFESSIONAL shall modify the

Preliminary Layout Drawing based on the CITY's review, and submit three copies of the modified Preliminary Layout Drawing to CITY for approval.

- 103. Prepare Preliminary Construction Drawings.** Review with COUNTY and CITY the results and data obtained in the previous tasks and determine any impacts on the proposed improvements to be designed.
- A. Prepare preliminary (60 percent complete) CADD construction drawings for water main using CITY's standard formatting for drawings, design procedures, drafting standards and criteria for proposed improvements, and standard construction details, as contained within the latest version of the Kansas City's Rules and Regulations for Water Main Extensions and Relocations, Procedures for Engineers, pages 8 through 20 which are incorporated herein by reference. The existing topography survey performed for the roadway project design will also be used for the waterline design and construction drawings. Materials and methods detailed on the drawings should conform to the latest edition of the Kansas City, Missouri Standards and Specifications for Water Main Extensions and Relocations, the Rules and Regulations for Water Service Lines.
  - B. The preliminary drawings will include the proposed alignment, ground surface profile, above ground and buried utilities, crossing locations, proposed valves, and branch line connections and associated temporary and permanent details. A profile of the pipeline will be developed to show slope of pipeline segments and elevations of critical points such as changes in grade. Pipeline appurtenances will be selected in accordance with the CITY's standard details where appropriate.
- 104. Submit 60% Completion – Drawings.** DESIGN PROFESSIONAL will prepare and submit to the COUNTY and CITY a review set of drawings at the 60% design completion stage.
- A. DESIGN PROFESSIONAL shall submit one copy of the drawings (60 percent complete) to the COUNTY and CITY for review with a completed Check List form the City's Rules and Regulations for Water Main Extensions and Relocations, page 15. DESIGN PROFESSIONAL shall meet with COUNTY and CITY staff to review the project progress and receive their review comments.
  - B. DESIGN PROFESSIONAL shall submit drawings (60 percent complete) for review and comment to utilities, which have existing underground facilities which potentially conflict, cross over or under, or adjacent to proposed water main improvements. Document utility contacts using the standard CITY's utility notification form.
- 105. Preliminary Opinion of Probable Construction Cost.** DESIGN PROFESSIONAL will prepare a preliminary opinion of probable construction cost for the water main improvements defined and submit it to the COUNTY and CITY.

**FINAL DESIGN**

- 106. Prepare 90% Construction Drawings.** DESIGN PROFESSIONAL shall prepare final (90 percent complete) CADD construction drawings for water main improvements using CITY's standard formatting for drawings, design procedures, drafting standards and criteria, and standard construction details as contained within the latest version of the CITY's Rules and Regulations for Water Main Extensions and Relocations, Procedures for Engineers. Prepare drawings which include final and preliminary connection details, dimensions, schedules, and diagrams for all design disciplines. The existing topography survey performed for the roadway project design will also be used for the waterline design and construction drawings. Materials and methods detailed on the drawings should conform to the latest edition of the Kansas City, Missouri Standards and Specifications for Water Main Extensions and Relocations, the Rules and Regulations for Water Service Lines. Incorporate COUNTY and CITY's previous review comments into the drawings.

107. **Submit 90% Completion – Drawings.** DESIGN PROFESSIONAL will prepare and submit to the COUNTY and CITY a review set of drawings at the 90% design completion stage.
- A. DESIGN PROFESSIONAL will perform an internal quality control review on the drawings and then submit three copies to the City for review with a completed Check List from the CITY's Rules and Regulations for Water Main Extensions and Relocations, page 15. DESIGN PROFESSIONAL shall meet with COUNTY and CITY staff to review project progress and receive CITY's review comments on the final drawings.
  - B. DESIGN PROFESSIONAL shall submit drawings (90 percent complete) for review and comment to utilities, which have existing underground facilities which potentially conflict, cross over or under, or adjacent to proposed water main improvements. Document utility contacts using the standard CITY's utility notification form.
108. **Finalize Drawings for Bidding.** DESIGN PROFESSIONAL will address review comments received from the COUNTY and CITY on the 90% submittal and finalize the construction drawings. Three copies of the final construction drawings will be submitted to CITY for review. After receipt of the CITY's review comments on the final construction drawings, DESIGN PROFESSIONAL will revise the drawings and include all revisions and additions required. DESIGN PROFESSIONAL shall provide CITY one set of the final sealed drawings, and a computer disk containing the drawings in the latest version of MicroStation or AutoCAD, and should contain all information and files necessary to edit or plot the drawings including all field survey data.
109. **Prepare Final Opinion of Probable Cost.** DESIGN PROFESSIONAL will prepare a final opinion of probable construction cost for the project and submit it to the COUNTY and CITY.

#### **BIDDING SERVICES**

110. **Distribute Final Bidding Documents.** MoDOT, in cooperation with Jackson County, will be responsible for the advertisement of the project, receiving bids, award of the construction project, and preparing and distributing conformed copies of the construction contract documents.
111. **Interpretation of Documents.** MoDOT will serve as the point of contact to receive questions from potential bidders, suppliers, and subcontractors. Design Professional will interpret construction contract drawings and specifications, and provide responses to questions from bidders requiring clarification during the bidding period through the issuance of addenda to MoDOT on City's behalf.
112. **Prepare Addenda.** Prepare Addenda to the construction contract documents as required (assume 2 maximum) and submit to MoDOT for issuance to plan holders.
113. **Assist MoDOT During Bid Opening.** Design Professional will answer questions during bidding and review questionnaires and bids for completeness.

#### **CONSTRUCTION PHASE SERVICES**

114. **Assist at Preconstruction Conference.** At a date and time selected and at a facility provided by MoDOT, attend, take meeting minutes, and prepare a draft of the meeting minutes for MoDOT for a preconstruction conference on COUNTY and CITY's behalf.
115. **Interpret Construction Contract Documents.** When requested by MoDOT or the Contractor, DESIGN PROFESSIONAL shall interpret the construction contract documents.

## **ASSUMPTIONS**

The following assumptions were used to develop the scope of services and fee proposal for this project:

- New water mains and appurtenances should be located in the public right-of-way, in green spaces where possible, avoiding private easements, except where existing water easements are located. Existing water easements may be used for relocation of water mains. The new transmission main and distribution main should be a minimum of 15ft apart. Both new mains should be a minimum of 10ft from the existing transmission lines and a minimum of 5ft from the existing 6" line. Both lines should be a minimum of 15ft from steel gas mains. Both lines should also be a minimum of 10ft from all other utilities..
- There are locations (along Lee's Summit Road between E 52<sup>nd</sup> St and E 48<sup>th</sup> Ter.) within the project limits where available space for relocations may not be sufficient enough to provide the City's desired horizontal separation between the proposed water mains and the existing and proposed utilities. In these locations, it is assumed no additional R/W is feasible to be acquired because it would result in a total take of a residential home/building. In these instances, HNTB, the City, and the County will work together to determine maximum allowable horizontal offsets between utilities based on the limiting space available.
- It is assumed, based on assumption no. 1, that preparation of new water line easements will not be required.
- The water line design will utilize the survey that was acquired for the roadway design. A two day survey will supplement the original survey. The water line relocation plans will utilize the survey line styles and symbols legend as currently shown in the roadway plans. No changes to the topo legend, linestyles, or symbology will be made.
- The waterline plans will be included in the bid set of plans for the roadway and bridge construction package for Lee's Summit Road. The construction project will be administered and bid by MoDOT. MoDOT bid format will be followed for bid items, units of measurement, and payment.
- The design review, coordination, management and approval of the distribution and transmission water lines will be performed and coordinated thru the same KCMO Water Services group and point of contact.
- The northern end of the project may include additional water distribution main design (600ft). The execution of this work is to be authorized separately.
- The proposed 24-inch water main from Station 112+50 to 157+50 should be on east side of Lee's Summit Rd.
- The alignment of the proposed 12-inch along Lee's Summit Rd. from station 157+50 to 179+00, is to be determined.
- The remainder of proposed water mains should be on west side of Lee' Summit Rd.

## **SCHEDULE**

The following schedule for water line relocation plans has been developed under the time frame requirements of MoDOT's schedule for P.S. &E. submittal and review of the road project. KCMO Water Services reviews are anticipated to take no longer than 1 week. The schedule and milestones for the water line design are:

January 16, 2013: Notice to Proceed

- March 1, 2013 (6.5 weeks): Preliminary layout to KCMO Water Services
- April 5, 2012 (5 weeks): 60% Plans submitted to KCMO Water Services
- May 3, 2012 (4 weeks): 90% Plans submitted to KCMO Water Services
- May 17, 2013 (2 weeks): Plans approved and sealed by KCMO Water Services
- May 31, 2013 (1.5 weeks): P.S.&E. Submittal to MoDOT

EXHIBIT A - Scope of Services

# HNTB

HNTB Job No. 49917: Improvements to Lee's Summit Road (40 Highway to S. of Anderson Road)  
Jackson County Project No. 3122

PERSON-HOUR TASK BREAKOUT FOR: HNTB.SUMMARY

Task Summary	DIRECT LABOR & EXPENSES	
	HOURS	COST
Water Line Relocation Design and Plans	832	\$98,094
Bidding and Construction phase Services	131	\$16,362
Contingency for North End of Project		\$10,000
Project Expenses (Plotting, Copies...etc)		\$2,400
<b>SUBTOTAL (LABOR &amp; DESIGN EXPENSES)</b>	<b>963</b>	<b>\$126,856</b>

SUBCONSULTANT EXPENSES

Expense Item	COST
TREKK - ADDITIONAL SURVEY FOR WATERLINE DESIGN	\$3,500
<b>SUBTOTAL (SUBCONSULTANT EXPENSES)</b>	<b>\$3,500</b>

<b>TOTAL =</b>	<b>\$130,356</b>
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# HNTB

HNTB Job No. 49917: Improvements to Lee's Summit Road (40 Highway to S. of Anderson Road)

## PERSON-HOUR TASK BREAKOUT FOR: HNTB SUMMARY

		Project Manager	Senior Engineer	Design Engineer	Technician	Admin.	TOTAL
<b>Water Line Relocation Design and Plans</b>							
Task	1	Preliminary Design					
	1	Develop design phase work plan					
	2	Prepare sub-consultant contracts					
	3	Develop project design schedule					
	4	Site visit					
	5	Records review					
	6	Utility Relocation review					
	7	Layout Concept Preparation and Drawing, Includes QA/QC					
	8	Layout review meeting					
	9	Layout Refinement					
	10	City Department Contact					
	11	Review Meeting					
		2	6			2	8
		1	1	2			4
		1	4	16			21
		4	20	32	48		104
		4	4	4			8
		1	8	12	16		37
		1	2	4			7
		1	4	4			8
		12	50	78	64	2	206
<b>60% Design and Plans</b>							
Task	1	Prepare 60% review submittal Includes QA/QC					
	2	Review meeting					
	3	Utility Coordination and Meetings					
	4	Opinion of Probable Construction Cost					
	5	Minor adjust to roadway/storm sewer plans based on proposed water main relocations. Includes updating notes, critical relocation locations, and minor adjustments in pipe/structure elevations where feasible to accommodate water utility adjustments. Minor pipe extensions, minor shifts (less than 10-ft) to inlets only. Maximum 3 locations.					
	6	Supplement Roadway Project Traffic Control Plans to incorporate the construction of utility relocations for the waterlines on Lee's Summit Road.					
	7	Connection Details					
	8	Service Transfer Table					
	9	Prepare Job Special Provisions					
	10	Field check meeting					
		2	32	60	72	4	170
		12	4	4			16
		12	12	8	2	2	36
		1	4	6	10		21
		2	2	16	16		36
			4	16	24		44
			2	6	2		10
		1	8	16		4	29
			4	4	0		8
		18	74	146	132	10	380
<b>90% and Final Design and Plans</b>							
Task	1	Prepare 90% Drawings, Includes QA/QC					
	2	Attend Plan Review Meeting					
	3	Send Final Utility Notification Letters and Plans					
	4	Address 90% Review, Prepare Final Bid Drawings and Review of Specifications provided by WSD					
	5	Prepare Final Opinion of Probable Construction Cost					
	6	Address MoDOT P.S. & E. comments regarding bid items, sequencing and traffic control, specifications, or plans.					
		1	24	48	60		133
			4	4			8
			4	12	2		18
		1	12	24	32	2	71
		1	1	6			7
		1	2	4		2	9
		2	47	98	94	4	245
<b>Bidding Phase Services</b>							
Task	1	Address bidder questions/prepare addenda language					
		1	8	12	8		29
		1	8	12	8	0	29
<b>Construction Phase Services</b>							
Task	1	Preconstruction Conference					
	2	Answer questions/interpret documents during construction					
	3	Onsite Visits and Project Meetings					
		2	4	4			8
		2	8	30	8		48
			6	40			46
		2	18	74	8	0	102
<b>SUBTOTAL</b>		36	197	408	306	16	963
<b>LABOR BILLING RATE (\$/Hour)</b>		3.74%	20.46%	42.37%	31.78%	1.66%	100.00%
<b>SUBTOTAL COST</b>		\$210.00	\$180.00	\$114.00	\$78.00	\$66.00	\$114,456

EXPENSES:	
TRAVEL	\$400
PRINTING/PLOTTING	\$2,000
<b>Total Expenses</b>	<b>\$2,400</b>