



**COLORADO**  
Department of  
Transportation

# **AASHTOWARE PROJECT PRECONSTRUCTION MULTIPLE PROJECT USER GUIDE**

Engineering Applications

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## Multiple Design Projects



Multiple Bid Schedule process enables the department to competitively bid all elements of work identified within the full scope of a project's intent at the maximum established budget, to accomplish the maximum amount of work for the minimum amount of cost, and to reduce the number of project extensions.



### Remember



- There will be separate Purchase Orders and Form 65's for each individual project.
- When using Multiple schedules and requiring contractors to bid on all of the SE schedules, separate Prime Projects must be set up in Preconstruction (e.g. 19674A and 19674B).
- After you have created the original project, you will need to contact the Engineering Applications team to request that your Project be set up as a Multiple.



## 1.0 Introduction to Multiple Design Projects

The Multiple Bid Schedule process enables the department to competitively bid all elements of work identified within the full scope of a project's intent at the maximum established budget, to accomplish the maximum amount of work for the minimum amount of cost, and to reduce the number of project extensions.

Currently, policy allows for a maximum of three (3) Bid Schedules:

- **Schedule "A"** is the base option or maximum amount of scope achievable within the identified budget.
- **Alternate "B"** would be for the project after project reductions have been identified and made.
- **Alternate "C"** would be for a third, even smaller, project when bids are unpredictable.

The maximum estimate spread between schedules should be fifteen percent for two schedules or thirty percent for three schedules.

- Greater deviations must be approved by the Chief Engineer before Advertisement.
- The minimum estimate spread should be five percent.
- Do not use more than three schedules.

The intent of the Multiple Bid Schedule concept is to accomplish the maximum amount of work for the minimum amount of cost, and to reduce the number of project extensions. The philosophy of this concept is - "if we have the opportunity to bid work - we should."

It is preferred to identify and bid the work in the initial procurement process rather than increase work utilizing a Project Change Order. This ensures competitive bidding on the entire project, provides opportunities for smaller contracting firms, and ensures that the Department receives fewer complaints from the Industry about adding work after-the-fact.

## After You Create Your Project, Prime, and Proposal

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You must contact the Engineering Applications team to request your Project be set up as a Multiple.

Send an e-mail including the 5 digit subaccount number and your anticipated AD date to CDOT\_AASHTOWare\_Support@state.co.us.

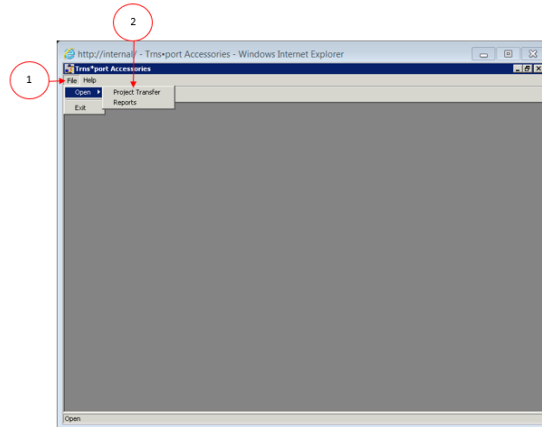
Once your Multiple Project components have been created, you will be notified before you can proceed with adjusting your items, funding, or finalizing other details needed to go to AD and Bid.

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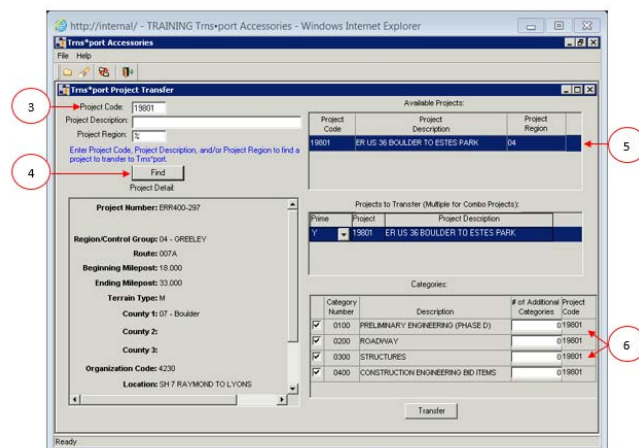
## 2.0 Accessories Transfer

Go to Trns•port Accessories at <http://internal/trnsapps> to transfer your project from Trns•port Accessories into Preconstruction - creating the Bid, Non-Bid, Prime, and Proposal & Bid Letting components.

1. Select **File**.
2. **Open Project Transfer**.



3. Enter your five (5) digit **Project Code** or two (2) digit **Project Region Code** (e.g., 01, 02, etc.).
4. Click the **Find** button.
5. Highlight the desired project in the **Available Projects** list.
  - Double click to select for **Transfer**.
6. Check each box for each **Category Number** and add any number of **Additional Categories** needed.



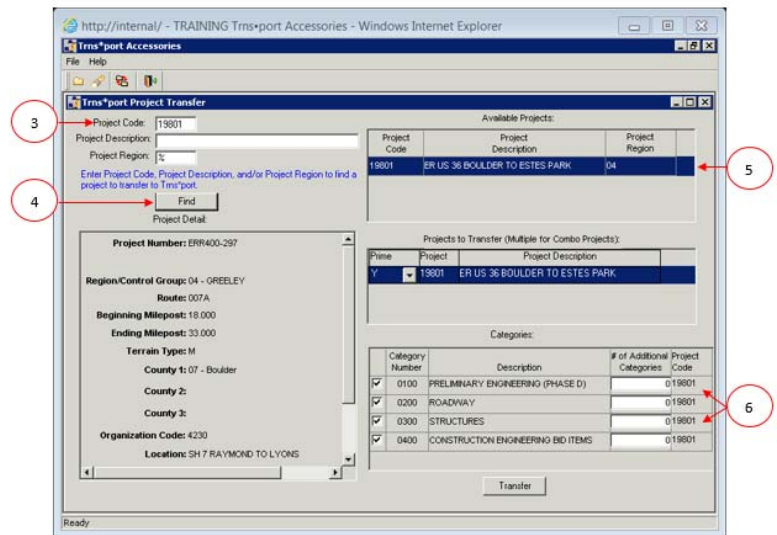
# Accessories Transfer



The same basic functionality of transferring projects from Trns\*port Accessories into Preconstruction will remain with an added option of selecting a Prime Project and any partner projects to combine with it for transfer into Preconstruction.



- Remember to select all Bid and Non-Bid Categories associated with your Project



## Workflow



Workflow should auto populate and will show as Project & Proposal Creation & Estimation when first created.



## Bridge Structure



Each Structure Category must each have its own Bridge Segments record, including:

- Bridge ID
- Length
- Width
- Number of Spans
- Bridge Type

If a separate Category is created for a Wall, do not list it as Bridge Type 30 (Misc.) but rather as Bridge Type None.

For consistent historical data, only Bridges and Walls require separate Structure Categories and corresponding Bridge Segment records in Preconstruction.



## 3.0 Projects

- Remember to complete all Bid & Non-Bid project mandatory fields in order to generate a Preliminary Prime Project Detail Estimate.
- Remember to **Save** changes before navigating to the next tab or link.
- Always **Validate Project** after adding, changing, or deleting items.

### 3.1 Bid Projects Summary

Not all information will populate with the transfer from Accessories. You must verify that the information in the following tabs is correct and add any necessary information:

- Verify xxxxx-Bid that matches the proposal is checked as **Controlling Project**.
- Enter Construction Eng. Pct. for P or NP Project.
- Verify **Preconstruction Resident Engineer**.
- Verify **Project Work Type** and **Project Type: Project Work Type in Projects must match Contract Work Type in Proposal and both must be populated** before entering items.
- Add the description.
- Counties should auto populate from SAP/Accessories.
- Confirm that the Primary County matches the Proposal Primary County and ensure that the total of all counties equals 100%.
- Regions should auto populate.

### 3.2 Lat/Long

The Cost Estimating Department will enter the Latitude and Longitude during the time of estimating.

### 3.3 Bridge Segments

- Enter the **Bridge ID**.
- Be sure to assign the **Category ID** individually (i.e., 0300, 0301, and 0302).
- Enter the **Description**.
- The **Length** populates on **Preliminary Detail Estimate** as **Total Bridge Length** in Feet.

## Remember



- Categories are intended to identify individual Roadways, Structures (Bridges & Walls only) or Funding Sources, not specific types of work.
- Consistency in names of Categories, Fund Packages, and Fund Package Descriptions ensures accuracy of calculations on the Preliminary Detail Estimate, Form 1180 and Form 65.
- These reports rely on the standard use and naming conventions of the Category, Fund Package & Fund Package Description fields.



## 4.0 Categories and Items Link

### 4.1 General Tab

- Should auto populate with data from SAP & Accessories transfer.
- Each Bid Project should be marked as **Controlling Project**.

### 4.2 Categories

- Category Description (e.g., Roadway, CE, etc.) should auto populate.
- Category Work Class (e.g., 0200-Roadway 0300-Structures, etc.) should auto populate.
- Add Construction Engineering Percent for each Category. Current rates are 10 for NP & 20.02 for P.
- Be sure to check the **Combine with Like Categories** checkbox.
- Federal Construction Class should be B-Biddable Items in Bid Project & N – Non-Biddable in Non-Bid.
- To add a new Category, select **New**.
- To **Delete**, go to **Actions**.
- Complete all fields as stated above.

The screenshot displays the 'Categories' form in a software application. The form is titled '0200 - ROADWAY' and contains various input fields and dropdown menus. The 'Category No.' field is set to '0200'. The 'Category Description' field is set to 'ROADWAY'. The 'Const. Eng. Pot.' field is set to '20.02'. The 'Category Work Class' field is set to '0200 - ROADWAY'. The 'Combine Like Categories' checkbox is checked. The 'Federal Construction Class' dropdown is set to 'B - BIDDABLE ITEMS'. The 'Low Cost Flag' is set to 'Yes'. The 'Unit Number' and 'Unit Description' fields are empty. The form also includes a 'Section Group' field, a 'Category Alternate Set ID' dropdown set to '02 - PCCP-ALT', and a 'Category Alternate Member ID' field set to '2'. The interface includes a sidebar with 'General', 'Categories', 'Category Alternate Sets', and 'Items (Worksheet)' tabs, and a top navigation bar with 'Advanced' and 'Showing 2 of 2' indicators.

## Remember

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### Items To Review

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- Supplemental description for any F/A Items.
- Non-Bid check box (for all F/A Items & all Items in Non-Bid Project.)
- Check Major Item box if extended amount = \$15,000 or more.

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## 4.3 Items

1. Click **New**.
2. Enter the **Item ID** (xxx-xxxxx).
  - Add the **Project Item Supplemental Description** for all **3<sup>rd</sup> Party F/A Items**.
3. Enter the **Category ID** (e.g., 0200, 0400, etc.).
4. Enter the **Quantity**.
5. Enter the **Project Item Unit Price**.
6. **Non-Bid**: Check for all **Non-Bid and for all F/A items**.
  - **Combine with Like Items** - confirm check box is checked. Click **SAVE**.

The screenshot shows the 'Items (Worksheet)' form with a 'New' button circled in red and labeled '1'. The form displays details for a new item: 'Item ID' is 202-00035 (circled '2'), 'Category ID' is 0200 - ROADWAY (circled '3'), 'Quantity' is 10,000 (circled '4'), and 'Project Item Unit Price' is 20,000.00 (circled '5'). The 'Project Item Supp Description' field is empty. The 'Non-Bid' checkbox is checked (circled '6'), and the 'Combine With Like Items' checkbox is also checked (circled '7'). Other fields include 'Item Alternate Set ID', 'Alternate Member ID', and 'Estimation Type' set to 'Ad Hoc'. The top right corner shows status indicators: '0 added | 0 marked for deletion | 0 changed'.



## Reminder



After adding any new item(s), you must assign funding to those items.

Item funding can be assigned individually by expanding the category and assigning or by removing and reestablishing funding for the entire category.



## 5.0 Fund Packet Overview

Both the Bid and Non-Bid Projects now transfer into Preconstruction with Default Funding Packages.

Default funding is a mechanism used to fund multiple categories in a bid or non-bid project from a single source (e.g., 0200 and 0300 Categories) to avoid having to repeat the funding for each individual category. The Default Package is intended to be a placeholder for the actual Fund Packages so that designers can more easily run a **Preliminary Detail Estimate** to get an overall budget view without having to set up all the details of the actual Funding Providers, Priorities and Percentages.

Fund Package	Description	Project Level	Funds
0200	BID DEFAULT	02	2
0400	CONSTRUCTION ENGINEERING BID ITEMS	04	1

Figure 1: Example of Default Fund Packages

## 5.1 Assigning Item Funding

1. Select the **Funding Assign to Items** link.

Project Category and Item Summary

Project: 19220-BID - BUENA VISTA US 24 SIDEWALKS

Make sure the Project Work Type (in Project) & Contract Work Type (in Proposal) are populated & match before entering items.

General: Control Number: 19220-BID, Controlling Project: 19220-BID, Project Name: BUENA VISTA US 24 SIDEWALKS

Categories: Categories, Category Alternate Sets, Items (Worksheet)

Spec Year: 05, Project Status: N - Initial

2. For each **Category**, select the corresponding **Fund Package** (e.g., A to A, B to B) then click **Save**.

Project Funding Assignment

Project: 19220-BID - BUENA VISTA US 24 SIDEWALKS

All Project Items	Mixed	None	A	B	Fund Package	Description	Funds
0200 - ROADWAY	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	(A) 0200	0200 ROADWAY	4
0400 - CONSTRUCTION ENGINEERING BID ITEMS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	(B) 0400	0400 CE BID ITEMS	1

## Reminder



## Validate your Projects



The validation process generates a list of warnings about the state of the project, highlighting any missing or conflicting information.

If any error messages appear, go back to the appropriate field, link or Action, and complete the necessary corrective measures.



## 6.0 Non-Bid Projects

There will be individual Non-Bid Projects for every project in a Multiple and you must perform all the same steps as for Bid Project.

- Be sure CE % is “0” for all Non-Bid Categories.
- For design items, Category 0100 enter item’s original price in **Project Item Unit Price** and **Project Item Previous Price**.

When there are both P & NP Design Items in Category 0100, in order for Form 65 to work:

- Be sure to create a separate Fund Package with NP/Non-Federal Funding Only for item #000-00005.
- Create another Fund Package with the P/Federal Funding (plus state match if applicable) for item #000-00010.

## Reminder



### Preliminary Detail Estimate



The Preliminary Detail Estimate is a group of six (6) reports that uses the Engineer's estimated prices to provide a Project, Proposal, or Prime Project view of costs including CE & Indirects and Funding breakdowns.

It allows the designer to verify that all costs have been included so their project will be within budget.

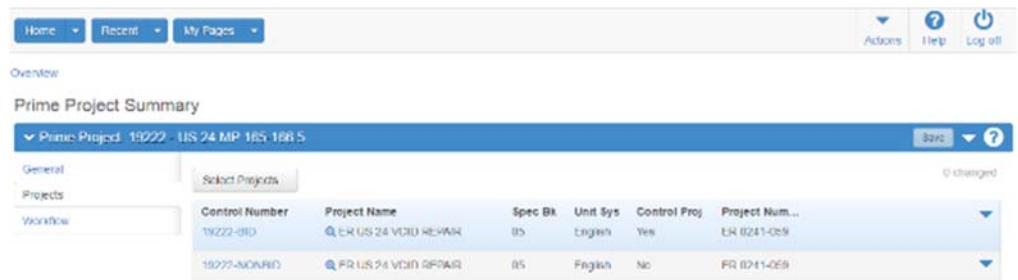
Compare the Preliminary Detail Estimate for the "A" project to Form 65 Line 25 to ensure that they match.



## 7.0 Prime Projects

Verify that the information in the following tabs is correct and add any information necessary:

- The **General** tab should auto populate. **Be sure to add the Long Description.**
- The **Projects** tab should auto populate and will include both the Bid and Non-Bid Projects for all combined Projects as shown below.



The screenshot shows a software interface for 'Prime Project Summary'. At the top, there are navigation tabs: 'Home', 'Recent', and 'My Pages'. On the right, there are icons for 'Actions', 'Help', and 'Log off'. Below the navigation, the main content area is titled 'Prime Project Summary' and shows a dropdown menu for 'Prime Project' with the value '19222 - US 24 MP 165, 188 S'. A 'Select Projects' button is visible. The main part of the interface is a table with the following columns: 'Control Number', 'Project Name', 'Spec Bk', 'Unit Sys', 'Control Proj', and 'Project Num...'. The table contains two rows of data.

Control Number	Project Name	Spec Bk	Unit Sys	Control Proj	Project Num...
19222-BID	ER US 24 VCO REPAIR	05	English	Yes	ER 0241-029
19222-NONBID	FR US 24 VCO REPAIR	05	English	No	FR 0241-029

## Reminder



- The Proposal contains all biddable item quantities which are organized as a Proposal Schedule, Bid Schedule or Schedule of Items for contractor bidding purposes. It is then exported into the contract as the Contract Price Schedule.
- The Proposal Component houses all details pertinent to the contractor, including the contract type, type of time charges, and number of contract days.
- The Proposal is also used for the Notice to Contractors which is a report that serves as both a legal notice to the public that proposals are available for bid and is submitted to the media for publication.



## 8.0 Proposals

### 8.1 General Tab

- **General**
  - Contract Work Type must be selected & must match **Project Work Type** in the Project General tab.
  - Enter the **Proposal Long Description**. This area provides enough space for a description of the project and any mandatory Pre-Bid information. NOTE: This information will be provided for the Advertisement/ Notice to Contractors and should state all scopes of work for this project that must be bid on.
  - The **Proposal Primary County** must be set.
  - Add the **Publication Date/Ad Date**.
  - Only one goal for the **DBE participation** will be needed for the single Project
  - Verify the **Resident Engineer Cost Center**.
- **Projects Tab**
  - Bid project(s) only – confirm that **Control Project** is checked.
- **Workflow Tab**
  - Proposal Workflow drives Project(s) Workflow. Originates in Project & Proposal Creation and Estimation.

## Tab Time



This tab is used to maintain proposal times.

A proposal time is a specific time period during which a defined amount of work is to be accomplished.

There are different types of times but each proposal must have at least one time row of the total contract time type recorded before the proposal can be let.

Subsequent proposal times can be added throughout the life of the proposal. If a proposal has more than one time row, the total contract time is designated as the main (or controlling) proposal time.



- **Time Tab**

1. Click **New**. The **Time ID** should be 00.
2. The **Time Description** should be **Contract Site**.
3. **Time Type** – **Must match Project Special Provisions**.
4. In the **Number of Time Units** field, enter the number of days.
5. In the **Time Unit** field, select **Days**.
6. Check the box under **Main Proposal Time**.
7. In the **Liquidated Damages Rate** field, enter the daily rate.
8. Under **Liquidated Damages Unit of Time**, select **Days**.
9. Only complete the **Road User Cost Per Time Unit** for cost plus time/A Plus B project which will result in an additional “Time” Proposal Section. This will be a dollar value.

### Proposal Summary

Proposal: C19220-COMBO - BUENA VISTA US 24 SIDEWALKS

Letting: 19220

General

Projects

Time

Special Provisions

Workflow

New

0 added | 0 marked for deletion | 0 changed

00 - CONTRACT SITE Yes

Time ID: \* 00

Time Description: \* CONTRACT SITE

Time Type (AD=Working, CD=Calendar, DT=Fixed Dt): \* CD

Number of Time Units: \* 92

Time Unit: \* Days

Main Proposal Time: \*

Completion Date:

Start Date:

Liquidated Damages Rate: \* 1,100

Liquidated Damages Unit of Time: \* Days

Road User Cost Per Time Unit: \*

Maximum Time:

## Reminder



- Verify that all items were assigned to Section 001 correctly by going to the Actions button and selecting Assign Items to Sections. Make sure all items are assigned to Section (A) 0001.
- Assign any new items to the Proposal Section after they are added to the Bid Project by expanding the appropriate Category and individually assigning that item to Section (A) 0001.



## Validate your Proposal

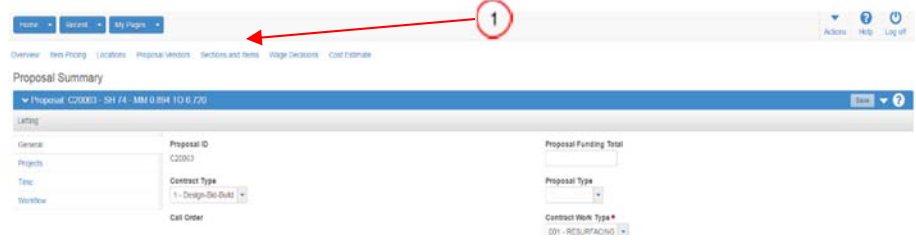


- The validation process generates a list of warnings about the state of the project, flagging any missing or conflicting information.
- If any error messages appear, go back to the appropriate field, link or Action, and take the necessary steps to correct.



## 8.2 Sections and Items Link

1. Select the **Sections and Items** Link.



2. Go to **Actions** at the **Proposal Component** level.
3. Select **Auto Generate Sections**.
  - Auto Generating Sections will create 2 Sections – one for each Alternate.
  - Be sure to change the **Description** to match the **Alternate**.



## After You Create Your Project, Prime, and Proposal In Preconstruction

You will need to contact the Engineering Applications team to request your Project be set up as a Multiple. Send an e-mail, including the 5 digit subaccount number, the number of scopes that need to be created, and your anticipated AD date to [cdot\\_aashtoware\\_support@state.co.us](mailto:cdot_aashtoware_support@state.co.us).

Once your Multiple Project components have been created, you will be notified that you can proceed with adjusting your items, funding, and any other details needed to go to AD & Bid.

## Reminder



You will need to run separate Proposal Schedules for each of the scopes – A, B, and C.



## 8.3 Printing Reports

### 8.3.1 Proposal Price Schedule Report

In the **Proposal Summary**:

1. Go to **Actions**.
2. Under **Reports**, select the **Proposal Price Schedule** report.
3. Select **Execute**.

The screenshot shows a web browser window displaying the 'Proposal Summary' page for 'Proposal: C19222 - ER US 24 VOID REPAIR'. The page includes a navigation bar with 'Home', 'Recent', and 'My Pages' tabs, and a top menu with 'Overview', 'Item Pricing', 'Locations', 'Proposal Vendors', 'Sections and Items', 'Wage Decisions', and 'Cost Estimate'. The main content area is divided into several sections: 'General' (Proposal ID: C19222), 'Contract Type' (BID - PRIME BIDDER), 'Call Order' (001), 'Project Number' (ER 0241-059), 'Proposal Location' (ER US 24 VOID REPAIR), and 'Proposal Long Description'. On the right side, there is an 'Actions' menu with various options. A red circle with the number '1' highlights the 'Actions' menu icon in the top right corner. Another red circle with the number '2' highlights the 'Proposal Price Schedule' option in the 'Reports' section of the 'Actions' menu.

## Reminder



Contractors should be instructed in the Proposal Long Description that this is a Multiple and they are to bid on all Advertised scopes of work.

In order to run a Notice to Contractors, you must enter a Publication Date/Ad Date in the Proposal General tab.



### 8.3.2 Notice to Contractors Report

In the Proposal Summary:

1. Go to **Actions**.
2. Under **Reports**, select the **Notice To Contractors** report.
3. Select **Execute**.

