

SECTION 4 SCOPE OF THE WORK

4-1 Intent of Contract.

The intent of the Contract is to provide for the construction and completion in every detail of the work described in the Contract. Furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the Contract Documents.

4-2 Work not covered by Standard Specifications.

Proposed construction and any contractual requirements not covered by these Standard Specifications may be covered by Contract plan notes or by Supplemental Specifications or Special Provisions for the Contract, and all requirements of such Supplemental Specifications or Special Provisions shall be considered as a part of these Specifications.

4-3 Alteration of Plans or of Character of Work.

4-3.1 General: The Engineer reserves the right to make, at any time prior to or during the progress of the work, such increases or decreases in quantities, whether a significant change or not, and such alterations in the details of construction, whether a substantial change or not, including but not limited to alterations in the grade or alignment of the road or structure or both, as may be found necessary or desirable by the Engineer. Such increases, decreases or alterations shall not constitute a breach of Contract, shall not invalidate the Contract, nor release the Surety from any liability arising out of this Contract or the Surety bond. The Contractor agrees to perform the work, as altered, the same as if it had been a part of the original Contract.

The term "significant change" applies only when:

(A) The Engineer determines that the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction, or

(B) A major item of work, as defined in 1-3, is increased in excess of 125% or decreased below 75% of the original Contract quantity. The Department will apply any price adjustment for an increase in quantity only to that portion in excess of 125% of the original Contract item quantity, or in case of a decrease below 75% to the actual amount of work performed, such allowance to be determined in accordance with 4-3.2, below.

In the instance of (A) above, the determination by the Engineer shall be conclusive and shall not subject to challenge by the Contractor in any forum, except upon the Contractor establishing by clear and convincing proof that the determination by the Engineer was without any reasonable and good-faith basis.

4-3.2 Increase, Decrease or Alteration in the Work: The Engineer reserves the right to make alterations in the character of the work which involve a substantial change in the nature of the design or in the type of construction or which materially increases or decreases the cost or time of performance. Such alteration shall not constitute a breach of Contract, shall not invalidate the Contract or release the Surety. The Engineer may direct in writing that the work be done and, at the Engineer's sole discretion, the Contractor will be paid pursuant to an agreed Supplemental Agreement or in the following manner:

(a) Labor: The Contractor will receive payment for direct labor and burden on the actual costs of the additional or unforeseen work, plus a mark-up of 25%.

(b) Materials and Supplies: For materials accepted by the Engineer and used on the project, the Contractor will receive the actual cost of such materials incorporated into the work, including Contractor paid transportation charges (exclusive of equipment as hereinafter set forth), plus 17.5%. For supplies reasonably needed for performing the work, the Contractor will receive the actual cost of such supplies, plus 17.5%.

(c) Equipment: For any machinery or special equipment (other than small tools), including fuel and lubricant, the Contractor will receive 100% of the "Rental Rate Blue Book" for the

actual time that such equipment is in operation on the work, and 50% of the "Rental Rate Blue Book" for the time the equipment is directed to standby and remain on the project site, to be calculated as indicated below. The equipment rates will be based on the latest edition (as of the date the work to be performed begins) of the "Rental Rate Blue Book for Construction Equipment" or the "Rental Rate Blue Book for Older Construction Equipment," whichever is applicable, as published by Machinery Information Division of PRIMEDIA Information, Inc. (version current at the time of bid), using all instructions and adjustments contained therein and as modified below. On all projects, the Engineer will adjust the rates using regional adjustments and Rate Adjustment Tables according to the instructions in the Blue Book.

Allowable Equipment Rates will be established as set out below:

(1) Allowable Hourly Equipment Rate = $\text{Monthly Rate} / 176 \times \text{Adjustment Factors} \times 100\%$.

(2) Allowable Hourly Operating Cost = $\text{Hourly Operating Cost} \times 100\%$.

(3) Allowable Rate Per Hour = $\text{Allowable Hourly Equipment Rate} + \text{Allowable Hourly Operating Cost}$.

(4) Standby Rate = $\text{Allowable Hourly Equipment Rate} \times 50\%$.

The Monthly Rate is The Basic Machine Rate Plus Any Attachments. Standby rates will apply when equipment is not in operation and is directed by the Engineer to standby at the project site when needed again to complete work and the cost of moving the equipment will exceed the accumulated standby cost. Standby rates will not apply on any day the equipment operates for eight or more hours. Standby payment will be limited to only that number of hours which, when added to the operating time for that day equals eight hours. Standby payment will not be made on days that are not normally considered work days on the project.

The Department will allow for the cost of transporting the equipment to and from the location at which it will be used. If the equipment requires assembly or disassembly for transport, the Department will pay for the time to perform this work at the rate for standby equipment.

(d) The Contractor will be allowed a markup of 10% on the first \$50,000 and a markup of 5% on any amount over \$50,000 on any subcontract directly related to the additional or unforeseen work. A subcontractor mark-up will be allowed only by the prime Contractor and a first tier subcontractor.

(e) General Liability Insurance and Bond: The Contractor will receive a mark-up of 1.5% on the overall total cost of the additional or unforeseen work for insurance and bond.

The markups in (a), (b), (c) and (e) above include all indirect costs and expenses of the Contractor, including but not limited to overhead of any kind, and reasonable profit.

The monetary compensation provided for above constitutes full and complete payment for such additional work and the Contractor shall have no right to any additional monetary compensation for any direct or indirect costs or profit for any such additional work beyond that expressly provided above. The Contractor shall be entitled to a time extension only to the extent that the performance of any portion of the additional work is a controlling work item and the performance of such controlling work item actually delays completion of the project due to no fault of the Contractor. All time related costs for actual performance of such additional work are included in the compensation already provided above and any time extension entitlement hereunder will be without additional monetary compensation. The Contractor shall have no right to any monetary compensation or damages whatsoever for any direct or indirect delay to a controlling work item arising out of or in any way related to the circumstances leading up to or resulting from additional work, except (a) as is provided above when the performance of any portion of the additional work is a controlling work item and the performance of such controlling work item actually delays completion of the project due to no fault of the Contractor or (b) only as provided for under 5-12.5.2.1 and 5-12.5.2.2.

4-3.3 No Waiver of Contract: Changes made by the Engineer will not be considered to waive any of the provisions of the Contract, nor may the Contractor make any claim for loss of anticipated profits because of the changes, or by reason of any variation between the approximate quantities and the

quantities of work actually performed. All work shall be performed as directed by the Engineer and in accordance with the Contract Documents.

4-3.4 Conditions Requiring a Supplemental Agreement or Unilateral Payment: A Supplemental Agreement or Unilateral Payment will be used to clarify the plans and specifications of the Contract; to document quantity overruns that exceed 5% of the original Contract amount; to provide for unforeseen work, grade changes, or alterations in plans which could not reasonably have been contemplated or foreseen in the original plans and specifications; to change the limits of construction to meet field conditions; to provide a safe and functional connection to an existing pavement; to settle documented Contract claims; to make the project functionally operational in accordance with the intent of the original Contract and subsequent amendments thereto.

A Supplemental Agreement or Unilateral Payment may be used to expand the physical limits of the project only to the extent necessary to make the project functionally operational in accordance with the intent of the original Contract. The cost of any such agreement extending the physical limits of the project shall not exceed \$100,000 or 10% of the original Contract price, whichever is greater.

Perform no work to be covered by a Supplemental Agreement or Unilateral Payment before written authorization is received from the Engineer. The Engineer's written authorization will set forth sufficient work information to allow the work to begin. The work activities, terms and conditions will be reduced to written Supplemental Agreement or Unilateral Payment form promptly thereafter. No payment will be made on a Supplemental Agreement or Unilateral Payment prior to the Department's approval of the document.

4-3.5 Extra Work: Extra work authorized in writing by the Engineer will be paid in accordance with the formula in 4-3.2. Such payment will be the full extent of all monetary compensation entitlement due to the Contractor for such extra work. Any entitlement to a time extension due to extra work will be limited solely to that provided for in 4-3.2 for additional work.

4-3.6 Connections to Existing Pavement, Drives and Walks: Generally adhere to the limits of construction at the beginning and end of the project as detailed in the plans. However, if the Engineer determines that it is necessary to extend the construction in order to make suitable connections to existing pavement, the Engineer will authorize such a change in writing.

For necessary connections to existing walks and drives that are not indicated on the plans, the Engineer will provide direction regarding the proper connections in accordance with the Design Standards.

4-3.7 Differing Site Conditions: During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the Contract, or if unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the Contractor disturbs the conditions or performs the affected work.

Upon receipt of written notification of differing site conditions from the Contractor, the Engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the Contract, an adjustment will be made, excluding loss of anticipated profits, and the Contract will be modified in writing accordingly. The Engineer will notify the Contractor whether or not an adjustment of the Contract is warranted.

The Engineer will not allow a Contract adjustment for a differing site condition unless the Contractor has provided the required written notice.

The Engineer will not allow a Contract adjustment under this clause for any effects caused to any other Department or non-Department projects on which the Contractor may be working.

4-3.8 Changes Affecting Utilities: The Contractor shall be responsible for identifying and assessing any potential impacts to a utility that may be caused by the changes proposed by the Contractor,

and the Contractor shall at the time of making the request for a change notify the Department in writing of any such potential impacts to utilities.

4-3.9 Value Engineering Incentive:

4-3.9.1 Intent and Objective:

(1) This Subarticle applies to any cost reduction proposal (hereinafter referred to as a Value Engineering Change Proposal or VECP) that the Contractor initiates and develops for the purpose of refining the Contract to increase cost effectiveness or significantly improve the quality of the end result. This Subarticle does not, however, apply to any such proposal unless the Contractor identifies it at the time of its submission to the Department as a proposal submitted pursuant to this Subarticle.

(2) The Department will consider VECPs that would result in net savings to the Department by providing either: (a) a decrease in the cost of performance of the Contract; or (b) a reduction in cost of ownership (hereinafter referred to as collateral costs) of the work provided by this Contract, regardless of acquisition costs. VECPs must result in savings without impairing essential functions and characteristics such as safety, service, life, reliability, economy of operation, ease of maintenance, aesthetics and necessary standard design features. However, nothing herein prohibits the Contractor from submitting VECPs when the required functions and characteristics can be combined, reduced or eliminated because they are nonessential or excessive. The Department will not recognize the Contractor's correction of plan errors that result in a cost reduction, as a VECP.

(3) The Department reserves the right to reject at its discretion any VECP submitted that proposes a change in the design of the pavement system or that would require additional right-of-way. The Department will not allow the substitution of another design alternate, on which the Contractor could have bid, that is detailed in the plans for the one on which the Contractor has bid, under this Subarticle. Pending the Department's execution of a formal supplemental agreement implementing an approved VECP, the Contractor shall remain obligated to perform the work in accordance with the terms of the existing Contract. The Department will not grant any time extensions to allow for the time required to review a VECP.

4-3.9.2 Subcontractors: The Department encourages the Contractor to include the provisions of this Subarticle in Contracts with subcontractors and to encourage submission of VECPs from subcontractors. However, it is not mandatory to submit VECPs to the Department or to accept or transmit subcontractor proposed VECPs to the Department.

4-3.9.3 Data Requirements: As a minimum, submit the following information with each VECP:

(1) a description the difference between the existing Contract requirement and the proposed change, and the comparative advantages and disadvantages.

(2) separate detailed cost estimates for both the existing Contract requirement and the proposed change. Break down the cost estimates by Contract item numbers indicating quantity increases or decreases and deleted pay items. Identify additional proposed work not covered by Contract items, by using current Department pay item numbers. In preparing the estimates, include overhead, profit, and bond. The Department will not allow any separate pay item(s) for the cost of overhead, profit, and bond.

(3) an itemization of the changes, deletions or additions to plan details, plan sheets, design standards and specifications that are required to implement the VECP if the Department adopts it. Provide preliminary plan drawings sufficient to describe the proposed changes.

(4) an estimate of the effects the VECP would have on collateral costs to the Department.

(5) engineering or other analysis in sufficient detail to identify and describe specific features of the Contract that must be changed if the Department accepts the VECP with a proposal as to how these changes can be accomplished and an assessment of their effect on other project elements. The Department may require that engineering analyses be performed by a prequalified

consultant in the applicable class of work. Support all design changes that result from the VECP with prints of drawings and computations signed and sealed by the Specialty Engineer.

(6) state the time by which the Department must approve the VECP to obtain the total estimated cost reduction during the remainder of the Contract, noting any effect on the Contract completion time or delivery schedule.

4-3.9.4 Processing Procedures: Submit two copies of each VECP to the Engineer or his duly authorized representative. The Department will process VECPs expeditiously; however, the Department is not liable for any delay in acting upon a VECP submitted pursuant to this Subarticle. The Contractor may withdraw, in whole or in part, a VECP not accepted by the Department within the period specified in the VECP. The Department is not liable for any VECP development cost in the case where the Department rejects or the Contractor withdraws a VECP.

The Engineer is the sole judge of the acceptability of a VECP and of the estimated net savings in construction and collateral costs from the adoption of all or any part of such proposal. In determining the estimated net savings, the Department reserves the right to disregard the Contract bid prices if, in the judgement of the Engineer, such prices do not represent a fair measure of the value of work to be performed or to be deleted.

Prior to approval, the Engineer may modify a VECP, with the concurrence of the Contractor, to make it acceptable. If any modification increases or decreases the net savings resulting from the VECP, the Department will determine the Contractor's fair share upon the basis of the VECP as modified and upon the final quantities. The Department will compute the net savings by subtracting the revised total cost of all bid items affected by the VECP from the total cost of the same bid items as represented in the original Contract.

Prior to approval of the VECP that initiates the supplemental agreement, provide acceptable Contract-quality plan sheets revised to show all details consistent with the VECP design.

4-3.9.5 Computations for Change in Contract Cost of Performance: The Department will not pay for the Contractor's VECP development and implementation costs. If the VECP is adopted, the Contractor's share of the net savings as defined hereinafter represents full compensation to the Contractor for the VECP.

The Department will not include its costs to process and implement a VECP in the estimate. However, the Department reserves the right, where it deems such action appropriate, to require the Contractor to pay the Department's cost of investigating and implementing a VECP as a condition of considering such proposal. When the Department imposes such a condition, the Contractor shall accept this condition in writing, authorizing the Department to deduct amounts payable to the Department from any monies due or that may become due to the Contractor under the Contract.

4-3.9.6 Computations for Collateral Costs: To determine any collateral cost savings, prepare separate estimates for collateral costs of both the existing Contract requirement and the proposed change. Provide estimates that consist of an itemized breakdown of all costs and the basis for the data used in the estimate. Cost benefits to the Department include, but are not limited to, reduced costs of operation, maintenance or repair, and extended useful service life. Increased collateral costs include the converse of such factors.

Compute collateral costs as follows:

(1) Calculate costs over a 20-year period on a uniform basis for each estimate.

(2) If the difference in the estimates as approved by the Department indicates a savings, divide the resultant amount by 20 to arrive at the average annual net collateral savings. The Department will share the average annual net collateral savings as stipulated in 4-3.9.7.

4-3.9.7 Sharing Arrangements: If the Department approves a VECP, the Contractor may be entitled to share in both construction savings and collateral savings to the full extent provided for in this Subarticle. The Contractor shall receive 50% of the net reduction in the cost of performance of the Contract due to an approved VECP, except for innovative ideas.

For innovative ideas, as determined by the Engineer, the Contractor and the Department shall share the reduction in the cost of performance as follows:

Accrued Net Savings	Contractor's Share %	Department's Share %
Less than \$25,000	100	0
\$25,000 to \$50,000	75	25
Over \$50,000	50	50

The Department will not consider an approved change that is identical or similar to a previously submitted VECP or an idea previously used by the Department as an innovative idea.

When collateral savings occur, the Department will provide the Contractor with 20% of the average annual net collateral savings.

4-3.9.8 Department's Future Rights to a VECP: In the event of acceptance of a VECP, the Contractor hereby grants to the Department all rights to use, duplicate or disclose, in whole or in part, in any manner and for any purpose whatsoever, and to have or to permit others to do so, royalty free and without fee, other costs or surcharge, data reasonably necessary to fully utilize such proposal on this and any other Department Contract.

4-4 Unforeseeable Work.

When the Department requires work that is not covered by a price in the Contract and such work does not constitute a "Significant Change" as defined in 4-3.1, and the Department finds that such work is essential to the satisfactory completion of the Contract within its intended scope, the Department will make an adjustment to the Contract. The Engineer will determine the basis of payment for such an adjustment in a fair and equitable amount.

4-5 Rights in and Use of Materials Found on the Site of the Work.

4-5.1 Ownership and Disposal of Existing Materials: Take ownership and dispose of all materials that are not designated as the property of other parties, in both roadway and structures, found on the right-of-way, and all material in structures designated for removal. Such materials do not include earth or other excavated material required for the construction of the project. During construction, the Contractor may use materials from existing structures that are required to be removed and that are designated to remain the property of the Department. Do not cut or otherwise damage such material during removal unless the Engineer gives permission to do so. Store material in an accessible location as the Engineer directs. The Department is not responsible for the quality or quantity of any material salvaged.

4-5.2 Ornamental Trees and Shrubs: Take ownership of all ornamental trees or shrubs existing in the right-of-way that are required to be removed for the construction operations and which are not specifically designated on the plans to be reset, or to be removed by others prior to the construction operations.

4-6 Final Cleaning Up of Right-of-Way.

Upon completion of the work, and before the Department accepts the work and makes final payment, remove from the right-of-way and adjacent property all falsework, equipment, surplus and discarded materials, rubbish and temporary structures; restore in an acceptable manner all property, both public and private, that has been damaged during the prosecution of the work; and leave the waterways unobstructed and the roadway in a neat and presentable condition throughout the entire length of the work under Contract. Do not dispose of materials of any character, rubbish or equipment, on abutting property, with or without the consent of the property owners. The Engineer will allow the Contractor to temporarily store equipment, surplus materials, usable forms, etc., on a well-kept site owned or leased by the

Contractor, adjacent to the project. However, do not place or store discarded equipment, materials, or rubbish on such a site.

Shape and dress areas adjacent to the project right-of-way that were used as plant sites, materials storage areas or equipment yards when they are no longer needed for such purposes. Grass these areas when the Engineer directs. The Department will pay for directed grassing work under the appropriate Contract items.