

MaineDOT Local Project Administration Manual & Resource Guide





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Local Project Administration Manual & Resource Guide

5Xa **Planning & Finance**



MaineDOT

Integrity - Competence - Service

Updated 2019

Administration & Finance

Each year, communities fix roads, build sidewalks and trails, make intersections safer and improve their waterfronts with help from MaineDOT through a partnership known as Local Project Administration. In each case, an employee with decision-making authority manages a “locally administered project” in cooperation with MaineDOT, which provides a large part of the funding and makes sure the requirements that come with the money are met.

Organizations that take on these types of projects include local governments, school districts, transit agencies and tribal governments, which will be called “local agencies” in this Manual. The people commonly overseeing them are public works directors, municipal engineers, planners, town managers, and agency administrators – all of whom must follow this Manual.

Chapter 1 provides guidance on the basic administrative and financial requirements for local projects awarded federal and state money through MaineDOT. It covers the following topics:

- Review and approval of local administration (page 1-1);
- Certification (page 1-2);
- Local responsibilities (page 1-2);
- MaineDOT responsibilities (page 1-3);
- Financial requirements (pages 1-4 to 1-7);
- Record-keeping and evaluation (page 1-8);
- Figure 1.1: Project flowchart (page 1-9);
- Figure 1.2: Project timetable (page 1-10);
- Appendix 1A: Project checklist (page 1-11); and
- Appendix 1B: Submittals to MaineDOT (page 1-22 – *updated October 2018*).



Resources for local agencies are available online: <https://www.maine.gov/mdot/lpa/>

1.1 Review and Approval of Local Administration

MaineDOT must ensure that locally administered projects meet state and federal requirements. When a funding award is made, MaineDOT managers from appropriate disciplines will assess the size and structure of a local agency against the complexity of the work to determine the likelihood that a project will succeed if administered locally.

The U.S. Government holds MaineDOT accountable for federal transportation funding granted to Maine, including sub-awards to local agencies. MaineDOT, therefore, must verify that these agencies are adequately staffed and suitably equipped to carry out projects successfully, with sufficient accounting controls to guard against waste, fraud and abuse.

Requests for locally administered projects with federal funds should be sent to the MaineDOT Bureau of Planning in the format of Communication 1 (page 1-23) with an explanation of:

- Name, title and responsibilities of the full-time employee who will oversee the project;
- Staff experience and qualifications; and
- Ability to manage federal and state funds with proper accounting controls.

After review, the appropriate MaineDOT manager will determine if local administration would be suitable for a project. If so, MaineDOT will draft an agreement in accordance with section 1.5 of this chapter, “Financial Requirements.” If not, MaineDOT will administer the project and invoice the host municipality for its matching share of the cost upon completion of the work.

Note: Projects funded through competitive state programs with no federal money, such as the Small Harbor Improvement Program, must be administered locally as a condition of award.

1.2 Certification

MaineDOT grants Local Project Administration certification to individuals, meaning that the person in charge of a federally funded project must be certified. Without a certified person on staff, a local agency cannot administer a project with federal transportation funding.

Certification – **mandatory** for federal-aid projects – has two steps:

- **Tier I** certification is granted upon completion of a one-day training on the fundamentals of delivering a project. MaineDOT holds two sessions per year. Certification is valid for **4 years**.
- **Tier II** certification consists of a project-specific review at the start of a project, during which MaineDOT and local staff go over the scope, budget, schedule and requirements. This review is done for all projects, regardless of funding source.



Certification training is *recommended* for consultants who will assist local agencies with projects and for local employees who intend to manage projects with state funds, such as through the Small Harbor Improvement Program.

1.3 Local Responsibilities

If a local agency accepts federal money for a project, a **full-time** employee with certification from MaineDOT and appropriate qualifications – as described on the next page – must oversee the project. Although consultants may assist with projects, they cannot replace public employees as local project administrators. That is a federal requirement, found in Title 23 of the Code of Federal Regulations (CFR) part 105, “Supervising Agency.”

Projects with no federal funds, typically awarded through MaineDOT’s competitive state grant programs, have flexibility from the full-time requirement. Still, the people in charge of them must be qualified to manage such projects, as determined by MaineDOT.

MaineDOT expects every local project administrator to be able to carry out the tasks below:

- Administering activities involving cost, time, adherence to contract requirements, quality, and scope of work;
- Directing employees and consultants to carry out project administration and contract oversight tasks, including proper documentation;
- Reviewing financial processes, transactions and documentation to ensure that safeguards are in place to minimize fraud, waste, and abuse;
- Staying on top of day-to-day project operations;
- Making or participating in decisions about construction contract modifications; and
- Visiting and reviewing a project on a frequency commensurate with the magnitude and complexity of the project.

Turnover: If the certified administrator on a federally funded project leaves before completion, another employee with certification must take over. If no one is certified, MaineDOT may order work suspended until a qualified employee can be certified.

1.4 MaineDOT Responsibilities

Because MaineDOT is accountable for the federal and state transportation funding appropriated for Maine, MaineDOT assigns to locally administered projects state staff authorized to enforce all requirements that apply to those projects, as shown in the checklist found in Appendix 1A, starting on page 1-11 of this chapter.

Activities for which MaineDOT is responsible include, but are not limited to, the following:

- Preparing and executing project agreements;
- Reviewing/approving all contracts between a municipality and other agents;
- Reviewing/approving invoices seeking reimbursement;
- Authorizing work at the milestones found in the flowchart on page 1-9 of this chapter;
- Reviewing design plans to be sure that a project meets state and federal requirements;
- Carrying out the National Environmental Policy Act (NEPA) review process;
- Carrying out the federally required right-of-way process for projects on state highways;
- Reviewing the final plans, specifications and estimate (PS&E) package;
- Ensuring that construction supervision, inspection and materials testing efforts are adequate to ensure conformity with the approved plans and specifications;
- Inspecting the completed project for compliance with federal and state requirements;
- Accepting, closing out and auditing a completed project.

1.5 Financial Requirements

1.5.1 Agreement

Before work eligible for federal or state funding may start, MaineDOT and the local agency administering a project must execute an agreement that covers the following:

- Scope of work;
- Breakdown of federal, state and local funding, as applicable;
- Responsibilities of MaineDOT and the local agency at various points in the project;
- MaineDOT Work Identification Number (WIN), as well as the federal project number and date of federal authorization, if applicable;
- Catalogue of Federal Discretionary Assistance number. The most commonly used CFDA number for federally funded highway and bicycle/pedestrian projects is 20.205.
- An agency's DUNS number;
- Standard legal provisions, as directed by MaineDOT's Office of Legal Services.

MaineDOT prepares agreements for federally funded projects after the Statewide Transportation Improvement Program (STIP) is approved. Agreements for state-funded projects typically follow publication of the MaineDOT Work Plan. Once an agreement is in place, MaineDOT sends the local agency in charge a notice to proceed that begins MaineDOT's financial participation.

Remember: All expenditures made before an agreement is in place and MaineDOT gives an agency notice to proceed are ineligible for federal or state funding.

1.5.2 Reimbursement

Local agencies receive funding from MaineDOT through reimbursement of costs incurred, at rates ranging from 50 percent to as much as 80 percent to 90 percent, depending on the types of funding in those projects.

Local agencies must cover the remaining amounts as their matching shares. Match generally must be *cash*; in-kind work is not eligible to use as match unless a local agency receives written approval from MaineDOT, as described further in Chapter 9 of this Manual, "Agency Force Account Work."



Costs eligible for reimbursement:

- Development of project plans, specifications and contract documents;
- Environmental review and permitting;
- Survey and right-of-way;
- Utility coordination;
- Project advertisement;
- Construction; and
- Construction oversight and inspection.

☒ Costs not reimbursable:

- Expenditures made *before* receipt of notice to proceed from MaineDOT;
- Local administrative time, including that of boards and committees, that should be part of an agency's overhead costs;
- Costs *not* approved by MaineDOT or the U.S. Department of Transportation;
- Pre-construction work – if an organization cancels a project *before* construction; and
- Maintenance work on a completed project.

1.5.3 Invoices

Invoices requesting reimbursement should be submitted to a MaineDOT project manager at regular intervals, no less frequently than quarterly. They must include the following information:

- Communication 4 (found on page 1-26) with service dates and the amount requested.
- A progress report describing work performed during the invoice period;
- A completed worksheet (found on page 1-27) with the following:
 - Accumulative total invoiced to date, showing MaineDOT and local shares;
 - Copies of invoices from consultants and other agents, with a breakdown of payroll, overhead, profit and direct costs for the service period;
 - Copies of checks issued for work performed during the service period;
 - Signed payroll register, showing hours worked with rates and overhead for each employee – if design work was performed by in-house municipal staff.

1.5.4 MaineDOT Oversight Cost Policy

MaineDOT staff will bill their time to projects for work performed on those projects. Activities for which MaineDOT staff may charge time include, but are not limited to, the tasks listed in section 1.4 above, “MaineDOT Responsibilities.” In general, MaineDOT work will account for 10 percent to 15 percent of the budget for a locally administered project – and possibly more if the project will require acquisition of right-of-way.

The number of hours MaineDOT staff will charge to a project will depend on the time required to assist a local agency in delivering the project and meeting all federal and state requirements. The better job that a local agency does in adhering to the design requirements and regulations associated with a project, the less time MaineDOT will need to charge to the project.

(There are some exceptions, primarily for projects funded through MaineDOT's competitive state grant programs. MaineDOT will cover exceptions during kickoff for a specific project.)

When MaineDOT bills time to a project, those charges will be subject to the same cost-sharing ratios as other portions of a project. The local share of MaineDOT's costs for services performed will be reconciled upon completion of the work and deducted from the final reimbursement payment to the local agency in charge of a project.

1.5.5 MaineDOT Repayment and Cost Recovery Process

If a local agency withdraws from or fails to deliver a locally administered project to construction, MaineDOT will require the agency to return all payments toward the project and to reimburse MaineDOT for its costs, as covered earlier in section 1.5.4, “MaineDOT Oversight Cost Policy.”

Additionally, MaineDOT may recover reimbursements for activities subsequently determined to be ineligible for federal or state funding, as may occur if a project is audited after completion.

If MaineDOT will need to recover funds, MaineDOT will send out a letter specifying the amount of the repayment and the reason for it. MaineDOT will expect the local agency receiving the letter to comply or to respond to the request within the time specified in the letter.



If a local agency fails to repay funds, after receiving a request to do so, MaineDOT may exercise its rights of set-off to recover the money. MaineDOT, for example, could withhold or reduce future Local Road Assistance payments to a municipality for purposes of set-off to recover the amount owed.

1.5.6 Internal Controls

Local agencies must ensure that they properly record and account for federal and state awards, and that those funds are protected against loss from unauthorized use. This section provides guidance on steps local agencies can take to improve their financial policies and procedures to guard against waste, fraud and abuse – known as internal controls.

Segregation of duties reduces the risk of error or fraud by one person. For this reason, more than a single employee should complete and approve tasks involving payments, booking into the general ledger, and financial reconciliations. A person who initiates a purchase requisition, for example, should not also be able to approve it.

Local agencies should have at least two of the following staff members review and sign off on their financial transactions:

- Treasurer;
- Finance director;
- Town manager / town administrator;
- Finance Committee;
- Board of Selectpersons.



Additionally, MaineDOT recommends that local agencies receiving federal and state funds have written procedures for the following activities, at a minimum, which should be prepared in consultation with a certified public accountant:

- Segregation of federal and state funding into separate general-ledger accounts;
- Reconciliation of general-ledger cash accounts to bank statements;
- Approval of bank reconciliations by a supervisor;

- Reconciliation of subsidiary ledgers to the general ledger, with manager signatures for:
 - Accounts receivable;
 - Capital assets, including non-cash government funded assistance;
 - Accounts payable;
 - Prepaid expenses;
 - Accrual accounts.
- Posting of an auditor’s adjusting entries for the previous year;
- Reconciliation of a closing trial balance to an auditor’s adjusted trial balance;
- Requiring signature approvals for any adjusting general journal entries;
- Requiring employee and supervisor signatures on timesheets before payroll approval;
- Requiring additional supervisor approval for recording large payments and expenses;
- Having in place monthly and year-end financial closing procedures;
- Undertaking monthly and yearly detailed review of direct project costs and indirect costs;
- Limiting access to an organization’s electronic accounting system, if applicable.

1.6 Single Audit Requirement

A local agency that expends \$750,000 or more in federal funds in a fiscal year must have an annual single audit performed, in accordance with 2 CFR, Part 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.” If unsure, an agency should work with its accountant to determine if expenditures meet the minimum reporting requirements.

A local agency should hire a certified public accountant to perform this audit, if required, and prepare an audit report. The audit typically will look at the adequacy of an agency’s internal controls that safeguard assets and ensure compliance with federal laws and regulations.



A single audit requires a Schedule of Expenditures of Federal Awards (SEFA), which:

- Summarizes all federal grants received and the expenditures associated with each one, including the Catalogue of Domestic Assistance (CFDA) number for each award; and
- Shows the expenditures for each federal grant received, regardless of size – including reimbursement payments from MaineDOT for work on federal-aid projects.

A single audit concludes with the auditor’s report addressing the reliability of the financial data, adequacy of internal controls, and compliance with federal regulations. The final audit package will include the audit report as well as financial statements, Schedule of Federal Expenditures, results of previous audits, and any planned corrective actions. When completed, the single audit package is submitted electronically to the Federal Audit Clearinghouse website, with required certifications from the organization and its accountant.

1.7 Record-Keeping

A local agency must retain records after completion of a project in enough detail to demonstrate compliance with federal and state requirements, in case of audit. Such documentation would include, but would not be limited to, the following:

- Copies of authorizations received from MaineDOT;
- Records detailing payments to consultants and contractors, with backup documentation;
- Copies of agreements with MaineDOT;
- Copies of contracts with consultants and contractors, including all modifications;
- Copies of invoices sent to MaineDOT for reimbursement, with backup such as consultant invoices, copies of canceled checks and – if work is performed by municipal staff – payroll records signed by employees and supervisors;
- Documents relating to the right-of-way process, including demonstration that an agency treated property owners fairly and consistently, as required by the federal Uniform Act;
- Copies of certification statements for utilities, environment, and right-of-way;
- Approvals from MaineDOT at final PS&E, Project Advertise, and Project Award.
- Documentation of the bidding process, including bid tabulations and determination of the lowest responsive and responsible bidder;
- Confirmation that construction workers on a federally funded project were paid prevailing-wage rates, as required by the federal Davis-Bacon Act;
- Documentation that quantities of construction materials were measured in the field, recorded and verified against contractor invoices;
- Copies of construction contract modifications, construction field books and other records of activities used to oversee and track construction activities.

The U.S. Government requires records to be kept for **3 years** after payment of a final invoice. MaineDOT recommends that local agencies retain records for at least 5 years, since an audit may take place long after the work is completed.

1.8 Evaluation

Upon approval of the final invoice for a project, MaineDOT's project manager completes an evaluation of the local project administrator assessing which tasks were handled well and which ones could be improved. The local project administrator is given two weeks to offer comments and sign the form; if the deadline passes without a response, the evaluation is finalized unsigned.

When completed, signed evaluation forms are filed at MaineDOT as reference documents for use in evaluating requests for future locally administered projects.

Locally Administered Project – Process Flowchart

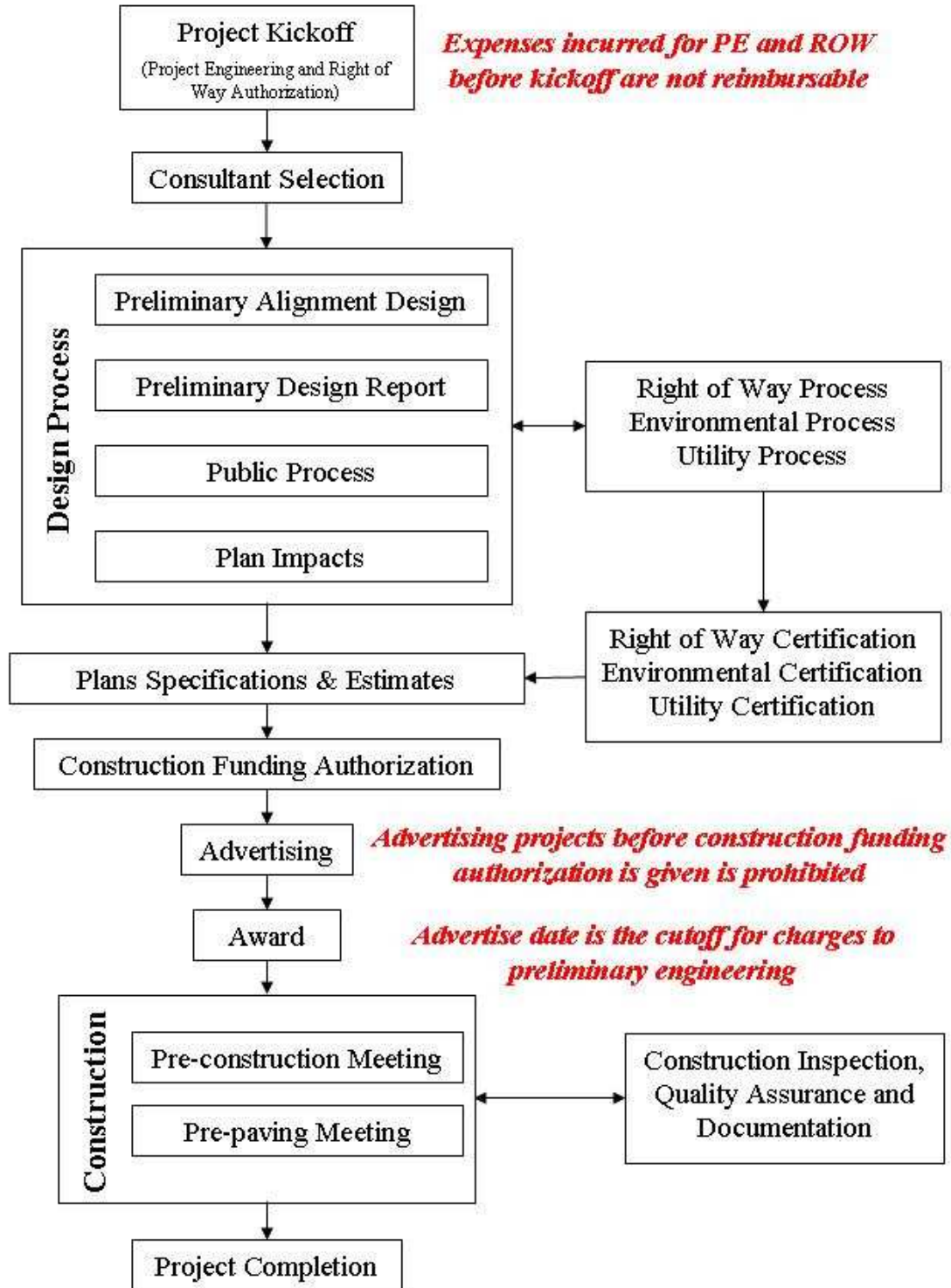


FIGURE 1.2: PROJECT TIMETABLE
(Rev. 06/05/18)

TASK	DESCRIPTION	TYPICAL TIMEFRAME
Funding Award	MaineDOT or a Metropolitan Planning Organization (MPO) awards project funding.	Award is made 6 to 9 months after an application is received.
Agreement	Municipality and MaineDOT sign agreement.	Agreement is executed after a project is placed in federal STIP (federal funds) or MaineDOT Work Plan (state funds).
Kickoff	Municipality and MaineDOT review budget, schedule and requirements.	Parties hold kickoff meeting once agreement is signed.
Consultant Selection	Municipality hires design consultant – if a consultant will be used.	It can take 2-3 months from kickoff to solicit proposals, score them and negotiate a contract.
Preliminary Engineering	<ul style="list-style-type: none"> ▪ Preliminary Design Report Milestone ▪ Plan Impacts Complete Milestone 	PE may take from 9 months to as many as 18 to 24 months from kickoff, depending on scope.
Environmental Review	Consists of reviews for impacts to natural and cultural resources, as mandated by the National Environmental Policy Act (NEPA)	NEPA may take from 3 months to 9 months from the milestone of Plan Impacts Complete.
Right of Way	Consists of mapping property impacts, researching titles, performing appraisals and appraisal reviews, negotiating with owners, and acquiring rights.	This may take 8-10 months from Plan Impacts Complete. No negotiating with owners until NEPA process is completed.
Final PS&E	Municipality submits final design plans, specifications and construction cost estimate (PS&E) to MaineDOT for review, comment and acceptance.	Projects reach this stage in as few as 12 months or as many as 24 months. MaineDOT review may take 2-4 weeks.
Advertise	After receiving MaineDOT’s authorization, a municipality solicits for construction bids.	A 3-week advertise period is standard, after authorization.
Contract Award	Municipality awards a contract to the lowest responsive and responsible bidder.	Municipality has 30 days after bid opening to award a contract.
Construction	This stage consists of construction, inspection of the work, and materials testing.	The duration will vary, depending on the complexity of a project.
Completion	MaineDOT, Municipality and contractor inspect the project and develop a “punch list” of items the contractor must address.	Inspection should take place before contractor completes work. MaineDOT requires notice of at least 2 weeks.
Closeout	MaineDOT reconciles costs, including local share of MaineDOT’s charges if applicable. Municipality submits final invoice.	Project records must be kept for at least 3 years after payment of final invoice.

Appendix 1A: Project Checklist



Checklist: Locally Administered Project

Municipality: _____ Project Location: _____
MaineDOT WIN: _____ Local Administrator: _____
Total Funding: _____ Federal Share: _____ Local Match: _____

GENERAL ADMINISTRATION

- Local Project Administration approved (*Communication 1*)
- Project Agreement executed (*Communication 2*) as of: _____
- Notice to Proceed received from MaineDOT as of: _____
- Kickoff meeting held with MaineDOT (*Communication 3*) on: _____
- Billing system created:
 - Invoices are submitted to MaineDOT project manager on letterhead using *Communication 4*
 - Backup and completed Project Cost Worksheet accompany each invoice

CONSULTANT SELECTION

- Develop Scope of Work and Independent Estimate
 - Submit scope of work and independent estimate to MaineDOT project manager for approval
 - *Approval Date:* _____
- Services estimated to cost \$25,000 or less:**
 - Obtain MaineDOT project manager's approval for simplified acquisition (*Communication 5*)
 - Submit request for proposals (RFP) to MaineDOT for approval
 - *Approval Date:* _____
 - Request/receive proposal from consultant
 - Negotiate scope, schedule & cost with consultant, based on independent estimate
 - Verify and that selected consultant is not debarred (www.sam.gov)
 - Obtain MaineDOT's approval of consultant proposal and unsigned contract (*Communication 7*)
 - *Approval Date:* _____
 - Execute contract, obtain completed DBE Utilization Form, and send consultant notice to proceed
- Services estimated to cost between \$25,000 to \$250,000**
 - Submit draft RFP to MaineDOT project manager for approval (*Communication 6*)
 - *Approval Date:* _____
 - Send RFP to 3-5 pre-qualified firms, seeking technical and sealed price proposals:
<http://maine.gov/mdot/cpo/prequal/>
 - Review and score technical proposals
 - Open the sealed price proposal from the best-qualified (No. 1) consultant and begin negotiating
 - If negotiations with No. 1 are successful, draft a contract for MaineDOT review
 - If negotiations with No. 1 are unsuccessful, request a "Best and Final Offer."
 - If terms cannot be reached, begin negotiations with No. 2 consultant
 - Verify and document that selected consultant is not debarred (www.sam.gov)
 - Send unsigned contract and price proposal to MaineDOT for approval (*Communication 7*)
 - *Approval Date:* _____

- Execute contract, obtain completed DBE Utilization Form, and send consultant notice to proceed
- Sent regret letters and unopened price proposals to unsuccessful proposers
- Services estimated at greater than \$250,000**
 - Submit draft RFP to MaineDOT project manager for approval (*Communication 6*)
 - *Approval Date:* _____
 - Advertise the RFP, requesting technical proposal and sealed cost proposal
 - Review and score technical proposals
 - Invite the top three firms for interviews
 - Send written notification to firms not chosen for interviews and return sealed price proposals
 - Select the best-qualified (No. 1) consultant and open its sealed price proposal
 - Negotiate the scope, schedule and cost with the No. 1 consultant
 - If negotiations with No. 1 are successful, draft a contract for MaineDOT review
 - If negotiations with No. 1 are unsuccessful, request a “Best and Final Offer.”
 - If terms still cannot be reached, end negotiations and move on to No. 2 consultant
 - Verify and document that selected consultant is not debarred (www.sam.gov)
 - Send unsigned contract and price proposal to MaineDOT for approval (*Communication 7*)
 - *Approval Date:* _____
 - Execute contract, obtain completed DBE Utilization Form, and send consultant notice to proceed
 - Sent regret letters and unopened price proposals to unsuccessful proposers
- Consultant Administration**
 - Oversee consultant’s work and billings to ensure contract compliance
 - Obtain MaineDOT project manager’s approval of contract modifications **before** they are signed
 - Evaluate consultant upon completion of contract, with copy to MaineDOT

PROJECT DESIGN

- Preliminary Design Report (PDR) Completed – 50-60% plans**
 - Quality-control design checks completed by municipality or contracted consultant
 - PDR submitted to MaineDOT project manager (*Communication 8*)
 - MaineDOT comments addressed, if any
 - PDR accepted and filed by MaineDOT project manager
 - *Acceptance Date:* _____
- Design Plan Impacts Completed (75-80% plans, typically)**
 - Quality-control design checks completed by municipality or contracted consultant
 - Plan impacts submitted to MaineDOT project manager (*Communication 9*)
 - MaineDOT comments addressed, if any
 - Plan impacts accepted as complete by MaineDOT project manager
 - *Acceptance Date:* _____
- Public Process (*Communication 10*)**
 - Date of public meeting: _____
 - Public notified of meeting by means of _____
 - Abutters and potentially affected businesses notified by registered mail
 - Meeting minutes provided to MaineDOT project manager

ENVIRONMENTAL REVIEW

- National Environmental Policy Act (NEPA) – *required for federally funded projects***
 - Upon approval of Preliminary Design Report, provide MaineDOT project manager with:
 - Completed NEPA Documentation Checklist (*Communication 11*)
 - Public process certification (*Communication 10*)
- Environmental Permits**
 - Contact state and federal agencies for permitting requirements, beyond federal NEPA process:
 - U.S. Army Corp of Engineers: (207) 623-8367 or <http://www.nae.usace.army.mil/>
 - Maine Department of Environmental Protection:
 - (207) 287-7688 or <http://www.maine.gov/dep/permits/index.html>
 - Maine Department of Inland Fisheries and Wildlife:
 - (207) 287-8000 or <https://www1.maine.gov/ifw/>
 - Maine Department of Marine Resources, Division Sea-Run Fisheries and Habitat
 - (207) 624-6550 or www.maine.gov/dmr/science-research/searun/index.html
- Complete state and federal permit applications that apply to the project**
- Send environmental certification (*Communication 12*) to MaineDOT with PS&E package**

UTILITY COORDINATION

Note: The utility letters referenced below are available online: www.maine.gov/mdot/utilities/utilcoord/

- At project kickoff:**
 - Identify utility and railroad contacts: www.maine.gov/mdot/utilities/contactinfo/.
 - Email Utility Letter #1 and a location map to utility/railroad contacts.
 - Arrange and conduct a site visit to verify utility/railroad information.
- Upon completion of survey:**
 - Email Utility Letter #2 and topographical survey plans to utility/railroad contacts.
 - Arrange for additional survey identified from Utility Letter 2 responses, if necessary.
 - Work with utilities to arrange for test pits, if necessary, to locate underground facilities.
- At preliminary design report (PDR) milestone:**
 - Email Utility Letter #3, preliminary plans and schedule to utility/railroad contacts for review.
- When design reaches 75-80% plans complete:**
 - Email Utility Letter #4, 75-80% plans and schedule to utility/railroad contacts for review.
 - Hold utility pre-coordination meeting on site to review impacts, relocations and schedules.
- At Plan Impacts Complete (PIC) Milestone:**
 - Work with right-of-way mapper to accommodate utility impacts resulting from the design.
 - Prepare pole list in coordination with utilities.
 - Email Utility Letter #5 and utility special provision (#104) to utilities/railroad for review.
- At Final Plans, Specifications and Estimate (PS&E) Milestone:**
 - Email final design plans and latest project schedule to utility/railroad contacts
 - Finalize special provision 104 (utilities) for inclusion in the bid documents for the project
 - Submit utility certification (LPA Communication 13) to MaineDOT project manager.

RIGHT OF WAY

- Limits of existing public right of way verified**
 - County layout records;
 - Municipal highway book;
 - Plans from previously completed MaineDOT projects.
- Survey work completed**
 - Preliminary project limits identified.
 - Potentially impacted property owners identified.
 - Property ownership reports sent to property owners.
 - Significant property improvements mapped based on field inspections, property records, and property owner information.
- Preliminary right-of-way mapping performed**
 - Design must be at *Plan Impacts Complete* to start preliminary right-of-way mapping.
 - Plans show all proposed impacts to abutting properties, outside the existing right of way.
 - Preliminary right-of-way mapping identifies the type and physical extent of rights needed to construct and maintain the proposed design on abutting properties.
 - Parcel setups are created on the maps identifying property owner, parcel size, and type and area of proposed rights to be acquired.
 - Preliminary right-of-way impacts determine the level of title work to be requested.
 - Preliminary right-of-way impacts are the basis for environment impact assessments.
- Title service conducted**
 - Title searches are conducted on all properties anticipated to be impacted by the proposed rights needed to be acquired.
 - The extent of the individual title searches is based on the proposed rights to be acquired.
- Final right-of-way mapping performed** [*MaineDOT Right-of-Way Manual, §8-202*]
 - Abutting property boundaries and ownership identifications are based on information obtained from title searches.
 - Existing and proposed right-of-way limits shown on the maps.
 - Property pins are located on the maps.
 - New rights to be acquired are shown, with areas calculated (MaineDOT Standards).
 - Plan title block included, with MaineDOT file number if applicable.
 - Right-of-way maps reviewed by MaineDOT Property Office (if state highway).
 - Maps approved by MaineDOT Property Office (if state highway).
- Notice of Intent to Acquire sent to the owner of each impacted parcel**
 - The notice is sent to abutters from whom rights will need to be acquired. The notice also informs owners of their rights.

-
- Determination of Just Compensation made** [*MaineDOT Right-of-Way Manual, §8-2.03*]
 - Professional appraisal services are retained commensurate with proposed project impacts.
 - Property owners are notified of their right to accompany the appraiser during the inspection.
 - Appraisals are reviewed for proper methodology, accuracy, and conformity to MaineDOT appraisal standards.
 - Value estimates are recommended as the amount believed to be Just Compensation.
 - Written statement of Just Compensation is prepared and signed by the highest ranking administrative official of the municipality.
 - Just Compensation must be determined and the federal NEPA process must be completed before negotiations can begin**
 - Negotiations initiated with owners – after NEPA process completed**
 - Offers presented; impacts discussed with all owners.
 - Each owner given reasonable period to consider offer (generally 28 days).
 - Negotiations Completed / Negotiations at Impasse.
 - Property donations made**, if applicable [*MaineDOT Right-of-Way Manual §8-2.07*]
 - Owner informed of right to have appraisal done and to receive just compensation.
 - Owner signs form acknowledging rights and releasing municipality from obligation.
 - MaineDOT’s policy is not to solicit donations.
 - Title and rights perfected**
 - Title Acquired by Negotiations
 - Title Acquired by Eminent Domain [*MaineDOT Right-of-Way Manual, §8-2.08*]
 - Right of way certified (Communication 14)** [*MaineDOT Right-of-Way Manual, §2-2.02(b)*]
 - All right of way acquired.
 - Rights to occupy all right of way acquired.
 - Parcel and project files retained**
 - Parcel Files Complete [*MaineDOT Right-of-Way Manual §8-4.01*]
 - Project Summary Records [*MaineDOT Right-of-Way Manual §8-4.02*]
 - Title and rights acquired by State of Maine** (state or state-aid highway)
 - Title and rights acquired by Local Agency** (local road or off-system trail)

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FINAL PLANS, SPECIFICATIONS AND ESTIMATE

- Final design plans have the following details:**
 - Title sheet
 - Plan views
 - Profiles (*if applicable*)
 - Cross-sections and typical sections
 - Earthwork summary (*if applicable*)
 - All supplemental sheets (drainage, geometric, grading, striping, etc.)
 - All work is covered by a pay item or a general note
 - Documentation of approved design exceptions
 - Documentation of quality-control design checks performed by municipality/consultant
 - PE stamp of engineer of record, as warranted and required by law
- Engineer's Estimate Completed**, as follows:
 - Estimate uses MaineDOT item numbers
 - Each item in engineer's estimate is shown on the plans
 - Estimate of quantities matches Schedule of Items in contract book
- Bid book contains the following:**
 - Notice to Contractors
 - Contract Agreement, Offer and Award form
 - Contract bonds
 - Davis-Bacon wage rates (*federally funded projects*)
 - Electronic payroll special provision (*federally funded projects*)
 - Buy America requirements (*federally funded projects*)
 - 403 special provision (Hot Mix Asphalt) prepared by MaineDOT (*if applicable*)
 - 652 special provision – Traffic control
 - Form FHWA-1273 (*federally funded projects*)
 - Signed Title VI Assurances (*federally funded projects*)
- PS&E package approved by MaineDOT project manager**
 - Public process certification attached (*Communication 10*)
 - Environmental certification attached (*Communication 12*)
 - Utilities certification attached (*Communication 13*)
 - Right-of-Way certification attached (*Communication 14*)
 - Traffic Analysis and Movement Evaluation (TAME) certification attached
 - *MaineDOT will prepare TAME certification*
- Construction authorization requested from MaineDOT (*Communication 15*)**
- Construction authorization obtained in writing from MaineDOT project manager**
- Minimum materials testing requirements obtained from MaineDOT project manager:**
 - PM sends plans, specifications and estimated quantities to technician Jean Tukey: 624-3543

➤ ***If you advertise your project before receiving authorization, you will jeopardize ALL the money from MaineDOT for the project.***

ADVERTISE AND AWARD

- Receive authorization to advertise from MaineDOT project manager**
- Advertise the Notice to Contractors** (3-week minimum advertise period)
 - Advertising in regional or statewide newspaper is traditional practice
 - Notice can be posted to municipal website and MaineDOT contractors website
 - Notice must have date and location of the opening of sealed bids
 - Basis of Award must be clearly defined, so low bidder is apparent after bids are opened
- Determine contractor qualifications:**
 - For contracts of \$300,000 or more, low bidder must be pre-qualified by MaineDOT
 - For contracts of less than \$300,000, low bidder must demonstrate “successful completion of projects with a similar size and scope”
- Bidders must submit questions in writing using Request for Information (RFI) form:**
 - Same answer must be submitted to all bidders in writing, with the question repeated
- Issue addendum, if documents are modified or if answering a Request for Information**
 - If there is not enough time for bidders to make changes, then delay the opening
- Open and publicly read aloud all bids at the designated time**
 - Prepare bid tabulation sheet
 - Check submitted bids for tabulation errors
 - Complete bid and bidders’ tabulation sheet
 - Determine the lowest responsive bid
- Review all bids for bid defects**
 - Go by the curable/non-curable language in MaineDOT Standard Specification 102.11
 - If a defect is not specifically listed as non-curable in the bid documents, it is curable
 - Verify that contractors are licensed as legally required by the State of Maine
- Determine the apparent successful bidder**
 - Return bid securities to everyone except for the two lowest bidders
 - Notify the second bidder that securities will be held until contract execution
- Send award recommendation to MaineDOT project manager (Communication 16)**
 - Tabulation of bids
 - Engineer’s estimate
 - Completed Contractor DBE Utilization Form (*federally funded projects*)
- Receive MaineDOT approval in writing of recommended award**
- Award contract**, in accordance with section 103 of MaineDOT’s Standard Specifications:
 - Send Notice of Intent to Award to apparent successful bidder
 - If contract exceeds \$125,000, bidder has 14 days to deliver payment and performance bonds
 - Bidder also must provide certificate of insurance, which applies to all projects
 - Sign contract
 - Return bid securities to the first and second bidders
 - Notify all unsuccessful bidders
- Send copy of signed contract to MaineDOT project manager**

CONSTRUCTION ADMINISTRATION

Electronic Payroll (*Federally funded projects only*)

- Send information to MaineDOT to set up project in the Elation payroll system**
 - MaineDOT contact is Angela Latno: (207) 624-3519 or Angela.Latno@maine.gov
 - Work Identification Number (WIN);
 - Name and email address for person who will review/approving payrolls;
 - Prime Contractor;
 - Award amount;
 - Subcontractors, with item numbers and subcontract amounts;
 - Dates for project advertise, bid opening, and contract award;
 - Construction start date and completion date stipulated in the contract;
 - County in which the work will take place; and
 - Wage rate General Decision number and dates of any modifications.

Pre-Construction / Pre-Utility / Pre-Pave Meeting

- Send notice of meeting and agenda (Communication 17) to the following:**
 - Contractor
 - Utilities
 - Public safety agencies, if warranted
 - Project resident
 - MaineDOT project manager and construction manager, who will invite others as appropriate
- Meeting Date:** _____
- Receive Quality Control (QC) Plan and Mix Designs from Contractor**
 - Contractor must submit them at least 30 days before the work is scheduled to begin
 - Review and approve/reject the contractor's QC Plan and mix designs
 - Submit to MaineDOT construction manager for review and approval
- Provide meeting minutes to project file, and:**
 - Contractor, subcontractors, attendees and groups invited but not represented
- Contractor Traffic Control Plan:**
 - Reviewed by project resident
 - Submitted to MaineDOT Traffic section (Dana Hanks)
 - *MaineDOT Approval Date:* _____
- Soil Erosion Water Pollution Control Plan approved by project resident**
- Spill Prevention Plan approved by project resident**
- Contractor Schedule of Work received**

Construction Testing & Documentation

- Minimum Materials Testing Requirements determined**
- Testing File created for:**
 - Concrete
 - Pavement
 - Aggregate
 - Other required documents for minimum testing

-
- Project Diary created, with the following:**
 - Entries dated and initialed – noting weather, crew & equipment, hours worked, and activities
 - Field measurements taken
 - Drainage work measurements performed and computations by stationing, from outlet to inlet
 - Details of grade checks done (subgrade and/or fine-grading), with results from each day
 - Record significant events (accidents, discussions with owners, debates with contractor)
 - Final Quantity Book created**
 - Book set up by item numbers
 - Pages set up for original measurements (or computations from plan dimensions)
 - Pages set up with a total-to-date column
 - Entries and computations initialed and dated
 - After item is completed, compute final quantity
 - Pit Authorizations completed**
 - Waste area agreements completed**
 - Contractor’s Bulletin Board erected:** www.maine.gov/mdot/civilrights/posters.htm
 - Federal Projects: “Commercially Useful Function Form” sent to MaineDOT**, if applicable
 - Project signage monitored** (*condition must be noted weekly in a project diary*)
 - Quality Assurance (QA):**
 - Municipality may hire consultant or use MaineDOT testing labs.
 - If Municipality will use MaineDOT labs, local contact information should be shared with MaineDOT independent assurance supervisor in the Bangor office: 941-4545
 - MaineDOT contacted to see if Hot Mix Asphalt / Portland Cement Concrete plant has been inspected recently or needs to be inspected: Kevin.cummings@maine.gov
 - MaineDOT notified of pavement and concrete placement schedules to ensure that plant QC operations are monitored and scales checked at least twice in five days of production
 - Sampling and testing must be done and documented by certified technicians.
 - Federal projects: Weekly certified payrolls received electronically from all contractors**
 - Certified payroll checked in “Elation” system for compliance with minimum wage rates
 - Federal projects: Employees interviewed to verify Davis-Bacon wage rate compliance**
 - Voluntary interviews with 2 covered workers from each contractor every 90 days
 - Worker must be on site 5 days or more during each 90-day period to be covered
 - Subcontractor Approvals:** www.maine.gov/mdot/contractors/publications/
 - Municipality must approve subcontracts before any subcontractor can start work
 - Send copy of approved package to the MaineDOT project manager
 - *Project manager will arrange for the subcontractor to be added to the Elation system*
 - Federal Projects: “Buy America” (Special Provision 105)**
 - “Buy America” certifications must be received before steel and iron products can be installed
 - Monthly progress payments:**
 - Prepare estimate and review with contractor; or receive and check estimate from contractor
 - Once approved, process estimate and send payment to contractor
 - Once payment is made, send reimbursement request to MaineDOT, with backup documentation that quantities were verified

Contract Modifications

- Modifications to the construction contract are handled as follows:**
 - Prepare an independent cost estimate of the cost of the additional work
 - Note the time associated with the change. (If no change, note 0 additional days.)
 - Prepare a formal contract modification
 - Send draft modification to MaineDOT construction manager for review (***Communication 18***)
- Obtain MaineDOT’s concurrence with contract modification**
- Send the modification to the contractor for signature
- When contractor has signed, local project administrator signs and dates the modification
- Send copy of the executed modification to the contractor, with a copy to MaineDOT
- Place original modification in Project Records

Project Completion

- Final inspection by Municipality, MaineDOT and contractor (***Communication 19***)**
 - Inspection Date:_____
 - Final “punch list” developed
 - Final “punch list” of items completed on:_____
- Notice of completion sent to contractor with notification of any liquidated damages**
 - Copies sent to MaineDOT project manager and construction manager
- Quality Assurance (QA) Certification completed**
 - Testing file provided to municipality’s project administrator for project files.
- Final quantity book completed by project resident**
- Federal projects: DBE Form completed by the contractor, signed by each DBE**
 - MaineDOT project manager will forward to MaineDOT’s Civil Rights Office
- Final estimate paid and retainage released**
- As-built plans completed and sent to MaineDOT project manager (if applicable)**
- Final billing sent to MaineDOT project manager (***Communication 20***)**
- MaineDOT project manager completes a project evaluation**
 - Local administrator reviews, signs and returns to project manager
 - Project manager files the completed evaluation in Tedocs electronic filing system

Note: By regulation, records must be retained for 3 years from completion for federally funded projects.

Appendix 1B: Submittals to MaineDOT

- ❑ Fillable electronic templates are available on MaineDOT's website:
<https://www.maine.gov/mdot/lpa/lpadocuments/>



Communication 1: Request for Local Project Administration

NOTE: This should be put on letterhead and signed by the manager or highest ranking official

Michael Laberge, Local Projects Coordinator
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Local Project Administration Request

MaineDOT WIN: _____; Description: _____

Dear Mr. Laberge:

The Municipality of _____ is interested in administering a federal-aid project consisting of _____. I have enclosed information about the Municipality's qualifications, including our experience in delivering projects of similar size and scope, and our ability to manage and track federal funds.

If a person with Local Project Administration certification will manage the project, use this:

_____ is the full-time employee of the Municipality who would serve as Local Project Administrator for this project. _____'s Local Project Administration certification is valid through _____.

If a person without Local Project Administration certification will manage the project, use this:

_____ is the full-time employee of the Municipality who we are proposing to serve as the Local Project Administrator for this project. This person is not currently certified in Local Project Administration but would be willing to take the next training program. Please let us know when the program is offered.

If MaineDOT concludes that the Municipality is adequately staffed and suitably equipped to undertake this project, please contact me to discuss the details of the project and the requirements for local administration.

I understand that, if approved, the Municipality will be responsible for meeting all federal and state requirements for this project, as described in the latest edition of the MaineDOT Local Project Administration Manual & Resource Guide.

Sincerely,

[NAME, TITLE]

Communication 2: Project Kickoff

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Project Kickoff, [Project Location, Description]
MaineDOT WIN [NUMBER]

Dear [NAME]:

The Municipality of [NAME] requests your attendance at the kickoff meeting for the above-referenced project at [Date, Time and Location].

Attached is the proposed scope of work, budget and schedule. If you need additional information, please let me know.

We understand that we cannot start work eligible for reimbursement until we take these steps:

1. Hold the kickoff meeting;
2. Execute a Locally Administered Project Agreement with MaineDOT; and
3. Receive notice to proceed from MaineDOT.

We look forward to seeing you at the meeting.

Sincerely,

Local Project Administrator

Enclosures: Project scope, budget and schedule

Communication 3: Agreement Execution

[DATE]

[NAME], Local Projects Coordinator
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Local Project Agreement Execution Request
MaineDOT WIN [NAME]

Dear [NAME]:

Enclosed is one signed and dated copy of the Locally Administered Project Agreement for **[project scope, WIN]** in the Municipality of [NAME].

We understand that MaineDOT cannot reimburse us for project design or right-of-way costs until MaineDOT executes this Agreement and issues us a “Notice to Proceed.”

Please arrange for the agreement to be executed as soon as possible.

Sincerely,

Local Project Administrator

Communication 4: Invoice Submittal (Federal Project)

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Request for Reimbursement, [Location, Description] Project
MaineDOT WIN _____; Contract #: _____

Dear [NAME]:

The Municipality of [NAME] requests reimbursement of MaineDOT's share of costs incurred for work on the subject project for the service period of _____ to _____, in accordance with the project agreement with MaineDOT.

Total costs for the period are \$_____. MaineDOT's ____% share is \$_____, and payment is requested within 30 days of acceptance of this invoice. Project costs during the period include a local share of ____%, or \$_____, which is not from contributions from other federally assisted projects or programs.

I also have enclosed the items listed below to document that this invoice accurately represents work completed during the service period:

- A completed project costs worksheet with expenditures for the service period and to date;
- A progress report describing the work performed during the service period; and
- Copies of invoices received and checks issued.

By signing this invoice, I certify to the best of my knowledge and belief that the information provided herein is true, complete, and accurate, and the expenditures, disbursements, and cash receipts are for the purposes and objectives set forth in the terms and conditions of the federal funding award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812.)

Sincerely,

Local Project Administrator

LAP Project Costs Worksheet

Town/City: _____
 PROJECT PIN: _____
 Agreement No: _____
 Invoice Period: From _____ => To _____

PE Auth. Date: _____
 Construction Auth. Date: _____
 Agreement Exp. Date: _____
 Local Share: _____ %

Summary of Project Costs This Period						Total Project Costs This Period	Total Project Costs To Date	Total Project Budget	Project Balance
Direct Salary	Salary Benefits	Employee Travel	Supplies & Materials	Equipment Rental	Contracted Services				
PRELIMINARY ENGINEERING <i>(expenses incurred for PE&ROW are prohibited prior to PE Authorization Date)</i>									
RIGHT OF WAY ACTIVITIES									
CONSTRUCTION ENGINEERING <i>(expenses for PE are prohibited after const contract award or const.auth. date (force account))</i>									
CONSTRUCTION									
PROJECT TOTALS									

BILLING CERTIFICATION =>

I hereby certify that these amounts are correct, due and unpaid and that the work performed is in accordance with provisions and specifications of all project agreements and contracts.

Signed: _____

Name

Title

Date

Communication 5: Request for Simplified Acquisition (Federal Project)

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Simplified Acquisition Request, [Location, Description] Project
MaineDOT WIN:

Dear [NAME]:

The Municipality of [NAME] is requesting your approval to seek a proposal for services for [DESCRIPTION] work on the subject project with the consulting firm of [NAME].

Since consultant costs are estimated to be \$25,000 or less based on our independent estimate (enclosed), we understand that we may use a simplified acquisition to solicit a technical proposal and a price proposal from a single, pre-qualified consultant.

We understand that MaineDOT cannot participate in contract costs exceeding \$25,000, which shall be the sole responsibility of the Municipality, since a non-competitive process will be used to hire this consultant.

Please review the submitted materials and let us know if we are approved to solicit a proposal and subsequently to negotiate a contract with this firm. We understand that we cannot award a contract without approval from MaineDOT.

Sincerely,

Local Project Administrator

Enclosure: Independent Estimate

Communication 6: RFP Review

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 state House Station
Augusta, ME 04333-0016

Subject: RFP Review Request
MaineDOT WIN:

Dear [NAME]:

The Municipality intends to solicit for engineering services for **[scope of services]** for **[project scope, WIN]** in the Municipality of [NAME]. Attached is the Request for Proposals that we intend to use.

If estimated cost is \$25,000 to \$250,000, use the following language:

Based on our independent estimate of the price of the proposed services (enclosed), we understand that we may select potential consultants from a pool of 3 to 5 pre-qualified firms. We intend to send the RFP to the following consultants listed on MaineDOT pre-qualification listing for [insert type of service]:

If estimated cost is greater than \$250,000, use the following language:

Based on our independent estimate of the price of the proposed services (enclosed), we understand that we must use a publicly advertised solicitation in accordance with the federal Brooks Act. We intend to advertise the RFP on **[date]** as follows:

Please review the draft RFP as soon as possible and inform me as to its adequacy.

Sincerely,

Local Project Administrator

Enclosure: Draft RFP

Communication 7: Request for Approval of Consultant Selection

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 state House Station
Augusta, ME 04333-0016

Subject: Consultant Selection Approval Request
MaineDOT WIN:

Dear [NAME]:

The Municipality of [NAME] has selected [NAME] for [**scope of services**] work for [**project description**]. Attached is the negotiated contract, price proposal and our independent estimate. We understand that we cannot award this contract without your approval.

We have verified that our selected consultant is not debarred or otherwise prohibited from working on federally funded contracts. We have attached documentation verifying this, in the form of a screen shot from the federal SAM database: www.sam.gov.

Please review these documents as soon as possible and inform me of your decision so that we may execute a contract with this firm. We understand that no work eligible for reimbursement may begin until we execute the contract upon MaineDOT's approval and give our selected consultant notice to proceed.

Sincerely,

Local Project Administrator

Enclosures:

1. Draft contract
2. Independent agency estimate

Communication 8: Submittal of Preliminary Design Report

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Preliminary Design Report (PDR) Submittal, [Project Location and Description]
MaineDOT WIN:

Dear [NAME]:

Attached for your review and comment is the draft preliminary design report for *[insert project scope, WIN]* in the Municipality of [NAME]. Quality-control design checks were performed by [NAME, TITLE].

The design was developed in accordance with appropriate sections of MaineDOT's Engineering Instructions, Highway Design Guide and Standard Details. The following publications also were used: *[list any additional publications; otherwise, delete this sentence.]*

If design exceptions:

The following design exceptions were approved by MaineDOT on *[Date]* and are noted on the plans:

If no design exceptions:

This project will not require exceptions to controlling standards for project design.

If you would like to visit the project site, please notify me and I will make the arrangements. Please let me know if you need additional information.

Sincerely,

Local Project Administrator

Communication 9: Submittal of Design Plan Impacts

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Design Plan Impacts Submittal, [Project Location and Description]
MaineDOT WIN:

Dear [NAME]:

Attached for your review and comment are the draft design plan impacts for [DESCRIPTION] in the Municipality of [NAME]. Quality-control design checks were performed by [NAME, TITLE].

The plans show all impacts to utilities and abutting properties, as well as cross-sections with proposed limits of slopes and new construction. These plans meet standards specified in the MaineDOT Right of Way Manual (December 2015), specifically Table 2-3, “Design Plan Impacts Complete,” found on page 2-6(6).

If you would like to visit the project site, please notify me and I will make the arrangements. Please let me know if you need additional information.

Sincerely,

Local Project Administrator

Communication 10: Public Process Certification (Federal Project)

INSTRUCTIONS: This must be submitted on letterhead to MaineDOT with Communication 11.

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Public Process Certification, Federal Project
MaineDOT WIN:

Dear [NAME]:

The Municipality of [NAME] certifies that a public process was carried out for the subject project in accordance with Title 23 in the Code of Federal Regulations, Part 771.111, satisfying one of the pre-construction requirements in the executed project agreement with MaineDOT.

DESCRIBE ANY PUBLIC OPPOSITION HERE, IF APPLICABLE.

I have attached for your information the following:

- A copy of the notification that was sent to abutters by registered mail;
- A copy of the meeting notice;
- The sign-in sheet; and
- The meeting minutes.

Sincerely,

Local Project Administrator

Communication 11: Submittal of NEPA Documentation

INSTRUCTIONS: This letter and the checklist on the next page should be provided to MaineDOT's Environmental Office when the Preliminary Design Report is approved.

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: NEPA Documentation, Federal Project
MaineDOT WIN:

Dear [NAME]:

Attached is the required NEPA documentation checklist for the [LOCATION, SCOPE] Description] project in the Municipality of [NAME].

Also attached is Communication 10, certifying that the Municipality conducted a public process in accordance with requirements identified in the project agreement with MaineDOT.

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Enclosures:

- NEPA documentation checklist
- Public process certification (Communication 10)

Note: This checklist must be submitted with Communication 11

**NEPA DOCUMENTATION
For the Maine Department of Transportation, Federally Funded Projects**

Project Title & Location: _____

Federal Project #: _____ MaineDOT WIN: _____

Description of Work: _____

MaineDOT Project Manager: _____

Answer the following questions and attach supporting documentation as requested. If there is a “yes” response, explain on a separate sheet or contact your MaineDOT Project Manager for guidance.

1.) Public Involvement: Is there substantial public opposition to proposed action? Yes No
The answer should become apparent at a public meeting approving the project.

Documentation: Approved capital plan; meeting records; letters from the public; board meeting minutes; or Communication 10 (Public Process).

2.) Right-of-Way: Does action include a residential or commercial displacement, Yes No
or acquisition of property rights that will result in substantial abutter impacts?
For help with “substantial,” contact your Project Manager at MaineDOT.

Documentation: Plan Impacts Complete for the project (Communication 9)

3.) Endangered Species & Essential Fish Habitat:

- a. Has a qualified person surveyed the project area for streams, rivers, coastal waters, wetlands, and vernal pools? Yes No
- b. Were streams, rivers, coastal waters / wetlands, freshwater wetlands, or vernal pools identified? Yes No
- c. Is any work proposed in or adjacent to a stream, river or coastal waters? Yes No
- d. Does the project require clearing trees or trimming limbs 3” or greater in diameter? Yes No

Documentation: Resource delineation and plans with location of resource and work planned. If in-water work is proposed, project will be screened by the MaineDOT Environmental Office for intersection with habitat for endangered species and critical fish. Additional coordination with the Environmental Office will be required if the project is in one of these areas and includes in-water work or involves clearing.

4.) section 4(f) or 6(f):

- a. Does project area include or abut resources protected by section 4(f) of the Department of Transportation Act: publicly owned land, parks, recreation areas, wildlife and waterfowl refuges, or historic sites? Yes No
- b. Will project require temporary or permanent rights on any protected 4(f) resource listed above? Yes No

Documentation: Existing and proposed right-of-way plan, and a description of how impacts to these properties were avoided and minimized.

Signed by: _____
[Name, Local Project Administrator]

Date: _____

Communication 12: Environmental Certification

INSTRUCTIONS: This must be submitted on letterhead with the final PS&E package.

Date

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

**Subject: Environmental Certification, Federal Project
MaineDOT WIN:**

Dear [NAME]:

If permits were required, use this paragraph:

The Municipality of [NAME] certifies that it has obtained all permits necessary to carry out the subject project, satisfying one of the pre-construction requirements in the executed project agreement with MaineDOT. Attached are copies of the permits.

If NO permits were required, use this paragraph:

The Municipality of [NAME] certifies that no permits were needed for the subject project. This certification satisfies one of the pre-construction requirements in the executed project agreement with MaineDOT. ***NOTE: If no permits were required, please briefly explain.***

Sincerely,

Local Project Administrator

Cc: MaineDOT Environmental Office

Communication 13: Utility/Railroad Certification

INSTRUCTIONS: This must be submitted on letterhead with the final PS&E package.

[DATE]

[NAME], Project Manager
Maine Municipality of Transportation
Bureau of Project Development, Multimodal Program
16 Sate House Station
Augusta, ME 04333-0016

Subject: Utility Certification, Federal Project, MaineDOT WIN:

Dear [NAME]:

The Municipality of [NAME] certifies that all utility and railroad work necessitated by the subject project has been identified and coordinated with the respective parties. All arrangements have been made for utility work to be undertaken and completed as required for proper coordination with the construction schedule, in accordance with Title 23 in the Code of Federal Regulations, Part 645, "Utilities," Subpart A and Subpart B.

Based on 23 CFR 635.309(b), the Municipality further certifies either that all railroad work has been completed or that all arrangements have been made for such work to be undertaken and completed as required for proper coordination with the construction schedule, in accordance with 23 CFR 140 Subpart I and 23 CFR 646 Subpart B.

Listed below are utilities/railroads having facilities within the project limits:

<u>Utility/Railroad</u>	<u>Impacted facilities? (yes/no)</u>
--------------------------------	---

All of the above entities were first informed of the project on [DATE], were involved as necessary throughout design, and received the most current plans on [DATE]. Furthermore, the above entities have been informed of the proposed advertising date: [DATE]. There are no direct payments anticipated to utilities/railroads as a part of this project.

The primary utility/railroad contacts involved in the coordination of this project are as follows:

<u>Utility/Railroad</u>	<u>Contact Name</u>	<u>Telephone #</u>
--------------------------------	----------------------------	---------------------------

Sincerely,

Local Project Administrator

Communication 14: Right-of-Way Certification

INSTRUCTIONS: If a local agency acquired rights or otherwise carried out the right-of-way process, this letter must be signed by an attorney for the agency or its highest-ranking official and submitted with the attached certificate with the final PS&E package for a project.

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Right-of-Way Certification, Federal Project
MaineDOT WIN:

Dear [NAME]:

If right-of-way was acquired, use this statement:

Attached is the required certification that all right-of-way necessary for construction and maintenance of [PROJECT] in the Municipality of [NAME] has been acquired, in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the executed Project Agreement with MaineDOT dated [DATE]. The Municipality certifies that it has legal and physical possession of all right-of-way needed for the project.

If NO right of way was required, use this statement:

The Municipality of [NAME] certifies that no right-of-way acquisition was required for the subject project, since all planned work will occur within the existing public right-of-way. If you require additional information, please let me know.

All information about the right-of-way process can be made available upon request. If you need additional information, please let me know.

Sincerely,

Municipal attorney or highest-ranking municipal official

Enclosure: Right-of-way certificate

MUNICIPALITY OF _____

RIGHT OF WAY CERTIFICATE

FEDERAL PROJECT		WIN	
-----------------	--	-----	--

ROUTE		LOCAL NAME	
-------	--	------------	--

RIGHT OF WAY ACQUISITION REQUIRED AS DESCRIBED BELOW:

Property Owners		Fee Simple Parcels		Easement Rights	
-----------------	--	--------------------	--	-----------------	--

Number of Cases

Displacement Summary:

Number Displaced	
Number Relocated	

The Municipality of _____ hereby certifies that the right to occupy and use all the right of way necessary for this project has been acquired by [] deed, [] condemnation or [] permit to work. All right-of-way has been or will be acquired in accordance with the current FHWA directive(s) covering the acquisition of real property and all relocations have been accomplished.

Without Exception

Legal Possession completed as of

All families and individuals relocated from this project have been offered decent, safe and sanitary housing, as defined in 49 CFR Part 24: All parties receiving replacement housing payments have been relocated to DS&S housing. Relocation procedures used on this project conform to the standards established by federal regulation.

Signed by:

Municipal Attorney or highest-ranking official	Date

Communication 15: Construction Authorization Request

INSTRUCTIONS: This must be submitted on letterhead with the final PS&E package.

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

**Subject: Construction Authorization Request, Federal Project
MaineDOT WIN:**

Dear [NAME]:

Attached for your review, comment and approval are the final plans, specifications and estimate (PS&E) for [insert project scope] in the Municipality of [NAME].

Also attached are the following certifications:

- Communication 10 (public process);
- Communication 12 (environment);
- Communication 13 (utilities); and
- Communication 14 (right of way).

The Municipality hopes to advertise for construction services on [insert date], but we understand that we cannot put the project out to bid without MaineDOT's written approval.

We further acknowledge that construction authorization will be contingent upon:

1. The Municipality addressing to MaineDOT's satisfaction any final comments on the PS&E package; and
2. MaineDOT obtaining authorization for the construction stage of the project from the Federal Highway Administration.

Sincerely,

Local Project Administrator

Communication 16: Project Award Request

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

**Subject: Request to Award Construction Contract, Federal Project
MaineDOT WIN:**

Dear [NAME]:

Attached for your review are the bid tabulations, engineer's estimate and completed Contractor DBE Utilization Form for [Project Location, Description] in the Municipality of [NAME]. [BIDDER NAME] is the apparent successful bidder. We request authorization to award the project to that contractor.

In making this request, we acknowledge that we cannot send out the Notice of Intent to Award without written authorization from MaineDOT.

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Enclosures:

1. Bid tabulations
2. Cost estimate
3. DBE Utilization Form

Communication 17: Pre-Construction / Pre-Utility Meeting

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Pre-Construction / Pre-Utility Meeting
MaineDOT WIN:

Dear [NAME]:

Your attendance is requested at the pre-construction / pre-utility meeting for **[insert project scope, WIN]** in the Municipality of [NAME] on **[insert meeting date/time]**. I have attached an agenda for your convenience.

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Cc: Jen Paul, Construction Manager, MaineDOT Multimodal Program

**AGENDA ITEMS FOR PRE-CONSTRUCTION MEETING
(Federally Funded Project)**

1. Introductions
2. Review Scope of Project
 - a. Acknowledge Amendments
 - b. Completion Date
 - c. Liquidated Damages
3. Permits Obtained (if required)
4. Construction Safety
 - a. Primary consideration during construction
 - b. Emergency contact list including 24 hour contacts
 - c. Contractor safety plan to be provided
 - d. Traffic Control Plan (TCP) must be reviewed and approved by Maine DOT
5. Schedule for the completion of work to be provided
 - a. Are there utility issues?
 - b. Update schedule as required
 - c. Daily construction activities to be recorded
 - d. Town must pay contractor first, then request reimbursement on a monthly basis
6. Labor Requirements
 - a. Davis-Bacon wage rates apply – if project has federal money
 - b. Certified payrolls with classifications to be submitted & reviewed: Elations
 - c. Payroll labor interviews
 - d. DBE participation & CUF form
7. Construction Control
 - a. Minimum Testing Requirements
 - b. Subcontract Approval (*FHWA-1273 must be inserted in all subcontracts*)
 - c. Measurement & documentation of materials used for payment purposes
 - d. Engineering oversight of activities
 - e. Manufacturer's certification for materials
 - f. Soil Erosion and Water Pollution Plan (SEWPCP)
 - g. Quality control plans, mix design submittals, pre-pave meeting
 - h. Buy America: steel/iron product certifications must be received before payment for that item, if a project has federal money
8. Communications
 - a. Requests for Information (RFIs)
 - b. Change Orders require MaineDOT review; must include detailed description of scope change, independent cost estimate & time
 - c. Notification of anticipated issues, claims or disputes

Communication 18: Contract Modification

[DATE]

Jen Paul, Construction Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Contract Modification Request
MaineDOT WIN:

Dear [NAME]:

Attached for your review is Contract Modification # _____ for **[insert project scope]** in the Municipality of [NAME]. The change will consist of **[insert description of contract modification including scope change and/or extra costs]**.

An independent estimate of the cost of the additional work is attached. This modification will add **[number of days]** to the original contract.

(Note: The amount of time required by the modification must be noted. If there is no change in the schedule, then state “0 days” or indicate that the modification will not change the amount of time associated with the contract.)

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Cc: MaineDOT Project Manager

PROJECT DESCRIPTION:	
CONTRACT MOD. NO.:	
PROJECT WIN:	
MUNICIPALITY:	
DATE ISSUED:	

To: _____, you are hereby notified, the following work is to be accomplished in accordance with the provisions of your Contract. The work will not be considered authorized for payment without the required signatures. Payment will be made as described.

(By signing this Order the Contractor agrees that all issues, including time, relating to the described work are satisfactorily resolved by this Order. No other compensation will be sought or made.)

DESCRIPTION:

--

REASON:

--

COST:

--

Amount of this Order: \$

Original Contract Amount	\$
Total Cost of this Contract Modification	\$
Total Cost of all Contract Modifications Including this Mod	\$
Percentage of Contract for this Mod	%
Total Percentage of Contract including all Mods	%
Total Contract Amount Including this Mod	\$

Additional Days Added (This Mod):	New Completion Date:
-----------------------------------	----------------------

TITLE:	SIGNATURE:	DATE:
Resident or Inspector		
Contractor		
Municipality		
DOT Project Manager (if applicable)		

Communication 19: Final Inspection

[DATE]

Jen Paul, Construction Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Final Inspection, MaineDOT WIN:

Dear [NAME]:

Your attendance is requested at the Final Inspection for **[insert project scope, WIN]** in the Municipality of [NAME] on **[insert meeting date/time]**. At the time, we can also make available all documentation and testing results for the project.

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Cc: MaineDOT Project Manager

Communication 20: Final invoice and Completion of Work (Federal Project)

INSTRUCTIONS: This must be submitted on letterhead with all requested documentation.

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Final Invoice and Notification of Completion of Work

MaineDOT WIN: Contract #:

Dear [NAME]:

This Municipality of [NAME] certifies that the contractor has completed all work on the subject project in accordance with the construction contract and approved modifications, and that:

- The Municipality has accepted the work;
- All quantities were measured in accordance with the construction contract;
- Final quantities have been reconciled and agreed to by the Contractor;
- The Municipality has all required supporting documentation for the final quantities;
- There are no outstanding claims or disputes associated with the project; and
- All fees and contract balances have been paid, including expenses from preliminary engineering, right-of-way, construction, inspection, and engineering support during construction.

Attached is the final invoice for the project requesting reimbursement of \$_____ as MaineDOT's _____% share of expenditures for the service period, _____ to _____. Attached is the documentation necessary to support this request, including copies of invoices received and checks issued. I understand that the Municipality's _____% share of MaineDOT's internal charges to the project will be reconciled and deducted from this final invoice.

By signing this invoice, I certify to the best of my knowledge and belief that the information provided herein is true, complete, and accurate, and the expenditures, disbursements, and cash receipts are for the purposes and objectives set forth in the terms and conditions of the federal funding award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812.)

Sincerely,

Local Project Administrator

Local Project Administration Manual & Resource Guide

Consultant Selection



MaineDOT

Integrity - Competence - Service

Updated 2019

Consultant Selection

Project engineering is complicated work requiring licensed professionals. For this reason, organizations without engineers on staff must rely on consultants for design and inspection work. If a project has federal or state funding, a qualifications-based ranking process and competitive negotiation must be used to hire any consultant. Price *cannot* be a scoring factor.

Chapter 2 of this Manual is set up to guide local governments and non-profit organizations (“local agencies”) in meeting the requirements for hiring consultants. It covers the following:

- Scope of work and independent estimate (pages 2-1 and 2-2);
- An independent estimate worksheet (page 2-3);
- Consultant selection methods and pre-qualification (page 2-4);
- A chart outlining the selection methods (page 2-5);
- Guidance on requests for proposals (page 2-6);
- Requirements for consultant proposals (page 2-7);
- Consultant contracts and contract modifications (page 2-8);
- Debarment verification and consultant evaluations (page 2-9);
- Actions that may risk funding (page 2-9);
- Appendix 2A: Consultant selection checklist (page 2-10);
- Appendix 2B: Submittals to MaineDOT (page 2-13); and
- Appendix 2C: Consultant payment methods (page 2-17).



2.1 Scope of Work

Hiring a consultant begins with a well-defined scope, since having a clear understanding of the work will be vital to determining what services you will need. At the start of a project requiring consultant assistance, a local agency should prepare a written scope of work that considers the following items, as applicable to a project:

- A description of the project, with the location and the type of work;
- Deliverables such as reports, design plans, project specifications and cost estimates;
- Proposed schedule for the work;
- The number of meetings with local staff;
- The number of public meetings to be facilitated;
- Preliminary engineering issues such as constructability analysis, environmental review, utility coordination, and right-of-way impact assessments, as applicable;
- A list of the specific services and expertise needed.

2.2 Independent Estimate

Every local agency hiring a consultant with federal money must prepare an independent estimate of the cost to comply with federal regulation 23 CFR, part 172. This estimate serves to determine the selection process – as explained in section 2.4 – and to form the basis for negotiations with a consultant to arrive at fair and reasonable compensation.

The independent estimate, which must be completed *before* seeking proposals, should consider:

- Tasks based on the scope of work, as described in section 2.1 on the previous page;
- The number of hours of effort required;
- Classifications and hourly wages of people likely to work on a project;
- Estimated overhead (indirect) rate, typically around 180 percent;
- Direct costs, such as mileage, telephone, printing, and sub-consultants; and
- A reasonable profit (fee), typically 8 percent to 10 percent.

Because an agency's estimate will form the basis for negotiations with a consultant selected as best qualified, it *cannot be shared* with anyone likely to submit a proposal. During negotiations, the proposed price may vary by no more than **15 percent** from the estimate for contracts of less than \$100,000, and by no more than **10 percent** for contracts of greater than \$100,000.

The estimate worksheet found on page 2-3 may be downloaded from the MaineDOT website: <https://www.maine.gov/mdot/lpa/docs/lpadocs/2018/IndependentEstimate2018.xlsx>

Although this estimate must be prepared by the local agency administering a project, MaineDOT may provide guidance. Additionally, there often are local sources of help with this task, such as:

- A public works director or road commissioner;
- A local engineer not involved in the project at hand; and
- Retired engineers and technical professionals in a community.

2.3 Consultant Work on Funding Applications

Municipalities and non-profit agencies may hire consultants at their own expense to assist with applications for funding from MaineDOT's competitive programs. Application-related costs, however, are **not** reimbursable.

If a project is funded, the sponsoring local agency must use a separate selection process to hire a design consultant, as covered in section 2.4 of this chapter. A consultant who assisted with a project application may compete for the subsequent design contract, but that consultant cannot receive preference.

If a local project sponsor ultimately selects for design work a consultant who also worked on its application, after using the appropriate process, the work must be covered by a separate contract.

INDEPENDENT ESTIMATE WORKSHEET

Project Title/Location: _____

Date: _____

MaineDOT WIN: _____

Revised _____

Service Area or Phase of Work: _____

Prepared By: _____

		Principal	Project Manager	Project Engineer	Designer	CADD Technician	Traffic Engineer	Other	Other	Admin Support	TOTAL
#	Task Descriptions	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
1	Survey										0.00
2	Alignment & Profile										0.00
3	Utility Coordination										0.00
4	PDR Submittal										0.00
5	Public Meeting										0.00
6	Misc. Meetings with Staff										0.00
7	Environmental Permits										0.00
8	Plan Impacts Submittal										0.00
9	Engineer's Estimate										0.00
10	Final Design										0.00
11	Project Specifications										0.00
12	Final PS&E Submittal										0.00
13	Bidding Support										0.00
14	Construction Inspection										0.00
	TOTAL HOURS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	HOURLY RATE	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	LABOR TOTAL	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Overhead	0.00 %	\$0.00
Profit/Fee	0.00 %	\$0.00

Subtotal: \$0.00

Direct Expenses: \$0.00

TOTAL ESTIMATED PRICE \$0.00

DIRECT EXPENSES	\$
Mileage	
Printing (External Use)	
Sub-consultants	
Other	
Other	

TOTAL DIRECT EXPENSES = \$0.00

2.4 Consultant Selection Methods

Local agencies must use one of the qualifications-based selection methods below when hiring consultants with federal or state money. Guidance is provided in the table on the next page and in Appendix 2A, “Consultant Selection Checklist,” later in this chapter.

- ❑ If the estimated cost of consultant work is **\$25,000 or less**, including modifications, an agency with MaineDOT approval may request a proposal from and negotiate with a single, qualified consultant using a Simplified Acquisition selection method. MaineDOT must be provided with Communication 5, “Request for Simplified Acquisition.”
 - *Costs exceeding \$25,000 cannot be reimbursed if simplified acquisition is used.*
- ❑ If the estimated cost of consultant work exceeds \$25,000 but is **\$250,000 or less**, including modifications, an agency must send an RFP to three to five pre-qualified firms. The agency must solicit from each consultant a technical proposal and a *sealed* price proposal. The agency will review and score technical proposals, based on criteria in the RFP, and negotiate a contract with the highest-ranked firm.
 - *Price proposals from all other consultants must stay sealed during the process.*
- ❑ If the estimated cost of consultant work is **greater than \$250,000**, including modifications, an agency must use an advertised RFP process. The agency must solicit a technical proposal and a *sealed* price proposal from each consultant. The agency will rank consultants based on their technical proposals and interviews, if conducted, and negotiate a contract with the top-ranked firm.
 - *Price proposals from all other consultants must stay sealed during the process.*

Remember: Price *cannot* be a factor in the evaluation or ranking of any consultant.

2.5 Consultant Pre-qualification

MaineDOT recommends that local agencies use pre-qualified consultants whenever possible. Consultants with pre-qualification from MaineDOT in certain categories are listed on MaineDOT’s website: <https://www1.maine.gov/mdot/cpo/prequal/>

Common service numbers for locally administered projects include the following:

- 202.10 – Reconstruction/Rehabilitation Highway Design;
- 203.00 – Bridge Design;
- 206.10 – Major Marine Facilities Design;
- 206.20 – Minor Marine Facilities Design;
- 209.10 – Pedestrian/Bicycle Facilities Design;
- 209.20 – Pedestrian/Bicycle Bridge Design;
- 402.00 – Property Valuation and Appraisal Services;
- 403.00 – Property Negotiation/Ownership Information Services;
- 601.00 – Highway Inspection, Construction Management, and Support Services;
- 603.20 – Marine Facilities Construction Management and Support Services;
- 606.20 – Building Construction Management and Support Services.

CONSULTANT SELECTION TABLE

(Revised 01/22/19)

ESTIMATED CONTRACT VALUE	≤\$25,000	>\$25,000 to ≤\$250,000	>\$250,000
• Develop a Scope of Work.	✓	✓	✓
• Generate an Independent Estimate.	✓	✓	✓
• Select the most qualified consultant from a list of pre-qualified firms: https://www.maine.gov/mdot/cpo/prequal/	✓		
• Request a price proposal from the most qualified consultant.	✓		
• Develop Scoring Criteria.		✓	✓
• Develop a Request for Proposals (RFP) for review by MaineDOT Project Manager.		✓	✓
• Send finalized RFP to 3-5 pre-qualified firms, seeking technical and <u>sealed</u> price proposals.		✓	
• Advertise finalized RFP, requesting technical and <u>sealed</u> price proposals.			✓
• Organize an evaluation team to review RFP technical submittals.		✓	✓
• Review technical proposals - and revise independent estimate, if necessary.	✓	✓	✓
• Open sealed price proposal from the top-ranked consultant.		✓	✓
• Negotiate scope of work, schedule, and a fair and reasonable price.	✓	✓	✓
• If negotiations break down, request Best and Final Offer.		✓	✓
• Verify that selected consultant is not debarred, via screen print from www.sam.gov	✓	✓	✓
• Execute contract with consultant	✓	✓	✓
• Issue written Notice to Proceed to consultant.	✓	✓	✓
• Obtain MaineDOT Project Manager’s prior written approval of contract modifications.	✓	✓	✓
• Evaluate consultant upon completion of contract and provide copy to MaineDOT.	✓	✓	✓

2.6 Request for Proposals (RFP)

Regardless of selection method, local agencies hiring consultants with federal and the state money must prepare a request for proposals (RFP) that is either advertised publicly or provided to pre-qualified firms, depending on the estimated cost of the services. (*Selection methods are described in section 2.4, “Consultant Selection Methods.”*)

A local agency must solicit from each consultant a technical proposal and a *sealed* price proposal that is opened only if a consultant eventually is scored as best qualified. Price proposals from consultants not selected must remain sealed throughout the process and be returned *unopened* after a contract is awarded to the successful proposer.

Agencies may use a template found online: <https://www1.maine.gov/mdot/lpa/lpadocuments/>

An RFP should include, but does not have to be limited to, the following information:

- Summary of the services required, with location map if available;
- Local contact person;
- Detailed scope of work;
- Project deliverables;
- Schedule / milestones;
- Scoring criteria and relative weights;
- Whether interviews will be part of the selection process;
- Submission deadlines for questions and for proposals;
- Location and dates of posted answers;
- Disadvantaged Business Enterprise (DBE) goals – *federally funded projects only*
- Method of payment and direct salary cap of \$50/hour. (*See section 2.9, on the next page.*)

Remember: An RFP must state that price *shall not* be considered in the ranking of consultants.

2.7 Consultant Selection Criteria

As stated previously, local agencies must use qualifications-based selection of consultants for work on locally administered projects. Below are suggested scoring criteria:

- Qualifications and experience of key personnel;
- Experience with similar projects using federal and state funding;
- Ability to start and complete work within the proposed schedule;
- Cost control methods;
- Quality assurance/quality control of work;
- Current and projected workload of a firm.

2.8 Consultant Technical Proposals

Regardless of the selection process used, local agencies must request from each consultant a technical proposal that should provide the information below, at a minimum:

- The work to be performed, as well as the products and services to be delivered;
- The estimated schedule for the work;
- Experience in meeting federal and state requirements;
- Qualifications and experience of personnel who will work on the project; and
- Specific technical qualifications for the services to be provided, if applicable.
- Any work to be performed by sub-consultants.

After receiving and opening consultant technical proposals on the date and time in the RFP, a local agency should set up a committee to review and rank those technical proposals. Suggested scoring factors are found in section 2.7, “Consultant Selection Criteria,” on the previous page. Consultants should be ranked from highest to lowest.

2.9 Consultant Price Proposals

After scoring technical proposals, a local agency should open the price proposal from the highest-ranked consultant and begin negotiating a contract based on its independent estimate. Remember that the proposed price may vary by no more than **15 percent** from the estimate for contracts less than \$100,000 and by no more than **10 percent** for contracts exceeding \$100,000. *(At this point, all other price proposals must stay sealed to maintain the integrity of the process.)*

Consultant price proposals must include a breakdown of the information below:

- Direct salary** (without benefits) for each person working on a project.
 - *MaineDOT has determined that \$50 per hour is a fair and reasonable maximum direct labor rate for non-construction services. Local agencies will not be reimbursed for consultant costs above that rate without an approved, written waiver.*
- Indirect rate**, or “overhead,” which covers rent, utilities, benefits, insurances and other costs not considered specific to a project. A firm’s overhead rate must be supported by an audited overhead report that has been approved by MaineDOT’s Office of Audit.
 - *When working with small firms without audited overhead reports, local agencies should use commercial rates. Rates must be supportable, which can be done by comparing the rates of two or three similarly sized firms that perform similar work.*
- Direct costs**, which are project-specific expenses such as sub-consultant costs, telephone, mileage (at State of Maine rates), travel-related meals, lodging and any printing not covered by the consultant’s overhead rate.
 - *Direct expenses must be billed at the actual cost. Markup is prohibited.*
- Profit** (fee), which typically ranges from 8-10 percent on locally administered projects, depending on the nature of the work, the size of a job, and the level of risk. The maximum allowed is 15 percent, but this level of profit must have written justification and receive signoff from a MaineDOT project manager.

2.10 Consultant Contracts

After successful negotiations to arrive at fair and reasonable compensation, a local agency prepares a contract for services with its selected consultant. MaineDOT project managers must approve all new contracts and contract modifications **before** documents are signed. Once a contract is executed – *with the consultant signing first* – a local agency sends the MaineDOT project manager a copy.

Note: MaineDOT's *Consultant General Conditions* apply to locally administered projects: <https://www1.maine.gov/mdot/cpo/docs/general/consultant-general-conditions.pdf>

Contracts with federal money must contain the items below. A template that has all requirements is found online: <https://www1.maine.gov/lpa/lpadocuments/>

- A detailed scope of services, including deliverables and project milestones;
- Beginning and end dates;
- Maximum amount payable under the contract;
- Requirements for progress updates;
- Requirements for quality-control design checks;
- Indemnification and insurance requirements;
- Requirements for addressing errors and omissions by the consultant;
- Administrative, contractual or legal remedies for breach of contract;
- A provision for termination for cause or for convenience by the contracting agency;
- Assurances that a consultant is not debarred (*see section 2.12*);
- Signed Title VI Assurances (*federal projects*);
- Certification that no lobbying will be done with federal money (*federal projects*);
- FHWA-1273, Required Contract Provisions for Federal-Aid Contracts (*federal projects*);
- Ownership of documents, which generally become the property of the local agency administering a project upon completion of a contract.



2.11 Contract Modifications

Changes to a consultant contract require a written contract modification. Such modifications are required for changes in scope of work, time or contract amount. Modifications must be sent to MaineDOT for review and concurrence before they are signed. Additionally, such modifications must be executed by all parties before any work covered by that modification may take place.

Work subject to a contract modification that is performed before the modification is executed will be ineligible for reimbursement from MaineDOT, with no exceptions.

2.12 Debarment

Consultants prohibited from receiving federal money cannot work on federally funded contracts, a practice known as debarment. A local agency, therefore, must verify that its selected consultant is not debarred. Verification must be sent to the MaineDOT project manager in the form of a screen print from the federal System for Award Management (SAM): www.sam.gov.

2.13 Consultant Evaluations

MaineDOT and the Federal Government require that local agencies evaluate their contracted consultants once work is completed. Such evaluations serve to generate feedback, foster communication and improve the process.

MaineDOT's standard form may be used if all references to MaineDOT are removed. A copy of the completed evaluation should be provided to MaineDOT. Remember that a consultant must be given a chance to review the evaluation and comment on it before it is finalized.

2.14 Actions That May Risk Funding

Upon signing agreements with MaineDOT, local agencies accepting federal or state funding become legally bound to meet the requirements that accompany the funds. Agencies hiring consultants with funding from MaineDOT, therefore, must follow the policies and procedures in this Chapter 2.

Listed below are activities that could make all or a portion of consultant-related costs on a project ineligible for reimbursement from MaineDOT:



- Selecting a consultant based on the lowest price for the service.
- Failing to follow the appropriate consultant selection method as outlined in this Manual, based on the estimated cost of the service.
- Starting work before a consultant contract is executed.
 - *Work before the execution date would not qualify for reimbursement. Work done afterward, however, would be reimbursable.*
- Performing work beyond the original contract scope of work without a contract modification in place.
 - *Work outside of the original scope would not qualify for reimbursement.*
- Working past the contract expiration date without a modification in place.
 - *Work performed past the expiration date would not qualify for reimbursement.*
- Exceeding the maximum dollar value of a contract without an executed contract modification in place.
 - *Reimbursement would be capped at the original contract amount.*

Appendix 2A: Consultant Selection Checklist



CONSULTANT SELECTION CHECKLIST

Develop Scope of Work and Independent Estimate

- Submit scope of work and independent estimate to MaineDOT project manager for approval.
 - *Approval Date:* _____

Services estimated to cost \$25,000 or less:

- Obtain MaineDOT project manager's approval for simplified acquisition (*Communication 5*).
- Submit request for proposals (RFP) to MaineDOT project manager for approval.
 - *Approval Date:* _____
- Request/receive proposal from consultant.
- Negotiate scope, schedule & cost with consultant, based on independent estimate.
- Verify that consultant is not debarred by checking www.sam.gov and generating a screen print.
- Obtain MaineDOT's approval of consultant proposal and unsigned contract (*Communication 7*).
 - *Approval Date:* _____
- Execute contract, obtain completed DBE Form, and send consultant notice to proceed.

Services estimated to cost between \$25,000 up to \$250,000

- Submit draft RFP to MaineDOT project manager for approval (*Communication 6*).
 - *Approval Date:* _____
- Send approved RFP to 3-5 pre-qualified firms, seeking technical and sealed price proposals: <https://www1.maine.gov/mdot/cpo/prequal/>
- Review and score technical proposals. (*Do not open any cost proposals now.*)
- Open the sealed price proposal from the best-qualified (No. 1) consultant and begin negotiating.
 - If negotiations with No. 1 are successful, draft a contract for MaineDOT review
 - If negotiations with No. 1 are unsuccessful, request a "Best and Final Offer".
 - If terms cannot be reached, begin negotiations with No. 2 consultant.
- Verify that consultant is not debarred by checking www.sam.gov and generating a screen print.
- Send unsigned contract and price proposal to MaineDOT for approval (*Communication 7*).
 - *Approval Date:* _____
- Execute contract, get completed DBE Utilization Form, and send consultant notice to proceed.
- Sent regret letters and unopened price proposals to unsuccessful proposers.

Services estimated at greater than \$250,000

- Submit draft RFP to MaineDOT project manager for approval (*Communication 6*).
 - *Approval Date:* _____
- Advertise the RFP, requesting technical proposal and sealed cost proposal.
- Review and score technical proposals. (*Do not open cost proposals now.*)
- Invite the top three firms for interviews.
- Send written notification to firms not chosen for interviews and return sealed price proposals.
- Select the best-qualified (No. 1) consultant and open its sealed price proposal.
- Negotiate the scope, schedule and cost with the No. 1 consultant.
 - If negotiations with No. 1 are successful, draft a contract for MaineDOT review.
 - If negotiations with No. 1 are unsuccessful, request a Best and Final Offer.
 - If terms still cannot be reached, end negotiations and move on to No. 2 consultant.

- Verify that consultant is not debarred by checking www.sam.gov and generating a screen print.
- Send unsigned contract and price proposal to MaineDOT for approval (*Communication 7*).
 - *Approval Date:* _____
- Execute contract, get completed DBE Utilization Form, and send consultant notice to proceed.
- Sent regret letters and unopened price proposals to unsuccessful proposers.

Consultant Administration

- Oversee consultant's work and billings to ensure contract compliance.
- Obtain MaineDOT project manager's approval of contract modifications **before** they are signed.
- Evaluate consultant upon completion of contract, with copy to MaineDOT.

Appendix 2B: Submittals to MaineDOT



Date

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 state House Station
Augusta, ME 04333-0016

Subject: Simplified Acquisition Request
MaineDOT WIN_____

Dear _____:

The Municipality of _____ is requesting your approval to seek a proposal for services for [scope of services] for [project scope] with [insert company name].

Since consultant costs are estimated to be \$25,000 or less – based on our independent estimate (enclosed) – our understanding is that we may use a simplified acquisition allowing us to solicit a technical proposal and a price proposal from a single pre-qualified consultant.

We understand that MaineDOT cannot participate financially in contract costs exceeding \$25,000, since a simplified process was used to select this consultant.

Please review the submitted materials and let us know if we are approved to solicit a proposal and subsequently to negotiate a contract with this firm. We understand that we cannot award a contract without approval.

Sincerely,

Local Project Administrator
Municipality of

Enclosures:

1. Technical proposal
2. Price proposal
3. Independent Agency Estimate

Date

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 state House Station
Augusta, ME 04333-0016

Subject: RFP Review Request
MaineDOT WIN_____

Dear _____:

The Municipality intends to solicit for engineering services for [**scope of services**] for [**project scope, WIN**] in the Municipality of _____. Attached is the Request for Proposals that we intend to use for this solicitation.

If estimated price is \$25,000 to \$250,000, use the following language:

Based on our independent estimate of the cost of the proposed services (enclosed), we understand that we may select potential consultants from a pool of 3 to 5 pre-qualified firms. We intend to send the RFP to the following consultants listed on MaineDOT pre-qualification listing for [insert type of service]:

If estimated price is \$250,000 or greater, use the following language:

Based on our independent estimate of the cost of the proposed services (enclosed), we understand that we must use a publicly advertised solicitation in accordance with the federal Brooks Act. We intend to advertise the RFP on [**date**] as follows:

Please review the draft RFP as soon as possible and inform me as to its adequacy.

Sincerely,

Local Project Administrator
Municipality of _____

Enclosure: Draft RFP

Date

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 state House Station
Augusta, ME 04333-0016

Subject: Consultant Selection Approval Request
MaineDOT WIN_____

Dear _____:

The Municipality of _____ has selected [**name of consultant firm**] for [**scope of services**] for [**project scope, WIN**]. Attached is the negotiated contract, price proposal and our independent estimate. We understand that we cannot award this contract without your approval.

We have verified that our selected consultant is not debarred or otherwise prohibited from working on federally funded contracts. We have attached documentation verifying this, in the form of a screen shot from the federal SAM database: www.sam.gov.

Please review these documents as soon as possible and inform me of your decision so that we may execute a contract with this firm. We understand that no work eligible for reimbursement may begin until we execute the contract upon MaineDOT's approval and give our selected consultant notice to proceed.

Sincerely,

Local Project Administrator
Municipality of _____

Enclosures:

1. Draft contract
2. Independent agency estimate

Appendix 2C: Payment Methods



PAYMENT METHODS

☐ BURDENED HOURLY RATE

Adjustable Burdened Hourly Rate:

This is an adjustable rate consisting of direct labor, overhead (indirect), and profit. This rate may be adjusted during the term of the contract. Direct labor rates must be supportable and be within a required salary cap of \$50/hour. Direct expenses would be billed in addition to the overall hourly rate at actual cost, with no markup.

Fixed Burdened Hourly Rate:

This is a fixed rate consisting of direct labor rate, overhead, and profit. This rate cannot be adjusted during the term of the contract. Direct labor rates must be supportable and within a required salary cap of \$50/hour. Direct expenses would be billed in addition to the overall hourly rate at actual cost, with no markup. This payment method is recommended for contracts that are less than or equal to 12 months in duration.

When to use a Burdened Hourly Rate:

Burdened Hourly Rate payment methods are suitable when the effort per unit of work is well defined but the number of hours required is uncertain. It is essential that a consultant working under this type of contract keep a record of the work completed.

Under this payment method, a consultant must submit an annual audited overhead report to the MaineDOT Office of Audit for review. The contract must include a maximum amount payable that cannot be exceeded unless adjusted by a contract modification.

☐ COST PLUS FIXED FEE

Under Cost Plus Fixed Fee, a consultant is reimbursed for actual, supportable costs incurred: direct labor (within a required salary cap of \$50/hour per individual), overhead and direct expenses at actual cost, with no markup. In addition, the consultant is paid an agreed upon amount for a fixed fee (profit), which should be reasonable and range between 8 percent and 10 percent. Once negotiated, the fixed fee does not change, even though the actual cost may vary.

When to use Cost Plus Fixed Fee:

This payment method is suitable when the scope of work is well-defined, but the effort required to complete the work cannot be estimate precisely. These contracts will be eligible for post contract audits to verify rates, contract compliance and profit level.

Under this payment method, the consultant must submit an annual audited overhead report to the MaineDOT Office of Audit for review. The contract must include a maximum amount payable that cannot be exceeded unless adjusted by a contract modification.

❑ COMMERCIAL RATE

Commercial Rate is a fair and reasonable rate consisting of direct labor rate, overhead (indirect), and profit. This rate remains fixed for the duration of a contract.

Direct labor rates must be supportable and within a required salary cap of \$50/hour per individual. Direct expenses would be billed in addition to the overall hourly rate at actual cost, with no markup. An audited overhead report is not required for this payment method unless the contract value is greater than \$150,000.

When to use Commercial Rate:

Use Commercial Rate when a consultant is a new or small firm that does not have an audited overhead report. One method of establishing this rate is by using a market rate comparison.

❑ LUMP SUM

Lump sum is a negotiated payment method in which the price includes all direct labor, overhead and profit. Direct expenses either may be included in the lump sum amount or may be billed separately at actual cost with no markup.

The amount of a Lump Sum contract is fixed; therefore, it is not subject to adjustment because of cost changes that a consultant might encounter in the performance of the work. For this reason, municipalities must scrutinize requests from consultants to increase the dollar values of these types of contracts.

When to use Lump Sum:

A Lump Sum payment method may be used when the scope of work is clear and well defined, and the total cost can be estimated accurately.

Local Project Administration Manual & Resource Guide

Project Design



MaineDOT

Integrity - Competence - Service

Updated 2019

Project Design

Successful projects begin with practical designs that reflect sound engineering judgment. Well-developed construction plans and specifications enable contractors to understand what they are to build and how the work should be done, minimizing change orders. Most municipalities and non-profit agencies hire engineering consultants. In larger cities, such as Bangor and Lewiston, municipal engineers commonly perform design work.

Chapter 3 of this Manual is set up to guide communities and consultants in meeting MaineDOT's expectations for design work on locally administered projects. It covers the following topics:

- Design requirements (page 3-1);
- Expectations for Preliminary Design Report and Plan Impacts Complete (page 3-2);
- Scales for design plans (page 3-3);
- Americans with Disabilities Act (page 3-3);
- Practical design (page 3-4);
- Design exceptions (page 3-5);
- Design review requirements (page 3-6);
- Public process, environment, utilities, and traffic (pages 3-7 and 3-8);
- Appendix 3A: Design submittal guidance (page 3-9); and
- Appendix 3B: Electronic exchange of CADD data (page 3-16).



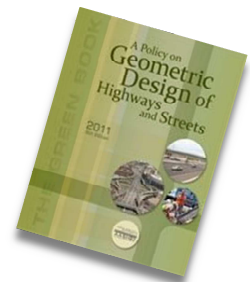
Design guidance is online: <https://www.maine.gov/mdot/engineering/practices-procedures/>

3.1 Design Requirements

Engineering work on a locally administered project must be supervised by an engineer licensed in Maine. If a highway, bridge or bicycle/pedestrian project has federal or state money, MaineDOT expects the design to reflect appropriate sections of its *Engineering Instructions*, *Highway Design Guide*, *Standard Specifications*, and *Standard Details*.

Additionally, MaineDOT encourages use of the following standard references:

- AASHTO: A Policy on Geometric Design of Highways and Streets.
- AASHTO: Guide for the Planning, Design, and Operation of Pedestrian Facilities.
- AASHTO: Guide for the Development of Bicycle Facilities.
- AASHTO: LRFD Bridge Design Specifications.
- Federal Manual on Uniform Traffic Control Devices (MUTCD).



3.2 Preliminary Design Report

Early in project development, a designer prepares preliminary plans (at least 50 percent complete) and identifies initial utility, environmental and right-of-way impacts. The principal product at this point is a preliminary design report (PDR), which should be submitted to MaineDOT for review and comment using a standard form that is online: <https://www.maine.gov/mdot/engineering/highway/>

Guidance on design submittals is found in Appendix 3A, starting on page 3-9. In general, the PDR should provide the following information, as applicable to the scope of a project:

- Project location, with a map and photographs;
- A description of the existing conditions – including traffic volumes, if applicable;
- Preliminary design with plan views, profiles and drainage scheme;
- Typical sections with pavement depth, base type and depth, and curb type;
- Preliminary identification of impacts, obstacles and site constraints;
- Proposed exceptions to controlling design standards;
- Results of meetings and other public involvement activities; and
- A preliminary estimate of the construction cost, using MaineDOT bid item numbers.

3.3 Plan Impacts Complete

Once MaineDOT signs off on a PDR, a project moves to final design. The key milestone here is Plan Impacts Complete, reached when MaineDOT signs off on the highway, traffic, drainage and environmental designs for a project, as applicable, and right-of-way needs have been determined. Draft plan impacts must be sent to MaineDOT for review, preferably as PDF files.

MaineDOT considers design to be at Plan Impacts Complete when plans show these details:

- Plan views with cut/fill lines;
- Cross-sections every 50 feet showing proposed limits of slopes and new construction;
- Beginning and end of project stations;
- Bearings on the baseline;
- Locations and limits of driveways and entrances to be constructed;
- Type of surface treatment on drives and entrances;
- Locations of curbing, sidewalks and islands, including their geometrics;
- Drainage scheme showing under-drain, basins, culverts, ditches and outlet locations;
- Calculated drainage flows;
- Clearing limits and individual trees/shrubs to be removed, regardless of size;
- Locations of structures to be installed, such as retaining walls;
- Locations of all signal poles, special street lighting, conduits and junction boxes;
- Existing utilities on plans and cross sections with proposed new locations; and
- Proposed guard rail.

3.4 Scales for Design Plans

If a project is located on a state or state-aid highway, design plans are likely to be shared with MaineDOT staff for use in the right-of-way process. For this reason, project designers should use the U.S. customary scales listed below for full-sized plan sheets.

- Plan View: 1 inch = 25 feet
- Profiles: 1 inch = 25 feet
- Geometrics: 1 inch = 25 feet
- Cross Sections: 1 inch = 5 feet
- Typical Sections: 1 inch = 4 feet

Additionally, designers are expected to follow MaineDOT's Policy on Electronic Exchange of CADD Data, if electronic files will be shared with MaineDOT for use in the right-of-way process. The policy is found in Appendix 3B, on page 3-16 of this chapter.

3.5 Americans with Disabilities Act

The Americans with Disabilities Act (ADA) prohibits discrimination against people with disabilities in all aspects of life. In the context of locally administered projects, the ADA requires that many highway improvements address deficiencies in ADA compliance to the *maximum extent feasible*, regardless of cost or funding source.

➔ ADA requirements are covered in depth in Chapter 10 of this Manual, "Civil Rights."

Under the ADA, highway projects that alter the usability of roadways must improve access to existing pedestrian facilities to the maximum extent feasible. This applies to new construction, reconstruction, rehabilitation and "pavement alteration" treatments such as overlay, mill-and-fill, in-place recycling, micro-surfacing and cape seals.



Within the limits of these projects, ADA compliant curb ramps must be built where barriers such as curbs restrict access to sidewalks and other pedestrian facilities. The law also requires installation of detectable warnings, where warranted, and upgrades to pedestrian signals.

Many locally administered projects involve construction of sidewalks. Listed below are common standards for such facilities funded through MaineDOT.

- **New Sidewalks:** With some exceptions, new sidewalks must be at least 5 feet wide, with cross-slopes of less than 2 percent.
- **Curb ramps:** Ramp slope cannot exceed 8.3 percent; cross-slope cannot exceed 2 percent; new ramps must be 6 feet clear width across; detectable warning fields must extend the full length of the ramp; flared side should not be more than 10 percent; and ramps must be flush with the street.

If curb ramps cannot be built to comply fully with the ADA, they should be made compliant to the maximum extent feasible, with deficiencies explained and documented.

3.6 Practical Design

MaineDOT has developed highway corridor priorities to highlight the hierarchy of road needs. Under this system, designers are encouraged to consider the context of a highway corridor location and to develop an acceptable range of solutions. This is the backdrop of MaineDOT's practical design philosophy. One size, it is clear, does not fit all.

Practical design emphasizes purpose and need – getting the best value for the least cost. This model encourages designers to consider the surroundings of each project when making decisions. Whether a project is on the interstate system or a low-volume local road, for example, may lead to different design decisions. Having sensitivity to context helps to develop design criteria that address the specific needs along a particular corridor.

The three tenets listed below must be followed for this practical design approach to succeed.

1. **Safety:** Projects completed using the practical design philosophy must improve safety.
2. **Quality:** Purpose and need must be achieved without shifting the burden to maintenance.
3. **Communication:** Frequent and open communication fosters the collaboration that is necessary to reach the solution.

Practical design emphasizes the flexibility within the design standards and focuses on use of good engineering judgment. Decisions about lane and shoulder widths, clear zone offsets, horizontal and vertical alignment and cross-slopes are driven by the context of the roadway or bridge, as well as the true purpose and need of the project.

Under this approach, MaineDOT's design guides, Engineering Instructions and other references should not be viewed as strict standards but rather as tools to help create consistency. MaineDOT expects and encourages deviation from some standards when considering the context of a project's location, as long as designers use good engineering judgment and adhere to the three tenets above.

When a decision is made to deviate from a design standard based on sound engineering judgment, MaineDOT has a Design Exception process that requires review either by the Engineering Council or a delegated authority. *The Design Exception process is covered in section 3.7 of this chapter, "Design Exceptions."*

Consider an example. If the bridge over a stream can no longer convey traffic safely, the purpose and need would be to provide for a safe crossing. In the past, strict adherence to design standards dictated that the replacement bridge would be wider, higher and longer. There also was a tendency to upgrade other highway features in the general vicinity.

Practical design points out that, in many cases, the existing bridge had performed well for decades. Replacing the bridge with a larger and more expensive one would not be prudent when the only deficiency is the poor structural condition. This philosophy allows for good solutions over a broader range of the system, rather than ideal solutions for isolated sections of it.

3.7 Design Exceptions

Designers and engineers face tradeoffs. A good design balances cost, safety, mobility, social and environmental impacts, and the needs of a variety of users. When it isn't practical to meet standard design criteria, an appropriate solution may be to use a design value outside the standard range – if the designer has analyzed the potential effects upon safety and operations.

A design exception is a documented decision to design an element of the transportation system to criteria outside of established guidelines. For projects along state highways, exceptions to the criteria in the matrix below must be highlighted on the design plans, with a memo describing the controlling values and the nature of each proposed exception.

A design exception request form is online: <https://www.maine.gov/lpa/lpadocuments/>

Requests for design exceptions on locally administered projects must go initially to the manager of the MaineDOT Multimodal Program. From there, a design exception request may be elevated to the MaineDOT Engineering Council, as warranted and shown below.

Highway Corridor Priority	Applicable Controlling Criteria	Approval Level
1, 2 (NHS)	CS, CZ, DS, HC, LW, MG, SC, SSD, SR, SW, VC	MaineDOT Engineering Council *
3, 4, 6	CS, CZ, DS, HC, LW, MG, SC, SSD, SR, SW, VC	MaineDOT Program Manager **

- CS Cross Slope
- CZ Clear Zone
- DS Design Speed
- HC Horizontal Curve Radius
- LW Lane Width
- MG Maximum Grade
- SC Structural Capacity
- SR Superelevation Rate
- SSD Stopping Sight Distance
- SW Shoulder Width
- VC Vertical Clearance

* *Design exceptions on preservation projects shall be approved at the Program level. Design exceptions on rehabilitation projects can be approved at the Program level, with consideration given to submitting such exceptions to the Engineering Council on complex projects.*

** *Design exceptions on complex projects should be submitted to the Engineering Council.*

3.8 Design Reviews

Quality-control (QC) checks are vital to the design process. Accordingly, MaineDOT requires consultants and municipal engineers working on locally administered projects to perform and document QC design checks at the following stages:

- At 50-60 percent design, with the preliminary design report (PDR); and
- At 95-100 percent design – with final plans, specifications & estimate (PS&E).

The QC process will consist of checking all calculations and design assumptions, and reviewing the PDR, contract provisions, plan set, cost estimates and all other relevant documents. The design checker shall be a qualified individual other than the originator of the documents.

The established QC design checks should include the following items:

- Summarizing the design-checking process. This will include the checklists used, the standard checking and back-checking processes, and other QC tools that were utilized.
- Documenting all design checks: initials of the checker, the date on which checks were performed, comments by the checker, and any other documentation.
- Checking all documents and calculations developed for each design element.
- Complying with all legal, regulatory and contractual requirements, including but not limited to the Americans with Disabilities Act (ADA) and the Manual on Uniform Traffic Control Devices (MUTCD).
- Assuring both that the design is of high quality and that it conforms to all applicable MaineDOT standards, policies and practices.
- Reviewing the cost estimate, including quantity and unit price analysis with comparison to established budget and project scope.
- Analyzing constructability and maintainability if the proposed design.
- Risk assessment (based on public safety, funding, scope, site specific conditions, and/or other project specific condition that could elevate risk level.)



MaineDOT will verify the design checks through its quality-assurance reviews of project plans at the milestones PDR and final PS&E. MaineDOT staff will not review plan submittals that lack evidence of design checks until they receive such documentation.

NOTE: *If a community intends to hire an engineering consultant, quality control must be a scope item in a consultant's technical proposal and subsequent contract.*

3.9 Public Involvement

During design, a local agency must give the public an opportunity to learn about potential impacts and comment on a project. An agency should determine an appropriate level of public involvement based on a project's size and its effect on the community and natural environment. A curb-to-curb paving project, for example, will require a less extensive public process than a highway reconstruction or shared-use path with multiple impacts.

Public meetings are the primary means of informing people about proposed projects. An agency overseeing a project should notify all abutters by registered mail and publicize meetings using its standard public notification procedures. Advertisements typically are required. Sample notifications are found on MaineDOT's website under Public Participation: <https://www1.maine.gov/lpa/lpadocuments/>.



Additional events may be needed for complicated or controversial projects – including outreach to affected populations with limited ability to read, speak, write or understand English – to be sure that all customers and stakeholders have opportunities to influence the decision-making process.

After the public process, the agency managing a project must review all comments and include a summary in the preliminary design report, covered in Section 3.2. Additionally, the agency must provide MaineDOT with a public process certification (*Communication 10*) certifying that public involvement was conducted and noting significant comments or opposition.

Businesses potentially affected by projects must be notified and given opportunity to express concerns during the preliminary phases of project design.

3.10 Environmental Review

During design, all locally administered projects with federal money must be reviewed for possible impacts to natural and cultural resources such as wetlands, wildlife habitats, historic properties, and public parks and recreation areas. Federal laws – notably the landmark National Environmental Policy Act (NEPA) – mandate such reviews.

Survey and other field work should identify environmentally sensitive areas along the proposed route of a project, along with public parks or recreation areas. Further research will determine if a project may affect historic properties or habitat for endangered species, such as the Atlantic salmon and the northern long-eared bat, as covered in Chapter 4 of this Manual, “Environmental Review.”

MaineDOT's Environmental Office handles NEPA review on locally administered projects. Municipalities and other local agencies must provide MaineDOT with *Communication 11* and the NEPA Documentation Checklist, answering a series of questions necessary to complete the NEPA process. A project cannot proceed to right-of-way negotiations or to final plans, specifications & estimate (PS&E) – the last stage before advertise – until NEPA is completed.

3.11 Utility Coordination

Early and continuing coordination with utilities is critical to keeping things on schedule. Utility facilities consist of public or private lines or equipment, such as utility poles, power lines, telephone lines, cable television lines, underground water, sewer and gas lines, and railroad tracks. Utility companies often will need extensive lead time to schedule their work and obtain the materials needed to move lines and other equipment.

As design work begins, a project engineer or designer should consider the following questions:

- What utility facilities exist in the right of way?
- How much room is there for clearing?
- Is the project abutting another project? What was done there?
- Can relocations be reduced and still meet the project need?
- What are the concerns of the utilities?



The designer or utility coordinator should take the preliminary alignment to an initial meeting with the utilities. If utilities cannot be accommodated without severely affecting the scope of a project, this needs to be explained early. (*Utility coordination is covered in Chapter 6 of this Manual.*)

3.12 Traffic Analysis and Management Evaluation (TAME)

MaineDOT uses a system of Traffic Analysis Management and Evaluation (TAME) to address traffic delays from construction projects. During the TAME review process, traffic engineers analyze traffic counts and other data to establish appropriate lane closures in work zones.

Upon completing the preliminary design report for a project, a local agency or its design consultant must submit to MaineDOT's project manager a completed TAME Request Form, which can be downloaded using the link below. The form provides basic information such as average daily traffic volumes and known traffic generators that MaineDOT will use in determining whether to restrict lane closures during construction.

TAME guidance is available on MaineDOT's engineering and design website:
<https://www1.maine.gov/mdot/edi/docs/GuidelinesTAMEINGforPDprojects.pdf>

MaineDOT traffic engineering staff will consider potential traffic impacts and develop draft TAME criteria. At the end of the TAME review, MaineDOT may issue a special provision for the contract book for a project stipulating restrictions on lane closures. MaineDOT will not approve the final plans, specifications and estimate package (PS&E) for a project without a signed certification from the State Traffic Engineer that the TAME process was completed.

Most projects on roads with average daily traffic volumes of less than 10,000 are unlikely to cause traffic issues. However, municipalities with projects on roads with average daily traffic volumes of greater than 10,000 or with heavy seasonal traffic should expect some restrictions on lane closures.

Appendix 3A: Design Submittal Guidance

- ❑ Electronic versions of the forms in this section are available online:
<https://www1.maine.gov/mdot/cpo/highway/>

DESIGN SUBMITTAL FORM

Project Name: _____ *WIN:* _____

PRELIMINARY DESIGN REPORT (PDR)

■ SUBMITTALS

- Completed draft PDR, including Highway Design Report Form, if this is a highway project
- PDR Estimate, including calculations and MaineDOT item numbers
- Approved Pavement Design
- Design Exceptions approved by MaineDOT
- 1 Half Size set of plans including:
 - Preliminary Typical Sections
 - Plans
 - Profiles
 - Cross-sections (include critical drive sections)
 - Preliminary Drainage Scheme
 - Under-drain, Basins, Culverts, Ditches, Outlet locations
 - Guardrail and Retaining Wall locations

■ TYPICAL SECTION

HMA Depth	
Base Type	
Base Depth	
Sub-base Type	
Sub-base Depth	
Curb Type	
Loam Depth	

COMMENTS:

■ TRAFFIC

Turning Movements

<i>Location</i>	<i>Signal (Y/N)</i>	<i>Design Vehicle</i>	<i>Encroachment (Y/N)</i>

COMMENTS:

Turning Lanes

<i>Location</i>	<i>Design Speed</i>	<i>Lane Width</i>	<i>Taper Length</i>	<i>Storage Length</i>

COMMENTS:

Other Auxiliary Lanes

<i>Location</i>	<i>Design Speed</i>	<i>Shift Width</i>	<i>Taper Length Out</i>	<i>Shift Length</i>	<i>Taper Length In</i>

COMMENTS:

■ ADA

Indicate existing or new pedestrian facilities. The ADA section in the PDR should be completed.

	<i>Sidewalks (Y/N)</i>	<i>Ramps (Y/N)</i>	<i>Crosswalks (Y/N)</i>	<i>Pedestrian Signals (Y/N)</i>
<i>Existing Facility</i>				
<i>Proposed Facility</i>				

COMMENTS:

■ CLEAR ZONE

The required clear zone should be listed in the HDR form.

COMMENTS:

■ GUARDRAIL

<i>Location</i>	<i>Obstacle within Clear Zone (Y/N)</i>	<i>Embankment steeper than 3H:1V (Y/N)</i>

COMMENTS:

■ DRAINAGE

Provide drainage scheme as indicated in Submittals section.

COMMENTS:

■ DRIVES AND ENTRANCES

List critical drive locations and whether Design Exceptions will be needed.

<i>Location</i>	<i>Existing Grade</i>	<i>Proposed Grade</i>	<i>Design Exception (Y/N)</i>

COMMENTS:

■ RETAINING WALLS

Provide locations as indicated in Submittals section.

COMMENTS:

PLAN IMPACTS COMPLETE (PIC)

■ SUBMITTALS

- Design Submittal Form Checklist, with supporting documentation
- Approved Pavement Design (if not submitted at PDR)
- Approved Design Exceptions (if not submitted at PDR)
- Retaining Wall Design approved by Geotechnical Engineer
- Guardrail Length of Need Worksheets (if applicable)
- Half-size set of plans (.pdf format) including:
 - Typical Sections
 - Plans
 - Profiles
 - Cross-sections
 - Final Drainage Design

■ TYPICAL SECTION

COMMENTS:

■ GUARDRAIL

Identify areas where guardrail is warranted and what hazard is. Provide guardrail length of need worksheets as indicated in Submittals section.

<i>Location</i>	<i>Obstacle within Clear Zone (Y/N)</i>	<i>Embankment steeper than 3H:1V (Y/N)</i>

COMMENTS:

■ DRAINAGE

Provide Final Drainage Design as indicated in Submittals section.

COMMENTS:

■ DRIVES AND ENTRANCES

List critical drive locations and Design Exception Approval date if applicable.

<i>Location</i>	<i>Existing Grade</i>	<i>Proposed Grade</i>	<i>Design Exception Date</i>

COMMENTS – provide additional discussion to help the review/check team.

■ RETAINING WALLS

Provide design as indicated in Submittals section.

COMMENTS – provide additional discussion to help the review/check team.

PLANS, SPECIFICATIONS, & ESTIMATE (PS&E)**SUBMITTALS**

- Half-size set of plans (.pdf format) including:
 - Title Sheet
 - Typical Sections
 - Earthworks Summary, if applicable to the project
 - General Notes
 - Plans
 - Profiles
 - Cross-sections
 - All supplemental sheets (Drainage, Geometric, Grading, Striping, etc.)

- Engineer's Estimate (including calculations)
- Special provisions

Appendix 3B: Electronic Exchange of CADD Data

Electronic Exchange of CADD Data

1. General

This document is intended as guidance to municipalities and design consultants about MaineDOT's specification for electronic data as it relates to engineering design deliverables. Municipalities and consultants working on locally administered projects that will require submittal of electronic files to MaineDOT for use in right-of-way mapping and other tasks must adhere to the standards set forth in this document, specially Section 2 below.

MaineDOT uses MicroStation as its drafting software and Bentley InRoads as its roadway design application, both products of Bentley Systems. Graphical data should be provided in MicroStation's .DGN drawing format. Roadway design data must be submitted in a format that can be imported directly into InRoads without translation, and with no loss of accuracy.

2. Electronic Deliverables to MaineDOT

All CADD files submitted to MaineDOT must be organized in accordance with MaineDOT's CADD Standards. *No translation of graphical or roadway design information by MaineDOT personnel shall be required.*

MaineDOT's CADD standards, custom MicroStation and InRoads configuration files, and current version information are available for download from the MaineDOT CADD Support Web Page: <https://www1.maine.gov/mdot/caddsupport/>

MicroStation drawing files (.DGN) must meet MaineDOT's conventions for Working Units, Global Origin, Level Structure and Naming, File Names, File Content and Referencing, Line Styles, Line Weights, Fonts, Cells, and Color Tables. Roadway design data must be provided in InRoads model files (.dtm, .rwk, .alg, .itl, ird, .xin), and/or LandXML. MaineDOT's Standard InRoads Feature Naming Convention must be used for all roadway design data files. The consultant is solely responsible for any translation and verification required to convert non-MicroStation graphics files to the current MaineDOT MicroStation design file format, and roadway design files to the MaineDOT InRoads format or LandXML. MaineDOT reserves the right to reject any file transmitted that does not conform to these standards.

It is recommended that consultants install MaineDOT's MicroStation configuration as an alternative to their own. MaineDOT's MicroStation resources – including seed files, cell libraries, line styles, fonts, macros, color table, settings manager files, and menus – are available from the CADD support web page referenced above, along with instructions for setting up MaineDOT's configuration on an existing MicroStation installation. Provisions are available to easily switch between other configurations and MaineDOT's.

The schedule of preliminary design electronic file submissions will be determined on a project-by-project basis, depending on scope of work. Files at this stage of design may be submitted via MaineDOT's FTP site (<ftp.mainedot.smartfile.com>) contained in a .ZIP file, or written to portable flash drives, CD, or DVD as individual files.

Upon MaineDOT's approval and acceptance of the final signed and stamped plans, consultants must provide to MaineDOT the final electronic versions of all MicroStation files, roadway design files, and associated resource files on portable data storage device. Consultants must provide copies of final plan sheets in Adobe Portable Document Format (PDF) at MaineDOT's discretion. The PDF files will serve as the electronic, read-only record plans for the project, and must match all aspects of the final hardcopy signed and stamped plans. *These electronic delivery items **DO NOT** replace any hardcopy delivery items.*

A Project Journal File must accompany all electronic files submitted to MaineDOT, both those written to a portable data storage device, and those transmitted via MaineDOT's FTP site. This document must contain the Town Name, State Work Identification Number (WIN), date, and a list of the files being transmitted with a brief description of each file.

Portable flash drives, CD's or DVD's used to transmit electronic files to MaineDOT must, at a minimum, be labeled with the Town Name, State Work Identification Number (WIN), and date. If more than one data storage device is required to transmit the files, the disc label must also include the device number and total devices of the set transmitted, (ex: Disk 1 of 5).

3. MaineDOT Furnished Services and Information

MaineDOT will provide copies of the latest files used to configure, customize, and utilize MicroStation and InRoads in its own project development process to the consultant through the MaineDOT CADD Support page on the Internet.

MaineDOT will provide access to Engineering Applications Group personnel for information and answers to questions on MaineDOT CADD standards, MicroStation and InRoads setup, configuration, customization, and documentation. Contact information is available on the web site.

MaineDOT's Survey Section will determine the horizontal and vertical datum to be used for each project. Files exchanged between MaineDOT and the consultant will reflect these datums.

MaineDOT will provide separate drawings for existing topographic information, text, contours, and a Digital Terrain Model (DTM) of existing surfaces in MicroStation DGN format. Consultants using InRoads software can request the original MaineDOT InRoads Survey model.

A variety of standard reports created during the processing of survey data for input into InRoads are also available to the consultant from MaineDOT. Examples of these reports can be found on the InRoads portion of the MaineDOT CADD Support web site. *It is the responsibility of consultants to translate this data into other formats required for use in their design software.*

Local Project Administration Manual & Resource Guide

Environmental Review



MaineDOT

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2018 Edition

Environmental Review

Before moving forward, transportation improvements must be evaluated to determine if they might affect natural and cultural resources, such as wildlife habitats and historic homes. These mandatory reviews stem from several landmark federal laws – notably the National Environmental Policy Act (NEPA).

Chapter 4 of this Manual provides an overview of the environmental review process, with a summary of relevant laws, templates for submittals to MaineDOT, and a breakdown of state and local responsibilities. It contains the following:

- A summary of the major laws and regulations (pages 4-1 to 4-6);
- An environmental checklist (page 4-2);
- A table with state/local responsibilities (page 4-3);
- Appendix 4A: Templates for submittals to MaineDOT (page 4-7).



4.1 National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) is the nation’s foremost environmental law. Under the law – found in Title 23 of the Code of Federal Regulations, Part 771 – MaineDOT may assess the potential impacts to a variety of natural and cultural resources as one process. When finished, MaineDOT receives from the Federal Government an environmental clearance that, for most locally administered projects in Maine, is known as a “Categorical Exclusion.” The document is a sign-off that a project will not have significant environmental impacts.

Caution: Right-of-way negotiations with property owners on federally funded projects cannot occur until MaineDOT receives NEPA clearance from the Federal Government.

NEPA review is required on projects with a federal action (funding/permits), as follows:

- MaineDOT must complete the NEPA process when a project has federal money. In this case, the local agency administering a project must provide information addressed in *Communication 10* and *Communication 11*, found on pages 4-8 through 4-10.
- All work regarding Section 106 (historic properties), Section 7 (endangered species), Section 4(f) (public parks, et. al.,) public involvement, hazardous materials review, and the level of federal permit must be done before NEPA can be completed.
- The local agency administering a project must complete the environmental review process when there is no federal money, typically through federal permitting.

ENVIRONMENTAL REVIEW CHECKLIST

A. National Environmental Policy Act (federally funded projects)

- Upon completion of the Preliminary Design Report (PDR), provide MaineDOT with the NEPA checklist (**Communication 11**) and public process certification (**Communication 10**)

B. Environmental Permits

- Contact appropriate state and federal agencies for permitting requirements and approvals.**

- Maine Department of Environmental Protection:
 - <https://www.maine.gov/dep/permits/index.html>
 - Augusta (Central Maine): 207-287-7688
 - Bangor (Eastern Maine): 207-941-4570; 888-769-1137
 - Portland (Southern Maine): 207-822-6300; 888-769-1036
 - Presque Isle (Northern Maine): 207-764-0477; 888-769-1053

- U.S. Army Corp of Engineers: (207) 623-8367 or <http://www.nae.usace.army.mil/>

- Contact appropriate state agencies for their comments and concerns about the project.**

- Maine Department of Inland Fisheries and Wildlife:
 - Fisheries Division for timing approval, freshwater fisheries and fisheries passage issues: (207) 287-8000
 - Wildlife Division for rare, threatened and endangered species issues: (207) 287-8000
- Maine Department of Marine Resources, Wetlands and Permit Section
 - Sea-run fisheries, coastal resources and fish passage issues:
 - <https://www.maine.gov/dmr/science-research/searun/index.html>

- Complete appropriate state and federal permit applications**

C. Environmental Certification

- Send an environmental certification (use Communication 12) and copies of all permits obtained for your project to the MaineDOT project manager.
 - The certification and documentation must be part of the final Plans, Specifications and Estimate (PS&E) package.
 - The paperwork must be submitted to MaineDOT before a project may be put out to bid.

State and Local Responsibilities

TASK	RESPONSIBILITY
National Environmental Policy Act (NEPA)	Federal funds: MaineDOT
	State funds: Local Agency through federal permit
Section 106 of the Historic Preservation Act	Federal funds: MaineDOT
	State funds: Local Agency through federal permit
Section 4(f) of the Department of Transportation Act	Federal funds: MaineDOT
	No U.S. DOT funds: 4(f) does not apply
Endangered Species Act (a.k.a. Section 7)	Federal funds: MaineDOT
	State funds: Local Agency through federal permit
Hazardous Materials	MaineDOT with assistance from Local Agency
Environmental Permits	Local Agency
Dredge Materials	Local Agency
Natural Resource (wetlands, streams, fisheries, etc.)	Local Agency
Mitigation	Local Agency
All Stormwater Permits (Ch500, ESC law, MPDES)	Local Agency

MaineDOT Environmental Office contact:

Danielle Tetreau , Environmental Team Leader	207-592-2358 (Danielle.Tetreau@maine.gov)
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Depending on the scope of work for a project, approvals will take **2 to 6 months** from when design work has reached the milestone Plan Impacts Complete and a local agency has completed **Communication 10**, **Communication 11**, and the **NEPA Documentation Checklist**, found on pages 4-8 through 4-10.

The MaineDOT Environmental Office requires the local agency administering a project to consult with the MaineDOT Project Manager and Environmental Office **at project kick-off** to coordinate the schedule of the project.

4.2 Section 106 of the National Historic Preservation Act

Section 106, found in federal regulation 36 CFR Part 800, serves to protect properties of historic and archeological significance. If a project has federal money, MaineDOT generally surveys all properties at least 45 years old in a project area for potential historic significance and potential adverse effects. This requirement commonly applies to buildings, culverts, bridges, monuments, and cemeteries.

- **MaineDOT** handles the Section 106 process on locally administered projects with federal money. The local administrator must provide MaineDOT with design plans showing right-of-way impacts to make final determinations of effect.
- With MaineDOT's approval, the **local agency** administering a project may hire a consultant to perform the required Section 106 reviews. Any consultant, however, must meet specific federal standards for conducting architectural surveys. MaineDOT, however, must first approve and meet with the consultant. All final determinations will be made by MaineDOT.
- If a project has no federal money, the **local agency** administering the project must complete the Section 106 process. In this case, the project administrator will need to contact the Maine Historic Preservation Commission.



4.3 Endangered Species Act (“Section 7”)

Section 7 falls under federal regulation 50 CFR Part 402. It covers a variety of endangered and threatened fish, birds, reptiles, mammals and plants. The law in Maine commonly affects projects in waters for Atlantic salmon and habitat for Canada lynx, the northern long-eared bat and the rusty-patched bumble bee.

Responsibility for Section 7 review is as follows:

- If a project has federal money, **MaineDOT** will complete the Section 7 process. MaineDOT will need design plans and the scope of work, construction timing and techniques, and proposed timeframe from the Local Agency or other agency administering a project.
- If a project has only state money or funding from a federal agency other than the FHWA, the Army Corps of Engineers (ACOE) generally is responsible for consultation under Section 7. In this case, the **local agency** administering a project is responsible for coordinating with the ACOE or other federal action agency. This is usually completed during the permit application process.



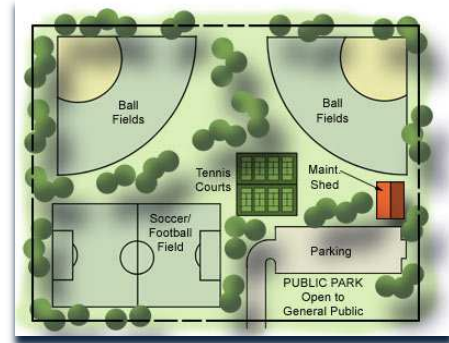
A listing of endangered and threatened species in Maine is found online:

<https://www.maine.gov/ifw/fish-wildlife/wildlife/endangered-threatened-species/index.html>

4.4 Section 4(f) of the Department of Transportation Act

Section 4(f) – federal regulation 23 CFR Part 774 – applies to public parks, recreation areas, wildlife refuges and historic properties. A local agency must examine potential impacts to these resources if federal transportation money is used on a project, as follows:

- **MaineDOT** is responsible for completing the Section 4(f) process. To do so, MaineDOT will need project plans with proposed right of way from the Local Agency or other agency administering the project.
- The Section 106 process must be completed before Section 4(f) documentation is submitted to the Federal Government under the NEPA process.



4.5 Natural Resources Protection Act

In Maine, the Natural Resources Protection Act (NRPA) is the primary state environmental law that applies to transportation projects. The law covers “protected natural resources” such as coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds, and rivers, streams or brooks. The NRPA is administered by the Maine Department of Environmental Protection (MaineDEP) in municipalities and other organized areas.

The **local agency** administering a project is responsible for complying with the NRPA. The local administrator (or the contracted consultant designing a project) must contact the MaineDEP to determine whether a NRPA permit will be needed on a project. Generally, this applies when a project (a.k.a. “activity”) will be:

- Located in, on or over any protected natural resource; or
- Located adjacent to a coastal wetland; a great pond; a river, stream or brook; certain freshwater wetlands; or significant wildlife habitat contained within a freshwater wetland.

The law defines an "activity" as: (a) dredging, bulldozing, removing or displacing soil, sand, vegetation or other materials; (b) draining or otherwise dewatering; (c) filling, including adding sand or other material to a sand dune; or (d) any construction, repair or alteration of any permanent structure.

For forms and information about the NRPA review process, visit the MaineDEP website: <https://www.maine.gov/dep/land/nrpa/index.html>

4.6 Environmental Permits

The **local agency** administering a project must obtain required permits and adhere to federal and laws and regulations, including Maine's Natural Resources Protect Act. (*See section 4.5 above.*) Before soliciting for construction bids, the agency administering a project must provide the MaineDOT project manager with an environmental certification (*Communication 12, page 4-11*) and copies of approved state and federal permits.

4.7 Hazardous Materials

MaineDOT is responsible for reviewing planned improvements to determine whether there may be contamination from petroleum or other hazardous materials in a project area. As part of the process, municipalities and other organizations administering project must provide MaineDOT with project plans showing proposed disturbance/excavation and any right-of-way impacts.

4.8 Stormwater Permits

Maine's stormwater management law provides standards for projects that disturb at least **1 acre** of land. Any stormwater permits are the responsibility of the local agency administering a project – including Erosion and Sedimentation Control requirements and MaineDEP Chapter 500 Stormwater Management Rules. The local project administrator should contact the MaineDEP to determine the required permits. (*Contacts are shown on page 4-2.*)

Once permits are obtained, the local project administrator must provide MaineDOT's project manager with copies as part of the environmental certification (*Communication 12, page 4-11*).

4.9 Dredge Materials

Maine's solid waste management regulations define dredge materials as sand, silt, mud, gravel, rock, or other natural substance removed from beneath any body of water. These regulations typically apply to stream/river crossings and harbor improvement projects, which can require dredging. Under the regulations, dredge materials must be handled as special waste.

Beneficial Use Permits required by state law and associated regulations – Title 38 M.R.S.A. §1301-1319, Maine DEP Chapter 418 – are the responsibility of the **local agency** administering a project. MaineDOT, however, can provide guidance.

The local project administrator must provide the MaineDOT project manager with an environmental certification (*Communication 12, page 4-11*) and copies of approved permits.

Remember: Environmental permits and certification (*Communication 12*) must be in place before a project may be put out to bid. They are submitted to MaineDOT with the final plans, specifications and estimate (PS&E) package.

Appendix 4A: Submittals to MaineDOT

- ❑ For electronic versions of these documents, visit MaineDOT's website:
<https://www1.maine.gov/mdot/lpa/lpadocuments/>

Instructions:

1. This certification must be submitted on letterhead to MaineDOT with Communication 11 and the NEPA Documentation Checklist, found on the next two pages.
2. This certification also must be part of the final plans, specifications and estimate (PS&E) package for a project.

Date

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Public Process Certification
MaineDOT WIN_____

Dear _____:

The Municipality of _____ certifies that a public process was carried out for the subject project in accordance with Title 23 in the Code of Federal Regulations, Part 771.111, satisfying one of the pre-construction requirements in the executed project agreement with MaineDOT.

I have attached for your information the following:

- A copy of the notification that was sent to abutters by registered mail;
- A copy of the meeting notice;
- Sign-in sheet; and
- Meeting minutes or, if applicable, public hearing transcript.

DESCRIBE ANY PUBLIC OPPOSITION HERE, IF APPLICABLE.

Sincerely,

Local Project Administrator

Instructions: This letter and the checklist on the next page should be provided to MaineDOT's Environmental Office when the Preliminary Design Report is approved.

Date

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: NEPA Checklist Submission
MaineDOT WIN _____

Dear _____:

Attached is the completed National Environmental Policy Act (NEPA) documentation checklist for [**project scope, WIN**] in the Municipality of _____. We understand that this information is necessary for MaineDOT to complete the NEPA process.

Also attached is Communication 10, certifying that the Municipality conducted the required public participation process in accordance with requirements identified in the executed Project Agreement with MaineDOT dated [**execution date**].

If you need additional information, please let me know.

Sincerely,

Local Project Administrator
Municipality of _____

Enclosures:

- NEPA documentation checklist
- Public process certification (Communication 10)

NEPA DOCUMENTATION
For the Maine Department of Transportation, Federally Funded Projects

Project Title & Location: _____

Federal Project #: _____ MaineDOT WIN: _____

Description of Work: _____

MaineDOT Project Manager: _____

Answer the following questions and attach supporting documentation as requested. If there is a “yes” response, explain on a separate sheet or contact your MaineDOT Project Manager for guidance.

1.) Public Involvement: Is there substantial public opposition to proposed action? Yes No
The answer should become apparent at a public meeting approving the project.

Documentation: Approved capital plan; meeting records; letters from the public; board meeting minutes; or Communication 10 (Public Process).

2.) Right-of-Way: Does action include a residential or commercial displacement, or acquisition of property rights that will result in substantial abutter impacts? Yes No
For help with “substantial,” contact your Project Manager at MaineDOT.

Documentation: Plan Impacts Complete for the project (Communication 9)

3.) Endangered Species & Essential Fish Habitat:

a. Has a qualified person surveyed the project area for streams, rivers, coastal waters, wetlands, and vernal pools? Yes No

b. Were streams, rivers, coastal waters / wetlands, freshwater wetlands, or vernal pools identified? Yes No

c. Is any work proposed in or adjacent to a stream, river or coastal waters? Yes No

d. Does the project require clearing trees or trimming limbs 3” or greater in diameter? Yes No

Documentation: Resource delineation and plans with location of resource and work planned. If in-water work is proposed, project will be screened by the MaineDOT Environmental Office for intersection with habitat for endangered species and critical fish. Additional coordination with the Environmental Office will be required if the project is in one of these areas and includes in-water work or involves clearing.

4.) Section 4(f) or 6(f):

a. Does project area include or abut resources protected by Section 4(f) of the Department of Transportation Act: publicly owned land, parks, recreation areas, wildlife and waterfowl refuges, or historic sites? Yes No

b. Will project require temporary or permanent rights on any protected 4(f) resource listed above? Yes No

Documentation: Existing and proposed right-of-way plan, and a description of how impacts to these properties were avoided and minimized.

Signed by: _____

Date: _____

[Name, Local Project Administrator]

Instructions: This must be submitted on letterhead to MaineDOT with the final plans, specifications and estimate (PS&E) package.

Date

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Environmental Certification
MaineDOT WIN_____

Dear _____:

If permits were required, use this paragraph:

The Municipality of _____ certifies that it has obtained all permits necessary to carry out the subject project, satisfying one of the pre-construction requirements in the executed project agreement with MaineDOT. Attached are copies of the permits.

If NO permits were required, use this paragraph:

The Municipality of _____ certifies that no permits were needed for the subject project. This certification satisfies one of the pre-construction requirements in the executed project agreement with MaineDOT. ***NOTE: If no permits were required, please briefly explain.***

Sincerely,

Local Project Administrator

Enclosures: Environmental permits
Cc: MaineDOT Environmental Office

NOTE: Please attach all of the approved permits, if applicable

Local Project Administration Manual & Resource Guide

Right of Way



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Updated 2019

Right of Way

Early in the design of a locally administered project, the municipality or non-profit overseeing it must determine whether land or easements will need to be acquired. If so, the local agency administering the project must treat each property owner fairly and consistently, as required by law.

Chapter 5 of this Manual explains the right-of-way process and covers the following:

- Roles and responsibilities (pages 5-2 and 5-3);
- Legal protections for property owners (page 5-4);
- Identifying right-of-way needs (page 5-5);
- Right-of-way plans (page 5-6);
- Title examinations (page 5-7);
- Appraisals, appraisal reviews and just compensation (page 5-8);
- Negotiations and acquisition (page 5-9);
- Certification and documentation (page 5-10);
- Appendix 5A: Right-of-way process checklist (page 5-11);
- Appendix 5B: Sample forms (page 5-14); and
- Appendix 5C: MaineDOT Right of Way Manual guidance (page 5-23).



Federal guidance is online: www.fhwa.dot.gov/realestate/lpaguide/index.htm

In general, the scenarios for right-of-way acquisition will include:

- **Fee interest**, in which the State or a local public agency acquires all interest in a parcel that is necessary for construction and maintenance of a project;
- **Permanent easement**, in which an owner retains title, but an agency obtains the right to use all or a portion of a parcel for a set purpose, such as drainage or placement of a slope;
- **Temporary easement**, in which an agency acquires the right to use all or a portion of a parcel during construction for purposes such as grading, loaming and seeding. Such temporary rights typically expire at the end of a project.

A local agency may begin negotiating right-of-way acquisition for a federally funded project – *including in cases of easements and donations* – only after:

- A federally required valuation and determination of just compensation is prepared; and
- The National Environmental Policy Act (NEPA) process is **completed**; and
- The U.S. Department of Transportation has issued the required environmental clearance for a project – typically what is known as a “Categorical Exclusion” (CE).

5.1 MaineDOT Responsibilities

Once right-of-way needs for a project are determined, MaineDOT will acquire the rights to which the State of Maine will hold title. With few exceptions, the State will acquire rights along state and state-aid highways. In such cases, the senior property officer in the MaineDOT Multimodal Program will serve as lead agent during the right-of-way process.

If a project is located on a state or state-aid highway, and property rights will need to be acquired, **MaineDOT** will be the lead agency on the following tasks, as shown in Table 5-1 on the next page:

- Right-of-way mapping
- Title examinations (abstracts);
- Property appraisals;
- Appraisal reviews;
- Negotiations with property owners;
- Acquisition/condemnation of the rights;
- Certification that all necessary rights have been acquired for the project.

Right-of-way work performed by MaineDOT is paid for out of the budget for a federally funded project. That is why it is important to identify right-of-way needs early – preferably before kickoff. MaineDOT recommends that local agencies budget at least **\$4,000 per property** to cover the cost of carrying out the right-of-way activities listed above.

5.2 Local Responsibilities

If a project is off the state system, the local agency administering it will carry out the right-of-way process. In such a case, the agency will be responsible for right-of-way plans, title examinations, appraisals and appraisal reviews, negotiations, and acquisition. *MaineDOT recommends that agencies hire consultants experienced with the federal right-of-way process to assist with this work.*

See Appendix 5C, starting on page 5-23 of this chapter.

MaineDOT may assist a local agency in identifying the scope, schedule and cost of right-of-way work through one of its senior property officers. Additionally, MaineDOT may provide listings of qualified professionals to assist with right-of-way functions, including appraisal, negotiation and title work.

Upon conclusion of a locally administered right-of-way process, the agency overseeing a project must provide MaineDOT with a certification that it has obtained the necessary rights to construct the project as designed, in accordance with all applicable federal and state requirements. This certification must be submitted with the final Plans, Specifications & Estimate (PS&E) package. *Refer to Communication 14, on page 5-21, for format and typical language.*

TABLE 5.1 – STATE & LOCAL RESPONSIBILITIES

TASK	RESPONSIBILITY
<input type="checkbox"/> Verification of Existing Right of Way	State Highway System: MaineDOT
	Off System: Municipality
<input type="checkbox"/> Field Survey	State Highway System: MaineDOT
	Off System: Municipality
<input type="checkbox"/> Property Owner Reports	State Highway System: MaineDOT or Municipality with permission.
	Off System: Municipality
<input type="checkbox"/> Preliminary Right of Way Plans <ul style="list-style-type: none"> ▪ <i>After design stage “Plan Impacts Complete”</i> 	State Highway System: MaineDOT or consultant with MaineDOT approval.
	Off System: Municipality
<input type="checkbox"/> Title Examinations	State Highway System: MaineDOT
	Off System: Municipality
<input type="checkbox"/> Final Right of Way Mapping <ul style="list-style-type: none"> ▪ <i>Shows impacted areas and types of rights</i> 	State Highway System: MaineDOT or consultant with MaineDOT approval
	Off System: Municipality
<input type="checkbox"/> Review/Verification of Right of Way Maps	State Highway System: MaineDOT
	Off System: Municipality
<input type="checkbox"/> Notice of Intent to Acquire <ul style="list-style-type: none"> ▪ <i>Sent to owners of impacted properties</i> 	State Highway System: MaineDOT
	Off System: Municipality
<input type="checkbox"/> Property Appraisals & Appraisal Review	State Highway System: MaineDOT
	Off System: Municipality
<input type="checkbox"/> Negotiations – NEPA must be complete <ul style="list-style-type: none"> ▪ <i>28-day negotiation period</i> 	State Highway System: MaineDOT
	Off System: Municipality
<input type="checkbox"/> Acquisition of Rights / Condemnation	State Highway System: MaineDOT
	Off System: Municipality
<input type="checkbox"/> Right of Way Certification	State Highway System: MaineDOT
	Off System: Municipality

5.3 Legal Protections for Property Owners

Private land ownership is protected by the constitutions of the State of Maine and the United States. Any taking of private property for public benefit must be based on necessity and payment of what is known as “just compensation.” Public agencies must afford property owners due process of law.

The primary safeguard is a landmark federal law known as the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, which applies when there is federal money in any phase of a project – *even if right-of-way is acquired with private funds*. The “Uniform Act” works to ensure that people affected by property acquisition for public projects are treated fairly and not disproportionately harmed. In Maine, state laws are modeled after the Uniform Act.

➔ *Violating the law on a federally funded project will jeopardize all the money for the project.*

Here are some of the key protections for property owners:

- ❖ Owners are entitled to just compensation of at least the acquiring agency's approved appraisal of *fair market value*.
- ❖ Owners are entitled to written notice of an agency's intent to acquire some of their property and of their basic rights. (Refer to page 5-15 for an example.)
- ❖ Agencies should encourage acquisition by agreement and should negotiate in good faith; using **coercion is illegal**.
- ❖ The acquiring agency must provide a *written* offer and give the property owner reasonable opportunity to consider the offer. MaineDOT uses a 28-day period.
- ❖ Owners must have the opportunity to *accompany the appraiser* when a property is inspected for an appraisal.
- ❖ The acquiring agency must pay the agreed upon purchase price before the owner is required to surrender possession of the property.



5.4 Property Donations

Occasionally, landowners will elect to donate property for a project and release a city, town or other agency from its obligation to pay just compensation. In such cases, donations may be accepted without required appraisals – if these steps are followed:

- The federal NEPA process is completed **before** any offer is made to acquire property; and
- The acquiring agency informs owners in writing of their right to have an independent appraisal performed and be offered fair market value; and
- Owners sign a document acknowledging that they understand their rights and are releasing the acquiring agency from its obligation to provide an appraisal and just compensation.

5.5 Identifying Right-of-Way Limits

As projects are developed, local agencies administering them must determine where the public way ends and private property begins. Survey data, records on file with a county, and local “road books” are potential starting points. MaineDOT discourages the reliance on tax maps as a primary source of documentation. If a project is planned for a state highway, MaineDOT may have records of the right-of-way limits along that corridor; contact the MaineDOT Property Office at 624-3460.

Right-of-way research should answer two questions:

- What are the limits and width of the public rights or right of way?
- Are the public’s rights based upon fee ownership, an easement for highway purposes, or what are known as “prescriptive rights” based upon long-term use?

5.6 Field Investigations

After initial research, field work must be done to locate property pins, monuments, fences and other markers indicating property line locations. Property owners should be contacted early in the design process to hear about the anticipated impacts and to verify locations of property markers and other details such as water/sewer systems. Responsibility for contacting owners should be determined at the project kickoff. MaineDOT uses a standard form known as a “property owner report” that seeks basic information about parcels likely to be affected by a planned transportation project.

A sample property owner form is available online:
www.maine.gov/mdot/lpa/docs/lpadocs/PropertyOwnerReport.doc

5.7 Determining of Right-of-Way Needs

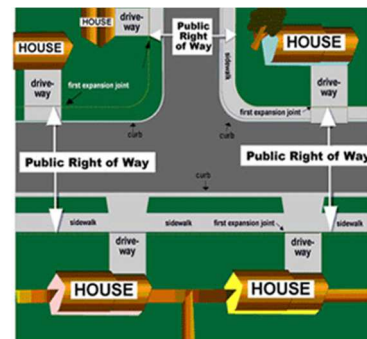
After verifying the limits of the public right-of-way, an agency must consider what additional land or rights in land may be needed. Even where it seems that a project can be built within the existing right-of-way, an agency may need temporary rights giving a contractor access to abutting parcels during construction.

Permanent rights include the following:

- Fee Simple Absolute, in which the State or other public agency acquires interest in all or a portion of a parcel, as necessitated by the project; and
- Easement, in which the owner retains title, but an agency obtains the right to use all or part of a parcel for a specific purpose, such as for drainage or the placement of a slope.

Temporary rights typically consist of the following:

- The right to clear and grub trees;
- The right to have construction equipment operated on private property;
- The right to grade and blend driveways and lawns to match side slopes.



5.8 Right-of-Way Plans

Once you identify impacts, you must develop right-of-way plans showing the property that will be needed to build and maintain a project. “Mapping” the right-of-way begins when design reaches the milestone “Plan Impacts Complete.” Completed right-of-way plans serve as the foundations for property appraisals and the source descriptions for a Notice of Layout and Taking, a legal document filed at a county registry of deeds.

Completed right-of-way plans must, at a minimum:

- Specify the types of rights to be acquired;
- Show affected areas by the square foot or acre; and
- Identify legal ownership of impacted properties.

Design work is covered in Chapter 3, “Project Design.”

Right-of-way plans can be prepared by MaineDOT staff or by a consultant approved by MaineDOT as being qualified to perform the work to MaineDOT’s standards. Roles and responsibilities must be determined and documented in the state/local agreement for a project. Additionally, right-of-way plans must be stamped by a licensed professional engineer, architect or land surveyor.

Mapping work must meet standards found in Chapter 2 of the MaineDOT Right of Way Manual: <http://www.maine.gov/mdot/rowmanual/docs/chpt2.pdf>

Final right-of-way plans typically include the following information:

- Construction limits and items;
- New right-of-way limits – including slope, clearing and wrought portion limits;
- Permanent and temporary easement limits;
- Updated parcel setups;
- Acquisition stations and offsets;
- Condemnation distances, including baseline and boundary lines;
- Easement limits and property lines tied into the base line;
- Calculated areas of take for each type of acquisition (fee, easement, etc. ...);
- Inside distance calculations;
- Total areas of property ownership calculated from the best available property information;
- Plan title block with MaineDOT file number – *if MaineDOT will be making acquisitions.*

The MaineDOT Property Office must review draft right-of-way plans if the State of Maine will hold title to the rights acquired or if a project is located on a state highway. The plans are not complete until they have been verified as meeting MaineDOT’s mapping standards and legal requirements.

At this point, **Notice of Intent to Acquire**, outlining the acquisition process and legal rights, must be sent to each affected property owner. (*Turn to page 5-15 of this chapter for an example.*)

5.9 Title Examinations

Title examinations are essential to verifying who owns the property to be acquired for a project. They take place once all property impacts are identified, since right-of-way plans require an abstract of title for each affected parcel. Title research typically produces a copy of the current deed for each affected parcel, as well as an abstract of each transaction involving the land or premises in question – including sales, mortgages and outstanding liens.

MaineDOT performs title examinations for projects on state or state-aid highways. For other projects, it is up to a municipality or other local agency to conduct title examinations using its legal staff or private title attorneys. Title investigations must follow standards set by the Maine State Bar Association, including treatment of clouds or defects in title.

You must obtain basic information for each parcel before title research may begin:

- Property owner’s name;
- Property address;
- Tax map and lot identification;
- Property deed reference book and page;
- Copies of surveys, plan sheets, tax maps and property owner reports as applicable.

*Standards for title work:
[Right of Way Manual](#), parts 2-4.02
 8-2.01 of that document.*

An indication of the greatest anticipated impact to a parcel will dictate the extent of the search. As the table below shows, permanent takes require a search spanning 40 years, while most easements and temporary rights require research only into the last acquisition or current owner of a property.

TITLE SEARCH REQUIREMENTS

Type of Acquisition	Length of Search
Fee (all right, title and interest)	Full 40-year title examination
Wrought portion (prescriptive easement) - major acquisition	Full 40-year title examination
Wright portion (prescriptive easement) – acquisition substantially same as existing area of occupation and use	Title activity since date of last acquisition/transfer
Drainage easement	Since last acquisition/transfer
Permanent easement	Since last acquisition/transfer
Slope easement	Since last acquisition/transfer
Temporary rights	Current deed only

5.10 Appraisals

A licensed appraiser must prepare an estimate of the damages to each parcel affected by a project. MaineDOT maintains an appraisal register to assist in identifying possible consultant appraisers. Before hiring an appraiser, municipalities and other local agencies should verify that the appraiser has experience performing valuation work on federal-aid projects requiring use of eminent domain.



Caution: The owner or a designated representative must have an opportunity to accompany the appraiser during a property inspection. Otherwise, federal money could be jeopardized.

➤ See the *MaineDOT Right of Way Manual*, sections 4-1, 4-2 and 8-2.03 of that document.

5.11 Appraisal Reviews

If a municipality or other local agency will acquire the rights for a project, that agency must have its appraisal of a property reviewed, either by qualified staff or by a licensed and certified appraiser not associated with the person who did the original appraisal. The reviewing appraiser provides quality assurance by checking the original appraiser’s computations, methods and techniques. The reviewer will **recommend**, **accept**, or **not accept** the valuation. The reviewer’s finding is the basis for an official Determination of Just Compensation.

➤ See the *MaineDOT Right of Way Manual*, sections 4-6 and 8-2.03 of that document.

5.12 Just Compensation

Appraisers use “fair market value” to determine just completion, which is the price that would be paid if a knowledgeable and willing buyer and seller reached agreement after a reasonable period on the market. Just compensation must be based on independent and objective appraisals of fair market value. If a municipality or other local agency is acquiring rights, the person determining just compensation should be the highest ranking administrative officer, typically the town manager or chair of the select board.

The amount of compensation will depend on the type of property taken and a project’s effect on that property. Here are some examples:

- **Whole acquisition.** If a whole parcel is taken, the owner will be paid for its entire value.
- **Partial acquisition.** If part of a parcel is acquired – and the overall value of the property is not affected – the owner will be paid for the part taken.
- **Severance damage.** When a parcel sustains “severance damage,” an owner is paid not only for the market value and any contributory value of what is taken, but also for any resulting loss in value of what remains.
- **Uneconomic remnant.** If a partial acquisition leaves an “uneconomic remnant” that is determined to be of no value or use to the owner, the acquiring agency must offer to buy it.



5.13 Negotiations

Negotiations with owners may begin once the National Environmental Policy Act (NEPA) process is completed and a “Determination of Just Compensation” is made. A negotiator must give an owner a dated, *written* offer of just compensation and a summary statement of the right-of-way to be acquired for a project. The negotiator must address any questions – always being careful to be sensitive to property owner concerns. Most importantly, the process must be **free from coercion**.

An initial offer to a property owner cannot be less than the acquiring agency’s estimate of just compensation. The owner must be afforded a reasonable amount of time to consider an offer and to consult with others. MaineDOT gives property owners at least **28 days** from the last offer; it is recommended that local agencies use this timeline for their acquisitions.

➤ Sample forms are found in Appendix 5B of this chapter, starting on page 5-14.

Although the acquiring agency’s determination of just compensation is the basis for negotiations, an initial offer should not be viewed as a “take it or leave it” alternative. Information from the owner may cause to revise the offer if, for instance, an important element of value was omitted from the appraisal or if the acquisition was not properly described in the appraisal.

➤ See the *MaineDOT the Right of Way Manual*, sections 5-3 and 8-2.04 of that document.

5.14 Acquisition

Once negotiations have ended, an agency acquires property either by the transfer of documents (deeds) or by condemnation through a “Notice of Layout and Taking.” Except in cases where only temporary easements are required, the acquisition must include a release of the interest of any mortgagees, lessees, lien holders, or other parties.

If an affected property owner must move, the municipality or other agency in charge of a project should seek assistance from the MaineDOT project manager or Property Office, since the federal Uniform Act requires displaced persons to be offered relocation assistance in such cases.

The property owner will receive a copy of the Notice of Layout and Taking, a statement of just compensation based upon the appraisal, a copy of the plan as it relates to the parcel acquired, and a check for the compensation plus prorated taxes.



➤ If **MaineDOT** will hold title to the rights acquired for a project, MaineDOT either will perform the title searches and appraisals directly or coordinate those tasks with the municipality or other local agency overseeing a project.

5.15 Right-of-Way Certification

After filing the “Notice of Layout and Taking” with the appropriate county registry of deeds, the condemning agency must secure an attorney’s certification that the agency has obtained the required necessary rights to construct the project as designed, in accordance with all applicable federal and state requirements. (*Refer to Communication 14, on page 5-21, for recommended format.*)

As explained previously in section 5.1, “MaineDOT Responsibilities,” **MaineDOT** will provide certification if the State of Maine will hold title to the rights acquired for a project. A municipality or other local agency overseeing a project will provide certification if the title will be locally held. The certification states that all rights-of-way needed for the project have been acquired in accordance with state and federal requirements. If a local agency acquired rights on a federally funded project, this certification must be prepared and signed by the acquiring agency’s attorney.

The signed certification must be submitted to MaineDOT before a project is advertised for construction bids. This documentation is a standard part of the final Plans, Specifications and Estimate (PS&E) package for a project. A project cannot be put out to bid without it.

5.16 Documentation

As with all other phases of a project, it is important to retain all records relating to the right-of-way process. The following documents must be kept for at least **three years**:

- Valuation summaries and reports;
- Offer letters;
- Negotiator’s logs;
- Correspondence with property owners; and
- Settlement agreements.

Appendix 5A: Right of Way Checklist



CHECKLIST: RIGHT-OF-WAY PROCESS

- Limits of existing public right of way verified**
 - County layout records;
 - Municipal highway book;
 - Plans from previously completed MaineDOT projects.
- Survey work completed**
 - Preliminary project limits identified.
 - Potentially impacted property owners identified.
 - Property ownership reports sent to property owners.
 - Significant property improvements mapped based on field inspections, property records, and property owner information.
- Preliminary right-of-way mapping performed**
 - Design must be at *Plan Impacts Complete* to start preliminary right-of-way mapping.
 - Plans show all proposed impacts to abutting properties, outside the existing right of way.
 - Preliminary right-of-way mapping identifies the type and physical extent of rights needed to construct and maintain the proposed design on abutting properties.
 - Parcel setups are created on the maps identifying property owner, parcel size, and type and area of proposed rights to be acquired.
 - Preliminary right-of-way impacts determine the level of title work to be requested.
 - Preliminary right-of-way impacts are the basis for environment impact assessments.
- Title service conducted**
 - Title searches are conducted on all properties anticipated to be impacted by the proposed rights needed to be acquired.
 - The extent of the individual title searches is based on the proposed rights to be acquired.
- Final right-of-way mapping performed** [*MaineDOT Right-of-Way Manual, §8-202*]
 - Abutting property boundaries and ownership identifications are based on information obtained from title searches.
 - Existing and proposed right-of-way limits shown on the maps.
 - Property pins are located on the maps.
 - New rights to be acquired are shown, with areas calculated (MaineDOT Standards).
 - Plan title block included, with MaineDOT file number if applicable.
 - Right-of-way maps reviewed by MaineDOT Property Office (if state highway).
 - Maps approved by MaineDOT Property Office (if state highway).
- Notice of Intent to Acquire sent to the owner of each impacted parcel**
 - The notice is sent to abutters from whom rights will need to be acquired. The notice also informs owners of their rights.

- **Determination of Just Compensation made** [*MaineDOT Right-of-Way Manual, §8-2.03*]
 - Professional appraisal services are retained commensurate with proposed project impacts.
 - Property owners are notified of their right to accompany the appraiser during the inspection.
 - Appraisals are reviewed for proper methodology, accuracy, and conformity to MaineDOT appraisal standards.
 - Value estimates are recommended as the amount believed to be Just Compensation.
 - Written statement of Just Compensation is prepared and signed by the highest ranking administrative official of the municipality.

➔ ***Before proceeding to negotiations:***

- ❖ ***Just Compensation must be determined; and***
- ❖ ***The Federal NEPA Process must be completed.***

- **Negotiations initiated with owners – after NEPA process completed**
 - Offers presented; impacts discussed with all owners.
 - Each owner given reasonable period to consider offer (generally 28 days).
 - Negotiations Completed / Negotiations at Impasse.
- **Property donations made, if applicable** [*MaineDOT Right-of-Way Manual §8-2.07*]
 - Owner informed of right to have appraisal done and to receive just compensation.
 - Owner signs form acknowledging rights and releasing municipality from obligation.
 - MaineDOT’s policy is not to solicit donations.
- **Title and rights perfected**
 - Title Acquired by Negotiations
 - Title Acquired by Eminent Domain [*MaineDOT Right-of-Way Manual, §8-2.08*]
- **Right of Way certified (Communication 14)** [*MaineDOT Right-of-Way Manual, §2-2.02(b)*]
 - All right of way acquired.
 - Rights to occupy all right of way acquired.
- **Parcel and project files retained**
 - Parcel Files Complete [*MaineDOT Right-of-Way Manual §8-4.01*]
 - Project Summary Records [*MaineDOT Right-of-Way Manual §8-4.02*]
- **Title and rights acquired by State of Maine** (state or state-aid highway)
- **Title and rights acquired by local agency** (local road or off-system trail)

Appendix 5B: Right-of-Way Forms

SAMPLE NOTICE OF INTENT TO ACQUIRE

Date :

Project#:

WIN:

Parcel:

Route #:

Town:

Dear Property Owner(s):

The Municipality of [**Name here**] is currently working on plans for a transportation improvement project located at [**project location**]. This letter informs you of the proposed project and your involvement as a property owner. The plans indicate the Municipality will acquire a portion of your property and/or rights in land as part of this project. A representative of the Municipality will contact you soon regarding the project and its impact on your property.

You are entitled to due process and just compensation as outlined in the accompanying brochure, which summarizes the property acquisition process.

If you decide to sell your property, state law requires that you inform the potential buyer that the Municipality intends to acquire an interest in this property.

If you have questions pertaining to the procedures you can contact me at this office by telephone, <ENTER PHONE NUMBER HERE>. Our intention is to have you understand what is being done and why it is being done, with the least amount of inconvenience to you as an involved property owner.

Thank you for taking your time to understand our procedures.

Sincerely,

<HERE SIGNATURE HERE>

Local Project Administrator

SAMPLE OFFER LETTER TO PROPERTY OWNERS

Re: WIN:
 Project:
 Town:
 Parcel No.:
 Item No.:

(Property Owner)
(Address)
City, State Zip

Dear Property Owner:

Today, the Municipality’s representative has explained to you the proposed construction and the effect it will have on your property. He/she has attempted to answer any questions you had. He/She has also explained the methods used in preparing our appraisal and the basis for our determination of just compensation for the land and rights to be acquired. He/She has made you an offer in the amount of \$_____, which represents the just compensation as determined by a qualified appraiser and approved by the Municipality’s review appraiser.

The land and/or rights to be acquired from you for this project are as follows:

Land: Fee _____

Easements _____

Grading Rights _____

Buildings & Improvements _____

Other Interests and/or Rights to be Acquired _____

The following is a statement by the Municipality regarding the parcel or parcels of land above referenced:

- A. The highest and best use of the property at the date of taking.
- B. The fair market value of the real property taken as of the date of taking.
- C. Offering price.

Our representative has explained your recourse if the Municipality’s offer is not acceptable. The booklet “Your Property and the New Highway” confirms the procedures available to you. If a copy of this booklet has not previously been given to you, please request one. He/She has also explained that the property owner or designated representative is responsible for informing any potential purchaser of the impending acquisition of land and/or rights as required by Title 23, M.R.S.A. Section 153-B(4).

The Municipality has been careful to design an attractive, safe project in such a manner as to cause the least damage to adjoining property. The Municipality also has spent a great deal of time preparing appraisals, which were carefully reviewed, to determine the just compensation due to the property owners. We hope that we have accomplished our objective.

PROPERTY MARKERS: Action taken by the 115th Maine Legislature has revised Maine’s landmark location law (14 M.R.S.A., Sec. 7554-A). Please be sure to inform our agents if your property markers do not appear on our plans. The Municipality does not set property pins, but will re-establish the point of former location of a disrupted pin on request from the owner.

Under certain conditions, the Municipality can reimburse eligible property owners for reasonable cost associated with resetting a property pin on the new right of way line by a Licensed Professional Land Surveyor. Our agent can explain the eligibility criteria and application process.

Very truly yours,

By: _____

SAMPLE OWNER'S OFFER-ASSENT FORM

Property Owner(s):

WIN: _____

Town: _____

Parcel/Item No.: _____

BACKGROUND

1. It has been determined that public exigency requires the construction or reconstruction by altering, widening, changing the grade of and/or changing the drainage of a portion of State Highway “____” in the Town of _____, County of _____ and State of Maine through a Locally Administered Federal-aid Project identified by the WIN referenced above (the “Project”).

2. In connection with the Project, the necessary real property rights (the “Property Rights”) to be acquired have been assigned value, surveyed, and identified on a plan known as Right of Way Map, State Highway “____”, Project No. _____, on file at _____.

3. The Property Rights in and to a certain parcel of land identified on the Right of Way Map as Parcel No. _____, owned by the above identified Property Owner(s) (the “Property Owner(s)”) in said _____, are required for construction of the Project.

4. The Municipality intends to acquire the Property Rights by filing a Notice of Layout and Taking (the “Taking”) in the _____ County Registry of Deed on or about _____. At the Municipality’s discretion, and with the Property Owner(s)’ consent, the Property Rights may be transferred through the execution of a deed or other transactional instrument.

5. The Municipality has determined just compensation for acquisition of the Property Rights to be \$_____ (the “Payment”), and this amount will be paid to the Property Owner(s) upon filing of the Taking.

5. The Property Owner(s) does/do hereby acknowledge that _____, Right of Way Agent representing the Municipality, met with or wrote to the Property Owner(s) and explained the Property Rights to be acquired, the just compensation Payment, and all construction impacts, changes of location, grade, drainage and slopes as they apply to the Property Owner(s)' land.

AGREEMENT

1. The Property owner(s) accept the Payment as just compensation for all Property Rights taken in connection with the Project.

2. The Property Owner(s) release the Municipality from any further claims of just compensation arising from the Property Rights taken in connection with the Project; however, if any changes in design or construction occur after the date of this settlement and negatively impact the Property Owner's land in an unanticipated manner, the Property Owner(s) shall have the right to request that this settlement be rescinded.

In witness of the above, the parties have executed this Agreement on the date herein indicated.

Dated: _____

Property Owner(s):

**Sample
Donation and Release of Agency Obligations Form**

MUNICIPALITY OF _____

FEDERAL PROJECT NO.: _____

WIN: _____

PARCEL/ITEM NO: _____

OWNER(S): _____

(I)/(We) acknowledge having been informed of the right to receive just compensation based upon an approved appraisal. Notwithstanding, I/we wish to donate the right of way (land and/or rights therein) and release _____ from its obligation to provide an appraisal and offer for the real estate needed for the above referenced project. This donation to the _____ is made without coercive action of any nature.

DATED:

WITNESS

SIGNATURE OF OWNER(S)

INSTRUCTIONS: If a local agency acquired rights or otherwise carried out the right-of-way process on a federally funded project, this certification must be prepared by an attorney for the agency and submitted with the attached certificate with the final PS&E package for the project.

Date

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Right-of-Way Certification, Federal Project
MaineDOT WIN_____

Dear _____:

If right-of-way was acquired, use this statement:

Attached is the required certification that all right-of-way necessary for construction and maintenance of _____ in the Municipality of _____ has been acquired, in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the executed project agreement with MaineDOT dated _____. The Municipality certifies that it has legal and physical possession of all right-of-way needed for the project.

If NO right of way was required, use this statement:

The Municipality of _____ certifies with this letter that no right-of-way acquisition was required for the subject project, since all planned work will occur within the exiting public right-of-way. If you require additional information, please let me know.

All information about the right-of-way process can be made available upon request. If you need additional information, please let me know.

Sincerely,

Municipal Attorney / Highest-Ranking Municipal Official

Enclosure: Right-of-way certificate

MUNICIPALITY OF _____
RIGHT OF WAY CERTIFICATE

FEDERAL PROJECT		WIN	
-----------------	--	-----	--

ROUTE		LOCAL NAME
-------	--	------------

RIGHT OF WAY ACQUISITION REQUIRED AS DESCRIBED BELOW:

Property Owners		Fee Simple Parcels		Easement Rights	
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Displacement Summary:	Number of Cases
Number Displaced	<input style="width: 100%;" type="text"/>
Number Relocated	<input style="width: 100%;" type="text"/>

The Municipality of _____ hereby certifies that the right to occupy and use all the rights of way necessary for this project has been acquired by deed, condemnation or permit to work. All right-of-way has been or will be acquired in accordance with the current FHWA directive(s) covering the acquisition of real property and all relocations have been accomplished.

Without Exception

Legal Possession completed as of _____

All families and individuals relocated from this project have been offered decent, safe and sanitary housing, as defined in 49 CFR Part 24: All parties receiving replacement housing payments have been relocated to DS&S housing. Relocation procedures used on this project conform to the standards established by federal regulation.

Signed by:

Municipal Attorney or Highest Ranking Official Date

Appendix 5C:

Maine Right of Way Manual

Section 8: Local Agency Acquisition



MaineDOT

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CHAPTER EIGHT

LOCAL AGENCY ACQUISITION

8-1 LOCAL AGENCY ACQUISITION POLICY

8-1.01 Partnering with Municipalities

Citizens of the State and the community benefit when local officials acquire right of way under agreement with the Maine Department of Transportation. Local officials know the needs and concerns of citizens. Property owners in the path of highway development are more likely to amicably settle property acquisition claims on the basis of fair market value when they are approached by officials they know, who share the same community interests. This enables highway projects to be completed expeditiously and at reasonable cost. It also results in a high degree of citizen satisfaction with the right of way process and the completed project.

Private ownership of property is a basic American right that is protected by the United States and the Maine Constitutions. The taking of property is constitutionally conditioned on public necessity and on payment of just compensation for property that is acquired for a public need. Federal and State legislative enactments provide additional citizen protections and rights. These control the process by which property is acquired and are intended to ensure that persons who are affected by acquisition are not disproportionately injured by projects that are intended to benefit the public as a whole.

The Maine Department of Transportation (MaineDOT) assists municipalities to acquire real property that is needed for highway projects in compliance with Federal and Maine law. This Chapter sets forth basic requirements of law and State policy. It describes and explains the critical steps in the property acquisition process. The objective is to enable local officials to proceed with confidence that they are conforming to all requirements of the law, reducing the amount of time devoted to the research and study of procedures and rules.

This Chapter is intended to serve as a concise breakdown of the Right of Way acquisition process in regards to Local Projects. Local agencies are still required to follow the relevant chapters of this Manual for the portions of the acquisition process that they undertake as part of their respective projects. This Chapter does not address unique or complex situations. Right of way acquisition is a human endeavor. Circumstances will arise that are not addressed by this brief coverage and that may be outside the experience of officials charged with this function. To address this situation, MaineDOT assigns a liaison representative to advise and consult on project right of way issues and problems. The assigned MaineDOT staff will have varied statewide experience and will provide practical advice that conforms to applicable law and regulations. In addition, the MaineDOT representative will strive for program consistency so that citizens are treated fairly and equitably, without regard to the part of the State they live in or the nature of their occupancy or type of acquisition.

8-1.02 Administration

Local Agency projects are administered in the Bureau of Project Development Multimodal Program. Projects that will be developed and delivered locally are identified early in the work plan development process. MaineDOT support and guidance will be provided by the Multimodal Program. A Project Manager (PM) is assigned to oversee a locally administered project and will arrange for resources within the Department to assist in this oversight. This PM will engage the Senior Property Officer in the Program to assist the Local Agency in their Right of Way needs.

8-1.03 MaineDOT Services

The Department will perform the following activities with regard to locally administered right of way acquisition projects:

1. Ensure that the project is in the MaineDOT Capital Work Plan and that Federal funding is committed, if applicable. The Multimodal Program will assure that proper R/W authorizations are in place.
2. Consult with local officials to identify the scope, schedule and cost of right of way acquisition. Generally, if the acquired property will become State owned, the Department will be responsible for the acquisition. If the property will become municipally owned, the local agency will be responsible for the acquisition with guidance from the Department.
3. Prepare an agreement in consultation with local officials defining the State/local project responsibilities.
4. Provide current and continuing advice on the application of State and Federal laws and regulations concerning right of way acquisition to specific project and parcel problems and situations.
5. Provide revisions and updates to regulations, policies, procedures and guidance material.
6. Provide training to local staff that are or will be engaged in right of way acquisition. Training is normally delivered through an agreement with professional organizations including the National Highway Institute, the International Right of Way Association or the American Association of State Highway and Transportation Officials as well as MaineDOT's Local Project Administration Training.
7. Monitor the performance of right of way activity in conformity with MaineDOT's Quality Assurance/Quality Control Program. See Chapter 10 for further detail.
8. Provide referrals of qualified and experienced private service providers in right of way functions, including appraisal, negotiations, relocation, legal services and title work.

9. Provide reimbursement for eligible costs based on supported claims that are submitted by the local jurisdiction.

The MaineDOT Senior Property Officer or Project Manager will perform many of the above services. The municipality shall maintain continuing contact with the representative through the property acquisition phase of the project. Normally, the Senior Property Officer will meet with the responsible municipal officials at an early stage in the project to review policy questions and the project schedule and to discuss any critical or complex cases.

For all property acquired, whether acquired by the Municipality or the Department, it is the Department's ultimate responsibility to ensure that the acquisition is being accomplished in accordance with all applicable State and Federal laws, regulations, and policy. Coordination between the Department and the local agency can be an essential element in providing that assurance. The Senior Property Officer will closely monitor the acquisition activities of the agency on a regular and ongoing basis.

8-1.04 MaineDOT/Municipality Agreement

A formal agreement defining the roles and responsibilities of the municipality and the Department will be executed for every project on which a municipality will assume responsibility. This is a comprehensive agreement covering all phases of work, including right of way. The agreement will normally provide for complete assumption by the municipality of all right of way acquisition responsibility as stated previously in Subsection 8-1.03. However, specific activities may be reserved for MaineDOT performance. This may include the relocation of residents who will be displaced as a result of acquisition. Any municipality opting to acquire right of way as part of project administration shall follow the requirements of the Uniform Act and the procedures outlined in this Manual.

The agreement will state that the standard of performance for right of way work will meet the requirements of the ***Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*** (as amended)(***Uniform Act***). This Chapter sets forth the basic and minimum requirements of the ***Uniform Act*** for the acquisition of property where no relocation is involved.

The MaineDOT/Municipality Agreement is an open-draft document that is intended to address the circumstances of specific projects. MaineDOT staff will consult with local officials in advance concerning the scope and content of the agreement so that it is relevant to the project and meets the needs of both parties.

8-1.05 Applicable Laws and Regulations

The local agency performing property acquisition is subject to the same laws and regulations as if MaineDOT were the acquiring agency. Following is a brief summary of the legal authorities that control the acquisition of real property for right of way:

1. U.S. and Maine Constitutions. Both require public necessity and payment of just compensation for the taking of private property. Additionally, the U.S. Constitution requires due process when States acquire privately owned property.
2. **The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970** (as amended). The **Uniform Act** is landmark Federal legislation that applies to all property acquisition for Federal or Federally-funded projects. States, including Maine, have enacted legislation that enables compliance with the Federal law. Maine, through State law, has extended its provisions to State-funded projects.

The **Uniform Act** extends a system of rights and protections to property owners, with corresponding obligations for acquiring agencies. It sets forth a process for establishing value (just compensation) and negotiating with owners to encourage amicable settlements, thereby minimizing having to resort to the courts for condemnation. An important part of the **Uniform Act** provides a system of protections and benefits to persons who are displaced as a result of public projects. The procedural provisions described in this Chapter arise from the requirements of the **Uniform Act**.

3. 23 CFR 710. The **Code of Federal Regulations (CFR)** provides interpretive detail to Federal law and carries the full force and effect of Federal law. The above regulatory reference pertains to real property acquisition policy for highways.
4. 49 CFR 24. This is the Federal regulation that sets forth policy in implementing the relocation provisions of the **Uniform Act**.
5. Title 23 MRSA Part 1. State Highway law contains provisions at Sections 61, 63, 73 through 246, 652 and 653 pertaining to the acquisition of real property and the relocation of displaced persons. Municipalities acquire property under authority of Title 23 Part 3, Chapter 304 (see below). However, this Chapter refers back to Sections 154 through 154E in Part I for purposes of determining damages to real property.
6. Title 23 MRSA Part 3 Chapter 304. This is the Maine Revised Statute pertaining to local highway law. Chapter 304 defines the acquisition of property for highway purposes.

The Maine Statutes referenced above are fully conforming to the detailed provisions of the **Uniform Act** and the implementing regulations in 23 **CFR** 710 and 49 **CFR** 24.

8-1.06 Transfer of Title to the State of Maine

Generally, if a municipality acquires fee title and/or easements on a State or State-aid road, title to the facility will be transferred to the State of Maine when the project is complete. The process for the transfer will be determined in consultation with the Project Development Bureau's Property Office.

8-1.07 Quality Assurance

The Department is committed to continuously improving the quality, efficiency and effectiveness of its programs and services. In partnering with MaineDOT, a municipality or local agency assumes a role in quality assurance. MaineDOT's concept of quality is based on the premise that every person involved in the process at any level has a responsibility for advancing quality. Quality advancement is a responsibility of each employee. It is not exclusively a management, supervisory or audit function. The following activities are appropriate quality advancement measures that can be undertaken by the municipality performing real property acquisition:

1. Perform a second-party internal review of all documents before they are delivered to the property owner. This includes appraisals, agreements, and instruments of conveyance, and offer letters, etc.
2. Provide relevant training to agency personnel who are engaged in specialized right of way activity (e.g., appraisal, negotiations, titles, relocation).
3. Perform quality spot checks of completed work concurrent with any ongoing project acquisition activity.
4. Perform peer reviews of work activity when there is more than 1 staff person involved in property acquisition for right of way.
5. Conduct phone or mail surveys of property owners following acquisition.
6. Develop internal procedures or policy to apply to specific recurring situations or circumstances in order to ensure consistency and equitable treatment.
7. Perform joint project reviews between MaineDOT and local agency management staff.

The above are suggested examples, but not an exhaustive list, of quality assurance actions. Other measures may be appropriate and effective depending on agency staffing, organization and the project. Specific quality assurance measures may be suggested by MaineDOT and incorporated into the MaineDOT/Municipality Agreement.

The agency quality assurance activities do not replace audits and reviews that are performed by State, Federal or local audit authorities. The Department has responsibility under 23 **CFR** 710.201 to monitor property acquisition activities conducted by political subdivisions to ascertain that right of way is acquired in accordance with the provisions of State and Federal laws and as required by Federal Highway Administration directives.

8-2 ACQUISITION PROCESS REQUIREMENTS

The procedural items discussed in this Section are basic requirements of the *Uniform Act* in the process of acquiring real property for highway right of way. They are presented with minimum detail in order to afford flexibility to municipalities to adapt their process to their organizational structure and the nature of the project. Additional information can be secured from the other chapters of this *Manual* that pertain to individual acquisition functions. Also, information and advice will be available from the Senior Property Officers and Property Office.

8-2.01 Title Investigation and Certification

Title investigations and certifications may be performed by municipality legal staff, or may be contracted to private attorneys.

Municipalities will follow the standards established by the Maine State Bar Association for title examinations, including treatment of clouds or defects in title. Exceptions to these standards will be acceptable only on approval of the MaineDOT Legal Services Office.

As soon as the right of way acquisition needs are identified for a project, acquisition to date titles will be prepared for all properties from which either permanent or temporary rights will be acquired. This work will enable detailed plotting of property lines and ownership information on plans.

Detailed guidance on title examinations for highway acquisition, including length of title search history for different types of takings is provided in Chapter 2. Section 2-4.03 provides guidelines for handling clearance of mortgages and other liens on property. On property acquired by deed, liens will be extinguished by securing releases, or the lien holder will be named as payee on the check for settlement in accordance with criteria for different types of acquisitions defined in Section 2-4.03.

A final rundown of title will be performed on all acquisitions immediately prior to recording the acquisition documents. The municipality will secure an attorney's verification that the municipality has secured the required necessary rights to construct the project as designed. Based upon this the highest ranking municipal official will certify that all applicable Federal and State requirements governing these acquisitions are satisfied. A final project certification will be made using the format of the MaineDOT Certification statement referenced in Chapter 1, Section 2.02(b).

8-2.02 Right of Way Mapping

The function of right of way mapping includes gathering and managing real property information and highway system information, and preparing the right of way plans and acquisition documents necessary to acquire property for highway projects. This section provides a brief overview of the mapping function. Detailed requirements for mapping are contained in Chapter 2.

The initial step in mapping is gathering data on ownership and improvements on each parcel of land the project is likely to affect. Mapping personnel then determine property rights underlying the existing or proposed transportation facility. Mappers will translate the information into preliminary right of way maps that show the existing limit of the right of way or other Public ownership. Mappers later prepare final right of way plans that document the new right of way limits of the project, basic design features including entrances and slopes, and the areas and types of acquisitions needed for the project. The final right of way plan serves as the basis for the parcel descriptions included in the property acquisition documents. A municipality will need to provide maps and property plats for the condemnation cases.

Municipalities may contract for performance of mapping functions. Guidance for the mapping process is contained in Chapter 2. The MaineDOT Property Office unit can provide detailed advice on mapping specifications or questions on specific project situations.

Notice to Owner must be provided to owner of the Agency's interest in acquiring real property and the basic protections provided to the owner by law prior to the start of the valuation phase.

8-2.03 Determination of Just Compensation

Just Compensation is the measurement of damages resulting from a taking under power of eminent domain. The agency's estimate of just compensation is determined by means of real estate appraisals, which are independently reviewed by a qualified review appraiser, or MaineDOT approved waiver valuation procedure.

The Just Compensation determination must be made by an authorized official within the acquiring agency. MaineDOT recommends that on municipal acquisitions the official determining Just Compensation be the highest ranking administrative officer in the municipality, typically the Manager or First Selectperson.

Independent contract appraisers in Maine are certified or licensed by the Maine Department of Professional and Financial Regulation. MaineDOT maintains an Appraisal Register, which is a current listing of consultant appraisers who are properly licensed or certified and are otherwise qualified by experience and performance to appraise property to be acquired for highway right of way. MaineDOT requires that a municipality contract with an appraiser on the Appraisal Register in accordance with Local Project Administration certification when not using qualified municipal staff.

When using an independent appraiser, consider the following:

1. Information Provided to the Appraiser. It is critical that the appraiser be provided with sufficient information to value the property rights to be acquired. The following should be provided:
 - a. Name, address and phone numbers of the owner(s);
 - b. Preliminary title information indicating current ownership and recent sales;
 - c. Description of the property rights to be appraised; and scope of work.

- d. Plan sheet indicating property lines and taking, including grade changes and mitigation measures (e.g., driveway restorations or landscaping).
2. Provide Owner the Opportunity to Accompany Appraiser. The appraiser must provide an opportunity to the property owner to accompany the appraiser in an inspection of the property. This is a basic requirement of the **Uniform Act** and state law and cannot be waived. The appraiser should document efforts to contact the owner as well as provide the owner's response to the offer to accompany the appraiser.
3. Appraisal Format and Number of Appraisals. When developing the appraisal, consider the following:
 - a. The Department uses a Short Format Appraisal to value property when there are no damages or special benefits to the remainder and the highest and best use of the remaining property is not changed. This is discussed in Section 4-2.04.
 - b. The Department may waive a formal appraisal of uncomplicated acquisitions where the value of the taking does not exceed \$15,000. In this instance, just compensation is determined by a qualified person, not necessarily an appraiser, through a simplified valuation process based on direct comparison with available market sales information. In order for an assessor to be deemed qualified, they must be either a Certified Maine Assessor or a Certified Assessment Technician. This process is fully described in Chapter 3. It should be noted that the administrative acquisition process is used only when settlement can be reached on this basis after explaining the process to the owner.
 - c. Some acquisitions will require more than one appraisal to be performed. Circumstances for a second appraisal include the property or the acquisition being of high value or uncertainty existing about the highest and best use of the property either before or after the acquisition.
 - d. Prior to acquisition, the Senior Property Officer will review the expected property acquisitions with local officials and jointly agree as to the proper appraisal format to be used and acquisitions in which more than one appraisal is appropriate.
4. Appraisal Review to Determine Value. The offer that will be presented to the property owner as just compensation is determined by a formal review of the appraisal(s) secured for the property. The appraisal review function may be performed by a qualified agency representative or by a licensed or certified contract appraiser. The appraisal review will include a check of the factual information and computations in the appraisal. It will also conclude a fair market value for the acquisition based on an evaluation of support and reasonableness of the appraisal value conclusion. The review appraiser is responsible to secure any needed

- appraisal corrections or additional documentation. The appraisal review process is discussed in Section 4-5.
5. Approval of the Appraisal. After the review is completed, for projects on MaineDOT's system, the appraisals will be approved at the MaineDOT by the Senior Property Officer overseeing the right of way phase of the project.
 6. Written Statement of and Basis for Amount Established as Just Compensation. A written offer of just compensation must be prepared for presentation to the owner, accompanied by a summary statement of the basis for the amount the agency has established as just compensation. The summary must provide the following information to enable the owner to make a reasonable judgment concerning the amount of the offer:
 - a. A description and location identification of the real property and the interest in the real property being acquired;
 - b. Identification of buildings, structures and other improvements, including removable building equipment and trade fixtures, considered to be part of the real property to be acquired; and
 - c. The amount established as just compensation. In the case of a partial acquisition, the compensation for the real property to be acquired and for damages to the remaining property must be stated separately.

8-2.04 Negotiations with the Owner

Agencies that acquire private property for public projects are aware of the need to be sensitive to property owner concerns as well as their rights under the Maine and the U.S. Constitution and laws. Therefore, it is important to negotiate for acquisition with a high degree of preparation, knowledge about the public need (i.e., the project) and professionalism in contacts with owners. Before negotiations can begin, the municipality **must ensure that the NEPA process is complete** and that the appropriate documentations are in place. Failure to complete this step and initiating negotiations prior to NEPA complete will jeopardize all federal participation in the project. The Municipality must check with the MaineDOT's Senior Property Officer or Project Manager to ensure NEPA is complete before making offers. All offers must be made in writing.

The agency representative should present the written offer of just compensation in person, explain the project and the need for acquisition, and address any owner questions about the offer and the valuation process. In addition, the representative should discuss the project schedule and any effects of the acquisition or the project on remaining property. Sufficient time should be provided to the owner to consider the offer and to consult with others concerning the acquisition and the reasonableness of the offer which shall be at least four weeks in the event condemnation is needed. This may require follow-up contacts. The agency has a responsibility to make every effort to acquire property expeditiously by negotiations.

The agency-determined just compensation is the basis for negotiations, but the offer cannot be considered a “take it or leave it” alternative. Information provided by the owner may be cause to revise the offer, for instance, if an important element of value was omitted from the appraisal or the acquisition was not properly described in the appraisal. Also, the agency has authority to administratively increase the offer amount if this would promote a settlement that would be in the overall public interest. Reasons for administrative settlement need not be based on valuation, but might consider other factors including condemnation costs, need for expeditious settlement or the risk of a court award that is significantly greater than the agency determination of value.

Any administrative settlement offer amount that is above the established just compensation must be fully explained in the file by the authorizing official, with an explanation as to how the offer is in the public interest. All negotiation contacts with owners should be documented on a diary log that states the date of contact, the parties contacted and a summary of the discussion. Chapter 5 provides a more detailed discussion of the negotiation process.

8-2.05 Tenant-Owned Improvements

The property acquired may include buildings, structures or other real property improvements that are owned by a tenant rather than the landowner. The tenant may have a lease that specifies that improvements be removed at termination of the lease. Tenant-owned improvements are more likely to be encountered on commercial use property. Examples include trade fixtures in a retail store or a panelized walk-in cooler for a restaurant. A tenant-owned improvement on a residential property might be an outbuilding (e.g., a storage shed) or a swimming pool.

Property that would be considered real property if it is owned by the landowner is also considered real property for acquisition purposes. The agency must acquire interest in tenant-owned improvements that are located on property that is acquired for the project. A separate offer of the value of the improvements must be made to the tenant owner, but only if the landowner first disclaims any interest in the improvements. If the landowner refuses to disclaim interest, the tenant is advised of this fact. The acquisition payment to the landowner will include the value of the improvements. Disputed ownership will then be a matter to be resolved between the landowner and the tenant.

The value of tenant-owned improvements will be determined as the greater of the amount that the improvement contributes to the fair market value of the whole property, or the value for removal, which is the same as salvage value.

8-2.06 Uneconomic Remnants

An uneconomic remnant is a remainder property after acquisition that the acquiring agency determines has little or no utility or value to the owner. The ***Uniform Act*** requires that the agency offer to purchase uneconomic remnants. This requirement is based on the reasoning that an owner should not be burdened by having to maintain and incur taxes and other costs for

a property remnant that is created by the public taking that is of no value or use to the owner. The decision to sell the uneconomic remnant is voluntary on the part of the owner.

8-2.07 Donations

Once they have provided a Notice of Interest to Acquire to the owner, the acquiring agency may accept donation of the property or any part of the compensation that would be due to the owner for the acquisition and must inform the owner of the right to have the agency appraise the property and be offered just compensation. However, in accepting a donation, the agency must receive owner acknowledgement in writing that they understand their rights to an appraisal and just compensation and they release the acquiring agency from its obligation to provide an appraisal. If the motivation for donation is a tax deduction, the owner should be advised that the Internal Revenue Service requires an independent third-party appraisal to support any deduction from taxes. The agency may, at its election, reimburse the owner's cost for an appraisal. The selection of an appraiser and compliance with tax law requirements is the property owner's responsibility.

It is important that the agency not take any action that could be perceived as coercive of the owner to donate property. An example of a coercive act would be to tell an owner: "All your neighbors have agreed to donate. They are going to be unhappy to know this project is delayed because of your refusal to donate". Donations negotiated for the project but prior to signing a project agreement, are still subject to Uniform Act acquisition requirements on Federally funded projects.

8-2.08 Exercise of Eminent Domain

The municipality acquiring real property should make every reasonable effort to settle amicably by negotiations as described above. If municipal officials determine after sufficient contacts that settlement based on negotiations is not feasible, and the project schedule requires immediate taking of property interests, title should be acquired by filing a condemnation order in the manner specified in 23 **MRSA** Chapter 304, Section 3023. The municipality will issue a check in the full amount of determined damages, fair market value, for delivery with the service of record copy of the condemnation order. Service on any one of multiple owners will be considered service on all owners. Title will pass to the municipality on service of the order of condemnation and check, or recordation of the deed or certificate as specified in 23 **MRSA** Section 3024, whichever occurs first.

A property owner who is not satisfied with the determination of damages that are awarded in the process of eminent domain as described above may appeal to the Superior Court in the county where the property lies. The owner's appeal to the Superior Court must be made within 60 days after the day of taking as specified in 23 **MRSA** Section 3029.

8-2.09 Payment for Property Before Being Required to Surrender Possession

The *Uniform Act* requires that no owner be required to surrender possession of real property before the acquiring agency pays the agreed purchase price. This requirement is served in condemnation by the process described in Section 8-2.08. In negotiated settlement, the municipality will deliver a payment check to the owner in the full amount of the agreed settlement before the agency takes physical possession of the property or requires the owner to vacate the property.

8-2.10 Payment for Expenses Incidental to the Transfer of Title

The acquiring municipality will pay actual and reasonable costs of transferring the title to the acquired property, including:

1. Recording fees, transfer taxes and similar expenses, if any, that are incidental to conveying the property to the municipality;
2. Penalty costs, inclusive of lien releases, for prepayment of any preexisting recorded mortgage encumbering the real property; and
3. The pro rata share of real property taxes paid by the owner for the period after the date of vesting title or the effective date of possession of the property, whichever is earlier.

8-2.11 Written Advance Notice to Vacate Occupied Property

No person who is lawfully occupying real property will be required to move from a dwelling or to move a business or farm operation without at least 90 days' written notice from the acquiring agency of the earliest date by which the move is required. The occupant should have a reasonable length of time to find other adequate facilities (e.g., housing or replacement business site) and to effect an orderly relocation.

The timing, content and delivery of a notice to vacate are determined by the Relocation Program procedures described in Section 6.04. If issuance of a formal notice to vacate is required, the municipality should consult with the MaineDOT Senior Property Officer to ensure that the notice complies with all regulatory requirements.

Less than 90 days' advance written notice is permitted, with FHWA approval, if continued occupancy of the property would constitute a danger to the person's health or safety. The determination and circumstances must be included in the project files.

8-2.12 Relocation of Residents or Businesses

The municipality may pay for the relocation of minor personal property items from the acquisition area to remaining property as a direct reimbursement claim based on the owner's actual and reasonable cost.

The relocation of residences, businesses or farms must be undertaken in strict compliance with Subparts C, D, E, and F of the **Uniform Act** and Chapter 6 of this *Manual*. Relocation is a highly specialized activity. MaineDOT recommends that the municipality consult with the assigned Senior Property Officer at the earliest time that a possible residential or business displacement is identified. The circumstances will be reviewed and determination made as to whether the relocation function will be performed by the municipality, contracted to a qualified private party or performed by MaineDOT staff.

It is important to know that property acquisitions that involve relocation will require significantly greater lead time than those acquisitions involving land only. There is an absolute requirement to make comparable replacement housing available to each displaced person or household and to provide at least 90 days' notice after a displacee is advised of the availability of replacement housing. The agency must schedule the project to accommodate the relocation time requirements.

Relocation costs must be actual, reasonable and necessary.

8-3 PROPERTY MANAGEMENT

The municipality is responsible for maintenance, security and management of acquired land improvements after acquisition. This includes the following items:

1. Rodent Control. Properties should be inspected after acquisition for rodents and other hazardous conditions. If rodent infestations are found, the municipality must take removal actions to preclude migration to nearby properties. This should be performed before the demolition of any improvements.
2. Hazardous Substances. Buildings containing asbestos or other hazardous materials must be demolished in compliance with State and Federal criteria for these conditions. See Chapter 7 for further information.
3. Security and Safety. The municipality is responsible to maintain safe conditions at acquired sites. This includes preventing blighting influences to adjacent property by removing accumulations of trash and taking measures to control vandalism and dumping. Buildings should be secured appropriately, including boarding or fencing if necessary. Particular attention must be given to removing conditions that could attract and be hazardous to children.
4. Demolition or Removal of Structures. Structures may be sold for removal from the site or be demolished. If structures are sold, the municipality must use a fair and open process for selecting a buyer, require a cash security deposit or bond to guarantee performance, and require insurance to indemnify the municipality and the State from any liability.

The municipality may demolish structures with its own forces or contract for demolition prior to construction, or removal may be included as a work item in the highway construction contract.

The owner of acquired land may retain ownership of structures for removal to remaining property. This should be arranged during the negotiations for the property, with appropriate adjustment to the fair market value to reflect the retention value of the structures.

5. Rental of Acquired Property. Normally, the construction schedule will preclude the rental of acquired property prior to project construction. If the project is delayed or property is acquired significantly in advance of project need, the municipality may allow occupancy for public or private use. If rented, the amount charged may not exceed what is appropriate for short-term occupancy in the area. The rental or use and occupancy agreement should specify that occupancy after agency acquisition does not create any right or obligation by the municipality or MaineDOT for relocation benefits of any kind.

Any revenues that are generated from the rental of property or the sale of improvements will be applied to reduce the net cost of the project.

8-4 PARCEL AND PROJECT RECORDS AND REPORTS

8-4.01 Parcel and Project Files

The acquiring agency will keep a separate file for each real property acquisition and a file for the right of way project as a whole. The records will be sufficient to demonstrate compliance with applicable laws and regulations. The following will be included in the parcel and project files:

1. Right of way map or plan showing the right of way acquired, including parcel numbers, property lines, area acquired and structure improvements and fences;
2. Project plans and property plats, sketches, descriptions, or photos;
3. Property ownership information, including title reports;
4. Appraisal Reports and related assignment and contract documents;
5. Statement of determination of fair market value;
6. Offer letters to property owners;
7. Negotiations logs or contact sheets;
8. Correspondence with property owners and MaineDOT;
9. Settlement agreements and contracts and justifications for administrative settlements;
10. Condemnation documents and filings;
11. Credits for sale or rental of property; and
12. Documents relating to property management or the rental or sale of property and structures.

8-4.02 Project Summary Records

Project summary data should be maintained as agreed in consultation with MaineDOT for each project. This may include a summary sheet showing key dates for each parcel, indicating the following:

1. Appraisal assignment,
2. Date the appraisal was received,
3. Date and amount of the fair market value that was established,

4. Date a written offer was presented to the owner and negotiations were initiated,
5. Date and amount of the settlement,
6. Date condemnation was filed,
7. Date the title was transferred,
8. Costs of excess land and any uneconomic remnants acquired,
9. Incidental expenses by parcel, and
10. Cost of construction items performed for mitigation of damages.

The specific project summary data will vary with the type of project and character of work to be performed. Projects with relocation may require a different data set.

MaineDOT and the municipality are subject to audit by State authorities, the FHWA and the U.S. Department of Transportation. Beyond the information noted above, sufficient documentation should be retained in files to track the origin and basis for any costs that are charged to the project as specified in 2 **CFR** Part 200.

The Department provides summary information on acquisition and relocation annually to the FHWA in order to carry out national program reporting responsibilities. The municipality will provide contributing information on projects under its responsibility.

8-4.03 Acquisition Policy Resources

The following Right of Way Program information resources will be provided to the municipality on initial assignment of responsibility for right of way project acquisition:

1. The MaineDOT *Right of Way Manual*;
2. The FHWA ***Real Estate Acquisition Guide for Public Agencies***;
3. ***Maine Revised Statutes*** Annotated, ***MRSA*** Title 23;
4. U.S. ***Code of Federal Regulations***, 23 ***CFR*** 710, and 49 ***CFR*** 24; and
5. Policy memoranda and guidance issued by MaineDOT and the FHWA.

8-4.04 Confidentiality and Retention of Records

The municipality should ensure that all parcel and project files relating to appraisals and negotiations are secure and that only those persons qualified to access the files are allowed to view them. These records are not available for public information except as noted below and their integrity should be carefully maintained. Access to confidential records should be restricted to officials of the municipality, MaineDOT, the State Auditor and the Federal Highway Administration. Because these data provide the documented support for the establishment and payment of just compensation required by law, they should be secured in a safe area with

backup records developed as considered necessary. This is especially important if the data are maintained in computerized form.

Project and parcel records relating to appraisals and negotiations will be open to public inspection 9 months following the completion date of the project. Records relating to claims appealed to the Superior Court will be open to public inspection following the award of the Court.

Notwithstanding public availability of appraisals and negotiations records above, parcel records may contain information of a personal nature relating to claimant income, assets, tax information etc. This information may be protected from disclosure under privacy laws. Officials should consult the local agency or MaineDOT Chief Legal Counsel before making records available.

The municipality will retain records in accordance with the MaineDOT records retention policy as provided in the MaineDOT/Municipality Agreement.

Local Project Administration Manual & Resource Guide

Utility Coordination



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Utility Coordination

Municipalities and non-profits undertaking locally administered projects must work with the utilities and any railroad whose facilities may be affected. Utility facilities consist of the following: poles; aerial electric, telephone and cable television lines; underground water, sewer, gas and telecommunications lines; and railroad tracks. Local agencies looking to keep projects on schedule must identify these facilities and contact their owners early.

Chapter 6 of this Manual covers the policies and procedures governing utility coordination on locally administered projects. It includes the following:

- A summary of the coordination process (page 6-1 below);
- Utility coordination checklist (page 6-2);
- Utility relocation costs (page 6-3);
- Accommodating aerial utilities (page 6-3);
- MaineDOT Utility Accommodation Rules (page 6-4);
- Appendix 6A: Standard utility letters (page 6-5);
- Appendix 6B: Utility special provision (page 6-15); and
- Appendix 6C: Utility certification (page 6-19).



Electronic documents and general information are found on MaineDOT's utilities website: <https://www1.maine.gov/mdot/utilities/utilcoord/>

6.1 Summary of Utility Coordination

MaineDOT requires coordination with utilities and railroads on locally administered projects, regardless of funding type. Utility companies often need extensive lead time to schedule work and obtain materials needed to move lines and equipment, if necessary.

As design work begins, a local agency should consider the following questions:

- What utility facilities exist in the right of way?
- How much room is there for clearing?
- Is the project abutting another project? What was done there?
- Can relocations be reduced and still meet the project need?
- What are the concerns of the utilities?



Early and continuing coordination is critical to keeping a project on track. The earlier that utilities and railroads are contacted, the more likely it is that the utility coordination will go smoothly and the schedule of a project will be met.

6.2 Utility Coordination Checklist

Utility coordination consists of a series of informational exchanges with utilities and railroads that have facilities within the limits of a project. This coordination begins at kickoff and continues through construction.

Below are the standard steps, typically carried out by a “utility coordinator” who is either an employee of the local agency administering a project or a consultant. The referenced utility letters are available online: <https://www1.maine.gov/mdot/utilities/utilcoord/>

1. At project kickoff:

- Identify utility and railroad contacts: <https://www1.maine.gov/mdot/utilities/contactinfo/>
- Email Utility Letter #1 and a location map to utility/railroad contacts.
- Arrange and conduct a site visit to verify utility/railroad information.

2. Upon completion of survey:

- Email Utility Letter #2 and topographical survey plans to utility/railroad contacts.
- Arrange for additional survey identified from Utility Letter #2 responses, if necessary.
- Work with utilities to arrange for test pits, if necessary, to locate underground facilities.

3. At preliminary design report (PDR) milestone:

- Email Utility Letter #3, preliminary plans and schedule to utility/railroad contacts.

4. When design reaches 75-80% plans complete:

- Email Utility Letter #4, 75-80% plans and schedule to utility/railroad contacts for review.
- Hold utility pre-coordination meeting on site to review impacts, relocations and schedules.

5. At Plan Impacts Complete (PIC) Milestone:

- Work with right-of-way mapper to accommodate utility impacts resulting from the design.
- Prepare pole list in coordination with utilities.
- Email Utility Letter #5 and utility special provision (#104) to utilities/railroad for review.

6. At Final Plans, Specifications and Estimate (PS&E) Milestone:

- Email final design plans and latest project schedule to utility/railroad contacts
- Finalize special provision 104 (utilities) for inclusion in the bid documents for the project
- Submit utility certification to MaineDOT project manager.

7. After Contract Award: Pre-construction Meeting

- Notify contacts of the pre-construction / pre-utility meeting (Utility Letter #6).
- After meeting, distribute minutes to utility/railroad contacts (Utility Letter #7).

8. During Construction:

- During construction, the contractor has primary responsibility for coordinating utility work.
- If a utility is unresponsive, the construction resident should try to resolve the issue.
- If the resident is unsuccessful, an issue should be elevated to the MaineDOT project manager and, if necessary, the MaineDOT staff utility coordinator assigned to a region.

6.3 Utility Relocation Costs

The State of Maine and local governments cannot reimburse utility companies for moving poles, underground lines and other facilities already within a highway right-of-way, when transportation improvements require such relocations. The utilities must pay to move their facilities.

There is legal precedent for this. Maine Supreme Judicial Court has found that revenue from taxes and fees on fuel, licenses and registrations cannot be used to pay for utility relocations. Since the revenue available to MaineDOT and municipalities for utility reimbursement would come primarily from these sources, it would be unconstitutional for a public agency to use this money for utility facility relocations.



☞ See *First National Bank of Boston, et al, v. Maine Turnpike Authority, et al*, 153 Me. 131.

6.4 Accommodating Aerial Utilities

MaineDOT will accommodate overhead utilities already located within a highway right-of-way if a project requires poles to be moved. This policy applies to locally administered projects, as well. Sufficient property rights may be acquired for project design purposes to enable the utilities to place their poles consistent with a project’s design and to carry out adequate tree trimming for immediate needs – in some cases up to 8 feet beyond the outermost conductor.

Consider these guidelines when deciding whether to acquire rights specifically for trimming needs:

- Trimming needs should be accommodated only on parcels where an agency already plans to obtain rights for highway purposes that are necessary for a project;
- Trimming needs should *not* be accommodated if they will cause significant severance issues;
- Trimming needs should *not* be accommodated if they will cause additional impacts to wetlands or other natural resources that could trigger mitigation;
- Trimming needs should *not* be accommodated if they will cause additional impacts to historic properties, properties subject to section 4(f) or 6(f) requirements, or properties not subject to MaineDOT’s authority of eminent domain;
- Accommodating trimming needs is *not* required when the existing right-of-way width will accommodate the project improvements and new utility poles, and the only reason to acquire more right-of-way would be to achieve the maximum 8-foot offset.



Maine law prohibits the State of Maine and local governments from acquiring rights only to benefit utilities, as covered in section 6.3 above, “Utility Relocation Costs.” These include aerial and guying rights, which utilities must obtain if clearance for trimming and guying cannot be accommodated within the right-of-way acquisitions required for highway design purposes.

6.5 MaineDOT Utility Accommodation Rules

The primary reference document for utility relocations is MaineDOT's Utility Accommodation Rules, governing the accommodation of utility facilities within the limits of state and state-aid highways.

The rules establish administrative procedures and requirements for location, method of installation, maintenance, adjustment and relocation of utility facilities. Within state and state-aid highways, these rules supersede less stringent standards established by the Maine Public Utilities Commission.

MaineDOT developed the rules to protect public safety and to safeguard the integrity and capacity of public highways, while allowing for placement of utility facilities that serve the public good.

The Utility Accommodation Rules can be found online: <https://www1.maine.gov/mdot/utilities/>

6.6 Utility Special Provision

A utility special provision must be developed for every project to ensure that the contractor and utility companies can coordinate the work during construction. The standard special provision should provide the following information:

- Identify utility, with contact information;
- Outline type of work;
- Time needed to complete work;
- Sequence of work;
- Any special considerations.

A sample utility special provision is found in Appendix 6B of this chapter, starting on page 6-15. Additionally, an electronic template is online: <https://www1.maine.gov/mdot/utilities/utilcoord/>

6.7 Utility/Railroad Certification

Before a locally administered project may be put out to bid, the local government or non-profit managing it must certify that all required utility and railroad work has been identified and that arrangements have been made to complete this work. This is required by federal regulation 23 CFR, section 636.309: "Authorization." *An example is found in Appendix 6C of this chapter.*

MaineDOT project managers *cannot* authorize local agencies to advertise for construction bids without receiving signed utility certifications. Typically, a utility certification is submitted with the final Plans, Specifications and Estimate (PS&E) package, covered in Chapter 7 of this Manual.

Appendix 6A: Standard Utility Letters

- ❑ Electronic versions of the seven letters in this section are available online:
<https://www1.maine.gov/mdot/utilities/utilcoord/>



IMMEDIATE RESPONSE REQUESTED

Date _____

RE: Identification of Utility Facilities

Town/City: _____

Project WIN: _____

Location: _____

To whom it may concern OR Dear Sir/Madam:

The Municipality of _____ is planning _____
_____.

Beginning... or Project Details... _____

Enclosed you will find a location map to further assist you in locating the proposed project.

Please complete and return the brief questionnaire attached to this letter. The information provided here will allow our project designers to recognize the presence of existing facilities or plans to install additional facilities within the next five years. Your responses will enable us to better coordinate our work with you throughout this project.

PLEASE NOTE, THAT IF YOU ARE THE POLE OWNER, OR HAVE MAINTENANCE RESPONSIBILITIES ON A JOINT POLE AGREEMENT, PLEASE IDENTIFY ALL OF THE ATTACHING ENTITIES. THIS INFORMATION IS CRITICAL IN IDENTIFYING ANY UTILITIES WHICH MAY NOT HAVE BEEN IDENTIFIED AS PART OF THIS INITIAL PROCESS.

The Work Identification Number (WIN) assigned to this project is _____ and should be used on any future correspondence regarding this project.

This project is scheduled for design OR construction OR Advertise for the summer of “__”. If you have any questions or concerns, please feel free to contact me at (XXX) XXX-XXXX, or by email at _____. Thank you for your cooperation.

Sincerely,

Utility Coordinator

Enclosures: Questionnaire Response Form
Project Location Map OR Project Alignment Map

****IMMEDIATE RESPONSE REQUESTED****

RE: _____

Date

Town/City: _____

Project WIN: _____

Location: _____

Utility Coordinator: _____ – Coordinator

Street

Town, ZIP

Cell: XXX-XXXX

Fax: XXX-XXXX

E-Mail: coordinator email

Please complete the following short questionnaire and fax, email or send via mail. The following may be filled out electronically in Microsoft Word by using the “TAB” key.

Utility:

Date Form Submitted:

1. Does the utility you represent presently have facilities within the project limits?

Yes No

2. What type of facilities do you have in the project area?

Underground

Aboveground

3. Pole Owner:

Attachments:

4. Do you plan on installing any facilities within the project limits in the next 5 years?

Yes No

6. Contact person for project coordination:

Name:

Address:

Tel:

Cell:

Fax No:

E-mail:

6. Contact person for construction:

Name:

Address:

Tel:

Fax No:

E-mail:

7. Comments

{Date}

{Utility Company Address}

RE: Review of Survey Plans, {Town}, {Location}, {MaineDOT WIN}

Dear {Addressee}:

Enclosed please find a set of survey plans for the above referenced project being developed by _____ on behalf of the Municipality of _____.

Please review the locations of your existing facilities as shown on these plans and complete the brief questionnaire attached to this letter. Identification of any incorrectly located or omitted facilities now will enable us to make the appropriate corrections before substantial design has occurred. I ask that you return the attached questionnaire along with any additional comments you may have within two weeks.

This project is scheduled to be advertised on _____. If you have any questions or concerns, please feel free to contact me at **{Phone Number and Email}**. Thank you for your cooperation.

Sincerely,

Utility Coordinator

Enclosures: Survey Plans
Survey Plan Questionnaire

{Town}
 {MaineDOT WIN}
 {Date}
 {Utility Name}
 {Consultant or Town LAP contact, with contact information including Fax, email,
 telephone, and mailing address}

Survey Plan Questionnaire

{Utility Name}

Please complete the following short questionnaire and Fax, e-mail or send via mail. The following may be filled out electronically in Microsoft Word by using the "TAB" key.

QUESTION	RESPONSE
1. Are all of your facilities within the project limits on the survey plans?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Are your facilities shown correctly on the survey plans?	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. Do your facilities or portions thereof require unique considerations?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. Are you considering upgrading or replacing any of your facilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6. Do you feel that an on-site review of the project is required?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6. Will you be forwarding additional information from your records?	<input type="checkbox"/> Yes <input type="checkbox"/> No
RESPONSE BY:	
DATE:	
TELEPHONE:	
EMAIL:	
(USE THIS SPACE FOR ANY CLARIFICATION OR ADDITIONAL INFORMATION)	

{Date}

{Utility Company Address}

Subject: Review of Preliminary Plans, {Town}, {Location}, {MaineDOT WIN}

Dear {Addressee}:

Attached you will find preliminary design plans and right-of-way maps for the subject project. At your earliest convenience, **please review these plans to establish the following:**

- ❑ What potential conflicts exist between the proposed design and your existing facilities?
- ❑ Is additional data gathering (such as test pits) required?
- ❑ Aerial Utilities: Please develop a list of preliminary proposed pole locations in compliance with the applicable safety standards and the MaineDOT's Utility Accommodation Rules, 17-229 CMR Chapter 210.
- ❑ Underground Utilities: Please develop preliminary proposed underground plant relocation plans for any required relocations or proposed installations in accordance with applicable standards and the MaineDOT's Utility Accommodation Rules, 17-229 CMR Chapter 210.
- ❑ If your facilities are located on property which is either owned by your company or for which you have an easement, you may be entitled to reimbursement in accordance with Federal Aid Policy Guide, Title 23, Code of Federal Regulations, Chapter I, Subchapter G, Part 645, Subpart A. Please contact this office prior to preparing any plans or estimates.

Please note: These plans are for Utility purposes only, to assist in planning utility relocations required as part the Project, and are not intended for public distribution. Although, not confidential, discretion is requested by the Department in sharing this information with the public. It is recognized, that utilities may need to acquire rights beyond those shown on the attached plans, if so, please contact this office so that the Department can provide proper notification of the project to the public prior to the utility obtaining additional rights.

The Municipality intends to advertise this project on {Date}. If you have any further questions, please contact me at {Phone Number and Email}. Thank you for your cooperation.

Sincerely,

Utility Coordinator

Enclosure: Preliminary Plans & Right-of-Way Maps

{Date}

{Utility Company Address}

RE: Pre-coordination Meeting & Review of Construction Plans, {Town}, {Location},
{MaineDOT WIN}

Dear {Addressee}:

Enclosed please find one copy of final construction plans for the above listed project. These plans are only intended for information and planning purposes at this time. No actual relocation of facilities should be made because of these plans.

Please review your proposed pole and/or proposed underground plant locations on the Department's plans. If changes are necessary, they should be communicated to us prior to the Pre-coordination Meeting. **The Pre-coordination Meeting has been scheduled for {Date, Time and Place of Pre-coordination Meeting}. It is requested that you be prepared to assign working days to your required utility work at this meeting.**

This project is scheduled for advertising {Date}. If you have any questions or concerns, please feel free to contact me at {Phone Number and Email}. Thank you for your cooperation.

Sincerely,

Utility Coordinator

Enclosure: Construction & R/W Plans

{Date}

{Utility Company Address}

RE: Draft Special Provisions, **{Town}**, **{Location}**, **{MaineDOT WIN}**

Dear **{Addressee}**:

I intend to include the enclosed Special Provisions in the contract documents for the subject project. It includes scheduling and descriptive information regarding work to be done by your organization.

If the text does not accurately reflect your intentions, please contact this office immediately at **{Phone Number and Email}**. Thank you again for your cooperation.

Sincerely,

Utility Coordinator

Enclosure: Proposed Utility Special Provisions

{Date}

{Utility Company Address}

RE: Pre-construction Meeting, **{Town}**, **{Location}**, **{PIN}**

Dear **{Addressee}**:

A pre-construction utility meeting for the subject project has been arranged for **{Date, Time and Place of Pre-construction Meeting}**. The purpose of this meeting is to discuss the coordination of work between the contractor and the utilities and any additional considerations or concerns that may exist. Your attendance at this meeting is critical to the success of the project and greatly appreciated.

If you need more information, please contact me at **{Phone Number and Email}**.

Sincerely,

Local Project Administrator

{Date}

{Utility Company Address}

RE: Pre-construction Meeting Minutes, **{Town}**, **{Location}**, **{PIN}**

Dear **{Addressee}**:

This is my understanding of the issues discussed and the conclusions reached at the pre-construction utility meeting held on **{Date, Time and Place of Pre-construction Meeting}**. It is understood that the dates and times agreed upon and summarized herein assume reasonable weather conditions and freedom from emergencies.

The following representatives were present:

<u>Name</u>	<u>Company</u>	<u>Telephone #</u>
--------------------	-----------------------	---------------------------

{Attendance List}

{Meeting Summary}

I have attempted to summarize our meeting as accurately as possible. If you feel that any of the items discussed herein are misrepresented in any way, please contact me within ten working days. In the absence of any corrections or clarifications, it will be understood that these minutes accurately summarize our discussions. Thank you for your participation and continued efforts in making this a successful project.

Sincerely,

Local Project Administrator

Appendix 6B: Utility Special Provision

- An electronic version of this document is available online:
<https://www1.maine.gov/mdot/utilities/utilcoord/>



**SPECIAL PROVISIONS
SECTION 104
Utilities**

UTILITY COORDINATION

The Contactor has primary responsibility for coordinating the work with utilities after contract award. The Contactor shall communicate directly with the utilities regarding any utility work necessary to maintain the Contactor’s schedule and prevent project construction delays. The Contactor shall notify the project resident of any issues.

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the MaineDOT Standard Specifications, “Utility Coordination,” is **{not}** required.

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Municipality for utility and/or railroad work to be undertaken in conjunction with this project. The following list identifies all known utilities or railroads having facilities presently located within the limits of this project or intending to install facilities during project construction. Utilities have been notified and will be furnished a project specification.

Overview:

Utility/Railroad	Aerial	Underground	Railroad	

Utility Contact Information

Utility/Railroad	Contact Person	Contact Phone

Temporary utility adjustments are **{not}** anticipated.

Unless otherwise specified, underground utility facilities shown on the project plans represent approximate locations gathered from available information. The Municipality cannot certify the level of accuracy of this data. Underground facilities indicated on the topographic sheets (plan views) have been collected from historical records and/or on-site designations provided by the respective utility companies. Underground facilities indicated on the cross-sections have been carried over from the plan view data and may also include further approximations of the elevations (depths) based upon straight-line interpolation from the nearest manholes, gate valves, or test pits.

All adjustments are to be made by the respective utility/railroad unless otherwise specified herein.

Fire hydrants shall not be disturbed until all necessary work has been accomplished to provide proper fire protection.

All clearing and tree removal in areas where utilities are involved must be completed before the utilities can relocate their facilities.

It is the responsibility of the Contactor with the Utility Pole owner, to lay out all proposed pole locations in the field prior to the start of utility relocations. Should any adjustments be needed, the Utility will document adjustments and inform the Municipality prior to utility relocations.

The Contractor shall provide the utilities access to the new pole locations. Construction of any spot cuts or fills exceeding 2 feet must be completed prior to utility relocations. The Contactor shall prepare a plan for how access and the spot cuts and fills will be accomplished and what the schedule will be for performing the work. This plan will be discussed at the pre-construction utility meeting.

Specific information regarding the line voltage can be requested from {Name of Electric Utility}

Utility working days are Monday through Friday. Times are estimated based on a single crew for each utility. Times and dates mentioned are **estimates only** and are dependent upon favorable weather, working conditions, and freedom from emergencies. The Contractor shall have no claim against the Municipality if they are exceeded.

BUY AMERICA

Utility construction work performed as part this federal-aid project is subject to the requirements of Buy America in accordance with Federal Regulation 23 CFR 636.410. Specific requirements are presented in MaineDOT’s Standard Specifications, Section 100, Appendix A, Section 3.A., “Buy America.”

AERIAL

Summary:

Utility	Pole Set	New Wires/ Cables	Trans. Wires/ Cables	Remove Poles	Estimated Working Days
Total:					

Utility Specific Issues:

{Company #1}

{Company #2}

{Company #3}

Pole List:

Existing Pole #	Existing Station	Left/Right		Existing Offset	Proposed Station	Left/Right		Proposed Offset	Comments
		LT	RT			LT	RT		

SUBSURFACE

Summary:

Utility	Summary of Work	Estimated Working Days
Total:		

Utility Specific Issues:

{Company #1}

{Company #2}

{Company #3}

RAILROAD

{Company #1}

MAINTAINING UTILITY LOCATION MARKINGS

The Contractor will be responsible for maintaining the buried utility location markings following the initial locating by the appropriate utility or their designated representative.

UTILITY SIGNING

Any utility working within the construction limits of this project shall ensure that the traveling public is adequately protected all the time. All work areas shall be signed, lighted, and traffic flaggers employed as determined by field conditions. All traffic controls shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, as issued by the Federal Highway Administration.

Appendix 6C: Utility Certification

- An electronic version of this document is available online:
<https://www1.maine.gov/mdot/utilities/utilcoord/>



Communication 13: Utility Certification (Federal Project)

INSTRUCTIONS: This must be submitted on letterhead with the final PS&E package.

[DATE]

[NAME], Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Utility Certification, Federal Project
MaineDOT WIN:

Dear [NAME]:

The Municipality of [NAME] certifies that all utility and railroad work necessitated by the subject project has been identified and coordinated with the respective parties. All arrangements have been made for utility work to be undertaken and completed as required for proper coordination with the construction schedule, in accordance with Title 23 in the Code of Federal Regulations, Part 645, "Utilities," subparts A and B.

Based on 23 CFR 635.309(b), the Municipality further certifies either that all railroad work has been completed or that all arrangements have been made for such work to be undertaken and completed as required for proper coordination with the construction schedule, in accordance with 23 CFR 140 Subpart I and 23 CFR 646 Subpart B.

Listed below are utilities/railroads having facilities within the project limits:

<u>Utility/Railroad</u>	<u>Impacted facilities? (yes/no)</u>
--------------------------------	---

All of the entities listed above were first informed of the project on [DATE], were involved as necessary throughout design, and received the latest plans on [DATE]. Furthermore, the above entities have been informed of the proposed advertising date: [DATE]. There are no direct payments anticipated to utilities/railroads as a part of this project.

The primary utility/railroad contacts involved in the coordination of this project are as follows:

<u>Utility/Railroad</u>	<u>Contact Name</u>	<u>Telephone #</u>
--------------------------------	----------------------------	---------------------------

Sincerely,

Local Project Administrator

Local Project Administration Manual & Resource Guide

Final PS&E Package



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Final PS&E Package

Before a locally administered project may be advertised, the local agency administering it must submit final plans, specifications and construction estimate (PS&E) to MaineDOT for review, comment and approval. At this point, design plans and construction specifications must be complete, all permits must be in hand, and all necessary right-of-way must be acquired.

Chapter 7 of this Manual is set up to explain the documentation requirements at the project stage known as final PS&E. It contains the following:

- A summary of the requirements (page 7-1);
- A checklist for final PS&E (page 7-2);
- Appendix 7A: Federal project certifications (page 7-3);
- Appendix 7B: A bid package checklist (page 7-10).



7.1 Summary of PS&E Requirements

Final PS&E is the stage just before a project is put out to bid. At this point, right-of-way and environmental work must be completed. If there is federal money, the U.S. Department of Transportation must have issued the appropriate document under the National Environmental Policy Act (NEPA) – in most cases what is known as a Categorical Exclusion, or “CE.”

The signed certifications listed below must be part of the final PS&E submittal for a project. They are available on MaineDOT’s website: <https://www1.maine.gov/mdot/lpa/lpadocuments/>

- Public process certification (Communication 10), on page 7-4;
- Environmental certification (Communication 12), on page 7-5;
- Utility certification (Communication 13), on page 7-6;
- Right-of-way certification (Communication 14), on page 7-7; and
- Traffic Analysis and Movement Evaluation (TAME) certification, which MaineDOT prepares.

Remember: A local agency cannot advertise for construction bids without receiving written authorization from MaineDOT. This happens after:

- MaineDOT has reviewed and accepted the final PS&E package as complete; and
- The agency administering the project has requested construction authorization from MaineDOT, using Communication 15, shown on page 7-9 of this chapter; and
- The U.S. Department of Transportation has approved funding for the construction stage.

CHECKLIST: FINAL PLANS, SPECIFICATIONS AND ESTIMATE

- Final design plans have the following details:**
 - Title sheet
 - Plan views
 - Profiles, if applicable
 - Cross-sections and typical sections
 - Earthwork summary (*if applicable*)
 - All supplemental sheets (drainage, geometric, grading, striping, etc.)
 - All work is covered by a pay item or a general note
 - Documentation of approved design exceptions
 - Documentation of quality-control design checks performed by municipality/consultant
 - PE stamp of engineer of record, as warranted and required by law
- Engineer's Estimate Completed, as follows:**
 - Estimate uses MaineDOT item numbers
 - Each item in engineer's estimate is shown on the plans
 - Estimate of quantities matches Schedule of Items in contract book
- Bid book contains the following:**
 - Notice to Contractors
 - Contract Agreement, Offer and Award form
 - Contract bonds
 - Davis-Bacon wage rates (*federal projects*)
 - Electronic payroll special provision (*federal projects*)
 - Buy America requirements (*federal projects*)
 - 403 special provision (Hot Mix Asphalt) prepared by MaineDOT
 - 652 special provision – Traffic control
 - Form FHWA-1273 (*federal projects*)
 - Signed Title VI Assurances (*federal projects*)
- PS&E package approved by MaineDOT project manager**
 - Public process certification attached (*Communication 10*)
 - Environmental certification attached (*Communication 12*)
 - Utilities certification attached (*Communication 13*)
 - Right-of-Way certification attached (*Communication 14*)
 - Traffic Analysis and Movement Evaluation (TAME) certification attached
 - MaineDOT will prepare TAME certification
- Construction authorization requested from MaineDOT (*Communication 15*)**
- Construction authorization given in writing by the MaineDOT project manager**
- Minimum materials testing requirements obtained from MaineDOT project manager:**
 - PM sends plans, specifications and estimated quantities to technician Jean Tukey: 624-3543

☞ **If you advertise your project before receiving authorization, you will jeopardize **ALL** the money from MaineDOT for the project.**

Appendix 7A: Project Certifications

- ❑ For electronic versions of these documents, visit MaineDOT's website:
<https://www1.maine.gov/mdot/lpa/lpadocuments/>



INSTRUCTIONS: *This must be submitted on letterhead with the final PS&E package.*

[Date]

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Public Process Certification, Federal Project
MaineDOT WIN_____

Dear _____:

The Municipality of _____ certifies that a public process was carried out for the subject project in accordance with Title 23 in the Code of Federal Regulations, Part 771.111, satisfying a pre-construction requirement in the executed project agreement with MaineDOT.

DESCRIBE ANY PUBLIC OPPOSITION HERE, IF APPLICABLE.

I have attached for your information the following:

- A copy of the notification that was sent to abutters by registered mail;
- A copy of the meeting notice;
- Sign-in sheet; and
- Meeting minutes.

If you need any additional information, please let me know.

Sincerely,

Local Project Administrator

INSTRUCTIONS: This must be submitted on letterhead with the final PS&E package.

[Date]

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Environmental Certification, Federal Project
MaineDOT WIN_____

Dear _____:

If permits were required, use this paragraph:

The Municipality of _____ certifies that it has obtained all permits necessary to carry out the subject project, satisfying one of the pre-construction requirements in the executed project agreement with MaineDOT. Attached are copies of the permits.

If NO permits were required, use this paragraph:

The Municipality of _____ certifies that no permits were needed for the subject project. This certification satisfies one of the pre-construction requirements in the executed project agreement with MaineDOT. ***NOTE: If no permits were required, please briefly explain.***

Sincerely,

Local Project Administrator

Enclosures: Environmental permits
Cc: MaineDOT Environmental Office

INSTRUCTIONS: This must be submitted on letterhead with the final PS&E package.

[Date]

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 Sate House Station
Augusta, ME 04333-0016

Subject: Utility Certification, Federal Project
MaineDOT WIN_____

Dear _____:

The Municipality of _____ certifies that all utility and railroad work necessitated by the subject project has been identified and coordinated with the respective parties. All arrangements have been made for utility work to be undertaken and completed as required for proper coordination with the construction schedule, in accordance with Title 23 in the Code of Federal Regulations, Part 645, "Utilities," subparts A and B.

Based on 23 CFR 635.309(b), the Municipality further certifies either that all railroad work has been completed or that all arrangements have been made for such work to be undertaken and completed as required for proper coordination with the construction schedule, in accordance with 23 CFR 140 Subpart I and 23 CFR 646 Subpart B.

Listed below are utilities/railroads having facilities within the project limits:

<u>Utility/Railroad</u>	<u>Impacted facilities? (yes/no)</u>
-------------------------	--------------------------------------

All of the entities listed above were first informed of the project on _____, were involved as necessary throughout design, and received the latest plans on _____. Furthermore, the above entities have been informed of the proposed advertising date: _____. There are no direct payments anticipated to utilities/railroads as a part of this project.

The primary utility/railroad contacts involved in the coordination of this project are as follows:

<u>Utility/Railroad</u>	<u>Contact Name</u>	<u>Telephone #</u>
-------------------------	---------------------	--------------------

Sincerely,

Local Project Administrator

INSTRUCTIONS: *If a local agency acquired rights or otherwise carried out the right-of-way process, this letter must be signed by an attorney for the agency or its highest-ranking official and submitted with the attached certificate with the final PS&E package for a project.*

[Date]

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Right-of-Way Certification, Federal Project
MaineDOT WIN _____

Dear _____:

If right-of-way was acquired, use this statement:

Attached is the required certification that all right-of-way necessary for construction and maintenance of _____ in the Municipality of _____ has been acquired, in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the executed project agreement with MaineDOT. The Municipality certifies that it has legal and physical possession of all rights needed for the project.

If NO right of way was required, use this statement:

The Municipality of _____ certifies that no right-of-way acquisition was required for the subject project, since all planned work will occur within the exiting public right-of-way. If you require additional information, please let me know.

All information about the right-of-way process can be made available upon request. If you need additional information, please let me know.

Sincerely,

Municipal attorney or highest-ranking municipal official

Enclosure: Right-of-way certificate

MUNICIPALITY OF _____

RIGHT OF WAY CERTIFICATE

FEDERAL PROJECT		WIN	
-----------------	--	-----	--

ROUTE		LOCAL NAME	
-------	--	------------	--

RIGHT OF WAY ACQUISITION REQUIRED AS DESCRIBED BELOW:

Property Owners		Fee Simple Parcels		Easement Rights	
-----------------	--	--------------------	--	-----------------	--

Number of Cases

Displacement Summary:

Number Displaced

Number Relocated

The Municipality of _____ hereby certifies that the right to occupy and use all the right of way necessary for this project has been acquired by [] deed, [] condemnation or [] permit to work. All right-of-way has been or will be acquired in accordance with the current FHWA directive(s) covering the acquisition of real property and all relocations have been accomplished.

Without Exception

Legal Possession completed as of

All families and individuals relocated from this project have been offered decent, safe and sanitary housing, as defined in 49 CFR Part 24: All parties receiving replacement housing payments have been relocated to DS&S housing. Relocation procedures used on this project conform to the standards established by federal regulation.

Signed by:

Municipal Attorney or Highest-Ranking Official	Date

INSTRUCTIONS: This must be submitted on letterhead with the final PS&E package.

[Date]

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Construction Authorization Request, Federal Project
MaineDOT WIN_____

Dear _____:

Attached for your review, comment and approval are the final plans, specifications and estimate (PS&E) for [insert project scope] in the Municipality of _____.

Also attached are the following certifications:

- Communication 10 (public process);
- Communication 12 (environment);
- Communication 13 (utilities); and
- Communication 14 (right of way, if applicable).

The Municipality hopes to advertise for construction services on [insert date], but we understand that we cannot put the project out to bid without MaineDOT's written approval.

We further acknowledge that construction authorization will be contingent upon:

1. The Municipality addressing to MaineDOT's satisfaction any final comments on the PS&E package; and
2. MaineDOT obtaining authorization for the construction stage of the project from the Federal Highway Administration.

Sincerely,

Local Project Administrator

Enclosure: Draft PS&E package

Appendix 7B: Bid Package Checklist



FINAL PLANS & BID DOCUMENTS

Note: This section offers guidance on the standard documentation for most bid packages. Check with MaineDOT for the latest versions of all bid book inserts and special provisions.

Final Plans

1. Check to be sure the title page is signed with a licensed professional engineer's stamp as required by Maine law.
2. Be sure the schedule of items matches the final engineer's estimate.
3. Check plans to be sure all pay items are on the schedule of items and engineer's estimate.

Specifications

1. Make sure that all project specifications and special provisions include the following:
 - Description of the work;
 - Materials required to complete the work;
 - Requirements to construct and accept the work;
 - Measurement, specifying what, when and how to measure for payment; and
 - Basis of payment for the work.

Bid Documents

Standard bid book inserts are found under "Bid Documents / Final PS&E" on this web page: <https://www1.maine.gov/mdot/lpa/lpadocuments/>

1. Bidding Instructions
 - The latest inserts from MaineDOT must be at the front of the bid book. The instructions will be labeled Federal or State, depending upon funding source.
 - In most cases, references to MaineDOT should be replaced with references to the local agency overseeing a project. Check with MaineDOT if there are questions.
2. Notice to Contractors, includes:
 - Stamp of Engineer of Record, as applicable and required by law
 - Bid opening date and time (*pay attention to holidays*)
 - MaineDOT Project WIN, description, location, and outline of work
 - Basis of award
 - Disadvantaged Business Enterprise requirements statement (*federally funded projects*)
 - Statement that MaineDOT Standard Specifications shall apply
 - Bid bond amount
 - Cost of copies of bid book and plan sets

- Projects less than \$125,000 require no contract performance surety bond or contract payment surety bond. Bonds are required for projects exceeding \$125,000.
 - For projects greater than \$300,000, a bidder must complete a highway, bridge or project specific pre-qualification through MaineDOT to be awarded the contract.
 - For projects less than \$300,000: “Bids will be accepted from all bidders. The lowest responsive bidder must demonstrate successful completion of projects of similar size and scope to be considered for the award of this contract.”
3. Special Provision 102.7.3, Acknowledgement of Bid Amendments. *(Typically, this is found in the bidding instructions package.)*
 4. Schedule of Items
 5. Contract Agreement, Offer and Award form: two copies
 - Check Section A, “The Work,” for correct WIN, location and scope of work
 - Check Section B, “Time,” to be sure completion date matches Special Provision 107
 - Check Section F, “Offer,” to be sure the paragraph labeled “Fourth” references Disadvantaged Business Enterprise (DBE) requirements *(federally funded projects)*
 6. Forms labeled, “Sample,” – one copy each:
 - Contract Agreement, Offer and Award
 - Contract Performance Bond
 - Contract Payment Bond (Surety Company Form)
 7. Davis-Bacon prevailing wage rates *(federally funded projects)*
 - Check for latest General Decision by county and type of work: www.wdol.gov/dba.aspx
 8. Special Provision (SP) Section 104, Utilities
 9. SP Section 104.3.8, Electronic Payroll Submission *(federally funded projects)*
 10. SP Section 105.10.1, Equal Opportunity and Civil Rights: Disadvantaged Business Enterprises Program *(federally funded projects)*
 11. SP Section 105.11, Buy America *(federally funded projects)*
 12. SP Section 105, General Scope of Work: Limitations of Operations *(if applicable)*
 13. SP Section 105, Overlimit Movement Permits *(if applicable, based on nature of work)*
 14. SP Section 107, Prosecution and Progress: Scheduling of Work
 - Ensure completion date matches date in Contract Agreement, Offer & Award.
 15. SP Section 108, Asphalt Escalator *(if more than 500 tons of HMA is used)*
 16. SP Section 401, Hot Mix Asphalt Pavement

17. SP Section 403, Hot Mix Asphalt (*prepared by MaineDOT*)
 - Compare items listed against the “Schedule of Items” and other special provisions.
 - Ensure all paving pay items are on the Schedule of Items and the estimated quantities.
 - Ensure that all numbered notes in the table are listed at the bottom of the page.
 - Check to see if tack coat (item 409.15) is a pay item or incidental.
 18. SP Section 502, Structural Concrete (*if there is concrete work*)
 19. SP Section 608, Detectable Warnings (*for sidewalks*)
 20. SP Section 609, Structural Concrete: Concrete Slipform Curb (*if applicable*)
 21. SP Section 634 Highway Lighting (*if highway lighting is part of the contract*)
 22. SP Section 643, Traffic Signals (*if traffic signals are part of the contract*)
 23. SP Section 652, Maintenance of Traffic
 24. SP Section 656, Temporary Soil Erosion and Water Pollution Control
 - MaineDOT’s Environmental Office will prepare this document, if necessary
 25. Standard Detail updates
 - Latest version is online: <https://www1.maine.gov/mdot/contractors/publications/>
 26. Supplemental Specification: Corrections, Additions & Revisions to Standard Specifications
 - Latest version is online: <https://www1.maine.gov/mdot/contractors/publications/>
 27. Special Provision, Projects Funded by the Transportation Alternatives Program (TAP) – Appendix A to Division 100
 - Prohibits use of convict labor on certain federally funded projects
 - Check with MaineDOT if there is question about the funding source
 28. Appendix A to Division 100: Section 1 – Bidding Provisions (*federally funded projects*)
 - This is FHWA Form 1273 and must be inserted into bid books for federal-aid projects
 29. Signed Title VI Assurances from local sponsor of project (*federally funded projects*).
 - Must include Appendix A and Appendix E
 30. Environmental Summary Sheet
 - This document is prepared by the MaineDOT Environmental Office on federal projects
 - Check to be sure that all referenced special provisions are included in the bid book
-

Local Project Administration Manual & Resource Guide

Advertise & Award



MaineDOT

Integrity - Competence - Service

2018 Edition

Advertise & Award

Construction work on projects with federal and state money is performed primarily by contractors hired through competitive bidding. A low-bid process must be used by law; contractors based in a specific community or region cannot be favored. (The exception to the bidding requirement is force account work, covered in Chapter 9 of this Manual.)

When design and other preliminary engineering work is finished, the local agency administering a project may advertise for construction bids after MaineDOT has approved the final plans, specifications and estimate package (PS&E) and given construction authorization.

Chapter 8 of this Manual provides guidance on the requirements for advertising a project for bid, opening and reviewing bids, and awarding a construction contract. It contains the following:

- A summary of the required steps (pages 8-1 to 8-4);
- A flowchart (page 8-5);
- A checklist covering the advertise and award process (page 8-6);
- Sample project award request (page 8-7); and
- Sample Notice of Intent to Award (page 8-8).



Caution: If you put a federally funded project out to bid before receiving authorization to do so from MaineDOT, you will forfeit **ALL** the money from MaineDOT for the project.

8.1 Bidding Requirements

Except in cases of work performed by agency force account, MaineDOT requires competitive bidding on projects that have federal and state money. Sections 102 and 103 of MaineDOT's Standard Specifications govern the process: www.maine.gov/mdot/contractors/publications/

General procedures include the following:

- Local agencies often seek bids through notice to contractors advertised in a newspaper. The notice contains the deadline for sealed bids, the time and location of bid opening, the location and description of the work, and any pre-qualification requirements.
- Projects may be advertised on municipal websites, and MaineDOT will post advertised locally administered projects on its website: www.maine.gov/mdot/contractors/
- The advertise period must be at least **3 weeks**; approved plans and specifications must be available to bidders for at least that long before the bid opening.
- The local agency administering a project may hold a **pre-bid conference** enabling contractors to view the project and submit questions, but this isn't mandatory.

- Questions** must be submitted in writing to the contact listed in the notice to contractors, at least 48 hours before bid opening.
 - The person answering should repeat the question and provide the same answer to all bidders in writing through amendments or at the pre-bid conference.
 - Amendments should be posted online, if that is how a project is being advertised.
- During the bidding period, the MaineDOT project manager must sign off on any bid **amendments** that change the approved plans or specifications.
- The notice to contractors must specify the **date and time** at which sealed bids will be opened. If that date changes, bidders must be notified of such through addenda and an announcement made before the originally scheduled date and time.

8.2 Bidder Pre-qualification

Bidders must demonstrate the ability to complete certain types of projects successfully, a requirement that must be included in the notice to contractors for a project, as follows:

- If the estimated construction cost is **greater than \$300,000**, a bidder must complete a highway, bridge or project-specific pre-qualification to be awarded the contract: www.maine.gov/mdot/contractors/prequal/
- If the estimated construction cost is **less than \$300,000**, a bidder must demonstrate successful completion of projects of similar size and scope to be awarded the contract.

Note: Contractors that are prohibited from receiving federal money **cannot** bid on federally funded contracts. Check with MaineDOT to see if a bidder is “debarred.”

8.3 Bid Opening

All sealed bids received in accordance with the terms of the advertisement are opened and read publicly at the time and place specified in the notice to contractors or any bid amendments. Usually, only the total price of each bid is read.

A contract must be awarded to the lowest responsive and responsible bidder for bid amount. A bid is responsive if it meets the requirements of the advertisement and project specifications.

Remember: Negotiating with the apparent low bidder before awarding a contract is **prohibited**. Doing so will jeopardize the money for your project.



If a local agency deems the lowest responsive bid to be unacceptably high, **ALL** bids must be **rejected**. In such a case, the local project administrator must notify the MaineDOT project manager. The work may be re-advertised after adjustments are made in consultation with MaineDOT.

8.4 Bid Review

After the bid opening, the local project administrator or qualified designee must review the bids for errors and discrepancies. This analysis should include the following:

- Reviewing unit bid prices for obvious mathematical or material unbalancing that may cause doubt about a contractor's ability to meet the project specifications.
➔ See Section 103.1.2 of MaineDOT's Standard Specifications for definitions.
- Checking numerical and written unit prices. (If they differ, the written unit price applies.)
- Checking all mathematics, including multiplication of unit price and quantity, for total item cost and summing items for total bid;
- Reviewing bid and alternatives to ensure that the apparent low bidder meets the requirements of the bid and available funds.



If irregularities in a bid proposal are found, the reviewer may deem them curable or non-curable.

➔ See Section 102.11 of MaineDOT's Standard Specifications: "Bid Responsiveness."

8.5 "Non-curable" Bid Defects

Defects and discrepancies found in bid documents are "non-curable" – meaning that a contractor will have no chance to correct them – if they cast doubt on a bidder's total bid amount or the bidder's ability to complete the work within the contract timeframe. A bid must be **rejected** if any of these non-curable defects is found:

- The bid and bid guaranty are not delivered to the precise location and by the precise time set forth in the Notice to Contractors or any applicable bid amendment;
- The bidder is debarred or otherwise ineligible to bid on the project;
- The bid is not signed by a duly authorized representative of the bidder;
- A bid guaranty meeting the specifications for the project is not submitted;
- The unit or lump sum price for any item is missing or is illegible;
- The bid contains any conditional or alternate bidding language, including the right to accept or reject an award of the contract;
- The bidder submits more than one bid for the same contract, or the bidder and any related entity each submit a bid for the same contract;
- There is substantial evidence of collusion by the bidder; and
- The bidder fails to comply with any provision in the bid documents that expressly indicates that such non-compliance will cause bid rejection.

8.6 “Curable” Bid Defects

Not all defects will nullify a bid proposal. A bidder may be given the opportunity to correct certain “curable” defects within a set amount of time, when:

- The bidder only signs one of the Contract Agreement, Offer & Award forms;
- The bid is not submitted on forms provided by the agency in charge of the project or on identical copies thereof;
- The total sum of the items provided in the schedule of items is missing;
- Prices or signatures on the bid or bid guaranty are not in ink;
- A defect doesn’t raise a significant question about the total bid amount or the bidder’s ability to complete the work.

8.7 Bid Award

The local agency administering a project has **30 days** after bid opening to deliver a written Notice of Intent to Award to the lowest responsive, responsible bidder. That bidder must meet certain conditions before the contract may be awarded – including a requirement for the prime contractor perform at least **30 percent** of the value of the contract with its own forces.

➤ See Section 103.3 of MaineDOT’s *Standard Specifications*, “Post-Bid Qualification,” and Section 104.5, “Subcontracting.”

The local administrator must send the MaineDOT project manager a letter or email with the recommended bid award. The document should contain a summary of the bid review and a bid tabulation with the engineer’s estimate and all bids with unit prices. MaineDOT’s approval is required before the contract is awarded. (See sample Communication 16, on page 8-7.)

➤ A contract **cannot** be awarded without MaineDOT’s approval.

A contract generally must be executed within **14 days** after the apparent low bidder has met all conditions of award. After a contract is executed, copies of the award notice and signed contract must be sent to the MaineDOT project manager.

8.8 Rejection of Lowest Successful Bid

If the apparent successful bidder fails to fulfill the conditions of award within the time provided, the bidder forfeits the award. If that happens, the local project administrator has three options, which should be considered in consultation with MaineDOT:

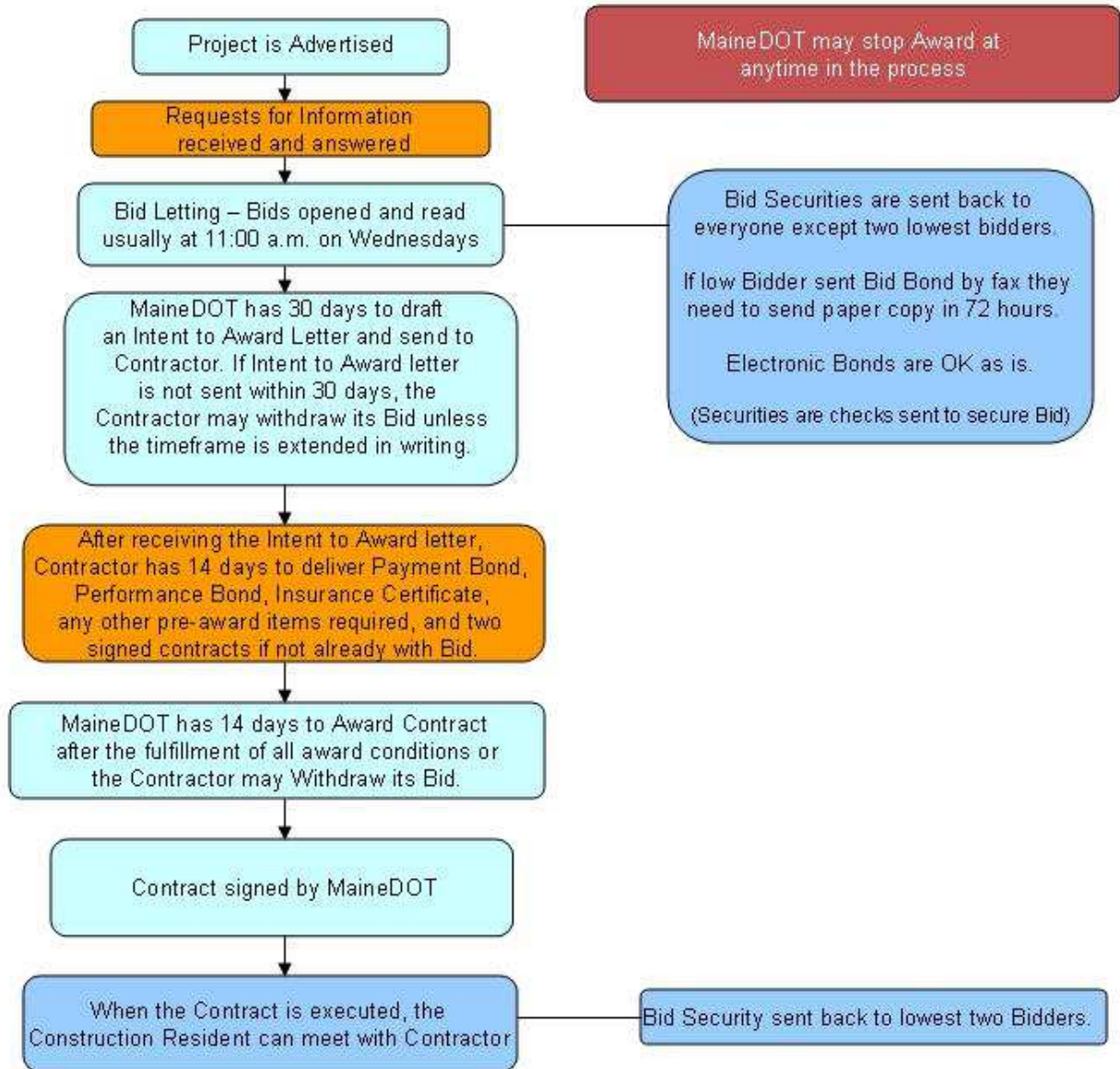
- Award the contract to the responsible bidder with the next lowest responsible bid;
- Reject all bids; and/or
- Re-advertise the project.

➤ See Section 103.6 of the *Standard Specifications*, “Failure to Fulfill Award Conditions.”

Maine Department of Transportation

Bid Award Process

Section 103



CHECKLIST: ADVERTISE AND AWARD

- Receive authorization to advertise from MaineDOT project manager**
- Advertise the Notice to Contractors** (3-week minimum period)
 - Advertising in regional or statewide newspaper is traditional practice
 - Notice can be posted to municipal website and MaineDOT contractors website
 - Notice must have date and location of the opening of sealed bids
 - Basis of Award must be clearly defined, so low bidder is apparent after bids are opened
- Determine contractor qualifications:**
 - For contracts of \$300,000 or more, low bidder must be pre-qualified by MaineDOT
 - For contracts of less than \$300,000, low bidder must demonstrate “successful completion of projects with a similar size and scope”
- Bidders must submit questions in writing using the Request for Information (RFI) form**
 - The same answer must be distributed to all bidders in writing, with the question repeated
- Issue addendum, if documents are modified or if answering a Request for Information**
 - If there is not enough time for bidders to make changes, then delay the opening
- Open and publicly read aloud all bids at the designated time**
 - Prepare bid tabulation sheet
 - Check submitted bids for tabulation errors
 - Complete bid and bidders’ tabulation sheet
 - Determine the lowest responsive bid
- Review all bids for bid defects**
 - Go by the curable/non-curable language in MaineDOT Standard Specification 102.11
 - If a defect is not specifically listed as non-curable in the bid documents, it is curable
 - Verify that contractors are licensed as legally required by the State of Maine
- Determine the apparent successful bidder**
 - Return bid securities to everyone except for the two lowest bidders
 - Notify the second bidder that securities will be held until contract execution
- Send award recommendation to MaineDOT project manager (*Communication 16*)**
 - Tabulation of bids
 - Engineer’s estimate
 - Completed Contractor DBE Utilization Form (*federally funded projects*)
- Receive MaineDOT approval in writing of recommended award**
- Award contract**, in accordance with Section 103 of MaineDOT’s Standard Specifications:
 - Send Notice of Intent to Award to apparent successful bidder
 - If contract cost exceeds \$125,000, bidder has 14 days in which to deliver required payment bond and performance bond
 - Bidder also must provide certificate of insurance, which applies to all projects
 - Sign contract
 - Notify all unsuccessful bidders
- Send copy of signed contract to MaineDOT project manager**
 - Return bid securities to the first and second bidders

Note:

An electronic version is available online under the header, "Project Advertise and Award."
Go to the Local Project Administration website: <http://www.maine.gov/mdot/lpa/lpadocuments/>

Date

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 state House Station
Augusta, ME 04333-0016

Subject: Construction Award Request
MaineDOT WIN _____

Dear _____:

Attached for your review are the bid tabulations and latest engineer's estimate for [**project scope, WIN**] in the Municipality of _____. [**name of contractor**] is the apparent successful bidder. We recommend that the project be awarded to that contractor.

In making this request, we acknowledge that we cannot send the Notice of Intent to Award to the apparent successful bidder without your written approval.

If you need additional information, please let me know.

Sincerely,

_____, Local Project Administrator
Municipality of _____

Enclosures:

1. Bid tabulations
2. Cost estimate

Note:

An electronic version is available online under the header, "Project Advertise and Award."
Go to the Local Project Administration website: <http://www.maine.gov/mdot/lpa/lpadocuments/>

[DATE]

[Firm name]
[Firm address]

Subject: NOTICE OF INTENT TO AWARD

Project: [Insert project location]

WIN: [Insert WIN]

Description: [Insert description]

Your company is the apparent successful bidder for the subject project. Upon receipt of your properly executed certificate of insurance, payment bond [use if contract >\$125,000], performance bond [use if contract >\$125,000], two signed Contract, Agreement, Offer, & Award Forms, a copy of this letter and projected payment schedule, we will sign the agreement, and you will have a written contract.

We will sign both originals provided with your submission and send one original agreement to you via certified mail. We will be in contact with you concerning a notice to proceed with the work.

Contract Amount: _____

If you have any questions on contract procedures, please feel free to contact me at [phone].

If federal money, include this statement:

Note that the prime contractor and subcontractors on Federal contracts must have accounts set up with Elation Systems for payroll processing. If you do not already have an account, please register for one, at your earliest convenience, using the information in Special Provision, Section 104.

Sincerely,

MUNICIPALITY OF [INSERT NAME]

By _____
[Name, Title]
Local Project Administrator

Local Project Administration Manual & Resource Guide

Force Account Work



MaineDOT

Integrity - Competence - Service

2018 Edition

Force Account Work

Most of the time, construction work on federally funded projects is done by contractors hired through competitive bidding. Occasionally, however, a larger municipality or other agency may consider it advantageous to build a project with its own personnel using a “force account” process. If so, the municipality or agency managing a project must justify why using force-account labor would serve the public interest. A written request, which should be submitted to the MaineDOT project manager for a particular project, must include:

- A description of the nature of the work;
- A detailed description of how the work is to be done;
- A cost breakdown for materials, equipment, labor and overhead;
- An explanation of why doing the work by force account would be more cost-effective than competitive bidding.



MaineDOT may review force-account requests in consultation with the Federal Highway Administration. Generally, a municipality or other local agency must demonstrate that its personnel can perform the work to the standard to which a private contractor would be held. The agency also must show, among other things, that:

- Its employees can perform the work in the range of **15 percent less** than the official cost estimate for competitive bidding – based on estimated quantities and prices for materials, labor and equipment;
- Agency personnel have successfully completed other projects of similar size and scope;
- The agency has the personnel and equipment to do the work to the same standard of quality that is required for a competitively bid contract;
- The agency can meet labor-compliance requirements and other federal mandates in Form FHWA-1273, “Required Contract Provisions for Federal-aid Construction Projects”; and
- Authorizing an agency to perform work by force account will not hinder MaineDOT’s ability to achieve its overall Disadvantaged Business Enterprise (DBE) performance goal.

State Projects

Requests to use “in-kind” work on projects with no federal money must have the approval of the manager of MaineDOT’s Multimodal Program. In making a request, a city, town or other agency must explain why it wants to forego competitive bidding and must document the following:

- Estimated number of hours of work, with labor rates; and
- Estimated quantities and prices for materials to be used on a project.

Federal Guidance – Force Account Labor

The term “Force Account” means the direct performance of highway and highway-related construction work by a public agency (State, local, or Tribal), a railroad, or a public utility company by use of labor, equipment, materials, and supplies furnished by the agency and used under their direct control [23 CFR part 635.203(c)].

In general, Federal-aid highway construction projects must be awarded on the basis of the lowest responsive, responsible bidder [23 U.S.C. 112] unless the state transportation agency can demonstrate to the satisfaction of the Federal Highway Administration (FHWA) that some other method is more cost-effective or that an emergency exists. In this case, “cost effective” is defined as the efficient use of labor, equipment, materials and supplies to assure the lowest overall cost [23 CFR part 635.203(e)].

In accordance with the stewardship/oversight agreement between MaineDOT and the Maine Division of the FHWA, MaineDOT has established a self-certifying process to meet the requirements for a finding of cost effectiveness as described in 23 CFR part 635.204(c). Construction work proposed by a public agency on a Federal-aid project meeting these requirements is considered to be cost effective.

The purpose of this document is to provide an overview for using the **Force Account Construction Method – Finding in the Public Interest Form (hereafter “the Form.”)** The MaineDOT Project Manager is responsible for preparing and submitting the form and attaching all required supporting documentation. The corresponding MaineDOT Program Manager (or in MaineDOT M&O Regions, the Region Manager) must provide review/approval sign-off. All Force Account requests shall be maintained at a central secure repository site, available for review, including by FHWA.

When the force account construction method is used, it must be justified by a cost effectiveness determination that shows a significant savings over estimated contract prices. The requestor shall document this savings by providing Force Account costs on the attached **‘Force Account Estimate Worksheet’** that must be submitted with the Form. This should be compared with the detailed cost estimate of work by the competitive bid method of construction. The estimates for both shall be all inclusive so a fair and equal comparison can be made.

The public agency estimate for the force account construction method must include all costs associated with the work and not just the work that will be billed to the project. These costs include non-reimbursable costs that are inherent to the work including labor, overhead, equipment, materials, and supplies. MaineDOT will provide a standard overhead figure to be used with these estimates – it currently is 110%. *Municipalities and other local public agencies either shall provide their audited overhead reports or use the standard overhead figure of 110% of labor costs.*

- If the public agency has no set rates for its equipment, it may use current Blue Book rental rates.
- The public agency obtains all required clearances and permits as applicable.
- Project activity should only proceed when:
 - a. All documentation justifying the force account construction method is complete.
 - b. Plans are complete and approved by the project manager.
 - c. Obligation authority and funding are cleared by the project manager.

- Project expenditures should follow established MaineDOT guidelines

The Force Account method of construction may be used in the following circumstances: A) Emergency Repair Work; B) Railroad or Utility Work; C) When there is Lack of Bids or Unreasonable Bids; or D) Work by a Public Agency. The eligibility and documentation requirements for the latter types of projects are indicated in the YES sections of Part D of the attached form.

A) Emergency Repair Work

Necessary to protect public health and safety, or a major element or segment of a highway or roadway has failed, and competitive bidding is impossible or impractical. Competitive bidding may be precluded because immediate action is necessary to minimize the extent of the damage, to protect remaining facilities, or to restore essential travel as provided in 23CFR 635.204(b).

B) Railroad or Utility Work

The inherent nature of the operation makes it cost effective to perform minor adjustments of railroad and utility facilities (as determined by the railroad or utility) by the force account construction method, while the majority of work is performed by competitive bid. See 23CFR 635.205(b).

C) Lack of Bids/Unreasonable bids or Work by a Public Agency

1. It can be demonstrated that it is cost-effective to do the work by the Force Account method and the scope of work is within the approved Force Account criteria, or that there is a lack of bids or the bids received are unreasonable. The Force Account value must be in the range of 15% less than estimated competitive bid method of construction. *If the cost savings is less than 10%, concurrence must be obtained from the appropriate MaineDOT Bureau Director and the FHWA.*
2. It is cost-effective to perform work that is incidental to the main purpose of the project by the Force Account construction method. The majority of work is still accomplished by competitive bidding.
3. Appropriate documentation shall be provided to substantiate the reason for work done by MaineDOT or municipal forces.
4. Force Account activity shall not be considered for routine maintenance work.

MAINE DEPARTMENT OF TRANSPORTATION FORCE ACCOUNT METHOD – FINDING IN THE PUBLIC INTEREST	WIN : Cost:																
Today's Date:	Planned Project Begin																
Location:																	
The term “force account construction method” refers to construction work a public agency performs on federally funded projects using its own forces. Specifically, it means the direct performance of highway construction work by the Department, local entity, county, railroad, public utility company, or other agency by use of labor, equipment, materials, and supplies furnished by the agency and used under its contract terms (23 CFR part 635.203(c)).																	
Scope of Work:																	
I <input type="checkbox"/> do / <input type="checkbox"/> do not recommend that _____ be allowed to construct the work by the force account construction method. The <u>work</u> <input type="checkbox"/> does / <input type="checkbox"/> does not meet one of the following conditions justifying performance of the work by the force account construction method.																	
Check type of work below that applies (one only):																	
<input type="checkbox"/> A. Emergency Repair Work	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 15%; text-align: center;">Y</th> <th style="width: 15%; text-align: center;">N</th> <th style="width: 30%; text-align: center;">Documentation</th> </tr> </thead> <tbody> <tr> <td>1. Work meets definition in 23 CFR 668.103</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td>2. Materials meet requirements or waiver issued</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td>3. Attach backup documentation</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Y	N	Documentation	1. Work meets definition in 23 CFR 668.103	<input type="checkbox"/>	<input type="checkbox"/>		2. Materials meet requirements or waiver issued	<input type="checkbox"/>	<input type="checkbox"/>		3. Attach backup documentation	<input type="checkbox"/>	<input type="checkbox"/>	
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3. Attach backup documentation	<input type="checkbox"/>	<input type="checkbox"/>															
<input type="checkbox"/> B. Railroad or Utility Work	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 30%;">1. Work Scope meets Definition of “Adjustment” per Subpart B</td> <td style="width: 15%; text-align: center;"><input type="checkbox"/></td> <td style="width: 15%; text-align: center;"><input type="checkbox"/></td> <td style="width: 30%;"></td> </tr> <tr> <td>2. Organization is qualified to perform work</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>	1. Work Scope meets Definition of “Adjustment” per Subpart B	<input type="checkbox"/>	<input type="checkbox"/>		2. Organization is qualified to perform work	<input type="checkbox"/>	<input type="checkbox"/>									
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<input type="checkbox"/> C. Lack of Bids or Unreasonable Bids	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 30%;">1. Is there lack of bids or unreasonable bids?</td> <td style="width: 15%; text-align: center;"><input type="checkbox"/></td> <td style="width: 15%; text-align: center;"><input type="checkbox"/></td> <td style="width: 30%;"></td> </tr> <tr> <td>2. Is Force Account method more cost effective than bidding, as defined in 23 CFR 635.203(e)?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>	1. Is there lack of bids or unreasonable bids?	<input type="checkbox"/>	<input type="checkbox"/>		2. Is Force Account method more cost effective than bidding, as defined in 23 CFR 635.203(e)?	<input type="checkbox"/>	<input type="checkbox"/>									
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2. Is Force Account method more cost effective than bidding, as defined in 23 CFR 635.203(e)?	<input type="checkbox"/>	<input type="checkbox"/>															

<input type="checkbox"/> D. Work by Public Agency (Municipal Forces)	Y	N	Documentation
1. Does scope meet definition of “construction” (23 USC, 101)?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Is the project located within the highway right of way?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Does agency have cost estimates for materials, labor and equipment, including overhead rates and indirect costs?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Does agency have experience, resources and ability to perform the work to same quality as private contractor?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Does agency have ability to comply with appropriate design, construction, and materials quality standards?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Does agency own (or currently lease) most equipment needed to perform the work?	<input type="checkbox"/>	<input type="checkbox"/>	
7. Were Force Account and competitive bid cost estimates based on the same project completion timeline?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Has it been determined that proposed work cannot be competitively bid with other Federal-aid projects?	<input type="checkbox"/>	<input type="checkbox"/>	
9. Has it been determined that no materials will be purchased sole-source in excess of \$5,000?	<input type="checkbox"/>	<input type="checkbox"/>	
10. Are there assurances that force-account work will not hinder the State’s ability to meet its DBE utilization goal?	<input type="checkbox"/>	<input type="checkbox"/>	
11. Are there assurances that the organization will comply with FHWA-1273?	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> E. Additional Project Information			
1. Public Agency paying part of cost?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Agreement provided if work done by other(non-state forces)	<input type="checkbox"/>	<input type="checkbox"/>	
3. Is any portion of work being subcontracted?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Will agency perform all labor besides specialty work? (paving)	<input type="checkbox"/>	<input type="checkbox"/>	
5. Is more than 50% of the work sub-contracted?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Is this a full FHWA oversight project?	<input type="checkbox"/>	<input type="checkbox"/>	
I hereby certify that _____ provided all the necessary documentation relating to Items A through E above in support of the request to administer and/or perform the work on the above referenced project by the force account construction method.			
<p>NOTE:</p> <p>Documentation that shall further support Items A through E should be retained as part of the project files.</p> <p>Approvals:</p> <p>MaineDOT Program Manager:</p> <p>FHWA Division Administrator:</p>			

MUNICIPALITY: _____
 WIN: _____

MATERIALS	Type	Quantity	Unit Cost	Subtotal
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
LABOR	Classification	Person Hours	Cost/Hour	Subtotal
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
EQUIPMENT	Type	Hours	Rate/Hour	Subtotal
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
OVERHEAD	Labor OH Rate	Equip OH Rate		Subtotal
INDIRECT COSTS				Subtotal
			TOTAL FORCE ACCOUNT AMOUNT	\$0.00

Local Project Administration Manual & Resource Guide

Civil Rights



MaineDOT

Integrity - Competence - Service

2018 Edition

Civil Rights

Municipalities and non-profit organizations administering federally funded transportation projects must comply with a variety of federal Civil Rights laws, rules, regulations and presidential executive orders designed to prevent and eliminate discrimination.

Chapter 10 of this Manual provides an overview of the Civil Rights requirements and programs that local agencies are likely to encounter as they develop federal-aid projects. The following topics will be covered:

- Title VI of the Civil Rights Act of 1964 (page 10-1);
- Americans with Disabilities Act (page 10-2);
- Limited English Proficiency (page 10-3);
- Disadvantaged Business Enterprise (page 10-3);
- Equal Employment Opportunity (page 10-4); and
- Appendix 10A: MaineDOT ADA Compliance Policy (page 10-5).



MaineDOT's Civil Rights Office oversees compliance with Civil Rights programs:
<http://www.maine.gov/mdot/civilrights/>

10.1 Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 prohibits discrimination based on race, color or national origin in any program or activity receiving federal financial assistance. Subsequent amendments have extended Title VI to afford legal protections based on sex, age and disability, as well. The law serves to ensure that that services are distributed regardless of race, color, religion, sex or national origin, and that all people have access to participation in the decision-making process.

Programs and activities funded through the U.S. Department of Transportation must comply with Title VI requirements. This applies to local agencies that receive money through MaineDOT from the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), which must have policies and procedures in place that address Title VI requirements.

Organizations comply with Title VI in transportation programs primarily by:

- Avoiding, minimizing or mitigating disproportionately high health and environmental harm to minority and low-income populations; and
- Ensuring the full and fair participation in the transportation decision-making process by all potentially affected groups, including those with limited English proficiency.

Local agencies undertaking locally administered projects with federal funds must have a designated Title VI coordinator who is responsible for Title VI compliance. Additionally, the top administrative official in these organizations must sign a set of Title VI Assurances that must be inserted into all contracts with outside consultants and contractors, along with the following:

- Appendix A and Appendix E to the Title VI Assurances; and
- Form FHWA-1273, “Required Contract Provisions for Federal-aid Contracts.”

➤ A template for the Title VI Assurances in Word format is available online:

<http://www.maine.gov/mdot/lpa/docs/lpadocs/CivilRightsAssurances2015.doc>

10.2 Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) of 1990 and the Rehabilitation Act of 1973 prohibit public entities and organizations that receive public funds from discriminating against people with disabilities in all aspects of life, including transportation, public services and public programs. In transportation, this applies to the planning, design, construction, maintenance, and operation of transportation systems.

In the context of locally administered projects, the law requires that new, reconstructed or “altered” transportation facilities be made ADA compliant to the maximum extent feasible, regardless of cost or type of funding. An “alteration” is a change to a public right-of-way that affects or could affect access, circulation, or use.

These definitions may change how local public agencies upgrade accessibility to pedestrian facilities. They apply to ALL government agencies regardless of funding. Any of the following activities could be considered an alternation:

- New construction;
- Road rehabilitation;
- Road reconstruction;
- Mill-and-fill / mill and overlay;
- Addition of new layer of asphalt (light capital paving);
- Cape seals
- Hot-in-place recycling; and
- Microsurfacing / thin-lift overlay.

ADA rules require projects that alter the usability of a roadway to improve pedestrian access to existing facilities to the **maximum extent feasible**. Where pedestrian facilities are present, ADA compliance of curb ramp width, slope and detectable warnings will be necessary for certain treatments; this may also require pedestrian signal upgrades.

➤ MaineDOT’s ADA Compliance Policy and updated ADA design guidance are found in Appendix 10A, starting on **page 10-5** of this Chapter 10.

10.3 Limited English Proficiency

Organizations receiving federal funding – including those administering federal-aid projects – must take reasonable steps to make sure that people with Limited English Proficiency (LEP) have meaningful access to the programs, services and information they provide.

People whose primary language is not English and who have limited ability to read, speak, write or understand English can be LEP. Organizations may need to provide materials in other languages or to translate at meetings to assist LEP individuals.



LEP requirements originate from Presidential Executive Order (EO) 13166, “Improving Access to Services for Persons with Limited English Proficiency,” containing two major initiatives:

- The first initiative is designed to improve enforcement and implementation of Title VI, which prohibits discriminating based on national origin by, among other things, failing to provide meaningful access to LEP individuals.
- The second requires the Federal Government and agencies receiving federal funds – including MaineDOT and local projects sponsors – to provide materials in other languages or to translate at meetings when LEP individuals are present.

Local agencies must provide public meeting announcements and other outreach materials in languages understood by an affected LEP population, if applicable. Such announcements should state that accommodations, to the extent possible, will be provided for individuals with disabilities and populations with LEP. If so requested, local agencies must provide spoken and sign-language interpreters and alternately formatted materials at no cost.

More information is available on the website of MaineDOT’s Civil Rights Office:
<http://www.maine.gov/mdot/civilrights/title6/>

10.4 Disadvantaged Business Enterprises (DBE)

Disadvantaged Business Enterprise (DBE) is a federally mandated program to assist women, minority and disadvantaged small business owners in promoting their businesses and services within the contracting community. The purpose is to attempt to level a playing field in the highway and bridge construction industry that has historically been unbalanced. MaineDOT sets an annual goal, approved on a three-year basis, for DBE participation in federal-aid projects.

DBE encourages use of businesses owned by women and minorities, and such participation is calculated only on federally funded projects. Maine seeks to meet DBE goal requirements through *race-neutral* means; DBE participation typically is not required on specific projects.

Maine attempts to calculate the attainable DBE usage on projects and asks that prime contractors and sub-recipients of federal funds do their best to ensure that DBE firms are sought after and hired, if available. MaineDOT continually reviews DBE usage. If it becomes apparent that Maine’s DBE goal will not be met, MaineDOT may enforce DBE goals on certain projects.

❑ 10.5.1: DBE Use on Federal-aid Contracts

A request for proposals (RFP) for consultant services on a federal-aid contract must state that certified DBE firms are encouraged to submit proposals. The RFP also must require non-DBE consultants to ensure that DBEs have opportunity to participate in any contract.

On federal-aid construction projects, MaineDOT encourages non-DBE contractors to use DBE firms as sub-contractors as much as possible.

- The prime consultant and construction contractor on a federal-aid project must complete a DBE Utilization Form, available online: <http://www.maine.gov/mdot/civilrights/dbe/>

Completed DBE Utilization Forms must be kept in the project files, along with subcontracts with DBE firms, for review during site visits by state and federal personnel.

❑ 10.5.3: Commercially Useful Function

During construction on a federal-aid project, the construction resident must verify that a DBE firm named to work on a project is performing the services listed in its subcontract with its own equipment and workers. Such services are known as the “Commercially Useful Function” (CUF) of the firm. The construction resident must verify that the employees of the firm are listed on the DBE company’s payrolls and not on another firm’s payroll.

During a project, the construction resident must perform an on-site CUF review when a DBE firm initially shows up and during the peak period of the DBE firm’s work. A review also must be performed when a recognized DBE firm is working on the project but not listed on the contractor’s DBE Utilization Form.

- The Commercially Useful Function on-site review form is available from the MaineDOT Civil Rights Office: <http://www.maine.gov/mdot/civilrights/dbe/>

10.5 Equal Employment Opportunity (EEO)

Equal Employment Opportunity (EEO) is an effort to ensure that sub-recipients of federal funds, contractors and sub-contractors comply with federal laws and regulations that prohibit government contractors from discriminating in employment. EEO also requires that the recipients of federal funds and their contracted agents understand their contractual obligations and undertake affirmative action to ensure equal employment opportunity in their workforces.

Local agencies are required to include EEO provisions in their federal-aid construction contracts. These provisions are contained in Form FHWA-1273, “Required Contract Provisions for Federal-aid Construction Contracts,” which must be incorporated into the bid documents for every federal-aid project. (*For more information, see Chapter 7, “Final PS&E Package.”*)

- Form FHWA-1273 is available on the MaineDOT Local Project Administration website, under the category of Final PS&E Package Documents: <http://www.maine.gov/mdot/lpa/lpadocuments/>

Appendix 10A: ADA Compliance Policy



Americans with Disabilities Act (ADA) Compliance Policy

- Revised August 11, 2016 –

❑ Overview

MaineDOT is responsible for implementing the requirements of Section 504 of the Rehabilitation Act and Title II of the Americans with Disabilities Act (ADA), and all applicable enforcement regulations, on its transportation facilities. This policy identifies actions necessary to comply with ADA requirements as work is performed on the highway and bridge system.

***NOTE:** This policy applies to locally administered projects with federal or state funding. MaineDOT will expect municipalities and their design consultants to abide by the requirements.*

❑ General

Newly constructed, reconstructed, or rehabilitated pedestrian facilities will fully meet current ADA accessibility standards. MaineDOT will maintain its design guides and Standard Details to ensure that all elements of current ADA compliance are incorporated into roadway improvements as required by this policy.

❑ Alterations and Maintenance

When walkways or other right-of-way elements intended to assist pedestrians are altered as part of a roadway improvement, those walkways and elements must be upgraded to meet current ADA standards. While many maintenance activities are not considered alterations and do not trigger requirements to perform ADA upgrades, most other work, including surface paving treatments and traffic signal replacements, do cause ADA improvements to be made. Table 1 below provides the minimum ADA upgrades required for a variety of work scopes.

❑ Consideration beyond minimum requirements

In determining the extent to which ADA improvements must be performed within the limits of work, designers should consider the accessibility of existing pedestrian facilities in context with local pedestrian use and needs.

- Areas of heavy pedestrian use or the presence of hospitals, retirement centers, veterans facilities, schools, libraries and government buildings would give compelling reason to consider more extensive upgrades, particularly if there are barriers along the adjacent sidewalk. In these areas, municipalities and other local agencies should seek guidance about the extent of ADA improvements from MaineDOT project managers, in consultation with the Multimodal Program Manager and Office of Civil Rights.
- If multiple ADA modifications are being made to meet the minimum requirements, designers should consider upgrading all pedestrian facilities within the project limits rather than leaving a patchwork of compliant and non-compliant ADA elements.
- The extent of work for traditional improvement scopes should not be altered solely to avoid the requirements of this policy.

❑ Crosswalks and curb ramps

Any paving work affecting an existing crosswalk is considered an alteration that requires accessibility review and upgrades.

- When a crosswalk is altered, curb ramps must be installed or brought to current ADA standards where the crosswalk connects to a sidewalk or other pedestrian walkway.
- When a crosswalk is altered at an intersection, upgrades will be made at all corners, even if outside the project limits.
- Curb ramp upgrades will be made as required at driveway/crosswalk crossings when paving activities impact crossings.
- Current standards will be met for all required and applicable curb ramp elements including slopes, width, cross slope, landing area and detectable warnings.

❑ Pedestrian signal systems

When the accessibility of an existing pedestrian signal system is impacted by an alteration, such as improper button height or slopes at pedestrian poles, the pedestrian signal system must be upgraded to meet current ADA standards. The replacement of traffic signals and the relocation of pedestrian poles are also actions that require upgrade of the entire pedestrian signal system.

❑ Exceptions

Technically infeasible situations

If it is technically infeasible or physically impractical to meet all current ADA standards, the standards will be met to the maximum extent possible. Locations where full compliance is not feasible must be documented. If the non-compliant element cannot be improved enough to remove barriers, the municipality managing a locally administered project must consult with the MaineDOT Multimodal Program, which may contact the MaineDOT Civil Rights Office to determine the appropriate course of action.

Federal “Safe Harbor” provision

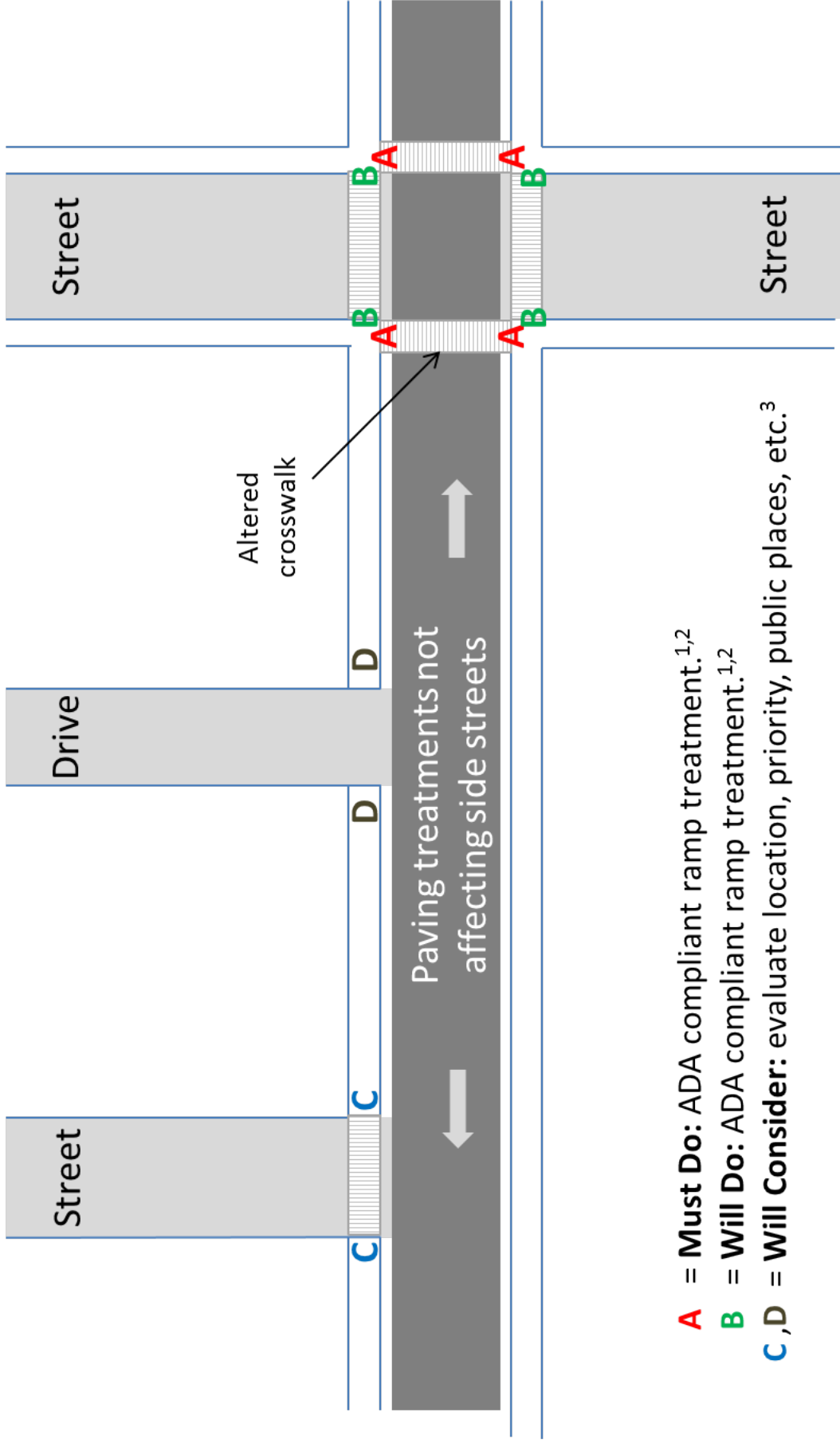
By federal regulation, existing accessibility elements constructed or altered before March 15, 2012 that comply with 1991 ADA Accessibility Guidelines do not have to be modified to comply with the 2010 standards. If this exception is utilized and detectable warnings are not present, detectable warnings will be added at locations determined appropriate as described in the Alterations and Maintenance section above.

❑ Responsibilities

For locally administered capital improvements, the municipality administering a project, in consultation with its contracted design consultant if applicable, is responsible for reviewing existing pedestrian and accessibility elements within the limits of a project and determining what ADA improvements must be made in accordance with this policy.

TABLE 1: REQUIRED ADA ELEMENTS BY SCOPE OF WORK

TYPE OF WORK	ADA IMPROVEMENTS NEEDED?	MINIMUM IMPROVEMENTS
<ul style="list-style-type: none"> ▪ New Construction ▪ Reconstruction ▪ Rehabilitation 	YES	Pedestrian facilities must be constructed or upgraded to meet current ADA requirements within the project limits.
<p>Paving Treatments:</p> <ul style="list-style-type: none"> ▪ Mill and fill / Overlay ▪ Micro-surfacing ▪ Hot or Cold In-Place Recycling ▪ PMRAP ▪ Ultra-Thin Bonded Wearing Course ▪ Light Capital Paving 	YES	<ul style="list-style-type: none"> - Upgrade curb ramps where treatment crosses or impacts existing pedestrian elements or routes within project limits. - If a crosswalk is altered at an intersection, all corners must be upgraded even if outside project limits. - Upgrade pedestrian signals to current ADA standard if the improvement affects the accessibility of the system.
<p>Signal: New location that warrants pedestrian facilities</p>	YES	Install or upgrade intersection pedestrian facilities to meet current ADA standards, including curb ramps and pedestrian signal systems.
<p>Signal Replace in Kind</p>	YES	Upgrade intersection pedestrian facilities to meet current ADA standards, including curb ramps and pedestrian signal systems.
<p>Signal: Modification involving excavation or right-of-way that warrants pedestrian facilities.</p>	YES	Upgrade intersection pedestrian facilities to meet current ADA standards, including curb ramps and pedestrian signal systems.
<p>Lighting</p>	NO	
<p>Striping</p>	NO	
<p>Maintenance Activities: Chip Seals, Crack Filling and Sealing, Dowel Bar Retrofit, Fog Seals, Joint Crack Seals, Joint Repair, Pavement Patching, Scrub Sealing, Slurry Seals, Spot High-Friction Treatments, Surface Sealing.</p>	NO	Note: Some combinations of these may require ADA upgrades.

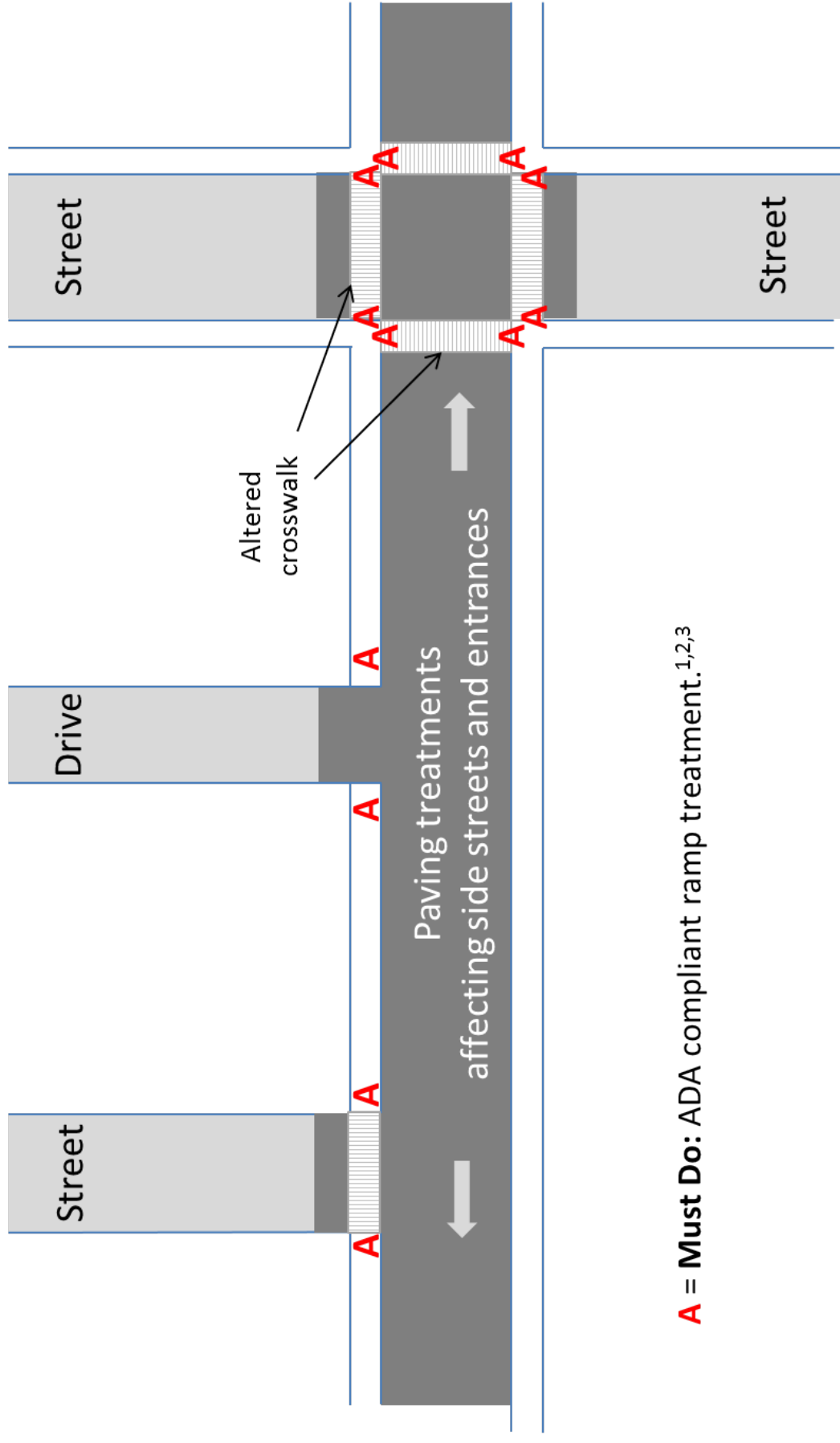


A = **Must Do**: ADA compliant ramp treatment.^{1,2}

B = **Will Do**: ADA compliant ramp treatment.^{1,2}

C, D = **Will Consider**: evaluate location, priority, public places, etc.³

1. Current ADA standards must be met unless existing ramps meet 1991 ADA Standards or 1991 UFAS.
2. Truncated domes will be installed at all modified ramps at roadway intersections, but not at drive crossings.
3. Consideration should be given to remove all physical barriers within the project limits along the roadway being improved and the adjacent sidewalks. Project guidance is available through the Highway Program Manager and the Director of the Civil Rights Office.



A = Must Do: ADA compliant ramp treatment.^{1,2,3}

1. Current ADA standards must be met unless existing ramps meet 1991 ADA Standards or 1991 UFAS.
2. Truncated domes will be installed at all modified ramps at roadway intersections, but not at drive crossings.
3. Consideration should be given to remove all physical barriers within the project limits along the roadway being improved and the adjacent sidewalks. Project guidance available through the Highway Program Manager or the Director of the Civil Rights Office.

Maine Department of Transportation

Highway Program

Design Guidance

Title: Minimum ADA Requirements for Pedestrian Facilities	Issue Date: November 1, 2017
Discipline: General Engineering	Revised Date: January 24, 2018
Originator: Highway Program	
Approved By: Bradford Foley, P.E.	

Background:

The MaineDOT updated ADA Title II Transition Plan specifies what ADA standards MaineDOT has adopted. The MaineDOT ADA Compliance Policy specifies what improvements will be required, based on project scope. This document is intended to provide guidance on what makes each individual element of a pedestrian facility ADA compliant. It should be the basis for determining if an existing pedestrian facility is ADA compliant and for designing and constructing new or improved pedestrian facilities.

Guidance:

Existing Pedestrian Facilities

If an existing pedestrian facility meets the minimum requirements listed in **Column A** of **Table 1**, it is considered an ADA compliant facility even if it does not meet MaineDOT standards. Such facilities do not need to be improved if it is beyond the planned scope of work to do so. Consideration should be given to the overall system of pedestrian facilities on the project to make sure there are no non-ADA safety issues that need to be addressed. Examples of such non-ADA safety issues include cross walk locations, refuge areas, and visibility.

New or Reconstructed Pedestrian Facilities

New pedestrian facilities, or existing facilities that must be reconstructed, shall be designed and built to meet the minimum requirements listed in **Column B** of **Table 1**. Note that several of these requirements exceed minimum ADA standards.

Exceptions

The ADA Compliance Policy allows exceptions to be made when it is “technically infeasible” or “physically impractical” to meet all current ADA requirements. In some cases, there may be physical constraints that are beyond project scope to modify or remove that make it infeasible to meet ADA requirements. Examples of these constraints include, but are not limited to, underground and overhead utility structures, bridge structures, building entrances at back of sidewalk, retaining walls, and established landscaping such as large trees. In such cases, the facility must be upgraded to the maximum extent possible. Technical infeasibility or physical impracticality may not be determined solely based on cost.

The ADA Compliance Policy requires that locations where full compliance with current ADA standards is not feasible be documented according to the following established procedure:

- If an element does not meet MaineDOT standards (**Table 1, Column B**) but does meet ADA minimum standards (**Table 1, Column A**), include discussion in the ADA compliance section of the Preliminary Design Report (PDR), if applicable, or discuss with the Region Engineer and the Program Manager.
- If an element does not meet ADA minimum standards (**Table 1, Column A**), submit an ADA Statement of Technical Infeasibility request to the appropriate Region Engineer, Program Manager, and the Title II ADA Coordinator. Approval may be granted at the Program level or forwarded to the Engineering Council for further review.

		Minimum Requirements for <u>EXISTING</u> Pedestrian Facilities <u>COLUMN A</u>	Minimum Requirements for <u>NEW or RECONSTRUCTED</u> Pedestrian Facilities <u>COLUMN B</u>
SIDEWALKS			
Cross Slope		Max. 2.08% (1:48)	Max. 2% (1:50)
Clear Width		Min. 3 feet Width may be reduced to 32 inches for a 24-inch length. Widths less than 5 feet require 5 foot by 5 foot passing spaces at least every 200 feet.	Min. 5 feet (standard) Width may be reduced to 4 feet. Widths less than 5 feet require 5 foot by 5 foot passing spaces at least every 200 feet.
* CURB RAMPS			
Running Slope	A	Max. 8.33% (1:12) Max. 10.0% (1:10), with maximum 6" Rise Max. 12.5% (1:8), with maximum 3" Rise	Max. 8.33% (1:12)
Cross Slope	B	Max. 2.08% (1:48)	Max. 2% (1:50)
Clear Width	C	Min. 3 feet	Min. 6 feet
Counter Slope	D	Max. 5% (1:20) Adjacent surface must be flush with the ramp.	Max. 5% (1:20) Adjacent surface must be flush with the ramp.
Flared Sides	E	Max. 10% (1:10)	Max. 10% (1:10)
Landings <i>(Turning Space flatter than 2% in any direction)</i>	F	A turning space 3 feet long and as wide as the ramp must be present to be compliant. <i>Detectable Warnings may be included within the landing.</i> Ramps constructed or altered prior to March 15, 2012 are compliant without turning spaces if the flared sides do not exceed 8.33% (1:12).	A turning space 4 feet long and as wide as the ramp must be present to be compliant. <i>Detectable Warnings may be included within the landing.</i>
Diagonal Ramp Clear Space <i>(Ramps on a radius)</i>	G	A 4-foot square clear space must be present at the bottom of the ramp outside active travel lanes.	A 4-foot square clear space must be present at the bottom of the ramp outside active travel lanes.
Detectable Warnings	H	Required at traffic controlled intersections and mid-block crossings.	Required at traffic controlled intersections and mid-block crossings, full ramp width.

*Letters designate elements in the Figures.

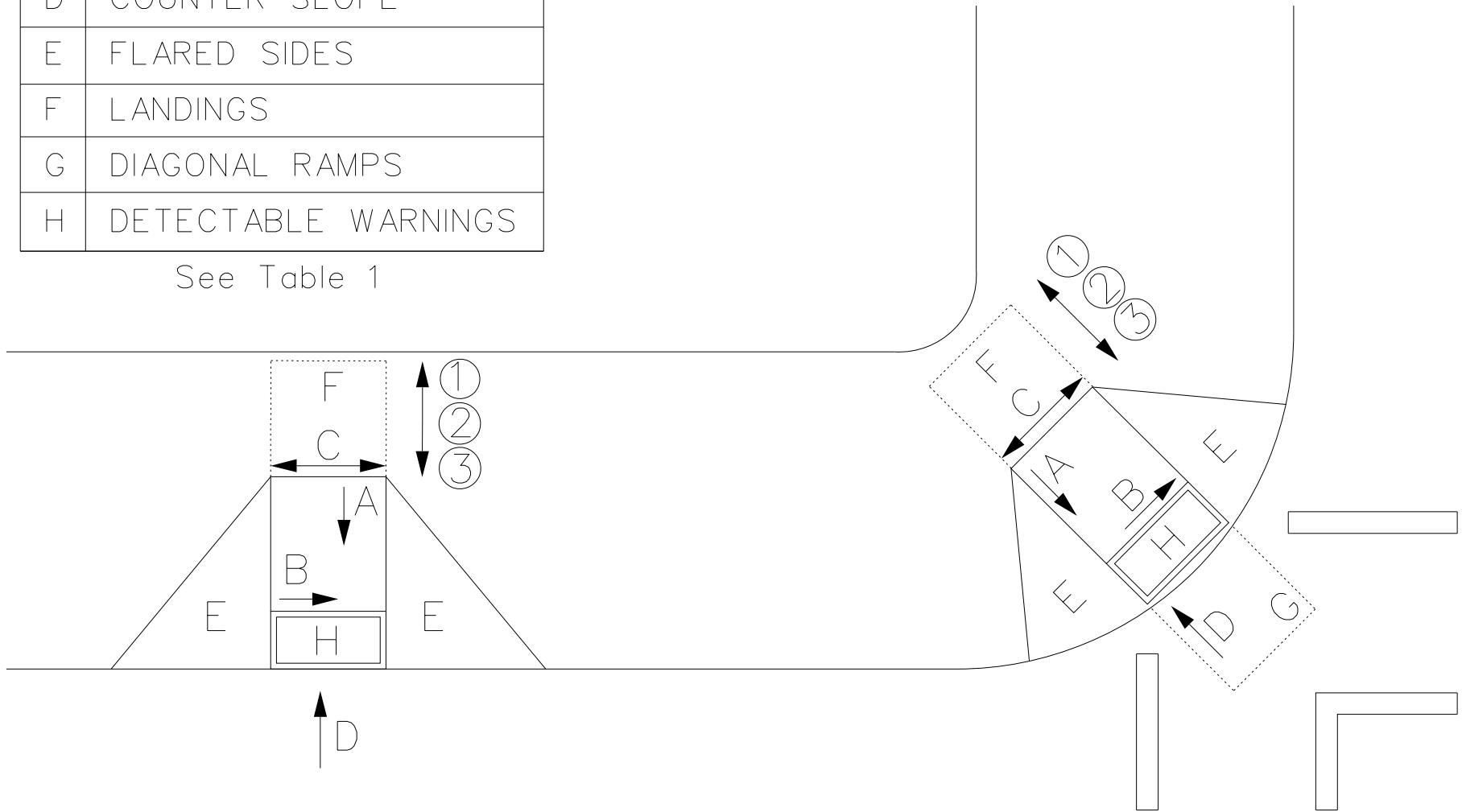
Table 1. Minimum Requirements for Pedestrian Facilities

LEGEND

A	RUNNING SLOPE
B	CROSS SLOPE
C	CLEAR WIDTH
D	COUNTER SLOPE
E	FLARED SIDES
F	LANDINGS
G	DIAGONAL RAMPS
H	DETECTABLE WARNINGS

See Table 1

- ① EXISTING RAMPS 3 FEET
- ② PROPOSED RAMPS 4 FEET
- ③ PROPOSED RAMPS 5 FEET WHEN BUILDING FACE IS PRESENT

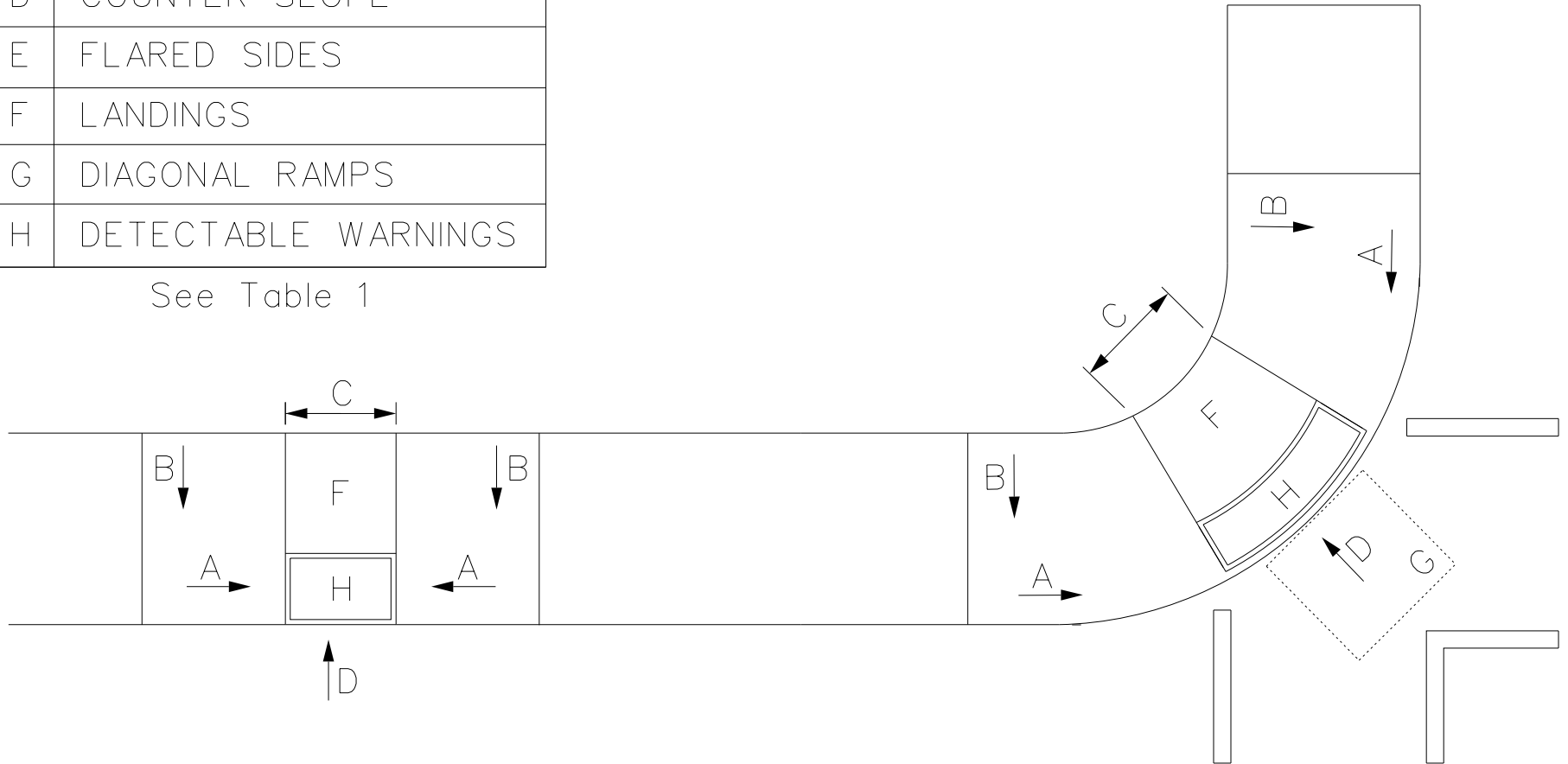


PERPENDICULAR CURB RAMPS

LEGEND

A	RUNNING SLOPE
B	CROSS SLOPE
C	CLEAR WIDTH
D	COUNTER SLOPE
E	FLARED SIDES
F	LANDINGS
G	DIAGONAL RAMPS
H	DETECTABLE WARNINGS

See Table 1

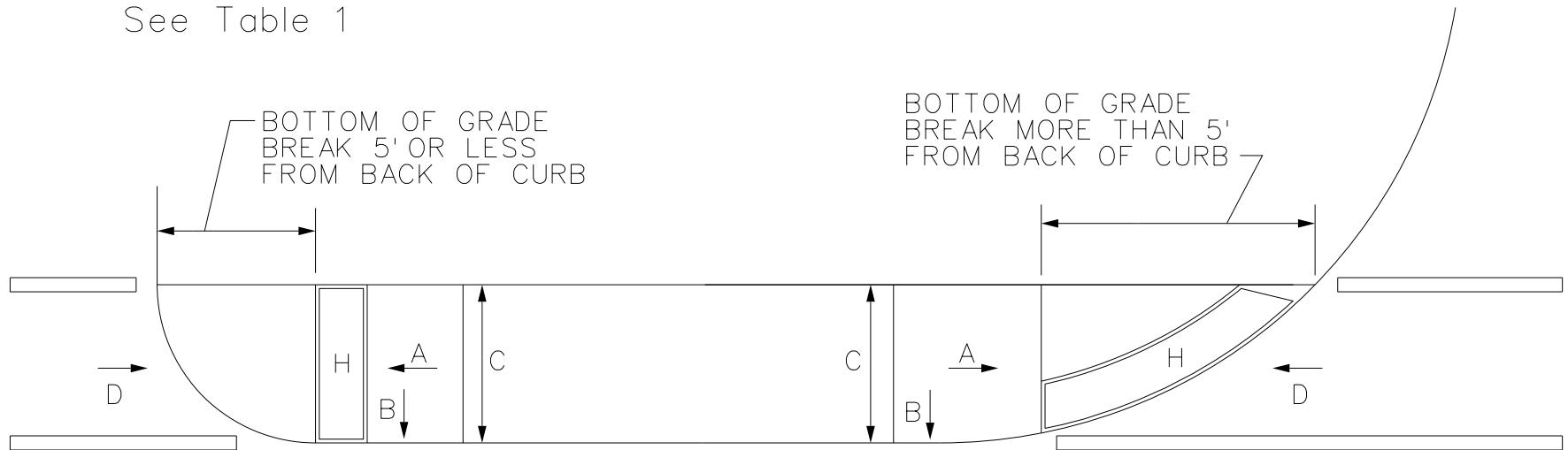


PARALLEL CURB RAMPS

LEGEND

A	RUNNING SLOPE
B	CROSS SLOPE
C	CLEAR WIDTH
D	COUNTER SLOPE
E	FLARED SIDES
F	LANDINGS
G	DIAGONAL RAMPS
H	DETECTABLE WARNINGS

See Table 1



© RAMP WIDTH TO MATCH SIDEWALK WIDTH

SIDE ROAD CURB RAMPS

When no sidewalk is present on the side road.

Local Project Administration Manual & Resource Guide

Construction Administration



MaineDOT

Integrity - Competence - Service

2018 Edition

Construction Administration

Construction work on a locally administered project follows the award of a contract to the successful bidder. Once construction begins, the local agency administering a project must document and inspect the work to be sure it is done properly. MaineDOT determines the proper level of oversight beforehand, with the local administrator.

Chapter 11 of this Manual provides general guidance on oversight and inspection, as follows:

- Oversight responsibilities (page 11-1);
- Pre-construction meeting (page 11-2);
- Materials testing (page 11-3);
- Davis-Bacon wages (page 11-4);
- Electronic payrolls (page 11-5);
- Project bulletin board (page 11-5);
- Buy America requirements (page 11-6);
- Construction contract modifications (page 11-7);
- Final inspection and project closeout (page 11-8);
- As-built plans (page 11-9);
- Appendix 11A: Administrative checklist (page 11-11); and
- Appendix 11B: Submittals to MaineDOT (page 11-15).



11.1 Oversight Responsibilities

During construction, the local agency administering a project must document and inspect the work using an employee or private consultant with appropriate technical qualifications. This “construction resident” inspects and documents contractor activities such as excavation, grading, drainage, concrete placement, and paving to make sure the work is done in accordance with the project contract, plans, specifications and applicable laws.

The time commitment will vary with each project, but the construction resident must be on site as necessary to meet the expectations described in the MaineDOT Project Record-Keeping Manual, which makes up Chapter 12 of this Manual, “Construction Documentation.” The local administrator should consult MaineDOT’s project manager to determine an appropriate level of oversight. Often, this is a **full-time** commitment.

Remember: During construction, the local project administrator must attend progress meetings, receive briefings and visit the job site occasionally to stay current.

➡ An administrative checklist is found in Appendix 11A, starting on page 11-11 of this chapter.

Major responsibilities of the construction resident consist of the following:

- Ensuring that the work is performed in accordance with the design plans, specifications and construction contract. Tasks include inspecting the work, documenting quantities of materials, and checking lines and grades.
- Preparing and managing all documentation – including but not limited to the project diary, final quantities book, and drainage book.
- Providing for quality-assurance testing of materials such as gravel, hot-mix asphalt and concrete – and rejecting all materials and work not in compliance with the plans and specifications for the project.
- Coordinating contract modifications (change orders), requiring independent estimates of cost and an accounting of the associated time.



➔ **MaineDOT** must review and concur with contract modifications **before** they are signed, as explained later in section 11.8 of this chapter, “Construction Contract Modifications.”

- Monitoring the contractor’s traffic control plan to ensure safe travel in the work zone.
- Making sure the work complies with environmental commitments and permit requirements, including erosion-control provisions.
- Approving payments for satisfactory work.
- Reviewing contractor payrolls in the online Elation system for compliance with federal wage requirements, as covered in section 11.4, “Davis-Bacon Wages.”
- Monitoring compliance with labor requirements, including setup of the contractor’s bulletin board. A diagram is online: <https://www1.maine.gov/mdot/civilrights/sfp/>

11.2 Pre-construction Meeting

One key event before work begins is the pre-construction meeting. This meeting – usually held with a pre-utility meeting – typically involves the local administrator, construction resident, general contractor, affected utilities and appropriate MaineDOT personnel, including the project manager. (*See Communication 17, found on pages 11-16 and 11-17 of this chapter.*)

A pre-construction / pre-utility meeting should be held at least **one week** before the start of work. It serves to establish the inspection, documentation and testing requirements, as well as to coordinate the schedule and frequency of progress meetings. The local project administrator should prepare an agenda and invite the participants. Afterward, the administrator should distribute meeting minutes to the attendees, utilities and other parties, including public-safety agencies if a project calls for lane closures.

11.3 Materials Testing

Materials used in construction projects with federal and state funds must meet the specifications for those projects. Proper testing of gravel, pavement, concrete and other materials will help to ensure that those materials perform as intended and hold up over time. After accepting the final plans, specifications and estimate (PS&E), MaineDOT will develop minimum materials testing requirements, which should be reviewed at the pre-construction meeting.



Typically, the local agency overseeing a project or a consultant acting as construction resident will use a qualified sub-consultant to test materials, which must meet standards established by the American Association of State Highway and Transportation Officials (AASHTO). Additionally, MaineDOT may conduct independent-assurance sampling and testing.

❑ 11.3.1: Aggregates

Properly graded gravels and other materials known as “aggregates” should be dense enough to provide a stable foundation, with an optimal number of air spaces that allow proper drainage. Tests commonly will check density and “gradation,” or the relative amounts of well-draining base materials (gravel and sand) and poorly draining fine particles (silt and clay.)

Base gravels, for example, should have no more than 5 percent fine particles when compacted; gravels for sidewalks and trails should have no more than 7 percent fine particles.

❑ 11.3.2: Pavement

Pavement consists primarily of crushed stones of different sizes with a binder of asphalt cement. To perform as intended, hot-mix asphalt must be placed at the right temperature and compacted properly. Common pavement tests consist of the following:

- **Density or compaction.** Core samples are taken to verify that compacted pavement has the proper density. If pavement is too dense, it may crack. If density is too low, ruts may develop. Air voids should range from 2 percent to 6 percent.
- **Temperature.** Hot-mix asphalt should be placed only when the mix is between 275 degrees and 325 degrees Fahrenheit.
- **Sieve analysis.** Material is run through sieves to measure the distribution of particle sizes and how the aggregates fit together.
- **Performance Graded Asphalt Binder** content is checked to ensure that the proper amount of asphalt cement is used in the mix, so that the pavement does not rut or ravel.



❑ 11.3.3: Other Materials

Tests also may be performed on other materials, such as the following:

- **Concrete**, which is tested for compressive strength, permeability and air content; and
- **Loam**, which has requirements for gradation, organics and pH levels.

11.4 Davis-Bacon Wages

The Davis-Bacon Act requires construction workers on federally funded projects to be paid prevailing regional wage rates, as determined by the U.S. Department of Labor. If a project has no federal money, Davis-Bacon wage rates do not apply.

The contract book for a federally funded project must contain a Davis-Bacon wage decision based on county and type of work, which may be highway, heavy or building. This decision, commonly called a “general decision,” will contain work classifications and wage rates that the prime contractor and all subcontractors must follow. A Davis-Bacon wage decision must be part of the bid documents for a federally funded project; otherwise, the project cannot be advertised.

To obtain a Davis-Bacon wage decision, go to: <http://www.wdol.gov/dba.aspx>

The federal wage decision may omit some classifications and labor rates. If that happens, the prime contractor must request missing classifications and rates through the online Elation payroll system. After reviewing the contractor’s request, MaineDOT staff may give provisional approval to use a classification and rate, pending a decision from the federal Department of Labor.

Note: Under 29 CFR Part 541, Davis-Bacon minimum wages do not apply to business owners.

□ 11.4.1: Responsibilities of Construction Resident

The construction resident on a federally funded project must ensure contractor compliance with Davis-Bacon. Typical responsibilities consist of the following:

- Reviewing the Davis-Bacon wage decision for missing classifications and rates;
- Ensuring that the prime contractor requests missing classifications and rates;
- Checking contractor certified payroll reports for completeness and accuracy;
- Reviewing contractor certified payroll reports for compliance issues;
- Conducting payroll interviews; and
- Ensuring that the duties performed and hours put in by workers covered by Davis-Bacon are consistent with what contractors are reporting in the Elation system; and

□ 11.4.2: Payroll Interviews

Every 90 days, the construction resident must interview **two** covered workers from the prime contractor and all subcontractors that were on site at least **five days** during that 90-day period. Interviews must be voluntary, confidential and in person on the job site. Standard Form 1445, “Labor Standards Interview,” must be signed by both parties.

The construction resident will compare information from the interviews against a contractor’s certified payroll report for a given period. The resident must address all discrepancies found.

- ☞ For guidance and more information, visit the website for the MaineDOT Civil Rights Office: <https://www1.maine.gov/mdot/civilrights/>

11.5 Electronic Payrolls

Contractors and subcontractors on federal-aid projects must submit certified payrolls electronically using the Elation reporting system, allowing the Federal Government to check for Davis-Bacon compliance. (Projects with no federal funds do not require electronic payrolls.)

Upon awarding a contract, the local agency managing a federally funded project should email the information listed below to MaineDOT's Contracts Section, which will set up a project in the Elation system:

- Work Identification Number (WIN);
- Name and email of the construction resident;
- Name and address of the prime contractor;
- Amount of the contract award;
- Subcontractor information;
- Dates of advertise, bid opening and award;
- Start date and the completion date stipulated in the contract;
- The county in which the project work will take place; and
- The wage rate general decision number and any modification numbers.

Contact for Elation System:
Angela Latno: 207-624-3519
angela.latno@maine.gov

An Elation manual is online: <https://www1.maine.gov/mdot/contractors/publications/>

11.6 Project Bulletin Board

By law, the prime contractor on a project with federal or state funding must display a series of posters on a bulletin board at the job site informing employees of their rights and required wages. This bulletin board must be installed by the first day of construction activity and stay in place until project completion.

The bulletin board must be placed in an area of the job site that is readily accessible to employees and the public at all hours, seven days per week. The board is commonly displayed in a highly visible location, such as outside the field office used by the contractor or construction resident. It must be protected from bad weather and maintained to stay readable for the duration of a project.



If a project has federal funding, *both* federal and state labor posters are required to be placed on the bulletin board. If a project has only state funds, only state posters are required.

- ☛ MaineDOT's Civil Rights Office has placed a checklist, diagram and poster packet online: <https://www1.maine.gov/mdot/civilrights/sfp/>

11.7 Buy America Requirements

If a project has funding from the Federal Highway Administration (FHWA), steel and iron products installed permanently must be produced domestically. Failing to comply with the Buy America Act of 1982 – known as “Buy America” – will result in loss of federal funding.

Under Buy America, the manufacturing processes for products made of steel and iron, including the application of coatings, must occur in the United States. Raw materials such as iron ore and alloys, however, may originate from outside of the country.



Buy America, for example, commonly covers the following items:

- Guardrail, piles, steel culverts, structural and reinforcing steel, and the structural plates and steel supports for highway signs, luminaries and signals;
- Cast iron grates; and
- The application of coatings such as epoxy, galvanized and paint.

See section 105.11 of the MaineDOT Standard Specifications, Other Federal Requirements: <https://www1.maine.gov/mdot/contractors/publications/standardspec/docs/2014/div100.pdf>

□ 11.7.1: Certifications

The prime contractor must provide mill certifications for steel and iron products and manufacturer certifications for product coatings. Additionally, the contractor must certify that all products subject to Buy America comply with the law. The construction resident must verify these certifications before permanent products subject to Buy America are installed.

□ 11.7.2: Other Work on Federal-aid Contracts

Buy America applies to all work on federal-aid contracts – even if some work won’t require federal money. If utility work using local funds is added to a federal-aid contract, for example, Buy America in most cases applies to that work.

□ 11.7.3: Exceptions

MaineDOT expects steel and iron items incorporated into federal-aid projects to comply with Buy America. If, however, a local agency during design believes that Buy America cannot be met – or if a contractor contends that certain steel or iron items subject to Buy America cannot be acquired – the MaineDOT project manager should be contacted immediately.

MaineDOT may determine that a minimal amount of foreign steel and iron is allowed. The total cost of such foreign steel and iron incorporated into a federal-aid project cannot exceed \$2,500 or one-tenth of one percent of the total contract amount, whichever is greater, in accordance with MaineDOT’s Standard Specifications and federal regulations.

The expectation, however, is that federal-aid projects be designed to comply with Buy America.

11.7.4: Buy America and Transit Projects

Buy America also applies to mass transit projects funded by the Federal Transit Administration (FTA), which has requirements for contracts and purchases greater than \$150,000 covering:

- Iron, steel and manufactured products used in construction projects; and
- Mass transit vehicles, commonly called rolling stock.

As with FHWA projects, the FTA requires a contractor certification. If a project will have steel, iron or manufactured products covered by Buy America, each bidder must complete and submit an appropriate Buy America certification. Similarly, requests for waivers from Buy America must be submitted to the FTA, through MaineDOT, for consideration.

Note: FTA rules are found primarily in **49 CFR part 661**, “Buy America Requirements.”

❑ 11.7.5: Buy American Act of 1933

Although Buy America requirements will apply in most cases, local agencies should be aware of a second law favoring domestically produced goods in federal contracts. The Buy American Act of 1933 – which is different from Buy America – requires the U.S. Government to give general preference to products made in the United States. Buy American commonly applies to building construction and airport projects with federal funds.

If you are unsure whether the Buy the America Act of 1982 or the Buy American Act of 1933 applies to a federally funded project, check with MaineDOT for specific requirements.

11.8 Construction Contract Modifications

Occasionally, a contractor will be asked to perform extra or unforeseen work. This additional work requires a change to the contract and concurrence from MaineDOT if the work will be paid for with federal or state money.

Contract modifications, also known as change orders, must be drafted by the project resident or local administrator – NOT the contractor. If a modification involves federal or state money, MaineDOT must concur with the change before it is signed or any associated work begins. Otherwise, MaineDOT may deny reimbursement for work covered by such a modification.

Two pieces of information must accompany contract modifications submitted to MaineDOT, which should be made in the format of *Communication 18*, found on page 11-18:

- An independent estimate of the cost of the additional work; and
- A statement addressing the associated contract time, which must be noted in *every* case. If there is no change, write “**0 days**”.

Modifications should describe what new work will be done, why it is being added, how much it will cost, and how it will be paid for. They require the signatures of the contractor and either the local project administrator or a designated representative.

Construction contract modifications generally are needed for:

- Changes in specifications;
- Substitution of materials;
- Changes in testing requirements;
- Changes or extra work within the scope of the contract;
- Design changes beyond the scope of the contract;
- Adding payment or credit for incentives/disincentives to the contract terms.
- Changes that result in an increase or decrease of 25 percent or more in “major” items, which are defined as those exceeding 10 percent of the original contract amount.
- Changes in deadline dates, completion dates or time extensions not covered elsewhere.

A contract modification form may be downloaded from the MaineDOT website:
<https://www1.maine.gov/mdot/lpa/docs/lpadocs/2018/ContractMod2018.doc>

11.9 Final Inspection

When the work is completed, the local project administrator sets up a final inspection with the construction resident, contractor and MaineDOT staff. (*Use Communication 19, on page 11-20.*) The parties meet on site to inspect the project for flaws, incomplete work and necessary changes.

Afterward, a “punch list” is developed listing items needing to be addressed before the project will be accepted. Once the local administrator determines that all punch-list items have been addressed, the administrator issues a letter stating that the project has been accepted and completed, with the date given. If the organization overseeing the project will assume maintenance responsibilities, the project at this point is turned over to that organization.

11.10 Project Closeout

A project cannot be closed out until all issues are resolved and the final payment is made. After the final inspection, documentation of the final quantities is sent to the contractor stating that the final quantities are included and indicating which documents are to be submitted. The notice to the contractor also identifies any issues that need to be settled before final payment can be made.

Once construction is determined to be complete, the local administrator sends the MaineDOT project manager a final invoice, with a certification that all quantities were documented for payment to the contractor. (*Use Communication 20, on page 11-21.*)

Remember: The local share of MaineDOT’s internal costs, if applicable, will be reconciled and deducted from the final reimbursement payment, as described previously in Chapter 1 of this Manual, “Administration & Finance.”

11.11 As-Built Plans

As-built plans are the original plans that have been revised, after completion, to document a project as it was constructed. As-built plans must show the changes to the original design plans to ensure their use as a reference for future project design and maintenance efforts.

If a completed project is located on a state road, as-built plans should be submitted to MaineDOT as PDF files within **90 days** of completion. For projects off the state system, check with the MaineDOT project manager to see if as-built plans are necessary.

As-built plans consist of full-sized plans marked up either with a red medium felt-tip marker or a blue or black medium ballpoint pen. On each revised plan sheet, the reviser should write in the lower right corner “Revised As-Built” and initial; on all unchanged plan sheets, the reviser should write “As-Built” and initial. Finally, the reviser should sign the title sheet of the plans.

As-built plans should note changes to the following:

- Project length, showing revised beginning and end stations;
- Plan index;
- Typical cross-sections;
- Construction centerline as constructed;
- Geometrics;
- Superelevation showing revised cross-sections;
- Drainage, on plan sheets and Drainage Summary;
- Tree removals;
- Guardrail;
- Centerline profile grades;
- Entrance dimensions and their surface treatment;
- Fence locations;
- Utility locations, including conduit, foundations, junction boxes, lighting, signs;
- Structure elevations;
- Pile locations or type;
- Structural Steel or Precast members; and
- Structural details.



As-built plans also must note changes resulting from bid amendments, with the following:

- Year the project was completed;
- Permanent bench marks, monuments and survey markers;
- Year that any buildings were removed or “Removed by Others” with date; and
- Known ties to utilities.

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Appendix 11A: Administrative Checklist



CHECKLIST: CONSTRUCTION ADMINISTRATION

Electronic Payroll (*Federally funded projects only*)

- Send information to MaineDOT to set up project in the Elation payroll system**
 - MaineDOT contact is Angela Latno: (207) 624-3519 or Angela.Latno@maine.gov
 - Work Identification Number (WIN);
 - Name and email address for person who will review/approving payrolls;
 - Prime Contractor;
 - Award amount;
 - Subcontractors, with item numbers and subcontract amounts;
 - Dates for project advertise, bid opening, and contract award;
 - Construction start date and completion date stipulated in the contract;
 - County in which the work will take place; and
 - Wage rate General Decision number and dates of any modifications.

Pre-Construction / Pre-Utility / Pre-Pave Meeting

- Send notice of meeting and agenda (Communication 17) to the following:**
 - Contractor
 - Utilities
 - Public safety agencies, if warranted
 - Project resident
 - MaineDOT project manager and construction manager, who will invite others as appropriate
- Meeting Date:** _____
- Receive Quality Control (QC) Plan and Mix Designs from Contractor**
 - Contractor must submit them at least 30 days before the work is scheduled to begin
 - Review and approve/reject the contractor's QC Plan and mix designs
 - Submit to MaineDOT construction manager for review and approval
- Provide meeting minutes to project file, and:**
 - Contractor, subcontractors, attendees and groups invited but not represented
- Contractor Traffic Control Plan:**
 - Reviewed by project resident
 - Submitted to MaineDOT Traffic section (Dana Hanks)
 - *MaineDOT Approval Date:* _____
- Soil Erosion Water Pollution Control Plan approved by project resident**
- Spill Prevention Plan approved by project resident**
- Contractor Schedule of Work received**

Construction Testing & Documentation

- Minimum Materials Testing Requirements determined**
- Testing File created for:**
 - Concrete
 - Pavement
 - Aggregate
 - Other required documents for minimum testing

- ❑ **Project Diary created, with the following:**
 - Entries dated and initialed – noting weather, crew & equipment, hours worked, and activities
 - Field measurements taken
 - Drainage work measurements performed and computations by stationing, from outlet to inlet
 - Details of grade checks done (subgrade and/or fine-grading), with results from each day
 - Record significant events (accidents, discussions with owners, debates with contractor)
- ❑ **Final Quantity Book created**
 - Book set up by item numbers
 - Pages set up for original measurements (or computations from plan dimensions)
 - Pages set up with a total-to-date column
 - Entries and computations initialed and dated
 - After item is completed, compute final quantity
- ❑ **Pit Authorizations completed**
- ❑ **Waste area agreements completed**
- ❑ **Project Bulletin Board erected:** <https://www1.maine.gov/mdot/civilrights/sfp/>
- ❑ **Federal Projects: “Commercially Useful Function Form” sent to MaineDOT**, if applicable
- ❑ **Project signage monitored** (*condition must be noted weekly in a project diary*)
- ❑ **Quality Assurance (QA):**
 - Municipality may hire consultant or use MaineDOT testing labs.
 - If Municipality will use MaineDOT labs, local contact information should be shared with MaineDOT independent assurance supervisor in the Bangor office: 941-4545
 - MaineDOT contacted to see if Hot Mix Asphalt / Portland Cement Concrete plant has been inspected recently or needs to be inspected: Kevin.cummings@maine.gov
 - MaineDOT notified of pavement and concrete placement schedules to ensure that plant QC operations are monitored and scales checked at least twice in five days of production
 - Sampling and testing must be done and documented by certified technicians.
- ❑ **Federal projects: Weekly certified payrolls received electronically from all contractors**
 - Certified payroll checked in “Elation” system for compliance with minimum wage rates
- ❑ **Federal projects: Employees interviewed to verify Davis-Bacon wage rate compliance**
 - Voluntary interviews with 2 covered workers from each contractor every 90 days
 - Worker must be on site 5 days or more during each 90-day period to be covered
- ❑ **Subcontractor Approvals:** <https://www1.maine.gov/mdot/contractors/publications/>
 - Municipality must approve subcontracts before any subcontractor can start work
 - Send copy of approved package to the MaineDOT project manager
 - *Project manager will arrange for the subcontractor to be added to the Elation system*
- ❑ **Federal Projects: “Buy America” (Special Provision 105)**
 - “Buy America” certifications must be received before steel and iron products can be installed
- ❑ **Monthly progress payments:**
 - Prepare estimate and review with contractor; or receive and check estimate from contractor
 - Once approved, process estimate and send payment to contractor
 - Once payment is made, send reimbursement request to MaineDOT, with backup documentation that quantities were verified

Contract Modifications

- Modifications to the construction contract are handled as follows:**
 - Prepare an independent cost estimate of the cost of the additional work
 - Note the time associated with the change. (If no change, note 0 additional days.)
 - Prepare a formal contract modification
 - Send draft modification to MaineDOT construction manager for review (*Communication 18*)
- Obtain MaineDOT's concurrence with contract modification**
- Send the modification to the contractor for signature
- When contractor has signed, local project administrator signs and dates the modification
- Send copy of the executed modification to the contractor, with a copy to MaineDOT
- Place original modification in Project Records

Project Completion

- Final inspection by Municipality, MaineDOT and contractor (*Communication 19*)**
 - Inspection Date: _____
 - Final “punch list” developed
 - Final “punch list” of items completed on: _____
- Notice of completion sent to contractor with notification of any liquidated damages**
 - Copies sent to MaineDOT project manager and construction manager
- Quality Assurance (QA) Certification completed**
 - Testing file provided to municipality's project administrator for project files.
- Final quantity book completed by project resident**
- Federal projects: DBE Form completed by the contractor, signed by each DBE**
 - MaineDOT project manager will forward to MaineDOT's Civil Rights Office
- Final estimate paid and retainage released**
- As-built plans completed and sent to MaineDOT project manager (if applicable)**
- Final billing sent to MaineDOT project manager (*Communication 20*)**
- MaineDOT project manager completes a project evaluation**
 - Local administrator reviews, signs and returns to project manager
 - Project manager files the completed evaluation in Tedocs electronic filing system

Note: By regulation, records must be retained for 3 years from completion for federally funded projects.

Appendix 11B: Submittals to MaineDOT

- ❑ For electronic versions of these documents, visit MaineDOT's website:
<https://www1.maine.gov/mdot/lpa/lpadocuments/>

[Date]

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Pre-Construction Meeting
MaineDOT WIN_____

Dear _____:

Your attendance is requested at the pre-construction meeting for **[insert project scope]** in the Municipality of _____ on **[insert meeting date/time]**. I have attached an agenda for your convenience.

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Cc: [Insert Name], Construction Manager, MaineDOT Multimodal Program

**AGENDA ITEMS FOR PRE-CONSTRUCTION MEETING
(Federally Funded Project)**

1. Introductions
2. Review Scope of Project
 - a. Acknowledge Amendments
 - b. Completion Date
 - c. Liquidated Damages
3. Permits Obtained (if required)
4. Construction Safety
 - a. Primary consideration during construction
 - b. Emergency contact list including 24 hour contacts
 - c. Contractor safety plan to be provided
 - d. Traffic Control Plan (TCP) must be reviewed and approved by Maine DOT
5. Schedule for the completion of work to be provided
 - a. Are there utility issues?
 - b. Update schedule as required
 - c. Daily construction activities to be recorded
 - d. Town must pay contractor first, then request reimbursement on a monthly basis
6. Labor Requirements
 - a. Davis-Bacon wage rates apply – if project has federal money
 - b. Certified payrolls with classifications to be submitted & reviewed: Elations
 - c. Payroll labor interviews
 - d. DBE participation & CUF form
7. Construction Control
 - a. Minimum Testing Requirements
 - b. Subcontract Approval (*FHWA-1273 must be inserted in all subcontracts*)
 - c. Measurement & documentation of materials used for payment purposes
 - d. Engineering oversight of activities
 - e. Manufacturer's certification for materials
 - f. Soil Erosion and Water Pollution Plan (SEWPCP)
 - g. Quality control plans, mix design submittals, pre-pave meeting
 - h. Buy America: steel/iron product certifications must be received before payment for that item, if a project has federal money
8. Submittals
 - a. Requests for Information (RFIs)
 - b. Change Orders require MaineDOT review; must include detailed description of scope change, independent cost estimate & time
 - c. Notification of anticipated issues, claims or disputes

[Date]

Jen Paul, Construction Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Contract Modification Request
MaineDOT WIN_____

Dear _____:

Attached for your review is Contract Modification #_____ for **[insert project scope]** in the Municipality of _____. The change will consist of **[insert description of contract modification including scope change and/or extra costs]**.

An independent estimate of the cost of the additional work is attached. This modification will add **[number of days]** to the original contract.

(Instructions: The amount of time required by the modification must be noted. If there is no change in the schedule, then state "0 days" or indicate that the modification will not change the amount of time associated with the contract.)

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Cc: MaineDOT Project Manager

PROJECT DESCRIPTION:	
CONTRACT MOD. NO.:	
PROJECT WIN:	
MUNICIPALITY:	
DATE ISSUED:	

To: _____, you are hereby notified, the following work is to be accomplished in accordance with the provisions of your Contract. The work will not be considered authorized for payment without the required signatures. Payment will be made as described.

(By signing this Order the Contractor agrees that all issues, including time, relating to the described work are satisfactorily resolved by this Order. No other compensation will be sought or made.)

DESCRIPTION:

--

REASON:

--

COST:

--

Amount of this Order: \$

Original Contract Amount	\$
Total Cost of this Contract Modification	\$
Total Cost of all Contract Modifications Including this Mod	\$
Percentage of Contract for this Mod	%
Total Percentage of Contract including all Mods	%
Total Contract Amount Including this Mod	\$

Additional Days Added (This Mod):	New Completion Date:
-----------------------------------	----------------------

TITLE:	SIGNATURE:	DATE:
Resident or Inspector		
Contractor		
Municipality		
DOT Project Manager (if applicable)		

[Date]

Jen Paul, Construction Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Final Inspection, MaineDOT WIN_____

Dear _____:

Your attendance is requested at the Final Inspection for **[insert project scope]** in the Municipality of _____ on **[insert date/time]**. At the time, we can make available all documentation and testing required for the project.

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Cc: MaineDOT Project Manager

INSTRUCTIONS: *This must be submitted on letterhead with all requested documentation.*

[Date]

_____, Project Manager
Maine Department of Transportation
Bureau of Project Development, Multimodal Program
16 State House Station
Augusta, ME 04333-0016

Subject: Final Invoice and Notification of Completion of Work
MaineDOT WIN: _____ Contract #: _____

Dear _____:

This Municipality of _____ certifies that the contractor has completed all work on the subject project in accordance with the construction contract and approved modifications, and that:

- The Municipality has accepted the work;
- All quantities were measured in accordance with the contract;
- Final quantities have been reconciled and agreed to by the contractor;
- The Municipality has all required supporting documentation for the final quantities;
- There are no outstanding claims or disputes associated with the project; and
- All fees and contract balances for the project have been paid, including expenses from preliminary engineering, right-of-way, construction, inspection, and engineering support during construction.

Attached is the final invoice for the project requesting reimbursement of \$_____ as MaineDOT's ___% share of expenditures for the service period, _____. Included are copies of invoices, supporting documentation for all charges included in the reimbursement request, and copies of subsequent checks issued.

If you need additional information, please let me know.

Sincerely,

Local Project Administrator

Enclosure: Final billing

Local Project Administration Manual & Resource Guide

Construction Documentation



MaineDOT

Integrity - Competence - Service

2018 Edition

**PROJECT RECORD
KEEPING MANUAL**



2013

**GUIDE FOR CREATING,
MAINTAINING AND
SUBMITTING,
CONSTRUCTION
PROJECT
DOCUMENTATION
AND RECORDS**



MaineDOT

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REVISIONS

Rev No.	Revision Description	Page(s)
1	Added FHWA Construction Inspection Requirements	Appendix D
2	Added Final Inventory list	Appendix C
3	Responsibility of the Checker	109.10
4	Clarified the Definition of Lump Sum re: Contract Modifications	109.7
5	Pro-rating Lump Sum items in Contract Modifications	109.70
	Added the What, Why and How description to Contract Modifications	109.30
6	Figure; Contents of a Contract Modification	109.7
7	Figure; Common Excavation, Packaging references	203.5
8	Figure; ASCG, packaging references	304.10

SECTION 108 – MEASUREMENT AND PAYMENT

108.1 General.

This Section describes, in general, Departmental policies and acceptable methods for measuring and computing contract quantities for progress and final payments. Divisions 200 through 600 and 900 of this Manual explain in more detail, the requirements and procedures to follow.

There are two systems in use and acceptable to the Department for documenting and measuring quantities for payment: the traditional “paper” method, the computer software program Field Manager – Field Book and Field Pad method. Residents are encouraged to use the software program when feasible.

If the Resident chooses to use the paper method, they will have the following project records; a Final Quantity Book, a Final Quantity Computations Book, a Project Diary, Testing file and a Construction Book. Other fieldbooks may be required, such as a Drainage Book, depending on the complexity of the project. If Field Manager is used, the project records will consist of an Item History to Date instead of the Final Quantity Book, a Daily Diary, and Inspectors’ Daily Reports. The Inspector’s Daily Report is needed to generate progress estimate quantities. A Construction Book is almost always necessary; it is policy of the Department and good record practice that original field measurements must be entered in a bound fieldbook or PDA. The Final Quantity Computations Book may or may not be required, depending on the extent of computations needed to figure quantities.

Division 900 of this Manual explains further, and in more detail, project records required. It is suggested that you study Division 900 before proceeding beyond Sections 108 and 109.

For anyone needing training in the use of Field Manager, the Contracts Section will provide instruction in the application of this software program. You should contact the Contracts Section either directly or through your Supervisor for help.

Quantities for Progress Payments

After the formalities of contract award have been completed, the Contracts Section will initiate the first payment, which is Mobilization. The Resident will receive either a paper copy of the first estimate paid or an electronic transfer, depending on whether or not Field Manager is being used. The Resident should advise the Contracts Section, preferably before the contract is awarded, whether they will use paper or Field Manager to make progress payments. The Department encourages the use of Field Manager.

It is important to our highway and bridge contractors that they receive prompt and full payment of all monies due them for work satisfactorily performed. Unnecessary delay in paying the Contractor increases his or her cost of doing business, and these costs are ultimately passed on to the Department in the form of higher bid prices on future contracts. The Contractor is to be paid, on each progress estimate, the full estimated value of the work satisfactorily completed. The Resident should not hold payment of money due the Contractor other than what is sufficient to cover work still remaining to be done under a particular item. Quantities should be current to the end of the pay period, particularly for hot mix asphalt items because of the time-dependent nature of the asphalt escalator price adjustment Specifications. If a significant overpayment or underpayment is detected following the submission of a progress estimate, an additional estimate correcting the error should be submitted to the Contracts Section immediately. Section 108.2 of the Specifications further explains procedures for making progress payments

Contract Specifications require the Department to pay the Contractor a minimum of once a month, but it is policy to make a progress payment every two weeks. The Resident will determine the quantities or the Contractor may submit, as allowed in Section 108.2, a requisition for payment. The Resident will review the figures submitted by the Contractor and so note in the project records. The estimate will then be forwarded to the Contracts Section, either electronically or on a paper copy, for payment. The Contracts Section will process the progress estimate for payment minus a retent. This retained amount is based upon Section 108.3 of the Specifications.

Quantities for progress payment will be estimated with the help of the following guidelines:

Quantities paid by the unit: Progress estimates can be based on a percent of the estimated quantity or on actual field measurements of the work done to date. The Resident is cautioned not to pay too high a percent of the estimated quantity without first checking the Engineer's Estimate for accuracy.

Quantities paid lump sum: The Resident may pay a percent of the bid price, as work progresses; amount paid is dependent on amount of work done. Contract Specifications will state, for some items paid lump sum, what portion to pay as work progresses.

Quantities paid load count: Whether by weight or by volume, quantity to date can be readily determined from daily totals entered in the Final Quantity Book/Item History to Date.

Quantities paid by the hour or force account: Hourly work items and force account work are determined from Daily Reports of Labor and Equipment Rental.

Regardless of the methods used to arrive at quantities for progress payments, the Resident will keep on file the notes and measurements used to document payments.. These records may be needed to explain to Auditors and to the Contractor how Quantities were determined.

108.21 Using the Progress Estimate Form – Paper Copy

Estimates must be made out on the computerized print-out generated by the Contracts Section. The first form the Resident will receive will be labeled "Payment Voucher Summary" number 0001, and it will show partial payment for Item 659.10 – Mobilization. The Resident will also receive, at the same time, "Progress Estimate" number 0002. Present policy is to fax the completed estimate form to the Contracts Section for processing. The resulting "Payment Voucher Summary" and the next "Progress Estimate" will be sent to the Resident as e-mail attachments.

Tracking of funding allocations requires separate cost figures for highway and bridge expenditures, for what is federally participating and federally non-participating, and for town and utility reimbursements. Each category of funds is designated by a number as, for example: 0001 for highway, 0002 for bridge. Categories are assigned by the Project Manager. Work done under the original contract items or added to the project, whether unit price, lump sum or force account, must be coded to the correct category, i.e., highway, bridge, non-participating, etc.

Progress Estimate. Final Quantity Estimate or Final Estimate. During the progress of work, the Resident will place a checkmark on the "Progress Estimate" line. When the project is closed out with the Contracts Section, the "Final Quantity Estimate" line will be checked and the words "Final Quantity Estimate" will be written on the "Comment" line in the upper right-hand corner of the estimate. The Final Estimate will be made out by the Contracts Section when the retent is released and paid off.

Pay Period Ending – Year, Month, Day. The date, entered by the Resident, should be the end date for the period the work has been done. This end date will be as current with the work as is practicable; it will be the middle and/or the last day of the month and not the first day of the next month for the purposes of figuring asphalt escalator price adjustments.

New Items. This section is used to make modifications to the contract, such as: items from one Pin to another Pin under the same contract, new items added by contract modification paid by agreed unit price, lump sum or force account, categories added, or work made non-participating.

Modifications are made as follows:

Catg #: Enter the appropriate four digit category number.

Item # (Or None): The item number can be obtained from the Bid Item Dictionary located at http://www.maine.gov/mdot/contractor-consultant-information/item_dictionary_english.htm . If the item does not appear in the Dictionary, print the word "None" in its place, and write a very brief description of the item or work order in the "Description" column.

Authorized Quantity: Enter the estimated quantity shown on the Work Order. If there is no work order, enter the actual quantity.

Quantity to Date: Enter the quantity you want to pay at this time. Figures can be carried to two decimal places.

Unit Price: Enter the unit price shown on the Work Order, or defined in the contract or in the Specifications.

RWO/EWO: Enter the Work Order or a Resident's Work Order number. To move an existing bid item from one Pin to another Pin on the same contract, use the same item number and use RWO/EWO zero. Items that are to be added to the Schedule of items through existing mechanisms in the contract without a RWO/EXO, such as; rock excavation, structural excavation-major structures-below grade and HMA pay adjustment, can be added by writing SS, standard Specifications, in lieu of a RWO/EXO number.

Description: Enter a description only if "None" was entered as the Item #.

Changes to lump sum items will be done as separate line item entries under the New Items section described above. The lump sum item originally in the contract will show a zero quantity for payment and will be re-entered under New Items with the new price.

The "New Item" procedure, or more pertinently, contract modification, will be processed by the computer and print it in the body of the next estimate at the end of the appropriate code section or in a newly coded section.

Specifications provide a mechanism for paying for certain items added to the contract without the need of a price quote from the Contractor. The following is a list of items commonly used and how to pay for them

<u>To Pay For</u>	<u>Use Item</u>	<u>Unit Price</u>
Rock Excavation	203.20 ComExc	6 X Bid
Struct. Rock Excavation – Drainage	203.20 Com Exc	16 X Bid
Excavation for Slope Blanket	203.20 Com Exc	2 X Bid
Struct Rock Excavation – Major Str	206.082 Str Ea Exc – Major Sit	6 X Bid
Str Ea Exc – Major Str, Below Grade	206.082 Str Ea Exc – Major Str	1 ½ X Bid
Str Rock Exc – Mjr Str, Below Grade	206.092 Str RockExc – Mjr Str	1 ½ X Bid
Aggr Sub Crse – For Foundations	304.10 Aggr Subbase Crse – Grav	2 X Bid
Aggr Sub Crse – Slope Blanket	304.10 Aggr Subbase Crse – Grav	2 X Bid

Specifications provide a mechanism for paying for certain items that were bid to be measured using one method, but may have been measured using a different method. The following is a list of commonly used shrink and swell factors.

<u>Item Measured</u>	<u>Original Source Method</u>	<u>Shrink/Swell Measured Quantity</u>
203.20 Common Exc	IN-Place	
In-place		1.0
Truck Measured		.90
203.25 Borrow	In a Pit	
Pit		1.0
In-Place		1.15
Truck Measured		.90
304.10 ASCG	In-Place	
In-place		1.0
Truck Measured		.80
203.27 Rock Borrow	In-Place	
In-place		1.0
Truck Measured		.75
Measured Stockpile		.75

Stockpiled Materials. This section is used by the Resident to pay for stockpiled materials. Section 108.4 of the Specifications allows for the payment of non-perishable materials stored for future use on the project.

Departmental policy is as follows:

1. Partial payments may be made for certain materials delivered to the project but not yet incorporated into the work.
2. Payment will be shown on the progress estimate as a separate line item entry.
3. Materials will not be paid until the Contractor furnishes the Resident with copies of receipted bills.
4. As the stockpiled material is incorporated into the project and paid under the bid item, the stockpiled quantity should be reduced proportionally.
5. When work involving the stockpiled item is complete, that portion remaining in the stockpile, if any, shall be reduced to a "0" quantity on the progress estimate.

Payment for a stockpiled item is entered on the progress estimate as follows:

Category No.: Enter the appropriate four digit category number. Refer to New Items above, if necessary.

Item No: Enter the same item number as shown for the pay item in the contract.

Quantity To Date: Enter the quantity, typically 1, or a portion of 1. Figures can be carried to two decimal places.

Unit Price: The unit price for payment under the stockpiled item is determined from receipted bills. The unit price shall equal the dollar amount shown on receipted bills divided by the quantity.

RWO/EWO: MA, material allowance, shall be used designate this item as allowable stockpile payment After the first estimate is processed with the above information, the stockpiled item will appear in the body of the next estimate directly following the item as originally bid.

Retent Modification. This line is used by the Contracts Section to control the retent status of the Project.

Body of the Estimate. The Resident fills in only the “Quantity to Date” column of this section for each item that has changed since the previous estimate. The total quantity to date may be an increase or a decrease from the previous estimate. Entries will be made in red ink.

Quantities will be entered as follows: whole numbers to the left of the decimal point and tenths and hundredths, if required, to the right of the decimal point. Quantities or percentages can be entered to three decimal places. Numbers are free read; for example, 2 is the same as 2.0 or 2.00.

For quantities with a unit of Lump Sum, show the quantity for progress payment from 0.01 to 1.00. Be careful to place the number on the correct side of the decimal point, i.e., whole numbers to the left and tenths/hundreths to the right.

For items with a unit of Each, show the quantity as a decimal, for example, for a Field Office, 0.33 or 0.67 or 1.00.

If you are adding a Lump Sum item by work order, enter the quantity for payment as 1 L.S. and not 100% L.S. If payment shows as 100% LS, the mistake of paying 100 times the L.S. price can result.

108.22 Using the Progress Estimate Form – Field Manager.

Progress estimates may also be submitted to the Contracts Section electronically, using the Field Manager construction management software program.

To use Field Manager, the Resident must import the database file of his or her project to the Field Manager program. This file will be obtained from the Contracts Section, either by network transfer or by floppy disk. If a Resident is using Field Manager solely for the generation of progress estimates, it will be necessary to generate an IDR (Inspector’s Daily Report) posting the quantities for each item that needs to be paid, prior to each progress estimate submittal.

Once the IDRs’ have been generated and saved, the next estimate can be added. After adding and before generating the next estimate, it should be checked for accuracy. When the Resident is confident in its accuracy, they then generate it.

When an estimate is generated, a file is automatically created in the “outbox” folder of the “fieldmgr” folder, which is accessed by using “Windows Explorer” or “My Computer”. This file should then be transferred to the appropriate project folder located on the Network Neighborhood at Dotaugl/\$com-Cons/Field ManagerProjects for processing by the Contracts Section. If network connections are not possible, the file can be transferred by using a floppy disk.

When the Contracts Section receives the file, it is then processed in the Transport System and a “turnaround” file is created. This file is then picked up by the Resident, as described above, and imported back to the Field Manager program before the next estimate can be generated.

108.3 Quantities for Payment

Method of measurement and payment for items in the contract and for extra work are grouped as follows:

1. Plan Quantities.
2. Lump Sum Quantities.
3. Measured Quantities.

Specifications, under Sections “Method of Measurement” and “Basis of Payment” state how items in the contract are to be paid.

Plan Quantities. Quantity for final payment will be the figure shown in the Schedule of Items as defined in the contract Specifications or as mutually agreed to by the Resident and the Contractor.

If the Specifications state, that for some items, final payment will be based on the quantity shown in the Schedule of Items, more commonly referred to as the “plan quantity”, that figure will be paid whether the amount is estimated correctly or not. It may be altered only if a design change is made in the field. Example items are: granular borrow backfill and structural excavation for bridge abutments, granular borrow backfill for multi-plate pipes, and shoulder rehabilitation.

Final payment can also be based on plan quantity by agreement between the Resident and the Contractor.

Examples are: common excavation and gravel. For such an agreement to take place, two conditions have to be met: (1) the estimated quantity must be reasonably accurate and (2) work done under the item must be to the same limits as shown in the Engineer's Estimate. Reasonably accurate is defined as the Estimate being within five percent of the true figure. The Resident must check the Estimate before proposing the agreement. Errors and changes to limits of work will be taken into consideration and corrections made.

Payment based on "plan quantity" will be documented by notes of inspection and acceptance entered in the project records.

Lump Sum Quantities. Some items in the contract will be designated lump sum for payment as defined in the Specifications. Examples are: field office, structural concrete, and maintenance of traffic. "Lump sum" quantities must be documented by notes of inspection and acceptance recorded in the project records.

Measured Quantities. Payment for some items in the contract will be determined from measurements and computations of the actual work done. Sources for measured quantities can be: surface area measurements, three-dimensional volume measurements, average end area measurements, delivery slip measurements, weight measurements, hourly measurements, and force account measurements.

Surface Area Measurements. By Specifications, some items in the contract will be measured and paid based on surface areas. Examples are: clearing, butt joints, shoulder rehab, cold recycled-in-place pavement, and rehabilitation of structural concrete deck slab. Measurements and any sketches will be entered in a bound fieldbook; these can be taken in the field or scaled off the plans or a combination of both. Computations will be done in the same fieldbook or in the Final Quantity Computations Book.

Volume Measurements. Items measured by volume will be specified in the Contract. Examples are: common excavation, borrow, gravel, and concrete. Volumes can be figured using three dimensional field measurements, such as for roadway undercuts, or trench boulders. For large quantities, the average end area method will be used to figure earth excavation, rock excavation, and borrow. Any basic route survey textbook will explain in detail the average end area method. "Typical factors" will be used for figuring aggregate subbase course – gravel. Computer programs are available from the Survey Section to compute borrow and excavation.

If the Resident chooses to figure their own quantities rather than having the Survey Technicians do this, they must consider correcting between stations on curves as on ramps, for example. Also, it must be remembered that the average end area method is not usually accurate between any two stations, particularly if the areas cross sectioned differ considerably. This method is only accurate when at least three cross-sectional. Areas are used to compute a quantity.

Load Count Measurements, by Volume: Items paid load count will be identified by Special Provision in the Contract. In addition, Specifications allow load count Measurement up to specified maximum limits. Load count is used when it is not practical to measure the quantities by cross-section or by three dimensions.

When materials are measured by load count, the following rules apply

- a) A delivery slip must accompany each load.
- b) The slip must be of a printed format and it must be serially pre-numbered.
- c) It will contain the project number, item description, and truck number.
- d) It must be issued by the truck driver or Foreman present at the site and signed by him or her.
- e) The Inspector or Ticket Taker must witness every load dumped and as evidence, will sign the slip. Partial loads will be noted as: "3/4 full", for example.

Volume need not be shown on the slip but the Inspector will measure every truck body and enter measurements in a bound fieldbook, signed and dated. The Correct shrinkage factors will be applied when the quantities are figured for payment. Borrow and excavation measured load Count are reduced 10 percent; gravel is reduced 20 percent; concrete, riprap, and loam are measured on a "yard for yard" basis, i.e., no shrinkage or swellage is applied. Refer to the Specifications under the appropriate items for swellage and shrinkage factors.

Load Count Measurements, by Weight: Specifications require that hot mix asphalt items be measured by weight. A delivery slip will accompany each truckload of *mix* delivered to the job. Slips will contain the following information:

- a) Slips will be serially pre-numbered.

- b) Weight of each batch and total weight of the load will show on the slip if the plant weigh system is computerized. If not, only the total weight of the load needs to be shown, and the slip must be signed by a certified weigh master.
- c) The Paving Contractor's name must appear at the heading, in print.
- d) Every slip will be signed by the Ticket Taker.
- e) A Cover slip showing the day's total will be made out and signed by the Contractor's Representative and the Resident.

All weigh slips for hot mix asphalt must be kept in the Resident's office for the duration of the project. When the Resident submits their records to the Contracts Section for final review and close-out, delivery slips may be discarded but the Cover slips will remain with the project records.

The Testing Technician will do some check weighing to verify the accuracy of the scales. Check weighing procedures are explained in Division 100, Section 108, of the Specifications.

Hourly Work Items. Extra work, unforeseen, is sometimes measured and paid by the hour. This work can be paid by using the hourly bid items in the contract, by force account or by a combination of both. Section 109.07, of the Specifications and Section 109 of this Manual explain in detail, rules covering extra work. The Daily Report of Labor and Equipment Rental will be used to document the hours of labor and equipment, and materials used. Authorization for the work by the Resident or by Contract Modification and description will be noted in the Remarks portion of the Report which will be signed by both the Inspector or the Resident and the Contractor's Foreman or Superintendent.

This Section, Quantities for Final Payment, is intended to describe only in general, methods used to measure and pay final quantities. The Resident will refer to Divisions 200 through 600 and 900 for more detailed discussion of the requirements for field documentation, measurement, and payment.

SECTION 109 – CONTRACT MODIFICATIONS

General.

Specifications require the Contractor, as directed by the Resident, to perform extra or unforeseen work added to the contract a supplemental agreement, in the form of a contract modification, will be written to authorize and to document the added work.

Conditions Requiring Contract Modifications.

Contract Modifications will be initiated and written by the Department, normally by the Resident, and will be **signed** by the Resident. All Contract Modifications, except those initiated by standard Specifications i.e.; rock excavation & Quality Assurance Pay Adjustments, will require the **signature** of the Contractor and may also require the **signature** of administrative personnel within the Department, as explained further in the next Section. A contract modification will be written when the following conditions are present on the project:

1. Changes in Specifications.
2. Substitution of materials.
3. Changes in Testing Requirements.
4. Changes or Extra work with –in the scope of the contract.
5. Changes in design beyond the scope of the contract.
6. Adding or changing a D.B.E. subcontractor. (Requires a signature from Human Resources)
7. Adding payment or credit for Incentives / Disincentives to Contract Items.
8. Changes that result in an increase or decrease of 25 percent or more in major items of the contract. A major item is one that exceeds 10 percent of the original contract amount, as awarded. These changes may result in an increase or decrease in unit bid prices. Section 109.1.2 defines a major change.
9. Changes in deadline dates, completion dates, or time extensions not covered elsewhere.
10. Additional driveways, copy to Right of Way team member.
11. Municipal Government, County Government, or other State Agency request for additional work or change in proposed work. If the Agency involved requests additional work, it will be required to pay the non-federal share. The Contract Modification will clearly state what portion will be paid by the Agency and will be signed by a responsible person from that Agency.

109.3 Contents of a Contract Modification.

Every Contract Modification shall include the What, Why and How of the scope of work within the Contract Modification. The What describes the work that is to be incorporated, the Why is the reason(s) for adding the work and the How is a detail description(s) of how the work is to be paid. A more detailed list of contents is listed below.

1. Description and location of work.
2. Reason for the change or for the added work.
3. Method of payment, i.e. existing bid items, contractor quoted work, force account, and benefits to the project.
4. Procedures to be followed by the Contractor. Time constraints, Special Provisions, and Supplemental Specifications are to be made part of the Contract Modification, as applicable.

5. Price quotations, if required on Contractor Letterhead.
6. Time extensions and reasons for the extra time, if needed. A time extension is not granted unless the work directly affects the Contractor's progress, known as the "critical path".
7. Right-of-way acquisitions or easements if needed.
8. Cost estimates. The Resident will include with the Modification, his or her estimate of the cost of doing the work, whether it is done by unit price, lump sum, or force account. The Resident should arrive at the cost estimate independently of the Contractor's figures as much as possible. It should be more than just a review of the Contractor's numbers. An excellent source of historical data is the MDOT Bid History by items, which is located at <http://dot0dta1asora14.mdot.w2k.state.me.us:7778/freeprod/pBidHistEnglish.display>.
9. Approvals and **signatures**. The Contractor's **signature** shall be on all Modifications; it signifies their concurrence with performing and payment of the work. A Contract Modification is a supplemental agreement and is not legally part of the original contract unless it contains the **signatures of both parties**. Contract Modifications may be required to be submitted to the Resident's Supervisor for his or her approval and signature. Section 109.4 Contract Modifications – Resident Authority and 109.5 Contract Modifications Requiring Supervisor Approval explain further, and in more detail under what conditions additional signature are required.
10. Federal participation. All Contract Modifications on federally funded projects must be designated "**participating**" or "**non-participating**", i.e., whether or not Federal funds will be expended in the costs involved. In general, the FHW A will participate in the cost of all work except when an outside agency such as a Town, County, or a private developer requests the work, or the work is beyond the scope of the contract and is of no direct benefit to the project. Conditions under which FHW A approval is needed are outlined in Section 109.6 of this Manual and what approvals are required,

109.4 Contract Modifications - (Residents Authority)

The Department has authorized the Resident to execute certain work orders at the project level without the approval of their Supervisor, but subject to the following limitations:

1. Each Contract Modification is limited to \$10,000.00, not to exceed a cumulative cost of 3 percent of the awarded contract amount.
2. The Resident's authority is limited to construction of the project as intended and designed and does not extend beyond the original scope of the contract.

In addition to the above limitations, the requirements of Section 109.3-Contents of the Contract Modification will apply, as applicable.

109.5 Contract Modifications Requiring Supervisor Approval.

The following types of changes are considered to be beyond the limits of the Resident's authority to approve and therefore must be submitted to the Supervisor for concurrence and **signature**:

1. Changes in geometric design of the project or structural design of bridges, including foundations, and culverts greater than 1.8 m. in diameter.
2. Revision of typical plan cross-sections.
3. The addition, deletion, or relocation of any bridge or other structure which affects the function or intent of the approved design.
4. Changes in Right-of Way
5. The addition of work outside project limits. An exception is work necessary for erosion control, in which

case the property owner's permission is needed and put in writing.

6. Changes that alter contract Specifications or other requirements of the contract.
7. Changes that will affect the safety and operation of traffic other than what is allowed under the terms of the contract.
 2. Changes that result in an increase or decrease of 25 percent or more in major items of the contract. A major item is one that exceeds 10 percent of the awarded contract amount. These changes may result in increases or decreases in bid prices. Section 109.1.2, Division 100 of the Specifications – Green Cover, defines a major change.
9. Changes that exceed \$10,000.00 in cost and result in negotiated prices or payment by force account.
10. Changes which may require modification to previously approved environmental permits.
 2. Quality Control/Quality Assurance provisions added to the contract.
 2. Significant changes in completion dates or other time constraints, if not addressed as part of other work orders.

All of the above situations, the Resident can obtain verbal approval from his or her Supervisor before the Contractor does the work, and will follow up by a signed work order. The Supervisor's approval will be noted on the Contract Modification.

109.6 Contract Modifications Requiring Federal Approval.

Every construction season, the Federal Highway Administration will designate certain federally funded projects as "Direct Involvement" projects. On these jobs the FHW A will be involved in the design and construction more so than on other projects, and will do on-site visits on a regular basis. The Resident should ask their Supervisor or the Designer if his or her job is a Direct Involvement project.

Types of work orders described in Section 109.5 –Contract Modifications Requiring Supervisor Approval will also need concurrence from the FHW A on Direct Involvement projects. The Resident can obtain Federal approval verbally and so note on the Contract Modification this can be done by phone or when the FHWA Engineer visits the project, preferably prior to the work being done. Details of the conversation such as name of the FHW A Engineer and date the conversation took place should be recorded on the Contract Modification. A copy of the Contract Modification should be mailed to the FHW A for documentation. Copies of all Resident's Contract Modifications should also be sent to the FHW A prior to project completion.

109.7 Method of Payment for the Work.

The Specifications, Section 109.7 – Equitable Adjustments to Compensation, specifies that payment for extra work will be made by any one or a combination of the following methods:

1. Agreed Unit Prices.
2. Lump Sum.
3. Force Account.

Agreed Unit Price includes miscellaneous extras such as, but not limited to: labor, materials, equipment, supervision, overtime, travel time, benefits, small tools, transportation, profit, overhead, and other incidental items of work.

Lump Sum is all inclusive and includes extraneous items such as: profit, overhead, regular and overtime labor,

supervision, benefits, materials, equipment, and miscellaneous small tools.

Lump Sum payments for work included in a contract modification should be reserved for work that is difficult to measure, for example a temporary signal. A Lump Sum payment may also be used to track the cost of a particular scope of work, for example, the change(s) may include using several existing or added items. In this case the resident shall measure, inspect and accept the quantities and pay items per standard specification(s), and then when the scope of the work is complete, make the payment of all work Lump Sum.

It is becoming common practice for the contractors to request additional compensation for existing lump sum item(s) in the contract when work is added through contract modifications. For example, the resident decides to add 1000' of underdrain to a project and the contractor request that the lump sum items of Traffic Control, Erosion Control and Field Office be pro-rated for any days that may be added to the completion date. The resident may honor this request, but special attention should be given to the reasonableness of the cost before the agreement is reached. For example, a week is added to the contract and the pro-rated value for a field office is \$200 per day, then the resident should decide to move toward force account to pay for the actual cost of the contractor.

If agreement cannot be reached between the Contractor and the Resident on methods 1 or 2, the Contractor must accept payment on a force account basis. Reference is made to Specifications, Sections 109.3 – Extra Work and 109.7.2 – Basis of Payment.

Force Account should be used only when either of the following conditions are present:

1. The extent of the work is difficult to predict, and therefore the cost cannot be estimated with any degree of accuracy.
2. The Resident and the Contractor cannot come to an agreement on unit prices *or* lump sum prices. Sections 109.7.3, 109.7.4, and 109.7.5 of Division 100 – Specifications, explain in detail how to calculate payment made by force account.

The following is a brief summary of the contents of the Sections noted above:

Materials: actual cost supported by receipted bills plus 15 percent mark-up

Labor: payroll cost for regular and overtime plus 90 percent for laborers and foremen directly involved in the work.

Equipment: "Blue Book" rates, available from the Contracts and Specifications Section.

Mark-Ups: The Prime Contractor is allowed a 5 percent mark-up on a subcontractor's bill for profit and handling of paperwork. When force account work is involved, a 90 percent mark-up is allowed on payroll labor rates and a 15 percent mark-up is allowed on materials. No further mark-ups are permitted.

Regardless which method is used to pay for extra work, whether agreed unit prices, lump sum, or force account, estimating the cost before the work is done is necessary. The Resident should have an idea of what the work will cost before the Contractor submits their price. The figures will be submitted to the Supervisor with the Work Order; other documentation such as receipted bills and price quotes will remain in the Resident's project files. Back-up documentation and cost estimates for Resident's Contract Modification will be kept in the project files on site also.

Contract Modification

MDOT

3/12/2007 11:26 AM

FieldManager 4.1a

Contract: 002852.10, KENNEBUNK

Cont. Mod. Number	Revision Number	Cont. Mod. Date	Net Change	Awarded Contract Amount
21		3/12/2007	\$-1,000.00	\$2,373,386.00
Route				
Contract Location RTE.35				

Short Description

This section will contain the scope of work that is added by this contract modification

Description of Changes

This section will contain the information on how the added work is to be paid.

Such as;

- 1) using existing bid items
- 2) new bid items that include a quote from the contractor
- 2) Lump sum quote from the contractor, see attached
- 3) Force account

Also note all other considerations that are to be included with this contractor modifications

Such as but not limited to;

- 1) Specification and or testing revisions
- 2) Design revisions
- 3) Time extensions

New Items

Project: 002852.10, KENNEBUNK

Category: 0001, HIGHWAY ITEMS

Item Description	Item Code	Prop.Ln.	ItemType	Unit	Proposed Qty.	Unit Price	Dollar Value
TRAFFIC CONTROL PENALTY	652.3901	1215	CHANGE	EA	-1.000	1,000.00000	\$-1,000.00

Reason: Note the reason for adding this item to the contract.

Such as: ref project Diary date 8-17-07

Subtotal for Category 0001: \$-1,000.00

Subtotal for Project 002852.10: \$-1,000.00

Figure; Contents of a Contract Modification

Division 200 – Earthwork

201.5 Clearing, Tree and Stump Removal- Field Documentation. Measurement. and Payment.

This Section describes the recordkeeping necessary to document and measure clearing and the removal of single trees and stumps.

Field Documentation.

Project Diary, Inspector's Diary/Inspector's Daily Report: The Resident or Inspector will keep notes describing the subcontractor's clearing and selective clearing operations; equipment, personnel, and station to station limits of work will be noted. Workers and equipment need not be recorded every day unless there are frequent changes.

The Contractor, or more commonly the clearing subcontractor, will take the clearing limits from the plans and flag them in the field. If the Resident makes substantial changes or if the limits are not shown on the plans, a clearing list will be made up by the Resident and a copy given to the Contractor. For sample Inspector Diary entry, ref pg 90

Measurement and Payment.

Final quantity for payment can be plan quantity providing the estimated quantity is accurate and work is done as estimated. The Resident will adjust the plan quantity, upward or downward, according to changes made in the field.

Should the Resident find it necessary to establish new limits for the entire job, final pay quantity will be figured from these revised limits flagged in the field. A list of new limits will be made part of the project records.

Whether the Resident makes final payment based on plan quantity or based on a list of revised clearing limits, he/she must substantiate final payment by notes stating that clearing has been completed and accepted to limits flagged. These notes will be made in the Final Quantity Book or in the Construction Book.

Single trees and stumps required to be removed outside clearing areas will be field counted and entered directly in the Final Quantity Book for payment. All measurements will be signed and dated.

Final quantity for payment will be entered in the Final Quantity Book and labeled as such; reference to measurements, clearing limits flagged, and statements of inspection will be made as necessary. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

202.5 Removal of Structures, Obstructions, Pavement - Field Documentation, Measurement and Payment.

This Section describes the recordkeeping necessary to document and measure the removal of structures, pavement, and other existing structures designated to be removed under pay items in Section 202.

Field Documentation.

Project Diary, Inspector's Diary/Inspector's Daily Report: The Resident or Inspector will keep notes describing, for example, demolition of buildings, removal of bridge superstructures and substructures, removal of pavement and other obstructions for which there is a pay item in the contract. Station to station limits of work done by the Contractor, if appropriate, and disposal will be noted. Disposal usually consists of hauling materials to a waste dump, turning over to a State or Town Official, or stockpiling for future use.

The Contractor may need a permit to dispose of certain building materials off the project. The Resident should review the special Provisions of the Contract and contact the Environmental Services Section in Augusta for advice regarding permits.

Special Provisions of the Contract may require that certain components of the existing bridge become property of the State or the Town. The Resident should obtain the signature of the individual receiving such materials.

Measurement and Payment.

Final quantity for payment will be entered in the Final Quantity Book and labeled as such.

For items to be paid lump sum, the Resident will make reference to notes in the Project Diary that document progress of work. A statement of final inspection and acceptance will be made in the Final Quantity Book.

For items to be paid by the unit, such as removal of existing concrete, reference will be made to field measurements. These measurements will be entered in a Construction Book or directly in the Final Quantity Book; all measurements will be signed and dated.

For items to be paid plan quantity, such as removing existing pavement, the estimated quantity must be accurately figured and the actual work limits must be the same as those shown in the Engineer's Estimate. The Resident may have to adjust the Estimate to reflect field changes. As for lump sum items, the Resident will make references to Diary notes verifying that work has been done as estimated. These notes may be made directly in the Final Quantity Book. If the plan quantity is a "throw-in" quantity, i.e., has no basis other than a guess, the work in question will have to be field measured.

Removal of curb, fence, and guardrail will be incidental to the work in general. No separate payment will be made unless there exists specific pay items in the contract for these items.

All calculations and data entries must signed, dated and checked; the checker must sign and date their work.

203.5 Excavation - Field Documentation, Measurement, and Payment.

This section describes the recordkeeping necessary to document and measure excavation. It is recommended that you read Division 900 - Project Records of this Manual to better acquaint yourself with project recordkeeping in general.

Field Documentation.

Project Diary, Inspector's Diary/Inspector's Daily Report. By Specifications, the Contractor is required to place usable excavation within the slopes of the embankment;

no excavation can be hauled off the project without the Resident's approval. It is their responsibility to determine what material can be used on the job, or can be wasted, or stockpiled for future use. This becomes particularly important on a "borrow job" as the amount of wasted excavation directly affects the amount of borrow required. A project is a "borrow job" when material from off the project is required to meet the fill requirements of the contract.

The Resident, or the Inspector if one is assigned to cover excavation items, will keep daily notes of the Contractor's activities relative to earth and rock excavation. It is the Resident's option, whether or not the Inspector is to keep a Diary or Daily Report. The Resident may prefer to have all daily documentation entered directly in the Project Diary. Entries will be made documenting station to station limits of material excavated and locations where placed. It is important to record such information as: material directed to be placed within the core of the embankment or in waste storage areas within embankment limits, or to be stockpiled for future use on the project, or hauled to waste dumps off the job.

Circumstances surrounding the hauling of excavation off the project must be explained, particularly if the project is a borrow job. Material suitable to be placed in the embankment, but wasted without the Resident's permission will be deducted from borrow. Likewise, material only suitable to be placed in waste storage areas outside the core of the embankment, but wasted without permission will also be deducted from borrow. Excess excavation, not required for embankment construction, will be hauled off the project and disposed in waste dumps or other locations approved by the Resident. Excavation that the Contractor stockpiles away from the job for future use on the project will or will not be measured for a second payment, depending on whether or not the Resident has allowed stockpiling. Section 203 of the Specifications, Basis of Payment, allows payment for the rehandling of excavation when it is not possible for the Contractor to do otherwise.

Added undercuts, changes in ditches either in grade or offset, changes in backslopes such as flattening, changes in excavation limits to the approaches, and changes in drives must also be noted and measured for payment.

Grade Check Book. It is a requirement of the Department that the Resident or Inspector spot check the Contractor's grading operations to assure that fine-grading is done within construction tolerances stated in the Specifications. It is recommended although not a requirement, that a "Grade Check Book" be made part of the project records. This book will serve as a convenient and ready reference for checking sub grade, sidewalks, ditches, and backslopes on mainline and side roads, and also for keeping tract of what areas the Contractor has fine-graded and what areas have been spot checked. This book should be set up prior to the start of excavation and borrow operations so that the Resident, when in the process of figuring offsets and grades, will discover possible errors in the plans and will also become familiar with the geometrics of the job before work begins.

Whether or not the Resident uses a Grade Check Book, some written documentation must be entered in the project records that the Contractor's fine-grading operations have been checked and approved. These entries may be made in the Project Diary, Inspector's Diary, Daily Report, directly in the Final Quantity Book, or in the Grade Check Book if there is one.

For sample project diary documentation ref page 64, Final Quantity Entries ref page 65 & 66 and Construction Book entries ref page 80,82,85,88 & 92.

Measurement and Payment

Final quantity for payment can be the figure shown in the Schedule of Items in the contract, more frequently called the "plan quantity". The Resident may pay plan quantity as final payment but the following two conditions must be met: the quantity estimated, i.e., the Engineer's Estimate, must be reviewed for accuracy and considered reasonably accurate, and the limits of excavation in the field must approximate those estimated.

Frequently the plan quantity must be adjusted, upward or downward, because of changes made in the field and also because of increases or decreases in quantity of rock excavation estimated. The Engineer's Estimate must be reviewed to assure that rock is not included in the quantity of earth figured. Changes will be measured and recorded directly in the Final Quantity Book or in the Construction Book. Types of changes are described under Field Documentation, above. The Final Quantity Book and the Construction Book are described in Division 900, Section 901.3 of this Manual.

Field changes and added work will be measured by load count, by length, width, and depth, or by original and final cross-sections. Load count will be reduced by 10 percent to arrive at a quantity equivalent to what would be measured in its original position. Computations may be done in the Final Quantity Book, in the Construction Book, or on computation sheets that are part of the Final Quantity Computations Book. If the Resident uses the computer program "Field Manager", the Item History to Date will be generated in lieu of a Final Quantity Book.

Wasting of excavation without the Resident's permission will be measured and deducted from borrow. Measurement will be by load count or by length, width, and depth. Load count excavation will be reduced to 90 percent for deduction purposes; excavation measured in-place off the project will be deducted at 100 percent of quantity so measured.

Muck and grubbing excavated beyond limits shown on the plans will not be measured for payment unless the Resident has authorized a change in the limits. Lateral excavation limits for muck excavation are determined by the intersection of the bottom of the excavation and a 1: 1 slope line drawn down from the finish shoulder break. Borrow placed in over excavated areas will not be deducted unless the excavation beyond lateral limits is deliberate or due to negligence by the Contractor.

All pay quantities will be entered in the Final Quantity Book and referenced to the source document; the final pay quantity will be so labeled. A chain of referencing from the

Final Quantity Book to the original record is always needed. All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.

Rock Excavation: Unlike earth excavation, it is usually the case that the actual quantity of rock excavated will not agree with the Engineer's Estimate. Since soundings are normally taken some distance apart, original ledge cross-sections drawn on the plans do not accurately describe top of ledge, particularly where there is earth overburden. Abrupt changes in elevations are not always detected and also, boulders may be mistaken for solid ledge. This lack of detailed information results in errors in the estimated quantity, and therefore the "plan quantity" cannot be used to make final payment. If earth is paid plan quantity, it must be adjusted according to actual quantity or rock paid.

Rock has to be re-sectioned before removal; but, if the Contractor does not want to strip ledge prior to blasting, top of ledge elevations can be determined, by recording from a known elevation, depth the drill rig has to go before hitting solid rock. Section 203.04 General, requires that the Contractor remove overburden before original cross-sections are taken; it is the Resident's prerogative, therefore, whether or not to allow the Contractor to leave the earth in place before blasting.

Quantity of ledge for payment will be figured from "new" originals to the design cross-section if rock is removed to the construction limits described in Section 203.05 of the Specifications. No payment will be made for rock removed beyond the design cross-sections unless the Resident has directed a change in design. Section 203.18 Method of Measurement, Specifications, defines pay limits. Quantities will be computed by the average end area method. A computer program is available from the Augusta Office, Survey, to figure ledge quantities. Print-outs will be made part of the Final Quantity Computations Book.

Boulders, concrete, solidly mortared masonry, all defined in Section 203.01(b), and small quantities of rock

such as ledge nubbles, will be measured by three dimensions. Boulders encountered at sub grade during excavation operations will be measured as rock excavation and the portion estimated to be above sub grade will be deducted from earth excavation. A "pay" boulder is defined in Section 203.1(b) referred to above.

The situation may arise where ledge is not measured in its original position but is measured load count or in its final location as riprap or rock fill. The quantity so measured will be reduced to 75 percent to determine the amount of rock excavation for payment, the reason being that ledge swells after it is excavated. Measurements and sketches if needed for clarification will be entered in a bound field book, which would be the Construction Book or the Final Quantity Book.

If the job is bid "unclassified", the Resident should make note of the elevation of actual top of ledge where backs lopes are designed on a Y4: 1. In deep ledge cuts, pay limits of earth overburden have to be adjusted depending on the elevation of the ledge.

If the Contractor wastes rock without the Resident's permission and the result is an increase in the amount of borrow needed to meet the fill requirements of the contract, the quantity of rock wasted will be deducted from borrow at 100 percent of the quantity so measured. All measurements and load counts will be entered in a bound field book.

All quantities for payment will be entered in the Final Quantity Book and referenced to the source document. There must always be a trail of reference from the Final Quantity Book to the original record. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work. The final quantity for payment must be labeled as such and signed, checked, and dated.**

Item History to Date

MDOT

3/12/2007 12:13 PM

FieldManager 4.1a

Contract: 002852.10, KENNEBUNK

Item Description COMMON EXCAVATION			Item Code 203.20	Prop. Line 0050	Unit M3	Type ORIGINAL ITEM	Unit Price 8.00000
Authorized Quantity 23,500.000	Authorized Amount 188,000.00	Quantity Placed 23,523.000	Quantity Paid 23,523.000	Quantity Unpaid 0.000	Item Completed No		
Documentation All material that is not used on this project is being wasted at Cooper waste area			Attention No	Notes Ref book #4, Grade check book for subgrade checks			

Projects And Categories

Project	Project Description	Catg	Category Description	Authorized Quantity	Pending Changes	Quantity Placed	Quantity Paid	Quantity Unpaid
002852.10	KENNEBUNK	0001	HIGHWAY ITEMS	23,500.000	0.000	23,523.000	23,523.000	0.000

Contractors

Contractor	Remarks
A & V CONSTRUCTION, CORP.	

FIGURE: COMMON EXCAVATION – PACKAGING REFERENCES

203.6 Borrow - Field Documentation, Measurement, and Payment.

This section describes the recordkeeping necessary to document and measure borrow required to meet the fill requirements of the contract.

Field Documentation.

Project Diary, Inspector's Diary/Inspector's Daily Report: Specifications, Section 203.03, Unauthorized Use of Materials, and Section 203.04 General, require that no excavation suitable for embankment construction be hauled off the project. The Resident or the Inspector is to make note of wasted excavation and the nature of it, since the more excavation the Contractor removes from the project, whether authorized or not, the more borrow is needed to construct the embankments.

The Resident or the Inspector will keep daily notes in the Project Diary or the Inspector's Diary/Daily Report relative to the Contractor's operations. Name of the pit that borrow is being hauled from and station to station limits it is being placed, whether in the core of the embankment or in waste storage areas. These areas, which are beyond the 1: 1 slope from the finish shoulder break, are to be reserved for the placement of grubblings or other excavation not suitable for constructing the core of the embankment. The Contractor should not be allowed to place borrow in these areas if there is waste excavation available.

Ideally, the Contractor should complete all excavation operations prior to hauling borrow to the project. If he/she places borrow on the job before all excavation is complete, the Resident should advise the Contractor that he/she is doing so at the risk of having some borrow deducted from the final pay quantity at a later time. As stated previously, no excavation is to be removed from the project if it can be placed either in the core of the embankment or in waste storage areas. The case may arise, usually because traffic has to be maintained on the existing road, where borrow has to be hauled to the job before excavation is complete. The result is that good excavation is wasted; in this situation the Contractor is not penalized. Discussions relating to these matters must be noted in the Diaries.

Borrow diverted for the Contractor's own use must be documented as well; materials used to maintain a haul road or town road, or to grade the equipment yard is all to be deducted from borrow if the material comes from a sectioned pit.

Grade Check Book. As stated previously under Section 203.5 - Excavation, documentation of subgrade checks is a requirement of the Department, whether the operation is in a cut or in a fill. Refer to Section 203.5, Grade Check Book, for further discussion of grade checks.

For sample final quantity book entries ref page 67, for construction book entries ref page 82 and for inspectors diary entries ref page 90 & 91

Measurement and Payment

Borrow: While common excavation can be paid plan quantity, borrow cannot. An exception is when the plans require backfill behind abutments and around multi-plate pipes to be granular borrow or gravel borrow. Specifications, Section 203, Method of Measurement, allow backfill around bridge structures to be paid plan quantity.

When the Designer estimates the quantity of borrow required for the project, he/she makes assumptions that may or may not be representative of what actually happens in the field, particularly on bridge projects. Quantity of excavation estimated to be available for fills is, to some extent, guesswork. Some of the excavation may not be suitable for embankment construction or a situation may exist on the job that makes excavation not available in a timely manner; an example would be traffic maintenance on the existing roadway. The result is that the actual quantity of borrow used on the job is usually not what is estimated.

For these reasons, final quantity of borrow must be determined from actual measurements. The Resident will use the following methods or a combination thereof:

Cross Sections. By Standard Specifications, the contract bid price for borrow is based on the material being

measured in its original position, i.e., in the pit. When measured any other way, the quantity must be adjusted as explained below. Original cross-sections are taken in the pit after the Contractor has stripped the surface and before excavating and hauling operations begin. The Survey Crew should flag the pit limits to alert the equipment operators not to remove material beyond the outer limits of the original cross-sections. Final sections will be taken after the pit has been graded and before grubblings, loam, or other material that can support a growth of grass has been spread. Specifications, Division 105.8.6, addresses pit rehabilitation.

Borrow pushed up and beyond the edge of pit at its perimeter will be deducted from the overall quantity measured for payment. The Survey Section uses a "total station" computer program to take cross-sections and to compute quantities; a print-out of each cross-section is available.

Load Count. It is frequently not practical to figure borrow quantities by cross-sectioning the source. Since nearly all borrow pits are commercial pits and therefore are available to the public, it is nearly impossible for the Contractor to guarantee or even assure the Resident that all material taken out of a sectioned pit will be hauled to the job.

Load count, providing the total quantity measured is less than 5000 cm, offers an alternative to the cross-sectional method. There are two problems common to load counted material: trucks not being fully loaded and drivers reporting more trips than what they actually haul. For these reasons, it is advisable to assign an inspector or ticket taker to witness and to collect delivery slips for every load hauled. If, because of lack of personnel, this cannot be done, the Resident or Inspector assigned must do a random check of the Contractor's hauling operations. The Resident should do a "time study", i.e., determine how long it takes for a driver, or more than one, to make a round trip from the pit to the site, and also to visually observe if the trucks are fully loaded.

Section 203.18, Method of Measurement, Specifications, requires that borrow by load count must be reduced to 90 percent of the quantity so measured.

In-Place Measure. A third method of measuring borrow is to compute the quantity in its final position, more commonly called "in-place-measure". This method is particularly suited to bridge projects. The procedure to follow is to figure the total quantity in the embankment from the design template to original ground or to bottom of grubbing limits. The excavation placed in the fill would be deducted from the total embankment and the resulting figure would be swelled 15 percent for final payment.

If earth excavation that is placed in fills is measured in its original position, it will be shrunk 15 percent before being deducted from the total embankment quantity. If it is measured in its final position, i.e., in the embankment, it will be deducted at 100 percent of the quantity so measured. If it is measured load count, it will be shrunk 25 percent before deduction.

If rock excavation that is placed in fills is measured in its original position, it will be swelled 33 percent before being deducted from the total embankment quantity. If it measured in its final position or by load count, it will be deducted at 100 percent of the quantity so measured.

Borrow Deductions. When the Resident computes the final pay quantity of borrow, he/she must determine if any of the material should be excluded from payment.

Unless directed by the Resident, all usable excavation will be placed in the core of the embankment and all waste excavation will be placed in waste storage areas, either as shown on the plan cross-sections or as directed in the field. Only excess excavation can be hauled offsite. Borrow diverted for the Contractor's own use or placed in unauthorized areas will be at their expense. Specifications, Section 203.18 - Method of Measurement, states that material placed outside the embankment will not be eligible for payment.

For deduction purposes, the following situations are to be considered:

Borrow is placed ahead of excavation operations which results in a surplus of excavation: Common excavation and rock excavation wasted will be swelled 15 percent before deduction; reference is made to Section 203.04.

Excavation is hauled off the job instead of being placed in the embankment and then later replaced with borrow because of convenience and ease of operation to the Contractor: The quantity of excavation that could have been placed in the embankment will be deducted from borrow at 100 percent of the quantity so measured.

Excavation is placed in the embankment beyond the design template in concentrated areas as opposed to being distributed throughout all fills, thus creating "fat" slopes: Earth and rock excavation placed beyond the

pay limits defined in Section 203.18 - Method of Measurement, Specifications – 6”, will be deducted from borrow at 100 percent of the quantity so measured.

Borrow is placed in embankments beyond the design template, the result being “fat” slopes: Quantity placed beyond the pay limits defined in Section 203.18 will be deducted from borrow. Deduction will be made at 100 percent of the quantity so measured.

Borrow is diverted for the Contractor’s own use: Material used to dress the Contractor’s equipment yard or a waste dump, or to upgrade a haul road or town road will not be included for payment. Deduction will be made at 115 percent of the quantity so measured; refer to Section 203.03 - Unauthorized Use of Materials, Specifications.

Final quantity for payment will be entered in the Final Quantity Book. Subtotals, and deductions making up the final quantity for payment will be entered in the Final Quantity Book and referenced back to source. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

206.5 Structural Excavation - Field Documentation, Measurement, and Payment.

This Section describes the recordkeeping necessary to document and measure the excavation of earth and rock required to install culverts, bridge abutments, and other structures.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report, Drainage Book, and Construction Book: The Resident or Inspector will keep notes describing the Contractor's excavation operations required for the installation of drainage, bridges, and other structures. These notes will describe location and final disposition of the material, whether on the job or off the job.

Documentation of installation of culverts, underdrain, catch basins, and manholes will be entered in the Project Diary. If the drainage is extensive, a Drainage Book should be set up prior to the work being done and all notes pertaining to drainage work will be entered in the Drainage Book. Reference is made to Division 900 of this Manual for further explanation of the Drainage Book. Undercutting to provide a stable foundation, bedding, excavating rock, and material used to maintain traffic will be noted and measured for payment.

Documentation of construction of bridge abutments, pier footings, wingwalls, retaining walls, multiplate pipes, and other major structures will be entered in the Project Diary or Construction Book. The Construction Book will be used if layout and/or field measurements and sketches are required. Typical measurements would be for rock excavation and undercutting. Division 900 of this Manual explains the Construction Book and how it is used.

Documentation of installation of other miscellaneous minor structures will be entered in the Project Diary or the Construction Book. The Construction Book will be used if layout and measurements for removal of rock or unstable foundation material are required.

For sample construction book entries ref page 84 & 86 and for inspectors diary entries ref page 89,90,91 & 93.

Measurement and Payment.

Drainage and Minor Structures: In areas of full width construction and reconstruction of shoulders, excavation for culverts, catch basins, and other minor structures is incidental from sub grade down to 12" below the flow line of the pipe or bottom of the base. Excavation required below that point for stable foundation or change in grade will be paid under the item "Structural Earth Excavation-Below Grade". That quantity will not be paid plan quantity; this figure is a "throw-in" and is not necessarily based on work anticipated to be done. Quantity for payment must be field measured. Measurements and sketches will be entered in the Drainage Book, signed and dated. Depth will be as directed by the Resident and width will be the limits defined in Section 206.04 of the Specifications and sheet #605(1) of the Standard Details for underdrain.

Rock excavation for drainage and other minor structures will be the quantity actually excavated to the pay limits defined in Section 206.04 of the Specifications. Measurements and sketches will be entered in the Drainage Book, signed and dated.

Bedding material will be computed to depth authorized beginning at the flow line of the pipe or bottom of the base in the case of catch basins; width will be as defined in the Specifications.

Major Structures: Section 206.04 of the Specifications states that final payment for earth excavated for bridge abutments and piers will be the quantity shown on the plans unless the structure is founded on ledge. In this case payment for earth and rock removed would be based on field measurements. Since top of ledge shown on the plans is not accurate, new ledge originals would be needed. Original cross-sections will be taken at right angles to the centerline of bearing at close intervals.

Quantity of earth will be figured vertically from original ground or roadway sub grade to top of ledge and horizontally to pay limits shown on the plans or to 18" beyond the footing. If actual top of ledge is lower than the elevation shown on the plans, earth excavated below that elevation will be paid at 1 1/2 times the bid price for structural earth excavation. Typically, elevation of top of ledge is shown on the plans as, for example: 26 +/- . Such a designation would be interpreted to mean that only earth excavated below elevation 25 would be paid at 1 1/2 times the price. Another example would be: if the elevation shown were 26.0+/-, earth excavated below 25.9 would be paid at 1 1/2 times the price. Likewise, if the elevation of bottom of footing is lowered due to change in design, excavation below, the original elevation shown would also be paid at 1 1/2 times the price.

If the plans call for excavating into ledge for the footing, the Contractor is allowed a pay tolerance of up to 12"

below the elevation of the bottom of the footing. Rock excavated and concrete placed below the 12" tolerance will not be paid. If the Resident directs the Contractor to remove rock below bottom of footing elevation because of a change in design or because of the soft nature of the ledge, it will be paid at 1 ½ times the bid price for structural rock excavation.

"Pay" boulders, defined in Section 203.01(b) of the Specifications, that are found partly within the excavation limits for drainage and major structures will be measured and computed for payment as follows: that portion estimated to be within the structural excavation pay lines will be paid as such and the remainder will be paid as common rock excavation.

There will be no payment for rehandling structural excavation; the bid price includes excavating, rehandling as many times as necessary, and placing in its final position, whether it be in the embankment, waste storage areas, or off the project.

Final quantities of structural earth excavation-below grade and structural rock excavation will be entered in the Final Quantity Book and labeled as such. References will be made, as appropriate, to the Drainage Book or Construction Book for measurements and computations.

All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.

Division 300 – Bases

304.5 Aggregate Base and Subbase - Field Documentation. Measurement. and Payment.

This Section describes the recordkeeping necessary to document and measure aggregate base and subbase on the project.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes describing the Contractor's aggregate base and subbase operations. Information recorded will be: name of pit the material is coming from, station to station limits where it is placed, and whether placed in one lift or two lifts.

The Resident is responsible for quality assurance testing; he/she must assure that a Technician from the Department is available to do the testing required. Tests the Contractor may take are not to be counted toward the total number needed; these tests are to be considered as quality control for the Contractor's benefit only. Reference is made to Division 900, Section 901.4, of this Manual for further discussion of "Minimum Testing requirements".

Gravel can fail gradation or density or both. Corrective action directed by the Resident will be documented; more compactive effort may be required or material failing in gradation may have to be removed.

Sections 304.03 and 304.04 of the Specifications requires the Contractor to place the material in two lifts, but he/she can be allowed to place it in one. Gravel placed in one lift must meet density requirements full depth and therefore the lower portion of the one lift will be tested. If it fails, the Contractor must take whatever action necessary to attain passing density full depth.

Grade Check Book: The Department requires that the Resident or Inspector do random checks of sub grade and top of gravel to assure that the Contractor is placing gravel within construction tolerances. Checks should be done between stations as well as on station. Reference is made to Division 900, Section 901.3 and to Division 200, Section 203.5 for further discussion of the Grade Check book.

For sample project diary entries ref page 64, for final quantity book entries ref page 69, for construction book entries ref page 81 & 82 and for inspectors diary entries ref page 91 & 92.

Measurement and Payment.

Final quantity for aggregate base and subbase can be figured by anyone or a combination of the following methods:

Plan Quantity. Quantity for payment can be plan quantity providing the Resident reviews Engineer's Estimate for accuracy and the work is done to the limits estimated. It is often the situation that side streets and mainline approaches and drives are changed to match field conditions; the Estimate should be adjusted to meet these field conditions as necessary. Payment by plan quantity shall be documented by written agreement in the form of a Resident's Work Order. The agreement should state that the plan quantity will be adjusted upward or downward if changes are made in the field. Changes will be measured by three dimensions or load count described below.

In-Place Measurement. If the estimated quantity has no basis, commonly referred to as a "throw in" figure, gravel for the project will have to be refigured. Typical factors should be used for mainline travelway and shoulders where possible. Three dimensional measurements and/or plan dimensions can be used for drives, approaches and intersection areas. Gravel used to backfill undercut areas or to provide bedding for drainage can also be measured and computed by three dimensions to limits authorized. For drainage, depth will be figured from flow line of the pipe and width will be figured to the lateral pay limits defined in Section 206.04 of the Specifications.

Load Count. Gravel can be measured load count if: there is not a large quantity involved and the work involves mostly traffic maintenance or matching into, existing material. By Specifications, gravel measured load count will be reduced 20 percent for payment to arrive at an equivalent quantity measured in its final position. Refer to Section 304.06 of the Specifications for clarification.

Final quantity for payment will be entered in the Final Quantity Book and labeled as such. Reference will be made to grade checks, measurements, load count delivery slips, and computations in the project records, as necessary. Measurements and delivery slip totals must be entered in a bound book which can be the Final Quantity Book or the Construction Book. Reference is made to Division 900, Section 901.3 of this Manual for further discussion of field books. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

Item History to Date

MDOT 3/12/2007 11:36 AM
FieldManager 4.1a

Contract: 002852.10, KENNEBUNK

Item Description			Item Code	Prop. Line	Unit	Type	Unit Price
AGGR SUBB COURSE - GRAVEL			304.10	0080	M3	ORIGINAL ITE	16.00000
Authorized Quantity	Authorized Amount	Quantity Placed	Quantity Paid	Quantity Unpaid	Item Completed		
12,400.000	198,400.00	12,701.000	12,701.000	0.000	No		
Documentation			Attention	Notes			
All material coming from the Smith Pit in Biddeford			No	See Book #5, Grade check book for all notes on Finegrade checks			

Projects And Categories

Project	Project Description	Catg	Category Description	Authorized Quantity	Pending Changes	Quantity Placed	Quantity Paid	Quantity Unpaid
002852.10	KENNEBUNK	0001	HIGHWAY ITEMS	12,400.000	0.000	12,701.000	12,701.000	0.000

Contractors

Contractor	Remarks
A & V CONSTRUCTION, CORP.	

Figure: 304.10 ASCG PACKAGING REFERENCES

307, 309 & 310 Recycled Pavement - Field documentation. Measurement, and Payment.

This Section describes the recordkeeping necessary to document and measure the recycling of existing pavement.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes describing the Contractor's operations on the road and in the plant.

Full Depth Recycled Pavement. Field notes will include weather conditions, station to station limits of work, and description of equipment used: pulverizer, grader/spreader, rollers. The Inspector will also document inspection procedures and check measurements of work done, such as: depth of grinding operations, cross-slope, and density of the finished product. Any added aggregate or recycled pavement used as necessary to restore cross-slope will also be noted, tested, and measured for payment if required.

Plant Mixed Recycled Pavement, Foamed Asphalt & CIP require a QC/QA plan to be submitted. Field notes will be the same as for recycled pavement with additional documentation regarding plant inspections.

For sample final quantity book entries ref page 70.

Method of Measurement.

Final quantity of recycled pavement can be figured by either of the two following methods:

Plan Quantity. Quantity for payment can be "plan quantity" providing the estimated quantity shown in the Schedule of Items is reasonably accurate and work is done to the limits estimated. Payment by plan quantity should be documented by written agreement such as a memo or Resident's Work Order, between the Resident and the Contractor.

The agreement must stipulate that the plan quantity will be adjusted upward or downward if changes are made in the field. Quantities paid "plan quantity" will be documented by notes of inspection and acceptance entered in the Project Diary, or directly in the Final Quantity Book.

In-Place Measurement. If the estimated quantity is not figured accurately enough to pay as a final figure, the final pay quantity will be determined from field measurements, or will be refigured from the plans, or a combination of both. Length will be distance between stations and width will be field measured. Frequency of width measurements will depend on road width consistency. All measurements, and sketches if required, will be recorded in a Construction Book or directly in the final Quantity Book and signed and dated. Irregularly shaped areas such as ramp and side street approaches and intersections will be broken down into basic geometric shapes and measured by length and width. Dimensions taken from the plans and corresponding notes of inspection and acceptance also recorded in a Construction Book or the Final Quantity Book.

Added Material. If specified in the contract, material added to maintain cross-slope in areas not designated on the plans or in the construction notes will be paid separately under the item used. Measurement will be by load count reduced by 20 percent for final payment. Every load will be documented by a delivery slip that has been signed and dated at the point of delivery by the Resident or Inspector. Daily totals will be entered in the Final Quantity Book. Refer to Section 304.06 - Method of Measurement of the Specifications and Special Provisions for further explanation of shrinkage factors.

The Special Provisions, Section 108 should also be reviewed for the incorporation of Asphalt Pay Adjustment and the procedure how to determine the adjustment.

Final Quantity. Final quantity for payment will be entered in the Final Quantity Book and so labeled. References will be made to statements of inspection and acceptance, plan dimensions, field measurements, and delivery slips, as necessary. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

Division 400 – Pavements

401.5 Hot Mix Asphalt Pavement - Field Documentation. Measurement. and Payment.

This Section describes the recordkeeping necessary to document and measure hot mix asphalt placed on the project.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report, Paving Report, Tally Sheet, Test and Data Reports: The Resident or Paving Inspector will document on a daily basis, the Contractor's paving operations. He/she will keep notes regarding: station to station limits of paving, inspection problems, observations regarding quality control, equipment, personnel, weather, and temperatures. It is strongly suggested that the Paving Inspector use the Paving Report. This document has a preprinted format that serves as a reminder to record all of this information. This report is to be filled in on a daily basis, prior to the start of the next day. Ticket taker will keep a tally of all loads delivered by noting delivery slip number, the location where placed and sign the delivery slip upon delivery. The primary purpose of the Truck Tally Sheet is to control the yield and to determine which loads are involved if a problem area develops. If the Resident can isolate the loads, he/she can correlate the questionable material with specific batching data on record in the plant and in this way the cause for the bad mix may be determined.

Contract Specifications state that quality of mix will be controlled by following the "QC/QA" requirements of Sections 401 and 106 of the Specifications. The Contractor will provide quality control by testing and inspection and will propose their quality control procedures by submitting a Quality Control Plan to the Resident for Departmental approval. Specifications, Section 401 outline the basic requirements of the Plan and also procedures for quality assurance testing that the Department will perform.

Section 401 of the Special Provisions defines the quality control and quality assurance requirements at three levels: Methods A, B, and C. Method A provides for pay incentives and disincentives. Method B provides for disincentives only. Quality control and quality assurance procedures are the same for Methods A and B.

Method C is used for mixes with quantities less than 250 tons, sidewalks, drives, and other mixes behind the curb that are generally referred to as "hand-placed". Quality control requirements are not as stringent as for Methods A and B. Section 401 defines the types and frequencies of QA tests to be taken.

Special Provision, Section 403, designates which method is to be used for a particular pavement item, usually based on quantity. To better understand quality control, quality assurance, and Methods A, B, and C, the contents of Specifications - Section 401 and Special Provision - Section 403 should be thoroughly read by the Resident and the Paving Inspector before paving operations begin. All quality control records and quality assurance records will be filed together in the Testing File daily.

For sample final quantity book entries ref page 71 and for inspectors diary entries ref page 93.

Measurement and Payment.

The delivery slip for each load of hot mix asphalt delivered to the project will be signed at the point of delivery by the Resident, Inspector or Ticket Taker. Daily total quantities for each pay item will be documented by a cover slip signed by the Contractor's Representative and the Resident or Inspector, and will be entered in the Final Quantity Book; all entries will be signed and dated. Delivery slips will be kept in the Resident's field office until the records are submitted to the Project Review Unit for final review. At that time the weigh slips may be discarded, but the cover slips will be kept as part of the project records.

Occasionally a load will be split between two pay items. Quantities will be determined by fractions noted on the slip, example: "pay 1/3 load as hand-placed". A rejected load will be documented by a note on the slip stating the reason such as: segregation, dry load, or low temperature.

Check weighing to verify the accuracy of the scales will be done twice during every five days of production. Section 401.085 of the Specifications explains the check weighing procedures.

Pay factor computations for incentives, disincentives, and penalties will be part of the Testing File but final cost figures will be entered in the Final Quantity Book with the digits 01 and descriptions added to the pertinent pay item number, for example: 403.20801 Incentive-HMA-9.5 mm.

Final quantity for payment will be figured in the Final Quantity Book from daily totals. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

Division 500 – Structures

501.5 Foundation Piles - Field Documentation. Measurement. and Payment.

This Section describes the recordkeeping required to document the installation and measurement of foundation piles.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Pile Driving Inspector will keep notes describing the Contractor's pile driving operations; personnel, equipment, working hours, and which abutment or pier being worked will be recorded.

The Resident will make a note in the Project Diary of the following: approval of the pile driving equipment, approval of driving procedures, approval of driving hammer, inspection and approval of pipe piles before Contractor places concrete. Sections 501.03 - Equipment and 501.04 - Driving Procedures and Tolerances of the Specifications address, in detail, equipment and driving of piles.

The Resident will document static and dynamic load testing. Static load testing: approval of testing procedures and the results will be recorded in the Project diary. Dynamic load testing: a report of test results will be submitted to the Resident and placed in the Testing File. Specifications, Section 501.07 - Pile Testing and Acceptance explains the requirements of load testing.

Pile tips and pile splicing procedures must be approved by the Resident. Notes will be made in the Project diary. Reference is made to Section 501.09 of the Specifications.

The Resident or the Pile Driving Inspector will complete the following records and make them part of the Final Quantity Computations Book:

Pile Layout Diagram. The layout diagram is a sketch of the outline of the foundation and the batter, identification, and location of each pile by number.

Pile Driving Report. This report identifies each pile driven by number, location, driving length, pay length, and cut-off length. It also gives the type of hammer and other data pertinent to the operation. This report must be kept current with the work and must be signed by the Inspector.

Report of Record Pile. This report is a driving log of a pile; it is an indication of the energy required and the resistance encountered during the driving operation. Two record piles are required for each foundation unit. These reports must also be signed and dated.

For sample project diary entries ref page 87 and for inspectors diary entries ref page 94.

Measurement and Payment.

Foundation Piles. Payment for piles furnished will be based on quantities ordered in writing by the Resident. Cut-off piles in excess of 10 feet for each piece will become property of the Department. A Special Provision in the Contract will designate how the excess will be disposed.

Payment for piles installed will be determined from pay lengths shown on the Pile Driving Report; pay length is the difference between the driving length and the cut-off length. In the case of pipe piles, there is no payment for concrete in them.

Splices and Tips. These will be recorded for payment on the Pile Driving Report.

Loading Tests. These tests will be paid per each; reference will be made to appropriate Diary notes and test results for documentation of quantities paid.

All final quantities for payment for piles delivered, piles driven, load tests, splices, and tips will be entered in the Final Quantity Book. References to documentation of quantities will be made to pile driving reports, to test results, and to entries in the Project Diary or Inspector's Diary for statements of approval. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.**

502.5 Structural Concrete - Field Documentation Measurement and Payment.

This Section describes the recordkeeping necessary to document and measure concrete for major and minor structures.

Field Documentation. -

Project Diary, inspector's Diary/Daily Report: The Resident or inspector will keep notes describing the Contractor's pre-placement and placement activities, such as: excavation and preparation for erection of forms and installation of reinforcing steel. Equipment, personnel, weather, temperatures, and location of work site will be recorded also.

It is policy of the Department that the Inspector document in writing the inspection and approval of forms and reinforcing steel before a concrete placement. The Contractor is also required to do a "dry run" with the screed machine before the deck placement. The Inspector will note their observations during the dry run and also measure and record thickness of the deck slab as the concrete is placed. Notes can be entered in the Project Diary or Inspector's Diary or directly in the Final Quantity Book.

Concrete for sign bases, light bases, traffic signal bases, and other minor structures will be documented by Inspector's statements verifying that placement of forms, steel cages or mesh, anchor rods, and conduit have been checked and accepted.

For sample final quantity book entries ref page 72 & 73, for construction book entries ref page 84 and for inspectors diary entries ref page 89.

Measurement and Payment.

Final quantity for payment will be lump sum or by the cubic meter computed in-place as specified in the Schedule of Items in the Contract Book.

Lump Sum. This method of payment is specified in the bid schedule if the dimensions of the structure, be it abutment, pier, or deck, are clearly defined and not subject to change in the field. Final quantity for payment will be entered in the Final Quantity Book as "Lump Sum" and reference will be made to inspection and approval of forms, dry run of screed machine, check of the slab thickness, as appropriate.

Cubic Meter. Concrete paid by the unit is usually specified when the dimensions of the structure are not clearly identified, as when the footing is on ledge, or when the work consists of extending an existing abutment or placing a new footing on dry laid granite. In this situation, concrete is measured by delivery slip. The Inspector will sign the slip when the concrete is delivered to the site and he/she will also note amount wasted if any. The note will say, for example: "wasted 1!4 cu meter", Quantity of concrete wasted shall be co-signed by the Contractor's Representative to show agreement with the amount in question. Delivery slip daily totals will be entered in the Final Quantity Book. The concrete may also be measured in-place providing a sufficient number of field measurements are taken; measurements will be entered in the Construction Book. All delivery slip totals and field measurements will be signed and dated.

Seal Concrete. When the item Structural Concrete - Placed Under Water, also known as "seal concrete", is bid by the cubic meter, and the distribution slab above it, part of the item Structural Concrete - Piers or Abutments, is also bid by the cubic meter, the following shall apply:

1. Top of seal is below plan elevation: Quantity of distribution slab is figured from plan measurements for payment and the difference between the plan measured quantity and the delivery slip quantity is paid as seal concrete. Presumably the delivery slip quantity for the distribution slab will be greater than the plan measured quantity.
2. Top of seal is above plan elevation: Quantity of distribution slab is determined from delivery slips for payment and the difference between the plan measured quantity and the delivery slip quantity is paid as seal concrete. Presumably in this case, the delivery slip quantity for the distribution slab will be less than the plan measured quantity.

To determine whether top of seal is above or below plan elevation, check shots will have to be taken to determine the approximate elevation of the seal.

Occasionally the Schedule of Items will specify concrete to be paid by the cubic meter as opposed to lump

sum even though the dimensions of the substructure are clearly shown on the plans and will not change in the field. In this situation the concrete can be paid plan quantity providing the estimated amount is figured to the same degree of accuracy as it would be for final payment. The Resident will check the calculations and so note in the Final Quantity Book.

Where a footing is founded on ledge, concrete placed more than 12" below the designated bottom elevation of the footing will not be included in the pay quantity of concrete figured in-place. Likewise, if the concrete is figured by load count, quantity below the 12" line will be figured in-place and deducted from the total delivery slip quantity.

Since final ledge cross-sections will have already been taken to figure structural rock excavation, these same cross-sections will be used to compute quantity of concrete for payment or to figure quantity for deduction.

If the item "concrete fill" is added to the contract by work order, the lateral pay limits of the fill must be specified in the work order and the final quantity must reflect a deduction or non-payment for concrete placed beyond pay limits.

Contract Specifications stipulate that quality of concrete will be controlled by following the "QC/QA" requirements of Sections 502 and 1 06 of the Specifications. The Contractor will propose their quality control procedures by submitting a Quality Control Plan to the Department for approval. The Contractor will do quality control testing and the Resident will do quality assurance testing.

There are basically three levels of QC/QA: Method A, Method B, and "Non-QC/QA "; Special Provisions will specify the method for each item. Method A provides for incentives and disincentives; Method B provides for disincentives only. The Non- QC/QA method is used when the concrete in question must only meet the minimum quality standards in the Specifications. Examples are: armored joint repairs, surface repairs to wingwalls, bridge decks, abutments, piers, or box culverts, and modifications to concrete endposts. Cylinder breaks below what is allowed in the Specifications will be reason for either rejection of the concrete, or negotiation of a price credit. Quality control and quality assurance are explained in detail in Sections 106 and 502 of the Specifications.

Final quantity for payment will be entered in the Final Quantity Book: References will be made to source documentation, such as: Final Quantity Computations Book, delivery slips, form checks, and reinforcing steel checks. Delivery slip quantities and form checks, and re-steel checks will be entered in the Construction Book or directly in the Final Quantity Book.

Quality control records, quality assurance records, and pay factor computations will be filed in the Testing File for each day's placement. Incentive and disincentive computations and cost figures will be entered in the Final Quantity Book with digits 01 and descriptions added to the pertinent pay item number, for example: 502.2101 Incentive-Str Conc Abuts & Ret Walls. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.**

503.5 Reinforcing Steel - Field documentation Measurement and Payment.

This section describes the recordkeeping necessary to document and measure reinforcing steel delivered and placed in the structure.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes describing the Contractor's progress on this item; also to be noted are crew, equipment, weather, and location work is taking place, i.e., abutment, footing, pier, deck, or sign base.

When the steel is delivered, the Resident/Inspector will inspect the material for condition and proper storage. He/she will record inspection and acceptance in the Project Diary or directly in the Final Quantity Book. Delivery invoices will be kept as part of the project records.

When the Contractor places the re-steel, the Resident/Inspector will inspect for bar size, length, splice assembly, and proper positioning within the forms. He/she will document acceptance of reinforcing steel and splices by notes entered in the Project Diary or directly in the Final Quantity Book. Inspection will also be noted in the project records for re-steel placed in minor structures, such as traffic signal bases, sign bases, or concrete sidewalks.

Measurement and Payment.

Quantity for payment of reinforcing steel delivered and placed will be the quantity shown on the Steel Schedule in the contract plans, checked and corrected as necessary.

Final quantities of re-steel will be entered in the Final Quantity Book, signed and dated. Reference will be made to the Steel Schedule, computations in the Final Quantity Computations Book, and to statements of inspection and acceptance in the Project Diary or other project records.

Final quantity of splices will be entered in the Final Quantity Book. Reference will be made to the plans for the number paid; additional splices requested by the Contractor and approved by the Resident will not be measured for payment. Reference will also be made to Project Diary entries for documentation of splices installed and accepted.

Steel mesh placed in sidewalks, sign bases and traffic signal bases will not be measured for payment but is included in the bid price per unit. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.**

504.5 Structural Steel - Field Documentation. Measurement. and Payment.

This Section describes the recordkeeping necessary to document payment, delivery, and erection of structural steel.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will record, on a daily basis, the Contractor's progress in the erection of structural steel. He/she will keep notes regarding, but not limited to: the installation of beams, splices, diaphragms, and bearing assemblies. Crew, equipment, weather, and location, i.e., which span, girder, or abutment being worked on and lot numbers of materials will be noted.

Documentation for payment will be as follows:

Fabrication and Delivery. When the steel is brought on the job, the Resident and or Inspector will identify and record which girders, braces, bearing assemblies, and other hardware are delivered, and he/she will inspect for fabricating and shipping defects. Items to consider are:

1. Full bearing of bearing stiffeners.
2. Web buckles in welded girders within tolerance.
3. Welds in proper locations.
4. Burrs and roughness removed.
5. No loose or scaly rust in splice areas.

Notes will be made in the Project Diary or directly in the Final Quantity Book, signed and dated.

The Department will perform through the services of a private Testing Agency, shop and mill inspection of structural steel fabrication. The Fabrication Engineer will forward a copy of the Inspection Reports to the Resident. In addition, the Inspector should become familiar with the many other details of inspection explained in Section 504.4 of this Manual.

Erection. The following tests will be done and documented in the project records at the time steel is erected:

Rotational Capacity Test. Specifications, Sections 504.28 and 713.02 require that a "rotational capacity" be done on two sets of nuts, bolts, and washers in every lot delivered to the project. This test determines the compatibility of the components. The results will be noted in the Project Diary or directly in the Final Quantity Book.

Bolt Tension Test. Specifications require the Contractor to install and test bolt tension in girder splice connections and diaphragm/cross-brace connections using the following methods:

1. Calibrated Wrench Method. If the Contractor makes use of a calibrated torque wrench to do QC testing, the Resident or Inspector will use the Calibrated Wrench Method to perform QA testing. Ten percent of all bolts or a minimum of two bolts per connection in all girder splices will be checked and noted on the splice inspection diagram.
2. Turn of the Nut Method. If the Contractor uses this method, the Inspector will witness the tightening of all bolts in the girder splices and so note on the splice inspection diagram. This inspection procedure should be verified weekly with a calibrated torque wrench. For diaphragm and cross-brace connections, the Inspector will observe the Contractor doing the turn of the nut method is acceptable; other test procedures are not required.
3. DTI Method. The DTI method of installation will be checked by the Inspector with a "feeler gauge". The Inspector will further verify the accuracy of the feeler gauge by checking bolt tension with a calibrated torque wrench on a weekly basis.
4. Inspection of Tension Control Bolts. The Inspector will inspect the bolts to verify that the spline has been snapped off. A spot check with the calibrated torque wrench will be done every week as required for methods noted above.

Departmental policy requires that the Inspector verify bolt tension in girder splices and cross-brace and diaphragm connections. Any of the above methods will be used and the results will be recorded in the Project Diary, Construction Book, or in the Final Quantity Book. On a multi-span structure, a splice layout diagram is suggested to keep account, on a daily basis, of which splices have been checked and accepted; notes will be made directly on the diagram. This sheet will become part of the project records. An overview of the structural steel layout, such as the one found in the contract plans may be used.

Measurement and Payment.

Final quantity for payment will be entered in the Final Quantity Book; references will be made to field inspections, rotational capacity tests, bolt tension tests, and other notes of inspection. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.**

505.5 Shear Connectors - Field documentation. Measurement. and Payment.

This Section describes the recordkeeping necessary to document and measure for payment, stud welded shear connectors.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes documenting the Contractor's progress on this item; crew, equipment, and location of work, i.e., which span and which girder, will be noted. Field welding will be done by a prequalified welder, as required under Section 504.49 of the Specifications.

The Resident or Inspector will inspect all shear connectors to assure an acceptable 360 degree weld and will also perform the "bend test" described in Section 505.04 of the Specifications. These inspection procedures will be recorded in the Project Diary or directly in the Final Quantity Book.

Measurement and Payment.

Quantity for payment, lump sum, will be recorded in the Final Quantity Book, signed and dated. Reference will be made to statements of inspection and acceptance in the project records. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.**

507.5 Railings - Field Documentation. Measurement. and Payment.

This Section describes the recordkeeping necessary to document and measure for payment, the installation of bridge railing.

Field Documentation

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes documenting the Contractor's progress on this item. Crew, equipment, and location of work will be noted, for example: which span if a multi-span structure, and which side, left or right, will be recorded.

Measurement and Payment.

If the item is paid lump sum, notes of inspection and acceptance will be made in the Project Diary or directly in the Final Quantity Book. If the item is paid plan quantity, the Resident will check the accuracy of the computations and will refigure the quantity from the plans if necessary. He/she will also make entries in the Project Diary or Final Quantity Book relative to inspection and acceptance. If the item is paid by the unit, field measurements will be entered in the Construction Book or the Final Quantity Book, signed and dated.

Final quantity for payment will be entered in the Final Quantity Book, and referenced to source documentation, such as: field measurements, plan calculations, or statements of inspection and acceptance, as appropriate.

All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.

508.5 Membrane Waterproofing - Field Documentation. Inspection and Payment.

This Section describes the recordkeeping required to document and measure the installation of membrane waterproofing on bridge decks.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes describing the Contractor's preparation and installation of membrane waterproofing on bridge decks. Crew, equipment, weather conditions, and temperatures will be noted. Manufacturers' names of primer, membrane, and mastic will be recorded and verified with the Department's Qualified Products List before approval for use. Acceptance of the item after work is completed will be recorded in the Project Diary.

For sample inspectors diary entries ref page 93

Measurement and Payment.

Final quantity for payment will be lump sum entered in the Final Quantity Book. Reference will be made to notes of inspection and final acceptance. **All calculations and data entries must be signed, dated, and checked; the checker must sign and their entries.**

509.5 Structural Plat Pipe and Arches-Field documentation, Measurement and Payment.

This Section describes the recordkeeping required to document and measure the assembly and installation of structural plate pipes and pipe arches.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes describing the Contractor's progress of the installation of the structural plate pipe. Notes will be made regarding, but not limited to: assembly in the dry or in the trench, excavation, bedding, torque checks, stream diversion, cofferdams, and backfilling. Crew, equipment, and weather will also be noted.

To document payment for the item, the Resident/Inspector will inspect and note acceptance of bedding and will check the tension in 10 % of the bolts using a calibrated torque wrench. Bolts are to be torqued to 100-300 ft-lbs. A wrench should be available from the Contractor.

For sample inspectors diary entries ref page 94.

Measurement and Payment

Final quantity for payment will be lump sum and will be entered in the Final Quantity Book, signed and dated. Reference will be made to notes in the Project Diary that document inspection and acceptance of bedding and the checking of bolt tension. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.**

There is no separate payment for excavation. Sections 206.01 (a) and 206.04(a) of the Specifications state that payment for excavation is incidental to the price bid for the structure. The quantity of granular borrow for payment will be that shown on the plans; reference is made to Section 203.18, second paragraph, of the Specifications.

510.5 Special Detour - Field Documentation. Measurement. and Payment.

This Section describes the recordkeeping required to document and measure for payment the installation of a detour on the project.

Field Documentation.

Project Diary, Inspector's Diary/Inspector's Daily Report: The Resident or Inspector will keep notes describing the Contractor's progress in the construction of the detour. The Inspector must be familiar with the contract Specifications, Section 510, to assure that the detour has been designed and constructed according to plan. Acceptance, maintenance, satisfactory removal, and clean-up of the site will be noted. Crew, equipment, and weather conditions will also be recorded.

Measurement and Payment.

Final quantity for payment will be lump sum and will be entered in the Final Quantity Book, signed, and dated. Reference will be made to notes of inspection, acceptance, and disposal recorded in the project records. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.**

Departmental policy is: If, during removal of the detour, the Contractor uses some of the excavation as permanent fill and if the use of this excavation does not cause a waste of usable excavation elsewhere on the project, the material in question will be measured and paid as common borrow.

511.5 Cofferdams - Field Documentation. Measurement. and Payment.

This Section describes the recordkeeping required to document and measure the installation, maintenance, and removal of cofferdams.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep a record describing the inspection and acceptance Contractor's work and submittal, approval and adherence to their Water Pollution Control Plan. Type and size of cofferdam, type of pumping operations and adequacy of the sedimentation basin and sedimentation control will be noted.

For sample final quantity book entries ref page 76, inspectors diary entries ref page 93 & 94.

Measurement and Payment.

Final Quantity Book: Final quantity for payment, lump sum, will be entered in the Final Quantity Book, signed and dated. References will be made to Project Diary entries that document acceptance of the item. The item is not accepted until the removal and clean-up of the cofferdam(s), Sedimentation Basin(s), and pump(s) has been disposed in a manner satisfactory to the Resident. Payment is made regardless of the extent of work required to build the cofferdam. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

513.05 Slope Protection - Field Documentation, Measurement, and Payment.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes describing the Contractor's progress on this item. Preparation for placing concrete or crushed stone as called for on the plans, i.e., setting grades, excavating as necessary, compacting the slope, as well as crew, equipment and weather will be recorded.

Measurement and Payment.

Final Quantity Book: Final quantity for payment will be entered in the Final Quantity Book and referenced to field measurements or plan dimensions. Measurements and calculations will be entered in the Construction Book, signed and dated. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

515.5 Protective Coating for Concrete, Surfaces - Field Documentation, Measurement, and Payment.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will record the Contractor's work activities on this item such as surface preparation and condition before applications, note the name of manufacturers material being used, verification of the material with the Departments Approved Product list, application rate of each coat, and notes of inspection and acceptance, crew, equipment, time of each application and weather conditions will also be documented.

Measurement and Payment.

Final Quantity Book: Final quantity for payment will be by the square meter or lump sum. Total units will be computed from field measurements or from dimensions scaled from the plans. Measurements, dimensions, and calculations will be entered in the Construction Book and the total transferred to the Final Quantity Book. Lump sum will be entered directly in the Final Quantity Book.

Final quantity for payment will be signed and dated. References will be made to measurements, calculations, and notes of inspection and final acceptance. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

518.5 Rehabilitation of Structural Concrete - Field Documentation. Measurement. and Payment.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will keep notes describing the Contractor's activities on this item; crew, equipment, weather conditions, location of work, i.e., which lane and which span if appropriate, will be recorded. Also to be documented are: name brand of patching material, bonding grout, and verification of the material with the Departments Approved Product list.

Measurement and Payment.

Final Quantity Book: Final quantity for payment will be determined from field measurements recorded in the Construction Book, signed and dated. Rehabilitation of Structural Concrete can involve one or a combination of three items: above re-steel, to re- steel, or below re-steel. If these items overlap in area, the item involving the largest surface area should be measured first and should be all encompassing, i.e., include the other items. These other items should then be measured after and deducted from the largest area. This method of measurement will avoid confusion and result in greater accuracy.

The final quantity will be entered in the Final Quantity Book and referred to field measurements in the Construction Book. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

520.5 Expansion Devices. Non-Modular- Field Documentation, Measurement, and Payment.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will make notes regarding: type of seal used, whether gland or compression, manufacturer's name, preparation of surface areas prior to installation, name of lubricant or sealant, and other Specifications requirements. Crew, equipment, weather conditions and temperatures will also be recorded.

Measurement and Payment.

Final Quantity Book: Final quantity for payment will be entered in the Final Quantity Book by the unit. Reference will be made to appropriate Diary entries that document inspection and acceptance. **All calculations and data entries must be signed, dated and checked; the checker must sign and date their entries.**

523.5 Pot Bearings - Field Documentation. Measurement. and Payment.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will inspect and note approval of : 1) when the bearings have been delivered to the site and properly stored 2) when the bearing area has been prepared; 3) when the holes are drilled and the anchor bolts grouted in place 3) note the manufactures name and verification of grout on the Department Approved product list 3) when the preformed pads, plates, and bearings are set; and 4) when the temperature adjustments have been made and the sole plates are welded to the girders. Any or all of these steps may be combined along with a final acceptance of the work.

Approved shop drawings, shop inspection reports and test results will be forwarded to the Resident by the Fabrication Engineer in advance of delivery of the bearing assemblies to the site.

Measurement and Payment.

Final Quantity Book: Final quantity for payment bid and measured by the unit for each assembly will be entered in the Final Quantity Book. References will be made to notes of inspection and acceptance of seating areas and test results for the grout. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

525.5 Granite Masonry - Field Documentation. Measurement. and Payment.

Field Documentation.

Project Diary, Inspector's Dairy/Daily Report: The Resident or Inspector will note inspection and acceptance of granite stones, anchors, mortar, and caulking material. He/she will also inspect and note the Contractor is preparing the areas prior to setting the stones.

Measurement and Payment.

Final Quantity Book: Final quantity for payment will be calculated from field measurements or plan dimensions recorded in the Construction Book. Final quantity will be entered in the Final Quantity Book, signed, dated, and referred to notes of inspection and acceptance in the Project Diary. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

526.5 Concrete Barrier - Field Documentation Measurement and Payment

Field Documentation.

Project Diary, Inspector's Diary/Daily Report: The Resident or Inspector will note when the type of barrier installed, the inspection and acceptance of forms and re-steel. Sometimes this item is pre-cast. In this situation, refer to the inspection reports written by the Inspector at the plant at the time the barriers were cast. When it is necessary to reset, a note of a spot check of the dimensions for plan conformity and will also inspect for location as shown in the traffic control plan or other contract documents.

Measurement and Payment.

Final Quantity Book: Final quantity for payment will be lump sum or by the meter.

If the Temporary Concrete Barrier is measured and paid by the linear foot, measure the total length acceptable and enter it directly in the Final Quantity Book. If the item is measured and paid Lump Sum, enter the "Lump Sum" in the Final Quantity Book.

Permanent Concrete Barrier Type II, IIIa, and IIIb will be measured for payment by Lump Sum complete in place and entered directly in the Final Quantity Book.

Permanent Transition Concrete Barrier will be measured by each barrier connecting bridge rail to guardrail complete in place and entered directly in the Inspectors Daily Report or the Final Quantity Book.

The final figure will be entered in the Final Quantity Book, signed, dated, and referenced to Diary entries for inspection and acceptance and to field measurements recorded in the Construction Book if the item is measured by the unit. **All calculations and data entries will be signed, date, and checked; the checker will sign and date their work.**

Division 600 – Miscellaneous Construction

603.5 Pipe Culverts and Storm Drains

604.5 Manholes and Catch Basins

605.5 Underdrain

Field Documentation

Drainage Book, Construction Book: The Resident or Inspector will keep drainage installation notes in the Drainage Book if the drainage is extensive, or in a Construction Book. If the drainage is a minor item in the contract. Section 901.3 - Field Books in Division 900, of this Manual describes in more detail the contents of these fieldbooks.

The Resident or Inspector should note the inspection of the material as it arrives on the project to insure that the material meets specifications, fits the application and is free of damage from delivery. The installation notes should include the inspection of line and location, grade, special connections, bedding & backfill material and compactive effort.

The Resident or Inspector will note the placement of any excavated material that is not used for backfilling. Excavated material should not be wasted unless there is no possible use for it on the project.

For sample project diary entries ref page 63 and for inspectors diary entries ref page 90 & 91.

Measurement and Payment

Excavation to install drainage is incidental to the item except for rock and excavation “below grade”, defined in the Specifications. If a boulder or a concrete obstruction measuring two cubic meters or more is encountered in the excavation, that portion within the limits of the trench is paid as structural rock and the portion outside the limits is paid as common rock excavation. Portions within and outside the trench limits can be estimated in fractions, example “ 1/2 boulder outside trench”.

In a “full construction” area, if a portion of the boulder or concrete is above subgrade, that quantity will be paid as rock excavation and deducted from common excavation.

Underdrain special connections (elbows, wyes or tees) will be counted and 3 feet added per connection to the overall length of the run of pipe.

After acceptance of the catch basin or manhole, the height from floor to top of grate should be measured and recorded for final payment. Units up 2.5 meters [8 ft] will be 1 each. One fifth of a unit [one eighth of a unit] will be added for each additional 0.5 meters [1 ft] over 2.5 meters [8 ft] measured to the nearest 0.5 meters [1 ft]. Rebuild, alter and adjust items are measured as 1 each.

Section 206.5 in Division 200 of this Manual further describes structural excavation for drainage.

Final Quantity Book: Final quantity for payment will be by the linear measurement. The final figure will be entered in the Final Quantity Book, signed, dated, and referenced to Diary entries for inspection and acceptance and to field measurements recorded in the Construction Book if the item is measured by the unit.

All calculations and data entries will be signed, date, and checked; the checker will sign and date their work.

606.5 Guard Rail - Field Documentation. Measurement. and Payment.

Field Documentation

Project Diary, Inspector's Diary/Daily Report, Guardrail Book: The Resident or Inspector will document the Contractor's progress on guard rail items. If guardrail work on the project is extensive and if several items are involved, for example: remove, modify, and reset, or adjust, or remove and reset, the Resident should set up a "Guardrail Book". Each run of guardrail to be worked on will be entered in this book primarily by location, i.e., station to station, left or right, and further identified by type of work to be done, whether remove, modify, and reset, or adjust, etc. As a run is completed and accepted, it will be so noted by the Inspector and dated.

All of the above documentation can be entered in the Construction Book if guardrail is not a major item in the contract.

Measurement and Payment

Final Quantity Book: Final quantity for payment will be entered in the Final Quantity Book, signed, dated, and referenced to source documentation in the Guardrail Book, or in the Construction Book for lesser quantities.

Final quantities will be field measured or figured from station to station. **All calculations and data entries must be signed, dated, and checked; the checker must sign their entries.**

609.5 Curbing- Field Documentation. Measurement. and Payment.

Field Documentation

Project Diary, Inspector's Diary/Daily Report, or Construction Book: The Resident or Inspector will note the Contractor's progress on these items; approximate station to station limits of work, crew, equipment will be recorded and notes of inspection and acceptance.

Notes of inspection will include, in the case of vertical curbing, the condition of the curbing when it arrives on the project to insure size and tolerance specification. Notes will also include the bedding and backfill material and line and grade.

Field measurements will be entered directly in the Final Quantity Book or in the Construction Book after the curb is complete, accepted and installed. If the curbing is extensive, the Resident should set up a "Curb Book" or at least dedicate a part of the Construction Book before the Contractor begins work. The location of each item of curb, i.e., "new", "reset", or "circular", and terminal, should be identified by sketches, station to station limits, left or right shall be noted.

Final Quantity Book: Final quantity for payment will be entered in the Final Quantity Book, signed, dated, and referenced to measurements.

For sample project diary entries ref page 64.

Measurement and Payment

No separate payment is made for excavation to install curb, whether new or reset. Excavation is incidental to the curb item or to roadway excavation. There is no payment to remove existing curb; only curb that is reset is measured for payment. Removal of existing curb that is not used is incidental to other items in the contract.

All calculations and data entries will be signed, dated, and checked; the checker must sign and date their work.

610.5 Stone Fill. Rip Rap, Blanket. and Stone Ditch Protection.

Field Documentation

Project Diary, Inspector's Diary/Daily Report, Construction Book: The Resident or Inspector will make notes documenting progress of work on these items. They will record source of material, whether rock from within the excavation limits on the project, pit tailings, or rock quarry.

Measurements, sketches, and computations will be recorded in the Construction Book or directly in the Final Quantity Book.

Final Quantity Book: Final quantity for payment will be entered in the Final Quantity Book, signed, dated, and referenced to measurements and calculations. Quantities will be determined from surface area measurements to limits authorized by the Resident and to depths shown on the plans.

If riprap or stone fill is placed under water or on rough, irregular ground as required by the Resident or called for on the plans, quantity for payment can be measured by delivery slip with no reduction in volume. Reference is made to Section 610.05 of the Specifications.

Measurement and Payment

If the source of material is rock excavation, there will be no deduction from borrow, even though rock excavation is designated for use in the embankment, i.e., even though the project is a "borrow" job. Specifications, Division 100, Section 104.3.13 allows the use of ledge for items designated under this Section without deduction from borrow.

There will be no payment for excavation beyond the face of riprap, stone ditch protection, and stone blanket; only the excavation from original ground to face of the finished slope is allowed, i.e., excavation is incidental to riprap where rock is actually placed. More detailed explanation is given in Section 610 of the Specifications.

All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.

615.5 Loam. 616.5 Sod. 618.5 Seed. 619.5 Mulch - Field Documentation. Measurement. and Payment.

These Sections describe the recordkeeping necessary to document and measure for payment loam, sod, seed, and mulch placed on the project.

Field Documentation.

Project Diary, Inspector's diary/Daily Report: The Resident or Inspector will keep notes describing the Contractor's loam, sod, seed, and mulch operations. They will record location of areas worked, personnel, equipment, and weather conditions. Depth of loam will be spot checked and recorded; loading of the hydroseeder with seed, lime, fertilizer, and mulch will also be documented.

Contract Specifications require that, at the Resident's directive, a second seeding be applied within 60 calendar days of the first seeding at the Contractor's expense if there is no acceptable growth of grass at the first seeding. The Resident must notify the Contractor before the end of the 60-day period for the Specifications requirements to remain valid. Reference is made to seed Specifications in the Contract Book for further clarification.

Measurement and Payment.

Final quantity for payment will be plan quantity or the quantity determined from measurements.

Plan Quantity. Specifications state that final payment for seed and mulch will be based on the quantities shown in the Schedule of Items if estimated areas agree within 15 percent of actual areas. A review and check of the Engineer's Estimate for reasonableness is an acceptable way to verify the quantity shown in the Schedule of Items. The plan quantity will be adjusted, upward or downward, if changes are made in the field.

Measurements. If the plan quantity is inaccurately figured or has no basis, i.e., is a "throw in" amount, quantities of seed and mulch will be determined from field measurements or from dimensions scaled off the plans.

The accuracy and frequency of measurements will depend on the project. On a rural overlay job, station-to-station limits and typical widths scaled off the plans or field measured are acceptable. On an urban job, areas will be divided into common shapes and field measured by length and width.

Loam and sod will be field measured. Field measurements and scaled measurements will be entered in the Construction Book, signed, and dated. Final pay quantity will be entered in the Final Quantity Book and labeled as such, signed and dated; references will be made to source documentation such as measurements and loading of the hydroseeder. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their entries.**

626.5 Foundations. Conduit, and Junction Boxes for Highway Signing. Lighting, and Signals - Field Documentation. Measurement. and Payment.

Field Documentation.

Project Diary, Inspector's Diary/Daily Report, Sign Book: The Resident or Inspector will keep notes regarding the Contractor's progress of work on the installation of foundations, poles, signs, lights, and traffic signals. The Resident or Inspector will document inspection and approval of forms, re-steel or steel wire mesh, anchor rods, and conduit in the foundation units.

The Resident or Inspector should keep a log of foundations installed, lengths of conduit buried, junction boxes sign locations, signal support poles and light pole foundations and documented in an Inspectors Diary or Construction book

If the project is primarily a signing or lighting job, the Resident should set up a "Sign Book" before the Contractor begins work. Signs will be identified in this book by location. The Resident or Inspector will note type of sign required and will record when the foundation is placed, when the poles, signs and lights are erected, and length of conduit and wiring installed. As noted above, inspection and acceptance of forms, re-steel, anchor rods, and conduits will be recorded; other pertinent information will be noted as required.

Measurement and Payment.

Final Quantity Book: Final quantity for foundations, junction boxes, conduit, and wiring will be entered under the appropriate items in the Final Quantity Book. Reference will be made to field counts or field measurements. The Sign Book can be eliminated if signing and lighting are not a major portion of the contract; measurements and documentation can be entered directly in the Final Quantity Book or in the Construction Book. **All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.**

629.5 Hand Labor 631.5 Equipment Rental Field Documentation. Measurement. and Payment.

Field Documentation.

Daily Report of Labor and Equipment Rental: The Resident will use this form to document hours for payment. Approval for hourly work, if not bid items, will be in writing by Work Order, and verbally by the Resident if bid items are involved. A detailed explanation of the work performed, inspected and accepted, and reference to the pertinent work order or "authorization by the Resident" should be noted in the Remarks section of the Report.

For sample project diary entries ref page 63, for final quantity book entries ref page 77, for inspectors diary entries ref page 90 & 91, and for a sample DREW from ref page 98

Measurement and Payment.

Whereas payment for hourly work often is extra and unforeseen and therefore authorized by work order, the Resident should refer to Division 100 of this Manual and the Specifications for explanation of price determination for labor and equipment.

Section 109 of this Manual further explains the circumstances under which a Work Order is required.

Specifications, Section 629, allow payment for overtime labor under the following circumstances:

- A. When the Resident requires the work to be done during the Contractor's normal overtime hours.
- B.. When the Resident directs the Contractor to do the work within a limited period of time and overtime is necessary to complete the work.
- C. When the work is of an emergency nature and overtime is required.

Final Quantity Book: Final quantities for payment will be entered under the appropriate hourly items as bid, and will be signed, dated and referred to Daily Reports of Labor and Equipment Rental.

All calculations and data entries must be signed, dated, and checked; the checker must sign and date their work.

Division 900 – Project Record and Closeout

This Division explains how the Resident is to prepare project records for close-out and final payment.

<u>Section</u>	<u>Title</u>
901	Preparation of Project Records
902	Review, Close-out, Final Payment

SECTION 901 - PREPARATION OF PROJECT RECORDS

901.1 General This Section describes the requirements for preparation of the project records by the Resident for final review. Field record-keeping and testing procedures for the individual pay items are explained in the appropriate sections of this Manual.

Project Records. Project records are grouped as follows:

<u>Section</u>	<u>Title</u>
901.2	Project Diary
901.3	Final Quantity Book
901.4	Construction Book
901.5	Drainage Book
901.6	Inspectors Diary
901.7	Final Quantity Computation Book
901.8	Testing File
901.9	Miscellaneous Records
901.10	Responsibility of the Checker

901.2 Contents of a Project Diary

Every job must have a Project Diary, or, in the case of Field Manager, a Daily Diary or a combination Daily Diary and Inspector's Daily Report. The Project Diary is intended to give the reader a general accounting of the Contractor's and subcontractors' day by day activities such as: pay items worked and ,locations, source and disposition of excavation, borrow, gravel, and pavement grindings, All Directives given to the Contractor and non-routine matters must be recorded as well. Examples are: Traffic Accidents, the Contractor adherence to traffic maintenance and erosion control, disregarding contract Specifications, not staffing the job appropriately to complete work within required time limits, and other issues that could result in contractor claims. Matters dealing with town officials, utilities, developers, and other abutters should also be recorded. Information recorded in the Project Diary/Daily Diary should be factual and pertinent information; personal opinions and speculative remarks should not be included.

Examples of a project Diary template and typical boilerplate entries are located in Appendix A pgs 89 through 94.

901.3 Contents of a Final Quantity Book

Final Quantity Book/Item History to Date: The Final Quantity Book, or Item History to Date if the job is set up using Field Manager, is the mainspring of the project records. Every bid item originally in the contract and all

work orders involving additional payment must be entered in this book; no job can be paid off without it.

Funding of a contract is sometimes divided into several funding sources, which usually result in pay items being grouped under different categories and PINs within the contract. The Final Quantity Book must be organized to reflect the different categories and pin numbers. PINs and categories will show on the first progress estimate, but if the Resident needs this information before the first estimate is issued, the Contracts Section will provide it.

A reference trail from the final pay quantity to the original documentation, whether it is notes of inspection and acceptance, measurements, or computations, must always be provided. It is suggested that the Resident and their inspectors enter original documentation and calculations to the extent feasible, directly in the Final Quantity Book

Urban full construction or reconstruction projects usually involve the town, sewer/water districts or other utilities. A formal agreement called a Municipal Agreement or a City- State Agreement drawn up between the parties will stipulate payment responsibilities and other contractual responsibilities. These agreements will frequently make the Town or the Utility District liable for a share of the project cost. The Resident should have a copy of these agreements; there may be several and they are available from the Project Manager. Items involved will normally show as a category in the progress estimate, but if not, they still need to be entered as a separate entity in the Final Quantity Book.

The Final Quantity Book/Item History to Date will have no more than one item per page. Item number, description, and estimated quantity will be entered at the top of the page. Final pay quantity will be entered at the bottom and so labeled. **All entries in the Final Quantity Book must be signed, dated, and checked; the checker must sign and date each entry as well. All final quantities in the Item History to Date must also be signed, dated, and checked, and the checker must sign and date the entries. Signatures in the Item History to Date may be signed manually or an electronic signature can be used.**

Examples of Final Book entries are located in Appendix A pgs 65 through 79.

901.4 Contents of a Construction Book

Construction Book: This book is a catch-all; whether the Resident uses Field Manager or the conventional method of keeping project records, i.e., field books, a "construction book" is handy to have and usually necessary. Complex field measurements, field data, or sketches that must be recorded before that work is buried and cannot be easily recorded in the Final Quantity Book/Item History to Date can be entered in the Construction Book.

Typically, measurements for riprap, loam, seed, mulch, undercuts, top of ledge elevations, boulders, gravel used for traffic maintenance, grade checks on concrete forms and drainage systems, and layout in general will be entered in the Construction Book.

One form of a Construction book is referred to as a Grade Check Book. On a large, full construction project a grade check book should be set up prior to the work being done. This book will provide the Inspector with a handy tool to use for checking subgrade, top of gravel ("fine-grading"), ditches and backslopes. A copy may be given to the Contractor's grade foreman for them to use. The Contractor's foreman is in effect performing a Quality Control activity and the Department's Inspector is performing a Quality Assurance activity by checking, at random, the Contractor's grading accuracy.

Examples of a Construction Book entries are located in Appendix a pgs 80 through 88.

Examples of a Grade Check Book entries are located in Appendix a pgs 81 and 83 .

901.5 Contents of a Drainage Book

Drainage Book: If a job has a large quantity of drainage, such as on a complex urban project, documentation of drainage installations should be entered in a separate book called a Drainage Book. This book should be organized before the work is done; each run of pipe and each catch basin or manhole would have its own page or pages.

As the work progresses, inspector's notes and measurements would be entered under the appropriate run: length of pipe and catch basins installed, gravel used for traffic maintenance, undercutting and bedding material used, ledge removed, riprap at pipe inlets or outlets, or utilities encountered, could be part of the daily entries. Quantities for payment would then be summarized in this book and transferred into the Final Quantity Book/Item History to Date.

Examples of Drainage Book entries are located in Appendix a pgs 84, 86, 90 & 91.

901.6 Contents of an Inspectors Diary

Inspector's Diary or Inspector's Daily Report: If a job is staffed by more than one inspector, the Resident may want the inspectors to keep diaries. This diary would contain the same boilerplate information as the Project Diary but would have a more detailed accounting of the Contractor's activities and progress of work. The Inspector's observation notes and some measurements may also be recorded. Again, only pertinent and factual information should be included; no personal opinions or speculative statements should be included.

Examples of an Inspectors Diary entries are located in Appendix a pgs 89 through 94.

901.7 Contents of a Final Quantity Computations Book.

This book contains all computations that support pay quantities and that are done on 8 ½ by 11 sheets or other loose sheets. These computations may be done manually or may be computer generated. Whether the Resident uses the conventional paper method or the software program Field Manager, a Final Quantity Computations Book will be needed, as necessary. Dimensions, measurements, and computer data used in the computations must be referenced to source, whether it is plans or field measurements. **All calculations and data entries must be signed, dated, and checked; the checker must also sign and date all calculations and data entries.**

Computation sheets will be filed by pay item, beginning with the lowest numbered. Example: Item 201 - Clearing. A summary sheet will precede the computations for each pay item. Totals shown on each summary sheet will be transferred to the appropriate pay item in the Final Quantity Book. The pages of each item should be numbered consecutively. Computation sheets will be bound together in a red binder, titled in one inch lettering: Project Number, Project Identification Number (PIN), Town, and Final Quantity Computations Book.

Daily Reports of Hourly Work and Flagger Reports should be filed in the Final Quantity Computations Book, located as items 629-631, and item 652, respectively. Following the item computation sheets is a copy of all Extra Work Orders, and Resident's Work Orders. A list of plotting rolls and plans, and a list of field books is also required. Index tabs will be used to locate each pay item or list.

901.8 Content of the Testing File.

The Minimum Testing Requirements, also known as the "Minimums", specify the frequencies and types of tests to be taken of materials used on the project. The Minimums are determined by the Materials Section in Bangor, and are available at the following network: Network Neighborhood/DOTBGR/Shared/Minimums. General testing requirements will be found in each Section of this Manual. The Minimums may vary from these general testing requirements to meet the needs of each particular project. The Northern Area Acceptance Testing Supervisor issues the "Minimums" for all projects; he will e-mail the requirements to the Resident. Alternately, the "Minimums" are available at the above noted address.

Exhibit 20 is a sample set of Minimum Testing Requirements.

The Resident is to use the list of Minimum Testing Requirements as a guide to test job materials. The minimum number of any particular test should not be less than the listed requirement without justifiable reason. Changes are to be explained by memo filed with the item involved. The most frequently seen change is a decrease in the number of densities required. However, due to changes in material sources, borderline materials, or work being done in several small sections (mostly on urban projects), more tests than the minimum may be necessary. The Resident must use his discretion to determine when more tests are necessary. The Resident must also explain the outcome of failing materials, i.e., removed and replaced, or accepted on the basis of substantial conformance.

If a contract contains Acceptance Methods that allow pay adjustments for hot bituminous pavement and for concrete, the Contractor's QC test data and the Engineer's Q A test data will be filed together for each day such testing is performed under the pertinent item. Pay adjustment computations will also be filed with the test

data. These calculations will be done by the Resident and checked by someone knowledgeable in the calculation of pay adjustments.. The Contractor should be given the opportunity to review the adjustments before the Resident submits the project records to the Contracts Section for review.

The Testing File documents the quality of materials incorporated into the project. Reports and related data will be filed chronologically with the most recent on top and will be grouped and tabbed by pay item in the same order as shown on the list of Minimum Testing Requirements, a copy of which must be included in the front. The Testing File will be bound by a black acco-press binder and with the following information on white labels: Testing File, Project No., PIN, and Town. Index tabs will be used to separate and identify the items.

901.9 Miscellaneous Project Records

Project files consist of job records exclusive of final quantity computations, field books, and test data, turned in to the Contracts Section at the completion of the project. The following types of records should be grouped and submitted in manila envelopes: general correspondence, right-of-way records, utility records, submittals (shop drawings), permits, payrolls, payroll interviews, delivery slips, and cover slips. The envelopes should be labeled with the project number, town, and contents. Work orders, flagger reports, and daily work reports become part of the Final Quantity Computations Testing File. The preliminary engineering file, known also as "PE" file, the engineer's estimate and one copy of the bid book (Special Provisions) should also be turned in with the project records. Extra copies of the proposal book, delivery slips for hot mix asphalt, and progress estimates, vouchers, and estimate computations may be discarded before the project records are submitted for final review. The most recent progress estimate must be kept, as it will be used to prepare the Final Quantity Estimate during final review.

901.10 Responsibility of the Checker

All entries to the project records that generate payment to the contractor must be checked. The responsibility of the checker is to;

1. Check any and all quantities from Final Quantity book or Item History to date back to the original source measurements.

Example: Item 203.21 Rock Excavation

The checker will start with the Final Quantity book or Item History to date and locate that the reference(s) back to the original source measurement(s), usually a construction book or Inspectors Daily Report, and check the calculations and insure the quantity was deducted from common excavation if the rock was located above subgrade.

2. Check to insure that all required references to any notes of inspection and acceptance accompany the quantities that are to be paid.

Example: Item 304.10 Aggregate Subbase Course-Gravel

The checker will start with the Final Quantity book or Item History to date and insure that references are made from any pay quantity to source of material being placed, station to station limits, compactive effort and number and depths of lifts and finegrade checks.

3. Check to insure that the specifications were applied correctly.

Example: Item 206.61 Structural Earth Excavation – Drainage and Minor Structures Below Grade

The checker will insure that the quantity for payment doesn't include the first foot of excavation.

SECTION 902 – Review, Closeout and Final Payment

This Section describes the procedure the Resident is to follow when project records are submitted to the Project Review Unit of the Contracts Section for final review and close-out of the project.

902.1 General

The purpose of the final review is to assure that both the quality and quantity of materials and work performed by the Contractor are tested and documented according to Departmental policy and procedure.

After the job records have been assembled as described in Section 901, the Resident will contact the Project Review Unit and make an appointment to submit the records for final review. This should take place within 60 calendar days of physical completion of the project. Physical completion is described in Section 107.9, Division 100, of the Specifications.

902.2 Review

The Resident and someone in the Contracts Section, the “Reviewer”, will go over the project records together to assure that the final quantities for payment are substantiated by field measurements and other original documentation as required. A project review checklist, copy following, is to be used as a guide. Also at this time, the Testing File will be reviewed to verify that materials have been tested according to the list of Minimum Testing Requirements and Departmental policy.

Pages 99 through 102 are sample final review checklists and page 103 is a sample on-site review checklist.

Work and materials that are not documented and tested in accordance with Departmental policy may require additional tests, measurements, or field documentation, or may be shown as “non-participating” on the Final Quantity Estimate, that is, ineligible for Federal funds.

As part of the review, the Final Quantity Estimate will be made out and labeled as such used to make progress payments, the Resident should contact the Project Review Unit, prior to submitting records for review, so that a paper copy of the most recent progress estimate can be prepared. This estimate will then be used to make out the Final Quantity Estimate. Every project must have a paper copy of the Final Quantity Estimate as part of the final contract documents.

Quantities to be billed to Towns, Sewer & Water Districts, Utility Companies, Developers, and Abutters are to be summarized and forwarded to the Bureau of Finance & Administration. Municipal Agreements, discussed under section 901.3 are to be reviewed and billings done accordingly. The Reviewer and the Resident will prepare together, at the time of final review, the bills to be sent; the Reviewer will present these bills to the Bureau of Finance and Administration.

It is sometimes the case that it is necessary to go back to the job to do repair work or to make changes after the project has been completed and the Contractor has been released from further obligations. By FHW A agreement, work done after project completion that involves a change in design is participating. Work that consists of restoring to original condition as designed would be considered maintenance work and not eligible for Federal Funds.

It may be done by the original Contractor or a Contractor on an active project nearby, by Town forces, or Maintenance Division forces, depending upon costs and the availability of crews and equipment. Transfer of costs from the active project to the project involved, payments to the Town, and transfer of funds to the Maintenance Division will be done by the Contracts Section with the assistance of the Resident. A work order will be required to document costs and payment procedure.

In addition to the Final Quantity Estimate, the following final documents are also required:

Time Charge Report: This report shows the required contract completion date and actual completion date. The Resident will discuss time overruns with their supervisor and document resolution of such overrun by a memo to the Project Review Unit, whether it is a time extension or assessment of liquidated damages. A meeting with the Contractor may be required in the process. Exhibit 25 is a sample Time Charge Report.

Right-of-Way Encroachment Memo: This memo lists kind and location of encroachments within the right-of-way, only if new right-of-way is taken. Pre-existing encroachments need not be reported. Page 97 is a sample

Right-of-Way Encroachment memo.

Contractor Evaluation: This form is an evaluation of the Contractor's performance during construction of the project. It must be completed and signed by the Resident and co-signed by the Contractor's Superintendent. Page 105 is a sample Contractor Evaluation packet.

Explanation of Overruns and Underruns: Written explanations of overruns and underruns are no longer required when final records are submitted for review. Significant quantity overruns and underruns will be discussed at the final team meeting. The final team meeting will be coordinated by the Resident With the Project Manager. Minutes of the meeting will be written by the Resident and distributed to team members and functional managers.

The Resident should complete the above three documents prior to final review; these documents are available from the Contracts Section in Augusta. The Final Quantity Estimate will be made out during the final review process.

Two brief reports, in the form of memos to the project file and usually one page each in length, will be written by the Reviewer. One memo addresses final quantities and the other addresses testing of materials. The "Final Quantities" memo states that project records have been reviewed and properly substantiate quantities of work incorporated into the job, with exceptions if any. The "Testing Memo" states that the testing records have been reviewed and properly substantiate the quality of materials incorporated into the project, and again, exceptions are noted, if any. Secondary documentation and explanations are made part of the memos when there are exceptions.

It may be the situation that, at the completion of final review, there remains contractor issues that are unresolved, usually: potential liquidated damages, disagreement over pay factors for hot-mix asphalt or concrete, or contractor claims. The Resident likely will be called on to help settle these items by meeting in Augusta with their Supervisors and with the Contractor; this will be done before the Project Review Unit makes final payment and the project is closed out.

902.3 Close-Out and Final Payment.

A project cannot be closed out until all outstanding issues are resolved on the project and final payment is made.

Following the final review, the Contracts Section will send a copy of final quantities to the Contractor with a cover letter stating that the final quantities are included and what final documents are to be submitted and issues remaining to be settled before final payment can be made. Contractor's final documents are:

1. Certificate of Materials, Section 700 - Specifications.
2. "Buy America" Statement, Appendix A, Section 3, Buy America, Div 100, Specifications.
3. Letter "All Bills Paid", Subs 1 0 1.2, Definitions-Closeout Documentation, Div-100, Specifications.
4. FHWA Form "PR-47" on projects with full Federal oversight over \$1 million in estimated cost - Division 100,
5. A statement of "Agreement with Final Quantities"

Section 101.2 - Closeout Documentation of Division 100, Specifications, discusses the above listed documents. Contractor Evaluation Forms, and PR-47 Forms are available from the Contracts Section.

Contractors will not generally submit the "All Bills Paid" letter until they have seen the Final Quantity Estimate and have settled all items of contention with the Department, liquidated damages being the most frequent one.

A portion of the monies withheld from the Contractor (the "retent") may be paid at the time of final review or prior to it, depending on the status of the job. If there are no liquidated damages, no claims or disagreements with quantities, or no remaining work to be done in the field (such as clean-up), most of the retent may be paid. A fixed amount will be held pending the receipt of final documents.

After the Contractor submits the final documents to the Project Review Unit and all issues have been settled, final payment is made. This payment includes final adjustments, and also the remainder of the retent. When the "Final Estimate" is paid, the project records are filed with the Program. The Bureau of Finance and Administration will continue the close-out process by issuing the last check to the Contractor, and working with the FHW A for reimbursement for the Federal share of the project.

APPENDIX A

SAMPLE DOCUMENTATION

THE FOLLOWING IS A LIST OF REQUIRED DUTIES BY THE PROJECT RESIDENT:

- REVIEW THE WAGE SCHEDULE BEFORE THE PRE-CONSTRUCTION MEETING.
- IDENTIFY MISSING WAGE RATES
- ENSURE THE PRIME CONTRACTOR HAS SUBMITTED REQUESTS FOR ALL THE MISSING WAGE RATES TO THE CIVIL RIGHTS OFFICE
RICK.STEPHENS@MAINE.GOV FORMS ARE AVAILABLE ON ELATIONS.
- REQUEST THE DBE UTILIZATION SHEET FROM
SHERRY.TOMPKINS@MAINE.GOV
- CHECK TO MAKE SURE YOU HAVE SUBCONTRACTOR COMPLIANCE PACKETS FROM JEAN.TUKEY@MAINE.GOV
- CONTACT ANN.LIBURT@MAINE.GOV TO ATTAIN LOGIN AND PASSWORD TO THE [HTTPS://WWW.ELATIONSYS.COM](https://www.elationsys.com) WEBSITE IN ORDER TO BE ABLE TO REVIEW THE PAYROLL FROM THE GENERAL AND SUBCONTRACTORS.
- THE ELATIONS SYSTEMS MANUAL CAN BE FOUND AT:
<http://www.maine.gov/mdot/contractors/publications/>
- CHECK THE CONTRACTORS BULLETIN BOARD FOR ACCURACY AND COMPLETENESS, REFERENCE THIS IN THE PROJECT DIARY
- START AND COMPLETE YOUR PAYROLL TRACKING SHEET WEEKLY
- REVIEW THE SUBMITTED PAYROLLS FOR APPROPRIATE CLASSIFICATIONS
- COMPLETE THE (CUF) COMMERCIALY USEFUL FUNCTION FORM FOR EACH DBE /WBE DURING THE PROJECT AND SUBMIT TO
SHERRY.TOMPKINS@MAINE.GOV
- **CONDUCT 2 PAYROLL INTERVIEWS EVERY 90 DAYS FOR THE PRIME CONTRACTOR AND EACH SUB THAT WORKS 5 OR MORE DAYS ON THE PROJECT DURING EACH 90 DAY PERIOD. Please enter payrolls into the Elations System.**
- FOR ANY UNRESOLVED PAYROLL ISSUES, CONTACT THE CIVIL RIGHTS OFFICE
RICK.STEPHENS@MAINE.GOV
- FOR ELATIONS SOFTWARE ISSUES CONTACT ANN.LIBURT@MAINE.GOV
- ON-THE-JOB TRAINING (OJT) AND CONTRACTOR COMPLIANCE QUESTIONS CONTACT: GIGI.OTTMAN-DEEVES@MAINE.GOV

DATE	DAY	WEATHER
MDOT:		
PERSONEL		
CONTRACTOR		
PERSONEL		
EQUIPMENT		
WORKING HOURS		
SUB CONTRACTOR		
PERSONEL		
EQUIPMENT		
WORKING HOURS		
VISITORS		
PROJECT ACTIVITIES		
<input type="checkbox"/>	ITEM NUMBER, LOCATION & LIABLE CONTR/SUB	
<input type="checkbox"/>	SOURCE AND DISPOSITION OF ANY EXCAVATION	
<input type="checkbox"/>	SOURCE AND DISPOSITION OF GRAVEL AND BORROW	
<input type="checkbox"/>	NON-ROUTINE ACTIVITIES	
	A: CONTRACTORS' NON ADHERANCE TO CONTRACT SPEC'S: MTCD'S & SEWPC	
	B: MDOT DIRECTIVES GIVEN TO CONTRACTOR IE: C.O. RELOCATIONS, CHANGES IN DESIGN, UNDERCUTTING & REWORK.	
	C: CONTRACTOR IS INADEQUETLY STAFFING THE JOB FOR THE TYPE OF WORK	
	D: ANYTHING RELATED TO POTENTIAL CONTRACTOR CLAIMS	
	E: ANY DISCUSSIONS WITH TOWN OFFICIALS, UTILITIES, DEVELOPERS AND ABUTTERS	
	G: TRAFFIC ACCIDENTS & OTHER HAZARDS	
ENTERED BY : NAME & DATE		

6/12/2002	FRIDAY	SUNNY 80'S
MDOT:		
BILL BITTERMAN, RESIDENT		
BILLY BOB BENNET, INSPECTOR		
M&H:		
6:00AM TO 5:00 PM		
1 SUPT	1 COMPRESSOR	
5 WORKERS	2 TRUCKS	
2 LARGE EXC.	1 5 TON VIB ROLLER	
1 APE	1 CHAMPION GRADER	
1 D6 DOZER		
HASTINGS TREE REMOVAL SERVICES		
ITEMS 652.361 AND 656.75		
MTCD AND SEWPC INSPECTED AND ACCEPTED FOR THE WEEK		
ITEM 201.23 SINGLE TREE		
HASTINGS CUT AND REMOVED SINGLE TREE AT THE CORNER OF PINE STREET AND RT 4		
ITEM 603.159	12" OPT III CULV PIPE	
INSTALLED 12" OPT I CULV PIPE AT STA 12+56 RT		
ITEM 604.097	6' B1-C CATCH BASIN	
INSTALLED AT STA 12+56 RT		
ITEM 631.2	STUMP CHIPPER	
HASTINGS USED STUMP CHIPPER TO GRIND 2 STUMPS		
M&H MULCHED ALL DISTURBED AREAS		
COMPLAINT FROM BILL SIMPSON , PROJ SUPT ABOUT DELAYS FROM UTILITIES NOT SHOWN ON PLANS AS WELL AS SLOW PRODUCTION. HE THEY WILL KEEP RECORDS FOR POSSIBLE CLAIM. HE HAS ALSO REQUESTED INFORMATION ON ALTERNATE WORK AT THE OTHER END OF THE PROJECT STA 42+50 TO 45+75		
ENTERED BY : BILL BITTERMAN 6-12-02		

6/16/02 MONDAY FAIR 60'S

3

MDOT: BILL BITTERMAN, RESIDENT
BILLY BOB BENNET, INSPECTOR

M&H: 6:00AM TO 5:00 PM
1 SUPT 1 COMPRESSOR
5 WORKERS 2 TRUCKS
2 LARGE EXC. 1 5 TON VIB ROLLER
1 APE 1 CHAMPION GRADER

ITEM 304.10, STA 3+00 TO 4+25

AFTER PLACING/COMPACTING LOWER LAYER OF ASC GRAVEL, THE SUBGRADE MATERIAL BEGAN TO PUMPING INTO THE LOWER ASC GRAVEL LIFT. THE RESIDENT DIRECTED THE CONTRACTOR TO EXCAVATE AND REMOVE THE CONTAMINATED GRAVEL. ROADWAY STABILIZATION GEOTEXTILE WAS THEN PLACED ON THE SUB-GRADE SURFACE BEFORE PLACING ASC GRAVEL. THIS WORK WILL BE PAID UNDER ITEM 203.20 COMMON EXC AND 304.10 ASC-GRAVEL. REF TO BOOK 4 PAGES 5 THROUGH 7 FOR FIELD MEASUREMENTS ROADWAY STABILIZATION GEOTEXTILE WILL BE PAID PER RESIDENTS WORK ORDER #1 (AMOCO 2006 INSTALLED)

THERE WAS AN ACCIDENT ON THE PROJECT TODAY AT STA 2+25 AT 10:00 AM +/- . VEHICLE NO 1 (FORD EXPLORER PLATE NO 4356 JJ) REAR-ENDED VEHICLE NO 2 (CHEVY S-10 PLATE NO 763784 I) WHICH WAS STOPPED FOR FLAGGER ED KNOWLES WITHIN THE WORK ZONE. THE ACCIDENT WAS INVESTIGATED BY JOEL RAMICH OF THE FARMINGTON POLICE DEPT. ALL SIGNS WERE UP AND TRAFFIC CONTROL DEVICES WERE SATISFACTORY. REFER TO CORRESPONDENCE FILE FOR A COPY OF THE POLICE/ACCIDENT REPORT COMPLETED ACCIDENT REPORT AND FORWARDED TO THE MDOT LEGAL DEPT.

ENTERED BY : BILL BITTERMAN 06-16-02

6/17/02 MONDAY FAIR 70'S

MDOT: BILL BITTERMAN, RESIDENT
BILLY BOB BENNET, INSPECTOR

M&H: 6:00AM TO 6:00 PM
1 SUPT 1 COMPRESSOR
5 WORKERS 2 TRUCKS
2 LARGE EXC. 1 5 TON VIB ROLLER

SUB: PIKE IND, 4 ROLLERS, 1 PAVER, 12 TRUCKS, 1 SERVICE TRUCK, 1 WATER TRUCK & 1 BOBCAT.

PERSONNEL: 1 SUPT, 1 FOREMAN, 7 SKILLED, 12 UNSKILLED, 2 LABORERS & 2 QC/QA WORKERS

ITEM 304.104

FINEGRADE COMPLETE AND ACCEPTED STA 22+00 TO 35+25

ITEM 403.207

PAVING OPERATIONS BEGAN AT STA 22+00 TO 35+25

CALL FROM BILL COBURN-FABRICATION INSPECTOR

RE: CONCRETE CURBING. BILL HAD SOME CONCERNS ABOUT THE PERMABILITY. HE WILL VIST GAGNE THEIR VEAZIE TOMORROW AND WILL E-MAIL ME THE RESULTS OF THE TEST IF THERE IS A PROBLEM, REFER TO CORRES. FILE FOR RECORD.

ITEM 211.20

STA 2+00 TO 5+00, EXCESS MATERIALS FROM INSLOPE WORK REMOVED AND TAKEN TO APPROVED WASTE AREA (SMITH PIT)

ITEM 203.20

STA 2+00 TO 12+00, PIKES RECLAIMER ON PROJECT, STA 2+00 TO STA 5+00 TO REMOVE PVMT IN FULL EXCAVATION AREA, LOADER PLACING MAT'L IN TRUCKS TO BE STOCKPILED ON SITE AND PLACED AS ASG AT A LATER DATE. TO BE PAID AS COMMON EXC AND ASG. RECLAIMED STA 5+00 TO 12+00, GRADED AND COMPACTED, TO BE PAID AS 307.

DENNY DOYLE, MDOT, ON SITE TO TEST 307 COMPACTION

ENTERED BY : BILL BITTERMAN 6-17-02

202.20 COMMON EXCAVATION 600 CY @ \$12.00

STA	STA	QTY	ACC. QTY	ENT BY	DATE
15+00	21+00	600	600 ✓	BBB	37478
20+00	21+25	144.44 ✓	744.44 ✓		
16+25		68.67 ✓	813.11 ✓		
16+50		-1.46 ✓	811.65 ✓	BBB	
17+00	17+80	-11.59 ✓	800.06 ✓		
19+00	19+75	58.2	858.25		

FINAL PAY QUANTITY: 800.06 CY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03 ✓

202.20 COMMON EXCAVATION

1

REF

NOTE: THE ENGINEERS ESTIMATE WAS REVIEWED AND APPEARS TO BE REASONABLE AND ACCURATE.

REF: RWO NO 1; CONTRACTOR AGREED TO PLAN QTY PAYMENT PLUS ANY ADDITIONAL EXCAVATION OUTSIDE OF EXCAVATION LIMITS OR AS DIRECTED.

BK 3 PG 2 FOR SUBGRADE CHECKS

BK 3 PG 1

BK 3 PG 1

DEDUCT ROCK EXC, BK 4 PG 3

DEDUCT ROCK EXC, BK 3 PG 6

BK 4 PG X



203.21 ROCK EXCAVATION

600 CY @ \$12.00

STA	STA	QTY	ACC. QTY	ENT BY	DATE
17+50	17+80	11.59 ✓	11.59 ✓	BBB	8/20/2002
16+50		2.46 ✓	14.05 ✓	BBB	8/12/2002
21+25	22+20	14.6 ✓	28.65 ✓	BBB	8/12/2002

FINAL PAY QUANTITY: 24.64 CY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03 ✓

202.20 COMMON EXCAVATION

2

REF

CONSTRUCTION BK 3 PG 6

INSP DIARY BK 4 PG 3

CONSTRUCTION BK 3 PG 10

203.25 GRANULAR BORROW 600 CY @ \$12.00

STA	STA	QTY	ACC. QTY	ENT BY	DATE
30+00	32+00	275	275	BBB	37478
33+28 RT		21.43	276.43	BBB	
19+00	19+75	42.5	318.93		

FINAL PAY QUANTITY: 318.93 CY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

REF

NOTE: THE ENGINEERS ESTIMATE WAS REVIEWED AND APPEARS TO BE REASONABLE AND ACCURATE.

REF: RWO NO 1; CONTRACTOR AGREED TO PLAN QTY PAYMENT PLUS ANY ADDITIONAL EXCAVATION OUTSIDE OF EXCAVATION LIMITS OR AS DIRECTED.

BK 4 PG 2 MULTI PLATE BACKFILL COMPLETED TO PLANS & SPEC
BK 4 PG 2 FOR ADDITIONAL EXCAVATION (UNDERCUT)
BK 4 PG 2 MAINTENACE OF TRAFFIC

211.2 INSLOPE EXCAVATION

1500 FEET @ \$3.00/ft

STA	STA	LENGTH	ACC. LENGTH	ENT BY	DATE
2+00RT	3+25RT	125' ✓	125' ✓	BBB	6/20/2002
4+05FT	5+00RT	95' ✓	220' ✓	BBB	6/20/2002
5+40RT	6+00RT	60' ✓	280' ✓	BBB	6/20/2002
6+35RT	6+75RT	40' ✓	320' ✓	BBB	6/20/2002
8+25RT	9+50RT	125' ✓	445' ✓	BBB	6/21/2002
10+80RT	11+90RT	160' ✓	605' ✓	BBB	6/21/2002
1+00 LT	12+00 LT	435' ✓	1040' ✓	BBB	6/26/2002
21+50RT	22+50RT	100' ✓	1140' ✓	BBB	6/27/2002
23+25RT	24+50RT	125' ✓	1265' ✓	BBB	6/27/2002
25+35RT	25+55RT	25' ✓	1290' ✓	BBB	6/27/2002
26+50RT	26+75RT	25' ✓	1315' ✓	BBB	6/27/2002
27+75 RT	28+25RT	50' ✓	1365' ✓	BBB	6/27/2002
28+50RT	29+50RT	100' ✓	1465' ✓	BBB	6/27/2002
21+00LT	30+00LT	325' ✓	1790' ✓	BBB	7/1/2002

FINAL PAY QUANTITY: 1790 FT ✓

ENTERED BY : BILL BITTERMAN 11-08-02

✓ CHECKED BY: BWD1-2-03

REF.

DIRECT ENT.

completed accord to plan/spec, waste hauled to Smith's waste area



REF TO INSP DIARY #1 PAGE 5

DIRECT ENT.

completed accord to plan/spec, waste hauled to Ames waste area



REF TO INSP DIARY #1 PAGE 8

304.104 AGGREGATE SUBBASE COURSE GRAVEL-PLAN QTY

STA	STA	QTY	ACC. QTY	ENT BY	DATE
15+00	21+00	600	600	BBB	37489
20+00	21+25	69.44	669.44		

FINAL PAY QUANTITY: 669.44 CY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

600 CY @ \$16.00/CY

7

REF

NOTE: THE ENGINEERS ESTIMATE WAS REVIEWED AND APPEARS TO BE REASONABLE AND ACCURATE.

REF: RWO NO 1; CONTRACTOR AGREED TO PLAN QTY PAYMENT PLUS ANY ADDITIONAL EXCAVATION OUTSIDE OF EXCAVATION LIMITS OR AS DIRECTED.

BK 3 PG 4 THRU 16 FOR FINEGRADE CHECKS

ADDITION MATL USED IN DRIVES, REF INSP DIARY PG 22-32

307.32 FULL DEPTH RECYLED PAVEMENT (UNTREATED

STA	STA	AREA	ACC. LENGTH	ENT BY	DATE
30+50	58+75	7,525	27,525	BBB	

FINAL PAY QUANTITY: 27,525 SY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

27,525 SY @ \$4.00/SY

8

REF

NOTE: THE ENGINEERS ESTIMATE WAS REVIEWED AND APPEARS TO BE REASONABLE AND ACCURATE.

REF: RWO NO 1; CONTRACTOR AGREED TO PLAN QTY PAYMENT PLUS ANY ADDITIONAL EXCAVATION OUTSIDE OF EXCAVATION LIMITS OR AS DIRECTED.

REF CONSTRUCTION BK 3, PG 10-12 FOR FINEGRADE CHECKS

403.208 HOT MIX ASPHALT, 12.5 MM					
COVER			ACCUM		ACCUM
SLIP NO	DATE	QTY	QTY	M.L.	M.L.
3456	8/4/2002	1,856.25 ✓	1,856.25	1,856.25 ✓	1,856.25 ✓
3457	8/5/2002	1,795.50 ✓	3,651.75	1,795.50 ✓	3,651.75 ✓
3458	8/6/2002	1,601.25 ✓	5,253.00	1,300.00 ✓	4,951.75 ✓
3460	8/7/2002	1,109.50 ✓	6,362.50		
3461	8/16/2002	1,649.25 ✓	8,011.75	1,649.25 ✓	6,601.00 ✓
3466	8/17/2002	1,780.50 ✓	9,792.25	1,540.50 ✓	8,141.50 ✓
3469	8/18/2002	963.75 ✓	10,756.00		
TOTALS			10756.50 ✓		8,141.50 ✓
3470	37487	230.50	** ✓		
FINAL PAY QUANTITY: 10,756.00 MG (PARTICIPATING)					
ENTERED BY : BILL BITTERMAN 11-08-02					
CHECKED BY: ABC 1-2-03 ✓					
FINAL PAY QUANTITY: 230.50 TONS ✓ (NON-PARTICIPATING)					
ENTERED BY : BILL BITTERMAN 11-08-02					
CHECKED BY: ABC 1-2-03 ✓					

10,850 MG TONS @ \$41.00/TON					600 CY @	9
SHLDR	ACCUM					
QTY	QTY	LOT NO	ENT BY	DATE		
		1	BBB	8/5/2002		
		1	BBB	8/6/2002		
301.25 ✓	301.25 ✓	1	BBB	8/7/2002 *		
1,109.50 ✓	1,410.75 ✓	1	BBB	8/8/2002		
		2	BBB	8/17/2002		
240.00 ✓	1,650.75 ✓	2	BBB	8/18/2002		
963.75 ✓	2614.50 ✓	2	BBB	8/19/2002		
	2614.50 ✓					
* REF INSPECTORS DIARY BK 4 PAGE 23 FOR QTY BREAKDOWN						
** NON-PARTICIPATING MIX ON MAPLE LANE TO BE PAID BY TOWN OF FARMINGTON						

502.21 STRUCTURAL CONCRETE, ABUTMENTS AND

DATE PLACED	LOCATION	QTY (CY)	ACCUM QTY	ENT BY
5/17/2002	N. ABUTMENT FTG	18.35 ✓	18.35	BBB
5/19/2002	S. ABUTMENT BREASTWALL	8.03 ✓	26.38	BBB
6/2/2002	S. ABUTMENT FTG	17.39 ✓	43.77	BBB
6/4/2002	S. ABUTMENT BREASTWALL	8.41 ✓	52.18 ✓	BBB

FINAL PAY QUANTITY: 52.18 CY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03 ✓

RETAINING WALLS. 250 CY @ \$525.00/CY

12

DATE	REF
	F.Q. COMP SECTION 502 FOR F.Q. CALCULATIONS
	PROJECT TESTING FILE SECTION 502
5/17/2002	BK 5 PG 10 FOR FORMS/RE-STEEL CHECKS
5/19/2002	BK 5 PG 10 FOR FORMS/RE-STEEL CHECKS
6/2/2002	BK 5 PG 11 FOR FORMS/RE-STEEL CHECKS
6/4/2002	BK 5 PG 11 FOR FORMS/RE-STEEL CHECKS

502.22 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING

DATE PLACED	LOCATION	QTY (CY)	ACCUM QTY	ENT BY
5/2/2002	N. ABUTMENT FTG	9.56	9.56	BBB
5/20/2002	S. ABUTMENT FTG	10.51	20.07	BBB

FINAL PAY QUANTITY: 20.07 CY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

WALLS (PLACED UNDER WATER) \$325/CY

DATE	REF
5/3/2002	DEL SLIP #5832, WASTED 2 CY, INSP. DIARY PG 12 FOR ELEV CHECKS
5/21/2002	DEL SLIP #5832, WASTED 1.26 CY, INSP. DIARY PG 12 FOR ELEV CHECKS

F.Q. COMP SECTION 502 FOR F.Q. CALCULATIONS

503.12 REINFORCING STEEL, FABRICATED AND DELIVERED

LOCATION	LBS	ACCUM LBS	ENT	DATE
N ABUT FTG	1563	1563	BBB	3/7/2003
N ABUT BRST WALL	2525	4088	↓	↓
N ABUT WEST WING	1375	5463		
N ABUT EAST WING	1375	6838		
S ABUT FTG	1563	8401		
S ABUT BRST WALL	2525	10926		
S ABUT WEST WING	1250	12176		
S ABUT EAST WING	1410	13586		

FINAL PAY QUANTITY: 13,536 lbs

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

13,536 LB @ \$0.50/LB

REF

BK 3 PAGE 7

BK 2 for notes of inspection and acceptance

BK 3 PAGE 8

BK 3 PAGE 9

BK 3 PAGE 10

BK 3 PAGE 11

BK 3 PAGE 12

BK 3 PAGE 12

BK 3 PAGE 12

509.12 STEEL STRUCTURAL PLATE PIPE ARCH

DATE

7/18/2002 PIPE DELIVERED ON PROJECT TODAY
AND FOUND TO BE FREE ANY DAMAGE DUE
TO DELIVERY.

7/23/2002 REMOVED EXISTING STEEL PIPE

7/25/2002 INSTALLED 1 STRUCTURAL STEEL PLATE ARCH
PER LINE, GRADE AND SPEC. AND IS ACCEPTED
AS OF THIS DAY.

FINAL PAY QUANTITY: 1 LUMP SUM

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

1 L.S. @ \$32,000

15

REF:

FOR NOTES OF INSPECTION REF INSP. DIARY PG 8-12

TORQUE CHECKS BK 4 PG 32

511.07 COFFERDAM

DATE INSTALLED	DATE REMOVED	ENT BY	DATE:
-------------------	-----------------	-----------	-------

7/19/2002		BBB	
-----------	--	-----	--

7/20/2002		BBB	
-----------	--	-----	--

	7/22/2002	BBB	
--	-----------	-----	--

FINAL PAY QUANTITY: 1 LS

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

1 LS @ \$11,000

16

REF

DOWNSTREAM COFFERDAM INSPECTED AND ACCEPTED,
INSP DIARY BK 4 PG 3

UPSTREAM COFFERDAM INPSECTED AND ACCEPTED,
INSP DIARY BK 4 PG 22

UPSTREAM/DOWNSTREAM COFFERDAM REMOVED TODAY AND
THIS ITEM IS COMPLETE.

REF INSP DIARY BK 4 PG 5-20 FOR NOTES OF INSPECTION

631.12 ALL PURPOSE EXCAVATOR (INCL OPERATOR)

DREW NO.	NO OF HRS	ACCUM HRS	ENT BY	DATE
1	2 ✓	2 ✓	BBB	7/1/2002
2	10 ✓	12 ✓	BBB	7/6/2002
3	3 ✓	15 ✓	BBB	7/16/2002
5	8 ✓	23 ✓	BBB	7/25/2002
6	10 ✓	33 ✓	BBB	8/5/2002
8	8 ✓	41 ✓	BBB	8/12/2002

TOTAL 41 ✓

FINAL PAY QUANTITY: 41 HRS ✓

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03 ✓

20HRS @ 100.00/HR

REF

- INSP DIARY BK4 PAGE 4
- INSP DIARY BK 4 PAGE 12
- INSP DIARY BK 4 PAGE 13
- INSP DIARY BK 4 PAGE 22
- INSP DIARY BK 4 PAGE 55, REF CONTRACT MOD #5
- INSP DIARY BK 4 PAGE 56, REF CONTRACT MOD #5

652.33 DRUMS

DATE COUNTED	EA	REF	ENT BY	DATE
9-27-01	10	DIRECT ENT	BBB	9/27/2002
10-15-01	22		BBB	10/05/2002
10-30-01	22		BBB	10/10/2002
10-25-01	36		BBB	10/25/2002
11-05-01	66	BK 3 PGE XX ✓	BBB	11/5/2002
11-10-01	25	DIRECT ENT	BBB	11/20/2002
11-17-01	30	DIRECT ENT	BBB	12/5/2002

MAXIMUM AMOUNT = 66 DRUMS ✓

FINAL PAY QUANTITY: 66 EA ✓

ENTERED BY : BILL BITTERMAN 12-10-02

CHECKED BY: ABC 1-2-03 ✓

50 EA @ \$65.00

1

656.75 TEMP SOIL EROSION AND WATER POLLUTION

ACCEPTED	INSPECTED	WEEK ENDING
O.K.		8/8/2002
	O.K.	8/15/2002
	O.K.	8/22/2002
	O.K.	8/29/2002
	O.K.	9/6/2002
	REF TO REMARKS	9/10/2002
	REF TO REMARKS	9/11/2002
	O.K.	9/13/2002
	O.K.	9/20/2002

FINAL PAY QUANTITY: 1 LS OF \$20,000 ✓

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03 ✓

1 L.S. @ \$20,000

26

REMARKS
MIKE CLARK, OES, REVISED AND APPROVED SEWPCCP, PAY 10%

PAID 50%

- ✓ DEDCUT \$100 FOR NON COMP TO PLAN, REF TO CORRESPENCE DATED 9/10/02 AND PROJECT DIARY PAGE 45
- ✓ DEDCUT \$100 FOR NON COMP TO PLAN, REF TO CORRESPENCE DATED 9/11/02 AND PROJECT DIARY PAGE 70

NOTE: THE DEDUCTIONS ARE MADE UNDER SAME ITEM #
W.O. SS, FOR A \$200 LS DEDUCT

202.20 COMMON EXCAVATION

COMMON EXC STA 20+00 TO 21+25 (TAPERED ENDS)
FROST HEAVE AREA

SECTION	W1	W2	DEPTH	AREA SF	LENGTH	VOLUME
1	0	0	0	0	25	487.5
2	24'	28'	1.5'	39	75	2925
3	24'	28'	1.5'	39	25	487.5
4	0	0	0	0		
TOAL VOLUME =						3900 CF

ITEM 202.20

TOTAL VOLUME FOR THIS SECTION = (3900)/27 = 144.44 CY

ITEM 304.104 ASG QTY = 144.44 CY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

DEPTH = 18"

202.20

COMMON EXC STA 16+25 L

REGRADE ENTRANCE TO MATCH NEW ROADWAY ELEV

DATE	TRUCK NO	NO OF LOADS	VOLUME VOL/LOAD	VOLUME CY
37530	117	2	10.5	21
37530	120	3	11.2	33.6
10/2/2002	117	1	10.5	10.5
10/2/2001	120	1	11.2	11.2

TOTAL 76.3 CY

T.M. QTY REDUCTION

ITEM 202.2 TOTAL QTY .9(76.3) = 68.67 CY

REFER TO BOOK #4 PAGE 60 FOR TRUCK MEASUREMENTS

ITEM 304.104

NOTE: TRUCK REMOVED EXC AND RETURNED WITH ASC WITH ONE ADDITIONAL LOAD BY TRUCK NO 117

TOTAL 76.3 CY
TRK #117 10.5

86.8 CY

T.M. QTY REDUCTION

ITEM 304.104 TOTAL QTY .8(86.8) = 69.44 CY

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

SUBGRADE CHECKS

LEFT		STA	RIGHT	
16'	12'	15+00	12'	16'
15+50				
16+00				
16+50				
17+00				
17+50				
18+00				
18+50				
19+00				
19+50				
20+00				
20+50				
21+00				
CHECKED BY B. SMITH 10-10-02				

CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-2-02

CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-2-02

CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES ENT BY BBB 8-3-02

CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES ENT BY BBB 8-3-02

NOTE: DEPTHS EXPRESSED IN INCHES BELOW C-1' F.G

2

LEFT		STA	RIGHT	
16'	12'	15+00	12'	16'
-2%	-2%	15+00	-2.0%	-2%
25"	24"	21"	24"	24.75"
15+50				
-2%	-1.50%	15+50	-2.0%	-2%
24.25"	23.25"	21"	24"	24.75"
16+00				
-2%	-1.0%	16+00	-2.0%	-2%
23.5"	22.5"	21"	24"	24.75"
16+50				
-2%	-0.50%	16+50	-2.0%	-2%
22.75"	21.75"	21"	24"	24.75"
17+00				
-2%	+1.0%	17+00	-2.0%	-2%
20.5"	19.5"	21"	24"	24.75"
17+50				
-2%	+2.5%	17+50	-3.0%	-3.0%
18.5"	17.5"	21"	25.25"	26.75"
18+00				
-2%	+4.0%	18+00	-4.0%	-4.0%
16.25"	15.25"	21"	26.25"	28.75"
18+50				
-2%	+4.0%	18+50	-4.0%	-4.0%
16.25"	15.25"	21"	26.25"	28.75"
19+00				
-2%	+2.5%	19+00	-3.0%	-3.0%
18.5"	17.5"	21"	25.25"	26.75"
19+50				
-2%	+1.0%	19+50	-2.0%	-2%
20.5"	19.5"	21"	24"	24.75"
20+00				
-2%	-0.5%	20+00	-2.0%	-2%
22.75"	21.75"	21"	24"	24.75"
20+50				
-2%	-1.5%	20+50	-2.0%	-2%
24.25"	23.25"	21"	24"	24.75"
21+00				
-2%	-2.0%	21+00	-2.0%	-2%
25"	24"	21"	24"	24.75"
CHECKED BY B. SMITH 10-10-02				

FINEGRADE CHECKS

LEFT		STA	RIGHT	
16'	12'		12'	16'
CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-2-02		15+00	CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-2-02	
		15+50		
CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02		16+00	CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02	
		16+50		
CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02		17+00	CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02	
		17+50		
CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02		18+00	CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02	
		18+50		
CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02		19+00	CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02	
		19+50		
CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02		20+00	CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02	
		20+50		
CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02		21+00	CHECKED & FOUND TO BE WITHIN ALLOWABLE TOLERANCES, ENT BY BBB 8-3-02	

NOTE: DEPTHS EXPRESSED IN INCHES BELOW C-1' F.G

LEFT		STA	RIGHT	
16'	12'		12'	16'
-2%	-2%	15+00	-2.0%	-2%
4"	3"	0"	3"	4"
-2%	-1.50%	15+50	-2.0%	-2%
3.25"	2.25"	0"	3"	4"
-2%	-1.0%	16+00	-2.0%	-2%
23.5"	1.5"	0"	3"	4"
-2%	-0.50%	16+50	-2.0%	-2%
1.75"	.75"	0	3"	4"
-2%	+1.0%	17+00	-2.0%	-2%
-0.5"	-1.5"	21"	3"	4"
-2%	+2.5%	17+50	-3.0%	-3.0%
-2.5"	-3.5"	0"	4.25"	5.25"
-2%	+4.0%	18+00	-4.0%	-4.0%
-4.75"	-5.75"	0"	5.75"	6.75"
-2%	+4.0%	18+50	-4.0%	-4.0%
-4.75"	-5.75"	0"	5.75"	6.75"
-2%	+2.5%	19+00	-3.0%	-3.0%
-2.5"	-3.5"	0"	4.25"	5.25"
-2%	+1.0%	19+50	-2.0%	-2%
-0.5"	-1.5"	0"	3"	4"
-2%	-0.5%	20+00	-2.0%	-2%
1.75"	0.75"	0"	3"	4"
-2%	-1.5%	20+50	-2.0%	-2%
3.25"	2.25"	0"	3"	4"
-2%	-2.0%	21+00	-2.0%	-2%
4"	3"	0"	3"	4"

CHECKED BY B. SMITH 10-10-02

7/24/1900 STRUCTURAL EARTH EXC-MAJOR STRUCTURES

	BS	HI	FS	ELEV	REMOVAL DEPTH BELOW FTG ELEV 8.5'
TMB #3	3.8'	19.3'			
EL = 15.5'					
1			12.0	7.3	1.2'
2			12.3	7.0	1.5'
3			12.1	7.2	1.3'
4			12.5	6.8	1.9'

AVERAGE DEPTH OF UNDERCUT BELOW ELEV 8.5' = 1.5'

ITEM 206.082 STRUCT EARTH EXC-MAJOR STRUCT

VOLUME = $.5(12+14) \times 4' \times 1.5' = 78 \text{ CF}/27 = 2.89 \text{ CY}$

ITEM 203.25 GRAVEL BORROW

VOLUME = $2.89 \times 1.15 \text{ (SWELL)} = 3.32 \text{ CY}$

ITEM 206.092 STRUCT ROCK EXC-MAJOR STRUCT

TOP OF LEDGE ELEVATIONS

	BS	HI	FS	ELEV
3	3.8	19.3'	10.0	9.3'
4			10.2	9.1'
5			9.2	10.1'
6			8.8	10.5
7			8.4	10.9'
8			8.2	11.1'

TOP OF LEDGE WEIGHTED AVERAGE ELEVATION

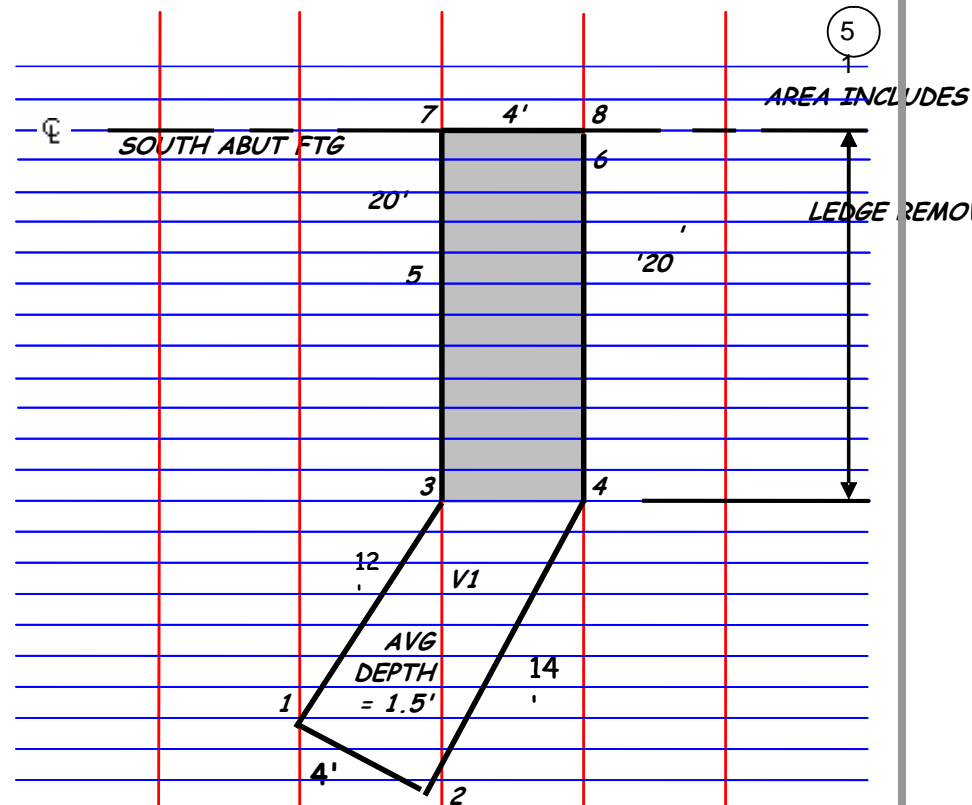
= $(9.3 + 9.1 + 2(10.1+10.5) + 10.9 + 11.1)/8 = 10.2'$

BOTTOM OF LEDGE ELEVATIONS

	BS	HI	FS	ELEV
3	3.8	19.3'	12.3	7.0
4			12.2	7.1'
5			12.0	7.3'
6			12.1	7.2'
7			12.2	7.1
8			12.3	7.0

BOTTOM OF LEDGE WEIGHTED AVERAGE ELEVATION

= $(7.0 + 7.1 + 2(7.3+7.2) + 7.1 + 7.0)/8 = 7.16$



ITEM 206.092

VOLUME OF LEDGE ABOVE PLAN ELEV OF 8.5

VOLUME = $(10.2-8.5) \times 21.5 \times 5.5' \text{ (18" PAY LIMIT)} = 201.0 \text{ CF}$

VOLUME = $201.0 / 27 = 7.44 \text{ CY} \checkmark$

ITEM 000.00, STRUCT ROCK BELOW PLAN ELEV TO BE PAID

1.5 TIME 206.092

VOLUME OF LEDGE BELOW PLAN ELEV OF 8.5'

VOLUME = $(8.5-7.15)' \times 21.5' \times 5.5' = 159.64 \text{ CF} / 27 = 5.9 \text{ CY} \checkmark$

ITEM 502.22 CONCRETE UNDERWATER

REF DELIVERY SLIP NO BRI-9046

QTY PLACED ON LEDGE TO PLAN ELEV = 6.5 CY \checkmark

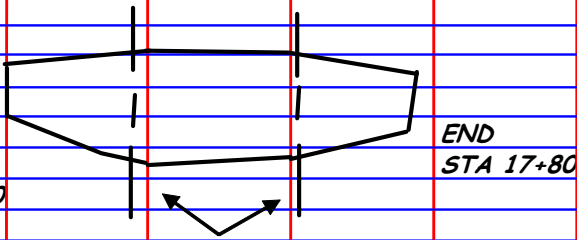
MEASURED/CALCULATED BY: BILL BITTERMAN 8-30-02

CHECKED BY: ABC 1-2-03 \checkmark

203.21 ROCK EXCAVATION

REMOVING ROCK ABOVE SUBGRADE STARTING AT STA 17+00

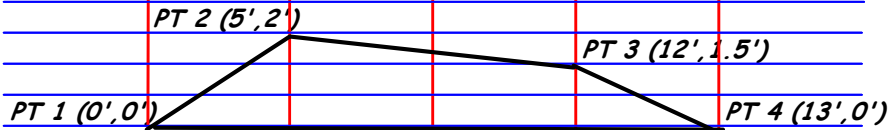
PLAN



TWO SECTIONS WERE TAKEN AT STA 17+60 AND 17+72

SECTION AT STA 17+60

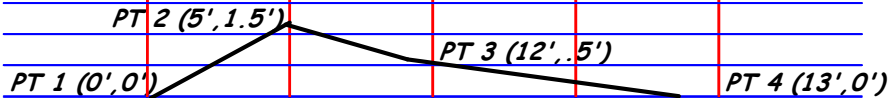
NOTE: ZERO ELEV DEPICTS SUBGRADE



TBM	BS	HI	FS	ELEV	
= SG	5.5	5.5			
PT 1			5.5	0'	✓
PT 2			3.5	2.0'	✓
PT 3			4.0	1.5'	✓
PT 4			5.5	0'	✓

SECTION AT STA 17+72

NOTE: ZERO ELEV DEPICTS SUBGRADE



TMB = SG	BS	HI	FS	ELEV	
		5.5			
PT 1			5.5	0	✓
PT 2			4.0	1.5'	✓
PT 3			5.0	.5"	✓
PT 4			5.5	0	✓

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03 ✓

AREA OF SECTION =

$$.5((X_1(Y_4 - Y_2) + X_2(Y_1 - Y_3) + X_3(Y_2 - Y_4) + X_4(Y_3 - Y_1)))$$

AREA OF SECTION AT 17 + 60

POINT	X	Y	DIFFERENCE OF Y'S	DOUBLE AREA	
				+	-
1	0	0	0-2=-2		0 ✓
2	+5	+2	0-1.5=-1.5		7.5 ✓
3	12	+1.5	2-0=2	24 ✓	
4	+13	0	1.5-0=1.5	19.5 ✓	
1	0	0	0		0
				43.5 ✓	-7.5 ✓
				TOTAL = +43.5 - 7.5 = 36 ✓	
				AREA = 36 X .5 = 18 SF ✓	

AREA OF SECTION AT 17+ 80

POINT	X	Y	DIFFERENCE OF Y'S	DOUBLE AREA	
				+	-
1	0	0	0-1.5=-1.5		0 ✓
2	5	1.5	0-.5=-.5		2.5 ✓
3	12	0.5	1.5-0=1.5	18 ✓	
4	13	0	.5-0=.5	7.5 ✓	
1	0	0	0		0
				25.5 ✓	2.5 ✓
				TOTAL = +25.5 - 2.5 = 23 ✓	
				AREA = 23 X .5 = 11.5 SF ✓	

VOLUME OF ROCK REMOVED

STA	AREA SF	AVERAGE		VOLUME CF
		AREA SF	LENGTH FT	
17+50	0			
17+60	18	9 ✓	10 ✓	90 ✓
17+72	11.5	14.75 ✓	12 ✓	177 ✓
17+80	0	5.75 ✓	8 ✓	46 ✓
		TOTAL VOLUME =		313/27 = 11.59 CY ✓

ITEM 203.21 = 11.59 CY, ITEM 203.20 DEDUCT 11.59 CY ✓

206.07 STRUCTURAL ROCK EXCAVATION

206.07 STRUCTURAL ROCK EXCAVATION FOR 12" UD TYPE C FROM STA 10+80 TO 11+90

TRENCH PAY WIDTH = DIA + 18" = 30" = 2.5' ✓

TOP OF ROCK ELEV.

	BM	BS	HI	FS	ELEV
	#3 = 23.5'	4.5	19.0		
STA					
10+90				9.0	10.0 ✓
11+00				8.8	10.2 ✓
11+10				8.6	10.4 ✓
11+20				8.5	10.5 ✓
11+30				8.2	10.8 ✓
11+40				8.1	10.9 ✓
11+50				8.4	10.6 ✓
11+60				8.6	10.4 ✓
11+70				8.5	10.5 ✓
11+80				8.8	10.2 ✓
11+90				9	10 ✓

BOTTOM OF ROCK ELEVATIONS

	BM	BS	HI	FS	ELEV
	#3 = 23.5'	4.2	19.3'		
STA					
10+85				9.7	9.6 ✓
10+90				9.6	9.7 ✓
11+00				9.4	9.9 ✓
11+10				9.5	9.8 ✓
11+20				9.5	9.8 ✓
11+30				9.4	9.9 ✓
11+40				9.6	9.7 ✓
11+50				9.5	9.8 ✓
11+60				9.4	9.9 ✓
11+70				9.5	9.8 ✓
11+80				9.6	9.7 ✓
11+90				9.5	9.8 ✓
11+95				9.7	9.6 ✓

STA	TOP LEDGE	BOTTOM LEDGE	AREA	AVG AREA L'	VOLUME
10+85	0	9.6	0		
				.25 X 5	1.25 ✓
10+90	10.0	9.8	0.5		
				.875 X 10	8.75 ✓
11+00	10.2	9.7	1.25		
				1.25 X 10	12.5 ✓
11+10	10.4	9.9	1.25		
				1.5 X 10	15 ✓
11+20	10.5	9.8	1.75		
				2.13 X 10	21.3 ✓
11+30	10.8	9.8	2.5		
				2.75 X 10	27.5 ✓
11+40	10.9	9.7	3		
				2.5 X 10	25 ✓
11+50	10.6	9.8	2		
				1.63 X 10	16.3 ✓
11+60	10.4	9.9	1.25		
				1.5 X 10	15 ✓
11+70	10.5	9.8	1.75		
				1.5 X 10	15 ✓
11+80	10.2	9.7	1.25		
				.875 X 10	8.75 ✓
11+90	10	9.8	0.5		
				.25 X 5	1.25 ✓
11+95	0	9.6	0		
(END OF ROCK EXC)					
TOTAL VOLUME =					167.6 CF ✓

NOTE: ALL FINAL ROCK ELEV ABOVE THE FLOW LINE -1 FT PAY LIMIT (PIPE ELEV. 10.4 TO 10.0)

ITEM 206.07

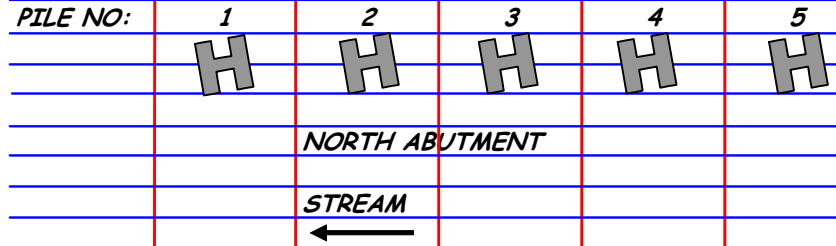
TOTAL VOLUME = 167.6/27=6.2 CY ✓

MEASURED & CALCULATED BY : BILL BITTERMAN 11-08-02
 CHECKED BY: ABC 1-2-03 ✓

501.36 STEEL H-PILES

PILE NO.	HEAT NO.	DATE DRIVEN	LENGTH (FT)	CUT OFF	LENGTH
1	191244	5-2-02	50.32	4.1"	89.3 ✓
	194352	5-6-02	40.26	11.33'	
DRIVEN LENGTH					
2	191248	5'-2'-02	50.32	7.2"	89.0 ✓
	194350	5-6-02	40.27	11'-6"	
DRIVEN LENGTH					
3	191248	5'-2'-02	50.33	6"	89.2' ✓
	194348	5-6-02	40.27	11'-0"	
DRIVEN LENGTH					
4	191244	5'-2'-02	50.31	4"	89.3' ✓
	194427	5-6-02	40.25	11'-6"	
DRIVEN LENGTH					
5	191246	5'-2'-02	50.31	6"	89.1' ✓
	194352	5-6-02	40.26	11'-2"	
DRIVEN LENGTH					

PILE NO.	501.361		501.36		
	DRIVEN LENGTH (FT)	ACCUM (FT)	PILES DELIVERED (FT)	(FT)	ACCUM (FT)
1	89.3' ✓	89.3'	50.32' ✓	40.26' ✓	90.58
2	89.0' ✓	178.3	50.32' ✓	40.27' ✓	181.17
3	89.2' ✓	267.5	50.33' ✓	40.27' ✓	271.77
4	89.3' ✓	356.8	50.31' ✓	40.25' ✓	362.33
5	89.1' ✓	445.9 ✓	50.31' ✓	40.26' ✓	452.9' ✓



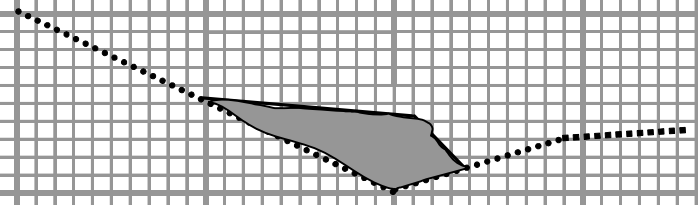
NOTE: THE PILE #'S ARE NOT THE SAME AS THE BEAM #'S
ALL PILES ARE HAVE A 10 DEGREE SKEW

ITEM 501.36: PILES DELIVERED = 452.9'
ITEM 501.361: PILES IN PLACE = 445.9'

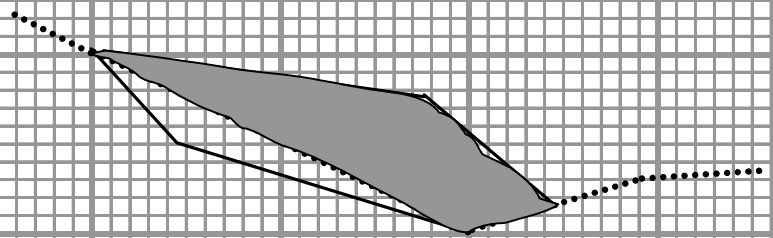
MEASURED/COMPS BY BILL BITTERMAN 5-7-02

CHECK BY: ABC 8-08-02 ✓

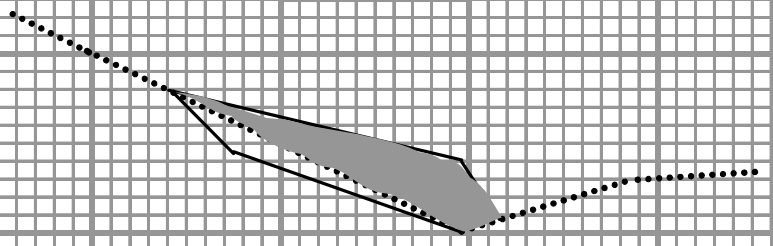
..... DESIGN GRADE
 █ 203.21 ROCK EXCAVATION
 ——— ROCK PROFILE



STA 21+50



STA 21+75



STA 22+90

ITEM 203.21

NOTE: ALL AREAS WERE MEASURED WITH A PLANIMETER FROM THE ADJACENT CROSS SECTIONS

STA	AREA	AVERAGE AREA	LENGTH (FT)	VOLUME (CY)	
21+25	0	2.9	25	2.7	✓
21+50	5.8	7.5	25	6.9	✓
21+75	9.2	6.5	15	3.6	✓
21+90	3.8	1.9	20	1.4	✓
22+10	0				
		TOTAL		14.6	✓

ITEM 203.21 TOTAL = 14.6 CY ✓

MEASURED/CALC BY: BILL BITTERMAN 8/20/02

CHECKED BY: ABC 1-2-03

DATE	DAY	WEATHER
PROJECT ACTIVITIES:		
<input type="checkbox"/>	ITEM NUMBER, LOCATION & LIABLE CONTR/SUB	
<input type="checkbox"/>	SOURCE AND DISPOSITION OF ANY EXCAVATION	
<input type="checkbox"/>	SOURCE AND DISPOSITION OF GRAVEL AND BORROW	
<input type="checkbox"/>	NON-ROUTINE ACTIVITIES	
A:	CONTRACTORS' NON ADHERANCE TO CONTRACT SPEC'S: MTCD'S & SEWPC	
B:	MDOT DIRECTIVES GIVEN TO CONTRACTOR IE: RELOCATIONS, CHANGES IN ALIGNMENT UNDERCUT & REWORK	
C:	CONTRACTOR IS INADEQUETLY STAFFING THE JOB FOR THE TYPE OF WORK	
D:	ANYTHING RELATED TO POTENTIAL CONTRACTOR CLAIMS	
E:	ANY DISCUSSIONS WITH TOWN OFFICIALS, UTILITIES, DEVELOPERS AND ABUTTERS	
G:	TRAFFIC ACCIDENTS & OTHER HAZARDS	
ENTERED BY : NAME & DATE		

7/16/2002	SUNNY 70'S	1
ITEM 206.082		
COMPLETED EXCAVATION AT THE NORTH ABUTMENT SECTION, UPSTREAM OF CENTERLINE, DEWATERED AREA, CLEANED OFF LEDGE, AND PLACE 12.2 CY OF CONCRETE		
ITEM 502.26		
PLACED 10.82 CY OF CONCRETE FILL, 1.25 CY OF CONCRETE WAS SPILLED BEYOND THE FORMS AND WILL NOT BE PAID FOR. THE REMAINING CONCRETE WAS PLACED IN THIS SECTION TO THE ELEV OF THE BOTTOM THE FOOTING SHOWN ON THE PLANS. SECTION CURED WITH WATER AND CONT'D WETTED		
BILL SIMPSON, OES CONSULTANT ON -SITE TO REVIEW SEWPC DEVICES AND 3 ISSUES WERE BROUGHT TO MY ATTENTION, AND WERE DIRECTED IMMEDIATELY TO JEFF SIMPSON, W&S SUPER. AND WERE ALL ISSUES WERE RESOLVED.		
ITEM 206.082		
ALL EXCAVATED MATERIAL WAS DETERMINED TO BE UNUSABLE AND WAS TAKEN TO THE SMITH WASTE AREA		
ITEM 652.36 AND 656.75		
ALL MTCD'S AND SEWPC DEVICES ARE INPLACE AND IN GOOD WORKING CONDITION AT THE END OF THE DAY		
ENTERED BY: BILL BITTERMAN 7-16-02		

7/17/2002 TUESDAY

FAIR 50'S

ITEM 211.20

WHILE PERFORMING INSLOPE WORK, DISCOVERED THAT THE EXISTING BACK SLOPES ARE NOT AS SHOWN ON THE X-SECTIONS AT STA 20+00 TO 21+35 LEFT DO NOT DEPICT ACTUAL FIELD CONDITIONS, EXISTING SLOPES ARE STEEPER AND INFRINGE ON DETAILED GUARDRAIL PLACEMENT.

DIRECTED CONTRACTOR TO REMOVE 9 STUMPS AND TO CUT BACKSLOPES TO FIELD STAKED MATCH POINT (WITHIN THE R O W,

DIRECTED THE CONTRACTOR TO REMOVE 9 SINGLE TREES THESE TREES WERE OUTSIDE OF THE CLEARING LIMITS BUT REQUIRED REMOVAL DUE TO ACTUAL BACKSLOPES MATCH POINTS AND SIGHT DISTANCE, AND OVERALL POOR CONDITION OF THE TREES.

THE 9 TREES POSED A VERY SERIOUS HAZARD TO VEHICULAR TRAFFIC.

STUMP & TREE REMOVAL WILL BE PAID BY RWO, EXCAVATING AND SHAPING BACKSLOPES WILL BE PAID WITH EXISTING BID ITEMS (MANPOWER AND EQUIPMENT RENTAL TIME)

ENTERED BY: BILL BITTERMAN 7-17-02

6/7/01 FRIDAY

SUNNY 70'S

2

ITEM 603.159 CULVERT PIPE OPTION III

REMOVED EXISTING 12" CMP AND INSTALLED 48' OF 12" CORR. POLYETHYLENE PIPE AT STA 12+75. PIPE WAS INSTALLED PER LINE, GRADE AND SPEC. BACKFILLED WITH EXCAVATED MATERIAL AND COMPACTED EACH 8" LIFT THERE WAS ALSO AN UNDERCUT BELOW THIS PIPE BECAUSE OF UNSTABLE UNDERLYING BLUE CLAY. THIS UNDERCUT WAS APPROVED BY THE RESIDENT ENGINEER.

UNDERCUT MEASUREMENTS

ITEM 206.061 STRUCT EARTH EXC. - BELOW GRADE THE PIPE WAS UNDERCUT BY 24" +/- FROM PROPOSED FLOW LINE

AVERAGE DEPTH = $22+27.5+26+24.5+23.5/5=24.7"$
MAX WIDTH=PIPE DIA + 15"(EACH SIDE)=42"
LENGTH = 40'
QTY = $(24.7"-12") \times (15"+12"+15") \times 40' / 27 = 5.5$ CY

ITEM 203.25 GRANULAR BORROW

ITEM USED TO BACKFILL UNDERCUT
TOTAL QTY = 5.5 CY

BORROW MEASURED IN PLACE MUST BE SWELLED BY 15%

TOTAL QTY = $5.5 \times 1.15 = 6.33$ CY

ENTERED BY : BILL BITTERMAN 6-7-02

9/10/2002 FRIDAY

SUNNY 70'S

ITEM 603.159

CONTRACTOR ARRIVED AT THE SITE TODAY WITH THE OPTION III, ALL PIPE IS CERTIFIED ASHTO M-294 STAMP

ITEM 631.12

USED 2 HRS OF APE, REF TO DREW NO. 3, TO CREATE A BETTER SWALE THROUGH THE PROPERTY OF MRS SMITH. MRS SMITH BROUGHT TO OUR ATTENTION THAT THE WATER RUNOFF FROM THE ROAD COLLECTS NEAR HER HOUSE AND ASKED THE MDOT TAKE REMOVE A HIGH SPOT IN HER LAWN TO ALLOW FOR BETTER DRAINAGE THE HIGH SPOT WAS LOCATED WITHIN THE ROW

ITEM 652.33

COUNTED 22 DRUMS USED ON THE PROJECT TODAY

ITEM 304.10

CONTINUED TO PLACE ASC-GRAVEL IN WELL COMPACTED LIFTS FROM ST 12+00 TO 15+50

NOTE: D. WEISNER ON PROJECT TODAY TO TEST COMPACTIONS

ENTERED BY: BILL BITTERMAN 9-10-02

6/8/2001 TUESDAY

SUNNY 70'S

3

603.09 CB STA 33+28 RT

INSTALLED 8' PRECAST CB WITH 2' SUMP FOR EXISTING 24" CIP. REMOVED A PORTION OF A LARGE CONCRETE STRUCTURE IN ORDER TO INSTALL CB SUMP. SEE OPPOSITE PAGE FOR PAY DEPTH & QTY'S BACKFILLED WITH STONE FOR CB BEDDING. OUTSIDE CB = 4' DIAMETER EXCAVATED 18" OUTSIDE WALL AND USED A 235 B'HOE WITH HOE RAM TO REMOVE CONCRETE BACKFILLED WITH EXCAVATED MATERIAL, AND COMPACTED EACH LIFT. ALL WORK DONE ACCORDING TO PLANS & SPEC

ITEM 203.07 STRUCTURAL ROCK EXCAVATION

BROKE OFF EXISTING CONCRETE STRUCTURE TO INSTALL CB SUMP

BOTTOM OF SUMP CONC ELEV = 90.5' FROM PLANS ✓

AVERAGE ELEV OF TOP OF BURIED CONCRETE

TBM #	BS	HI	FS	ELEV.	
101.5		3.5	105	✓	
			9.0	96	✓ TP OF CONC
			9.3	95.7	✓ TP OF CONC
			9.9	95.1	✓ TP OF CONC
			10.0	95	✓ TP OF CONC

AVERAGE TOP ELEV OF BURIED CONCRETE = 95.45'

BOTTOM OF UNDERCUT ELEV = 89.5'

DEPTH OF CONCRETE REMOVED = 95.45 - 89.5 = 5.95' ✓

WIDTH OF CONCRETE REMOVED

= 4' + 2(1.5') = 7' ✓

ITEM 203.07 STRUCT ROCK EXCAVATION

VOLUME = 3.14 X (7/2)² X 5.95 = 65.42 CF / 27 = 2.42 CY ✓

ENTERED BY : BILL BITTERMAN 06-08-02

CHECKED BY: ABC 1-2-03 ✓

37422 MONDAY

SUNNY 70'S

4

ITEM 202.20

CONTRACTOR IS MILLING EXISTING PAVEMENT AND STOCKPILING MAT'L AT APPROVED STAGING AREA TO BE USED LATER AS AS6 GRAVEL. CONTRACTOR IS EXCAVATING MAT'L FROM STA 15+00 TO 21+00. QTY TO BE MEASURED PLAN QTY. REF TO BK 3 PG 2 FOR SUBGRADE CHECK AND CONTRACTOR IS TAKING MAT'L TO THE SMITH'S WASTE AREA.

ITEM 304.104

CONTRACTOR IS BACKFILLING EXC AREAS WITH MAT'L FROM THE ALLISON PIT AND PLACING AND COMPACTING IN LIFTS FROM STA 15 + 00 TO STA 21+00. MILLINGS WAS USED TO PLACE THE FINAL LIFT. QTY IS TO BE MEASURE PLAN QTY REF TO BK 3 PG 3 FOR FINEGRADE CHECKS

ITEM 203.21

ROCK WAS REMOVED FROM STA 16+50 FIELD MEASURED VOLUME = 4.5' X 3.3' X 4' = 59.4 CF / 27 = 2.2 CY

ITEM 202.20

DEDUCT ROCK QTY OF 1.46 CY FROM ITEM 202.2

ENTERED BY : BILL BITTERMAN 6-15-02

ITEM 203.25

GRANULAR BORROW THE CONTRACTOR OPTED TO USE A BEDDING OF CRUSHED STONE FOR THE CB THE BEDDING WILL BE PAID AT THE CONTRACT PRICE OF 203.35 GRANULAR BORROW

VOLUME OF GRANULAR BORROW

ELEV OF BOTTOM OF CONC SUMP = 92.00 ✓

ELEV OF BOTTOM OF UNDERCUT = 87.5' ✓

MEASURE UNDERCUT FOR PAYMENT ✓
92.00 - 4"(CONC) - 12" (FIRST FT FREE) = 90' - 8"

DEPTH OF UNDER CUT
90.75 - 87.5 = 3.25' ✓

VOLUME

(3.14 X (7/2)2 X 3.25) / 27 = 4.63 CY ✓

SWELL = 4.63 X 1.15 = 5.32 CY ✓

ENTERED BY : BILL BITTERMAN 11-08-02

CHECKED BY: ABC 1-2-03

6/10/2002 MONDAY

SUNNY 70'S

ITEM 403.208

PAVING 12' ML AND 4' SHOULDERS IN ONE PASS.

BOTH ARE METHOD A DENSITIES ARE EXCLUDED FROM THE PAY FACTOR FOR THE MATERIAL PLACED ON THE VARIABLE WIDTH SHOULDERS ONLY.

MIKE SMITH, PAVING SUPT. AND MYSELF AGREED THAT THE TONAGE ON M.L. AND SHLDR ARE TO SPLIT IN THE FOLLOWING MANNER.

$ML = (7,100' \times 12' \times 2) / 9 \times 110\#/SY/IN / 2000 = 3,000 \text{ TONS}$

~~1,601.25 T~~ - 3,000 T = 301.25 TONS

REF COVER SLIP #3458 QTY OF 1601.25 TONS FOR ITEM 403.208

ITEM 508.13

AD ROSSI ON SITE TO INSTALL MEMBRANE

ON BRIDGE DECK. THE DECK WAS "SHOT BLASTED" USING A BLASTAC MACHINE USING SMALL BLACK STEEL PELLETS.

THE DECK WAS BLASTED COMPLETED AND FREE OF LATANCE.

3 MOISTURE READING WERE TAKEN BY THE CONTRACTOR USING A SOVEREIGN PORTABLE ELECTRONIC MOISURE MASTER

WITH RESULTS OF 3.2, 3.2 & 3.3., THE READINGS

WERE TAKEN AT STA 1+005, CL, STA 1+009 1.5 M RT, AND STA 1+112; 2M LT RESPECTIVELY.

ROSSI PRIMED THE DECK USING ROYSTON RAYBOND 713

BATCH NO. BA A 23908

ROSSI PLACED 32.4 SM OF ROYSTON 10AN EASYPAVE

MEMBRANE AND ALL EDGES WERE SEALED WITH MASTIC

THE PRIMER AND MEMBRANE PRODUCTS ARE ON THE MDOT

APPROVED PRODUCT LIST

37110 MONDAY

SUNNY 70'S

5

ITEM 511.07

CONTRACTOR INSTALLING UPSTREAM AND DOWNSTREAM COFFERDAMS. BUILDING SEDIMENTATION BASINS ON DOWNSTREAM SIDE OF BRIDGE ON EXISTING LOGGING. THE CONTRACTOR WAS NOTIFIED THAT THE BASIN NEEDS MORE BALES PER EROSION CONTROL PLAN. CONTRACTOR IS TAKING MAT'L TO THE SMITH'S WASTE AREA.

ITEM 509.12

CONTRACTOR HAS FINISHED ERECTING PIPE ARCH THIS A.M. AND STARTED TIGHTENING THE BOLTS WITH COMPRESSOR. PERFORMED TORQUE CHECK ON BOLTS

ITEM 203.21

ROCK WAS REMOVED FROM STA 16+50

FIELD MEASURED

VOLUME = $5' \times 3.3' \times 4' = 66 \text{ CF} / 27 = 2.44 \text{ CY}$

ITEM 202.20

DEDUCT ROCK QTY OF 2.44 CY FROM ITEM 202.2

ITEM 206.061

DIRECTED CONTRACTOR TO UNDERCUT UD TO AVOID EXISTING UTILITY, THE UTILITY IS NOT LOCATED AS PER PLAN.

FIELD MEASURE FROM FLOW LINE

DETH BELOW FLOWLINE -AVG 2.5 FT

WIDTH = 2.5'

LENGTH = 45'

QTY = $(2.5-1' \text{ PAY LIMIT}) \times 2.5' \times 45' / 27 = 6.25 \text{ CY}$

ENTERED BY : BILL BITTERMAN 8-7-02

37109 MONDAY

SUNNY 70'S

ITEM 511.07

UPSTREAM AND DOWNSTREAM COFFERDAMS COMPLETED PER PLAN AND SPEC AND GOODWIN'S WAS ONSITE TO DELIVER PUMP AND PIPES. WATER IS NOW BEING DIVERTED FROM ABOVE COFFERDAM TO DOWNSTREAM BASIN.

ITEM 509.12

SPOT CHECKED TORQUE ON BOLTS AFTER PIPE WAS IN THE GROUND AND RE-TORQUE AND FOUND TO BE WITHIN SPECIFICATIONS.

ITEM 652.36

MTCD ARE OF FOR THE DAY. ROAD WAS CLOSED THIS AM TO TRAFFIC. ALL DETOUR SIGNS WERE PUT INTO PLACE THIS MORNING AS PER PLAN.

ITEM 652.312 AND 526.301

TYPE III BARRICADES IN PLACE AND TEMP CONC BARRIERS PUT IN PLACE BEHIND TYPE III AS PER PLAN ON THE NORTH ANDOVER ROAD ENTERING AND EXITING THE WORK AREA NEAR THE MULTIPLATE.

ENTERED BY: BILL BITTERMAN 8-06-02

7/2/2002 TUESDAY

HOT & HUMID

6

ITEM 501.36 AND 501.361

COMPLETE ASSEMBLY OF DELMAR D19-42 DIESEL HAMMER, TECH ANDY PETREE ON SITE TO OVERSEE ASSEMBLY & OPERATION OF HAMMER.

ABUTMENT NO. 1

THE LAST OF THE SPLICES ARE COMPLETED AS TODAY BY KEN DUNLOP, CERTIFIED WELDER ID NO 564-9873

ITEM 501.02

CONTRACTOR USED PREFABRICATED PILE SPLICES (AFF CHAMPION SPLICES), WELDED SPLICES TO INSIDE OF FLANGE ALSO WELDED OUTSIDE OF FLANGES. A PARTIAL PENETRATION GROOVE WELD WITH 45 DEGREE BEVEL ON THE UPPER MEMBER.

USED AIRCO CODE ARC7018MR SHIELDED METAL ARC WELDING ELECTRODES (ACCORDING TO MDOT APPROVED LIST)

ITEM 501.361

DROVE PILES # 1,2,3,4 & 5 TO REFUSAL AND CUT PILES TO REQ'D ELEVATIONS

NOTE:

FRED AGHARAZI, AATECH, ON SITE TO PERFORM PILE DRIVING ANALYSIS, (DYNAMIC LOAD TEST) ON FIRST DRIVEN PILE PILE #5, PILE CAPACITY AND ALLOWABLE DRIVING STRESSES CONFIRMED, PILE REFUSAL DETERMINED BY 4 BLOWS/ 0 " REF TO TESTING FILE FOR ITEM 501.361

ENTERED BY: BILL BITTERMAN 7-02-02

APPENDIX B

EXAMPLE MEMO'S AND FORMS

Maine Department of Transportation - Contracts Division Time Charge Report

Project No. 12999.00

Town/City Augusta Calculated By: B. Bitterman

Contractor: General Corp. Checked By: Robert Clark

**All following documents must have same completion date; Diary Entry,
Physical Work Completion Letter and Time Charge Report**

<u>Contract Completion Information</u>	<u>This section for Road/Bridge Open Deadlines</u>
Orig. Contract Completion Date <u>10/14/2013</u>	Road / Bridge Open <u>9/1/2013</u>
Days Added by Contract Mods <u>4</u>	Days over (Subject to LDs) <u>6</u>
Revised Completion Date <u>10/18/2013</u>	LD Value \$ <u>375.00</u>
Physical Work Complete Date <u>10/18/2013</u>	Total LDs applied \$ <u>2250.00</u>
Days over (Subject to LDs) _____	<u>This section for Fabrication Deadlines</u>
LD Value \$ _____	Days over (Subject to LDs) _____
Total LDs applied \$ _____	LD Value \$ _____
	Total LDs applied \$ _____

<u>This section for use in case of approved/scheduled shutdown</u>	
(Winter) Suspension Date _____	Work Resumed Date _____

CM#	DAYS	CM#	DAYS	CM#	DAYS
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

List work not subject to Time Charge (for example; paving postponed, or remedial):

Additional Remarks:



JOHN ELIAS BALDACCI
GOVERNOR

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

DAVID A. COLE
COMMISSIONER

Example No 1; Memo free of Encroachments

Project 009999.00 - Augusta

ENGINEERS STATEMENT OF RIGHT OF WAY ENCROACHMENT

The above mentioned project was inspected on February 9, 2005 and appears to be free of all Right of Way Encroachments.

Bill Bitterman
Resident Engineer

Example No 2; Memo with Encroachments

Project 009999.00 - Augusta

ENGINEERS STATEMENT OF RIGHT OF WAY ENCROACHMENT

The above mentioned project was inspected on February 9, 2005 and appears to be free of all Right of Way Encroachments with the following exceptions:

1. Sta. 18+576 LT. Easy Self Storage sign on post.
2. Sta 22+320 LT. Granite Mailbox post.

Bill Bitterman
Resident Engineer



PRINTED ON RECYCLED PAPER

THE MAINE DEPARTMENT OF TRANSPORTATION IS AN AFFIRMATIVE ACTION - EQUAL OPPORTUNITY EMPLOYER

Maine Department of Transportation - Project Development Waste Area Permit

Project No: _____

Town: _____

Upon receipt of written permission from _____
(Property Owner)

_____ is authorized to place waste material from this project at
(Contractor)

(Description of Waste Area)

, in accordance with Sections 104.3.2 & 105.8.3 & 203.06 & 211.08, State of Maine, Department of Transportation, Standard Specifications Highways and Bridges, Revision of December 2002.

All waste areas and entrances to the waste area shall be uniformly graded to drain, loamed or covered with other earthy material that will support growth of grass, seeded and hay mulched.

All trees which are damaged, uprooted or otherwise moved as a result of the waste material, and trees which have had waste material placed around them to the extent that they will die, shall be cut and removed.

Grading, Loaming, Seeding and Hay Mulching shall not be paid directly, but shall be incidental to other items in the contract.

The contractor is responsible for relocating and disposing of waste. Any fill material generated from this Project shall not be placed, stored, or disposed of in a wetland at an off-site location unless the Contractor provides the Department with written evidence that all Permits necessary for such use have been obtained. Such evidence must be signed by the Owner of such site, and otherwise acceptable to the Department.

If no Permits are required due to **no impact** to a natural resource, then this should be stated.

Approval: _____
Property Owner

Agreed: _____
Contractor's Representative

*original copy to Contractor and additional copy for Resident's file.

RESIDENT: _____
 DATE: _____
 REVIEWED BY: _____

PROJ. NO. _____
 TOWN/BRIDGE: _____

CLOSEOUT REVIEW GUIDLELINES FOR OVERLAY PROJECTS

LABOR COMPLIANCE

Verify that employees are paid at wages not less than those contained in applicable wage decision	
Verify receipt of hourly breakdown for fringe benefits from Contractor	
Review documented employee interviews by appropriate MDOT personnel - Notify supervisor if missing	
Reviewer check of certified payrolls for accuracy	
Has Wage Rate Compliance Officer been notified of any problems?	

PROJECT DIARY

Daily entries showing working hrs, crew, equipment, weather, contractor and state personnel	
Time charge report	
MTCD and maint of Erosion Control items, weekly notes:	
Description of work done by item	
Other entries relating to contacts, claims and other potential problems	

FINAL QUANTITY BOOK

Book set up same as progress estimates	
Extra work & agreed unit prices documented, and referenced to Proj Diary	
Plan quantity per Resident Work Order & references proper documentation (<i>check engineers est</i>)	
Force Account Blue Book rates (maximum), receipted bills of mat'l + 15%, specialty 15%	
Quantities checked, signed, and referenced to construction book entries	
Billings & quantites: DOT to Municipality, DOT Maintenance or utility company	
QC/QA incentive/disincentive calculated	

GENERAL DOCUMENTATION REQUIREMENTS

Unit price Item, field measurements, sta to sta, limits, signed, checked	
LS Item ref to record of work done, inspec & accept documented in Pro diary, Final Quantity Book	
Force Account Items, doc by Daily Reports of Extra Work, receipted bills for specialty work and mat'l	
Participating	
Approval by Design and/or Supervisor if required	
Copy to FHWA on projects with Federal Oversight	
Copy to Finals Folder for scanning	

PAVEMENT ITEMS

Delivery slips, Cover slips totals signed, dated and entered in Final Quantity Book	
Tack coat delivery invoices, referenced to Certification of Analysis	
Daily reports of Extra Work	
Flaggers certified	
QC/QA test file	
Asphalt esclator for recycling if 108 Special Provision	

DRAINAGE

Drainage diary & installaion notes and layout notes, sta to sta & offsets documented	
Ledge removal quantity measured	

MISCELLANEOUS ITEMS

Have appropriate DBE letters and reports been completed	
Waste area Authorizations	
Contractor E-vals	
ROW Encroachment letter	
QC/QA for any fill and base material	
Hourly equipment rental items entered on DREWS	
Third party billing	

Notes:

RESIDENT: _____

CLOSEOUT REVIEW GUIDELINES FOR FULL CONSTRUCTION PROJECTS

LABOR COMPLIANCE

Verify that employees are paid at wages not less than those contained in applicable wage decision	
Verify receipt of hourly breakdown for fringe benefits from Contractor	
Review documented employee interviews by appropriate MDOT - Notify supervisor if missing	
Reviewer check of certified payrolls for accuracy	
Has Wage Rate Compliance Officer been notified of any problems?	

PROJECT DIARY

Daily entries showing working hrs, crew, equipment, weather, contractor and state personnel	
Time charge report	
MTCD and maint of Erosion Control items, weekly notes:	
Description of work done by item	
Other entries relating to contacts, claims and other potential problems	

FINAL QUANTITY BOOK

Book set up same as progress estimates	
Extra work entered, agreed unit prices and ref to Proj Diary or written documentation	
Plan quantity per RWO references documentation (<i>check engineers est</i>)	
Force Account Blue Book rates, receipted bill mat'l + 15%	
Quantities checked, signed, and references construction books	
Billings quantites: DOT to City, maintenance or utilities	
QC/QA incentive/disincentive calculated	
Copy to Finals Folder for scanning	

GENERAL DOCUMENTATION REQUIREMENTS

Unit price Item, field measurements, sta to sta, limits, signed, checked	
LS Item ref to record of work done, inspec & accept documented in Pro diary, Final Quantity Book	
Force Account Items, doc by Daily Reports of Extra Work, receipted bills for specialty work and mat'l	
Contract Modifications (Change Orders - Resident Work Orders) - signed, Part & non Part	
Approval by Design and/or Supervisor if required	
Copy to FHWA on projects with Federal Oversight	

EXCAVATION AND BORROW

Source and Final placement noted in Project Diary (Pit author and waste areas)	
Checks on-subgrade, finegrade, ditch and backslopes	
Field changes documented by measurements	

AGGREGATE BASE AND SUBBASE

Finegrade checks, field measurements of drives and other changes	
QC/QA gradation and compaction	

DRAINAGE

Drainage diary notes and layout notes, sta to sta & offsets	
Ledge removal measured	

PAVEMENT ITEMS

Delivery, Cover and Tack slips totals signed, dated and entered in FQB (certificate of analysis)	
QC/QA test file	

MISCELLANEOUS

Flaggers certified	
Waste area Authorizations	
Contractor E-vals	
ROW Encroachment letter	
Hourly equipment rental items entered on DREWS & signed	
Third party billing	

REVIEWERS' NAME: _____ **DATE:** _____

RESIDENT: _____
 DATE: _____



PROJ. NO. _____
 TOWN _____

CLOSEOUT REVIEW GUIDELINES FOR BRIDGE PROJECTS

LABOR COMPLIANCE

Verify that employees are paid at wages not less than those contained in applicable wage decision	
Verify receipt of hourly breakdown for fringe benefits from Contractor	
Review documented employee interviews by appropriate MDOT - Notify supervisor if missing	
Reviewer check of certified payrolls for accuracy	
Has Wage Rate Compliance Officer been notified of any problems?	

PROJECT DIARY

Daily entries showing working hrs, crew, equipment, weather, contractor and state personnel	
Time charge report and ROW encroachment letter	
MTCD and maint of Erosion Control items, weekly notes:	
Description of work done by item	
Other entries relating to contacts, claims and other potential problems	

FINAL QUANTITY BOOK

Book set up same as progress estimates	
Extra work entered, agreed unit prices and ref to Proj Diary or written documentation	
Plan quantity per RWO references documentation (<i>check with Engineers est.</i>)	
Force Account Blue Book rates, receipted bill mat'l + 15%, specialty 15%	
Quantities checked, signed, and references construction books	
Billings quantites: DOT to City, maintenance or utilities	
QC/QA incentive/disincentive calculated	

GENERAL DOCUMENTATION REQUIREMENTS

Item by unit, field measurements, sta to sta, limits, signed, checked	
item by LS, ref to record of work done, inspection and acceptance, in Proj diary, FQB	
Item force account, documented by DREWS, receipted bills for specialty work and mat'l	
CO's, EWO's and RWO:	
Approval by Design and/or Supervisor if required	
Copy to Finals Folder for scanning	
Copy to FHWA on projects with Federal Oversight	

BRIDGE ITEMS

Pile reports, layouts, record piles	
Forms and re-steel checks, summary sheets, elev requirements	
Structural steel, inspection and acceptance, torque checks, calibrations, rotational capacity	
shear commectors, bent test and weld inspection	
Painting , coat thickness:	

BRIDGE APPROACH WORK

Roadway excavation, waste site, grade checks	
Base mat'l, source, QC/QA, finegrading	

DRAINAGE

Drainage diary and installation notes and layout notes, sta to sta & offsets	
Ledge removal measured	

PAVEMENT ITEMS

Delivery, Cover and Tack slips totals signed, dated and entered in FBQ (certificate of analysis)	
Flaggers certified	
QC/QA test file	

MISC:

Contractor E-vals, Waste Area authorization	
Third party billing	

REVIEWERS' NAME: _____ **DATE:** _____

NOTES

RESIDENT: _____
 DATE: _____
 REVIEWED BY: _____



PROJ. NO. _____
 TOWN/BRIDGE: _____

REVIEW GUIDELINES FOR ONSITE REVIEWS

LABOR COMPLIANCE

	Dates	
Wage Rate Posters & Presentation of Wage-Hour Outline & EEO Outline		
Copy of applicable wage decision available		
Are payrolls and certifications received within the 7 days allowed		
If not received within allowable time, what action taken to correct		
Verify that employees are paid correct wages		
Verify receipt of hourly breakdown for fringe benefits from Contractor		
Reviewer spot check of certified payrolls for accuracy		
Document & review employee interviews by appropriate MDOT personnel		
Has Wage Rate Compliance Officer been notified of any problems?		

FIELD BOOKS

	Dates	
Signatures, weather, working day number, contract hours, personnel, Eqpmnt, State Personnel, survey notes identified, crew names & duties		

CLEARING

	Dates	
Measuring referenced to source _____		
Inspection of limits after work done.		
If paid plan qty, verify work done according to plan _____		

EXCAVATION

	Dates	
Source and final placement noted in diary _____		
Embankment core staked out, waste storage areas designated/owner sign _____		
Design changes in backslopes. _____		
Documentation of excavation limits in backslopes and ditches _____		
Grubbing, undercuts, muck excavation, measured, documented _____		
If paid plan, verify accuracy of estimate & work done to plan _____		
<i>excavation by truck measure reduce 10%</i>		

BORROW

	Dates	
Source and final placement noted in diary. _____		
Pit rehabilitation.		
Location of pit described, layout shown _____		
Final cross-section or statement of inspection plus 500' check section _____		
<i>measurements :ip swell 15%, truck measure deduct 10%, & check Engineers est</i>		

STRUCTURAL EXCAVATION AND DRAINAGE

	Dates	
Culverts: drainage installation notes regarding backfill, line and grade _____		
Bedding, width and depth measurement for undercut _____		
Length of pipe measured or documented.		
Catch Basins: diameter of hole measured for undercut _____		
Multiplate: depth of bedding, width of excavation, disposition of over- _____		
Compensation for over-excavation if a borrow job _____		
<i>rock w/0 rock ex minor struct pay 16 times common ex/ rock w/0 rock major struct pay 6 times struct earth</i>		

GRAVEL BASE SUBBASE

	Dates	
Gravel checks, sub grade & top of gravel checks for mainline, side roads _____		
<i>truck measure reduce 20% & check Engineers est & how to measure plan or truck measure</i>		

Maine Department of Transportation Contractor's Performance Rating

The Resident shall complete the rating and should use those personnel that actively participated in the inspection of the work and/or the administration of the contract. At the project closeout meeting the rating will be discussed with the Assistant Project Manager and Contractor's Superintendent. The Rating will be forwarded to the Contractor's area office, the Program Manager and included in the contract closeout documentation. The Resident shall assure that the rating reflects the contractor's performance on the contract indicated. Below and above standard performance shall include a memo referencing documentation in the project records. Categories listed reflect areas of performance the Contractor demonstrated in completing the terms and conditions of the Contract. The Resident shall use the attached *RATING DESCRIPTIONS*.

DATE:	CONTRACTOR:
PROJECT TOWN(S):	PIN(S):
Project Type:	Resident:
<input type="checkbox"/> Bridge Construction	Project Manager:
<input type="checkbox"/> Highway Construction	Project Start Date:
<input type="checkbox"/> Paving	Project Completion Date:
<input type="checkbox"/> Marine Construction	Contract Amount \$
<input type="checkbox"/> Buildings	Subcontract Amount\$
<input type="checkbox"/> Traffic Signals and/or Lighting	Type of Report
<input type="checkbox"/> Other:	<input type="checkbox"/> Annual <input type="checkbox"/> Interim <input type="checkbox"/> Final

Signatures

MaineDOT Resident

Contractor's Superintendent

Cc:

MaineDOT Program Manager

Contractors District Office

CONTRACTOR PERFORMANCE RATING

QUALITY OF WORK	ABOVE STANDARD	STANDARD	BELOW STANDARD
1. Contractor Quality Control			
2. Workmanship			
3. Compliance with Contract Requirements			
4. Adequacy of Personnel			
5. Contractor Engineering and Survey Layout			
6. Adequacy of Equipment			

SUBCONTRACTORS

7. General Contractor's Management of Subcontractor(s)			
--	--	--	--

COOPERATION

8. Partnering (Team Building)			
9. Attitude (Cooperation)			

ENVIRONMENTAL

10. Compliance with Environmental Requirements			
--	--	--	--

SAFETY

11. Compliance with Traffic Requirements			
12. Compliance with Safety Requirements			

IMPLEMENTATION OF FEDERAL, STATE, LOCAL, PROCEDURES AND REGULATIONS

13. Compliance with Labor Standards and EEO Requirements			
14. Compliance with DBE Requirements			
15. Compliance with OJT Requirements			

PROCEDURAL/ADMINISTRATIVE

16. Adequacy of Supervision			
17. Adequacy of Processing Paperwork			
18. Adherence to Progress Schedule			

NOTE: All Above and Below Standard ratings must be submitted with a Memo to project file with reference to supporting documentation.

Maine Department of Transportation Accident Report Form

Date of Accident _____	Project # _____
Resident / Inspector _____	Project Location _____
Contractor _____	Time of Accident _____ AM / PM
Contractors Rep. _____	Personal Injury? YES / NO

Investigated By (check one) <input type="checkbox"/> State Police <input type="checkbox"/> Local Police <input type="checkbox"/> County Sheriff Officers; Name _____
Police report Available? Yes / No _____ Pictures Available? Yes / No _____

Total # Vehicles _____	Total Occupants _____	Total People Injured _____
	Date/Time _____	Date /Time _____
Project Manager notified Yes / No _____		Risk Management Notified Yes / No _____
Safety Coordinator Notified Yes / No _____		624-7422 or 1-800-525-1252
Driver(s) Name & Address		
1) _____		
2) _____		
3) _____		

ACCIDENT DESCRIPTION:

Comments _____

Any Witnesses Yes / No Please list name and address.

- 1) _____
- 2) _____
- 3) _____

1 copy project File
 1 copy Legal Division : Phone 207-624-3020, Fax 207-624-3021
 1 copy Risk Management: Phone 1-800-525-1252

MDOT Labor Interview Questionnaire

(1) Project #	(2) Town	(3) County		
(4) Prime Contractor		(5) Subcontractor		
(6) Employee	(7) Social Security #	(8) Classification	(9) Wage Rate	(10) Fringe
(11) Are you satisfied that you are paid and classified correctly?				
<input type="checkbox"/> Yes		<input type="checkbox"/> No		If answer is no, please explain below
(12) Is any money deducted from your pay except Income Tax, Social Security or Court Ordered Deduction?				
<input type="checkbox"/> Yes		<input type="checkbox"/> No		
If answer is yes, please explain below				
(13) Signature of employee				
(14) Is permission given to divulge to your employer, the information in this statement?				
<input type="checkbox"/> Yes		<input type="checkbox"/> No		
(15) Interviewers comments				
(16) Interviewer's Signature				

State of Maine – Department of Transportation

FRINGE BENEFIT STATEMENT

October 26, 2004

CONTRACTOR/SUBCONTRACTOR	CONTRACT NUMBER	FEDERAL AID PROJECT #	DATE
TO: RESIDENT ENGINEER/LABOR COMPLIANCE OFFICER		BUSINESS ADDRESS	

The following information (as shown on wage rate determinations) paid to or on behalf of employees in various crafts or classifications is used to check payrolls or applied to force account work on the above contract.

THIS FORM MUST BE COMPLETED AND SUBMITTED WITH THE FIRST CERTIFIED PAYROLL, OR WHEN THERE HAVE BEEN ANY CHANGES.

CLASSIFICATION	FRINGE BENEFIT HOURLY AMOUNT	NAME AND ADDRESS OF PLAN, FUND, OR PROGRAM
Effective Date _____	Vacation \$ _____	_____
	Health & Welfare \$ _____	
	Pension \$ _____	
Travel Pay \$ _____	Apprentice/ Training \$ _____	
	Other \$ _____	
CLASSIFICATION	FRINGE BENEFIT HOURLY AMOUNT	NAME AND ADDRESS OF PLAN, FUND, OR PROGRAM
Effective Date _____	Vacation \$ _____	_____
	Health & Welfare \$ _____	
	Pension \$ _____	
Travel Pay \$ _____	Apprentice/ Training \$ _____	
	Other \$ _____	
CLASSIFICATION	FRINGE BENEFIT HOURLY AMOUNT	NAME AND ADDRESS OF PLAN, FUND, OR PROGRAM
Effective Date _____	Vacation \$ _____	_____
	Health & Welfare \$ _____	
	Pension \$ _____	
Travel Pay \$ _____	Apprentice/ Training \$ _____	
	Other \$ _____	

Inspector's Daily Report

MDOT

3/10/2006 10:21 AM

FieldManager 4.1a

Contract: 012115.00, TRAINING FMGR 2006

IDR Date 3/10/2006	Day of Week Friday	Sequence No. 1	Import Date N/A	Project / Resident Engineer LENNY LIDBACK
Inspector's Initials-Name SA Administrator			Federal Project Number STP-1211(500)X	
Prime Contractor LANE CONSTRUCTION CORP. (THE)				
Entered By SA, Administrator		Revised By SA, Administrator		Revision Date 3/10/2006 8:54 AM
				Revision No. 1
Temperatures Low: 21 ° F High: 28 ° F			Weather Sunny	
Comments This IDR is for the purpose of creating an estimate for payment only.				

Contractors

Contractor's Name	Personnel	No.	Hrs.	Equipment	No.	Hrs.
LANE CONSTRUCTION CORP. (THE)						

Item Postings

Project: 012115.00, EASTON

Category: 0001, HIGHWAY ITEMS

Item/ Material Description	Item Code	Prop.Ln.	Location	Quantity	Unit	Brkwn ID	Attn
AGGR SUBB COURSE - GRAVEL	304.10	0120	Sta 10+00 to Sta 12+00	163.000	CY		
Contractor: LANE CONSTRUCTION CORP. (THE)							
Item Remarks: Ref inspectors notes in construction book #2 pages 2,5,6,7,& 8. For finegrade checks ref book 3 pages 2 & 3. For comps see FQCB.							
ALL-PURPOSE EXC (INC OPERATOR)	631.12	0450	On Project	7.000	HR		
Contractor: LANE CONSTRUCTION CORP. (THE)							
Item Remarks: Ref Drew # 8 located in FQCB. and Inspecters notes in Book 2 page 13.							
COMMON EXCAVATION	203.20	0050	Sta 10+00 to Sta 12+00	163.000	CY		
Contractor: LANE CONSTRUCTION CORP. (THE)							
Item Remarks: Ref inspectors notes in construction book #2 pages 2,5,6,7,& 8. For subgrade checks ref book 3 pages 2 & 3. For comps see FQCB.							
FLAGGER	652.38	0560	On Project	207.000	HR		
Contractor: LANE CONSTRUCTION CORP. (THE)							
Item Remarks: Ref Flagger report # 2 & 3 located in FQCB.							
MAINT OF TRAFFIC CONTR DEVICES	652.36	0550	On Project	10.000	CD		
Contractor: LANE CONSTRUCTION CORP. (THE)							
Item Remarks: ref construction book 3 pages 5 & 10 for notes of acceptance							

Reviewed By: _____ (Signature) _____ (Date)

Contract: 012115.00

IDR: 3/10/2006, SA, 1

Page 1 of 1

Inspector's Daily Report

MDOT

3/10/2006 1:12 PM

FieldManager 4.1a

Contract: 012115.00, TRAINING FMGR 2006

IDR Date 3/10/2006	Day of Week Friday	Sequence No. 3	Import Date N/A	Project / Resident Engineer LENNY LIDBACK
Inspector's Initials-Name SA Administrator			Federal Project Number STP-1211(500)X	
Prime Contractor LANE CONSTRUCTION CORP. (THE)				
Entered By SA, Administrator		Revised By		Revision Date
Temperatures Low: 56 ° F High: 72 ° F		Weather sunny		
Comments This IDR is for the sole purpose of creating an estimate to pay for Butt Joints.				

Item Postings

Project: 012115.00, EASTON

Category: 0001, HIGHWAY ITEMS

Item/Material Description	Item Code	Prop.Ln.	Location	Quantity	Unit	Brkwn	ID	Attn
PAVEMENT BUTT JOINTS Contractor: LANE CONSTRUCTION CORP. (THE)	202.203	0040	Throughout the project, drives and entrances.	413.000	SY			
Item Remarks: Ref Construction bk 2, pgs 20 & 21 for notes of inspection. Ref bk. 4 for pgs. 1-3 for measurements and comps.								

Reviewed By: _____
(Signature)
(Date)

Inspector's Daily Report

MDOT

3/10/2006 1:02 PM
FieldManager 4.1a

Contract: 012115.00, TRAINING FMGR 2006

IDR Date 3/10/2006	Day of Week Friday	Sequence No.	Import Date N/A	Project / Resident Engineer LENNY LIDBACK
Inspector's Initials-Name SA Administrator			Federal Project Number STP-1211(500)X	
Prime Contractor LANE CONSTRUCTION CORP. (THE)				
Entered By SA, Administrator		Revised By	Revision Date	Revision No.
Temperatures Low: 58 ° F High: 76 ° F		Weather sunny		
Comments This IDR is for the sole purpose of payment for Structural pipe arch. Work order # 3				

Item Postings

Project: 012115.00, EASTON

Category: 0001, HIGHWAY ITEMS

Item/ Material Description	Item Code	Prop.Ln.	Location	Quantity	Unit	Brkdown	ID	Attn
STEEL STR PL PIPE ARCH:	509.12	0605	on Project	1.000	LS			

Contractor: LANE CONSTRUCTION CORP. (THE)

Item Remarks: The pipe arch assembly ref bk. 2 pg.10 for torque readings. Installing coffer dams to prepare for pipe installation. Ref. Inspector notes bk. 2, pages 10,11, & 12. Ref bk 2, pgs. 15-16 for excavation and installation grade checks ref.bk.3 pg. 21 -22.

Reviewed By: _____ (Signature) _____ (Date)

APPENDIX C

Project Records Final Documentation Inventory List

PROJECT RECORDS FINAL DOCUMENTATION INVENTORY LIST AS NEEDED

1. COMPLETION OF PHYSICAL WORK NOTIFICATION (E-MAILED TO CONTRACTOR, FINALPAYMENT.MDOT@MAINE.GOV AND CC TO NAMES LISTED ON LETTER).
2. PROJECT PLANS – ½ SIZE
3. SPECIAL PROVISIONS BOOK WITH ADDENDUMS
4. TIME CHARGE REPORT
5. RIGHT OF WAY ENCROACHMENT LETTER
6. CONTRACTOR EVALUATION
7. PAYROLL TRACKING SHEET, PAYROLLS AND INTERVIEWS
8. SUBCONTRACTS
9. SCHEDULE OF WORK
10. SOILS REPORT
11. PERMIT(S)
12. TRAFFIC CONTROL PLAN
13. EROSION CONTROL PLAN WITH CONTRACTOR LOG
14. PROGRESS MEETING MINUTES
15. ENGINEERS ESTIMATE
16. PROJECT DIARY (FIELD MANAGER-CONVERT TO PDF)
17. FINAL QTY BOOK (FIELD MANAGER-CONVER TO PDF)
18. FINAL QUANTITY CHECKER'S SHEET (FIELDMANAGER ONLY)
19. CONSTRUCTION BOOK(S)
20. INSPECTORS DIARY(S)
21. DRAINAGE BOOK(S)
22. GRADE CHECK BOOK(S)
23. FINAL QUANTITY COMPUTATIONS FILE
24. TESTING FILE
25. FABRICATION REPORTS
26. INSPECTOR SUBMITTAL REPORTS (BRIDGE PAINTING)
27. CORRESPONDENCE FILE
28. COVER SLIPS (MANILA ENVELOPES)
29. TRUCK AND DELIVERY SLIPS (MANILA ENVELOPES)
30. AS-BUILTS (TO BE SUBMITTED TO PROGRAM-NOT CONTRACTS)

APPENDIX D

FHWA Inspection and Documentation Requirements

Labor Compliance

Become familiar with the U.S. Department of Labor (USDOL) labor compliance provisions contained in Form FHWA 1273. Evaluate the effectiveness of the contractor and the contracting agency in administering these requirements:

- ▼ Weekly payrolls are submitted from the prime contractor and all subcontractors.
- ▼ Statements of compliance are signed and attached to payrolls.
- ▼ Seven-day pay periods are established and constant.
- ▼ Wages and fringe benefits are at rates not less than those predetermined by the Secretary of Labor as contained in the contract provisions.
- ▼ Work performed by any specific class of employees, including helpers and apprentices, conforms to the classifications set forth in the contract provisions.
- ▼ Employee classifications are correct for the work performed.
- ▼ Payroll forms reflect number of hours worked per day and per week.
- ▼ Gross and net wages are shown.
- ▼ When hours worked exceeds 40 in any work week, 1.5 base rate is paid.
- ▼ All weeks to date are accounted for.
- ▼ There is no evidence of any disproportionate employment of laborers, helpers, or apprentices that would indicate avoidance of the appropriate journeyman wage rate provisions.
- ▼ Trainee/apprentice documentation on file.
- ▼ Spot check interviews with employees of the contractor and subcontractors; comment on how these interviews are documented in project records. Make several spot interviews with employees and document findings.
- ▼ The contract wage rates are posted and available to the contractor's and subcontractor's employees.
- ▼ Unresolved violations are properly dealt with in accordance with STA, FHWA, and USDOL procedures.
- ▼ FHWA representatives are kept aware of labor discrepancies.
- ▼ The STA is preparing and submitting the Semi-Annual Labor Compliance Enforcement Report, Form FHWA 1494.

Bulletin Board

Verify that the prime contractor maintains a bulletin board in a prominent location where employees congregate. Refer to the appendix of FHWA's Contract Administration Core Curriculum Manual for a listing of job site posters and Federal forms to be displayed (www.FHWA.dot.gov/programadmin/contracts/poster.htm).

Construction Safety

Become familiar with the USDOL Occupational Safety and Health Administration (OSHA) provisions contained in 29 CFR 1926 (see the OSHA Web site: www.osha.gov).

- ▼ Evaluate the effectiveness of the contractor and the contracting agency in administering safety and health requirements.
- ▼ Document STA guidance provided to field engineers and inspectors on their role and responsibility.
- ▼ Inspect the project to identify potential safety and health hazards; photograph concerns for discussion with the STA and the contractor.
- ▼ Document how many contractor personnel workdays have been lost to project injury.
- ▼ Obtain a copy of OSHA Document 2202 for a quick reference.

APPENDIX D

Guide for Making Inspections-in-Depth on Federal-Aid Highway Construction Projects

General

Purpose of Inspections-in-Depth

The need for and purpose of making inspections on Federal-aid highway construction projects can be found in 23 United States Code (USC). Representing the Secretary of Transportation, we are charged with certain responsibilities. 23 USC 114 states:

The construction of any highways or portions of highways located on the Federal-aid system shall be undertaken by the respective State transportation departments or under their direct supervision...such construction shall be subject to the inspection and approval of the Secretary.

This responsibility is further clarified in memoranda dated June 22, 2001, Policy on the Stewardship and Oversight of the Federal Highway Programs, and January 8, 2003, Stewardship and Oversight of the FHWA Construction Programs (see Appendix A).

It is recognized that because of staffing and time limitations, it will not be possible to make thorough inspections of all active projects with FHWA oversight. From time to time, however, the division field engineer should designate a number of representative projects upon which comprehensive, thorough, complete, and detailed inspections and analyses of a selected phase or phases of the construction and engineering are to be made. The primary purpose of an inspection-in-depth (IID) and analysis of the findings is to evaluate the accuracy, adequacy, and effectiveness of procedures, methods, controls, and operations used by the contractor and the State to assure high quality construction, accurate determination of quantities, and correct payment in accordance with the contract provisions. Should the findings on these inspections disclose the need for additional controls, supervision, or improvements, a statewide process review/product evaluation (PR/PE) should be conducted.

Intent of Guide

IIDs, like PR/PEs, are a tool to support the State transportation agency's (STAs) construction management program. This guide is intended to provide assistance to field engineers in the performance of IIDs. It is neither practicable nor desirable to specify precisely each step to be taken on an IID because of the many variations encountered on different projects and the specific reasons for making a particular inspection. It is expected that divisions may supplement this guide by adding material applicable to the conditions in their particular jurisdictions.

Scope of Inspection-in-Depth

IIDs may be specific or broad in nature. Steps presented herein are intended to facilitate the inspection of the more common types of work and to obtain a reasonable degree of uniformity. This guide is not a substitute for the exercise of good judgment, especially in determining the scope and depth of the inspection.

Refer to the generic inspection guidelines linked to the FHWA headquarters Construction and Maintenance Web page (www.fhwa.dot.gov/construction/reviews.htm).

Basis of Evaluation

Base the engineering evaluation of construction work on the approved plans, specifications, special provisions, contract provisions and applicable agency standards, instruction manuals, and operating procedures. Ensure that program or project concerns are brought to the attention of the appropriate officials with a recommendation for effecting desirable improvements on present and future work.

Responsibility of Inspecting Engineer

The field engineer is directly responsible for all work in his or her assigned area. *Make the IID as defined in the division's operating procedures.* If specialized knowledge of the construction project work is necessary, ensure that the IID is a team effort with the appropriate technical specialists as team members.

Reach agreement with State personnel on corrective action that will be taken to address findings, and establish a time frame for implementing the action. Elevate the discussion to the STAs resident engineer, district office, or central office if required. Notify the FHWA division office if a condition or deficiency requires immediate attention and resolution cannot be obtained on-site. In situations where immediate attention is not required, the following approaches are available to assure the appropriate action is taken:

- a. Transmit the inspection report by letter requesting appropriate corrective action (this should always be the first step when resolution cannot be resolved at the project level).
- b. Make the affected item of work nonparticipating.
- c. Suspend Federal participation in progress payments (49 CFR 18.43).
- d. Make the project nonparticipating.

The goal is for FHWA field engineers and STA field personnel to reach agreement on appropriate action to address findings of concern; in rare situations, more aggressive action is required. Consult with the FHWA division office management when these situations occur.

Selection of Project or Phase of Operations

Select the particular projects and phases of operations for an IID in consultation with your supervisor and construction management program. Base the selection on defined objectives. Schedule the inspection of any individual phase when that particular phase is actively under way on the project. Evaluate new construction techniques whenever possible and prepare a summary report for posting on the FHWA headquarters Construction Web page (www.fhwa.dot.gov/construction/reviews.htm).

Frequency of Inspections-in-Depth

The number and frequency of IIDs will vary according to the need for such reviews and according to the availability of personnel to make them. Inspections-in-depth are preferred to more general contact reviews. Contact reviews typically do not provide adequate knowledge of the substantive operations underway. Contact reviews do provide an opportunity to review project time and cost status, as well as to maintain rapport with the project team. Within each division, there will be certain areas of the State that will warrant more emphasis than others; similarly, there will be certain phases of operations that will require more concentration of effort.

Time Required for Inspection

The time required for each inspection will depend upon the extent of inquiry and investigation considered warranted by the circumstances encountered and the number of construction operations involved. Ensure that sufficient time is available to thoroughly investigate the phases of the operations that are the objective of the inspection. Adequate review of paving operations on a major project, for example, may require about three days at the project site.

Contract Documents

Prior to visiting the site of the project selected for inspection, study the plans and specifications governing the work to assure familiarity with all phases of the project. Place special emphasis on the features that are anticipated to be the focal points of concern during the inspection. In States where the contractor is required to develop a project-specific quality control plan, ensure that the plan is an integral part of any IID that involves material or product acceptance.

State Construction and Materials Manuals

Prior to visiting the site of the project selected for inspection, review the STA's construction and materials manuals for applicability to the work. These documents set forth the basic operating instruction to STA field personnel and generally define inspection and acceptance procedures.

Quality Assurance Requirements

23 CFR 637 sets forth the policies, procedures, and guidelines to assure the quality of materials and construction on Federal-aid highway NHS projects. Become familiar with the requirements within this regulation and ensure that they are being properly administered on the project. Focus specific attention on these processes:

- ▼ Random quality control sampling and testing performed by qualified personnel employed by the contractor or vendor.
- ▼ Random verification sampling and testing by qualified testing personnel employed by the STA or its designated agent, excluding the contractor or vendor (split samples not acceptable).
- ▼ Optional use of contractor's quality control for the acceptance decision when properly verified by the owner.
- ▼ Use of qualified laboratories for all testing of materials as a basis of acceptance.
- ▼ Independent assurance sampling and testing by qualified personnel employed by the STA or its designated agent, excluding the contractor or vendor.

Evaluation of Project Personnel

Evaluate the STA and contractor personnel assigned to the project for adequacy as to number, knowledge, skills, and abilities. Consider findings made on previous inspections on the same project or other projects that may be reoccurring.

Obtain information by general and technical discussion of the work and by reviewing diaries and project records. Strive for open communication and to develop an atmosphere of trust. Avoid focusing on minor issues of very low risk.

Observe the attentiveness and effectiveness demonstrated by the project personnel at the site. The on-site review quite often provides a better basis for evaluation than the specifics of an individual's education or on-the-job experience as documented in personnel records. Include comments on the attentiveness and effectiveness of the project personnel in the report. Adequate and assertive responses to questions are good indications of proper experience. Comment on education and experience data only when it appears that certain individuals are not adequately performing their duties and their performance is believed to result from lack of training and experience.

Adequacy of Delegated Authority

Evaluate the extent of the authority that has been delegated to project engineering personnel; verify that delegation of authority is adequate to permit conducting the work effectively. Ascertain whether inspectors and other engineering personnel below the level of the project engineer have been given sufficient instruction to have adequate understanding of their authority and responsibilities. Verify that project personnel understand and have an appropriate number of contract documents and other guidance material.

Preconstruction Conference

Determine if a preconstruction conference was held and, if so, who participated, whether an agenda was used, and if minutes were developed. Read the minutes to familiarize yourself with the project. Confirm that issues raised during the preconstruction conference have been properly resolved.

Report Summary, Recommendations, and Followup

Prepare a report of each IID and distribute in accordance with division office procedures. Refer to example forms for inspections as shown in Appendix G and on the FHWA headquarters Construction Web page: www.fhwa.dot.gov/construction/reviews.htm.

Within the report, identify the project, location, contractor, and project engineer; provide a general description of the work and a more detailed description of the particular phases of work involved in the inspection. Use inspection questionnaires based on the specific contract requirements and STA procedures.

Discuss deficiencies, irregularities, and concerns, along with exemplary work, in adequate detail to provide an understanding of the issue. Emphasize recurring concerns by using photographs, charts, and tabulations.

Avoid overemphasizing deviations from desirable procedures that are trivial in character or that do not have significant effect on the value or serviceability of the completed project nor on the effectiveness of the control over the work.

Include a concise summary statement of the important findings and recommendations for corrective actions if any are required. Whenever improvements are necessary or

desirable, ensure that there is appropriate followup to verify that corrective action is taken and that the desired results are accomplished. In some instances, conditions and practices found on one project will indicate the need for checking whether similar conditions and practices exist throughout the State or jurisdictional subdivision thereof or on other projects where the same engineers and contractors are involved. Establish reasonable time frames for the resolution of issues.

Document followup in subsequent reports. When the conditions and actions are limited to one project, report further developments in either special followup reports or in subsequent regular intermediate or final inspection reports. When the conditions are found to exist generally or on a number of projects and the corrective actions have corresponding application, report specific followup actions in special reports. Cross-reference the original IID report and provide the same distribution as the original IID report.

Consider withholding further Federal funds from the project or projects as appropriate when the necessary improvements are not accomplished.

Ensure that the original of the report and all significant work papers are made a part of the division's project files.

Project Supervision and Control

Preconstruction Conferences

Most STAs require that a preconstruction conference be held prior to work commencing. All parties involved in the contract—and representatives from other contracts that could affect the project—should attend. Minutes from the conference should have been prepared and should document, as a minimum:

- ▼ Railroad or utility adjustments
- ▼ Public relations and the interests of abutting property owners
- ▼ Contractor's work plan and schedule of operations
- ▼ Contractor's backup plan for major stages of construction
- ▼ Specific contract requirements
- ▼ Safety measures, traffic management, and traffic control considerations
- ▼ Environmental commitments
 - ▼ Erosion and sedimentation control
 - ▼ Dust abatement
 - ▼ Noise mitigation
- ▼ Rights-of-way available for use by the contractor
- ▼ Time limits and performance of operations including materials delivery considerations
- ▼ Construction time and cost control
- ▼ Emergency response to incidents

Attend these meetings on full involvement projects, if possible, or review the minutes during inspection trips.

Project Diary, Inspectors' Daily Reports, and Orders to Contractor

Examine the project diary, inspectors' daily reports, progress charts, and other data compiled in the field office to facilitate job control. Diaries and inspectors' daily reports are very important documents and must be complete yet concise, accurate, and factual to be effective. Ensure that diary entries are signed and dated and have been reviewed by the engineer in charge. Verify that discussions with the contractor are confirmed in writing and are made a part of the official project file. Review and confirm that there is a complete audit trail for work performed, measured, and paid.

Subcontracting

Ensure the STA's subcontracting procedures on NHS projects meet the requirements set forth in 23 CFR 635.116. State procedures should be followed for non-NHS projects. Review and comment on the extent of subcontracted work. Verify that each subcontract has been approved by the State or that an FHWA-approved contractor certification process is being followed. Review copies of the subcontracts to see that they comply with the contract and contain Form FHWA 1273. Assess the prime contractor's general administration of subcontract work. Ensure that Disadvantaged Business Enterprise (DBE) subcontractors are performing a commercially useful function.

Engineering Surveys

Evaluate the adequacy of the project base control and subsequent construction survey procedures. When the staking of part or all of the work is by the contractor or a consultant, it is recommended that there be adequate verification checks by the STA to assure that the work is correct. If there are survey errors that have led to contract change orders, determine if FHWA participation is appropriate.

Examine a sample of survey notes covering slope staking for grading operations or layout for bridges and culvert construction to determine the degree of clarity and orderliness of procedures. Verify that checks have been made to avoid errors in layout.

Examine a sample of survey notes used for measurement of pay quantities, such as cross-sections, to determine accuracy and correctness of procedures used.

Ensure that project control staking is adequately protected during construction operations.

Quality Assurance

Evaluate the project's quality control and acceptance procedures, personnel, and facilities. If required by the contract, the contractor must develop a quality control plan to define sampling, testing, and inspection procedures to be followed. Refer to Appendix B and Appendix E for samples of quality control plan requirements and actual project-specific plans. The contract will also define required acceptance testing, whether by the STA or by the contractor with STA verification. Ensure that adequate quality control and acceptance is being exercised and that materials incorporated in the work are in substantial conformity with the contract.

Project Laboratory

Verify that contractor-furnished laboratories meet contract requirements. Ensure that scales and measuring devices have current certifications for accuracy. Typical equipment requirements for various construction operations are as follows:

- (1) Grading: sieves, scales, liquid limit devices, compaction test equipment, field density equipment, hot plates or field stove, oven, sampling equipment, sample containers, and drying pans.
- (2) Subbase and base course: sieves, sample splitters, scales, hot plates, devices for determination of moisture content and liquid limit, drying pans, and apparatus for making laboratory compaction tests and for determining in-place densities.
- (3) Hot mix asphalt (HMA): thermometers, sieves, sample splitters, scales, hot plates or field stove, burn-off oven, equipment for taking samples from the pavement, and apparatus for determining pavement density and stability of the HMA mixture.
- (4) Portland cement concrete: slump cone or other specified equipment for determining consistency of the mix, air meter, concrete cylinder or beam molds, sieves, sample splitters, scales, pans, stove or hot plate, and containers for determining unit weights.

Determine what method is used by the STA to “qualify” the laboratories used for NHS project testing as required by 23 CFR 637. If the IID permits review of the STA’s central laboratory, verify that it has been accredited by the Accreditation Program of the American Association of State Highway and Transportation Officials (AASHTO) or a comparable laboratory accreditation program approved by FHWA (23 CFR 637). District laboratories may be accredited by the AASHTO Accreditation Program or a comparable laboratory accreditation program approved by FHWA or reviewed by the STA’s central laboratory.

Materials Inspection Personnel

Identify the inspectors assigned to the particular phases of the work and discuss their responsibilities with them. Focus on these responsibilities:

- ▼ Inspection duties
- ▼ Field diary entries
- ▼ Tests required and frequency
- ▼ Test results and statistical summaries
- ▼ Action on marginal or failing tests
- ▼ Records forwarded to the project engineer
- ▼ Inspectors’ particular sampling and testing qualifications

Appraise the technical ability and effectiveness of the inspector and evaluate the adequacy of the control methods applied on the project. Observe the inspector’s sampling and testing techniques to ensure that the specified procedures are being followed.

Test Reports

Check the project files to verify these testing conditions:

- ▼ All materials are covered by adequate quality control and acceptance tests, and the frequency of sampling and testing is in accordance with the contract’s schedule of test requirements.
- ▼ The statistical method used to verify the contractor’s test population has been validated by independent random STA tests.
- ▼ Third-party independent assurance test results (split samples) compare favorably with project quality control and acceptance tests.

Report minimum and maximum test results and statistical summaries with appropriate remarks regarding the suitability of the material. Evaluate project office procedures for filing test reports, checks made to ensure that all necessary reports have been received, methods to readily identify unsatisfactory or borderline materials, and general house-keeping methods in the handling of the reports.

Ensure that any deviations from the specifications indicated by the test results are explained and that all corrective actions taken are documented. Comment on the disposition of all nonconforming materials received on the project. Verify the process for getting deviations listed in the project’s final material certification on NHS projects (23 CFR 637.201).

Verify that certifications, inspections, and test reports on manufactured materials document conformity with the specification and that the test reports on file cover the materials actually delivered to the project. Determine whether certifications for iron and steel products conform to Buy America requirements.

Witness the sampling and testing of quality control and acceptance tests to the extent practical. Take independent measurements of width and depth of bases, surfaces, and other components of the construction, including structures, to validate that the project is being constructed in substantial compliance with the plans and specifications.

Measurement of Quantities

Ensure that the methods used in the measurement of quantities meet contract requirements (23 CFR 635.123).

Determine the frequency of contractor progress payments. Verify that the appropriate quantities of completed work are reported for progress payments. Comment on whether or not a new overall estimate is made for each progress estimate or if computed monthly work quantities are merely added on the estimate of work done during each succeeding period; the latter could result in cumulative errors of consequence. Check the quantity calculations for two or three major items and one or more minor items. Note significant digits. The validity of final estimates cannot be greater than the accuracy exercised in making the field measurements used in the computations. Careless field measurements are difficult to detect, but an examination of the field books will provide some indication as to the extent to which good survey and measurement practices are being followed. Identify in the report what bid items or stockpiled materials were reviewed, if properly identified, dates and personnel making the measurements, proper explanations and initials on corrections, and overall legibility.

At the final estimate stage, review final quantities in considerable detail on a few items. Note assumptions made, significant figures, accuracy observed, and amount of checking done. Indicate the extent of checks and reviews made beyond the project level, such as in the district and central offices. Where appropriate, evaluate the additional checks to assure the sufficiency of the validation.

The following is a summary of recommended inspection techniques:

- ▼ Verify that the items reviewed were measured in the units called for in the contract provisions and that the methods of measurement prescribed in the contract and in authorized instructions were followed.
- ▼ Examine project records to insure that all materials measured for payment were delivered and incorporated into the project or stockpiled for future incorporation.
- ▼ When payment is based on weight or mass, verify the accuracy of the measurements; consider the calibration of scales, checking of truck tare weights, and weighing of haul loads.
- ▼ Where payment is based on loads delivered to the project, either on a weight or volume basis, verify the procedures followed for assuring validity in receipt of haul tickets. Discuss the procedures in effect with the project personnel. Focus on practical concepts (falsified haul tickets can be determined by analyzing project records and determining that the number of trips reported was impossible considering time and length of haul involved).
- ▼ Where area methods of measurement are specified, make dimensional checks to the extent necessary to verify the actual work performed. Ensure that measurements were made at the proper time and prior to the subsequent placement of other courses of materials.
- ▼ Where final quantities are determined by volume computations, verify the method of measurement and documentation of calculations.

Construction Changes and Extra Work

On full oversight projects, be aware of circumstances that required the changes in the plans and specifications. Comment on the need for the construction change and whether the revisions and additions are necessitated by conditions that could not be reasonably anticipated before the project was advertised for bids. Discuss weaknesses in the preparation of plans, specifications, and estimates, and other deficiencies of this nature to assist in funding determinations and in strengthening the State's design procedures and the FHWA's review procedures. Document the steps taken by the Construction Unit to inform Design of plans errors and omissions resulting in change orders.

Verify that proposed changes are consistent with sound design and construction practices and are compatible with the objectives sought in the original design and environmental clearances. Ensure that decisions are in the public interest, are not swayed by the expediency of construction convenience, and are not counter to the intended design concepts.

Support cost-effective changes that improve aesthetics, reduce overall construction costs, and improve the safety of the highway. Verify if project personnel take steps to incorporate these advantages into the project (e.g., an unexpected surplus of excavation becomes available that could be placed within an interchange loop or used to flatten embankment slopes, thus eliminating guardrail and increasing the safety features of the highway).

Become familiar with the Division/STA Stewardship Plan, the definition of major and minor changes, and the approval process on full oversight projects; refer to 23 CFR 635.102 and 23 CFR 635.120. Evaluate the reasonableness of unit prices, labor, overheads (field and unabsorbed home office), and rental rates established for items of work to be performed. Since the cost to process a change order is a direct project expense, consider the following “rules of thumb” when evaluating changes: obtain a better product at no increase in cost or time; obtain an equivalent product at a

savings in cost or time; use a change when the product as designed can not be constructed at no fault of the contractor (differing site conditions, “acts of God,” etc.).

Ensure that project personnel have evaluated and documented the effect of the contract change to the approved project schedule. Include the appropriate time extension on the change order; refer to 23 CFR 635.121.

Contract Time Charges, Time Extension, Liquidated Damages, and Cost Control

Verify that project personnel are assessing the correct time charges. Compare work completed, as noted in project diaries, to contract time charges. Evaluate the contractor’s critical path method schedule to support time charges. Ensure that contractors are provided formal warning when work is behind schedule and that corrective actions are requested.

Ensure that the correct liquidated damages are assessed on projects that exceed the allowable contract time; refer to 23 CFR 635.127.

Review contract expenditures and changes to ensure that the work is constructed in accord within the approved scope, cost, and termini.

Grading and Associated Items

Maintenance of Traffic

Verify that maintenance of traffic and preservation of abutting property owners' interests are in accordance with contract provisions. Observe that the proper barricades, signing, striping, and flagging are in place to ensure the maximum safety to the public and the workers. Examine the project diaries and other project records to verify that revisions to the approved traffic control plans are documented. Drive through the project and verify that a stranger to the area can satisfactorily pass through or reach a destination within the project termini. Ensure that maintenance of traffic is reviewed daily by project personnel, followups on findings are made, and field corrections documented.

Utilities

Observe the coordination of the work between the contractor and railroad or utility companies, the supervision and inspection by the project personnel, and the efficiency and economy with which the work is being performed. Where the work is reimbursable, verify project record documentation:

- ▼ Labor used, including classifications, number of personnel, and hours worked.
- ▼ Equipment used (including type, capacity, and amount of usage).
- ▼ Materials utilized (whether they are used or new).
- ▼ Materials retired and their disposition (e.g., salvaged, returned to stock, or junked). Evaluate the procedures and practices used to determine if retired materials should be left in place, salvaged, returned to stock, reused, or junked, and the appropriate credits.
- ▼ Special features such as unusual soil conditions, rock, presence of excessive moisture, dewatering required, adequacy of backfilling operations, weather, and unusual conditions that affect the prosecution and cost of the work.
- ▼ Contract units constructed if time and material reimbursement is not used.

Removal of Structures and Obstructions

Verify that any structures and other improvements removed were disposed of in compliance with contract provisions. Ensure that any hazardous materials, such as lead-painted girders, were sent to the appropriate disposal site and that the required documentation is in the contract files. Where salvage value is required, verify that the appropriate Federal share is credited to the contract.

Clearing and Grubbing

Prior to work beginning, verify that these conditions are met:

- ▼ Clearing limits are clearly marked.
- ▼ Trees, shrubs, and other items that are to remain are marked and protected.
- ▼ Project survey control is marked and protected.
- ▼ Erosion control features are in place.
- ▼ Project personnel are familiar with environmental commitments.
- ▼ A plan is in place for stockpiling merchantable timber unless it is the property of the contractor.
- ▼ Burning plans have been approved by the appropriate jurisdiction.

Observe the adequacy of operations for removal of stumps, organic materials, and other objectionable materials to the specified depth throughout the required limits of construction. Verify procedures for stockpiling topsoil including stockpile erosion control.

Grading and Drainage

Review the soil survey report or soil profile sheets to become familiar with conditions:

- ▼ Identification or classification of the soil or rock types expected to be encountered throughout the project (Note: this information is useful should a differing site claim be submitted by the contractor.) Verify if the bidding contractors had access to the soils report.
- ▼ Location of areas requiring special treatment and the type of treatment specified.
- ▼ Location of borrow materials for embankment and subgrade improvement if specified.
- ▼ Requirements for soil selection in placing poorer soils in lower portions of fill sections and better soils in top lifts.

Verify that the quality control and acceptance procedures are being followed to ensure that specification requirements are met.

Ensure that information on the following conditions is included in the project records:

- ▼ Depth of lifts compacted.
- ▼ General conditions under which embankments are placed.
- ▼ Moisture and density tests required.
- ▼ Density curves utilized and method for matching the curve to the soil type(s) being compacted.
- ▼ Test results obtained.
- ▼ Subexcavation required, the quality of replacement material, and the methods used for measuring and paying. Note whether subexcavation was anticipated and properly provided for in the contract or if payment is by contract change order.
- ▼ Examine and comment on the uniformity of embankment and cut sections, compliance with contract requirements, and proper slope for drainage. (Assuming the catch points remain as designed, fill slopes constructed with a steeper slope than designed can significantly increase embankment quantities and can result in excessive erosion and safety concerns.)
- ▼ Erosion control procedures.
- ▼ Control exercised to secure the required finished grade and cross-section including slope rounding.
- ▼ Measurement of roadway cross-sections as to conformity with plans.

- ▼ Final measurements of borrow areas.
- ▼ Borrow area appearance and drainage.
- ▼ Roadway and borrow excavation quantity calculations including overhaul.
- ▼ Actual versus anticipated (design) shrink or swell and the method used to calculate actual values.
- ▼ Watering quantities unless subsidiary to the bid item.
- ▼ Culvert material certifications, backfill densities, and alignment.

Pay particular attention to those areas that are difficult to properly control, such as the outside edges of embankments, shallow fills, small work areas, and transitions from cuts to fill.

Review and comment on underdrain installations. Note if underdrain quantities were as anticipated or if major overruns have occurred. Overruns could indicate that additional predesign geotechnical investigation would have been appropriate. Comment on the liaison between the project personnel and the central laboratory in resolving major soil and foundation problems arising during construction.

Review and comment on the waterway, ditches, and drainage structures. Note whether there are abrupt changes in ditch alignment, horizontal or vertical, that could result in future erosion. Verify compliance with the approved Storm Water Pollution Prevention Plan on file in the project office. Verify that appropriate permanent erosion control measures are incorporated at the discharge of culverts and other waterways. Check for sediments leaving the right-of-way.

Match test reports covering the acceptance of corrugated metal culvert pipe and concrete pipe against the actual pipe delivery reports. Verify that the alignment, bedding, and joint construction were examined prior to the backfilling operations and a determination made that the pipe has not been damaged in handling and placing operations. Observe backfilling operations and witness density tests to ensure proper inspection control is being exercised. Evaluate installation procedures and inspection control.

Ensure grade and drain operations are properly supervised and inspected and that the STA has a qualified grade inspector at the point of grading operations during all grading operations.

Structures

Included in this category along with bridges are poured-in-place culverts of any span length.

- ▼ Verify that the quality assurance procedures maintain effective inspection at all points of work. Ensure that operations performed away from the actual site of work, such as the production of concrete at a central plant or manufacturer facility, are covered.
- ▼ Include the division structural engineer in reviews.

The structures inspection category covers driven piling, drilled shafts, shallow foundations, structural steel, general structural concrete, prestressed concrete members, and temporary structures.

Driven Piling

For more information, see "Design and Construction of Driven Pile Foundations, Volume II," FHWA-HI-97-014.

Evaluate pile driving documentation:

- ▼ Equipment and procedures to be followed.
- ▼ Inspector responsibility (observational or directional).
- ▼ Primary contact if problems are encountered.
- ▼ Routing of copies of driving records and daily inspection reports.
- ▼ Required data in the pile driving report.
- ▼ Material certificates.

Inspect piles and equipment prior to driving:

- ▼ Spot check that piles meet specifications for type, size, length, strength, and quantity.
- ▼ Confirm driving shoes and splices (if specified) and connection requirements.
- ▼ Confirm that piles are not damaged.
- ▼ Confirm proper handling and storage.
- ▼ Pile driving hammer is the specified type and size.
- ▼ Hammer cushion is of approved material type, size, and thickness.
- ▼ Helmet properly fits the pile.
- ▼ Pile cushion is correct type material and thickness (concrete piles only).
- ▼ Predrilling, jetting, or spudding equipment (if specified) meets specifications.
- ▼ Lead system meets specifications.

Evaluate inspection of test or indicator pile driving (if required by contract):

- ▼ Correct test pile location.
- ▼ Test pile driving criteria followed.
- ▼ Proper ram weight.
- ▼ Hammer in good working order.
- ▼ Proper alignment of hammer with pile.
- ▼ Helmet remains properly seated on the pile.
- ▼ Hammer hoist line is always slack during driving.
- ▼ Requirements for dynamic testing met.
- ▼ Ground heave noted and recorded.
- ▼ Cut-off elevation checked and recorded.
- ▼ Visual damage of pile recorded.
- ▼ Static testing criteria met.
- ▼ Coordination with designer if additional test piles are required.
- ▼ Coordination with designer when production pile driving is allowed.

Evaluate inspection during production pile driving:

- ▼ Pile driving sequence is proper.
- ▼ Pile plumbness is within tolerance.
- ▼ Driving shoes and splices meet contract requirements.
- ▼ Pile driving logs are properly maintained (see below).
- ▼ Dynamic testing indicates capacity and no damage during driving.
- ▼ Periodic checks are made on the hammer and pile cushions.
- ▼ Ground heave is noted and recorded.
- ▼ Visual damage of pile is recorded.
- ▼ Hammer is warmed up prior to retap.
- ▼ Pipe piles are visually inspected prior to concrete filling.

Ensure that pile driving records contain these items:

- ▼ Project identification number.
- ▼ Project name and location.
- ▼ Structure identification number.
- ▼ Date and time of driving (start, stop, interruptions).
- ▼ Name of contractor.
- ▼ Hammer information.
- ▼ Hammer and pile cushions.
- ▼ Pile location, type, size, and length.
- ▼ Pile number or designation matching pile layout plans.
- ▼ Pile ground surface, cut-off, final tip elevation, and embedded length.
- ▼ Driving resistance data throughout driving.
- ▼ Cut-off length, length in ground, and order length.
- ▼ Comments on unusual observations, including reasons for all interruptions.
- ▼ Signature and title of the inspector.

Drilled Shafts

For more information see “Drilled Shaft Foundation Inspection” (National Geotechnical Inspector Qualification Program), NHI Course No. 132070A.

Evaluate preconstruction preparation items as applicable:

- ▼ Review contract requirements.
- ▼ Preconstruction meeting held and minutes documented.
- ▼ Drilled shaft installation plan submitted and approved.
- ▼ Concrete mix design approved.
- ▼ Trial mix designed and concrete slump loss test run.
- ▼ Procedure for taking required soil or rock core samples shaft bottom.
- ▼ Procedures for protection of existing structures.
- ▼ Site preparation completed in accordance with the plans.
- ▼ Procedures for coffer dam inspection.
- ▼ On-site equipment and tools meet the approved drilled shaft installation plan.
- ▼ Correct size(s) casing.
- ▼ Correct slurry mixing equipment.
- ▼ Desanding equipment.
- ▼ Proper tremies.
- ▼ Proper drilled shaft inspection forms are utilized.

Review the findings from the trial shaft installation:

- ▼ Not a production shaft unless allowed by contract.
- ▼ Met contract requirements.
- ▼ Problems encountered resulted in positive revisions to installation techniques or equipment.

Verify production drilled shaft excavation and cleaning procedures as applicable:

- ▼ Shafts are constructed in the correct location and within horizontal tolerances.
- ▼ A benchmark is available and is used to record shaft elevations.
- ▼ Required soil or rock core samples of shaft bottoms are obtained.
- ▼ Slurry levels, tests, and test reports are conducted according to specifications.
- ▼ Soil/rock excavation inspections forms have been completed.
- ▼ Permanent/temporary casings meet specifications.
- ▼ Belling meets specifications.
- ▼ Excavation logs for each shaft are maintained.
- ▼ Completed shafts are within vertical alignment tolerances and to the proper depths.
- ▼ Shaft excavation time meets the specified time limit.
- ▼ Shaft over-reaming is performed in accordance with specifications.
- ▼ Shaft bottoms meet cleanliness requirements.
- ▼ Shaft inspection forms are completed.

Inspect reinforcing cages to ensure:

- ▼ Correct size, configuration, and tying of reinforcing steel.
- ▼ Use of proper spacers.
- ▼ Correct length of splices.
- ▼ A positive method to secure cages from settling or floating during concrete placement.
- ▼ Proper elevation of the top of the cage.

During concreting operations, ensure these conditions:

- ▼ Slurry is tested prior to concrete placement (if applicable).
- ▼ Temporary casings are removed in accordance with specifications.
- ▼ The discharge end of the tremie is maintained at least 1.5 m (5 ft) into concrete mass.
- ▼ The concrete head in tremie is maintained at least 1.5 m (5 ft) above top of slurry.
- ▼ The height of concrete free-fall (dry shaft only) is limited as specified.
- ▼ Placement of concrete occurs within the specified time limit.
- ▼ Concrete placement and volume forms are completed for each shaft.
- ▼ Contaminated concrete overflows shafts until good concrete appears.
- ▼ Concrete acceptance tests are performed as required.

Verify the following postinstallation steps:

- ▼ In open water, shafts are protected 7 days or until concrete reaches specified strength.
- ▼ Permanent casing is cut off at proper elevation.
- ▼ Nondestructive evaluations are completed (if required).
- ▼ Shafts meet all applicable construction tolerances.
- ▼ Drilled shaft logs have been completed.
- ▼ All pay items have been documented.

Shallow Foundations

For more information, see “Shallow Foundations,” FHWA-NHI-01-023.

Evaluate foundation preparation:

- ▼ All unsuitable materials are removed to the approved subgrade.
- ▼ A shoring system is used for excavations greater than 1.5 m (5 ft) deep, or appropriate slopes are constructed.
- ▼ If blasting is required, the blasting program is designed to limit overblasting.
- ▼ Bearing soils exposed overnight or to rain are protected from degradation.
- ▼ Compacted subgrade fill meets material and compaction specifications.

Evaluate groundwater control:

- ▼ The contractor has a site drainage plan to prevent surface water intrusion.
- ▼ Bearing soils softened by intrusion of water are removed prior to footing placement.
- ▼ The contractor has a groundwater control plan when groundwater table is near bottom of excavation.
- ▼ Sump pumps are an option for controlling ground water intrusion in cohesive soils.
- ▼ The contractor’s groundwater control plan includes method(s) to control perched water tables in cohesionless soils without causing piping (well points are an option to control ground water intrusion in cohesionless soils).

Verify:

- ▼ Foundation-bearing stratum in the field is the same as that considered in design.
- ▼ All unsuitable material is removed from below the footing.
- ▼ Required fill material is placed in accordance with specifications.
- ▼ Reinforcing steel and concrete are placed in accordance with contract plans and specifications.
- ▼ Limits of pay for structural excavation.

Structural Steel**Review these items:**

- ▼ Procedures for fabrication shop inspection. Verify compliance on current project.
- ▼ Erection sequence and equipment requirements for lifting. Verify compliance with the approved erection plan.
- ▼ Field connecting and splicing. Focus on field splicing, specifically the inspection procedures employed for field welds and high-strength bolting; welder certifications; required and field-applied torque; method for calibrating torque wrenches.
- ▼ Bearing seats at correct elevation and alignment.
- ▼ Expansion devices properly set.
- ▼ Field cleaning, priming, and painting.

General Structural Concrete**Review:**

- ▼ Minutes from the prepour meeting (attend if possible).
- ▼ Forms for support, tightness, form release agent, defects in the lumber, and removal of debris.
- ▼ Approvals of the formwork and falsework and means of checking deflections during concrete placement operations.
- ▼ Approved mix design and source of materials; verify proper sequence for adding admixtures.
- ▼ Condition, tying, and support of the reinforcing steel and other imbedded items such as conduits, void spaces, bolts for railings, etc.; ensure damage to coatings is repaired.
- ▼ Inspection and record procedures used for documenting that reinforcing steel and other imbedded items are placed in accordance with the plans and that the number, sizes, and splice lengths of bars are verified and correctly summarized for pay purposes.
- ▼ Record heat numbers of reinforcement delivered and installed; verify correlation to test reports or certifications.
- ▼ Methods used in placing and finishing the concrete.
- ▼ Air content and strength testing.
- ▼ Time between batching and placement of each load of concrete.
- ▼ Procedures for assuring that the riding surface, curbs, and walks, etc., conform to the proper grades and cross-section.
- ▼ Final finishing and curing procedures.
- ▼ Fabrication, erection, alignment, and quality of workmanship in the railings.

Examine those physical features of completed work that are visible:

- ▼ Apparent workmanship and degree of care given by the quality control and acceptance process.
- ▼ Visual lines and grades.
- ▼ Straightness of overhangs, curb chamfers, railings.
- ▼ Uniformity of the surface texture.
- ▼ Surface drainage and outfalls.
- ▼ Uniformity of position of roller-bearing devices.
- ▼ Conformance of expansion plates to the grades of the deck and required gap.
- ▼ Final cleanup; the removal of temporary supports, detour facilities, and debris.

Review field office documentation:

- ▼ Test reports.
- ▼ Pay quantities. Verify that calculations meet standard specification requirements.
- ▼ Delivery records (invoices, delivery tickets, reports, etc.) on incorporated materials.
- ▼ Verify that test and inspection reports covering materials incorporated in the minor structures document compliance with the contract.

Prestressed Concrete Members

Review during construction:

- ▼ Procedures for prestress plant inspection; verify compliance on current project.
- ▼ Erection sequence and equipment requirements for lifting; verify compliance with the approved erection plan.
- ▼ Bearing seats at correct elevation and alignment.
- ▼ Inspect beams for correct camber, length, alignment, and damage.

Temporary Structures

Ensure:

- ▼ Shop drawings or plans are signed by a registered professional engineer.
- ▼ Structure meets plan requirements for minimum roadway width, vertical clearance, and minimum opening size.

Subbase and Base

- ▼ Verify if this should include subgrade.
- ▼ Verify that the quality control and acceptance procedures maintain effective inspection at all points of work.

Subgrade

- ▼ Verify procedures used to document subgrade preparation for grade, cross-section, surface uniformity, moisture content, density, and correction of soft spots prior to placing subsequent pavement structure.
- ▼ Verify subbase and base as-constructed and material properties.

On projects where the final thickness of the pavement structure is established from test results obtained from the constructed subgrade, verify the frequency and adequacy of the on-site sampling and testing; check that the recommended thickness is in conformity with the State's design criteria for thickness of flexible pavements.

Aggregate Material Sources

- ▼ Examine material sources (pits or quarries) for uniformity of materials, presence of pockets or lenses of deleterious material, pit operations, supervision, and other production procedures.
- ▼ Check on any materials source testing and approvals.
- ▼ Comment on the uniformity of product.
- ▼ Document whether the source has been designated by the STA or selected by the contractor and approved by the STA.
- ▼ Verify that appropriate environmental clearances were obtained.
- ▼ Inspect processing equipment for compliance with specifications. If more than one material is proportioned and mixed into a combined subbase or base material in order to comply with the specifications, either in a central plant or by road mixing operations, determine the types, quality, and proportions of the materials used and the tests performed to ensure that the specified proportions are followed and that the end product complies with the specified requirements.

On-site Production

- ▼ Review quality control and acceptance moisture, density, aggregate quality, and gradation tests.
- ▼ Verify subbase and base width and compacted thickness.
- ▼ Ensure that soft or failing subgrade areas were replaced prior to placement of subbase or base.
- ▼ Verify method used for documenting pay quantities.

Paving

Verify that the quality control/quality acceptance procedures maintain effective inspection at all points of work.

Conventional Seals

Evaluate:

- ▼ Contractor's equipment and procedures.
- ▼ Condition (properly cleaned, patched, and graded) of the surface to receive the prime or surface treatment asphalt.
- ▼ Control of heating and means for the verification of the quantity and temperatures of the asphalt.
- ▼ Quality and quantity of aggregate.
- ▼ Weather conditions at the time of application.
- ▼ Technique for application of cover stone and the attention given to the obtainment of uniformity and completeness of coverage.
- ▼ Rolling and subsequent maintenance of the cover stone during the curing or setting period.
- ▼ Requirements for opening to traffic.

Hot-Mix Asphalt Pavements

Prior to observing work, examine the prepave meeting minutes. Use these notes to become familiar with work processes to be observed. Discuss procedures established to maintain continuous and effective inspection at all points of work and proper liaison between quarry, plant, and paving operations. Verify that plant production has been designed to meet delivery, laydown, and compaction rates (i.e., continuous production with minimal stops and starts).

Evaluate:

- ▼ Equipment, to determine whether its type, size, and operation comply with the contract requirements, if applicable.
- ▼ Backup equipment in case of breakdowns.
- ▼ Procedures for checking and maintaining payment records for asphalt and the asphalt mix, and for documenting that all items paid for are actually incorporated into the pavement; pay particular attention to criteria established to define acceptance.
- ▼ Diaries, plant and road reports, and other day-to-day records of the operations.

- ▼ Use of control charts to control operations.
- ▼ Operation of cold-feed proportioning, the dryer, screening, and batching equipment.
- ▼ Mixing time.
- ▼ Substrata condition ahead of the placement of the hot-mix asphalt (i.e., tack or prime coat, cleaning, patching, absence of raveling, etc.).
- ▼ Adequacy and effectiveness of the contractor's operations and the STAs inspection of the laying operations.
- ▼ Continuity in the delivery, laydown, and compaction (minimal stops and starts).
- ▼ Temperature of the mix versus required range (plant and laydown).
- ▼ Thickness and calculated spread rate.
- ▼ Slope pavement (eliminate edge dropoffs for errant vehicles).
- ▼ Density results.
- ▼ Finished section smoothness, cross-section, and transitions.
- ▼ Grade match into manholes, curb and gutter, and water valves.
- ▼ Work zone safety and control.
- ▼ Uniformity of gradation, asphalt content, and other mix properties.
- ▼ Applicable contract warranties.

Observe field inspector and laboratory personnel as they perform their normal duties. Comment on inspections of the batching operations, weighing of trucks (both empty and full), collection of samples at all points and where they are taken, performance of the various tests, adequacy of the facilities and equipment, etc. Comment on how soon test results are available and necessary adjustments or corrections are made based on this information.

Portland Cement Concrete Pavement

Verify that the QA procedures maintain effective inspection at all points of work.

Prior to observing the work:

- ▼ Examine the prepave meeting minutes.
- ▼ Become familiar with work processes to be observed.
- ▼ Discuss procedures established to maintain continuous and effective inspection at all points of work and proper liaison between quarry, plant, and paving operations.
- ▼ Verify that the mix design and material sources have been approved.

Forms

Examine completed forms in advance of concrete placing operations:

- ▼ Take sufficient measurements to ensure compliance with applicable specifications; identify the location of measurements by station.
- ▼ Quality of foundations material under forms.
- ▼ Line and grade.
- ▼ Method of securing forms to substrata.

Joints

Verify:

- ▼ Alignment of the dowel bars meets contract requirements (generally bars should be parallel to the centerline of the slab—not necessarily at right angles with joint, i.e., skewed joints—and parallel to surface pavement). Document the frequency and results of checks made after paving operations have been completed; this is particularly important when dowel bar inserters are used in the paving train.
- ▼ Dowel baskets are securely fastened to the substrata.
- ▼ Dowel bars are lubricated, free of deformities, and properly capped.
- ▼ Preformed expansion joints are properly secured; comment if they are tilted or displaced by strike-off or finishing equipment.

Paving Operations

Allow sufficient time to become reasonably familiar with all the operations involved; this should include the beginning and ending of the day's operations.

Verify:

- ▼ Type of equipment used and if in compliance with contract requirements.
- ▼ Mixing and delivery time is in compliance with contract requirements.
- ▼ Adequacy of batch design and batch control.
- ▼ Tests for slump, or consistency, and air content.
- ▼ Methods of making, transporting, and curing concrete test specimens; when possible, witness flexural or compressive tests.
- ▼ Frequency and adequacy of control tests.
- ▼ Theoretical yield against actual yield to ensure conformity with the specified mix proportions.
- ▼ Method of placing concrete.
- ▼ Finishing operations including micro and macro texture.
- ▼ Curing operations.
- ▼ Joint forming, sawing, depth of cut, uncontrolled cracking before or during sawing operations, cleaning, and sealing operations.
- ▼ Surface smoothness.
- ▼ Pavement thickness as determined from core measurements.
- ▼ Applicable contract warranties.

Environmental Commitments

Verify:

- ▼ Environmentally sensitive areas fenced off as appropriate.
- ▼ Certified biologist and archeologist available as needed.
- ▼ Mitigation features (temporary and permanent) constructed as defined within environmental (NEPA) clearance documents such as noise, erosion, dust, and sediment control, etc.

Signs

Review:

- ▼ Procedures for shop inspection; verify compliance on current project requirements.
- ▼ Shop drawings or plans; ensure they are signed by a registered professional engineer if applicable.
- ▼ Material certifications.
- ▼ Sign placement relative to field conditions and safety requirements.
- ▼ Tightening procedures for bolts.
- ▼ Structural members for cracking or defects in coatings.
- ▼ Proper retroreflectiveness.
- ▼ Proper coverage of signs when not in use.
- ▼ Proper breakaway features.

Guardrail and End Treatments

Strong Post W-Beam Guardrail

Verify:

Height

- ▼ Roadside installations: 706 mm (27-28 in) to top of w-beam rail.
- ▼ Median installations: 550 mm (22 in) to center of rail with no rubrail, or 610 mm (24 in) to center of rail and 300 mm (12 in) to center of rubrail.

Blockout

- ▼ Wood blockouts with wood posts toenailed to prevent rotation of blockout.
- ▼ Wood blockouts with steel posts routed and fit around edge of steel post.
- ▼ Steel blockouts only if speeds are 72 km (45 mph) or less.
- ▼ Recycled or composite blockouts connected in a manner that prevents rotation.

Rail

- ▼ Splices lapped to prevent snagging for the direction of traffic nearest the rail.

Location

- ▼ Slope in front of w-beam guardrail no steeper than 1:10.
- ▼ Preferred minimum offset from shoulder is 0.6 m (2 ft).
- ▼ No rigid objects within 0.9 m (3 ft) of the back of the line of posts unless measures have been taken to further stiffen the system.

Terminals

- ▼ Strut on ground or partially buried.
- ▼ Wood post holes near ground (see manufacturer's drawing for height and number of drilled posts as well as need for soil tubes).
- ▼ Steel posts hinged for breakaway design.
- ▼ Slope approaching and around terminal no steeper than 1:10.

Concrete Barrier

Verify:

Height

- ▼ Basic: 810 mm (32 in) minimum to top of w-beam barrier.
- ▼ Heavy truck traffic: 1070 mm (42 in) to top of barrier.

General

- ▼ Ensure that all concrete barriers are terminated in a backslope with an approved crash cushion or with an approved transition to guardrail design.

NOTE: Substantiate the above dimensions with the approved plans and details or manufacturers recommendations prior to the review. For further information on these issues or other types of roadside hardware, see the AASHTO Roadside Design Guide (see Appendix E).

Miscellaneous

Landscaping and Planting

Ensure the contract-specified landscaping and planting items meet design concepts of aesthetics and erosion control.

Fertilizing, seeding, and mulching

- ▼ Evaluate both quality and rate of application of the materials used.
- ▼ Record information from tags on seed bags and compare to contract requirements.
- ▼ Examine project test reports on the materials used and the rates of application.
- ▼ Verify that the time or season of planting is appropriate.
- ▼ Where sufficient time has elapsed since planting, examine and document apparent growth as a percentage of the surrounding undisturbed area (70 percent growth is generally required by the National Pollutant Discharge Elimination System [NPDES] permit).

Shrubs, trees, and other plantings

- ▼ Check to assure that the quantity, size, and quality meet specifications.
- ▼ Visit the source nursery or other source of supply if possible.
- ▼ Document methods and procedures used in planting, watering, and caring for trees and shrubs.
- ▼ Discuss applicable warranty provisions and procedures for administering.

Other Items

There are many items that may be included in projects that are not specifically mentioned in this Guide. Some are incidental to other bid items, and some are bid separately. Become familiar with the specific contract requirements and inspect in a similar manner.

There are other items of work that consist principally of the assembly and erection of components of manufactured products that are delivered to the project site. Examples of these items are signs, signals, lighting, and pump station equipment. Confirm the method of acceptance of these types of work. Generally, a manufacturer's certification that verifies the material characteristics of the product is required for acceptance. Ensure that these certifications are on file in the project records.

Project Cleanup

Evaluate the overall effectiveness of the contractor's operations in successfully completing all items of work. Field review the entire project and note:

- ▼ Surplus materials including stumps and brush have been disposed of in accordance with the contract.
- ▼ The project presents a pleasing appearance.
- ▼ Encroachments exist upon the right-of-way; pay particular attention to signs that overhang the right-of-way in urban areas.
- ▼ Borrow pits and ditches drainage are as required.
- ▼ Borrow areas, both on the right-of-way and on private property, have been regraded and seeded, and pit releases have been obtained from the owners.
- ▼ Haul roads have been restored and abandoned roadbeds obliterated.