

SECTION 100

GENERAL CONDITIONS

CONSTRUCTION MANUAL

MAINE DEPARTMENT of TRANSPORTATION

Bureau of Project Development

April 1, 2003

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QUALITY

106-1 ROLES REGARDING QUALITY

This section defines the roles and responsibilities of Department and Contractor personnel in assuring the quality of the Project.

106-2 QUALITY STANDARDS

This section outlines applicable standards regarding the quality of various items of work on the Project.

106-3 MATERIAL QUALITY

Sources of material, use of Department furnished materials and maintenance of quality during handling and storage of materials is discussed. For questions regarding manufactured products, refer to the Department's Approved Products list, which can be found on the DOT web site (www.maine.gov/mdot).

The Resident will need to obtain copies of material storage agreements made between the Contractor and owners of private property where material is to be stored. After completion of the work, all storage areas must be returned to an acceptable condition.

Any materials that do not meet specifications may be rejected by the Resident, and must be removed from the Project.

The Contractor will perform any sampling and testing necessary to control the Quality of materials being used. Samples and tests for Acceptance will be taken and performed by the Department. In addition to normal Acceptance testing, the Resident may obtain samples or tests at any time if the material appears defective or when a change in the product or construction process has occurred.

106-4 QUALITY CONTROL

The Resident must approve Quality Control Plans (QCPs) submitted by the Contractor. Following submission of the Plan, the Resident and the area Acceptance Testing Supervisor review it and must notify the Contractor within 14 days of receipt that the Plan is approved, or that it is being returned for revision. Work cannot commence on any item covered by the Plan until it is approved. Review the plan carefully to assure that it meets

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the minimum requirements outlined in the specifications. A QCP details the personnel, equipment and processes that will be employed by the Contractor to meet the level of quality specified in the Contract. Once approved, it becomes part of the Contract documents and should be enforced as such.

The Contractor is required to maintain records of all QC tests and inspections. These should be used to supplement the Department's own testing and inspection in assuring the quality of the material being incorporated into the Project. QC reports must be submitted to the Resident by 1:00 PM on the next working day following the construction activity, unless the Resident has agreed to some other arrangement. In addition, the Department may review and obtain copies of QC reports at all reasonable times.

Section 106.4.6 details the steps to be taken in the event that the Contractor fails to follow the QCP. These actions provide the Resident with an important tool in ensuring compliance with the QCP.

106-5 QUALITY ASSURANCE

Section 106.5 of the Standard Specifications provides an overall description of the inspection process, including steps to be taken in the event that unacceptable work is found.

106-6 ACCEPTANCE

Acceptance of material is based on visual inspection of the construction process, monitoring of Contractor QC, manufacturer's certification and Acceptance sampling and testing.

Acceptance of Hot Mix Asphalt and Portland Cement Concrete is based on statistical Acceptance Methods A or B, or on Method C Verification. Consult the Special Provisions to determine which Acceptance method will be used for specific items on the Project. In general, large quantities of material will be accepted using Method A, smaller quantities using Method B, and non-critical items using Method C.

Regardless of which method is used, it is important to note that visually defective material may be rejected even if the random sample location does not fall in the questionable material. If the Contractor so requests, three samples of the material will be taken for testing, and the results statistically analyzed.

The Contractor may remove and replace any defective material prior to knowing the random sample location. Once the Contractor is aware of the Acceptance sample location, they cannot reject the material being sampled unless it is found to be visually defective and the defect was not readily apparent prior to sampling, such as a dry batch in the middle of a load of HMA.

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Acceptance Methods A and B use Quality Level Analysis, as outlined in 106.7. The Department may reject material that is found to be below a minimum Pay Factor.

Method C work may be randomly sampled for verification, and will be accepted or rejected as outlined in the related material specification.

106-7 QUALITY LEVEL ANALYSIS

This section explains the procedure for analyzing test data. Section 106.7.1 provides a step-by-step methodology for determining the percentage of the material in a Lot that is within the specified tolerance for a given property (e.g., density, entrained air content, etc.). It also shows the computations used to compute the appropriate Pay Factor for the material in order to determine price adjustments. These calculations are generally computed using a spreadsheet that is available to all Residents and Inspectors.

Section 106.7.2 outlines the procedure for determining Statistical Outliers. An outlying value, or outlier, is a test result that is markedly different from the rest of the data in that Lot. Most Lots need not be analyzed for outliers, as they are quite rare. However, if a test result is suspected of being an outlier, the calculation to verify this is quite simple, and again, a spreadsheet is available for this calculation. If a value is found to be an outlier, notify the Testing Engineer. An investigation will be initiated to determine whether or not the outlying value should be removed from Pay Factor computations.

106-8 NON-CONFORMING WORK

This section describes provisions for work that is unacceptable, has not been authorized or was not inspected.

106-9 WARRANTY PROVISIONS

The Contractor must guarantee that the Project will be free from Warranty Defects (as described in the specification) for one year following Final Acceptance. If a Warranty Defect occurs within one year, the Contractor must submit a Remedial Work Plan for approval. If the Contractor does not perform the Remedial Work or if emergency repairs must be undertaken, the Department will perform or contract for the Remedial Work and charge the Contractor for it.

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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. Sections 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 and the computer software program “Field Manager - Field Book” method. Residents are encouraged to use the software program when feasible.

If the Resident chooses to use the paper method, he/she will have for project records, a Final Quantity Computations Book, a Final Quantity Book, a Project Diary, and a Construction Book. Other fieldbooks may be needed, 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. The Final Quantity Computations Book may or may not be required, depending on the extent of computations needed to figure quantities.

Section 900 of this Manual explains further, and in more detail, project records required. It is suggested that you study Section 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.

108-2 QUANTITIES FOR PROGRESS PAYMENTS

After the contract has been awarded, the Contracts Section will initiate the first payment, 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 used. The Resident should advise the Contracts Section, preferably before the contract is awarded, whether he or she will use the paper route or Field Manager to make progress payments; the Department urges 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

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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 specification. 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 further explains procedures for making progress payments

Contract specifications require the Department to pay the Contractor once a month, but it is policy to make a progress payment every two weeks. The estimate will 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, as required in the contract specifications, is intended in part, to cover any minor overpayments that may have been made inadvertently.

Retainage is withheld when the total dollar value of all estimates paid reaches 50 percent of the estimated cost of the contract, at which time 5 percent of the cost of each subsequent progress estimate is deducted. Calculation of the retent is part of the software program that computes total amount due the Contractor for any particular pay period.

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 don and on judgment. 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.

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108-2.1 PROGRESS ESTIMATE FORM - PAPER

Estimates must be made out, using red ink, 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. 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 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: new items added by work order 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. 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 Standard Specifications.

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RWO/EWO: Enter the work order number and type of work order.

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.

Standard 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 Com Exc	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 Str	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	206.082 Str Ea Exc - Major Str	9 X Bid
Str Rock Exc - Mjr Str, Below Grade	206.092 Str Rock Exc - 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

Stockpiled Materials This section is used by the Resident to pay for stockpiled materials. Standard Specifications, Section 108.4, 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.

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Payment for a stockpiled item is entered on the progress estimate as follows:

Catg #: Enter the appropriate four digit category number. Refer to New Items above, if necessary.

Item #: Enter the same item number as shown for the pay item in the contract.

Quantity To Date: Enter the quantity you wish to pay at this time. 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 as figured x the quantity should equal the dollar amount shown on receipted bills.

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 Lum Sum item by work order, enter the quantity for payment as 1 L.S. and not 100% L.S. If payment shows as 100% L.S., the mistake of paying 100 L.S. items can result.

108-2.2 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

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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, he or she then generates 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 Dotaug1/\$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 as follows:

1. Plan Quantities.
2. Lump Sum Quantities.
3. Measured Quantities.

Standard 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 Standard 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.

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Lump Sum Quantities Some items in the contract will be designated lump sum for payment as defined in the Standard Specifications. Examples are: field office, structural concrete, and maintenance of traffic. "Lump sum" quantities are 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 specification, some items in the contract will be measured and paid based on surface areas. Examples are: clearing, butt joints, cold recycled-in-place pavement, and rehabilitation of structural concrete deck slab. Measurements and 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 his/her own quantities rather than having the Survey Technicians do this, he/she 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, Standard 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.

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Volume need not show 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 Standard Specifications under the appropriate items for swellage and shrinkage factors.

Load Count Measurements, by Weight: Standard 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 need show, and the slip must be signed by a certified weighmaster.
- 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 his/her 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 Resident or the Testing Technician will do some check weighing to verify the accuracy of the scales. Check weighing procedures are explained in Section 108, of the Standard 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. Division 100, Subsection 109.07, of the Standard Specifications - Green Cover 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 Work Order 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.

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CONTRACT MODIFICATIONS

109-1 GENERAL

Standard Specification Section 109.3, Extra Work, reserves the Department's right to revise the Contract by adding Extra Work. A supplemental agreement, in the form of a Contract Modification, will be written to authorize and to document the added work. It is important to note that, per Standard Specification Section 109.8, Contract Modification, once the Contractor signs a Contract Modification, it agrees to all terms therein and waives all claims for additional compensation, time or other Work requirements relating to the subject matter of the Contract Modification.

109-2 CONDITIONS REQUIRING CONTRACT MODIFICATIONS

Contract Modifications are written by the Department. They are typically written by the Resident and then must be signed by the Contractor. They will then typically be signed by the Resident and may subsequently require the signature of administrative personnel within the Department, as explained further in the next Subsection. A Contract Modification will generally be written for the following reasons:

1. Changes in Contract Documents.
2. Substitution of materials.
3. Changes or Extra Work within the scope of the Contract.
4. Changes in design beyond the scope of the Contract.
5. Increases or decreases in the estimated quantity of a Major Item by more than 25 percent that results in an increase or decrease in the Unit Price. See the definition of Major Item and Section 109.1.2, Substantial Changes to Major Items, in the Standard Specifications, for more information.
6. Changes in milestone dates, completion dates, or time requirements not covered elsewhere.
7. Differing Site Conditions.
8. Compensable or Excusable Delays.

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109-3 CONTENTS OF THE CONTRACT MODIFICATION

The following information shall be included in the content of the Contract Modification:

1. Description and location of work.
2. Reason for the changed or added work.
3. 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.
6. Time extensions and reasons for the extra time, if needed. A time extension is not granted unless the work directly affects the Critical Path of the Project.
7. Right-of-Way acquisitions or easements, if needed.
8. Cost estimates. The Resident will include their estimate of the cost of doing the work with the Contract Modification, 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. It should be more than just a review of the Contractor's numbers.
9. Approvals and signatures. A Contract Modification is a supplemental agreement and is not legally part of the Contract unless it contains the signature of both parties, unless the modification is already part of the Contract, e.g., an escalator adjustment cost that is not known until the work is completed. Unless otherwise allowed herein, a Contract Modification must first be signed by the Contractor, followed by Resident; The Contract Modification will then be submitted to the Resident's supervisor and the Project Manager for their approval and signature; depending upon the amount of the Contract Modification, approval may be required at higher MaineDOT management levels, per Administrative Policy Memorandum (APM) No. 10, Delegation of Approval Authority. Refer to sections 109-4, Contract Modifications Not Requiring Management Approval, and 109-5, Contract Modifications Requiring Management Approval, of this manual for additional information.
10. Federal Participation. All contract modifications on federally funded projects must be designated "participating" or "non-participating", i.e., they must specify whether federal funds will be expended in the costs involved. In general, the applicable federal agencies will participate in the

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cost of all Contract Modifications except when an outside entity, 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 federal agency approval is needed are outlined in Subsection 109-6 of this manual.

109-4 CONTRACT MODIFICATIONS NOT REQUIRING MANAGEMENT APPROVAL

Residents are authorized to execute Contract Modifications at the project level without approval of the Project Manager or their supervisor, but subject to the following limitations:

1. Each Contract Modification is limited to \$50,000.00, 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 109-3, Contents of the Contract Modification, in this manual will apply, as necessary. All information regarding monetary or time changes resulting from a Contract Modification should be sent to the Project Manager and the Resident's supervisor for informational purposes.

109-5 CONTRACT MODIFICATIONS REQUIRING MANAGEMENT APPROVAL

The following types of changes are beyond the limits of the Resident's approval authority and therefore must be submitted to the Project Manager and supervisor for concurrence and signature:

1. Changes in geometric design of the project or structural design of bridges, including foundations, and culverts.
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 to this is work necessary for erosion control, in which case the property owner's permission is needed and put in writing.
6. Changes that alter the Contract.

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7. Changes that will affect the safety and operation of traffic other than what is allowed under the terms of the Contract.
8. Increases or decreases in the estimated quantity of a Major Item by more than 25 percent that results in an increase or decrease in the Unit Price. See the definition of Major Item and Section 109.1.2, Substantial Changes to Major Items, in the Standard Specifications for more information.
9. Changes or Extra Work that exceed \$50,000.
10. Changes which require modification to previously approved environmental permits.
11. Changes to Quality Control/ Quality Assurance provisions of the Contract.
12. Significant changes in milestone dates, completion dates or other time requirements, if not addressed as part of other Contract Modifications.

In all the above situations, the Resident may obtain oral approval from their supervisor before the Contractor commences the work, prior to the Contract Modification being executed. The supervisor's oral approval will be noted in the Contract Modification.

109-6 CONTRACT MODIFICATIONS REQUIRING FEDERAL APPROVAL

For projects that are identified by the Federal Highway Administration (FHWA) or other applicable federal agencies, to be of direct interest, approval of Contract Modifications by these federal agencies may be required. MaineDOT Management will notify Residents when a particular project requires FHWA, or other federal agency, approval of Contract Modifications.

109-7 METHOD OF PAYMENT FOR THE WORK

Standard Specifications, Section 109.7 - Equitable Adjustments to Compensation and Time, specifies that payment for Contract Modifications will be made as follows, in accordance with Standard Specification Subsection 109.7.2, Basis of Payment:

1. Agreed upon Unit or Lump Sum prices.
2. If agreement cannot be reached using Unit or Lump Sum prices, the Contractor shall accept payment on a Force Account basis, as provided for in Section 109.7.5, Force Account Work.

Agreed upon Unit or Lump Sum prices include, but are not limited to, the following items: Labor, materials, equipment, supervision, overtime, travel time, benefits, small tools, transportation, profit, overhead, and other incidental items of work. Additional time for this work shall also be considered.

CONSTRUCTION MANUAL

MAINE DEPARTMENT of TRANSPORTATION

Bureau of Project Development

February 12, 2025

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Force Account should be used only when either of the following conditions is 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 or Lump Sum prices.

Force Account should be viewed as a last resort and every effort should be made to reach an agreement with the Contractor using agreed upon Unit or Lump Sum prices. Standard Specifications Section 109.7.5 explains how to calculate payment made by Force Account.

The following is a summary of the contents of Section 109.7.5, Force Account Work:

Materials:

Actual cost, supported by receipted bills plus 15 percent mark-up.

Labor:

Actual hourly wages paid to workers and forepersons engaged in the work, plus 90 percent of the sum thereof for fringe benefits, payroll taxes, overhead and profit.

Equipment:

Paid by "Blue Book" rates or, for leased equipment, the actual invoice amount plus 10 percent mark-up for administrative costs. "Blue Book" rates are available from the Contracts Section.

Mark-Up on Subcontractor Work:

The Prime Contractor is allowed a 5 percent mark-up on a subcontractor's portion of the Force Account Work for profit and overhead.

Regardless of which method is used to pay for Extra Work, whether agreed Unit or Lump Sum prices 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 Contract Modification; other documentation, such as receipted bills and price quotes, will remain in the Resident's project files.