

Construction Progress Reports

CALIFORNIA PUBLIC UTILITIES COMMISSION
USER GUIDE

October 17, 2024



**California Public
Utilities Commission**

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INTRODUCTION

The Last Mile Federal Funding Account, administered by the California Public Utilities Commission (Commission), is a \$2 billion grant program for last mile broadband infrastructure projects to expeditiously connect unserved Californians. The program was established in accordance with Senate Bill 156 (Chapter 112, Statutes of 2021).

This User Guide is intended to provide guidance to awardees regarding the requirements and processes for submitting post-award construction documentation for Commission oversight.¹

Awardees are required to submit their first Construction Progress Report within six weeks of the date on their Award Letter, which must include:

- a project schedule
- a high-level design (HLD).

Awardees are required to submit Construction Progress Reports each month thereafter, which includes:

- updated project schedules
- updated HLDs
- construction progress documentation. This must include a description of the work completed, geotagged construction photos, as-built documents, and optical time-domain reflectometer (OTDR) reports.

This guidance includes a template for the project schedule, the schema and format for the HLDs, the metadata requirements for photo submissions, and instructions on how to submit the required files and information in the Broadband Grant Portal.

¹ This User Guide was prepared by California Public Utilities Commission (Commission) Communications Division staff. It does not change, replace, or waive any of the rules or guidelines adopted in Decision 22-04-055 on April 22, 2022. The contents of the User Guide are for information only.

CONSTRUCTION PROGRESS REPORT

Awardees must submit their first Construction Progress Report through the Broadband Grant Portal within six weeks of the date of the Award Letter. The first Construction Progress Report only needs to include a project schedule and HLD.

Project Schedule

Awardees are required to complete the [Construction Schedule Tracker Template](#) to submit their project schedule.

The Construction Schedule Tracker template can be downloaded from the Construction Progress Report page in the Broadband Grant Portal.

The Construction Schedule Tracker must include estimated dates for key project milestones as defined on a work package boundary level. The work packages must encompass the entirety of the build and must be spatially contained within a polygon boundary included in the HLD. The work packages should closely align with distribution area builds, but the Commission recognizes that not all projects will cleanly follow traditional distribution area network designs. In those cases, the awardee must define coherent and sensible work packages that will closely align with work completed.

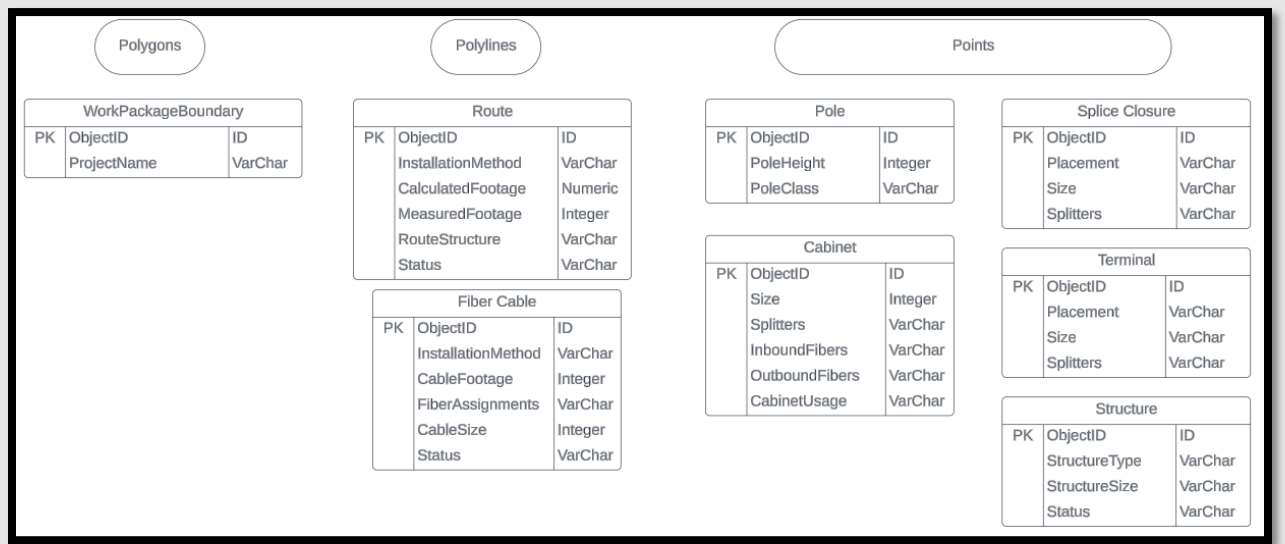
For each work package boundary, the Construction Schedule Tracker must include the estimated and actual:

- Date(s) the first permit was submitted,
- Date(s) the last permit was submitted,
- Date(s) the last permit was received,
- Date(s) on which construction started,
- Date(s) on which construction was completed.

High Level Design

The HLD for each award must be submitted as a GeoPackage (.gpkg) file and must include the elements in the data schema shown below; however, it may include any additional data or layers the awardee considers relevant. The entity-relationship diagram shown below outlines the tables and key attributes required in the HLD. Additional details for the attribution can be found in the data schema definitions below.

Figure 1. Data Schema for HLD



Data Schema Definitions

Polygons

WorkPackageBoundary - the discreet constructible segments that will be permitted and constructed.

ProjectName - must be unique and must relate to the Work Package Boundary Name field in the Construction Schedule Tracker. This is the unit of measure for completed work, with as-builts and construction photos submitted on a work package level.

Polylines (multi-vertex line features)

Route - the physical route the cables travel through. This could be fiber strands on poles, conduit underground, or a trench for direct bury. This is different than cable due to its spatial uniqueness; for example, there may be multiple fiber cables traversing a single route feature, but routes should never overlap.

InstallationMethod - VarChar (variable character or string) data type describing the physical installation of the route. Examples of acceptable installation methods are “Aerial,” “Underground,” or “Direct Buried.”

CalculatedFootage - the computer-defined geometry length in feet.

MeasuredFootage - footage based on in-field or engineered measurements .

RouteStructure - the physical media that the route is composed. Examples of acceptable values are “6M strand,” “2in HPDE,” etc.

Status - “new” or “existing.”

Fiber Cable - the fiber cables to be placed in this build. This may exclude drops planned for installation upon service request. In cases where multiple cables are placed within the same route, multiple line features should be drawn to represent each one. The start and end of each line feature should be a splice or termination point. Pre-connectorized tails, such as those used on Multi-Port Service Terminals, should be included in this layer. Stubs that terminate in the same support structure they originate, such as found on pre-tailed Fiber Distribution Hubs (FDHs), can be excluded.

InstallationMethod - description of the physical installation of the fiber cable. Acceptable values are “Aerial,” “Underground,” or “Direct Buried.”

CableFootage - the engineered length of fiber cable, including all slack loops, lap, maintenance, risers, and sweeps.

FiberAssignments - the nomenclature for the individual fiber strands. The Commission recognizes that there are numerous options for defining strand counts and will accept a variety of submitted answers so long as they are clearly defined.

CableSize - the number of fiber strands contained within the cable sheath.

Status - “new” or “existing.”

Points

Pole - point feature for any poles that cable is placed on within the build.

PoleHeight - the height of the pole in feet.

PoleClass - the class of the pole.

Cabinet - multi-use point feature used to represent Central Offices (CO), remote OLT hubs, as well as FDHs and cross connect cabinets.

Size - the number of potential fiber cross connects on the outbound side, where applicable.

Splitters - the split ratio of contained splitters, if applicable. An example of an acceptable value would be 1x32.

InboundFibers - the assigned fibers on the inbound side of the cabinet, where applicable.

OutboundFibers - the assigned fibers on the outbound side of the cabinet.

CabinetUsage - the in-field reality of the cabinet feature. Examples of acceptable values are COLO, CO, FDH, Remote OLT, etc.

Splice Closure - splice closures placed in the network. Start/end node for fiber cable features.

Placement – “aerial” or “underground.”

Size - the size of the enclosure being placed.

Splitters - optional field to be filled out if splitters are deployed within the splice closure and should be descriptive of the split ratio.

Terminal - subscriber level terminals, if used in the design. Please note, this is not intended to include wall mounted Network Interface Devices nor is it intended for customer equipment such as an Optical Network Terminal.

Placement – “aerial” or “underground.”

Size - the number of outbound ports on the terminal, excluding through ports.

CONSTRUCTION PROGRESS REPORTS

Splitters - optional field to be filled out if splitters are deployed in the terminals and should be descriptive of the split ratio.

Structure - underground access points. This can include vaults, splice boxes, pull boxes, handholes, pedestals, manholes, etc. Description of the physical structure in field.

StructureSize - size of the structure, for example 24x36x24.

Status - “new” or “existing.”

MONTHLY CONSTRUCTION PROGRESS REPORTS

After the first Construction Progress Report has been submitted, Awardees must submit Construction Progress Reports on a monthly basis through the Broadband Grant Portal. These monthly reports are required to be submitted by the last business day of the month following the month covered by the report.

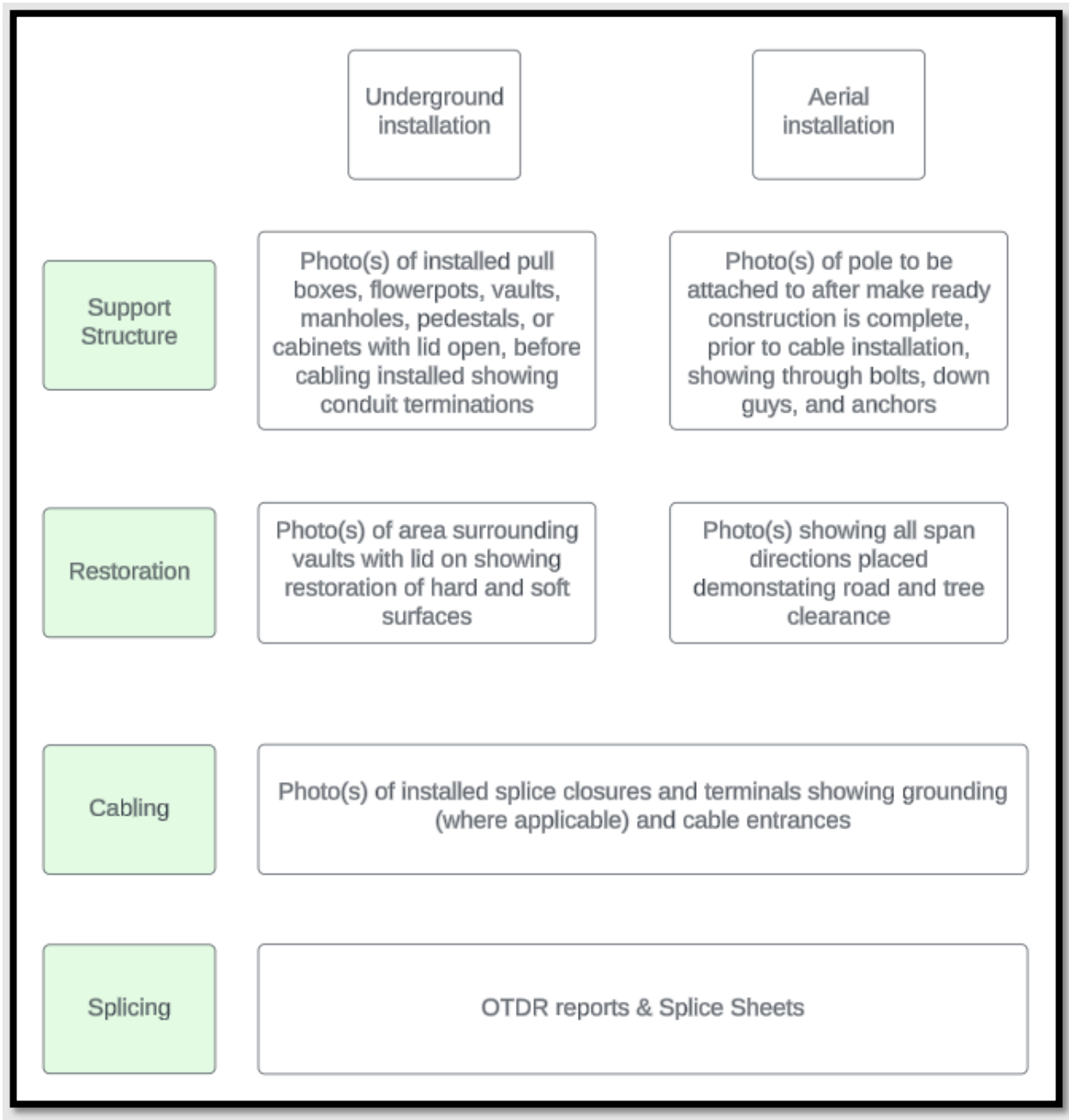
The monthly reports must include a description of the work completed since the previous report, an updated Construction Schedule Tracker, and construction progress documentation, which includes geotagged photos, as-built documents, and optical time-domain reflectometer (OTDR) reports.

The Construction Schedule Tracker must show the number of addresses served by the construction to date, updated estimated completion dates, and actual completion dates for permits and construction.

Geotagged Photos

Geotagged photos will be used to verify that construction is proceeding as scheduled. Construction must be divided into four categories: support structure, restoration, cabling, and splicing. Please see Figure 2. for a chart of the details of photos based on method of placement. The chart is divided into two columns, showing the required photos based on the method of placement. The chart is also divided into four rows showing the different stages of construction and the photos needed for each phase. For example, if placing an underground run through a new vault, the awardee would be expected to capture three photos of the vault, one showing the completed vault installation with lid open, one showing the surrounding area and proper restoration, and one showing the cabling going through the vault.

Figure 2. Chart of Required Photos by Method of Placement



Photos must be submitted as geotagged documents that include location metadata. Geotagged photos can be collected using any smart device with GPS capability. This is required to generate the geographic information for where the photo was taken. Enabling your smart device to take geotagged photos is simple, although there are some specific steps required to ensure the metadata is preserved when transferring the photo from the phone. Please test devices prior to deployment, and awardees are encouraged to send test data to the Commission to validate that all required geotags are maintained and can be opened by staff. Once collected, the photos can be organized into a zipped folder and uploaded to the Broadband Grant Portal.

Android

First, enable your smart device's mobile and data services. This is required to generate the geographic information of where the photo is located. The smart device must have the camera app permissions set to allow location information. Go to your phone's general settings, choose application settings, select the camera app used, and ensure permissions include location data.

Second, within the camera app, open the settings. Select the option to allow GPS location and save location data. This setting must be enabled for the GPS coordinates to be stored in the photo metadata.

Third, Android has built in privacy protections that will remove metadata from photos unless specifically allowed. Due to the wide range of applications and devices using Android, it can be cumbersome to identify all apps involved in photo transfers, so it is easiest to bypass these restrictions via the browser.

In order to transfer the photos in a way that preserves geotagged metadata, transfer the photos via an email client that is accessed via the browser. This work-around involves using the browser to access your email client, as opposed to an app-based email client. Selecting the attach files from within the browser will view photos as files and upload the images with all information preserved. Utilizing an email app, sharing via the photo gallery, or using any other app-based solution can frequently lead to metadata being removed and is generally unreliable from device to device.

Once these three steps are completed, the photos are ready to be captured and submitted with the Construction Progress Report for construction verification. These photos can be submitted through the Broadband Grant Portal as a zipped folder.

iOS

Ensure that the device has mobile and data services enabled. Within the general settings, navigate to "Photos" and ensure that location access is enabled while using the app and that the precise location toggle is set to "Yes." Also within the general settings, navigate to "Camera" and ensure that location access is enabled while using the app and the precise location toggle is set to "Yes." With these two settings, the device should be ready to capture geotagged photos.

In order to transfer the photos from the device, either plug the device into a computer or transfer over iCloud. When transferring photos, ensure that the file type is .jpg. iOS devices may capture photos in an .HEIC file format, however, this format will not be accepted for the construction verification requirements.

Once these steps are completed, the photos are ready to be submitted with the Construction Progress Report. These photos can be organized into a zipped folder and uploaded to the Broadband Grant Portal.

As-Built Documents

As-built documents should be submitted in PDF format. These are construction prints that have been marked and adjusted based on in-field conditions during construction. These may be digitally altered construction prints showing the completed network or redlined documents directly from construction that have been photocopied and transmitted as PDF. For documents that have been redlined by hand and photocopied, please ensure legibility of all submitted documents. As-builts should contain information relating to the fiber assignments and splicing performed and should relate to the "FiberAssignments" field

in the submitted HLD. Separate splice sheets will be accepted when fiber assignment information is not present on as-builts. When submitting multiple documents, a zipped folder containing PDFs will be accepted.

Optical Time Domain Reflectometer Reports

The OTDR reports must be submitted as PDF documents and show the fiber trace, event information, decibel loss, and transmission distances. These documents should be organized according to fiber strand identification in a format that matches with the “FiberAssignments” field in the submitted HLD. When uploading multiple documents, a zipped folder containing PDFs will be accepted.

BROADBAND GRANT PORTAL INSTRUCTIONS

All Construction Progress Reports must be submitted through the Broadband Grant Portal. Upon logging into the Broadband Grant Portal, select “Awards” from the top menu panel.



This icon may be hidden under a “More” list depending on screen resolution.

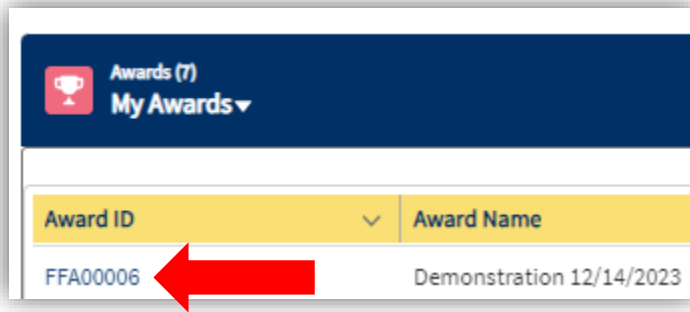


Upon selecting “Awards,” a table of public awards will open. Click on the arrow next to “Public Awards” and select “My Awards” to display the awards associated with the log on information for your entity.



CONSTRUCTION PROGRESS REPORTS

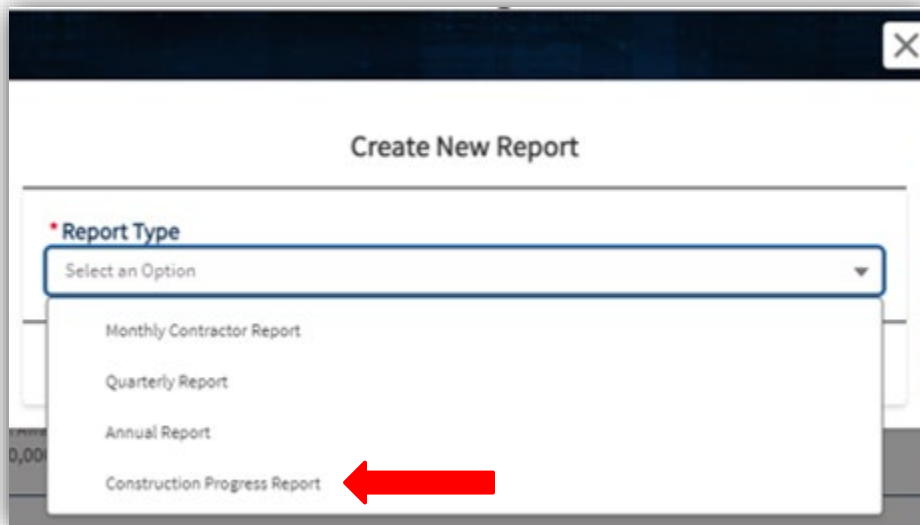
Click on the Award ID for the award for which you are submitting the report.



This will open the award page. Once on the award page, click on the “New Report” button in the top right corner of the page.

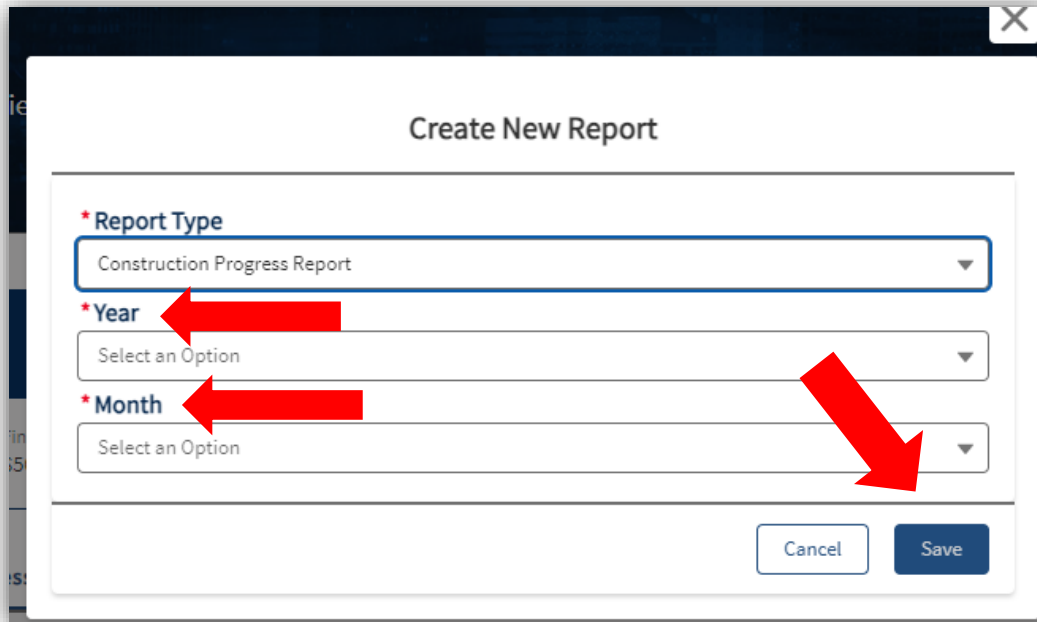


A “Create New Report” pop-up window will appear. From the dropdown menu under “Report Type,” select “Construction Progress Report.”



CONSTRUCTION PROGRESS REPORTS

Upon selecting “Construction Progress Report,” additional fields for the “Year” and “Month” will appear. Use the dropdown options in these fields to indicate the year and month for which the report is being submitted and click on the “Save” button.



Create New Report

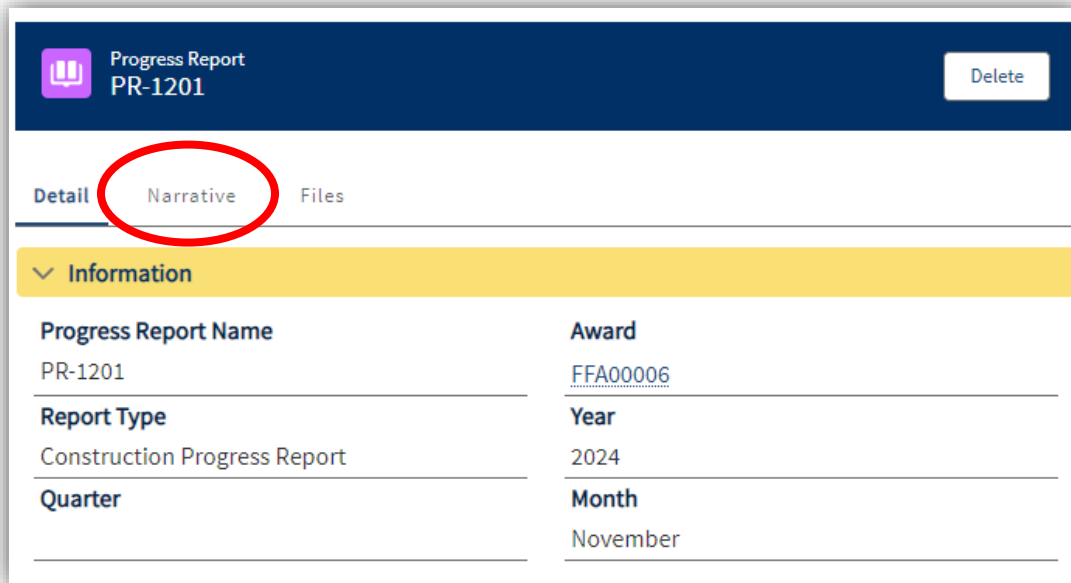
* Report Type
Construction Progress Report

* Year
Select an Option

* Month
Select an Option

Cancel Save

This will create the report. Click on the “Narrative” tab to enter and upload the required information and documentation.




Progress Report
PR-1201

Delete

Detail Narrative Files

Information

Progress Report Name	Award
PR-1201	FFA00006
Report Type	Year
Construction Progress Report	2024
Quarter	Month
	November

 Progress Report
PR-1201 Delete

Detail **Narrative** Files

Construction Progress Report

1) Reporting Period
November/2024

2) Application Name
Demonstration 12/14/2023

3) Submitted Date

* 4) Description of Work Completed

5) Upload original High Level Design (HLD) in geopackage file format

Upload Files Or drop files

6) Upload Construction Tracker Schedule

Click [here](#) to download the Construction Tracker Schedule Template

Upload Files Or drop files

7) Upload geotagged Construction photos in a zipped folder

Upload Files Or drop files

8) Upload As-built PDFs in zipped folder

Upload Files Or drop files


9) Upload OTDR PDF reports in zipped folder

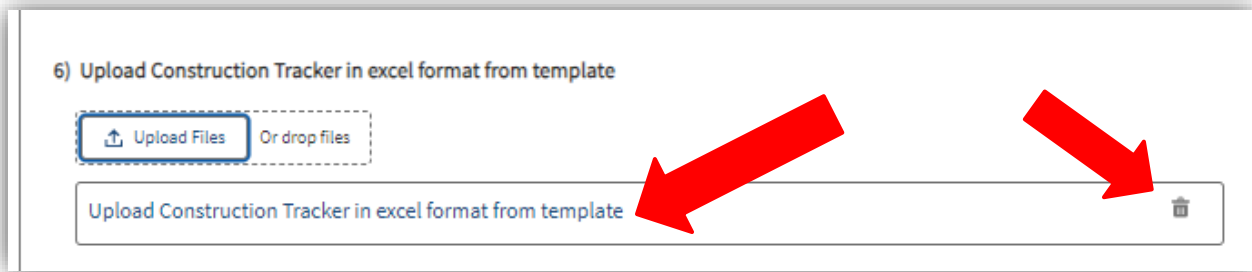
Upload Files Or drop files

Save Progress Submit

The first Construction Progress Report and all subsequent monthly reports must be submitted using this template. Upload fields are not mandatory to allow for only relevant files to be uploaded with each report.

CONSTRUCTION PROGRESS REPORTS

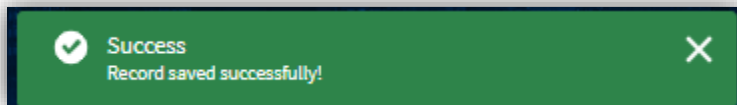
Uploaded files can be verified by clicking the link in the field below the “Upload Files” and “Or drop files” function. Prior to submission, files can be deleted by clicking on the “Delete” icon .



Click the “Save Progress” button to save the entered information and uploaded documents.



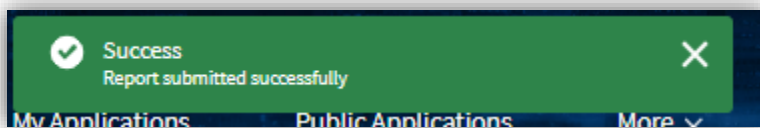
A confirmation message will appear at the top of the page.



Upon completion of the report, click the “Submit” button.



A confirmation message will appear at the top of the page.



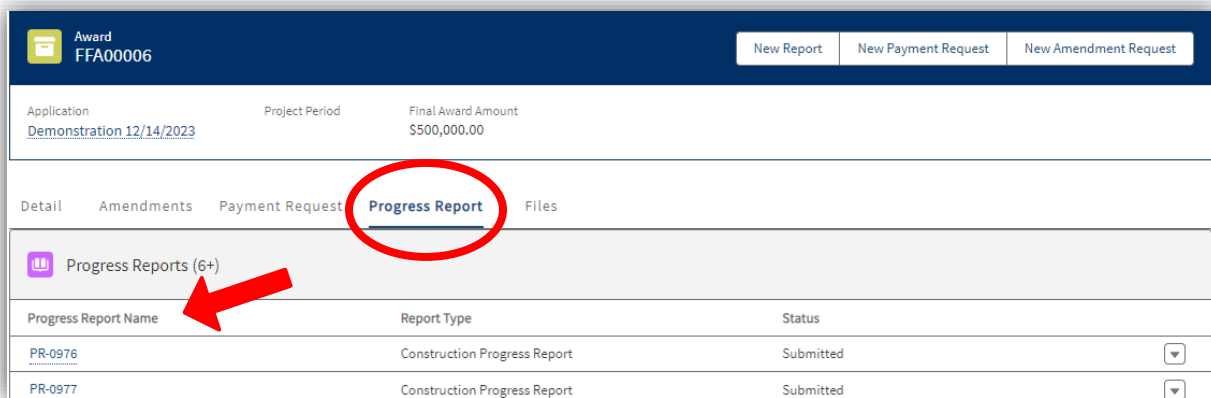
OTHER USEFUL INFORMATION

Miscellaneous System Details

- The maximum character count allowed for narrative fields is 2,500.
- The file types allowed by the system are: Word, Excel, pdf, png, jpg, and any shapefile.
- A red asterisk next to a field means that field is mandatory.
- If the “Submit” button is selected without all the mandatory fields completed, a notification will appear listing the mandatory field(s) that have not been completed and the report will not be submitted.
- To delete a Construction Progress Report before it has been submitted, click on the “Delete” button.



- To view progress reports (including the Construction Progress Report), submitted and in progress, click on the “Progress Report” tab on the Award page and click on the link in the “Progress Report Name” column that you would like to review, continue entering, or submit.



CONSTRUCTION PROGRESS REPORTS

- The Award page will display a maximum of six Progress Reports. To display all Progress Reports associated with an Award, click on either the “Progress Reports” link at the top of the listing or the “View All” link at the bottom of the page.

The screenshot shows the 'Award' page for FFA00006. At the top, there are buttons for 'New Report', 'New Payment Request', and 'New Amendment Request'. Below this, a summary table shows 'Application: Demonstration 12/14/2023', 'Project Period', and 'Final Award Amount: \$500,000.00'. A navigation bar includes 'Detail', 'Amendments', 'Payment Request', 'Progress Report' (selected), and 'Files'. A section titled 'Progress Reports (6+)' is circled in red. Below it is a table with columns for 'Progress Report Name', 'Report Type', and 'Status'. The table lists six reports, all with a status of 'Submitted'. A 'View All' link is circled in red at the bottom right of the table.

Progress Report Name	Report Type	Status
PR-0976	Construction Progress Report	Submitted
PR-0977	Construction Progress Report	Submitted
PR-1003	Construction Progress Report	Submitted
PR-1111	Monthly Contractor Report	Submitted
PR-1112	Monthly Contractor Report	Submitted
PR-1189	Construction Progress Report	Submitted

Commission Correspondence

Any correspondence from the Commission regarding the construction verification process will be sent to the email address listed in the “Key Contact” category of the “Applicant Entity Information” step of the corresponding application.

For any questions/concerns about the Federal Funding Account program, please reach out via email to federalfundingaccount@cpuc.ca.gov.