Potential Department of Transportation Savings Report (2019)

The State of Connecticut Department of Transportation would have saved $324,691,150 in Fiscal Years 2016, 2017, and 2018 had it performed Construction Inspection and Engineering Services with State Employees in lieu of Outside Consultants.

In October, 2014 a new statute went into effect that requires the State to perform Costs Effectiveness Evaluations for work that is continually contracted out. Through a Freedom of Information Request to the Department of Transportation, cost evaluations in the areas of Construction Inspection and Engineering Services were obtained for 2019.

Cost-effectiveness evaluations reports for the construction engineering and inspection and the engineering consultant design were performed by the Connecticut Department of Transportation in accordance with methodology developed by the Connecticut Office of Policy and Management and Connecticut General Statutes 4e-16. The reports detail how much was spent on individual contracted out projects and what the cost would have been if a state employee were substituted for each consultant employee.

The data from the cost evaluations indicate savings of 61.61% for Construction Inspection work had in-house personnel performed the work (without indirect costs). Cost evaluations indicate savings of 58.46% had in-house personnel performed Engineering Services (without indirect costs).

The Freedom of Information Request that was submitted to the Department of Transportation also requested amounts spent by the Department for contracting out these services for Fiscal Years 2016, 2017, and 2018. The amount spent by the Department of Transportation for Construction Inspection was $58,478,564.80 for fiscal year 2016, $45,647,629.89 for fiscal year 2017, and was $37,302,592.12 for fiscal year 2018. The amount spent by the Department of Transportation for Engineering Services was $134,663,667.91 for fiscal year 2016, $147,312,937.83 for fiscal year 2017, and was $124,390,845.55 for fiscal year 2018.

From the data obtained, potential savings was calculated by multiplying the total amount spent in each section by the calculated savings rates. The data indicates that for Construction Inspection work, the Department would have realized savings of $36,027,308 in fiscal year 2016, $28,122,462 in fiscal year 2017, and $22,981,275 in fiscal year 2018 had the work been performed in-house. The data also indicates that for Engineering Services work, the Department would have realized savings of $78,723,616 in fiscal year 2016, $86,118,307 in fiscal year 2017, and $72,718,182 in fiscal year 2018 had the work been performed in-house.

The data from the attached report indicates the Department of Transportation would have realized total savings of $144,750,924 in fiscal year 2016, $114,240,769 in fiscal year 2017, and $95,699,457 in fiscal year 2018 had these three key state services been performed in-house instead of contracted out. An investment in the state workforce now would allow for more work to be performed in-house and the Department of Transportation to realize future savings.

Potential Savings if State Employees performed Inspection and Engineering work Instead of Contracting Out for Fiscal Years 2016, 2017 and 2018. Information was received via a Freedom of Information request to the Department of Transportation

Construction Inspection	Contracting Out Cost	In-House Cost	In-House Savings
	$ 2,995,759	$ 1,150,140	61.61%

	Total Expenditures	In-House Savings	Potential Savings
Fiscal Year 2016	$ 58,478,565	61.61%	$ 36,027,308
Fiscal Year 2017	$ 45,647,630	61.61%	$ 28,122,462
Fiscal Year 2018	$ 37,302,592	61.61%	$ 22,981,275
	TOTAL INSPECTION SAVINGS:		**$ 87,131,045**

Engineering and Design	Contracting Out Cost	In-House Cost	In-House Savings
	$ 2,993,962	$ 1,243,709	58.46%

	Total Expenditures	In-House Savings	Potential Savings
Fiscal Year 2016	$ 134,663,668	58.46%	$ 78,723,616
Fiscal Year 2017	$ 147,312,938	58.46%	$ 86,118,307
Fiscal Year 2018	$ 124,390,846	58.46%	$ 72,718,182
	TOTAL ENGINEERING SAVINGS:		**$ 237,560,105**

Total Savings if Connecticut DOT had insourced all inspection and engineering services

Year	Inspection	Engineering	Totals
Fiscal Year 2016	$ 36,027,308	$ 78,723,616	**$ 114,750,924**
Fiscal Year 2017	$ 28,122,462	$ 86,118,307	**$ 114,240,769**
Fiscal Year 2018	$ 22,981,275	$ 72,718,182	**$ 95,699,457**
	TOTAL SAVINGS:		**$ 324,691,150**

Cost-Effectiveness Evaluation or New or Renewal Privatization Contracts

State Contracting Agency: Dept. of Transportation

Contract Title/Description: 7 Construction Engineering and Inspection Renewal 2019

Need for New Contract/Renewal: The Department is continuing the practice of hiring outside Consultants to provide Construction Engineering and Inspection Services to augment state forces where the Department does not have available staff to perform the work, or where the skills required to perform the work are not present within the Department.

New Contract and Historical Contracts Information: The Department is in the process of contracting with a number of firms for Construction Engineering and Inspection Services. These contracts are established with a term that is sufficient to cover the estimated time required to construction engineering and inspection. Contract Maximum's generally vary from the hundreds of thousands to the millions of dollars. The method of procurement for these types of contracts is through the selection and negotiation process established by CGS 13b-20. This process has been ongoing for a number of years and is anticipated to be an ongoing initiative.

Cost Evaluation Summary: This cost evaluation utilized a negotiated historical contract. The Cost Analysis Summary is presented below with the results showing a savings by performing this service in-house.

	Form C-100: Summary and Comparison of Costs of Contacting Out and In-House Service Delivery			
	Category	Projected Year 1	Projected Year 2	Projected Year 3
1.	Total Costs Related to Contracting Out with Indirect Costs	$ 3,125,839.11	$ -	$ -
2.	Total Costs Related to Contracting Out without Indirect Costs	$ 2,995,758.75	$ -	$ -
3.	Total Costs In-House with Indirect Costs	$ 1,368,204.27	$ -	$ -
4.	Total Costs In-House without Indirect Costs	$ 1,150,140.21	$ -	$ -
5.	(Costs)/Savings with Contracting Out with Indirect Costs	$ (1,757,634.84)	$ -	$ -
6.	(Costs)/Savings with Contracting Out without Indirect Costs	$ (1,845,618.55)	$ -	$ -

Comments related to Evaluation Results: The results of this Cost Evaluation showed a savings if this service were to be performed in-house. The length of time required to establish and fill in-house positions related to this work would be lengthy, and would likely result in inspection delays.

PERFORMED BY: Cheryl DiDomizio

REVIEWED BY: Mark Hayes

Template: Cost-Effectiveness Evaluation - *Revised September 21, 2018*

Form A-100 Cost of Contract

	Column 1	Column 2	Column 3	Column 4	Column 5	
	Contract	Actual Cost Prior Year	Proposed Contract Cost Year 1	Proposed Contract Cost Year 2	Proposed Contract Cost Year 3	Please fill in the yellow sections only
1.	Quantity-Hourly /Unit of Service/FTE Other		2,322,200.00			
2.	Rate Per Hour/Unit/FTE Other		1.00			
3.	**Total Cost of Contract**	$ -	$ 2,322,200.00	$ -	$ -	

COST OF CONTRACT - See Exhibits A, E

Additional Comments and Information:

Form A-200: Cost of Contract Management

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
A. Payroll Costs for Managing the Contract (including salaries, wages, overtime, shift differential, longevity, hazardous duty pay and other payroll costs)						
Position Title	**Portion of Annual Salaries & Annual Hourly Wages Related to Managing the Contract Year 1**	**Projected Portion of Overtime for Managing the Contract Year 1**	**Projected Portion of Other Wages (shift diff, longevity, haz duty, etc.) for Managing the Contract Year 1**	**Projected Year 1 Payroll (Col. 2 + Col. 3 + Col. 4)**	**Projected Payroll for Contract Management Year 2**	**Projected Payroll for Contract Management Year 3**
Full-Time						
				$ -		
				$ -		
				$ -		
				$ -		
				$ -		
				$ -		
Subtotal:	$ -	$ -	$ -	$ 417,996.00	$ -	$ -
Part-Time						
				$ -		
				$ -		
				$ -		
Subtotal:	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL	$ -	$ -	$ -	$ 417,996.00	$ -	$ -

Oversight of Contract 18% - See Exhibit H

Column 1	Column 2	Column 3	Column 4	Column 5
B. Fringe Benefits Related to Managing the Contract				
Fringe Benefit Category	**Average Percentage to be Multiplied by Columns 3, 4 and 5**	**Projected Fringe Benefits of Contract Management Year 1**	**Projected Fringe Benefits of Contract Management Year 2**	**Projected Fringe Benefits of Contract Management Year 3**
1. Unemployment Compensation	0.23%	$ 961.39	$ -	$ -
2. Retirement SERS Regular Employees	30.60%	$ 127,906.78	$ -	$ -
3. Social Security	6.20%	$ 25,915.75	$ -	$ -
4. Medicare	1.45%	$ 6,060.94	$ -	$ -
5. Life Insurance	0.20%	$ 835.99	$ -	$ -
6. Medical and Dental	20.52%	$ 85,772.78	$ -	$ -
7. Worker's Compensation *	1.94%	$ 8,109.12	$ -	$ -
8. Other (please identify)				
Total:		$ 255,562.75	$ -	$ -

* Worker's Compensation: If DCF - use 5.59%; DOC - use 7.84%; DMHAS - use 4.42%; DDS - use 7.76%; DPS - use 3.29%; DOT and DMV - use 1.94%

	C. Other Expenses Related to Managing the Contract			
	Category	**Projected Year 1**	**Projected Year 2**	**Projected Year 3**
1.	Other Expenses For Managing the Contract			
	Total:	$ -	$ -	$ -

	D. Agency and Central Services Overhead Related to Managing the Contract			
		Projected Year 1	**Projected Year 2**	**Projected Year 3**
1.	Indirect Cost Rate (%)	31.12%	31.12%	31.12%
2.	Direct Costs, from Part A	$ 417,996.00	$ -	$ -
	TOTAL (Line 1 times Line 2)	$ 130,080.36	$ -	$ -

	E. Total Costs Related to Managing the Contract			
		Projected Year 1	**Projected Year 2**	**Projected Year 3**
1.	**Total Contract Management Costs with Indirect**	$ 803,639.11	$ -	$ -
2.	**Total Contract Management Costs without Indirect**	$ 673,558.75	$ -	$ -

F. Additional Comments and Information:

Form A-300 - Total Costs of Contracting Out (Cost of Contract plus Contract Management)

	Category	**Projected Year 1**	**Projected Year 2**	**Projected Year 3**
1.	**Total Costs Related to Contracting Out with Indirect Costs**	$ 3,125,839.11	$ -	$ -
2.	**Total Costs Related to Contracting Out without Indirect Costs**	$ 2,995,758.75	$ -	$ -

Form B-100— Costs of In-House Service Delivery

A. Payroll (including salaries, wages, overtime, shift differential, longevity, hazardous duty pay and other payroll costs)

	Position Title	Number of Staff in Position Title for Year 1	Portion of Annual Salaries & Annual Hourly Wages for Delivery of Service In Year 1	Projected Portion of Overtime for Delivery of Service In Year 1	Projected Portion of Other Wages (shift diff, longevity, haz duty, etc.) for FTE's In Year 1	Year 1 Payroll (Col. 3+ Col. 4 + Col. 5)	Projected Payroll of Delivery of Service Year 2	Projected Payroll of Delivery of Service Year 3
	Full-Time							
						$ -		
						$ -		
						$ -		
						$ -		
						$ -		
	Subtotal:	0	$ -	$ -	$ -	$ 700,720.00	$ -	$ -
	Full-Time Hazardous Duty							
						$ -		
						$ -		
	Subtotal:	0	$ -	$ -	$ -	$ -	$ -	$ -
	Part-Time							
						$ -		
						$ -		
	Subtotal:	0	$ -	$ -	$ -	$ -	$ -	$ -
	TOTAL:	0	$ -	$ -	$ -	$ 700,720.00	$ -	$ -

B. Fringe Benefits

	Fringe Benefit Category	Average Percentage to be Multiplied by Columns 3, 4 and 5	Projected Fringe Benefits of In-House Service Delivery Year 1	Projected Fringe Benefit of In-House Service Delivery Year 2	Projected Fringe Benefits of In-House Service Delivery Year 3
1.	Unemployment Compensation	0.23%	$ 1,611.66	$ -	$ -
2.	Retirement SERS Regular Employees	30.60%	$ 214,420.32	$ -	$ -
3.	Retirement SERS Hazardous Duty	34.47%	$ -	$ -	$ -
4.	Social Security	6.20%	$ 43,444.64	$ -	$ -
5.	Medicare	1.45%	$ 10,160.44	$ -	$ -
6.	Life Insurance	0.20%	$ 1,401.44	$ -	$ -
7.	Medical and Dental	20.52%	$ 143,787.74	$ -	$ -
8.	Worker's Compensation *	1.94%	$ 13,593.97	$ -	$ -
9.	Other (Please Identify)				
	Total:		$ 428,420.21	$ -	$ -

COST OF IN-HOUSE SERVICE DELIVERY - See Exhibit F.

* Worker's Compensation: If DCF - use 5.59%; DOC - use 7.84%; DMHAS - use 4.42%; DDS - use 7.76%; DPS - use 3.29%; DOT and DMV - use 1.94%

C. Direct Other Expenses

	Category	Projected Year 1	Projected Year 2	Projected Year 3
1.	Contracted Services (If, any)			
2.	Materials, Supplies, Printing and Postage			
3.	Rent and Utilities			
4.	Insurance			
5.	Maintenance and Repair			
6.	Depreciation			
7.	Non-capital Equipment (under $5,000)			
8.	Travel & Training			
9.	Other	$ 21,000.00		
10.	One-Time Start-Up Costs			
	Total:	$ 21,000.00	$ -	$ -

DIRECT OTHER EXPENSES ARE SAME AS VENDOR

D. Transition Costs Related to Bringing Services In-House

	Item Description	Projected Year 1	Projected Year 2	Projected Year 3
1.	Contract Related Costs			
2.	Other Transition Costs			
	Total:	$ -	$ -	$ -

E. Agency and Central Agency Overhead

	Category	Projected Year 1	Projected Year 2	Projected Year 3
1	Indirect Cost Rate (%)	31.12%	31.12%	31.12%
2.	Direct Costs, from Part A	$ 700,720.00	$ -	$ -
	Total:	$ 218,064.06	$ -	$ -

F. Total Costs

	Category	Projected Year 1	Projected Year 2	Projected Year 3
1.	Total In-House Costs, with Indirect Costs	$ 1,368,204.27	$ -	$ -
2.	Total In-House Costs, without Indirect Costs	$ 1,150,140.21	$ -	$ -

G. Additional Comments and Information:

Form C-100: Summary and Comparison of Costs of Contacting Out and In-House Service Delivery

	Category	Projected Year 1	Projected Year 2	Projected Year 3
1.	Total Costs Related to Contracting Out with Indirect Costs	$ 3,125,839.11	$ -	$ -
2.	Total Costs Related to Contracting Out without Indirect Costs	$ 2,995,758.75	$ -	$ -
3.	Total Costs In-House with Indirect Costs	$ 1,368,204.27	$ -	$ -
4.	Total Costs In-House without Indirect Costs	$ 1,150,140.21	$ -	$ -
5.	(Costs)/Savings with Contracting Out with Indirect Costs	$ (1,757,634.84)	$ -	$ -
6.	(Costs)/Savings with Contracting Out without Indirect Costs	$ (1,845,618.55)	$ -	$ -

Exhibit H

Category 7

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone:
(860) 594-3136

November 13, 2018

Term 11-19-18 to Completion of Work

Mr. Najib O. Habesch
BETA Group, Inc.
1010 Wethersfield Avenue, Suite 305
Hartford, CT 06114

Dear Mr. Habesch:

Subject: Construction Engineering & Inspection
Bridge 315 Stamford
State Project No. 135-307
CORE No. 19DOT0089AA

As a result of the telephone conversation on November 8, 2018, it is the Negotiations Committee's understanding that the revised cost plus fixed fees and maximum hourly rates for the subject project are as follows:

BETA Group, Inc.

Payroll	$ 921,150
Field BFO (115.91%)	1,067,705
Subtotal	$ 1,988,855
Fixed Fee ~~4796~~ (9.47%) NH 11/14/18	188,345
Subtotal	$ 2,177,200
Shift Differential	1,500
Direct Costs(Transportation)	18,500
Total	$ 2,197,200

VB Technologies

Payroll	$ 55,787
Field BFO (95.55%)	53,304
Subtotal	$ 109,091
Fixed Fee (10%)	10,909
Subtotal	$ 120,000
Premium Overtime	2,500
Direct Costs(Transportation)	2,500
Total	$ 125,000

Grand Total $ 2,322,200

Exhibit A

Maximum Limiting Amount of Extra Work	$	232,220
Contract Total	$	2,554,420

Classifications	Maximum Hourly Rates (Effective through 7/1/21)	
BETA Group, Inc.		
Resident Engineer	$ 62.70	$ 68.05
Office Engineer	$ 55.00	$ 59.70
Chief Inspector	$ 57.10	$ 62.00
VB Technologies		
Inspector	$ 37.00	$ 40.15

* The Consulting Engineer shall use the above maximum hourly rates until the Commissioner sends written notification rescinding the wage freeze

** The Consulting Engineer may use the above maximum hourly rates prospectively only upon written notification by the Commissioner that the wage freeze has been rescinded.

If you concur with the fees and maximum hourly rates as presented in this letter, please acknowledge by signing below and return by mail or email to DOT.Negotiations@ct.gov within two (2) days and we will proceed an Agreement.

Please fill out the attached DBE Certification Form and return it with your concurrence.

Please provide two (2) original Acord Insurance forms that are used for your General Liability, Automobile Liability, Railroad Protective Liability (If Applicable), Valuable Papers and Records, Workers Compensation Insurance and Professional Liability Insurance.

All correspondence regarding negotiations is strictly confidential, therefore, your return should be stamped confidential.

Accepted

Name: NAJIB O. HADDAD

11/14/2018
Date

Very truly yours

Derlok Lessard
Chairman
Negotiations Committee

Exhibit D

INFLATION = 3% 1.00246627

PROJECT	FUNCTION	PROJECT DAYS	PROJECT HOURS	WINTER HOURS	TOTAL HOURS
START*** 04/01/02	SEGMENT # 1 SUMMER	0	0		0
	SEGMENT # 2 WINTER	0		0	0
CERTIFIED	SEGMENT # 3 SUMMER	0	0		0
PAYROLL* 04/01/02	SEGMENT # 4 WINTER	0		0	0
	SEGMENT # 5 SUMMER	0	0		0
CONSTRUCTION	SEGMENT # 6 WINTER	0		0	0
DAYS = 0	SEGMENT # 7 SUMMER	0	0		0
	SEGMENT # 8 WINTER	0		0	0
START TO MIDPT	SEGMENT # 9 SUMMER	0	0		0
MONTHS : 1	PROJECT CLOSEOUT	60		171	171
1.971252567	TOTAL-MAX(1575)	60	0	171	171

CONSULTANT: BETA

DESCRIPTION: CONSTRUCTION INSPECTION

PROJECT NO.: 135-307

CONSTRUCTION BID: $0 ######

CONSTRUCTION EST: $0 ######

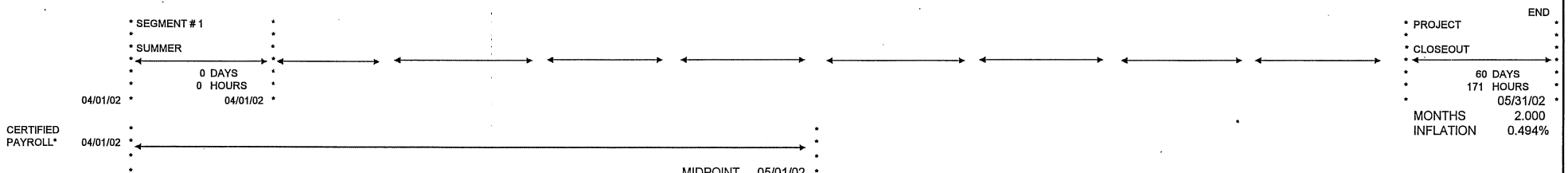
ADVERTISE DATE :

BID OPENING DATE: 01/00/00

AWARD DATE : 01/00/00

29-Jan-19
03:27 PM

	HOURS	DAYS	WEEKS	MONTHS
Construction	0	0	0	0
Winter	0	0	0	0
Closeout	171	21	4	1
TOTAL	171	21	4	1



	CLASSIFICATION	HOURS	PRESENT CERTIFIED RATES	HIGH PRESENT RATES	0.00% MIDPOINT HOURLY RATES		0.00% MAXIMUM HOURLY RATES	ROUNDED MAXIMUM RATE	PAYROLL	OT HOURS	OT PAYROLL		O.T. HALF TIME
1	PRINCIPAL	0	$35.00	$35.00	$35.00	*	$35.00	$ 35.00	$0				$0
2	RESIDENT ENGR	5,320	$62.70	$62.70	$62.70		$62.70	$ 62.70	$333,564	500	$31,350	NO	$0
3	OFFICE ENGR	5,320	$55.00	$55.00	$55.00		$55.00	$ 55.00	$292,600	-	$0	NO	$0
4	CHIEF INSPECTOR	4,287	$57.10	$57.10	$57.10		$57.10	$ 57.10	$244,788	330	$18,843	NO	$0
5	SR INSPECTOR	0	$51.03	$51.03	$51.03		$51.03	$ 51.05	$0	-	$0	NO	$0
6		0	$0.00	$0.00	$0.00		$0.00	$ -	$0	-			$0
7		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
8		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
9		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
10		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
11		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
12		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
13		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
14		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
15		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
		14,927						$58.35	$870,952	830	$50,193		$0
	PRINCIPAL	0							$0				

PRIME			$2,197,200
SUBCONSULTANT			$125,000 5.38%
SUBCONSULTANT			$0
TOTAL			$2,322,200
PAYROLL		$921,145	$921,150
B.F.O.	115.91%	$1,067,699	$1,067,705
SUBTOTAL		$1,988,844	$1,988,855
FIXED FEE	9.47%	$188,343	$188,345
2.3636 SUBTOTAL		$2,177,187	$2,177,200
HALF TIME			$0
DIRECT COSTS		$18,500	$18,500
SHIFT DIFF		$1,500	$1,500
PRINC		$0	$0
TOTAL		$2,197,187	$2,197,200

Category 7

EXHIBIT D

SUBCONSULTANT

VB

	CLASSIFICATION	HOURS	PRESENT CERTIFIED RATES	HIGH PRESENT RATES	0.00% MIDPOINT HOURLY RATES		MAXIMUM HOURLY RATES	ROUNDED MAXIMUM RATE	PAYROLL	OT HOURS	OT PAYROLL		O.T. HALF TIME
1	PRINCIPAL	0	$35.00	$35.00	$35.00	*	$35.00	$ 35.00	$0				
2	INSPECTOR	1,371	$37.00	$37.00	$37.00		$37.00	$ 37.00	$50,727	137	$5,069	YES	$2,535
3		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	YES	$0
4		0	$0.00	$0.00	$0.00		$0.00	$ -	$0	-	$0	NO	$0
5		0	$0.00	$0.00	$0.00		$0.00	$ -	$0	-	$0	NO	$0
6		0	$0.00	$0.00	$0.00		$0.00	$ -	$0	-	$0	NO	$0
7		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
8		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
9		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
10		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
11		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
12		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
13		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
14		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
15		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
		1,371						$37.00	$50,727	137	$5,069		$2,535
	PRINCIPAL	0							$0				

PAYROLL		$55,796	$55,787
B.F.O.	95.55%	$53,313	$53,304
	SUBTOTAL	$109,109	$109,091
FIXED FEE	10.00%	$10,911	$10,909
2.1511	SUBTOTAL	$120,020	$120,000
HALF TIME		$2,535	$2,500
DIRECT COSTS		$2,500	$2,500
SHIFT DIFF		$0	$0
PRINC		$0	$0
	TOTAL	$125,054	$125,000

SUBCONSULTANT

	CLASSIFICATION	HOURS	PRESENT CERTIFIED RATES	HIGH PRESENT RATES	0.00% MIDPOINT HOURLY RATES		MAXIMUM HOURLY RATES	ROUNDED MAXIMUM RATE	PAYROLL	OT HOURS	OT PAYROLL		O.T. HALF TIME
1	PRINCIPAL	0	$35.00	$35.00	$35.00	*	$35.00	$ 35.00	$0				
2	PARTY CHIEF	0	$32.17	$33.00	$32.17		$33.00	$ 33.00	$0	-	$0	NO	$0
3	RODMAN	0	$21.75	$23.00	$21.75		$23.00	$ 23.00	$0	-	$0	NO	$0
4		0	$0.00	$0.00	$0.00		$0.00	$ -	$0	-	$0	NO	$0
5		0	$0.00	$0.00	$0.00		$0.00	$ -	$0	-	$0	NO	$0
6		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
7		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
8		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
9		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
10		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
11		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
12		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
13		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
14		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
15		0	$0.00	$0.00	$0.00		$0.00	$ -	$0		$0	NO	$0
		0						#DIV/0!	$0	-	$0		$0
	PRINCIPAL	0							$0				

PAYROLL		$0	$0
B.F.O.	172.52%	$0	$0
	SUBTOTAL	$0	$0
FIXED FEE	7.5%	$0	$0
2.9296	SUBTOTAL	$0	$0
HALF TIME		$0	$0
DIRECT COSTS		$0	$0
SHIFT DIFF		$0	$0
PRINC		$0	$0
	TOTAL	$0	$0

Department of Administrative Services

Transportation Engineer 1 (Construction Engineering) (40 Hour) (8848FS)

$29.97-$40.37 Hourly / $2,397.97-$3,229.58 BiWeekly /
$62,587.02-$84,292.04 Yearly

Notify Me when a Job Opens for the above position(s)

PURPOSE OF JOB CLASS (NATURE OF WORK)

In the Department of Transportation, this class is accountable for performing less complex engineering and related tasks in highway construction, inspection of construction projects and specialized engineering activities such as materials testing, programming and scheduling, contracts, municipal systems or surveys.

SUPERVISION RECEIVED

Works under the general supervision of an engineer or an employee of higher grade in the performance of routine tasks; receives closer supervision when performing more advanced tasks.

SUPERVISION EXERCISED

May lead paraprofessional or clerical employees as assigned.

EXAMPLES OF DUTIES

Performs a limited range of related construction engineering and inspection duties; inspects and oversees inspection of culvert and drainage structures, bridge and structure foundations, pavements and other structures; notes unforeseen conditions and recommends specific changes in original plans and specifications; oversees placing, maintaining and lighting of detour and safety signs; oversees laying out of limits of work; monitors contractor performance in accordance with plans and specifications; checks method and performance of work including line and grade, strength and rigidity of forms, conformance of materials to specification requirements; samples materials and requests tests; prepares daily labor, material and progress reports; checks work by others; collects necessary data and prepares monthly and final estimates for approval; leads technical personnel of lower grade; uses CADD (computer aided design and drafting) system and other computer applications; prepares construction specifications; oversees test boring crews; takes samples and performs field or laboratory tests such as density, gradations, compactions; studies new methods of construction or maintenance, new materials or unusual design features; prepares less complex technical reports including supporting graphical and tabular data and charts; operates all surveying instruments; acts as chief inspector for highway construction projects; acts as chief of survey party; studies terrain for line of location of structure; instructs party members in their tasks; keeps notes; controls accuracy and progress of work; directs noting of topographic details, given right of way and property maps; directs locating of right of way and boundary markers; checks placing of markers; prepares, revises and edits complex planimetric and topographic mapping; develops cross-sections from aerial photography; develops contours, cross-sections and other digital terrain model (DTM) operations; performs related duties as required.

KNOWLEDGE, SKILL AND ABILITY

Knowledge of principles and practices of more than one specialized field involved in transportation engineering such as construction, surveys, geodetic surveys, and materials testing; knowledge of highway construction methods and materials; skill in preparation of engineering and administrative reports; skill in use of computer aided design and drafting (CADD) applications; interpersonal skills; oral and written communication skills; ability to identify construction engineering and location problems and recommend solutions; ability to perform mathematical calculations; ability to interpret plans and specifications.

MINIMUM QUALIFICATIONS - GENERAL EXPERIENCE

A Bachelor's degree in Engineering or Construction Management and one (1) year of experience in transportation construction engineering or transportation engineering. For State employees, the one (1) year of experience must have been at the level of a Transportation Engineer Trainee.

MINIMUM QUALIFICATIONS - SUBSTITUTIONS ALLOWED

1. Possession of Land Surveyor (LS) licensure or Professional Engineer (PE) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.
2. Possession of Land Surveyor-In-Training (LSIT) licensure or Engineer-In-Training (EIT) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.
3. Possession of at least Level III certification, from the National Institute for Certification in Engineering Technologies (NICET), in one of the following Civil Engineering Technology Programs may be substituted for the Bachelor's degree requirement:
    a. Transportation Construction Inspection Program - Highway Construction Inspection

b. Construction Materials Testing Program - Asphalt or Concrete
c. Transportation Program - Highway Materials, Highway Surveys or Highway Construction Inspection

4. Possession of a Level III Survey Technician Certification from the National Society of Professional Surveyors may be substituted for the Bachelor's Degree requirement.

PROMOTION

After completion of two (2) years of successful and satisfactory performance as a Transportation Engineer 1 (Construction Engineering), an incumbent will be promoted by reclassification to Transportation Engineer 2 (Construction Engineering).

SPECIAL REQUIREMENTS

1. Incumbents may be required to possess appropriate certification from the New England Transportation Technician Program (NTTCP).
2. Incumbents in this class may be required to possess and retain a valid Motor Vehicle Operator's license.
3. Incumbents in this class may be required to travel.

WORKING CONDITIONS

Incumbents in this class may be exposed to some danger of injury or physical harm from highway or construction environments and a moderate degree of discomfort from exposure to year round weather conditions.

JOB CLASS DESIGNATION

Classified/Non-Examined

OCCUPATIONAL GROUP

(11)-Engineering

BARGAINING UNIT

(15)-ENG, SCIEN, TECH P-4

EEO

(2)-Professional

SALARY INFORMATION

Incumbents entering this class shall be placed in Salary Group FS 21, step 4.

CANCELLATION CLAUSE

This replaces the existing specification for the class of Transportation Engineer 1 (Construction Engineering) in Salary Group FS 21 approved effective February 3, 2017. (Revised to modify Minimum Qualifications and Promotions sections)

EFFECTIVE DATE

7/31/17

CLASS: 8848FS; **EST:** 6/29/1933; **REV:** 3/10/2018;

Exhibit C

Department of Administrative Services

Transportation Engineer 2 (Construction Engineering) (40 Hour) (8837FE)

$32.25-$46.56 Hourly / $2,580.31-$3,725.18 BiWeekly /
$67,346.09-$97,227.20 Yearly

Notify Me when a Job Opens for the above position(s)

PURPOSE OF JOB CLASS (NATURE OF WORK)

In the Department of Transportation, this class is accountable for independently performing a full range of engineering or related tasks in one or more aspects of transportation construction engineering projects or studies in the following areas: construction, administration, rehabilitation, surveying, testing, materials testing, operations, or maintenance.

SUPERVISION RECEIVED

Works under the general supervision of an engineer or other employee of higher grade.

SUPERVISION EXERCISED

May lead professional, paraprofessional or technical employees and in some instances field forces; may supervise clerical personnel or field forces in administrative engineering work as assigned.

EXAMPLES OF DUTIES

Inspects construction projects; acts as a team member in preparation of plans and estimates for construction or maintenance of bridges, structures and highways; reviews shop plans; oversees collection, recording, preparation and analysis of data pertaining to materials testing and transportation planning; assists in budget preparation, report writing, general planning and administration of unit work from an engineering project coordination and technical stand point; prepares research and administrative reports; assembles and prepares contracts and unit cost figures; plans budgetary requirements; leads survey parties or acts as chief inspector of highway construction projects; oversees field and office work in surveys; performs complex tasks in the generation of base survey planimetric and topographic mapping and cross sections utilizing an analytical stereoplotter and a CADD (computer aided design and drafting) system work terminal; oversees and plans work of technical aides in maintenance, taking and analyzing test borings; performs related duties as required.

KNOWLEDGE, SKILL AND ABILITY

Considerable knowledge of principles and practices of more than one specialized field in transportation construction engineering such as construction, surveys and materials testing; skill and ability to analyze and evaluate construction location problems and provide effective solutions; considerable skill in use of computer aided design and drafting (CADD) applications; considerable technical skills in preparation of engineering and administrative reports; interpersonal skills; oral and written communication skills; ability to perform complex mathematical calculations; ability to develop and interpret plans and specifications.

MINIMUM QUALIFICATIONS - GENERAL EXPERIENCE

A Bachelor's degree in Engineering or Construction Management and two (2) years of experience at the junior working level in a professional transportation construction engineering or transportation engineering capacity.

MINIMUM QUALIFICATIONS - SPECIAL EXPERIENCE

One (1) year of the General Experience must have been at the junior working level in a professional transportation construction engineering or transportation engineering capacity. For State employees, this is interpreted at the level of Transportation Engineer 1 (Construction Engineering) or (Engineering).

MINIMUM QUALIFICATIONS - SUBSTITUTIONS ALLOWED

1. Possession of Land Surveyor (LS) licensure or Professional Engineer (PE) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.

2. Possession of Land Surveyor-In-Training (LSIT) licensure or Engineer-In-Training (EIT) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.

3. Possession of at least Level III certification, from the National Institute for Certification in Engineering Technologies (NICET), in one of the following Civil Engineering Technology Programs may be substituted for the Bachelor's degree requirement:

a. Transportation Construction Inspection Program - Highway Construction Inspection

Exhibit C

b. Construction Materials Testing Program - Asphalt or Concrete
c. Transportation Program - Highway Materials, Highway Surveys or Highway Construction Inspection
4. Possession of a Level III Survey Technician Certification from the National Society of Professional Surveyors may be substituted for the Bachelor's Degree requirement.
5. A Master's degree in engineering may be substituted for one (1) year of the General Experience.

SPECIAL REQUIREMENTS

1. Incumbents may be required to possess appropriate certification from the New England Transportation Technician Program (NTTCP).
2. Incumbents in this class may be required to possess and retain a valid Motor Vehicle Operator's license.
3. Incumbents in this class may be required to travel.

WORKING CONDITIONS

Incumbents in this class may be exposed to some danger of injury or physical harm from highway or construction environments and a moderate degree of discomfort from exposure to year round weather conditions.

COMPENSATION GUIDELINES

1. The classification of Transportation Engineer 2 (Construction Engineering) is assigned to Salary Group FS 23a.
2. Employees shall proceed through that salary group and then shall proceed to the maximum salary of Salary Group FS 24.
3. This Job Code is identified with salary plan FE in CORE-CT.
4. Incumbents entering this class shall be placed in Salary Group FS 23a, step 4.

JOB CLASS DESIGNATION

Classified/Non-Examined

OCCUPATIONAL GROUP

(11)-Engineering

BARGAINING UNIT

(15)-ENG, SCIEN, TECH P-4

EEO

(2)-Professional

SALARY INFORMATION

FE 23

CANCELLATION CLAUSE

This replaces the existing specification for the class of Transportation Engineer 2 (Construction Engineering) in Salary Group FE 23a approved effective February 3, 2017. (Revised to modify Minimum Qualifications)

EFFECTIVE DATE

7/31/2017

CLASS: 8837FE; **EST:** 6/29/1933; **REV:** 3/10/2018;

Exhibit C

Department of Administrative Services

Transportation Engineer 3 (Construction Engineering) (40 Hour) (8774FE)

$39.05-$55.98 Hourly / $3,123.80-$4,478.66 BiWeekly /
$81,531.18-$116,893.03 Yearly

Notify Me when a Job Opens for the above position(s)

PURPOSE OF JOB CLASS (NATURE OF WORK)

In the Department of Transportation this class is accountable for acting as a working lead who assists a supervisor in supervising a designated group of employees and/or for performing the most complex engineering or related tasks in one or more aspects of transportation construction engineering projects or studies in the areas of construction, administration, rehabilitation, surveying, testing, materials testing, maintenance or operations.

GUIDELINES FOR JOB CLASS USE

WORKING LEAD LEVEL: Incumbents in this class report to a supervisory class and normally are assigned full time working lead responsibility for a minimum of two other employees while performing unit work activities. For supervisory type duties performed by a working lead the final approval/"sign-off" authority is vested in the supervisory level employee to whom the incumbent reports.

ADVANCED WORKING LEVEL: Incumbents in this class perform work that must clearly exceed the norm and include a concentration of highly advanced functions within assigned disciplines. Class use is on a limited or exceptional basis.

SUPERVISION RECEIVED

Works under the general direction of an employee of higher grade.

SUPERVISION EXERCISED

Leads engineers, technical and clerical employees of lower grade as assigned.

EXAMPLES OF DUTIES

Conducts field and office investigations of engineering, technical or other problems and prepares reports for higher level employees; analyzes problems and recommends effective solutions; assists in establishment of policy, procedures and methods; represents department in legislative matters; assists in development and review of department contracts; performs related duties as required.

WORKING LEAD LEVEL: As assigned by the supervisor distributes, prioritizes, oversees and reviews unit work; provides staff training and assistance; conducts or assists in conducting performance evaluations; acts as liaison with operating units, agencies, consultant staffs and other outside officials regarding unit policies and procedures; recommends policies and standards; prepares reports and correspondence; performs related duties as required.

Oversees a group of engineers and personnel of lower grade in construction of highways or other transportation projects; acts as a liaison with consulting engineers; trains in-house and consultant inspectors; reviews construction final cost estimates and verifies final payments; serves as technical advisor for construction projects; develops and maintains cost data relative to design, construction and maintenance of highways and bridges; prepares comprehensive reports; develops and maintains standards and specifications for highways and bridges consistent with technological advances in design, construction and maintenance; oversees group of engineers and other personnel conducting preliminary reconnaissance location surveys, preliminary design, estimating and plan preparation or conducting boundary surveys, setting and checking boundary monuments and preparing right-of-way boundary plans; oversees chemical and physical testing and analysis and makes recommendations concerning suitability of construction and maintenance materials; prepares survey reports and recommendations on highway location; performs related duties as required.

KNOWLEDGE, SKILL AND ABILITY

Considerable knowledge of principles and practices involved in transportation construction engineering such as construction, surveys, geodetic surveys and materials testing; considerable knowledge of highway construction methods and materials; knowledge of administrative and financial controls with respect to transportation construction engineering plans, contracts, projects and reports: considerable knowledge of operational methodologies and established policies; considerable analytical, problem solving and technical report development skills; considerable interpersonal skills; considerable oral and written communication skills; considerable ability to interpret and apply principles of information systems and technologies; ability to analyze plans and estimates; some supervisory ability.

MINIMUM QUALIFICATIONS - GENERAL EXPERIENCE

A Bachelor's degree in Engineering or Construction Management and three (3) years of experience in transportation construction engineering.

MINIMUM QUALIFICATIONS - SPECIAL EXPERIENCE

One (1) year of the General Experience must have been at the working level in a professional transportation construction engineering capacity. For state employees this is interpreted at the level of Transportation Engineer 2 (CONSTRUCTION ENGINEERING).

MINIMUM QUALIFICATIONS - SUBSTITUTIONS ALLOWED

1. Possession of Land Surveyor (LS) licensure or Professional Engineer (PE) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.
2. Possession of Land Surveyor-In-Training (LSIT) licensure or Engineer-In-Training (EIT) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.
3. Possession of at least Level III certification in the Civil Engineering Technology-Transportation Program, Highway Construction Inspection or Highway Surveys from the National Institute for Certification in Engineering Technologies (NICET) may be substituted for the Bachelor's degree requirement.
4. A Master's degree in engineering may be substituted for one (1) year of the General Experience.
5. Current incumbents in the class of Transportation Engineer 2 (CONSTRUCTION ENGINEERING) who do not possess the degree or certification/licensure qualifications as detailed on this class specification may be considered for promotion to Transportation Engineer 3 (CONSTRUCTION ENGINEERING) upon having three (3) years of experience in transportation construction engineering. One (1) of the three (3) years must have been as a Transportation Engineer 2 (CONSTRUCTION ENGINEERING).

SPECIAL REQUIREMENTS

1. Incumbents may be required to possess appropriate certification from the New England Transportation Technician Program (NTTCP).
2. Incumbents in this class may be required to possess and retain a valid Motor Vehicle Operator's license.
3. Incumbents may be required to travel.

WORKING CONDITIONS

Incumbents in this class may be exposed to some danger of injury or physical harm from highway or construction environments and a moderate degree of discomfort from exposure to year round weather conditions.

COMPENSATION GUIDELINES

1. The classifications of Transportation Engineer 3 (CONSTRUCTION ENGINEERING) and (ENGINEERING) are assigned to Salary Group FS 27a.
2. Employees shall proceed through that salary group and then shall proceed to the maximum salary of Salary Group FS 28.
3. These Job Codes are identified with salary plan FE in CORE-CT.

JOB CLASS DESIGNATION

Classified/Non-Examined

OCCUPATIONAL GROUP

(11)-Engineering

BARGAINING UNIT

(15)-ENG, SCIEN, TECH P-4

EEO

(2)-Professional

SALARY INFORMATION

FE 27

CANCELLATION CLAUSE

This replaces the existing specification for the class of Transportation Engineer 3 (Construction Engineering) (Engineering) in Salary Group FE 27a approved effective July 10, 2015. (Revised to change Service Status to Non-Examined)

EFFECTIVE DATE

2/3/2017

Exhibit D

P-4 FS 40-Hours Salary Plan Effective 07/01/2015

Plan	Group	Period	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
FS	17	Annual	$51,493.00	$53,283.00	$55,077.00	$56,861.00	$58,651.00	$60,433.00	$62,222.00	$63,777.00	$65,379.00	$67,011.00	$68,686.00	$70,402.00
		Bi-Wk	$1,972.92	$2,041.50	$2,110.23	$2,178.59	$2,247.17	$2,315.45	$2,383.99	$2,443.57	$2,504.95	$2,567.48	$2,631.65	$2,697.40
		Daily	$197.30	$204.15	$211.03	$217.86	$224.72	$231.55	$238.40	$244.36	$250.50	$256.75	$263.17	$269.74
		Hourly	$24.67	$25.52	$26.38	$27.24	$28.09	$28.95	$29.80	$30.55	$31.32	$32.10	$32.90	$33.72
FS	18	Annual	$54,091.00	$55,928.00	$57,760.00	$59,597.00	$61,421.00	$63,254.00	$65,084.00	$66,717.00	$68,382.00	$70,093.00	$71,843.00	$73,641.00
		Bi-Wk	$2,072.46	$2,142.84	$2,213.03	$2,283.41	$2,353.30	$2,423.53	$2,493.64	$2,556.21	$2,620.00	$2,685.56	$2,752.61	$2,821.50
		Daily	$207.25	$214.29	$221.31	$228.35	$235.33	$242.36	$249.37	$255.63	$262.00	$268.56	$275.27	$282.15
		Hourly	$25.91	$26.79	$27.67	$28.55	$29.42	$30.30	$31.18	$31.96	$32.75	$33.57	$34.41	$35.27
FS	19	Annual	$56,755.00	$58,651.00	$60,533.00	$62,424.00	$64,304.00	$66,189.00	$68,073.00	$69,775.00	$71,520.00	$73,306.00	$75,138.00	$77,019.00
		Bi-Wk	$2,174.53	$2,247.17	$2,319.28	$2,391.73	$2,463.76	$2,535.98	$2,608.17	$2,673.38	$2,740.23	$2,808.66	$2,878.86	$2,950.92
		Daily	$217.46	$224.72	$231.93	$239.18	$246.38	$253.60	$260.82	$267.34	$274.03	$280.87	$287.89	$295.10
		Hourly	$27.19	$28.09	$29.00	$29.90	$30.80	$31.70	$32.61	$33.42	$34.26	$35.11	$35.99	$36.89
FS	20	Annual	$59,650.00	$61,581.00	$63,511.00	$65,439.00	$67,368.00	$69,297.00	$71,228.00	$73,013.00	$74,843.00	$76,711.00	$78,628.00	$80,596.00
		Bi-Wk	$2,285.45	$2,359.43	$2,433.38	$2,507.25	$2,581.15	$2,655.06	$2,729.05	$2,797.44	$2,867.55	$2,939.12	$3,012.57	$3,087.97
		Daily	$228.55	$235.95	$243.34	$250.73	$258.12	$265.51	$272.91	$279.75	$286.76	$293.92	$301.26	$308.80
		Hourly	$28.57	$29.50	$30.42	$31.35	$32.27	$33.19	$34.12	$34.97	$35.85	$36.74	$37.66	$38.60
FS	21	Annual	$62,587.00	$64,578.00	$66,558.00	$68,541.00	$70,532.00	$72,511.00	$74,503.00	$76,367.00	$78,270.00	$80,227.00	$82,234.00	$84,292.00
		Bi-Wk	$2,397.97	$2,474.26	$2,550.12	$2,626.10	$2,702.38	$2,778.20	$2,854.53	$2,925.94	$2,998.86	$3,073.84	$3,150.73	$3,229.58
		Daily	$239.80	$247.43	$255.02	$262.61	$270.24	$277.82	$285.46	$292.60	$299.89	$307.39	$315.08	$322.96
		Hourly	$29.98	$30.93	$31.88	$32.83	$33.78	$34.73	$35.69	$36.58	$37.49	$38.43	$39.39	$40.37
FS	22	Annual	$64,304.00	$66,656.00	$69,018.00	$71,368.00	$73,727.00	$76,081.00	$78,436.00	$80,394.00	$82,414.00	$84,472.00	$86,585.00	$88,750.00
		Bi-Wk	$2,463.76	$2,553.87	$2,644.37	$2,734.41	$2,824.79	$2,914.99	$3,005.22	$3,080.23	$3,157.63	$3,236.48	$3,317.44	$3,400.39
		Daily	$246.38	$255.39	$264.44	$273.45	$282.48	$291.50	$300.53	$308.03	$315.77	$323.65	$331.75	$340.04
		Hourly	$30.80	$31.93	$33.06	$34.19	$35.31	$36.44	$37.57	$38.51	$39.48	$40.46	$41.47	$42.51

TE1

*In accordance with Article 19 Section Five of the P-4 Collective Bargaining Agreement: "Employees in a classification assigned to a salary group sub-category designated by the letter "a" shall proceed through that salary group and then shall proceed to the maximum salary of the next salary group."

Exhibit D

P-4 FS 40-Hours Salary Plan Effective 07/01/2015

Plan	Group	Period	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
									TE2					
FS	23	Annual	$67,346.00	$69,802.00	$72,251.00	$74,712.00	$77,163.00	$79,619.00	$82,073.00	$84,126.00	$86,226.00	$88,382.00	$90,596.00	$92,859.00
		Bi-Wk	$2,580.31	$2,674.41	$2,768.24	$2,862.53	$2,956.44	$3,050.54	$3,144.56	$3,223.22	$3,303.68	$3,386.29	$3,471.12	$3,557.82
		Daily	$258.04	$267.45	$276.83	$286.26	$295.65	$305.06	$314.46	$322.33	$330.37	$338.63	$347.12	$355.79
		Hourly	$32.26	$33.44	$34.61	$35.79	$36.96	$38.14	$39.31	$40.30	$41.30	$42.33	$43.39	$44.48
FS	24	Annual	$70,584.00	$73,144.00	$75,701.00	$78,264.00	$80,818.00	$83,372.00	$85,938.00	$88,081.00	$90,289.00	$92,540.00	$94,853.00	$97,227.00
		Bi-Wk	$2,704.37	$2,802.46	$2,900.43	$2,998.63	$3,096.48	$3,194.33	$3,292.65	$3,374.76	$3,459.35	$3,545.60	$3,634.22	$3,725.18
		Daily	$270.44	$280.25	$290.05	$299.87	$309.65	$319.44	$329.27	$337.48	$345.94	$354.56	$363.43	$372.52
		Hourly	$33.81	$35.04	$36.26	$37.49	$38.71	$39.93	$41.16	$42.19	$43.25	$44.32	$45.43	$46.57
FS	25	Annual	$74,036.00	$76,690.00	$79,332.00	$81,984.00	$84,647.00	$87,299.00	$89,945.00	$92,193.00	$94,502.00	$96,868.00	$99,290.00	$101,772.00
		Bi-Wk	$2,836.63	$2,938.32	$3,039.55	$3,141.15	$3,243.19	$3,344.79	$3,446.17	$3,532.30	$3,620.77	$3,711.42	$3,804.22	$3,899.32
		Daily	$283.67	$293.84	$303.96	$314.12	$324.32	$334.48	$344.62	$353.23	$362.08	$371.15	$380.43	$389.94
		Hourly	$35.46	$36.73	$38.00	$39.27	$40.54	$41.81	$43.08	$44.16	$45.26	$46.40	$47.56	$48.75
FS	26	Annual	$77,682.00	$80,430.00	$83,188.00	$85,938.00	$88,683.00	$91,436.00	$94,179.00	$96,536.00	$98,950.00	$101,425.00	$103,959.00	$106,557.00
		Bi-Wk	$2,976.33	$3,081.61	$3,187.28	$3,292.65	$3,397.82	$3,503.30	$3,608.40	$3,698.70	$3,791.19	$3,886.02	$3,983.11	$4,082.65
		Daily	$297.64	$308.17	$318.73	$329.27	$339.79	$350.33	$360.84	$369.87	$379.12	$388.61	$398.32	$408.27
		Hourly	$37.21	$38.53	$39.85	$41.16	$42.48	$43.80	$45.11	$46.24	$47.39	$48.58	$49.79	$51.04
									TE3					
FS	27	Annual	$81,531.00	$84,383.00	$87,232.00	$90,068.00	$92,917.00	$95,763.00	$98,613.00	$101,082.00	$103,607.00	$106,197.00	$108,852.00	$111,574.00
		Bi-Wk	$3,123.80	$3,233.07	$3,342.23	$3,450.89	$3,560.04	$3,669.09	$3,778.28	$3,872.88	$3,969.62	$4,068.86	$4,170.58	$4,274.87
		Daily	$312.38	$323.31	$334.23	$345.09	$356.01	$366.91	$377.83	$387.29	$396.97	$406.89	$417.06	$427.49
		Hourly	$39.05	$40.42	$41.78	$43.14	$44.51	$45.87	$47.23	$48.42	$49.63	$50.87	$52.14	$53.44
FS	28	Annual	$85,653.00	$88,597.00	$91,545.00	$94,495.00	$97,430.00	$100,375.00	$103,321.00	$105,898.00	$108,543.00	$111,261.00	$114,041.00	$116,893.00
		Bi-Wk	$3,281.73	$3,394.53	$3,507.48	$3,620.50	$3,732.96	$3,845.79	$3,958.66	$4,057.40	$4,158.74	$4,262.88	$4,369.39	$4,478.66
		Daily	$328.18	$339.46	$350.75	$362.05	$373.30	$384.58	$395.87	$405.74	$415.88	$426.29	$436.94	$447.87
		Hourly	$41.03	$42.44	$43.85	$45.26	$46.67	$48.08	$49.49	$50.72	$51.99	$53.29	$54.62	$55.99

*In accordance with Article 19 Section Five of the P-4 Collective Bargaining Agreement: "Employees in a classification assigned to a salary group sub-category designated by the letter "a" shall proceed through that salary group and then shall proceed to the maximum salary of the next salary group."

Exhibit E.

7 - Construction Engineering & CONSULTANT/VENDOR COSTS

Classification(s)	Hours	Present Certified Rate	0.00% Midpoint Hr. Rate (Inflation)	OT Halftime	Total Labor	Total Direct Costs	Total Labor/Direct Costs
BETA / 19DOT0089AA / DOT01350307CN							
Resident Engineer	5820	$62.70	$62.70		$364,914.00		
Office Engineer	5320	$55.00	$55.00		$292,600.00		
Chief Inspector	4617	$57.10	$57.10		$263,630.70		
	0		$0.00		$0.00		
	0		$0.00		$0.00		
Payroll					$921,144.70		
BF&O	115.91%				$1,067,698.82		
FIXED FEE	9.47%				$188,343.48		
Shift Differential					$1,500.00		
Labor Adjustment					$13.00		
Subtotal Labor					$2,178,700.00		
Direct Cost						$18,500	
VB Technologies							
Inspector	1508	$37.00	$37.00		$55,796.00		
			$0.00		$0.00		
			$0.00		$0.00		
Payroll					$55,796.00		
BF&O	95.55%				$53,313.08		
FIXED FEE	10.00%				$10,910.91		
Half-Time (Inspector)		$18.50	$18.50	137	$2,534.50		
Labor Adjustment					-$54.49		
Subtotal Labor					$122,500.00		
Direct Cost						$2,500	
Total Hours/Payroll	*17265.00*				***$2,301,200.00***		
Principal					$0.00		
TOTAL					$2,301,200.00	$21,000	$2,322,200
Labor Rounding					$2,301,200.00	$21,000.00	$2,322,200.00

Hours Tie Into Consultant Hours see Exhibit B

Total Cost Brought Forward to OPM Spreadsheet.

	IN-HOUSE COSTS							
DOT Classification(s)	**Hours**	**Pay Plan**	**FY16 State Wage Table Rate**	**0.00% Vendor Midpoint Hr. Rate**	**OT HalfTime**	**Total Labor**	**Total Direct Costs**	**Total Labor/Direct Costs**
Reflects Consultant Hour Regular Pay			***(Midpoint)***					
TRANSPORTATION ENGINEER 3 (CONSTRUCTION ENGINEERING)	5,820	FS-27	45.87	$45.87		$266,963		
TRANSPORTATION ENGINEER 2 (CONSTRUCTION ENGINEERING)	5,320	FS-23	38.14	$38.14		$202,905		
TRANSPORTATION ENGINEER 2 (CONSTRUCTION ENGINEERING)	4,617	FS-23	38.14	$38.14		$176,092		
Total						***$645,961***		
Reflects SubConsultant Hours								
TRANSPORTATION ENGINEER 1 (CONSTRUCTION ENGINEERING)	1,508	FS-21	34.73	$34.73	$2,379	$54,751.85		
Total						***$54,752***		
PAYROLL/DIRECT COSTS						**$700,712**	$21,000	**$721,712.43**
Rounding						**$700,720**	**$21,000**	**$721,720.00**
TOTAL HRS/COSTS	***17,265***							***$721,720.00***

Exhibit F.

See Exhibits C, D for FY16 State Wage Table Rates.

DOT Comparable pay scales provided by Roger Thomas of Office of Construction - District 3

Exhibit G

State of Connecticut
PROJECT DATA BY ANALYSIS GROUP(S) REPORT

Report Id: CTPCR103
Run ID: Project_Data_by_Analysis
Oprid: 169607

Run Date: 02/06/2019
Run Time: 13:44:00

PC Business Unit: DOTM1--Dept. of Transportation
Calendar: State Fiscal Year/Monthly
Period Selection: Life-To-Date as of 30-JUN-2020

Selection 1: CLASS_FLD = ALL Values
Selection 2: PROJECT_ID = DOT01350307CN
Selection 3: FUND_CODE = ALL Values
Selection 4: ACTIVITY_ID = ALL Values

SID	Project	Fund	Activity	Estimated Budge	Budgets	CORE Expense	Expense	Available Budge
22108	DOT01350307CN	12062	CG0000	759,657.60	759,657.60	0.00	0.00	759,657.60
22108	DOT01350307CN	12062	CT0000	7,456,772.00	7,472,316.80	0.00	0.00	-1,868,079.20
22108	DOT01350307CN	12062	IN0000	2,360,404.80	1,899,685.60	111,639.42	111,639.42	-613,521.51
22108	DOT01350307CN	12062	SF0000	800.00	800.00	0.00	0.00	800.00
22108	DOT01350307CN	12062	UT0000	544,411.20	668,672.80	0.00	0.00	-7,348.22
	Subtotal for SID 22108 :			11,122,045.60	10,801,132.80	111,639.42	111,639.42	-1,728,491.33
30361	DOT01350307CN	12061	CT0000	0.00	0.00	0.00	0.00	0.00
30361	DOT01350307CN	12062	CG0000	0.00	0.00	0.00	0.00	0.00
30361	DOT01350307CN	12062	CT0000	174,751.00	174,750.91	0.00	0.00	19,430.91
30361	DOT01350307CN	12062	IN0000	0.00	0.00	0.00	0.00	0.00
	Subtotal for SID 30361 :			174,751.00	174,750.91	0.00	0.00	19,430.91
41392	DOT01350307CN	13033	CG0000	189,914.40	189,914.40	0.00	0.00	189,914.40
41392	DOT01350307CN	13033	CT0000	1,864,193.00	1,864,193.00	0.00	0.00	1,864,193.00
41392	DOT01350307CN	13033	IN0000	590,101.20	590,101.20	27,913.39	27,913.39	562,187.81
41392	DOT01350307CN	13033	SF0000	200.00	200.00	0.00	0.00	200.00
41392	DOT01350307CN	13033	UT0000	136,102.80	136,102.80	0.00	0.00	136,102.80
	Subtotal for SID 41392 :			2,780,511.40	2,780,511.40	27,913.39	27,913.39	2,752,598.01
41393	DOT01350307CN	13033	CT0000	0.00	0.00	0.00	0.00	0.00
	Subtotal for SID 41393 :			0.00	0.00	0.00	0.00	0.00

Exhibit G

State of Connecticut
PROJECT DATA BY ANALYSIS GROUP(S) REPORT

Run Date: 02/06/2019
Run Time: 13:44:00

Report Id: CTPCR103
Run ID: Project_Data_by_Analysis
Oprid: 169607

PC Business Unit: DOTM1--Dept. of Transportation
Calendar: State Fiscal Year/Monthly
Period Selection: Life-To-Date as of 30-JUN-2020

SID	Project	Fund	Activity	Estimated Budge	Budgets	CORE Expense	Expense	Available Budge
Grand Total :				14,077,308.00	13,756,395.11	139,552.81	139,552.81	1,043,537.59

End of Report

Exhibit H

7) - Average Oversight Percentage - Recent Consultant Construction Engineering & Inspection Contracts	
Consultant Construction Eng. & Inspection Contracts	**Average Oversight Percentage**
Const. Total Budget Over $20,000,000	15%
Const. Total Budget $5,000,000 - $20,000,000	18%
Const. Total Budget Less than $5,000,000	36%

Used 18% for Contract Management (Oversight). Total Construction Budget = $13.8M. See Exhibit G.

Consultant Costs $2,322,200*18% = $417,996.00

7 - Consultant Engineering & Inspection Cost of Oversight Analysis Summary

Project	Description	Total Construction Budget	InHouse Non-Oversight	Outside Non-Consultant Inspection	Const. Inspection Oversight	Consultant Inspection	Consultant Inspection
DOT01060116CN	STUDY, DESIGN, ENVIRONMENTAL ACTIVITIES FOR ORANGE/W. HAVEN RR STATION WITH PARKING FOR 1100. FAP# N/A	103,000,000.00	867,960.37	81,702,290.76	682,642.64	4,700,717.04	14.52%
DOT00850142CN	Mill and place 1" of HMA over 2" of polymer modified WMA overlay on I-395 from MP 9.29 to MP 18.34 in the Towns of Montville and Lisbon and in the City of Norwich. The design of this project is performed under PN 170-3054.	14,589,201.00	189,628.29	11,711,675.51	68,391.09	683,601.69	10.00%
DOT00330128CN	Mill and place approx. 2.5" of polymer modified HMA overlay on Route 9 NB from MP27.598 to MP34.502 and SB, from MP34.454 to MP27.608 in the towns of Cromwell and Berlin. The design of this project is performed under Project No. 170-3054.	6,771,087.00	135,574.36	6,500,343.28	109,956.13	436,934.63	25.17%
DOT00870143CN	1.8 MILE MULTI-USE BICYCLE & PEDESTRIAN FACILITY ADJACENT TO THE NAUGATUCK RIVER IN NAUGATUCK. FAP# PE PEDS(089) M. Pham 08-16-2007	2,313,680.00	60,200.18	1,505,451.85	97,006.94	196,814.31	49.29%
DOT00940246CN	Pavement rehabilitation of Montauk Avenue Phase 2 from the entrance of Lawrence & Memorial Hospital to Pequot Avenue in New London.	1,960,766.40	36,039.06	1,712,807.10	76,282.42	174,635.17	43.68%
DOT00220105CN	Replace diesel fuel, unleaded gasoline, and fuel oil underground storage tanks and other related items at the Canterbury maintenance facility.	1,059,922.00	31,456.63	798,115.00	40,372.24	93,700.93	43.09%
DOT01580187CN	REHABILITATION OF BRIDGE NO. 04968, NORTH AVENUE OVER ASPETUCK RIVER, WESTPORT. FAP# FOR (CN) 6158(004) B. Adelstein 12-08-09.	1,006,400.00	10,136.80	881,910.13	16,648.31	125,949.67	13.22%
DOT01120113CN	Main Street Street - Scape Improvements, Portland FAP# FOR (RW) PEDS(109) B. Adelstein 3-26-10. FAP# NO LONGER VALID; CLOSED 6-24-09. B. Adelstein 10-06-10.	811,148.00	19,836.82	733,191.65	46,425.40	146,254.14	31.74%
DOT01540122CN	Placement of a 3/4" ultra-thin bonded HMA overlay on I-95 NB & SB from MP 73.136 in the town of Westbrook to MP 77.725 in the town of Old Saybrook. The design of this project is performed under Project No. 170-3054.	22,395,317.00	304,201.35	18,965,624.19	1,019,608.77	237,718.66	428.91%
DOT00580282CN	PHASE 2 REHAB OF MYSTIC RIVER BRIDGE, RT 1 OVER MYSTIC RIVER-GROTON/STONINGTON FAP# FOR (ROW) 0001(268) D.McCoy 9-14-07	21,219,900.00	203,231.95	19,259,854.41	1,429,171.13	111,429.43	1282.58%
DOT01310191CN	Rehabilitation of Bridge # 00649, Interstate 84 Westbound over Route 10 in Southington. FAP# CN 0843(218) M. Pham 09-14-2011	3,839,220.00	29,455.12	3,013,123.13	457,603.74	78,710.26	581.38%
DOT00920549CN	SEA STREET SALT SHED, NEW HAVEN 100% State funded under SID 41388	1,713,513.00	87,006.11	1,376,269.58	201,187.96	164,630.85	122.21%
DOT00920638CN	Contaminated soil management project for the New Haven Harbor Crossing Corridor Improvement Program. 100% STATE FUNDED.	14,577,558.00	27,705.18	10,797,774.98	645,164.73	-	0.00%

Exhibit H

DOT01050208CN	Permanent repairs to CT Rte 154 seawall in Old Saybrook as a result of damage from Storm Sandy on 10/29/12 @12pm. FAP# FOR ROW = 0154(018) B. ADELSTEIN 1-14-13.	6,821,223.00	246,144.86	5,562,639.55	547,947.83	-	0.00%
DOT01350291CN	REHABILITATION OF BR# 03824 US RT 1 OVER RIPPOWAM RIVER, STAMFORD. FAP# PE 0001(289) M. Pham 01-09-2009	6,136,264.00	112,562.04	3,905,757.57	848,342.63	-	0.00%
DOT01350297CN	Minor Widening of Hope Street from Minivale Rd to Northhill St for and Auxiliary Lane in Stamford.	5,969,314.50	79,735.47	4,299,517.27	808,282.21	-	0.00%
DOT00560311CN	Mill and place 5/8" Ultra-thin Bonded HMA overlay on Rte 15 NB & SB from MP 0 to MP 7.7 except at MP 0 to 2.24 SB, which will be milled and overlaid with 2" WMA in Greenwich. Design performed under PN 170-3054.	5,405,028.00	86,793.09	4,680,183.39	513,415.25	-	0.00%
DOT01020328CN	Rehab Br 03851, Triangle Street o/ MN RR (List 19F) in Norwalk. FAP # PE 6102(015) M. Pham 06-27-2007	5,226,004.42	86,263.46	4,049,275.88	717,672.92	-	0.00%
DOT01650435CN	Project entails the Reconstruction of TW C North at Bradley International Airport.	4,748,747.14	165,921.37	3,954,628.64	523,066.28	-	0.00%
DOT00630679CN	Mill and place 5/8" of Ultra-thin Bonded HMA over 2" of polymer modified WMA overlay on I-91 from MP 36.53 to MP 38.27 NB and MP 36.58 to MP 38.54 SB in the City of Hartford. The design of this project is performed under PN 170-3054. FAP#0913(172)	4,628,977.00	102,473.19	3,915,181.57	482,597.39	-	0.00%
DOT00560296CN	REHABILITATION OF BRIDGE 00017, LOCKWOOD AVENUE OVER I-95, GREENWICH FAP# PE 1056(108) M. Pham 10-20-2008	4,413,256.00	39,885.20	3,112,724.58	520,353.31	-	0.00%
DOT01520147CN	REPLACEMENT OF BR# 01903, US RT 1 OVER STONY BROOK WATERFORD	3,862,688.00	127,670.82	2,851,214.80	719,986.02	-	0.00%
DOT01350295CN	Recon. of Stillwater Rd. from North of Skyview Dr. to South of Stillview Rd.,Stamford	3,117,351.60	119,106.48	2,223,082.58	461,425.54	-	0.00%
DOT01020317CN	REHABILITATION OF BR# 00718 ROUTE 15 OVER SILVERMINE RIVER IN NORWALK. FAP# PE 0015(110) M. Pham 09-16-2010	2,720,265.00	27,072.13	2,050,896.75	574,028.01	-	0.00%
DOT01510302CN	REPLACEMENT OF BR# 02448, SR 801 (EAST MAIN ST.) OVER BEAVER BROOK WATERBURY	2,700,490.00	85,848.51	1,982,347.16	463,791.24	-	0.00%
DOT01480204CN	Placement of a 5/8" ultra-thin bonded HMA overlay on Route 15 NB & SB from MP 56.54 in the town of Wallingford to MP 62.317 in the town of Meriden. The design of this project is performed under Project No. 170-3054.	2,404,213.40	43,579.76	2,120,313.71	240,319.93	-	0.00%
DOT01050206CN	Permanent repairs to CT Route 154 seawall (Maple Ave) in Old Saybrook as a result of damage from Tropical Storm Irene on 8/28/11 (180-days+). Temporarily financed as 80% EBS in anticipation of possible ER funding from FHWA. FAP# 0154(015)	2,395,000.00	69,505.30	2,093,545.53	182,331.69	-	0.00%
DOT01080178CN	Rehabilitation Bridge #00303, Moosup Pond Rd over I-395 in Plainfield. This bridge has been identified to be in poor condition on List 22. The project qualifies for HBP Off-System funds. FAP# PE 6108(023) M. Pham 09-15-2010	2,161,427.00	82,241.71	1,565,562.37	207,678.55	-	0.00%
DOT00260118CN	REPLACEMENT OF BRIDGE #02695 ROUTE 148 OVER GREAT BROOK TOWN OF CHESTER. FAP# CN 1026(104) M. Pham 09-13-2011	1,948,875.00	153,521.98	1,310,133.86	370,573.92	-	0.00%
DOT00510267CN	Mill and place 5/8" Ultra-thin Bonded HMA over 2" HMA overlay from MP 40.03 to MP 40.57 and place 5/8" Ultra-thin Bonded HMA overlay from MP 40.57 to MP 42.19 on Rte 4 in Farmington. Design performed under PN 170-3054. FAP#0004(208)	1,907,668.00	81,310.88	1,471,420.44	253,320.75	-	0.00%
DOT01030256CN	REHABILITATION OF BR# 02588 ROUTE 97 OVER BYRON BROOK NORWICH	1,879,161.00	56,166.82	1,237,756.53	323,446.59	-	0.00%
DOT01560177CN	Permanent repairs to BR #05751 CT Rte 162 over Oyster River in West Haven as a result of damage from Storm Sandy on 10/29/12. FAP# FOR CN = 0162(009) B. ADELSTEIN 11/15/12.	1,525,602.00	93,447.58	1,047,251.57	277,653.46	-	0.00%
DOT01080183CN	Replacement of existing twin barrel stone culvert, Bridge #02123 Rte 12 o/ Angell Brook with a single box culvert. Location .1 mile North of Route 14.	1,230,635.50	234,018.13	755,739.26	149,354.59	-	0.00%
DOT00970094CN	REHABILITATION OF BR# 05423 ROUTE 272 OVER WOOD CREEK NORFOLK	1,182,011.00	62,249.11	743,525.51	300,649.46	-	0.00%
DOT01160129CN	REPLACEMENT OF BR# 02398 ROUTE 58 OVER UNNAMED BROOK REDDING FAP# N/A	1,085,913.00	76,661.98	704,918.63	315,227.39	-	0.00%

Exhibit H

DOT01460194CN	Replace diesel fuel, unleaded gasoline and fuel oil underground storage tanks and other related items at the Vernon maintenance facility. 100% STATE FUNDING. B. ADELSTEIN 5-31-12	970,301.00	33,975.63	741,768.17	144,561.92	-	0.00%
DOT00920640CN	New Haven-Rt 10 @ Lamberton St. Widen Route 10 to provide a southbound left-turn lane at Lamberton Street and install a traffic signal at the intersection. FAP# PE 0010(118) M. Pham 04-20-2009	932,248.00	75,710.01	547,903.37	208,916.19	-	0.00%
DOT01660098CN	REPLACEMENT OF BR# 03075 ROUTE 322 OVER LINDSLEY BROOK WOLCOTT	893,931.00	32,435.97	583,488.32	234,857.74	-	0.00%
DOT00310126CN	REHABILITATION OF BR# 01039 ROUTE 63 OVER HOLLENBECK RIVER IN CORNWALL. FAP# PE 0063(114) M. Pham 09-05-2007	853,072.00	55,100.48	492,853.92	250,253.03	-	0.00%
DOT01300178CN	Rehabilitation of Bridge #01977, SSR 492 (South Main Street) over Bullet Hill Brook, Southbury. List 22. 100% STATE FUNDING. B. ADELSTEIN 6-25-12.	820,000.00	3,437.13	527,844.06	49,198.69	-	0.00%
DOT01260162CN	Bridge 03222, Route 110 over Morgan Curtiss Brook, Shelton. Scope has been revised from bridge rehabilitation/replacement to scour mitigation and structure repair	786,720.00					
DOT00580326CN	Construction of approx. 1,000 feet of streetscape improvements on Water Street from Main Street south to Noank Road. FAP# FOR (CN) 1058(105) B. Adelstein 8-24-12.	785,217.20					
DOT01520155CN	Replace diesel fuel, unleaded gasoline, and fuel oil underground storage tanks and other related items at the Waterford maintenance facility including converting the facility over to natural gas service.	719,712.00					
DOT00590159CN	Replacement of Bridge# 02481, Route 77 over unnamed brook, Guilford. This bridge has been indentified to be in poor condition on List 22. This project DOES NOT qualify for HBP On-System Funds (insuff. bridge length). FAP# 0077(104)	670,482.00					
DOT01270088CN	REHABILITATION OF BR# 05419 ROUTE 37 OVER GREENWOODS BROOK SHERMAN	496,987.00					
DOT01090162CN	REHABILITATION OF BR# 06500 SR 536 OVER QUINNIPIAC RIVER IN PLAINVILLE. FAP# PE 0536(001) M. Pham 09-16-2010	460,331.00					
DOT01030262CN	The purpose of this project is to resurface Wisconsin Avenue in Norwich from the intersection with Connecticut Avenue north for 1,650 linear feet. A bid alt to extend the resurfacing limits north another 600' may be included.	416,316.80					
DOT00370099CN	REHABILITATION OF BR# 06583 RT 17 OVER PARMALEE BROOK DURHAM	310,653.00					
DOT01260168CN	Pedestrian Safety Improvements in the area of Sunnyside Elementary School in the City of Shelton. FAP# FOR (PE) PEDS(143) V. Smith 5-9-2011.	292,382.00					

Cost-Effectiveness Evaluation or New or Renewal Privatization Contracts

State Contracting Agency: Dept. of Transportation

Contract Title/Description: 11 Engineering Consultant Design Renewal 2019

Need for New Contract/Renewal: The Department is continuing the practice of hiring outside Consultants to provide Engineering Consultant Design Services to augment state forces where the Department does not have available staff to perform the work, or where the skills required to perform the work are not present within the Department.

New Contract and Historical Contracts Information: The Department is in the process of contracting with a number of firms for Engineering Consultant Design Services. These contracts are established with a term that is sufficient to cover the estimated time required to complete engineering design. Contract Maximum's generally vary from the hundreds of thousands to the millions of dollars. The method of procurement for these types of contracts is through the selection and negotiation process established by CGS 13b-20. This process has been ongoing for a number of years and is anticipated to be an ongoing initiative.

Cost Evaluation Summary: This cost evaluation utilized a negotiated historical contract. The Cost Analysis Summary is presented below with the results showing a savings by performing this service in-house.

	Form C-100: Summary and Comparison of Costs of Contacting Out and In-House Service Delivery			
	Category	Projected Year 1	Projected Year 2	Projected Year 3
1.	Total Costs Related to Contracting Out with Indirect Costs	$ 3,160,003.23	$ -	$ -
2.	Total Costs Related to Contracting Out without Indirect Costs	$ 2,993,962.47	$ -	$ -
3.	Total Costs In-House with Indirect Costs	$ 1,474,242.85	$ -	$ -
4.	Total Costs In-House without Indirect Costs	$ 1,243,709.01	$ -	$ -
5.	(Costs)/Savings with Contracting Out with Indirect Costs	$ (1,685,760.38)	$ -	$ -
6.	(Costs)/Savings with Contracting Out without Indirect Costs	$ (1,750,253.46)	$ -	$ -

Comments related to Evaluation Results: The results of this Cost Evaluation showed a savings if this service were to be performed in-house.

PERFORMED BY: Cheryl DiDomizio

REVIEWED BY: Mark Hayes

Template: Cost-Effectiveness Evaluation - *Revised September 21, 2018*

Form A-100 Cost of Contract

	Column 1	Column 2	Column 3	Column 4	Column 5	
	Contract	Actual Cost Prior Year	Proposed Contract Cost Year 1	Proposed Contract Cost Year 2	Proposed Contract Cost Year 3	Please fill in the yellow sections only
1.	Quantity-Hourly /Unit of Service/FTE Other		2,134,200.00			
2.	Rate Per Hour/Unit/FTE Other		1.00			
3.	**Total Cost of Contract**	$ -	$ 2,134,200.00	$ -	$ -	

COST OF CONTRACT - See Exhibits A, E

Additional Comments and Information:

Form A-200: Cost of Contract Management

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
	A. Payroll Costs for Managing the Contract (including salaries, wages, overtime, shift differential, longevity, hazardous duty pay and other payroll costs)						
	Position Title	**Portion of Annual Salaries & Annual Hourly Wages Related to Managing the Contract Year 1**	**Projected Portion of Overtime for Managing the Contract Year 1**	**Projected Portion of Other Wages (shift diff, longevity, haz duty, etc.) for Managing the Contract Year 1**	**Projected Year 1 Payroll (Col. 2 + Col. 3 + Col. 4)**	**Projected Payroll for Contract Management Year 2**	**Projected Payroll for Contract Management Year 3**
	Full-Time						
					$ -		
					$ -		
					$ -		
					$ -		
					$ -		
					$ -		
	Subtotal:	$ -	$ -	$ -	$ 533,550.00	$ -	$ -
	Part-Time						
					$ -		
					$ -		
					$ -		
	Subtotal:	$ -	$ -	$ -	$ -	$ -	$ -
	TOTAL	$ -	$ -	$ -	$ 533,550.00	$ -	$ -

Oversight of Contract 25% - See Exhibit H

	Column 1	Column 2	Column 3	Column 4	Column 5
	B. Fringe Benefits Related to Managing the Contract				
	Fringe Benefit Category	**Average Percentage to be Multiplied by Columns 3, 4 and 5**	**Projected Fringe Benefits of Contract Management Year 1**	**Projected Fringe Benefits of Contract Management Year 2**	**Projected Fringe Benefits of Contract Management Year 3**
1.	Unemployment Compensation	0.23%	$ 1,227.17	$ -	$ -
2.	Retirement SERS Regular Employees	30.60%	$ 163,266.30	$ -	$ -
3.	Social Security	6.20%	$ 33,080.10	$ -	$ -
4.	Medicare	1.45%	$ 7,736.48	$ -	$ -
5.	Life Insurance	0.20%	$ 1,067.10	$ -	$ -
6.	Medical and Dental	20.52%	$ 109,484.46	$ -	$ -
7.	Worker's Compensation *	1.94%	$ 10,350.87	$ -	$ -
8.	Other (please identify)				
	Total:		$ 326,212.47	$ -	$ -

* Worker's Compensation: If DCF - use 5.59%; DOC - use 7.84%; DMHAS - use 4.42%; DDS - use 7.76%; DPS - use 3.29%; DOT and DMV - use 1.94%

	C. Other Expenses Related to Managing the Contract			
	Category	**Projected Year 1**	**Projected Year 2**	**Projected Year 3**
1.	Other Expenses For Managing the Contract			
	Total:	$ -	$ -	$ -

	D. Agency and Central Services Overhead Related to Managing the Contract			
		Projected Year 1	**Projected Year 2**	**Projected Year 3**
1.	Indirect Cost Rate (%)	31.12%	31.12%	31.12%
2.	Direct Costs, from Part A	$ 533,550.00	$ -	$ -
	TOTAL (Line 1 times Line 2)	$ 166,040.76	$ -	$ -

	E. Total Costs Related to Managing the Contract			
		Projected Year 1	**Projected Year 2**	**Projected Year 3**
1.	**Total Contract Management Costs with Indirect**	$ 1,025,803.23	$ -	$ -
2.	**Total Contract Management Costs without Indirect**	$ 859,762.47	$ -	$ -

F. Additional Comments and Information:

Form A-300 - Total Costs of Contracting Out (Cost of Contract plus Contract Management)

	Category	Projected Year 1	Projected Year 2	Projected Year 3
1.	**Total Costs Related to Contracting Out with Indirect Costs**	$ 3,160,003.23	$ -	$ -
2.	**Total Costs Related to Contracting Out without Indirect Costs**	$ 2,993,962.47	$ -	$ -

Form B-100— Costs of In-House Service Delivery

A. Payroll (including salaries, wages, overtime, shift differential, longevity, hazardous duty pay and other payroll costs)

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
	Position Title	**Number of Staff in Position Title for Year 1**	**Portion of Annual Salaries & Annual Hourly Wages for Delivery of Service In Year 1**	**Projected Portion of Overtime for Delivery of Service In Year 1**	**Projected Portion of Other Wages (shift diff, longevity, haz duty, etc.) for FTE's In Year 1**	**Year 1 Payroll (Col. 3+ Col. 4 + Col. 5)**	**Projected Payroll of Delivery of Service Year 2**	**Projected Payroll of Delivery of Service Year 3**
	Full-Time							
						$ -		
						$ -		
						$ -		
						$ -		
						$ -		
	Subtotal:	**0**	**$ -**	**$ -**	**$ -**	**$ 740,790.00**	**$ -**	**$ -**
	Full-Time Hazardous Duty							
						$ -		
						$ -		
	Subtotal:	**0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
	Part-Time							
						$ -		
						$ -		
	Subtotal:	**0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
	TOTAL:	**0**	**$ -**	**$ -**	**$ -**	**$ 740,790.00**	**$ -**	**$ -**

B. Fringe Benefits

	Column 1	Column 2	Column 3	Column 4	Column 5
	Fringe Benefit Category	**Average Percentage to be Multiplied by Columns 3, 4 and 5**	**Projected Fringe Benefits of In-House Service Delivery Year 1**	**Projected Fringe Benefit of In-House Service Delivery Year 2**	**Projected Fringe Benefits of In-House Service Delivery Year 3**
1.	Unemployment Compensation	0.23%	$ 1,703.82	$ -	$ -
2.	Retirement SERS Regular Employees	30.60%	$ 226,681.74	$ -	$ -
3.	Retirement SERS Hazardous Duty	34.47%	$ -	$ -	$ -
4.	Social Security	6.20%	$ 45,928.98	$ -	$ -
5.	Medicare	1.45%	$ 10,741.46	$ -	$ -
6.	Life Insurance	0.20%	$ 1,481.58	$ -	$ -
7.	Medical and Dental	20.52%	$ 152,010.11	$ -	$ -
8.	Worker's Compensation *	1.94%	$ 14,371.33	$ -	$ -
9.	Other (Please Identify)				
	Total:		**$ 452,919.01**	**$ -**	**$ -**

COST OF IN-HOUSE SERVICE DELIVERY - See Exhibit F.

* Worker's Compensation: If DCF - use 5.59%; DOC - use 7.84%; DMHAS - use 4.42%; DDS - use 7.76%; DPS - use 3.29%; DOT and DMV - use 1.94%

C. Direct Other Expenses

	Column 1	Column 2	Column 3	Column 4
	Category	**Projected Year 1**	**Projected Year 2**	**Projected Year 3**
1.	Contracted Services (If, any)			
2.	Materials, Supplies, Printing and Postage			
3.	Rent and Utilities			
4.	Insurance			
5.	Maintenance and Repair			
6.	Depreciation			
7.	Non-capital Equipment (under $5,000)			
8.	Travel & Training			
9.	Other	$ 50,000.00		
10.	One-Time Start-Up Costs			
	Total:	**$ 50,000.00**	**$ -**	**$ -**

DIRECT OTHER EXPENSES ARE SAME AS VENDOR

D. Transition Costs Related to Bringing Services In-House

	Item Description	Projected Year 1	Projected Year 2	Projected Year 3
1.	Contract Related Costs			
2.	Other Transition Costs			
	Total:	**$ -**	**$ -**	**$ -**

E. Agency and Central Agency Overhead

	Category	Projected Year 1	Projected Year 2	Projected Year 3
1	Indirect Cost Rate (%)	31.12%	31.12%	31.12%
2.	Direct Costs, from Part A	$ 740,790.00	$ -	$ -
	Total:	**$ 230,533.85**	**$ -**	**$ -**

F. Total Costs

	Category	Projected Year 1	Projected Year 2	Projected Year 3
1.	**Total In-House Costs, with Indirect Costs**	**$ 1,474,242.85**	**$ -**	**$ -**
2.	**Total In-House Costs, without Indirect Costs**	**$ 1,243,709.01**	**$ -**	**$ -**

G. Additional Comments and Information:

	Form C-100: Summary and Comparison of Costs of Contacting Out and In-House Service Delivery			
	Category	Projected Year 1	Projected Year 2	Projected Year 3
1.	Total Costs Related to Contracting Out with Indirect Costs	$ 3,160,003.23	$ -	$ -
2.	Total Costs Related to Contracting Out without Indirect Costs	$ 2,993,962.47	$ -	$ -
3.	Total Costs In-House with Indirect Costs	$ 1,474,242.85	$ -	$ -
4.	Total Costs In-House without Indirect Costs	$ 1,243,709.01	$ -	$ -
5.	(Costs)/Savings with Contracting Out with Indirect Costs	$ (1,685,760.38)	$ -	$ -
6.	(Costs)/Savings with Contracting Out without Indirect Costs	$ (1,750,253.46)	$ -	$ -

Exhibit A

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546
Phone:
(860) 594-3136

January 24, 2019

Category II

Mr. Najib O. Habesch
BETA Group, Inc.
1010 Wethersfield Avenue, Suite 305
Hartford, CT 06114

Dear Mr. Habesch:

Subject: Task Order Traffic Engineering
State Project No: 172-477
CORE No. 18DOT0001AA

As a result of the telephone conversation on January 22, 2019, it is the Negotiations Committee's understanding that the lump sum fees for the subject project are as follows:

Preliminary Design	L.S.	$ 1,789,400
Semi-Final	L.S.	233,900
Final Design	L.S.	60,900
Direct Costs(Transportation)		50,000
Total		$ 2,134,200

If you concur with the fees as presented in this letter, please acknowledge by signing below and return by mail or email to DOT.Negotiations@ct.gov within two(2) days and we will proceed to process this assignment.

Please fill out the attached DBE Certification Form and return it with your concurrence.

All correspondence regarding negotiations is strictly confidential, therefore, your concurrence should be stamped confidential.

Accepted

Name NAJIB O. HABESCH

1/24/2019
Date

Very truly yours,

Terrence J. Obey
Chairman
Negotiations Committee

Catoonn 11 Exhibit B DBE?

01/11/19

PROJECT: DIST. 2 HORIZONTAL CURVES **PROJ.NO.** 172-477
LUMPSUM **FIRM:** . BETA GROUP FED $

ITEM	HOUR	PAYROLL	FEE	HOUR	PAYROLL	FEE	HOUR	PAYROLL	FEE	
							147.42W/O FCCM OT NDC		9.00%FF	147.42
PRELIMINARY		$ 39.78	2.72		39.78	2.70		$ 45.00	2.70	0.00
DESIGN	16,900	$ 672,229	$ 1,829,552	16,660		1,789,400	19,427	$ 874,215	$ 2,360,381	147.420
										0.09000889
SEMI-FINAL		$ 39.01	2.72		39.01	2.70		$ 45.00	2.70	269.6900
DESIGN	2,576	$ 100,486	$ 273,485	2,221		233,900	1,385	$ 62,325	$ 168,278	
FINAL		$ 38.22	2.72		38.22	2.70		$ 45.00	2.70	
DESIGN	980	$ 37,457	$ 101,944	590		60,900	121	$ 5,445	$ 14,702	
		$ 39.61						$ 45.00		
SUBTOTAL	20,456	$ 810,172	$ 2,204,981	19,471		2084,200	20,933	$ 941,985	$ 2,543,360	
DIRECT COSTS			$ 50,000			50,000				
GRAND TOTAL	20,456		$ 2,254,981	-		2,134,200	20,933		$ 2,543,360	

2225 Curves

CE 9.19

State 9.4

Exhibit B

	BETA		CERTIFIED RATES	PD HOURS	SF HOURS	FD HOURS	PD HOURS	PD HOURS	FD HOURS	F.D. HOURS	F.D. HOURS	BETA	0.0000% PD RATES	0.0000% FD RATES	0.0000% FD RATES	***TOTAL*** $1,687,589
1	PRINCIPAL	0%	$35.00									PRINCIPAL	$16.80	$16.80	$16.80	
2	PROJ. MNGR.	5%	$80.68	864	128	52						PROJ. MNGR.	$80.68	$80.68	$80.68	
3	SR. ENGR.	10%	$57.95	1,684	260	112						SR. ENGR.	$57.95	$57.95	$57.95	
4	SR. RES. REP./ENG.(FIELD. ENGR.)	12%	$57.10	2,420	0	0						SR. RES. REP./ENG.(FIELD	$57.10	$57.10	$57.10	
5	ENGR.	30%	$39.14	4,686	1,094	280						ENGR.	$39.14	$39.14	$39.14	
6	ENGR. DES.	19%	$29.50	2,170	1,094	536						ENGR. DES.	$29.50	$29.50	$29.50	
7	GIS ANALYST	13%	$30.85	2,656	0	0						GIS ANALYST	$30.85	$30.85	$30.85	
8	FIELD TECH.	12%	$15.45	2,420	0	0						FIELD TECH.	$15.45	$15.45	$15.45	
9		0%										0	$0.00	$0.00	$0.00	
10		0%										0	$0.00	$0.00	$0.00	
11		0%										0	$0.00	$0.00	$0.00	
12		0%										0	$0.00	$0.00	$0.00	
13		0%										0	$0.00	$0.00	$0.00	
14		0%										0	$0.00	$0.00	$0.00	
		100.00%														
		AVERAGE RATE		16,900	2,576	980	0	0	0	0	0		19,476	980	0	
				$39.78	$39.01	$38.22	$0.00	$0.00	$0.00	$0.00	$0.00		$772,715	$37,457	$0	
												208.30%	$1,609,566	$78,023	$0	$1,687,589

Exhibit C

Department of Administrative Services

Transportation Engineer 1 (Engineering) (40 Hour) (8847FS)

$29.97-$40.37 Hourly / $2,397.97-$3,229.58 BiWeekly /
$62,587.02-$84,292.04 Yearly

Notify Me when a Job Opens for the above position(s)

PURPOSE OF JOB CLASS (NATURE OF WORK)

In the Department of Transportation and the Connecticut Airport Authority, this class is accountable for performing less complex engineering and related tasks in maintenance, structural highway or related transportation design and traffic engineering, research, pavement management, plotting complex field notes, planning and route planning or project engineering.

SUPERVISION RECEIVED

Works under the general supervision of an engineer or an employee of higher grade in the performance of routine tasks; receives closer supervision when performing more advanced tasks.

SUPERVISION EXERCISED

May lead paraprofessional or clerical employees as assigned.

EXAMPLES OF DUTIES

Performs a limited range of related engineering duties; acts as a design engineer in the preparation of design plans, profiles, cross sections, and design details for highways, bridges, and other transportation facilities such as airports, train stations, bus terminals, and maintenance facilities; acts as project engineer for bridge or other structures; prepares maps, plans, profiles and cross sections; checks work by others; prepares cost estimates; prepares design plans and makes necessary engineering calculations for such structures as plate girder and beam bridges, concrete beam and slab bridges, masonry and concrete abutments, drainage culverts, small buildings, pipelines and highway segments and sections; leads technical personnel of lower grade; performs special engineering investigations; uses CADD system and other computer applications; prepares structural analyses of bridges and structures; serves as project engineer for traffic engineering design and special studies; analyzes highway accident reports to establish probable engineering causes; verifies such analyses by field surveys; investigates complaints regarding drainage or related matters; suggests design changes; serves as project engineer on specialized engineering staff activities such as hydraulics, drainage, bridge inspection, etc.; serves as project engineer in transportation planning or route planning activities; prepares less complex technical reports including supporting graphical and tabular data and charts; performs related duties as required.

KNOWLEDGE, SKILL AND ABILITY

Knowledge of principles and practices of more than one specialized field involved in transportation engineering such as bridge design, foundations, highway design, transportation facilities design, transportation planning, drainage or hydraulics, research, pavement design, pavement management and traffic; skill in preparation of engineering and administrative reports; skill in use of computer aided design and drafting (CADD) applications; interpersonal skills; oral and written communication skills; ability to identify engineering, highway, structural and pavement design, hydraulic and traffic problems and recommend solutions; ability to perform mathematical calculations; ability to interpret plans and specifications.

MINIMUM QUALIFICATIONS - GENERAL EXPERIENCE

A Bachelor's degree in Engineering and one (1) year of experience in transportation engineering or transportation construction engineering. For State employees, the one (1) year of experience must have been at the level of a Transportation Engineer Trainee.

MINIMUM QUALIFICATIONS - SUBSTITUTIONS ALLOWED

1. Possession of Professional Engineer (PE) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.

2. Possession of Engineer-In-Training (EIT) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.

PROMOTION

After completion of two (2) years of successful and satisfactory performance as a Transportation Engineer 1 (Engineering), an incumbent will be promoted by reclassification to Transportation Engineer 2 (Engineering).

Exhibit C

SPECIAL REQUIREMENTS

1. Incumbents in this class may be required to possess and retain a valid Motor Vehicle Operator's license.
2. Incumbents in this class may be required to travel.

WORKING CONDITIONS

Incumbents in this class may be exposed to some danger of injury or physical harm from highway or construction environments and a moderate degree of discomfort from exposure to year round weather conditions.

JOB CLASS DESIGNATION

Classified/Non-Examined

OCCUPATIONAL GROUP

(11)-Engineering

BARGAINING UNIT

(15)-ENG, SCIEN, TECH P-4

EEO

(2)-Professional

SALARY INFORMATION

Incumbents entering this class shall be placed in Salary Group FS 21, step 4.

CANCELLATION CLAUSE

This replaces the existing specification for the class of Transportation Engineer 1 (Engineering) in Salary Group FS 21 approved effective February 3, 2017. (Revised to modify Minimum Qualifications and Promotion sections)

EFFECTIVE DATE

7/31/2017

CLASS: 8847FS; **EST:** 6/29/1933; **REV:** 3/10/2018;

Exhibit C

Department of Administrative Services

Transportation Engineer 3 (Engineering) (40 Hour) (9108FE)

$39.05-$55.98 Hourly / $3,123.80-$4,478.66 BiWeekly /
$81,531.18-$116,893.03 Yearly

Notify Me when a Job Opens for the above position(s)

PURPOSE OF JOB CLASS (NATURE OF WORK)

In the Department of Transportation and the Connecticut Airport Authority this class is accountable for acting as a working lead who assists a supervisor in supervising a designated group of employees and/or for performing the most complex engineering or related tasks in one or more aspects of engineering projects or studies in the areas of administration, bridge design, design, drainage, electrical, foundations, hydraulics, maintenance, operations, pavement management, regulation compliance, rehabilitation, research, traffic or utilities.

GUIDELINES FOR JOB CLASS USE

WORKING LEAD LEVEL: Incumbents in this class report to a supervisory class and normally are assigned full time working lead responsibility for a minimum of two other employees while performing unit work activities. For supervisory type duties performed by a working lead the final approval/"sign-off" authority is vested in the supervisory level employee to whom the incumbent reports.
ADVANCED WORKING LEVEL: Incumbents in this class perform work that must clearly exceed the norm and include a concentration of highly advanced functions within assigned disciplines. Class use is on a limited or exceptional basis.

SUPERVISION RECEIVED

Works under the general direction of an employee of higher grade.

SUPERVISION EXERCISED

Leads engineers, technical and clerical employees of lower grade as assigned.

EXAMPLES OF DUTIES

Oversees work of lower level engineers and performs complex design work; designs difficult foundations and bridges of advanced design; makes field inspection of bridge sites to obtain information necessary for design of important structures; oversees field inspection of structural condition of existing structures and preparation of sketches, plans and recommendations for adequate repair; acts as liaison between towns and state as consulting engineer in repair of bridges; oversees and conducts research on materials incorporated in bridges, highways, and miscellaneous structures and maintenance and construction methods in field; oversees state and consultant engineers in review of storm sewer and culvert designs and computations prepared by Design division and contracting engineers for watersheds of 650 acres and less; provides technical advice to Design division and District Engineers on pollution control measures and unusual storm sewer and culvert designs; prepares computations for storm sewer and culvert designs; attends field reviews on all new designs for highway projects; recommends revisions to improve drainage design; oversees laboratory work on soil samples for determination of void ratio, water content, specific gravity, grain size distribution, plasticity limits, permeability, optimum moisture content, confined and unconfined compressive strength, direct shear and consolidation; prepares detailed geotechnical reports and recommendations; oversees analyses, computations, preparation of plans and data relating to hydraulic problems encountered in planning and design of highways; performs hydrographic analysis and flood routing for retention basin designs; serves as expert witness in court cases; reviews drainage design on major permit applications for shopping centers and housing developments; assists in preparation and updating of Drainage Manual; oversees engineers, electricians and technicians in design or maintenance of extensive highway lighting, traffic light installations and computerized traffic control systems; performs complex work in preparation of plans, specifications and estimated cost of electrical contracts and work; oversees inspection of electrical construction and maintenance work and preparation of monthly and final estimates; coordinates preliminary surveys and planning of engineering requirements for construction and maintenance of electrical installations with state utilities; assists in coordination of work of design engineers with consulting engineers in preparation of plans to determine contract documents; recommends need for test, alterations, revision of replacement of equipment associated with highway lighting, traffic lights, drawbridges, and highway buildings; acts as consultant to district forces and other state agencies; oversees consultant engineers in the preparation of plans, specifications, and estimates of bridges and structural improvement, construction and reconstruction of highways and construction or reconstruction of transportation facilities; recommends treatment of alignment, grade, surface and drainage features; makes project reports and analyzes comparative routes for economy, feasibility and utility; oversees activities of engineers and technical assistants engaged in review and processing of major traffic generator studies, highway traffic engineering investigations, surveys, design and research; reviews reports from investigators and subordinates; prepares final reports and recommendations applying to traffic signs, signals, markings, control devices, illumination, channelization, detour and route designations; represents department in state, town, public meetings; oversees and reviews plans, specifications and cost estimates for adjustment of relocation of public utilities in conflict with design and layout of construction for purpose of establishing their engineering adequacy; determines extent to which state shall reimburse utility companies for costs incurred; prepares and reviews agreements governing terms involved; represents state in negotiations with Federal Highway Administration for reimbursement of funds to state; confers with consulting, engineers, corporate, municipal planners, departmental personnel and others involved in coordinating utility adjustments with highway reconstruction work; advises departmental auditors on acceptability of credits offered or claims for payment made; conducts field and office investigations of engineering, technical or other problems and prepares reports for higher level employees; analyzes problems and recommends effective solutions; assists in establishment of policy, procedures and methods; represents department in legislative matters; assists in development and review of department contracts; performs related duties as required.

WORKING LEAD LEVEL: As assigned by the supervisor distributes, prioritizes, oversees and reviews unit work; provides staff training and assistance; conducts or assists in conducting performance evaluations; acts as liaison with operating units, agencies, consultant staffs and other outside officials regarding unit policies and procedures; recommends policies and standards; prepares reports and correspondence; performs related duties as required.

Exhibit C

KNOWLEDGE, SKILL AND ABILITY

Considerable knowledge of principles and practices involved in transportation engineering such as bridge design, foundations, highway design, transportation facilities design, transportation planning, maintenance, drainage or hydraulics, research, pavement design, pavement management and traffic; knowledge of administrative and financial controls with respect to transportation engineering plans, contracts, projects and reports; considerable knowledge of operational methodologies and established policies; considerable analytical, problem solving and technical report development skills; considerable interpersonal skills; considerable oral and written communication skills; considerable ability to interpret and apply principles of information systems and technologies; ability to analyze plans and estimates; some supervisory ability.

MINIMUM QUALIFICATIONS - GENERAL EXPERIENCE

A Bachelor's degree in Engineering and three (3) years of experience in transportation engineering.

MINIMUM QUALIFICATIONS - SPECIAL EXPERIENCE

One (1) year of the General Experience must have been at the working level in a professional transportation engineering capacity. For state employees this is interpreted at the level of Transportation Engineer 2 (ENGINEERING).

MINIMUM QUALIFICATIONS - SUBSTITUTIONS ALLOWED

1. Possession of Professional Engineer (PE) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.
2. Possession of Engineer-In-Training (EIT) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302 may be substituted for the Bachelor's degree requirement.
3. A Master's degree in engineering may be substituted for one (1) year of the General Experience.
4. Current incumbents in the class of Transportation Engineer 2 (ENGINEERING) who do not possess the degree or certification/licensure qualifications as detailed on this class specification may be considered for promotion to Transportation Engineer 3 (ENGINEERING) upon having three (3) years of experience in transportation engineering. One (1) of the three (3) years' must have been as a Transportation Engineer 2 (ENGINEERING).

SPECIAL REQUIREMENTS

1. Incumbents in this class may be required to possess and retain a valid Motor Vehicle Operator's license.
2. Incumbents may be required to travel.

WORKING CONDITIONS

Incumbents in this class may be exposed to some danger of injury or physical harm from highway or construction environments and a moderate degree of discomfort from exposure to year round weather conditions.

COMPENSATION GUIDELINES

1. The classifications of Transportation Engineer 3 (CONSTRUCTION ENGINEERING) and (ENGINEERING) are assigned to Salary Group FS 27a.
2. Employees shall proceed through that salary group and then shall proceed to the maximum salary of Salary Group FS 28.
3. These Job Codes are identified with salary plan FE in CORE-CT.

JOB CLASS DESIGNATION

Classified/Non-Examined

OCCUPATIONAL GROUP

(11)-Engineering

BARGAINING UNIT

(15)-ENG, SCIEN, TECH P-4

EEO

(2)-Professional

SALARY INFORMATION

FE 27

Exhibit C

CANCELLATION CLAUSE

This replaces the existing specification for the class of Transportation Engineer 3 (Construction Engineering) (Engineering) in Salary Group FE 27a approved effective July 10, 2015. (Revised to change Service Status to Non-Examined)

EFFECTIVE DATE

2/3/2017

CLASS: 9108FE; **EST:** 1/16/1949; **REV:** 2/3/2017;

Exhibit C

Department of Administrative Services

Transportation Supervising Engineer (Engineering) (40 Hour) (9164FE)

$43.08-$61.87 Hourly / $3,446.17-$4,949.70 BiWeekly /
$89,945.04-$129,187.17 Yearly

Notify Me when a Job Opens for the above position(s)

PURPOSE OF JOB CLASS (NATURE OF WORK)

In the Department of Transportation and Connecticut Airport Authority this class is accountable for supervising engineers and other staff engaged in engineering and/or related tasks in one or more aspects of transportation engineering projects or studies in the areas of administration, bridge design, design, drainage, electrical, foundations, hydraulics, maintenance, operations, pavement management, regulation compliance, rehabilitation, research, traffic or utilities.

GUIDELINES FOR JOB CLASS USE

Incumbents shall perform in a supervisory capacity providing technical supervision over transportation engineering projects or studies, with specialization in a specific area of engineering as dictated by assigned Engineering parenthetical.

Two (2) positions may be used to serve as the Primary Assistant to the Chief Engineer or to oversee the Department's Consultant Selection process.

SUPERVISION RECEIVED

Receives general direction from an employee of higher grade.

SUPERVISION EXERCISED

Supervises engineers, technical and clerical employees of lower grade as assigned.

EXAMPLES OF DUTIES

Supervises work of engineers, technicians and other technical and/or clerical personnel in any one of several organizationally specialized engineering operations, railroad or airport sections; reviews detailed plans, specifications or studies of complex engineering problems related to areas such as highway, bridge, facility or geometric design, traffic engineering, computer applications, electrical engineering, highway operations, geo-technical engineering, hydraulics and drainage, utilities, contract and project development, environmental compliance, railroad engineering or airport engineering; supervises research into development of improved materials or products and testing methods; supervises field and office research projects on engineering and technical problems; supervises research on economic, financial and administrative aspects of pavement management, highway construction and maintenance, design of highways and bridges with reference to materials to be used and in pavement work correction, resurfacing and winter maintenance techniques; coordinates design related elements of construction projects; prepares special reports, cost estimates, standards and specifications and fee schedules for consultant engineers, surveyors or contractors; reviews progress reports; schedules, assigns, oversees and reviews work of staff; provides staff training and assistance; conducts performance evaluations; determines priorities and plans section work; establishes and maintains section procedures; develops or makes recommendations on policies and standards; acts as liaison with other operating sections, agencies and outside officials; prepares reports, recommendations and correspondence; conducts analytical studies of engineering costs incurred to determine amounts reimbursable under federal aid and amounts due public utilities under state and federal policies; prepares comprehensive reports on fiscal matters relating to departmental engineering operations; directs concurrent billing programs for department; acts as an assistant in performing highly specialized administrative or engineering studies; supervises or provides highly technical assistance in conducting studies or establishing policy, procedures or methods; supervises field or office functions for location, boundary, construction surveying and design projects; supervises preparation of comprehensive technical reports and related correspondence; makes oral presentations at public hearings or meetings; reviews work of consultants (engineers, designers, etc.); acts as the Primary Assistant to the Chief Engineer in performing special projects and overseeing Bureau activities; oversees the Department's Consultant Selection Panel process; serves as a member of departmental committee assisting in preparation and/or revision of standard specifications; performs related duties as required.

KNOWLEDGE, SKILL AND ABILITY

Considerable knowledge of principles and practices involved in transportation engineering such as bridge design, foundations, highway design, transportation facilities design, transportation planning, drainage or hydraulics, research, pavement design, pavement management, traffic and utilities; considerable knowledge of administrative and financial controls with respect to transportation engineering plans, contracts, projects and reports; considerable knowledge of relevant agency policies and procedures; considerable knowledge of relevant state and federal laws, statutes and regulations; considerable knowledge of departmental operational methodologies; considerable knowledge of latest engineering principles, techniques and procedures employed in engineering field; considerable ability to analyze and review engineering reports, plans and specifications; considerable ability to interpret and apply principles of information systems and technologies; considerable interpersonal skills; considerable oral and written communication skills; supervisory ability.

MINIMUM QUALIFICATIONS - GENERAL EXPERIENCE

Eight (8) years of experience in transportation engineering.

Exhibit C

MINIMUM QUALIFICATIONS - SPECIAL EXPERIENCE

One (1) year of the General Experience must have been as an engineer with lead responsibility for complex transportation engineering projects in bridge design, drainage, electrical, foundations, traffic, facilities design, highway design, research, utilities or hydraulics. For state employees this is interpreted at the level of Transportation Engineer 3 (ENGINEERING).

SPECIAL REQUIREMENTS

1. Incumbents must possess Professional Engineer (PE) licensure from the Department of Consumer Protection State Board of Examiners for Professional Engineers and Land Surveyors consistent with C.G.S.§20-302.
2. Incumbents in this class may be required to possess and retain a valid Motor Vehicle Operator's license.
3. Incumbents in this class may be required to travel.

COMPENSATION GUIDELINES

1. The classification of Transportation Supervising Engineer (ENGINEERING) is assigned to Salary Group FS 30a.
2. Employees shall proceed through that salary group and then shall proceed to the maximum salary of Salary Group FS 31.
3. These Job Codes are identified with salary plan FE in CORE-CT.

JOB CLASS DESIGNATION

Classified/Non-Examined

OCCUPATIONAL GROUP

(11)-Engineering

BARGAINING UNIT

(15)-ENG, SCIEN, TECH P-4

EEO

(2)-Professional

SALARY INFORMATION

FE 30

CANCELLATION CLAUSE

This replaces the existing specification for the class of Transportation Supervising Engineer (Construction Engineering) (Engineering) in Salary Group ES 30a approved effective June 14, 2013. (Revised to modify content)

EFFECTIVE DATE

7/10/2015

CLASS: 9164FE; **EST:** 11/20/1940; **REV:** 7/10/2015;

Exhibit D

P-4 FS 40-Hours Salary Plan Effective 07/01/2015

Plan	Group	Period	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
FS	17	Annual	$51,493.00	$53,283.00	$55,077.00	$56,861.00	$58,651.00	$60,433.00	$62,222.00	$63,777.00	$65,379.00	$67,011.00	$68,686.00	$70,402.00
		Bi-Wk	$1,972.92	$2,041.50	$2,110.23	$2,178.59	$2,247.17	$2,315.45	$2,383.99	$2,443.57	$2,504.95	$2,567.48	$2,631.65	$2,697.40
		Daily	$197.30	$204.15	$211.03	$217.86	$224.72	$231.55	$238.40	$244.36	$250.50	$256.75	$263.17	$269.74
		Hourly	$24.67	$25.52	$26.38	$27.24	$28.09	$28.95	$29.80	$30.55	$31.32	$32.10	$32.90	$33.72
FS	18	Annual	$54,091.00	$55,928.00	$57,760.00	$59,597.00	$61,421.00	$63,254.00	$65,084.00	$66,717.00	$68,382.00	$70,093.00	$71,843.00	$73,641.00
		Bi-Wk	$2,072.46	$2,142.84	$2,213.03	$2,283.41	$2,353.30	$2,423.53	$2,493.64	$2,556.21	$2,620.00	$2,685.56	$2,752.61	$2,821.50
		Daily	$207.25	$214.29	$221.31	$228.35	$235.33	$242.36	$249.37	$255.63	$262.00	$268.56	$275.27	$282.15
		Hourly	$25.91	$26.79	$27.67	$28.55	$29.42	$30.30	$31.18	$31.96	$32.75	$33.57	$34.41	$35.27
FS	19	Annual	$56,755.00	$58,651.00	$60,533.00	$62,424.00	$64,304.00	$66,189.00	$68,073.00	$69,775.00	$71,520.00	$73,306.00	$75,138.00	$77,019.00
		Bi-Wk	$2,174.53	$2,247.17	$2,319.28	$2,391.73	$2,463.76	$2,535.98	$2,608.17	$2,673.38	$2,740.23	$2,808.66	$2,878.86	$2,950.92
		Daily	$217.46	$224.72	$231.93	$239.18	$246.38	$253.60	$260.82	$267.34	$274.03	$280.87	$287.89	$295.10
		Hourly	$27.19	$28.09	$29.00	$29.90	$30.80	$31.70	$32.61	$33.42	$34.26	$35.11	$35.99	$36.89
FS	20	Annual	$59,650.00	$61,581.00	$63,511.00	$65,439.00	$67,368.00	$69,297.00	$71,228.00	$73,013.00	$74,843.00	$76,711.00	$78,628.00	$80,596.00
		Bi-Wk	$2,285.45	$2,359.43	$2,433.38	$2,507.25	$2,581.15	$2,655.06	$2,729.05	$2,797.44	$2,867.55	$2,939.12	$3,012.57	$3,087.97
		Daily	$228.55	$235.95	$243.34	$250.73	$258.12	$265.51	$272.91	$279.75	$286.76	$293.92	$301.26	$308.80
		Hourly	$28.57	$29.50	$30.42	$31.35	$32.27	$33.19	$34.12	$34.97	$35.85	$36.74	$37.66	$38.60
FS	21	Annual	$62,587.00	$64,578.00	$66,558.00	$68,541.00	$70,532.00	$72,511.00	$74,503.00	$76,367.00	$78,270.00	$80,227.00	$82,234.00	$84,292.00
		Bi-Wk	$2,397.97	$2,474.26	$2,550.12	$2,626.10	$2,702.38	$2,778.20	$2,854.53	$2,925.94	$2,998.86	$3,073.84	$3,150.73	$3,229.58
		Daily	$239.80	$247.43	$255.02	$262.61	$270.24	$277.82	$285.46	$292.60	$299.89	$307.39	$315.08	$322.96
		Hourly	$29.98	$30.93	$31.88	$32.83	$33.78	$34.73	$35.69	$36.58	$37.49	$38.43	$39.39	$40.37
FS	22	Annual	$64,304.00	$66,656.00	$69,018.00	$71,368.00	$73,727.00	$76,081.00	$78,436.00	$80,394.00	$82,414.00	$84,472.00	$86,585.00	$88,750.00
		Bi-Wk	$2,463.76	$2,553.87	$2,644.37	$2,734.41	$2,824.79	$2,914.99	$3,005.22	$3,080.23	$3,157.63	$3,236.48	$3,317.44	$3,400.39
		Daily	$246.38	$255.39	$264.44	$273.45	$282.48	$291.50	$300.53	$308.03	$315.77	$323.65	$331.75	$340.04
		Hourly	$30.80	$31.93	$33.06	$34.19	$35.31	$36.44	$37.57	$38.51	$39.48	$40.46	$41.47	$42.51

TE1

*In accordance with Article 19 Section Five of the P-4 Collective Bargaining Agreement: "Employees in a classification assigned to a salary group sub-category designated by the letter "a" shall proceed through that salary group and then shall proceed to the maximum salary of the next salary group."

Exhibit D

P-4 FS 40-Hours Salary Plan Effective 07/01/2015

Plan	Group	Period	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
FS	23	Annual	$67,346.00	$69,802.00	$72,251.00	$74,712.00	$77,163.00	$79,619.00	$82,073.00	$84,126.00	$86,226.00	$88,382.00	$90,596.00	$92,859.00
		Bi-Wk	$2,580.31	$2,674.41	$2,768.24	$2,862.53	$2,956.44	$3,050.54	$3,144.56	$3,223.22	$3,303.68	$3,386.29	$3,471.12	$3,557.82
		Daily	$258.04	$267.45	$276.83	$286.26	$295.65	$305.06	$314.46	$322.33	$330.37	$338.63	$347.12	$355.79
		Hourly	$32.26	$33.44	$34.61	$35.79	$36.96	$38.14	$39.31	$40.30	$41.30	$42.33	$43.39	$44.48
FS	24	Annual	$70,584.00	$73,144.00	$75,701.00	$78,264.00	$80,818.00	$83,372.00	$85,938.00	$88,081.00	$90,289.00	$92,540.00	$94,853.00	$97,227.00
		Bi-Wk	$2,704.37	$2,802.46	$2,900.43	$2,998.63	$3,096.48	$3,194.33	$3,292.65	$3,374.76	$3,459.35	$3,545.60	$3,634.22	$3,725.18
		Daily	$270.44	$280.25	$290.05	$299.87	$309.65	$319.44	$329.27	$337.48	$345.94	$354.56	$363.43	$372.52
		Hourly	$33.81	$35.04	$36.26	$37.49	$38.71	$39.93	$41.16	$42.19	$43.25	$44.32	$45.43	$46.57
FS	25	Annual	$74,036.00	$76,690.00	$79,332.00	$81,984.00	$84,647.00	$87,299.00	$89,945.00	$92,193.00	$94,502.00	$96,868.00	$99,290.00	$101,772.00
		Bi-Wk	$2,836.63	$2,938.32	$3,039.55	$3,141.15	$3,243.19	$3,344.79	$3,446.17	$3,532.30	$3,620.77	$3,711.42	$3,804.22	$3,899.32
		Daily	$283.67	$293.84	$303.96	$314.12	$324.32	$334.48	$344.62	$353.23	$362.08	$371.15	$380.43	$389.94
		Hourly	$35.46	$36.73	$38.00	$39.27	$40.54	$41.81	$43.08	$44.16	$45.26	$46.40	$47.56	$48.75
FS	26	Annual	$77,682.00	$80,430.00	$83,188.00	$85,938.00	$88,683.00	$91,436.00	$94,179.00	$96,536.00	$98,950.00	$101,425.00	$103,959.00	$106,557.00
		Bi-Wk	$2,976.33	$3,081.61	$3,187.28	$3,292.65	$3,397.82	$3,503.30	$3,608.40	$3,698.70	$3,791.19	$3,886.02	$3,983.11	$4,082.65
		Daily	$297.64	$308.17	$318.73	$329.27	$339.79	$350.33	$360.84	$369.87	$379.12	$388.61	$398.32	$408.27
		Hourly	$37.21	$38.53	$39.85	$41.16	$42.48	$43.80	$45.11	$46.24	$47.39	$48.58	$49.79	$51.04
FS	27	Annual	$81,531.00	$84,383.00	$87,232.00	$90,068.00	$92,917.00	$95,763.00	$98,613.00	$101,082.00	$103,607.00	$106,197.00	$108,852.00	$111,574.00
		Bi-Wk	$3,123.80	$3,233.07	$3,342.23	$3,450.89	$3,560.04	$3,669.09	$3,778.28	$3,872.88	$3,969.62	$4,068.86	$4,170.58	$4,274.87
		Daily	$312.38	$323.31	$334.23	$345.09	$356.01	$366.91	$377.83	$387.29	$396.97	$406.89	$417.06	$427.49
		Hourly	$39.05	$40.42	$41.78	$43.14	$44.51	$45.87	$47.23	$48.42	$49.63	$50.87	$52.14	$53.44
FS	28	Annual	$85,653.00	$88,597.00	$91,545.00	$94,495.00	$97,430.00	$100,375.00	$103,321.00	$105,898.00	$108,543.00	$111,261.00	$114,041.00	$116,893.00
		Bi-Wk	$3,281.73	$3,394.53	$3,507.48	$3,620.50	$3,732.96	$3,845.79	$3,958.66	$4,057.40	$4,158.74	$4,262.88	$4,369.39	$4,478.66
		Daily	$328.18	$339.46	$350.75	$362.05	$373.30	$384.58	$395.87	$405.74	$415.88	$426.29	$436.94	$447.87
		Hourly	$41.03	$42.44	$43.85	$45.26	$46.67	$48.08	$49.49	$50.72	$51.99	$53.29	$54.62	$55.99

TE3

*In accordance with Article 19 Section Five of the P-4 Collective Bargaining Agreement: "Employees in a classification assigned to a salary group sub-category designated by the letter "a" shall proceed through that salary group and then shall proceed to the maximum salary of the next salary group."

Exhibit D

P-4 FS 40-Hours Salary Plan Effective 07/01/2015

Plan	Group	Period	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
FS	29	Annual	$86,475.00	$89,721.00	$92,965.00	$96,212.00	$99,455.00	$102,702.00	$105,943.00	$108,592.00	$111,311.00	$114,095.00	$116,946.00	$119,870.00
		Bi-Wk	$3,313.22	$3,437.59	$3,561.88	$3,686.29	$3,810.54	$3,934.95	$4,059.12	$4,160.62	$4,264.79	$4,371.46	$4,480.69	$4,592.73
		Daily	$331.33	$343.76	$356.19	$368.63	$381.06	$393.50	$405.92	$416.07	$426.48	$437.15	$448.07	$459.28
		Hourly	$41.42	$42.97	$44.53	$46.08	$47.64	$49.19	$50.74	$52.01	$53.31	$54.65	$56.01	$57.41
FS	30	Annual	$89,945.00	$93,285.00	$96,632.00	$99,962.00	$103,294.00	$106,638.00	$109,986.00	$112,733.00	$115,558.00	$118,444.00	$121,407.00	$124,441.00
		Bi-Wk	$3,446.17	$3,574.14	$3,702.38	$3,829.97	$3,957.63	$4,085.75	$4,214.03	$4,319.28	$4,427.51	$4,538.09	$4,651.61	$4,767.86
		Daily	$344.62	$357.42	$370.24	$383.00	$395.77	$408.58	$421.41	$431.93	$442.76	$453.81	$465.17	$476.79
		Hourly	$43.08	$44.68	$46.28	$47.88	$49.48	$51.08	$52.68	$54.00	$55.35	$56.73	$58.15	$59.60
FS	31	Annual	$93,555.00	$96,994.00	$100,435.00	$103,867.00	$107,307.00	$110,743.00	$114,183.00	$117,035.00	$119,963.00	$122,962.00	$126,035.00	$129,187.00
		Bi-Wk	$3,584.49	$3,716.25	$3,848.09	$3,979.58	$4,111.38	$4,243.03	$4,374.83	$4,484.10	$4,596.29	$4,711.19	$4,828.93	$4,949.70
		Daily	$358.45	$371.63	$384.81	$397.96	$411.14	$424.31	$437.49	$448.41	$459.63	$471.12	$482.90	$494.97
		Hourly	$44.81	$46.46	$48.11	$49.75	$51.40	$53.04	$54.69	$56.06	$57.46	$58.89	$60.37	$61.88
FS	32	Annual	$97,306.00	$100,835.00	$104,364.00	$107,901.00	$111,433.00	$114,968.00	$118,506.00	$121,470.00	$124,508.00	$127,621.00	$130,813.00	$134,084.00
		Bi-Wk	$3,728.20	$3,863.41	$3,998.63	$4,134.14	$4,269.47	$4,404.91	$4,540.46	$4,654.03	$4,770.43	$4,889.70	$5,012.00	$5,137.32
		Daily	$372.82	$386.35	$399.87	$413.42	$426.95	$440.50	$454.05	$465.41	$477.05	$488.97	$501.20	$513.74
		Hourly	$46.61	$48.30	$49.99	$51.68	$53.37	$55.07	$56.76	$58.18	$59.64	$61.13	$62.65	$64.22
FS	33	Annual	$101,222.00	$104,852.00	$108,482.00	$112,112.00	$115,747.00	$119,375.00	$123,015.00	$126,095.00	$129,241.00	$132,475.00	$135,785.00	$139,183.00
		Bi-Wk	$3,878.24	$4,017.32	$4,156.40	$4,295.48	$4,434.76	$4,573.76	$4,713.22	$4,831.23	$4,951.77	$5,075.68	$5,202.50	$5,332.69
		Daily	$387.83	$401.74	$415.64	$429.55	$443.48	$457.38	$471.33	$483.13	$495.18	$507.57	$520.25	$533.27
		Hourly	$48.48	$50.22	$51.96	$53.70	$55.44	$57.18	$58.92	$60.40	$61.90	$63.45	$65.04	$66.66
FS	34	Annual	$105,388.00	$109,119.00	$112,851.00	$116,582.00	$120,311.00	$124,043.00	$127,766.00	$130,963.00	$134,239.00	$137,591.00	$141,029.00	$144,556.00
		Bi-Wk	$4,037.86	$4,180.81	$4,323.80	$4,466.75	$4,609.62	$4,752.61	$4,895.25	$5,017.74	$5,143.26	$5,271.69	$5,403.41	$5,538.55
		Daily	$403.79	$418.09	$432.38	$446.68	$460.97	$475.27	$489.53	$501.78	$514.33	$527.17	$540.35	$553.86
		Hourly	$50.48	$52.27	$54.05	$55.84	$57.63	$59.41	$61.20	$62.73	$64.30	$65.90	$67.55	$69.24

*In accordance with Article 19 Section Five of the P-4 Collective Bargaining Agreement: "Employees in a classification assigned to a salary group sub-category designated by the letter "a" shall proceed through that salary group and then shall proceed to the maximum salary of the next salary group."

11 Engineering Consultant Design

CONSULTANT/VENDOR COSTS

Exhibit E.

Classification(s)	Hours	Present Certified Rate	0.00% Midpoint Hr. Rate (Inflation)	OT HalfTime	Total Labor	Total Direct Costs	Total Labor/Direct Costs
BETA Group, Inc. / 18DOT0001AA / DOT01720477PE / Preliminary Design							
Project Manager	852	$80.68	$80.68		$68,717.59		
Senior Engineer	1660	$57.95	$57.95		$96,201.94		
Senior Res. Rep. / Engineer (Field Engineer)	2386	$57.10	$57.10		$136,219.65		
Engineer	4619	$39.14	$39.14		$180,805.40		
Engineer Design	2139	$29.50	$29.50		$63,105.91		
GIS Analyst	2618	$30.85	$30.85		$80,773.99		
Field Tech.	2386	$15.45	$15.45		$36,858.03		
	0		$0.00		$0.00		
	0		$0.00		$0.00		
Payroll					$662,682.51		
BF&O	147.42%				$976,926.56		
FIXED FEE	9.00%				$147,564.82		
Labor Adjustment					$2,226.11		
Subtotal Labor					$1,789,400.00		
Direct Cost							
Semi-Final Design							
Project Manager	110	$80.68	$80.68		$8,903.86		
Senior Engineer	224	$57.95	$57.95		$12,990.61		
Senior Res. Rep. / Engineer (Field Engineer)	0	$57.10	$57.10		$0.00		
Engineer	943	$39.14	$39.14		$36,918.23		
Engineer Design	943	$29.50	$29.50		$27,825.44		
GIS Analyst	0	$30.85	$30.85		$0.00		
Field Tech.	0	$15.45	$15.45		$0.00		
			$0.00		$0.00		
			$0.00		$0.00		
Payroll					$86,638.14		
BF&O	147.42%				$127,721.95		
FIXED FEE	9.00%				$19,292.41		
Labor Adjustment					$247.50		
Subtotal Labor					$233,900.00		
Direct Cost							
Final Design							
Project Manager	31	$80.68	$80.68		$2,525.78		
Senior Engineer	67	$57.95	$57.95		$3,907.49		
Senior Res. Rep. / Engineer (Field Engineer)	0	$57.10	$57.10		$0.00		
Engineer	169	$39.14	$39.14		$6,597.89		
Engineer Design	323	$29.50	$29.50		$9,519.47		
GIS Analyst	0	$30.85	$30.85		$0.00		
Field Tech.	0	$15.45	$15.45		$0.00		
			$0.00		$0.00		
			$0.00		$0.00		
Payroll					$22,550.62		
BF&O	147.42%				$33,244.12		
FIXED FEE	9.00%				$5,021.53		
Labor Adjustment					$83.73		
Subtotal Labor					$60,900.00		
Direct Cost							
Total Hours/Payroll	*19471.00*				***$2,084,200.00***	***$50,000***	
Principal					$0.00		
TOTAL					$2,084,200.00	$50,000	$2,134,200
Labor Rounding					$2,084,200.00	$50,000.00	$2,134,200.00

Hours Tie into Consultant Hours see Exhibit B

Total Cost Brought Forward to OPM Spreadsheet.

	IN-HOUSE COSTS							
DOT Classification(s)	**Hours**	**Pay Plan**	**FY16 State Wage Table Rate**	**0.00% Vendor Midpoint Hr. Rate**	**OT HalfTime**	**Total Labor**	**Total Direct Costs**	**Total Labor/Direct Costs**
Reflects Consultant Hour Regular Pay - Preliminary Design			***(Midpoint)***					
TRANSPORTATION SUPERVISING ENGINEER (ENGINEERING)	852	FS-30	51.08	$51.08		$43,506		
TRANSPORTATION ENGINEER 3 (ENGINEERING)	1,660	FS-27	45.87	$45.87		$76,148		
TRANSPORTATION ENGINEER 3 (ENGINEERING)	2,386	FS-27	45.87	$45.87		$109,429		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	4,619	FS-21	34.73	$34.73		$160,434		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	2,139	FS-21	34.73	$34.73		$74,294		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	2,618	FS-21	34.73	$34.73		$90,933		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	2,386	FS-21	34.73	$34.73		$82,853		
Total						***$637,597***		
Reflects Semi-Final Design								
TRANSPORTATION SUPERVISING ENGINEER (ENGINEERING)	110	FS-30	51.08	$51.08		$5,637		
TRANSPORTATION ENGINEER 3 (ENGINEERING)	224	FS-27	45.87	$45.87		$10,283		
TRANSPORTATION ENGINEER 3 (ENGINEERING)	0	FS-27	45.87	$45.87		$0		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	943	FS-21	34.73	$34.73		$32,759		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	943	FS-21	34.73	$34.73		$32,759		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	0	FS-21	34.73	$34.73		$0		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	0	FS-21	34.73	$34.73		$0		
Total						***$81,437***		
Reflects Final Design								
TRANSPORTATION SUPERVISING ENGINEER (ENGINEERING)	31	FS-30	51.08	$51.08		$1,599		
TRANSPORTATION ENGINEER 3 (ENGINEERING)	67	FS-27	45.87	$45.87		$3,093		
TRANSPORTATION ENGINEER 3 (ENGINEERING)	0	FS-27	45.87	$45.87		$0		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	169	FS-21	34.73	$34.73		$5,854		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	323	FS-21	34.73	$34.73		$11,207		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	0	FS-21	34.73	$34.73		$0		
TRANSPORTATION ENGINEER 1 (ENGINEERING)	0	FS-21	34.73	$34.73		$0		
Total						***$21,754***		
PAYROLL/DIRECT COST						$740,788	$50,000	$790,787.57
Rounding						**$740,790**	**$50,000**	**$790,790.00**
TOTAL HRS/COSTS	***19,471***							***$790,790.00***

Exhibit F.

See Exhibits C, D for FY16 State Wage Table Rates.

DOT Comparable pay scales provided by Joseph Ouellette of Traffic Engineering

11) - Average Oversight Percentage - Recent	
Engineering Contracts	**Average Oversight Percentage**
Over $400,000	25%
$100,000 - $400,000	48%
Less than $ 100,000	115%

Exhibit H.

Used 25% Oversight, see Exhibit A.

Contract Value $2,134,200.00 x 25% = $533,550.00

Cost Evaluation - Average Oversight Percentage				
Project ID	**Oversight Expended**	**OutSide Consultant**	**Oversight Percentage**	**Stratified Oversight Percentage**
DOT03010092PE	346,614.79	1,365,535.52	25.38%	
DOT00150363PE	326,513.84	1,357,793.19	24.05%	
DOT03010157PE	315,586.83	943,913.14	33.43%	25.41%
DOT03010155PE	114,955.14	608,271.56	18.90%	
DOT01720417PE	101,923.30	402,829.71	25.30%	
DOT00960193PE	192,033.91	388,848.07	49.39%	
DOT01740370PE	100,267.12	371,028.73	27.02%	
DOT01730430PE	142,344.94	319,760.09	44.52%	
DOT01740363PE	175,960.54	285,436.33	61.65%	
DOT01040164PE	39,445.54	201,445.45	19.58%	
DOT01370155PE	56,572.55	199,785.62	28.32%	48.04%
DOT01650481PE	61,716.97	171,875.92	35.91%	
DOT00690078PE	73,317.55	133,373.88	54.97%	
DOT01070178PE	26,359.88	129,175.45	20.41%	
DOT00690077PE	106,865.19	129,034.82	82.82%	
DOT00070182PE	96,868.00	118,750.58	81.57%	
DOT01310197PE	77,051.22	109,612.08	70.29%	
DOT01560170PE	48,703.70	42,156.75	115.53%	115.53%

Expenditures to Account 51210 - Engineering/Architectural Services			licates amount has been verified		
Category	**Source Type**	**Description**	**FY 2016**	**FY 2017**	**FY 2018**
Engineering	R8414	ARCHITECTURE & ENGINEERING FEE	$ 6,655,813.54	$ 1,266,207.27	$ 967,078.94
Engineering	RR111	CONSTRUCTION & INSPECTION - OUTSIDE	$ 279,247.18	$ 298,882.54	$ 448,638.05
Engineering	PE155	CONSULTANT/MUNICIPAL SERVICES	$ 77,155,375.99	$ 102,809,027.65	$ 82,705,253.19
Engineering	PE153	DESIGN AND ESTIMATES	$ 1,517,078.98	$ 1,085,271.36	$ 2,097,035.15
Engineering	PE154	ENVIRONMENTAL SERVICES	$ 1,821,884.78	$ 2,478,039.59	$ 1,992,246.20
Engineering	SP155	FEASIBILITY STUDY	$ 6,125,519.69	$ 5,214,217.40	$ 7,693,624.48
Engineering	RR408	FTA&FRA GRANTS - CONTRUCTION MGMT	SOURCE TYPE NOT USED	SOURCE TYPE NOT USED	SOURCE TYPE NOT USED
Engineering	PE403	FTA&FRA GRANTS - DESIGN CONSULTANT	$ 357,080.35	$ 105,326.31	$ 48,458.80
Engineering	IN111	CONSTRUCTION ENGINEERING & INSPECTION - OUTSIDE	$ 39,539,114.54	$ 33,684,266.92	$ 28,055,278.49
Engineering	IN126	SURVEY/ARCHAELOGICAL/COMM& OTHER	$ 1,212,552.86	$ 371,698.79	$ 383,232.25
Engineering Total			**$ 134,663,667.91**	**$ 147,312,937.83**	**$ 124,390,845.55**
Inspection	IN111	CONSTRUCTION ENGINEERING & INSPECTION - OUTSIDE	$ 58,477,851.74	$ 45,645,277.17	$ 37,302,592.12
Inspection	IN103	CONSTRUCTION INSPECTION	$ 713.06	$ 2,352.72	DeptID's selected had no charges.
Inspection Total			**$ 58,478,564.80**	**$ 45,647,629.89**	**$ 37,302,592.12**
Bridge Safety	PE155		$ 12,992,270.15	$ 13,258,329.10	$ 17,647,989.01
Bridge Safety Total			**$ 12,992,270.15**	**$ 13,258,329.10**	**$ 17,647,989.01**