Design 2023 CFL Annual A/E Meeting

Project Information (If modifying an existing	j project nam	e or numbe	r, list both	n existin	g and modified data	a)				
Division:	CFLHD	EFLHD	WF	LHD	Unit:	Metri	c	USC		
FP Version:	FP14	FP03			Density:	Urbai	n	Rural		
Project Number:					Terrain: Lev	vel Rolling	g	Mountainous		
Project Name:					Partner Agencies:					
Project Description:										
					Federal Land:					
State and County:					Funding Sources:					
Project Description*:	asphalt	drainage, paving, bri l construct	dge repla		, and					

Project Info Design	Account Team Event Log			
Estimate CPL Sch	edules Column Headers Pay Items Construction Estimates			_
Save & Close Save De	ete Cancel Cancel & Close	indicates a required field	Schedule Length:	0 miles 📝
Schedule			Lane Miles:	0
Schedule Type*:	Base V		Bridge(s):	▼ Bridae
Schedule Letter*:	AV			Bridge Identification
Construction Type*:	Describes the type of construction for the project (i.e. Mill 2"/Overlay 4 40302 Mill + < 2.5-inches Asphalt Concrete Overlay	")		GIS Route
Schedule Description*:	Describes the type of work being performed on the project (i.e. Grading Grading, drainage, aggregate base,	g, Base, Pavement)		Bridge Construction Type
	asphalt paving, bridge replacement, and trail construction.			Bridge Size (area)
Schedule Termini*:	Describes the beginning and ending location of the project (i.e. From M	ilepost 349.7 to I-40)		GIS Milepost Start
	From Entrance Station to Meadow Lark TH			GIS Milepost End
	×			Bridge Lat Begin
CPM Days:	0			Bridge Long Begin
Line Item Starting Number*:	100			Bridge Lat End
Line Item Increment Number*:	100			Bridge Long End
GIS Route(s):	Add GIS Route			Bridge Length*
Schedule Length:	0 miles			Remove Bridge
Lane Miles:				Add Bridge
Bridge(s):	Add Bridge			

Quality Unit Price		Quality Unit Price	;	
save and close close		save and close	close	
Quality Unit Price An	alysis	Quality Unit P	rice Ana	alysis
Pay Item Number:	30101-0000	Pay Item Numbe	er:	40101-0080
Pay Item Description:	AGGREGATE BASE	Pay Item Descrip	otion:	ASPHALT CONCRETE PAVEMENT, GYRATORY MIX, NO. 4 SIEVE NOMINAL MAXI
Pay Unit (U.S. Units):	TON	Pay Unit (U.S. U	nits):	
Pay Item Type*:	QM 🗸	Pay Item Type*:	L	OR QR QS
Unit Price:	\$110.00	Unit Price:		\$126.00
Incentive (%)*:		Incentive (%)*:		
Incentive Unit Price:	\$	Incentive Unit Pr	ice:	\$
Unit Price Used*:	\$	Unit Price Used*	:	\$
Remarks:	(maximum characters: 4000) 4000 remaining	Remarks:		(maximum characters: 4000) 4000 remaining
save and close close		save and close	close	

Project Info	Project Info Design Account Team Event Log											
Estimate CP	PL Schedules Col	umn Headers Pay Items Construction Estimates										
Project Pay Items Add Master Pay Item Default BHUP Settings Advanced Search												
Search Filters:												
Keywords roughness Show Selected O all												
Pay Item Numb	Pay Item Number 40											
Apply Search	Clear											
			150 200 250 300	400 500 550 600 900 [all]								
Items 1-3 of 3			130 200 230 500	<u>100 300 330 000 900 [un]</u>								
Options	Pay Item # •	Pay Item Description (US Customary)	Pay Item Type •	U.S. Pay Units T								
🗐 🏹 🔞	40199-0002	INCENTIVE, ROUGHNESS	DI	LPSM								
£	40299-0002	INCENTIVE, ROUGHNESS	DI	LPSM								
Ð	40399-0002	INCENTIVE, ROUGHNESS	DI	LPSM								
Items 1-3 of 3	·		<i>.</i>	^ 								

e-Delivery Update

Off-the-Shelf System: Masterworks by Aurigo

- Replacing: EEBACS and One-Note (used by Construction)
- Adding: eBidding & some mobile app capability for Construction
- Currently being configured/modified to meet FLH needs

Design specifics:

Similar Functionality to EEBACS – but different approach & look

Folder structure for Schedules & Options

Calculates Pay Item Allowance based on % entered

Approach to Funding a bit different, but easier to change entire Schedule

e-Delivery Update

Login via Internet Browsers

"Live" MSTeams-type Training will be provided

Short, Topic Specific Training Video's will be provided

Online Help

e-Delivery Update

Implementation process – most likely:

- After Go-Live: Next milestone EE put into Masterworks
- May enter some 100% EE's, not yet started in Construction
- Still working out processes for new users and new projects
- Would have new "eDelivery" SCRs to be added

New Special Contract Requirements (SCR's)

- REMINDER: At each milestone, check for SCR updates; use designer notes
- 107 updated permit numbers and website links and combined all states into one SCR
- 157 singular SCR for lpsm EC approach (pref.)
- 404/503 added warranty for NPS/BLM projects funded by the GAOA
- 635 Added descr. of progress payments for lpsm TTC
- 637 added text for contractor-provided govt. office
- 108/109/152/153/156/302/625/634/710/713 minor updates

PE Memo

- New PE Memo template available on FLH site
- PE Memo vs Project Tech Memo
- Notes for PE design decisions, notable or unique design
 - Seek input from all disciplines

Highway Design Standards (HDS) Form

Exceptions vs. Variances

FEDERAL LANDS HIGHWAY HIGHWAY DESIGN STANDARDS Print Form													
	HIGH	WAY DESIG	3N STAND/	ARDS	Print Fo	orm							
Project Number			Project Name										
Location		1	*										
Type of Project			Terrain										
Description National Highway System (NHS)													
	(NHO)		Owner/Maintaining A	pency									
Functional System			*										
Traffic Year	Annual ADT	Seasonal ADT	DHV	PERCENTA DHV	GE TRUCKS	D							
Current													
Future													
Design Standards:	AASHTO Green		SHTO Low Volume er (Describe)	Pa	rk Road Standards	5							
	CRITERIA: D	Design Speed		EXCEPTION									
Minimum from Standard		•	_										
Chosen for Segment		•											
CRITERIA	STANDARD												
	(for Chosen Speed)	AS DESIGNED	(EXCEPT									
Lane Width	(for Chosen Speed)	AS DESIGNED	(EXCEPT	ON								
Lane Width Shoulder Width	(for Chosen Speed)	AS DESIGNED	(EXCEPT									
	(for Chosen Speed)		_	EXCEPT	ON								
Shoulder Width	(for Chosen Speed)			EXCEPTI	on								
Shoulder Width Horizontal Curve Radius				EXCEPTI	ON								
Shoulder Width Horizontal Curve Radius Superelevation Rate				EXCEPTI									
Shoulder Width Horizontal Curve Radius Superelevation Rate Stopping Sight Distance				EXCEPTI									
Shoulder Width Horizontal Curve Radius Superelevation Rate Stopping Sight Distance Maximum Grade				EXCEPTI	on								

FEDERAL LANDS HIGHWAY HIGHWAY DESIGN STANDARDS Print Form														
		HIGH	WAY DESI	GN STAND	ARDS	Print Fo	orm							
Project Number				Project Name										
Location				Route										
Type of Project				Terrain	Terrain									
Description														
National High	hway System ((NHS)		Owner/Mainfaining A	gency									
Functional System		6.000 P	Personal		PERCENTA									
Traffic	Year	Annual ADT	Seasonal ADT	DHV	DHV DHV	ADT	D							
Current														
Future														
Design Standa	rde:	AASHTO Green Book AASHTO Low Volume Park Road Standards												
Jesign standa		State	Ot	her (Describe)										
		CRITERIA	Design Speed		EXCEPTION									
Minimum from Sta	indard	301	ирн 💽											
Chosen for Segme	ent		•	· 🗋										
CRITE	RIA	STANDARD (for Chosen Speed	AS DESIGNED		EXCEPTI	ION								
Design Loading Si Capacity	tructural				-									
CRITE	RIA	STANDARD (for Chosen Speed	AS DESIGNED	(VARIAN	CE								
Lane Width														
Shoulder Width														
Horizontal Curve F	Radius													
Superelevation Ra	ate	e(max) =												
Stopping Sight Dis	stance													
Maximum Grade														
Cross Slope														
Vertical Clearance		corintion (in-la	ding context) r		ridorod analysis	of rick and	orad							
mitigation Earl	iny variance,	provide brief de	ding context), reaso scription, reasons, a	and proposed mitig	ation.	от пък, апо ргор	USED							

For each exception provide description (including context), reasons, alternatives considered, analysis of risk, and proposed mitigation.

Communication

- Upcoming deadlines/schedules
- Major design changes that affect the estimate or schedule
- Scope changes

Open Roads Designer (ORD)

Workspaces

- 2 Approved Workspaces
 - All new projects after January 2023 International Foot and Workspace 10.10
 - All others Workspace 10.9 (or discuss with your PM)
- Both are posted on the web. Must download and combine both files
- Other Updates
- Sample Plans

Grading Summary

GRADING SUMMARY														
	Roadway	Excavation	Pay Item 20401-0000	Additional For inf	Excavation fo only	For in	fo only	Emban For inf			For Info Only			
Station to Station	Prismoidal Volume	Approach Roads	ROADWAY EXCAVATION	(+) Available Material (see note 3)	(-) Unavailable Material (see note 4)	Shrink/Swell Factor	Total Excavation Avaliable For Fills	Prismoidal Volume	Approach Roads	(+) Various Additional Backfill Material Needed Onsite (see note 5)	Total Embankment	Excavation- Embankment	UNCLASSIFIED BORROW (see note 6)	
	BCY	BCY	CUYD	BCY	BCY		CCY	CCY	CCY	CCY	CCY	CCY	CUYD	

NOTE:

- 1. Quantities based on prismoidal (surface to surface) volumes.
- 2. Conserve <<XXX>> inches of topsoil in cut and fill slope areas.
- 3. Available material includes << INSERT PROJECT SPECIFIC INFORMATION****>>.
- 4. Unavailable material includes << INSERT PROJECT SPECIFIC INFORMATION****>>.
- 5. Various additional backfill material needed onsite includes << INSERT PROJECT SPECIFIC INFORMATION****>>.
- Waste quantity calculated using volumes adjusted for shrink/swell. The average shrink/swell factor shown is computed by taking an average of recommended values over the specified range. Refer to the Geotech Report for recommended shrink/swell factors.

Or

Unclassified borrow quantity calculated using volumes adjusted for shrink/swell. An assumed value of 0.9 was used for calculations. The contractor is responsible for determining the shrink/swell on the borrow material.

7. The quantities shown herein are approximations. Payment will be made for the actual quantities of work performed.

8. BCY = Bank cubic yard - one cubic yard of material as it lies in the natural state.

CCY = Compacted cubic yard - one cubic yard of material after it has been compacted to specification density.

Notes to Designers

**** Material is anything in the grading tab in columns G, H and I

**** Material is anything in the grading tab in columns J, K and L

**** Material is anything in the grading tab in columns S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG and AH

Grading Summary - Grading Tab

- Tab where all the calculations happen
- All assumptions should be documented here
- Part of the PE Notebook
- Cannot be provided during bidding but should be shared after award

4	A	В	С	D	E	F	G	Н	1	J	К	L	М	N	0	Р	Q	R	S	T	U	V	V	×	Y	Z
1																										
3	TOTALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4				Excavation		Total	Excavation	Material Ava	ilable for Fill	xcavation M	aterial Unava	ailable for Fill				Emba	nkment								Needed	Volume for Backfill
5			Roadway prism minus topsoil and pavement	Total Excavation Volumes_Cut +Existing_Pa yment (not replaced)+To psoil		Total Excavation for Pay	(+) Structure Excavation (Walls)	(+) Excavation From Roadway Obliteration	(+) Subexcavatio n	(-) Pavement Removal in Cuts	(-) Topsoil Stripping in Cuts	(-) Disposal of Subexcavatio n Material	Shrink/Swell Factor	Total Excavation Available for Fills	Roadway Prism (Embankment) plus backfill for topsoil in fills and existing payment in fills	Total Roadway Prism Fill	Approach Road	Total Roadway Prism Fill for Pay	(+) ∀all Backfill	(+) Foundation Fill	(+) Select Wall Backfill	(+) Rock	(+) Granular Rock Backdrain	(+) Structural Backfill	(+) Backfill Material	(+) B Granular P Backfill f
6	ORD Component Name		Volumes_Cut :	: Total Excavation		Total Excavation for Pay			XS_TC_Sube x_Exc2:	CFL Exist Pvmt (removed):	CFL Exist Topsoil (removed):	XS_TC_Sube x_Exo2:			Volumes_Fill:			Total Embankment for Pay			XS_TC_MSE Wall Backfill 2:	XS_TC_Rock ery Wall Backfill 2:	XS_TC_Rock ery Wall Back:	XS_TC_Wall Backfill:	-	Need gabion faced MSE component re
7	Enter Start of Project																									
8																										
10																										
11																										

Questions???