

# INSTRUCTIONAL MEMORANDUMS

## To Local Public Agencies



To: Counties and Cities	Date: February 10, 2023
From: Local Systems Bureau	I.M. No. 6.000
Subject: Construction Inspection	

**Contents:** This Instructional Memorandum (I.M.) includes guidelines and procedures for a Local Public Agency (LPA) as the Contracting Authority, the Person in Responsible Charge, the Project Engineer, and staff, to perform the construction inspection for projects using the Iowa Department of Transportation (DOT) Standard Specifications. This I.M. also includes the following attachments:

- [Attachment A](#) - Preconstruction Inspection Process Flowchart
- [Attachment B](#) - Construction Inspection Process Flowchart
- [Attachment C](#) - Subcontract Review and Authorization Process - Post Award Flowchart
- [Attachment D](#) - Local Public Agency Construction Contract Administration Guidance
- [Attachment E](#) - Iowa DOT Field Inspection Review Report ([Word](#))
- [Attachment F](#) - Doc Express and Appia Instructions for Local Public Agencies
- [Attachment G](#) - Request for Early Release of Retained Funds ([Word](#))
- Attachment H - Reserved for Sample Scope of Service for Consultant Construction Inspection

### Introduction

Throughout this I.M., frequent references will be made to various parts of the Iowa DOT [Construction Manual](#), which is available online as part of the Iowa DOT Electronic Reference Library ([ERL](#)). However, any references to Chapter 2 of the Iowa DOT Construction Manual should be directed towards [Attachment D](#) to this I.M. Please note the Construction Manual is written primarily for use by Iowa DOT staff and therefore the terminology it uses reflects the Iowa DOT's organizational structure. For example, references in the Construction Manual to the Resident Construction Engineer (RCE) should be interpreted as referring to the Contracting Authority and/or Project Engineer. Likewise, references to the District Construction Engineer (DCE) correspond to the Regional Local Systems Field Engineer (LSFE); or in the case of projects administered by the Systems Planning Bureau, the appropriate Grant Program Manager or their designee. The Contracting Authority and Project Engineer should also recognize that some of the procedures described in the Construction Manual are internal to the Iowa DOT and therefore may not be applicable for LPA administered projects.

In most cases, this I.M. will simply provide summary guidance and reference the appropriate parts of the Construction Manual for more detailed information. However, in some instances, this I.M. provides additional information or guidance that is applicable only to LPA projects. Therefore, the Iowa DOT strongly recommends that the Contracting Authority, Person in Responsible Charge, Project Engineer, and staff become thoroughly familiar with the contents of both this I.M. and the Construction Manual. If you have any questions concerning the applicability of procedures in the Construction Manual, contact the Administering Bureau for assistance.

### Definitions

**Administering Bureau:** The Iowa DOT's representative who is responsible for oversight of the project. The representative may be a LSFE or from the Systems Planning Bureau.

**Contract Administrator:** The Contract Administrator is the LPA's assigned representative who will be responsible for all aspects of administration and inspection of the construction contract. The Contract Administrator is the person that will be carrying out the day-to-day duties on the project to ensure that the work is in compliance with the contract documents. The Contract Administrator may be the Project Engineer, the PIRC, or any other LPA employee or designee who would be the first point of contact for businesses, residents, contractor, etc.; when issues arise that would need the attention of the PIRC or the Project Engineer. If the inspector encounters issues that need to be dealt with, they may first go to the Contract Administrator for guidance if it involves dispute resolution affecting businesses or residents, or may result in modifications to the contract. If the Contract Administrator is not a full time employee of the LPA, the LPA must designate a PIRC to make final decisions and/or sign any documents pertaining to contract costs, time adjustments, or contractual agreements.

**Contracting Authority:** See [Article 1101.03](#) of the Standard Specifications.

**Contractor:** When an upper case “C” is used, the term refers to the individual, firm, corporation, or joint venture contracting with the Contracting Authority for performance of prescribed work, as defined in [Article 1101.03](#) of the Standard Specifications. When a lower case “c” is used, the term refers to contractors in general which includes any contractor that may bid on a contract and subcontractors.

**Inspector:** See Article [1101.02](#) of the Standard Specifications. Authority and Duties of the Project Inspector can be found in Article [1105.07](#) of the Standard Specifications.

**Person in Responsible Charge (PIRC):** If the LPA uses a consultant to perform construction inspection services, 23 CFR 635.105 requires the LPA to have a full time employee who is in responsible charge of the project. For counties and larger cities, this person is typically the county or city engineer; however, they need not be a licensed engineer or architect to be the Person in Responsible Charge. For smaller cities that do not have full time employees, the mayor or city clerk may perform this function, with assistance from the Iowa DOT Administering Bureau. A consultant may not serve as the Person in Responsible Charge.

Duties and functions of the Person in Responsible Charge include the following:

- Administering inherently governmental project activities, including those dealing with cost, time, adherence to contract requirements, construction quality, and scope of projects.
- Maintaining familiarity with day to day project operations, including project safety issues.
- Making or participating in decisions about changed conditions or scope changes that require Change Orders ([Form 831240](#)) or supplemental contracts.
- Visiting and reviewing the project on a frequency that is commensurate with the magnitude and complexity of the project.
- Reviewing financial processes, transactions and documentation to ensure that safeguards are in place to minimize fraud, waste, and abuse.
- Directing project staff, agency or consultant, to carry out project administration and contract oversight, including proper documentation.
- Is aware of the qualifications, assignments, and on-the-job performance of the LPA and consultant staff at all stages of the project.
- Ensuring that costs requested for reimbursement are allowable and consistent with the contract terms.

These duties may be shared by several people. A single person may also serve as the Person in Responsible Charge for multiple projects.

**Project Engineer:** For publicly owned projects, the Engineer is a Professional Engineer licensed in the State of Iowa and authorized representative of the Contracting Authority. For privately contracted projects, with improvements that will become publicly owned, the Engineer is the authorized representative of the public entity ultimately accepting ownership of the improvements. For all other projects, the Engineer is the owner's authorized representative. Further authority of the Engineer can be found in [Article 1105.01](#) of the Standard Specifications.

Additional Responsibilities for key project personnel can be found in [Attachment D](#) of this I.M., Local Public Agency Construction Contract Administration Guidance

## Resources

The Local Public Agency Construction Contract Administration Guidance (see [Attachment D](#) to this I.M.) gives specific guidelines for administration of projects. Contract Administration, Inspection Training information and manuals, and Doc Express and Appia instructions can be found on Local Systems Post-Letting Resources [webpage](#).

Using and referencing [I.M. 6.110](#), [Attachment E](#), ([Word](#)) Required Local Public Agency Project Documentation & Pre-audit Checklist, throughout construction will greatly reduce time and effort during the closeout process, and can serve as a guide for documents required throughout construction. [I.M. 6.110](#), Final Review, Audit, and Close-

out Procedures for Federal-aid, Federal-aid Swap, and Farm-to-Market Projects; and [I.M. 6.130](#), Interest Payment Procedures provide additional information on Contract Administration.

The [Electronic Reference Library](#) (ERL) is the electronic version of many of the standard contract documents and includes several non-contract documents also. Contract documents which can be found on the ERL include the [Standard Specifications for Highway and Bridge Construction](#), [Supplemental Specifications](#), [Materials I.M.s](#), [Standard Road Plans](#), [Standard Culvert Plans](#), [Standard Bridge Plans](#), [Sign Truss Standards](#), [Construction Manual](#) (non-contract documents), [Flagger's Handbook](#), and [SUDAS Standard Specifications](#) (non-contract documents).

*SUDAS Standard Specifications*: “Refers to specifications developed by the Iowa Statewide Urban Design and Specifications program.” Many specifications are jointly developed and maintained by the [Statewide Urban Design and Specifications](#) (SUDAS) staff and Iowa DOT Specifications Section, with approval by their respective Board of Directors and Specification Committee. The jointly developed and maintained specifications are identified in the Standard Specifications with the following first paragraph of the section:

“This section was developed in conjunction with Section *nnnn* of the [SUDAS Standard Specifications](#), with modifications to suit the needs of the Department.”

Examples of these modifications are testing frequencies, pipe material allowed within the right-of-way, and backfill materials.

Other sections of the [SUDAS Standard Specifications](#) may be used on the project but not by reference. A Special Provision must have been developed using the desired text and included in the proposal and contract.

## **Preconstruction Inspection Duties**

### **1. Color coding of plans:**

If the plans are not printed (or available) in color, it is recommended that the inspector review the plans and use multiple colored highlighters to emphasize key issues that will need to be addressed during construction. For example, on the typical cross-sections, highlight pavement slope in one color, widths in a second color, depth in a third color, etc. On the d-sheets, highlight locations of various types of installations, i.e. field entrances, side roads, culvert locations, right-of-way limits, borrow areas, etc. For suggested colors, see Design Manual, Chapter [21E-4](#).

### **2. Office Task:**

- Develop a filing system for each project that will address pre-letting, post-letting, and project close-out requirements. Some projects may still utilize hardcopy/paper file systems and this type of system is permissible. The DOT requires the use of the electronic document submittal software, Doc Express, on all county projects let through the DOT since January 19, 2018 and all city projects let through the DOT since July 19, 2018. The use of Doc Express will fulfill the need of a filing system. Duplicate systems are not recommended. Additional information on Doc Express is shown later in this I.M.
- Obtain a copy of I.M. 6.110, [Attachment E](#), Pre-audit Checklist for Local Public Agency Projects, to ensure that the proper documents for each project are included in the project file. The Pre-audit Checklist and the documents required by the checklist can be filed in either an electronic or hardcopy format.
- These checklists may not be all inclusive. If there are more specific files needed for a project, other file folders may be developed.

### **3. Review [Chapter 3](#) of the Construction Manual for general inspection instruction. Review appropriate chapters in the rest of the Construction Manual for the type of work being inspected.**

### **4. Field tasks (when appropriate):**

- Tying section corners.
- Marking stations/linear reference points.
- Identify survey points needed for construction (i.e. point of curve, PT).

- Mark super-elevated curves for transitions.
- Mark fill areas for leveling courses.
- Identify deviations in roadway crown that may affect overlay thickness.
- Construction Staking for structures.
- Mark or identify the locations indicated on plan tabulations to make sure they are correct with field conditions (i.e. subdrain outlets, location of paint markings, mailbox relocations, removal limits, patching locations).
- Preconstruction photos or videos.
- Ensure any environmental or culturally sensitive areas are correctly identified on the plans.
- Communicate with people at the nearby residences, businesses, and services that may be impacted to see if they will have any special access needs during construction.
- Develop preliminary cross-sections for earthwork items.
- If smoothness is not required, verify that a 10 foot straight edge will be available for the inspector to use during construction. (See [Article 2316](#) of the Standard Specifications, the list of Special Provisions in the Proposal, and the Estimate Reference Information or General Notes in the plans to determine if smoothness will or will not be required.)

5. Setting up the field construction records:

A uniform system of project documentation should be established for construction projects. Uniformity will simplify training of new employees and reduce confusion upon reassignment of inspectors to other projects. It will also facilitate efficient inspection, construction progress documentation, audits, and project reviews. The Person in Responsible Charge will assign staff to inspect the construction project(s). The responsibility for all required documentation must be specifically and clearly communicated to the project inspector(s).

The Contract Administration staff must maintain project records properly, preserve all source documentation, backup electronic files, and make all documentation readily available when needed. A log of all employees providing documentation for a project should be maintained, including their signature and initials. [I.M. 6.110, Attachment E \(Word\)](#) can serve as a guide for documents required throughout the project, but is not an all-inclusive list. The principles of record keeping discussed in this I.M. apply to all types of documentation, regardless of the media used to save the information. There are three options for contract administration:

### **Doc Express**

Doc Express is a secure, web based, electronic document submittal program with a digital filing cabinet document exchange that provides remote access to project documents. Any project let through the Iowa DOT, Contracts and Specifications Bureau, shall utilize the program for documentation. Use of Doc Express has been required for all county projects let through the Iowa DOT since the January 19, 2018, letting and on all City projects since the July 19, 2018, letting.

Doc Express also has digital and electronic signature capability and configurable workflows for documents. Doc Express shall be used to exchange, sign, and store shop drawings, change orders, material certifications and reports, payrolls, final documents, etc. This will reduce or eliminate the possibility of important project documentation from being lost in the mail and help to expedite the project administration process.

Doc Express can be utilized by many different personnel, including, but not limited to: contractors, subcontractor/suppliers, local public agencies, administering bureaus, inspectors, field auditors, office personnel, contracting authorities, project engineers, Federal Highway Administration, persons in responsible charge, or others that have been approved for access to the electronic project file.

A Doc Express user guide, file naming convention and flowchart are located in [Attachment F](#) of this I.M. The use of the Doc Express file naming convention is required. The process to become a user by creating an account or making modifications to an existing account are also contained in [Attachment F](#) of this I.M. Users can be added or removed from access in Doc Express. The LPA will need to notify the Iowa DOT, Local Systems Bureau Administrator (contact) for Doc Express, of all changes in personnel; including email address of the new user and type of access being requested.

Some of the drawers require a submittal to be electronically signed. Who is required to sign a submittal is dependent on the form that is submitted. Additional information on the electronic signature process is contained in [Attachment F](#) of this I.M.

## **Appia**

Appia is a web-based application used to facilitate the administration and documentation of construction projects. Appia replaces the need for Field Book/Field Manager and other forms of field books. Before using Appia, the LPA must have received training from the Local Systems Bureau. LPAs may utilize Appia on both projects let at the Iowa DOT and locally let projects. Contact the Local Systems Bureau for more information. Instruction manuals for [Project Creation & Account Management](#) and ["Under Construction"](#) processes, written specifically for Iowa users, are available, as well as the [Appia User's Guide](#), the [Funding Overview Guide](#) and the [Inspectors Flash Guide](#). Appia information is available on the Local Systems Bureau website here: [https://iowadot.gov/local\\_systems/Post-Letting-Resources/Doc-Express-and-Appia](https://iowadot.gov/local_systems/Post-Letting-Resources/Doc-Express-and-Appia)

Counties are required to use Appia starting with projects let in the April 2022 letting. Cities will be required to use Appia at a later and currently undetermined date. It is required that the LPA grant "read only" user access to Local Systems staff for projects administered by the DOT.

## **Setting up a Field Book**

In the past, project records have been kept manually on paper forms or on pre-developed Excel spreadsheets, and are referred to as "field books". For each item available for use on a contract, forms have been developed using Excel to record item progress and any item specific information pertinent to the installation/construction of that item. These forms can be utilized in either an electronic or paper format and may be added to Appia as attachments. The inspection worksheets are available under the Local Systems Bureau Post Letting Resources dropdown menu; click on ["Inspection worksheets \(Excel\)"](#). To see the list of items and forms associated with each item, click on ["Index"](#). Do not print this list because the column for the support forms may not be wide enough in a printed version to show all the required form for some items. Also, this index of forms is updated every letting in which a bid item code is added or deleted, so a printed copy may be obsolete as early as the next letting.

When setting up a book for a project that was let previously, there may be items that no longer appear on the current list. At the bottom of the spreadsheet there are two tabs; one is "Current" and the other is "Obsolete". If the item you are looking for does not appear on the "Current" list, click on the tab "Obsolete" to find it. The items on these lists are numerical based by the item code and should appear in the same order as they are on the contract. An easy way to get a list of the forms you will need is to make a table of all the items on your contract and then go through the list of items on the index and write down the forms you will need for each item. The table may include columns for "Line No.", "Item Code/Item Description", "Unit", "Form", and "Support Forms". Once this list of forms is complete, go back to the Local Systems Bureau webpage for ["Inspection worksheets \(Excel\)"](#). Download a copy of each form needed.

From the list that is developed, print each of the forms needed for each item. These should be inserted into a 3-ring binder for use in the field to document the project. In lieu of hardcopy forms, the electronic versions of the forms, in Excel format, can be used to document daily activities and item progress. The advantage of using electronic documentation is that many of the forms have internal quantity calculations built into them and will require the use of a mobile electronic device in the field.

### **A. Loose Leaf Forms (hard copy and electronic formats)**

- 1) There are six standard forms that are used on every project:
  - a. Project Index forms - ["Project Index"](#) and ["Project Index-A"](#) (page 2 of the form if more than one page is needed for all of the information):



- i. If setting up books in a hard copy format, this page will not be needed if each of the items in a binder is tabbed for easy access. This eliminates the need to renumber the pages on the index when additional pages are added to the book.
    - ii. If using electronic format (Excel) for field documentation, make a new tab (sheet) for each item. On the first tab (sheet) make an index to list the item number and the tab label under which the information for each of the items can be found.
  - b. [Project Information](#) form: This sheet included information on the contract period and key personnel that will be working on the project and their contact information. If utilizing hard copy forms include a printed name, signature, and initials. If utilizing electronic forms include name and initials. If using an electronic signature on any documents, also include that. Anyone who is going to be making entries into books, picking up tickets, or signing documents in the field needs to be included on this sheet.
  - c. [Inspector's Checklist](#) form: The Inspector's Checklist as with many of the support forms serves as a reminder to the inspector of duties they need to perform during the inspection of the project.
  - d. Daily Diary forms - "[Daily 1](#)" and "[Daily 2](#)" – two formats are available depending on how much information will be written each day.
    - i. The Daily Diary is used to document information needed to complete the Weekly Report of Working Days ([Form 830238](#)).
    - ii. Daily Diaries must be legible and complete. These inspector's diaries are legal documents and may be used to resolve claims and disputes. Entries should be strictly factual and remain objective in nature. Do not include opinions. This documentation may be used in a court of law. Each inspector must also keep a diary that includes a description of activities accomplished during each day.
    - iii. Preparing a Daily Diary:
      - a. Who - Contractor, subcontractors, utilities on site.
      - b. What - Items of work, weather, problems encountered.
      - c. Where - Exact location by station and offset of work performed, problem, or event.
      - d. When - Time of major event.
      - e. How - Specialized equipment or methods used.
      - f. Sketches and computations - Dimensions are critical and neatness counts.
      - g. Visitors - Name, purpose of visit, and discussions held.
      - h. Modifications - Authorization for modifications to the contract documents and any substitutions allowed.
      - i. Author's signature
- 2) Item Progress and Supporting Forms:
- a. Item progress forms begin with "E0xx" where xx is the form number. For every item there is a form E0xx and a form E0xxA. As with Index and Index-A, if there is too much information for one sheet, the A sheets are used to continue the documentation for that item and do not include the footers shown on the first page. Every item progress form includes a space/field for documenting the Article where the Method of Measurement and Basis of Payment for each item can be found. Enter the appropriate Article number in the space provided on each form.
  - b. Supporting documentation forms are used begin with "E1xx" where xx is the form number. These forms are used to document field test results, samples, measurements, temperatures, observations, etc. for individual items. Not all items require a support form and some items require multiple support forms. If the same support form is required for more than one item, a separate form shall be included for each of those items. For example, if there is more than one concrete item on the contract, [Form E145](#) (which is

used to document results of entrained air and slump test) would be included for each concrete item. Note: Form E115 is also available in Excel as [Form 830242](#), Structures Weekly Grade Report, and [instructions](#) on completing the form.

- c. When using a notebook or pad of paper in the field for documentation of progress or events:
  - i. Hardcopy forms: Do not discard this original document after entering the information on the loose-leaf forms in the 3-ring binder. Three-hole punch the paper and insert in your project binder, so if there is a mistake in transferring information, the original source documentation is not lost.
  - ii. Electronic forms: Do not discard this original document after entering the information in the electronic loose-leaf forms. Scan the original document and attach it to the electronic record so if there is a mistake in transferring information the original source documentation is not lost.
- d. Item progress and/or supporting documentation forms can be added as attachments in Appia in order to keep a complete documentation record in that program.

## **B. Other documents to include in your field book:**

In addition to the loose leaf forms listed above, obtain copies of the documents listed in [Attachment E](#) to this I.M., under Inspectors Records and Office Files. The “Type of documents being used to record project progress” and “Are entries for all items” under the Inspectors Records section refer to the items discussed in Section A above. All other documents listed in [Attachment E](#) to this I.M. are in addition to the item progress sheets.

The items listed in I.M. 6.110, [Attachment E](#), Pre-audit Checklist for LPA projects, Contract Documents, are items that shall be in the project file at the time of final review. Some of these documents will be used in the field by the project inspector and therefore need to be included in the project file. Please review I.M. 6.110, [Attachment E](#), prior to the start of the project to identify any additional forms that may be needed in the field books for completion on the project site.

## **Preconstruction Meeting**

After a contract has been fully executed, a Preconstruction meeting should be scheduled. Directions on the content of this meeting are available in Section 2.11, Preconstruction Meeting, in [Attachment D](#), to this I.M. An optional draft [preconstruction agenda template](#) can be found on the Local Systems [website](#), and should be reviewed prior to the meeting, as some sections may not apply to each specific project.

## **Construction Inspection Duties**

- Inspect Contractor’s Poster Board to verify compliance and record inspection results on Project Engineer’s EEO Project Site Inspection/Wage Rate Report form ([Form 650170](#)).
- On contracts with Contractor Furnished Borrow of 50,000 cubic yards or greater, follow Iowa DOT Standard Specifications 1106.07 and 2102.03.
- For projects regulated by a National Pollutant Discharge Elimination Systems (NPDES) Stormwater Permit, an Erosion Control Implementation Plan (ECIP) is required. Follow [Section 2602](#) of the Standard Specifications for requirements of the ECIP.
- If a Pollution Prevention Plan is included in the plans, ensure erosion control methods are established before work that could result in erosion begins. Conduct joint inspections and record on Storm Water Site Inspection form ([Form 830214](#)) as specified in the Pollution Prevention Plan.
- If Davis-Bacon Wages apply, (“FEDERAL AID - PREDETERMINED WAGES ARE IN EFFECT” as stated in the Contract) perform wage rate reviews as specified in Section 2.24, Davis-Bacon Wage Requirements, Project Engineer’s Involvement, A. Field Procedure, in [Attachment D](#) to this I.M. The

correct version of the Wage Rate is found in the Contract. This is the version that should be found on the Contractor's Poster Board and should be used to check the certified payrolls for compliance.

- On Federal-aid Contracts, for all DBEs working on the contract, complete a Commercially Useful Function Checklist ([Form 517014](#)).
- LPA Materials Labs are required to be qualified for Federal-aid projects, per [Materials I.M. 208](#). For non-Federal-aid projects, if the LPA's Materials Lab has not been qualified by the Iowa DOT, the LPA shall qualify the lab at a minimum of once every 24 months, using the lab qualification checklist in [Materials I.M. 208, Appendix B](#).
- The LPA shall be certified to perform materials testing, per the Technical Training and Certification Program (TTCP) described in [Materials I.M. 213](#).
- As materials are delivered to the site:
  - Obtain the appropriate documentation for those materials, as required by the contract documents.
  - Review documents for accuracy and compliance with the requirements of the contract documents.
  - Ensure Materials Certifications are uploaded by the Contractor.
- Observe work being performed by the Contractor and subcontractors. Document quantities of items installed and record daily activities in the Daily Diary.
- Perform tests and obtain materials samples as directed by [Materials I.M. 204](#).
  - For samples to be submitted to other labs for testing, complete an Identification of Sample for Test form ([Form 820193](#)) and attach to the sample before submitting.
  - Obtain test results from testing labs and include in field records.
- If there are any deviations from the contract requirements that will require either correction or price adjustment, these deviations shall be recorded on Non-Compliance Notice form ([Form 830245](#)) (Notice) (see [Attachment D](#), Section 2.53, Price Adjustment Guide for Reasonably Close Conforming, Reasonably Acceptable, and Deficient Work, to this I.M.).
  - The Contractor's representative should sign the Notice.
  - If the Contractor's representative will not sign the Notice, record name, date, and time of presentation of the Notice.
  - The Contractor is provided the Notice in Doc Express.
  - Negotiate between the PIRC, Project Engineer, and Contractor on method of corrective action or price adjustment.
    - If field correction is agreed upon, record date, time, and method of correction in field records.
    - If Price Adjustment is agreed upon, complete a Change Order (If using Appia, complete an Appia Change Order, otherwise use [Form 831240](#)) to address the change.
    - If no correction is agreed upon, record basis for that decision in field records.
- Record item progress quantities in Appia's Daily Reports section in the Item Postings tab. Document supporting information either in Appia's Daily Reports section in the Item Postings tab or in E-sheets as described below.
  - For items where measurements are required to illustrate how a quantity was calculated, the measurements should be documented in one of the following ways
    - Measurements can be recorded via worksheets in Appia.
      - Worksheets are calculation aids which determine the final quantity after the user inputs the dimensions. Values calculated via worksheets can be overridden if necessary for irregular areas.
      - If a worksheet value is overridden, the user must provide some other type of documentation showing measurements for the area. This additional data can be written into the "Remarks" section of the item posting. Alternately, a sketch, survey data, or other documentation can be attached, but this needs to be uploaded to Doc Express.
      - To use Worksheets, the Worksheet must be "associated" with the item in Appia.



- Measurements can be recorded in the “Remarks” section. Measurements must be sufficient to provide a clear picture of how the recorded quantity was calculated. Sketches, CAD drawings, survey results, etc. can be included as attachments in lieu of written measurements, but they must be uploaded to Doc Express as well.
  - Measurements can be recorded on “E-sheets”. These “E-Sheets” do not have to be uploaded to Appia, but if the users would like to upload them, they can be attached to the Daily Report or to the overall project.
  - **No matter which of the above methods of measurement documentation is chosen, a summary of the quantity postings for each item, with measurements/attachments, must be uploaded to Doc Express** according to the [naming convention](#). If using Appia for recording measurements, this means generating an “Item Quantity Summary” report to submit to Doc Express. If Appia Worksheets are used, a “Worksheet History” report must be submitted to Doc Express. Guidance for generating those reports can be found in the [Appia “Under Construction” Instructions](#). If using “E-sheets”, this means submitting the “E-sheets” to Doc Express.
  - Documentation of materials test results on supplemental “E-sheets”, as well as the Materials 101 form, will be required. (Supplemental sheets are those in the 100 series, such as E100, E101, etc. The District Materials staff will not be accessing Appia for viewing projects, therefore, **these supplemental “E-sheets” must be uploaded to Doc Express according to the naming convention**. As with item measurements, test result “E-sheets” can be uploaded to Appia as an attachment under either Daily Reports or to the project in general, but an upload to Appia is not required.
- Complete a Weekly Report of Working Days form ([Form 830238](#)) or Appia’s Time Limits Report and upload to Doc Express, where the Project Engineer signs it.

## LPA Construction Reviews

- Local Systems Field Reviews - On an annual basis, the Local Systems Bureau will select a sample of projects to conduct field reviews on during construction. These reviews will occur during the construction of the project and may utilize the Iowa DOT Field Inspection Review Report (see [Attachment E](#) to this I.M). This checklist includes all of the documents that should be present in the Project Engineer’s files, project inspector’s records, and observations from the project site. The purpose of these reviews is to verify a project was developed and is being constructed in accordance with the procedures outlined in the Federal-aid Project Development Guide ([Guide](#)) and Instructional Memorandums to Local Public Agencies ([I.M.s](#)), thereby ensuring that Federal and/or State requirements are being met.

Any deficiencies that are identified at the time of the field review will be discussed with the LPA to assist them in correcting these issues. This review and correction of any deficiencies will aid in the expedition of the project closeout and final review process. This should also aid in the administration and inspection of future projects to ensure that the documentation will be complete and the project will be in compliance with the contract documents.

- Systems Planning Field Reviews - contact the Systems Planning Bureau.
- FHWA Field Reviews - On an annual basis, FHWA will select a sample of Federal-aid projects to review. These reviews will occur during the construction of the project. These are formal reviews and a report is written to document the findings. FHWA does have the authority to rescind funding of a project.
- Work Zone Safety Reviews – On an annual basis, representatives from FHWA and DOT, review a sample of projects currently under construction for compliance of traffic control and flagging procedures.

## File Format, Location, and Retention

Project files may be in either paper or electronic format. It is helpful to have all of the documents in the same location (i.e., the same file folder, binder, drawer, cabinet, or electronic storage equivalent). If documents are stored in different locations, those locations should be clearly identified and easily located. In all cases, documents should be readily accessible for inspection by authorized Iowa DOT, other State agencies, Federal Highway Administration (FHWA), or other Federal personnel. For practical purposes, this means hard copies are either present in the file or can be printed upon request.

If the construction inspection is conducted by a consultant, these documents may be stored at the consultant's office during construction. However, after the project has been closed out, or in the event of a non-resolvable dispute between the consultant and LPA, these records should be turned over to the LPA for the duration of the record retention period (see [I.M. 6.110](#), Field Review, Audit, and Close-out Procedures for Federal-aid, Federal-aid Swap, and Farm-to-Market Projects).