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|  Duties of the Resident Engineer  on Municipal Assistance Bureau (MAB) projects |

# Authority:

* The duties and authority of the Resident Engineer (RE) are clearly spelled out inSubsection 105.02– Authority and Duties of the Engineer in the Vermont Standard Specifications for Construction.
* The RE has the authority to suspend work on any phase of the construction or on the whole project if necessary. Prior to the suspension of work, the contractor should be given ample warning in the form of a Written Order.
* The RE is the single point of contact for all project matters during construction and has the direct responsibility and authority to ensure the successful completion of the project.
* The RE must make it clear that they are the towns authorized representative and are in charge of their particular project.

# Contract Documents:

* The RE must have a complete knowledge and understanding of the contract documents and must be thoroughly familiar with the plans and specifications to know what work is included under the bid items.
* The RE must ensure that the project is constructed according to the contract documents and that all materials are in conformance with the specifications.
* The RE shall interpret the plans and specifications for the contractor when required and/or reach out to the design engineer for clarification or assistance.

# Written Orders:

* The RE shall craft a [***Written Order***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/10%20Change%20Orders%20and%20Written%20Orders/MAB%20Written%20Order%20Template.pdf) when it is necessary to order the Contractor to do work which is covered by the plans and specifications, but which the contractor either refuses to do, or has failed to do properly. Any deviation of the contract shall be documented by a *Written Order*.
* Instructions given to the contractor which may cause a later disagreement, or which may affect a quantity or payment, must be in writing, by use of a *Written Order.*
* When the contractor is performing work outside of the required tolerance or specification, the RE shall document the incident with a *Written Order,* inform the contractor of the discrepancy, and ensure the work is corrected and performed correctly moving forward.
* The RE shall craft a *Written Order* to order the contractor to do work not included in the contract (extra work) for which the method of payment will be specified.
* The RE shall craft a *Written Order* to document any order, quantity, or subject matter which should be made a matter of record for the future protection of the municipality or the contractor.
* The RE shall craft a *Written Order* whenever payment is withheld, providing clear justification of the withholding.

# Change Orders:

* A [***Change Order***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/10%20Change%20Orders%20and%20Written%20Orders/Change%20Order%20Form.pdf) is a written agreement between the contractor and the town, utilized for revisions or amendments to the contract terms.
* If the need arises to perform work that is not covered by the contract items or specifications, a *Change Order* shall be initiated to establish a method and reason for payment.
* All *Change Orders* shall be accompanied by a detailed justification letter, a detailed cost estimate from the contractor, and an independent cost analysis from the RE.
* A *Change Order* shall be required whenever new items are added to the original scope of work and when a pay item overruns the estimated quantity, resulting in a 3% increase to the contract price.

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# Traffic Control (Spec #104.04):

* Proper maintenance of traffic is one of the primary responsibilities of the RE.
* The RE must issue a [***Notification of Roadway Restrictions***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/8%20Work%20Zones%2C%20Emergency%20Contact%20and%20511%20Information/Notification%20of%20Roadway%20Restrictions.pdf)form when implementing one-way detours or temporary reductions in lane widths which would hinder normal traffic flow and especially limit over-width traffic. This form should be submitted two weeks prior to implementation of the traffic restriction.
* The RE must approve the contractor’s traffic control plan prior to the start of construction. If the contractor refuses to properly provide for traffic control, the RE may hold the contract estimate or suspend work on all or a portion of the project until the work is completed.
* The RE must confirm that the contractor has covered, relocated, or removed any VTrans owned traffic signs which conflict with the contractor’s traffic control plan.
* The RE shall inspect the traffic control package daily and report any deficiencies to the contractor’s superintendent and/or safety officer. Flagger certifications must be verified by the RE.
* The RE is responsible for suspending work as required during holidays or periods of excessive traffic as deemed necessary.
* Inspector/RE will need to ensure all TCPs and devices conform to the latest edition of the MUTCD.
* If the project is on a state system or a class 1 town highway, an[***Emergency Contact & 511 Information Input Form***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/8%20Work%20Zones%2C%20Emergency%20Contact%20and%20511%20Information/Emergency%20Contact-511%20Form_May%202019.xlsx) and a ***Notification of Roadway Restrictions Form*** must be filled out and sent to the MAB project supervisor and to **AOT.TMC@vermont.gov** at least 2 weeks prior to construction.

# Materials:

* The RE shall communicate with the contractor to determine the work schedule to aid in arriving at a workable inspection plan.
* The RE shall ensure materials have proper certifications and meet ***Buy America*** requirements prior to installation.
* The RE shall inspect and sample materials in accordance with VTrans most recent[***Materials Sampling Manual (MSM)***](https://outside.vermont.gov/agency/vtrans/external/docs/construction/04MatTestCert/Material%20Sampling%20Manual.pdf?1#:~:text=Vermont%20Agency%20of%20Transportation%20Materials%20Sampling%20Manual%20.,adopted%20ccepting%20practices%20for%20materials.%20The%20Materials%20a), in accordance with the contract.
* Local sources of aggregate, gravel, or sand that the contractor intends to use should be sampled and tested for preliminary approval.

# Compliance Oversight:

* The RE shall ensure the project complies with the contract’s environmental permits and any required Notices of Work are executed and documented.
* The RE shall contact and collaborate with VTrans Hazardous Materials Officer when contaminated or hazardous materials are encountered.
* The RE shall ensure the contractor has contacted Dig Safe before construction.
* The RE must ensure the contractor has the necessary [***waste, borrow, and staging***](https://vtrans.vermont.gov/working/offsite-activity)approvals in place.
* The RE shall ensure the contractor complies with the wage provisions of the contract (Davis-Bacon if applicable).
* The RE shall monitor the project for compliance with safety regulations and report any deficiencies to the contractor’s superintendent and/or safety officer.
* The RE shall maintain a presence on the project during times when any contractor and subcontractor activities are underway.

# Sub-contractors (Spec #108.01):

* The prime contractor must perform at least 50% of the contract work with its own organization (minus specialty items).
* The RE must ensure all sub-contractors are approved before they start work. The RE shall not make any payment for work performed under a sub-contract until sub-contractors are approved (registered with Secretary of State).
* A [***Sub-Contractor Approval form***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/5%20Contracts%20and%20Sub-Contracts/Sub-Contractor%20Approval%20Form.pdf) and the [***Sub-contract Instruction Check-off Sheet***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/5%20Contracts%20and%20Sub-Contracts/Subcontract%20Instruction%20Checkoff%20Sheet_10-4-19.pdf) must be submitted to the VTrans Project Supervisor for each sub-contractor before reimbursement will be accepted for sub-contractor work.

# Payment:

* A [***Daily Work Report***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/9%20Daily%20Work%20Reports/MAB%20Inspector%20Daily%20Work%20Report%20Form.pdf) (DWR) shall be completed for each day the Contractor is on the project working.
* DWR’s shall include item numbers, quantities and station to station locations of the work performed & material installed or removed. A description of the work performed, sketches, and any unusual circumstances shall also be noted.
* The RE shall supply explanations for any over-runs or under-runs in quantities in the submittal of invoices to VTrans. The town shall be notified of over-runs or under-runs as they become apparent.
* All DWR’s shall be made available to the project supervisor no later than 2 weeks following the report.
* Expectations for Daily Work Reports are provided in the [***2018 MAB Inspector Daily Work Report Presentation***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/9%20Daily%20Work%20Reports/MAB%20Inspector%20Daily%20Work%20Reports%20Presentation.ppt).
* Retainage is not allowed on Federal Aid projects. Pay requisitions should cover all items that have been correctly installed and accepted (including material testing/certification). Actual quantities shall be paid.
* Note the basis of payment for any Lump Sum Items. Often not paid at 100% on the first request.
* All reimbursement requests must be accompanied by the [***MAB Construction Invoice Submittal form***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/11%20Invoices/Construction%20Invoice%20Submittal%20Form.pdf).

# Civil Rights:

* The RE shall utilize the [***Project Labor Compliance Verification form***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/4%20Civil%20Rights/Local%20Projects%20Civil%20Rights%20Verification%20Form.docx)and the [***Labor Compliance Employee Interview form***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/4%20Civil%20Rights/Employee%20Interview%20Form.docx) to ensure the prime contractor is meeting federal requirements. These documents should be retained in the project file.
* The RE must ensure the prime contractor is submitting the [***MAB Prompt Pay Monthly Report form***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/Shared%20Documents/8.%20%20Construction/Construction%20Inspection%20Forms/Civil%20Rights/MAB%20PromptPayMonthlyReport.doc)monthly.
* The RE must ensure a Statement of Compliance ([***Wh347 Payroll form***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/4%20Civil%20Rights/Certified%20payroll%20form_wh347.pdf)) is submitted from the contractor with each payroll.
* If there are work classifications not included on the wage rate schedule. A request must be submitted through VTrans on the USDOL [***SF1444 form***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/4%20Civil%20Rights/Addl%20Work%20Classifications%20FormSF1444.pdf).
* The RE must send a copy of the minutes from the pre-construction meeting to all pertinent parties. [***Civil Rights Talking Points***](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/4%20Civil%20Rights/MAB%20Civil%20Rights%20Labor%20Compliance%20Pre-Con%20Talking%20Points.pdf) should be included in the minutes.

# Additional Responsibilities:

* The RE must maintain contact with property owners and town officials (and the VTrans District Transportation Administrator, if the project is on a State Route).
* The RE must verify that the utility companies and the contractor have plans to coordinate their work.
* The RE shall communicate with the contractors Superintendent and Safety Officer daily.
* The RE shall note in red, all changes to the plans as they are made. The as-built plans must be retained by the town and a copy provided to the VTrans Project Supervisor or Manager.

# Project Completion:

# The RE shall issue a [*Certificate of Substantial Completion*](https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/MAB%20Documents%20Library/B%20Federal%20Aid%20Projects/III%20Construction%20Phase/12%20Final%20Inspection%20and%20Project%20Acceptance/Certificate%20Of%20Substantial%20Completion.pdf)at the appropriate time and provide certification to the Town and VTrans that the project was constructed as designed, subject to the appropriate and necessary revisions during construction, in conformance with project specifications and that necessary contract provisions were fully complied with.

# *The final quality of the project depends on how well the RE manages the project.*