

10. Documenting & Reporting the Contractor's Progress

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10.1. Inspection

Under authority delegated by the Project Engineer, inspectors are responsible for inspecting, testing, and documenting work performed by the contractor; on smaller projects, the Project Engineer and the inspector may be one and the same person. Proper inspections requires good judgment, diplomacy, common sense, and a thorough knowledge of the contract.

The inspector's primary duty is to observe the work to insure that the contractor's performance is in accordance with the contract, or that the contractor's performance yields an end product that is in accordance with the contract. The difference between these two types of inspection is subtle but very important. Some specifications in the contract call for an end product that meets certain requirements; the inspector tests pay items specified this way for conformance when the contractor completes them, and the contractor has the latitude to determine (within the limits of the contract) how they achieve that end result. Other specifications spell out the steps a contractor must follow in constructing an end product; the inspector inspects pay items specified this way for conformance to the construction methods and not for the end result. The inspector must know the difference.

Inspectors also document the work, keeping such records as are necessary to record manpower, equipment, and materials utilized, to establish contractor production rates and measure and verify quantities for acceptance and for payment. Section 10.3 covers the inspector's reporting requirements in detail. In addition, the inspector is responsible for timely testing or arranging for the testing of completed work segments. As the contractor completes pay items or segments of the project, the inspector should make a thorough inspection of the work in sufficient time to inform the contractor of any

deficiencies. This will allow the contractor to make the necessary corrections or cleanup before they move their equipment to another area or operation.

The inspector should consider any work that deviates from the contract unauthorized work and the inspector should bring it to the contractor's attention. Deviations include work outside the lines and grades of the project, unauthorized extra work, unacceptable materials, and unacceptable workmanship. If the contractor disregards the notification of the inspector or the Project Engineer and continues to work, the inspector should inspect and measure the work, but must not submit unacceptable work or unauthorized extra work for payment. The inspector should notify the contractor and Project Engineer of unacceptable or unauthorized work. The Department's decision to inspect and measure unacceptable work or unauthorized extra work does not constitute acceptance of the work or commitment to pay the contractor for that work.

In the case of a dispute with the contractor over the quality of the work or acceptability of materials which the inspector is unable to resolve, the inspector should advise the Project Engineer. The Project Engineer has the authority to suspend the contractor's operations until they resolve the matter. The inspector must keep a detailed record of any such dispute in their inspector's daily report and they must keep the Project Engineer advised of the situation from the start. If the Project Engineer is unable to resolve the situation, advise the Group Chief/PM.

If the inspector encounters physical conditions that deviate from those described in the contract or in the permits, they should notify the Project Engineer immediately. If a permit modification or additional permitting appears necessary, the Project Engineer should notify the environmental unit, the right-of-way unit, or the airport leasing unit.

10.2. Directives

Directives are written communications from the Project Engineer to the contractor concerning topics that are within the scope and language of the contract. Directives are a simplified form of letter to the contractor, utilizing preprinted forms (Forms 25D-069 and 25D-065); the Project Engineer can also issue directives in the form of a letter to the contractor. The Project Engineer can use directives to: clarify

contract terms, suspend and resume work, document directions or instructions given to the contractor, reject non-specification materials or work, and initiate work on contingent sum pay items.

Identify directives alphabetically or numerically in the order issued for ease in record keeping. Although the directive form has a space for the contractor to sign acknowledging receipt, the form does not require the contractor's signature; a directive is in effect when physically delivered to the contractor.

10.3. Diaries, Daily Reports and Photographs

Documentation records the events of the construction day, the observations, communications, measurements, and calculations of each employee, and is the responsibility of every member of the project staff. Documentation that records the acceptance of pay item quantities must meet the source document requirements of Section 4.4.

Documentation should follow the five C's: **be clear, concise, correct, complete and concurrent**. Do not include subjective or personal comments about workers or their personalities.

You can document through the preparation of diaries or daily reports (either written, audio taped and transcribed, or entered directly into a computer and stored on data storage devices), field and survey notes, photographs, and audio or video tapes; Section 4.3 covers backup of computer data.

Each project staff member has an area of inspection responsibility and they should confine their daily report to their area of responsibility. The Project Engineer is the only project record keeper who should provide an overview of all project operations. Employees should complete the diary/daily reports in real time; that is, during or at the end of the shift that the report covers.

The Project Engineer can use either the Engineer's Diary format or the inspector's daily report format to document project activity, depending on regional preference. When only one person is assigned to a project, only one daily report or diary is required from that person. The **Engineer's Diary**, while containing certain basic daily information (weather, temperature, general nature and location of the contractors principal work efforts that are underway), should be a reflection of the Engineer's day fully covering the events that involved the Project Engineer that day.

The following topics are the core of the Engineer's Diary:

- the substance of important conversations with the contractor
- decisions that were made
- directions that were given
- observations of the contractor's operations and overall progress
- changes in both Department and contractor project staffs or in staff assignments
- project inspections
- visitors to the project
- other significant events such as accidents, changes in traffic control, personnel matters, and completion/acceptance of work segments
- The Engineer's Diary should also include the information listed under the inspector's daily report for any of the contractor's specific activities that are not being covered by one of the inspectors.

The Engineer's Diary should start when the Group Chief/PM initially assigns the Project Engineer to the project. The Project Engineer should keep the Diary until the Project Engineer completes the last work on the project. When the project is not active and the Project Engineer is not at the project site, they do not have to make entries daily, but they should record all significant events. Explain any breaks in the daily entry routine in the following diary entry. Follow-up on all events mentioned in the diary to conclusion.

The contract may require, under the contractor surveying pay item, that the contractor keep a survey party chief's diary and record field notes. If so, the language of that section of the contract establishes the specific requirements for that record keeping. There are no other diaries, as such, required of the Project Engineer or the project staff.

Other project staff who report daily on project events to the Project Engineer, will use the **Inspector's Daily Report (IDR)** form (Form 25D-186) or diary. These reports start when the contractor begins work or when the Project Engineer first assigns the staff member to cover an operation; reports should cease when the contractor completes the particular operation being inspected. Each IDR should limit the scope of its coverage of project operations, to the scope of the authority and responsibilities of its author. On small projects, at the discretion of the Project Engineer the frequency of IDRs may be reduced; explain any

breaks in the daily entry routine in the following diary entry. Follow up on all events mentioned in the IDR to conclusion.

An IDR or diary prepared by an inspector should document the “**who, what, when, where, and why**” of daily activities. Include the following information:

- a detailed report of the contractor’s and subcontractor’s specific activities
- an equipment and labor listing; idle and down equipment
- observations on the contractor’s and subcontractor’s operations
- conversations with the contractor, subcontractors, Project Engineer, and other project staff members (that pertain to work)
- pay item work performed
- and may also include the measurement and acceptance of pay item work

Document the presence of local law enforcement personnel that worked on the project in a diary or daily report such as Form 25D-128.

Certain specialized operations such as time and materials work (Section 13.2), materials placement measured by the load, and pile driving operations, have **Specialized Daily Reporting Forms** that the Department has developed for documenting that work; the Project Engineer may elect to use any of these specialized forms/formats in lieu of, or in addition to, the Inspector’s Daily Report. If you use these forms in lieu of the IDR, all of the daily information called for on the IDR must appear on the specialized form. The Department’s specialized forms are

- Daily Concrete Placement Report (Form 25D-207)
- Daily Report – Labor, Equipment, and Materials for Time & Materials Work (Form 25D-195)
- Daily Force Account Summary Sheet (Form 25D-196)
- Traffic Flagging Report Book/Item 643(15) (Form 25D-037)
- Pile Driving Record (Form 25D-099)
- Pile Log – Boring Log (Form 25D-046)
- Truck Load Measure Record (Form 25D-192)

In addition to these forms, each region may have developed their own specialized worksheets to document certain construction activities, such as scales operation.

Documentation can also be accomplished through field notes, measurements, and survey records in **bound field books**. Certain daily report forms are available in bound book form (the IDR and some of the specialized daily reports). You may use field books to record field notes and survey notes for quantity measurement and to document the measurement and acceptance of most pay item work.

If you use field books for this latter purpose, you may use each book to document more than one pay item. Books may be set up to cover groups of pay items such as: all clearing and grubbing items, all earthwork items, processed base course materials, paving items, structures (major and minor), concrete and steel items, or electrical items. In some instances, you may do the calculation of pay quantities in the field books with the quantity measurements.

You may use **photographic records** to document the work. Each principal project staff member should have access to a camera, still and/or video, and should utilize it to supplement their daily reporting. You should use still photographs and videotape to record events or conditions such as,

- before and after site conditions
- routine progress during construction, unusual events
- heavy equipment set-up and utilization (crushers, hot plants)
- culvert installations
- the condition of materials sources (before, during and after)
- construction signing and safety marking
- accident or damage scenes
- emergency conditions
- differing site conditions and their resolutions
- the condition of the contractor’s equipment

You should keep photographic records in accordance with Section 4.3.

10.4. Measurement of Pay Quantities/Quantity Documentation

The contract establishes the method of measurement for each contract pay item. Before measuring any quantities for payment, the Project Engineer and project staff should review the pay item specifications to be certain they understand what to measure and how to measure it. Refer to Section 4.7 for rounding procedures and significant decimals used in quantity

measurements. If you estimate interim quantities for progress payments, you must document the basis used in the progress summary.

Pay quantity measurements are source documents, and you must record them in accordance with Section 4.4. You may document pay item quantities in the Engineer's diary, inspector's daily reports, on any of the specialized daily report forms, in survey books, or in field books. Record documentation of the various measurements as follows:

- **Measurement by Volume, Area or Length:** Each set of measurements or survey notes taken for pay quantities should contain a validation statement recording that the contractor performed work and the inspector accepted it as shown in the notes; the inspector should sign and date this statement; use drawings or sketches in the notes, where necessary, to clarify the survey measurements; calculate quantities with the notes or reference the notes in the calculations.
- **Measurement by Lump Sum:** Partial payments are estimated on a proration basis or schedule of values (By station, type of work, percentage complete, subcontractor work, time, materials invoice, etc). If the contract does not specify a method for prorating partial completion, the Project Engineer and the contractor should work out a mutually agreeable proration basis; keep the documentation of that basis in the pay item file and reference it in the progress quantity calculations, which should contain a validation statement.
- **Measurement by Hours:** Each daily record sheet should contain all of the detailed information required by the form, all required signatures, and a validation statement.
- **Measurement by Item:** Each set of field book entries or inspector's daily report entries should identify the item by name and number and contain a validation statement.
- **Measurement by Volume Vehicle Measure:** Each inspector's daily report entry or daily load count record sheet should contain the contractor's signature and a validation statement; the Project Engineer and the contractor should measure each hauling unit before the start of the work, and place the records of those measurements in the pay item file.

- **Measurement by Load Count:** Use this method for estimating interim quantities only; each inspector's daily report entry of daily load count record sheet should contain the contractor's signature and a validation statement; estimate each hauling unit's capacity.
- **Measurement of Weight:** The scale diary form for each day contains an inclusive listing of weigh tickets issued, including exceptions; documentation of the taring of trucks and the status of scale certification; and a certification statement signed by the scale operator; the inspector should sign and date weigh tickets received on grade and note the location of placement of the material; obtain daily weights by summing the valid weigh tickets or obtain it electronically via computer directly from the scale house; both the inspector and the contractor should sign the daily summations.
- **Measurement by Time and Materials:** Each day's time and materials summary sheet, which includes a complete record of both labor and equipment identification and hours, contains a validation statement, and both the contractor and the Project Engineer or inspector sign it; Section 13.2 describes how to establish hourly rates for equipment; verify labor hours by reviewing the contractor's payrolls, and establish materials costs by purchase and shipping invoices provided by the contractor.
- **Measurement by Plan Quantity:** A method of measurement that relies on the estimated quantity shown in the plans, rather than a physical measurement in the field, to establish the pay quantity (used on items such as bridge railing).

The Project Engineer is responsible for measurement of attainment of the DBE Utilization Goal. Money received by the DBE for creditable Commercially Useful Function (CUF) work is determined by the Project Engineer in accordance with the statewide Special Provision Section 120. Report determination of CUF on DBE CUF Monitoring Report (Form 25A-298). On a monthly basis, using DBE Monthly Summary of DBE Participation (Form 25A-336), the Contractor shall report to the Civil Rights Office the payments made for the qualifying work, goods and services provided by DBEs.

10.5. Construction Progress & Other Reports

The Project Engineer is responsible for preparing certain reports during construction to keep the Group Chief/PM, the federal agencies, the support group staffs, maintenance and operations, and the general public advised of the progress of the work. When required by the Construction Engineer, the Project Engineer will submit a Project Construction Report (Form 25D-057) for each project, and a road condition report for each highway project. The Project Engineer is also responsible for submitting a Supervisor's Safety Meeting Report (Form 25M-063), following each safety meeting (Section 6.4 and 6.5).

The Project Engineer may also receive certain reports periodically from the contractor, the federal agencies, or other agencies with an interest in the project. The contractor is required to submit weekly SWPPP construction inspection reports to the Project Engineer during the life of the project or more frequently following continuous heavy rainfall. On marine projects, the Project Engineer may receive periodic inspection reports from the US Coast Guard and from the American Bureau of Shipping.

The **Project Construction Report** is to be submitted when required by the Construction Engineer. The Project Engineer may use Form 25D-057 or any other form or format that a region has adopted. The Project Engineer should submit the report from the time the field office is first opened until the project is completed. Submit the report at least monthly during periods of active construction and periodically during periods of work suspension; each periodic report should cover all project activity underway since the previous report. Accompanying each report should be copies of significant correspondence, directives, materials test results, inspection reports received from other agencies, and similar material.

The principal contents of the report should include the following:

- **Status of the Project:** Construction progress on the principal items of work; the status of contract changes; anticipated overruns/underruns on principal pay items; significant progress statistics—percent completion, scheduled and anticipated completion dates, latest revised construction contract amount.

- **Summary of Construction Activity:** Narrative summary of the contractor's and subcontractor's progress in each area of work; important matters discussed and/or resolved with the contractor; the completion and/or acceptance of any work segments; listing of the contractor's equipment and work force; the effects of weather on the work.
- **Project Staff Activity:** A summary of project staff activity, including each member's work assignment and their vehicle; a cumulative summary of estimated field engineering expenses to date, plus estimated support group expenses to date.
- **General Comments:** General observations on project progress; significant materials test results not already mentioned; visitors to the project; project funding status; any other significant project matters not mentioned above.

Maintenance and operations may require a periodic **road condition report** as a courtesy to them and to the general public. The report includes location of the project and condition of the road through the area; location and duration of any traffic control delays; length and conditions of detours; and a contact name and phone number for persons desiring more information. The Project Engineer submits the report to the Group Chief/PM and to maintenance and operations on a schedule dictated by regional policy.

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