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Survey Construction Data Setup

Survey Process for Road-Runner

SvyCD – Process Directions

August, 2021

EJG/ejg

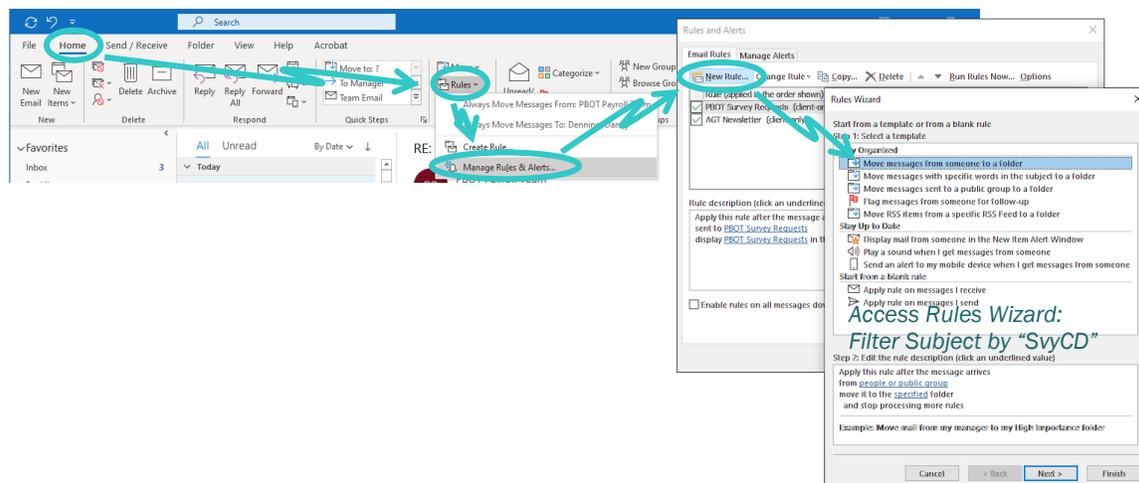
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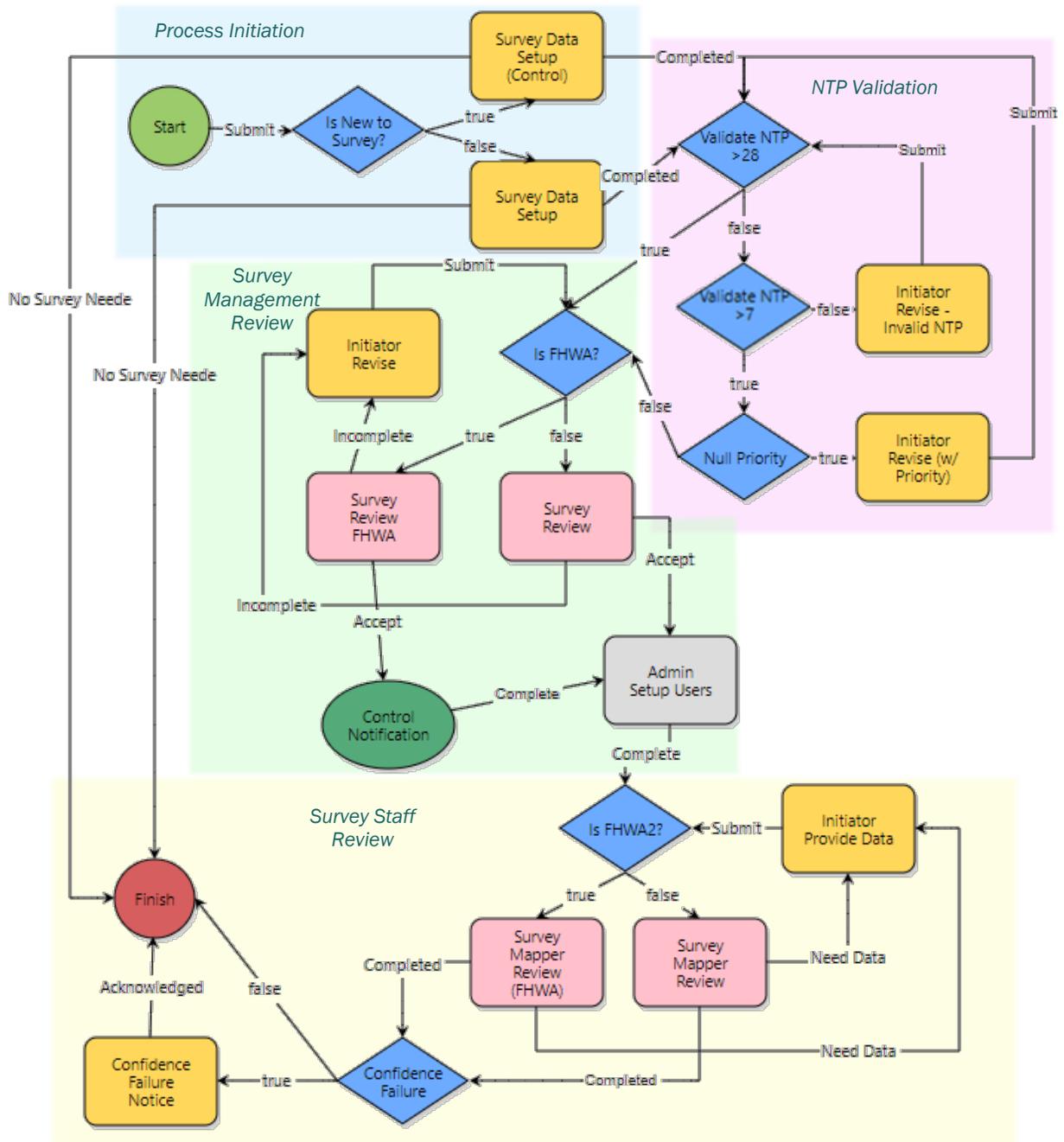
Prior to beginning any construction project, PBOT Survey needs to be provided with design and other information as soon as possible so Survey can be ready to respond to survey requests. The SvyCD – Survey Construction Data Setup process provides a workflow for ensuring that all data has been provided to survey and that sufficient time is given for Survey to review and prepare the data for staking requests.

*It is essential that the SvyCD process be moved forward as soon as possible.
Failure to do so could result in delays for construction staking requests.*

Survey cannot provide any staking for a project until this information has been provided. Roadrunner will lock out the SvyCR – Survey Construction Staking Request process until this data has been provided and reviewed by Survey. An Outlook rule on the subject line term “SvyCD” will help flag any e-builder notices regarding this process to help ensure they are not overlooked.



Process Workflow



The instructions below detail the specific steps and “Actions” to be taken at each step of this process. For details on the data to be entered at each step, see the directions beginning on page 12.

Additionally, the blue sections on each data entry form detail specifics for both the process steps (top section) and data entry. These directions also flag special items (FHWA projects, NTP issues and/or control needs). Be sure to review those directions each time before moving forward.

Workflow Instructions:

Form: 02.01.01 Initial Data Entry View
 Step: Survey Data Setup

Full Instructions for this process are located at <https://www.portlandoregon.gov/transportation/article/782234>

Start Process:
 Complete all items bellow and take the "Submit" Action.
 If this project will not require any survey services (either from PBOT Survey or a Contract Surveyor), take the "Not Required" action.

Reminder – To Take an Action:

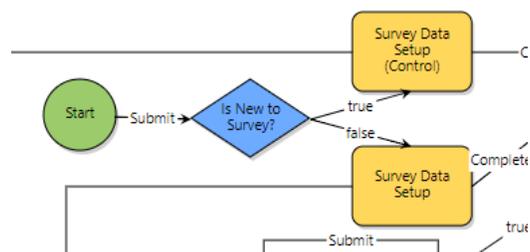
Select the appropriate action in the drop down located both at the top and bottom of the screen, then click “Take Action”. E-Builder may prompt additional steps, like leave a comment or assign actors. In this case follow the prompts then click the button “Yes, [Action]”. If there is only one action option, the “Take Action” button will be replaced with that action and the drop down will not appear.



Most process steps can also be delegated to others if necessary. Use the “Delegate” button and select the personnel who will have the necessary information to complete the current step.

Process Initiation

This process will automatically spawn at the end of the BIDS – Bid Analysis process or can be manually started if the project will not have a bid contract.



Start Step

Actor: Process Initiator

Once the process is initiated, the first data entry screen will appear blank. Take the “Submit” action to begin the process. Roadrunner will populate several data fields and notify Survey Management that a construction project is beginning.

Survey Data Setup

Actors: Process Initiator, Construction Manager, Engineering Technician

Complete the data entry per the instructions on page 12. When complete, take the “Completed” action to move the process forward.

If the project will not require any survey services (either by PBOT Survey or a consultant surveyor), take the “No Survey Required” action.

Escalation: This step should be completed within 7 days. Escalation will proceed to notify Survey and ESG management if not completed in a timely manner.

Survey Data Setup (Control)

Roadrunner will direct you to a slightly different data entry page if it determines that Survey Control information will need to be provided. This will activate if the project level data field “Survey Status” is set at the default “No Survey Required” indicating the project has never received any Design/Topo requests. The most likely causes are as follows:

1. Design topography was performed by a consultant surveyor not arranged through PBOT survey. In this case, the survey control *must* be attached to the process in order for it to move forward.
2. Design topography was performed by PBOT survey under a different project.
 - a. Clearly identify the original project WBS number in the Billing Notes field.
 - b. Attach a dummy file (seriously, create an empty text file named “dummy file.txt”) to add to the control field.

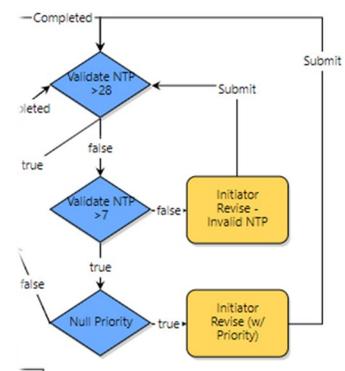
Otherwise, the processes (actors & escalation) are the same as the regular “Survey Data Setup” entry.

PBOT Survey will be unable to provide any staking services without control.

For additional information regarding what information is required for control delivery see details on page 6.

NTP Validation

Short notice projects may require additional steps to complete. The NTP validation steps validate the NTP date to ensure that enough time is provided for Survey to complete their work. If these tests fail, additional data entry or schedule revisions may be required.



Less than 7 Days:

Actors: Process Initiator, Construction Manager, Engineering Technician

PBOT survey is unable to accommodate construction staking projects with notice this close to NTP. If this step is reached:

1. Complete the “Staking Priority” field.
2. Either:
 - a. Adjust the Project Schedule to accommodate survey needs and take the “Submit” action.
 - b. Or, immediately contact the PBOT Survey Supervisor to discuss the project.¹

The process will loop back to this step if appropriate adjustments are not made.

Escalation: This step should be completed immediately, and escalation notices will be sent daily after 1 day.

Less than 28 Days:

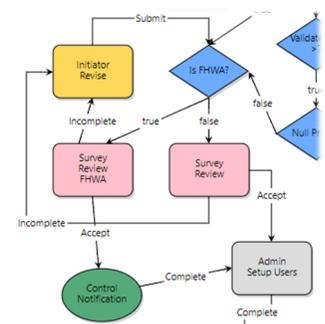
Actors: Process Initiator, Construction Manager, Engineering Technician

This is very short notice for Survey, but they will attempt to accommodate the project. Enter the staking priority and take the “Submit” action. (This step can be avoided by entering the staking priority during the initial data entry step.

Escalation: This step should be completed immediately, and escalation notices will be sent daily after 1 day.

Survey Review

Once the data has been entered and validated via Roadrunner, the process will move to the Survey Management team to setup and assign staff.



Check the NTP Date before proceeding in order to set staff priorities!

Survey Review

Actors: Survey Management

¹ **Survey Management:** If this step is reached, the NTP date is not adjustable and you wish to move the process forward: “Request Comment” to the e-Builder Project Admin to perform a step override to the “Is FHWA?” step.

PST Instructions

Complete the database and filing setup tasks for Construction setup as soon as possible. Once complete, notify the Survey Supervisor that they can take the appropriate action. (Binder creation can be done later – but must be completed asap).

Take the “Incomplete” action if any data is missing from the initial data entry.

Be sure to update the Survey Job Number if necessary.

Survey Supervisor Instructions

Once the PST has completed the database and filing setup, select the mapper to perform the Staff Review steps below. The crew can also be assigned at this time, however it is not necessary. The crew must be assigned prior to the receipt of staking requests via the STAFF – Staff Change process. Take the “Accept” action to move the process forward.

Take the “Incomplete” action if any data is missing from the initial data entry.

Escalation: This step will escalate after 7 days and will submit reminders weekly after that.

Survey Review (FHWA)

The FHWA data entry page is the same as the regular Survey Review page. However, it does require that the PST upload the control to the process to be forwarded to the Consultant Surveyor.

Initiator Revise

Actors: Process Initiator, Construction Manager, Engineering Technician

Please provide any missing data or information as requested. Take the “Submit” action when completed.

Escalation: This step will escalate after 3 days and will submit reminders daily after that.

Control Notification (Mail Merge)

For FHWA/ODOT projects, the Survey Control will need to be provided to the consultant surveyor. A notice will be provided to forward that information to the contractor.

Admin Setup Users

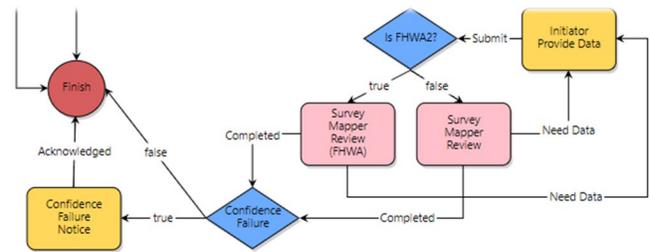
Actor: Construction Admin

Update the staff roles as indicated. Take the “Completed” action when done.

Escalation: This step will escalate after 3 days and will submit reminders daily after that.

Survey Staff Review

The following steps will allow survey to review the provided data prior to construction. This is an essential part of Survey's ability to be responsive to survey requests – ensuring that the provided data is complete and error free, as well as an opportunity for Survey to get started preparing data for staking.



Survey Mapper Review

Actor: Survey Mapper

Review provided data for completion and “stakability”. Use the “Need Data” action to request corrections or additional data. If requested, perform the Confidence Point report.

Once this review is complete, take the “Completed” action *then* begin the data prep.

Escalation: This step will escalate 3 weeks prior to NTP, and will escalate to Survey Management with weekly reminders after that.

Survey Mapper Review (FHWA)

Actor: Survey Mapper

The process for FHWA/ODOT funded projects is different than a standard project:

1. Review provided data for completion and “stakability”. This data will be provided to a consultant surveyor and it is our task to ensure that the data is ready for them.
 - a. Use the “Need Data” action to request corrections or additional data.
2. Work with the Supervisors to schedule and complete the Confidence Point report (see page 18 **Error! Bookmark not defined.**).
 - a. Indicate the status of the confidence report as pass/fail.
 - b. Attach the confidence report.

Once complete, take the “Completed” action.

Escalation: This step will escalate after 28 days and will escalate to Survey Management reminders weekly after that.

Initiator Provide Data

Actors: Process Initiator, Construction Manager, Engineering Technician

Please provide any missing data or information as requested. Take the “Submit” action when completed.

Escalation: This step will escalate after 3 days and will submit reminders daily after that.

Confidence Failure Notice

Actors: Process Initiator, Construction Manager

For FHWA/ODOT funded projects, Survey will complete their Confidence Point report (see page18). In the event of a failure the process will request that the Construction Manager acknowledge receipt of the report. There is no data entry needed, just take the “Acknowledge” step and contact the Survey Supervisor directly to discuss any further steps.

Escalation: No escalation is needed for this step.

Process Automation

Several automated things occur associated with the various Survey related Roadrunner processes.

The SvyCR – Survey Construction Staking Request process will not be available for use by anyone until the SvyCD – Survey Construction Data Setup process is complete.

Bid Analysis

The process itself is automatically spawned at the finish step of the BIDS – Bid Analysis process. This will ensure that survey is provided data as soon as final plans have been developed.

Non-Bid Projects

For projects that will not go through a bid process (BOM, JOC, etc.), there is no place in Roadrunner to automate the start of this process. It is absolutely essential that the project manager or construction manager start this process manually as soon as the plans are at 100%.

Manually start this process at 100% plans for any non-bid project.

Survey Status Field

Roadrunner has a custom project field titled “Survey Status”. This field is used primarily as a filter for reports and process. All projects have the default “No Survey Required” status applied. This is updated to “Design” once a SvyDR – Survey Design/Topo Request process is completed. The SvyCD process uses this identifier to determine if Control information is required from design per the directions on page 6.

Once this process is started the status is updated to “Construction Setup Pending”, and again at the end to “Ready for Construction”. It is important to note that until the SvyCD process is complete, the SvyCR – Survey Construction Staking Request process will be unavailable for use.

Data Entry

When entering data into the Roadrunner forms, be sure to review the step-specific instructions at the top of each section. These instructions have been tailored specifically for each step in the process. A reasonable attempt should be made to complete all open fields. Those fields marked with a red asterisk (*) are required.

The information provided below details the specific information to be provided, how it should be entered and what options and automations occur with those data entry steps.

Multi-Job Jobs

PBOT Survey does not recommend running any of the Survey Construction processes for different projects (i.e. WBS numbers) under the same Roadrunner project irrespective of the contract status. This has the potential to confuse project billing, staff assignments/scheduling and the completion of any necessary post-construction record of survey. The preferred method would be to use the individual project modules to manage the Survey Construction Data Setup and Survey Construction Staking Request processes.

However, if it is decided that a single Roadrunner project will manage multiple jobs (i.e. multiple plan sets and/or PBOT WBS project numbers), a few additional steps will need to be taken:

1. Leave the default PBOT billing number in the PBOT Billing Number section.
2. Clearly delineate the various billing numbers that will be used for which portions of which projects in the “Billing Notes” section.
3. Attach all design files for all projects when completing the Process Initialization phase of this process (see directions below). Each project’s design files should be sent as *separate* zip files. These may need to be attached separately in the “Attachments” tab.
4. Schedule a short meeting with the Survey Management Team to discuss specific additional steps that will need to be taken on all subsequent processes.

Billing Information

Billing information should be entered in the process initiation portion of the workflow. All billing numbers need to be open and available to accept charges at the time of submission. If this is not the case, please work with the bureau specific accounting sections to ensure their availability. All billing numbers should include the full WBS element (including TOW code). Survey will create any necessary internal order (7TR...) numbers.

The SvyCR - Survey Construction Staking Request

process will contain a drop-down menu to select the appropriate billing for projects with billing to multiple bureaus as illustrated to the right. This will direct Survey to bill specific staking requests in accordance with the data entered in this section.

Staking Request "Bill To:" Field

- **PBOT Billing Number:** The PBOT billing Number is required. Roadrunner will attempt to fill this information based on the Project level data. Please verify that this information is correct.
 - Typical Format: T00000.C40
- **BES Billing Number:** If this project will require line item billing for staking sewer or other BES owned elements, indicate the number here.
 - Typical Format: E00000.C41
- **Water Billing Number:** If this project will require line item billing for staking water lines or other Water Bureau owned elements, indicate the number here.
- **Other Billing Number:** Enter the WBS Element for any other line item billing numbers. Be sure to indicate the circumstances when this should be billed in the "Billing Notes" field.
- **Billing Notes:** Clarify any special billing circumstances regarding billing needs:
 - Clarification on "Other Billing Number" field.
 - Any additional billing numbers not included in the fields above.
 - For projects extracted from another design project, indicate the source WBS number for the design topographic information. (See *Survey Data Setup (Control)* on page 6)
 - Additional PBOT billing numbers (see *Multi-Job Jobs* above).

- **Funding Source:**
 - **Other:** Most projects will fall in this category.
 - **FHWA/ODOT:** FHWA/ODOT funded projects require that Survey services be performed by a contract surveyor. PBOT survey will need to perform certain tasks (see FHWA specific process workflow on pages 8 & 9) prior to NTP.
 - **LID:** If this project is an LID project, please indicate here. This does not have any specific effect on the process workflow, but it is good for survey to know that this is the case.
- **Survey Job Number:** To be entered by Survey. This field is for Survey filing purposes and is internal only to their workflow. Roadrunner will preload this information if it was entered in the design phase.

Project Contacts

The project contents are completed during the Start step in Roadrunner based on the *current* role assignments. This information is provided for survey if any questions regarding the project present themselves once this process is complete. These fields will remain locked at all steps.

Project Schedule

This information will be entered during the process initiation portion of the project. Be sure to fill this information out as accurately as possible as survey will use this information for long term scheduling and prioritization in relation to other projects.

- **Precon Invite Sent?:** Please indicate that the Survey Supervisors have been invited to the pre-con meeting.
 - Yes: Invite has been sent.
 - No: This option should only be selected for FHWA/ODOT funded projects.
 - TBD: If the pre-con has not been scheduled, let Survey know and be sure to include them when the invite is done.
- **NTP Date:** Provide the NTP date for your project.
 - If this is not known at this time, please provide an estimate.
 - This field will cause a few validation steps to occur within the workflow (see page 6).

- **Staking Priority:** If NTP is less than 4 weeks from the most recent submission date, this field will be required. For these short notice projects, be sure to discuss with the contractor what and where they intend to begin work. This will help survey prioritize their data prep.
 - For small, one-block or less, it is acceptable to put “all”.
 - For larger projects, indicate what and where they intend to start their work.
 - For FHWA/ODOT funded projects, put “N/A” as Survey will not be performing any data prep.

Plans and File Delivery

Again, this section will be completed during the step initialization portion of the process. This is perhaps the most important portion of this process. Without adequate design information Survey will be unable to provide any services. During the various Survey Review phases, Survey will go through the provided files to ensure that they are complete and error free.

Plans

Both pdf and printed plan sets are required for survey to proceed with the project.

- **Plans Provided:** For *all* projects Survey requires 3 sets of printed plans.
 - Survey can print their own for plan sets less than 20 pages: Select the “Not available/required” option.
 - Survey may request a full size set under some circumstances (usually structural projects).
- **Plans will be printed by:** If the plan sets are not yet printed and/or in the process of being printed, please indicate when Survey can expect to receive them.
- **PDF Plans:** Usually the pdf plan set is already uploaded to e-builder in the “\303 Bid Documents” folder. Use the “Browse e-Builder” button to link that file to the process.
 - Be sure to link the final plan set only.

CAD Files

When uploading the CAD files, be sure to zip multiple files into a single zip file. During the process initiation phase, only the “DGN File(s)” field is required. It is acceptable to put all the files (alg, dgn or otherwise) into a single zip folder and upload here rather than split the zip files by category. Be sure to provide Survey with all required files at the beginning to avoid delays:

- Most current design files (dgn)
 - If appropriate be sure to include the following:
 - BES sewer design files (if provided in dwg/AutoCAD format, it is not necessary to convert).
 - Striping or SSL design information.
 - Water if being installed by the contractor.
- Alignment files for all curb, road centerlines or other features as needed.
- DTM surface

Control

Control information may or may not be required based on varying circumstances related to the project. Please refer to the workflow related instructions on pages 6 and 8 for additional information.

- **FHWA/ODOT Funded:** Control will be required to be entered in the Survey Management Review step. Once complete it should be forwarded to the contractor and/or contractor surveyor.
- **Design Survey by Consultant:** If the design survey was completed by a consultant, control information must be provided during the Process Initiation phase. Please be sure to provide all the following information:
 - Comma delineated PNEZD text file of all control.
 - Control Narrative in pdf format
 - Control overview map (for larger projects)
 - Tie sketches of all primary control points (field sketches are sufficient).
A pdf with examples of appropriate control information is available on:
<https://www.portlandoregon.gov/transportation/article/738254>.
- Otherwise, this is not necessary.

File Notes

If there is any other information or clarification regarding the file delivery, please indicate that here.

FHWA Confidence Reporting

This information is provided during the Survey Staff Review phase. For FHWA projects, it will be required. For additional information regarding the confidence report see page 18.

FHWA Confidence Reporting/Control

Confidence Points report per the ODOT Survey Policy and Procedure Manual section 1.434.

* Confidence Report Status: Indicate if Confidence Report Passed or Failed

Confidence Report: Attach Confidence Report
 or

- **Confidence Report Status:** Indicate if the confidence report passed, failed or was not completed.
- **Confidence Report:** Attach the confidence report to the process.

Assign Survey Mapper/Crew

During the Survey Management Review phase, assign the survey staff to the project. The Survey Mapper *must* be assigned at this time. If the Survey Crew is not known, that can be done later using the STAFF – Staff Change process at any time *before* NTP.

Staff Assignment

Use the *STAFF - Staff Change* process to assign Survey staff.

* Survey Mapper:

Group By: Show Filter Row Height: 1X

#	Current Survey Crew	New Survey Crew
Grand Totals (0 items)		

Process Log

The final section of the form contains a quick reference to the process history.

Process Log

Process Initiator:

Survey Review:

Mapper Review:

FHWA/ODOT Funded Projects

ODOT and FHWA funded projects require a different process due to requirements disallowing in-house survey services. However, there are a number of steps that we will need to take in the early stages of the project. The primary need is to perform the confidence report (see below). The second task is to review the plans and electronic files for errors and stakability. Finally, we will need to provide control to the contract surveyor so they can perform their work.

The table below highlights the key elements that may differ between the two funding source options.

Task	FHWA/ODOT Funded	Other
CM to Provide Billing and Scheduling Information	Yes	Yes
CM to Provide Design CAD Information	Yes	Yes
CM to Provide Printed Plans	No	Yes
CM to Provide PDF Plans	Yes	Yes
Provide Control Information	PBOT Survey to Provide for Consultant Surveyor	Construction Management to provide if Design Survey performed by consultant surveyor.
Survey to Review Plans and Design CAD data	Yes	Yes
Survey to perform Confidence Report (see below)	Required	Optional
Survey to prepare and provide staking data	No	Yes

Field Check/Confidence Shots

The collection of points for verification of DTM's isn't a requirement per statute. It is something addressed in the ODOT Survey Policy and Procedure Manual and required of contractors providing surveying services for ODOT projects. See sections 1.434 & 5.943 of the ODOT Survey Policy and Procedure Manual:

https://www.oregon.gov/odot/ETA/Documents_Geometronics/Survey-Policy-Procedure-Manual.pdf.

The purpose of the ODOT Confidence report is to verify the accuracy of the Digital Terrain Model (DTM) and to establish a standard for the collection and processing of the data. The confidence report will be obtained as described in the ODOT Survey Policy and Procedures Manual (Manual). Topographic data will be collected with sufficient density to meet these requirements. The DTM will be verified with the accuracy standards noted in the Manual. The topographic points will be processed in In-Roads with the ODOT application provided via the ODOT website. A copy of the confidence point report will be provided to the Engineer of Record for their review and it will also be uploaded into the RoadRunner application as the public

repository for the project. When the confidence report denotes a 66% or better pass rate (in accordance with the Manual) no additional work is required. If the confidence report indicates the DTM fails the ODOT standard, additional information may be required to determine how and why the initial topographic data does not meet the ODOT standard. The DTM accuracy must be demonstrated to the satisfaction of the Engineer of Record.

Support

If you need assistance with any portion of this request and cannot find the answer above, please feel free to contact Survey at surveyrequests@portlandoregon.gov, or call Elijah Goodrick at 503-823-7152.