

# EEBACS USER GUIDE 1.0

## Chapter 2 - Design Module

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UPDATED: 7.28.2014

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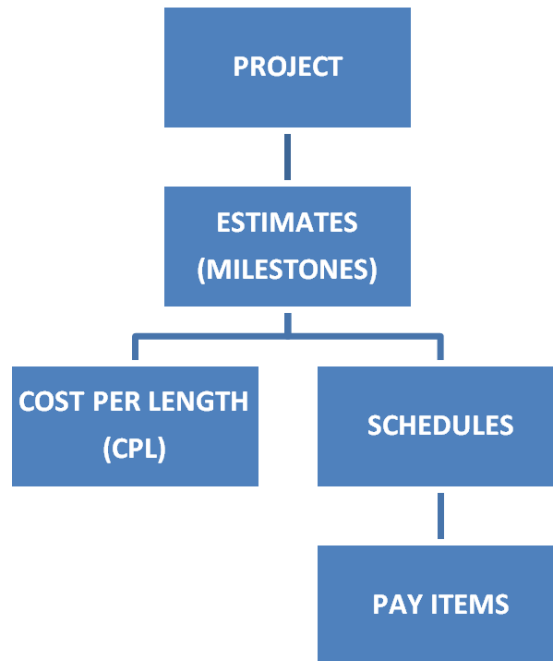
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## 2.1 Introduction

The Design module creates the Independent Government Estimate (IGE) and supporting documents.

A project may have one or multiple estimates. An estimate can be as simple as a Cost-Per-Length (CPL) or be comprised of multiple schedules that can contain numerous pay items.

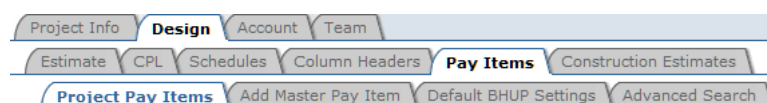
While a CPL estimate can be under the same milestone umbrella as a schedule estimate, it is recommended that CPL estimates be developed under their own milestone name (CPL).



Reports created by schedule in this module:

- EE (Engineer's Estimate);
- Design EE Column;
- Design Summary;
- PE Summary of Quantities;
- Summary of Quantities; and
- UPA (Unit Price Analysis).

Guidance for the Design module is organized by tabs as viewed in the program.



## 2.1.1 Project Creation

Submit the EEBACS-005 form to the Division's EEBACS Design Component Lead (or EEBACS Division Administrator) to add a project to the system.

Provide the following information:

- Date of request;
- Requester's name;
- FP version;
- Project number;
- Project name;
- Project description (begin and end point);
- Unit (Metric or USC);
- State(s); and
- If an estimate from a previous project is to be copied, include the project number, name, and which estimate and schedule is to be copied. **Note that projects may not be copied from a different FP version.**

Follow the Division's numbering and naming convention.

## 2.1.2 Navigation

The list of projects in EEBACS is extensive. Navigation to a specific project is made easier by using the "recent items" on the home page (if a project has been accessed before) or at the "Estimate list" tab by using the "search filter" or "next page" function.

### 2.1.2.1 Home page navigation

The Home page (or tab) is reached upon logging into the program. The home page allows navigation by either:

- Selecting any category on the sidebar; or
- Selecting from any of the most recent user entries.

The screenshot displays the EEBACS Home page. The sidebar on the left contains a 'Home' link and a 'Users Online' section showing '(1) Government'. The main content area is divided into 'Announcements' (stating 'There are no announcements at this time.') and 'Recent Items'. The 'Recent Items' list includes several entries with project and estimate details. On the right, there is a calendar for January 2009 and an 'EEBACS Statistics' table.

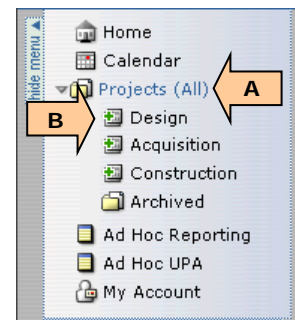
Category	Count
User	89
Projects	745
Estimates	945
Acquisition	709
Bids	2138

### 2.1.2.2 Side bar navigation

The most commonly used categories on the sidebar are "Project All" and "Design". This shows a listing of all projects within the system or the Design module.

- A. Select "Project All" to view a listing of all projects within the system; or
- B. Select "Design" to view a listing of all estimates for all projects.

Format and navigation in the estimate list is identical in both "Design" and "Projects All" screens (see example in the following section).



### 2.1.2.3 Estimate list navigation

- A. Filters data by the constraints selected;
- B. Next page shows the next 20 projects; and
- C. Indicates sequence of project being viewed and total number of projects in the system.

**Search Filters:**

Keywords:

Complete: ☐ yes ☐ no

Show Current: ☐ yes ☐ no

Federal Lands Division:

State(s):

Partner Agency:

Project Manager:

Highway Design Manager:

Designer:

**Estimate List Table:**

State	Project Number	Project Name	Complete	Quick Links
CO	20071126	EEBACS Team Test	70%	2007-11-26 cur
AL	ABT - 0001	AB Test - 0001	100% Estimate	2008-05-01 cur
AL	ABT - 0002	AB Test - 0002(Copy)	100% Estimate	2008-05-01 cur
AL	ABT - 0003	AB Test - 0003(Copy)	Amendment A1	2008-05-22 cur
AL	ABT - 0004	AB Test - 0004(Copy)	100% Estimate	2008-05-22 cur
DC	ACOT 2801	Aquisition Cut Over Test	75% PS&E	2008-06-02 cur
AR	AR HSH 9-1(1)	NEW Project Nov 5, 2008	99.5% Estimate	2008-10-14 cur
AR	AR HSH 9-1(1a)(Copy to Metric)	NEW Project Nov 5, 2008(Copy)	99% Estimate	2008-10-02 cur
CO	CO PFH JOHN 1(2)	John - Large Test	100% Estimate	2008-10-10 cur
CA	CA PFH BRENDA 1(2)	Brenda - Large Test	100% Estimate	
CA	CA PFH HSH 110(10)	Heidi Large Test	100% Estimate	
CA	CA PFH HSH 200(1)	US Customary to Metric Test - clean data	95% Estimate	
CA	CA Test 998	Test Sept 9, 2008 for Julie	Amendment A004	
CA	CA Test 999	Test September 9, 2008	100% Estimate	
CA	CA Test 999-1 (Copy partial)	Test September 9, 2008 (Copy partial)	100% Estimate	
CA	CA Test 999-2 (Copy All)	Test September 9, 2008 (Copy All)	Amendment Amendment 02	
CA	CA Test 999-3 (Copy ALL)	Miscellaneous Testing	100% Estimate	
CO	CO PRA HEIDI 333(1)	MINI TEST FOR CONSTRUCTION	100% PS&E	
CO	CO PRA HEIDI 333(1A)	MINI TEST FOR CONSTRUCTION	100% PS&E	
CO	CO PRA LINDEN 333(5)	MINI TEST FOR CONSTRUCTION	100% PS&E	

### 2.1.2.4 Project tab navigation

Once a project is selected, use the tabs to access module sub-activities.

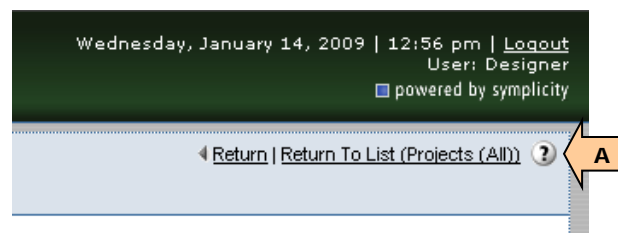
- A. Tabs and sub-tabs allow access to various functions.

The screenshot shows the EEBACS web application interface. On the left is a navigation menu with options like Home, Calendar, Projects (All), Design, Acquisition, Construction, Archived, Ad Hoc Reporting, Ad Hoc UPA, and My Account. Below this is a 'Users Online' section showing '(2) Government'. The main content area is titled 'Projects' and has several tabs: 'Project Info' (selected), 'Design', 'Account', and 'Team'. An orange arrow labeled 'A' points to the 'Design' sub-tab. Below the tabs are buttons for 'Save & Close', 'Save', 'Cancel', and 'Cancel & Close'. The 'Project Info' section contains the following fields:

- Federal Lands Division\*:** Describes which Federal Lands divisions the project is being completed at (EFL, CFL, or WFL). The dropdown menu is set to 'Western Federal Lands HD'.
- FP Version\*:** Describes which Federal Specification (Year) the project will be based on. The dropdown menu is set to '03'.
- Project Number\*:** The project identification number (ue. PRA-NATRIA15). The value entered is 'PRA YELL 10(15)'.
- Project Name\*:** Describes the roadway name (ue. Natchez Trace Parkway 1A15). The value entered is 'Grand Loop Road (Madison to Norris, Segment B)'.
- Project Description\*:** A text area containing the text: 'Project begins at Madison Junction and continues to Norris Junction.'

### 2.1.2.5 Return to last screen or list navigation

- A. Returns either to the last screen or (depending on location) the Design/Project list.

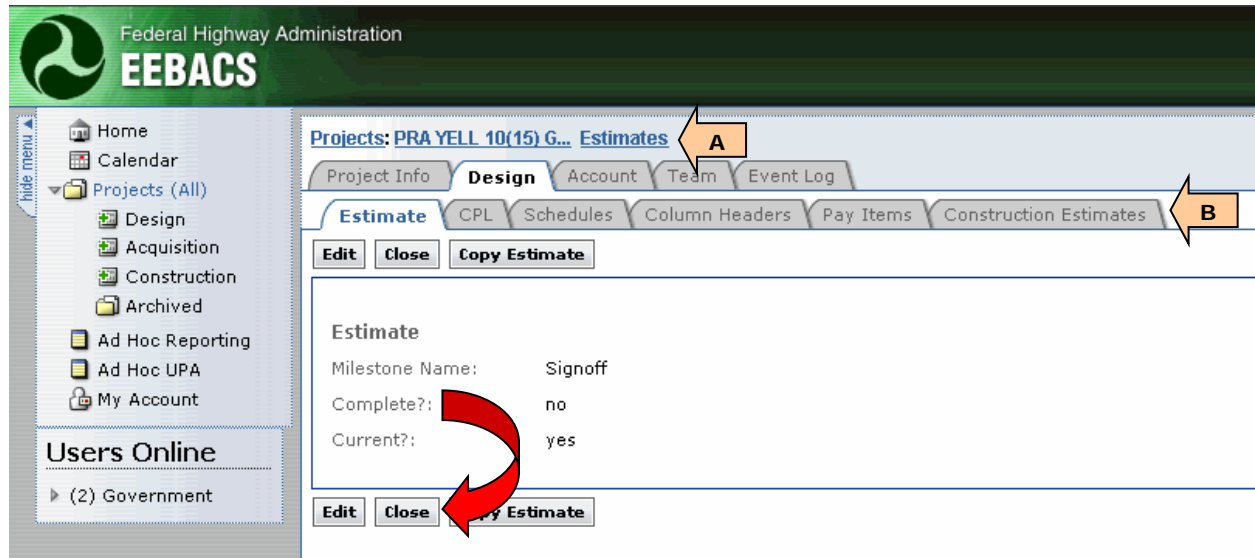


Note: Do not use the browser "back" button to return to the last screen.

### 2.1.2.6 Within project navigation

- A. Returns to selected function;
- B. Navigation can also be accomplished by using the tabs. White colored tabs indicate path to active tab and the active tab of the current window.

**WARNING:** Save data inputs in the current tab before accessing another tab or data may be lost.



- 💡 Not seeing the expected screen when in a tab? Try selecting the "Close" icon. EEBACS saves the last sub-screen viewed when last in the tab.

### 2.1.2.7 Master Pay Item navigation

A. Search Filter. Single or multiple pay items may be found by:

- Keyword (a word within the pay item description);
- pay item number, in whole or part (301 or 30101 or 30101-1000); or
- show pay items previously “selected” or “all” pay items by selecting the radio buttons;

B. Advances to the first pay item number in the selected range; and

C. Advances screen by page.

**Federal Highway Administration**  
**EEBACS**

Wednesday, January 21, 2009 | 12:13 pm | Logout  
User: Designer  
powered by simplicity

Home  
Calendar  
Projects (All)  
Design  
Acquisition  
Construction  
Archived  
Ad Hoc Reporting  
Ad Hoc UPA  
My Account

**Users Online**  
▶ (1) Contract Staff  
▶ (1) Government

**Estimates: P-LH**  
Project Info | Design | Account | Team  
Estimate | CPL | Schedules | Column Headers | Pay Items | Construction Estimates  
Project Pay Items | Add Master Pay Item | Default BHUP Settings | Advanced Search

**Search Filters:**  
Keywords:  Show ☐ selected ☐ all  
Pay Item Number:   
**Apply Search**

Items 1-20 of 3883

Options	Pay Item #	Pay Item Description (US Customary)	Pay Item Type	U.S. Pay Units
	15101-0000	MOBILIZATION	N	LPSM
	15201-0000	CONSTRUCTION SURVEY AND STAKING	N	LPSM
	15205-0000	SLOPE, REFERENCE, AND CLEARING AND GRUBBING STAKE	N	LPSM
	15206-0000	SLOPE, REFERENCE, AND CLEARING AND GRUBBING STAKE	N	STA
	15210-0000	CENTERLINE, REESTABLISHMENT	N	STA
	15210-1000	CENTERLINE, STAKING	N	STA
	15210-2000	CENTERLINE, REFERENCING AND REESTABLISHMENT	N	STA
	15210-3000	CENTERLINE, VERIFICATION AND STAKING	N	STA
	15210-4000	CENTERLINE, ESTABLISHMENT	N	STA
	15214-0000	SURVEY AND STAKING, MISCELLANEOUS	N	LPSM
	15214-1000	SURVEY AND STAKING, BRIDGE	N	LPSM
	15214-2000	SURVEY AND STAKING, RETAINING WALL	N	LPSM
	15214-3000	SURVEY AND STAKING, PARKING AREA	N	LPSM
	15215-1000	SURVEY AND STAKING, APPROACH ROAD	N	EACH
	15215-2000	SURVEY AND STAKING, BRIDGE	N	EACH
	15215-3000	SURVEY AND STAKING, DRAINAGE STRUCTURE	N	EACH
	15215-4000	SURVEY AND STAKING, PERMANENT MONUMENT AND MARKER	N	EACH
	15215-5000	SURVEY AND STAKING, BOX CULVERT	N	EACH
	15216-1000	SURVEY AND STAKING, ROADWAY CROSS-SECTIONS	N	STA
	15216-2000	SURVEY AND STAKING, GRADE FINISHING STAKES	N	STA

Items 1-20 of 3883

Jump 1 | Next >



## 2.2 Projects

General information about the project is stored on the Project Info, Account, and Team tabs. Estimates are created and edited under the Design tab, described in Section 2.3.

### 2.2.1 Project Information



Project information is descriptive data specific to the project. Required data (Federal Lands Division, FP version, project number, project name, project description, unit, and state) will initially be added by the Division's EEBACS Design Component Lead.

Before the project is transferred to Acquisitions, **all remaining data fields must be populated** by the Lead Designer.

- County pull-down will activate once state(s) has been selected. Multiple counties may be selected;
- Density and terrain description are determined through AASHTO, A Policy on Geometric Design of Highways and Streets;
- Federal Land is the name of the National Park, National Forest, or Wildlife Refuge, etc.;

The screenshot shows the 'Project Info' tab of the software. The form contains the following fields and annotations:

- Project:** Federal Lands Division\* (Western Federal Lands HD), FP Version\* (03), Project Number\* (PRA YELL 10(15)), Project Name\* (Grand Loop Road (Madison to Norris, Segment B)), Project Description\* (Project begins at Madison Junction and continues to Norris Junction).
- Units\*:** U.S. Customary
- State(s)\*:** A list of states with '1 of 53 selected' shown. Annotation B points to this field.
- County(s):** Park, Teton. Annotation A points to this field.
- Density:** Rural. Annotation B points to this field.
- Terrain:** Rolling. Annotation B points to this field.
- Partner Agency:** NPS
- Federal Land:** Yellowstone National Park. Annotation C points to this field.
- Funding Source(s):** Describes the type funding used to fund the project. This could be multiple sources (PRA, NPS, PFH, PLH, PFP, FWS, IRR, ERFO, OMAD, NPS, PFH ...). Annotation D points to this field.
- FLMA Number:** 54337 101/43943. Annotation E points to this field.
- Status:** Design. Annotation F points to this field.

- Funding source(s) included in the project;
- FLMA (Federal Land Management Agency) Number is a number assigned to the project by the landowner agency. Examples are:
  - NPS: PMIS No.: 129153 Drawing No.: 102-100064;
  - BIA: BIA No.: J51-624-163(455)213; and
  - State: AHTD Job 040283; and
- To exit the screen, select either Save & Close or Cancel & Close. Save stores the recent edits while Cancel returns to View mode.

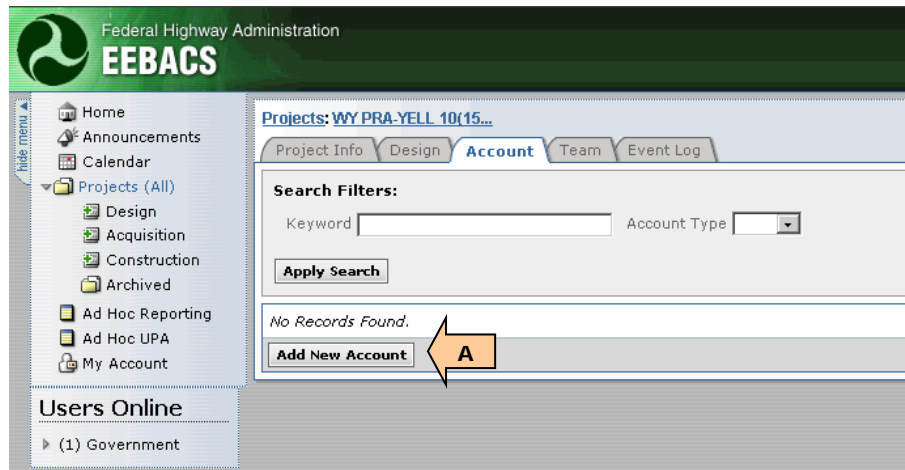
Note: Changing units (US Customary ⇌ Metric) will automatically convert any data previously entered (pay item descriptions, pay units, quantities, and unit prices) as defined by conversion factors.

## 2.2.2 Account

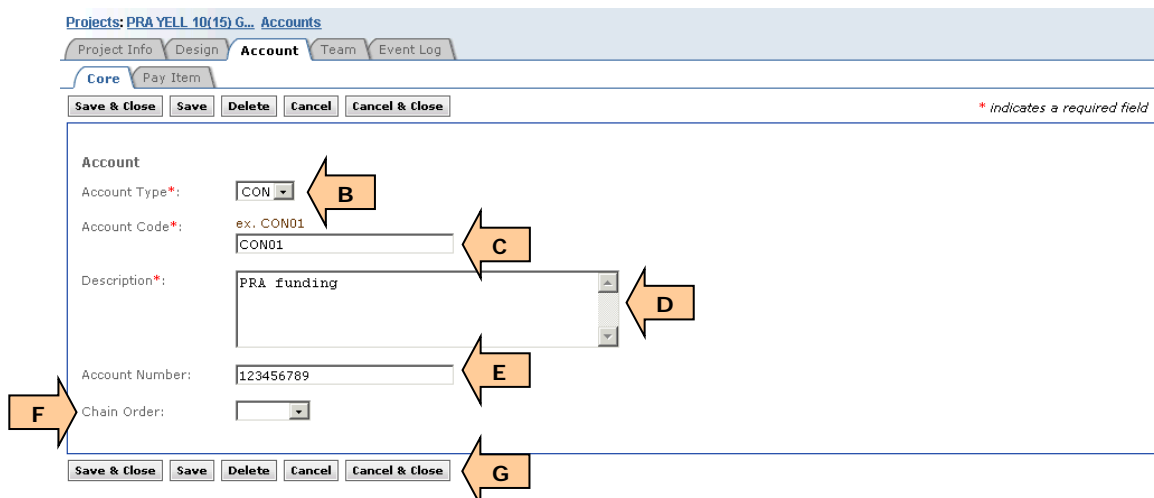
Project Info Design **Account** Team

The account tab allows input of one or multiple account numbers. Sometimes projects have multiple funding sources and require schedules, pay items or quantities within pay items to be assigned a specific account number. Even if the project has only one Account, that Account number must be added here.

- A. Select "Add New Account" to allow input of account numbers;



- B. Select the account type. Generally CON (Construction) is selected;
- C. Account code is a "nickname" for an accounting number. Always include account type in "nickname." (i.e. CON01);
- D. Input a description of the account (examples: PRA, Fee Demo, County funds, etc.);
- E. If known, enter the Delphi account number;  
(example: 1517560401020 540.00.F179.56.1756001404);
- F. Chain order will be determined in Construction or according to Division procedures;  
and
- G. Select the appropriate command to exit the screen.



## 2.2.3 Team

Project Info Design Account **Team**

The team tab allows assignment and archive of project team members.

### 2.2.3.1 Add Team Member (Assign Project Role)

- A. Select the "Add New Team Member" icon to access assignment screen;

Projects: [PRA YELL 10\(15\) G...](#)

Project Info Design Account **Team** Event Log

Team Offices

Search Filters:

Section: Design Acquisition Construction Roles: [select]

Apply Search

No Records Found.

Add New Team Member

- B. Begin typing a name. A pick list will appear. Select a name from the pick list. Only add approved team members, since, in some cases, this will provide additional user rights. (Only enabled users appear in the list);

Projects: [KS PRA HEHL 10\(2\)...](#)

Project Info Design Account **Team** Event Log

Save & Close Save Cancel

Project Team

Member\*: Christine

Christine Black

Save & Close Save Cancel

- C. Choose the role in which the team member will be assigned for this project. If a role cannot be found in the pick list, contact the local EEBACS Division Administrator; and
- D. Select the "Save and Close" icon.

Projects: [KS PRA HEHL 10\(2\)...](#)

Project Info Design Account **Team** Event Log

Save & Close Save Cancel

Project Team

Member\*: Christine Black

Roles\*: Bridge Manager

Highway Design Manager

Lead Designer

Project Manager

Save & Close Save Cancel

### 2.2.3.2 Archive Team Member (Archive Project Role)

Archive former team members. This is particularly important for A/E Staff and Construction Contractors, since this removes their access to this project. Archiving Government users and Contract staff on the project team member may reduce their rights within this project. The following is an example of a populated team roster:

- A. "Edit" project team member to be deleted

Projects: PRA YELL 10(15) G... [Return To Projects \(All\)](#) | [Return To List \(Projects \(All\)\)](#) ?

Project Info | Design | Account | **Team** | Event Log

**Current Members** | Archived Members

**Search Filters:**

Keywords:  Roles: [select]

Section: Design, Acquisition, Construction

Apply Search

**Add New Team Member** Items 1-4 of 4

Actions	Name	Role(s)	Company	Contact Label	Contact Type	Email
	Christine Black	Bridge Manager	Central Federal Lands Highway Division	Design Specialist	Government	Christine.Black@fhwa.dot.gov
	Stephen Chapman	Highway Design Manager	Western Federal Lands Highway Division		Government	stephen.chapman@fhwa.dot.gov
	Wade Johnson	Lead Designer	Western Federal Lands Highway Division		Government	Wade.Johnson@fhwa.dot.gov
	Ninh Phan	Project Manager	Western Federal Lands Highway Division		Government	ninh.phan@fhwa.dot.gov

**Add New Team Member** Items 1-4 of 4

- B. "Delete" project team member

- C. Confirm to delete (archive) project team member. This cannot be undone. If needed, the team member can be added again (made a current team member) with a project role.

Projects: PRA YELL 10(15) G... Project Teams

Project Info | Design | Account | **Team** | Event Log

Save & Close | Save | Delete | Cancel | Cancel & Close

**Project Team**

Member\*: Christine Black

Roles\*: ☒ Bridge Manager, ☐ Highway Design Manager, ☐ Lead Designer, ☐ Project Manager

Save & Close | Save | Delete | Cancel

Windows Internet Explorer

Are you sure you want to delete this entry? This cannot be undone.

OK | Cancel

Once the project team member has been deleted (archived), the Archived Members tab automatically appears.

D. Use the search filters to find archived users

E. Select appropriate status for archived user. Normally select "Active" status.

Projects: PRA YELL 10(15) G... [Return To Projects \(All\)](#) | [Return To List \(Projects \(All\)\)](#) ?

Project Info Design Account **Team**

Current Members Archived Members

**Search Filters:**

Keyword  Held Position Until    to

Roles  Status ☐ Active ☐ Frozen ☐ Removed

Items 1-1 of 1

Member ▼	Held Position Until ▲	Role(s)	Status ▼
Julee McTaggart	07-13-2010 6:24 pm	Bridge Manager	Active ▼

Items 1-1 of 1

Active  
Active  
Frozen  
Removed

D

E

## 2.3 Estimates

Project Info

**Design**

Account

Team

The "Design" tab allows access to a majority of the estimating functions. Development of the Independent Government Estimates (IGEs) occurs under this tab. IGEs can be broad in scope when developed under the cost-per-length option or extremely detailed when using the standard estimating option with schedules.

Estimates can be developed using stored bid history from projects with similar items of work or developed through labor-equipment-material calculations.

Project Info

**Design**



Account

Team

**Estimate List**

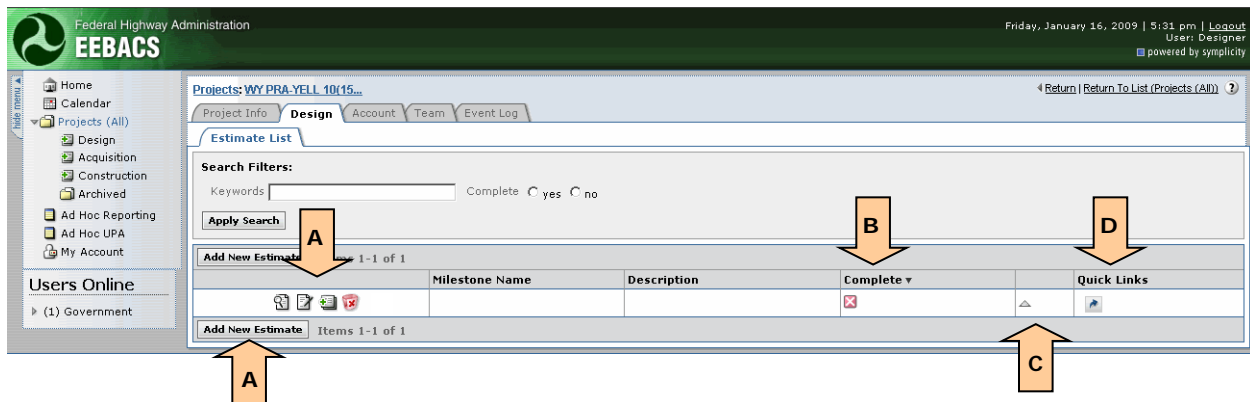
### 2.3.1 Estimate List

Each project will have one or multiple estimates (milestones). Milestone estimates are snapshots in time of how much a project is expected to cost given all the known factors. Each estimate will contain one or multiple schedules.

- A. Choose icon to view, edit, copy, or delete an estimate; or use the button to add a new estimate;
- B. Designates whether an estimate is complete.
  -  shows that the Estimate is not complete and is still open to changes.
  -  2009-03-04 shows that the Estimate was marked complete on a certain date. Completed estimates can be viewed and copied, but not edited or deleted.

To change the status, go to the "Estimate" tab;

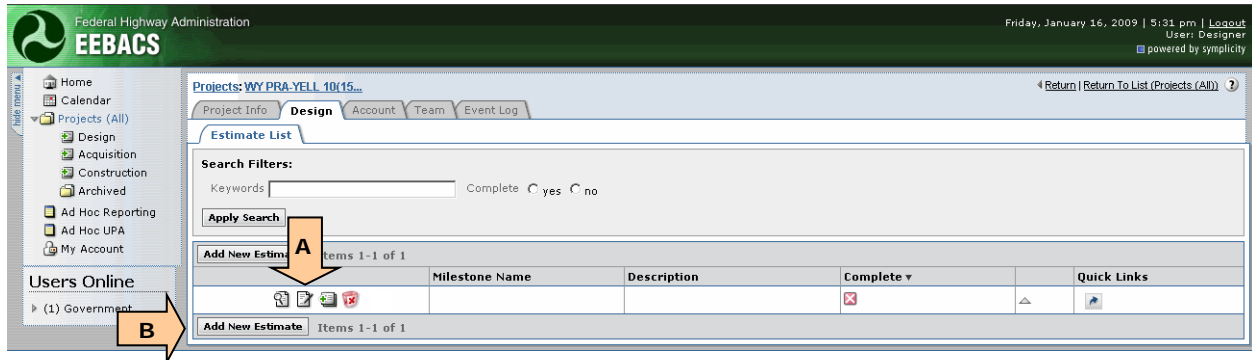
- C. Indicates whether the estimate is current ("cur" appears in the column) or not. It is extremely important to have a "current" estimate. The current estimate milestone shows up on the Projects (All) tab listing. Current does not necessarily mean a completed estimate; it only means that is the most recent estimate being worked on. To change the status, go to the "Estimate" tab; and
- D. The Quick Link Pull-down menu provides direct access to the Cost per Length (CPL), Schedules, Column Headers, Pay Items, or Construction Estimate tabs.



The screenshot shows the EEBACS software interface. The top navigation bar includes 'Project Info', 'Design' (selected), 'Account', and 'Team'. Below this is the 'Estimate List' section. It features a search filter with 'Keywords' and 'Complete' (yes/no) options. A table displays the list of estimates with columns for 'Milestone Name', 'Description', 'Complete' (with a dropdown arrow), and 'Quick Links'. A red 'X' icon in the 'Complete' column indicates an incomplete estimate. Orange arrows labeled A, B, C, and D point to specific elements: A points to the 'Add New Estimate' button, B points to the 'Complete' dropdown, C points to the 'Quick Links' column, and D points to the 'Add New Estimate' button.

### 2.3.1.1 Adding New Estimate

- A. When opening the Estimate List for the first time, select the edit icon in the placeholder estimate; and
- B. For subsequent added estimates select the “Add New Estimate” button.

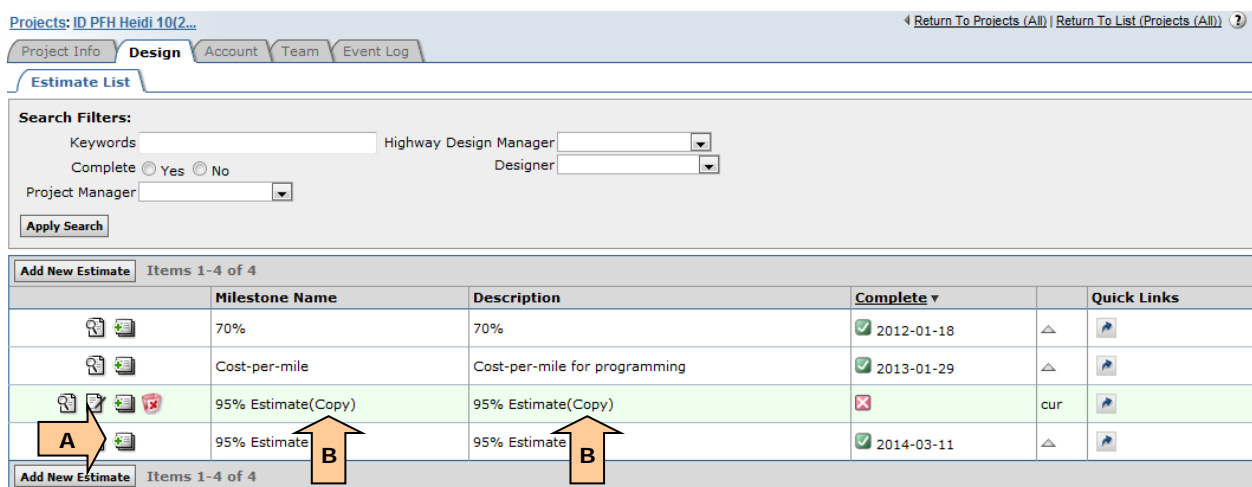


This selection advances the program to the “Estimate” tab (See Section 2.3.2).

### 2.3.1.2 Copy Estimate

The copy icon creates a new estimate from a previously created estimate. As the project progresses, it is important to save estimates at major milestones by copying the completed estimate to the next milestone. This provides a record of the project development and could also save rework if project requirements change.

- A. To copy a previously created estimate, select the copy icon; and
- B. A copied estimate must be edited to change the Milestone Name, Description, etc.



### 2.3.1.3 Edit Previously Created Estimate

- A. To edit to a previously created estimate, select the “edit” icon.

Projects: PRA YELL 10(15) G... Return | Return To List (Projects (All))

Project Info **Design** Account Team Event Log

**Estimate List**

**Search Filters:**

Keywords  Highway Design Manager

Complete ☐ yes ☐ no Designer

Project Manager

**Apply Search**

**Add New Estimate** Items 1-2 of 2

	Milestone Name	Description	Complete ▾		Quick Links
	CPL		2009-06-05		
<b>A</b>	Signoff			cur	

**Add New Estimate** Items 1-2 of 2

This selection advances the program to the “Estimate” tab (See Section 2.3.2).

### 2.3.1.4 View Previously Created Estimate

- A. To view to a previously created estimate, select the view icon.

Projects: PRA YELL 10(15) G... Return | Return To List (Projects (All))

Project Info **Design** Account Team Event Log

**Estimate List**

**Search Filters:**

Keywords  Highway Design Manager

Complete ☐ yes ☐ no Designer

Project Manager

**Apply Search**

**Add New Estimate** Items 1-2 of 2

	Milestone Name	Description	Complete ▾		Quick Links
	CPL		2009-06-05		
<b>A</b>	Signoff			cur	

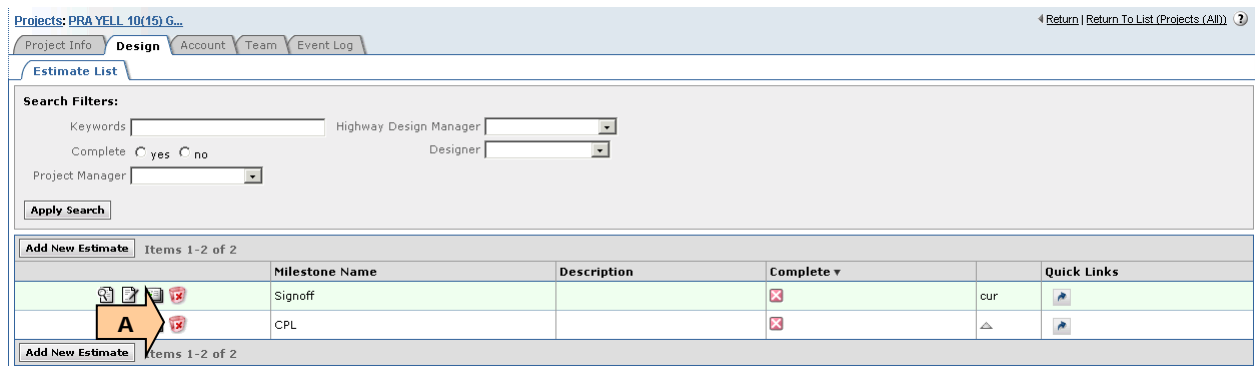
**Add New Estimate** Items 1-2 of 2

This selection advances the program to the “Estimate” tab (See Section 2.3.2).

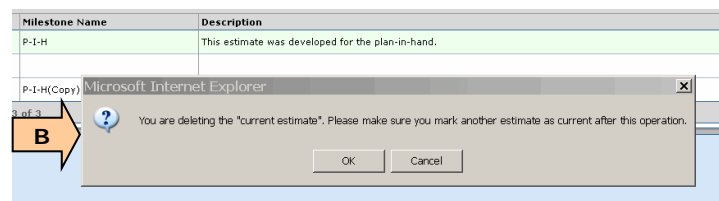


### 2.3.1.5 Delete Previously Created Estimate

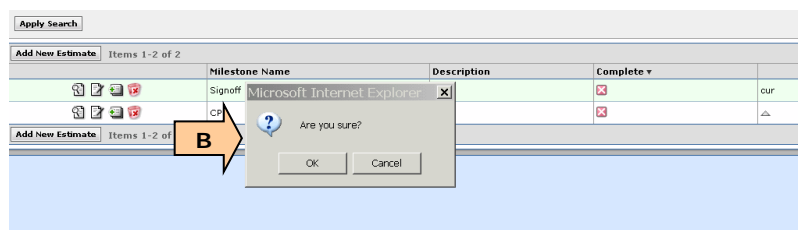
A. To delete a previously created estimate, select the delete icon.



B. A warning pop-up will appear. Once the deletion has been confirmed, it cannot be undone. **There is no backup copy.** Note that other milestone estimates will remain.

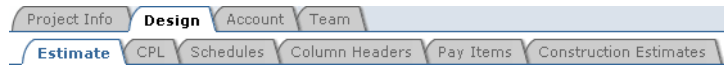


### Current Estimate example



### Non-current Estimate example

## 2.3.2 Estimate



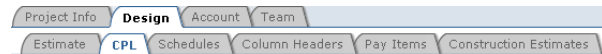
Under the “Estimate” tab modify the estimate name (use milestone name), a brief description of the estimate, and the status of the estimate (complete/current).

- Insert the estimate’s milestone name (examples: 15%, 30%, 50%, P-I-H, Final PS&E, PS&E Approval Reviews);
- Insert description of estimate (examples: 15%, 30%, 50%, P-I-H, Final PS&E, PS&E Approval Reviews, plus additional description/details, if needed.). Do not leave blank;
- The radio buttons for “complete” and “current” designate the status of the estimate. When work on an estimate is complete, toggle “yes” in the “complete” row. An estimate marked complete can no longer be edited. Editing can only be accomplished in an incomplete estimate; and
- Select a command to continue with the program.

The screenshot shows the EEBACS software interface. The top navigation bar has tabs for Project Info, Design, Account, Team, Estimate, CPL, Schedules, Column Headers, Pay Items, and Construction Estimates. The 'Estimate' tab is selected. Below the navigation bar, there is a warning message: 'This project is currently missing the following role(s): Bridge Manager. You can correct this by adding the missing roles on the Team Tab.' Below this, there are buttons: Save & Close, Save, Delete, Cancel, Cancel & Close, and Copy Estimate. The main form area is titled 'Estimate' and contains the following fields: Milestone Name\* (with a text input field containing 'P-I-H'), Description (with a text area containing 'This estimate was developed for the plan-in-hand.' and a 'Check Spelling' button), Complete?\* (with radio buttons for 'yes' and 'no'), and Current?\* (with radio buttons for 'yes' and 'no'). At the bottom of the form are buttons: Save & Close, Save, Delete, Cancel, Cancel & Close, and Copy Estimate. On the right side, there is an 'Estimate Info' section with a table showing Created, By, Modified, and By fields, all with the value 'Designer'.

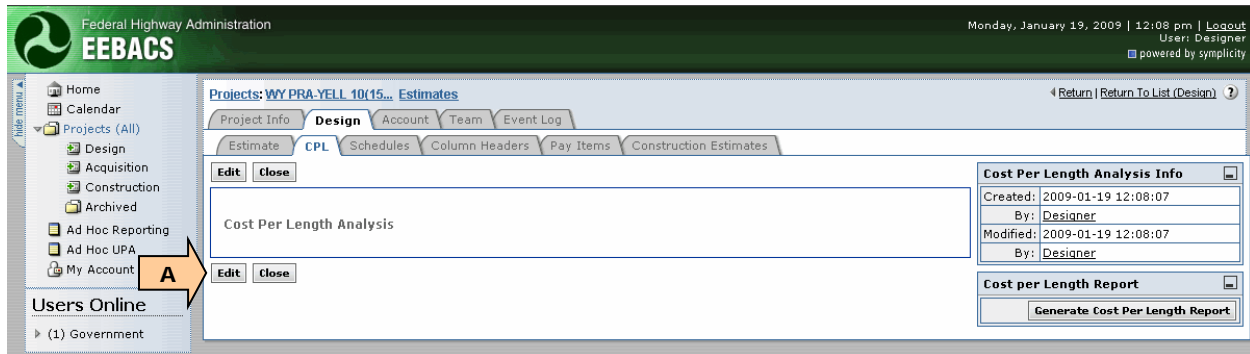
- ⚡ Prior to generating the engineer’s estimate report and the summary of quantities for formal PS&E distribution, the milestone estimate should be marked as complete, with the completion date added.

### 2.3.3 CPL (Cost per Length)

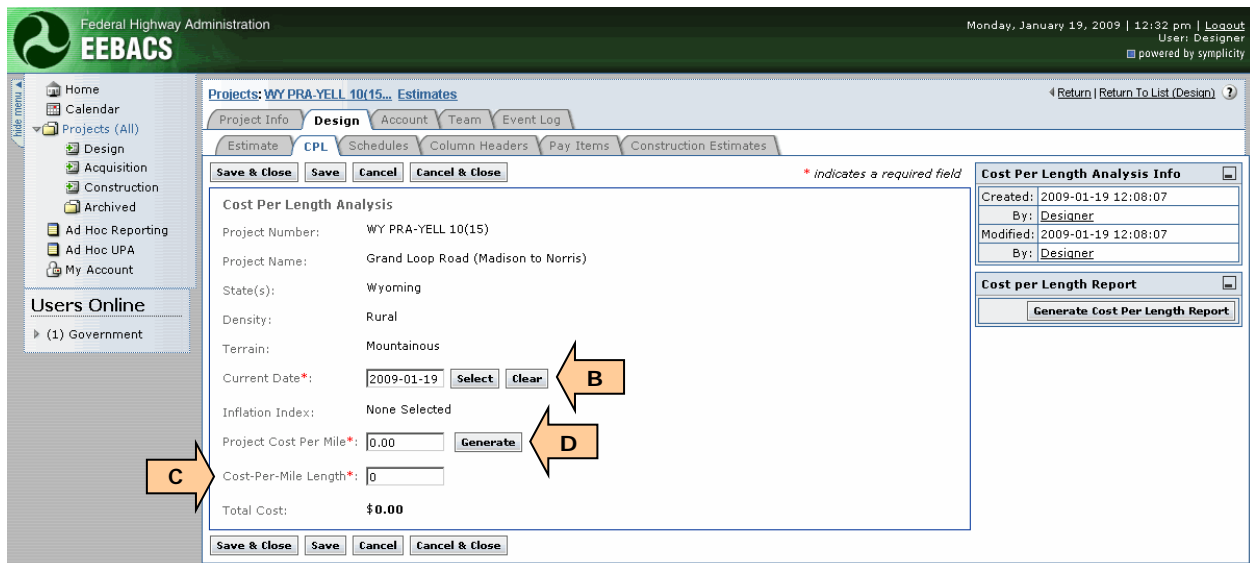


The "CPL" tab allows development of estimates using "comparable" past projects costs. Data is taken from bid history. This estimating method requires a length (miles/kilometers) of project and knowledge of past projects with similar work. If knowledge of past projects is lacking; consult your supervisor before using this estimating method. Costs developed using this method are approximate and intended to be used for preliminary or scoping estimates only.

- A. Select a command to continue with the program.



- B. Current date is automatically populated, but can be changed;  
 C. Input project length; and  
 D. To determine the project cost per length, select the "Generate" button.



- E. Use the search filters to limit the projects to be considered. Typically select state, density, terrain, and award date range. Upon selecting "apply search" the results table will be populated;
- F. Select appropriate project costs;
- G. Select an appropriate inflation index for the project. The inflated costs will populate the table in bold text below the original cost. Prices will be inflated to the most recent published data for the selected construction cost index (most indices are updated quarterly). Future price escalation are not included;
- H. Select the update icon to populate the minimum, average, and maximum past project costs;
- I. Add relevant remarks to inform reviewers how the "unit price used" was established;
- J. Input the "unit price used" by either selecting the minimum, average, or maximum price generated or inputting a price determined by the user. Round the unit price per Division policy; and
- K. Select a command to continue with the program.

**Cost Per Length**

**Search Filters:**

Keywords:

State:

Construction Type:

Schedule Length:  to

Density:

Terrain:

Award Date:  to

Show Selected Only? ☐ Yes ☐ Ignore

**Results: Items 1-8 of 8**

State	Schedule Letter	Project Number	Project Name	Award Date	Inflation Rate	Schedule Length	Low 1	Low 2	Low 3	Low 4	Low 5	Total Amt	Construction Type	Terrain	Density
MT	A	GLAC 12(157-TEST)	GLACIER TEST 11172008	Nov 18, 2008	0%	2.8	<input type="checkbox"/> \$2,446,785.71 <b>\$2,446,785.71</b>	<input type="checkbox"/> \$5,479,357.14 <b>\$5,479,357.14</b>				\$15,342,200.00	902 AC Construction 5/8	Mountainous	Rural
MT	B	GLAC 12(157-TEST)	GLACIER TEST 11172008	Nov 18, 2008	0%	2.8	<input type="checkbox"/> \$30,913,660.71 <b>\$30,913,660.71</b>	<input type="checkbox"/> \$3,568,937.50 <b>\$3,568,937.50</b>				\$0.00	902 AC Construction 5/8	Mountainous	Rural
WY	A	WY PRA-GRTE 100(1), 209 (1), & 225(1)	MOOSE-WILSON ROAD, LAKE CREEK BRIDGE; ETAL.	Aug 11, 2004	64.71%	0.131	<input checked="" type="checkbox"/> \$9,148,353.05 <b>\$15,060,252.31</b>	<input checked="" type="checkbox"/> \$10,684,492.37 <b>\$17,598,427.38</b>	<input checked="" type="checkbox"/> \$10,816,325.19 <b>\$17,815,569.22</b>	<input type="checkbox"/> \$12,276,758.40 <b>\$20,221,048.76</b>	<input type="checkbox"/> \$14,462,374.05 <b>\$23,820,976.29</b>	\$1,198,434.25	B	Mountainous	Rural
WY	A	WY PRA-YELL 13(3)	EAST ENTRANCE ROAD, SEGMENT C	May 26, 2004	64.71%	4.978	<input type="checkbox"/> \$0.00 <b>\$0.00</b>					\$13,727,654.90	R	Mountainous	Rural
MT	A	MT PFH 59-1 (1)	BEARTOOTH HIGHWAY	Feb 23, 2004	64.71%	4.978	<input checked="" type="checkbox"/> \$2,057,899.68 <b>\$3,389,566.56</b>	<input type="checkbox"/> \$2,135,944.05 <b>\$3,518,113.45</b>	<input type="checkbox"/> \$2,252,352.75 <b>\$3,709,850.22</b>	<input type="checkbox"/> \$2,833,305.76 <b>\$4,666,737.91</b>		\$11,212,212.00	R	Mountainous	Rural
MT	A	MT PFH 29-1 (1)	LAKESIDE TO NELSON	Dec 12, 2003	93.1%	3.195	<input type="checkbox"/> \$312,018.42 <b>\$602,507.57</b>	<input type="checkbox"/> \$404,735.45 <b>\$781,544.15</b>				\$996,898.85	3	Mountainous	Rural
MT	A	MT PRA - GLAC 10(17) & 10(18)	GOING TO THE SUN ROAD (PHASE III) & (PHASE IV)	Oct 24, 2003	93.1%	0.242	<input type="checkbox"/> \$8,946,371.17 <b>\$17,275,44</b>	<input type="checkbox"/> \$9,069,909.09 <b>\$17,513,994.45</b>	<input type="checkbox"/> \$12,074,923.55 <b>\$23,316,677.38</b>	<input type="checkbox"/> \$13,219,305.79 <b>\$25,526,479.47</b>		\$2,922,131.50	3	Mountainous	Rural
WY	D	WY PRA-GRTE 13(1)	NORTH PARK ROAD - OPTION C	Jul 03, 2003	93.1%	3.119	<input type="checkbox"/> \$0.00 <b>\$0.00</b>					\$291,500.00	R	Mountainous	Rural

4 Bid Picked Avg: \$13,467,953.87 Max: \$17,815,569.22 Min: \$3,389,566.56

Unit Price Used: 13500000 Remark: Section limited, used projects of like work, but lesser lengths Inflation: Washington DOT

💡 If prices are to be selected from multiple screens (pages), select the "update" button of the current screen before going to the next screen and selecting more prices (otherwise current screen price selections are not saved).

💡 There are a number of inflation indexes available in EEBACS for use when doing a unit price check. The inflation indices adjust prices from award date to the latest available inflation index in EEBACS. Typically use an index for the project State or a State in close proximity to the project. If there is no State index select indexes created by data from the Bureau of Labor and Statistics (BLS Non-Residential Construction PPI) where inflation of work and materials are tracked on all non-residential construction, or the Federal Highway index (National Highway CCI) where inflation on highway

construction costs are tracked. The BLS index is adjusted monthly and the National Highway index is adjusted quarterly. Of these two, for typical roadway projects, use the National Highway CCI.

- L. The “unit price used” generated from the previous screen multiplied by the inputted “cost-per-mile (kilometer)” length is used to compute the total cost;
- M. A CPL report may be generated; and
- N. Select a command to continue with the program.

Federal Highway Administration  
**EEBACS**

Monday, January 19, 2009 | 12:40 pm | Logout  
User: Designer  
powered by simplicity

Projects: **WY PRA-YELL 10(15) Estimates**

Project Info | **Design** | Account | Team | Event Log

Estimate | **CPL** | Schedules | Column Headers | Pay Items | Construction Estimates

Save & Close | Save | Cancel | Cancel & Close

\* indicates a required field

**Cost Per Length Analysis**

Project Number: WY PRA-YELL 10(15)

Project Name: Grand Loop Road (Madison to Norris)

State(s): Wyoming

Density: Rural

Terrain: Mountainous

Current Date\*: 2009-01-19 | Select | Clear

Inflation Index: Washington DOT CCI

Project Cost Per Mile\*: 13500000 | Generate

Cost-Per-Mile Length\*: 10

Total Cost: \$135000000.

Save & Close | Save | Cancel | Cancel & Close

**Cost Per Length Analysis Info**

Created: 2009-01-19 12:08:07  
By: Designer

Modified: 2009-01-19 12:08:07  
By: Designer

**Cost per Length Report**

Generate Cost Per Length Report

Users Online  
(1) Government

### 2.3.4 Schedules

Project Info | **Design** | Account | Team

Estimate | CPL | **Schedules** | Column Headers | Pay Items | Construction Estimates

Estimates: **P-I-H**

No Records Found.

Add New Schedule

Create single or multiple schedules for an estimate within the “Schedules” tab.

- A. Select “Add New Schedule” to continue with the program.

Federal Highway Administration  
**EEBACS**

Monday, January 19, 2009 | 1:15 pm | Logout  
User: Designer  
powered by simplicity

Estimates: **P-I-H**

Project Info | **Design** | Account | Team | Event Log

Estimate | CPL | **Schedules** | Column Headers | Pay Items | Construction Estimates

No Records Found.

Add New Schedule

Users Online  
(1) Government  
(1) Staff

B. An existing schedule may be copied within the project's estimate. Select either a "copy" or a "shared" version. Shared estimates link pay items together (i.e. any change in a pay item for one schedule will be reflected in the other schedule). Copied estimates do not link pay items and is generally the preferred method of coping schedules;

C. Required fields:

- **Schedule Type** – Base, Option, or Alternate. A "base" schedule is selected when soliciting prices for one schedule or if there are multiple schedules with one or multiple "option" schedules. An "option" schedule is selected when soliciting prices for multiple schedules using Base schedule(s) and Option schedule(s). Options can be awarded at a later date. An "alternate" schedule is selected when soliciting prices for multiples schedules (and NO Options are included in the advertisement).

The screenshot shows the 'Schedules' form in the EEBACS Design Module. The form has tabs for Project Info, Design, Account, Team, and Event Log. The 'Design' tab is active, showing sub-tabs for Estimate, CPL, Schedules, Column Headers, Pay Items, and Construction Estimates. The 'Schedules' sub-tab is selected. The form contains the following fields and controls:

- Copy Existing:** A dropdown menu with the text 'Pick a schedule from which you'd like to copy data'. An orange arrow labeled 'B' points to this field.
- Schedule Type\*:** A dropdown menu.
- Schedule Letter\*:** A dropdown menu.
- Construction Type\*:** A dropdown menu with the text 'Describes the type of construction for the project (i.e. Mill 2"/Overlay 4")'.
- Schedule Description\*:** A text area with the text 'Describes the type of work being performed on the project (i.e. Grading, Base, Pavement)'.
- Schedule Termini\*:** A text area with the text 'Describes the beginning and ending location of the project (i.e. From Milepost -40)'. An orange arrow labeled 'C' points to this field.
- CPM Days:** A text input field. An orange arrow labeled 'D' points to this field.
- Line Item Starting Number\*:** A text input field.
- Line Item Increment Number\*:** A text input field.
- GIS Route(s):** A button labeled 'Add GIS Route'.
- Schedule Length:** A text input field with '0 miles' and a small icon.
- Lane Miles:** A text input field.
- Bridge(s):** A button labeled 'Add Bridge'.

At the bottom of the form are buttons for 'Save & Close', 'Save', and 'Cancel'. A red asterisk indicates a required field.

- **Schedule Letter** – Attaches an alpha designator (A-Z) to the schedule. Consult supervisor for local Division practices;
- **Construction Type** – Describes the major type of work to be accomplished in this schedule. If the pull-down menu does not adequately reflect project work, consult with the Division's EEBACS Design Component Lead;
- **Schedule Description** – Input major work items to be performed
- **Schedule Termini** – Describe the beginning and ending points of the project that this schedule represents (example: station to station, milepost to milepost, or route junction to route junction);
- **Line Item Starting Number** – Each pay item is automatically assigned a line item number. Line item numbers are four digits. Start the first line item number with 0020 or 0100 depending on the amount of pay items;
- **Line Item Increment Number** – Defines the spacing between line item numbers. A value of 20 is recommended. It is important to set the line item number increment as large as possible, in order to leave room for new pay items resulting from Amendments, Contract Modifications, or Quality incentive payments. Line Item Numbers will vary from estimate to estimate. Once a project is advertised

the Line Item Number can no longer be changed. Line item numbers should not exceed 9999; and

- D. CPM Days. This is the estimated number of days required to complete the work, typically calculated using the Critical Path Method (CPM). See your supervisor for details regarding CPM.

### 2.3.4.1 GIS Routes and Bridges

Geographic Information System (GIS) is a collection of data on routes that assists FLMA and FLH in managing transportation systems.

- A. Select the "Add GIS Route" icon and a detailed data field screen appears. See next page for details;
- B. Schedule Length and Lane Miles. Input the schedule length from beginning to end. Schedule length is the same length shown on the title sheet of the plans for that schedule. Lengths are to three decimal places. By default, the schedule length is the total of the GIS route lengths in a particular schedule. If that is not true for the project, select the edit icon to manually enter the schedule Length. Lane-miles must always be manually entered;

Lane miles is the length of lanes in a schedule. Lane miles is not always a doubling of the schedule length. Lane miles include acceleration lanes, deceleration lanes, etc.;

- C. Select the "Add Bridges" icon and a detailed data field screen appears. See next page for details; and
- D. Select a command to continue with the program.

The screenshot displays the 'Schedules' window within the EEBCS application. The window has a title bar with 'Projects: PRA YELL 10(15) G...' and 'Estimates: Signoff'. Below the title bar are tabs for 'Project Info', 'Design', 'Account', 'Team', and 'Event Log'. Under the 'Design' tab, there are sub-tabs for 'Estimate', 'CPL', 'Schedules', 'Column Headers', 'Pay Items', and 'Construction Estimates'. The 'Schedules' sub-tab is active. At the top of the window are buttons for 'Save & Close', 'Save', and 'Cancel'. A note on the right states '\* indicates a required field'. The main area contains the following fields and controls:

- Schedule** section:
  - Copy Existing: Pick a schedule from which you'd like to copy data (dropdown menu)
  - Schedule Type\*: (dropdown menu)
  - Schedule Letter\*: (dropdown menu)
  - Construction Type\*: Describes the type of construction for the project (i.e. Mill 2"/Overlay 4") (dropdown menu)
  - Schedule Description\*: Describes the type of work being performed on the project (i.e. Grading, Base, Pavement) (text area)
  - Schedule Termini\*: Describes the beginning and ending location of the project (i.e. From Milepost 349.7 to I-40) (text area)
  - CPM Days: (text input)
  - Line Item Starting Number\*: (text input)
  - Line Item Increment Number\*: (text input)
  - GIS Route(s): (text input) with an 'Add GIS Route' button (labeled A)
  - Schedule Length: 0 miles (text input) with an edit icon (labeled B)
  - Lane Miles: (text input)
  - Bridge(s): (text input) with an 'Add Bridge' button (labeled C)
- At the bottom are buttons for 'Save & Close', 'Save', and 'Cancel' (labeled D).

When the “Add GIS Route” icon has been selected the following data fields appear:

- E. Data for required fields may be determined according to the [GIS Appendix](#);
- F. Opens additional data fields to input data for an additional GIS route; and
- G. Deletes the GIS data.

The screenshot shows a software interface for adding a GIS route. At the top, there is a 'Line Item Increment Number\*' field. Below it is a 'GIS Route(s):' section containing a list of input fields: 'GIS Route\*', 'Length\*' (with a 'miles' unit), 'Construction Type\*', 'GIS Milepost Start', 'GIS Milepost End', 'Parking Lot Area' (with a 'SQYD' unit), 'Lat Begin of Project', 'Long Begin of Project', 'Lat End of Project', 'Long End of Project', 'Termini', and 'Comment'. A bracket labeled 'E' groups the first six fields. At the bottom left, an 'Add GIS Route' button is labeled 'F'. At the bottom right, a 'Remove GIS Route' button is labeled 'G'. Below the main form, there is a 'Schedule Length:' field with a 'miles' unit and a help icon.

When the “Add Bridge” icon has been selected the following data fields appear:

- H. Data for required fields may be determined according to the GIS Appendix;
- I. Opens additional data fields to input data for an additional bridge;
- J. Input bridge length; and
- K. Deletes the bridge data inputted.

The screenshot shows a software interface for adding a bridge. At the top, there is a 'Lane Miles:' field. Below it is a 'Bridge(s):' section containing a list of input fields: 'Bridge Identification', 'GIS Route', 'Bridge Construction Type', 'Bridge Size (area)' (with a 'SQFT' unit), 'GIS Milepost Start', 'GIS Milepost End', 'Bridge Lat Begin', 'Bridge Long Begin', 'Bridge Lat End', 'Bridge Long End', 'Bridge Length\*' (with a 'FT' unit), and 'Remove Bridge'. A bracket labeled 'H' groups the first six fields. At the bottom left, an 'Add Bridge' button is labeled 'I'. At the bottom right, a 'Remove Bridge' button is labeled 'K'. At the bottom center, a 'Bridge Length\*' field with a 'FT' unit is labeled 'J'. At the very bottom, there are 'Save & Close', 'Save', and 'Cancel' buttons.



## 2.3.5 Column Headers



Establish column headers for the Summary of Quantity plan sheet (or report) in the "Column Headers" tab. A maximum of 26 columns are available. Consult your supervisor for the Division format.

- A. Select the "add a pick" box to open "Pick Label" and "Page No." data fields for input; then

Projects: [PRA-YELL 10\(16\) G...](#) Estimates

Project Info Design Account Team Event Log

Estimate CPL Schedules **Column Headers** Pay Items Construction Estimates

**Column Headers:**  
Add/Edit list of column headers related to this estimate

Pick Label	Page No.

Save Delete All Column Headings

- B. Input column header name (Typical Section, Plan & Profile, Surfacing Summary, Roadway name, etc.);
- C. Input plan sheet page number or plan section alpha designator depending on local Division policy. If no sheet number reference is required, enter a space;
- D. Select icon to add another data field below;
- E. Select icon to delete the adjacent pick label and page number;
- F. Select icon to move pick label and page number up or down in the listing;
- G. Select a command to continue with the program; and
- H. Select icon to delete all column headings. **Warning:** Quantities will remain but will need to be reassigned to another column.

Projects: [PRA-YELL 10\(16\) G...](#) Estimates

Project Info Design Account Team Event Log

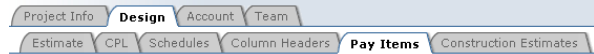
Estimate CPL Schedules **Column Headers** Pay Items Construction Estimates

**Column Headers:**  
Add/Edit list of column headers related to this estimate

Pick Label	Page No.
New Item	0

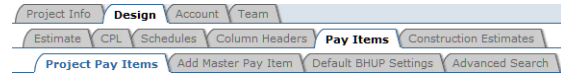
Save Delete All Column Headings

## 2.3.6 Pay Items



Add, edit, and delete project pay items and create temporary pay items in the “Pay Items” tab for an estimate or schedules.

### 2.3.6.1 Project Pay Items



The “Project Pay Items” tabs allow access to the master pay items (see Section 2.3.6.2 for more details), adding temporary pay items, and updating line number. Once pay items are added to a schedule, it also lists all pay items.

Project pay items must be assigned a schedule in order for the pay item to be included in the total estimate cost. The construction estimate will compute even if all items are not complete. Those incomplete items will just not be included in the total estimate dollar amount. Pay items can be assigned to one schedule or be shared between multiple schedules (determine local Division policy before using “shared pay items”).

A pay item assigned to a schedule will be shown in the project pay item listing as follows:

Example of a pay item assigned to one schedule:

Add Temporary Pay Item		Add Master Pay Items		Update All Line Numbers		Items 1-20 of 25				
		Pay Item # ▼	Sched	Pay Item Type	Pay Item Description (US Customary)	Units ▼	Unit Price ▼	Quantity ▼	Total Price ▼	Comp.
<input type="checkbox"/>		15101-0000	A	N	MOBILIZATION	LPSM	\$255,450.00	ALL	\$255,450.00	yes
<input type="checkbox"/>		15201-0000	A	N	CONSTRUCTION SURVEY AND STAKING	LPSM	\$200,000.00	ALL	\$200,000.00	yes
<input type="checkbox"/>		15301-0010	A	N	CONTRACTOR QUALITY CONTROL AND ASSURANCE	LPSM	\$300,000.00	ALL	\$300,000.00	yes
<input type="checkbox"/>		15401-0000	A	N	CONTRACTOR TESTING	LPSM	\$100,000.00	ALL	\$100,000.00	yes
<input type="checkbox"/>		15501-0000	A	N	CONSTRUCTION SCHEDULE	LPSM	\$90,000.00	ALL	\$90,000.00	yes
<input type="checkbox"/>		15705-0100	A	N	SOIL EROSION CONTROL, SILT FENCE	LNFT	\$15.00	2,000	\$30,000.00	yes
<input type="checkbox"/>		15705-0500	A	N	SOIL EROSION CONTROL, TEMPORARY CULVERT PIPE	LNFT	\$65.00	500	\$32,500.00	yes
<input type="checkbox"/>		20101-0000	A	N	CLEARING AND GRUBBING	ACRE	\$2,500.00	10.0	\$25,000.00	yes

Example of a pay item shared by two schedules:

Add Temporary Pay Item		Add Master Pay Items		Update All Line Numbers		Items 1-20 of 24				
		Pay Item # ▼	Sched	Pay Item Type	Pay Item Description (US Customary)	Units ▼				
<input type="checkbox"/>		15101-0000	A, B	N	MOBILIZATION	LPSM				
<input type="checkbox"/>		15201-0000	A, B	N	CONSTRUCTION SURVEY AND STAKING	LPSM				

- A. To unlink a shared pay item, the schedule must be unchecked when editing the pay item.

**Caution:** Un-checking a schedule for a pay item is the same as deleting the pay item from the unchecked schedule. Deleting a shared pay item will delete the pay item from all schedules.

Projects: PRA YELL 10(15) G... Estimates: Signoff Design Pay Items

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Save & Close Save **Delete** Cancel & Close Save & Previous Save & Next View Previous View Next

Pay Item #: 15705-0500 Pay Item Description: SOIL EROSION CONTROL, TEMPORARY CULVERT PIPE  
Pay Item Type: N Pay Item (U.S. Units): LNFT

**Design Pay Item**

Supplemental Description:

Schedule\*: ☒ A ☒ B **A**

Pay Item Type\*: N

Contract Quantity\*: ☐ yes ☒ no

Bid Decimal\*: 0

- B. Before pay items are included, this screen will indicate “No Records Found”;
- C. Select “Add Temporary Pay Item” icon when a pay item is not available in the master pay item list and is needed immediately. (See Section 2.3.6.3);
- D. Select “Add Master Pay Item” icon when adding pay items to an estimate (See Section 2.3.6.2); and
- E. Select “Update All Line Numbers” icon when pay items are added, deleted, or reordered in an estimate (See Section 2.3.6.6).

Federal Highway Administration  
**EEBACS**

Estimates: P-I-H

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Pay Items Add Master Pay Item Advanced Search

**Search Filters:**

Keywords: Total Price: Complete: ☐ yes ☒ no

Schedule: ☐ A

Unit Price:

**Apply Search**

**No Records Found.**

**Add Temporary Pay Item** **Add Master Pay Items** **Update All Line Numbers**

**Users Online**

► (1) Contract Staff

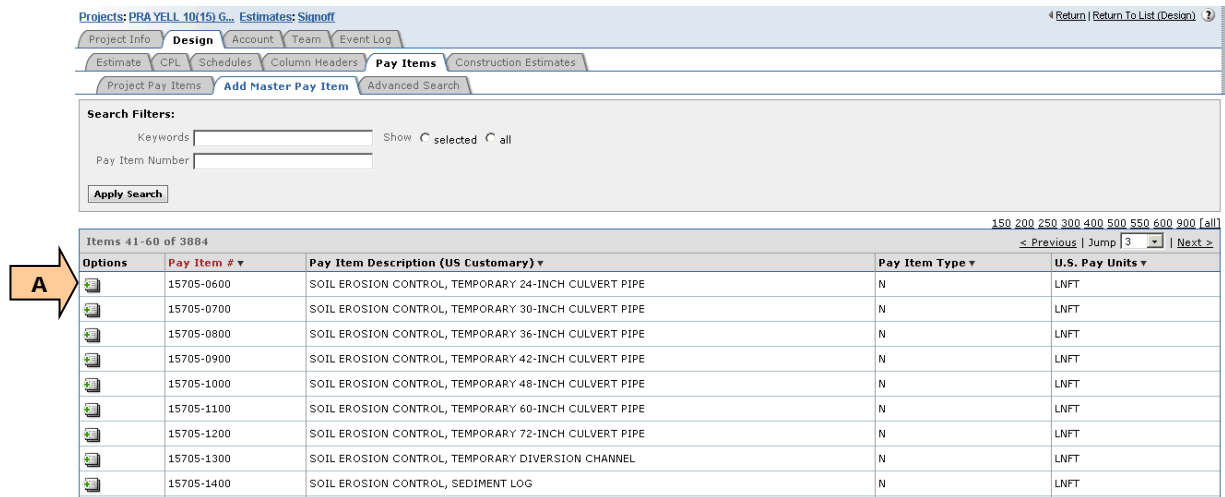
► (1) Government **B**

**C** **D** **E**

### 2.3.6.2 Add Master Pay Item

Add pay items to an estimate with the “Add Master Pay Item” tab. Only pay items from the project’s assigned FP will be shown.

- A. Select the “add” icon to include the pay item in an estimate. The same pay item can be selected numerous times (duplicate pay items are acceptable) by selecting the “add” icon again.



Projects: PRA YELL 10(15) G... Estimates: Signoff

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

Search Filters:

Keywords  Show ☐ selected ☐ all

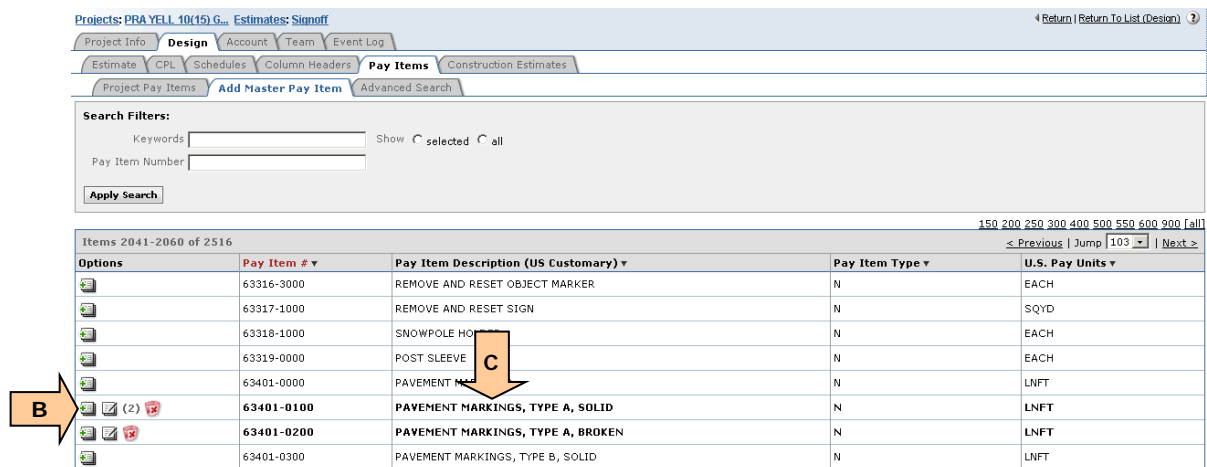
Pay Item Number

Apply Search

Items 41-60 of 3884

Options	Pay Item #	Pay Item Description (US Customary)	Pay Item Type	U.S. Pay Units
	15705-0600	SOIL EROSION CONTROL, TEMPORARY 24-INCH CULVERT PIPE	N	LNFT
	15705-0700	SOIL EROSION CONTROL, TEMPORARY 30-INCH CULVERT PIPE	N	LNFT
	15705-0800	SOIL EROSION CONTROL, TEMPORARY 36-INCH CULVERT PIPE	N	LNFT
	15705-0900	SOIL EROSION CONTROL, TEMPORARY 42-INCH CULVERT PIPE	N	LNFT
	15705-1000	SOIL EROSION CONTROL, TEMPORARY 48-INCH CULVERT PIPE	N	LNFT
	15705-1100	SOIL EROSION CONTROL, TEMPORARY 60-INCH CULVERT PIPE	N	LNFT
	15705-1200	SOIL EROSION CONTROL, TEMPORARY 72-INCH CULVERT PIPE	N	LNFT
	15705-1300	SOIL EROSION CONTROL, TEMPORARY DIVERSION CHANNEL	N	LNFT
	15705-1400	SOIL EROSION CONTROL, SEDIMENT LOG	N	LNFT

- B. Duplicate pay item numbers are indicated by the number a pay item is selected in parenthesis (i.e. “(2)” in this example). The options column is also populated with “edit pay item” and “delete most recent” icon; and
- C. Selected pay items are indicated by bold font style.



Projects: PRA YELL 10(15) G... Estimates: Signoff

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

Search Filters:

Keywords  Show ☐ selected ☐ all

Pay Item Number

Apply Search

Items 2041-2060 of 2516

Options	Pay Item #	Pay Item Description (US Customary)	Pay Item Type	U.S. Pay Units
	63316-3000	REMOVE AND RESET OBJECT MARKER	N	EACH
	63317-1000	REMOVE AND RESET SIGN	N	SQYD
	63318-1000	SNOWPOLE HO	N	EACH
	63319-0000	POST SLEEVE	N	EACH
	63401-0000	PAVEMENT MARKINGS, TYPE A, SOLID	N	LNFT
(2)	<b>63401-0100</b>	<b>PAVEMENT MARKINGS, TYPE A, SOLID</b>	N	LNFT
	<b>63401-0200</b>	<b>PAVEMENT MARKINGS, TYPE A, BROKEN</b>	N	LNFT
	63401-0300	PAVEMENT MARKINGS, TYPE B, SOLID	N	LNFT

Continue to add items to the schedule until all desired items are selected.

If an item cannot be found in the table, place a request to add a new pay item with the EEBACS Division Administrator. See <http://flh.fhwa.dot.gov/resources/pse/estimate/#pay-items> for more information and time requirements for requests.

An example of a Project Pay Item list after adding items from the “Master Pay Items” icon:

Projects: PRA YELL 10(15) G... Estimates: Signoff(Copy) Return | Return To List (Design)

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

**Search Filters:**

Keywords  Total Price

Schedule ☐ A ☐ B Complete ☐ yes ☐ no






Unit Price

Apply Search

Add Temporary Pay Item		Add Master Pay Items		Update All Line Numbers		Batch Options		Items 1-12 of 12			
<input type="checkbox"/>	<input type="checkbox"/>	Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Quantity	Total Price	Comp.	Options
<input type="checkbox"/>	<input type="checkbox"/>	15101-0000		N	MOBILIZATION	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	15201-0000		N	CONSTRUCTION SURVEY AND STAKING	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	15301-0010		N	CONTRACTOR QUALITY CONTROL AND ASSURANCE	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	15401-0000		N	CONTRACTOR TESTING	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	15501-0000		N	CONSTRUCTION SCHEDULE	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	15701-0000		N	SOIL EROSION CONTROL	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	20401-0000		N	ROADWAY EXCAVATION	CUYD	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	30101-1000		NM	AGGREGATE BASE GRADING C	TON	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	40101-0100		NR	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL	TON	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	60201-0800		N	24-INCH PIPE CULVERT	LNFT	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	60201-1000		N	36-INCH PIPE CULVERT	LNFT	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	<input type="checkbox"/>	60201-1200		N	48-INCH PIPE CULVERT	LNFT	\$0.00	0	\$0.00	no	BHUP CBUP

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers Items 1-12 of 12

- 💡 In EEBACS, partnering, performance incentives, asphalt/fuel escalation should be added as 999 Pay Items:

Add New Pay Item		Items 1-13 of 13									
Actions	Pay Item #	Description (Metric) ▾	Description (US Customary) ▾	Metric Units ▾	US Units ▾	Bid ▾	Pay ▾	Type ▾	FP Year ▾	modified ▾	created ▾
	99901-0000	Partnering	PARTNERING	LPSM	LPSM	0	0	DI	03	06-25-2010 16:00:46	10-29-2007 17:13:26
	99902-0000	Performance Incentives	PERFORMANCE INCENTIVES	LPSM	LPSM	0	0	DI	03	08-06-2008 19:00:18	10-29-2007 17:13:26
	99903-0000	Performance Incentives	PERFORMANCE INCENTIVES	Day	DAY	0	0	DI	03	10-14-2008 17:20:21	10-29-2007 17:13:26
	99904-0000	Asphalt Escalation	ASPHALT ESCALATION	LPSM	LPSM	0	0	DI	03	11-16-2008 13:55:36	10-29-2007 17:13:26
	99905-0000	Fuel Escalation	FUEL ESCALATION	LPSM	LPSM	0	0	DI	03	11-16-2008 13:55:47	10-29-2007 17:13:26

### 2.3.6.3 Add Temporary Pay Item

The “Add Temporary Pay Item” icon allows temporary pay items to be added to an estimate or schedules until a permanent pay item (from the Master Pay Item table) can be established.

Note: Submit requests for new pay items as early in the process as possible. Do not wait until the project is almost ready to be promoted to Acquisitions. Estimates with temporary pay items **cannot** be forwarded to Acquisitions.

- A. Select “Add Temporary Pay Item” icon to access additional data fields.

Projects: PRA-YELL 10(16) G... Estimates: SIGNOFF

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

**Search Filters:**

Keywords  Total Price

Schedule  Complete ☐ yes ☐ no

Unit Price

**Apply Search**

No Records Found.

**Add Temporary Pay Item** Add Master Pay Items Update All Line Numbers

A

Creating a temporary pay item is much like editing a pay item from the master pay item list except for the following:

- B. Enter a five digit number. The first three digits should reflect the FP Section in which the work will be performed (example: 647\_\_ for work in Section 647). The next two digits can be any numbers that best fits;
- C. Enter a pay item description that reflects the work. Where possible try to use the same format as similar pay item descriptions (example: Temporary traffic control, *new temporary pay item description*); and
- D. See Section 2.3.6.4 for further instructions on how to populate pay item data fields.

Temporary Pay Item

Temporary Pay Item:

**Pay Item**

Temp Pay Item #

Enter the 5 digits to be used for the Pay Item Number

**B**

Pay Item #

A unique number assigned to a pay item (i.e. 60201-2000). Pay items define specific work to complete the project (i.e. 24-inch pipe culvert, would include all material, labor and equipment necessary to complete the installation of the pipe culvert on the project)

Pay Item Description (US Customary)

For the unique pay item number a description reflecting U.S. customary/Metric Units description of the pay item (i.e. 24-inch pipe culvert)

**C**

Pay Item Type\*

Pay Unit (U.S. Units)

For the unique pay item number a description of the payment measurement reflecting U.S. customary measure (i.e. Linear feet)

**D**

E. Temporary pay items are designated “-TEMP” in the pay item number.

Projects: WY PRA-YELL 10/15, Estimates: P-LH

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

Search Filters:

Keywords  Total Price

Schedule ☐ A Complete ☐ yes ☐ no

Unit Price

Apply Search

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers Items 1-20 of 21

	Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Ur
<input type="checkbox"/>	15101-0000	A	N	MOBILIZATION	LPSM	
<input type="checkbox"/>	15201-0000	A	N	CONSTRUCTION SURVEY AND STAKING	LPSM	\$
<input type="checkbox"/>	15301-0010	A	N	CONTRACTOR QUALITY CONTROL AND ASSURANCE	LPSM	\$
<input type="checkbox"/>	15401-0000	A	N	CONTRACTOR TESTING	LPSM	
<input type="checkbox"/>	15501-0000	A	N	CONSTRUCTION SCHEDULE	LPSM	
<input type="checkbox"/>	15705-0100	A	N	SOIL EROSION CONTROL, SILT FENCE	LNFT	
<input type="checkbox"/>	15705-0500	A	N	SOIL EROSION CONTROL, TEMPORARY CULVERT PIPE	LNFT	
<input type="checkbox"/>	20101-0000	A	N	CLEARING AND GRUBBING	ACRE	
<input type="checkbox"/>	20220-1000	A	N	REMOVAL, INDIVIDUAL TREE	EACH	
<input type="checkbox"/>	20301-TEMP	A	N	REMOVAL OF FLAG POLE	EACH	

**E**

### 2.3.6.4 Editing a Pay Item

Use the edit function to populate the pay item data fields including those dealing with cost of the work item.

A. Select the “edit” icon of the pay item to be edited.

Federal Highway Administration  
**EEBACS**

Wednesday, February 4, 2009 3:48 pm | Logout  
User: Designer  
powered by simplicity

Home Calendar  
Projects (All)  
Design  
Acquisition  
Construction  
Archived  
Ad Hoc Reporting  
Ad Hoc UPA  
My Account

Users Online  
> (1) Government

Estimates: P-LH

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Pay Items Add Master Pay Item Advanced Search

Search Filters:

Keywords  Total Price

Schedule ☐ A Complete ☐ yes ☐ no

Unit Price

Apply Search

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers Items 1-16 of 16

	Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Quantity	Total Price	Comp.	Options
<input type="checkbox"/>	15101-0000		N	MOBILIZATION	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	15201-0000		N	CONSTRUCTION SURVEY AND STAKING	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	15301-0010		N	CONTRACTOR QUALITY CONTROL AND ASSURANCE	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	15401-0000		N	CONTRACTOR TESTING	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	15501-0000		N	CONSTRUCTION SCHEDULE	LPSM	\$0.00	ALL	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	15705-0100		N	SOIL EROSION CONTROL, SILT FENCE	LNFT	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	15705-0500		N	SOIL EROSION CONTROL, TEMPORARY CULVERT PIPE	LNFT	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	20101-0000		N	CLEARING AND GRUBBING	ACRE	\$0.00	0.0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	20220-1000		N	REMOVAL, INDIVIDUAL TREE	EACH	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	20401-0000		N	ROADWAY EXCAVATION	CUYD	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	30101-2000		NM	AGGREGATE BASE GRADING D	TON	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	40101-0100		NR	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL	TON	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	63302-0000		N	SIGN SYSTEM	SQFT	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	63401-0100		N	PAVEMENT MARKINGS, TYPE A, SOLID	LNFT	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	63401-0100		N	PAVEMENT MARKINGS, TYPE A, SOLID	LNFT	\$0.00	0	\$0.00	no	BHUP CBUP
<input type="checkbox"/>	63401-0200		N	PAVEMENT MARKINGS, TYPE A, BROKEN	LNFT	\$0.00	0	\$0.00	no	BHUP CBUP

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers Items 1-16 of 16

**A**

**Special Consideration:** Pay Item 15101-0000 Mobilization. This pay item does not require a "Unit Price". Unit price is computed using the "Construction Estimate" tab as described in Section 2.3.9. The field will be automatically populated once the requirements of the "Construction Estimate" tab have been fulfilled.

All other data fields need user input:

The screenshot shows a software interface for 'CONSTR Account\*'. It has two main sections. The left section is titled 'Column Headings' and contains a dropdown menu with '[none]' selected. The right section contains two rows of input fields. Each row has a 'Quantity\*' field with a percentage sign and an 'Account\*' dropdown menu. The first row shows '80' in the quantity field and 'CON01 Account #1' in the account dropdown. The second row shows '20' in the quantity field and 'CON02 Account #2' in the account dropdown. A red arrow points from the text 'Fill in % assigned to each account' to the quantity fields. There is also a 'Delete' button between the two rows.

The Mobilization pay item will not be marked complete until the account splits are shown in the pay item.

- B. Pay Item Identifier. Shows pertinent pay item information such as pay item number, description, pay item type, and pay unit (stating whether the unit is Metric or USC unit);
- C. Supplemental Description. Input a supplemental description in parenthesis when further description of a pay item is required. This is commonly used when there is more than one pay item with the same number and description (example: 63401-0100 Pavement markings, type A, solid (yellow) or 63401-0100 Pavement markings, type A, solid (white));
- D. Schedule. When multiple schedules are required, select the schedules of the pay item to be edited; and



E. Pay item type. The pay item type is established when pay items are added to the master pay item list by an administrator. The default type indicated is usually correct for the pay item. A user may change the type if desired by selecting from the pull-down list. Pay item types are:

- N = Normal pay item (no incentive);
- NM = Normal pay item, may need material incentive;
- NR = Normal pay item, may need pavement roughness (International Roughness Index, IRI) and material incentive;
- NS = Normal pay item, may need pavement smoothness (Profile Ride Index, PRI) and material incentive;
- DI = Design Incentive are established 999 incentive pay items (i.e. 99901-0000 Partnering). These pay items are not included in the Estimate Total of Bid Items. The DI pay item type cannot be changed; and

F. Contract Quantity. Contract quantity is described in Section 109 of the *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP)*. Indicating a pay item is to be a contract quantity means the quantity will not be measured in the field, but will be paid at the quantity shown in the Bid Schedule. Selecting the contract quantity will automatically place "Contract Quantity" in the Summary of Quantity report for those pay items selected.

**Federal Highway Administration EEBACS**

Monday, February 9, 2009 | 6:31 pm | Logout  
User: Designer  
powered by simplicity

Estimates: P.L.H. **Design Pay Items**

Project Info | Design | Account | Team | Event Log

Estimate | CPL | Schedules | Column Headers | **Pay Items** | Construction Estimates

This item has not yet been completed. Please edit and save to complete

Save & Close | Save | Delete | Cancel | Cancel & Close | Save & Previous | Save & Next | View Previous | View Next \* indicates a required field

Pay Item #: 15201-0000 Pay Item Description: CONSTRUCTION SURVEY AND STAKING  
Pay Item Type: N Pay Unit (U.S. Units): LPSM

**Design Pay Item Info**

Created: 2009-01-21 16:49:52  
By: Designer  
Modified: 2009-01-21 16:49:52  
By: Designer

**Pay Item**

Pay Item #: 15201-0000  
Pay Item Description (US Customary): CONSTRUCTION SURVEY AND STAKING  
Pay Item Type: N  
U.S. Pay Units: LPSM  
Standard Specifications FP Year: 03  
Federal Lands Division: Eastern Federal Lands HD  
Comments: Added missing number

**UPA Report**

Generate UPA Report

**Design Pay Item**

Supplemental Description:

Schedule\*: ☒ A

Pay Item Type\*: N

Contract Quantity\*: ☐ yes ☒ no

**Column Headings & Accounts**

Column Heading: [none]

**CONSTR Account\***

Quantity\*: 100 %  
Account\*: con01 account 1  
Add Account  
Column Heading Total: 100

Add Column Heading

Unit Price: 0.00 BHUP CBUP

Remarks:

Total Price: \$0.00

Summary of Quantity Remarks:

Save & Close | Save | Delete | Cancel | Cancel & Close | Save & Previous | Save & Next | View Previous | View Next

- G. Column Headings. Select from the pick list a column heading that will contain the quantity found in that section of the plans. Lump sum (LPSM) quantity (ALL) generally does not have a column heading as it is not included in the plan section (check with your HDM for Division policy). Column headings are found in the Summary of Quantities report and act as a quantity index for the plan sheets;
- H. Quantity. Input the quantity found in that plan section (column) and account number. Depending on pay item unit, quantities will either be a number or percentage (lump sum items, LPSM, and contingent sum items, CTSM, are always a percentage);
- I. Account Number. Select the appropriate account number “nickname” from the pick list;
- Warning:** Even if the project only has one Account, Do NOT leave the Account number blank as this will cause problems in the Acquisitions and Construction modules.
- J. Add Account. If needed multiple accounts may be added. Divide the quantity accordingly;
- K. Column Heading Total. Indicates the total quantity of one or more accounts for that column heading; and
- L. Add Column Heading. If a pay item quantity is shown in more than one section in the plans, the user needs to add another column header opening a similar data box to the one shown and continue inputting data as described above (steps G-J).

The screenshot displays the EEBACS software interface for the 'Design Pay Item' module. The main form is titled 'Design Pay Item' and contains the following elements:

- Header:** Federal Highway Administration, EEBACS, Monday, February 9, 2009 | 6:31 pm | Logout, User: Designer, powered by simplicity.
- Navigation:** Home, Calendar, Projects (All), Design, Acquisition, Construction, Archived, Ad Hoc Reporting, Ad Hoc UPA, My Account.
- Users Online:** (1) Government.
- Form Fields:**
  - Pay Item #: 15201-0000, Pay Item Description: CONSTRUCTION SURVEY AND STAKING, Pay Item Type: N, Pay Unit (U.S. Units): LPSM.
  - Supplemental Description: [none]
  - Schedule\*: ☒ A
  - Pay Item Type\*: N
  - Contract Quantity\*: ☐ yes ☒ no
  - Column Headings & Accounts:
    - Column Headings: [none]
    - CONSTR Account\*: [none]
    - Quantity\*: 100 %
    - Account\*: con01 account 1
    - Add Account button
    - Column Heading Total: 100
  - Add Column Heading button
  - Unit Price: 0.00
  - Remarks: (maximum characters: 4000) 4000 remaining.
  - Total Price: \$0.00
  - Summary of Quantity Remarks: (maximum characters: 4000) 4000 remaining.
- Right Panel:**
  - Design Pay Item Info:** Created: 2009-01-21 16:49:52, By: Designer, Modified: 2009-01-21 16:49:52, By: Designer.
  - Pay Item:** Pay Item #: 15201-0000, Pay Item Description (US Customary): CONSTRUCTION SURVEY AND STAKING, Pay Item Type: N, U.S. Pay Units: LPSM, Standard Specifications FP Year: 03, Federal Lands Division: Eastern Federal Lands, Comments: Added missing number.
  - UPA Report:** Generate UPA Report button.

Arrows labeled G through L point to the following elements:

- G: Column Headings pick list
- H: Quantity input field
- I: Account pick list
- J: Add Account button
- K: Column Heading Total field
- L: Add Column Heading button

- M. Unit price. Can be automatically populated using Bid History Unit Price (BHUP) or Cost-base Unit Price (CBUP) analysis methods. A price may also be manually inserted into the data field. It is recommended to use the BHUP or CBUP to document how the price was determined;
- N. Remarks. Remarks can be input either in the data field from this screen or carried-over from remarks in the BHUP/CBUP analysis. Use remarks to explain how the unit price was determined (example: *Unit price was determined from taking the average of 3 projects of similar scope and quantity.*);
- O. Total price. This number is calculated by EEBACS (unit price x total quantity = total price);
- P. Summary of Quantity Remarks. Input text to describe calculations or directions for pay items on the Summary of Quantity report. (Example: Item 40101-0100 might show a remark explaining *"The quantity was based on 2.3 tons per cubic meter."*); and
- Q. Select a command to continue with the program.

The screenshot shows the EEBACS Design Pay Items screen. The interface includes a top navigation bar with tabs for Estimate, CPL, Schedules, Column Headers, Pay Items, and Construction Estimates. The Pay Items tab is active. A yellow warning banner at the top states: "This item has not yet been completed. Please edit and save to complete". Below this, there are buttons for Save & Close, Save, Delete, Cancel, Cancel & Close, Save & Previous, Save & Next, View Previous, and View Next. A red asterisk indicates a required field.

The main form area contains the following sections:

- Design Pay Item Info:** Includes fields for Pay Item # (15201-0000), Pay Item Description (CONSTRUCTION SURVEY AND STAKING), Pay Item Type (N), and Pay Unit (U.S. Units): LPSM.
- Design Pay Item:** Includes a Supplemental Description field, a Schedule\* dropdown (set to A), a Pay Item Type\* dropdown (set to N), and a Contract Quantity\* radio button (set to no).
- Column Headings & Accounts:** Includes a Column Headings table with a single row for Quantity\* (100) and a CONSTR Account\* (con01 account 1). The Column Heading Total is 100.
- Unit Price:** A field showing 0.00, with buttons for BHUP and CBUP.
- Remarks:** A text area for input, with a character count of 4000 remaining.
- Total Price:** A field showing \$0.00.
- Summary of Quantity Remarks:** A text area for input, with a character count of 4000 remaining.

Annotations M, N, O, P, and Q point to the Unit Price, Remarks, Total Price, Summary of Quantity Remarks, and the bottom navigation buttons, respectively.

### 2.3.6.5 Reordering Pay Items

When duplicate pay item numbers are found in an estimate, it may be necessary to reorder the pay items.

- A. Select the icon to reorder the pay item. Upon reordering pay items, update all line numbers.

<input type="checkbox"/>		63302-0000	A	N	SIGN SYSTEM	SQFT	\$25.00	150	\$3,750.00	yes		
<input type="checkbox"/>		63401-0100	A	N	PAVEMENT MARKINGS, TYPE A, SOLID (YELLOW)	LNFT	\$0.30	10,000	\$3,000.00	yes		
<input type="checkbox"/>		63401-0100	A	N	PAVEMENT MARKINGS, TYPE A, SOLID (WHITE)	LNFT	\$0.30	40,000	\$12,000.00	yes		
<input type="checkbox"/>		63401-0200	A	N	PAVEMENT MARKINGS, TYPE A, BROKEN (YELLOW)	LNFT	\$0.25	3,000	\$750.00	yes		

Note the change in order between Pavement markings, type A, solid yellow and solid white.

<input type="checkbox"/>		63302-0000	A	N	SIGN SYSTEM	SQFT	\$25.00	150	\$3,750.00	yes		
<input type="checkbox"/>		63401-0100	A	N	PAVEMENT MARKINGS, TYPE A, SOLID (WHITE)	LNFT	\$0.30	40,000	\$12,000.00	yes		
<input type="checkbox"/>		63401-0100	A	N	PAVEMENT MARKINGS, TYPE A, SOLID (YELLOW)	LNFT	\$0.30	10,000	\$3,000.00	yes		
<input type="checkbox"/>		63401-0200	A	N	PAVEMENT MARKINGS, TYPE A, BROKEN (YELLOW)	LNFT	\$0.25	3,000	\$750.00	yes		

**Warning:** Update all line numbers immediately after the pay item order has been changed, otherwise the order change will be lost.

### 2.3.6.6 Update All Line Numbers

Select the “Update All Line Numbers” button to refresh line numbers after pay items have been added, deleted, or reordered in an estimate. Line items may be update in either the “Project Pay Item” or “Schedules” tabs.

Projects: PRA YELL 10(15) G... Estimates: Signoff

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

Search Filters:

Keywords  Total Price

Schedule ☐ A Complete ☐ yes ☐ no

Unit Price

Apply Search

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers

Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Quantity	Total Price	Comp.	Options
15101-0000	A	N	MOBILIZATION	LPSM	\$353,100.00	ALL	\$353,100.00	yes	
15201-0000	A	N	CONSTRUCTION SURVEY AND STAKING	LPSM	\$200,000.00	ALL	\$200,000.00	yes	
15401-0000	A	N	CONTRACTOR TESTING	LPSM	\$100,000.00	ALL	\$100,000.00	yes	

Projects: PRA YELL 10(15) G... Estimates: Signoff

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Add New Schedule Items 1-1 of 1

Schedule Letter	Schedule Type
A	Base

Add New Schedule Items 1-1 of 1

Update Line Item

Example: Pay item 15301-0000 was deleted from Schedule A which eliminated Line Item Number A0030 as shown in the Engineer's Estimate report below.

Line Item Number	Pay Item No.	Description	Quantity	Unit	Unit Price	Amount
A0010	15101-0000	MOBILIZATION				
		Acet CON01	\$255,450.00			\$255,450.00
		Total	ALL	LPSM	\$255,450.00	\$255,450.00
A0020	15201-0000	CONSTRUCTION SURVEY AND STAKING				
		Acet CON01	\$100,000.00			\$100,000.00
		Acet CON02	\$100,000.00			\$100,000.00
		Total	ALL	LPSM	\$200,000.00	\$200,000.00
A0040	15401-0000	CONTRACTOR TESTING				
		Acet CON01	\$100,000.00			\$100,000.00
		Total	ALL	LPSM	\$100,000.00	\$100,000.00
A0050	15501-0000	CONSTRUCTION SCHEDULE				
		Acet CON01	\$90,000.00			\$90,000.00
		Total	ALL	LPSM	\$90,000.00	\$90,000.00

Example: By selecting the "Update All Line Numbers" icon, the line item numbers are sequenced in the proper increment.

Line Item Number	Pay Item No.	Description	Quantity	Unit	Unit Price	Amount
A0010	15101-0000	MOBILIZATION				
		Acet CON01	\$255,450.00			\$255,450.00
		Total	ALL	LPSM	\$255,450.00	\$255,450.00
A0020	15201-0000	CONSTRUCTION SURVEY AND STAKING				
		Acet CON01	\$100,000.00			\$100,000.00
		Acet CON02	\$100,000.00			\$100,000.00
		Total	ALL	LPSM	\$200,000.00	\$200,000.00
A0030	15401-0000	CONTRACTOR TESTING				
		Acet CON01	\$100,000.00			\$100,000.00
		Total	ALL	LPSM	\$100,000.00	\$100,000.00
A0040	15501-0000	CONSTRUCTION SCHEDULE				
		Acet CON01	\$90,000.00			\$90,000.00
		Total	ALL	LPSM	\$90,000.00	\$90,000.00

Note: Quality incentives associated with some pay items may cause a gap in line numbers which is appropriate.

### 2.3.6.7 Batch Options

The batch option button performs the following:

- Print Bid History Unit Price (BHUP) for selected pay items developed by this analysis system;
- Print Cost Based Unit Price (CBUP) for selected pay items developed by this analysis system;

- Print Quality Unit Price Analysis (QUP) for selected pay items in which QUPs were required;
- Print Unit Price Analysis for selected pay items; or
- Delete selected pay items.

Projects: PRA YELL 10(15) G... Estimates: Signoff

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

**Search Filters:**

Keywords  Total Price

Schedule ☐ A ☐ B Complete ☐ yes ☐ no

Unit Price

Apply Search

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers Batch Options

		Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	
<input type="checkbox"/>		15101-0000	A	N	MOBILIZATION	
<input type="checkbox"/>		15201-0000	A	N	CONSTRUCTION SURVEY AND STAKING	LPSM
<input type="checkbox"/>		15401-0000	A	N	CONTRACTOR TESTING	LPSM
<input type="checkbox"/>		15501-0000	A	N	CONSTRUCTION SCHEDULE	LPSM
<input type="checkbox"/>		15705-0100	A	N	SOIL EROSION CONTROL, SILT FENCE	LNFT

Print Bid History Unit Price  
Print Cost Based Unit Price  
Print Quality Unit Price Analysis  
Print Unit Price Analysis  
Delete Pay Items

Select pay items for batch options by either:

- Toggling individual pay items; or
- all pay items by selecting the "+" button (pay items may be de-selected by selecting the "-" button; and
- For batch printing requests, select the PDF icon when it appears to view the report.

Projects: PRA YELL 10(15) G... Estimates: Signoff

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

**C** Bid History Unit Price Analysis

**Search Filters:**

Keywords  Total Price

Schedule ☐ A ☐ B Complete ☐ yes ☐ no

Unit Price

Apply Search

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers Batch Options Items 1-20 of 24 Jump 1 | Next >

		Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Qty	Total Price	Comp.	Options
<input checked="" type="checkbox"/>		15101-0000	A	N	MOBILIZATION	LPSM	\$353,100.00	ALL	\$353,100.00	yes	BHUP CBUP
<input checked="" type="checkbox"/>		15201-0000	A	N	CONSTRUCTION SURVEY AND STAKING	LPSM	\$200,000.00	ALL	\$200,000.00	yes	BHUP CBUP
<input checked="" type="checkbox"/>		15401-0000	A	N	CONTRACTOR TESTING	LPSM	\$100,000.00	ALL	\$100,000.00	yes	BHUP CBUP
<input checked="" type="checkbox"/>		15501-0000	A	N	CONSTRUCTION SCHEDULE	LPSM	\$90,000.00	ALL	\$90,000.00	yes	BHUP CBUP
<input checked="" type="checkbox"/>		15705-0100	A	N	SOIL EROSION CONTROL, SILT FENCE	LNFT	\$15.00	2,000	\$30,000.00	yes	BHUP CBUP
<input checked="" type="checkbox"/>		15705-0500	A	N	SOIL EROSION CONTROL, TEMPORARY CULVERT PIPE	LNFT	\$65.00	500	\$32,500.00	yes	BHUP CBUP
<input checked="" type="checkbox"/>		20101-0000	A	N	CLEARING AND GRUBBING	ACRE	\$2,500.00	10.0	\$25,000.00	yes	BHUP CBUP
<input checked="" type="checkbox"/>		20220-1000	A	N	REMOVAL, INDIVIDUAL TREE	EACH	\$3,000.00	10	\$30,000.00	yes	BHUP CBUP

**B**

**A**

## 2.3.7 Determining Unit Prices

For each pay item determine a unit price in order to develop a total price for the estimate. Two methods of developing a unit price for a pay item are available: bid history and cost-based.

### 2.3.7.1 Bid History Unit Price (BHUP)

The BHUP analysis gathers bid history from past projects in the database to assist in determining a unit price for the pay item. Use bid history with caution. Prices shown in the bid history reflect prices at that point in time and can be influenced by geographical location, quantity, haul, terrain, and price of raw materials. Use search filters to display projects with similar traits. Good engineering judgment is critical when using BHUP.

Set the default BHUP settings before completing the bid history unit price analyses. Fill out the desired fields. The "Keywords:" field searches within the Project Number and Project name fields. The state, construction type, density (urban or rural), award date range, and terrain may also be set. A specific inflation index may also be set. Be sure to select the "Save" button when exiting.

Projects: [AZ HSH FP14 TEST ...](#) Estimates: [FP14 Round3 - Tes...](#) [Return To Projects \(All\)](#) [Return To List \(Design\)](#) ?

Project Info **Design** Account Team

Estimate CPL Schedules Column Headers **Pay Items** Construction Estimates

Project Pay Items Add Master Pay Item **Default BHUP Settings** Advanced Search

\* Indicates a required field

**Default BHUP Setting**

Keywords:

State(s):   
California  
Colorado  
Hawaii

Construction Type(s):   
3 (archived)  
R (archived)  
R (archived)

Density:   
▼

Award Date:   
▼ to   
▼

Terrain:   
▼

Inflation Index:   
▼

**Default BHUP Setting Info**

Created: 06-20-2014 14:37:58  
By: [Heidi Hirsbrunner](#)  
Modified: 06-20-2014 14:37:58  
By: [Heidi Hirsbrunner](#)

If a BHUP analysis was already completed for a pay item before the default BHUP settings were set, these settings will be ignored.

- A. Select the BHUP icon to access the list of past projects with recorded bid history for that pay item.

Federal Highway Administration  
**EEBACS**

Monday, February 9, 2009 | 6:31 pm | Logout  
Users: Designer  
powered by sympathy

Estimates: P-I-H Design Pay Items

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

This item has not yet been completed. Please edit and save to complete

Save & Close Save Delete Cancel Cancel & Close Save & Previous Save & Next View Previous View Next \* Indicates a required field

Pay Item #: 15201-0000 Pay Item Description: CONSTRUCTION SURVEY AND STAKING  
Pay Item Type: N Pay Unit (U.S. Units): LPSM

Design Pay Item Info

Created: 2009-01-21 16:49:52  
By: Designer  
Modified: 2009-01-21 16:49:52  
By: Designer

Pay Item

Pay Item #: 15201-0000  
Pay Item Description (US Customary): CONSTRUCTION SURVEY AND STAKING  
Pay Item Type: N  
U.S. Pay Units: LPSM  
Standard Specifications FP Year: 03  
Federal Lands Division: Eastern Federal Lands HD  
Comments: Added missing number

UPA Report

Generate UPA Report

Design Pay Item

Supplemental Description:

Schedule\*: ☒ A

Pay Item Type\*: N

Contract Quantity\*: ☐ yes ☒ no

Column Headings & Accounts

Column Heading:

Column Headings CONSTR Account\*

[none] Quantity\*: 100 %  
Account\*: con01 account 1  
Add Account  
Column Heading Total: 100

Add Column Heading

Unit Price: 0.00

Remarks:

(maximum characters: 4000) 4000 remaining.

Total Price: \$0.00

Summary of Quantity

Remarks:

(maximum characters: 4000) 4000 remaining.

Save & Close Save Delete Cancel Cancel & Close Save & Previous Save & Next View Previous View Next

**BHUP** **A**



- B. Use search filters to display projects with similar traits.
- C. Select "Use Crosswalk" to include projects with previous FP pay items. Pay items from a previous FP appear with bold text. The accompanying description is the description from the previous FP.
- D. The "Clear" button clears all search information except the pay item number. Selected projects will remain.
- E. The "Reset" button changes the search settings to match the default BHUP settings. Selected projects will remain.
- F. Select the "apply search" icon to populate the listing with projects using the selected parameters;

The screenshot shows the "Bid History Analysis" window. At the top, a yellow banner displays a warning icon and the text: "20703-0000 GEOGRID", "Pay Item Type:N Pay Unit:SQYD", and "Quantity:1,500". Below this is the "Search Filters:" section. It contains several input fields: "Pay Item Number" (20703-0000), "Keywords", "Quantity" (with a "to" field), "State" (a dropdown menu), "Density" (a dropdown menu), "Terrain" (a dropdown menu), "Award Date" (2002 to 2014), "Construction Type" (a dropdown menu), "Show Selected Only?" (radio buttons for Yes and Ignore), and "Use Crosswalk?" (radio buttons for Yes and Ignore). At the bottom of the search filters are three buttons: "apply search", "clear", and "reset". Below the search filters is a "Results" section showing "Items 1-10 of 18". At the bottom right of the results section are "Jump 1" and "Next >" links. Orange arrows labeled B, C, D, E, and F point to specific elements: B points to the "Density" dropdown, C points to the "Use Crosswalk?" radio buttons, D points to the "clear" button, E points to the "reset" button, and F points to the "apply search" button.

- G. Select bid prices from projects with similar work. Prices may also be deselected. The top unit prices reflect the actual bid price for the contract awarded. The "bolded" unit price below, reflects an adjusted price once an inflation factor has been applied (see step E);
- H. For more bid history on the pay item, select either screen "jump" or "next". To select bid prices from multiple screens, select "update" (see Step F) to save selections on the current screen before going to the next screen; otherwise they will not be saved;
- I. Select from the pick list inflation factors developed by various state and federal agencies. Choose an entry close to the project area (See Section 2.3.3);
- J. Select the "update" icon to populate the "Avg., Max., and Min. calculated prices. If additional unit prices are selected or deselected, update the values;
- K. Select the average (recommended), minimum, or maximum historical unit bid price to populate the "unit price used" for the item;
- L. Optionally, edit (round the average unit price from step E above) or input a unit price;
- M. Describe factors taken into consideration in developing the unit price. These remarks will carry forward to the pay item screen; and
- N. Select a command to continue with the program.

**Bid History Analysis**

20703-0000 GEOGRID  
Pay Item Type:N Pay Unit:SQYD  
Quantity:1,500

Search Filters:  
[apply search] [clear] [reset]

Results: Items 1-10 of 18

State	Pay Item #	Description	Sched	Project Number	Award Date	Inflation Rate	Qty	Low 1	Low 2	Low 3	Low 4	Low 5	Total Amt	Construction Type	Terrain	Density
CA	20703-0000	Geomembrane	A	PFH HSH Metric 03	Feb 27, 2014	0%	2,631	<input checked="" type="checkbox"/> \$8.36 \$8.36					\$5,459,103.00	40902 AC Construction 5/8	Mountainous	Rural
CA	20703-0000	Geogrid, biaxial	A	PFH HSH Metric 03	Feb 27, 2014	0%	5,262	<input checked="" type="checkbox"/> \$33.45 \$33.45					\$5,459,103.00	40902 AC Construction 5/8	Mountainous	Rural
AZ	20703-0000	GEOGRID	A	AZ HSH FP14	Sep 18, 2013	0%	3,000	<input checked="" type="checkbox"/> \$2.78 \$2.78					\$1,638,590.96	40306 Mill 4 + Ovlly 4-inches	Rolling	Rural
CA	20703-0000	Geomembrane	A	PFH HSH 114-1(3) (Co...	Mar 07, 2013	0%	2,631	<input checked="" type="checkbox"/> \$83.61 \$83.61					\$23,729,705.60	40902 AC Construction 5/8	Mountainous	Rural
CA	20703-0000	Geogrid, biaxial	A	PFH HSH 114-1(3) (Co...	Mar 07, 2013	0%	2,631	<input checked="" type="checkbox"/> \$83.61 \$83.61					\$23,729,705.60	40902 AC Construction 5/8	Mountainous	Rural
WA	20703-0000	GEOGRID, UNIAxIAL	A	WA PRA MORA 13(4)	Jul 15, 2011	-7.69%	30,111	<input type="checkbox"/> \$3.70 \$3.42					\$2,322,367.90	40106 Asphalt concrete patch full depth	Mountainous	Rural
CO	20703-0000	GEOGRID, BIAxIAL	B	ROMO 10(4)	Dec 12, 2006	-23.92%	28,106	<input type="checkbox"/> \$2.72 \$2.07					\$10,193,005.00	3 (archived)	Mountainous	Rural
CA	20703-0000	GEOGRID, BIAxIAL	A	PFH 119-2(4)	Jan 20, 2006	-23.92%	29,302	<input checked="" type="checkbox"/> \$11.71 \$8.91	<input type="checkbox"/> \$5.02 \$3.82	<input type="checkbox"/> \$4.43 \$3.37			\$15,494,923.75	R (archived)	Mountainous	Rural
AK	20703-0000	GEOGRID, BIAxIAL	A	AK PRA-DENA 10(21) 10(...	Jun 07, 2005	-19.27%	2,990	<input type="checkbox"/> \$3.00 \$2.42	<input type="checkbox"/> \$0.35 \$0.28	<input type="checkbox"/> \$2.00 \$1.61	<input type="checkbox"/> \$8.00 \$6.46		\$1,124,900.00	3 (archived)	Rolling	Rural
CA	20703-0000	GEOGRID, BIAxIAL	A	ERFO/PRA SEQU 10(7)	Jan 16, 2005	0.13%	9,568	<input checked="" type="checkbox"/> \$4.18 \$4.19	<input checked="" type="checkbox"/> \$15.05 \$15.07	<input type="checkbox"/> \$7.53 \$7.54	<input type="checkbox"/> \$4.60 \$4.61		\$1,981,104.00	R (archived)	Mountainous	Rural

8 Bid Picked Avg: \$30.21 Max: \$84.46 Min: \$2.78 [update]

Unit Price Used 30.00 Remark: Select projects of similar traits. Inflation California Highw [Save & Close]

- O. Upon saving and closing the previous screen, the BHUP icon text is colored red to indicate that analysis type was used and the remaining fields are populated.

Unit Price: 30.00 **BHUP**

Remarks: Select projects of similar traits.  
(maximum characters: 4000) 3966 remaining.

Quantity: 1,500

Total Price: \$45,000.00

Summary of Quantity  
Remarks:  
(maximum characters: 4000) 4000 remaining.

Buttons: Save & Close, Save, Delete, Cancel, Cancel & Close, Save & Previous, Save & Next, View Previous, View Next

### 2.3.7.2 Cost-base Unit Price (CBUP)

Cost-base unit price analysis develops a unit price by using the cost of labor, material, equipment, time it will take to perform the work, and associated costs (such as overhead and profit). This type of analysis often requires contacting local suppliers, referring to construction equipment ownership and operating expense schedules (such as developed by the USACE), and determining wage rates using the Davis-Bacon Wage Rates for a particular area.

- A. Select the CBUP icon to access the worksheet to develop labor, equipment, and material costs for the pay item.

Estimates P.L.H. Design Pay Items

Project Info: Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

This item has not yet been completed. Please edit and save to complete.

Save & Close Save Delete Cancel Cancel & Close Save & Previous Save & Next View Previous View Next

\* indicates a required field

Design Pay Item Info

Created: 2009-01-21 17:03:48  
By: Designer  
Modified: 2009-01-21 17:03:48  
By: Designer

Pay Item

Pay Item #: 20401-0000  
Pay Item Description (US Customary): ROADWAY EXCAVATION  
Pay Item Type: N  
U.S. Pay Units: CUYD  
Standard Specifications Part: 03  
Federal Lands Division: Eastern Federal Lands HD  
Comments: Added missing item

UPA Report

Generate UPA Report

Design Pay Item

Supplemental Description:

Schedule\*: ☒ A

Pay Item Type\*: N

Contract Quantity\*: ☐ yes ☒ no

Bid Decimal\*: 0

Column Headings & Accounts

Column Heading: D: Plan & Profile

Quantity\*: 10000

Account\*: CON01 PRA funding

Add Account

Column Heading Total: 10,000

Add Column Heading

Unit Price: 0.00 **BHUP** **CBUP**

Remarks:

(maximum characters: 4000) 4000 remaining.

Quantity\*: 10,000

Total Price: \$0.00

Summary of Quantity  
Remarks:  
(maximum characters: 4000) 4000 remaining.

Buttons: Save & Close, Save, Delete, Cancel, Cancel & Close, Save & Previous, Save & Next, View Previous, View Next

- B. Select an appropriate analysis sub-function to begin developing a unit price.
- C. Type. Input type of equipment (Bulldozer, 80HP minimum flywheel power, or Dump truck 10 cuyd minimum capacity, etc.), labor (General, or High scaler, or Bulldozer operator over 120,000 lbs, etc.) or material (crushed aggregate, or plantings, or riprap, etc.);
- D. Quantity. Input the number of a specific equipment or labor type (Loader – 1, Dump trucks – 4, General Labor – 2, Dump truck drivers – 4, Loader operator -1, etc.). For material type input the quantity to be used;
- E. Number of Units. Input the quantity for one unit of equipment or labor. Example: 5 General laborers, each work 9 days would be inputted, "Type": *General laborer*; "Quantity": 5; "Number of Units": 9; "Unit": *days*;
- F. Unit. Select the appropriate unit from the pick-list (hour, day, ton, etc.);
- G. Cost/Unit. Input the cost per unit. Cost per unit is established by using the USACE construction equipment ownership and operating expense schedules for equipment, Davis-Bacon Wage Rates for labor/equipment operators, and calling suppliers for material costs. See local Division procedures;
- H. Total Overhead & Profit. Is a percentage of the actual cost. Overhead are those expenses not directly related to the items of work. They may include lighting and heating for the project and home office, upper management and office personnel salaries, cost of office equipment, and company vehicles. The percentage may vary depending on region and work;
- I. Remarks. Describe how costs were determined for that specific item; and
- J. Select the Delete button if that line item is no longer relevant.

- K. Total Cost (Equipment, Labor, or Material). Automatic summation of all types for that component of work;
- L. Total Cost of Equipment, Labor, and Material. Automatic summation of all components of work;
- M. Total Cost per Unit for Pay Item. This is calculated by EEBACS by dividing the Total Labor/Equipment/Material Costs by the pay item quantity. Note: If the pay item quantity is not saved before entering the CBUP worksheet, this total will not calculate;
- N. Unit Price Used. Input a unit price to carry forward to the pay item tab to calculate the final pay item cost;
- O. Remarks. Describe how costs were determined for the pay item; and
- P. Select a command to continue with the program.

**Cost Based Unit Price**

20401-0000 ROADWAY EXCAVATION

Save & Close Cancel

\* indicates a required field

Cost Based Unit Price Analysis

Equipment:

Type*	Quantity*	No of Units*	Unit*	Cost/Unit*	Total	Overhead & Profit (%)*	Overhead & Profit*	Total with O&P	Remarks	
Dozer	500	2	HOUR	150.00	\$150,000.00	15.00	\$22,500.00	\$172,500.00	Unit cost based on ACE prices of	Delete
Loader	200	1	HOUR	75.00	\$15,000.00	15.00	\$2,250.00	\$17,250.00	Unit cost based on ACE prices for	Delete
Dump truck	200	4	HOUR	65.00	\$52,000.00	15.00	\$7,800.00	\$59,800.00	Unit cost based on local prices w/	Delete

Add Equipment

Total Equipment Cost:  
\$249,550.00

Labor:

Type*	Quantity*	No of Units*	Unit*	Cost/Unit*	Total	Overhead & Profit (%)*	Overhead & Profit*	Total with O&P	Remarks	
Truck Driver	200	4	HOUR	40.00	\$32,000.00	15.00	\$4,800.00	\$36,800.00	From Davis-Bacon Wage Rates	Delete
General labor	80	1	HOUR	30.00	\$2,400.00	15.00	\$360.00	\$2,760.00	From Davis-Bacon Wage Rates	Delete
Loader operator	200	1	HOUR	45.00	\$9,000.00	15.00	\$1,350.00	\$10,350.00	From Davis-Bacon Wage Rates	Delete
Dozer operator	500	2	HOUR	35.00	\$35,000.00	15.00	\$5,250.00	\$40,250.00	From Davis-Bacon Wage Rates	Delete

Add Labor

Total Labor Cost:  
\$90,160.00

Material:

Add Material

Total Material Cost:  
\$0.00

Total Labor/Equipment/Mat Costs:  
\$339,710.00

Total Cost/Unit for Pay Item:  
\$339,710.00

Unit Price Used\*:  
8.50

Additional Remarks:  
Equipment and labor time based on excavation of 40,000 cu yds with 4,000 cu yds going to waste.

Save & Close Cancel

Annotations: K points to Equipment table, L points to Labor table, M points to Total Labor/Equipment/Mat Costs, N points to Unit Price Used, O points to Additional Remarks, P points to Save & Close button.

- Q. The BHUP or CBUP button text in the pay item screen will be red depending on the type of analysis selected.

Unit Price: 8.50 BHUP CBUP

Remarks: Equipment and labor time based on excavation of 40,000 cu yds with 4,000 cu yds going to waste.

(maximum characters: 4000) 3907 remaining.

Annotation: Q points to the CBUP button.

- R. Completed pay items will be highlighted in green in the pay item listing for the project. The BHUP or CBUP icon text will be red depending on the type of analysis selected.

Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Quantity	Total Price	Comp.	Options
15101-0000	A	N	MOBILIZATION	LPSM	\$0.00	ALL	\$0.00	yes	BHUP
15201-0000	A	N	CONSTRUCTION SURVEY AND STAKING	LPSM	\$240,000.00	ALL	\$240,000.00	yes	BHUP
15301-0010		N	CONTRACTOR QUALITY CONTROL AND ASSURANCE	LPSM	\$0.00	ALL	\$0.00	no	BHUP
15401-0000		N	CONTRACTOR TESTING	LPSM	\$0.00	ALL	\$0.00	no	BHUP
15501-0000		N	CONSTRUCTION SCHEDULE	LPSM	\$0.00	ALL	\$0.00	no	BHUP
15705-0100		N	SOIL EROSION CONTROL, SILT FENCE	LNFT	\$0.00	0	\$0.00	no	BHUP
15705-0500		N	SOIL EROSION CONTROL, TEMPORARY CULVERT PIPE	LNFT	\$0.00	0	\$0.00	no	BHUP
20101-0000		N	CLEARING AND GRUBBING	ACRE	\$0.00	0.0	\$0.00	no	BHUP
20220-1000		N	REMOVAL, INDIVIDUAL TREE	EACH	\$0.00	0	\$0.00	no	BHUP
20401-0000	A	N	ROADWAY EXCAVATION	CUYD	\$8.50	40,000	\$340,000.00	yes	BHUP
30101-2000		NM	AGGREGATE BASE GRADING 0	TON	\$0.00	0	\$0.00	no	BHUP
40101-0100		NR	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL	TON	\$0.00	0	\$0.00	no	BHUP
63302-0000		N	SIGN SYSTEM	SQFT	\$0.00	0	\$0.00	no	BHUP
63401-0100		N	PAVEMENT MARKINGS, TYPE A, SOLID	LNFT	\$0.00	0	\$0.00	no	BHUP
63401-0100		N	PAVEMENT MARKINGS, TYPE A, SOLID	LNFT	\$0.00	0	\$0.00	no	BHUP
63401-0200		N	PAVEMENT MARKINGS, TYPE A, BROKEN	LNFT	\$0.00	0	\$0.00	no	BHUP

## 2.3.8 Adding Incentives

At this time there are two methods for adding incentives to the estimate.

The first process is the Quality Unit Price (QUP) process which will be used to add material quality incentives only.

The second process is to add all other incentive pay items. This process will be used to add asphalt/fuel escalation, partnering, performance incentives, etc. This process will also be used as an interim procedure for adding roughness quality incentives.

A [Materials Incentive Spreadsheet](#) has been developed to assist in developing the material QUP.

### 2.3.8.1 Adding Material Quality Incentives

At this time QUP process should only be used for material quality incentives. Do **NOT** use this process for roughness or smoothness quality incentives.

Upon determining a unit price, quantity, and calculating a total price for a particular pay item; the QUP icon will appear when the pay item type (incentive) is NM, NR, or NS. (See Section 2.3.6.4 for a description of the pay item types).

If material quality incentive needs to be included:

- A. Select the QUP icon to add the material incentive item.

Federal Highway Administration  
**EEBACS**

Wednesday, December 21, 2011 10:49 am | Logout  
User: Heidi Hirsbrunner  
powered by simplicity

Projects: NE PRA TEST 105 P... Estimates: 100% Design Pay Items

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Save & Close Save Delete Cancel Cancel & Close Save & Previous Save & Next View Previous View Next \* Indicates a required field

Pay Item #: 40101-0100 Pay Item Description: SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL  
Pay Item Type: NR Pay Unit (U.S. Units): TON

**Design Pay Item Info**

Created: 06-18-2009 11:45:59  
By: Heidi Hirsbrunner  
Modified: 12-21-2011 10:49:42  
By: Heidi Hirsbrunner

**Pay Item**

Pay Item #: 40101-0100  
Pay Item Description (US Customary): SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL  
Pay Item Type: NR  
U.S. Pay Units: TON  
Pay Decimal: 1  
Standard Specifications FP Year: 03

**Line Item Number**

80210

**UPA Report**

Generate UPA Report

**Design Pay Item**

Supplemental Description:

Schedule\*: ☒ A

Pay Item Type\*: **NR** ☐ **NR**

Contract Quantity\*: ☐ Yes ☒ No

Bid Decimal\*: 0

**Column Headings & Accounts**

Column Heading: C7:surfacing summary

**Column Headings**

CONSTR Account\*

Quantity\*: 6523  
Account\*: CON01 PRA funding  
Delete

Quantity\*: 234  
Account\*: CON02 ARRA funding  
Delete  
Add Account

Column Heading Total: 6,757

Add Column Heading

Column Headings	Quantity	Price
surfacing summary	6,757	\$675,700.00
<b>Accounts</b>		
CON01	6,523	\$652,300.00
CON02	234	\$23,400.00

Unit Price: 100.00

Remarks:

(maximum characters: 4000) 4000 remaining.

Quantity: 6,757

Total Price: \$675,700.00

Summary of Quantity

Remarks:

(maximum characters: 4000) 4000 remaining.

Save & Close Save Delete Cancel Cancel & Close Save & Previous Save & Next View Previous View Next

**A**

A Quality Unit Price Analysis worksheet will appear:

B. Pay Item Type. **Always** select from the pick list QM (Material incentive);

**Warning:** Do NOT select QS or QR pay item types (roughness or smoothness incentives). Roughness quality incentives will be added as other incentives according to Section 2.3.8.2.

C. Incentive (%). Input the maximum pay factor. Values are inputted as percentages (1.05 pay factor would be inputted as 5%).

D. Unit Price Used. Unit price is calculated from the incentive %. Do not change ;

E. Remarks. Input applicable remarks to document data selection; and

F. Select a command to continue with the program.

The screenshot shows the 'Quality Unit Price' window with the following fields and callouts:

- Callout A:** Points to the 'save and close' button at the top of the window.
- Callout B:** Points to the 'Pay Item Type' dropdown menu, which is set to 'QM'.
- Callout C:** Points to the 'Incentive (%)' input field, which contains the value '5'.
- Callout D:** Points to the 'Unit Price Used' input field, which contains the value '\$5.00'.
- Callout E:** Points to the 'Remarks' text area, which contains the text 'Price based on maximum 1.05 pay factor'.
- Callout F:** Points to the 'save and close' button at the bottom of the window.

The form also displays the following information:

- Pay Item Number:** 40101-0100
- Pay Item Description:** SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL
- Pay Unit (U.S. Units):** TON
- Unit Price:** \$100.00
- Incentive Unit Price:** \$5.00
- Remarks:** (maximum characters: 4000) 4000 remaining.

💡 If the parent item unit price is updated, either edit the QUP item unit price or delete the QUP and redo.



A QM pay item will be created with the exact same pay item number as the original item. These quality items will not be shown in the Summary of Quantity or Bid Schedule reports, but will be shown in the summary sheets of the Engineer's Estimate.

Projects: NE PRA TEST 105 P., Estimates: 100%

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

**Warning:** The following Construction Estimates are now out of date:  
Schedule A

**Search Filters:**

Keywords:  Total Price:    
 Schedule: ☐ A Complete: ☐ Yes ☐ No  
 Unit Price:

Items 1-6 of 6

	Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Quantity	Total Price	Comp.	Options
<input type="checkbox"/>		A	N	MOBILIZATION	LPSM	\$564,996.20	ALL	\$564,996.20	yes	BHUP CBUP
<input type="checkbox"/>		A	N	CLEARING AND GRUBBING	ACRE	\$28,000.00	56.0	\$1,568,000.00	yes	BHUP CBUP
<input type="checkbox"/>	40101-0100	A	NR	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL	TON	\$100.00	6,757	\$675,700.00	yes	BHUP CBUP QUP
<input type="checkbox"/>	40101-0100	A	QM	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (Quality)	Q_TON	\$5.00	6,757	\$33,785.00	yes	
<input type="checkbox"/>	55501-0000	A	N	STRUCTURAL STEEL	LPSM	\$575,000.00	ALL	\$575,000.00	yes	BHUP CBUP
<input type="checkbox"/>	60221-4800	A	N	24 FEET SPAN, 8 FEET RISE REINFORCED CONCRETE BOX CULVERT, SINGLE BARREL	UNFT	\$1,000.00	255	\$255,000.00	yes	BHUP CBUP

Items 1-6 of 6

Summary page of Engineer's Estimate:

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Generate EE Reports Generate EE Col Reports Generate Design Summary Report Generate Sum Of Quantities Report Generate PE Sum Of Quantities Report Generate UPA Report

**Warning:** This Construction Estimate is up to date.

\* indicates a required field

**Construction Estimate**

Schedule\*:

Total Cost of Items (excluding Mobilization): \$3,073,700.00

**Item 15101 Mobilization**

Calculated\*: % \$ 522,529.00  
 Used\*: \$ 526300.00

**Estimate Total of Bid Items**

Calculated: \$3,596,229.00  
 Used\*: \$ 3600000.00

**Estimated Quality Material Incentive:**

Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
40101-0100	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (Quality)	6,757	Q_TON	\$5.00	\$33,785.00
					\$33,785.00

**Construction Estimate Info**

Created: 06-18-2009 11:45:57  
 By: Heidi Hirsbrunner  
 Modified: 12-21-2011 11:29:19  
 By: Heidi Hirsbrunner

**Design EE Report**

EE Report (A) (Jun 24, 2009 03:26 pm)

### 2.3.8.2 Adding All Other Incentives

Use this method for adding all incentives, except material quality. This process is identical as adding normal pay items.

On project pay item list, select Add Master Pay Items:

Projects: NE PRA TEST 105 P... Estimates: 100% [Return To Projects \(All\)](#) [Return To List \(Design\)](#) ?

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

**Search Filters:**

Keywords  Total Price

Schedule ☐ A Complete ☐ Yes ☐ No

Unit Price

Add Temporary Pay Item		Add Master Pay Items		Update All Line Numbers		Batch Options		Items 1-6 of 6			
<input type="checkbox"/>	<input type="checkbox"/>	Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Quantity	Total Price	Comp.	Options
<input type="checkbox"/>	<input type="checkbox"/>	15101-0000	A	N	MOBILIZATION	LPSM	\$526,300.00	ALL	\$526,300.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	20101-0000	A	N	CLEARING AND GRUBBING	ACRE	\$28,000.00	56.0	\$1,568,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	40101-0100	A	NR	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL	TON	\$100.00	6,757	\$675,700.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/> <input type="button" value="QUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	40101-0100	A	QM	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (Quality)	Q_TON	\$5.00	6,757	\$33,785.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	55501-0000	A	N	STRUCTURAL STEEL	LPSM	\$575,000.00	ALL	\$575,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	60221-4800	A	N	24 FEET SPAN, 8 FEET RISE REINFORCED CONCRETE BOX CULVERT, SINGLE BARREL	LNFT	\$1,000.00	255	\$255,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers Items 1-6 of 6



#### 2.3.8.2.1 Roughness and Smoothness Quality Incentives

A Pay Item Type of "NR" or "NS" suggests that a roughness or smoothness incentive may be needed.

Projects: NE PRA TEST 105 P... Estimates: 100% [Return To Projects \(All\)](#) [Return To List \(Design\)](#) ?

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

**Search Filters:**

Keywords  Total Price

Schedule ☐ A Complete ☐ Yes ☐ No

Unit Price

Add Temporary Pay Item		Add Master Pay Items		Update All Line Numbers		Batch Options		Items 1-6 of 6			
<input type="checkbox"/>	<input type="checkbox"/>	Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Quantity	Total Price	Comp.	Options
<input type="checkbox"/>	<input type="checkbox"/>	15101-0000	A	N	MOBILIZATION	LPSM	\$526,300.00	ALL	\$526,300.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	20101-0000	A	N	CLEARING AND GRUBBING	ACRE	\$28,000.00	56.0	\$1,568,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	40101-0100	A	NR	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL	TON	\$100.00	6,757	\$675,700.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/> <input type="button" value="QUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	40101-0100	A	QM	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (Quality)	Q_TON	\$5.00	6,757	\$33,785.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	55501-0000	A	N	STRUCTURAL STEEL	LPSM	\$575,000.00	ALL	\$575,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>	<input type="checkbox"/>	60221-4800	A	N	24 FEET SPAN, 8 FEET RISE REINFORCED CONCRETE BOX CULVERT, SINGLE BARREL	LNFT	\$1,000.00	255	\$255,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>

Add Temporary Pay Item Add Master Pay Items Update All Line Numbers Items 1-6 of 6

Roughness and smoothness pay items can easily be found by entering key words on the Add Master Pay Item tab. Add appropriate roughness or smoothness item(s)

Projects: NE PRA TEST 105 P... Estimates: 100% [Return To Projects \(All\)](#) [Return To List \(Design\)](#) ?

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates







Project Pay Items Add Master Pay Item Advanced Search

**Search Filters:**

Keywords  Show ☒ selected ☐ all

Pay Item Number

Items 1-8 of 8 150 200 250 300 400 500 550 600 900 [all]

Options	Pay Item # ▼	Pay Item Description (US Customary) ▼	Pay Item Type ▼	U.S. Pay Units ▼
	40199-0001	INCENTIVE, SMOOTHNESS	DI	LPSM
	40199-0002	INCENTIVE, ROUGHNESS	DI	LPSM
	40299-0001	INCENTIVE, SMOOTHNESS	DI	LPSM
	40299-0002	INCENTIVE, ROUGHNESS	DI	LPSM
	50199-0001	INCENTIVE, SMOOTHNESS	DI	LPSM
	50199-0002	INCENTIVE, ROUGHNESS	DI	LPSM

Edit the roughness or smoothness pay item:

- A. Supplemental Description. Enter supplemental description, including the pay item number associated with the incentive
- B. Schedule. Select Schedule
- C. Pay item type. Do NOT change – it must remain DI
- D. Contract Quantity. Always select NO
- E. Column Heading. Should remain [none]
- F. Accounts. When needed, add accounts and divide the percent quantity between the accounts to match the original item breakdown
- G. Unit Price. Enter the Unit Price. The unit price should be the maximum incentive based on the roughness or smoothness formula. Do NOT use BHUP or CBUP for roughness or smoothness pay items
- H. Summary of Quantity Remarks. Leave blank. Roughness and smoothness incentive pay item will NOT appear on the Summary of Quantity
- I. Save & Close

**Federal Highway Administration**  
**EEBACS**

Wednesday, December 21, 2011 | 11:59 am | Logout  
Users: Heidi Hirsbrunner  
powered by simplicity

Projects: NE PRA TEST 105 P... Estimates: 100% Design Pay Items

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Save & Close Save Delete Cancel Cancel & Close Save & Previous Save & Next View Previous View Next

Pay Item #: 40199-0001 Pay Item Description: INCENTIVE, SMOOTHNESS  
Pay Item Type: DI Pay Unit (U.S. Units): LPSM

**Design Pay Item Info**

Created: 12-21-2011 11:42:45  
By: Heidi Hirsbrunner  
Modified: 12-21-2011 11:55:29  
By: Heidi Hirsbrunner

**Pay Item**

Pay Item #: 40199-0001  
Pay Item Description (US Customary): INCENTIVE, SMOOTHNESS  
Pay Item Type: DI  
U.S. Pay Units: LPSM  
Standard Specifications FP Year: 03  
Federal Lands Division: Central Federal Lands

**UPA Report**

Generate UPA Report

**Design Pay Item**

Supplemental Description: (for 40101-0100 pay item)

**Schedule\***: ☒ A

**Pay Item Type\***: DI

**Contract Quantity\***: ☒ Yes ☒ No

**Column Headings & Accounts**

Column Headings:

Column Headings	CONSTR Account*	Quantity*	
[none]		75	%
	CON01 PRA funding		
		25	%
	CON02 ARRA funding		
<b>Column Heading Totals:</b>		100	

**Accounts**

Accounts	Quantity	Price
CON01	75	\$36,185.82
CON02	25	\$27,139.37
		\$9,046.46

**Unit Price:** 36185.82 BHUP CBUP

**Remarks:**  
Used smoothness formula:  
.05 x lanemiles x 32,700  
(paving 22.132 lanemiles)  
(maximum characters: 4000) 3923 remaining.

**Total Price:** \$36,185.82

**Summary of Quantity Remarks:**

(maximum characters: 4000) 4000 remaining.

Save & Close Save Delete Cancel Cancel & Close Save & Previous Save & Next View Previous View Next

The DI pay item is now added to the Project Pay Item list. These roughness and smoothness items will not be shown in the Summary of Quantity or Bid Schedule reports, but will be shown in the summary sheets of the Engineer's Estimate as "Other Incentives."

Projects: NE PRA TEST 105 P... Estimates: 100% [Return To Projects \(All\)](#) [Return To List \(Design\)](#)

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Project Pay Items Add Master Pay Item Advanced Search

The following Construction Estimates are now out of date:  
Schedule A

**Search Filters:**  
Keywords  Total Price    
Schedule ☐ A Complete ☐ Yes ☐ No  
Unit Price

Items 1-7 of 7

<input type="checkbox"/>		Pay Item #	Sched	Pay Item Type	Pay Item Description (US Customary)	Units	Unit Price	Quantity	Total Price	Comp.	Options
<input type="checkbox"/>		15101-0000	A	N	MOBILIZATION	LPSM	\$526,300.00	ALL	\$526,300.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>		20101-0000	A	N	CLEARING AND GRUBBING	ACRE	\$28,000.00	56.0	\$1,568,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>		40101-0100	A	NR	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL	TON	\$100.00	6,757	\$675,700.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/> <input type="button" value="QUP"/>
<input type="checkbox"/>		40101-0100	A	QM	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (Quality)	Q_TON	\$5.00	6,757	\$33,785.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>		40199-0001	A	DI	INCENTIVE, SMOOTHNESS (for 40101-0100 pay item)	LPSM	\$36,185.82	ALL	\$36,185.82	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>		55501-0000	A	N	STRUCTURAL STEEL	LPSM	\$575,000.00	ALL	\$575,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>
<input type="checkbox"/>		60221-4800	A	N	24 FEET SPAN, 8 FEET RISE REINFORCED CONCRETE BOX CULVERT, SINGLE BARREL	LNFT	\$1,000.00	255	\$255,000.00	yes	<input type="button" value="BHUP"/> <input type="button" value="CBUP"/>

Items 1-7 of 7



Summary page of Engineer's Estimate - Due to this necessary interim process for roughness and smoothness quality incentives:

- J. Roughness and Smoothness items will appear as "Other Incentives."
- K. In the interim, Roughness and Smoothness will NOT appear in the actual labeled sections

Federal Highway Administration  
**EEBACS**

Wednesday, December 21, 2011 | 12:19 pm | Logout  
User: Heidi Hirsbrunner  
powered by symplify

Projects: NE PRA TEST 105 P... Estimates: 100% Construction Estimates

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Generate EE Reports Generate EE Col Reports Generate Design Summary Report Generate Sum Of Quantities Report Generate PE Sum Of Quantities Report Generate UPA Report

This Construction Estimate is up to date.

Save & Close Save Delete Cancel Cancel & Close

\* Indicates a required field

**Construction Estimate Info**

Created: 06-18-2009 11:45:57  
By: Heidi Hirsbrunner  
Modified: 12-21-2011 12:19:55  
By: Heidi Hirsbrunner

**Design EE Report**

EE Report (A) (Jun 24, 2009 03:26 pm)

**Construction Estimate**

Schedule\*: A

Total Cost of Items (excluding Mobilization): \$3,073,700.00

**Item 15101 Mobilization**

Calculated\*: 17.0% \$ 522,529.00  
Used\*: \$526300.00

**Estimate Total of Bid Items**

Calculated: \$3,596,229.00  
Used: \$ 3600000.00

Estimated Quality Material Incentive:

Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
40101-0100	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (Quality)	6,757	Q_TON	\$5.00	\$33,785.00
					\$33,785.00

Estimated Quality Smoothness Incentive: No Estimated Quality Smoothness Incentive **K**

Estimated Quality Roughness Incentive: No Estimated Quality Roughness Incentive **K**

**Other Estimated Incentive:**

Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
40199-0001	INCENTIVE, SMOOTHNESS (for 40101-0100 pay item)	All	LPSM	\$36,185.82	\$36,185.82
					\$36,185.82

**Total Estimated Incentive**

Calculated: \$69,970.82

**Total Estimated Construction Cost**

Calculated\*: \$3,669,970.82

Remarks:

**Contract Quantity Pay Items**

Contract Quantity Pay Item:	Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
	55501-0000	STRUCTURAL STEEL	All	LPSM	\$575,000.00	\$575,000.00
						\$575,000.00

Save & Close Save Delete Cancel Cancel & Close

### 2.3.8.2.2 Partnering, performance incentives, asphalt/fuel escalation, etc.

These incentive pay items can easily be found by entering 999 in the Pay Item Number. Add appropriate pay item(s). Add appropriate incentive item(s):

Projects: NE PRA TEST 105 P... Estimates: 100% [Return To Projects \(All\)](#) [Return To List \(Design\)](#) ?

Project Info **Design** Account Team Event Log

Estimate CPL Schedules Column Headers **Pay Items** Construction Estimates

Project Pay Items **Add Master Pay Item** Advanced Search







**Search Filters:**

Keywords  Show ☒ selected ☐ all

Pay Item Number

150 200 250 300 400 500 550 600 900 [all]

Items 1-8 of 8

Options	Pay Item # ▼	Pay Item Description (US Customary) ▼	Pay Item Type ▼	U.S. Pay Units ▼
	99901-0000	PARTNERING	DI	LPSM
	99902-0000	PERFORMANCE INCENTIVES	DI	LPSM
	99903-0000	PERFORMANCE INCENTIVES	DI	DAY
	99904-0000	ASPHALT ESCALATION	DI	LPSM
	99905-0000	FUEL ESCALATION	DI	LPSM
	99920-0000	DESIGN CONTINGENCY	DI	LPSM

**Warning:** The Design Contingency pay item should **NOT** be included to the final engineer's estimate to be advertised. This pay item is intended to allow added contingencies for undefined work items and anticipated additional design elements at the early phases of design (see local Division procedures). All contingencies should be removed by the Final Design Phase (95%-100%).

Edit the added pay items:

- A. Enter supplemental description, including the pay item number that the incentive is for
- B. Select Schedule
- C. Pay item type. Do NOT change – it must remain DI
- D. Column Heading should remain [none]
- E. When needed, add accounts and divide the percent or quantity between the accounts.
- F. Enter the Unit Price.
- G. Leave blank. Incentive pay item will NOT appear on the Summary of Quantity
- H. Save & Close

The screenshot shows the EEBACS Design Pay Items form for Project: NE PRA TEST 105 P. The form is divided into several sections with tabs at the top: Estimate, CPL, Schedules, Column Headers, Pay Items, and Construction Estimates. The Pay Items tab is active.

**Design Pay Item Info:**

- Pay Item #: 99903-0000
- Pay Item Description: PERFORMANCE INCENTIVES
- Pay Item Type: DI
- Pay Unit (U.S. Units): DAY

**Design Pay Item:**

- Supplemental Description: (Early completion) **A**
- Schedule\*: ☒ A **B**
- Pay Item Type\*: DI **C**
- Contract Quantity\*: ☐ Yes ☒ No
- Bid Decimal\*: 0

**Column Headings & Accounts:**

- Column Heading: [none] **D**
- CONSTR Account\*:
  - Quantity\*: 20 **E**
  - Account\*: CON01 PRA funding **E**
- Column Heading Total: 20

**Summary Table:**

Column Headings	Quantity	Price
Column Headings	20	\$30,000.00
Accounts		
CON01	20	\$30,000.00

**Unit Price:** 1500.00 **F**

**Remarks:**

**Quantity:** 20

**Total Price:** \$30,000.00

**Summary of Quantity Remarks:** **G**

**Buttons:** Save & Close, Save, Delete, Cancel, Cancel & Close, Save & Previous, Save & Next, View Previous, View Next **H**



The DI pay item is now added to the Project Pay Item list. These 999 pay item incentives will not be shown in the Summary of Quantity or Bid Schedule reports, but will be shown in the summary sheets of the Engineer's Estimate as "Other Incentives."

Summary page of Engineer's Estimate:

Other Estimated Incentive:	<b>Pay Item #</b>	<b>Description</b>	<b>Quantity</b>	<b>U.S. Pay Units</b>	<b>Unit Price</b>	<b>Total Price</b>
	40199-0001	INCENTIVE, SMOOTHNESS (for 40101-0100 pay item)	All	LPSM	\$36,185.82	\$36,185.82
	99903-0000	PERFORMANCE INCENTIVES (Early completion)	20	DAY	\$1,500.00	\$30,000.00
						<b>\$66,185.82</b>

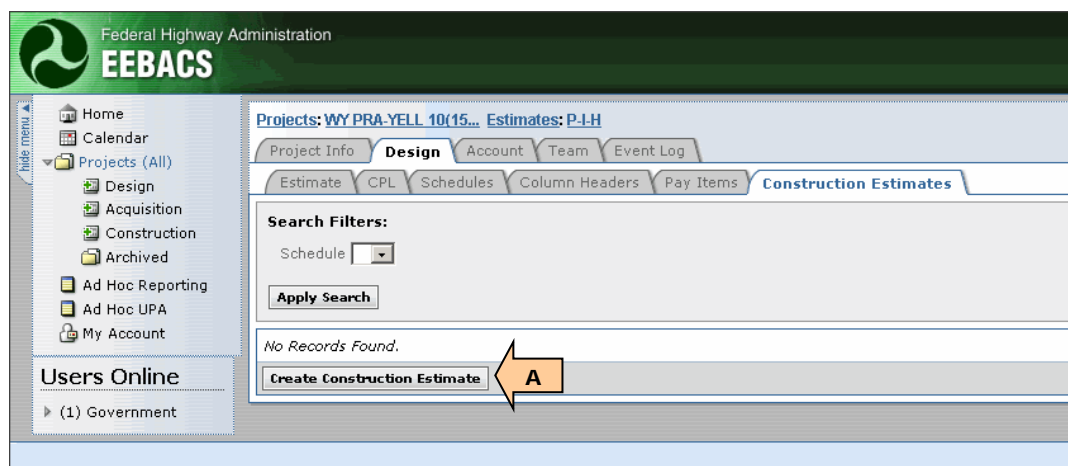
## 2.3.9 Construction Estimate



Develop a construction estimate for every schedule created. The Construction Estimate tab:

- Totals all pay items (except mobilization);
- Calculates mobilization by either a percentage of the total for other items of work, or from user input;
- Shows all incentives and associated dollar amounts. Generates a total dollar amount for all incentives;
- Generates the total estimated construction cost (pay items, mobilization, and incentives) for the schedule;
- Shows all items designated as contract quantity; and
- Allows the generating of reports (EE, EE by Columns, Design Summary, Summary of Quantities, Project Engineer Summary of Quantities, and UPAs).

A. Select the Create Construction Estimate icon to access the subroutine.



- B. Select a schedule from the pick list. The program will calculate the total cost of items in the selected schedule excluding mobilization, list all incentives and contract quantity items;
  - C. Input mobilization as a calculated percentage of all items (excluding incentives). The percentage value may be overridden by inputting a dollar value in the "used" data field. The "used value" maybe used to round the mobilization price;
  - D. Upon entering a mobilization price, the total for all bid items will be calculated by the program. If desired, the calculated value may be rounded by inputting a dollar value in the "used" data field. Rounding the value will affect the dollar value used in mobilization;
- Warning for C & D:** Once the "Used" fields have been have saved, if this Estimate page is updated, either the "Used" value in C or D must be hand-entered for the values to be recalculated.
- E. Input relevant remarks that describes unique aspects of the calculations; and
  - F. Select a command to continue with the program.

Federal Highway Administration  
**EEBACS**

Thursday, December 22, 2011 | 12:18 pm | Logout  
User: Heidi Hirsbrunner  
powered by simplicity

Projects: NE DRA TEST 4044... Estimates: 100% PS&E Construction Estimates

Project Info | Design | Account | Team | Event Log

Estimate | CPL | Schedules | Column Headers | Pay Items | Construction Estimates

Generate EE Reports | Generate EE Col Reports | Generate Design Summary Report | Generate Sum Of Quantities Report | Generate PE Sum Of Quantities Report | Generate UPA Report

This Construction Estimate is up to date.

Save & Close | Save | Delete | Cancel | Cancel & Close

\* Indicates a required field

**Construction Estimate**

Schedule\*: **A**

Total Cost of Items (excluding Mobilization): \$4,341,680.00

**Item 15101 Mobilization**

Calculated\*: 15.0% \$ 651,252.00

Used\*: \$721320.00

**Estimate Total of Bid Items**

Calculated: \$4,992,932.00

Used\*: \$ 5000000.00

Estimated Quality Material Incentive:

Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
40101-0000	AGGREGATE BASE (Quality)	6,056	Q_TON	\$1.50	\$9,084.00
40101-0000	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (State DOT mix allowed) (Quality)	8,800	Q_TON	\$5.50	\$48,400.00
					\$57,484.00

Estimated Quality Smoothness Incentive: No Estimated Quality Smoothness Incentive

Estimated Quality Roughness Incentive: No Estimated Quality Roughness Incentive

Other Estimated Incentive:

Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
50199-0001	INCENTIVE, SMOOTHNESS (for 40101-0100 pay item)	All	LPSM	\$35,577.60	\$35,577.60
50199-0001	INCENTIVE, SMOOTHNESS (for 50101-0100 pay item)	All	LPSM	\$3,821.00	\$3,821.00
99901-0000	PARTNERING	All	LPSM	\$5,000.00	\$5,000.00
					\$44,398.60

**Total Estimated Incentive**

Calculated: \$101,882.60

**Total Estimated Construction Cost**

Calculated\*: \$5,101,882.60

Remarks:

**Contract Quantity Pay Items**

Contract Quantity Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
55201-0200	STRUCTURAL CONCRETE, CLASS A (AE)	63	CUYD	\$1,000.00	\$63,000.00
					\$63,000.00

Save & Close | Save | Delete | Cancel | Cancel & Close

- G. This window indicates the status of the schedule. Ensure the Construction Estimate is up-to-date before printing a schedule. A construction estimate could be out-of-date because: a new pay item was added, a quantity or unit price was edited, or a pay item incentive was adjusted;
  - H. Reports may be generated from this screen. See Section 2.3.9.1 for more details;
  - I. Incentive values are automatically populated;
- Note:** Due to the interim process for adding roughness and smoothness quality incentives, these incentives will be shown as "Other Estimated Incentives."
- J. Items designated as contract quantity are listed; and
  - K. Select a command to continue with the program.

**EEBACS** Federal Highway Administration  
Thursday, December 22, 2011 | 12:18 pm | Logout  
User: Heidi Hirsbrunner  
powered by symplify

Projects: ME PRA TEST 404(4... Estimates: 100% PS&E Construction Estimates

Project Info Design Account Team Event Log

Estimate CPL Schedules Column Headers Pay Items Construction Estimates

Generate EE Reports Generate EE Col Reports Generate Design Summary Report Generate Sum Of Quantities Report Generate PE Sum Of Quantities Report Generate UPA Report

**G** This Construction Estimate is up to date.

Save & Close Save Delete Cancel Cancel & Close

**H**

**Construction Estimate Info**

Created: 12-22-2011 11:43:07  
By: Heidi Hirsbrunner  
Modified: 12-22-2011 12:18:51  
By: Heidi Hirsbrunner

**Construction Estimate**

Schedule\*: A W

Total Cost of Items (excluding Mobilization): \$4,341,680.00

**Item 15101 Mobilization**

Calculated\*: 15.0% \$ 651,252.00  
Used\*: \$721320.00

**Estimate Total of Bid Items**

Calculated: \$4,992,932.00  
Used\*: \$ 5000000.00

**Estimated Quality Material Incentives:**

Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
20101-0000	AGGREGATE BASE (Quality)	6,056	Q_TON	\$1.50	\$9,084.00
40101-0100	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (State DOT mix allowed) (Quality)	8,800	Q_TON	\$5.50	\$48,400.00
					\$57,484.00

**Estimated Quality Smoothness Incentive:** No Estimated Quality Smoothness Incentive

**Estimated Quality Roughness Incentive:** No Estimated Quality Roughness Incentive

**Other Estimated Incentive:**

Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
50199-0001	INCENTIVE, SMOOTHNESS (for 40101-0100 pay item)	All	LPSM	\$35,577.60	\$35,577.60
50199-0001	INCENTIVE, SMOOTHNESS (for 50101-0100 pay item)	All	LPSM	\$3,821.00	\$3,821.00
99901-0000	PARTNERING	All	LPSM	\$5,000.00	\$5,000.00
					\$44,398.60

**Total Estimated Incentive**

Calculated: \$101,882.60

**Total Estimated Construction Cost**

Calculated\*: \$5,101,882.60

Remarks:

**Contract Quantity Pay Items**

Pay Item #	Description	Quantity	U.S. Pay Units	Unit Price	Total Price
55201-0200	STRUCTURAL CONCRETE, CLASS A (AE)	63	CUYD	\$1,000.00	\$63,000.00
					\$63,000.00

**K** Save & Close Save Delete Cancel Cancel & Close

**I**

**I**

**I**

**J**

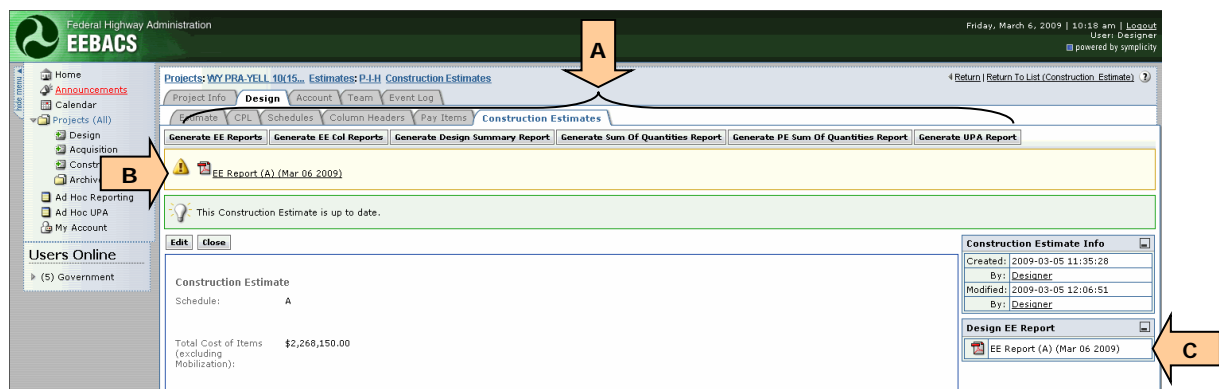
### 2.3.9.1 Reports

Generate EE Reports   Generate EE Col Reports   Generate Design Summary Report   Generate Sum Of Quantities Report   Generate PE Sum Of Quantities Report   Generate UPA Report

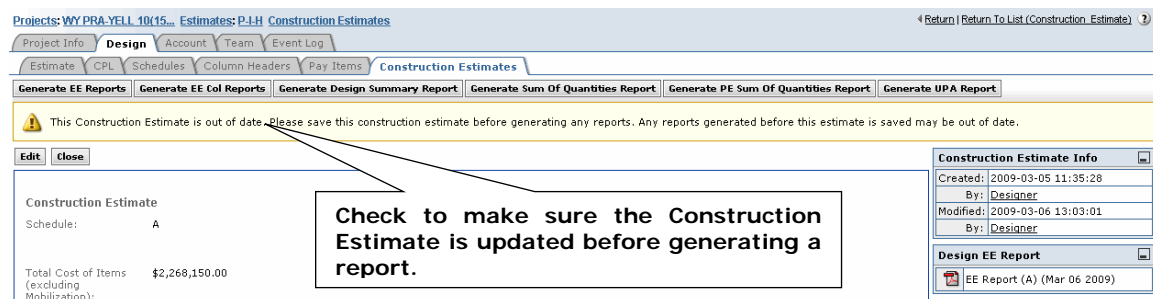
Reports for the Design module can only be generated from the Construction Estimate tab. It is important for reports that the Construction Estimate be up-to-date.

For formal PS&E distribution, the milestone estimate should be marked as complete, with the completion date added, prior to generating the reports (see Section 2.3.2).

- Select the desired report. The program will generate an Adobe Acrobat (PDF). The Summary of Quantities and the PE Summary of Quantities reports will also automatically generate Microsoft Excel (Excel), or Comma-Separated Values (CVS);
- Select the file for viewing, printing, or saving outside the program. Files of reports at the top of the screen are only available while in the screen or until another report is requested; and
- Select the file for viewing, printing, or saving outside the program. The most recent version of the report may be accessed through the right margin.



The last report generated is retained in the program. Adjustments to pay items, incentives, or other data will require the report to be generated again.



### 2.3.9.1.1 Generate EE Reports

Engineer's Estimate (EE) is a two-part report. The first part is a summary of schedule costs developed in the estimate. A combined (ALL) summary and a summary for each account number is generated when multiple account numbers are required.

ENGINEER'S ESTIMATE

Project No: NE PRA TEST 404(4)

Project Name: Rough Mountain Highway

FLMA No: Pkge #54545

State: NE County: Buffalo

Federal Land: Designer Refuge

Schedule Construction Type: 40202 Overlay <= 2-inches

Schedule Length: 13.217 miles

CPM Days: 75

Division: Central Federal Lands

PM: Dan VanGilder

Designer: Spencer Beale

Schedule: A

Schedule Type: Base

Milestone: 100% PS&E

Date Complete: In Progress

FP: 03 U/ customary

Report Date: 12/22/11

1 out of 4

ACCOUNT SUMMARY - ALL

Account No. Description

CON01 PRA funding

CON02 Friends of NE Scenic Byways

Remarks: Awaiting additional ARRA funds

**Contract Quantity Pay Items**

55201-0200 STRUCTURAL CONCRETE, CLASS A (AE)

**Estimated Total of Bid Items:** \$5,063,000.00

		<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
<b>Estimated Quality Material Incentive: \$57,484.00</b>					
30101-0000	AGGREGATE BASE (Quality)	6,056	Q_TON	\$1.50	\$9,084.00
40101-0100	SUPERPAVE PAVEMENT, 3 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (State DOT mix allowed) (Quality)	8,800	Q_TON	\$5.50	\$48,400.00

**Estimated Quality Smoothness Incentive:** \$0.00

No Quality Smoothness Incentive

**Estimated Quality Roughness Incentive:** \$0.00

No Quality Roughness Incentive

**Other Estimated Incentives:** \$44,398.60

40199-0001	INCENTIVE, SMOOTHNESS (for 40101-0100 pay item)	All	LPSM	\$35,577.60	\$35,577.60
50199-0001	INCENTIVE, SMOOTHNESS (for 50101-0100 pay item)	All	LPSM	\$3,821.00	\$3,821.00
99901-0000	PARTNERING	All	LPSM	\$5,000.00	\$5,000.00

**Total Estimated Incentives:** \$101,882.60

**Total Estimated Construction Cost:** \$5,164,882.60

If an estimate is marked complete, the completion date will appear here

The second part is a listing of all pay items found in the bid schedule (excludes all incentive items).

ENGINEER'S ESTIMATE

Report Date: 12/22/11  
4 out of 4

Project No: NE PRA TEST 404(4)      Schedule: A      Milestone: 100% PS&E  
Project Name: Rough Mountain Highway      Schedule Type: Base      Date Complete: In Progress  
FLMA No: Pkge #54545

Line Item Number	Pay Item No.	Description	Quantity	Unit	Unit Price	Amount
A0010	15101-0000	MOBILIZATION				
		Acet CON01	\$432,792.00			\$432,792.00
		Acet CON02	\$288,528.00			\$288,528.00
		Total	ALL	LPSM	\$721,320.00	\$721,320.00
A0110	15214-0000	SURVEY AND STAKING, MISCELLANEOUS				
		Acet CON01	\$2,700.00			\$2,700.00
		Acet CON02	\$24,300.00			\$24,300.00
		Total	ALL	LPSM	\$27,000.00	\$27,000.00
A0210	30101-0000	AGGREGATE BASE				
		Acet CON01	2,000			\$60,000.00
		Acet CON02	4,056			\$121,680.00
		Total	6,056	TON	\$30.00	\$181,680.00
A0410	40101-0100	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (State DOT mix allowed)				
		Acet CON01	6,500			\$715,000.00
		Acet CON02	2,300			\$253,000.00
		Total	8,800	TON	\$110.00	\$968,000.00
A0710	50101-0100	REINFORCED RIGID PAVEMENT, 6-INCH DEPTH, TYPE A SMOOTHNESS				
		Acet CON01	33,000			\$3,102,000.00
		Total	33,000	SQYD	\$94.00	\$3,102,000.00
A0910	55201-0200	STRUCTURAL CONCRETE, CLASS A (AE)				
		Acet CON01	63			\$63,000.00
		Total	63	CUYD	\$1,000.00	\$63,000.00

### 2.3.9.1.2 Generate EE Column Reports

Engineer's Estimate Column report provides a summary by column (as found in the Summary of Quantity report) for all quantities listed in the column for that schedule. This type of report can be helpful when wanting to keep track of road costs (placed in one column), bridge costs (placed in another column), etc.

This report is also a two-part report. The first part is a summary of all costs found in a column for a schedule. A combined (ALL) summary and a summary for each account number is generated when multiple account numbers are required.

**ENGINEER'S ESTIMATE - Subtotal Amount for B4-B5:Surfacing Summary**

Report Date: 12/22/11  
1 out of 4

Project No: NE PRA TEST 404(4)  
 Project Name: Rough Mountain Highway  
 FLMA No: Pkge #54545  
 State: NE County: Buffalo  
 Federal Land: Designer Refuge  
 Schedule Construction Type: 40202 Overlay <= 2-inches  
 Schedule Length: 13.217 miles  
 CPM Days: 75

Division: Central Federal Lands  
 PM: Dan VanGilder  
 Designer: Spencer Beale

Schedule: A, Subtotal for B4-B5:Surfacing Summary  
 Schedule Type: Base  
 Milestone: 100% PS&E  
 Date Complete: In Progress  
 FP: 03 US Customary

ACCOUNT SUMMARY - ALL

Account No.	Description				
CON01	PRA funding				
CON02	Friends of NE Scenic Byways				
Remarks: Awaiting additional ARRA funds					
<b>Contract Quantity Pay Items</b>					
No Contract Quantity Pay Items					
<b>Estimated Total of Bid Items:</b>		<b>\$4,251,680.00</b>			
			<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>
<b>Estimated Quality Material Incentive:</b>		<b>\$57,484.00</b>			
30101-0000	AGGREGATE BASE (Quality)		6,056	Q_TON	\$1.50
40101-0100	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (State DOT mix allowed) (Quality)		8,800	Q_TON	\$5.50
<b>Estimated Quality Smoothness Incentive:</b>		<b>\$0.00</b>			
No Quality Smoothness Incentive					
<b>Estimated Quality Roughness Incentive:</b>		<b>\$0.00</b>			
No Quality Roughness Incentive					
<b>Other Estimated Incentives:</b>		<b>\$0.00</b>			
No Other Incentive					
<b>Total Estimated Incentives:</b>		<b>\$57,484.00</b>			
<b>Total Estimated Construction Cost:</b>		<b>\$4,309,164.00</b>			

Summary of Quantity column heading (based on plan sections)

Total estimated construction cost for column only.

The second part is a listing of all pay items (excluding incentives) within a given column.

**ENGINEER'S ESTIMATE - Subtotal Amount for B4-B5:Surfacing Summary**

Report Date: 12/22/11  
4 out of 4

Project No: NE PRA TEST 404(4)      Schedule: A, Subtotal for B4-B5:Surfacing      Milestone: 100% PS&E  
Summary      Date Complete: In Progress

Project Name: Rough Mountain Highway      Schedule Type: Base

FLMA No: Pkge #54545

Line Item Number	Pay Item No.	Description	Quantity	Unit	Unit Price	Amount
A0210	30101-0000	AGGREGATE BASE				
		Acct CON01	2,000			\$60,000.00
		Acct CON02	4,056			\$121,680.00
		Total	6,056	TON	\$30.00	\$181,680.00
A0410	40101-0100	SUPERPAVE PAVEMENT, 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <0.3 MILLION ESAL (State DOT mix allowed)				
		Acct CON01	6,500			\$715,000.00
		Acct CON02	2,300			\$253,000.00
		Total	8,800	TON	\$110.00	\$968,000.00
A0710	50101-0100	REINFORCED RIGID PAVEMENT, 6-INCH DEPTH, TYPE A SMOOTHNESS				
		Acct CON01	33,000			\$3,102,000.00
		Total	33,000	SQYD	\$94.00	\$3,102,000.00

### 2.3.9.1.3 Generate Design Summary Report

This report provides a schedule estimate summary of costs and summaries for each account. Summary is the total estimated construction cost (pay items and incentives).

#### Engineer's Estimate Design Summary Information

Report Date: 07/26/09  
1 out of 1

Project No: PRA YELL 10(15)      Division: Western Federal Lands HD      Milestone: Signoff  
Project Name: Grand Loop Road (Madison to Norris, Segment B)      PM: Ninh Phan      Date Complete: In Progress  
FLMA No: 54337 101/43943      Designer: Wade Johnson      FP: 03      US Customary  
State: WY      County: Park, Teton      HDM: Stephen Chapman  
Federal Land: Yellowstone National Park      COE:  
Terrain: Rolling      Density: Rural      Bridge Mgr: Julee McTaggart

Schedule: A										
Schedule Type: Base										
Schedule Estimate: \$1,923,600.00										
CON01 \$1,823,600.00 PRA funding										
CON02 \$100,000.00 Friends of Yellowstone funding										
Description: Grading, drainage, retaining walls, bridge, base, and pavement.										
Remarks:										
GIS Route	MP_Begin	MP_END	Begin Lat	Begin Long	End Lat	End Long	Length (mile)	Pklot Area (sqyd)	Termini	Construction Type
10	5.000	13.000	37.8277936	-122.4986107	37.8332686	-122.483344	8	2,000	Madison Junction to Beryl Springs bridge	302 Mill 2 + Overlay 2-inches
Bridge ID	GIS Route	MP_Begin	MP_END	Begin Lat	Begin Long	End Lat	End Long	Length (ft)	Size (sqft)	Construction Type
1002	10	7.100	7.110	37.8341783	-122.4840021	37.8339406	-122.4845163	100.00	2,200	Deck Repair



### 2.3.9.1.4 Generate Sum of Quantities Report

The Summary of Quantities report reflects the table typically found in a plan set. The program generates a Comma-Separated Values (CSV) file for inclusion into the plan set. Table header "Summary of Quantities" is added along with sheet borders file using the import procedures included in the Summary of Quantities Appendix. **Note:** Do NOT import the PDF or XLS files into the plan set. The PDF format can be used to review the data, prior to importing the CSV format into the plans. See [Appendix Developing Summary of Quantity Plan Sheets](#).

Line Item No.	Pay Item Number	Pay Item Description	Unit	Sheet and Description													Estimated Quantities	Remarks And/Or Determination of Estimated Quantity
				C	D	E	F	G	0	0	0	0	0	0	0			
				Typical Section	Plan & Profile	Tabulation of Drainage	Temporary Traffic Control	Permanent Traffic Control	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Column 12	Column 13		
A0010	15101-0000	MOBILIZATION	LPSM												ALL	Quantity based on 2.3 tons per cubic meter.		
A0020	15201-0000	CONSTRUCTION SURVEY AND STAKING	LPSM												ALL			
A0030	15301-0010	CONTRACTOR QUALITY CONTROL AND ASSURANCE	LPSM												ALL			
A0040	15401-0000	CONTRACTOR TESTING	LPSM												ALL			
A0050	15501-0000	CONSTRUCTION SCHEDULE	LPSM												ALL			
A0060	15705-0100	SOIL EROSION CONTROL SILT FENCE	LNFT		3,000										3,000			
A0070	15705-0500	SOIL EROSION CONTROL TEMPORARY CULVERT PIPE	LNFT		500										500			
A0080	20101-0000	CLEARING AND GRUBBING	ACRE		10.0										10.0	Contract Quantity		
A0090	20220-1000	REMOVAL, INDIVIDUAL TREE	EACH		20										20			
A0100	20401-0000	ROADWAY EXCAVATION	CUYD				40,000								40,000			
A0110	30101-2000	AGGREGATE BASE GRADING D	TON	20,000											20,000			
A0130	40101-0100	SUPERPAVE PAVEMENT, 1 1/2-INCH NOMINAL MAXIMUM SIZE AGGREGATE, +0.3 MILLION ESAL	TON	10,000											10,000			
A0160	63302-0000	SIGN SYSTEM	SQFT					100							100			
A0170	63401-0100	PAVEMENT MARKINGS, TYPE A, SOLID (WHITE)	LNFT					40,000							40,000			
A0180	63401-0100	PAVEMENT MARKINGS, TYPE A, SOLID (YELLOW)	LNFT					20,000							20,000			
A0190	63401-0200	PAVEMENT MARKINGS, TYPE A, BROKEN (YELLOW)	LNFT					500							500			
A0200	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM												ALL			

Milestone: P-I-H, Date Completed: In Progress, Report Date: 03/05/09

### 2.3.9.1.5 Generate PE Sum of Quantities Report

The PE (Project Engineer) Sum (Summary) of Quantities report is similar to the Summary of Quantities report, but further describes quantities by accounts. This report can be extremely useful for the Project Engineer to easily see the project account splits. (This report is not included in the plan set).

Project Engineer's Summary of Quantities																		
Line Item No.	Pay Item Number	Pay Item Description	Unit	Sheet and Description													Estimated Quantities	Remarks And/Or Determination of Estimated Quantity
				C	D	E	F	G	0	0	0	0	0	0	0	0		
				Typical Section	Plan & Profile	Tabulation of Drainage	Temporary Traffic Control	Permanent Traffic Control	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Column 12	Column 13	Bid Schedule	
A0010	15101-0000	MOBILIZATION	LPSM														ALL	Quantity based on 2.3 tons per cubic meter.
		Acct CON01															65%	
		Acct CON02															40%	
A0020	15201-0000	CONSTRUCTION SURVEY AND STAKING	LPSM														ALL	
		Acct CON01															100%	
		Acct CON02															0%	
A0030	15301-0010	CONTRACTOR QUALITY CONTROL AND ASSURANCE	LPSM														ALL	
		Acct CON01															100%	
		Acct CON02															0%	
A0040	15401-0000	CONTRACTOR TESTING	LPSM														ALL	
		Acct CON01															100%	
		Acct CON02															0%	
A0050	15501-0000	CONSTRUCTION SCHEDULE	LPSM														ALL	
		Acct CON01															100%	
		Acct CON02															0%	
A0060	15705-0100	SOIL EROSION CONTROL, SILT FENCE	LNFT		3,000												3,000	
		Acct CON01			1,000												1,000	
		Acct CON02			2,000												2,000	
A0070	15705-0500	SOIL EROSION CONTROL, TEMPORARY CULVERT PIPE	LNFT		500												500	
		Acct CON01			500												500	
		Acct CON02															0	Contract Quantity
A0080	20101-0000	CLEARING AND GRUBBING	ACRE		10.0												10.0	
		Acct CON01			4.8												4.8	
		Acct CON02			5.2												5.2	
A0090	20220-1000	REMOVAL, INDIVIDUAL TREE	EACH		20												20	
		Acct CON01			20												20	
		Acct CON02															0	
A0100	20401-0000	ROADWAY EXCAVATION	CUYD				40,000										40,000	
		Acct CON01					40,000										40,000	
		Acct CON02															0	
A0110	30101-2000	AGGREGATE BASE GRADING D	TON	20,000													20,000	
		Acct CON01		20,000													20,000	
		Acct CON02															0	

Milestone: P-I-H, Date Completed: In Progress, Report Date: 03/06/09

### 2.3.9.1.6 Generate UPA Report

The Unit Price Analysis (UPA) Report is a summary of how all pay item costs were developed. UPA report format is dependent on how the cost was developed. Three types of reporting formats can be generated; Bid History Unit price (BHUP), Cost based Unit price (CBUP), or a Non-BHUP when costs are developed using methods outside of EEBACS. The following are examples of each report:

Example of Bid History Unit Price (BHUP):

- A. Pay item data including unit price determined through analyzing bid history;
- B. Values used in determining the unit price;
- C. Filters selected in determining the unit price; and
- D. Projects from bid history used in determining the unit price. Projects selected appear on the top of the listing followed by 2 pages (max) of projects that meet the filter criteria, most recent projects on top.

A

Project No: WY PRA-YELL 10(15)

Project Name: Grand Loop Road (Madison to Norris)

FLMA No:

Schedule(s): A

Schedule Type(s): Alternate

Milestone: P-I-H

Date Complete: In Progress

Report Date: 03/06/09

2 out of 23

B

amount

0.000.00

C

Picked: 3

Average: \$232,890.33

High: \$296,150.00

Low: \$189,536.00

Remarks: Selected projects of similar traits.

Bid History Filters:

Pay Item Number: 15201-0000

Quantities: ALL

Award Dates: From 2003 to 2009

States: WY

Inflation Index: Oregon Highway CCI

Schedule Construction Type:

Terrain:

Density:

Award Date	States	Pay Item No Schedule	Pay Item Description Project	Inflation	Quantity	Low 1	Low 2	Low 3	Low 4	Low 5	Total Amount	Schedule Construction Type	Terrain Density
05/26/04	WY	15201-0000	CONSTRUCTION SURVEY AND STAKING	18.46%	ALL	\$160,000.00					\$3,888,390.50	R	M Rural
		C	WY PRA-YELL 13(3)			\$189,536.00							
05/26/04	WY	15201-0000	CONSTRUCTION SURVEY AND STAKING	18.46%	ALL	\$250,000.00					\$12,182,751.00	R	M Rural
		B	WY PRA-YELL 13(3)			\$296,150.00							
07/03/03	WY	15201-0000	CONSTRUCTION SURVEY AND STAKING	41.99%	ALL	\$150,000.00	\$180,000.00				\$5,089,303.00	R	R Rural
		A	WY PRA-GRTE 13(1), WY PRA-GRTE 13(5), & WY PRA-GRTE 13(6)			\$212,985.00	\$255,582.00						
08/11/04	WY	15201-0000	CONSTRUCTION SURVEY AND STAKING	18.46%	ALL	\$15,000.00	\$30,000.00	\$27,500.00	\$40,470.00		\$1,198,434.25	B	M Rural
		A	WY PRA-GRTE 100(1), 209(1), & 225(1)			\$17,769.00	\$35,538.00	\$32,576.50	\$47,940.76				

D

## Example of Cost Based Unit Price (CBUP).

- E. Pay item data including unit price;
- F. Values used in determining the unit price;
- G. Filters selected in determining the unit price; and
- H. Summary of values used in determining the unit price.

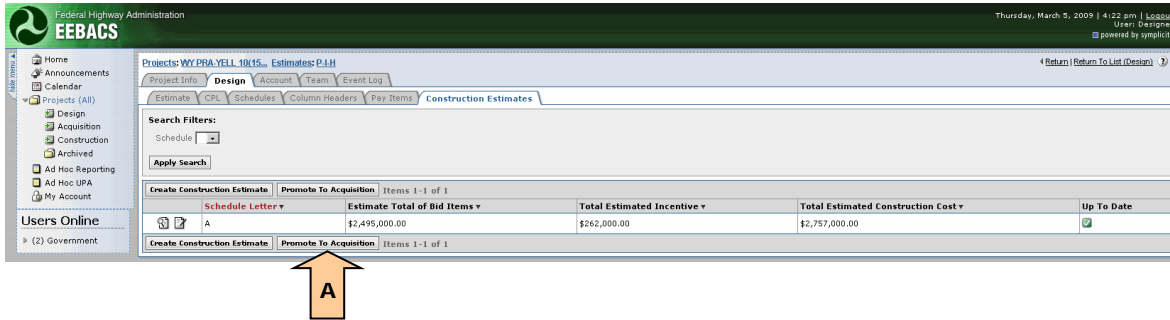
Cost Based Unit Price																																																																																	
Project No: WY PRA-YELL 10(15)				Schedule(s): A		Milestone: P-I-H		Report Date: 03/06/09 12 out of 23																																																																									
Project Name: Grand Loop Road (Madison to Norris)				Schedule Type(s): Alternate		Date Complete: In Progress																																																																											
FLMA No:																																																																																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>E</b> Pay Item No. 20401-0000</p> <p>Pay Item Type N</p> <p>Description ROADWAY EXCAVATION</p> <p>Quantity 40,000</p> <p>Unit CUYD</p> <p>Unit Price Used \$8.50</p> <p>Amount \$340,000.00</p> </div> <div style="width: 45%; text-align: right;"> <p><b>F</b></p> </div> </div>																																																																																	
<p>Total Equipment, Material, and Labor: \$116,610.00</p> <p>Total Cost Pay Item Unit: \$116,610.00 CUYD</p>																																																																																	
Remarks: Equipment and labor time based on excavation of 40,000 cu yds with 4,000 cu yds going to waste.																																																																																	
<p><b>G</b> <b>Equipment</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th> <th>Quantity</th> <th>No. Units</th> <th>Unit</th> <th>Cost/Unit</th> <th>Total</th> <th>Overhead &amp; Profit</th> <th>Total Cost</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td colspan="9" style="text-align: center;">No Equipment Costs Found</td> </tr> </tbody> </table>										Type	Quantity	No. Units	Unit	Cost/Unit	Total	Overhead & Profit	Total Cost	Remarks	No Equipment Costs Found																																																														
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Total with O&P							\$90,160.00																																																																										

## Example of Non-BHUP:

Bid History Unit Price Analysis																					
Project No: PRA YELL 10(15)				Schedule(s): A		Report Date: 06/16/09 12 out of 24															
Project Name: Grand Loop Road (Madison to Norris, Segment B)				Schedule Type(s): Base		Milestone: Signoff															
FLMA No: 54337 101/43943						Date Complete: In Progress															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Pay Item No.</th> <th>Pay Item Type</th> <th>Description</th> <th>Quantity</th> <th>Unit</th> <th>Unit Price Used</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>40101-0100</td> <td>NR</td> <td>SUPERPAVE PAVEMENT 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, &lt;=0.3 MILLION ESAL</td> <td>3,000</td> <td>TON</td> <td>\$45.00</td> <td>\$135,000.00</td> </tr> </tbody> </table>								Pay Item No.	Pay Item Type	Description	Quantity	Unit	Unit Price Used	Amount	40101-0100	NR	SUPERPAVE PAVEMENT 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <=0.3 MILLION ESAL	3,000	TON	\$45.00	\$135,000.00
Pay Item No.	Pay Item Type	Description	Quantity	Unit	Unit Price Used	Amount															
40101-0100	NR	SUPERPAVE PAVEMENT 3/8-INCH NOMINAL MAXIMUM SIZE AGGREGATE, <=0.3 MILLION ESAL	3,000	TON	\$45.00	\$135,000.00															
<p>Picked: 0      Average: \$0.00      High: \$0.00      Low: \$0.00</p>																					
Remarks: Price quoted by Materials Engineer.																					

### 2.3.9.2 Promote to Acquisitions

- A. Once the project estimate is “up-to-date” and marked as “complete”, and the PS&E package is sent to Acquisitions; follow the Division procedures to promote the project to Acquisitions to continue the EEBACS process. A promoted project can only be viewed. It must be released by Acquisitions if modifications to the estimate need to be made. Depending on the user’s roles, access into the Acquisition Amendment tab may be permitted. See appendix for [Pay Item Amendment](#) instructions.



Remember that projects cannot be promoted to Acquisitions with temporary pay items or with pay items that are not “complete”.

## **2.4 Design Module Technical Support**

### **2.4.1 Consultants**

Contact your COTR for assistance with this program.

### **2.4.2 Government personnel**

To set up a user account, fill out the appropriate EEBACS User Account form and email according to the instructions in the form.

For assistance in using or trouble-shooting this module contact the Division Design component lead or EEBACS Administrator shown in [Section 1.12](#).

To request new pay items be added to the Master Pay Item Table, fill out the Pay Item request form and forward to local Division's Pay Item Team representative.