MAB Construction Inspection Training



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Agenda

- Welcome and Introductions
- Role of the CI
- MAB Sharepoint site tour
- General Expectations
- Contract Changes
- Labor Compliance
- Contractor Payment
- Project Completion
- Wrap Up/Adjourn

Introductions

- Name
- Title/Employer
- Your Burning construction inspection question



3

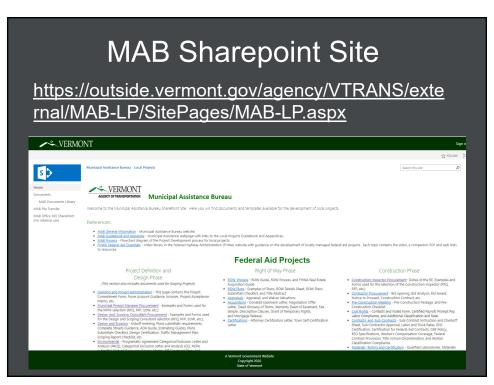
Why construction oversight?

- Meet Federal requirements
- Protect public interest
- Supervision
- Quality assurance

FHWA Hot Topics

- SAFETY
- Documentation
- Change order independent cost estimates
- Claims
- Communication & Partnership

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General Expectations

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Complete Records

- The following slide provides a list of items which should be included in a complete set of records
- Upon project completion, municipality must retain all records for 3 years from final voucher



Minutes of the Pre-construction meeting	Any contractor claims-related documents	As-built plans, traffic control plans	
Sub-contracts & sub-contractor approval forms	Contractor submitted EPSC plan (if applicable)	Any conflicts and/or discrepancies	
Digital Photos of Progress	Change Orders	Project Correspondence	
Material Reports & Certifications	Waste Borrow & Staging approval	Labor Compliance forms	
Davis-Bacon Certified Payrolls	Notification of Roadway Restrictions form	MAB Prompt Pay Monthly Report forms	
Shop Drawings	Notes from Progress Meetings	Pay Requests	
Quantity Slips	Written Orders	Daily Work Reports	
Quantity Calculations	Certificate of Substantial Completion	Certification project was constructed as designed	

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Daily Work Reports (DWRs)

A **Daily Work Report** shall be completed for each day the of the project schedule. The DWR includes information from the Construction Inspector's project field book(s) as well as any other pertinent daily information.

The main purpose of these reports is to electronically keep track of the daily pay item quantities, and to serve as the project daily diary.



Daily Work Reports (DWRs) Include:

- Date
- Weather Conditions
- Daily Assignments
- Personnel
- Equipment
- Traffic Control
- Safety measures
- Accidents
- Media/Press
- Public Relations
- Subcontractors
- Visitors
- Any pertinent activity that

impacts the project

- Specification Issues
- Paving Issues
- Structural Issues
- Erosion control
- Signature
- Pay item quantities for the day Including:
 - Field measurements and stationing
 - Sketches
 - Quantity Calculations
 - Comments and Notes

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Inspector Presence On Site

- Continuous presence
- When contractor activities underway, inspector must be present
- Daily reports to verify quantities and progress



Contract Documents

The VT Standard Specifications for Construction is part of the contract and must be adhered to

- 105.01 Authority of the Engineer
- 105.10 Authority & Duties of the RE
- 105.11 Authority & Duties of Inspectors
- 105.12 Inspection of Work



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Layout Responsibility

- Contractor responsible for layout
- RE may double-check project staking / layouts but cannot perform initial staking layouts.



Are Inspectors reviewing for compliance with permits, including Section 1111 permits sign-off?

 Yes, It is expected that the RE is aware of all permitting issues and should ensure compliance of all requirements, including the final sign-off of the Section 1111 permit by the corresponding VTrans District.

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Off – Site Activity

- Plan Ahead (15 working days to review)
- Applies to staging, borrow or waste anywhere outside the project limits as defined in the plans and contract
- Sites may be exempt (no further review)
- Staging of erodible material must be reviewed
- Review and approval prior to use

Schedules and Updates

Critical Path Method – Spec 633 Vs

Progress Schedule – Spec 108.03

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Schedules

- All projects require that the contractor submit a schedule
- Without a specific pay item, Sect.108.03 calls for a Progress Schedule
- If a project has pay item 633.10 CPM Schedule, contractor must provide a schedule that conforms with Sect. 633

Progress Schedule

- Shows the proposed sequence of work and anticipated completion of individual items
- Must be submitted to CI at least 7 days before preconstruction conference
- Cl and contractor must concur on the proposed schedule before a notice to proceed can be issued, this becomes the Conforming Schedule
- No set intervals for updates, but CI and Contractor should regularly review the schedule for accuracy
- See spec 108.03 for more information

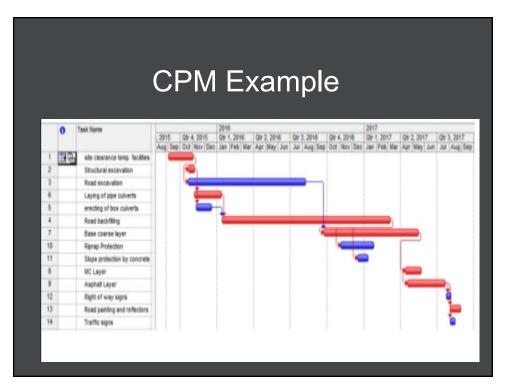
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CONTRACT ID. NO.: PROGRESS SCHEDULE FOR CONSTRUCTION PROJECTS CONTRACT ID. NO.: PROJECT NO.: PROJECT NO.: COUNTY: | COUNTY: COUNTY: COUNTY: COUNTY: COUNTY: COUNTY: COUNTY: COUNTY: COUNTY: PROGRESS PR

CPM Baseline Schedule

- Defines the sequence of activities that will be carried out in order to meet project completion dates
- Must be submitted to CI a minimum of 7 days before pre-construction conference
- Schedule must be accepted before a Notice to Proceed can be issued
- Updates to be submitted every 2 weeks, or as directed by CI
- See specs 633.03 633.10 for more information

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Contract Changes

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Design Changes

- Any changes in design must be reviewed and approved by the design engineer, the town, and the MAB representative
- Document with a written order





Change Order

- A Change order is a written agreement made and entered into by and between the Contractor and the Municipality covering work not otherwise provided for in the Contract Documents.
- Change Orders constitute amendments to the original Contract once properly signed and executed.
- They are typically originated by the Contractor and are utilized when a necessary modification to the Contract Documents is recognized and an amendment is desired

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<u>Clarify change order format and documentation required,</u> <u>including updated schedule</u>

Change Orders include the following primary elements:

- 1. The contractors change request and corresponding proposed cost.
- 2. A cover sheet sheet which includes
 - The change description
 - · Signature lines for the Contractor, RE, Town, and VTrans P.M.
 - · All cost and schedule changes
- An independent analysis of the C.O. request by the RE (including an evaluation of the cost, schedule and technical aspects). A cost analysis is not required if no new pay items are being added to the project.

Note: Any technical changes also require the review and acceptance of the project design engineer.



(Continued ...)

Clarify the signing order and general

process of a typical change-order

 The C.O. is reviewed and vetted by all parties upon its origination.

 When the C.O. is ready for signatures, the Contractor typically signs the C.O. first, followed by the Municipality, then the RE, and <u>lastly</u>, the VTrans Project Manager.



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When should Written Orders be used?

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.



(Next...)

(Continued...)

Written Order

The RE shall establish a Written Order when it is necessary to direct 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.



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(Continued...)

Written Order

The RE shall craft a Written Order whenever payment is withheld, providing clear justification of the withholding.



(Continued...)

Does an e-mail suffice as a written order?



- An email on its own does not suffice
- A standard Written
 Order form is used and is distributed by the RE via. hardcopy and electronic PDF format to the contractor

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Do the contractor and/or Town need to sign a written order to acknowledge receipt?

Only the RE needs to sign the Written
Order. The RE should distribute the
Written Order via. hardcopy and via. email (PDF format) to ensure receipt of the
document by the contractor.





Documentation for Time Extension

- Issue a written order if contractor does not show up on site and project is behind schedule
- CI should show up and document site conditions in a DWR along with any weather days. Weather days may impact liquidated damages (LDs)
- Good daily work reports are crucial
- Specification 108.11 covers extensions of time

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Should contract time ever be reduced?

- Technically, a Change Order (C.O.) is a Contract Document change, and if <u>all</u> parties agree to a justifiable change, then the change is binding.
- A reduced schedule rare, but if a C.O.
 results in a project scope change with
 less work effort, a reduced schedule is
 a possibility if all parties agree to the
 new timeline and all parties sign the
 C.O.



Labor Compliance

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Labor Compliance Requirements

- Detailed in FHWA Form 1273 part of contract and subcontracts
- Equal employment opportunity, Non-discrimination, Wage Rates
- Goal: Achieve and maintain a diverse workforce and a working environment free of harassment, intimidation and coercion



Labor Compliance Forms

- Certified payroll
- Prompt Pay Monthly report
- Employee Interview Form
- Local Projects Civil Rights Verification
 Form

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Contractor's Operating Policy

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

*From Form 1273

Contractor Payment

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Payments to Contractors

- Required:
 - Formal Subcontract Approval by Municipality Prior to Payment to Prime Contractor for Subcontractor
 - Construction Invoice Submittal Verified/Approved by Resident Engineer
- Vermont Statute Construction Contracts: 9 V.S.A. §4003

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Payment Summary Form

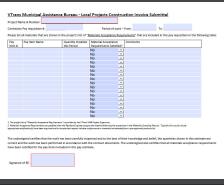
 New form to track liquidated damages and other payments

Municipal Assistance Bureau Payment Summary Form
(Please submit this completed summary with all construction pay-requisitions)
Project Name and Number:
Prime Contractor:
Construction Inspection Firm:
Notice to Proceed Date:
Construction Start Date:
Contract Completion Date:
Contract Completion Date adjusted by Change Order:
Is the project on-schedule? Select One
Are Liquidated Damages being withheld in this payment? Select One
Original Contract Amount:
Change in Contract Amount by Change Order
Current Approved Work: S Approved Work to Date: S
Current Stockpile Advancement: S Stockpile Advancement to Date: S
Current Liquidated Damages: \$ Liquidated Damages to Date: \$
Current Adjustment: \$ Adjustments to Date: \$
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prease justify why necessary.
Current Payment: S Total Payments to Date: \$
INSTRUCTIONS: "current approved work" - 5 amount from pay requisition as approved: "approved work to date" - sum of all approved construction invokes to date:
"current stockpile advancement" = only used for stockpile payment; "stockpile advancement to date" = sum of all stockpile payments to date;
"current liquidated damages" = total S assessed per 108.12 (per current pay req.); "liquidated damagess to date" = sum of all LD's assessed to date; "current adjustment" = any S adjustment necessary (not LD or stockpile); "adjustments to date" = sum of all adjustments to date
"current payment" = final payment amount including stockpile, less LD's and any adjustments; "total payment to date" = sum of all payments to date
Signature of RE: Date:

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Withholding Payment to Contractors

- Town Cannot Withhold Payment to Contractors When Work is Completed and Approved by Resident Engineer
- Prompt Pay Statute Requires Payment from Prime Contractors to Subcontractors within 7 Days of Prime Contractor Receiving Payment



Project Completion

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Substantial Completion

- Defined in VTrans spec defined in section 101.02
- Stops the clock relative to liquidated damages
- Only "punch list" type items and demobilization remain - minor adjustments, repairs, or corrections
- Use form provided on Sharepoint, with punch list and written order

Balancing Change Order

Final Change Order to reflect all final quantities

Project Value Range	Justification Guidelines
a. \$0 - \$100,000	(1) All overruns or underruns of \$1,000 or more. (2) For Items having an individual Original Total Value of \$4,000 and under, overruns or underruns of 25% or more shall be explained with a minimum of \$250.
b. \$100,000 - \$500,000	(1) All overruns or underruns of \$2,500 or more. (2) For Items having an individual Original Total Value of \$10,000 and under, overruns or underruns of 25% or more shall be explained with a minimum of \$500.
c. \$500,000 - \$1,000,000	(1) All overruns or underruns of \$4,000 or more. (2) For Items having an individual Original Total Value of \$8,000 and under, overruns or underruns of 50% or more shall be explained with a minimum of \$750.
d. Over \$1,000,000	(1) All overruns or underruns of \$6,000 or more. (2) For Items having an individual Original Total Value of \$12,000 and under, overruns or underruns of 50% or more shall be explained with a minimum of \$1,000.

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VTrans Spec Section 656

- Covers the planting, establishment, maintenance and payment for new grass, trees, shrubs and other landscaping features
- Defines planting season as April 1 October 31, no planting in frozen or snow-covered ground
- CI responsible for making an initial inspection of all plants at time of delivery. See 656.04 for a list of defects that warrant rejection

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Establishment and Maintenance

- Contractor must actively maintain plantings in accordance with spec 656.09
- 4-6 months after installation, Contractor and CI jointly inspect plantings to ensure they are not dead, dying or damaged
- If replacements are required, they shall be installed, at the Contractor's expense, within 30 days of the inspection, at which point the cycle of monitoring and inspection begins again until 90% survival rate has been achieved
- Establishment and maintenance does not need to hold up substantial completion and can be a punch list item





Liquidated Damages

- Process for Liquidated Damages (LDs) is described in Spec. 108.12
- For each working day on which work remains incomplete after the Completion Date, a pre-set amount shall be deducted from the money owed the Contractor
- No LDs will be charged after Substantial Completion is attained
- The expectation is that when LDs are warranted, the Municipalities will enforce them