

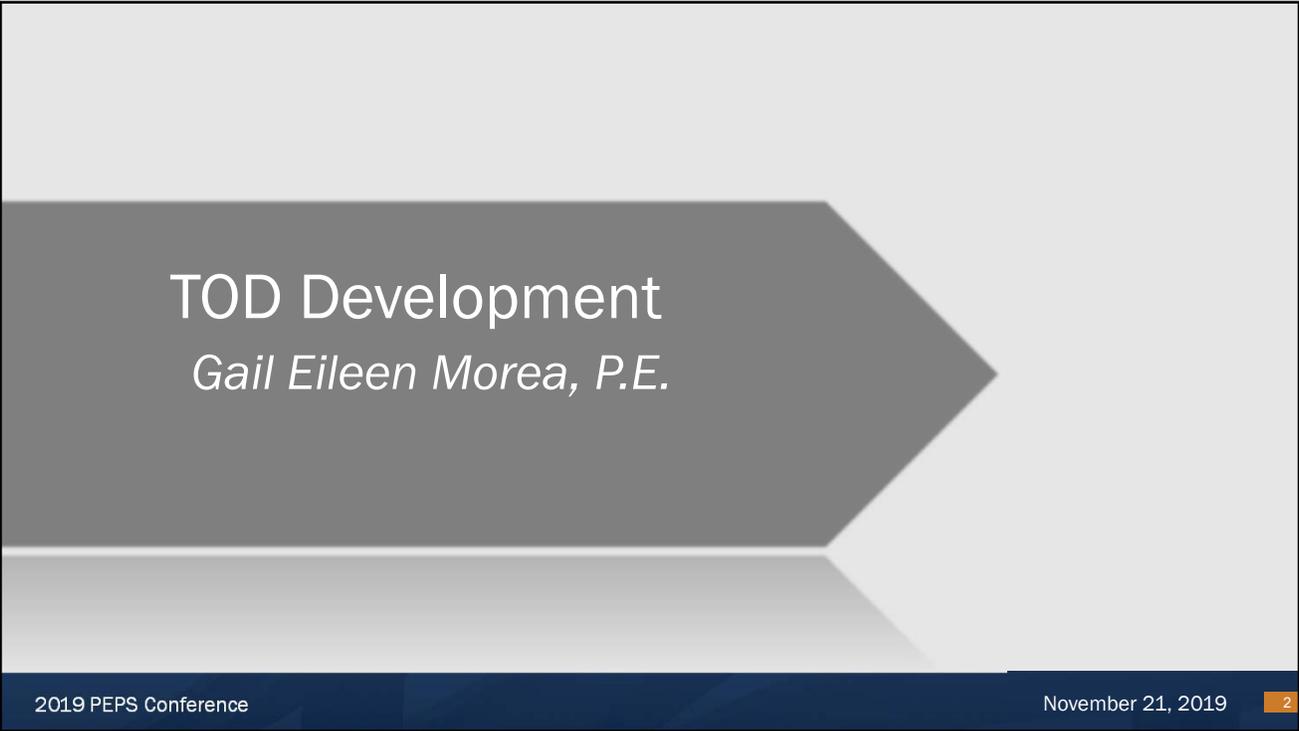


Lump Sum and the Table of Deliverables from An Agency and Consultant Perspective

2019 PEPS Conference

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November 21, 2019



TOD Development
Gail Eileen Morea, P.E.

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Presentation Topics



- 1 • The Dilemma
- 2 • Conditions to be Met to Select Lump Sum
- 3 • Functionality of the Table of Deliverables: Its Use and Development
- 4 • Typical Table of Deliverables Format
- 5 • Impact of Poorly Developed Table of Deliverables
- 6 • Lessons Learned and Future Recommendations for Improvement

The Dilemma...I Can't Get Paid Using My Table of Deliverables!

Oh no! My lump sum invoice was rejected. What should I do??



Develop an invoice-friendly Table of Deliverables.



But First...Conditions to be Met for Lump Sum as the Preferred Payment Method



Must be knowledgeable about the scope and its corresponding LOE

Tight and well defined scope of services with distinct deliverables identified by Function Code (FC)

Requires a Table of Deliverables (TOD) within the executed contract and/or work authorization

Loaded rates are used to develop the level of effort or Basis of Estimate

The TOD must align with the deliverables defined in the Scope, Work Schedule, and Fee Schedule (Level of effort)

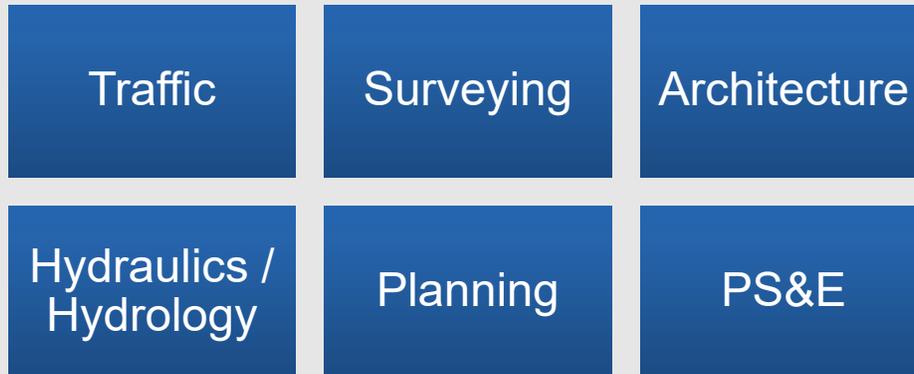
Payment and fiscal year considerations

- Predictable, well-defined scope of work MINIMIZES risk
- Consultant works more efficiently to finish project
- What are the controls?
- Actuals are not billed as there is a fixed cost to paid for completion of each deliverable
- **Reduces risk of paying for something you don't receive**
- Less of an administrative burden from an invoice perspective



- Development of an invoice friendly Table of Deliverables that produce a steady revenue stream tied to [deliverables is labor intensive but worth it!](#)
- Split out into multiple CSJs can create errors without proper quality control.

Viabile Disciplines for Lump Sum



What about Schematic and Environmental?

Table of Deliverables Functionality: Its Use and Development...

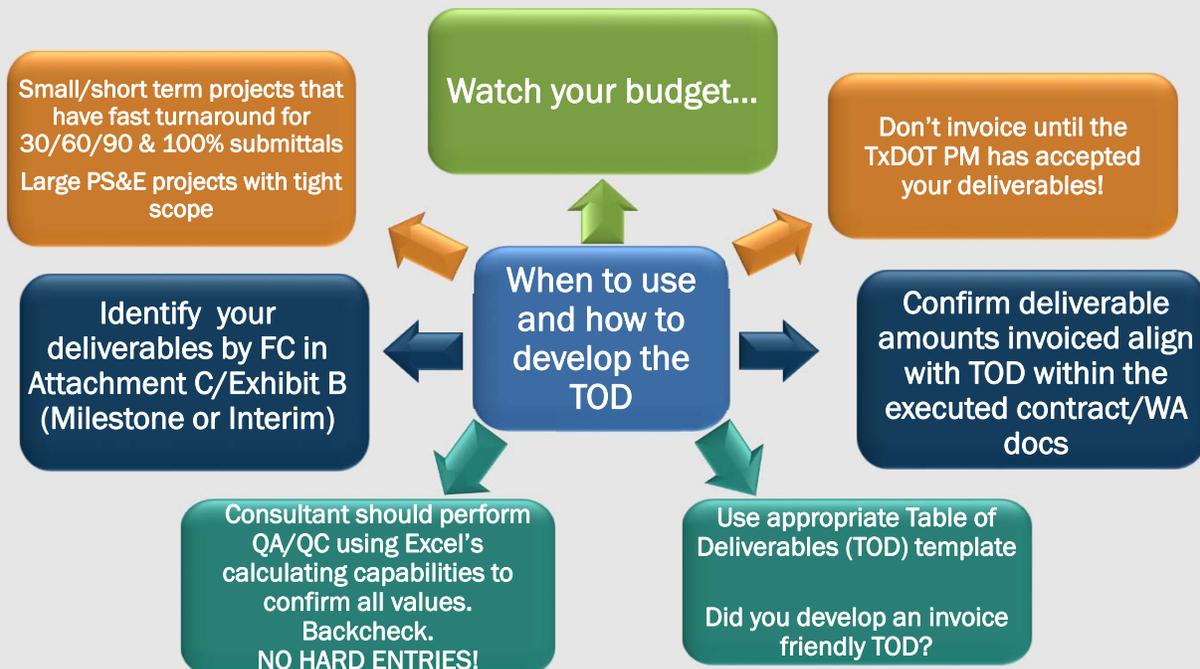


Table of Deliverables (TOD) Enables Both Parties to:

Identify deliverables by Function Code per the scope (Attachment C/Exhibit B), level of effort (Attachment E/Exhibit D and Work Schedule (Attachment F/Exhibit C).

Define interim tangible submittals to maintain reasonable invoice frequency subject to TxDOT PM's acceptance.

Establish the timing of the invoice

Back-up is provided thru written progress report

Example Table of Deliverables Summary Table ...

This is an example TOD, Use the TOD Template worksheet that is included with this workbook for your specific project and delete the instructions and this example.	Summary of Activities and Deliverable Items	Summary of Lump Sum Payments
	FC 102(110)	\$14,625.16
	FC 120(120)	\$1,985.98
	FC 130(130)	\$2,983.66
	FC 160(150)	\$103,879.84
	FC 160(160)	\$70,836.46
	FC 160(161)	\$83,283.50
	FC 160(162)	\$57,961.24
	FC 160(163)	\$125,230.04
	FC 145(145,164)	\$15,000.00
	FC 160(170)	\$66,000.00
		\$541,785.88

Back Check against Summary Page of Fee Schedule!

TxDOT Instructions						
<p>Payments will be made according to the following Table of Deliverables.</p> <p>Partial payments on Lump Sum are not allowed (i.e. partial payment on each line item is not allowed).</p> <p>Provider must complete the deliverable associated with the line item. (The percentage of work is only an indicator of the progress of work associated with the deliverable.)</p>			<p>Lump Sum payments are paid based upon receipt of the deliverables as indicated in this document.</p> <p>The deliverable for each line item shown must be completed before the lump sum amount can be paid. (For example: Reference line item #18. The provider cannot bill for that line item until the deliverable on that line item is completed as indicated.)</p> <p>This method will require tracking of paid line items based upon the TOD shown.</p>			
Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Estimated Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function
FC 102(110)	Preliminary Engineering	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	75.00%	\$10,968.87	\$10,968.87	75.00%
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	0.00%	\$0.00	\$0.00	0.00%
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	0.00%	\$0.00	\$0.00	0.00%
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	75.00%	\$77,909.88	\$77,909.88	75.00%
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	5.00%	\$3,541.82	\$3,541.82	5.00%
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	20.00%	\$16,656.70	\$16,656.70	20.00%
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	5.00%	\$2,898.06	\$2,898.06	5.00%
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	5.00%	\$6,261.50	\$6,261.50	5.00%
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	5.00%	\$750.00	\$750.00	5.00%
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	5.00%	\$3,300.00	\$3,300.00	5.00%
			Sub-Total	\$122,286.84	\$122,286.84	22.57%

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function
FC 102(110)	Progress Submittal	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	25.00%	\$3,656.29	\$14,625.16	100.00%
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	0.00%	\$0.00	\$0.00	0.00%
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	0.00%	\$0.00	\$0.00	0.00%
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	25.00%	\$25,969.96	\$103,879.84	100.00%
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	5.00%	\$3,541.82	\$7,083.65	10.00%
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	20.00%	\$16,656.70	\$33,313.40	40.00%
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	5.00%	\$2,898.06	\$5,796.12	10.00%
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	5.00%	\$6,261.50	\$12,523.00	10.00%
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	5.00%	\$750.00	\$1,500.00	10.00%
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	5.00%	\$3,300.00	\$6,600.00	10.00%
			Sub-Total	\$63,034.34	\$185,321.17	34.21%

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function
FC 102(110)	30% Submittal	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	0.00%	\$0.00	\$14,625.16	100.00%
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	75.00%	\$1,489.49	\$1,688.08	85.00%
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	75.00%	\$2,237.75	\$2,536.11	85.00%
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	0.00%	\$0.00	\$103,879.84	100.00%
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	75.00%	\$53,127.35	\$63,752.81	90.00%
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	20.00%	\$16,656.70	\$66,626.80	80.00%
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	5.00%	\$2,898.06	\$11,592.25	20.00%
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	5.00%	\$6,261.50	\$25,046.01	20.00%
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	5.00%	\$750.00	\$3,000.00	20.00%
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	5.00%	\$3,300.00	\$13,200.00	20.00%
			Sub-Total		\$86,720.84	\$305,947.06

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function
FC 102(110)	Final (100%) Submittal	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	0.00%	\$0.00	\$14,625.16	100.00%
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	0.00%	\$0.00	\$1,985.98	100.00%
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	0.00%	\$0.00	\$2,983.66	100.00%
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	0.00%	\$0.00	\$103,879.84	100.00%
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	0.00%	\$0.00	\$70,836.46	100.00%
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	0.00%	\$0.00	\$83,283.50	100.00%
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	2.00%	\$1,159.22	\$57,961.24	100.00%
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	2.00%	\$2,504.60	\$125,230.04	100.00%
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	2.00%	\$300.00	\$15,000.00	100.00%
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	2.00%	\$1,320.00	\$66,000.00	100.00%
		Final Submittal	Sub-Total		\$5,283.83	\$541,785.88

WHAT SHOULD I BACKCHECK?

Table of Deliverables' Invoice Portion...



- For Work Authorizations executed after October 2017 the TOD, both in the work authorization and invoice, should contain the green columns.
- Use that TOD in its native Excel format and complete when ready to submit an invoice for a particular deliverable
- Complete the applicable rows of task deliverables
 - Date of acceptance of deliverables-TxDOT PM
 - The firm's invoice number, date submitted for payment, and the amount.

Provider Instructions			
The provider shall include this document as an attachment to each Invoice Package:			
Invoice Detail for Lump Sum Payments			
Complete applicable detail information shown below. All deliverables completed and billed (by line item), according to the TOD should be shown.			
Highlight the current payable line items that correspond to the invoice package submitted.			
Date Deliverables Submitted to the TxDOT PM	Provider Invoice Number	Provider Invoice Date (date submitted for payment)	Total Amount Billed (per line item)
			\$0.00
			\$0.00
			\$0.00
			\$0.00
			\$0.00
			\$0.00
			\$0.00
			\$0.00
			\$0.00

Poorly Developed Table of Deliverables Summary-Part One.....



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Exhibit D - Fee Schedule/Budget
Method of Payment: Lump Sum

TABLE OF DELIVERABLES for Lump Sum Payment Method	
Summary of Activities and Deliverable Items	Summary of Lump Sum Payments
FC 102(110)	\$196,582.01
FC 120(120)	\$9,310.46
FC 130(130)	\$82,251.74
FC 160(150)	\$49,986.66
FC 160(160)	\$243,732.81
FC 160(161)	\$216,431.48
FC 160(162)	\$114,654.54
FC 160(163)	\$151,913.11
FC 145(145,164)	\$119,340.14
FC 160(170)	\$102,522.20
	\$1,286,734.10



Poorly Developed Table of Deliverables Summary-Part Two A...

Preliminary Engineering -First Submittal

TxDOT Instructions (Do Not Delete)				Provider Instructions (Do Not Delete)						
Payments will be made according to the following Table of Deliverables.		Lump Sum payments are paid based upon receipt of the deliverables as indicated in this document.		The provider shall include this document as an attachment to each Invoice Package:						
Partial payments on Lump Sum are not allowed (i.e. partial payment on each line item is not allowed).		The deliverable for each line item shown must be completed before the lump sum amount can be paid.		Invoice Detail for Lump Sum Payments						
Provider must complete the deliverable associated with the line item. (The percentage of work is only an indicator of the progress of work associated with the deliverable.)		This method will require tracking of paid line items shown.		Complete applicable detail information shown below. All deliverables completed and billed (by line item), according to the TOD should be shown.						
				Highlight the current payable line items that correspond to the invoice packages submitted.						
Function Codes	Deliverable Submittal	Summary of Activities and Deliverables	Percentage of Work for listed Deliverables	Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function	Date Deliverables Approved by TxDOT PM	Provider Invoice Number	Provider Invoice Date (date submitted for payment)	Total Amount Billed (per line item)
FC 102(110)	Preliminary Engineering	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC	25.00%	\$49,145.50	\$49,145.50	25.00%				\$0.00
FC 120(120)		Informal Meetings, EPIC, Env. Coordination	5.00%	\$465.52	\$465.52	5.00%				\$0.00
FC 130(130)		Existing ROW Evaluation, Utility Locations and Layout	10.00%	\$8,225.17	\$8,225.17	10.00%				\$0.00
FC 160(150)		Design Surveys, Horizontal and Vertical Control, DTM, Survey Data (ASCII Files), Field Notes	0.00%	\$0.00	\$0.00	0.00%				\$0.00
FC 160(160)		Geometric Design, Roadway Design, Typ. Sections, Cross Streets, Cut and Fill, Plan Prep	5.00%	\$12,186.64	\$12,186.64	5.00%				\$0.00
FC 160(161)		Hydrologic Studies, Storm Drains, Temp. Drainage Facilities, Drainage PS&E	15.00%	\$32,464.72	\$32,464.72	15.00%				\$0.00
FC 160(162)		Signing, Pavement Markings, Traffic Signals	5.00%	\$5,732.73	\$5,732.73	5.00%				\$0.00
FC 160(163)		TCP, SWPPP, Quantities, Contract Time Determination, SUE	5.00%	\$7,595.68	\$7,595.68	5.00%				\$0.00
FC 145(145, 164)		Progress Reports, Project Tracking, Sub-Consultant Coordinator	8.37%	\$9,988.77	\$9,988.77	8.37%				\$0.00
FC 160(170)		Bridge Layout, Summary, Details	10.00%	\$10,252.22	\$10,252.22	10.00%				\$0.00
Sub-Total				\$136,056.93	\$136,056.93	10.57%				\$0.00

REJECTED BY THE INVOICE CENTER AT THE TIME OF INVOICE SUBMITTAL

A poorly developed Table of Deliverables can impact the ability to invoice, depending on the issue



Action Needed to Correct? A Supplemental Agreement and/or Supplemental Work Authorization



Talk to PEPS! TxDOT and Consultant PMs discuss revisions to fix the issue and any impacted documents

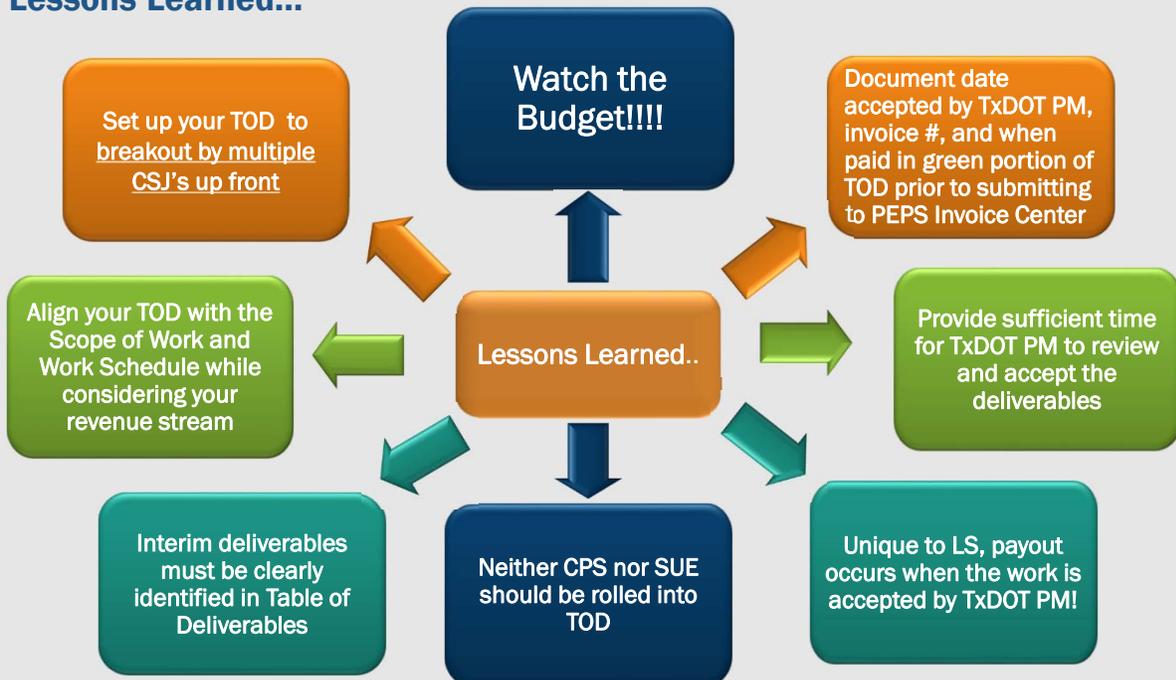
TxDOT PM submits an ICN to PEPS

Consultant prepares the necessary paperwork

TxDOT PM reviews and sends the documents PEPS for further processing.

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Lessons Learned...



Other Recommended Future Improvements



PEPS, with the assistance of the discipline subject matter experts, to develop discipline specific Table of Deliverable templates for state-wide use



TOD Development

Nancy Mitchell - LAN

Presentation Topics



1	Understanding the Table of Deliverables	
2	Table of Deliverables - Best Practices	
3	Table of Deliverables Benefits	
4	Lessons Learned	
5	Questions	

Understanding the Table of Deliverables



Know your TxDOT PM's Expectations

- What deliverables are required
- What proof of deliverable do they expect
- Obtain Checklists/SOP



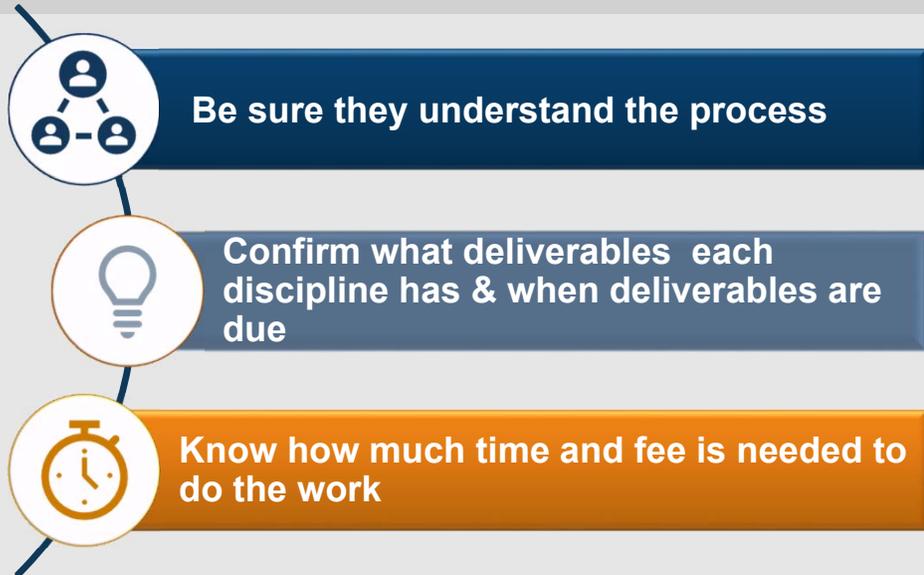
Put in the Level of Effort Up Front

- Worth the time to get it right
- Factors that complicate the TOD
 - Multi-discipline projects
 - Number of subs
 - Multiple CSJs

Understanding the Table of Deliverables



Coordinate with
Task Leads &
Subs



Development of the Table of Deliverables (TOD)- Best Practices



SCOPE



FEE &
SCHEDULE



TOD



INVOICE

TOD Best Practices – Scope



READ THE SCOPE

- Indefinite Deliverable contracts have boilerplate scopes
- OMIT items not included in the Work Authorization
- Be sure you and the TxDOT PM are on the same page

ADD DETAILS

- Be specific on the deliverables
- Include review cycles: drafts and final
- List meetings with client and team

TOD Best Practices – Fee & Schedule

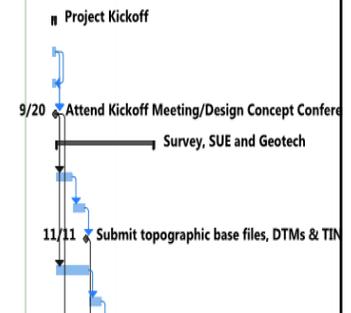
FEE & SCHEDULE

DEVELOP TOGETHER DURING NEGOTIATIONS

- Fee
 - Defines the tasks
 - Establishes overall fee per CSJ per Function Code
- Schedule
 - Sets timing of deliverables
 - Includes intermediate and milestone deliverables

TxDOT FUNCTION CODE	DESCRIPTION OF WORK TASK	Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	SR. Engr Tech	Engineer Tech	Admin/ Clerical	Total Labor Hours	Total Labor Cost per Task
110	ROUTE AND DESIGN STUDIES										
	A. Data Collection and Review Exhibit A Data	4	8	16						28	\$5,040.00
	B. Prepare Preliminary DSR	4	4	8		8				24	\$3,720.00
	C. Attend Kickoff Meeting/DCC	8	16	32	20		20			96	\$15,180.00
	Subtotal	16	28	56	20	8	20	0	0	148	\$23,940.00
	Subtotal Labor Cost	\$3,200.00	\$5,320.00	\$9,520.00	\$2,600.00	\$800.00	\$2,500.00	\$0.00	\$0.00		\$23,940.00

Notice to Proceed	0 days	Mon 9/16/19	Mon 9/16/19
Project Kickoff	5 days	Mon 9/16/19	Fri 9/20/19
Collect and Review Exhibit A Information	5 days	Mon 9/16/19	Fri 9/20/19
Prepare Preliminary DSR	5 days	Mon 9/16/19	Fri 9/20/19
Attend Kickoff Meeting/Design Concept Conference	0 days	Fri 9/20/19	Fri 9/20/19
Survey, SUE and Geotech	118 days	Mon 9/23/19	Wed 3/4/20
Obtain ROE, Order utility field locates, Perform field survey	20 days	Mon 9/23/19	Fri 10/18/19
Generate topographic base files	15 days	Mon 10/21/19	Fri 11/8/19
Submit topographic base files, DTMs & TINs	1 day	Mon 11/11/19	Mon 11/11/19
Collect existing utility record drawings	40 days	Mon 9/23/19	Fri 11/15/19
Develop utility base files	15 days	Mon 11/18/19	Fri 12/6/19



TOD Best Practices – TOD



DELIVERABLES

IDENTIFY DELIVERABLES FOR ALL DISCIPLINES

- Survey, Geotech, Environmental
- Traffic
- Drainage
- Bridge
- 30/60/90/100% Milestones

DISTRIBUTE FEE

DISTRIBUTE FEE ACROSS LIFESPAN OF PROJECT

- Establish deliverable per month as feasible
- Identify percentage of fee for each deliverable
- Accommodate review & comment time
- Include Project Close-out Deliverable

TOD Best Practices – TOD



MULTIPLE CSJs

DISTRIBUTING FEE ACROSS CSJs

- TOD is part of Exhibit D
- Link to actual fees in Exhibit D per CSJ
- Avoid formulas to distribute Total fee

Items	CSJ 1111-01-001	CSJ 1000-01-001	CSJ 1000-01-002	TOTAL
FC 102(110)	\$333.33	\$333.33	\$333.33	\$1,000.00
FC 120(120)	\$333.33	\$333.33	\$333.33	\$1,000.00
FC 130(130)	\$333.33	\$333.33	\$333.33	\$1,000.00
FC 160(150)	\$333.33	\$333.33	\$333.33	\$1,000.00
FC 160(160)	\$1,866.67	\$1,866.67	\$1,866.67	\$5,000.00
FC 160(161)	\$666.67	\$666.67	\$666.67	\$2,000.00
FC 160(162)	\$666.67	\$666.67	\$666.67	\$2,000.00
FC 160(163)	\$1,866.67	\$1,866.67	\$1,866.67	\$5,000.00
FC 145(145,164)	\$666.67	\$666.67	\$666.67	\$2,000.00
FC 160(170)	\$333.33	\$333.33	\$333.33	\$1,000.00
TOTAL	\$7,000.00	\$7,000.00	\$7,000.00	\$21,000.00

Adjustments (Do Not Delete)

Lump Sum payments are paid based upon receipt of the deliverables as indicated i

Estimated Percentage of Work by Function Code	CSJ 1111-01-001	CSJ 1000-01-001	CSJ 1000-01-002	Lump Sum Amount Payable for listed Deliverables
10.00%	\$33.33	\$33.33	\$33.33	\$100.00
	\$0.00	\$0.00	\$0.00	\$0.00
70.00%	\$233.33	\$233.33	\$233.33	\$700.00
55.00%	\$183.33	\$183.33	\$183.33	\$550.00
	\$0.00	\$0.00	\$0.00	\$0.00
10.00%	\$66.67	\$66.67	\$66.67	\$200.00
	\$0.00	\$0.00	\$0.00	\$0.00
1.50%	\$25.00	\$25.00	\$25.00	\$75.00
15.00%	\$100.00	\$100.00	\$100.00	\$300.00
	\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total	\$641.67	\$641.67	\$641.67	\$1,925.00

TOD Best Practices – TOD



QUALITY CONTROL

REVIEW THE ENTIRE EXHIBIT D INCLUDING TOD

- Conduct independent review
- Check formulas
- Check Links
- Use side calculations to verify formulas

PRINTING

GENERATE TEST PRINTS OF EXHIBIT D

- Check for numbers that don't print due to column width
- Verify data in Headers and Footers
- Don't expect PEPS coordinators to do QC

TOD Best Practices – Invoice

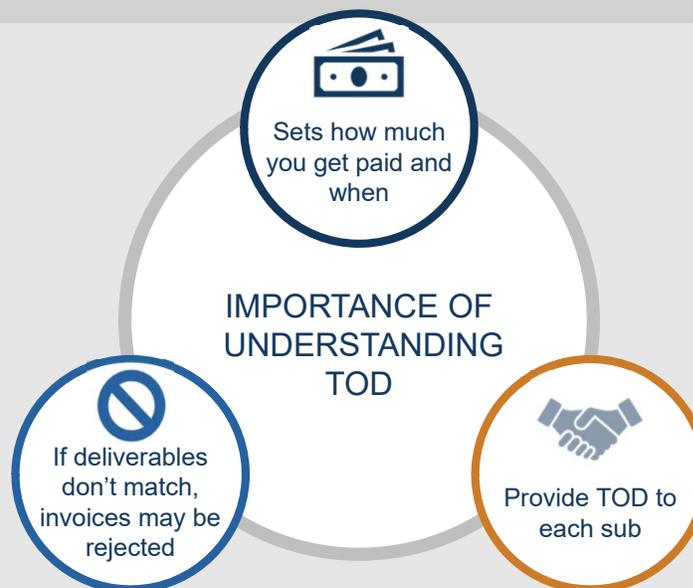


Table of Deliverables Benefits

BENEFITS

- Sophisticated tool
- Self-checking
- Simplifies invoicing

Items	CSJ 1111-01-001	CSJ 1000-01-001	CSJ 1000-01-002	TOTAL
FC 102(110)	\$333.33	\$333.33	\$333.33	\$1,000.00
FC 120(120)	\$333.33	\$333.33	\$333.33	\$1,000.00
FC 130(130)	\$333.33	\$333.33	\$333.33	\$1,000.00
FC 160(150)	\$333.33	\$333.33	\$333.33	\$1,000.00
FC 160(160)	\$1,666.67	\$1,666.67	\$1,666.67	\$5,000.00
FC 160(161)	\$666.67	\$666.67	\$666.67	\$2,000.00
FC 160(162)	\$666.67	\$666.67	\$666.67	\$2,000.00
FC 160(163)	\$1,666.67	\$1,666.67	\$1,666.67	\$5,000.00
FC 145(145,164)	\$666.67	\$666.67	\$666.67	\$2,000.00
FC 160(170)	\$333.33	\$333.33	\$333.33	\$1,000.00
TOTAL	\$7,000.00	\$7,000.00	\$7,000.00	\$21,000.00

Verify total matches cumulative total at bottom of TOD

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	CSJ 1012-01-017	CSJ 1014-01-015	CSJ 1014-01-015	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function
FC 102(110)	100% Closeout Submittal			\$0.00	\$0.00	\$0.00	\$0.00	\$1,000.00	100.00%
FC 120(120)				\$0.00	\$0.00	\$0.00	\$0.00	\$1,000.00	100.00%
FC 130(130)				\$0.00	\$0.00	\$0.00	\$0.00	\$1,000.00	100.00%
FC 160(150)				\$0.00	\$0.00	\$0.00	\$0.00	\$1,000.00	100.00%
FC 160(160)		Signed and Sealed PBP, Typical Sections, Cut and Fill Quantities, Prepare 100% submittal	5.00%	\$83.33	\$83.33	\$83.33	\$250.00	\$5,000.00	100.00%
FC 160(161)		Signed and Sealed Drainage Area Map, Hydraulic Data Sheets & Report, Final Models	2.50%	\$16.67	\$16.67	\$16.67	\$50.00	\$2,000.00	100.00%
FC 160(162)		Signed and Sealed Signing and Pavement Markings Sheets	5.00%	\$33.33	\$33.33	\$33.33	\$100.00	\$2,000.00	100.00%
FC 160(163)		Signed and Sealed TCP, Estimate, Temp Shoring, SW/SP, Quantities, Utility Layouts & Special Utility Details, Miscellaneous Details, Contract Time Determination; signed and sealed SUE layout & electronic files	2.50%	\$41.67	\$41.67	\$41.67	\$125.00	\$5,000.00	100.00%
FC 145(145,164)		QC of Documents, Coordination Meetings, Progress Report, Invoicing, Project Closeout	5.00%	\$33.33	\$33.33	\$33.33	\$100.00	\$2,000.00	100.00%
FC 160(170)		Signed and Sealed Bridge Layout, Quantities, Bearing Seat Elevations, Boring Log Sheet, Structural Details, Bridge Data Package	2.50%	\$8.33	\$8.33	\$8.33	\$25.00	\$1,000.00	100.00%
Closeout Submittal			Sub-Total	\$216.67	\$216.67	\$216.67	\$650.00	\$21,000.00	100.00%

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Lessons Learned

- 1 Actual deliverables that don't match deliverables listed in TOD
- 2 Lumping deliverables together prevents invoicing until all deliverables are completed
- 3 100% plan submittal as last deliverable
- 4 Account for multiple rounds of review
- 5 Carefully review TOD in contract PDF before signing



Questions and Discussion



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EXAMPLE TABLE OF DELIVERABLES
for
Plan, Specifications and Estimates (PS&E)
Lump Sum Payment Method

This is an example TOD, Use the TOD Template worksheet that is included with this workbook for your specific project and delete the instructions and this example.

Summary of Activities and Deliverable Items		Summary of Lump Sum Payments
FC 102(110)		\$14,625.16
FC 120(120)		\$1,985.98
FC 130(130)		\$2,983.66
FC 160(150)		\$103,879.84
FC 160(160)		\$70,836.46
FC 160(161)		\$83,283.50
FC 160(162)		\$57,961.24
FC 160(163)		\$125,230.04
FC 145(145,164)		\$15,000.00
FC 160(170)		\$66,000.00
		\$541,785.88

TxDOT Instructions	Provider Instructions
<p>Payments will be made according to the following Table of Deliverables.</p> <p>Partial payments on Lump Sum are not allowed (i.e. partial payment on each line item is not allowed).</p> <p>Provider must complete the deliverable associated with the line item. (The percentage of work is only an indicator of the progress of work associated with the deliverable.)</p>	<p>The provider shall include this document as an attachment to each Invoice Package:</p> <p align="center">Invoice Detail for Lump Sum Payments</p> <p>Complete applicable detail information shown below. All deliverables completed and billed (by line item), according to the TOD should be shown.</p> <p>Highlight the current payable line items that correspond to the invoice package submitted.</p>

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Estimated Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function	Date Deliverables Submitted to the TxDOT PM	Provider Invoice Number	Provider Invoice Date (date submitted for payment)	Total Amount Billed (per line item)
FC 102(110)	Preliminary Engineering	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	75.00%	\$10,968.87	\$10,968.87	75.00%				\$0.00
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	0.00%	\$0.00	\$0.00	0.00%				\$0.00
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	0.00%	\$0.00	\$0.00	0.00%				\$0.00
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	75.00%	\$77,909.88	\$77,909.88	75.00%				\$0.00
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	5.00%	\$3,541.82	\$3,541.82	5.00%				\$0.00
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	20.00%	\$16,656.70	\$16,656.70	20.00%				\$0.00
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	5.00%	\$2,898.06	\$2,898.06	5.00%				\$0.00
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	5.00%	\$6,261.50	\$6,261.50	5.00%				\$0.00
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	5.00%	\$750.00	\$750.00	5.00%				\$0.00
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	5.00%	\$3,300.00	\$3,300.00	5.00%				\$0.00
			Sub-Total		\$122,286.04	\$122,286.04	22.57%			

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function	Date Deliverables Submitted to the TxDOT PM	Provider Invoice Number	Provider Invoice Date (date submitted for payment)	Total Amount Billed (per line item)
FC 102(110)	30% Submittal	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	0.00%	\$0.00	\$14,625.16	100.00%				\$0.00
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	75.00%	\$1,489.49	\$1,688.08	85.00%				\$0.00
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	75.00%	\$2,237.75	\$2,536.11	85.00%				\$0.00
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	0.00%	\$0.00	\$103,879.84	100.00%				\$0.00
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	75.00%	\$53,127.35	\$63,752.81	90.00%				\$0.00
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	20.00%	\$16,656.70	\$66,626.80	80.00%				\$0.00
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	5.00%	\$2,898.06	\$11,592.25	20.00%				\$0.00
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	5.00%	\$6,261.50	\$25,046.01	20.00%				\$0.00
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	5.00%	\$750.00	\$3,000.00	20.00%				\$0.00
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	5.00%	\$3,300.00	\$13,200.00	20.00%				\$0.00
			Sub-Total		\$86,720.84	\$305,947.06	56.47%			

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function	Date Deliverables Submitted to the TxDOT PM	Provider Invoice Number	Provider Invoice Date (date submitted for payment)	Total Amount Billed (per line item)
FC 102(110)	Progress Submittal	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	0.00%	\$0.00	\$14,625.16	100.00%				\$0.00
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	15.00%	\$297.90	\$1,985.98	100.00%				\$0.00
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	15.00%	\$447.55	\$2,983.66	100.00%				\$0.00
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	0.00%	\$0.00	\$103,879.84	100.00%				\$0.00
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	10.00%	\$7,083.65	\$70,836.46	100.00%				\$0.00
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	20.00%	\$16,656.70	\$83,283.50	100.00%				\$0.00
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	5.00%	\$2,898.06	\$14,490.31	25.00%				\$0.00
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	5.00%	\$6,261.50	\$31,307.51	25.00%				\$0.00
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	5.00%	\$750.00	\$3,750.00	25.00%				\$0.00
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	5.00%	\$3,300.00	\$16,500.00	25.00%				\$0.00
			Sub-Total		\$37,695.36	\$343,642.42	63.43%			

Additional Progress Submittals are not shown here. See back of sheet for remaining portion of spreadsheet for discussion purposes.

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function	Date Deliverables Submitted to the TxDOT PM	Provider Invoice Number	Provider Invoice Date (date submitted for payment)	Total Amount Billed (per line item)
FC 102(110)	60% Submittal	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	0.00%	\$0.00	\$14,625.16	100.00%				\$0.00
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	0.00%	\$0.00	\$1,985.98	100.00%				\$0.00
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	0.00%	\$0.00	\$2,983.66	100.00%				\$0.00
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	0.00%	\$0.00	\$103,879.84	100.00%				\$0.00
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	0.00%	\$0.00	\$70,836.46	100.00%				\$0.00
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	0.00%	\$0.00	\$83,283.50	100.00%				\$0.00
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	50.00%	\$28,980.62	\$43,470.93	75.00%				\$0.00
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	50.00%	\$62,615.02	\$93,922.53	75.00%				\$0.00
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	50.00%	\$7,500.00	\$11,250.00	75.00%				\$0.00
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	50.00%	\$33,000.00	\$49,500.00	75.00%				\$0.00
Sub-Total				\$132,095.64	\$475,738.06	87.81%				\$0.00

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function	Date Deliverables Submitted to the TxDOT PM	Provider Invoice Number	Provider Invoice Date (date submitted for payment)	Total Amount Billed (per line item)
FC 102(110)	90% Submittal	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	0.00%	\$0.00	\$14,625.16	100.00%				\$0.00
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	0.00%	\$0.00	\$1,985.98	100.00%				\$0.00
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	0.00%	\$0.00	\$2,983.66	100.00%				\$0.00
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	0.00%	\$0.00	\$103,879.84	100.00%				\$0.00
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	0.00%	\$0.00	\$70,836.46	100.00%				\$0.00
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	0.00%	\$0.00	\$83,283.50	100.00%				\$0.00
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	10.00%	\$5,796.12	\$55,063.18	95.00%				\$0.00
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	10.00%	\$12,523.00	\$118,968.54	95.00%				\$0.00
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	10.00%	\$1,500.00	\$14,250.00	95.00%				\$0.00
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	10.00%	\$6,800.00	\$62,700.00	95.00%				\$0.00
Sub-Total				\$26,419.13	\$528,576.32	97.56%				\$0.00

Function Codes	Deliverable Submittal	Summary of Activities and Deliverable Items	Percentage of Work by Function Code	Lump Sum Amount Payable for listed Deliverables	Cumulative Total By Function Code	Cumulative Percentage of Work by Function	Date Deliverables Submitted to the TxDOT PM	Provider Invoice Number	Provider Invoice Date (date submitted for payment)	Total Amount Billed (per line item)
FC 102(110)	Final (100%) Submittal	Data Collection, Design Criteria, Preliminary Cost Estimate, DCC, Geotech Borings	0.00%	\$0.00	\$14,625.16	100.00%				\$0.00
FC 120(120)		Informal meetings, EPICS, ENV. Study Review, ENV. Exhibits, Cut & Fill Exhibits	0.00%	\$0.00	\$1,985.98	100.00%				\$0.00
FC 130(130)		ROW Map Review and Evaluation, Utility Locations & layouts, Utility Coordination Meetings, Access Management	0.00%	\$0.00	\$2,983.66	100.00%				\$0.00
FC 160(150)		Design Surveys, Horizontal & Vertical Control Sheets, Construction Surveys, DTM, Survey Notes & Sketches, Survey Data (ASCII File), Utility Data & GPK Files	0.00%	\$0.00	\$103,879.84	100.00%				\$0.00
FC 160(160)		Geometric Design, Roadway Design, Typical Sections, Interchange, Cross Street, Cut and Fill Quantities, Plan Preparation, Wetlands Information, Pedestrian and Bicycle Facilities	0.00%	\$0.00	\$70,836.46	100.00%				\$0.00
FC 160(161)		Data Collection, Hydrologic Studies, Complex Hydraulic Design, Storm Drains, Cross-Drainage Structures, Temporary Drainage, Scour Analysis	0.00%	\$0.00	\$83,283.50	100.00%				\$0.00
FC 160(162)		Signing, Pavement Markings, Traffic Warrant Studies, Traffic Signals (Permanent)	2.00%	\$1,159.22	\$57,961.24	100.00%				\$0.00
FC 160(163)		Retaining Walls, Misc. Structures, Traffic Control Plans, Detours, Sequence of Construction, Temp. Traffic Signals & Illumination, Illumination, SW3P, Quantities, Special Utility Details, Agreements, Contract Time Determination	2.00%	\$2,504.60	\$125,230.04	100.00%				\$0.00
FC 145(145,164)		Monthly Progress Reports, Project Tracking, Coordinate Work with team members	2.00%	\$300.00	\$15,000.00	100.00%				\$0.00
FC 160(170)		Bridge Layout, Bridge Detail Summary & Structural Details	2.00%	\$1,320.00	\$66,000.00	100.00%				\$0.00
Final Submittal				\$5,283.83	\$641,786.88	100.00%				\$0.00