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Eric Holcomb, Governor
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February 7, 2019

CONSTRUCTION MEMORANDUM
19-01

TO: District Deputy Commissioners
District Construction Directors
District Technical Services Directors
District Area Engineers
District Project Management Director
Project Management Director
District LPA Coordinators
Project Engineers/Supervisors
Field Engineers

FROM: John Leckie, Director
Division of Construction Management and District Support

SUBJECT: Implementation of the Electronic Constructability Review Forms (ECRF)

The purpose of this memorandum is to notify all field personnel of the implementation of the Electronic Constructability Review Forms (ECRF). This application will replace the existing Stage 1 Constructability Review form; Stage 2 Constructability Review form; Stage 3 Constructability Review form and Post Construction Review form that were normally handed out by project managers. The application will be online and accessible through the INDOT Technical Applications Pathway (ITAP).

The ECRF application contains several features that will allow the constructability review be done paperless and more efficient. This application will also provide timely review comments on overlooked problems to designers and should improve communications between Project Manager (PM), Area Engineer (AE), Project Engineer/Project Supervisor (PE/PS) and designers. Additionally, this application will provide central office contract division and design group a database that is easily accessible. The features are:

1. Provides the PM with the ability to create the review online and attach the review documentation (Design Plans, Environmental permits, Geotech reports. etc.).

2. Sends automated emails informing the AEs when the review is generated. An automated email will also be sent to the PE/PS if a review is assigned to the PE/PS.

3. Gives the PE/PS the ability to perform the review online and make notes, add flags and attach any necessary documents and photos.

4. Provides the AE with the ability to assign, approve and comment on the review electronically. An automated email will be generated when the AE and the PM receive the review comments.

5. Allows the PM to forward the review comments to the designers for feedback.

6. Provides a search function for all the reviewers by project des number, contract number, project manager, area engineer, project engineer and designer.

7. Provides a database to central office contract division for consultant performance evaluation and a database of lessons learned for INDOT design group.

The Constructability review forms have also been updated by removing the duplicates and adding more necessary questions, especially for stage 2 review, since it is the stage that the constructability review will be most effective and have the most significant impact.

The date of implementation of the ECRF application is April 1, 2019. All constructability Reviews and Post construction reviews generated on or after this date should be in the new electronic format.

Instructions for accessing the ECRF application as well as the help documents for completing the forms are attached to this memorandum.

Questions should be directed to the Division of Construction Management.

JHL/GGP/TGN

Accessing the ECRF Program and completing an ECRF

Accessing the ECRF Program

All users will enter the system by accessing ITAP. For INDOT employees, the User ID and Password to access ITAP is the same ID and password used to access the network and Citrix.

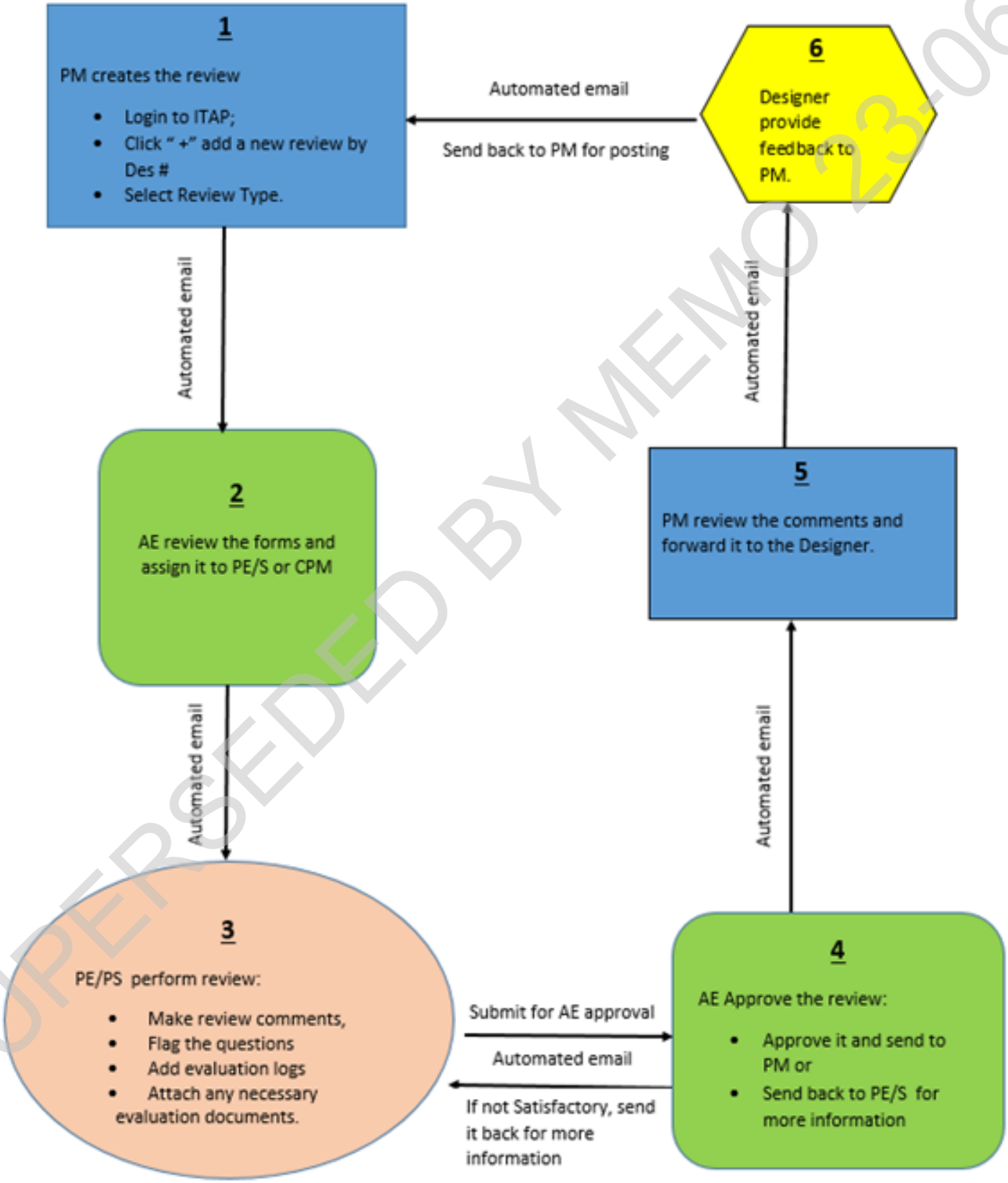
Once into ITAP, the PM should click on "*Electronic Constructability Review Form*", then "*Click here to access application*". The Dashboard will then be visible for PM's, AE's, PE/PS's and Designer's.

All the District Project Managers and Area Engineers, PE/PSs and the consultant designers who have ITAP user accounts may already have automatically been given access to ECRF.

Companies not registered in ITAP will need to enroll as a New Business at the following web address: Http://itap.indot.in.gov/login.aspx

After company enrollment, an ECRF application request must be made. The primary contact person will be responsible for enrolling new users for their company. If problems are experienced during ITAP enrollment, ITAP support can be contacted by clicking on the envelope icon in the upper left of the ITAP login screen.

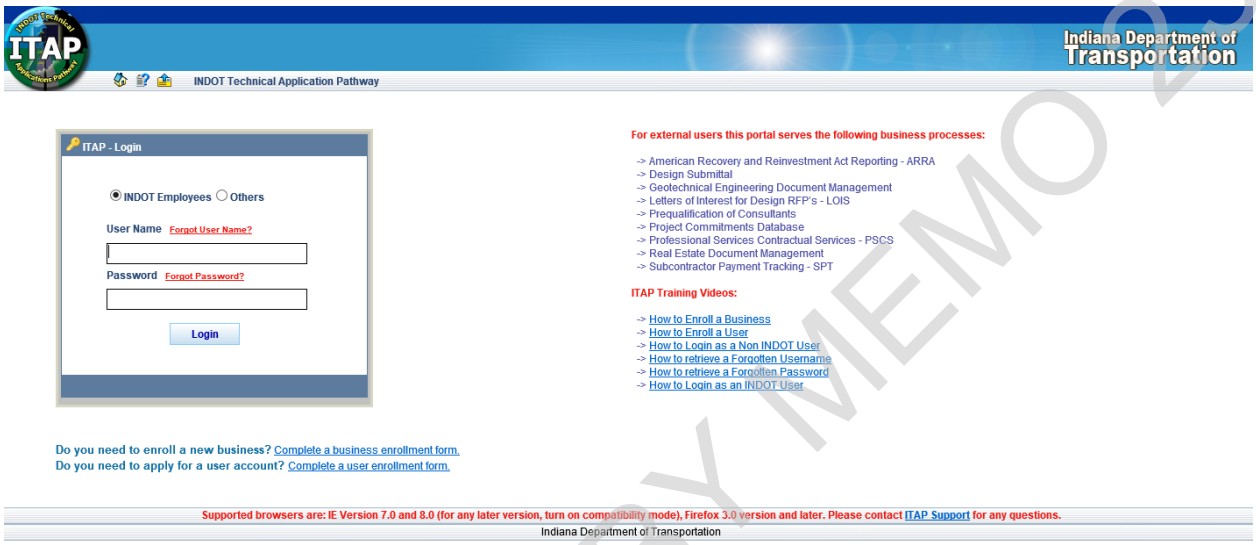
Flow Chart for Completing an ECRF



System Set Up

Logging In

Access the INDOT Application Electronic Constructability Review Form through the INDOT Technical Application Pathway (ITAP). The ITAP web address is http://itap.indot.in.gov. First, the user must be registered in the system. See instructions for using ITAP on the ITAP Login screen.



Any outside customers already enrolled in ITAP should enter their state network Username and Password.

Roles and Permissions
Users are assigned Roles and Tokens, giving them permissions to certain site features. Users without permissions to certain features see grayed out records and options (or no options/icons at all) on those screens.

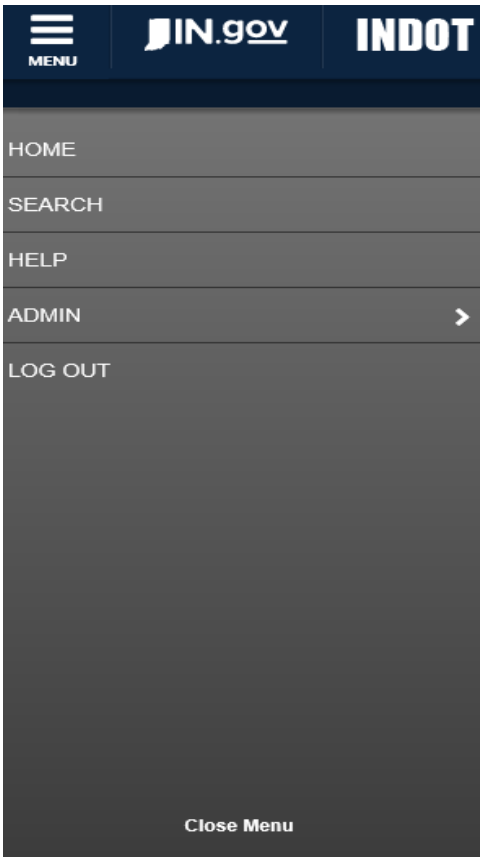
The Header

At the top of every screen in the Electronic Constructability Review Form application is a Menu Bar.

Click HOME to return to the Home Screen.

Click HELP to view the help guide for Electronic Constructability Review Form.

Click MENU to view menu options for this application.

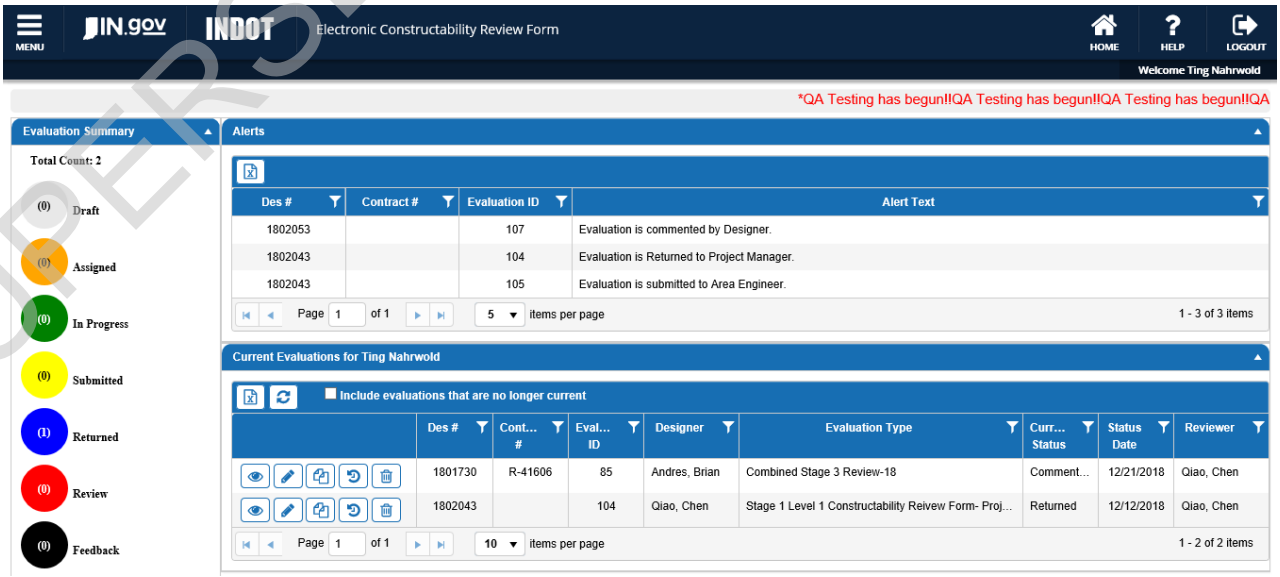


Home – Takes users back to the Home Screen
Search – Allows users to search for evaluations
Help – Allows users to view the help guide
Admin – Allows admins to maintain announcements, questions and data values
Log Out – Allows user to log out of application

Click  to log out of the application.

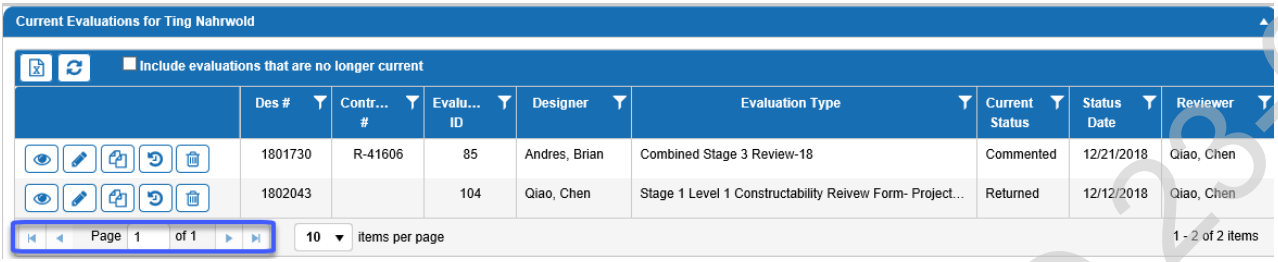
Home Screen

The **Home Screen** displays the **Evaluation Summary** panel for all evaluation forms that are currently assigned to a user, **Alerts** panel, which notifies the user of the stages of each evaluation form and **Current Evaluations** panel for the user. The **Home Screen** does not show any completed forms unless the check box for **Include Evaluations That Are No Longer Current** is selected.



Panel Pages

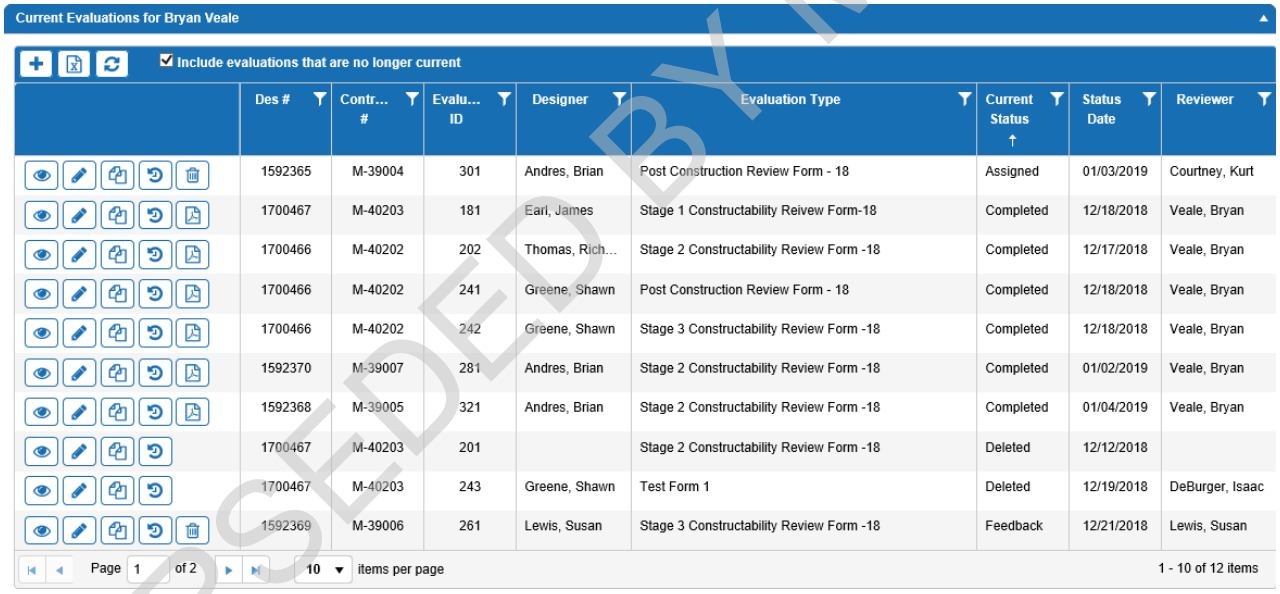
To navigate to the next page forms, use the **Next** and **Previous** buttons or click the **End** or **Beginning** buttons to jump to the very last or very first page.



Sorting

Data in Panels may be sorted in ascending or descending order numerically (smallest to largest or largest to smallest), alphabetically (A to Z or Z to A) or by date and time (oldest to newest or newest to oldest).

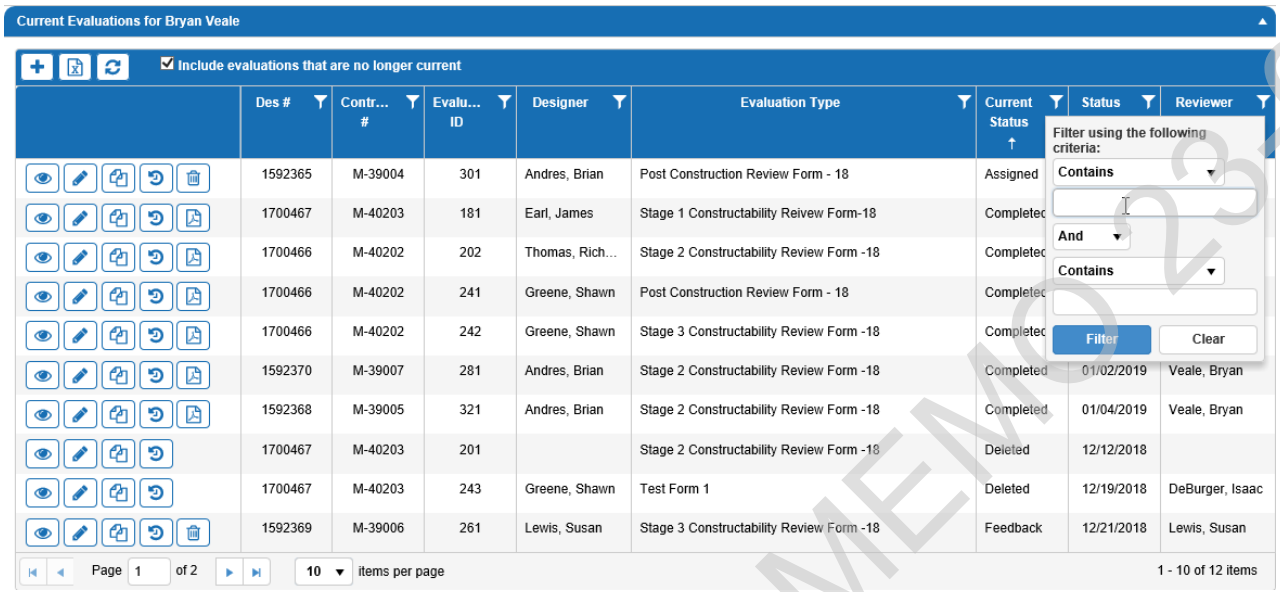
Click on the column heading of the field to be sorted. In the example below, the table is sorted by Current Status (ascending) by clicking once on the Current Status column heading. An arrow indicating the direction of the sort appears below the column heading. Click the column heading again to change the sort order to descending.



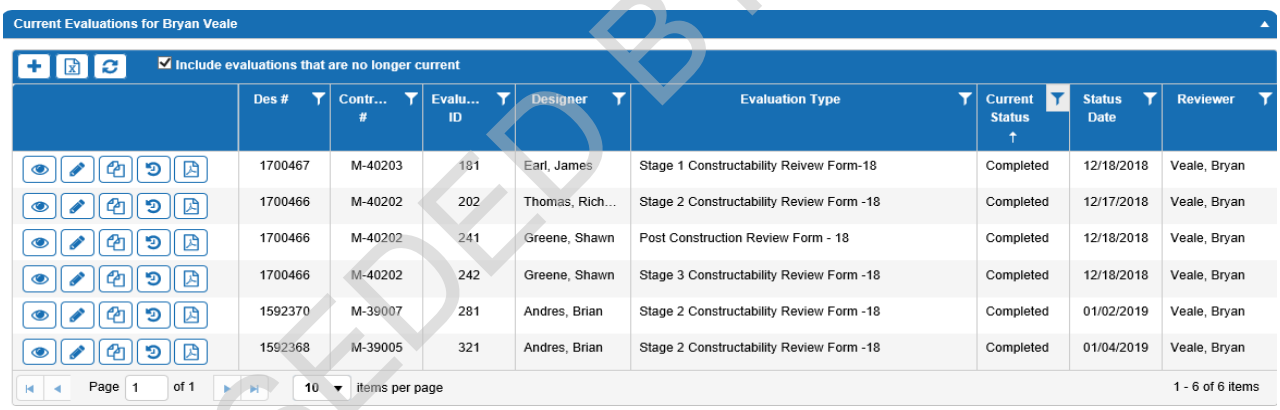
To remove the sort, click on the same column one more time (3 clicks altogether) to revert back to the default sort. The arrow will be removed from the column heading.

Filtering

Data in tables may be filtered so only particular content displays. Users can filter information in a table by clicking on the **Filter** in upper right hand corner of the column header.



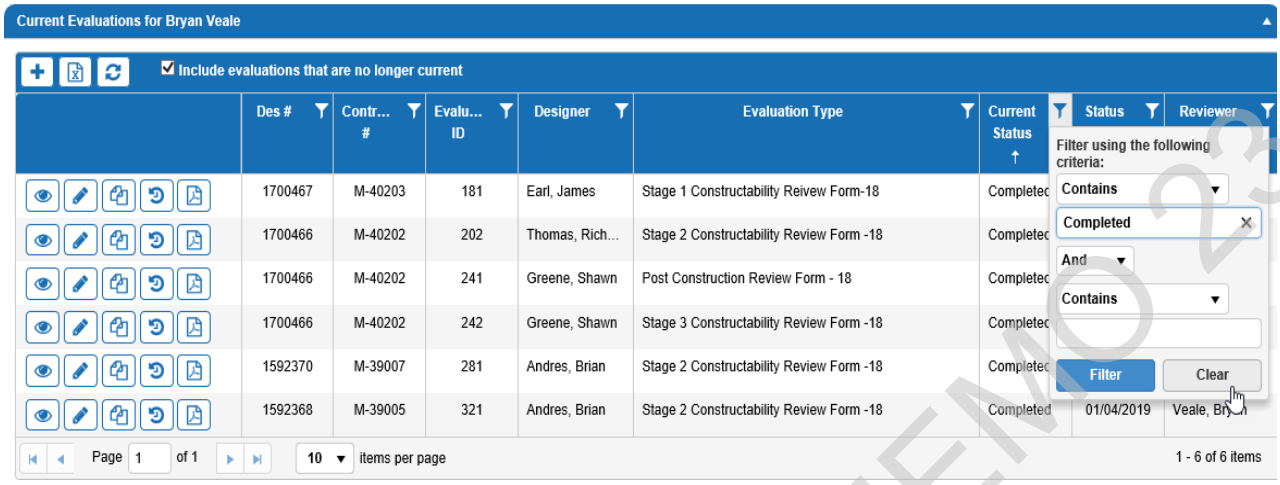
Select the appropriate **operator** from the dropdown menu and type a **value** in the text box. A list and description of available operators is below. The **Column Settings** icon will have a white box around it once a filter is applied.



Operator	Description
Contains	Enter any character(s) or number(s) in the value to include in the results (no wildcards). For example, Legal Firm Name Contains “LLC” would return all records with the word “LLC” in their Firm Name
Does not Contain	Enter any character(s) or number(s) in the value to exclude from the results. For example, Legal Firm Name Does not Contain “LLC” would return all records that do not have the word “LLC” in their Firm Name
Starts with	Enter the values the filter term starts with
Is equal to	Enter the exact value to include in the results
Is not equal to	Enter the exact value to not include in the results
Ends with	Enter the values the filter term ends with

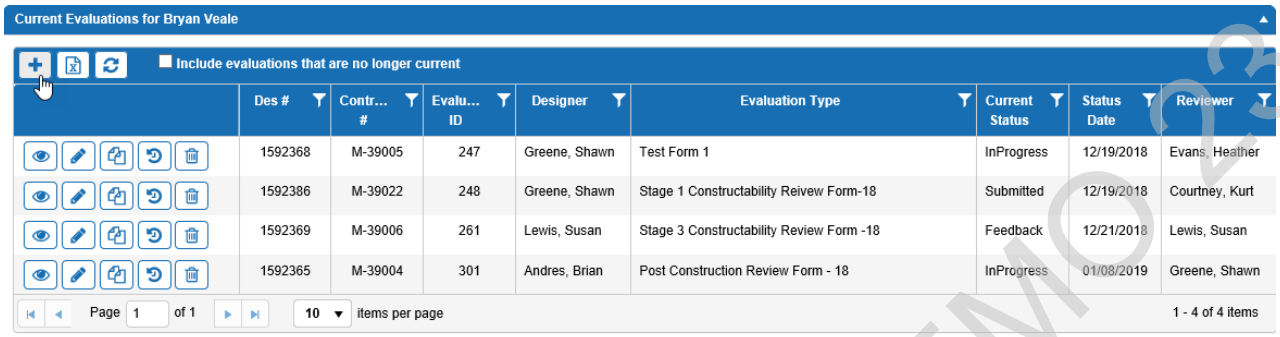
To apply a second filter, select “And” or “Or” from the dropdown and complete a second filter. Click **Filter** to filter the table, or click **Clear** to return to the table without applying the filter.

To remove the Filter, click on the **Filter** icon. Click **Clear** to remove any filters on the column.



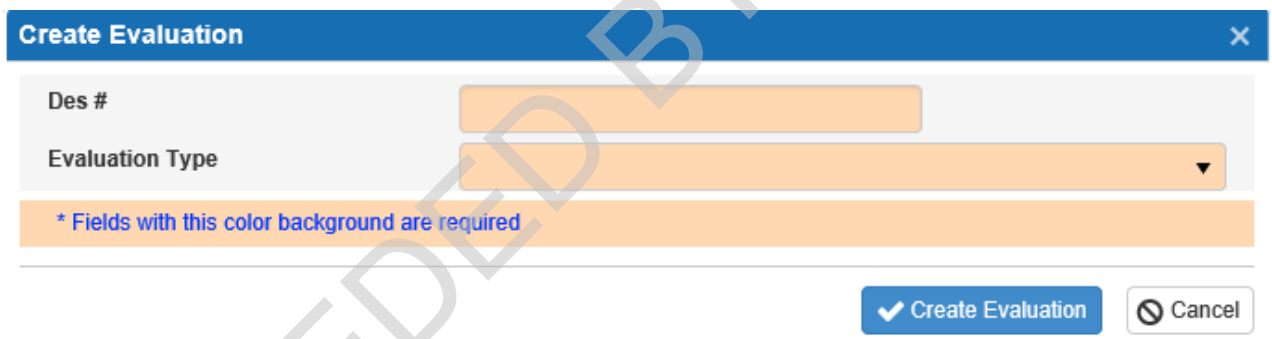
Create New Form

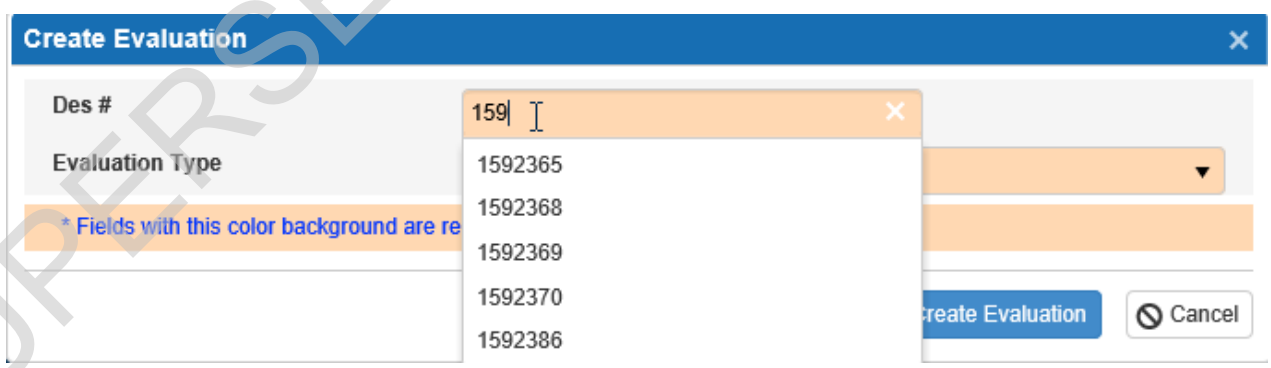
Project managers or users with permission are able to create forms. Click the **Add New** icon ✚ at the top of Current Evaluations grid.



Des #	Contr... #	Evalu... ID	Designer	Evaluation Type	Current Status	Status Date	Reviewer
1592368	M-39005	247	Greene, Shawn	Test Form 1	InProgress	12/19/2018	Evans, Heather
1592386	M-39022	248	Greene, Shawn	Stage 1 Constructability Reivew Form-18	Submitted	12/19/2018	Courtney, Kurt
1592369	M-39006	261	Lewis, Susan	Stage 3 Constructability Review Form -18	Feedback	12/21/2018	Lewis, Susan
1592365	M-39004	301	Andres, Brian	Post Construction Review Form - 18	InProgress	01/08/2019	Greene, Shawn

Project Managers must have a Des' in SPMS assigned to them in order to create the evaluation form. A list of similar Des numbers will show based on input once the user starts to type in a Des number. Only those Des' that are assigned to the project manager will show in the list. Select an Evaluation Type. Click **Create Evaluation** to save and open the form. Click **Cancel** to exit without saving.

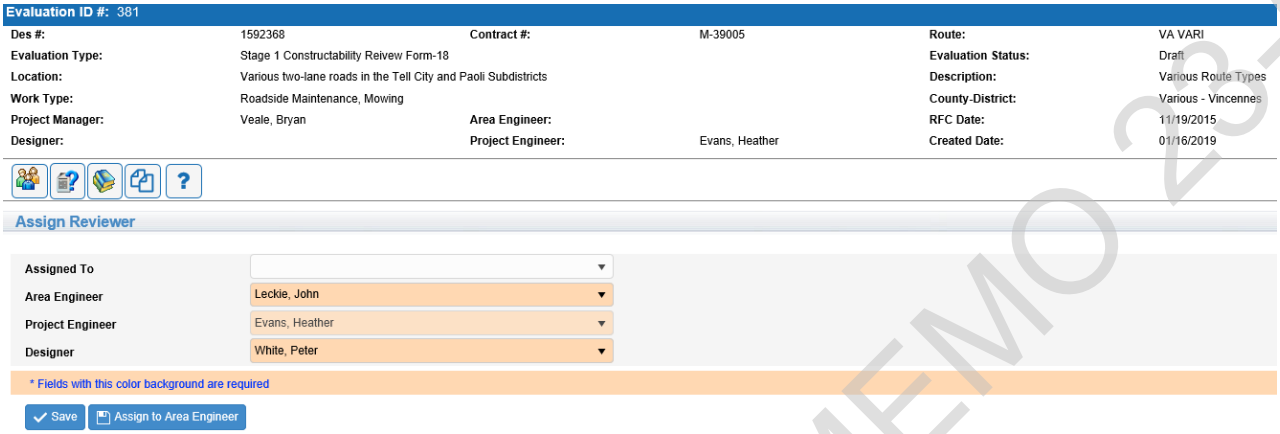




Once the form is opened, users will see the **Assign Reviewer** screen first. The form status will be **Draft** until the Project Manager assigns the form to the Area Engineer.

Users will have 5 options: Assign Reviewers, Fill out the Form, Add Log Entries, Upload Documents and View Help Documentation.

Project Managers will need to assign an **Area Engineer** and **Designer** to the form by clicking the drop down lists for both fields. If the Des has a Project Engineer or Area Engineer assigned in SPMS, that engineer will be populated by the system. Users with permission will be able to change if needed.



Once assigned, user can save the form by clicking the **Save** icon or **Assign to Area Engineer** to start the form. The form status will change to **Assigned** when the Project Manager assigns to the Area Engineer.

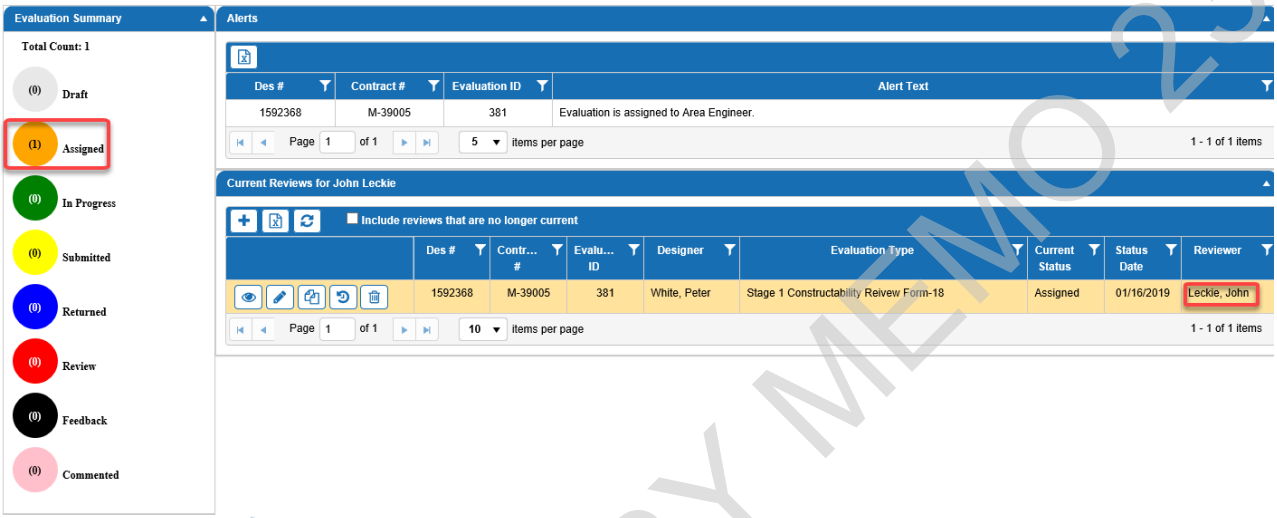
The **Assigned To** field will populate each time the form is assigned to a user. **Project Managers** are the only ones that are able to edit the **Assigned To** field. This field should only be changed if the user decides to assign another user as **Area Engineer**, **Project Engineer** or **Designer** to match the newly selected reviewer.

The **Assigned To** user will then log on to complete the form, make comments and/or upload documents. Only the **Assigned To** user will be able to make changes to the form. Project managers will be able to add log entries and upload documents at any time regardless of who the **Assigned To** user is.

Once the **Project Manager** assigns the form to the **Area Engineer**, the **Area Engineer** will then login to assign the **Project Engineer**, if applicable, and complete their portion of the form, if needed.

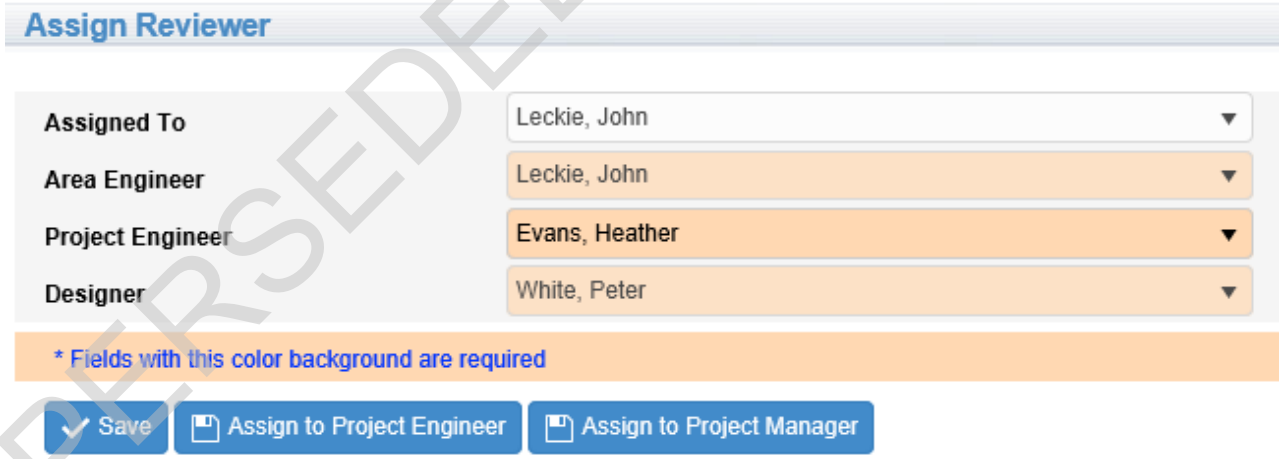
When the **Area Engineer** logs in, the **Home Screen** will display all available forms and alerts assigned to the logged in user.

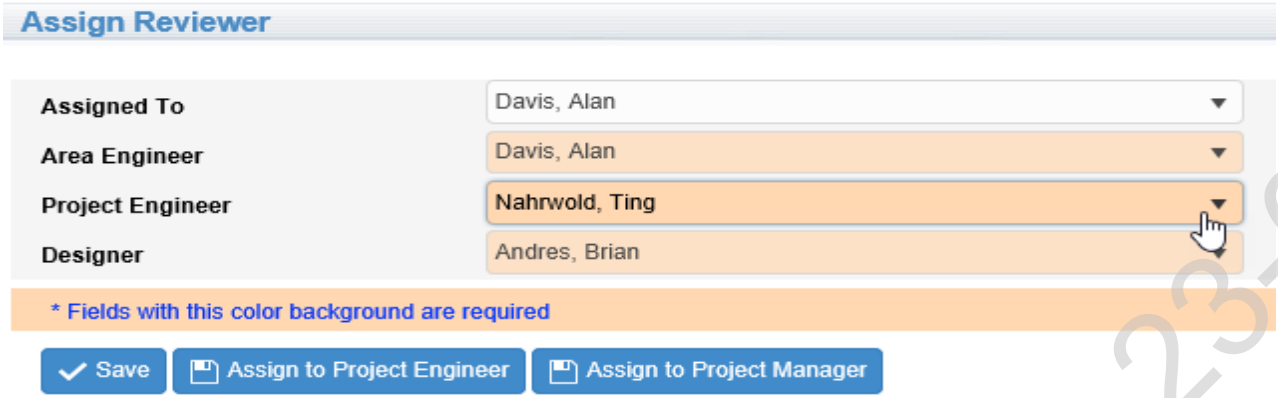
Depending on permissions, users will have the option to View Details about the form, Edit the form, Upload Documents, View the Evaluation Status History, Delete the form, Export to Excel or Refresh the grid to display latest changes.



Click the **Edit** icon to open the form.

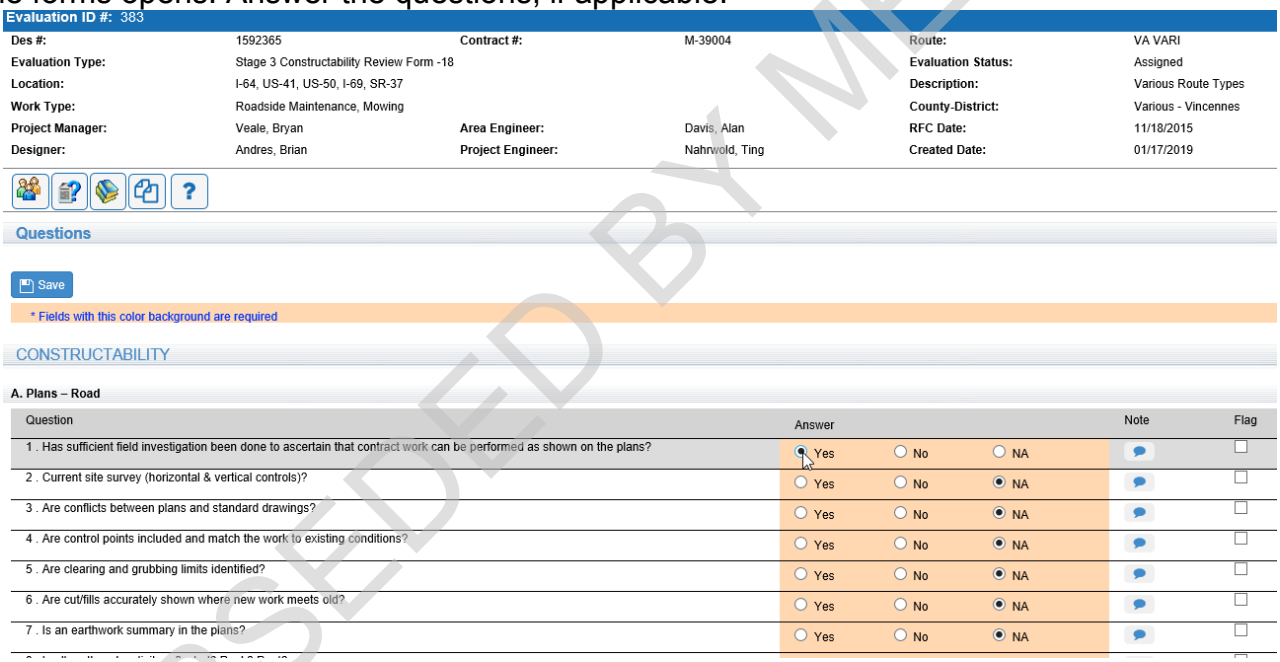
Area Engineer will need to first assign the **Project Engineer**. All other fields are disabled. In the example below, the **Project Engineer** has been pre-populated by the system. User has the option to change if needed.



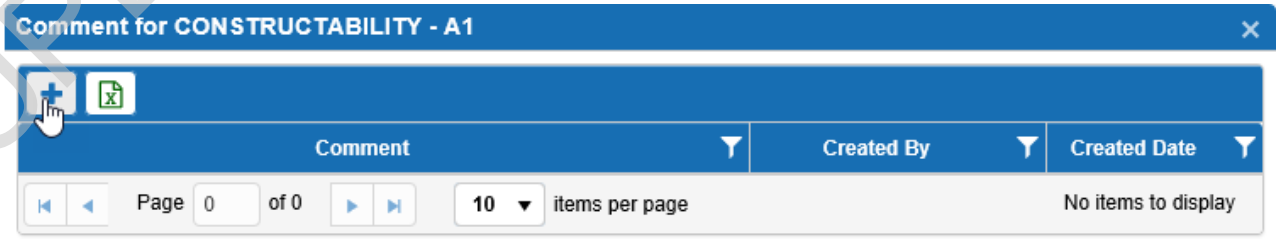


Click **Save** to save the changes made. After the **Area Engineer** assigns the **Project Engineer**, the **Area Engineer** has the option to fill out the evaluation form. Click on the **Questions** icon.

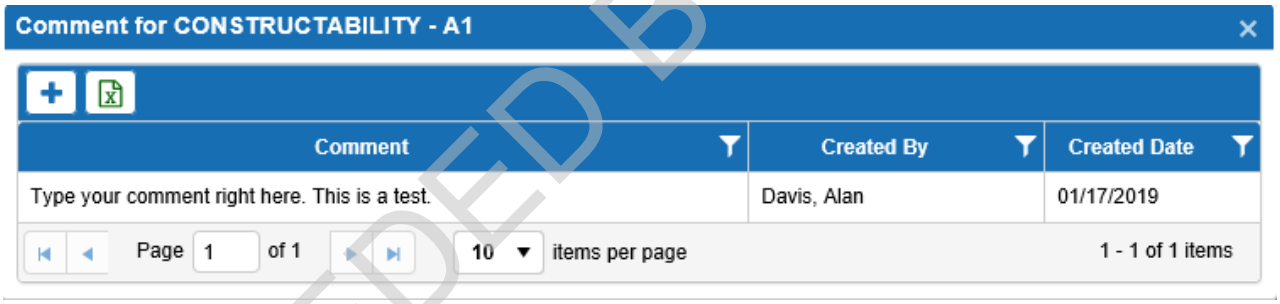
The forms opens. Answer the questions, if applicable.



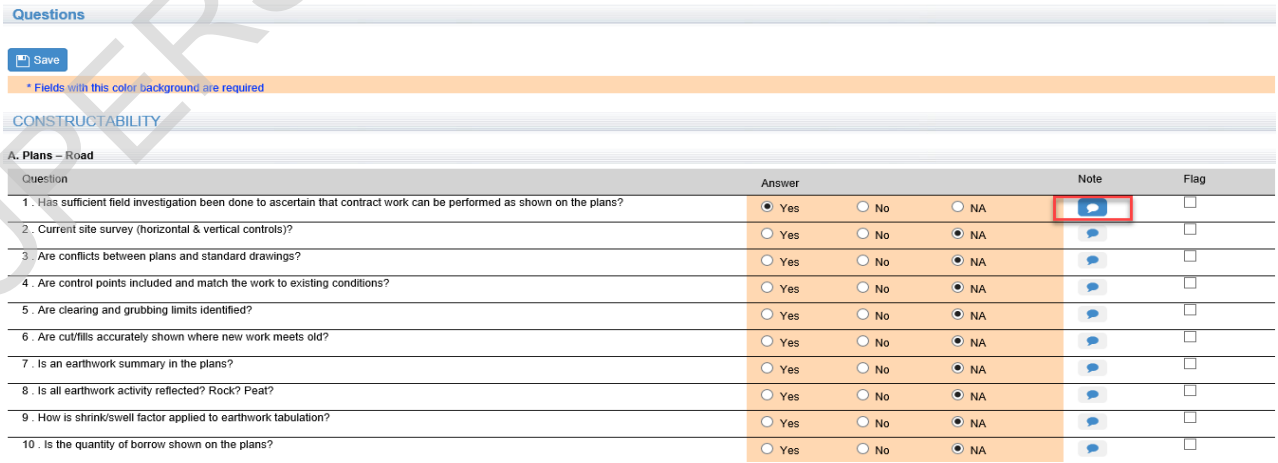
Users have the option to add notes per question, as well as Flag the question to alert reviewers of any comments or changes to that question. To add a note click on the Note icon . A dialog box will open. Click Add New to add a new note.



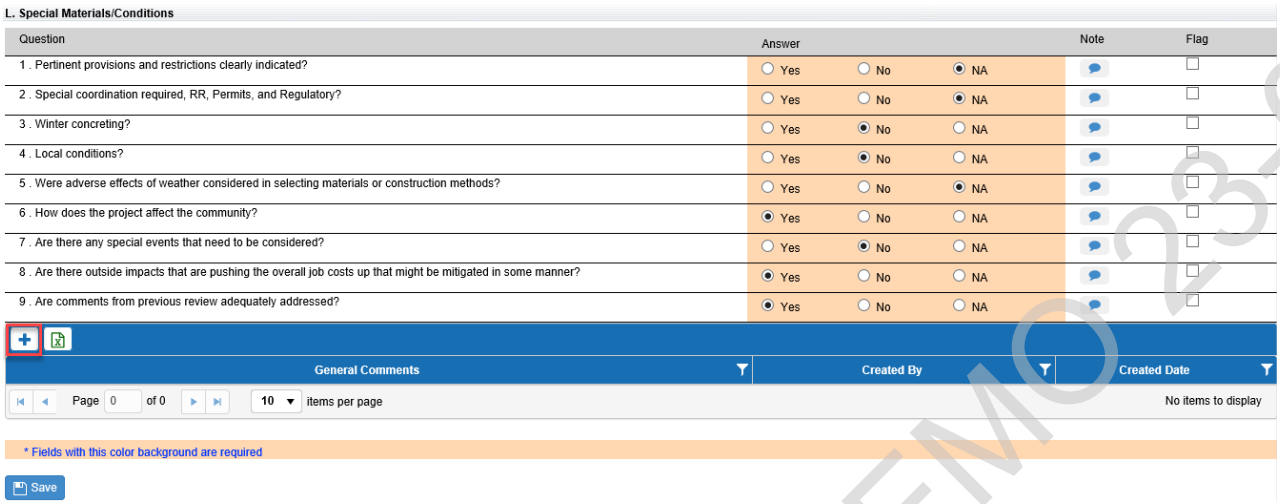
Enter the note. Click **Save** to save the comment, or click **Cancel** to exit without saving. User also has the option to Export to Excel all comments for a question by clicking the Export icon .



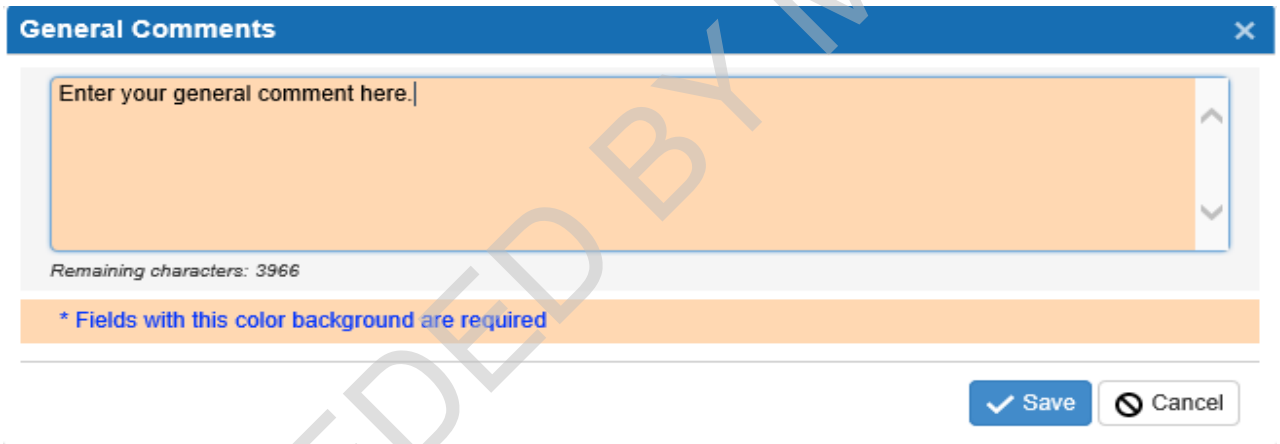
After a note has been made for a question, the Notes icon is highlighted indicating a note is present.



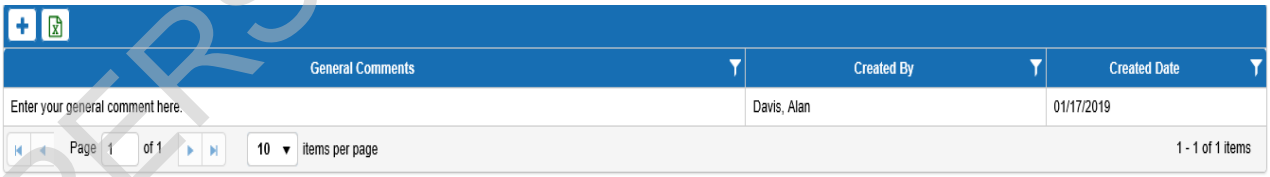
Users also have the option to add **General Comments** about the form in general at the bottom of the questionnaire. To add a new General Comment, click the **Add New** icon ✚.



Enter a comment. Click **Save** to save the comment, click **Cancel** to exit without saving.

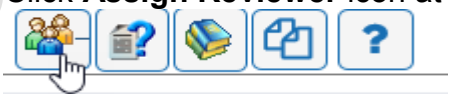


Comments will be stored at the bottom of each form.

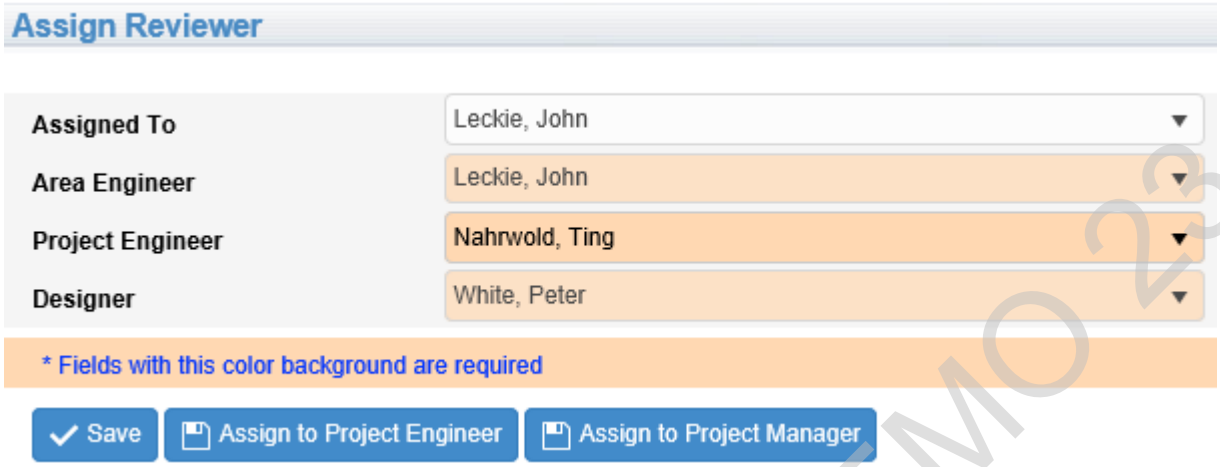


When all questions have been answered, click the Save button at the top or bottom of the screen to save the answers to the questions.

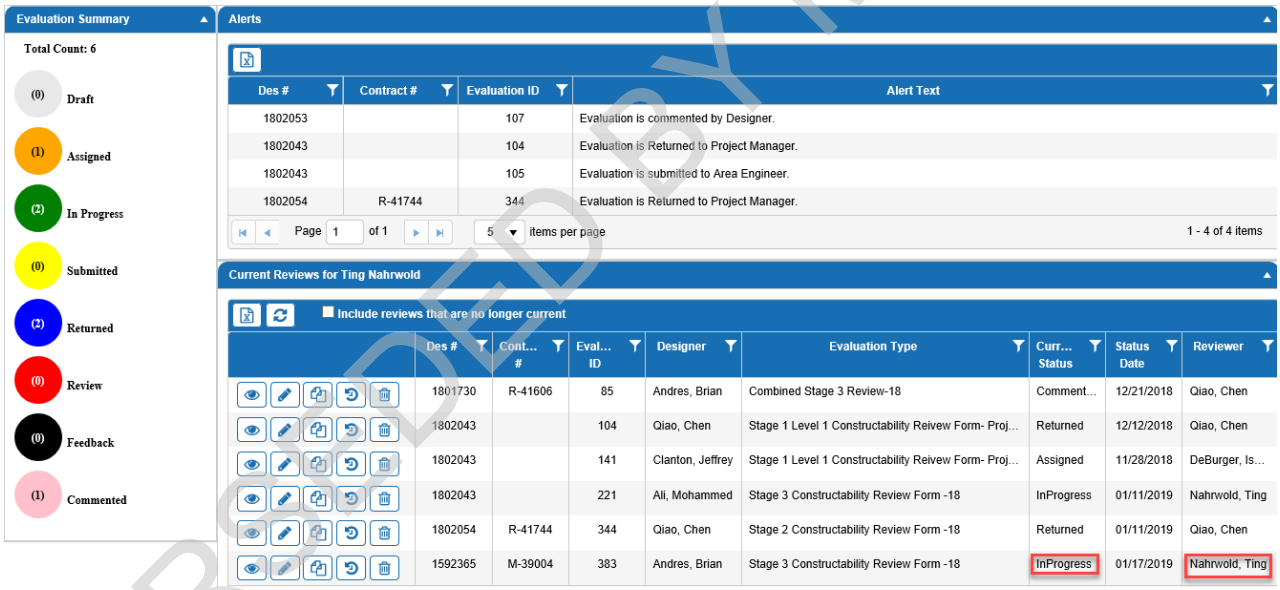
Click **Assign Reviewer** icon at the top of the screen to move the form to next reviewer.



Click **Assign to Project Engineer** icon if user is ready for **Project Engineer** to review or click **Assign to Project Manager** icon to send back to **Project Manager** for changes.

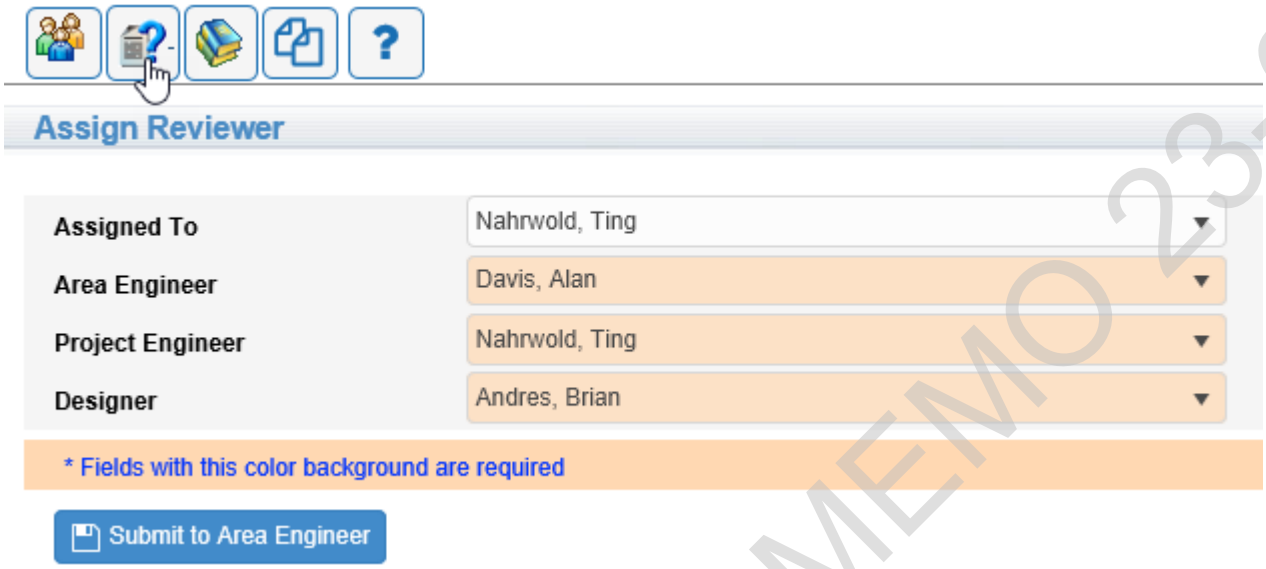


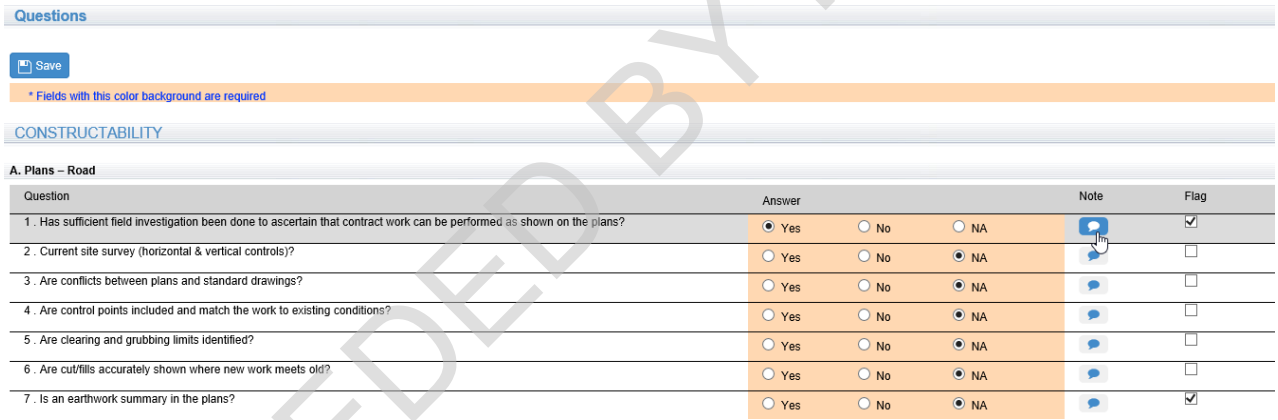
Project Engineer logs in to complete their portion of reviewing the form as described above. **Project Engineers** are able to view and respond to notes and comments made by other users as well as add log entries and upload documents. At this stage, the form status is **In Progress**.

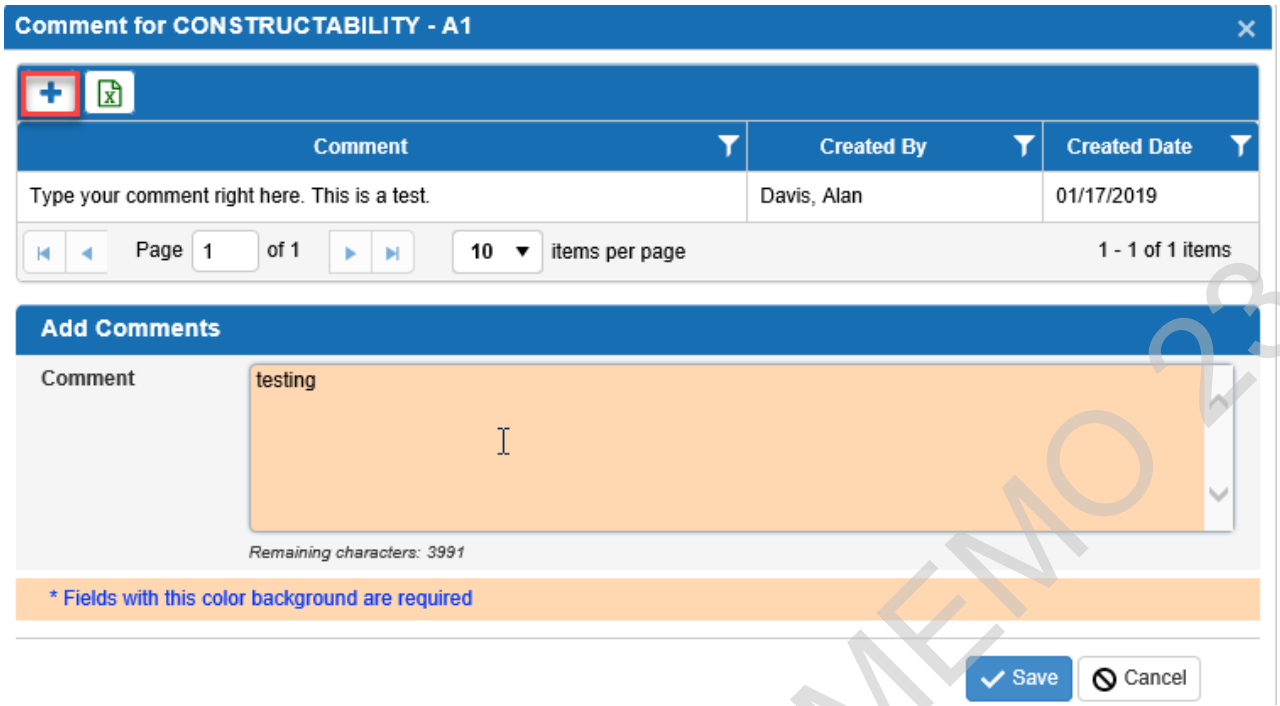


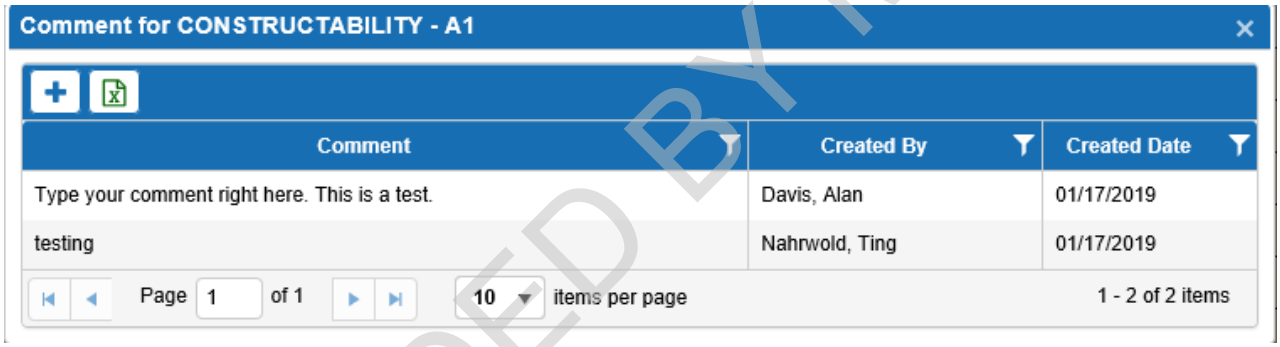
Click the **Edit** icon to open the form.

Click the **Questions** icon.



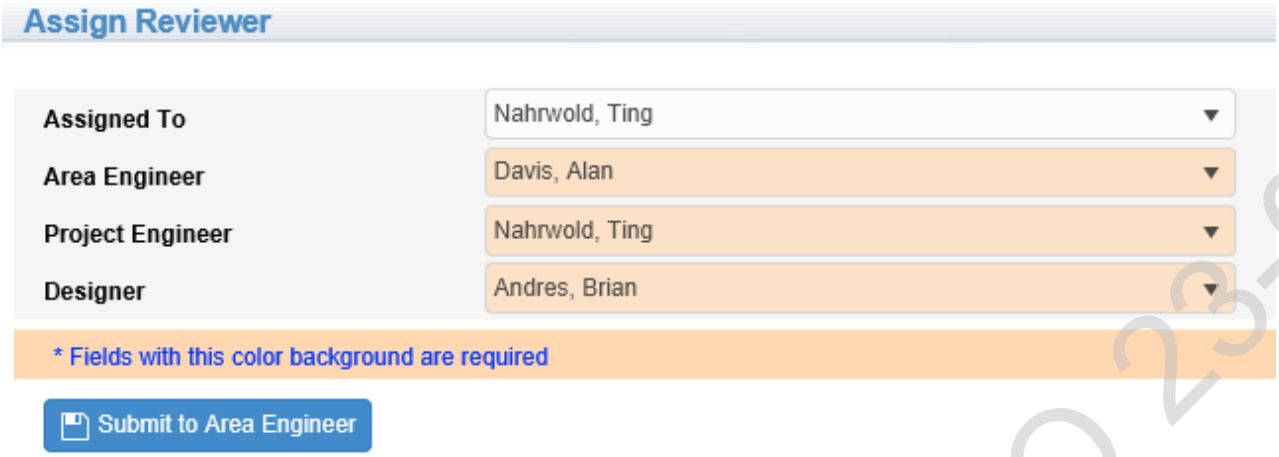




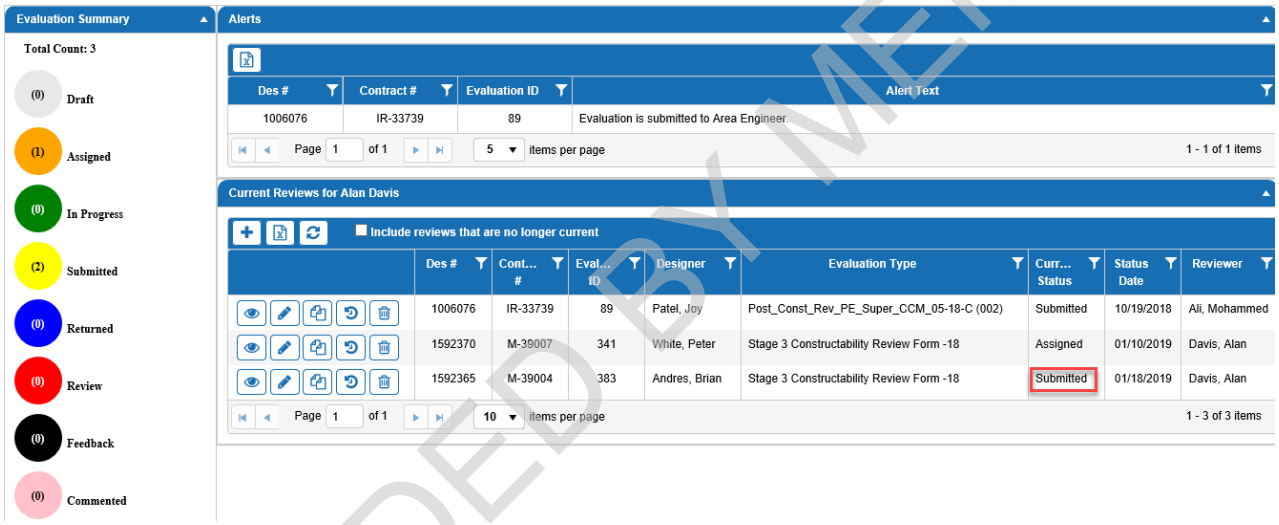


Once completed, the **Project Engineer** clicks **Assign Reviewer** icon at the top of the screen to move the form to next reviewer.

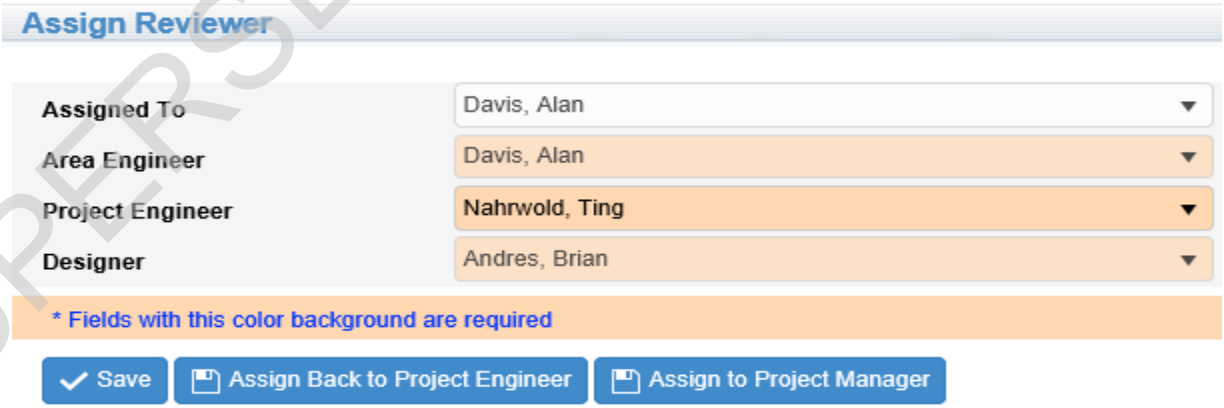
Click the **Submit to Area Engineer** icon.



The status changes to **Submitted**.

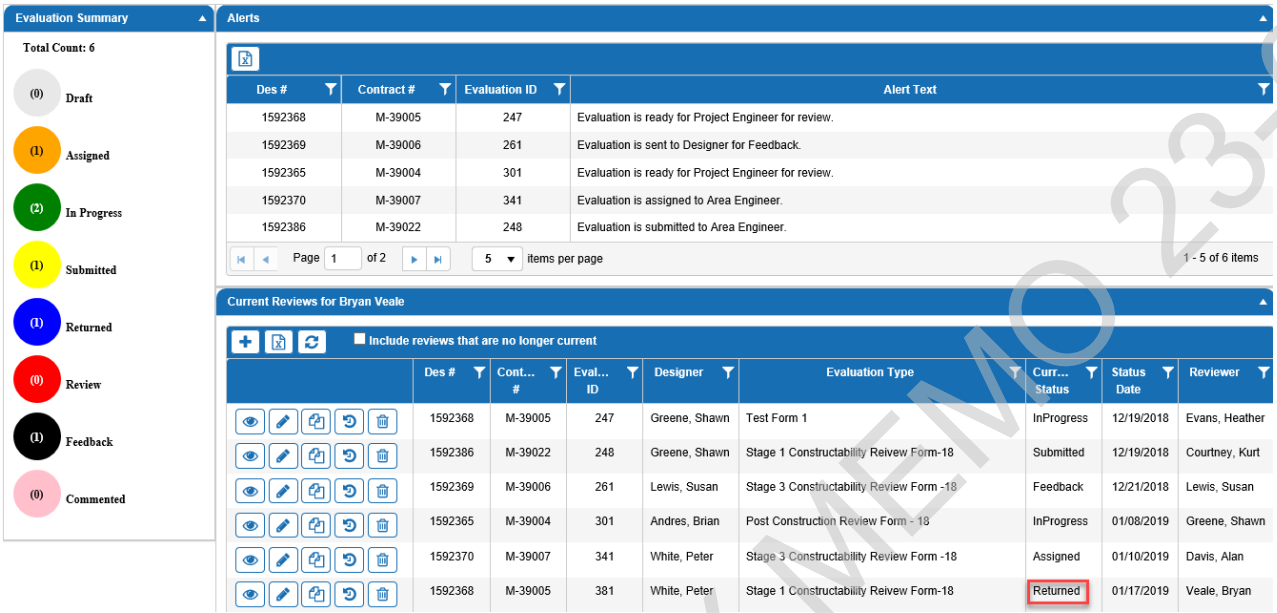


Click the **Edit** icon to open the form.



If the **Area Engineer** decides to not send form back to **Project Engineer**, user has the option to **Assign to Project Manager**. (NOTE: **Assign Back to Project Engineer** repeats the process mentioned above for the **Project Engineer**). This option will skip the process of the

Project Engineer to review the form and allow for the **Project Manager** to either **Complete** the form or **Assign to Designer** for review. This option will change the form status to **Returned**.

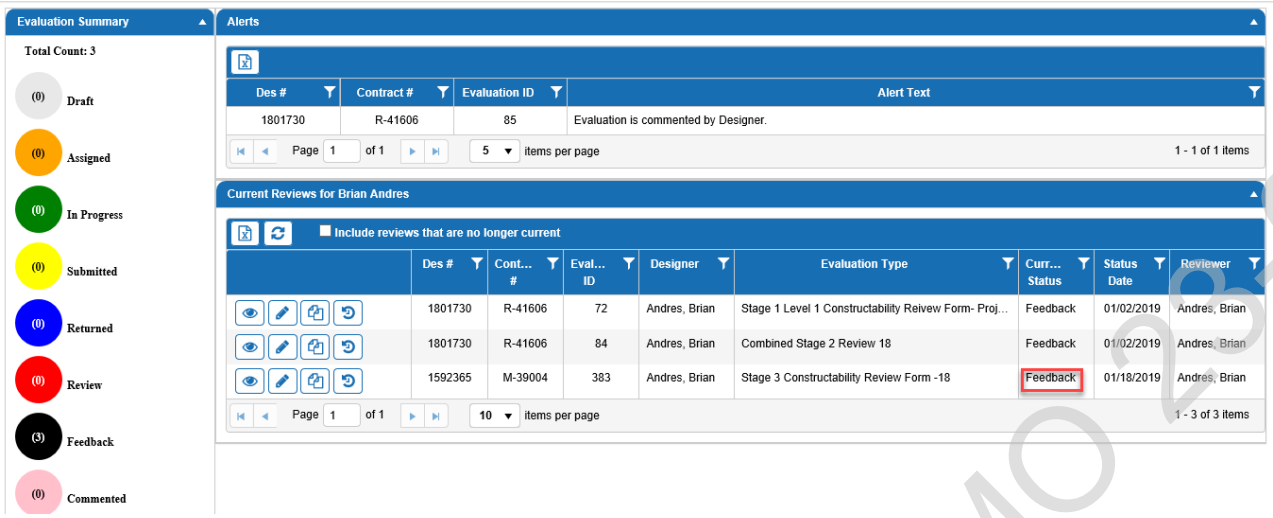


Click the **Edit** icon to open the form.

Project Manager has the options to **Assign to Designer** or mark the form **Complete**.

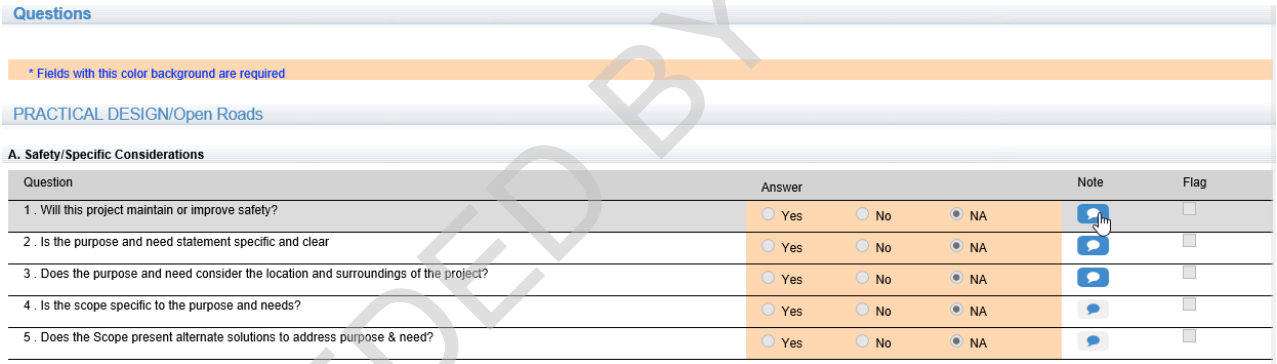
If user assigns to **Designer**, the **Designer** will log in to review form and respond to any comments or notes as needed. **Designers** are not allowed to edit the form only respond to notes, comments and upload any documents.

The status changes to **Feedback**.



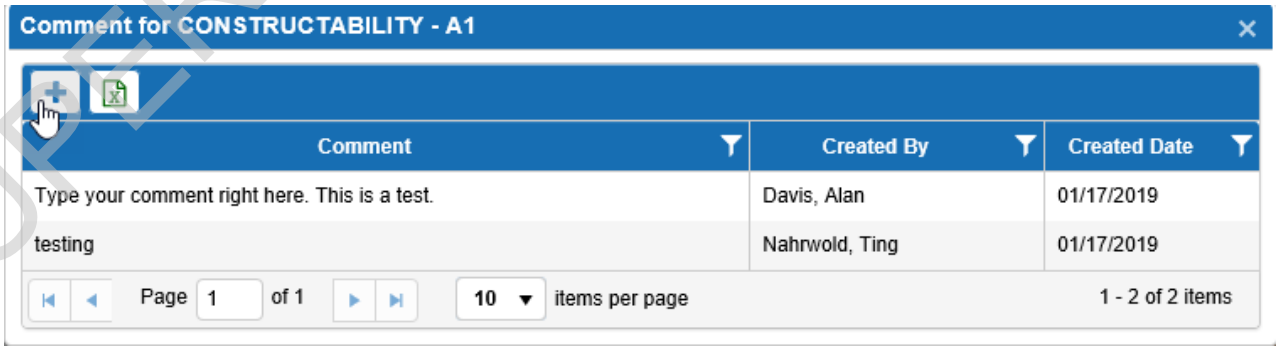
Click the **Edit** icon to open the form.

Click the **Questions** icon.

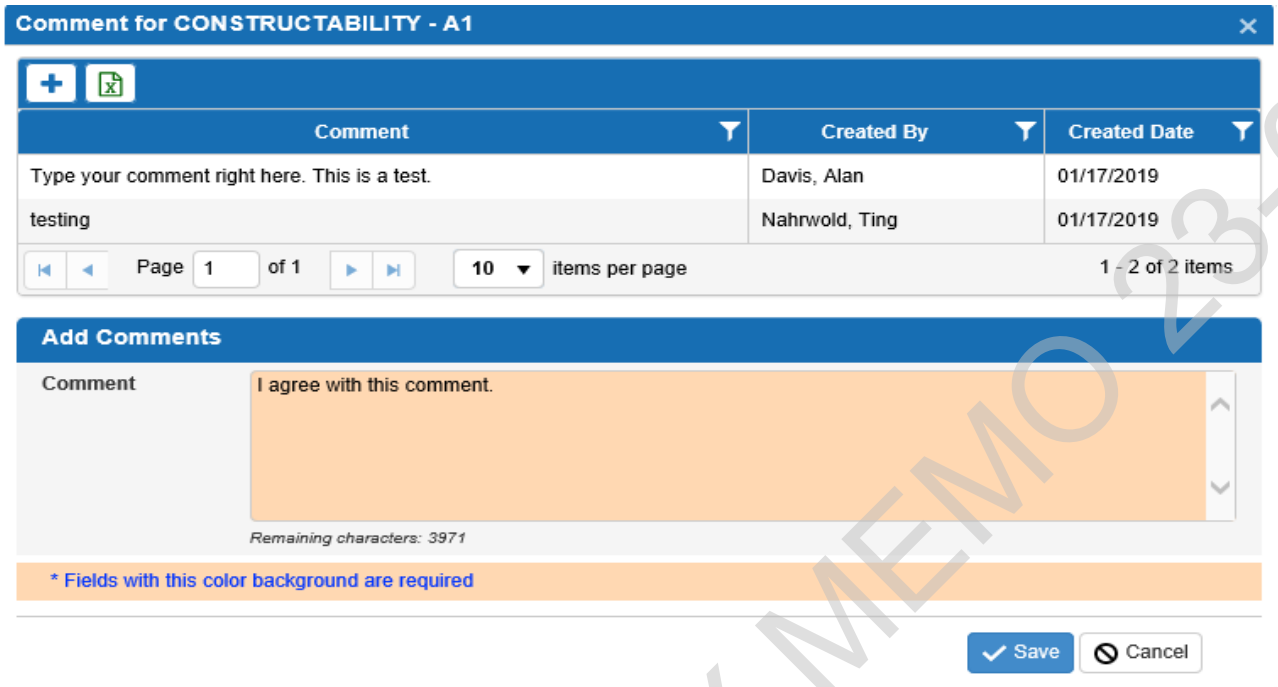


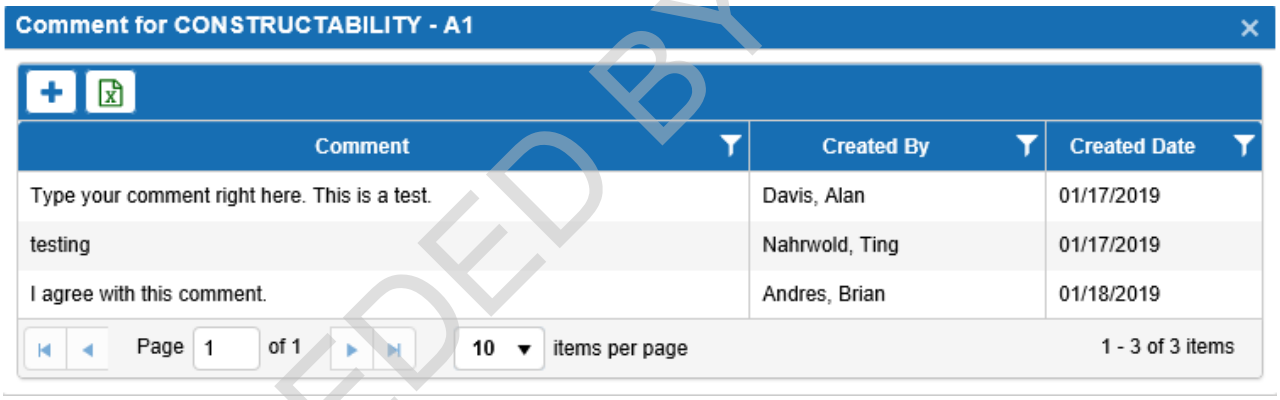
Click the notes icon .

Click **Add New** to reply to a comment.

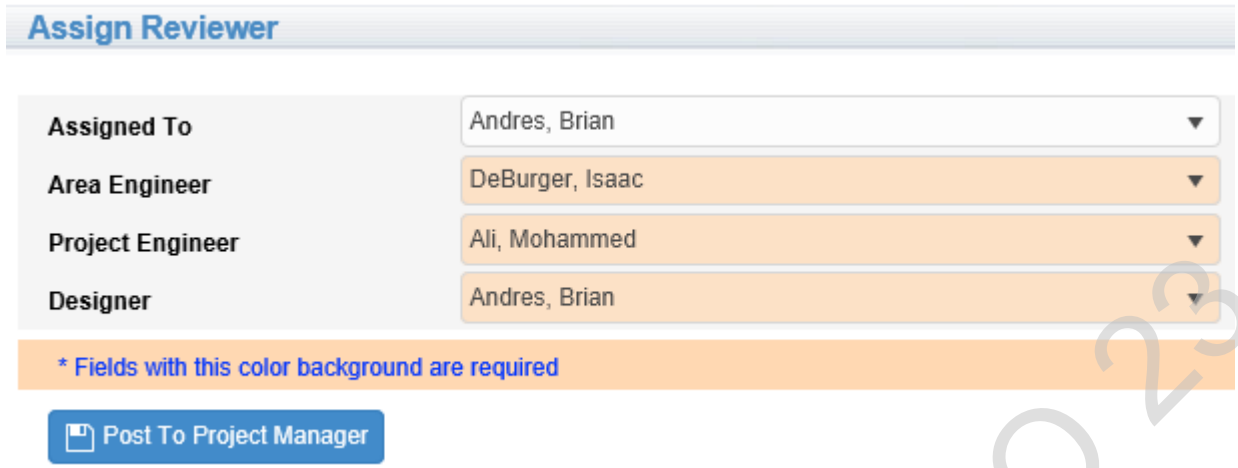


Enter a response. Click **Save** to save the response. Click **Cancel** to exit without saving.

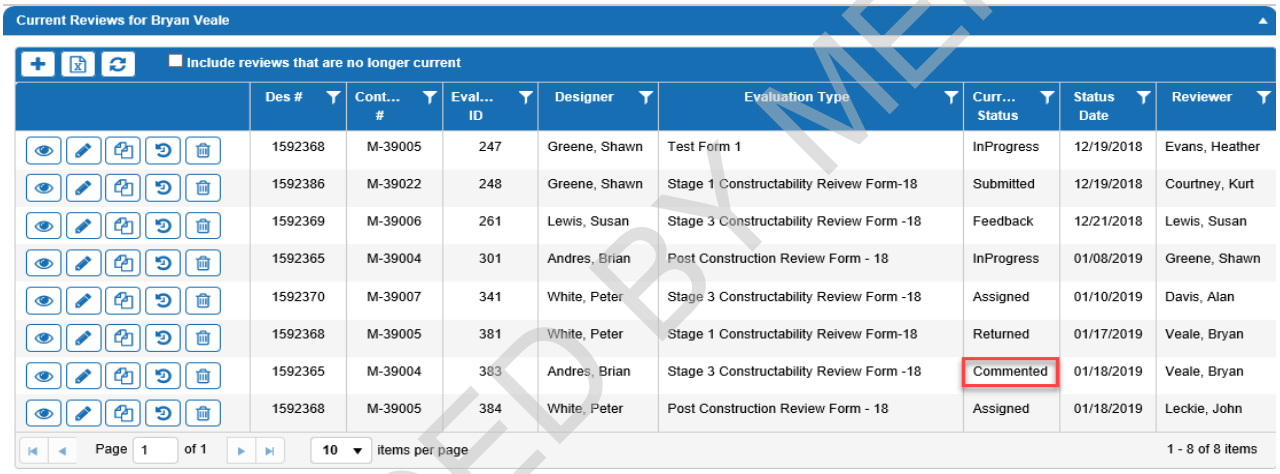




After all responses have been entered, next click the **Post to Project Manager** button on the **Assign Reviewer** screen.



The **Project Manager** will log in to **Complete** the form. The status will change to **Commented**.

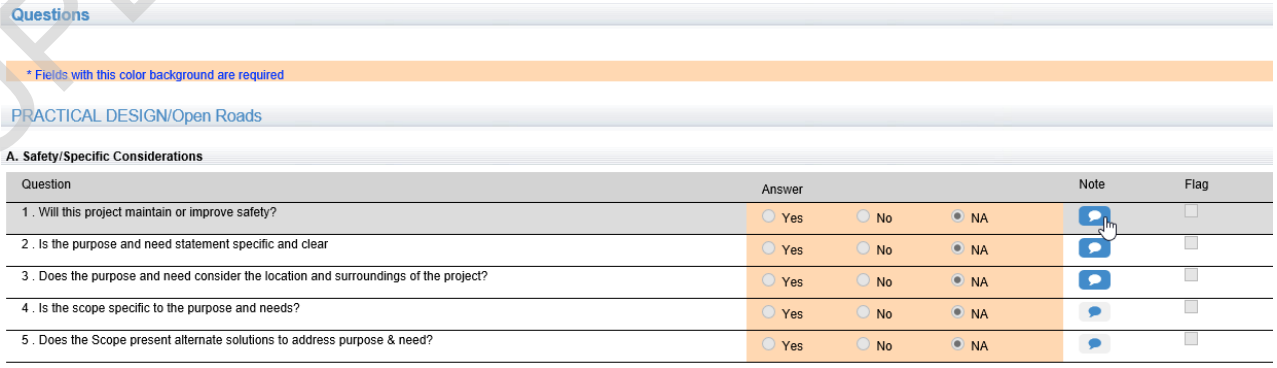


Des #	Cont... #	Eval... ID	Designer	Evaluation Type	Curr... Status	Status Date	Reviewer
1592368	M-39005	247	Greene, Shawn	Test Form 1	InProgress	12/19/2018	Evans, Heather
1592386	M-39022	248	Greene, Shawn	Stage 1 Constructability Reivew Form-18	Submitted	12/19/2018	Courtney, Kurt
1592369	M-39006	261	Lewis, Susan	Stage 3 Constructability Review Form -18	Feedback	12/21/2018	Lewis, Susan
1592365	M-39004	301	Andres, Brian	Post Construction Review Form - 18	InProgress	01/08/2019	Greene, Shawn
1592370	M-39007	341	White, Peter	Stage 3 Constructability Review Form -18	Assigned	01/10/2019	Davis, Alan
1592368	M-39005	381	White, Peter	Stage 1 Constructability Reivew Form-18	Returned	01/17/2019	Veale, Bryan
1592365	M-39004	383	Andres, Brian	Stage 3 Constructability Review Form -18	Commented	01/18/2019	Veale, Bryan
1592368	M-39005	384	White, Peter	Post Construction Review Form - 18	Assigned	01/18/2019	Leckie, John

Click the **Edit** icon to open the form.

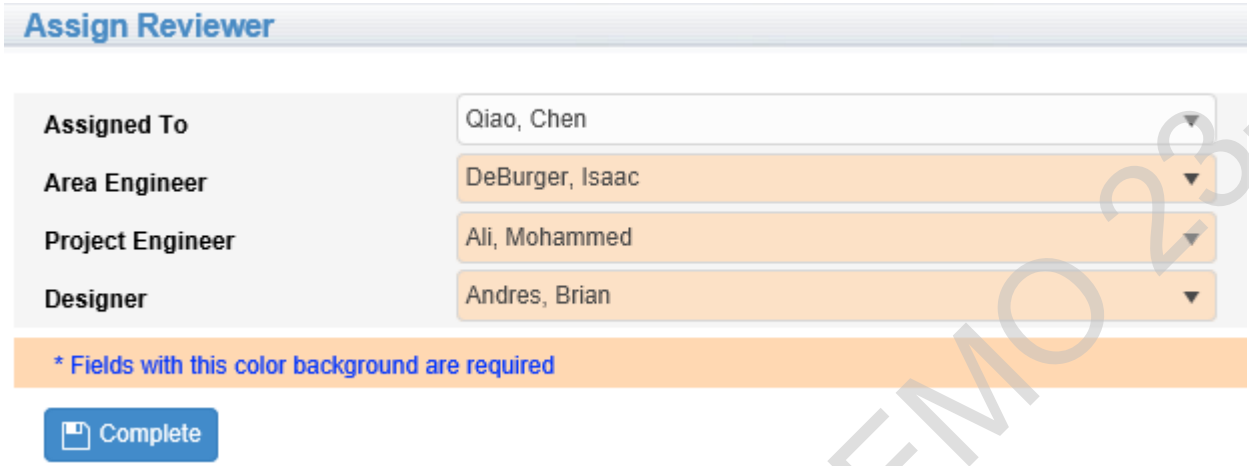
This is the last opportunity for the **Project Manager** to review and respond to any comments as needed.

Click the **Questions** icon.

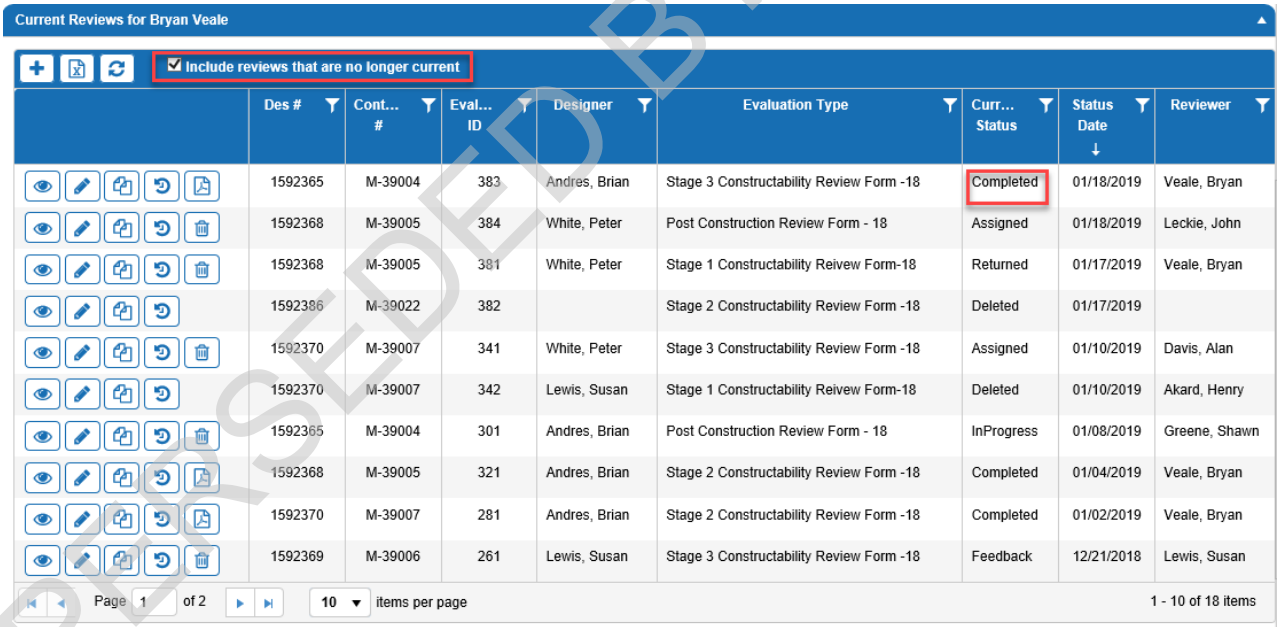


Question	Answer			Note	Flag
1 . Will this project maintain or improve safety?	Yes	No	NA		
2 . Is the purpose and need statement specific and clear	Yes	No	NA		
3 . Does the purpose and need consider the location and surroundings of the project?	Yes	No	NA		
4 . Is the scope specific to the purpose and needs?	Yes	No	NA		
5 . Does the Scope present alternate solutions to address purpose & need?	Yes	No	NA		

After responding to all comments, click the **Complete** button on the **Assign Reviewer** screen.



The form is now marked **Complete** and the form is available to Save and/or Print. Once the form status changes to **Complete**, the form is removed from the current list of forms available and can be seen by using the **Search** tool under the **Menu** options or clicking the check box in the grid as shown below.



Des #	Cont... #	Eval... ID	Designer	Evaluation Type	Curr... Status	Status Date	Reviewer
1592365	M-39004	383	Andres, Brian	Stage 3 Constructability Review Form -18	Completed	01/18/2019	Veale, Bryan
1592368	M-39005	384	White, Peter	Post Construction Review Form - 18	Assigned	01/18/2019	Leckie, John
1592368	M-39005	381	White, Peter	Stage 1 Constructability Reivew Form-18	Returned	01/17/2019	Veale, Bryan
1592386	M-39022	382		Stage 2 Constructability Review Form -18	Deleted	01/17/2019	
1592370	M-39007	341	White, Peter	Stage 3 Constructability Review Form -18	Assigned	01/10/2019	Davis, Alan
1592370	M-39007	342	Lewis, Susan	Stage 1 Constructability Reivew Form-18	Deleted	01/10/2019	Akard, Henry
1592365	M-39004	301	Andres, Brian	Post Construction Review Form - 18	InProgress	01/08/2019	Greene, Shawn
1592368	M-39005	321	Andres, Brian	Stage 2 Constructability Review Form -18	Completed	01/04/2019	Veale, Bryan
1592370	M-39007	281	Andres, Brian	Stage 2 Constructability Review Form -18	Completed	01/02/2019	Veale, Bryan
1592369	M-39006	261	Lewis, Susan	Stage 3 Constructability Review Form -18	Feedback	12/21/2018	Lewis, Susan

To view or print the form, click the PDF icon .

01/18/2019

Indiana Department of Transportation
ELECTRONIC CONSTRUCTABILITY REVIEW FORM

Evaluation ID 383	**Des #** 1592365	**Contract #** M-39004	**Project Manager** Veale, Bryan	**Route** VA VARI
Evaluation Type Stage 3 Constructability Review Form -18			**Area Engineer** Davis, Alan	**Evaluation Status** Completed
Location I-64, US-41, US-50, I-69, SR-37		**County - District** Various Vincennes	**Project Engineer** Nahrwold, Ting	**RFC Date** 11/18/2015
Work Type Roadside Maintenance, Mowing		**Description** Various Route Types	**Designer** Andres, Brian	
Other Work Type				**Approver** Veale, Bryan
Responsible Reviewer Veale, Bryan				**Created Date** 01/18/2019

CONSTRUCTABILITY		Answer	Note	Flag
A. Plans ? Road				
1	Has sufficient field investigation been done to ascertain that contract work can be performed as shown on the plans?	Yes	A1	Yes
2	Current site survey (horizontal & vertical controls)?	NA		
3	Are conflicts between plans and standard drawings?	NA		
4	Are control points included and match the work to existing conditions?	NA		
5	Are clearing and grubbing limits identified?	NA		
6	Are cut/fills accurately shown where new work meets old?	NA		
7	Is an earthwork summary in the plans?	NA		Yes
8	Is all earthwork activity reflected? Rock? Peat?	NA		
9	How is shrink/swell factor applied to earthwork tabulation?	NA		
10	Is the quantity of borrow shown on the plans?	NA		
11	Is earthwork phasing compatible with construction requirements?	NA		
12	Soils stabilization? Type set suitable for location? (Lime dusts in residential areas, etc)	NA		
13	Are paving limits shown?	NA		
14	Is milling required?	NA		
15	Do roadway plans detail positive drainage for each phase of construction?	NA		
16	Do roadway plans clearly identify adequacy of pipe and structure location?	NA		
17	Can existing drainage patterns be maintained during construction?	NA		
18	Can existing roadway materials be salvaged for other use?	NA		
19	Is blasting allowed?	NA		
20	Will excavated rock fit into available fills?	NA		
21	Any presence of ground water or active streams?	NA		
22	How long of period can highway be closed for blasting/clearing?	NA		
23	Is sheeting or shoring necessary to protect roadway? If so, an item will be required.	NA		
24	Do driveway/turnout grades meet allowable standards?	NA		
25	Are buildings to be demolished? Will an asbestos and lead evaluation be made? (Underground storage tank presented?)	NA		
26	Are ADA requirements clear and constructible?	NA		
27	Is drainage properly controlled at the ends of structures?	NA		

Evaluation Type Stage 3 Constructability Review Form -18 * - Item related to consultant designer evaluation	**Page 1 of 6**	**Y** - Yes, **N** - No, **NA** - Not Applicable, **Note** - See note number, **Flag** - Item requires priority attention

Hover over the PDF until the options bar at the bottom appears as such below.

01/18/2019

Indiana Department of Transportation
ELECTRONIC CONSTRUCTABILITY REVIEW FORM

Evaluation ID 383	**Des #** 1592365	**Contract #** M-39004	**Project Manager** Veale, Bryan	**Route** VA VARI
Evaluation Type Stage 3 Constructability Review Form -18			**Area Engineer** Davis, Alan	**Evaluation Status** Completed
Location I-64, US-41, US-50, I-69, SR-37		**County - District** Various Vincennes	**Project Engineer** Nahrwold, Ting	**RFC Date** 11/18/2015
Work Type Roadside Maintenance, Mowing		**Description** Various Route Types	**Designer** Andres, Brian	
Other Work Type				**Approver** Veale, Bryan
Responsible Reviewer Veale, Bryan				**Created Date** 01/18/2019

CONSTRUCTABILITY		Answer	Note	Flag
A. Plans ? Road				
1	Has sufficient field investigation been done to ascertain that contract work can be performed as shown on the plans?	Yes	A1	Yes
2	Current site survey (horizontal & vertical controls)?	NA		
3	Are conflicts between plans and standard drawings?	NA		
4	Are control points included and match the work to existing conditions?	NA		
5	Are clearing and grubbing limits identified?	NA		
6	Are cut/fills accurately shown where new work meets old?	NA		
7	Is an earthwork summary in the plans?	NA		Yes
8	Is all earthwork activity reflected? Rock? Peat?	NA		
9	How is shrink/swell factor applied to earthwork tabulation?	NA		
10	Is the quantity of borrow shown on the plans?	NA		
11	Is earthwork phasing compatible with construction requirements?	NA		
12	Soils stabilization? Type set suitable for location? (Lime dusts in residential areas, etc)	NA		
13	Are paving limits shown?	NA		
14	Is milling required?	NA		
15	Do roadway plans detail positive drainage for each phase of construction?	NA		
16	Do roadway plans clearly identify adequacy of pipe and structure location?	NA		
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20	Will excavated rock fit into available fills?	NA		
21	Any presence of ground water or active streams?	NA		
22	How long of period can highway be closed for blasting/clearing?	NA		
23	Is sheeting or shoring necessary to protect roadway? If so, an item will be required.	NA		
24	Do driveway/turnout grades meet allowable standards?	NA		
25	Are buildings to be demolished? Will an asbestos and lead evaluation be made? (Underground storage tank presented?)	NA		
26	Are ADA requirements clear and constructible?	NA		
27	Is drainage properly controlled at the ends of structures?	NA		

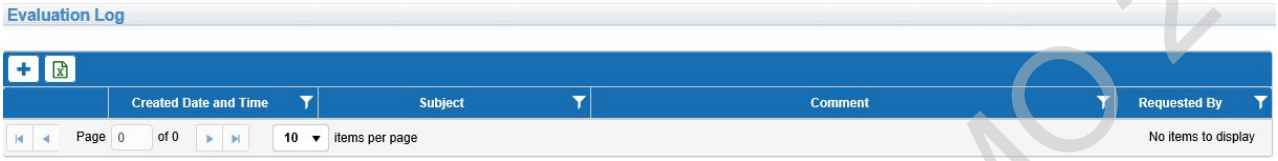
Evaluation Type Stage 3 Constructability Review Form -18
* - Item related to consultant designer evaluation
ot Applicable,
, **Flag** - Item requires priority attention

1 / 6

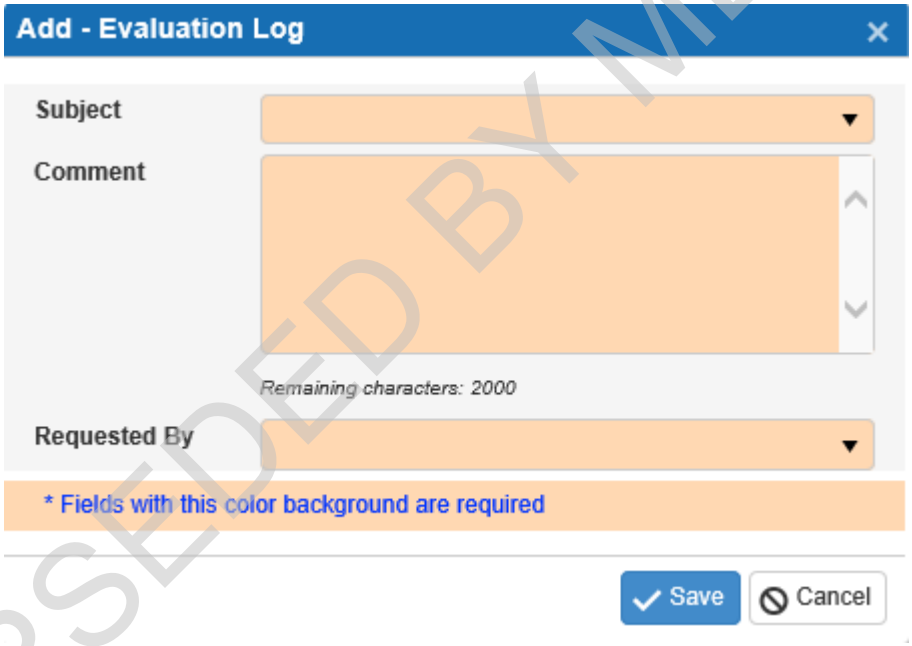
Evaluation Log

To add an Evaluation Log entry, click the Evaluation Log icon.

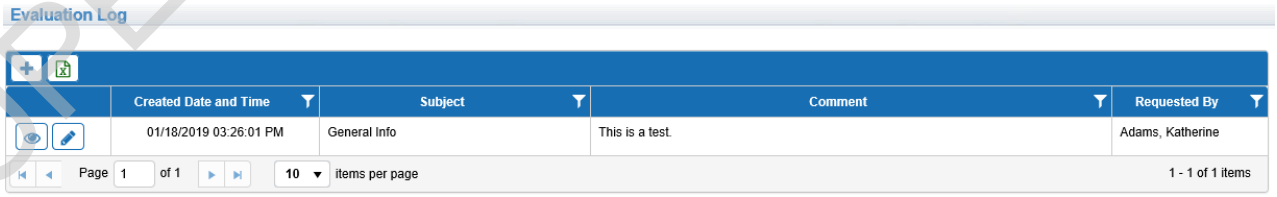
Click the Add New icon at the top. All logs can be exported to Excel by clicking .



Select a **Subject**, enter a **Comment** and select the **Requested By** individual.



Click **Save** to save the log entry or click **Cancel** to exit without saving.

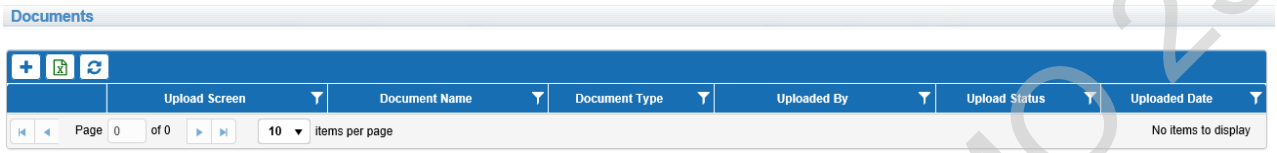


Users can Edit or View Details about each log entry.

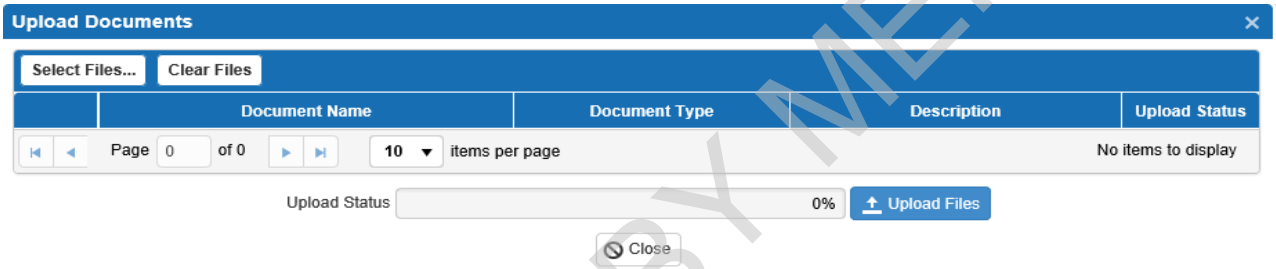
Adding a Document

To add a document click the Documents icon.

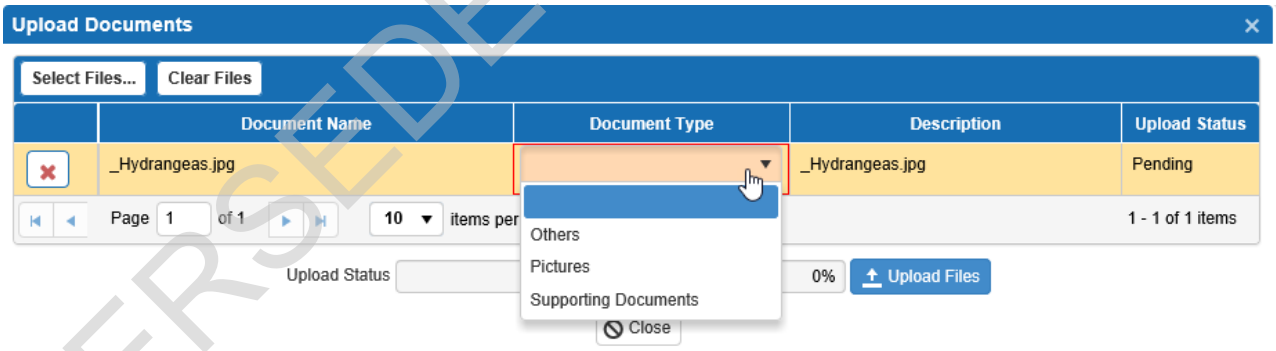
Click the **Add New** icon ✚.



Click **Select Files** and choose the document(s) to be uploaded.

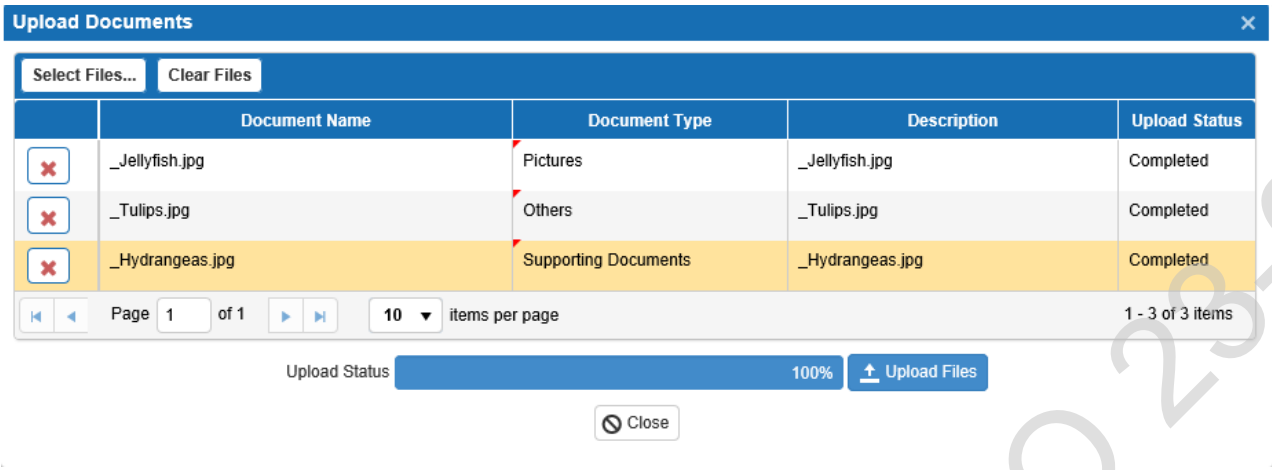


Select the appropriate **Document Type**. If user has uploaded the wrong document, click the **Delete** icon ✖ and choose another file to upload.



Repeat the process above to add multiple documents.

Once all documents have been added, click the **Upload Files** icon. The Upload Status will change to **Completed** when the document has been successfully uploaded.



Click **Close** to exit.
