

Final Specification Revisions

January 2025 Specifications

The Department proposed revisions to 24 Standard Specifications. These proposed revisions were out for comment during the month of October 2024.

Red = added text; Green = ~~deleted text~~; Blue = changed text

Comment period ended October 31st.

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101.03 DEFINITIONS

~~ADDENDUM OR AMENDMENT~~

~~Contract revisions developed after advertisement and before opening proposals.~~

ADDENDUM

A contract revision developed after advertisement and before opening proposals. Addenda includes the Question and Answer Forum and amendments.

AMENDMENT

Contract revision to the electronic bid files including added bid items, deleted bid items, or bid item quantities.

CONTRACT

The written agreement between the Department and the Contractor detailing the obligations of the parties for ~~the performance of~~ performing the prescribed work.

The contract includes the proposal; Q&A forum, signed contract award form; contract bond; specifications; general and detail plans; Detailed Drawings; Notice to Proceed; Materials Manual; ~~and all~~ change orders, and extra work orders, ~~including and~~ authorized contract time extensions, ~~that are~~ required to complete the project.

QUESTION AND ANSWER FORUM (Q&A FORUM).

Information which documents contract amendments and addenda posted during advertisement and prior to the opening of proposals. Q&A Forum information includes notifications, clarifications and the answers provided by the Department to questions posed by the prospective bidders. Unanswered questions posed by prospective bidders are not considered modifications to the contract. Questions posed by prospective bidders are considered contextual information only

Reason: Standard Special Provision. Clarify definitions.

*Final Draft: **Published as shown with the exception of the following:***

ADDENDUM

A contract revision developed after advertisement and before opening proposals. Addenda ~~includes~~ include the Question and Answer Forum and amendments

CONTRACT

The written agreement between the Department and the Contractor detailing the obligations of the parties for ~~the performance of~~ performing the prescribed work.

The contract includes the proposal; Q&A forum, signed contract award form; contract bond; specifications; general and detail plans; Detailed Drawings; Notice to Proceed; Materials Manual; ~~and all~~ change orders, and extra work orders, ~~including authorized contract time extensions, that are~~ required to complete the project.

102.07 BIDDING REQUIREMENTS

Submit bids only using the Electronic Bid System (EBS) that generates the required Proposal, Schedule of Items, DBE requirements, and indicates acknowledgement of addenda if applicable.

- A. Distribution Procedures.** The Department will make electronic bid files and addendum files available to prospective bidders. Bidders may obtain EBS packages free of charge from the Department's Contractor's System Internet Site, <http://www.mdt.mt.gov>. ~~Hardcopy bid packages are available for a fee from the Engineering Construction Contracting Bureau.~~
- B. Bidding Requirements.** Ensure bids submitted using the EBS format contain a Proposal guarantee, an EBS generated Proposal, Schedule of Items, and DBE requirements when applicable.

~~Ensure the EBS Schedule of Items is a single continuous printout for each individual bid, evidenced by all Schedule of Items sheets having the same check number.~~ Written changes to the Schedule of Items, or a bidder's non-submission of every page from the AASHTOWare Project Bids™ EBS file, (including all Schedule of Items pages and all DBE pages), automatically renders the bid non-responsive, and the bid will not be read or considered.

Acknowledge addenda using the amended EBS project file to generate the Proposal, Schedule of Items and DBE requirements. ~~The printout indicates acknowledgment of receipt of addenda when the correct project file is used. Return an electronic storage device containing the complete project files for all projects bid with the bid package.~~ It is the bidder's responsibility to ensure that they acquire and apply addenda files when applicable.

- 1. DBE Quotes.** The Department has a quick and easy way for you to request quotes from Montana DBE-certified companies. The information goes to the DBE companies that same day. The on-line form is located at web site: <https://app.mdt.mt.gov/dbeqt/>.

Call the Department DBE Supportive Services, 1-800-883-5811, for further assistance. Using this online request form will be considered for good faith efforts, but it does not constitute meeting all requirements of good faith efforts.

Reason: clean up with how ECCB handles bid packages. Adding a Standard Special Provision to the Specs.

Final Draft: **No changes to the draft spec; published as shown.**

104.02.4 CHANGE ORDERS

Change orders will include the following information:

- A. A description of the altered, increased, or decreased work or description of other change necessitating the change order.
- B. An estimate of the types and quantities of work to be performed and a listing of the agreed prices and contract unit prices at which payment will be made; and
- C. Contract time adjustments in accordance with Subsection 108.07.5.

~~Change orders must be executed by both parties to the contract and become a part of the contract.~~

Formal approval is to be completed before the change order work is allowed to proceed. When an emergency or unusual condition is justified, advanced approval may be given to begin the work with formal approval obtained as soon as practicable.

Payment for the work will be made for the actual quantities of work performed at the prices specified in the change order.

Reason: Clarification. Follows our policy language.

Final Draft: **No changes to the draft spec; published as shown.**

105.01 AUTHORITY OF THE ENGINEER

The Engineer will decide all questions regarding the quality and acceptability of materials furnished, work performed, the rate of progress of the work, the interpretation of the contract, and the acceptable fulfillment of the contract. **Alterations of contract requirements require a mutually agreed upon Change Order.**

Reason: clean up

*Final Draft: **Changes to the proposed spec are as follows:***

The Engineer will decide all questions regarding the quality and acceptability of materials furnished, work performed, the rate of progress of the work, the interpretation of the contract, and the acceptable fulfillment of the contract. **Alterations of contract requirements require an executed Change Order.**

105.03. INCENTIVE TIES

B. Density. A 1.08 pay factor will be applied to the lots of plant mix surfacing when the average density for the lot (Xn) is from 94.0% to ~~95.0~~**98.0**%, inclusive, of the Maximum Specific Gravity (Rice’s Method) and the range (R) is less than 3.0.

Reason: increase density to 98

C. Ride Specification. The surface smoothness will be measured using the International Roughness Index (IRI). The surface smoothness will be evaluated in each travel lane for the entire length of the project. The following project category pay factors will be applied to each **travel** lane:

**TABLE 105-3
MAXIMUM ALLOWABLE VARIANCE AND DIVERGENCE**

| Project Category | Actual IRI (Inches/mi) | Pay Factor |
|-------------------------------|--------------------------------|---|
| <i>Add to bottom of table</i> | | |
| | <i>Percent Improvement (%)</i> | <i>Pay Factor</i> |
| <i>% IMP</i> | <i>>60</i> | <i>1.10</i> |
| | <i>≥ 40 – ≤ 60</i> | <i>1</i> |
| | <i>< 40 – > 0</i> | <i>0.90</i> |
| | <i>≤ 0</i> | <i>Corrective Action (Initially assumed zero pay)</i> |

Reason: adding Special for Percent Improvement

**TABLE 105-5
INCENTIVE ADJUSTMENT TABLE**

| | NO INCENTIVE ADJUSTMENT (ADJUSTMENT FACTOR = 1) | ADJUSTMENT FACTOR (CANNOT BE GREATER THAN 1) | NO INCENTIVE ALLOWED (ADJUSTMENT FACTOR = 0) |
|-------------------|---|--|--|
| <i>COMPACTION</i> | <i>≤7</i> | <i>$F_v = -0.125P_v + 1.875$</i> | <i>≥15</i> |
| <i>DENSITY</i> | <i>≤5</i> | <i>$F_c = -0.200P_v + 2.000$</i> | <i>≥10</i> |

Reason: adjust P value on Density

Final Draft: **Published as shown with the exception of the following:**

- B. Density.** A 1.08 pay factor will be applied to the lots of plant mix surfacing when the average density for the lot (Xn) is from 94.0% to ~~95.0~~**98.0**%, inclusive, of the Maximum Specific Gravity (Rice’s Method) **and the range (R) is 3.0 or less, or all test results are between 94.0% and 98.0%.**

Changes were made to the Factor variable as well. Changing Compaction to Density, so Fc will be Fd moving forward.

| | | | |
|----------------------------------|----|---------------------------|-----|
| COMPACTION DENSITY | ≤7 | $F_d = -0.125P_c + 1.875$ | ≥15 |
|----------------------------------|----|---------------------------|-----|

Where:

P_v = Average of all positive P values for all the plant mix volumetric properties (VMA, VFA, VTM, and D/A) evaluated under Subsection 105.03.2 on the project.

P_d = Average of all positive P values for ~~compaction density~~ evaluated under Subsection 105.03.2 on the project.

IRI = Weighted average International Roughness Index (IRI) for all travel lanes evaluated for surface smoothness on the project. When multiple ride categories are included on a project, adjustment factors will be determined for each. A weighted average of all adjustment factors will then be determined for use in the overall incentive adjustment equation below.

The Department will evaluate plant mix surfacing in accordance with all applicable contract requirements. Total incentives for plant mix volumetric properties, ~~compaction density~~, and ride will be adjusted based on the overall quality of all the plant mix paving properties. The overall incentive adjustment will be calculated as follows:

$$I_a = I (F_V)(F_D)(F_R).$$

I = Total unadjusted incentive amount.

F_V = Adjustment Factor resulting from plant mix volumetric properties.

F_D = Adjustment Factor resulting from plant mix ~~compaction density~~.

F_R = Adjustment Factor resulting from ride.

105.09 AUTHORITY AND DUTIES OF PROJECT MANAGER

Each project will be staffed with a Project Manager who is the Engineer's direct representative. The Project Manager has immediate charge of the engineering details of each construction project and is responsible for the administration and satisfactory completion of the project.

The Project Manager can:

1. Reject defective material.
2. Suspend work being improperly performed.
3. Execute any authority delegated to the Project Manager by the Engineer.
4. **Withhold up to 10% of the monthly estimate when required documents have not been submitted in accordance with the contract.**

The Project Manager will be identified before work begins.

Reason: Give Project Manager's more leverage to enforce Specifications and Contract provisions.

Final Draft: Changes to the proposed spec are as follows:

4. **Withhold up to 10% of the monthly estimate on associated work items when required documents have not been submitted in accordance with the contract.**

107.15 RESPONSIBILITY FOR DAMAGE CLAIMS

~~Indemnify and hold harmless the Department and the Department's officers and employees from all actions or claims brought because of injuries or damages to persons or property caused by the actions or omissions of the Contractor's employees or agents.~~

Protect, defend, indemnify, and hold the Department, its elected and appointed officials, agents, and employees, while acting within their duties as such, harmless from and against all claims, liabilities, demands, causes of action, and judgments (including the cost of defense and reasonable attorney fees) arising in favor of or asserted by the Contractor's employees or third parties on account of personal or bodily injury, death or damage to property, arising out of the acts or omissions of the Contractor, its agents, or sub-contractors, except the negligence of the Department.

Reason: Cleanup

Final Draft: No changes to the draft spec; published as shown.

108.01.1 SUBCONTRACTING

TABLE 108-1
SUBCONTRACT REQUIREMENTS

| Activity | Subcontract Required | Payroll Required |
|---|----------------------|------------------|
| Engineering/Consultant services within the project limits (Examples: Consultant firms , Concrete Testers, Blasters) | Yes | No |

Reason: Clarification

Final Draft: No changes to the draft spec; published as shown.

108.01.4 CERTIFIED PAYROLL COMPLIANCE

108.01.4 Certified Payroll Compliance

The Contractor and all subcontractors must use AASHTOWare Project Civil Rights & Labor™ (CRL) to submit Certified Payrolls (CPRs). Assist and ensure that all subcontractors submit CPRs electronically into CRL within 7 calendar days following the Contractor's scheduled payment date. Employees must be paid, and payrolls submitted weekly.

Ensure that all subcontractors have submitted their Vendor Access Form which can be found on the following page: <https://www.mdt.mt.gov/business/contracting/prevaling-wage.aspx> to the Department and have received their login IDs prior to work.

Provide the information to all subcontractors subject to the FHWA 1273 requirements. This information is also available using the Search Awarded Contracts located at: <https://app.mdt.mt.gov/ess-awardedproj/>.

Reason: Standard Special

Final Draft: No changes to the draft spec; published as shown.

108.03.2 PROJECT SCHEDULES

A. ASC Schedules.

Prosecute the work with the resources required to complete the contract within the time shown in the Contractor's updated ASC and WN.

~~The Department may withhold 10% of each monthly progress estimate for failure to submit an initial or updated ASC or WN on time and in the manner required. Payment withheld for violation of the schedule requirements will be included in the next progress estimate following the Contractor's submission of the required ASC and WN. The Project Manager's review does not attest to the validity of the ASC or WN.~~

B. CPM Scheduling

~~The Project Manager may withhold 10% of each monthly progress estimate for failure to submit an original or updated CPM schedule on time and in the manner required. Payment withheld for violation of the schedule requirements will be included in the next progress estimate following the Contractor's submission of the required CPM schedule.~~ The Project Manager's acceptance of the CPM schedule does not attest to the validity of the Contractor's assumptions, logic constraints, dependency relationships, resource allocations, labor and equipment or other schedule aspects.

4. Schedule Updates and Progress Payments. ~~Each month of the project, one week before the end of the project's monthly estimate cycle, submit an electronic .xer file using Primavera P6 and a .PDF file containing:~~

Notify the Project Manager in writing by the Notice to Proceed date or at the pre-construction conference, whichever is sooner, of the day the schedule update will be submitted each month. Once the date is selected, it will not be changed. If a date is not selected, submit the schedule no later than 7 calendar days before the end of the project's monthly estimate cycle.

Each month of the project submit an electronic .xer file using Primavera P6 and a .PDF file containing:

C. CPM Scheduling Basis of Payment

~~Failure to submit a revised CPM schedule as specified may also result in withholding 10% of each monthly progress estimate. Payment withheld for violation of the schedule requirements will be included in the next progress estimate following the Contractor's submission of the required schedule.~~

Reason: Clean up

Final Draft: No changes to the draft spec; published as shown.

108.08 LIQUIDATED DAMAGES

TABLE 108-4
SCHEDULE OF LIQUIDATED DAMAGES

| ORIGINAL CONTRACT AMOUNT | | DAILY CHARGE |
|--------------------------|------------------|-----------------------------|
| From More Than | To and Including | Working Day or Calendar Day |
| \$ 0 | \$ 150,000 | \$ 1,244 |
| \$ 150,000 | \$ 500,000 | \$ 1,599 |
| \$ 500,000 | \$ 1,000,000 | \$ 1,992 |
| \$ 1,000,000 | \$ 1,500,000 | \$ 2,198 |
| \$ 1,500,000 | \$ 3,000,000 | \$ 2,828 |
| \$ 3,000,000 | \$ 4,500,000 | \$ 3,037 |
| \$ 4,500,000 | \$ 7,000,000 | \$ 3,303 |
| \$ 7,000,000 | \$ 11,500,000 | \$ 4,031 |
| \$ 11,500,000 | — | \$ 4,273 |

| ORIGINAL CONTRACT AMOUNT | | DAILY CHARGE |
|--------------------------|------------------|-----------------------------|
| From More Than | To and Including | Working Day or Calendar Day |
| \$ 0 | \$ 250,000 | \$ 1,251 |
| \$ 250,000 | \$ 1,000,000 | \$ 2,124 |
| \$ 1,000,000 | \$ 2,000,000 | \$ 2,352 |
| \$ 2,000,000 | \$ 6,000,000 | \$ 3,054 |
| \$ 6,000,000 | \$ 12,000,000 | \$ 4,015 |
| \$ 12,000,000 | \$ 25,000,000 | \$ 4,568 |
| \$ 25,000,000 | — | \$ 6,488 |

Reason: Update LDs. By agreement with Federal Highways, LDs will be reviewed and updated every 2 years.

Final Draft: No changes to the draft spec; published as shown.

109.04 PAYMENT FOR EXTRA WORK**109.04.1 Agreed Unit Price and Agreed Lump Sum Price**

Extra work performed under Subsections 104.02 and 104.03 **may be** paid for at **agreed unit price(s)** or **agreed lump sum price(s)** as specified in the extra work order. **Submit proposed unit price(s) and/or proposed lump sum price(s) for the extra work.**

- A. Historical Bid Price Method.** The Project Manager may use historical bid prices to justify proposed unit price(s) and/or proposed lump sum price(s) for some or all the extra work. No additional markup for Gross Receipts Tax, profit, or administrative costs are allowed when the historical price method is used; however, the Project Manager may consider the effects of inflation, deflation, quantity, location, etc. when evaluating proposed pricing with this method. If the Project Manager does not agree that historical bid prices justify the proposed prices, then they may request a cost breakdown from the Contractor.
- B. Cost Breakdowns.** Upon request, provide a cost breakdown to justify proposed prices, using the format shown below. Information designated by the Contractor as proprietary is protected from disclosure to outside parties. The Contractor may request Force Account measure if unwilling to provide the required information in the breakdown. Provide itemized, estimated, direct and indirect costs, without markup added. List any markups of direct and indirect costs individually, as separate line items. List total profit separately. Provide the following minimum information for applicable line items in the breakdown.
- 1. Direct Costs** (do not include profit).
 - a) Labor.** List the number of workers, estimated wage rates for each worker, and =number of hours per worker. Wage rates should include overtime, fringes, and payroll taxes.
 - b) Equipment.** List the equipment used, actual equipment rates (including fuel), and estimated equipment time. Do not include supervisor vehicle as a direct cost.
 - c) Materials.** List the materials supplied, actual or estimated material quantities, and unit costs. Include any shipping costs.
 - d) Mobilization.** Provide a labor and equipment breakdown for added mobilization/demobilization with the minimum information stated above.
 - e) Subcontracted work.** List each separately. Provide a separate breakdown using the same form and format of all costs for each subcontractor performing a part of the extra work.

List other direct costs separately and include a description of the actual or estimated amounts.
 - 2. Indirect Costs** (do not include profit).
 - a) Increased Bond.** Provide the estimated cost. Furnish evidence of the contractor's bond rate.
 - b) Increased Insurance.** Provide the estimated cost. Furnish evidence of the contractor's insurance rate.
 - c) Additional Supervision Costs.** Do not include supervision costs that are already being recovered by other contract work. Provide supporting documentation certifying that the added work will result in increased supervision costs and showing how the actual or estimated cost (include supervisor vehicle cost) was calculated.

- d) Provide other increased indirect costs separately. Provide a description of the actual or estimated amount. Provide calculations and documentation to support the amount(s).
- 3. **Markups of Direct and Indirect Costs** (do not include profit).
 - a) Overhead markup: Equal to 10% of the total of direct and indirect costs above, or if a higher rate is used, furnish documentation showing how the higher rate was determined.
 - b) Subcontractor administration markup.
 - c) Material markup: markup rate, and computed amount.
 - d) Other markups: List each individually. Include a description and amount.
- 4. **Total Profit.** Markup rate, what the rate is applied to, and computed amount.
- 5. **Subtotal. Subtotal of costs above.**
- 6. **Additional Gross Receipts Tax.** Equal to the subtotal above multiplied by 1.00%.
- 7. **TERO Fee.** Additional TERO fee amount.
- 8. **Total Cost.**
- 9. **Statement.** Provide a statement certifying that the direct and indirect costs, and their markups, do not include profit.

Provide additional detail/justification when requested by the Project Manager.

Force account basis as described Subsection 109.04.2 will be used when there is no agreement on price or if the cost breakdown does not include sufficient detail.

109.04.2 Force Account Basis

Approved extra work paid for on a force account basis will be accounted for daily. The daily report sheets are the true record of extra work. The payments below are full compensation and include tax, profit, and overhead. No additional profit will be added. Extra work on a force account basis ordered by the Project Manager in writing, under Section 104, is paid for as follows:

- A. **Labor.** The Contractor is paid at the applicable USDOL Wage Decision classification rate for all labor and foremen assigned exclusively to performing the extra work for the total hours worked on-site plus 80% of the total unless it can be shown on a certified payroll that the individual performing the force account work is normally paid at a higher rate than the classification rate. Then, the hourly rate paid will be increased to the normally paid rate. If the force account work puts the employee into overtime, the Contractor will be reimbursed at the overtime rate.

Submit evidence of the actual wage rates paid. Only labor on certified payrolls is eligible. The rate paid will be that which is listed on the certified payroll. For salaried employees on-site to manage the contract, submit a certified payroll report from the contractor's payroll system showing the supervisor's salaried rate.

The 80% surcharge may be increased if supporting documentation is submitted by a certified public accountant (CPA) showing that a higher percentage surcharge is needed to cover labor costs. This documentation may be audited to determine compliance of allowable surcharges. The wage rates used for the above computation will not include travel pay (unless included in the USDOL wage decision) or fringe benefits, whether or not paid directly to the employees. Payment as described above is full compensation for all labor related expenses incurred including but not limited to premiums for worker's

compensation insurance, public liability and property damage insurance, social security, unemployment compensation, health and welfare expenses, and other labor related expenses.

Do not include supervision costs that are already being recovered by other contract work. Provide supporting documentation certifying that the added work will result in increased supervision costs and showing how the actual or estimated cost was calculated.

- B. Materials.** The Contractor will receive the actual delivered cost of all materials used based on invoices, plus 15%. The quantity of material used must be documented.
- C. Equipment.** The Contractor will receive the rental rate or invoice price, where applicable, for machinery or special equipment (other than small tools) used to perform the work plus 10%. Rental rates are calculated using the current issue of the Departments Equipment Rental Rate Guidelines. Rates and allowances for standby time, outside rented equipment, owner-operated equipment, and moving of equipment is determined under the Equipment Rate Guidelines. Do not include supervisor vehicle costs that are already being recovered by other contract work
- D. Bond.** The actual cost chargeable to force account work of premiums for the performance bond are paid. No surcharge is allowed for the performance bond. Furnish evidence of the contractor's bond rate.
- E. Mobilization.** Eligible costs for increased mobilization of equipment resulting from extra work are the costs associated with the transport equipment and driving the transport equipment. These costs will be measured in accordance with Subsection 109.04.2.A Labor and 109.04.2.C Equipment.
- F. Statements.** The Department will compile a daily record of extra work done on a force account basis. Complete Contractor daily records for the extra work done on a force account basis on Department forms.

Compare contractor records of material quantities, labor, and equipment with the Project Manager's or Inspector' records at the end of the day and reconcile any discrepancies daily. The Department's daily record sheets are the governing documentation of extra work.

Submit the original extra work order and any supporting documentation such as freight bills and material invoices.

- G. Subcontracting.** Extra work performed on a force account basis by a Subcontractor and/or a sub-Subcontractor under an extra work order will include the percentage allowed in Table 109-2 for administrative expenses. This administrative allowance only applies to charges for labor and materials. The allowance is applied to all charges and added percentages specified in Subsections 109.04.2(A), (B), and (D). Bid items in the original contract are not eligible for this administrative allowance.

TABLE 109-2

SUBCONTRACTING - ADMINISTRATIVE ALLOWANCES

| Extra Work –Subcontracted | Administrative Allowance |
|----------------------------------|---|
| \$0 to \$15,000 | 10% |
| Over \$15,000 | \$1,500 plus 5% of excess over \$15,000 |

Approval of this additional percentage is made after the Contractor furnishes received invoices.

109.04.3 Equitable Adjustment for Claims

The equitable adjustment provided for in Subsection 105.16 is determined as follows:

- A. If the parties agree, the price is determined using unit prices or other agreed upon prices.
- B. If the parties cannot agree, the price is determined by the Project Manager using unit prices or other means to establish cost.

The following limitations apply:

- A. The rental rates must be actual cost not to exceed the rates established in Subsection 109.04.2 and in effect at the time the work is performed.
- B. No claim for loss of anticipated profits on deleted or uncompleted work or consequential damages of any kind is allowed.

Reason: Cleanup

Changes to the proposed spec are as follows:

109.04 PAYMENT FOR EXTRA WORK

109.04.1 Agreed Unit Price and Agreed Lump Sum Price

Extra work performed under Subsections 104.02 and 104.03 **may be** paid for at **agreed unit price(s)** or **agreed lump sum price(s)** as specified in the extra work order. **Submit proposed unit price(s) and/or proposed lump sum price(s) for the extra work.**

- C. Historical Bid Price Method.** The Project Manager may use historical bid prices to justify proposed unit price(s) and/or proposed lump sum price(s) for some or all of the extra work. No additional markup for Gross Receipts Tax, profit, or administrative costs are allowed when the historical bid price method is used; however, the Project Manager may consider the effects of inflation, deflation, quantity, location, etc. when evaluating proposed pricing with this method. If the Project Manager does not agree that historical bid prices justify the proposed prices, then the Project Manager may request a cost breakdown from the Contractor.
- D. Cost Breakdowns.** Upon request, provide a cost breakdown to justify proposed prices, using the format shown below. Information designated by the Contractor as proprietary is protected from disclosure to outside parties. The Contractor may request Force Account measure if unwilling to provide the required information in the breakdown. Provide itemized, estimated direct ~~and indirect~~ costs without ~~markup added profit~~. ~~Apply markups of direct and indirect costs individually, as separate line items. List total profit separately.~~ **and profit according to the format below.** Provide the following minimum information for applicable line items in the breakdown. **No information is required for non-applicable line items.**
- a. Direct Costs** (do not include profit).
- a) Labor.** List the number of workers, ~~estimated~~ wage rates including burden for each worker, and number of hours per worker. Burden is the total cost of an employee to a company, including their salary and any additional benefits. When requested by the Project Manager, provide a breakdown of the submitted wage rates, ~~should include overtime, fringes, and payroll taxes,~~ showing how burden was calculated.
 - b) Equipment.** List the equipment ~~used~~, actual equipment rates (includes fuel), and ~~estimated~~ equipment time. Do not include supervisor vehicle as a direct cost.
 - c) Materials.** List the materials supplied, ~~actual or estimated~~ material quantities, and unit costs. Include any shipping costs.
 - d) Mobilization.** Provide a labor and equipment breakdown for added mobilization/demobilization with the minimum information stated above.
 - e) Additional Supervisor Costs.** Do not include supervision costs that are already being recovered by other contract work. Provide supporting documentation certifying that the added work will result in increased supervision costs and showing how the actual or estimated cost (include supervisor vehicle cost) was calculated.

~~Provide List other increased indirect direct costs separately and include a description of the actual or estimated amounts. Provide calculations and documentation to support the amount(s).~~

- b. Subtotal A.** Subtotal of Direct Costs above.
- c. Subcontracted Work and Markup Line Items.**
 - a) Overhead Markup:** ~~Equal to Apply 10% to Subtotal A of the total of direct and indirect costs above,~~ or if a higher rate is used, furnish documentation certified by a Certified Public Accountant (CPA) showing how the higher rate was determined.
 - b) Subcontracted Work.** List each subcontractor total separately. Provide a separate breakdown for each subcontractor, showing their direct costs, overhead, and profit.
 - c) Subcontractor Administrative Markups.** Apply the markup rate(s) shown in Table 109-2.
 - d) Profit:** List profit amount.
- d. Subtotal B.** Equal to Subtotal A plus Overhead, Subcontracted Work, Subcontractor Admin., and Profit.
- e. Permits, TERO, Bond, Insurance.**
 - a) Permitting Fees.** Additional permitting fees.
 - b) TERO Fee.** Additional TERO fee amount.
 - c) Increased Bond.** Apply bonding rate to Subtotal B. Furnish evidence of the contractor's bond rate.
 - d) Increased Insurance.** Apply insurance rate to Subtotal B. Furnish evidence of the contractor's insurance rate.
- f. Subtotal C.** Equal to Subtotal B plus Permitting Fees, TERO Fee, Increased Bond and Insurance.
- g. Additional Gross Receipts Tax (GRT).** Equal to Subtotal C multiplied by 1.00%.
- h. Total Cost.** Equal to Subtotal C plus GRT.
- i. Statement.** ~~Provide a statement certifying that the direct and indirect costs and their markups do not include profit.~~

Provide additional detail/justification when requested by the Project Manager.

Force account basis as described Subsection 109.04.2 will be used when there is no agreement on price or if the cost breakdown does not include sufficient detail.

109.04.2 Force Account Basis

Approved extra work paid for on a force account basis will be accounted for daily. The daily report sheets are the true record of extra work. The payments below are full compensation and include tax, profit and overhead. No additional profit will be added. Extra work on a force account basis ordered by the Project Manager in writing, under Section 104, is paid for as follows:

- B. Labor.** The Contractor is paid at the applicable USDOL Wage Decision classification rate for all labor and foremen assigned exclusively to performing the extra work for the total hours worked on-site plus 80% of the total unless it can be shown on a certified payroll that the individual performing the force account work is normally paid at a higher rate than the classification rate. Then, the hourly rate

paid will be increased to the normally paid rate. If the force account work puts the employee into overtime, the Contractor will be reimbursed at the overtime rate.

Submit evidence of the actual wage rates paid. Only labor on certified payrolls is eligible. The rate paid will be that which is listed on the certified payroll. For salaried employees on-site to manage the contract, submit a certified payroll report from the contractor's payroll system showing the supervisor's salaried rate.

The 80% surcharge may be increased if supporting documentation is submitted by a certified public accountant (CPA) showing that a higher percentage surcharge is needed to cover labor costs. This documentation may be audited to determine compliance of allowable surcharges. The wage rates used for the above computation will not include travel pay (unless included in the USDOL wage decision) or fringe benefits, whether or not paid directly to the employees. Payment as described above is full compensation for all labor related expenses incurred including but not limited to premiums for worker's compensation insurance, public liability and property damage insurance, social security, unemployment compensation, health and welfare expenses, and other labor related expenses.

Do not include supervision costs that are already being recovered by other contract work. Provide supporting documentation certifying that the added work will result in increased supervision costs and showing how the actual or estimated cost was calculated.

- B. Materials.** The Contractor will receive the actual delivered cost of all materials used based on invoices, plus 15%. The quantity of material used must be documented.
- C. Equipment.** The Contractor will receive the rental rate or invoice price, where applicable, for machinery or special equipment (other than small tools) used to perform the work plus 10%. Rental rates are calculated using Rental Rate Blue Book for Construction Equipment (equipmentwatch.com). Rates and allowances for standby time, outside rented equipment, and owner-operated equipment, ~~and moving of equipment~~ are determined under the Department ~~MDT~~ Equipment Rental Rate Procedures. Do not include supervisor vehicle costs that are already being recovered by other contract work
- D. Bond.** The actual cost chargeable to force account work of premiums for the performance bond are paid. No surcharge is allowed for the performance bond. Furnish evidence of the contractor's bond rate.
- E. Mobilization.**
 1. **Extra Work:** Eligible costs for increased mobilization of equipment resulting from extra work are the costs associated with the transport equipment and driving the transport equipment. These costs will be measured in accordance with Subsection 109.04.2.A Labor and 109.04.2.C Equipment.
 2. **Original Contract Work:** For original contract work that is specified to be measured and paid by Force Account, mobilization costs are not eligible for payment in the Force Account. Include those costs in the Mobilization bid item.

F. Statements. The Department will compile a daily record of extra work done on a force account basis. Complete Contractor daily records for the extra work done on a force account basis on Department forms.

Compare contractor records of material quantities, labor, and equipment with the Project Manager’s or Inspector’ records at the end of the day and reconcile any discrepancies daily. The Department’s daily record sheets are the governing documentation of extra work.

Submit the original extra work order and any supporting documentation such as freight bills and material invoices.

H. Subcontracting. Extra work performed on a force account basis by a Subcontractor and/or a sub-Subcontractor under an extra work order will include the percentage allowed in Table 109-2 for administrative expenses. This administrative allowance only applies to charges for labor and materials. The allowance is applied to all charges and added percentages specified in Subsections 109.04.2(A), (B), and (D). Bid items in the original contract are not eligible for this administrative allowance.

TABLE 109-2

SUBCONTRACTING - ADMINISTRATIVE ALLOWANCES

| Extra Work –Subcontracted | Administrative Allowance |
|---------------------------|---|
| \$0 to \$15,000 | 10% |
| Over \$15,000 | \$1,500 plus 5% of excess over \$15,000 |

Approval of this additional percentage is made after the Contractor furnishes receipted invoices.

Administrative expenses are not paid for on a force account basis above the amount allowed the Prime Contractor and Subcontractor if the work is done by a sub Subcontractor.

109.04.3 Equitable Adjustment for Claims

The equitable adjustment provided for in Subsection 105.16 is determined as follows:

- A.** If the parties agree, the price is determined using unit prices or other agreed upon prices.
- B.** If the parties cannot agree, the price is determined by the Project Manager using unit prices or other means to establish cost.

The following limitations apply:

- C.** The rental rates must be actual cost not to exceed the rates established in Subsection 109.04.2 and in effect at the time the work is performed.
- D.** No claim for loss of anticipated profits on deleted or uncompleted work or consequential damages of any kind is allowed.

208.03.3 REGULATIONS AND PERMITTING

J. Floodplain Permit. ~~When a Contract is located within a regulated floodplain, follow the requirements of the Montana Floodplain and Floodway Management Act.~~ **Montana Floodplain and Floodway Management Act.** Follow the requirements of the Montana Floodplain and Floodway Management Act. All construction projects within a designated 100-year floodplain are required to have a floodplain development permit prior to the start of construction. The local County and City floodplain administrators issue floodplain permits with technical assistance from the DNRC.

The Department obtains this permit for permanent facilities. Obtain the Floodplain Permit from the local floodplain administrator for temporary facilities ~~if required~~ **or for any permanent or temporary floodplain impacts not covered in the Department’s permit for the permanent facilities.**

The permanent facilities floodplain permit does not cover the construction of temporary facilities such as work bridges, work pads, cofferdams, temporary detours, diversions, etc. Additionally, this permit does not include access to and from authorized locations, sequencing, **the storage or disposal of materials,** ~~or~~ construction methodology required to construct authorized features, or other impacts to areas outside of the planned construction footprint.

1. Requirements.

- a. Contact the local floodplain administrator to determine floodplain permitting requirements, if any, for the temporary facilities and any other work within the floodplain not covered ~~here or~~ within the ~~preconstruction~~ floodplain permit **for the permanent facilities.**

Reason: Clarification

208.05 BASIS OF PAYMENT

BMPs are rendered unacceptable if the following are disregarded:

- Provide erosion and sediment controls that prevent discharges to adjacent properties and/or aquatic resources.
- Implement BMPs identified in the SWPPP.
- Update the SWPPP as required by the General Permit.
- Conduct BMP inspections and submit inspection reports.

Payment for BMPs installed will be withheld until SWPPP deficiencies are remedied and the inspection reports have been completed and received by the Project Manager.

Contract time will be charged until all deficiencies have been addressed to the satisfaction of the Project Manager.

Payment for the completed and accepted quantities is made under the following:

Reason: Contractors were neglecting to address BMPs during shut down periods.

Final Draft: Published as shown with the exception of the following:

208.05 BASIS OF PAYMENT

BMPs are rendered unacceptable if the following are disregarded:

- Provide erosion and sediment controls that prevent discharges to adjacent properties and/or aquatic resources.
- Implement BMPs identified in the SWPPP.
- Update the SWPPP as required by the General Permit.
- Conduct BMP inspections and submit inspection reports.

Payment for BMPs installed will be withheld until SWPPP deficiencies are remedied and the inspection reports have been completed and received by the Project Manager.

~~Contract time will be charged until all deficiencies have been addressed to the satisfaction of the Project Manager.~~

Payment for the completed and accepted quantities is made under the following

Reason: District input agreed to let governing agencies (DEQ) direct and implement any fines and directives.

401 PLANT MIX SURFACING

NOTE: Asphalt Cement will be replaced with **Asphalt Binder**, and AC will be replaced with **AB** throughout the Specifications.

401.02.3 Asphalt **Binder**

Furnish asphalt **binder** in accordance with Section 402 **and the contract. If the grade of binder is not specified in the contract furnish MSCR PG 58H-34.**

Asphalt **binder** modified with warm mix additives will be tested with the additives and must meet the contract requirements.

401.03.1 Mix Design

The Department has 30 calendar days from receipt of the mix design materials and signed mix design documents to review/verify the mix design. Mix design verification consists of:

- Verifying less than 13.0 mm of rut **at 15,000 passes in accordance with Table 701-17** during Hamburg testing.
- A review of the submitted mix design documents to ensure all applicable design and aggregate requirements have been met; and,
- Testing of the submitted aggregate for conformance with Subsection **701.03**.

Hamburg test results may be submitted with the mix design. Ensure Hamburg testing is done in accordance with MT 334. **When submitting Hamburg results with the mix design, certify the loose mix was not allowed to cool below the recommended compaction temperature after being heated to mixing temperature and then reheated before compaction into Hamburg test specimens. Additionally, certify the loose mix was not aged longer than 2 hours +/- 5 minutes, in accordance with AASHTO R 30 Section 7.1 - Short Term Mixture Conditioning.** The Department reserves the right to verify any Hamburg results.

401.03.2 Hamburg Wheel Track (Hamburg) Testing and Acceptance

A. Hamburg Testing

At the time of initial target set the Department will perform Hamburg testing on the applicable gyratory pucks first as a screening tool. If Hamburg results from the gyratory pucks meet the specifications the material is considered acceptable, and paving may continue. If Hamburg results from the gyratory pucks do not meet specifications, the Department will perform Hamburg testing on representative in-place mix using 6-inch or 10-inch **diameter** cores. **It is suggested that cores be taken at the time of Target Set regardless, to facilitate a quick turnaround of results in the event the gyratory pucks fail. It is also acceptable to forego testing of gyratory pucks and immediately test cores, however test results from cores will be final in that scenario.**

Changes to Hamburg Testing are as follows:

A. Hamburg Testing

At the time of initial target set the Department will perform Hamburg testing on the applicable gyratory pucks first as a screening tool. If Hamburg results from the gyratory pucks meet the specifications the material is considered acceptable, and paving may continue. If Hamburg results from the gyratory pucks do not meet specifications, the Department will perform Hamburg testing on representative in-place mix using 6-inch or 10-inch diameter cores. **The Contractor may elect to take cores at the time of the Target Set to facilitate a quick turnaround of results in the event the gyratory pucks fail. Testing of gyratory pucks may be waived for testing of cores, however, the results from cores will be final in that scenario.**

B. Hamburg Acceptance. Furnish plant mix that does not exceed 13.0 mm of rut ~~within 10,000 passes in accordance with Table 701-17~~ during production Hamburg testing. Plant mix that exceeds 13.0 mm of rut ~~within 10,000 passes~~ is considered failing material. Remove and replace failing material, as directed, at Contractor expense. The Department may take additional Hamburg samples to determine the extent of the failure and the amount of material to be removed and replaced.

Adjust operations to produce plant mix meeting specifications after a failing Hamburg test and produce no more than 300 tons (300 MT) of plant mix until passing Hamburg results are achieved. When 2 consecutive Hamburg samples do not meet specifications suspend production and submit a revised mix design and samples for verification and Hamburg testing. The initial mix design requirements will be used for verification. Do not resume production until the revised mix design is verified and Hamburg mix design requirements are met. Plant mix lots represented by samples that do not meet Hamburg specifications are not eligible for QA incentives including ride and density incentives.

At the Department's discretion, failing material may be left in place at a reduced price according to the criteria listed below. In these situations, the Department will evaluate and consider volumetric and density test results as well as applicable pavement design criteria to determine an acceptable course of action.

1. For ~~PG 70-XX~~ all binder grades on NHS routes: Remove and replace any plant mix represented by a failing Hamburg test.
2. For ~~PG 70-XX~~ all binder grades not on NHS routes ~~and all other PG grades~~: The number of wheel passes when the rut depth reaches 13.0 mm will be used to determine the reduced price pay factor. The pay factor for the material represented by each test is determined from Table 401-3.
3. For the following areas, materials represented by Hamburg tests exceeding 13.0 mm of rut between 6000 and 8000 passes may remain in place at a 0.5 pay factor:
 - Roadway shoulders, ~~if the entire width of the paver pass occurred within the width of the shoulder~~ **Any mix placed in the same paver pass as the**

failing shoulder mix that is within the travel lane must either be removed and replaced or be accepted separately in accordance with this section if the shoulder material is left in place.

- Plant mix layers below 0.25 feet from the finished surface of plant mix.

Changes to the proposed spec Hamburg Acceptance are as follows:

~~At the Department's discretion, failing material may be left in place at a reduced price according to the criteria listed below. In these situations,~~ The Department will evaluate and consider volumetric and density test results as well as applicable pavement design criteria to determine an acceptable course of action.

1. For ~~PG 70-XX~~ all 58V-34 binder grades on NHS routes: Remove and replace any plant mix represented by a failing Hamburg test.

~~At the Department's discretion, failing material may be left in place at a reduced price according to the criteria listed below.~~

2. For ~~PG 70-XX~~ all binder grades not on NHS routes ~~and all other PG grades~~: The number of wheel passes when the rut depth reaches 13.0 mm will be used to determine the reduced price pay factor. The pay factor for the material represented by each test is determined from Table 401-3.

401.03.20 Constructing Joints

Ensure ~~transverse~~ joints in lifts of plant mix surfacing or other lifts to be used by traffic for 15 calendar days or more do not vary more than ~~3/8-inch (9.5 mm)~~ **0.40 inches (10 mm)** ~~from any point on a taut 25-foot (7.6 m) string line placed parallel to centerline.~~

Changes to the proposed spec Constructing Joints are as follows:

Ensure transverse ~~and longitudinal~~ joints in lifts of plant mix surfacing or other lifts to be used by traffic ~~for 15 calendar days or more~~ do not vary more than ~~3/8-inch (9.5 mm)~~ from any point on a taut 25-foot ~~(7.6 m)~~ string line placed ~~parallel~~ **perpendicular** to ~~centerline~~ **the constructed joint**. Joints must meet this requirement prior to performing the Seal and Cover or prior to winter suspension, whichever occurs first.

401.03.21 B3 Longitudinal Joint Pay Adjustment.

A 0.05 pay factor will be applied to the lots of longitudinal joints when the average density for the lot (Xn) is from 92.0% to ~~95.0~~ **98.0**%, inclusive of the Maximum Specific Gravity (Rice's Method) and the range (R) is 3 or less.

401.03.23A RIDE SPECIFICATION

4. Percent Improvement projects:

Average pre-paving IRI value of 140 in./mile and greater.

- **Projects with 2 or less opportunities to improve the ride.**
- **Urban projects with a posted speed limit of 55 MPH or less and curb and gutter controlling 1 or more edges of the paving.**

Pre-paving IRI must be completed a maximum of 10 business days prior to the start of paving operations, and prior to any work which requires improvements to facilities within the travel lanes. The Contractor is responsible for coordinating the pre-pave IRI with the Project Manager and DMS.

Reason: Standard Special - % Improvement

401.03.24 RUMBLE STRIPS

Construct rumble strips **prior to performing the Seal and Cover.** ~~when specified.~~ Cut the rumble strips into the finished plant mix surfacing. Use a machine equipped with a rotary type cutting head capable of making the cuts to the dimensions and pattern shown in the Detailed Drawings.

Produce the rumble strips without tearing and snagging the pavement. Remove resulting debris from the roadway before opening to traffic. Do not allow debris to enter any waterways.

Establish a control line and locate the rumble strips on the shoulder 6 inches (150 mm) outside of the travel lane. The offset may be adjusted to avoid longitudinal pavement joints. Do not place rumble strips where concrete barrier rail or other roadside features prevent placement as specified.

If seal and cover is not scheduled to be completed within 10 business days after cutting rumble strips, fog seal the finished rumble strips. **Contract time will be assessed until fog seal is completed.**

Apply fog seal to finished rumble strips as follows:

1. Apply a double shot of emulsified asphalt meeting Section [407](#) for fog seal.
2. Keep traffic off the fog seal until the emulsion has cured to no-tack.
3. Apply the fog seal to the rumble strip for each lane in the direction of travel for that lane.

Reason: Clarification and requirement.

401.05 BASIS OF PAYMENT

For non-commercial plant mix, asphalt cement and hydrated lime are paid for separately in addition to their weights being included in the pay weight per ton of mix. For commercial plant mix, no separate payment will be made for asphalt cement, fillers, hydrated lime, and additives.

Quantities of hydrated lime over 1.6% by total weight of mix are not measured for payment as hydrated lime.

The contract unit price for rumble strips will be adjusted as shown in Table 401-8

Reason: Cleanup and adding Percent Improvement Special to requirements

Final Draft: No changes to the draft spec; published as shown.

**TABLE 701-17
HAMBURG WHEEL TRACK REQUIREMENTS**

| PG Binder Grade | Water Bath Temperature | Max # of Passes to ½ in. (13 mm) Rut Depth | |
|-----------------|------------------------|--|------------|
| | | Mix Design Verification | Production |
| PG 58-XX | 111 °F (44 °C) | 15,000 | 10,000 |
| PG 64-XX | 122 °F (50 °C) | 15,000 | 10,000 |
| PG 70-XX | 133 °F (56 °C) | 15,000 | 10,000 |
| MSCR PG 58S-XX | 111 °F (44 °C) | 12,500 | 7,500 |
| MSCR PG 58H-XX | 111 °F (44 °C) | 15,000 | 10,000 |
| MSCR PG 58V-XX | 111 °F (44 °C) | 20,000 | 15,000 |
| MSCR PG 58E-XX | 111 °F (44 °C) | 20,000 | 17,500 |

402 BITUMINOUS MATERIALS

402.01 DESCRIPTION

This work is ~~the~~ furnishing and applying bituminous materials, on base ~~s~~ courses and surfacing. Bituminous materials are defined as emulsified asphalts (emulsions) and asphalt binder.

402.03.1 Materials Source

Obtain the Project Manager's approval of the bituminous materials source before delivering the material to the project. Do not change the source of supply once work has started, without the Project Manager's written approval.

402.03.2 Sampling

- A. General.** Take ~~bitumen~~ samples of bituminous material not accepted on a lot-by-lot basis, ~~other than products accepted under quality assurance,~~ at the point of delivery on the project.

The Contractor or designated representative is responsible for sampling the bituminous materials on the project in accordance with MT 302.

Drain off and discard at least 1 gallon (3.8 L) of the bituminous material before drawing samples.

~~Draw 2 one quart (0.9 L) samples from each shipment, witnessed by~~ The Project Manager will witness all sampling. Refer to MT 601 for the proper sample container, size, rate, and frequency, however standard procedure is to collect a pair of samples each time (i.e., 1 & 1A). Submit both samples for testing. One sample will be tested, and the 2nd sample will be retained for use in accordance with Subsection 702.02.

Changes to the proposed spec are as follows:

~~Draw 2 one quart (0.9 L) samples from each shipment, witnessed by~~ All sampling must be witnessed by the Department ~~The Project Manager.~~ Refer to MT 601 for the proper sample container, size, rate, and frequency. Submit both samples for testing. One sample will be tested, and the 2nd sample will be retained for use in accordance with Subsection 702.02.

- B. Asphalt Binder Sampling (Quality Assurance Sampling Lot-by-Lot Acceptance).** Sample asphalt binder for plant mix ~~surfacing and base and plant mix seal course~~ using a sampling device located in the line between the storage facilities and the mixing plant.

Provide ~~a~~ samples of the asphalt binder entering the mixing plant. One approved in-line sampling device is shown in AASHTO T 40.

Place the samples in Department furnished containers. Give the samples to the Project Manager immediately after sampling.

The Project Manager will randomly designate the time of sampling based on the tons (MT) of asphalt binder incorporated into the completed mix produced. The approximate quantity of asphalt binder represented by each pair of samples

is 25 tons (25 MT). The Project Manager may require additional samples and testing.

Six **pairs of** samples represent approximately 150 tons (150 MT) of asphalt cement and constitute a lot whenever production schedules or material continuity permit. The Project Manager may establish a lot consisting of the quantity represented by any number of consecutive random samples, from 3 to 7 inclusive, when necessary to represent short production runs, significant material changes, or other unusual characteristics of the work.

402.03.5 Acceptance

B. Emulsion Failures. If a shipment of ~~bituminous material~~ **asphalt emulsion** fails to meet any one of the specifications, with test results within the allowable variation in Table 402-1, the price reduction will be 10%.

If a shipment fails to meet any one of the specifications with test results in excess of the allowable variation in Table 402-1 but less than twice the allowable variation, the price reduction will be 15%.

If a shipment fails to meet any one of the specifications with test results in excess of twice the allowable variation in Table 402-1 but less than three times the allowable variation, the price reduction will be 25%.

If a shipment fails to meet any one of the specifications with test results in excess of three times the allowable variation in Table 402-1, the Project Manager may reject the material and require its removal from the work, or the Project Manager may accept the material at a 50% price reduction.

The cost of the ~~bituminous material~~ **emulsion** for calculating price reductions is the material's contract unit price. The price reduction percentage will be based on the unit price bid for ~~bituminous material~~ **emulsion** when it is paid as a separate item or the invoice price when it is part of a bid item.

If a shipment fails more than one of the specifications, the failure causing the largest percentage price reduction is assessed.

**TABLE 402-1
SCHEDULE OF TOLERANCES**

| Test | Variation | | Remarks |
|---|--|-------------------------------------|--|
| | From Min. Specification Requirement | From Max. Specification Requirement | |
| Penetration distillation residues | -10% | +10% | |
| % Residue from distillation | -5% | | % of total distillate: 2 mL may be added or subtracted at any distillation temp. before calculating the % recovered |
| Viscosity outback asphalts emulsified asphalts | -10% -5% | +10% +25% | |
| Ductility | -10% | | |
| Flash test outback asphalt | -10% | | |
| Particle charge | NO TOLERANCE - Materials in violation of spec. and any aggregate used in conjunction with its use will, at the Project Manager's discretion, be either rejected or paid for at a unit rate not to exceed 50% of the cost of the materials. | | |

402.03.6 ~~Loading and Application Temperatures~~ Reserved

~~The Project Manager will designate the recommended application temperature ranges in accordance with Table 402-2.~~

~~Do not heat bituminous mix any higher than is necessary for proper hauling and placing.~~

~~Do not introduce aggregate into a mixer higher than 25 °F (14 °C) above the bituminous material temperature.~~

~~Furnish the Project Manager with data on the temperature-viscosity relationship of each asphalt to be used on the project. The data must cover the recommended temperature range and viscosities at which the asphalt may be used. The Project Manager will use this data to specify the temperature at which the material will be used.~~

~~TABLE 402-2~~
~~RECOMMENDED APPLICATION TEMPERATURES~~
~~FOR BITUMINOUS MATERIALS~~
DELETED

402.03.7 Alternate Type or Grade of Bituminous Materials

~~The Engineer may change or substitute, in writing, the type and grade of bituminous material specified.~~

~~Payment for the changed or substituted bituminous material is the contract unit price for the type and grade of bituminous material plus or minus the difference in Contractor's cost at the refinery between the specified and substitute type and grade.~~

The Project Manager may allow an alternate to the type and/or grade of bituminous material specified. Submit requests to use alternate types or grades of bituminous material to the Project Manager in writing at least 30 days prior to scheduled placement. Do not place alternate bituminous materials without Department approval.

Payment for a changed or substituted emulsion is the contract unit price for the type and grade of emulsion plus or minus the difference in Contractor's cost at the refinery between the specified and substitute type and grade. Higher performance grades of Asphalt Binder than specified in the contract will be allowed at contractor expense.

402.03.8 Performance Graded Asphalt Binder (PGAB **and MSCR PGAB**)

Furnish PGAB ~~meeting Table 702-2 requirements~~ and MSCR PGAB in accordance with Section 702 for the binder specified in the contract. ~~PG 64-28, PG 64-34, and PG 70-28 binders~~, All PGABs after aging in the rolling thin film oven and testing in accordance with AASHTO T 51 must meet the following:

- C. Acceptance.** The Department will grade samples representing each lot in accordance with the PGAB grading system, ~~and Table 702-2~~, with duplicate containers retained for testing in case of dispute. PGAB is accepted in accordance with Subsection 105.03.2 using an "F" factor of 4. The "P" value is determined for the high temperature components of the resulting grade (e.g., 64, 58, etc.) using the formula:

Final Draft: No changes to the draft spec; published as shown.

551.03.2 COMPOSITION OF CONCRETE

A. Design 9. The Project Manager may allow “cast in place” placement of Class General Concrete without a formal mix design for items not related to sidewalks, curbs, or gutters. Submit a batch proportioning sheet meeting the requirements for Class General Concrete in accordance with Table 551-2 three calendar days prior to placement. Include all material in the mixture on a cubic yard basis. Class General Concrete will be tested and accepted in accordance with MT 601.

Reason: Standard Special Provision

Final Draft: No changes to the draft spec; published as shown.

553.03.1 FABRICATION

Furnish a copy of the plant's current certification in the applicable category along with the fabrication drawings for the elements to be fabricated. For new manufacturing plants, submit and receive approval of any proposed modifications to the parent plant's quality assurance and control program prior to beginning production. Allow 30 business days from the date submitted for Department review and approval. New manufacturing plants may operate under the parent plant's quality assurance and control programs for a maximum of ~~18~~ 12 months from the date of opening. ~~Plants currently operating under this exemption may do so only until January 1, 2016.~~

Notify the Project Manager at least 10 business days prior to beginning production to ensure the Department can schedule inspection.

The fabricator may prestress by pretension or post-tensioning the member, subject to the contract requirements.

Obtain written approval before changing the prestressing details.

554.03 CONSTRUCTION REQUIREMENTS

Construct any products that are not cast-in-place, and not produced at a PCI, ACPA or NPCA certified precast plant, in accordance with Subsection 605.03. These products will be evaluated on a lot-by-lot basis in accordance with Subsection 551.03.8(C) for the class of concrete specified.

Notify the Project Manager at least 10 business days prior to beginning production to ensure the Department can schedule inspection.

Reason: to give Materials Inspectors time to schedule the inspection.

*Final Draft: **No changes to the draft spec; published as shown.***

556.03.8 BOLTED CONNECTIONS - HIGH-TENSILE-STRENGTH BOLTS

B. Pre-Installation. Submit 1 of the following bolt methods for use:

- a. Turn of the nut,
- b. Calibrated wrench,
- c. Direct Tension Indicator (DTI), or
- d. Tension Control Bolts (twist-off)

Pre-Installation verification is not required for structural support for highway signs, luminaires, and traffic signals. ~~Not applicable to breakaway connections.~~

Reason: clarification

*Final Draft: **Changes to the proposed spec are as follows:***

Pre-Installation verification is not required for structural support for highway signs, luminaires, and traffic signals. ~~Not applicable to breakaway connections.~~ **Install breakaway connections in accordance with the manufacturer's recommendations.**

606.03.14 IMPACT ATTENUATOR

606.02 MATERIALS

606.03.14 Impact Attenuator

Obtain complete drawings and material costs for construction and bidding purposes from the manufacturer. Install the device in accordance with the manufacturer’s details and specifications.

Use Class General concrete in accordance with Subsection 551.03.2, for the required concrete pad. Ensure the existing concrete pad meets the manufacturer’s specifications if replacing the existing attenuator.

Do not remove the existing guardrail until the attenuator is on the project site and has been inspected and approved for use.

A. Temporary Impact Attenuator. Install devices at the locations shown of blunt or exposed ends of barriers or fixed objects in accordance with the manufacturer’s installation instructions. The device must be installed within 12 hours from the time the obstacle is exposed.

Maintain at least one complete set of repair parts on the project at all times to repair or replace attenuators, which may be damaged during construction.

Attach the impact attenuator to the concrete barrier rail or other fixed objects using the manufacturer’s approved transition section. Follow all manufacturers’ instructions and guidance during the installation. Furnish and install all transitions, mounting hardware, and other necessary items.

Repair or replace damaged attenuators within 12 hours.

Remove the device within 48 hours of when the obstacle no longer exists. The devices remain the property of the Contractor after completion of the project.

606.04.8 Impact Attenuators

Impact attenuators are measured by each unit as specified in the contract.

A. Temporary Impact Attenuators. Temporary impact attenuators are measured for each complete installation shown on the plans. This includes furnishing, installing and the removal of one attenuator, one time.

1. Reset. Temporary Impact Attenuator is measured by each and includes the complete reinstallation and removal of a temporary attenuator that was previously installed on the project and was moved to a new location.

Temporary removal/resetting of an attenuator to protect the same obstacle will not be measured for payment.

Removal, replacement, and repair of installations shown on the plans damaged by traffic will be paid in accordance with subsection 109.04. Installations and installations not shown on plans, or the repair or replacement of temporary impact attenuators damaged by the Contractor will not be measured for payment.

705.01.6 Impact Attenuator

Furnish a device rated for 60 mph (100kph) and in accordance with the manufacturer’s detailed drawings.

Temporary Impact Attenuators must meet MASH crash test requirements.

Reason: *Standard Special Provision*

Final Draft: **Published as shown with the exception of the following:**

705.01.6 Impact Attenuator

Furnish devices that meet MASH Test Level 3 standards or as shown in the contract.

Temporary Impact Attenuators must meet MASH crash test requirements.

608 CONCRETE SIDEWALKS

608.03.1 Subgrade and Forms

Excavate, and shape, and compact the foundation to the specified width and grade.

Compact foundation in accordance with Subsection 203.03.3. Place and compact aggregate base to the specified thickness.

Use and install forms and form in accordance with Section 552 and Subsection 609.03.

203.03.3 Moisture and Density Requirements

**TABLE 203-1
COMPACTION REQUIREMENTS**

| Compaction Control Method | | |
|---|---|----------------------------------|
| Material Compacted | Proctor | Zero Air Voids |
| | Test Methods: MT 210, MT 230, MT 212, MT 218 | Test Method: MT 229 |
| Earth embankment including all backfills | Minimum ≥ 95% of maximum density at optimum moisture ± 2% | Less than ≤ 10% air-filled voids |
| Top 8 inches (200 mm) of subgrade in cut sections | | |
| Culvert foundations Top 8 inches of embankment foundations | | |
| Top 8 inches (200 mm) of embankment foundations Culvert and Backfill foundations | | |
| Backfill foundations | | |
| Curb, Gutter, & Sidewalk foundations | Either: ≥ 90% of MT 230 max density or ≥ 95% of MT 210 max density at optimum moisture +/- 2% | N/A |

Changes to the proposed spec are as follows:

Compact subgrade in accordance with Subsection 203.03.3. Place and compact aggregate base to the specified thickness.

| Material Compacted |
|--|
| Earth embankment including all backfills |
| Top 8 inches (200 mm) of subgrade in cut sections |
| Culvert foundations Top 8 inches of embankment foundations |
| Top 8 inches (200 mm) of embankment foundations Culvert and Backfill foundations |
| Backfill foundations |
| Curb, Gutter, & Sidewalk subgrade |

608.03.4 Warranty

Concrete sidewalk, curb and gutter, median curb, and median cap are subject to a 1-year performance warranty.

The Project Manager has sole authority to determine concrete performance following the 1-year warranty period. The 1-year warranty period starts on the date of the completion of the final concrete placement in each calendar year and ends one year from that defined date. The Project Manager will give written notice to the Contractor of the beginning of the warranty period.

Defective concrete is defined as the presence of scaling, cracking, pop-outs, spalling, or any other deficiency identified by the Project Manager. Deficient Concrete is referenced in the Department's Concrete Warranty Administration Guide. The Project Manager will notify the Contractor in writing of observed deficiencies that occur within the warranty period. Submit a detailed repair plan to the Project Manager within 14 calendar days of the notification of required repairs.

Damage from Department or local maintenance activities, vandalism or other causes beyond the control of the Contractor is not subject to the warranty.

Replace deficient concrete to the nearest contraction joint or as approved in the repair plan. Acceptance of repair work will be in accordance with Subsection 105.03.1. Restore pavement markings and furnish traffic control at no additional cost to the Department.

Complete warranty work within 30 calendar days of the approved repair plan unless otherwise approved in writing by the Project Manager.

609.03.7 Warranty

Concrete curb and gutter, median curb, and median cap are subject to a 1-year warranty as defined in Subsection 608.03.4.

Reason: add special provision

Final Draft: No changes to the draft spec; published as shown.

610.04.2 SEEDING

Seeding is measured by the acre (ha), parallel to the ground surface. **Condition Seedbed Surface**, when required, is not measured separately for payment and is to be included in the bid price for Seeding.

Removal of oversized material from the conditioned seedbed surface is not measured separately for payment.

~~610.04.4 Condition Seedbed Surface~~

~~Condition seedbed surface is measured by the acre (ha), parallel to the ground surface.~~

~~Removal of oversized material from the conditioned seedbed surface is not measured separately for payment.~~

Reason: Cleanup

*Final Draft: **No changes to the draft spec; published as shown.***

618 TRAFFIC CONTROL**618.03.14A(5) TEMPORARY TRANSVERS PORTABLE RUMBLE STRIPS**

- b. Dimensions are a minimum of 10 feet (3 m) long, 1-foot (305 mm) wide and $\frac{1}{2}$ - $\frac{3}{4}$ -inch (19 mm) thick.

Reason: clean up

618.04 METHOD OF MEASUREMENT

The contract quantities for traffic control devices are an estimate only and may vary from the actual quantities used or required in the contract.

~~Signs and devices must meet the “acceptable” category outlined in Subsection 618.03.5 to be measured for payment. Failure to adequately maintain and clean traffic control devices in use renders the traffic control operation unacceptable.~~

~~The Contractor, upon receiving written and verbal notification, will be given 24 hours to make the traffic control operation compliant. Traffic Control directly affecting the safety of the public must be attended to immediately. The Project Manager may apply deducts as shown below due to traffic control operations not meeting the requirements set forth in Section 618.~~

- ~~• 10% of the daily traffic control units or \$500 per calendar day, whichever is greater.~~
- ~~• \$500 per day for lump sum contracts.~~

~~Failure to submit an updated traffic control plan on time and in the manner required is cause for the Project Manager to suspend work. The Department may withhold 10% of each monthly progress estimate for failure to submit an updated traffic control plan on time and in the manner required. Payment withheld for violation of the traffic control plan requirements will be included in the next progress estimate following the Contractor’s submission and the Project Manager’s approval of the updated traffic control plan.~~

~~Providing the traffic control plan is incidental to and included in payment for the traffic control bid item.~~

618.04.3 Traffic Control – Day

Traffic control is measured by the day. Traffic Control – Day is defined as any day in which traffic control is installed, maintained, or removed.

No payment will be made for traffic control which does not meet the approved traffic control plan. Maintenance of traffic control devices on a no workday as directed by the Project Manager will be paid as a day

Reason: Standard Special

618.04.5 Reserved Measurement Adjustments

All traffic control furnished, installed, and in operation must meet the requirements of Section 618 to receive full compensation. Failure to meet these requirements will result in non-refundable deductions to the monthly progress estimate.

Signs and devices must meet the “acceptable” category outlined in Subsection 618.03.5 to be measured for payment. Failure to adequately maintain and clean traffic control devices in use renders the traffic control operation unacceptable.

Failure to remove devices from the roadway when not in use and returned to an approved staging area will be considered non-compliant and subject to the deductions shown.

The Contractor, upon receiving written and / or verbal notification, will be given **until 9 A.M. The following morning 24 hours** to make the traffic control operation compliant. Traffic Control directly affecting the safety of the public must be attended to immediately. The Project Manager ~~may~~ **will** apply deducts as shown below due to traffic control operations not meeting the requirements set forth in Section 618.

- ~~10% of the daily traffic control units or \$500 per calendar day, whichever is greater.~~
- ~~\$500 per day for lump sum contracts.~~
- \$1,000 per calendar day.**

Failure to submit an updated traffic control plan on time and in the manner required is cause for the Project Manager to suspend work. ~~The Department may withhold 10% of each monthly progress estimate for failure to submit an updated traffic control plan on time and in the manner required. Payment withheld for violation of the traffic control plan requirements will be included in the next progress estimate following the Contractor's submission and the Project Manager's approval of the updated traffic control plan.~~

Providing the traffic control plan is incidental to and included in payment for the traffic control bid item.

Reason: compliance

Changes to the proposed spec are as follows:

All traffic control furnished, installed, and in operation must meet the requirements of Section 618 to receive full compensation. ~~Failure to meet these requirements will result in non-refundable deductions to the monthly progress estimate.~~

Signs and devices must meet the "acceptable" category outlined in Subsection 618.03.5 to be measured for payment. Failure to adequately maintain and clean traffic control devices in use renders the traffic control operation unacceptable.

~~Failure to remove devices from the roadway when not in use and returned to an approved staging area will be considered non-compliant and subject to the deductions shown.~~

These requirements are already described in Subsection 618.03.5

The Contractor, upon receiving written and ~~/or~~ verbal notification, will be given **until 12 P.M. the following day 24 hours** to make the traffic control operation compliant. Traffic Control directly affecting the safety of the public must be attended to immediately. The Project Manager ~~may~~ **will** apply a deduct **not less than \$500 per calendar day up to but not exceeding \$1,000 per calendar day as shown below** due to traffic control operations not meeting the requirements set forth in Section 618.

- ~~10% of the daily traffic control units or \$500 per calendar day, whichever is greater.~~
- ~~\$500 per day for lump sum contracts.~~
- ~~\$1,000 per calendar day.~~

Failure to submit an updated traffic control plan on time and in the manner required is cause for the Project Manager to suspend work. ~~The Department may withhold 10% of each monthly progress estimate for failure to submit an updated traffic control plan on time and in the manner required. Payment withheld for violation of the traffic control plan requirements will be included in the next progress estimate following the Contractor's submission and the Project Manager's approval of the updated traffic control plan.~~

Providing the traffic control plan is incidental to and included in payment for the traffic control bid item.

702.01 BITUMINOUS MATERIALS

A. Furnish bituminous materials in accordance with following tables.

| | |
|---|-------------------------------------|
| Cationic Emulsified Asphalt..... | AASHTO M 208 ¹ , Table 1 |
| Emulsified Asphalt | AASHTO M 140 ¹ , Table 1 |
| High Float Emulsions | Table 702-4 |
| Medium Curing Liquid Asphalt (MC)..... | Table 702-3 |
| Performance Graded Asphalt Binder..... | Table 702-2 |
| PGAB..... | AASHTO M 320 |
| MSCR PGAB..... | AASHTO M 332 ² |
| Polymer-Modified Cationic Emulsified Asphalt ... | AASHTO M 316 |

- Notes: 1. Cement mixing test does not apply when SS-1 or CSS-1 emulsion is used for spray or tack application.
2. Minimum 55% recovery @ 3.2 kPa according to AASHTO T 350 or as specified in the contract.

Meet the requirements for bituminous materials in accordance with the contract.

B. Polymerize CRS-2P emulsions using at least 3% polymer by weight (mass) of the asphalt binder. **Polymerize CHFRS-2P emulsions using at least 4% polymer by weight (mass) of the asphalt binder.**

C.

702.02 TESTING AND ACCEPTANCE

TABLE 702-1

BASIS FOR ACCEPTANCE OF ~~BITUMINOUS MATERIALS~~ **ASPHALT EMULSIONS**

TABLE 702-2

~~SPECIFICATION FOR PERFORMANCE GRADED ASPHALT BINDER⁴~~
~~DELETED~~

TABLE 702-3

~~SPECIFICATION FOR MEDIUM CURING LIQUID ASPHALTS~~
~~DELETED~~

Final Draft: No changes to the draft spec; published as shown.

708.01 REINFORCED CONCRETE PIPE

708.01.1 General

Furnish reinforced concrete pipe, reinforced concrete boxes, inlets, and manholes produced by a manufacturing plant listed on the Department's QPL. ~~that has been approved by the Department before the contract award date.~~

Reason: Standard Special Provision

Final Draft: No changes to the draft spec; published as shown.

ERRATA

102.11 WITHDRAWAL OF PROPOSALS

Submit withdrawal requests to ECCB before the time set for opening bid proposals. A bidder may withdraw any Proposal using EBS, in person, through an authorized agent, or by submitting the bid withdrawal from to ECCB via email (mdtctplns@mt.gov) mdteccs@mt.gov before any bid Proposal on that project is opened.

102.07C2. Proposal Guarantee.

If an error occurs with electronic bid bond verification through AASHTOWare Project Bids and Bid Express, submit the Electronic Bid Bond Form MDT-CTP-102-07-2 in Adobe PDF format via email to mdtentplns@mt.gov mdteccs@mt.gov prior to the bid opening. Hard copy or paper bid bonds submitted to the Department will not be accepted. Bids that include submission of a bid bond without electronic verification or Electronic Bid Bond Form CPB_102_07 will be deemed non-responsive.

Reason: email update

714.04 ~~WATERBORNE TRAFFIC PAINT~~ RESERVED

714.05 ~~Reserved~~ WATERBORNE TRAFFIC PAINT

Reason: material codes for testing

Specifications Revision Process

Submit proposed changes in **writing** to the Specifications Engineer. Include the following:

1. The title and Section or Subsection to be revised.
2. A description of the needed change. It is recommended that proposed language be included but is not required.
3. List any specifications, Detailed Drawings or manual sections that may be affected due to the proposed revision.
4. A brief explanation to support the need and reason for the change. The Specifications Engineer may request additional supporting data and analysis after receipt of the proposed specification revision.
5. A brief statement explaining if the revision requires an implementation plan and if so, state who may be impacted by the change. Will the change require advance notice prior to implementation to ensure lead time to allow coordination and compliance with the change?
6. A list of those consulted and involved with the recommended change.

Submit the proposed change in one of the following ways:

1. MDT employees may e-mail to [MDT Construction Specifications](#)
2. External submissions emailed to mdtspecifications@mt.gov

The complete revision process is available here:

https://www.mdt.mt.gov/other/webdata/external/const/proposed_spec_changes/SPEC_REVISION_PROCESS.PDF