

**SPECIAL PROVISIONS
FOR HIGHWAY CONSTRUCTION**



**OREGON DEPARTMENT OF TRANSPORTATION
SALEM, OREGON**



**STRUCTURE & PAVING
OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR PROJECT
GOLD HILL SPUR HIGHWAY
JACKSON COUNTY
SEPTEMBER 24, 2026**

PREFACE

General:

These Specifications, provisions, and Special Provisions are issued for the information of Bidders submitting Bids for the Project or Work described herein at the time and place specifically indicated herein, subject to such revision as may be made in accordance with provisions stated below, and will be incorporated in and made a part of any Contract for said Project or Work that may be awarded on the basis of a Bid received at said specifically indicated time and place.

Revisions Prior to Bid Closing:

All information herein is subject to revision by the Agency at any time prior to the time specified herein for the receiving of Bids. Prospective Bidders for the Work are responsible for checking the Agency website for Addenda. The website should be checked weekly until the week of Bid Closing and daily the week of Bid Closing.

Booklet May Be Retained by Bidder:

This booklet need not be returned to the Agency, either with the Bid or otherwise.

DESCRIPTION OF WORK
and
TIME AND PLACE OF RECEIVING BIDS

The work to which the Specifications, provisions, and Special Provisions contained herein apply, the time and place at which Bids for the Work are to be received, and other information pertinent to the Specifications and provisions, including any statements required to accompany the Bid, and their application are described and stated on the sheet or sheets inserted between printed pages [2] and [3] hereof.

DESCRIPTION OF WORK

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

TIME AND PLACES OF RECEIVING BIDS (BID CLOSING)

Bid Closing for the work described above will be at 9:00:00 a.m. on the 24th day of September, 2026. Bids will be received by BJ McCartney, Construction Contracts Manager.

Submit electronic bids, on-line through Bid Express® (www.bidx.com) before 9:00:00 a.m. on the day of Bid Closing.

Submit paper bids to BJ McCartney, Construction Contracts Manager:

Before 9:00:00 a.m. on the day of Bid Closing.

For Bids submitted by mail or parcel delivery service, send to:

Oregon Department of Transportation
Procurement Construction Contracts, MS #33
355 Capitol Street NE
Salem, Oregon 97301.

For Bids submitted by hand delivery, date stamp the Bid with the provided date stamping device and place into the ODOT Procurement Bid Box located in the 1st floor lobby at the following address:

Oregon Department of Transportation
355 Capitol Street NE
Salem, Oregon 97301.

Bids, Bid modifications, and Bid withdrawals will not be accepted at or after 9:00:00 a.m. on the day of Bid Closing.

PLACE, TIME, AND DATE OF READING BIDS (BID OPENING)

Bid Opening for the work described above will be at the following address: Oregon Department of Transportation, 355 Capitol Street NE, Salem, Oregon, beginning at 9:00:00 a.m. on the day of Bid Closing.

COMPLETION TIME LIMIT

See Subsection 00180.50(h).

CLASS OF PROJECT

This is a Federal-Aid Project.

CLASS OF WORK

The Class of Work for this Project is: Bridges and Structures.

PROJECT INFORMATION

Information pertaining to this Project may be obtained from the following:

Ricky Zeedyk, Resident Engineer, 100 Antelope Road, White City 97503; or
Email ricky.zeedyk@odot.oregon.gov. All requests for information must be in writing with
reference to the Project name.

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BID SCHEDULE

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SPECIFICATIONS and PROVISIONS

Subject to such revision as may be made in accordance with provisions stated in the Preface hereto, the Specifications and provisions stated on the sheets inserted between printed pages [4] and [5] hereof are additional required provisions and supplements, identified by this reference as a part of the Specifications, which will be incorporated in and made a part of any Contract that may be awarded for the Work on the basis of a Bid received at the time and places stated herein under the headings "Description of Work" and "Time and Places of Receiving Bids (Bid Closing)".

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

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

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants /

Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:

The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) Additional records relating to apprenticeship. Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. Certified payroll requirements (1) Frequency and method of submission. The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHDL/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) Use of Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and

health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or

cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

ON-SITE WORKFORCE AFFIRMATIVE ACTION REQUIREMENTS FOR WOMEN AND MINORITIES ON FEDERAL-AID CONTRACTS

Pursuant to 41 CFR 60-4.6 (see also 41 CFR 60-4.2(a)) the following notice concerning Affirmative Action Requirements for Women and Minorities shall be included in, and shall be a part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in geographical areas designated by the United States Department of Labor (USDOL) Director. The USDOL, Office of Federal Contract Compliance Programs (OFCCP) has made the following statement concerning Goals, Timetables and Good Faith Efforts:

"Numerical goals are established based on the availability of qualified applicants in the job market or qualified candidates in the employer's work force. Executive Order [E.O. 11246] numerical goals do not create set-asides for specific groups, nor are they designed to achieve proportional representation or equal results. Rather, the goal-setting process in affirmative action planning is used to target and measure the effectiveness of affirmative action efforts to eradicate and prevent discrimination. The Executive Order and its supporting regulations do not authorize OFCCP to penalize contractors for not meeting goals. The regulations at 41 CFR 60-2.12(e), 60-2.30 and 60-2.15, specifically prohibit quota and preferential hiring and promotions under the guise of affirmative action numerical goals. In other words, discrimination in the selection decision is prohibited."

For purposes of these "On-Site Workforce Affirmative Action Requirements for Women and Minorities on Federal-Aid Contracts", "Good Faith Effort" means affirmative action measures designed to implement the established objectives of an Affirmative Action Plan 23 CFR 230.407(o).

A. AFFIRMATIVE ACTION REQUIREMENTS

Notice of Requirement for Affirmative Action To Ensure Equal Employment Opportunity (Executive Order 11246)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goal and Timetable for Female Utilization Statewide

Timetable	Goal (Percent)
From Apr. 1, 1980 until further notice.....	6.9

Goals for Minority Utilization by County

Goal (Percent)

Clackamas, Multnomah, and Washington Counties....	4.5
Marion and Polk Counties	2.9
Benton, Clatsop, Columbia, Crook, Deschutes, Hood River, Jefferson, Lincoln, Linn, Sherman, Tillamook, Wasco, and Yamhill Counties	3.8
Lane, Coos, Curry, Douglas, Jackson, Josephine, Klamath, and Lake Counties	2.4
Baker, Gilliam, Grant, Morrow, Umatilla, Union, Wallowa, and Wheeler Counties	3.6
Harney and Malheur Counties.....	4.4

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

2. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 business days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

3. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the county or counties shown in the Solicitation Documents. In cases where the work is two or more counties covered by different percentage goals, the highest percentage will govern.

B. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:

- a.** "Covered area" means the geographical area, described in the solicitation from which this contract resulted;
- b.** "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
- c.** "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
- d.** "Minority" includes:
 - (i)** Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii)** Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii)** Asian American and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv)** American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitation from which this contract resulted.

3. A contractor participating, either individually or through an association, in an approved Hometown Plan (including heavy highway affirmative action plans) shall comply with its affirmative action obligations under Executive Order 11246 by complying with its obligations under the plan; provided, that each contractor or subcontractor participating in an approved plan is individually required to comply with the equal opportunity clause set forth in 41 CFR 60-1.4; to make a good faith effort to achieve the goals for each trade participating in the plan in which it has employees; and that the overall good performance by other contractors or subcontractors toward a goal in an approved plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the plan's goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minorities and female utilization the Contractor should

reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minorities and female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or a community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the

Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc., by specific review of the policy with all management personnel and with all minority and female employees at least once a year, and by posting the Contractor's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female employees for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and Contractor's activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor-community; or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor will designate an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so. Additionally, the contractor EEO Officer shall ensure that the company EEO policy is being carried out, to submit reports relating to the specifications hereof as may be required by the Agency and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws, which establish different standards of compliance, or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

16. The Office of Federal Contract Compliance Programs (OFCCP) may conduct compliance evaluations to determine if the contractor maintains nondiscriminatory hiring and employment practices and is taking affirmative action to ensure that applicants are employed and that employees are placed, trained, upgraded, promoted, and otherwise treated during employment without regard to race, color, religion, sex, or national origin. In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

EQUAL EMPLOYMENT OPPORTUNITY PROVISIONS

As used in these provisions, "Engineer" means the Chief Engineer of the Oregon Department of Transportation acting either directly or through authorized representatives. "Good Faith Efforts" means "affirmative action measures designed to implement the established objectives of an Affirmative Action Plan" 23 CFR 230.407(o).

Section 140 of Title 23, United States Code, EQUAL EMPLOYMENT OPPORTUNITY, as in effect on May 1, 1982, is incorporated by this reference and made a part of these provisions.

Written Notification

The Contractor shall provide to the Engineer within two weeks of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the Contract resulting from this solicitation written notification with the following information: the name, address and telephone number of the Subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

The Contractor shall provide immediate written notification to the Engineer when (1) the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor minorities or women that the Contractor sent to the union, or (2) the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its equal opportunity obligations. This is in addition to the notification required in item 7d in the "On-Site Workforce Affirmative Action Requirements for Women and Minorities on Federal-Aid Contracts".

Monthly Report

The Contractor and each Subcontractor (on contracts that require certified payrolls) shall submit each month to the Engineer a "Monthly Employment Utilization Report" (Form 731-0668). The electronic form is available at:

<https://www.oregon.gov/ODOT/Business/OCR/Pages/Forms.aspx>

Annual Report

Each July for the duration of the Project, each Contractor and Subcontractor shall submit Form FHWA-1391. This report shall be sent directly to the ODOT Office of Equity and Civil Rights.

PURSUANT TO 23 CFR PART 230, SUBPART D, THE STATE HIGHWAY AGENCY HAS A RESPONSIBILITY TO ASSURE COMPLIANCE BY CONTRACTORS WITH THE REQUIREMENTS OF FEDERAL-AID CONSTRUCTION CONTRACTS, 23 CFR 230.405(b). THEREFORE, THE STATE HIGHWAY AGENCY HAS THE FOLLOWING OBLIGATIONS CONCERNING MONITORING AND COMPLIANCE, INCLUDING SHOW CAUSE NOTICE REQUIREMENTS.

Monitoring and Compliance

The Agency will maintain a vigorous monitoring process to ensure nondiscrimination and affirmative action on all federally funded Projects. Monitoring shall include at a minimum, monthly meetings to review the "Monthly Employment Utilization Report" (Form 731-0668) with the Contractor's Equal Employment Opportunity (EEO) Officer and quarterly reviews of the Contractor's Good Faith Efforts as outlined in FHWA 1273.

The Agency shall determine the Contractor's compliance with equal opportunity requirements including:

- Non-discrimination in selection and retention of subcontractors, material suppliers and vendors;
- Maintenance of non-segregated facilities;
- Adequate representation and utilization of minorities and women (by craft and trade) in the Contractor's workforce;
- Good Faith Efforts in meeting on-the-job training and training special provisions contained in FHWA 1273;
- Fair treatment in all terms and conditions of employment; and,
- Adherence (where applicable) to Indian preference provisions.

If the Agency or the FHWA becomes aware of any possible violations of Executive Order 11246 or 41 CFR 60, each has the authority and the responsibility to notify the Office of Federal Contract Compliance Programs. The Contractor has the responsibility either to meet all the craft goals set forth in the applicable "Covered Area" of "On-Site Workforce Affirmative Action Requirements for Women and Minorities on Federal-Aid Contracts" or demonstrate Good Faith Efforts to meet these goals (as specified in paragraphs 7a through 7p of the "On-Site Workforce Affirmative Action Requirements for Women and Minorities on Federal-Aid Contracts").

Show Cause Notice

If an investigation or review reveals that a Contractor or Subcontractor has not complied with these EEO Provisions, the Agency shall issue a Show Cause Notice to initiate efforts to bring the Contractor or Subcontractor into compliance. This written notice shall state the deficiencies found during the review, and shall advise the Contractor or Subcontractor to show cause within 30 Calendar Days why the Agency shall not impose administrative

sanctions. The Contractor or Subcontractor must then show good cause or must provide an acceptable agreement for corrective action within 30 Calendar Days.

If the Contractor or Subcontractor does not provide this information by the end of the 30 Calendar Days, the Engineer shall withhold all project progress payments in process as of the date the Show Cause Notice was issued and will continue to withhold project progress payments until the Contractor or Subcontractor responds in an acceptable manner. If the Contractor or Subcontractor fails to meet the conditions of the corrective action agreement, no further Show Cause Notice is required; the Agency shall immediately initiate enforcement proceedings.

If a Contractor's prequalification certification is revoked or disqualified because the Contractor has been found on at least two occasions to be in breach of these EEO Provisions of Federal-Aid highway construction contracts, the Contractor must be determined to be in compliance with these EEO Provisions prior to the Contractor's prequalification certificate being reinstated.

**SUSPENSION OF DISADVANTAGED BUSINESS ENTERPRISE (DBE)
REQUIREMENTS EFFECTIVE 10/03/2025**

In accordance with the Interim Final Rule, effective October 3, 2025 and published at 90 Fed Reg 47,969 (2025), modifying the certification, compliance and reporting requirements of the Disadvantaged Business Enterprise program (DBE IFR), ODOT's DBE requirements that were applicable to federally funded projects prior to the 10/03/2025 effective date of the rule are no longer in effect, and the associated DBE contractual requirements have been suspended pending implementation of the DBE IFR. Contractor will cooperate in processing any contractual revisions ODOT deems necessary or appropriate to effectuate the updated DBE Program requirements that may result from the DBE IFR implementation.

APPRENTICESHIP REQUIREMENTS

For projects with a contract price that exceeds \$3 million, the Contractor is subject to the apprenticeship requirements found in ORS 279C.533 and set forth herein.

I. Apprenticeship Goal

Contractor shall employ Apprentices to perform 12 percent of the Work hours that Contractor's employees in Apprenticeable Occupations perform under this Contract.

Contractor shall also require that each subcontractor with a subcontract of an estimated value of \$750,000 or more at the time of Agency's consent to the subcontract ("Covered Subcontractors") employ Apprentices to perform 12 percent of the Work hours that its employees in Apprenticeable Occupations perform under the subcontract.

Contractor has the primary responsibility to ensure the apprenticeship requirements set forth herein are met. Contractor shall ensure that the applicable subcontracts contain the appropriate clauses, obligating Subcontractor to the Apprenticeship goal as applicable; however, this shall not relieve the Contractor of the Contractor's primary responsibility.

Contractor and Covered Subcontractors shall use apprentices that the BOLI Apprenticeship & Training Division certifies are registered with the Oregon State Apprenticeship and Training Council in a Registered Apprenticeship Training Program. Contractor shall be an Oregon Bureau of Labor and Industries (BOLI) Registered Training Agent in accordance with OAR 839-011-0162 at time of time of contract execution. Reciprocal approval for federal purposes is accorded to contractors, apprentices, apprenticeship programs and standards that are registered with the USDOL Office of Apprenticeship ("OA") or registered to other State Apprenticeship Registration Agencies duly recognized by OA for federal public works projects in Oregon that are subject to the Davis-Bacon Act, in accordance with 29 CFR 29.5(b)(13) (see OAR 839-011-0162(6)). A Covered Subcontractor must be an approved training agent at the time of consent to subcontract unless it will not be performing work in an Apprenticeable Occupation.

Contractor and Covered Subcontractors shall pay an Apprentice for Work on the Project at the hourly rate to which the Apprentice is entitled under the applicable Apprenticeship Agreement or as otherwise specified by the Apprenticeship Training Program.

Apprenticeable Occupations are those designated by BOLI as available trades with apprenticeships. The list of those trades is available at: <https://www.oregon.gov/boli/apprenticeship/Pages/trades.aspx>

II. Reporting.

A. Required Forms. Contractor shall submit weekly the BOLI Enhanced WH-38 Form to BOLI with a copy to the Agency to report the extent of Contractor's and Covered Subcontractor's compliance with these Apprenticeship Requirements. Agency may disclose the reports as provided under ORS 279C.845(6).

At any time, BOLI may change the required form or method to identify, collect, and report the information required under this Subsection II. Contractor is under a continuing obligation to use the most current form required by BOLI for this purpose.

B. Failure to Report. Failure of Contractor to provide reports as described in Subsection A above may result in withholding of payment as provided in ORS 279C.845(7).

C. Obligation to Provide Additional Information. Upon request by Agency, and in a form and schedule specified by Agency, Contractor shall provide the following information:

- i. The name of or other identification for this Contract;
- ii. The city or county in which the public improvement is located;
- iii. A detailed accounting of:
 - a. The total number of hours of work that workers performed under this Contract and each Covered Subcontract;
 - b. The total number of hours of work that workers performed in each Apprenticeable Occupation for the Contract and each Covered Subcontract on the public improvement;
 - c. The total number of hours of work that Apprentices performed under this Contract and each Covered Subcontract; and
 - d. The total number of hours of work that Apprentices in each Apprenticeable Occupation performed under this Contract and each Covered Subcontract.
- iv. The total number of workers who performed construction work and the total numbers of minority individuals, women and veterans who performed construction work under this Contract. A report under this subparagraph must separately list for each worker the worker's race, ethnicity, gender, veteran status and, as applicable, trade, craft or job category.

D. Final Report. Upon request by Agency prior to final completion, Contractor shall provide Agency with a final report regarding its employment of Apprentices, which shall contain the following information for Contractor and each subcontractor subject to the Apprenticeship requirements:

- Total amount of Work hours that workers performed in each Apprenticeable Occupation
- Total amount of Work hours performed by Apprentices
- Number of hours subject to calculation of reduction in payment as described in Subsection II(C)(iii)(b)

III. Noncompliance and Reduction in Payment.

As required by ORS 279C.533, Agency will reduce payment due to Contractor under this Contract if Contractor does not meet the Apprenticeship Goal set forth in Section I. The reduction will be the equivalent of the difference between the total number of work hours that Apprentices in Apprenticeable Occupations should have performed to meet the apprenticeship requirements less the total number of work hours that Apprentices in Apprenticeable Occupations actually performed, multiplied by \$15 per hour.

Contractor may apply reduction in the amount due to a Covered Subcontractor if that Covered Subcontractor fails to meet the Apprenticeship Goal. In such case, Contractor must notify Agency and reduce its invoices to Agency accordingly. In no event shall Contractor charge Agency for the amount reduced from the Subcontract.

OUTREACH, RECRUITMENT AND RETENTION

For projects with a contract price that exceeds \$3 million, the Contractor is subject to the outreach, recruitment and retention requirements found in ORS 279C.533 and set forth herein.

Contractor shall comply fully with the provisions of ORS 279C.533. It is a material provision of this public improvement contract that Contractor establish and implement a plan for outreach to and recruitment and retention of women, minority individuals and veterans, with an aspirational target of having individuals in one or more of these groups to compose at least 15 percent of the total number of workers who perform work under this contract ("Outreach, Recruitment and Retention Plan") that meets the Plan Requirements set forth herein. Additionally, Contractor shall require any subcontractor with which the contractor has a subcontract with a contract price of \$750,000 or more ("Covered Subcontractors") to establish and implement an Outreach, Recruitment and Retention Plan for Subcontractor's outreach to and recruitment and retention of women, minority individuals and veterans, with an aspirational target of having individuals in one or more of these groups to compose at least 15 percent of the total number of workers who perform work under that subcontract.

Outreach, Recruitment and Retention Plans must require, at a minimum, that Contractor (or Covered Subcontractor):

- (i) Advertise employment opportunities available under the public improvement contract in general circulation publications, trade association publications and publications that serve an audience or readership that consists primarily of minority individuals, women or veterans;
- (ii) Follow upon the contractor's initial solicitations of interest by contacting minority individuals, women or veterans who expressed interest in or responded to the initial solicitation to determine with certainty whether the minority individual, woman or veteran is interested in the opportunities described in subsection (i);
- (iii) Provide all persons who express continued interest with adequate information about hiring qualifications, pay rates, benefits, the expected duration of employment, work hours and other conditions of employment under the public improvement contract;
- (iv) Make efforts to encourage minority individuals, women and veterans to seek employment under the public improvement contract that the contractor may reasonably expect will produce a level of participation that meets the aspirational target described herein; and
- (v) Use the services of minority community organizations, local, state, federal and tribal governments or other organizations that have recruiting, training and otherwise assisting minority individuals, women and veterans as the organization's primary purpose or mission to assist the contractor with outreach, recruitment and retention.

Contractor shall submit its Outreach, Recruitment, and Retention Plan ten (10) days prior to the preconstruction conference. Contractor shall submit the Outreach, Recruitment, and Retention Plans of Covered Subcontractors with Contractor's request for Agency's consent to subcontract. Contractor shall follow the reporting requirements Section II of the Apprenticeship Requirements Special Provision to satisfy the reporting requirements of 279C.533 as it relates to the Outreach, Recruitment and Retention Plan. Upon request of Agency, Contractor shall provide any other supporting information Agency deems necessary or appropriate to determine compliance with this provision and requirements of ORS 279C.533.

Contractor shall demonstrate adequate good faith efforts to comply with this provision. While the aspirational target is not a requirement for this Contract and is not binding on the Contractor, ODOT desires to encourage the highest possible participation of women, minority individuals, and veterans in the workforce. Neither the Contractor nor its Subcontractors are under any obligation to meet or achieve the aspirational targets set forth herein.

CENTRAL OREGON & PACIFIC RAILROAD

Application for Contractors Access/Occupancy on Railroad Property

The following Central Oregon & Pacific Railroad agreement and exhibits are included in this Project for information and reference only. The actual Application for Contractors Access/Occupancy on Railroad Property will be provided and executed by the Central Oregon & Pacific Railroad.

The Contractor shall obtain all necessary permits and licenses and pay all fees and obtain a fully executed copy of the railway agreement according to 00170.01(e). Permits and licenses are located at:

- www.gwrr.com/real-estate/accessing-property

In addition, when Railroad flagger services are required, the Agency will pay for the services according to 00170.01(e).

Genesee & Wyoming Railroad Services, Inc.

Real Estate Department, 13901 Sutton Park Dr., S, Suite 270, Jacksonville, FL 32224

Contractors Access/Occupancy on Railroad Property

☐ Check box if Contractor unknown at this time (this form will need to be completed with contractor information and submitted prior to any work once bid process is complete)

Incomplete or Inaccurate Information will delay application request

Section 1 - Applicant Data

Complete Legal Name of
Applicant to appear on License
Agreement:

Applicant Mailing Address:

Applicant Overnight Address:

Type of Entity:

☐ Corporation ☐ Partnership ☐ Sole Proprietorship ☐ Individual
☐ Municipality ☐ Developer ☐ Other

If other please explain:

State of Incorporation or
Partnership:

Contact during Application Process:

Name:

Contact

Telephone

Email

Address:

Section 2 - Location Data

Railroad Name:

Estimated Start Date

Specify the amount of time access
is required:

**Reason for
extension of time
beyond 60 days

**\$500 extension fee for each additional 30 days being requested.

Nearest City:

County:

State:

REQUIRED: Latitude/Longitude
(Convert to Decimal Format)
(ex 12.3456789/-64.101112):

Address of
proposed
worksite:

Railroad
Subdivision - If
known

US DOT/AAR Crossing Number - If
available

Section 3 - Existing Agreement Data

Is there an Existing Agreement at this Location which will be affected by this Request?

☐ Yes ☐ No If YES, List Agreement Number(s):

Will facility be exclusively used by Applicant? ☐ Yes ☐ No

If YES, List Name of Lessee:

Describe the complete scope of work on or around Railroad property (REQUIRED):

Section 4 - Department of Transportation (D.O.T.)

Is this Installation associated
with a Department of
Transportation project?

☐ Yes ☐ No

If Yes, complete the following:

D.O.T. Contract Number: D.O.T. Project Number: D.O.T. Project Name:
D.O.T. Contact Information:
Name:
Address:
City: State: Zip Code:
Phone Number Email Address

Some important items to note when completing the application:

Checklist prior to submittal

- ☐ Latitude & longitudinal information converted to digital decimal format with an aerial map of location
- ☐ Payment for fees included - check payable to specific railroad
- ☐ If paying fees by credit card a completed signed credit card release is included - only Visa, MasterCard or Discover can be accepted - US Roads only
- ☐ Applications can be emailed with a copy of the check in order to start the approval process. Only the check for the doc prep fees needs to be mailed or overnighted when the complete application packet is emailed. Include a copy of the application to make sure the payment is matched to the correct project.
- ☐ When returning the signed agreement and proof of insurance for final review and execution please allow 2-3 weeks prior to the start of work. Once all required fees are paid and documentation in place the agreement must go through an approval process before it can be finalized.

Section 5 - Insurance Requirements - US Roads

Insurance Requirements prior to any construction project - Both the Utility Owner and the Contractor completing Installation are required to provide proof of current Commercial General Liability Insurance. Prior to construction the Contractor is required to provide current proof of Railroad Protective Liability Insurance.

General Liability Insurance must meet the minimum requirements of \$2M per occurrence and \$6M aggregate per the terms of the written contract.

Automobile Insurance must meet the minimum requirements of \$1M bodily injury and property damage per occurrence.

The General Liability certificate is required to show proof of **CG2417 or its equivalent**. (*Contractual Liability Railroads*)

Evidence of **Workers Compensation** must be provided on certificate and meet the minimum requirements of \$1M. Certificate Holder naming **(Specified Railroad)** ****Specified Railroad names can be found at www.gwm.com****

General Liability, Automobile Liability and Umbrella/Excess Liability provides additional Insured status to the certificate holder and any other party(ies) specified in or required by written contract between the named Insured and the certificate holder.

Where applicable and permitted by law, all policies include a blanket automatic waiver of subrogation endorsement that provides this feature in favor of the certificate holder and any other party(ies) specified in or required by written contract between the named Insured and the certificate holder.

Prior to Construction or any access within 50' of Railroad - current Certificate of Railroad Protective Liability Insurance (RPL) which shows the **specific Railroad** as named Insured. If the Contractor does not carry a policy of Railroad Protective Liability Insurance, this coverage can be secured through the railroad. An application and current Fee structure for this coverage is available upon request.

****Insurance Requirements for pollution/hazardous pipelines such as natural gas, oil, petroleum, etc. to be provided as shown below****

General Liability Insurance which names the **specific Railroad** as additional Insured and must meet the limits of \$5M per occurrence and \$10M aggregate. Such policy shall be endorsed to provide Waiver of Subrogation in favor of the certificate holder per written contract.

Pollution Legal Liability Insurance with minimum limits of Five Million Dollars (\$5,000,000) per occurrence naming the **certificate holder** as additional Insured per written contract. Such policy shall be endorsed to provide Waiver of Subrogation in favor of the certificate holder per written contract.

Section 6 - Insurance requirements - Canadian Roads

Insurance Requirements prior to any construction project - Both the Utility Owner and the Contractor completing Installation are required to provide proof of current Commercial General Liability Insurance.

General Liability Insurance must meet the minimum requirements of \$2M per occurrence and \$2M aggregate per the terms of the written contract.

Automobile Insurance must meet the minimum requirements of \$1M bodily injury and property damage per occurrence.

Where applicable, the General Liability certificate is required to show proof of **CG2417 or its equivalent**. (Contractual Liability Railroads)

Evidence of **Workers Compensation** must be provided on certificate and meet the minimum requirements of \$1M. Certificate Holder naming **(specified Railroad)** ""Specified Railroad names can be found at www.gwrr.com""

General Liability, Automobile Liability and Umbrella/Excess Liability provides additional Insured status to the certificate holder and any other party(ies) specified in or required by written contract between the named insured and the certificate holder.

Where applicable and permitted by law, all policies include a blanket automatic waiver of subrogation endorsement that provides this feature in favor of the certificate holder and any other party(ies) specified in or required by written contract between the named insured and the certificate holder.

IMPORTANT

Prior to application submittal, Questions can be answered and additional contact information obtained by visiting the website at www.gwrr.com - select the specific railroad and click on the link for Real Estate.

Plans for proposed Installations shall be submitted and approved by the Railroad, on behalf of itself, its subsidiaries, and affiliates, and designed engineer before work can begin! Applications submitted not meeting current specifications as outlined in the General Specifications for Sub-grade and Above grade Utility Crossings of Railway's Right-of-Way will be returned and may incur additional engineering review fees. For your convenience a copy of these specifications can be found on the website at www.gwrr.com.

Materials and Installations are to be in accordance with specifications of National Electrical Safety Code, AREMA, current edition, and requirements of the Railroad.

Upon application approval, applicant agrees to reimburse Railroad for any cost incurred by Railroad incident to the Installation, maintenance and/or supervision necessitated by the Installation. Applicant further agrees to assume all liability for accidents or injuries that arise as a result of this Installation.

This section must be completed in full, signed and dated prior to submittal to the Real Estate Department for processing. Unsigned applications, incomplete or inaccurate information will delay application request and may incur additional fees.

Date:	_____	Signature:	_____
Phone Number	_____	Printed Name:	_____
Fax Number:	_____	Title:	_____

Please make check payable to the specific Railroad where proposed work is to occur . A list of Genesee & Wyoming, Inc. subsidiary railroads can be found at: www.gwrr.com . W-9 Information available upon request.

Mall the application for proposed project, along with the applicable non-refundable fee(s) In U.S. Funds (Canadian Applicants please pay all fee In Canadian Funds plus HST) to:

Genesee & Wyoming Railroad Services, Inc.

Attn: Real Estate Department

13901 Sutton Park Dr. S., Suite 270

Jacksonville, FL 32224

In order for the application to be complete ALL required details pertinent to the proposed installation must be completed in full and submitted along with the following fees:

	# of Copies	Amount Due	Description
☐	1	\$2,250	Engineer review fee, plans/drawings no larger than 11 x 17. Larger drawings may incur additional engineering fees.
☐	1	\$1,750	Completed Contractor's Access/Occupancy Application and Fee required with ALL application submittals. If the contractor is unknown at time of submittal, just check the box under the heading on the form.
		\$4,000	Full amount due with submittal for new utility installations - Unless prior arrangements are made, applications received without payment will not be processed until receipt of payment. This could extend the time frame for the processing of your request.
Only applicable for projects over 60 days		\$500	Extension fee for each additional 30 days over the initial 60 days

Standard Application processing takes approximately 6-8 weeks. PLEASE READ IN FULL - "Expedited processing" is available and will reduce the processing time to between 1-2 weeks at an additional cost of \$3,000. For all expedited requests, the application and plans submitted must meet engineering specifications and be approved in order for the applicable agreement(s) to be forwarded to the applicant for signature within 2 weeks from receipt of all required information and full payment of required fees. It is important to note that an incomplete application and plans submitted that do not meeting engineering specifications will cause a delay in the processing of expedited request and the two week guarantee no longer applies if revisions are required to be made by the applicant in order for them to meet engineering specs for engineering to approve the request.

The expedited processing of an application does not apply to the final review and execution phase of the agreement process. Once a signed agreement has been received and ALL required fees and insurance has been submitted the agreement(s) is(are) forwarded for final review by a VP of Real Estate, Legal and the signatory for the Railroad. This final review and execution process can take up to 2 weeks from receipt of all required documentation and fees. This part of the agreement process cannot be expedited.

At this time we are unable to expedite requests for the installation of new private grade crossings, industrial track agreements, and track leases. The process for these requests varies somewhat from the review and approval process for new utilities and takes a little longer to secure all required approvals.

Entering or working on the railroad right of way or any other railroad property without the permission of the railroad is trespassing and illegal. Violators risk the possibility of serious, even fatal injury and will be prosecuted.

PROJECT WAGE RATES

Applicable Wages - The following federal prevailing wage rates and the State prevailing wage rates (including any wage rate determinations, modifications, or amendments), last published prior to Bid Opening apply to this Project and will be incorporated into the Contract:

(1) U.S. Department of Labor (USDOL), "General Wage Determinations Issued under the Davis-Bacon and Related Acts: Oregon Highway Construction Projects", and

(2) Oregon Bureau of Labor and Industries (BOLI), "Prevailing Wage Rates For Public Works Contracts".

Wage Rates are Subject to Change - Modifications or amendments to the Davis-Bacon and BOLI wage rates applicable to this Project may occur any time before Bid Opening. Bidders are responsible to monitor the USDOL website, BOLI website, and the ODOT web page for modifications and amendments up until Bid Opening.

Wage Rates are Internet-Accessible - Contractor may access the Davis-Bacon/BOLI Combined Prevailing Wage Rates, on the table provided by Bid Opening Date on the web page located at:

<https://www.oregon.gov/ODOT/Business/Pages/Project-Wages.aspx>

Covered Occupations – The BOLI publication titled "Definitions of Covered Occupations" last published prior to bid opening applies to this project and is located at:

<https://www.oregon.gov/boli/employers/pages/occupational-definitions.aspx>

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SPECIAL PROVISIONS

Subject to such revision as may be made in accordance with provisions stated in the Preface hereto, the provisions stated on the sheets inserted between pages [6] and [7] hereof are the Special Provisions which will be incorporated in and made a part of any Contract that may be awarded for the Work on the basis of a Bid received at the time and places stated herein under the headings "Description of Work" and "Time and Places of Receiving Bids (Bid Closing)".

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWS: 12-31-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Geotechnical. Modified Special Provisions were prepared by me or under my supervision. Sections 00596E, 02020, 02080, 02515
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  EXPIRES: 01-01-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for HAZMAT. Modified Special Provisions were prepared by me or under my supervision. Sections 00294, 00296
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  63243PE Date: 2026.07.10 11:12:08 -07'00' OREGON JULY 9, 2001 CHRIS ROSS ZELMER RENEWS: 06-30-2026	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Roadway. Modified Special Provisions were prepared by me or under my supervision. Sections 00280, 00310, 00320, 00330, 00331, 00350, 00390, 00405, 00415, 00440, 00445, 00470, 00480, 00490, 00495, 00759, 00810, 01030, 02001, 02010, 02110, 02320, 02410, 02415, 02420, 02450, 02510, 02630, 02820, 03020
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  Digitally Signed 2026.07.09 09:32:05-07'00'	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Water Line on and off Structure. Modified Special Provisions were prepared by me or under my supervision. Sections 00405, 00495, 00589, 01140, 01150, 02470, 02475, 02480, 02530, 02540, 02560, 02910
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  91094PE Digitally Signed 2026.07.16 14:51:01 -07'00' OREGON SEP. 10, 2019 JORGE GONZALEZ RENEWS: 06-30-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Temporary Traffic Control. Modified Special Provisions were prepared by me or under my supervision. Sections 00220, 00221, 00222, 00223, 00224, 00228, 02110, 02910
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  EXPIRES: 06/30/28	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Gas Utility on Structure. Modified Special Provisions were prepared by me or under my supervision. Sections 00589, 02530, 02540, 02560, 02910
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWS: 12-31-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Pavements. Modified Special Provisions were prepared by me or under my supervision. Sections 00350, 00620, 00641, 00730, 00744, 02320, 02630
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  Digitally Signed 2026.06.25 10:14:23-07'00'	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Sanitary Sewer Force Main on Structure. Modified Special Provisions were prepared by me or under my supervision. Sections 00589, 02420, 02530, 02540, 02560
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWS: 12-31-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Biofiltration Swale. Modified Special Provisions were prepared by me or under my supervision. Sections 00842, 01012, 01030, 01040, 02320, 03020
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

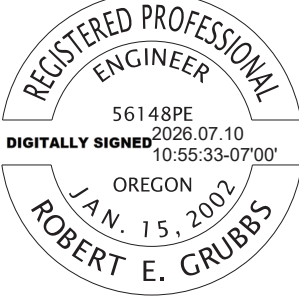
OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWS: 06-30-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Structures. Modified Special Provisions were prepared by me or under my supervision. Sections 00254, 00501, 00510, 00530, 00535, 00538, 00540, 00542, 00544, 00567, 00585, 00587, 00588, 00589, 00593, 00842, 02001, 02020, 02050, 02080, 02210, 02440, 02510, 02530, 02540, 02560, 02630, 02690, 02810, 02910, 03010
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWES: 12-31-2026	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Permanent Traffic Control Devices. Modified Special Provisions were prepared by me or under my supervision. Sections 00440, 00840, 00850, 00855, 00865, 00905, 00910, 00920, 00930, 00940, 02110, 02190, 02510, 02530, 02560, 02910
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  Renews 6-30-2028	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Buried Sanitary Sewer Force Main. Modified Special Provisions were prepared by me or under my supervision. Sections 00405, 00445, 02410, 02415, 02420, 02510, 02630
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature REGISTERED PROFESSIONAL LAND SURVEYOR Digitally Signed 2026.07.14 05:11:44 -07'00' OREGON MARCH 14, 2017 ZACHARY P. EARLE 91474 RENEWS: 12-31-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Survey. Modified Special Provisions were prepared by me or under my supervision. Section 00305
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OR99: Rogue River Bridge, Gold Hill Spur Project

SPECIAL PROVISIONS

WORK TO BE DONE

The Work to be done under this Contract consists of the following:

1. Install temporary traffic control.
2. Construct bridge rehabilitation.
3. Install asphalt concrete paving.
4. Perform additional and Incidental Work as called for by the Specifications and Plans.

APPLICABLE SPECIFICATIONS

The Specifications that are applicable to the Work on this Project is the 2024 edition of the "Oregon Standard Specifications for Construction", as modified by these Special Provisions. All Sections in Part 00100 apply, whether or not modified or referenced in the Special Provisions.

All number references in these Special Provisions shall be understood to refer to the Sections and subsections of the Standard Specifications bearing like numbers and to Sections and subsections contained in these Special Provisions in their entirety.

CLASS OF PROJECT

This is a Federal-Aid Project.

SECTION 00110 - ORGANIZATION, CONVENTIONS, ABBREVIATIONS AND DEFINITIONS

Comply with Section 00110 of the Standard Specifications modified as follows:

00110.05(e) Reference to Websites - Add the following bullet list to the end of this subsection:

- AASHTOWare Project TM
www.oregon.gov/odot/Construction/Pages/AW-Construction.aspx
- American Traffic Safety Services Association (ATSSA)
www.atssa.com
- BidExpress
www.bidx.com
- EquipmentWatch
www.equipmentwatch.com
- ODOT Construction Section
www.oregon.gov/odot/construction/pages/index.aspx
- ODOT Construction Section - Qualified Products List (QPL)
www.oregon.gov/ODOT/Construction/Pages/Qualified-Products.aspx
- ODOT Construction Surveying Manual for Contractors
www.oregon.gov/ODOT/ETA/Documents_Geometronics/Construction-Survey-Manual-Contractors.pdf
- ODOT Electronic Bidding Information Distribution System (eBids)
(Also referred to as ODOT eBids website)
<https://ecmnet.odot.state.or.us/ebidse>
- ODOT Environmental Product Declaration
<https://www.oregon.gov/odot/Construction/Pages/Environmental-Product-Declarations.aspx>
- ODOT Estimating
www.oregon.gov/ODOT/Business/Pages/Steel.aspx
- ODOT Oregon Trucking Online - "Highway Restriction Notice - Size and/or Weight"
(Form No. 734-2357)

OR99: Rogue River Bridge, Gold Hill Spur Project

<https://www.oregon.gov/odot/Forms/2ODOT/7342357.pdf>

- ODOT Procurement Office - Conflict of Interest Guidelines and Disclosure Forms
www.oregon.gov/ODOT/Business/Procurement/Pages/PSK.aspx
- ODOT Procurement Office - Construction Contracts Unit Notice of Intent
www.oregon.gov/ODOT/Business/Procurement/Pages/NOI.aspx
- ODOT Procurement Office - Construction Contracts Unit prequalification forms
www.oregon.gov/odot/business/procurement/pages/bid_award.aspx
- ODOT Traffic Control Plans Unit
www.oregon.gov/ODOT/Engineering/Pages/Work-Zone.aspx
- ODOT Traffic Standards
www.oregon.gov/ODOT/Engineering/Pages/Signals.aspx
- Oregon Legislative Counsel
www.oregonlegislature.gov/lc
- Oregon Secretary of State: State Archives
sos.oregon.gov/archives/Pages/default.aspx

00110.10 Abbreviations – Add the following paragraph to the end of this subsection:

EPD – Environmental Product Declaration

PCD - Pedestrian Channelizing Device

Delete the following paragraph:

DBE – Disadvantaged Business Enterprise

00110.20 Definitions – Add the following paragraphs to the end of this subsection:

Environmental Product Declaration - An environmental declaration providing environmental data using predetermined parameters and, where relevant, additional environmental information. *ISO 14025* refers to these as Type III Environmental Declarations.

Materially Unbalanced Bid - A Bid which generates a reasonable doubt that Award to the Bidder submitting a Mathematically Unbalanced Bid will result in the lowest ultimate cost to the Agency.

Mathematically Unbalanced Bid - A Bid containing lump sum or unit Pay Items (bid items) which do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs and other indirect costs.

OR99: Rogue River Bridge, Gold Hill Spur Project

Pedestrian Accessible Route - An area for the use of pedestrians to navigate along sidewalks, driveways, curb ramps, crossings, and pedestrian facilities.

Pedestrian Channelizing Device - Devices used for channelizing pedestrians along a Temporary Pedestrian Accessible Route.

SECTION 00120 - BIDDING REQUIREMENTS AND PROCEDURES

Comply with Section 00120 of the Standard Specifications modified as follows:

00120.00 Prequalification of Bidders – Add the following bullet to the end of the bullet list:

- If delivered by electronic mail, the application shall be sent to:

ODOTProcurementOfficeConstruction@odot.oregon.gov

Replace the bullet that begins “If delivered by mail...” with the following bullet:

- If delivered by mail or parcel delivery service, the application shall be sent to:

Oregon Department of Transportation
Procurement Construction Contracts, MS #33
355 Capitol Street NE
Salem, OR 97301

00120.01 General Bidding Requirements - Replace the paragraph that begins “If the Bidder submits the Bid...” with the following paragraph:

If the Bidder submits the Bid electronically through BidExpress® as a joint venture, in addition to the joint venture signing with the digital signature and unique ID for the joint venture, the Bidder must also submit the signature pages from the Bid Booklet signed by each member of the joint venture, together with a statement the Bidder adds above or with the signatures as follows: “The following joint venture member signatures are for the Bid for the [Insert Project Name] Project submitted by the joint venture through BidExpress®. The signatures are on behalf of each joint venture member and the joint venture and also confirm that the signatory in BidExpress® was authorized to submit the Bid on behalf of the joint venture.” The Bidder must also email .pdf copies of the signature pages showing the signatures of the joint venture members with the required statement which must be received by BJ McCartney, Construction Contracts Manager, at the ODOT Procurement Office at: ODOTProcurementOfficeConstruction@odot.oregon.gov before the Closing date and time for the Bid. The signature pages with the original signatures must also be mailed or delivered to and received by BJ McCartney, Construction Contracts Manager, at the address given in the Bid Book as a condition of Award.

00120.05 Request for Plans, Special Provisions, and Bid Booklets - Add the following to the end of this subsection:

OR99: Rogue River Bridge, Gold Hill Spur Project

The Plans, which are applicable to the Work to be performed under the Contract, bear title and date as follows:

"Structure & Paving
OR99: Rogue River Bridge, Gold Hill Spur Project
Gold Hill Spur Highway
Jackson County
September 2026"

00120.10 Bid Booklet – Replace the bullet that begins “Appendix, which includes...” with the following bullet:

- Appendix, which includes required time-sensitive forms, sample forms, and other informational pages

00120.15 Examination of Work Site and Solicitation Documents; Consideration of Conditions to be Encountered - Add the following to the end of this subsection:

Certain Specifications included in the Project require additional experience or personnel qualifications. Refer to the subsection requirements that may affect bidding considerations, including but not limited to the following:

Subsection	Title
00294.30	Personnel Qualifications
00296.30	Personnel Qualifications
00350.30	Personnel Qualifications
00535.30	Personnel Qualifications
00537.30	Personnel Qualifications
00538.30	Personnel Qualifications
00585.30	Personnel Qualifications
00759.30	Personnel Qualifications
01030.30	Personnel Qualifications

00120.40(b) Bidding Considerations – Add the following to the end of the list:

00160.20(d) Build America Buy America Act Requirements

00120.40(f) Disclosure of First-Tier Subcontractors – Replace the paragraph beginning “If no subcontracts subject to the above...” with the following paragraph:

If no subcontracts subject to the above disclosure requirements are anticipated, a Bidder shall so indicate by entering "NONE" or by filling in the appropriate check box. For each Subcontractor listed, Bidders shall provide all requested information. Failure to submit a form or submission of a form that does not include the information required by ORS 279C.370 for each Subcontractor listed, specifically the name of each Subcontractor, the dollar amount of each subcontract and the category of Work that each Subcontractor will perform, will result in the rejection of the Bid. The Agency is not required to determine the accuracy or the completeness of the Subcontractor disclosure. See ORS 279C.370 and OAR 731-005-0420.

OR99: Rogue River Bridge, Gold Hill Spur Project

Replace both of the bullets that begin “Using the form provided on the Agency’s website...” with the following bullet:

- Using the fillable form provided on the Agency's website, identified in the Bid Booklet on the ODOT eBIDS website, filling the form out and submitting the completed form via email to the email address given in the paper Bid Booklet.

00120.70 Rejection of Nonresponsive Bids - Delete the bullet that begins “The Bidder has not complied with the DBE...”.

Add the following bullet to the end of the bullet list:

- The Bid is found to be Mathematically Unbalanced and Materially Unbalanced.

SECTION 00130 - AWARD AND EXECUTION OF CONTRACT

Comply with Section 00130 of the Standard Specifications modified as follows:

00130.00 Consideration of Bids - Replace the paragraph that begins “The Agency reserves...” with the following paragraph:

The Agency reserves the right to waive minor informalities and irregularities, seek clarification of any Bid or response that, in its sole discretion, it deems necessary or advisable, and to reject any Bids for irregularities under 00120.70 or all bids for good cause after finding that it is in the public interest to do so (ORS 279C.395). The Agency may correct obvious clerical errors, when the correct information can be determined from the face of the documents, if it finds that the best interest of the Agency and the public will be served thereby.

00130.40 Contract Submittals - Add the following paragraph to the end of this subsection:

The Agency, in its sole discretion, may require execution of documents identified in subsections (a), (b) and (c) with a form of electronic signature (including but not limited to sealing and signing) acceptable to the Agency.

00130.40(c) Workers' Compensation – Replace this subsection, except for the subsection number and title, with the following:

To certify compliance with the workers' compensation insurance coverage required by 00170.61(a) and 00170.70(e), the successful Bidder shall complete and sign the "Certification of Workers' Compensation Coverage" form bound in the Contract booklet.

00130.50 Execution of Contract and Bonds - Add the following paragraph to the end of this subsection:

The Agency, in its sole discretion, may require execution of documents identified in subsection (a) with a form of electronic signature (including but not limited to sealing and signing) acceptable to the Agency.

OR99: Rogue River Bridge, Gold Hill Spur Project

00130.80 Project Site Restriction - Replace the paragraph that begins “Until the Agency sends the Contractor ...” with the following paragraph:

Until the Agency sends the Contractor written Notice to Proceed with the Work, and the Contractor has filed the public works bonds required in 00170.65(b), the Contractor shall not go onto the Project Site on which the Work is to be done, nor move Materials, Equipment, or workers onto that Project Site.

SECTION 00140 - SCOPE OF WORK

Comply with Section 00140 of the Standard Specifications.

SECTION 00150 - CONTROL OF WORK

Comply with Section 00150 of the Standard Specifications modified as follows:

00150.15(b) Agency’s Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will perform the Agency responsibilities described in the *Construction Surveying Manual for Contractors*, Chapter 1.5 (see Section 00305).

00150.15(c) Contractor’s Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall perform the Contractor responsibilities described in the *Construction Surveying Manual for Contractors*, Chapter 1.6 (see Section 00305).

The Contractor shall perform slope staking including intersections and set stakes defining limits for clearing which approximate Right-of-Way and easements.

00150.30 Delivery of Notices - Replace the paragraph and bullets that begin “Following Notice to Proceed, all notices and other documents submitted...” with the following paragraph and bullets:

Following Notice to Proceed, all notices and other documents submitted to the Contractor by the Engineer, or to the Engineer by the Contractor, electronically under 00170.08 or 00170.09:

- If recorded in Doc Express® or AASHTOWare Project™ as received before 5:00 p.m. PST on a business day it shall be considered as received on the business day on which it was actually received in Doc Express® or AASHTOWare Project™.

OR99: Rogue River Bridge, Gold Hill Spur Project

- If recorded in Doc Express® or AASHTOWare Project™ as received on a non-business day, or after 5:00 p.m. PST on a business day, it shall be considered as received at 8:00 a.m. PST on the next business day.

00150.50(c) Contractor's Responsibilities – Replace the bullet that begins “In addition to the notification required...” with the following bullet:

- In addition to the notification required in OAR 952-001-0090(7), notify the Engineer and the Utility as soon as the Contractor discovers any previously unknown Utility conflicts or issues. Contrary to the OAR, stop excavating until directed by the Engineer and allow the Utility a minimum of two weeks to relocate or resolve the previously unknown Utility issues; and

Add the following bullet to the end of the bullet list:

- Hold a Utility scheduling meeting and monthly Utility coordination meetings (see also 00180.42)

Add the following subsection:

00150.50(f) Utility Information (No Anticipated Relocations) - Within the Project limits, there are no anticipated relocations with the Utilities listed in Table 00150-1. The Contractor shall contact those Utilities having buried facilities and request that they locate and mark them for their protection prior to construction.

Table 00150-1

Utility	Contact Person's Name, Address, Email, and Phone Number
Charter Spectrum	Ryan Gallegos 2067 Commerce Dr. Medford, OR 97504 ryan.gallegos@charter.com (541) 690-7866
Pacific Power	Colin O'Neill 925 S. Grape St. Bldg. 2 Medford, OR 97501 colin.o'neill@pacificorp.com (541) 507-7733

The Contractor shall notify, in writing, the Utilities listed above, with a copy to the Engineer, at least 14 Calendar Days before beginning Work on the Project. Utilities may require an on-site observer, at no cost to the Contractor.

Pacific Power - Power Suppliers -

Energized power lines overhang portions of the Work with a minimum vertical clearance of 18 feet. The Contractor shall maintain at least 10 feet of safety clearance. Exceptions require

OR99: Rogue River Bridge, Gold Hill Spur Project

written approval from the Power Supplier(s) and may require an on-site safety watcher, at no cost to the Contractor. The Contractor shall provide the Engineer a copy of the written approval of exception before beginning Work.

Add the following subsection:

00150.50(g) Utility Information (Anticipated Relocations):

The organizations list in Table 00150-2 may be adjusting Utilities within the limits of the Project during the period of the Contract with relocation Work estimated to be completed by the following dates and times:

Table 00150-2

Subsection	Utility	Contact Person's Name, Address, Email, (and) Phone Number (and Work Order Number)	Estimated Completion Date
00150.50(g)(1)	Avista	Eli Haberman 580 Business Park Drive Medford, OR 97504 eli.haberman@avistacorp.com (541) 690-0901 and/or Mike Yang 580 Business Park Drive Medford, OR 97504 michael.yang@avistacorp.com (509) 703-3955	During Construction
00150.50(g)(2)	RVSS	Craig Howe 138 West Vilas Road Central Point, OR 97502 chowe@rvss.us (541) 664-6300	During Construction
00150.50(g)(3)	Lumen	Lance Harvey 150 Stewart Ave. Medford, OR 97501 Lance.Harvey@lumen.com (541) 848-3426	During Construction
00150.50(g)(4)	City of Gold Hill	Lily Morgan 420 N. 6 th Avenue Gold Hill, OR 97525 lily.morgan@cityofgoldhill.gov (541) 855-1525	During Construction

The Contractor shall contact the Engineer to view the approved utility relocation Plans.

The Contractor shall notify, in writing, the Utilities listed above, with a copy to the Engineer, at least 14 Calendar Days before beginning Work on the Project. Utilities may require an on-site observer, at no cost to the Contractor.

(1) Avista - "Gas Utility":

The Contractor shall notify the Gas Utility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the gas pipeline.

The Contractor shall notify the Gas Utility in writing, with a copy to the Engineer, 28 Calendar Days before the Contractor is scheduled to begin performing work shown on sheet numbers JA01 thru JA08. After the Gas Utility receives the notification, the Contractor shall then allow the Gas Utility 28 Calendar Days to schedule and complete the relocation and adjustment work before the Contractor begins performing work shown on sheet numbers JA01 thru JA08.

The Contractor shall notify the Gas Utility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor's estimated completion of work shown on sheet numbers JA01 thru JA08. After the Contractor has completed this Work or 14 Calendar Days after the Gas Utility receives the notification, whichever occurs later, the Contractor shall then allow the Gas Utility 90 Calendar Days to schedule and complete the relocation and adjustment work.

The Gas Utility operates a high pressure gas pipeline within the Project limits and may require an on-site safety watcher, at no cost to the Contractor. The high pressure gas pipeline is located at "L"4+95 to "L" 15+15 under the roadway and attached to the bridge.

When operating Equipment directly above the high pressure gas pipeline, the Contractor shall keep Equipment on the paved surfaces only.

In the immediate area of the high pressure gas lines, when moving any Equipment, excavating, driving piles, pounding guardrail posts, boring, or other road construction activities, the Contractor shall increase the tolerance zone from 24 inches, as defined in OAR 952-001-010, to 10 feet. Exceptions require written approval from the Gas Utility. The Contractor shall provide the Engineer a copy of the written approval of the exception before beginning Work.

In the event of an emergency, and in addition to the calls required by the Utilities notification system, the Contractor shall call:

- Avista Corporation 1-800-227-9187

(2) RVSS - "Sewer Facility":

The Contractor shall notify the Sewer Facility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the Sewer facilities.

The Contractor shall notify the Sewer Facility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor is scheduled to begin performing work shown on sheet numbers JB01 thru JB05. After the Sewer Facility receives the notification, the Contractor shall then allow the Sewer Facility 14 Calendar Days to schedule and complete the relocation and adjustment work before the Contractor begins performing work shown on sheet numbers JB01 thru JB05.

OR99: Rogue River Bridge, Gold Hill Spur Project

The Contractor shall notify the Sewer Facility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor is scheduled to begin performing work shown on sheet numbers R01 & R02. After the Sewer Facility receives the notification, the Contractor shall then allow the Sewer Facility 14 Calendar Days to schedule and complete the relocation and adjustment work before the Contractor begins performing work shown on sheet numbers R01 & R02.

The Contractor shall notify the Sewer Facility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor's estimated completion of work shown on sheet numbers JB01 thru JB05. After the Contractor has completed this Work or 14 Calendar Days after the Sewer Facility receives the notification, whichever occurs later, the Contractor shall then allow the Sewer Facility 14 Calendar Days to schedule and complete the relocation and adjustment work.

The Contractor shall notify the Sewer Facility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor's estimated completion of work shown on sheet numbers R01 & R02. After the Contractor has completed this Work or 14 Calendar Days after the Sewer Facility receives the notification, whichever occurs later, the Contractor shall then allow the Sewer Facility 14 Calendar Days to schedule and complete the relocation and adjustment work.

(3) Lumen - "Telecommunication Utility":

The Contractor shall notify the Telecommunication Utility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the Telecommunication Utility facilities.

The Contractor shall notify the Telecommunication Utility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor is scheduled to begin performing work shown on sheet number C01 & C02 note 10. After the Telecommunication Utility receives the notification, the Contractor shall then allow the Telecommunication Utility 14 Calendar Days to schedule and complete the relocation and adjustment work before the Contractor begins performing work shown on sheet number C01 & C02 note 10.

The Contractor shall notify the Telecommunication Utility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor's estimated completion of work shown on sheet number C01 & C02 note 10. After the Contractor has completed this Work or 14 Calendar Days after the Telecommunication Utility receives the notification, whichever occurs later, the Contractor shall then allow the Telecommunication Utility 14 Calendar Days to schedule and complete the relocation and adjustment work.

The Contractor shall coordinate Fiber Optic relocation work with the Telecommunication Utility due to potential restricted work dates.

The Contractor shall obtain written approval from the Telecommunication Utility for excavating within 10 feet of a buried fiber optic communications cable. The Telecommunication Utility may require an on-site safety representative at no cost to the Contractor for monitoring purposes. The Contractor shall provide the Engineer a copy of the written approval before beginning work.

(4) City of Gold Hill - "Water Utility":

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The Contractor shall notify the Water Utility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the Water Utility facilities.

The Contractor shall notify the Water Utility in writing, with a copy to the Engineer, 28 Calendar Days before the Contractor is scheduled to begin performing work shown on sheet numbers JC01 thru JC06. After the Water Utility receives the notification, the Contractor shall then allow the Water Utility 28 Calendar Days to schedule and complete the relocation and adjustment work before the Contractor begins performing work shown on sheet numbers JC01 thru JC06.

The Contractor shall notify the Water Utility in writing, with a copy to the Engineer, 28 Calendar Days before the Contractor is scheduled to begin performing work shown on sheet numbers S01 & S02. After the Water Utility receives the notification, the Contractor shall then allow the Water Utility 28 Calendar Days to schedule and complete the relocation and adjustment work before the Contractor begins performing work shown on sheet numbers S01 & S02.

The Contractor shall notify the Water Utility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor's estimated completion of work shown on sheet numbers JC01 thru JC06. After the Contractor has completed this Work or 14 Calendar Days after the Water Utility receives the notification, whichever occurs later, the Contractor shall then allow the Water Utility 14 Calendar Days to schedule and complete the relocation and adjustment work.

The Contractor shall notify the Water Utility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor's estimated completion of work shown on sheet numbers S01 & S02. After the Contractor has completed this Work or 14 Calendar Days after the Water Utility receives the notification, whichever occurs later, the Contractor shall then allow the Water Utility 14 Calendar Days to schedule and complete the relocation and adjustment work.

00150.60(a) Load and Speed Restrictions for Construction Vehicles and Equipment -
Add the following bullet to the end of the bullet list:

- The Contractor shall restrict the combined weights of construction vehicles, Equipment, and Materials on Bridges according to 00220.45.

SECTION 00160 - SOURCE OF MATERIALS

Comply with Section 00160 of the Standard Specifications modified as follows:

00160.01(a) All Materials - Replace the paragraph that begins "The Contractor shall identify..." with the following paragraph:

When the estimated value is over \$10,000, the Contractor shall submit a copy of the materials purchase order or supply agreement.

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Delete the paragraph that begins "For this purpose...".

00160.05 Qualified Products List (QPL) - Replace this subsection, except for the subsection number and title, with the following:

The QPL is a listing of manufactured products available on the market (shelf items) that ODOT has evaluated and found suitable for a specified use in highway construction. The QPL is available from ODOT's Construction Section website (see 00110.05(e)).

The most current version of the QPL on ODOT's Construction Section website at the time of Advertisement is the version in effect for the Project. When the Contract specifies the use of the QPL, unless specified as the subject of an exemption per ORS 279C.345, the Agency may approve for use a product qualified for inclusion in a later edition of the QPL, or other equivalent product that meets the requirements of the QPL, following the Standard Guidelines for Product Review, if the Agency finds the product acceptable for use on the Project.

Use of listed products shall be restricted to the category of use for which they are listed. The Contractor shall install all products as recommended by the manufacturer. The Contractor shall replace qualified products not conforming to Specifications or not properly handled or installed at no additional cost to the Agency.

00160.20(a) Buy America - Replace this subsection, except for the subsection number and title, with the following:

If \$500,000 or more of federal highway funds are involved on the Project, the Contractor shall limit the quantity of foreign Materials incorporated into the Work as follows. Section 635.410 of Title 23, Code of Federal Regulations, and the Intermodal Surface Transportation Efficiency Act require that all iron or steel manufacturing processes, including, without limitation, the casting of ingots, for iron or steel Materials permanently incorporated into the Project shall occur in the United States, unless the cost of foreign-origin iron or steel Materials does not exceed one-tenth of one percent (0.1%) of the Contract Amount or \$2,500, whichever is greater. Buy America requirements apply to any steel or iron component of a manufactured product regardless of the overall composition of the manufactured product (e.g., Buy America applies to the steel wire mesh or steel reinforcing components of a precast reinforced concrete pipe). The Contractor shall not incorporate foreign-origin iron or steel Materials in excess of this amount into the Project. All foreign-origin iron or steel Materials incorporated in the Project in excess of the amount indicated above shall be removed and replaced with domestic iron or steel Materials at the Contractor's expense. For purposes of this Specification, the cost of foreign-origin iron or steel Materials shall be the value of the iron or steel products as of the date they are delivered to the Project Site.

Manufacturing processes include without limitation the casting of ingots and the application of coatings to finished iron or steel products or components. Coatings include epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of the steel or iron product or component. The Contractor shall provide the Engineer with a Certificate of Materials Origin, on a form furnished by the Engineer, before incorporating any iron or steel products into the Project. Unless a Certificate of Materials Origin has been provided to the Engineer, the Materials shall be considered of foreign origin.

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The Contractor shall retain manufacturers' certificates verifying the origin of all domestic iron or steel Materials for 3 years after the date of final payment for the Project, and shall furnish copies to the Engineer upon request.

The Contractor shall include this provision in all subcontracts.

00160.20(d) Build America Buy America Act Requirements – Replace this subsection, except for the subsection number and title, with the following:

If federal highway funds are involved on the Project, the Contractor shall comply with the Build America Buy America Act and implementing regulations (Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. No. 117-58, which includes the Build America, Buy America Act ("the Act"). Pub. L. No. 117-58, Sections 70901-70941).

The Build America Buy America Act requirements apply to construction materials and manufactured products permanently incorporated in the Project. All construction materials and manufactured products permanently incorporated in the Project must be produced in the United States.

Construction materials include an article, Material, or supply that is or consists primarily of only one of the following, with the standard for the material to be considered "produced in the United States":

- **Non-ferrous metals** - All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.
- **Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables)** - All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.
- **Glass (including optic glass)** - All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
- **Fiber optic cable (including drop cable)** - All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.
- **Optical fiber** - All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
- **Lumber** - All manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.
- **Drywall** - All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
- **Engineered wood** - All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

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The classification of an article, material, or supply as construction material is based on its status at the time it is brought to the work site for incorporation in the Project. In general, the work site is the location of the Project at which the construction materials will be incorporated. FHWA issued a final rule on January 14, 2025 amending FHWA's Buy America regulation to terminate FHWA's general waiver for manufactured products and establish Buy America requirements for manufactured products with respect to Federal-aid highway projects. <https://www.federalregister.gov/documents/2025/01/14/2024-31350/buy-america-requirements-for-manufactured-products>

Manufactured products assembled outside the Project Site are also subject to the Build America Buy America requirements. Manufactured products means articles, materials, or supplies that have been:

- Processed into a specific form and shape; or
- Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.

For manufactured products, the final assembly of the product shall occur within the United States for projects obligated on or after October 1, 2025. For projects obligated after October 1, 2026, the cost of the components of the product that are mined, produced or manufactured in the United States shall be more than 55 percent of the total cost of all components of the product.

The USDOT issued a Public Interest Waiver for De Minimis Costs and Small Grants. The final waiver can be viewed here: <https://www.federalregister.gov/documents/2023/08/16/2023-17602/waiver-of-buy-america-requirements-for-de-minimis-costs-and-small-grants> and this waiver applies to Materials covered by the Build America Buy America Act.

The public interest waiver is for manufactured products and construction materials for which:

- The total value of the non-compliant products (foreign or unknown origin) is no more than the lesser of \$1,000,000 or 5% of total applicable costs for the project*; or
- The total amount of Federal financial assistance applied to the project, through awards or subawards, is below \$500,000.

*The "total value of the non-compliant products" includes construction materials and manufactured products only. The "total applicable costs" includes construction materials, iron and steel, and manufactured products. The value of materials are the actual cost of the materials, not the anticipated cost of materials. Furthermore, this bullet does not apply to iron and steel subject to the requirements of 23 U.S.C. 313. The de minimis threshold in 23 CFR 635.410(b)(4) continues to apply for steel and iron. (See 00160.20(a).)

Strict compliance with the Build America, Buy America domestic preferences is required, except to the extent the above public interest waiver applies. The Contractor shall not incorporate construction materials and manufactured products in excess of this amount into the Project. All foreign origin construction materials and manufactured products incorporated in the Project in excess of the amount indicated above shall be removed and replaced with domestic construction materials at the Contractor's expense.

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The Contractor shall provide the Engineer with a Certificate of Materials Origin, on a form furnished by the Engineer, before incorporating any applicable construction materials and manufactured products into the Project. Unless a Certificate of Materials Origin has been provided to the Engineer, the products and Materials shall be considered of foreign origin.

The Contractor shall retain manufacturers' certificates verifying the origin of all applicable construction materials and manufactured products for 3 years after the date of final payment for the Project, and shall furnish copies to the Engineer upon request.

Iron and steel Materials and manufactured products that are predominately iron or steel are subject to 00160.20(a).

The Contractor shall include this provision in all subcontracts.

00160.21 Cargo Preference Act Requirements - Add the following to the end of this subsection:

Additional information may be available at the following websites:

<https://www.fhwa.dot.gov/construction/cqit/cargo.cfm>

<https://www.fhwa.dot.gov/construction/cqit/cargo/qa.cfm>.

Add the following subsection:

00160.65 Environmental Product Declaration – Pursuant to ORS 184.879 and OAR 731-005-0910, provide an Environmental Product Declaration for the following materials:

- Concrete, including ready mix concrete, shotcrete, precast concrete and concrete masonry units;
- Asphalt paving mixtures;
- Steel, including rebar, reinforcing steel and structural steel, hot-rolled sections, hollow sections, plate steel and cold-formed steel.

Submit an EPD according to the *ODOT Environmental Product Declaration Manual* (see 00110.05(e)).

The most current published PDF version of the *ODOT Environmental Product Declaration Manual* on the date of Advertisement is the version in effect for the Project.

The EPD must be accepted by the Engineer before the product is incorporated into the Project unless the product is procured under a listed exemption in ODOT's *Environmental Product Declaration Manual*.

SECTION 00165 - QUALITY OF MATERIALS

Comply with Section 00165 of the Standard Specifications modified as follows:

00165.10(b) Nonfield-Tested Materials – Replace this subsection, except for the subsection number and title, with the following:

Nonfield-tested Materials will be accepted according to the ODOT Nonfield Tested Materials Acceptance Guide (NTMAG), unless otherwise specified in the Contract. The NTMAG is available on the ODOT Construction Section website (see 00110.05(e)). The most current version of the NTMAG on the date of Advertisement is the version in effect for the Project.

(1) Rejections – The inspection at the mill, shop, or precaster of any Material, Work or finished members will not prevent subsequent rejection, if later found damaged or defective, nor relieve the Contractor of the responsibility to correct or replace the Work at no additional cost to the Agency.

(2) Transport – Do not ship members or piece of fabricated steel or precast member, that requires a fabrication inspection report, without the Inspector's label or marking.

Add the following subsection:

00165.15 AASHTOWare™ – Field-tested Materials and Nonfield-tested Materials will be tracked within AASHTOWare Project™ for this Project. The acceptance criteria for Materials in AASHTOWare Project™ can be viewed at the <https://www.oregon.gov/odot/Business/Pages/AASHTOWare-Project.aspx> (see 00110.05(e)). The most current version of AASHTOWare™ on the date of Advertisement is the version in effect for the Project.

00165.20 Materials Specifications and Test Method References - Replace this subsection, except for the subsection number and title, with the following:

References to materials specifications and test methods of ODOT, WAQTC, AASHTO, ASTM, other governmental agencies, or other recognized organizations mean those officially adopted and in current use by the agency or organization on the date of Advertisement.

If there are conflicting references, or if no reference is made to materials specifications, sampling and testing frequencies, or test method, the Engineer will resolve any discrepancies between these documents in the following orders of precedence:

Field-Tested Materials:

- Contract Change Orders;
- Special Provisions;
- ODOT Laboratory Manual of Test Procedures;
- MFTP;
- Standard Specifications; and

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- AASHTOWare™

Nonfield-Tested Materials:

- Contract Change Orders;
- Special Provisions;
- ODOT Laboratory Manual of Test Procedures;
- Standard Specifications; and
- AASHTOWare™

Material test methods:

- ODOT;
- WAQTC;
- AASHTO;
- ASTM;
- Other recognized national organizations, such as ANSI, AWP, IMSA, ISSA, and UL; and
- Industry standards in the location where the Work is being performed.

Sampling and testing frequencies:

- Contract Change Orders;
- Special Provisions;
- MFTP;
- Standard Specifications; and
- AASHTOWare™.

If the Contractor identifies conflicting references or if no reference is made, the Contractor shall immediately request a clarification from the Engineer.

00165.35(d) Certificate of Origin of Steel Materials - Replace this subsection with the following subsection:

00165.35(d) Certificate of Origin of Steel Materials, Construction Materials, and Manufactured Products - When a certificate of material origin is specified, complete the form furnished by the Engineer as required by 00160.20.

00165.35(e) Certificate of Origin of Construction Materials - Delete this subsection.

00165.91 Fabrication Inspection Expenses - Replace the table with the following table:

TABLE 00165-3

Zone	Place of Fabrication	Reduction in Payment
1	All of State of Oregon, and the portion of the State of Washington within 50 airline miles of Portland International Airport (PDX)	\$0
2	Outside of Zone 1, and up to 250 airline miles of Portland International Airport (PDX)	\$300 per Calendar Day
3	Outside of Zone 2, up to 1,000 airline miles of Portland International Airport (PDX).	Round trip coach airfare from Portland, Oregon plus \$300 per Calendar Day
4	Outside of Zone 3, or outside of the continental United States.	Round trip coach airfare from Portland, Oregon plus \$500 per Calendar Day

SECTION 00170 - LEGAL RELATIONS AND RESPONSIBILITIES

Comply with Section 00170 of the Standard Specifications modified as follows:

Add the following subsection:

00170.01(e) Railroads -

An agreement between the Contractor and the Railroad to Work near or within Railroad property is required for this Project. A copy of the Railroad agreement and corresponding requirements is included near the front of this Special Provision booklet. The Railroad agreement and requirements are subject to change by the Railroad. The Railroad will provide the actual agreement and requirements for execution. The Contractor shall obtain all necessary permits and licenses and pay all fees. The Contractor shall obtain a fully executed copy of the agreement and requirements between the Contractor and the Railroad and provide a copy of it to the Engineer before beginning Work near or within the Railroad property or Right-of-Way.

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The USDOT Number for this Project is 759513Y.

Railroad company owning the track: Central Oregon & Pacific.

Operating Railroad company at track: Central Oregon & Pacific.

Railroad MP: 456.8.

Railroad Subdivision: Roseburg.

City: Gold Hill.

County: Jackson.

When Railroad flagger services are required, the Agency will pay the flagger services costs up to a total of 360 Days. If this value is exceeded and additional flagging services are needed, the Contractor shall pay the Agency an amount of \$1,200 per Day for each Day in excess of the total value identified above.

Add the following subsection:

00170.06 Federal-Aid Participation - This Project is to be conducted according to the regulations applying to Federal-Aid Highway Projects.

00170.07 Record Requirements - Replace the paragraph that begins "For purposes of this Subsection, the term ..." with the following paragraph:

For purposes of this Subsection, the term "Contractor" includes the Contractor, all Subcontractors, Material Suppliers, and providers of rented operated Equipment (except truck drivers), at all tiers, for all subcontracts with first-tier Subcontractors, all subcontracts between the first-tier Subcontractors and their Subcontractors and any other lower-tier subcontracts, and "Related Entities" as that term is defined in OAR 734-010-0400. The Material Suppliers included in this definition are those for Aggregates, asphalt cement concrete, Portland cement concrete and the supply and fabrication of structural steel items, and Material Suppliers that provide quotes.

00170.07(a) Records Required - Replace the paragraph that begins "The Contractor shall include in its subcontracts ..." with the following paragraph:

The Contractor shall include in its subcontracts, purchase orders, and all other written agreements, a provision requiring all Subcontractors, Material Suppliers and providers of rented operated Equipment (except truck drivers), at all tiers, to comply with 00170.07. The Contractor shall also require all Subcontractors, Material Suppliers, and providers of rented operated Equipment (except truck drivers), at all tiers, and Related Entities to include in their contracts, purchase orders, and all other written agreements, a provision requiring all lower-tier Subcontractors, Material Suppliers and providers of rented operated Equipment (except truck drivers) to comply with 00170.07. The Material Suppliers to which this applies are those for Aggregates, asphalt cement concrete, portland cement concrete and the supply and fabrication of structural steel items and Material suppliers that provide Material quotes and Related Entities as defined in OAR 734-010-0400.

00170.08 Electronic Document Management - Replace this subsection with the following subsection:

00170.08 Electronic Data and Document Management – The requirements of this Subsection do not apply to claims. Claims must be submitted on paper documents according to Section 00199.

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For additional Specifications applicable to AASHTOWare Project™ see 00170.09.

Following Notice to Proceed, the Contractor shall submit all data and documents for this Contract to the Agency in an electronic format using Doc Express®, or using AASHTOWare Project™ for data and documents as specified in 00170.09. No paper documents, faxes or other similar paper methods or media are permitted, unless otherwise allowed or directed by the Engineer. The Contractor shall be solely responsible for submitting data and documents to the Agency using Doc Express® or AASHTOWare Project™, as applicable, for the Contractor and for Subcontractors, Suppliers, vendors and other third parties. Only data and documents submitted by the Contractor to the Agency and recorded in Doc Express® or AASHTOWare Project™, as applicable, as received will be considered valid and received by the Agency.

Following Notice to Proceed, all data and documents for this Contract will be managed in Doc Express® or AASHTOWare Project™, as applicable, unless otherwise allowed or directed by the Engineer. Following Notice to Proceed, the Contractor shall use Doc Express® or AASHTOWare Project™, as applicable, to submit data and documents to the Agency, and the Agency will use Doc Express® or AASHTOWare Project™, as applicable, to submit, or make available, data and documents to the Contractor.

If authorized to do so, Subcontractors, Suppliers, vendors and other third parties may enter data and documents into AASHTOWare Project™, but such data and documents shall not be considered submitted to Agency until the Contractor reviews the data or document and completes the workflow transition to submit the data or document to the Agency within AASHTOWare. Required workflow transitions are defined in the ODOT AASHTOWare Project™ User Guide for Construction Contractors for specific data and documents that are required to be submitted to the Agency. Completion of required workflow transitions by the Contractor will constitute submittal to the Agency. See 00170.09.

Subcontractors, Suppliers, vendors and other third parties shall not be authorized to and shall not enter data or documents into Doc Express®.

The Contractor shall comply with naming conventions, drawer structure, and other Doc Express® instructions as specified in the ODOT Doc Express® User Guide for Construction Contractors, as may be revised from time to time and available from the Engineer. Instructions for entry and submittal of data and documents using AASHTOWare Project™ are specified in 00170.09.

The Contractor shall provide all Subcontractors, Suppliers, vendors, and any other third parties receiving payment from the Contractor or any Subcontractor, Supplier, vendor, or any other third party, with read-only access to the Doc Express® drawer that contains payment documents from the Agency and the Contractor. The Contractor may provide Subcontractors, Suppliers, vendors, and any other third parties receiving payment from the Contractor or any Subcontractor, Supplier, vendor or other third party with read-only access to other Doc Express® drawers at the Contractor's discretion. The Contractor shall not grant write access in Doc Express® to Subcontractors, Suppliers, vendors or any other third parties or their respective officers, employees or agents. Additional access requirements and limitations for AASHTOWare Project™ are specified in 00170.09.

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Data and documents submitted according to this Subsection, from the Agency to the Contractor and from the Contractor to the Agency, are official data and documents for the Contract and will be accepted as such by both parties.

By submitting data and documents that originate from the Contractor to the Agency using Doc Express® or AASHTOWare Project™, as applicable, the Contractor is certifying that the data and documents are true and accurate and that if the data or document was required to be signed, it has been signed by a person with appropriate authority. By submitting data and documents to the Agency using Doc Express® or AASHTOWare Project™, as applicable, that originate from a Subcontractor, Supplier, vendor, manufacturer or other third party, the Contractor is certifying that the data and documents are a true and complete copy of the data and documents the Contractor received, that if the data or document was required to be signed, it has been signed, and that the Contractor does not know, nor does it have reason to believe, that the data and documents are not true and accurate, are not complete, are not what was required, or were signed by a person without appropriate authority.

In the event of a conflict between this Subsection and the Standard Specifications or other Special Provisions, this Subsection shall control except for, as applicable, 00170.09 and 00199.30.

Costs associated with obtaining and maintaining access to Doc Express® and AASHTOWare Project™ and the use of Doc Express® and AASHTOWare Project™ are Incidental to Mobilization.

Failure to submit data and documents electronically, as required by 00170.08 and 00170.09, may result in payments being withheld according to 00195.50.

The Contractor shall be responsible for causing access to Doc Express® (or to notify the Agency for AASHTOWare Project™) to be disabled for any Entity or individual that is no longer assigned, employed or under contract in relation to the Project or whose access is to be disabled due to improper activity. The Contractor's obligation to disable access applies to its own officers, employees and agents and to all Subcontractors, Suppliers, vendors and other third parties and their respective officers, employees and agents.

The Agency reserves the right to suspend or disable, or cause to be suspended or disabled, the access to Doc Express®, or AASHTOWare Project™, or both, for any Entity or individual at any time.

Use and access for Doc Express® and AASHTOWare Project™ are provided "as is". The Agency does not warrant that access to or functioning of Doc Express® or AASHTOWare Project™ will be error free, uninterrupted, or will meet the Contractor's needs. The Agency is not responsible for any damage that may occur due to error, omission, lack of timeliness or other malfunction of Doc Express® or AASHTOWare Project™ or their supporting systems. The Agency disclaims all liability arising from interference or interruption, viruses, telephone faults, malicious damage by anyone, electronic system downtime, overloading of the Internet or sites or any cause beyond the control of the Agency. The Agency reserves the right to temporarily suspend or cause to be suspended access to Doc Express® or AASHTOWare Project™, or both, without notice, because of maintenance, repair or any other reason deemed necessary for the proper functioning of Doc Express® or AASHTOWare Project™ by the Agency, AASHTO, or Info Tech, Inc.

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In no event shall the State of Oregon, the Oregon Transportation Commission or the Agency or their respective members, officers, agents and employees be liable for any claims, suits, actions, losses, liabilities, damages, costs or expenses, including but not limited to attorney fees, of whatsoever nature, resulting from or arising out of the use of Doc Express® or AASHTOWare Project™ by the Contractor or Subcontractors, Suppliers, vendors or other third parties at any level or their respective officers, employees or agents.

The Contractor's indemnification, defense and hold harmless obligations under the Contract shall apply to the terms, conditions and requirements of 00170.08 and 00170.09 and to the use of Doc Express® and AASHTOWare Project™ and the acts, errors and omissions of the Contractor, Subcontractors, Suppliers, vendors and other third parties and their respective officers, employees and agents respecting access to and use of Doc Express® and AASHTOWare Project™.

The terms, conditions and requirements of 00170.08, 00170.09, and 00150.30 shall be included in all contracts with all Subcontractors, Suppliers, vendors and other third parties at all levels for which access to Doc Express® or AASHTOWare Project™ will or may be required.

(a) User Terms and Conditions - The Contractor shall comply with, shall require its officers, employees and agents to comply with, and shall require all Subcontractors, Suppliers, vendors and other third parties to comply with and to require their officers, employees and agents using or accessing Doc Express® or AASHTOWare Project™, or both, as applicable, to comply with 00170.08, 00170.09, and the following User Terms and Conditions, all as may be revised from time to time:

As an officer, employee or agent of the Contractor or any Subcontractor, Supplier, vendor or other third party, respecting my use of or access to Doc Express®, AASHTOWare Project™, or both, I agree to the following, all as may be revised from time to time:

- The terms, conditions and requirements of 00170.08;
- The terms, conditions and requirements of 00170.09;
- The Info Tech, Inc. Doc Express® Privacy Policy and Terms of Use and the Digital Millennium Copyright Act (DMCA) Policy, accessible from the Doc Express® registration site;
- The AASHTOWare Project™ Privacy Policy and Terms of Use and the Digital Millennium Copyright Act (DMCA) Policy, accessible from the AASHTOWare Project™ registration site;
- The ODOT Doc Express® User Guide for Construction Contractors available from the Engineer;
- The AASHTOWare Project™ Directory available from the Engineer;
- The ODOT AASHTOWare Project™ User Guide for Construction Contractors available from the Engineer; and
- The following Additional User Terms and Conditions:

My use of and access to Doc Express® or AASHTOWare Project™, or both, as applicable, are conditioned on my agreement to and my compliance with the foregoing and these Additional User Terms and Conditions.

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I may have access to sensitive personnel, business, financial and/or security related information ("Confidential Information") through use of Doc Express® or AASHTOWare Project™, and, except to the limited extent necessary to perform my duties, I will maintain its confidential status and will not share, publish or disseminate Confidential Information or other information obtained through Doc Express® or AASHTOWare Project™, without regard to how ODOT may treat any such Confidential Information or other information. All information is also subject to the Oregon Public Records law (see 00170.07(d)). In addition, if I know or have reason to believe any information was inadvertently or improperly included in Doc Express® or AASHTOWare Project™, I will immediately notify my employer for purposes of notification to the Contractor and the Contractor's notification to ODOT.

I will not access any information, data or documents I am not authorized to use or access and I will not browse or otherwise use or access information, data or documents that exceed the minimum necessary to perform my duties.

If my authorized use of and access to Doc Express® or AASHTOWare Project™ includes entering data and documents (or "read-write" access) into Doc Express® or AASHTOWare Project™, I will not enter any data or documents into Doc Express® or AASHTOWare Project™ except those I am authorized to enter (or in the case of the Contractor, to enter or submit, or both) and are necessary to perform my duties.

I have no expectation of privacy, rights or ownership of anything I may access, create, store, send or receive within Doc Express® or AASHTOWare Project™, respecting any data or documents, including but not limited to Confidential Information of any individual or Entity. For audit or system security purposes, ODOT may monitor and record all activity conducted within Doc Express® and AASHTOWare Project™. This includes but is not limited to the login identification information, times, dates and duration of access, as well as resources, data, or documents accessed.

Unauthorized access or activities that could compromise the systems or Confidential Information are strictly prohibited and patterns of unauthorized or unusual activity may result in access being immediately disabled, and possible further investigation.

If a breach of these terms and conditions or a security incident occurs, I will immediately notify my employer for purposes of notification to the Contractor and the Contractor's notification to ODOT.

I will not share my password or other means of access with any other individual or Entity. Violation of this restriction or of any of these other Terms and Conditions may result in my access being immediately disabled.

I understand that my use of and access to Doc Express® or AASHTOWare Project™, or both, as applicable, are conditioned on my relationship to my employer and my employer's relationship to one or more of: ODOT, the Contractor, a Subcontractor, Supplier, vendor or other third party, and that if I am no longer so employed, my job position or duties no longer require my access to Doc Express® or AASHTOWare Project™, or my employer no longer has such relationship, I will immediately cease my use of and access to Doc Express® and AASHTOWare Project™ and will immediately notify my employer for purposes of notification to the Contractor and the Contractor's notification to ODOT.

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(b) Electronic Submittal Requirements - Unless otherwise allowed or directed by the Engineer, all data and documents submitted to the Agency for this Contract that require a signature shall be signed by a person with appropriate authority by applying:

- An original handwritten signature to a document and scanning the document into PDF format;
- An electronic signature to a document and converting the document into PDF format;
- A third-party verifiable digital signature to a PDF document;
- A Doc Express® electronic signature when prompted during submission of the document into Doc Express®; or
- An AASHTOWare Project™ electronic signature when prompted during entry or submission of the data or document into AASHTOWare Project™.

Data and documents that require a signature, but do not have a signature according to 00170.08 or 00170.09, or were signed by a person without appropriate authority, will be considered as not received and of no effect. Notice requirements will not be satisfied and payments may be withheld for any affected Work items until the required data or documents with compliant signatures have been received by the Engineer.

Unless otherwise allowed or directed by the Engineer, all data and documents submitted to the Agency for this Contract that do not require a signature shall be submitted using Doc Express® or AASHTOWare Project™, as applicable.

Add the following subsection:

00170.09 AASHTOWare Project™ - The requirements of this Subsection do not apply to claims. Claims must be submitted on paper documents according to Section 00199.

This subsection applies to data and documents identified in the AASHTOWare Project™ Directory (AWD), as data or documents to be managed in AASHTOWare Project™, as may be revised from time to time. The AWD is available from the Engineer and can be downloaded from the Agency's AASHTOWare Project™ website (see 00110.05(e)).

Following Notice to Proceed, the Contractor, Subcontractors, Suppliers, vendors, and any other third parties, shall use AASHTOWare Project™ to enter certain data and upload certain documents, as identified in the AWD, for submittal by the Contractor to the Agency. The Agency will use AASHTOWare Project™ to submit or make available certain data and documents, as identified in the AWD, to the Contractor.

The Contractor, Subcontractors, Suppliers, vendors, and any other third parties authorized to enter data and documents into AASHTOWare Project™, shall comply with naming conventions, processes and other AASHTOWare Project™ instructions as specified in the ODOT AASHTOWare Project™ User Guide for Construction Contractors, as may be revised from time to time and available from the Engineer.

Data and documents that are required to be submitted to the Agency using AASHTOWare Project™ are identified in the AWD. Data and documents identified in the AWD to be

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submitted using AASHTOWare Project™ that are not submitted as required will be considered as not received and of no effect.

Data or documents that are not identified in the AWD as required to be submitted using AASHTOWare Project™ shall be submitted according to 00170.08 using DocExpress®, unless otherwise specified, allowed or directed by the Engineer.

The Contractor shall coordinate and identify to the Engineer the Subcontractors, Suppliers, vendors, and any other third parties requiring access to AASHTOWare Project™ to enter or access data or documents. Once identified, the Agency will work with Subcontractors, Suppliers, vendors and third parties for access rights in AASHTOWare Project™ per the AWD.

See also 00170.08, including but not limited to user terms and conditions and signature requirements which also apply to AASHTOWare Project™.

00170.10(g) Paid Summary Report – Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall submit a *Paid Summary Report* to the Engineer certifying payments made to all of its Subcontractors.

The *Paid Summary Report* shall be completed on the form provided by the Engineer and submitted to the Engineer within 20 Calendar Days of receipt of payment from the Agency for each month in which payments were made to each Subcontractor.

At the completion of the Project, submit a final *Paid Summary Report* form that provides the total amounts paid to each Subcontractor.

The Contractor shall require each Subcontractor at every tier to comply with the requirement to submit a *Paid Summary Report* within 20 Calendar Days of receipt of payment for Work on the Project and submit a final *Paid Summary Report* that provides the total amounts paid to the Subcontractor for its Work under the subcontract at the completion of the Project or completion of its Work.

00170.20 Public Works Bond – Delete this subsection.

00170.61(a) Workers' Compensation - Replace this subsection with the following subsection:

00170.61(a) Workers' Compensation and Employer's Liability - The Contractor shall provide workers' compensation and employer's liability coverage for on-the-job injuries as required by 00170.70(e).

00170.65 Minimum Wage and Overtime Rates for Public Works Projects – Replace this subsection with the following subsection:

00170.65 Requirements for Public Works Projects:

(a) General - The provisions of ORS 279C.800 through ORS 279C.875 and OAR 839-25 are applicable to this Public Works Project ("Prevailing Wage Rate Provisions"). The

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Contractor, a Subcontractor or other person or Entity Contractor uses in performing all or part of the Contract who are required to comply with the Prevailing Wage Rate Provisions are collectively referred to as "Covered Employers" for the purposes of 00170.65. Covered Employers include employers of workers described in 00170.65(c)(1). "Covered Occupation" as used in 00170.65, refers to each occupation defined in the applicable Oregon Bureau of Labor and Industry ("BOLI") publication titled *Definitions of Covered Occupations for Public Works Contracts in Oregon*.

As required by ORS 279C.520, the Contractor shall comply with ORS 652.220 and shall not unlawfully discriminate against any of the Contractor's employees in the payment of wages or other compensation for work of comparable character on the basis of an employee's membership in a protected class. "Protected class" means a group of persons distinguished by race, color, religion, sex, sexual orientation, national origin, marital status, veteran status, disability, or age. The Contractor's compliance with this provision constitutes a material element of the Contract and failure to comply constitutes a material breach that entitles the Agency to exercise any remedies available under the Contract, including, but not limited to, termination for default.

As required by ORS 279C.520, the Contractor shall not prohibit any of the Contractor's employees from discussing the employee's rate of wage, salary, benefits or other compensation with another employee or another person and shall not retaliate against an employee who discusses the employee's rate of wage, salary, benefits or other compensation with another employee or another person.

(b) Public Works Bond - Before starting Work, Covered Employers shall each file with the Construction Contractors Board, and maintain in full force and effect, a separate public works bond, in the amount of \$30,000 unless otherwise exempt, as required by ORS 279C.830(2) and ORS 279C.836. The Contractor shall verify each Covered Employer has filed a public works bond before that employer begins work.

(c) Prevailing Wage Requirements - Each Covered Employer must pay its workers on the Project in each Covered Occupation not less than the prevailing rate of wage for each Covered Occupation as set by BOLI in the applicable version of its publication entitled *Prevailing Wage Rates for Public Works Contracts*.

If the Class of Project is Federal-aid, each Covered Employer must pay its workers on the Project in each Covered Occupation not less than the applicable BOLI prevailing wage rate or the federal prevailing wage rate required under the Davis Bacon Act (40 U.S.C. 3141 et seq.), whichever is higher.

The Contractor is responsible for investigating local labor conditions. The Agency does not imply that labor can be obtained at the minimum hourly wage rates specified in State or federal wage rate publications, and no increase in the Contract Amount will be made if wage rates paid are more than those listed.

The applicable Project Wage Rates and *Definitions of Covered Occupations for Public Works Contracts in Oregon* are included in the Special Provisions.

(1) Satellite Location Bespoke Work Subject to ORS 279C.800(G) - As required in ORS 279C.800(G) and OAR 839-025-0800, Covered Employers include employers of workers performing bespoke work at satellite locations when the applicable version of

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the BOLI publication entitled Prevailing Wage Rates for Public Works Contracts has expressly made a wage rate applicable to the satellite location bespoke work. Contractor must provide the Engineer with written notice of the satellite work that will be performed as part of its Consent to Subcontract. If the Covered Employer is not a Subcontractor, Contractor must provide the Engineer with a copy of its agreement with that Covered Employer prior to that Covered Employer performing any Work on the Project. The agreement must meet the requirements of 00170.65(f).

(2) Payroll and Certified Statements - As required in ORS 279C.845, every Covered Employer shall submit written certified statements to the Engineer on the form prescribed by the Commissioner of BOLI in OAR 839-025-0010 certifying compliance with wage payment requirements and accurately setting out the Contractor's or Subcontractor's weekly payroll records for each worker employed on the Project. If the Class of Project is Federal-aid, in addition to providing the payroll information and certified statements required under ORS 279C.845, every Covered Employer shall submit written certified statements that also meet the requirements in FHWA Form 1273.

The Covered Employers shall preserve the certified statements for a period of 6 years from the date of completion of the Contract.

(3) Retainage for Noncompliance with 279C.845:

a. Agency - As required in ORS 279C.845(7) the Agency will retain 25% of any amount earned by the Contractor on the Project until the Contractor has filed the certified statements required in ORS 279C.845 and in FHWA Form 1273, if the Class of Project is Federal-aid. The Agency will pay to the Contractor the amount retained within 14 Days after the Contractor files the required certified statements, regardless of whether a Subcontractor has failed to file certified statements.

b. Contractor - As required in ORS 279C.845(8) the Contractor shall retain 25% of any amount earned by a first-tier Subcontractor on the Project until the first-tier Subcontractor has filed with the Agency the certified statements required in ORS 279C.845 and in FHWA Form 1273, if the Class of Project is Federal-aid. Before paying any amount retained, the Contractor shall verify that the first-tier Subcontractor has filed the certified statement. Within 14 Days after the first-tier Subcontractor files the required certified statement, the Contractor shall pay the first-tier Subcontractor any amount retained.

(4) Posting Requirements - Every Covered Employer must post the prevailing wage rates and notices in accordance with OAR 839-025-0033.

(d) Overtime Requirements - As a condition of the Contract, the Contractor shall comply with the pertinent provisions of ORS 279C.520 and ORS 279C.540. If the Class of Project is Federal-aid, the Contractor shall comply with the overtime provision affording the greatest compensation required under FHWA Form 1273 and ORS 279C.540.

(1) Maximum Hours of Labor and Overtime Pay - According to ORS 279C.540, no person shall be employed to perform Work under this Contract for more than 10 hours in any 1 Day, or 40 hours in any 1 week, except in cases of necessity, emergency, or

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where public policy absolutely requires it. In such instances, the Contractor shall pay the employee at least time and a half pay:

- For all overtime in excess of 8 hours a day or 40 hours in any 1 week when the work week is 5 consecutive days, Monday through Friday; or
- For all overtime in excess of 10 hours a day or 40 hours in any 1 week when the work week is 4 consecutive days, Monday through Friday; and
- For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

For additional information on requirements for overtime and establishing a work schedule see OAR 839-025-0050 and OAR 839-025-0034.

(2) Notice of Hours of Labor - The Contractor shall give written notice to employees of the number of hours per day and days per week the employees may be required to work. Provide the notice either at the time of hire or before commencement of work on this Contract, or by posting a notice in a location frequented by employees.

(3) Exception - The maximum hours of labor and overtime requirements under ORS 279C.540 will not apply to the Contractor's Work under this Contract if the Contractor is a party to a collective bargaining agreement in effect with any labor organization. For a collective bargaining agreement to be in effect it shall be enforceable within the geographic area of the Project, and its terms shall extend to workers who are working on the Project (see OAR 839-025-0054).

(e) State Time Limitation on Claim for Overtime - According to ORS 279C.545, any worker employed by the Contractor is foreclosed from the right to collect any overtime provided in ORS 279C.540 unless a claim for payment is filed with the Contractor within 90 Days from the completion of the Contract, provided the Contractor posted and maintained a circular as specified in this provision. Accordingly, the Contractor shall:

- Cause a circular, clearly printed in boldfaced 12-point type and containing a copy of ORS 279C.545, to be posted in a prominent place alongside the door of the timekeeper's office or in a similar place that is readily available and freely visible to any or all workers employed to perform Work; and
- Maintain such circular continuously posted from the inception to the completion of the Contract on which workers are or have been employed.

(f) Required Terms for Agreements with Covered Employers - Contractor must have agreements with all Covered Employers. For each Covered Employer that is not a Subcontractor, the Contractor's agreement must include:

- (1)** A clause or condition that if the Contractor fails, neglects, or refuses to make payment to the Covered Employer, the Covered Employer may file a complaint with the Construction Contractors Board, unless payment is subject to a good-faith dispute as defined in ORS 279C.580.
- (2)** A provision requiring the Covered Employer to have a public works bond filed with the Construction Contractors Board before starting Work on the Project, unless exempt.

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(3) A provision that requires the Covered Employer's workers on the Project to be paid not less than the specified minimum hourly rate of wage.

(4) A provision that requires the Covered Employer to be registered as a vendor in OregonBuys, the on-line electronic Automated Oregon Procurement System administered by the State's Department of Administrative Services; and

(5) A clause that requires the Covered Employer to include (1) – (4) in each of the Covered Employer's agreements with other Covered Employers of Workers on the Project that are also subject to the requirements of ORS 279C.800 through ORS 279C.870.

00170.70(a) Insurance Coverages - Replace the paragraph that begins "**Contractor** – The Contractor shall..." with the following paragraph:

Contractor - The Contractor shall obtain the insurance specified below prior to the execution of the Contract. The Contractor shall maintain the insurance in full force at the Contractor's expense throughout the duration of the Contract and as required by an extended reporting period or tail coverage requirements, and all warranty periods that apply.

Replace the paragraph that begins "**Insurance Provisions** - The Contractor and Subcontractor(s), if..." with the following paragraph:

Insurance Provisions - The Contractor and Subcontractor(s), if any, shall obtain insurance from insurance companies or entities that are authorized to transact the business of insurance and issue coverage in the State and that are acceptable to the Agency. Insurance coverage shall be primary and noncontributory with any other insurance and self-insurance, with the exception of Workers' Compensation/Employer's Liability. The Contractor, or appropriate Subcontractor, but not the Agency, shall pay for all deductibles, self-insurance retentions and self-insurance, if any.

Replace the paragraph that begins "**Commercial General Liability** - The Contractor shall provide Commercial..." with the following paragraph:

Commercial General Liability - The Contractor shall provide Commercial General Liability Insurance written on an occurrence basis and covering the Contractor's liability for bodily injury, property damage, personal and advertising injury, products and completed operations, and contractual liability. Coverage may be written in combination with Commercial Automobile Liability Insurance with separate limits for Commercial General Liability and Commercial Automobile Liability. Combined single limit per occurrence shall not be less than the dollar amount specified in the Special Provisions. The annual aggregate limit shall not be less than the dollar amount specified in the Special Provisions. The policy shall be endorsed to state that the annual aggregate limit of liability shall apply separately to the Contract.

Add the following to the end of this subsection:

The following insurance coverages and dollar amounts are required pursuant to this subsection:

**Insurance
Coverages**

**Combined Single Limit
per Occurrence**

**Annual Aggregate
Limit**

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Commercial General Liability	\$2,000,000	\$5,000,000
Commercial Automobile Liability	\$1,000,000	(aggregate limit not required)
Commercial Automobile Liability (pedestrian transport vehicle)	\$5,000,000	(aggregate limit not required)
Pollution Liability	\$1,000,000	\$2,000,000

- With Lead Liability Endorsement or separate coverage

Commercial Automobile Liability with Pollution Coverage	\$2,000,000	(aggregate limit not required)
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00170.70(b) Extended Reporting - Replace the paragraph that begins "The Contractor or Subcontractor shall..." with the following paragraph:

The Contractor or Subcontractor shall furnish certification of this extended reporting requirement as a condition to receive Third Notification under 00150.90(b) and 00180.50(g).

00170.70(c) Excess/Umbrella Liability - Replace this subsection, except for the subsection number and title, with the following:

A combination of primary and Excess/Umbrella Liability Insurance may be used to meet the required minimum limits of insurance. If any Excess/Umbrella Liability policies are in place, they must be on a true "following form" or broader coverage basis, with coverage at least as broad as provided on the underlying insurance. In addition, the limits of the underlying insurance must be sufficient to prevent any gap between such minimum limits and the attachment point of the coverage provided by the Excess/Umbrella Liability policy.

00170.70(d) Additional Insured - Replace the paragraph that begins "The liability insurance coverages of 00170.70(a)..." with the following paragraph:

The liability insurance coverages of 00170.70(a) shall include an Additional Insured Endorsement endorsing the "State of Oregon, the Oregon Transportation Commission and the Oregon Department of Transportation, and their respective officers, members, agents, and employees" as Additional Insureds, but only with respect to the Contractor's activities to be performed under the Contract. Coverage shall be primary and non-contributory with any other insurance and self-insurance. The liability coverages of 00170.70(a) that are permitted by the Agency to be obtained by an appropriate Subcontractor shall include all of the foregoing as Additional Insureds and shall also include the Contractor and its officers and employees as Additional Insureds.

00170.70(e) Workers' Compensation - Replace the title of this subsection with "**Workers' Compensation and Employer's Liability**"

00170.70(g) Certificate(s) of Insurance - Replace the bullet that begins "List the "State of Oregon..." with the following bullet:

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- List the “State of Oregon, the Oregon Transportation Commission and the Oregon Department of Transportation, and their respective officers, members, agents and employees” as a Certificate holder and endorse as an Additional Insured;

Replace the bullet that begins “Specify that all liability insurance ...” with the following bullet:

- Specify that all liability insurance coverages shall be primary and noncontributory with any other insurance and self-insurance, with exception of Workers’ Compensation/Employer’s Liability;

Replace the bullet that begins "Include a list of all policies..." with the following bullet:

- Include a list of all policies that fall under the Excess/Umbrella Liability Insurance if Excess or Umbrella Liability Insurance is used to meet the minimum insurance requirements .

00170.70(i) Insurance Requirement Review - Replace this subsection, except for the subsection number and title, with the following:

The Contractor agrees to periodic review of insurance requirements by Agency. Agency reserves the right to periodically assess risks and the adequacy of insurance coverage and in its discretion to require additional insurance coverage or increased coverage limits on existing coverages, or both.

SECTION 00180 - PROSECUTION AND PROGRESS

Comply with Section 00180 of the Standard Specifications modified as follows:

00180.20(d) Disadvantaged Business Enterprise (DBE) – Delete this subsection.

00180.20(e) Trucking - Replace the paragraph that begins "This Section does not apply to..." with the following paragraph:

This Section does not apply to delivery of Materials by or for or from a Supplier. This Subsection applies to all truck hauling of materials not performed with trucks owned (or rented) and operated by the Contractor.

00180.20(e)(1) Trucking Services Agreement - Delete the bullet that begins "Statement specifying whether the services will be provided by a DBE...".

00180.20(e)(2) Limitations - Replace the paragraph that begins "The approved trucking services agreements..." with the following paragraph:

The approved trucking services agreements shall be used for all trucking services for hauling materials not provided by trucks owned (or rented) and operated by the Contractor. The Contractor shall execute a trucking services agreement with every trucking services provider

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for hauling materials prior to the trucking services provider doing any Work on the Project Site.

00180.20(e)(3) Submittals - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall provide the Engineer with an executed copy of the trucking services agreement not later than 2 Days after the trucking services provider for hauling materials has started work. The Contractor shall make certain that the provider of approved trucking services submits payrolls required under Section 00170, complies with applicable Contract provisions, including, without limitation, 00170.07, and complies with applicable trucking services agreement provisions. The work or service provider will not be considered a Subcontractor under the Contract, but the work or services will be considered to have been performed by the Contractor's own organization for the purposes of determining compliance with 00180.20(a). If the trucking services are provided by an owner/operator attach a copy of the following data to the trucking services agreement before the time the services are performed and include without limitation for each owner/operator:

- Driver's name;
- Present driver license upon request;
- Vehicle identification number;
- Present vehicle registration upon request;
- Motor vehicle license plate number;
- Motor Carrier account number;
- Present ODOT Motor Carrier 1A Permit upon request; and
- Name of owner/operator from the side of the truck.

Each truck shall have the name of the owner/operator clearly displayed on the side of the truck.

00180.21(a) General – Replace the bullet that begins "If the Subcontractor is providing any..." with the following bullet:

- If the Subcontractor is providing any of the insurance coverages as permitted under 00170.70(a), the Agency will respond within 35 Calendar Days after the Engineer's receipt of the request. (28 Calendar Days for the Agency to review and approve the Certificates of Insurance required by 00170.70(g) plus 7 Calendar Days to review and approve the subcontract request.)

00180.40(b) On-Site Work – Replace the bullet that begins "Filed with the Construction Contractors..." with the following bullet:

- Filed with the Construction Contractors Board the public works bond as required in 00170.65(b);

Add the following subsection:

00180.40(c) Specific Limitations - Limitations of operations specified in these Special Provisions include, but are not limited to, the following:

Limitations

Subsection

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Cooperation with Utilities	00150.50
Cooperation with Other Contractors	00150.55
Railways	00170.01(e)
Contract Time	00180.50(h)
Closed Lanes	00220.40(e)(1)
Special Events	00220.40(e)(2)(b)
Noise Control	00290.32
Regulated Work Areas	00290.34(a)
Maintenance Under Traffic	00620.43
Opening Sections to Traffic.....	00744.51

The Contractor shall be aware of and subject to schedule limitations in the Standard Specifications that are not listed in this subsection.

00180.41 Project Work Schedules - After the paragraph that begins "One of the following Type..." add the following paragraph:

In addition to the "look ahead" Project Work schedule, a Type B schedule as detailed in the Standard Specifications is required on this Contract.

00180.42 Preconstruction Conference - Add the following to the end of this subsection:

Before beginning On-Site Work and before the preconstruction conference, the Contractor shall conduct a Utility scheduling meeting with representatives from the Utilities involved with this Project and with the Engineer. The Contractor shall incorporate the time needs of the Utilities into the Contractor's schedule submitted at the preconstruction conference.

The Contractor shall submit a written Utility Coordination Report to the Engineer not later than seven Calendar Days after the Utility scheduling meeting. The Utility Coordination Report shall:

- Identify each specific Utility;
- Identify Utility contact names and numbers;
- Identify dates for Utility scheduling for the entire Project;
- Contain documents showing that the Contractor has accomplished Utility locates; and
- Contain documents showing that Utility locates, along with applicable construction activities, have been reviewed and discussed on-site with Utility representatives.

The Contractor shall hold monthly Utility coordination meetings with Utilities and the Engineer to coordinate Project activities with Utilities and on-going Utility relocation work. The Contractor shall hold monthly Utility coordination meetings in the office or in the field, as appropriate. The Utility coordination meetings shall include, but not be limited to:

- Detailed discussions of existing and abandoned Utilities,
- Detailed discussions of de-energizing and re-energizing service lines,
- Detailed discussions of critical locations for potholing of Utilities,
- Detailed discussions of Project activities, and
- Detailed discussions of on-going Utility relocations in upcoming Project activity areas.

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During the monthly Utility coordination meetings, the Utilities will provide Utility drawings and discuss the scope, extent, locations, and significance of all Utility facilities before the Contractor begins work in a new activity area. The Contractor shall incorporate this information into the Project schedules and furnish the Utilities copies of the updated Project schedules.

The Contractor shall plan and schedule all Utility adjustment operations well in advance of On-Site Work. When the Contractor becomes aware of Utility conflicts not previously identified, the Contractor shall notify the applicable Utilities in writing the same Calendar Day. The Contractor shall allow Utilities at least 28 Calendar Days to relocate (adjust) the Utility conflicts not previously identified.

At the preconstruction conference, or at a mutually agreed upon time at least 10 Calendar Days prior to beginning ground disturbing activities, the Contractor shall meet with the Engineer to discuss sensitive cultural sites on the Project. In attendance at this conference shall be:

- The Contractor's supervisory personnel.
- Any Subcontractors (including contract archaeological monitors) and supervisory personnel who will be involved in ground disturbing activities.
- Agency archaeology representative or region environmental coordinator.
- When applicable, tribal representative(s) or monitor(s).

Add the following subsection:

00180.50(h) Contract Time - There are two Contract Times on this Project as follows:

(1) The Contractor shall complete all Work to be done under the Contract to open the Bridge to public Traffic in the final lane configuration not later than May 12, 2028.

(2) The Contractor shall complete all Work to be done under the Contract, except for seeding establishment and plant establishment, not later than September 1, 2028.

00180.85(b)(2) Multiple Contract Times - Add the following paragraph and bullet list to the end of this subsection:

The Agency determined percentages of the value of Work required to be complete by the Contract Times listed under 00180.50(h) are as follows:

- For Contract Time 00180.50(h)(1) the Agency determined percentage of Work is 90 percent.
- For Contract Time 00180.50(h)(2) the Agency determined percentage of Work is 100 percent.

Add the following subsection:

00180.85(c) Lane Closures - Lane closures beyond the limits specified will inconvenience the traveling public and will be a cost to the Agency.

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It is impractical to determine the actual damages the Agency will sustain in the event Traffic Lanes are closed beyond the limits listed in 00220.40(e). Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, \$500 per 15 minutes, or for a portion of 15 minutes, per lane, for any lane closure beyond the limits listed in 00220.40(e) (or 00220.40(f)).

The Engineer will determine when it is safe to reopen lanes to traffic. Assessment of liquidated damages will stop when all lanes have been safely reopened. Any liquidated damages assessed under these provisions will be in addition to those listed in 00180.85(b).

Add the following subsection:

00180.85(e) Traffic Delays Beyond 20 Minutes - Stopping or holding vehicles beyond the limits specified will inconvenience the traveling public and will be a cost to the Agency.

It is impractical to determine the actual damages the Agency will sustain in the event traffic is stopped or held longer than the 20-minute limit listed in 00220.02. Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, \$500 per 20 minutes, or for a portion of 20 minutes, for stopping or holding traffic longer than 20 minutes.

Assessment of liquidated damages will stop when the Engineer determines that traffic is no longer stopped or held beyond the 20-minute limit. Any liquidated damages assessed under these provisions will be in addition to those listed in 00180.85(b).

SECTION 00190 - MEASUREMENT OF PAY QUANTITIES

Comply with Section 00190 of the Standard Specifications modified as follows:

00190.20(f)(2) Scale Without Automatic Printer - Replace the paragraph that begins "The Contractor shall inform..." with the following paragraph:

If the scales require manual entry of gross weight information, the Agency may periodically have a representative weigh witness at the scales to observe the weighing procedures. The Contractor shall inform the Engineer of their intent to use a scale without an automatic printer at least 3 working days before weighing begins or before the Contractor changes to a scale that does not have an automatic printer. The Contractor shall pay costs for the weigh witness. The hourly cost of the weigh witness will be as stated in the Special Provisions. In addition, the Engineer may periodically check the weight for a load of Materials by directing the haul vehicle to reweigh on a different scale that has been inspected and certified according to 00190.20(b) and 00190.20(d).

Add the following paragraph after the paragraph that begins " If the scales require manual entry...":

Pay costs for the weigh witness at \$35.00 per hour.

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00190.20(g) Agency-Provided Weigh Technician - Add the following paragraph to the end of this subsection:

Pay costs for the weigh technician at \$35.00 per hour.

SECTION 00195 - PAYMENT

Comply with Section 00195 of the Standard Specifications modified as follows:

Add the following subsection:

00195.11 Fuel Cost Price Escalation/De-escalation - A fuel escalation/de-escalation clause will be in effect during the life of the Contract.

The Agency reserves all of its rights under the Contract, including, but not limited to, its rights for suspension of the Work under 00180.70 and its rights for termination of the Contract under 00180.90, and this escalation/de-escalation provision will not limit those rights.

(a) Monthly Fuel Price (MFP) - A monthly fuel price (MFP) is established by the Agency each month. For the actual MFP, go to the Agency website at:

<https://www.oregon.gov/ODOT/Business/Pages/Asphalt-Fuel-Price.aspx>

The MFP for a given month is the average rack price obtained from the Oil Price Information Service (OPIS) listing dated the first Friday of that month for ultra low sulfur distillate No. 2 diesel fuel for Portland, Oregon. If the average rack price is not posted by OPIS or is otherwise not available to the Agency for the first Friday of any month for any reason, the Agency may use the average rack price posted by OPIS immediately before or after the first Friday of that month. If the average rack prices cease to be available from OPIS for any reason, the Agency in its discretion will select and begin using a substitute price source or index to establish the MFP each month. The Agency does not guarantee that fuel will be available at the MFP.

(b) Base Fuel Price (Base) - The base fuel price for this Project is the MFP published on the Agency website for the month immediately preceding the Bid Opening date.

(c) Monthly Fuel Adjustment Factor - A monthly fuel adjustment factor is determined each month as follows:

- If the MFP is within $\pm 10\%$ of the Base, there will be no adjustment.
- If the MFP is more than 110% of the Base, then:

$$\text{Adjustment Factor} = (\text{MFP}) - (1.10 \times \text{Base})$$

- If the MFP is less than 90% of the Base, then:

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$$\text{Adjustment Factor} = (\text{MFP}) - (0.90 \times \text{Base})$$

(d) Fuel Price Adjustment - A fuel price adjustment for fluctuations in the cost of fuel will apply only to the major fuel usage Pay Items shown in the following list and at the respective fuel factors listed:

Item	Fuel Factor
Embankment In Place	0.33 Gal/Cu.Yd.
Stone Embankment	0.33 Gal/Cu.Yd.
18 Inch Subgrade Stabilization	0.33 Gal/Sq.Yd.
Grouted Riprap, Class 100	0.33 Gal/Cu.Yd.
Riprap Basins	5.00 Gal/Each
24 Inch Culvert Pipe, 10 Ft Depth	10.00 Gal/Foot
6 Inch Sanitary Sewer with Restrained Joints Pipe, 5 Ft Depth	5.00 Gal/Foot
4 Inch Ductile Iron Pipe, 5 Ft Depth	10.00 Gal/Foot
Concrete Inlets, Type D	30.00 Gal/Each
Connection to Existing Structures	30.00 Gal/Each
Adjusting Inlets	15.00 Gal/Each
Trench Resurfacing	0.33 Gal/Sq.Yd.
8 Inch Potable Water Pipe, Fittings and Couplings with Restrained Joints	20.00 Gal/Foot
Cold Plane Pavement Removal, 0-5 Inches Deep	0.45 Gal/Sq.Yd.
Cold Plane Pavement Removal, 2 Inches Deep	0.45 Gal/Sq.Yd.
Aggregate Base	0.69 Gal/Ton
Level 3, 1/2 Inch ACP Mixture	2.93 Gal/Ton
Level 3, 1/2 Inch ACP Mixture in Leveling	2.93 Gal/Ton
Concrete Walks	0.07 Gal/Sq.Ft.
12 Inch Potable Water Pipe, Fittings and Couplings With Class B Backfill	20.00 Gal/Foot

The following Pay Items associated with the following Bridges and Structures:

Bridge No. 00576	19 Gal/\$1,000
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Item
Temporary Work Access, Containment and Bridge Support
6 Inch Sanitary Sewer with Restrained Joints Pipe
Bridge Removal Work
Structure Excavation
Granular Wall Backfill
Reinforcement, Grade 60
Coated Reinforcement, Grade 80
Inject and Seal Cracks
Deck Concrete, Class HPC(IC)4500
General Structural Concrete, Class 3300
Surface Texturing
Locate Concrete Repair
Reinforcing Bar Repair
Concrete Repair

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Mortar Buildup Over Shallow Rebar
Titanium System, 0.625 Inch Diameter
Titanium System, 0.750 Inch Diameter
Poured Joint Seal
Vertical Concrete Parapet, 42 Inch with Moment Slab
Pedestrian Rail
Precast Historic Ornamental Concrete Rail
Utility Attachment on Structure, Communication
Utility Attachment on Structure, Gas
Utility Attachment on Structure, Sanitary Sewer
Utility Attachment on Structure, Sanitary Sewer
Utility Attachment on Structure, Water
Communications Conduit, 4 Inch Steel
Protective Casing, 12 3/4 Inch (Sanitary Sewer)
Protective Casing, 14 Inch Steel (Gas)
Protective Casing, 14 Inch Steel (Water)
Permanent Ground Anchor
Performance Test
Verification Test
8 Inch Potable Water Pipe, Fittings & Couplings with Restrained Joints
8 Inch Force Balanced Expansion Joint
1 Inch Air Release Valve Assembly
Prepare and Coat Concrete Structures

The Contractor is cautioned to consider that its operations may require more or less fuel.

A price adjustment ($\pm$) to the Contractor for fuel cost changes will be made monthly if the MFP differs more than 10% or more from the Base. This adjustment will be the product of the monthly fuel adjustment factor and the estimated monthly fuel used. The monthly fuel used will be determined by multiplying the quantities of Work accomplished during the month for subject Pay Items, by the appropriate fuel factors.

Fuel cost adjustments will continue to be made as specified and will not be revised for any reason, including the Contractor's election to use an alternative fuel (natural gas, wood pellets, propane, or other).

00195.12(d) Steel Materials Pay Item Selection - Add the following paragraphs to the end of this subsection:

If the Contractor elects not to participate in the steel escalation/de-escalation program for this Project, no response from the Contractor is required.

The Contractor may elect to participate in the steel escalation/de-escalation program for this Project under 00195.12 through 00195.12(d) by marking each check box for each Pay Item in the list below the Contractor is selecting for participation in the program. The completed list must be submitted in writing, signed and dated by the Contractor, to the Project Manager before or within 7 Calendar Days after the date of the preconstruction conference.

PARTICIPATE	PAY ITEM DESCRIPTION	COST BASIS (CB)
☐	4 Inch Ductile Iron Pipe, 5 Ft Depth	CB 6%

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☐	Reinforcement, Grade 60	CB 40%
☐	Coated Reinforcement, Grade 80	CB 40%
☐	Titanium System, 0.625 Diameter	CB 40%
☐	Titanium System, 0.750 Diameter	CB 40%
☐	Pedestrian Rail	CB 19%
☐	Guardrail Transition	CB 35%
☐	Guardrail Terminals, Non Flared, Test Level 2	CB 35%
☐	Midwest Guardrail System, Type 2A	CB 35%
☐	Midwest Guardrail System, Type 3	CB 35%
☐	Perforated Steel Square Tube Anchor Sign Supports	CB 20%

Regardless of the number of Pay Items listed by the Agency or selected by the Contractor, or if no Pay Items qualify for the steel escalation/de-escalation program for this Project or the Contractor elects not to participate in the steel escalation/de-escalation program for this Project, the steel price escalation/de-escalation clause (and program) contained in 00195.12 through 00195.12(d) are included in this Contract and are the only steel price escalation/de-escalation clause (and program) that apply to this Contract.

Contractor's Signature

Date

00195.50(b) Retainage – Replace the paragraph that begins “As provided in...” with the following paragraph:

As provided in 00170.65(c)(3) in addition to any retainage, a withholding of 25% of amounts earned will be withheld and released according to ORS 279C.845 when the Contractor fails to file the certified statements required in ORS 279C.845, FHWA Form 1273, and 00170.65.

00195.50(c)(1) Cash, Alternate A – Replace this subsection, except for the subsection number and title, with the following:

Retainage will be deducted from progress payments and held by the Agency until final payment is made according to 00195.90, unless otherwise specified in the Contract.

Except as otherwise provided, the Agency will deposit the cash retainage withheld in an interest bearing account, established through the State Treasurer for the benefit of the Agency, as required by ORS 279C.560(5). Interest earned on the account shall accrue to the Contractor. Amounts retained and interest earned will be included in the final payment made according to 00195.90, unless otherwise specified in the Contract.

Any retainage withheld on Work performed by a Subcontractor will be released to the Contractor according to 00195.50(d).

00195.50(c)(2) Cash, Alternate B (Retainage Surety Bond) - Replace this subsection, except for the subsection number and title, with the following:

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The Contractor may submit a Surety bond in lieu of all or a portion of the retainage required under the Contract. The Agency will accept this Surety bond unless the Agency first finds in writing good cause for rejection based on unique project circumstances in accordance with ORS 279C.560(1)(c).

The Surety bond must be in substantially the form specified in ORS 701.435 (4) (Oregon House Bill 4006, 2024), and executed by a Surety bonding company that is authorized to transact Surety business in the State of Oregon and may not be a Surety obligation of an individual. The Surety bond and any proceeds of the Surety bond must be made subject to all claims and liens and in the same manner and priority specified for retainage under ORS 279C.550 to 279C.570 and ORS 279C.600 to 279C.625. Agency will reduce the cash retainage held by an amount equal to the value of the Surety bond and pay the amount of the reduction to Contractor according to ORS 279C.570. Any retainage withheld on Work performed by a Subcontractor will be released to the Contractor according to 00195.50(d).

When the Agency accepts a Surety bond in lieu of retainage from the Contractor, the Contractor shall accept Surety bonds from Subcontractors or Suppliers from which the Contractor has withheld retainage. At any time before final payment a Subcontractor may submit a Surety bond to the Contractor and request that the Contractor submit a Surety bond as described above for the portion of the Contractor's retainage that pertains to the Subcontractor. The Surety bond the Subcontractor provides to the Contractor must meet the Agency requirements specified in the paragraph above. When a Contractor at a Subcontractor's request obtains and submits a Surety bond under this subsection, the Contractor may withhold from payments to the Subcontractor an amount equivalent to the portion of the Contractor's Surety bond premium for which the Subcontractor is responsible in accordance with ORS 279C.560 (Oregon House Bill 4006, 2024).

Within 30 Days after a Subcontractor's request the Contractor shall provide a Surety bond as described above, and the Agency will accept the Surety bond unless:

- The Agency finds in writing good cause for rejection based on unique project circumstances in accordance with ORS 279C.560;
- A Surety bond is not commercially available;
- The Subcontractor refuses to pay to the Contractor the Subcontractor's portion of the Surety bond premium; or
- The Subcontractor refuses to provide the Contractor with a Surety bond that meets the requirements of ORS 279C.560(1)(b).

Notwithstanding 00195.50(d), within 30 Days of receiving a Surety bond from Contractor at a Subcontractor's or Supplier's request, Agency will release to the Contractor the amount held as retainage that is equivalent to the amount the Contractor submitted as a Surety bond. Contractor shall, within 30 Days after receiving a Surety bond from a Subcontractor or Supplier, release to the Subcontractor or Supplier the amount the Contractor holds as retainage that is equivalent to the amount of the Surety bond submitted, in accordance with ORS 279C.560(8).

00195.50(c)(3) Bonds, Securities, and Other Instruments - Replace this subsection, except for the subsection number and title, with the following:

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Contractor may deposit bonds, securities or other instruments with the Agency or in a bank or other financial institution, to be held by Agency instead of cash retainage for the benefit of the Agency, which the Agency will accept unless the Agency first finds in writing good cause for rejection based on unique project circumstances, in accordance with ORS 279C.560(1)(c).

If the Contractor deposits bonds, securities or other instruments, and Agency does not reject the bonds, securities or other instruments as permitted by ORS 279C.560(1)(c), the Agency will reduce the cash retainage by an amount equal to the value of the bonds, securities and other instruments. Interest or earnings on the bonds, securities and other instruments accrue to the Contractor.

Bonds, securities and other instruments deposited instead of cash retainage shall be of a character approved by the Director of the Oregon Department of Administrative Services, including, but not limited to:

- Bills, certificates, notes or bonds of the United States;
- Other obligations of the United States or agencies of the United States;
- Obligations of a corporation wholly owned by the federal government;
- Indebtedness of the Federal National Mortgage Association;
- General obligation bonds of the State of Oregon or a political subdivision of the State of Oregon;
- Irrevocable letters of credit issued by an insured institution, as defined in ORS 706.008.

00195.50(f) Prompt Payment Policy - Replace this subsection, except for the subsection number and title, with the following:

Payments shall be made promptly according to ORS 279C.560, ORS 279C.570, ORS 279C.580 and other applicable legal requirements.

SECTION 00196 - PAYMENT FOR EXTRA WORK

Comply with Section 00196 of the Standard Specifications.

SECTION 00197 - PAYMENT FOR FORCE ACCOUNT WORK

Comply with Section 00197 of the Standard Specifications modified as follows:

00197.20(e) Standby Time - Replace this subsection, except for the subsection number and title, with the following:

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If ordered by the Engineer, standby time will be paid at 50% of the hourly rental rate calculated according to this Subsection, excluding the hourly operating rate. Rates for standby time that are calculated at less than \$1 per hour will not be paid. Payment will be limited to not more than 8 hours in a 24-hour period or 40 hours in a 1 week period.

00197.80 Percentage Allowances - Replace the table that shows Subsection and Percent with the following:

Subsection	Percent
00197.10 Materials	19
00197.20 Equipment	19
00197.30 Labor	29
00197.40 Special Services	19

Replace the paragraph that begins "When a Subcontractor performs ordered..." with the following paragraph:

When a Subcontractor performs ordered Force Account Work, the Contractor will be allowed a supplemental markup of 10% on each Force Account Work order.

SECTION 00199 - DISAGREEMENTS, PROTESTS, AND CLAIMS

Comply with Section 00199 of the Standard Specifications.

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications modified as follows:

00210.90 Payment - Replace the paragraph that begins "No separate or additional..." with the following paragraph:

No separate or additional payment will be made for any costs associated with obtaining and maintaining access to Doc Express® and AASHTOWare Project™ or the use of Doc Express® and AASHTOWare Project™.

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

Comply with Section 00220 of the Standard Specifications modified as follows:

00220.01(b) Abbreviations - Delete this subsection.

00220.02(b) Temporary Pedestrian Accessible Route Plan - Replace the title of this subsection with "Temporary Pedestrian Accessible Route"

Replace the paragraph that begins "For the safety and accessibility ..." with the following paragraph:

For the safety and accessibility of pedestrians, provide and maintain TPAR for pedestrian pathways impacted by construction or construction staging, and the following:

Replace the bullet that begins "TPAR shall meet ..." with the following bullet:

- Meet the requirements of Part 6 of the MUTCD.

Replace the bullet that begins "Mount signs between the panels..." with the following bullet:

- Mount signs between the panels of a Type II barricade, on a PCD, or on a single-post temporary sign support, as shown. Place signs facing pedestrian traffic.

Add the following bullet(s) to the end of the bullet list:

- Maintain access to bus stops and Pedestrian Accessible Routes.
- For an active Work Area controlled at each end by flaggers and pilot car, provide transportation for pedestrians and bicyclists through the active Work Area according to Section 00223 and Section 00228.

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00220.40(e)(1) Closed Lanes - Replace this subsection, except for the subsection number and title, with the following:

Traffic Lanes may be closed on the Gold Hill Spur Highway OR99 when allowed, shown, or directed during the following periods of time except as specified in 00220.40(e)(2):

Single Lane Closures - One Traffic Lane on the Gold Hill Spur Highway OR99 may be closed during the following times:

- Nightly, Sunday night through Thursday morning, between 7:00 p.m. and 7:00 a.m. when Bridge road closure is not in effect

00220.40(e)(2) Opened Lanes - Replace the paragraph that begins "Keep all Traffic Lanes and ..." with the following paragraph:

Keep all Traffic Lanes and pedestrian facilities open during the following periods. Remove all barricades and objects from the Roadway during the periods that Traffic Lanes are to remain open.

00220.40(e)(2)(a) Holidays - Replace the paragraph that begins "When a holiday falls ..." with the following paragraph:

When a holiday falls on Sunday, the following Monday is recognized as a legal holiday. When a holiday falls on Saturday, the preceding Friday is recognized as a legal holiday.

00220.40(e)(2)(b) Special Events - Add the following to the end of this subsection:

The following special events will occur during this Project:

Gold Dust Heritage Days – June (actual date to be verified)

Add the following subsection:

00220.41 Bridge Work - Before starting any grading or Pavement removal at Bridge ends or removal of Pavement from Bridge decks, arrange so that all Equipment, labor, and Materials required to complete the Pavement replacement Work and Bridge deck waterproofing Work are on hand or are guaranteed to be delivered. Once grading and Pavement removal begins, vigorously prosecute and complete this Work. Complete paving and membrane waterproofing Work in the shortest possible time.

Temporarily taper or bevel longitudinal and transverse grade changes or drop-offs resulting from grading and Pavement removal and membrane waterproofing Work with asphalt concrete mixture to provide a smooth and safe transition. Construct tapers according to 00620.40.

Add the following subsection:

00220.42 Bridge Site Road Closure - Close the road to traffic at the Bridge site during reconstruction of the Bridge. Do not close the road until all Materials and Equipment are on

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hand or guaranteed to be delivered so that the Work can be done in an efficient manner with a minimum period of road closure.

Road closure is allowed between June 13, 2027 through May 12, 2028.

The road closure will not be allowed until the area and the detour route are signed according to the TCP and the requirements of Section 00221 and Section 00222.

Add the following subsection:

00220.45 Load Restrictions on Bridges - For Structure(s) No.(s) 00576, limit the combined weight of Equipment, vehicles, and supplies placed in a closed Traffic Lane or Shoulder on the Bridge according to 00253.46.

00220.60(a)(1) Contractor Responsibility - Replace this subsection, except for the subsection number and title, with the following:

If this Work is not completed and in place, the Agency may do the Work according to 00220.60(d).

(a) Do the following at no additional cost to the Agency:

- Keep surfaces being used by Public Traffic free of all dirt, mud, gravel, materials, and debris.
- Repair damage to surfaces caused by the Contractor's operations.
- Maintain all detour and stage construction Surfacing as specified or directed.

(b) Before periods of no active Work that last longer than seven consecutive Days, unless otherwise directed, do the following:

- Provide temporary pedestrian surfaces meeting the requirements of the MUTCD and Section 00228.
- Provide traversable bicycle and pedestrian routes with surfaces free of dirt, mud, gravel, and debris.

(c) Before periods of no active Work that is anticipated to last or lasts longer than 30 consecutive Days, unless otherwise directed, do the following:

- Pave Traffic Lanes at least 12 feet wide, with 2-foot-wide paved Shoulders for each direction of traffic.
- Do not leave abrupt edges.
- Remove or cover temporary construction signs unless otherwise directed.
- Clean, install, and reinstall all necessary pedestrian, motor vehicle, and bicycle channelization and pavement markings, unless otherwise directed.

00220.60(a)(2) Agency Responsibility - Replace the paragraph that begins "The Agency is responsible ..." with the following paragraph:

The Agency is responsible to do the following at Agency expense:

00220.60(b) During Suspensions - Replace the paragraph that begins "During suspensions of the Work ..." with the following paragraph:

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During suspensions of the Work, maintain Surfacing that the Contractor is responsible for under 00220.60(a)(1), and maintain Work Zone traffic control according to the Specifications and the following:

00220.70 Opening to Traffic - Replace the paragraph that begins "When it is in the public interest, the ..." with the following paragraph:

When it is in the public interest, the Engineer may order any portion of the Work opened to traffic. If the portion opened to traffic has been finished in an acceptable manner, it will be designated as "accepted for traffic", and the Contractor will be relieved of maintaining it for legal, Public Traffic. If the portion of the Work to be opened to traffic has not been finished in an acceptable manner, maintain that portion of the Work under traffic in a condition serviceable and adequate for traffic until it is finished in an acceptable manner, except as specified in 00220.60(b).

Replace the paragraph that begins "Maintain portions of the Work designated ..." with the following paragraph:

Maintain portions of the Work designated "accepted for traffic" if so ordered. Maintain portions of the Work opened to traffic but not "accepted for traffic" at no additional compensation, except watering ordered to protect the Work or to alleviate dust will be paid for according to Section 00340.

Replace the paragraph that begins "If the Contractor delays the completion ..." with the following paragraph:

If the Contractor delays the completion of Shoulders, sidewalks, curb ramps, drainage Structures, or other feature of the Work, the Engineer may order all or any portion of the Work to be opened to traffic. In this case, the Contractor is responsible for maintenance as described in 00220.60(a)(1), during the period the Work is opened to traffic, until Final Acceptance. Conduct the remaining operations to cause the least obstruction to traffic, and pay all additional costs caused by the presence of traffic.

SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL

Comply with Section 00221 of the Standard Specifications modified as follows:

00221.05 Regulations and Codes - Replace this subsection with the following subsection:

Provide all electrical Equipment, Materials, and Work conforming to NEC requirements and all other laws that apply.

00221.06 Traffic Control Plan - Replace this subsection with the following subsection:

00221.06 Traffic Control Plan and Tourist-Oriented Directional and Business Logo Signs -

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(a) Traffic Control Plan - Submit one of the following, 5 Calendar Days before the preconstruction conference:

(1) Agency Traffic Control Plan - If the Contractor intends to use the Agency TCP without modification, a written notification indicating that the Agency TCP will be used without modification.

(2) Contractor-Modified Traffic Control Plan - The Contractor may request to use a Contractor-modified Agency TCP, or a TCP developed by the Contractor. Do not use a modified TCP, or a TCP developed by the Contractor, unless approved by the Engineer. Use the Agency TCP unless a modified TCP, or a TCP developed by the Contractor is accepted.

The Engineer is not obligated to consider any modified Agency TCP or a TCP developed by the Contractor. The Agency will not be liable to the Contractor for failure to accept or act upon any request for a modified Agency TCP or a TCP developed by the Contractor.

To conserve time and funds, the Contractor may first submit a written request for a preliminary review by the Engineer. The request should contain a description of the proposal together with a rough estimate of anticipated dollar and time impacts. The Engineer will, within a reasonable time, respond to the Contractor in writing whether or not the request would be considered by the Agency.

Meet all requirements of the Contract documents and comply with the Project transportation management plan (TMP) if requesting a Contractor-modified Agency TCP, or a Contractor developed TCP. Provide the following information:

- Stamped Working Drawings according to 00150.35 that include the proposed TCP showing all TCM and quantities of TCD.
- A TPAR plan that includes:
 - Details and features used to provide pedestrian accessibility.
 - Pedestrian staging Plans at a scale no smaller than 1 inch = 50 feet.
 - Temporary alternate facilities or detour routes for pedestrian traffic.
- Staging sequences and details for Work affecting vehicular, pedestrian, and bicycle traffic.
- Proposed order and duration of the TCM.
- A detailed temporary striping plan.

If the Contractor's request to use a Contractor-modified Agency TCP, or a TCP developed by the Contractor is approved in whole or in part, acceptance will be made by a Change Order.

The Engineer will establish prices that represent a fair measure of the value of Work to be added, changed, or deleted as a result of any accepted modifications to the Agency TCP or an accepted TCP developed by the Contractor.

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Once a TCP has been accepted by the Engineer, submit any additional modifications for Agency review following the procedure described above. The Engineer is not obligated to consider additional modifications to a previously approved TCP.

(b) Tourist-Oriented Directional and Business Logo Signs - Submit one of the following for approval, at least 5 Calendar Days before the preconstruction conference:

(1) No Signs - If there are no tourist-oriented directional (TOD) or business logo signs on the Project, a written notification that no TOD or business logo signs exist within the Project limits or

(2) Signs - Submit one copy of a sketch map of the Project showing all existing TOD and business logo signs and a written narrative describing how these signs will be kept in service and protected throughout all the construction stages. If modifications are necessary, submit updated information to the Engineer for approval at least 21 Calendar Days before the change is needed.

00221.10 General - Replace the paragraph that begins “All Work Zone TCD shall...” with the following paragraph:

Provide Work Zone TCD complying with the crashworthiness requirements of the *National Cooperative Highway Research Program (NCHRP) Report 350* or with the *AASHTO Manual for Assessing Safety Hardware (MASH)*.

00221.20 Safety Apparel - Replace the paragraph that begins “Workers, except flaggers, working ...” with the following paragraph:

Workers, except flaggers, working within Highway Right of Way and exposed to traffic or construction Equipment are required to wear high visibility safety apparel that meets the Performance Class requirements of the most current version of ANSI/ISEA 107, *American National Standard for High Visibility Safety Apparel and Headwear Devices*. Wear safety apparel that at least meets the following minimum requirements:

00221.40 General - Replace the paragraph that begins “Existing operational TCD’s shall remain...” with the following paragraph:

Maintain existing TCD’s in operation throughout the Contract or until replaced by new, permanent TCD as appropriate.

00221.60 Temporary Traffic Control Devices - Replace the paragraph that begins “TCD delivered to the Project Site found...” with the following paragraph:

Repair or replace TCD delivered to the Project Site found to be in “marginal” or “unacceptable” condition, at no additional cost to the Agency.

00221.90(b) Temporary Protection and Direction of Traffic – Replace the bullet that begins “Providing, Surfacing, maintain...” with the following bullet:

- Providing, surfacing, maintaining, removing, and restoring the TPAR.

00221.98 Payment, Method "B" - Lump Sum Basis - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

Comply with Section 00222 of the Standard Specifications modified as follows:

00222.10 Temporary Signs - Replace the paragraph that begins "Furnish temporary signs meeting ..." with the following paragraph:

Furnish temporary signs meeting the requirements of the "Acceptable" category shown in the *ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features* handbook, available from the ATSSA website. Use Materials and fabricate signs according to Section 00940, Section 02910 and the following:

00222.11(b) Portable Sign Supports - Replace the paragraph that begins "Use portable sign supports ..." with the following paragraph:

Use portable sign supports from the QPL and according to the following:

00222.12(b) Permanent Signs - Replace the paragraph that begins "Sign covers for permanent signs ..." with the following paragraph:

Provide sign covers for permanent signs according to Section 00941.

00222.13 Sign Flags - Replace the paragraph that begins "Sign flags shall be ..." with the following paragraph:

Provide sign flags that are:

00222.40(e) Temporary Sign Placement - Add the following to the end of the bullet list:

- At least ten Calendar Days before closing a pedestrian pathway at the Bridge, continuously lasting longer than 24 hours, place a "SIDEWALK CLOSED, Full Time" (CW11-4) sign in advance of each future closure point. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade or on a single-post TSS. Do not place the sign or sign support such that it narrows the pedestrian pathway to a width of less than 4 feet.

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- Before opening the TPAR, place TPAR signing and other TCM as shown, or as directed. Maintain the "SIDEWALK CLOSED, Full Time" (CW11-4) signs while the TPAR is open to pedestrian traffic.
- Install a "PROJECT IDENTIFICATION" (CG20-8) sign with an "ODOT" logo rider on the Gold Hill Spur Highway. Place the sign according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Supplemental Drawings, in advance of the "ROAD WORK AHEAD" sign at each end of the Project, facing incoming traffic. The Engineer will determine the sign legend.
- Install two sign flag boards, as shown on the Standard Drawings, above the following detour and road closed advance warning signs, where applicable:
 - "DETOUR AHEAD", "DETOUR XXXX FT", "DETOUR X/X MILE" (W20-2) signs.
 - "ROAD CLOSED AHEAD", "ROAD CLOSED XXXX FT", "ROAD CLOSED X/X MILE" (W20-3) signs.
- When construction requires bicycles to use the Traffic Lanes on Structures, install a "Bicycle ON ROADWAY" (CW11-1) symbol sign according to "Sign Spacing A", from the "TRAFFIC CONTROL DEVICES SPACING TABLE" shown on the Standard Drawings, in advance of the Structure or the initial point where the bicycle facility is impacted by construction. Keep the signs in place until completion of the bikeway final surface.

00222.41(d) Temporary Sign Supports - Replace the bullet that begins "Provide reflective sheeting ..." with the following bullet:

- Furnish reflective sheeting on TSS posts as shown in the Standard Drawings.

00222.45(b) Portable Changeable Message Signs - Replace the bullet that begins "Messages shall not scroll ..." with the following bullet:

- Do not use messages that scroll horizontally or vertically across the face of the sign.

00222.45(c) Radar Speed Trailers - Replace the bullet that begins "Use a blackout speed threshold ..." with the following bullet:

- Use a blackout speed threshold of 85 mph, that does not allow the radar speed trailer to display a speed or message when the measured speed exceeds 85 mph.

00222.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing the Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

SECTION 00223 - WORK ZONE TRAFFIC CONTROL LABOR AND VEHICLES

Comply with Section 00223 of the Standard Specifications modified as follows:

00223.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

In addition to the requirements of Section 00221, this Work consists of providing flaggers, traffic control supervisors, and providing, operating, and maintaining associated Work Zone traffic control vehicles.

00223.22 Flagger Station Lighting - Replace the paragraph that begins "Use flagger station lighting ..." with the following paragraph:

Use flagger station lighting from the QPL and according to the following:

00223.23 Automated Flagger Assistance Device - Replace the paragraph that begins "Furnish an automated flagger ..." with the following paragraph:

Provide an automated flagger assistance device (AFAD) from the QPL. Submit the following information for approval for the use of an AFAD to the Engineer, according to 00150.37, a minimum of 21 Calendar Days in advance of using an AFAD. The Engineer will respond within 14 Calendar Days after receipt of the submittal.

00223.26 Pedestrian Transport Vehicle - Replace the bullet that begins "A roof or post-mounted rotating ..." with the following bullet:

- A roof or post-mounted rotating amber light or strobe light that is visible for 360 degrees. Provide a light that is visible and functioning at all times while operating within the Project limits.

Add the following bullet:

- A commercially available bicycle rack capable of securely carrying a minimum of three bicycles. Do not loosely load bicycles onto the pedestrian transport vehicle.

00223.31(a) Traffic Control Supervisor - Replace the paragraph that begins "When the Schedule of Items ..." with the following paragraph:

When the Schedule of Items includes an item for a TCS, provide a TCS who meets the requirements of 00223.30. Do not designate the Project superintendent as the TCS. The TCS is required to possess a current ODOT "Oregon Certified Traffic Control Supervisor" card. A TCS with a current card from another state's transportation department, or from the American Traffic Safety Services Association, may obtain an Oregon Certified TCS card upon successful completion of ODOT's Recertification Class.

Replace the paragraph that begins "Before beginning Work ..." with the following paragraph:

Before beginning Work on the Project, the TCS is required to:

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Replace the bullet that begins "File with the Engineer and ..." with the following bullet:

- File with the Engineer and local police, their name and a telephone number where the TCS can be contacted at all times.

Replace the bullet that begins "If the Contractor requests to ..." with the following bullet:

- If the Contractor requests to use a modified Agency TCP or a TCP developed by the Contractor, ensure stamped Working Drawings showing the revisions are submitted according to 00221.06 and 00150.35.

Replace the paragraph that begins "The TCS shall not act as ..." with the following paragraph:

The TCS cannot perform the duties of a flagger or pilot car operator, except in the event of an emergency. The TCS may relieve the flagger or pilot car operator for a period of less than 15 minutes, not to exceed 1 hour per construction work shift.

Replace the paragraph that begins "Make arrangements so that the ..." with the following paragraph:

Make arrangements so that the TCS is available every Day, on call at all times, and available upon the Engineer's request at other than normal working hours.

Replace the paragraph that begins "The TCS shall report to the ..." with the following paragraph:

The TCS is required to report to the Project Site within 1 hour after being notified in the event of a Work Zone incident during non-work periods. Have appropriate personnel, Equipment, and Material available at all times to expeditiously correct any deficiency in the TCM for the Project.

Replace the paragraph that begins "Notify the Engineer of an alternate ..." with the following paragraph:

Notify the Engineer of an alternate TCS who can assume the duties of the assigned TCS in the event of that person's inability to fulfill the duties of the position. Provide an alternate TCS adequately trained and certified according to 00223.30 and 00223.31. Notify the Engineer at least 12 hours before designating the TCS for the following 12-hour period. Make succeeding notifications within 24 hours every time a subsequent TCS is appointed to the Project.

00223.31(b) Traffic Control Inspection Without TCS - Replace the paragraph that begins "When the Schedule of Items does ..." with the following paragraph:

When the Schedule of Items does not include an item for a TCS, or when TCS is not on-site for a work shift, designate a trained person who is on the Project Site during work hours and on call at all other times, and who:

Replace the bullet that begins "Notifies the Engineer of any ..." with the following bullet:

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- Notifies the Engineer of any corrective measures made to the TCP if the TCP is not functioning as required, or to accommodate site conditions. Follow the TCP and do not implement changes to the TCP before revisions are approved by the Engineer.

Replace the bullet that begins "Shall report to the Project ..." with the following bullet:

- Reports to the Project Site within 1 hour after being notified in the event of a Work Zone incident during non-work periods.

Replace the bullet that begins "Designate an area for ..." with the following bullet:

- Designates an area for pedestrians to wait for, load and unload the transport vehicle.

00223.32 Automated Flagger Assistance Device Operator - Replace this subsection, except for the subsection number and title, with the following:

Use a certified flagger who has been trained in the operation of the AFAD.

The AFAD operator duties include:

- Attending the AFAD at all times during the operation of the device.
- Not flagging traffic and operating an AFAD at the same time.
- Operating a single AFAD. Each AFAD is required to have a separate AFAD operator.

00223.40 Flaggers - Replace this subsection, except for the subsection number and title, with the following:

Locate flaggers far enough in advance of the Work Area to permit adequate time for the motorist to respond to the flagger's instructions. All flaggers, including advance flaggers, are required to use a STOP/SLOW paddle. Do not use roll-up STOP/SLOW paddles for non-emergency flagging operations.

During advance flagging operations, the advance flagger is required to only display the "SLOW" face of the paddle. Cover the "STOP" face of the paddle with a sign cover according to 00222.12(a).

Position flaggers, as directed, at locations where traffic can enter the Highway within the limits of the Work Zone.

Direct vehicles entering the Highway to follow the pilot car line.

Direct pedestrians to wait for flagger instructions. Stop and hold motor vehicle traffic to allow pedestrians to enter the TPAR or exit the TPAR. Ensure pedestrians are clear of all Traffic Lanes before flaggers release motor vehicle traffic.

Direct pedestrians to use the pedestrian transport vehicle to pass through or around the Work Zone. Direct pedestrians to wait for the pedestrian transport vehicle in designated areas identified under 00223.31.

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If a TPAR is designed and installed with a width less than 5 feet, and 5-foot-by-5-foot passing spaces at 200-foot intervals are not provided, inform pedestrians of the narrowed TPAR. Before allowing pedestrians in wheelchairs or similar devices to use the TPAR, direct the flagger at the opposite end of the TPAR to stop and hold opposing pedestrian traffic until the pedestrian in the wheelchair has reached the other end of the narrowed TPAR.

Provide flaggers at flagging stations continuously or until the Engineer determines flagging is no longer required.

00223.43 Automated Flagger Assistance Device - Replace the bullet that begins "Provide illumination when using ..." with the following bullet:

- Provide illumination when using an AFAD during nighttime hours. Provide AFAD illumination meeting the following requirements:

00223.46 Pedestrian Transport Vehicle - Add the following paragraph to the end of this subsection:

Provide pedestrian transport vehicle daily between the hours of 8:00 a.m. and 10:00 p.m. when Rogue River Bridge closure is in place on OR99.

00223.80 Measurement - Replace the bullet that begins "The replacement of TCD and TCM..." with the following bullet:

- The replacement of flagger station lighting damaged by Public Traffic and replaced by the Contractor.

Add the following paragraph to the end of the bullet list:

No additional measurement will be made for automated flagger assistance devices damaged by Public Traffic and replaced or repaired by the Contractor.

00223.90 Payment - Replace the paragraph that begins "Item (c) includes furnishing..." with the following paragraph:

Item (c) includes providing, operating, moving, and removing the flagger station lighting. No separate or additional payment will be made for backup unit in event it is used or not.

Replace the paragraph that begins "Item (f) includes furnishing..." with the following paragraph:

Item (f) includes providing, operating, maintaining, repairing, replacing moving and removing each AFAD device, regardless of size or type. No separate or additional payment will be made for AFAD replacement, repair, or for AFAD illumination. The AFAD operator will be paid for as a flagger.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

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Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing the Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

Replace the paragraph that begins "Item (e) includes..." with the following paragraph:

Item (e) includes fully operated pedestrian transport vehicles, two-way radios, the "CONSTRUCTION VEHICLE DO NOT FOLLOW" sign, the ADA-pedestrian loading/unloading mechanism, the bicycle rack, and the rotating amber lights or strobe lights mounted on each vehicle.

SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES

Comply with Section 00224 of the Standard Specifications modified as follows:

00224.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

In addition to requirements of Section 00221, this Work consists of providing, installing, moving, maintaining, inspecting, and removing channelizing devices including, but not limited to, tubular markers, conical markers, surface mounted tubular markers, plastic drums, and delineators throughout the Project area as shown or specified.

00224.14 Delineators - Replace the paragraph that begins "Use new delineators from ..." with the following paragraph:

Use new delineators from the QPL or salvaged reflectorized delineators (W-1) or (Y-1), as appropriate, and according to the requirements of Section 00840 and the following:

00224.90 Payment - Replace the paragraph that begins "Item (a) includes ..." with the following paragraph:

Item (a) includes providing and installing the complete assembly of each device in its initial location and for removing the device from the surface.

Replace the paragraph that begins "Item (b) includes ..." with the following paragraph:

Item (b) includes providing new or refurbished devices to replace damaged or missing devices.

Replace the paragraph that begins "In item (e), the type ..." with the following paragraph:

In item (e), the type of barricade is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing the Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

SECTION 00228 - TEMPORARY PEDESTRIAN AND BICYCLIST ROUTING

Comply with Section 00228 of the Standard Specifications modified as follows:

00228.40 Pedestrian Channelizing Devices - Replace this subsection, except for the subsection number and title, with the following:

Install PCD as shown or directed. Provide a continuous route by interconnecting all adjacent PCD. Provide a clean unobstructed path for pedestrians according to 00220.02 and MUTCD requirements.

00228.80 Measurement - Replace this subsection, except for the subsection number and title, with the following:

The quantities of Work performed under this Section will be measured according to the following. The quantities for Work Zone Traffic Control Measures will be limited to the following:

- The initial installation of Pedestrian channelizing devices and bicycle channelizing devices necessary to complete the Project based on the Contract Schedule of Items further limited to the maximum simultaneous use as shown, specified, or directed.
- The initial installation of additional Pedestrian channelizing devices and bicycle channelizing devices that the Engineer and Contractor agree are necessary to ensure a safe Work Zone.
- The replacement of TCD and TCM damaged by Public Traffic and replaced by the Contractor.

(a) Length Basis - Pedestrian channelizing devices will be measured on the length basis upon delivery to the Project.

00228.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Pedestrian Channelizing Devices	Foot

Payment for item (a) will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing the Materials and TCD, and for providing all

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Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

TCD items included under this Section damaged by Public Traffic and replaced by the Contractor will be paid for at the Contract price for the Pay Items listed in the Contract Schedule of Items or in approved Contract Change Orders, unless otherwise specified. Payment for replacing damaged TCD will only be made when:

- The Engineer orders it.
- The replacement devices are used on the Project.
- The damaged devices are disposed of to the Engineer's satisfaction.

SECTION 00254 - TEMPORARY WORK ACCESS, CONTAINMENT AND BRIDGE SUPPORT

Section 00254, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00254.00 Scope - This Work consists of designing, installing, maintaining, moving, and removing systems for:

- Temporary access to the Work via work platforms and scaffolding.
- Containment for all dust, debris and waste materials generated by the Work.
- Bridge Support Structures to support the existing bridge during bridge removal and construction Work.

On Structure No. 00576, provide temporary work access, containment, and bridge support Structures for bridge removal, concrete placement, concrete repair, concrete coating, and all other work on spans 1 through 8.

00254.01 General - Install all necessary temporary work access, containment, and bridge support Structures before beginning Work in any area that requires them. Do not remove work access, containment, and bridge support Structures in an area until all Work in that area has been accepted by the Engineer.

Collect and dispose of accumulations of debris and waste before disassembling or moving a work platform or containment.

00254.02 Definitions:

Basic Wind Speed - Three-second gust speed at 33 feet above ground in open terrain with scattered obstructions not over 30 feet high.

Construction Loads – Loads imposed on a partially completed or temporary structure during

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and as a result of the construction process. Construction loads include, but are not limited to, materials, personnel, and equipment imposed on the temporary or permanent structure during the construction process.

Construction Dead Loads – Self-weight of a temporary structure, such as a work platform, scaffolding, and containment.

Construction Live Loads - The actual weight of any equipment and personnel supported by the temporary structure.

Dead Load – The weight of the permanent construction in place at the particular time in the construction sequence that is under consideration. The dead load includes all construction in place that is temporarily shored or braced.

Factor of Safety - Component ultimate failure load divided by the maximum working load combination applied to the component.

Fundamental Frequency - Lowest natural frequency of vibration for a Structure, measured in Hz.

Live Load - The weight of personnel, Equipment, Materials, debris, and vehicles.

Point Load - A force applied to a Structure at a single point.

Projected Area - The area of a Structure exposed to the wind. For winds parallel to the Roadway, the Projected Area of containment is the width of the containment multiplied by its height. For winds transverse to the Roadway, Projected Area is the length of the containment multiplied by its height.

Span - A section of Bridge superstructure between bents.

Wind Load - Forces imparted on a Structure, such as a Bridge or containment, by wind pressure and structural dynamic response to wind.

00254.03 Submittals – Submit all specified stamped drawings, specifications and design calculations for temporary work access, containment, and bridge support Structures according to 00150.35 at least 42 Calendar Days prior to the installation of work access systems.

(a) Temporary Work Access Submittals - When temporary work access submittal is segmented, include loading from previously accepted segments in the calculations.

Submit the following:

- Stamped design calculations assuring that the temporary work access can safely resist the combined effects of Dead Loads, Live Loads, and Wind Loads
- Stamped temporary work access specifications and design calculations
- Stamped Working Drawings clearly defining the following:
 - Layout of the system relative to the existing Structure and utilities.
 - Attachment or suspension details from the Bridge or independent support, including cables, ropes, anchors, or rails.

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- Work platform, scaffolding, and containment system Dead Load (in pounds and pounds per square foot)
- Maximum allowable accumulations of collected debris or water (inches depth) allowed in conjunction with all personnel, construction vehicles, Equipment, Material, and other simultaneous loading.
- Maximum allowable personnel, construction vehicles, Equipment, Material, and other simultaneous loading.
- Maximum wind speed at which temporary work access structure may remain in service.

(b) Work Containment Submittals -

Submit the following:

- Stamped containment Working Drawings, specifications and design calculations.
- Maximum wind speed at which containment wall materials may remain on the Structure.
- Appropriate submittals for access Structure(s), barge, or other information critical to the function of the containment system.

(c) Bridge Support Structures Submittals -

Submit the following:

- The proposed method of bridge support.
- Descriptions of Equipment to be used.
- Descriptions and values of all loads, including construction equipment loads.
- Justification for allowable bearing stresses used to support the bridge support system.
- Complete details and calculations for supporting the existing Structure.

When Bridge Support Structures are attached to the existing Bridge, submit the following:

- Stamped design calculations verifying that existing Bridge structural members can safely resist the combined effects of:
 - Dead loads, live loads, wind loads and construction loads.
 - Debris accumulation and dynamic impacts from the temporary structure.
- Stamped Working Drawings clearly showing:
 - Configuration, dimensions, member sizes, and connection details.
 - Elevation and section views showing relationship to permanent structure.
 - Support locations, bearing conditions, and interface with existing bridge elements.
 - Clear differentiation between existing, proposed permanent, and temporary elements.
 - Vertical and horizontal clearance dimensions, confirming no obstruction to Traffic Lanes, pedestrian paths, or waterways.

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- Integration details if the Bridge Support Structures supports containment, include combined loading analysis where shared support members are used.
- Maximum allowable loads – Identify limits for personnel, Equipment, Materials, and debris/water accumulation permitted simultaneously on the temporary structure.
- Bridge protection measures – Show how attachment and bearing conditions will avoid overstressing or permanently damaging the Bridge.

When using Bridge Support Structures not attached to the existing Bridge, submit the following:

- Stamped Temporary Work Access, Containment, and Bridge Support Structures plans and calculations. Include support layout, member sizes, connection details, and foundation/bearing conditions.
- A completed Temporary Work Access, Containment, and Bridge Support Structures design checklist as provided.

Additional requirements for all Bridge Support Structures:

- Provide monitoring procedures for deflection, settlement, or overstress during construction. Submit the method and frequency of monitoring with the design package.
- Identify dismantling procedures and any special measures needed to restore bridge elements affected by attachment or removal.

This review does not relieve the Contractor of the responsibility for the safety of the method or effectiveness of the system. Do not perform Work until the work plan has been accepted by the Engineer and all comments are addressed.

00254.04 Work Containment Design Requirements: Prevent, either directly or indirectly, abrasive blasting, concrete debris from bridge removal work, concrete or other materials from construction, coatings or any other wastes as covered in Section 00290 to enter the Regulated Work Area. Stop any Work causing environmental contamination until the work containment system is rehabilitated.

Comply with the requirements of 00290.30.

00254.06 Temporary Work Access Design Requirements:

- (a) Contractor-Designed** - Design all temporary work access and containment systems according to AASHTO Guide Design Specifications for Bridge Temporary Works. Design and construct temporary Structures to support the total applied loads and provide enough redundancy in the design to prevent a failure of the entire system.

Include the following information:

- All general notes for the design and construction of the platform or scaffolding.
- Material list including Incidental items
- Show layout of work access in relation to the existing Structure, drainage system and utilities.

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- Detail the anchoring system that will be used to connect the temporary platform or scaffolding to the existing Structure.
- Show all structure and geometric details including, but not limited to:
 - Loading conditions.
 - Connecting devices.
 - Construction around utilities, drainage, footings, bents, or other Structures.

(b) Pre-Engineered - Pre-engineered assemblies may be utilized for all or for portions of work platforms or scaffolding. Submit manufacturer's literature indicating safe working loads. Working Drawings and calculations for pre-engineered assemblies are not required. Ensure deflections used on manufactured devices and assemblies do not exceed the manufacturer's recommendations. Provide catalog data that lists the manufacturer's recommendations.

00254.07 Bridge Support Structures Design Requirements:

Design the Bridge Support Structures to support all Structure dead loads and construction loads according to the current AASHTO Guide Design Specifications for Bridge Temporary Works and as shown.

Provide temporary supports to bear directly bent caps or bear on support sills which are structurally adequate to support the load from the stems or cap without overstressing any member of the existing Structure. Design Bridge Support Structures not to induce permanent forces into the completed Structure or produce cracking.

Details to ensure stability of the Bridge while portions of the Bridge are being removed and reconstructed.

Provide a displacement monitoring system. Submit the proposed displacement monitoring system for review and acceptance. Include in the displacement monitoring system, but not limited to:

- Equipment to be used,
- Location of control points,
- Method and schedule of taking measurements,
- Provisions to reestablish the Structure to the original location if settlement or movement occurs in the bridge supports system.

Materials

00254.10 Material Requirements – Provide temporary work access, containment, and bridge support structures constructed of durable and structurally sound Materials capable of meeting all performance requirements throughout the Project.

Previously used materials and components are not allowed if they are bent, buckled, perforated, cut, corroded with section loss, ripped, or torn; or their usability is otherwise compromised.

Construction

00254.40 General - Install work containment systems so they contain all rubble and debris. Do not allow rubble or debris to fall into waterways.

Construct temporary work access, containment, and bridge support structures according to the current edition of the *AASHTO Construction Handbook for Bridge Temporary Works*, except where in conflict with these Specifications. Construct temporary work access, containment, and bridge support structures according to the accepted design.

00254.41 Safety Requirements - Comply with all applicable requirements of OSHA. Follow approved procedures for evacuating and securing work access, containment, and bridge support structures if wind speeds or predicted wind speeds exceed design limits. For concrete removal and repair work, comply with all applicable requirements of OSHA Standard Number 1926.1153, Respirable Crystalline Silica, including Table 1.

Maintenance

00254.50 Electrical Service - Install and remove any temporary electrical service needed to perform the Work of this Section using electricians meeting the requirements of 00960.30.

00254.60 Temporary Work Access, Containment, and Bridge Support Structures - Maintain temporary work access, containment, and bridge support structures in a safe and functional condition.

Where a work access, containment, and bridge support systems are adjacent to Public Traffic, including pedestrian traffic, provide and place suitable approved barriers to prevent public access.

Finishing and Cleaning Up

00254.70 Work Access, Containment, and Bridge Support Systems Removal - When attachments for temporary work access, containment, and bridge support structures are removed from the Bridge, restore points of attachment to original condition and perform touch up of Project Work so that the points of attachment match the surrounding surfaces.

Remove bridge support structures when no longer required for the Work. Perform removal in compliance with all applicable permit requirements. Restore all areas occupied by the bridge support structures to their original condition.

Measurement

00254.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00254.90 Payment - The accepted quantities of work access, containment, and bridge support systems, including work platforms, scaffolding, and containment Structures, will be paid for at the Contract Lump Sum amount for the item "Temporary Work Access, Containment and Bridge Support".

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Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for designing, installing, maintaining, and removing work access, containment, and bridge support systems, including work platforms, scaffolding, containment Structures, or restoring the existing Structure.

No payment will be made for Materials on hand.

Payment for Work under this Section will be limited to 90 percent of the lump sum amount until satisfactory removal of the temporary work access, containment, and bridge support systems Materials and Equipment is complete.

**TEMPORARY WORK ACCESS, CONTAINMENT AND BRIDGE SUPPORT DESIGN
CHECKLIST**

Instructions - This checklist was developed to facilitate the design, review, and erection of Temporary Work Access, Containment, and Bridge Support Structures to be used for Oregon Department of Transportation bridge construction projects. This checklist is intended to act as a reminder to design or check for specific important aspects of this construction. It is not a substitute for plan and/or design criteria or specification requirements.

The Checklist is to be completed and signed by the Temporary Work Access, Containment, and Bridge Support Design Engineer. Answer every question. Attach to the Checklist an explanation of any negative responses.

Submit the Checklist according to 00540.41(a).

A. Contract Plans, Specifications, Permits, Etc.	YES	NO	N/A
1. Are the Temporary Work Access, Containment, and Bridge Support Structures plans prepared, stamped and signed by an engineer registered to practice in Oregon?	_____	_____	_____
2. Are Temporary Work Access, Containment, and Bridge Support Structures plans in compliance with the requirements of the construction plans general notes?	_____	_____	_____
3. Are Temporary Work Access, Containment, and Bridge Support Structures plans in compliance with contract plan structural details?	_____	_____	_____
4. Are Temporary Work Access, Containment, and Bridge Support Structures plans in compliance with the requirements of the Oregon Standard Specifications for Construction, subsection 00150.35?	_____	_____	_____
5. Are all existing, adjusted or new utilities in proximity with the proposed Temporary Work Access, Containment, and Bridge Support Structures shown on the plans and is protection of these utilities addressed?	_____	_____	_____
6. Are clearance requirements satisfied and shown on the Temporary Work Access, Containment, and Bridge Support Structures plans?	_____	_____	_____
7. Has damage from stream drift been considered in the Temporary Work Access, Containment, and Bridge Support Structures design?	_____	_____	_____
B. Foundation Requirements	YES	NO	N/A

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|--|-------|-------|-------|
| 1. Are driven Temporary Work Access, Containment, and Bridge Support Structures piling provided as called for on the contract plans? | _____ | _____ | _____ |
| a. Is a minimum pile tip elevation or penetration indicated on the drawings? | _____ | _____ | _____ |
| b. If timber Temporary Work Access, Containment, and Bridge Support Structures piles are specified, are the recommended order lengths sufficient to virtually eliminate the possibility of pile splices? | _____ | _____ | _____ |
| c. Is a detailed static pile capacity analysis included in the calculations? | _____ | _____ | _____ |
| d. If lateral loads are applied to the piling by equipment, dead loads, flowing water, or drift, is a detailed lateral load analysis included in the calculations? | _____ | _____ | _____ |
| e. Does the proposed Temporary Work Access, Containment, and Bridge Support Structures pile hammer meet the minimum field energy requirements as listed in 00520.20(d)(2)? | _____ | _____ | _____ |
| f. Will a driving criteria graph [FHWA Gates Equation, in 00520.42(b)] plotting blow count versus stroke for an acceptable pile hammer be provided for the project inspector? | _____ | _____ | _____ |
| 2. Is Temporary Work Access, Containment, and Bridge Support Structures supported on spread footings or mud sills? | _____ | _____ | _____ |
| a. Are the spread footing elevations shown on the drawings? | _____ | _____ | _____ |
| b. Has a rational method for determining the ultimate bearing capacity of the foundation materials been presented and described in the calculations? | _____ | _____ | _____ |
| c. Have the soil parameters used in calculating the ultimate bearing capacity been listed and confirmed by the designer? | _____ | _____ | _____ |
| d. Has an appropriate Factor of Safety been used for calculating the allowable bearing capacity of the foundation materials? | _____ | _____ | _____ |
| e. Are spread footing settlement estimates included in the calculations? | _____ | _____ | _____ |

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f. Have effective stresses been used in the calculations, when applicable?	_____	_____	_____
g. When spread footings are founded near the top of a slope or in a slope, have the ultimate bearing capacity calculations been modified accordingly?	_____	_____	_____
h. When spread footings may be subjected to flowing water, have the potential effects of scour on ultimate bearing capacity been addressed in the calculations?	_____	_____	_____
C. Loads	YES	NO	N/A
1. Are the magnitude and location of all loads, equipment and personnel that will be supported by the Temporary Work Access, Containment, and Bridge Support Structures shown and noted on the plans?	_____	_____	_____
2. Has the mass of specific equipment units to be supported by the Temporary Work Access, Containment, and Bridge Support Structures been included in the calculations or on the plans?	_____	_____	_____
3. Are design loads and material properties used to determine design stresses for each different Temporary Work Access, Containment, and Bridge Support Structures member shown on the plans?	_____	_____	_____
5. Is the worst loading and member property condition, rather than the average condition, used to obtain design loads?	_____	_____	_____
6. Are diaphragm loads or other concentrated loads included in the analysis of supporting beams?	_____	_____	_____
7. If sloping structural members exert horizontal forces on the Temporary Work Access, Containment, and Bridge Support Structures, is bracing or ties used to resist these loads?	_____	_____	_____
D. Allowable Stresses	YES	NO	N/A
1. Has the method used for Temporary Work Access, Containment, and Bridge Support Structures design of all members except for manufactured assemblies been noted in the design calculations?	_____	_____	_____
2. Are manufactured assemblies identified as to manufacturer, model, rated working capacity and ultimate capacity?	_____	_____	_____

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3. Is the allowable stress and the calculated stress listed in the summary for each different Temporary Work Access, Containment, and Bridge Support Structures member, except for manufactured assemblies?

E. Timber Construction

YES NO N/A

1. Are timber grades consistent with material to be delivered to the construction site, and noted on Temporary Work Access, Containment, and Bridge Support Structures drawings, and in accompanying calculations for all timber material?

2. If "rough" lumber is specified for Temporary Work Access, Containment, and Bridge Support Structures by the designer are the actual lumber dimensions used in calculations shown?

3. If plywood spans are governed by the strength of the plywood, are the allowable stress and the calculated stress shown on the submitted calculations?

4. If plywood spans are governed by the allowable spacing of supporting joists, are the allowable and the proposed spacing shown on the plans?

5. Have timber stringers been checked for bending, shear, bearing stresses, and 1/240 of the span length deflection?

6. Are joists identified as being continuous over 3 or more spans when they are not analyzed as simple spans?

7. Have stringers and cap beams been checked for bearing stresses perpendicular to the grain as well as for bending and shear stresses?

8. Have posts been checked as columns as well as for compression parallel to the grain?

F. Steel Construction

YES NO N/A

1. Are steel structural shapes and plates identified by ASTM number on the plans and in the calculations?

2. Have steel beams been checked for bending, shear, web crippling and buckling of the compression flange?

3. Has horizontal plane bracing been shown where required to limit compression flange buckling?

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G. Compression Members, Connections and Bracing	YES	NO	N/A
1. Has general buckling been evaluated for all compression members?	_____	_____	_____
2. Has bracing been provided at all points of assumed support for compression members?	_____	_____	_____
3. Was bracing in each direction considered in establishing the effective length used to check post capacity?	_____	_____	_____
4. Is bracing strength and stiffness sufficient for the intended purpose?	_____	_____	_____
5. If temporary bracing is required during intermediate stages of Temporary Work Access, Containment, and Bridge Support Structures erection, is it shown on the plans?	_____	_____	_____
6. Have all connections been designed and detailed?	_____	_____	_____
7. Are web stiffeners required on steel cap beams to resist eccentric loads?	_____	_____	_____
8. Are wedges required between longitudinal beams and cap beams to accommodate longitudinal slope or to reduce eccentric loading?	_____	_____	_____
9. Has the width to height ratio of wedge packs been verified to fall within the limits given in the special provisions?	_____	_____	_____
10. Have beams and stringers with height/width ratios greater than 2.5:1 been checked for stability?	_____	_____	_____
12. Have sloping members that exert horizontal forces on the Temporary Work Access, Containment, and Bridge Support Structures been braced or tied to resist these loads?	_____	_____	_____
13. Have timber headers set on shoring towers been checked for eccentric loads, and for shear and bending stresses produced by the eccentricity?	_____	_____	_____

Designer's Signature_____
Date

SECTION 00280 - EROSION AND SEDIMENT CONTROL

Comply with Section 00280 of the Standard Specifications modified as follows:

00280.00 Scope - Replace the paragraph that begins "This Work also consists of providing temporary ..." with the following paragraphs and bullets:

This Work also consists of providing temporary erosion and sediment control (ESC) measures and furnishing, installing, moving, operating, maintaining, inspecting, and removing ESC throughout the Project area according to the Standard Drawings, the erosion and sediment control plan (ESCP), the Specifications, or as directed, until the site is permanently stabilized. Included also is the monitoring of weather, of stormwater and receiving waters, the reporting of monitoring observations, the reporting of corrective actions (when necessary) and the updates and revisions of the ESCP, including ESCP cover sheet, necessary to keep it representative of current site conditions and compliant with the NPDES 1200-CA, 1200-CN, OR 1200-C permit if applicable.

Conditions requiring NPDES 1200 permits are as follows:

- Projects with one acre of ground disturbance or more on Agency owned land are regulated under the Agency's 1200-CA permit.
- When Project Work on Agency owned land disturbs less than one acre, but ground disturbances on non-Agency owned lands combined with Project ground disturbances on Agency owned land total one acre or more the Agency Project Work will be regulated by the Agency's 1200-CA permit. The Contractor is responsible for acquiring the 1200-C permit for all areas of disturbance on non-Agency owned land.

When the combined areas of disturbance of all Project related activities is less than one acre, no NPDES 1200 permit coverage is required.

The area of ground disturbance on Agency owned land is one acres.

Delete the paragraph that begins "When contaminants, pollutants or hazardous materials..."

Add the following paragraph to the end of this subsection:

The Agency's NPDES 1200-CA permit is applicable to the Project.

00280.01 Abbreviations - Replace this subsection with the following subsection:

00280.01 Abbreviations and Definitions:

BMP - Best Management Practices
EMP - Environmental Management Plan
ESC - Erosion and Sediment Controls
ESCP - Erosion and Sediment Control Plan
ESCM - Erosion and Sediment Control Manager

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Effective Functioning - Preventing Erosion, controlling Runoff, or controlling Sediment in each location where an ESC is needed so Erosion-related impacts of site construction are mitigated as required.

Erosion - The wearing away of the land surface by water, wind, ice, gravity or other geological agents.

Perimeter Controls - Perimeter Controls include sediment fences, ditches, filter berms in flatter areas, and other methods for preventing Sediment and other construction-generated pollutants from leaving the construction site.

Permanent Stabilization - Maintenance-free measures or methods necessary to prevent Erosion or Sediments from leaving the Project Site.

Runoff - That portion of precipitation that flows from drainage area on the land surface, in open channels or in stormwater conveyance systems.

Sediment - Fragmented material originated from weathering and Erosion of Rock and unconsolidated deposits. Sediment also includes fragmented materials from man-made materials. The material is transported by, suspended in, or deposited by water.

Temporary Stabilization - Covering soil or other measures to prevent Erosion until Permanent Stabilization measures are in place and established.

00280.02 Definitions - Replace this subsection with the following subsection:

00280.02 Submittals - Submit documentation that the compost material meets the requirements of Section 03020 for its intended use and is available for use according to the Project schedule in 00180.41 according to 00150.37, within 30 Calendar Days of Award of the Contract.

00280.04 Erosion and Sediment Control Plan on Agency Controlled Lands - Replace the bullet that begins "Information required under 1200-CA..." with the following bullet:

- Information required under 1200-CA permit, if applicable.

Replace the bullet that begins "When using a Contractor developed ..." with the following bullet:

- When using a Contractor developed ESCP, develop, provide, and stamp the ESCP by a professional with one of the following credentials. Include their name and credentials in the ESCP.

Replace the paragraph that begins "Ensure that the Contractor's construction ESCP ..." with the following paragraph:

Ensure that the Contractor's construction ESCP and implementation schedules are prepared by an individual who meets qualifications of 00280.30. Provide a signed copy of the ESCP with individual's name, title, state certifications, and employing firm if different than Contractor's firm.

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Add the following paragraphs to the end of this subsection:

When required on the Project fill in the required information listed on the ESCP cover sheet prior to the beginning of construction and submit revised cover sheet to Engineer 10 Days before the preconstruction meeting. Monitor weather, stormwater runoff, and receiving waters, and document monitoring observations. Immediately upon discovery, notify Engineer if a 1200-CA permit non-compliance occurs. Provide updates and revisions of the ESCP, including ESCP cover sheet, necessary to keep it representative of current site conditions and compliant with the 1200-CA permit.

When contaminants, pollutants or hazardous materials are discovered in the Project location in soils or groundwater comply with 00290.20(f), and provide an environmental management plan (EMP) as required by the 1200-CA permit if applicable.

00280.14(a) Plastic Sheeting - Replace the bullet that begins "**Plastic Sheeting** - Minimum 6-mil thick..." with the following bullet:

- **Plastic Sheeting** - Minimum 6-mil thick polyethylene plastic sheeting or plastic sheeting that meets or exceeds the performance properties outlined in ASTM D4397.

Replace the bullet that begins "**Rock** – Class 50..." with the following bullet:

- Class 50 riprap according to Section 00390.

00280.15(a) Check Dams - Replace the bullet that begins "**Type 5: Prefabricated System** - Prefabricated ..." with the following bullet:

- **Type 5: Prefabricated System** - Prefabricated check dam system according to the manufacturer's recommendations and on the QPL. Field fabricated systems are not acceptable.

00280.16(a) Construction Entrances - Replace the bullet that begins "**Geotextile**..." with the following bullet:

- **Geotextile** - Riprap geotextile meeting the requirements of 02320.20 Table 02320-2. Provide documentation according to 02320.10(c).

Replace the bullet that begins "**Prefabricated Construction Entrance** ..." with the following bullet:

- **Prefabricated Construction Entrance** - Provide reusable prefabricated construction entrance mats (track out mats) with the following characteristics:

00280.16(c) Sediment Fence - Replace the bullet that begins "**Geotextile**..." with the following bullet:

- **Geotextile** - Geotextile meeting requirements of 02320.20 Table 02320-3. Provide documentation according to 02320.10(c).

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00280.16(d) Inlet Protection - Replace the bullet that begins “**Geotextile...**” with the following bullet:

- **Geotextile** - Type 1 geotextile meeting the requirements of 02320.20 Table 02320-1 Provide documentation according to 02320.10(c).

Replace the bullet that begins “Sand bags conforming...” with the following bullet:

- Sandbags according to 00280.15(a).

00280.16(i) Concrete Washout - Replace the paragraph that begins "Furnish impermeable, spill resistant ..." with the following paragraph:

Provide impermeable, spill resistant, leak proof concrete washout basin of sufficient size and quantity to retain all concrete wash water and concrete waste developed during construction, meeting the following requirements:

00280.16(k) Active Treatment System - Add the following sentence to the end of this subsection:

Obtain approval of the active treatment system from DEQ prior to use.

00280.30 Erosion and Sediment Control Manager -

Add the following bullet to the beginning of the bullet list under “The ESCM duties include:”

- Be present at the Project Site during all ground disturbing activities.

Replace the bullet that begins “Monitor rainfall, snow melt and runoff ...” with the following bullet:

- Visually monitor rainfall, snow melt and runoff at the Project Site.

Replace the bullet that begins “Monitor water quality in receiving streams in ...” with the following bullet:

- Visually monitor water quality in receiving streams in the vicinity of the Project Site.

Replace the bullet that begins “Monitor water in sediment traps receiving ...” with the following bullet:

- Monitor the pH of the water in sediment traps receiving runoff from soils amended with cementitious material for acidity or alkalinity.

Add the following bullet to the end of the bullet list:

- Monitor locations identified in Section 00294 for compliance.

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00280.41(a) Disturbance Limits - Replace this subsection, except for the subsection number and title, with the following:

Prior to any ground disturbing activity, delineate all construction site clearing limits with high visibility markings and do not disturb areas outside the clearing limits. Prior to beginning construction activities, delineate and protect riparian areas including trees, root zones and vegetation to be preserved and delineate and protect vegetated buffer zones according to 00280.41(e). Protect post-construction stormwater facilities, unless used during construction as sediment trap, then repair according to 00280.46(h).

00280.41(c) Wet Season Work and Temporary Work Suspension - Replace this subsection with the following subsection:

00280.41(c) Temporary Work Interruption - Update the ESCP and schedule for Work proposed between October 1 and May 31 to ensure that all appropriate controls, including ESC during Work interruption, are implemented and maintained. Submit the updated ESCP and schedule to the Agency and receive approval before beginning any Work between October 1 and May 31.

Between October 1 and May 31, limit excavation and bare ground activities to only those required for immediate operations. Stabilize stockpiles at the end of each workday by diverting flows, placing covers, or installing Sediment barriers.

00280.41(d) Disturbance Restrictions - Replace this subsection, except for the subsection number and title, with the following:

Limit the amount of disturbed areas to what can be effectively controlled.

00280.41(f) Hauling Material - Replace this subsection, except for the subsection number and title, with the following:

Cover loads carrying soil or sediment that may generate dust. Haul saturated loads in watertight beds or drain saturated loads prior to leaving the Project Site.

00280.41(g) Underground Injection Controls (UIC) - Replace this subsection, except for the subsection number and title, with the following:

Do not allow storm water from work area to enter Underground Injection Control (UIC) inlets, UIC catch basins or UIC wells.

00280.44(d) Temporary and Permanent Mulching and Seeding - Replace the bullet that begins "**Mulching** - Evenly apply ..." with the following bullet:

- **Mulching** - Evenly apply dry mulch and tackifier materials according to Section 01030. In areas not accessible to heavy Equipment, mulch by hand or by other approved methods. Areas not prepared according to 01040.48(d) require a greater rate of application to obtain complete coverage, at no additional cost to the Agency.

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00280.61 Ineffective Controls - Replace this subsection, except for the subsection number and title, with the following:

If an ESC device does not meet Effective Functioning, repair, replace, or provide additional devices. Provide devices repaired, replaced, or added due to improper installation, insufficient maintenance, or damage from Contractor operations at no additional cost to the Agency.

00280.62 Inspecting and Monitoring - Delete the paragraph that begins "Inspect the Project Site..."

00280.62(a) Inspection - Replace the paragraph that begins "Perform site inspection, complete..." with the following paragraph:

Inspect the Project Site and all ESC devices for Effective Function and potential erosion or sediment movement and complete all applicable parts of the ODOT Erosion Control Monitoring Form, and submit the form to the Agency as follows:

00280.62(b) Rainfall - Replace this subsection, except for the subsection number and title, with the following:

Provide and install a temporary rain gauge at the Project Site. Upon approval, storm event information may be derived from weather stations that are representative of precipitation levels at the site.

The closest on-line rain gauge is located at:
forecast.weather.gov/MapClick.php?lat=42.37503&lon=-122.87696&unit=0&lg=english&FcstType=graphical

00280.64(a) Corrective Action Timelines - Delete the bullet that begins "If completion of corrective action is not feasible..."

Delete the bullet that begins "Provide a schedule for clean-up and corrective actions..."

Delete the bullet that begins "Provide all corrective action documentation and photographs..."

00280.64(b) Corrective Action Documentation - Add the following bullets to the beginning of the bullet list:

- If completion of corrective action is not feasible within 24 hours, document the reasons why the time line cannot be met.
- A schedule for clean-up and corrective actions that restores Effective Functioning as soon as feasible. If schedule cannot be met document the reasons for the delay.
- All corrective action documentation and photographs to Agency within 24 hours of completion of corrective actions.

00280.90 Payment - Replace the paragraph that begins "In item (f), the word ..." with the following paragraph:

In item (f), the word "Hydromulch", "Straw", or "Compost" is inserted in the blank.

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Replace the paragraph that begins "In items (g), the ..." with the following paragraph:

In item (g), the type is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

00280.91 Payment – Replace the paragraph that begins "In items (a), (f), (g)..." with the following paragraph:

In items (a), (f), (g), (j), and (k), the type is inserted in the blank.

Replace the paragraph that begins "Emergency Materials that are incorporated..." with the following paragraph:

Materials listed in 00280.48 that are incorporated into the Project will be paid for under the appropriate items listed in the Contract Schedule of Items.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00290 - ENVIRONMENTAL PROTECTION

Comply with Section 00290 of the Standard Specifications modified as follows:

00290.00 Scope - Replace the paragraph that begins "If any provision of the Specifications ..." with the following paragraph:

If any provision of the Specifications appears to conflict with one or more Laws, the more stringent requirement applies, unless the Engineer directs otherwise in situations where the Specifications are more stringent.

00290.20(c)(2) Clean Fill - Add the following paragraph to the end of this subsection:

Manage all excavated soil that does not meet the definition of clean fill according to Section 00294.

00290.20(c)(3)d. Concrete and Masonry - Replace the paragraph that begins "If the Engineer provides written ..." with the following paragraph:

If the Engineer provides written approval, concrete may be reused as Aggregate as directed.

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00290.20(c)(3)f. Off-Site Disposal - Replace the paragraph that begins "Subject to local zoning codes ..." with the following paragraph:

Subject to local zoning codes and the requirements of 00280.05, materials that meet the definition of clean fill may be placed on other properties in a manner consistent with environmental requirements, and with the written permission of the property owner. Provide the Engineer a copy of the signed agreement with the owner before placing the clean fill material. Do not place the clean fill material at locations that are visible from a public Highway, road, or street unless the site is zoned and licensed for landfill.

00290.20(d) Hazardous Waste Management - Replace the bullet that begins "Fill in the Comments section with ..." with the following bullet:

- Fill in the Comments section with the following statement:
"[Contractor name] is responsible for the following: All hazardous waste management on-site for the duration of this construction Project, for delivery of the waste to a permitted recycling or disposal facility, and for all forms and fees associated with the hazardous waste management including cancellation of the RCRA site identification number at the end of the Project. ODOT is the owner of the waste and maintains long-term responsibility for the waste as required by RCRA, excluding all wastes generated solely from materials brought to the site by the Contractor that remain the property of the Contractor."

Replace the bullet that begins "All employees involved in the handling ..." with the following bullet:

- The Contractor is responsible to ensure that all employees involved in the handling and waste management of CEG hazardous waste comply with the federal and State Laws for hazardous waste management. Train all employees involved in the handling of SQG and LQG hazardous waste according to federal and State Laws. For LQG hazardous waste projects, keep employee training records on-site and readily available.

Replace the bullet that begins "If hazardous waste is treated on-site ..." with the following bullet:

- If hazardous waste is treated on-site, obtain approval from DEQ and the Engineer for each specific treatment or recycling process, treat wastes within accumulation tanks or closed containers that meet RCRA requirements, conduct treatment within the storage time for the applicable generator category, maintain current copies of all required notifications and waste analysis plans readily available on-site and request DEQ technical assistance prior to starting any on-site recycling or treatment.

00290.20(f) Unexpected Contamination - Replace the paragraph that begins "The Engineer will attempt to resolve ..." with the following paragraph:

The Engineer will attempt to resolve the unanticipated situation expeditiously according to 00140.40. Delays to Work due to the discovery of unexpected contamination may be considered for exclusion from Contract Time according to 00180.50(e).

00290.20(g) Spills and Releases - Replace the bullet that begins "Provide a written report to the Engineer ..." with the following bullet:

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- Provide a written report to the Engineer, using the DEQ Spill/Release Report form, within 10 Calendar Days of completing spill response, but no more than 30 Calendar Days after the initial event. If the spill was reported to DEQ, submit the report to DEQ concurrently. Include a description of how to prevent future releases.

00290.30 Pollution Control - Replace the paragraph that begins "Prevent, control, and abate..." with the following paragraph:

Prevent, control, and abate pollution of the environment.

00290.30(a)(1) General - Replace this subsection, except for the subsection number and title, with the following:

- Do not allow any foreign substances or objects to enter waters of the State and U.S. that exceed regulated or permit limits.
- Do not cause turbidity in waters of the State and U.S. that exceeds regulated or permit limits.

Add the following subsection:

00290.30(a)(7) Water Quality:

- Do not discharge water contaminated by pollutants including sediment, drilling fluids and waste, concrete, grout, or water contained within a work area isolation, into any waters of the State or U.S. or conveyances draining thereto until it has been treated using Materials such as those listed in 00280.15 or 00280.16 or by pumping to a vegetated upland location. Do not allow Project discharges to increase the concentration of any pollutant in the receiving water to a level that exceeds the limits prescribed by OAR 340-041.
- Do not use permanent stormwater quality treatment facilities to treat construction runoff unless prescribed by an ESCP approved under Section 00280.
- If construction discharge water is released using an outfall or diffuser port, do not exceed velocities more than 4 feet per second, and do not exceed an aperture size of 1 inch.
- Implement containment measures adequate to prevent pollutants from entering waters of the State or U.S. Such pollutants include but are not limited to construction and demolition materials, waste spoils, fuel or petroleum products, detergents, silt, welding slag and grindings, concrete sawcutting by-products and sandblasting abrasives.
- Do not allow curing concrete or grout to be submerged within waters of the State or U.S. less than 24 hours after placement, except within work area isolation. Do not end-dump riprap into the waters of the State or U.S. Place riprap from above the ordinary high water line.
- Monitor weather and streamflow forecasts and conditions to anticipate high flows that may unintentionally inundate any portion of the Project Site.
- If high flow conditions occur or are anticipated to occur that may unintentionally inundate any portion of the Project Site, remove all potentially affected Equipment, Materials, and debris from the potential inundation area. Cease Work in the area until water recedes and the risk of further high water events passes. The Engineer retains

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the authority to temporarily halt or modify the Work in case of excessive turbidity or damage to natural resources.

- If Work in or around waters of the State or U.S. violate permit conditions or any requirement of this subsection, stop such Work and notify the Engineer.

00290.32 Noise Control - Replace the bullet that begins "Notify nearby residents whenever extremely ..." with the following bullet:

- Notify nearby residents whenever extremely noisy Work is planned to occur.

Review City of Gold Hill Code 9.04 Noise that describes noise control regulations. Comply with the applicable noise control requirements of the permit for Project Work.

00290.34 Protection of Fish and Fish Habitat - Add the following paragraph:

Meet with the Agency Biologist, Resource Representative, Engineer, and inspector on site, before moving equipment on-site or beginning any work, to ensure that all parties understand the locations of sensitive biological sites and the measures that are required to be taken to protect them.

00290.34(a) Regulated Work Areas - Add the following to the end of this subsection:

The regulated work area is the area at or below the ordinary high water (OHW) elevation shown on the plans.

Add the following subsection:

00290.34(c) Aquatic Species Protection Measures Required by Environmental Permits:

(1) General Requirements:

- Do not install fish ladders (for example: pool and weirs, vertical slots, fishways) or fish trapping systems.
- Do not apply surface fertilizer within 50 feet of any stream channel.

Use heavy equipment as follows:

- Choose equipment that has the least adverse effects on the environment (for example: minimally sized, low ground pressure).
- Secure absorbent material around all stationary power equipment (for example: generators, cranes, drilling equipment) operated within 150 feet of wetlands, waters of the State, waters of the U. S., drainage ditches, or water quality facilities to prevent leaks, unless suitable containment is provided to prevent spills from entering waters of the State or waters of the U.S.
- Do not cross directly through a stream for construction access, unless shown or approved. If shown or approved, cross perpendicular to the stream and do not block stream flow. When a crossing is no longer needed, completely remove the crossing and restore the soils and vegetation to the original condition.

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- Store fuel and maintain all equipment in staging areas that are at least 150 feet away from any waters of the State, waters of the U.S., or storm inlet or on an impervious surface that is isolated from any waters of the State, waters of the U.S., or storm inlet.
- If temporary access roads are needed within 150 feet of any body of water, use existing routes unless new routes are shown or approved.
- Before beginning work on temporary access routes that are not shown, submit a proposal to the Engineer for approval.

(2) Treated Wood - Treated wood includes any wood treated with any pesticide or wood preservatives. Do not use lumber, pilings, or other wood products that are treated or preserved with pesticidal compounds below the ordinary high water (OHW) or as part of an in-water or over-water structure, except as described below:

- Store treated wood shipped to the Project out of contact with standing water and wet soil, and protected from precipitation.
- Visually inspect each load and piece of treated wood. Reject for use in or above aquatic environments if visible residues, bleeding of preservative, preservative-saturated sawdust, contaminated soil, or other matter is present.
- Use pre-fabrication to the extent feasible. When field fabrication is necessary, perform all cutting and drilling of treated wood, and field preservative treatment of wood exposed by cutting and drilling, above the OHW. Use tarps, plastic tubs, or similar devices to contain the bulk of any fabrication debris, and wipe off any excess field preservative.
- Furnish all treated wood structures, including pilings, that have design features to avoid or minimize impacts and abrasion by livestock, pedestrians, vehicles, vessels, and floats.
- Treated wood may be used to construct a bridge, over-water structure or an in-water structure, with the exception of the work containment system, provided that all surfaces exposed to leaching by precipitation, overtopping waves, or submersion are coated with a water-proof seal or barrier are maintained. Apply and contain coatings and paint-on field treatment to prevent contamination. Surfaces that are not exposed to precipitation or wave attack, such as parts of a timber bridge completely covered by the bridge deck, are exempt from this requirement.
- During demolition of treated wood, ensure that no treated wood debris falls into the water. If treated wood debris does fall into the water, remove it immediately.
- Store removed treated wood debris in appropriate dry storage areas, at least 150 feet away from the regulated work area.

00290.36(a) Migratory Birds - Replace the paragraph that begins "Comply with the Migratory Bird Treaty Act ..." with the following paragraph:

Comply with the Migratory Bird Treaty Act (16 U.S.C. 703-712) that protects most species of birds in Oregon and prohibits the removal of nests containing eggs or dependent young (i.e., active nest) without a permit. Migratory birds include most birds in Oregon; the few exceptions include rock pigeons, house sparrows, and European starlings.

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Replace the paragraph that begins "Except where allowed by the Contract ..." with the following paragraph:

Except where allowed by the Contract and by permit, do not disturb an active migratory bird nest, do not inhibit the ability of adult birds to care for eggs or dependent young, and do not impact the supporting structure where an active nest is built.

Add the following to the end of this subsection:

Do not disturb migratory bird nesting habitat (shrubs, trees, and structures), or clear vegetation from March 1 to September 1 of each year without prior written approval from the Engineer. Notify the Engineer, in writing, a minimum of 10 Calendar Days prior to starting activities that could harm nesting birds.

00290.36(b) Bats - Add the following bullet to the end of the bullet list:

- Ensure that the Agency and its agents have access to the project area, as needed, to perform bat management activities to prevent bat conflicts.

00290.38 Protection of Plants - Replace this subsection, except for the subsection number and title, with the following:

Plant habitats to be protected are shown with the plant habitat boundaries flagged by the Engineer. Avoid destruction of plant habitats by ensuring construction personnel, Equipment, and associated pollutants, including sediment, chemical contaminants, discharge water, non-native grass and weed seed, do not enter the habitat.

00290.41 Protection of Waters of the U.S. or State - Add the following to the end of this subsection:

Permits have been obtained for this project from the US Army Corps of Engineers (Corps) and the Department of State Lands (DSL). Keep a copy of Corps and DSL permits at the project site during construction. Changes to the project that may increase the amount of fill placed or material removed in waters of the U.S. or State, or the acreage of waters impacted are not authorized. The following waters of the U.S. or State are present and have been determined to be unavoidable as indicated in Table 00290-2:

Table 00290-2

Impact Waters of the US or State	Removal Volume (cu yds.)	Fill Volume (Cu yds)	Station	Duration of Impact (Temporary or Permanent)	Area of impact (Acres)
Wetland B	0	137	"L" 8+37	Temporary	0.078
Wetland D	6.6	37.4	"GHS" 5+63	Permanent	0.01

00290.41(a) Identifying Waters of the U.S. or State, Including Wetlands - Replace the paragraph that begins "Wetlands known to be ..." with the following paragraph:

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Wetlands known to be on the Project Site are shown and identified either as "permanently filled or excavated" or as "temporarily impacted". Wetlands to be protected are shown as "no Work Zones".

00290.41(b) Disturbing Waters of the U.S. or State, Including Wetlands - Replace the paragraph that begins "If Wetlands are shown, ..." with the following paragraph:

If Wetlands are shown, meet with the Agency Wetland Specialist, the Engineer, and Inspector on-site prior to moving Equipment onto the site or beginning any Work, to ensure that all parties understand the locations of Wetlands and the measures that are necessary to protect them.

Add the following subsection:

00290.42 Work Containment Plan - A Work Containment Plan (WCP) is required on this Project for Bridge related activities.

Develop and submit a WCP for approval at least 28 Calendar Days prior to mobilization for Bridge related activities. Maintain a copy of the WCP on the Project Site at all times during construction, readily available to employees and inspectors. Ensure that all employees comply with the provisions of the WCP. Design the WCP to avoid or minimize disturbance to protected features (sensitive cultural or natural resources, regulated work areas, aquatic life or habitat in regulated work areas) related to Contractor operations.

Before developing the WCP, meet with Agency to review the Contractor's activities that require the WCP to ensure that all parties understand the locations of protected features to be avoided and the measures needed to avoid and protect them.

Notify the Engineer at least 10 Calendar Days before beginning work access or containment construction activities.

The Agency reserves the right to stop Work and require the Contractor to change the WCP methods and Equipment before any additional Contract Work, at no additional cost to the Agency, if and when, in the opinion of the Agency, such methods jeopardize sensitive cultural or natural resources, regulated work areas, or aquatic life or habitat in regulated work areas.

Provide a WCP that identifies how the Contractor's construction operations will protect regulated features during mobilization, construction, maintenance, and demolition. Include a narrative describing compliance with Section 00290 as related to construction, operation, and demolition activities specified in Section 00254.

Design, construct, maintain, and remove temporary work access and containment systems according to Section 00254.

00290.50 Protection of Cultural Resources - Replace the paragraph that begins "Comply with all Laws..." with the following paragraph:

Comply with all Laws governing preservation of cultural resources. Cultural resources include, but are not limited to:

- Historic buildings (i.e. typically 50 years of age and older)

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- Historic structures (i.e. bridges)
- Sites (i.e. sites with artifacts)
- Objects (i.e. monuments)
- Districts (i.e. historic districts, or linear historic districts like historic roads).

Replace the paragraph that begins "If cultural resources are..." with the following paragraph:

If cultural resources not previously identified in preconstruction are encountered on the Project area or in material sources, and their disposition is not addressed in the Special Provisions, do the following:

00290.51 Protection of Sensitive Cultural Sites - Add the following to the end of this subsection:

There are sensitive cultural sites or areas of high probability for cultural resources on this Project. At the time of preparation of the Plans, two sites were identified.

The Region Environmental Coordinator for this Project is Terry Luecker.

The Agency Archaeology Representative for this Project is Jessie Plueard.

The Engineer will coordinate all contact with the Agency Archaeology Representative and the Region Environmental Coordinator.

An Inadvertent Discovery Plan (IDP) has been developed for this project. The IDP is available from the Engineer.

Meet with the Engineer at least 10 Calendar Days prior to beginning ground disturbing activities to discuss sensitive cultural sites on the Project. Required attendees include:

- The Contractor's supervisory personnel.
- Subcontractors, including contract archaeological monitors, and supervisory personnel involved in ground disturbing activities.
- Agency archaeology representative or region environmental coordinator.
- When applicable, tribal representative(s) or monitor(s).

Prior to beginning On-Site Work, install work zone fencing from section 00221.13 of the QPL, or lath and flagging, around no work zones, as shown or as directed.

Archaeological Monitors are required to be on-site during all ground-disturbing activities for this Project, unless otherwise notified. Notify the Engineer 10 Calendar Days before beginning ground-disturbing activities, or 14 Calendar Days if ground-disturbing activities are anticipated to occur simultaneously in more than two locations.

00290.51(b) Disturbing Unknown Sensitive Cultural Sites - Replace the paragraph that begins "If the Contractor finds a previously undiscovered..." with the following paragraph:

If the Contractor finds a previously undiscovered sensitive cultural site, immediately cease all activities at that site, follow procedures listed in 00290.50, and notify the Engineer. If the

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Contractor inadvertently disturbs unknown sensitive cultural sites, but immediately ceases all activities and follows the procedures listed in 00290.50, the Agency, to the extent permitted by Article XI, section 7 of the Oregon Constitution and by the Oregon Tort Claims Act, will indemnify, within the limits of the Tort Claims Act, the Contractor for costs associated with monitoring, recovery, site restoration or other required archaeological Work, provided neither the Agency nor the State are required to indemnify the Contractor for such costs resulting from, arising out of or relating to the willful misconduct, negligence or other wrongful acts attributable to the Contractor or other persons on the Project site.

Replace the paragraph that begins "Delays to Work due to new ..." with the following paragraph:

The Engineer may consider for exclusion from Contract Time according to 00180.50(e) delays to Work due to new cultural resource finds.

00290.90 Payment - Add the following paragraph(s) to the end of this subsection:

The work containment plan will be paid for at the Contract lump sum amount for the item "Work Containment Plan".

Payment will be payment in full for providing all Materials, Equipment, labor, and Incidentals necessary to complete the Work as specified. Payment includes providing and updating the Work Containment Plan.

No separate or additional payment will be made for work zone fencing.

SECTION 00294 - CONTAMINATED MEDIA

Section 00294 is not a Standard Specification and is included in this Project by Special Provision.

Description

00294.00 Scope - In addition to the requirements of Section 00290 and the Specifications, this Work consists of the following:

- Excavate, segregate, stockpile, transport, and dispose of Contaminated Soils , Shoulder Soils, and contaminated grubbing materials, as defined by 00294.01, from the following locations:

Contaminated Soil Location Table 00294-1

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From Location/Station to Location/Station	Depth below grade (feet)	Approximate Quantity (cy)	Known Contaminants
"L" 6+50 to 7+50 Rt from edge of pavement to the roadwork limits	0 -1.5'	105	Lead and PAHs
"L" 6+50 to 6+75 Lt from edge of pavement to the roadwork limits	0 – 1.5'	35	Lead
"L" 13+15 to 15+00 Rt from edge of pavement to the roadwork limits	0 – 1.5'	70	Lead and PAHs
"S" 1+13 to 1+63 Rt from edge of pavement to the roadwork limits	0 – 1.5	69	Lead

Approximate Total Quantity	210 cy
Quantity to be reused on Project	174 cy
Quantity to be disposed at landfill	54 Tons

- In areas where excavation is not required, leave contaminated Material , Shoulder Soils, and clearing and grubbing Material in place.

The August 2024 ODOT report, titled OR99: Rogue River Highway (060), Rogue River, Gold Hill Spur Project, Clean Fill Determination documenting the contaminated media identified within the Project, is available from the Engineer.

- Prepare a written lead compliance plan for work within contaminated areas of the Project.

00294.01 Definitions:

Contaminated Soil - Soil that does not meet the DEQ definition of "Clean Fill", as defined by OAR 340-093-0030(18). This Contaminated Soil is a regulated waste, subject to OAR 340-093-0005 through OAR 340-093-0290. If the grubbing Material has been determined to be contaminated, it is considered and treated as Contaminated Soil for the purposes of this Section.

Shoulder Soil - Soil outside of the existing Highway Pavement and within Highway Right-of-Way generated during Highway maintenance or construction activities. This definition applies to excess Soil generated to a maximum depth of 1.5 feet below ground surface. This definition does not apply to Soil that is covered by existing impervious surfaces, including but not limited to curbs, sidewalks and parking lots constructed of asphalt or concrete.

ODOT Beneficial Use Determination (ODOT BUD) - The statewide ODOT Beneficial Use Determination (ODOT BUD), approved by DEQ (No. BUD-20181204), outlines a series of

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pre-approved non-residential reuse options for excess Soil Materials that do not meet DEQ's Clean Fill Standards in some circumstances. These options may vary based on project scope and location, and documentation may vary, as directed by the Engineer.

00294.02 Testing of Contaminated Soil (, Shoulder Soil,) and Groundwater - When additional testing of Contaminated Soil or groundwater is required to characterize the Material for reuse, recycle, or disposal, conduct the tests according to 00290.20(c).

Use analytical methods meeting DEQ's Clean Fill Guidance Screening Levels for each analyte. Perform all Contaminated Soil (, Shoulder Soil,) and groundwater sampling by an Oregon Registered Geologist or Professional Engineer who has experience characterizing contaminated media.

00294.03 Submittals - Submit the following documents:

- A Project-specific written lead compliance plan, meeting the project applicable requirements of 29 CFR 1926.62(e)(2), at least 10 Calendar Days before the pre-construction conference. When applicable, include compliance procedures for cadmium and chromium VI, according to 29 CFR 1926.1127 and 29 CFR 1926.1126.
- Modifications to the written lead compliance plan that are requested by the Engineer within 7 Calendar Days of the request.

Submit all modifications to the HASP that are requested by the Engineer or the qualified health and safety professional within 7 Calendar Days of the request.

- Current employee training certificates and medical surveillance information before beginning Work within the contaminated areas.

Submit the following documents within 48 hours of removal of contaminated media:

- Permits, permit applications, and documentation of compliance.
- All reuse, recycled, and disposal receipts.
- Final quantities of Soil (and groundwater) reused, recycled, and disposed and their final location.
- All analytical test results.
- Documentation of final disposition of any reused Soil Material that is reused under ODOT's Beneficial Use Determination.

Labor

00294.30 Personnel Qualifications - Provide employees meeting the following requirements:

- For removal of Contaminated Soil (and Shoulder Soil), provide employees trained in:
 - Lead awareness according to 29 CFR 1926.62(l).
 - Chromium according to 29 CFR 1926.1126(j)(2).
 - Cadmium according to 29 CFR 1926.1127(m)(4).

Construction

00294.40 Contaminated Soil Excavation and Shoulder Soil - Excavate and handle Contaminated Soil or Shoulder Soil from Project excavations according to the following:

- Notify the Engineer 3 Calendar Days before beginning excavation activities within contaminated areas.
- Allow the Agency to collect Soil samples during excavation activities.
- Load Contaminated Soil or Shoulder Soil directly into trucks and transport directly to the recycling or disposal facility, or on-site reuse areas or, when approved by the Engineer, temporarily store Contaminated Soil or Shoulder Soil on-site.
- Store Contaminated Soil from Table 00294-1 in covered water tight containers or place Contaminated Soil on minimum 6 mil thick polyethylene sheeting that has an impermeable berm around the edge. Cover the Contaminated Soil with minimum 6 mil thick polyethylene sheeting. Do not allow precipitation run-off to enter the excavated Contaminated Soil. Label all stored Material with the type of Material, the contaminants, and the dates of accumulation.
- Remove contaminated media from the exterior of all vehicles before they leave the Project Site
- Cover trucks transporting contaminated materials to prevent spillage during transit to the disposal facility according to OAR 340-093-0220.
- Where over excavation is required, backfill the excavation according to 00330.42.

00294.41 Contaminated and Shoulder Soil Soil Management - Reuse, recycle, or dispose of Contaminated Soil and Shoulder Soil according to any of the following:

(a) Landfill Disposal:

- Obtain the Engineer's approval of the disposal facility before disposing of the Contaminated Soil.
- Transport the Contaminated Soil or Shoulder Soil to a DEQ permitted municipal solid waste landfill or a permitted construction and demolition landfill for disposal. Dispose of temporarily stored Contaminated Soils (or Shoulder Soil) within 30 Days of beginning excavation work or before Second Notification, whichever occurs first.
- Complete and sign all manifests and bill-of-lading forms for handling, loading, transporting, and disposing of the Contaminated Soil (and Shoulder Soil).
- Pay all filing and permit fees.

(c) Reuse On-Site:

- Temporarily stockpile the Contaminated Soil (or Shoulder Soil) from Table 00294-1.
- Reuse the Contaminated Soil (or Shoulder Soil) on the Project between Station "S" 1+13 and Station "S" 2+63 as shown. Place the Contaminated Soil within the Right-Of-Way.
- Within 30 Calendar Days of completing on-site reuse or before Second Notification, whichever occurs first, transport all Contaminated Soil (or Shoulder Soil) that is not

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reused on the Project to a DEQ permitted municipal solid waste landfill or a permitted construction and demolition landfill (or a permitted recycling facility).

Measurement

00294.80 Measurement - Work performed under this Section will be measured according to the following:

No measurement of quantities will be made for the following:

- Lead compliance plan.
- Segregate and stockpile Contaminated Soil.

The quantities of Contaminated Soil or Shoulder Soil disposed will be measured on the weight basis, based on weigh tickets from the recycling or disposal facility.

Clearing and grubbing will be measured according to 00320.80.

Payment

00294.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item

Unit of Measurement

- | | |
|--|----------|
| (b) Lead Compliance Plan..... | Lump Sum |
| (c) Segregate and Stockpile Contaminated Soil..... | Lump Sum |
| (e) Contaminated Soil Disposal..... | Ton |

Item (c) includes segregating, handling, and stockpiling Contaminated Soil (or Shoulder Soil) within the Project Site for the purpose of analytical testing, on-site reuse, or disposal.

Item (e) includes all costs involved with the disposal of Contaminated Soil (or Shoulder Soil) at a recycling or disposal facility.

No separate or additional payment will be made for the excavation or reuse of Contaminated Soil or contaminated Shoulder Soil. Payment will be included in payment made for the appropriate items under which the excavation or reuse of Contaminated Soils or contaminated Shoulder Soil is required.

Clearing and grubbing will be paid for according to 00320.90.

Payment will be payment in full for removing and disposing of all Materials, and for providing all Equipment, labor, Plans, test results, and Incidentals necessary to complete the Work as specified.

SECTION 00296 - PAINT AND PAINTED MATERIALS

Section 00296 is not a Standard Specification and is included in this Project by Special Provision.

Description

00296.00 Scope - In addition to the requirements of Section 00290, remove lead, chromium, and cadmium based paints, and materials coated with lead, chromium, and cadmium based paints, according to the following Specifications.

Lead, chromium and cadmium based paints coat the concrete on the railing and exterior walls on the Rogue River Bridge. Analysis of paint samples collected from this Bridge detected concentrations of total lead, cadmium and chromium in the concrete paint indicated in Table 00296-1 below:

Table 00296-1

Sample Location and Material	Total Lead (mg/kg)	Total Chromium (mg/kg)	Total Cadmium (mg/kg)
HZ22630-12 Concrete Bridge Rail	82	35	U<0.0810

ND = not detected above the laboratory detection limit.

Toxicity Characteristic Leaching Procedure (TCLP) analysis of bulk painted concrete samples, representative of the waste that are generated during demolition, detected the concentrations of TCLP lead, chromium, and cadmium indicated in Table 00296-2 below:

Table 00296-2

Sample Location and Material	TCLP Lead (mg/L)	TCLP Chromium (mg/L)	TCLP Cadmium (mg/L)
HZ22630-01 Bulk Concrete Bridge Rail	ND	ND	ND
HZ22630-02 Bulk Concrete Bridge Rail	ND	ND	ND

ND = not detected above the laboratory detection limit.

Lead, chromium and cadmium based paints coat the metal on the metal guardrail on the Rogue River Bridge. Analysis of paint samples collected from this Bridge detected the concentrations of total lead, cadmium, and chromium in the metal paint indicated in Table 00296-3 below:

Table 00296-3

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Sample Location and Material	Total Lead (mg/kg)	Total Chromium (mg/kg)	Total Cadmium (mg/kg)
HZ22630-11 Guard Rail Paint	2540	646	8.17

ND = not detected above the laboratory detection limit.

The July, 2024 Hazardous Materials Structure ODOT report, titled OR99: Rogue River Highway (060), Rogue River, Gold Hill Spur Bridge Project documenting these analyses, is available from the Engineer.

Unless otherwise tested, assume that all coatings contain lead, chromium, and cadmium and handle paint and painted materials accordingly during demolition.

00296.03 Submittals - Submit the following documents:

- A job specific written compliance program, according to 29 CFR 1926.62(e)(2), at least 10 Calendar Days before the pre-construction conference. When applicable, include compliance procedures for cadmium and chromium VI, according to 29 CFR 1926.1127 and 29 CFR 1926.1126.
- Modifications to the written compliance program within 7 Calendar Days of the modifications.
- Current employee training certificates and medical surveillance information before beginning work that disturbs paint containing lead, cadmium or chromium.
- Within 48 hours of completing or receiving them:
 - Disposal and recycling facility permits.
 - Transport manifests and bill-of-ladings.
 - All reuse, recycling, and disposal receipts.
 - All analytical test results.

00296.04 Documentation - Include paint and painted materials management and planned reuse, recycling, and disposal information in the pollution control plan. Obtain Engineer approval for the specific reuse, recycling, and disposal methods for all materials before beginning demolition work.

Complete, sign and pay all required fees for all required permits, manifests, and bill-of-lading forms for transport and disposal of the paint and painted materials.

Labor

00296.30 Personnel Qualifications - Provide employees trained in lead awareness, according to 29 CFR 1926.62(l), and also trained according to 29 CFR 1926.1126(j)(2) for chromium and 29 CFR 1926.1127(m)(4) for cadmium, during demolition of painted portions of the Structures.

Construction

00296.40 Handling - Minimize employee exposure to the metals contained in the paint. Provide containment that prevents release of paint chips to the environment. Do not remove or separate paint from painted substrates, unless required to accomplish repair activities.

00296.42 Painted Concrete Debris Management - Reuse, recycle, or dispose of painted concrete debris according to any of the following:

- **Recycle as New Concrete** - Recycle the concrete into new concrete on site or at an off-site fixed facility. Only use concrete containing recycled concrete debris on the Project when testing demonstrates that the mix meets applicable design standards for the intended use and is acceptable to the Engineer. Before beginning on-site crushing, obtain permits required under OAR 340-216-0020 and comply with all the permit conditions.
- **Recycle or Dispose of at Landfill** - Recycle at a permitted municipal solid waste landfill or a permitted construction and demolition landfill as aggregate material for roads or other infrastructures within the landfill area or dispose of at a permitted municipal solid waste landfill or a permitted construction and demolition landfill for disposal.

00296.43 Painted Metal Management - Reuse, recycle, or dispose of painted metal according to any of the following:

- **Reuse by Others** - Furnish or sell painted non-structural scrap metal to the following:
 - ODOT for use on other projects.
 - ODOT Maintenance Section.
 - To other government Agencies.
 - To contractors for their reuse.

Obtain the recipients signature on the attached disclaimer form, acknowledging their awareness that the scrap metal contains lead, chromium, and cadmium based paint before giving them possession.

- **Recycle at Recycling Facility** - Transport the painted scrap metal along with the paint analytical results to a recycling facility. Obtain the recipients signature on the attached disclaimer form, acknowledging their awareness that the scrap metal contains lead, chromium and cadmium based paint.

00296.45 Non-Hazardous Waste Paint Management - When non-hazardous paint is separated from its substrate, contain all the paint waste and dispose of it at a permitted municipal solid waste landfill.

00296.46 Hazardous Waste Paint Management - When hazardous waste paint is separated from its substrate, store all the separated paint waste in labeled, sealed, watertight containers and handle the hazardous waste according to 00290.20(d).

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Measurement

00296.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00296.90 Payment - No separate or additional payment will be made for Work performed under this Section. Payment will be included in payment made for the appropriate items under which this Work is required.

Attachment A
Lead, Chromium, and Cadmium Based Paint Acknowledgement Form

[Contractor] _____
[Bridge Identification] _____
[Description of Scrap Metal] _____

_____ [Recipient] acknowledges that they are aware that metal and materials received from _____ [Contractor] on _____ [Date(s)] may contain lead, chromium, or cadmium based paint. Recipient further acknowledges that it is aware of the risk to human health and the environment posed by exposure to lead, chromium and cadmium based paint. All storage, use, sale, and disposal of materials containing lead, chromium or cadmium based paint and any removal of lead, chromium, or cadmium based paint from the materials by Recipient will be conducted in compliance with all applicable Federal and State statutes and regulations, including but not limited to 40 CFR 262 through 265 and OAR Chapter 340, Divisions 100 through 106. Recipient acknowledges that they are solely responsible for any liability or damages resulting from the storage, use, sale, and disposal of the materials and removal of lead, chromium or cadmium based paint by Recipient and Recipient will indemnify and hold harmless the Contractor and the Oregon Department of Transportation from any such claims of liability or damages.

_____ [Signature]
_____ [Title]
_____ [Date]

SECTION 00305 - CONSTRUCTION SURVEY WORK

Comply with Section 00305 of the Standard Specifications modified as follows:

00305.00 Scope – Add the following to the end of this subsection:

In addition to the requirements of the ODOT *Construction Surveying Manual for Contractors*, establish Engineering Stationing at 50 foot intervals for the length of the project along the Shoulder of the Highway. Maintain the stationing so it is visible throughout construction of the project.

00305.05 3D Engineered Models - Replace this subsection, except for the subsection number and title, with the following:

If the Contractor elects to use the 3D Engineered Models to control the work, provide unstamped 3D Construction Models according to 00150.35 that include the following:

- An automated machine guidance (AMG) work plan containing a detailed outline, list of the Pay Items and Work controlled by the 3D Construction Models, and a narrative outlining any differences between the Agency prepared 3D Engineered Models and the 3D Construction Models.
- A copy of the 3D Construction Models used by the Contractor's Equipment for machine guidance or verification that include and represent the Agency prepared 3D Engineered Models with changes identified in the narrative. Provide files in LandXML format or as directed.

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Comply with Section 00310 of the Standard Specifications modified as follows:

00310.80 Measurement - Replace the bullet "Length and Area..." with the following bullet:

- **Length and Area** - The length or area of the Structure or item actually removed, will be measured along the line and grade of the Structure or item for each continuous Structure or item removed. Measurement will be on the length or area basis, limited to the Neat Lines shown or directed.

Asphalt Pavement Sawcutting will be measured by the linear foot of sawcut, limited to the Neat Lines shown or directed unless otherwise specified. Methods other than sawcutting will not be measured.

Additional concrete sawcutting beyond what is shown or directed by the Engineer will not be measured.

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00310.92 Separate Item Basis - Replace the Pay Item Asphalt Pavement Sawcutting with the following Pay Item:

Pay Item	Unit of Measurement
(g) Asphalt Pavement Sawcutting, _____ Inches Deep	Foot

Replace the paragraph that begins "Item (g) applies..." with the following paragraph:

In item (g), "less than 6", "6 to 14", or "greater than 14" is inserted in the blank.

Add the following paragraph to the end of the subsection:

No separate or additional payment will be made when methods other than sawcutting are utilized where sawcutting is shown or directed.

SECTION 00320 - CLEARING AND GRUBBING

Comply with Section 00320 of the Standard Specifications modified as follows:

00320.40(b)(3) Vegetation and Materials to be Saved - Replace the paragraph that begins "Do not work within the no Work ..." with the following paragraph:

Do not work within the no Work Zones or critical root zone of marked trees unless written approval is obtained from the Engineer. Be responsible for all damage to and removal of trees, landscaping, vegetation or other natural materials designated to be saved. The Engineer will select a specialist who will evaluate the damage.

00320.40(c) Tree and Vegetation Trimming - Replace the bullet that begins "Trim branches obstructing sight..." with the following bullet:

- Trim and remove branches, vegetation, or other materials obstructing sight distance at intersections or impairing visibility of signs, signals, illumination, and other TCD.

00320.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00330 - EARTHWORK

Comply with Section 00330 of the Standard Specifications modified as follows:

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00330.00 Scope - Replace the paragraph that begins "The term "earthwork" will be..." with the following paragraph:

The term "earthwork" is used as a general term to designate the Work included within the scope of this Section.

00330.01 Lines, Grades, and Cross Sections - Replace the paragraph that begins "All earthwork..." with the following paragraph:

Conform all earthwork to the lines, grades and Cross Sections established.

Replace the paragraph that begins "Roadbed Cross Sections ..." with the following paragraph:

Roadbed Cross Sections are subject to variation from the Typical Sections , if directed, to:

00330.02 Definitions - Replace the paragraph that begins "**Construction Slide** - A Slide outside ..." with the following paragraph:

Construction Slide - A Slide outside the designated limits of excavations, or below the foundation within designed limits of embankments or within embankments, that occurs after excavation or embankment construction starts and before Final Acceptance of the Contract.

00330.03 Basis of Performance - Add the following paragraph to the end of this subsection:

Perform all earthwork under this Section on the embankment basis.

00330.03(a) General - Replace this subsection, except for the subsection number and title, with the following:

Except as provided in 00330.00, perform all earthwork on either the excavation basis or the embankment basis. The basis of performance for each earthwork Pay Item is specified in the Special Provisions and the Contract Schedule of Items.

00330.04 Sources of Borrow - Replace this subsection, except for the subsection number and title, with the following:

(a) **Agency-Furnished Borrow** - Use Materials obtained from Agency-provided sources lying outside of, separated from and independent of planned Roadbed excavations, or other required excavations within the Project limits, only when called for by the Contract or when specifically directed. (See 00330.41(d).)

(b) **Contractor-Furnished Borrow** - Unless otherwise specified or directed, furnish all Borrow. Use sources that are wholly outside of and beyond the limits of Agency-Controlled Lands. Acquire at Contractor's own expense. The provisions of 00160.60 and 00160.80 apply.

00330.10 Selected Materials - Replace this subsection, except for the subsection number and title, with the following:

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When the Contract contains a Pay Item "Extra for Selected ____ Material", furnish the Material from required excavations. The Specifications for the selected Materials are in the Special Provisions, if different than specified in these Specifications. If other provisions of this Section call for selecting or sorting Material for various parts of the Work, select and sort the Materials to meet the directed requirements.

00330.16(a) Requirements - Replace the paragraph that begins "If the 1" - 0 portion exceeds ..." with the following paragraph:

If the 1" - 0 portion exceeds 10 percent of the total volume by the Engineer's visual examination, the 1" - 0 material will be randomly sampled for testing. The Agency will perform the wet sieve test, according to AASHTO T 11, on the sampled material. The limit on the amount of material passing the No. 200 sieve is not to exceed 5.0 percent by weight.

00330.16(b) Control Sample - Replace this subsection, except for the subsection number and title, with the following:

Provide, at a location acceptable to the Engineer, in close proximity to the Project, at least a 5-cubic yard sample of stone embankment meeting the gradation specified. This sample is used as a frequent reference for judging the gradation of the material supplied.

00330.40(a) Quantities - Replace the paragraph that begins "The Agency makes no guarantee ..." with the following paragraph:

The Agency makes no guarantee or representation by implication or otherwise, that any Material available on the Project site is suitable for incorporation into any portion of the Project. No Material is considered unsuitable on the sole basis that special or additional processing or handling is required to make it suitable for incorporation into the Project.

00330.40(c) Avoidance and Correction of Detrimental Operations - Replace the paragraph that begins "Perform all operations involved ..." with the following paragraph:

Perform all operations involved in excavating, hauling and placing of earthwork Materials so no damage or detriment to the completed or partially completed Work results. At all times provide sufficient drainage of completed or partially completed earthwork to prevent damage or loss due to rainfall, surface water or any other cause. In all cases, take proper precautions to ensure that embankment construction and filling do not move, endanger or cause undue strain or stress to any Structure or adjacent ground. Do not construct temporary and final embankment slopes within any Cross Section steeper than the Slope staked for that Cross Section.

00330.41(a)(3) Unsuitable Materials - Replace this subsection, except for the subsection number and title, with the following:

Unsuitable Materials encountered in required excavations are classed as waste material and disposed of according to 00330.41(a)(5).

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00330.41(a)(12) Outside Earthwork Limits - Replace this subsection, except for the subsection number and title, with the following:

Outside earthwork limits but within the Clear Zone, (see 00320.02(c)), remove partially buried natural objects, such as Boulders, that the Engineer determines would be dangerous to an errant vehicle. Place them within embankments as specified or dispose of them as directed.

00330.41(b) Foundation Excavation - Replace this subsection, except for the subsection number and title, with the following:

Excavate Unsuitable Materials in embankment foundations and elsewhere as designated. This Work is classed as "Foundation Excavation". Dispose of these materials according to 00330.41(a)(5) and replace with selected general backfill, selected granular backfill or other suitable Materials as directed.

00330.41(d) Borrow Excavation - Replace this subsection, except for the subsection number and title, with the following:

Whenever the Specifications or Contract Plans call for an Agency-provided Borrow source for earthwork materials, the Material excavated from such source and used in the Work as earthwork materials are classed as "Borrow Excavation". Excavate and use these materials according to the Contract provisions, or as directed.

00330.42(a) Embankment Foundation Preparation - Replace the paragraph that begins "In addition to the excavation ..." with the following paragraph:

In addition to the excavation and replacement of Unsuitable Materials as provided in 00330.41(b), and before constructing embankments, prepare the areas where embankments are to be constructed as follows:

00330.42(a)(1) Unstable Areas - Replace this subsection, except for the subsection number and title, with the following:

Where the embankment foundation will not support hauling or compaction Equipment and only if directed, place an initial layer of selected Materials. Place the initial layer by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the Equipment and not greater than 3 feet, unless otherwise authorized. Do not place the initial layer higher than 3 feet below Subgrade. Commence consolidation of the initial layer by routing construction Equipment uniformly over the entire layer. Meet the compaction requirements of 00330.43 for the initial layer, except for layer thickness. Meet all requirements of 00330.43 for subsequent layers.

00330.42(a)(3) Drainage - Replace this subsection, except for the subsection number and title, with the following:

Provide drainage and drainage Structures as shown or directed.

00330.42(a)(4) Backfilling Inside Roadbed Limits - Replace this subsection, except for the subsection number and title, with the following:

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Break up concrete or asphalt floors, slabs, or walls, as specified in 00310.41(d), before backfilling or placing embankment. Backfill basements, trenches and holes within embankment limits with selected stone backfill Material. Backfill Material placed in basements may include pieces of broken concrete and masonry not exceeding 15 inches in any dimension provided they are placed and compacted according to 00330.42(c). Protruding reinforcement is not allowed in the broken concrete and masonry used as backfill.

00330.42(a)(7) Foundation Benching - Replace the paragraph that begins "Make the bottom bench ..." with the following paragraph:

Make the bottom bench at least 10 feet wide. Penetrate each succeeding bench into the slope at least 3 feet horizontally beyond the vertical side of the previous bench. Ensure the bench is wide enough to operate placing and compaction Equipment. Bring each bench and embankment layer surface to a Slope flatter than 1V:10H. Perform the benching, placing and compaction operation simultaneously from the bottom up.

00330.42(c)(1) General - Replace the paragraph that begins "Except as provided in ..." with the following paragraph:

Except as provided in 00330.42(a)(1), do not construct embankments or fillings when the embankment Material, the foundation or the embankment where it would be placed is frozen, not stable or not compacted, unless otherwise directed.

00330.42(c)(2)(c) Oversize Durable Rock Fragments - Replace the paragraph that begins "Placing isolated individual ..." with the following paragraph:

Placing isolated individual Durable Rock fragments having dimensions greater than the specified layer thickness is allowed if:

00330.42(c)(2)(d) Durable Rock - Replace the paragraph that begins "If the visible quantity of Silt ..." with the following paragraph:

If the visible quantity of Silt and Clay Materials passing the No. 200 screen is less than 20 percent by volume, as determined by the Engineer, the maximum Rock fragment size and layer thickness may be increased to 36 inches, but do not exceed the layer thickness of the average maximum size of the Rock fragments.

00330.42(c)(2)(e) Nondurable Rock - Replace the bullet that begins "The moisture content of ..." with the following bullet:

- Compact the Material when the moisture content is within the requirements of 00330.43.

Replace the bullet that begins "Compact the Material to density ..." with the following bullet:

- Compact the Material to density/deflection requirements specified in 00330.43 with a tamping-foot roller that meets the requirements of 00330.20. Perform a minimum of three Coverages on each embankment layer with the tamping-foot roller. Operate the roller at a uniform speed not exceeding 3 mph. No additional compensation will be made for additional roller Coverages to meet the requirements of 00330.43.

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00330.42(c)(3) Embankment Slope Protection - Replace the paragraph that begins "Construct outer portions of ..." with the following paragraph:

Construct outer portions of embankments exposed to erosion by stream flow or other erosive action with Rock fragments, or other desirable Materials, if directed, and such are available in the excavations. Also, if directed, place similar Material as a protective layer on the outside of the regular embankment slopes as embankment widening, closely following construction of the embankment. Compaction is not required for protective Materials placed as embankment widening. Place protective Materials with a reasonably smooth surface, resistant to washout or slippage.

Add the following paragraph to the end of this subsection:

Construct the outer 12 inches of embankments with suitable materials to establish slope stabilization through permanent seeding. If suitable material is not available, furnish suitable materials from a Contractor-provided source that conforms to the requirements of 00330.11 or 00330.13 and provides favorable conditions for germination of seed and growth of grass.

00330.42(c)(5) Embankment Construction Around Minor Structures - Replace this subsection, except for the subsection number and title, with the following:

Backfill prior excavations in the vicinity of curbs, walks, driveways, inlets, manholes and other such minor Structures with selected general backfill, or selected granular backfill as directed with no particles larger than 1 inch and that is compatible with the adjacent material, unless otherwise specified. Place backfill in layers according to 00330.42(c)(1), compact according to 00330.43, and with a moisture content according to 00330.43.

00330.42(c)(7) Embankment Construction at Bridge Ends - Replace this subsection, except for the subsection number and title, with the following:

At the ends of Bridges and for a distance of at least 100 feet from the Bridge, place and compact the embankments before beginning Bridge construction, unless otherwise directed. Unless the embankment is constructed according to 00330.42(c)(8), furnish and place selected stone backfill Material, meeting the requirements of 00330.15 when such is available from excavations, in all embankments within 100 feet of Bridges, or as directed.

00330.42(c)(8) Engineered Fills - Replace the paragraph that begins "Place the granular structure ..." with the following paragraph:

Place the granular structure backfill, meeting the requirements of 00510.13, in maximum 6-inch Lifts and compact to 100 percent maximum density from the top of the selected stone backfill to the footing elevation shown. Place these Materials at the thickness and extent according to the details shown, or as directed.

Replace the paragraph that begins "The foundation compaction ..." with the following paragraph:

The foundation compaction requirements in 00330.43 are subject to the higher requirements of this subsection. Compact according to the percentages required above.

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00330.42(d) Stone Embankment - Replace the paragraph that begins "If the Contract Plans or ..." with the following paragraph:

If the Contract Plans or Specifications require embankments, or parts of embankments, to be constructed of stone embankment Material, furnish and place the stone embankment Material according to this provision and as directed. Furnish Materials from Contractor-provided sources according to the requirements of 00330.16, unless otherwise specified.

Replace the bullet that begins "Material placed in the ..." with the following bullet:

- Material placed in the upper 1-foot of embankments or within 1-foot of a culvert or other Structure, are not more than 3 inches in size.

00330.43(b)(2) Replace the paragraph that begins "In place Materials shall ..." with the following paragraph:

Meet the following moisture content, density, and deflection requirements for in-place Materials:

00330.43(b)(2)(a) Moisture Content - Replace this subsection, except for the subsection number and title, with the following:

At the time of compaction, compact the Materials at a moisture content to within minus 4 percent to plus 2 percent of optimum moisture content. Add water to Material that does not contain sufficient moisture to obtain proper compaction and thoroughly mix as directed. Dry Material containing an excess of moisture by manipulation, aeration, drainage or other means before being compacted.

00330.43(b)(2)(b) Density - Replace the paragraph that begins "After compaction of each ..." with the following paragraph:

After compaction of each layer provide a density of at least:

00330.43(d) Small, Irregular Fill Areas - Replace the paragraph that begins "The density requirements of 00330.43 do not apply..." with the following paragraph:

The density requirements of 00330.43 do not apply to irregular fill areas outside of the travel lanes that have a total volume of no more than 150 cubic yards at each location. Construct these areas according to the following:

00330.44(a) Preparation - Replace this subsection, except for the subsection number and title, with the following:

Do not start excavation for each segment until a stockpile of stone embankment Material is immediately available at or near the site. Locate the stockpile at a site approved by the Engineer. Provide a stockpile size sufficient to fill one excavated segment.

00330.44(b) Sequence of Construction - Replace this subsection, except for the subsection number and title, with the following:

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Excavate the area according to 00330.40 and 00330.41 to provide a backslope to the lines, Slopes and details shown, or as directed. Excavate and backfill in segments to minimize aggravating stability conditions. For each segment do not exceed 75 feet in length as measured across the top of each open excavation segment, unless otherwise specified or directed.

00330.47 Specified Selected Courses or Layers of Materials - Replace the paragraph that begins "Place and construct selected ..." with the following paragraph:

Place and construct selected Courses or layers according to the requirements of 00330.42 and 00330.43, unless otherwise specified.

00330.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Replace the paragraph that begins "No separate or additional ..." with the following paragraph:

No separate or additional payment will be made for blasting done according to 00330.41(e) unless a blasting item is listed in the Contract Schedule of Items.

00330.91(c) Toe Trench Excavation - Replace the bullet that begins "At the toe of riprap slopes ..." with the following bullet:

- At the toe of riprap slopes as shown and elsewhere as directed to provide a suitable foundation toe trench where to place riprap geotextile or filter blanket, and riprap Material.

00330.94 Embankment Basis Payment - Replace the paragraph that begins "In item (c), the ..." with the following paragraph:

In item (c), the type of Material is inserted in the blank.

Delete the paragraph that begins "Excavation of unstable...".

SECTION 00331 - SUBGRADE STABILIZATION

Comply with Section 00331 of the Standard Specifications modified as follows:

00331.10 Materials - Replace the Material that begins "Aggregate Base..." with the following Material:

Aggregate Base 02630.10

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00331.90 Payment - Replace the paragraph that begins "The depth of stabilization ..." with the following paragraph:

The depth of stabilization is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00350 - GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications modified as follows:

00350.01 Definitions - Add the following definition:

Geomembrane - An essentially impermeable geosynthetic composed of one or more synthetic sheets.

Replace the definition "**Geogrid**" with the following definition:

Geogrid - A geosynthetic used for reinforcement that is formed by a regular network of tensile elements with apertures of sufficient size to allow strike-through of surrounding Soil, Rock or other geotechnical material.

Replace the definition "**Seam Type**" with the following definition:

Seam Type - A designation of Geotextile positioning and rows of stitching in a specified sewn seam as shown (for example Type SSn-1, "J" Seam SSn-1). The designated method of joining Geomembrane sheets (for example thermal fusion welding, extrusion welding).

00350.40 General - Replace this subsection, except for the subsection number and title, with the following:

Furnish geosynthetic from the manufacturer and protect against damage and deterioration. Prevent excessive mud, wet concrete, epoxy and like materials from coming in contact with the geosynthetic. Store all Geosynthetics in a dry place and off the ground at all times according to ASTM D4873. Cover all Geosynthetics with a dark protective covering when received. The geosynthetic will be rejected for use if the Engineer determines it has defects or deterioration or has been damaged.

00350.41(a)(3)(a) General - Replace the paragraph that begins "Sew field seams with polymeric ..." with the following paragraph:

Sew field seams with polymeric thread consisting of polypropylene, polyester or kevlar, and as resistant to deterioration as the Geotextile being sewn. Use a color of thread that contrasts

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with the Geotextile being sewn so the stitches are exposed for inspection when the Geotextile is placed. Meet the testing requirements of 02320.11(b).

00350.41(a)(3)(b) Stitch Requirements - Replace the paragraph that begins "Use two rows of lock-type ..." with the following paragraph:

Use two rows of lock-type stitching, Type 401, spaced 1/2 inch apart with a tolerance of plus or minus 1/4 inch as shown, to make the seams. Do not cross stitches except for restitching.

00350.41(f)(2) Weather Limitations - Replace this subsection, except for the subsection number and title, with the following:

Do not place sealant and Geotextile unless the weather limitations of 00745.40 are met, as appropriate, except the minimum air temperature is 50 °F for paving grade asphalt sealant placement and 60 °F for asphalt emulsion sealant placement.

00350.41(f)(3) Surface Preparation - Replace the paragraph that begins "Prepare the Pavement surface ..." with the following paragraph:

Prepare the Pavement surface that the sealant is to be placed according to 00730.42 and the following:

00350.41(f)(4) Sealant Application - Replace the paragraph that begins "Uniformly spray the asphalt ..." with the following paragraph:

Uniformly spray the asphalt sealant at normal application temperature by means of a pressure distributor according to 00350.21 on the prepared dry Pavement surface. Apply at the rate of 0.20 - 0.30 gallon per square yard, or as recommended by the Geotextile manufacturer or as directed.

Replace the paragraph that begins "The target width of the sealant ..." with the following paragraph:

The target width of the sealant application is the Geotextile width plus 6 inches. Apply the sealant only as far in advance of the Geotextile installation as appropriate to ensure a tacky surface at the time of Geotextile placement. Place the Geotextile the same Day as the sealant. Do not allow traffic on the sealant. Clean excess asphalt from the road surface.

00350.42(a) Placement - Replace the bullet that begins "Unroll the Geogrid ..." with the following bullet:

- Unroll the Geogrid in the same direction the cover Material is placed. If the Geogrid shifts or becomes misaligned, realign it and anchor it according to the manufacturer's recommendations.

00350.90 Payment - Replace the paragraph that begins "In items (a) and (c), ..." with the following paragraph:

In items (a) and (c), the type of Geotextile is inserted in the blank.

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Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00390 - RIPRAP PROTECTION

Comply with Section 00390 of the Standard Specifications modified as follows:

00390.11(a) General - Replace the bullet that begins "Be angular in shape ..." with the following bullet:

- Be angular in shape. Thickness of a single Rock is not less than one-third its length. Rounded Rock will not be accepted unless authorized by the Engineer.

00390.11(b) Test Requirements - Replace the paragraph that begins "Furnish the Rock..." with the following paragraph:

Furnish Rock meeting the following test requirements:

00390.11(c)(1) Control Sample - Replace this subsection, except for the subsection number and title, with the following:

If directed, provide, at a satisfactory location near the Project, a Rock sample of at least 5 Tons meeting the gradation for the class specified. The Engineer will use the sample as a frequent visual reference for judging the gradation of the riprap supplied.

00390.11(c)(2) Sampling and Testing Assistance - Replace this subsection, except for the subsection number and title, with the following:

The Engineer may request a gradation verification of two random truckloads of Rock. Provide mechanical Equipment, a sorting site and labor needed to assist in checking gradation at no additional cost to the Agency

00390.42 Filter Blanket Construction - Replace this subsection, except for the subsection number and title, with the following:

Place the Filter Blanket on the prepared area to the full specified thickness in one operation, using methods that do not cause segregation.

00390.44(a) General - Replace this subsection, except for the subsection number and title, with the following:

Unless otherwise directed, place the riprap protection as the embankment is constructed. Lag the riprap placement behind the embankment construction only as necessary to allow proper embankment construction and prevent mixture of embankment and riprap Material.

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00390.44(b) Loose Riprap - Replace the bullet that begins "With a clamshell ..." with the following bullet:

- With a clamshell, orange-peel bucket, skip or similar approved device that will contain the riprap Material to its final destination. Do not open the bucket until it has been lowered to the slope where the Material is being placed.

Replace the bullet that begins "To produce a compact ..." with the following bullet:

- To produce a compact riprap protection where all sizes of Material are placed in their proper proportion.

00390.44(c) Keyed Riprap - Replace this subsection, except for the subsection number and title, with the following:

After placing Loose Riprap Material according to 00390.44(a) and 00390.44(b), key the riprap into place by slapping the surface with a piece of armor plating (approximately 4 feet x 5 feet in size weighing approximately 5,000 pounds) or other approved means that will produce a nearly smooth surface.

00390.44(d) Grouted Riprap - Replace the paragraph that begins "Thoroughly moisten the stones ..." with the following paragraph:

Thoroughly moisten the stones and sluice any excess fines to the underside of the riprap before grouting. Deliver the grout to the place of final deposit by any means that ensure uniformity and prevent segregation of the grout. Spade or rod the grout into the spaces to completely fill the voids in the riprap. Control pressure grouting and do not unseat the stones. Penetrate the grout to the depth as shown. If a rough surface is specified, brush the stone until 25 to 50 percent of the depth of surface stone is exposed. For a smooth surface, grout the crevices to within 5/8 inch of the surface.

00390.90 Payment - Replace the paragraph that begins "In items (b), (c), and (d) ..." with the following paragraph:

In items (b), (c), and (d), the class of riprap is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00405 - TRENCH EXCAVATION, BEDDING, AND BACKFILL

Comply with Section 00405 of the Standard Specifications modified as follows:

00405.02 Definitions – Replace the definition “**Trench Foundation**” with the following definition:

Trench Foundation - The bottom of the trench where the Pipe Bedding is to lie and that provides support for the pipe.

00405.03 Lines, Grades, and Cross Sections - Replace this subsection, except for the subsection number and title, with the following:

Excavate trenches to the lines, depths, grades and Cross Sections as shown or as established. Variations are allowed only when necessary to ensure firm foundations and when such variations will not be detrimental to the Work.

00405.14 Trench Backfill - Replace the paragraph that begins "Furnish the following ..." with the following paragraph:

Furnish the following Materials as shown or required:

00405.14(b) Class B Backfill - Replace the paragraph that begins "Use Granular Material..." with the following paragraph:

Use Granular Material consisting of Gravel or crushed Rock meeting the requirements of Section 00641. Use 1" - 0 or 3/4" - 0 Aggregate.

00405.14(d) Class D Backfill - Replace the paragraph that begins "Use pit run or bar ..." with the following paragraph:

Use pit run or bar run Material, well-graded from coarse to fine. The maximum dimension is 3 inches.

00405.41(b) Open Trench Limit - Replace this subsection, except for the subsection number and title, with the following:

Limit the length of open trench to 100 feet, or as allowed. Complete related resurfacing within 800 feet of the open trench limit.

00405.41(f) Trench Protection - Replace the paragraph that begins "Provide the Materials ..." with the following paragraph:

Provide the Materials, labor and Equipment necessary to protect trenches at all times. Provide safe working conditions in the trench and protect the Work, existing property, utilities, Pavement, and the public. Design the method of protection. The Contractor may elect to use any combination of shoring, overbreak, tunneling, boring, sliding trench shields or other methods of accomplishing the Work, provided the method meets with the approval of the Engineer and complies with all applicable local, state, and federal safety codes.

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00405.43 Dewatering - Replace the paragraph that begins "When dewatering near a ..." with the following paragraph:

When dewatering near a river, lake, or stream, meet the requirements of 00290.30(a) and Section 00280. When the presence of water or other conditions in the excavated area would be detrimental to the purpose of the Work, obtain approval of the Engineer for the temporary measures required to correct or care for the condition.

00405.44 Trench Foundation - Replace the paragraph that begins "When, in the judgment of ..." with the following paragraph:

When, in the judgment of the Engineer, the existing material in the bottom of the trench is unsuitable for supporting the pipe, excavate below grade, as directed. Replace the excavated material with imported Trench Foundation Material meeting the requirements of 00405.11. Place the Trench Foundation Material in 6-inch layers and compact according to 00330.43 except compact selected stone backfill material in 12-inch layers. Bring the Trench Foundation Material to the elevation established.

00405.45 Pipe Bedding - Replace this subsection, except for the subsection number and title, with the following:

Spread the bedding smoothly to the proper grade so that the pipe is uniformly supported along the barrel. Excavate bell holes at each joint to permit proper assembly and inspection of the joint. Furnish bedding under the pipe that provides a firm, unyielding support along the entire pipe length.

00405.46 Backfilling - Replace the paragraph that begins "Backfill with Material ..." with the following paragraph:

Backfill with Material meeting the requirements of 00405.13 and the details shown, or as directed.

00405.46(d) Ponding or Jetting of Backfill Materials - Replace the paragraph that begins "Ponding or jetting is ..." with the following paragraph:

Ponding or jetting is not allowed within Roadbed lateral limits. Ponding or jetting is allowed outside Roadbeds when approved by the Engineer in writing.

Replace the paragraph that begins "Furnish Equipment that provides ..." with the following paragraph:

Provide Equipment that provides a minimum gauge pressure of 35 psi at the discharge nozzle. Use a Rigid Pipe that will reach within 1 foot of the bottom of the backfill. Insert the pipe at intervals not exceeding 4 feet throughout the entire width and length of the Trench Backfill.

00405.46(e) Temporary Trench Plating - Replace this subsection, except for the subsection number and title, with the following:

When temporary steel plates are required over a street cut, install plates capable of carrying at least a minimum of MS-18 loading. Place steel plates with a minimum of 12 inches bearing

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on all sides of a cut. Anchor steel plates to minimize shifting. Shim the edges of all steel plates with cold mix asphalt.

00405.48(b) Topsoil - Replace the paragraph that begins "Where trenches cross lawns ..." with the following paragraph:

Where trenches cross lawns, garden areas, pastures, cultivated fields or other areas where Topsoil exists, remove the Topsoil to a minimum 12-inch depth and place the Material in a stockpile. Do not mix the Topsoil with other excavated material. After the trench has been backfilled, replace the Topsoil.

00405.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

In the paragraph that begins "No separate or additional..." delete the following bullet:

- sawcutting

Add the following sentence to the end of the subsection:

Sawcutting will be paid for according to Section 00310.

SECTION 00415 - VIDEO PIPE INSPECTION

Comply with Section 00415 of the Standard Specifications modified as follows:

Add the following subsection:

00415.02 Definitions:

Flexible Pipe - Pipes constructed of corrugated metal are considered Flexible Pipes.

Rigid Pipe - Pipes constructed of concrete and ductile iron are considered Rigid Pipes.

Thermoplastic Pipe - Pipes constructed of polyvinyl chloride, polyethylene, and polypropylene are considered Thermoplastic Pipe.

00415.20(b) Transporter - Replace the paragraph that begins "Use an all-wheel..." with the following paragraph:

Use an all-wheel drive or track mounted transporter capable of inspecting pipes ranging in size from 12 to 60 inches in diameter. Provide a transporter with an adjustable operating speed while recording not to exceed 30 feet per minute.

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00415.20(c) Recording Device - Replace the paragraph that begins “Provide a device capable ...” with the following paragraph:

Provide a device capable of recording video with the pipe identification, a remote meter counter displaying length along the profile in tenths of feet and indicating the camera’s position from the starting point. Calibrate the meter counter to be accurate within 0.5 percent over the length of pipe being inspected. Provide a device capable of recording a digital video with a minimum resolution of 720 x 480.

00415.23 Manual Inspection - Replace this subsection, except for the subsection number and title, with the following:

For pipes larger than 48 inches and when the entire length of the pipe is accessible, a handheld video camera and a light source may be used. Provide video camera and lighting meeting the requirements of 00415.20(a). A digital camera may be used as a supplement for taking photographs. Use a light source that provides a clear, focused and high-quality photograph of the culvert surface under all conditions.

00415.41 Pre-Installation Video Inspection - Replace the paragraph that begins “Perform a pre-installation video inspection...” with the following paragraph:

Perform a pre-installation video inspection at least 5 Calendar Days before beginning Work. Begin Inspection at one end of the pipe and proceed through the entire pipe length at a speed not greater than 30 feet per minute. Move the camera through the pipe, along the approximate center of the pipe, and provide a continuous 360 degree pan of each pipe joint. Stop and record all cracks, deformities, and defects to document the pipe condition, including the location of all lateral connections to the mainline.

00415.42 Post Installation Video Inspection - Replace the paragraph that begins “Perform post construction video inspection...” with the following paragraph:

Perform post construction video inspection according to 00415.40 and 00415.41. Video inspect the pipe interior no sooner than 30 Days after the trench backfill and compaction have been completed, and before any paving is performed. If the Contract duration does not permit a 30-Day waiting period, the Engineer may allow the inspection when the compacted backfill reaches a minimum of 2 feet above the pipe crown.

00415.42(a) Deflection Testing for Flexible Pipe - Replace this subsection with the following subsection:

00415.42(a) Post Installation Deflection Testing - Perform post construction deflection testing for all Flexible Pipe and Thermoplastic Pipe as described.

- Flexible Pipe for new pipe installations and extensions greater than 15 feet in length.
- Thermoplastic Pipe for new pipe installations and extensions greater than 10 feet in length.

If any portion of the new pipe interior is not accessible for a visual inspection, then perform deflection testing for the entire installation of new pipe or extension regardless of pipe length.

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Use one of the approved following methods:

00415.42(a)(1) Remote Video Inspection with Laser Profiler – Replace the paragraph that begins “Calibrate and perform...” with the following paragraph:

For pipe 48 inches or less in diameter, calibrate, and perform deflection inspection according to ASTM F3080. Use video inspection equipment meeting the requirements of 00415.22.

00415.42(a)(2) Manual Deflection Test - Replace the paragraph that begins “Use equipment meeting...” with the following paragraph:

For pipes larger than 48 inches and when the entire length of the pipe is accessible, use equipment meeting the requirements of 00415.23.

00415.70 Video Inspection Recording and Inspection Report - Replace the paragraph that begins “Furnish two copies...” with the following paragraph:

Provide two copies of all preconstruction and post construction inspection video and reports within 3 Calendar Days after completing the inspections. If inspection video or audio recording quality is poor, the Engineer has the right to reject the recording and request new video inspection at no additional cost to the Agency.

00415.71 Corrections to Deficiencies in Work - Replace the paragraph that begins “Where the pipe deflection...” with the following paragraph:

Where the pipe deflection is greater than 5 percent and less than 7.5 percent of the nominal diameter, submit a remediation plan as a stamped Working Drawing according to 00150.35. Replace pipe where the deflection exceeds 7.5 percent of the nominal diameter at no additional cost to Agency.

00415.90 Payment - Replace the paragraph that begins “Payment will be payment ...” with the following paragraph:

Payment will be payment in full for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00440 - COMMERCIAL GRADE CONCRETE

Comply with Section 00440 of the Standard Specifications modified as follows:

00440.11 Proportions . Replace the paragraph that begins "Furnish, in writing to the Engineer ..." with the following paragraph:

Provide, in writing to the Engineer, the proportions by weight of the following Materials before using any CGC:

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00440.12 Properties of Commercial Grade Concrete - Replace the bullet that begins "Entrained Air..." with the following bullet:

- **Entrained Air** - 4.0 to 7.0 percent
 - Entrained air not required for precast elements utilizing dry cast mix designs.

00440.13 Field-Mixed Concrete . Replace the paragraph that begins "CGC Work items listed in 00440.14(a)..." with the following paragraph:

CGC Work items listed in 00440.14(a) may be field-mixed conventionally, or by volumetric/mobile mixers according to ASTM C685. When approved, concrete sidewalks, concrete curb ramps, concrete driveways, and other flat concrete surfaces may be field-mixed using volumetric/mobile mixers according to ASTM C685, request approval prior to placement. For all other CGC applications, submit written request to the Engineer for approval to use volumetric/mobile mixers according to ASTM C685 at least 21 Days prior to placement.

00440.14(a) General . Replace the paragraph that begins "Acceptance sampling..." with the following paragraph:

Acceptance sampling and testing is based on tests performed by the Contractor's QCT from samples obtained at the site of placement from the discharge of the delivery vehicle.

00440.40(b) Placing . Replace the paragraph that begins "Place CGC..." with the following paragraph:

Place CGC according to the appropriate Sections where CGC is required and the following:

00440.40(c) Forms . Replace the paragraph that begins "Provide forms for CGC ..." with the following paragraph:

Provide forms for CGC according to the appropriate Sections where CGC is required and best common practices. Place to the lines and grades shown or directed.

00440.40(e) Curing - Replace this subsection, except for the subsection number and title, with the following:

Cure CGC for a minimum of 7 Calendar Days by one of the following methods:

- Cover with wet burlap, canvas, Sand, or other acceptable Material, and keep moist.
- Apply curing compounds at a rate of not less than 1 gallon per 150 square feet. Do not use on surfaces that come into contact with adjacent pours and avoid overspray on exposed reinforcement. Use curing compounds according to the following:

Table 00440-1

Section	Item	Type 1 or 1-D (Clear)	Type 2 (White-Pigmented)
00480	Drainage Curbs	*	*

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00599	Slope Paving Curbs and Berm Paving	Yes	No
00759	Walks, Curb Ramps, Driveways, Surfacing, Curbs, and Islands	*	*

*Use Type 2 except when the Engineer requires Type 1 or 1-D

SECTION 00445 - SANITARY, STORM, CULVERT, SIPHON, AND IRRIGATION PIPE

Comply with Section 00445 of the Standard Specifications modified as follows:

00445.00 Scope - Add the following to the end of this subsection:

This Work also includes construction of sanitary sewer force main and installation across the Structure.

00445.02 Contractor's Options - Replace the paragraph that begins "If the Contractor has an option ..." with the following paragraph:

If the Contractor has an option of using different kinds of pipe, the option and its installation and other limits are as shown or on the Pipe Data Sheet.

00445.03 Size Determination - Replace this subsection, except for the subsection number and title, with the following:

The nominal size of pipe is determined according to AASHTO tolerances for pipe dimensions for the appropriate kind or class of pipe.

Add the following subsection:

00445.04 Submittals - Submit manufacturer certifications for pipe, joints, and lining compliance. Submit laboratory test documentation confirming lining performance.

Submit certification and laboratory test results for lining per ASTM E96, ASTM G95, ASTM B117, and EPA Method 1311.

00445.10 General - Replace this subsection, except for the subsection number and title, with the following:

Furnish appropriate certification from the manufacturer or fabricator, based on the manufacturer's quality control tests, that the Materials used in the production of the pipe meet the Specifications. Materials and strength are as specified for the particular kind of pipe and fittings required.

Use flexible elastomeric gasket Joints on all pipes and fittings. Furnish caps or plugs with each fitting, outlet or stub as required, with the same type of gasket or Joint as the pipe.

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For sanitary sewers provide tee or wye fittings in the main of the same Materials as the pipe. Furnish fittings of sufficient strength to withstand all handling and load stresses encountered. Furnish Material joining the fittings to the pipe that is free from cracks and that adheres tightly to each joining surface.

Cap or plug all fittings and provide with gaskets of the same Material as used in the pipe Joint. Fit with an approved mechanical stopper or install an integrally cast knockout plug. Provide a cap or plug capable of withstanding test pressures without leaking and, when later removed, permits continuation of piping with jointing similar to Joints in the installed line.

00445.11(a) Pipe Anchors - Replace this subsection, except for the subsection number and title, with the following:

Use pipe anchors according to the Standard Drawings and as shown. Furnish metal bands according to the material Specifications for the Metal pipe that they are attached to.

00445.11(b) Slip Joints - Replace this subsection, except for the subsection number and title, with the following:

Construct slip Joints according to the details shown. Furnish the outer sleeve and tapered section according to the material Specifications for the Metal pipe that they are installed with.

00445.11(c) Safety End Sections - Replace this subsection, except for the subsection number and title, with the following:

Use safety end sections according to 02420.10 and the Standard Drawings. Provide safety bars unless otherwise shown.

00445.11(e) Tracer Wire - Replace this subsection, except for the subsection number and title, with the following:

Use 12-gauge stranded or solid copper insulated high molecular weight polyethylene (HMW-PE) tracer wire or 12-gauge copper clad steel reinforced insulated HMW-PE tracer wire. Use a green, minimum 45 mil thick HMW-PE insulated cover. Use a tracer wire that is UL rated for 140 °F.

00445.11(f) Fittings for Concrete Pipe - Replace this subsection, except for the subsection number and title, with the following:

Where fittings are fabricated by inserting a stub into a hole cut in the pipe, grout with a non-shrinking grout. Coat surfaces to receive grout with an epoxy bonding agent prior to grouting. Do not allow fitting stubs to protrude inside of the sewer pipe.

Add the following subsection:

00445.11(h) Ductile Iron Restrained Joint Pipe - Furnish pipe, pipe bends, plug valves, expansion joints, and other fittings meeting the following requirements:

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Pipe:

- Nominal diameter 6-inch conforming to ANSI/AWWA C150/A21.50, C151/A21.51, and C111/A21.11.
- Pipe joints: TR Flex® restrained joint system, allowing 5° deflection per joint.
- Minimum working pressure rating: 350psi.
- Mark pipe with diameter, manufacturing standard, pressure class, date of manufacture, and "PROTECTO 401 LINED – FOR SEWER USE ONLY".

Lining:

- Interior lining: Protecto 401™ ceramic epoxy, minimum 20% ceramic quartz by volume.
- Protecto 401 joint compound to gasket seats and spigot ends, not exceeding 10mil.

Fittings:

- Furnish pipe bends, plug valves, expansion joints, and all other fittings as shown.

Valves:

- Furnish Val Matic Cam Centric® Plug Valve, or approved equal with valve boxes as shown.

Add the following subsection:

00445.11(i) Rigid Metallic Pipe - Furnish 4-inch rigid metallic pipe conforming to 316 SS RMC, UL 6A and ANSI C80.1. Furnish fittings according to UL 514B.

00445.40(b) Line and Grade - Replace the paragraph that begins "Centerline and grade control ..." with the following paragraph:

Centerline and grade control is established prior to the start of construction and the Special Provisions will indicate if the Agency or the Contractor establishes the control.

Replace the paragraph that begins "Do not vary from established ..." with the following paragraph:

Do not vary from established line and grade by more than 1/32 inch per inch of pipe diameter or 1/2 inch for pipe diameter of 16 inches or longer, subject to the following limitations:

00445.40(d) Laying Pipe on Curves - Replace this subsection, except for the subsection number and title, with the following:

Lay pipe on horizontal or vertical curves as shown or approved. When deflecting the pipe from a straight line, either in the vertical or horizontal plane, or when long radius curves are shown, do not exceed the amount of deflection allowed by the pipe manufacturer.

00445.40(f) Installation of Sanitary Sewer Service Tees and Wyes - Replace the paragraph that begins "The maximum line or ..." with the following paragraph:

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Accomplish line or grade changes with fittings and long radius curves or bends. Do not exceed 45 degrees line or grade change with any one fitting.

00445.43(a) General - Replace the paragraph that begins "Lay pipe proceeding upgrade ..." with the following paragraph:

Lay pipe proceeding upgrade with spigot ends in the direction of flow. Assemble Joints according to the recommendations of the manufacturer for the type of Joint used. Furnish a trench bottom that has a continuous and uniform bearing and support for the pipe at every point between Joints.

Replace the paragraph that begins "Prevent excavated or other ..." with the following paragraph:

Prevent excavated or other foreign material from getting into the pipe. Plug or close off pipes that are stubbed off for future connection. When cutting or machining of the pipe is necessary, use only the tools and methods recommended by the pipe manufacturer. Furnish field Joints that:

00445.43(d) Polyethylene Pipe - Replace the paragraph that begins "Assemble and join ..." with the following paragraph:

Assemble and join solid-wall HDPE pipe at the site using the thermal butt fusion method to provide a leak-proof Joint. Threaded or solvent-cement Joints are not allowed. Use Equipment and procedures in strict compliance with the manufacturer's recommendations. Use personnel certified as fusion technicians by the manufacturer of the pipe or fusing Equipment to accomplish the fusing.

00445.43(f) Polypropylene Pipe - Replace the paragraph that begins "When the ambient air ..." with the following paragraph:

When the ambient air temperature is less than 10 °F, do not install, move, cover, bury, or otherwise handle the polypropylene pipe. All polypropylene pipe handled at temperatures below 10 °F is rejected and not allowed to be used on the Project.

Add the following subsection:

00445.43(j) Ductile Iron Restrained Joint Pipe - Install pipe and all other fittings according to the manufacturer recommendations, Section 00445, 01140.00 through 01140.51 and 01150.10 through 01150.51.

Perform lining repairs above 40 degrees F. Apply lining at 40mil nominal dry film thickness inside the pipe barrel.

Limit joint deflection to 5 degrees maximum.

00445.44 Strutting Metal Pipe - Replace this subsection, except for the subsection number and title, with the following:

When the Plans or Special Provisions call for Metal pipe to be installed in a tied or strutted condition, place the ties or struts before backfilling, according to the details shown. Strutting

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with timber is not allowed in pipe furnished with paved inverts or with centrifugally applied bituminous inner linings. Remove the ties and struts after the embankment over the pipe is completed and compacted.

00445.47 Contact Surfaces, Aluminum to Concrete - Replace the paragraph that begins "Where uncoated aluminum ..." with the following paragraph:

Add the following subsection:

00445.49 Installation Across Bridge - Install the sanitary sewer force main pipe across the Bridge as shown, in addition to the requirements of this Section.

Add the following subsection:

00445.50 Rigid Metallic Pipe - Install the rigid metallic pipe according to Section 00445 and 00583.41 through 00583.71.

Where uncoated aluminum pipe or aluminum coated steel pipe is touching portland cement concrete, give the contact surfaces of the pipe a coating of asphalt mastic applied at a rate that will give a minimum dry film thickness of 50 mils.

00445.71(a) General - Replace this subsection, except for the subsection number and title, with the following:

Provide storm gravity sewer systems, sanitary gravity systems, siphon systems and irrigation systems and appurtenances that successfully pass a hydrostatic or air test prior to acceptance and are free of visible infiltration of water. Test manholes as specified in Section 00470.

On pipe 30 inches in diameter and larger, individual Joints may be tested by an approved Joint testing device. Submit all testing procedures and details for review by the Engineer.

00445.71(c) Testing Equipment - Replace this subsection, except for the subsection number and title, with the following:

Provide all necessary testing Equipment and perform the tests in a manner that provides observable and accurate measurements of either air or water leakage under the specified conditions. Calibrate and certify gauges at the direction of the Engineer. Provide the certification with the gauge.

00445.72(a) General - Replace the paragraph that begins "The method, Equipment ..." with the following paragraph:

Submit the method, Equipment and personnel used in testing for approval by the Engineer. The Engineer may, at any time, require a calibration check of the instrumentation used.

00445.72(a)(1) Safety Precautions - Replace this subsection, except for the subsection number and title, with the following:

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Only qualified personnel are allowed to conduct the test. Furnish plugs used to close the system for the testing that are capable of resisting the expected internal pressures. Securely brace plugs, if necessary.

00445.72(b) Exfiltration Leakage Testing - Replace this subsection, except for the subsection number and title, with the following:

Prior to the exfiltration leakage test, the pipe test section may be filled with clear water to permit normal absorption into the pipe walls. Keep the test pipe section saturated for a minimum of 4 hours. After the absorption period, refill the pipe to the required test head.

Exfiltration leakage of more than 0.04 gallons per hour per inch diameter per 100 feet of pipe is unacceptable, except 0.3 gallons per hour, per inch per 100 feet may be used in arid climate zones if approved by the Engineer. The minimum hydrostatic head for testing is a minimum 6-foot water column above the crown of the highest section of pipe including service connections or exceed the maximum estimated groundwater level. The Engineer will make the final decisions regarding test height for the water in the pipe section.

Limit the length of pipe tested by exfiltration so that the pressure on the invert of the lower end of the section does not exceed 16 feet of water column. Account for all service connection footage for computing allowable leakage.

00445.72(c) Air Testing - Replace the paragraph that begins "The pressure guage ..." with the following paragraph:

Provide a pressure gauge for use in air testing having minimum divisions of 0.1 psi and an accuracy of 0.0625 psi. All air testing is by the time pressure drop method. The test procedure is as follows:

00445.72(c)(2) Replace this subsection, except for the subsection number, with the following:

Determine the average height of the groundwater over the line. Increase the required test pressures by 0.433 psi for each foot of average water depth over the exterior crown of the pipe.

00445.72(c)(6) Replace the paragraph that begins "For air permeable Materials ..." with the following paragraph:

For air permeable Materials (concrete & clay) the tested section is acceptable if the time recorded in paragraph (6) above is not less than the time in seconds (T) computed by the formula:

Replace the paragraph that begins "C = the sum of the ..." with the following paragraph:

C = the sum of the computations (0.0003882 dL) for each size of pipe and its length in the section, except that the minimum value for C is 1

Replace the paragraph that begins "For non-air permeable pipe ..." with the following paragraph:

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For non-air permeable pipe (Metal, PVC, HDPE, ABS composite), the section tested is acceptable if the time recorded in (6) above is not less than the time determined by the following equation.

00445.72(d)(1) General - Replace this subsection, except for the subsection number and title, with the following:

The Contractor may test each individual Joint for leakage using a pneumatic Joint testing apparatus. The method, Equipment and personnel used in individual Joint testing is as approved. The Engineer may, at any time, require a calibration check of the instrumentation used. Use a pressure gauge having minimum divisions of 0.1 psi and have an accuracy of 0.0625 psi. Pass all air used through a single control panel.

00445.72(d)(2) Method - Replace this subsection, except for the subsection number and title, with the following:

All air testing is by the time pressure drop method. The test procedure is as follows:

- a. Determine the average height of the groundwater over the line. Increase the test pressures required below by 0.433 psi for each foot of average water depth over the exterior crown of the pipe.
- b. Add air slowly to the section being tested until the internal air pressure is raised to 4 psi greater than the average backpressure due to groundwater.

00445.72(d)(3) Acceptance - Replace this subsection, except for the subsection number and title, with the following:

The Joint is considered acceptable if the pressure drops less than 1 psi within 5 seconds.

Add the following subsection:

00445.73 Hydrostatic Testing for Restrained Joint Pipe (Sanitary Sewer Force Main) - Conduct hydrostatic testing according to 01140.51 and AWWA standards for all restrained joint pipe.

00445.75 Repairs - Replace the paragraph that begins "Following a successful ..." with the following paragraph:

Following a successful hydrostatic or air test, visible infiltration of groundwater in any section is considered evidence that the original test was in error or that failure of the section has occurred. Correct such failures and retest the repaired sections, at no additional cost to the Agency.

00445.91 Payment - Replace the paragraph that begins "In item (a), the ..." with the following paragraph:

In item (a), the nominal pipe diameter is inserted in the first blank. The type of pipe is inserted in the second blank. The appropriate flow line depth range is inserted in the third blank.

Replace the paragraph that begins "In item (b), the nominal pipe ..." with the following paragraph:

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In item (b), the nominal pipe diameter is inserted in the first blank. For arch type pipe, the nominal diameter of circular Metal pipe from which the pipe arch is formed, or reformed, is inserted in the first blank. The type of pipe is inserted in the second blank.

Add the following paragraph after the paragraph that begins "Item (a) includes...":

Item (a) and item (b) also include fittings and required restrained joints, pipe bends, plug valves and expansion joints.

Replace the paragraph that begins "In items (c) and (d) ..." with the following paragraph:

In items (c) and (d), the nominal pipe size is inserted in the blank.

Replace the paragraph that begins "In item (e), the ..." with the following paragraph:

In item (e), the outer sleeve slip Joint size is inserted in the blank. The inner sleeve will be included in payment made for the smaller pipe.

Replace the paragraph that begins "In item (f) and (g)..." with the following paragraph:

In items (f) and (g), the nominal pipe diameter is inserted in the blank.

Replace the paragraph that begins "In item (h), the ..." with the following paragraph:

In item (h), the type of pipe slope anchor is inserted in the first blank and the nominal pipe diameter is inserted in the second blank.

Replace the paragraph that begins "In item (i), the ..." with the following paragraph:

In item (i), the nominal pipe diameter is inserted in the blank.

Replace the paragraph that begins "In item (m), the ..." with the following paragraph:

In item (m) the nominal pipe diameter is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

After the paragraph that begins "No separate or additional..." Add the following bullet to the end of the bullet list:

- valve boxes
- blocking valves
- protective coatings
- valve box extensions
- valve operator extension

SECTION 00470 - MANHOLES, CATCH BASINS, AND INLETS

Comply with Section 00470 of the Standard Specifications modified as follows:

00470.01 Cast-in-Place and Precast Construction - Replace this subsection, except for the subsection number and title, with the following:

Furnish concrete manholes that are cast-in-place or precast, as shown or specified. Concrete inlets and siphon boxes may be either cast-in-place or precast.

00470.11 Precast Concrete Manholes and Bases - Replace the paragraph that begins "Prior to delivery of precast ..." with the following paragraph:

Prior to delivery of precast manhole sections to the Project Site, yard permeability tests may be required at the point of manufacture. The precast sections to be tested are selected at random from the stockpiled Material to be supplied to the Project. Mat test all test specimens to meet the permeability test requirements of ASTM C497.

Replace the paragraph that begins "Precast manhole sections ..." with the following paragraph:

Furnish precast manhole sections that consist of circular sections in one of the following standard nominal inside diameters:

Replace the paragraph that begins "Heights of sections in ..." with the following paragraph:

Furnish heights of sections in multiples of 6 inches, except heights of manhole sections 72 inches through 96 inches in diameters are required to fit site conditions.

00470.12 Cap Screws - Replace this subsection, except for the subsection number and title, with the following:

Furnish cap screws and washers for watertight manhole covers that are stainless steel with 60,000 psi minimum tensile strength according to the requirements of ASTM A453.

00470.14 Pipe and Fittings - Replace this subsection, except for the subsection number and title, with the following:

Furnish pipe and fittings as specified and according to the applicable portions of Section 00445. Use tees, ells and other fittings for drop manholes made from the same material as the pipe connecting to the manhole.

00470.15 Pipe Stubouts for Future Sanitary Sewer Connections - Replace this subsection, except for the subsection number and title, with the following:

Furnish pipe stubouts that are the same type and strength classification as approved for use in the lateral, main or trunk sewer construction. Where there are two different classes of pipe at a manhole, the higher strength pipe will govern strength classification. Furnish watertight plugs with each stubout and adequately brace against hydrostatic or air test pressures.

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00470.16 Sanitary Sewer Manhole Carry-Through - Replace this subsection, except for the subsection number and title, with the following:

Furnish ductile iron for all sanitary sewer carry-through pipes and fittings through storm sewer manholes according to Section 02420.

00470.40(b) Pipe Connections - Replace the paragraph that begins "Connect flexible pipe to manholes ..." with the following paragraph:

Connect flexible pipe to manholes using an adapter specifically manufactured for the intended service. Flexible pipe adapters are required to be watertight after installation. Follow the manufacturer's recommendations. Do not use field-fabricated water stops or improvised adapters. Anchor and finish adapters requiring the use of grout for installation using non-shrink grout according to 02440.50.

00470.43(b) Cast-in-Place Catch Basins and Inlets - Replace the paragraph that begins "Construct forms for both ..." with the following paragraph:

Construct forms for both the inside and outside walls of cast-in-place catch basins. Furnish forms that are tight and well braced, with chamfered corners. Remove all water and debris prior to placing concrete.

00470.47 Concrete Inlet Base Drains - Replace the paragraph that begins "Provide concrete inlets ..." with the following paragraph:

Furnish concrete inlets with base drains leading from abutting Aggregate base or selected granular backfill Material.

00470.48 Concrete Manhole Installation Requirements - Replace this subsection with the following subsection:

00470.48 Locator Posts - Construct locator posts as shown.

00470.71(a) Hydrostatic Testing - Replace this subsection, except for the subsection number and title, with the following:

Perform hydrostatic testing according to ASTM C497. Plug all inlets and outlets and fill the manhole with water. Fill each manhole to the rim at the start of the test. Leakage in each manhole exceeding 0.3 gallons per hour per foot of head above the invert is unacceptable. Determine leakage by refilling to the rim using a calibrated container. Manholes may be filled 24 hours prior to the time of testing to permit normal absorption into the manhole walls.

00470.90 Payment - Replace the paragraph that begins "In items (c), (d) and ..." with the following paragraph:

In items (c), (d) and (k) the type of Structure is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

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Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor and Incidentals necessary to complete the Work as specified.

SECTION 00480 - DRAINAGE CURBS

Comply with Section 00480 of the Standard Specifications modified as follows:

00480.40 Preparation of Base - Replace this subsection, except for the subsection number and title, with the following:

Clean Pavements where drainage curbs are to be constructed so that they are free of dirt, dust, oil, grease or other extraneous matter.

00480.41(a) CGC Curbs - Replace this subsection, except for the subsection number and title, with the following:

Bond CGC curbs to underlying Pavements with an epoxy bonding agent from the QPL or according to 00480.10. Apply according to the manufacturer's recommendations and at a rate that provides a thorough coating to the surface with all voids and depressions filled. Place the new curb on the epoxy bonding agent within 15 minutes after spreading, or before it loses its tackiness, whichever is sooner.

00480.41(b) Asphalt Concrete Curbs - Replace the bullet that begins "An Emulsified Asphalt of ..." with the following bullet:

- An Emulsified Asphalt of the type designated by the Engineer and according to 00480.10. Apply Emulsified Asphalt at a rate of 0.05 to 0.10 gallons per square yard of curb. Place the new curb on the Emulsified Asphalt after the asphalt separates from the water (breaks), but before it loses its tackiness.

00480.42(b) Transverse Expansion Joints - Replace the paragraph that begins "Space expansion joints as ..." with the following paragraph:

Space expansion joints as shown. Construct the width of the joint and thickness of the filler to a minimum of 1/2 inch. Construct each expansion joint at right angles to the curb alignment, normal to the surface of the curb and provide complete separation of new concrete.

00480.44 Line and Grade - Replace this subsection, except for the subsection number and title, with the following:

Place a 12-foot straightedge on the top or face of curb. The curb surface is unacceptable if it varies more than 1/4 inch from the edge of the straightedge, except at grade changes or curves.

00480.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

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Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00490 - WORK ON EXISTING SEWERS AND STRUCTURES

Comply with Section 00490 of the Standard Specifications modified as follows:

00490.10 Materials - Add the following to the end of this subsection:

Portland Cement Concrete Repair Materials.....02015.20

00490.11 High Early Strength Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish high early strength concrete meeting one of the following requirements:

- Commercial Grade Concrete designed to achieve high early strength utilizing accelerating admixture from 02040.10, Type III cement from Section 02010, or rapid setting cement from Section 02011.
- A Portland cement concrete repair material from 02015.20, rapid setting or very rapid setting.

00490.40 General - Replace the paragraph that begins "Provide high early strength concrete ..." with the following paragraph:

Furnish high early strength concrete when shown, or when traffic is required to traverse the Structure due to staging requirements. The Engineer will determine the length of curing time.

Replace the paragraph that begins "New construction ..." with the following paragraph:

Provide new construction according to Section 00470.

Replace the paragraph that begins "Bypass pump sanitary ..." with the following paragraph:

Bypass pump sanitary sewer and stormwater flows around the pipe section or manhole being repaired or replaced by plugging an existing upstream manhole and pumping the flow around the Work to a downstream manhole. Submit a bypass pumping plan to the Engineer at least 48 hours before beginning bypass pumping. Use a pump with adequate capacity to handle existing flows and additional flow due to rain. Use a pump that does not exceed a noise level of 86 dB at a distance of 50 feet. Do not operate bypass pumps at night except in an emergency. Do not discharge raw sewage onto private property or city streets, or into storm drain systems.

00490.41(b) Manholes over Existing Rigid Pipe Sewers - Replace the paragraph that begins "Construct manholes over existing ..." with the following paragraph:

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Construct manholes over existing rigid sewers after first cleaning and applying an approved commercial concrete bonding agent to all surfaces of the pipe that are in contact with the manhole.

00490.41(c) Manholes over Existing Flexible Pipe Sewers - Replace the bullet that begins "Apply a coating of PVC ..." with the following bullet:

- Apply a coating of PVC solvent to the pipe that is in contact with the manhole.

00490.41(d) Manhole Connections - Replace this subsection, except for the subsection number and title, with the following:

Core or sawcut openings in the existing manhole base or barrel as required. Construct connections that are watertight and that will provide a smooth flow into and through the manhole. Provide all sanitary sewer pipe connections, including those at invert level as well as penetrations for drop connectors, conduits and carry-throughs, according to Section 00470.

00490.43 Abandoning Pipe in Place - Replace the paragraph that begins "Drain abandoned pipes and ..." with the following paragraph:

Drain abandoned pipes and plug watertight. Plug abandoned pipes with gasketed mechanical plugs or grout seals, as directed. Where abandoned pipes connect to sewer manholes, install the plugs or seals from the inside of the manhole and reshape the channel according to the Standard Drawings.

00490.45 Salvaging Manhole Frames, Covers and Grates - Replace the paragraph that begins "Remove manhole frames ..." with the following paragraph:

Remove manhole frames, covers and grates scheduled for salvage and store in an approved location. Frames, grates and covers meeting Specifications may be salvaged from Structures to be adjusted and may be reused in the Work if of suitable size and condition. Replace, at no additional cost to the Agency, all items damaged or lost by the Contractor with similar items that are comparable in all respects with those they are to replace, and that are adequate for the intended purpose.

00490.46(c) Raising Tops of Manholes - Replace the paragraph that begins "Do not exceed 24 inches ..." with the following paragraph:

Do not exceed 24 inches total distance from the top of the metal frame at its new adjusted grade to the top of the cone. Provide riser rings and repairs according to Section 00470. Extend manhole barrels of brick, block or concrete in kind.

00490.46(c)(1) Concrete Manholes - Replace the bullet that begins "Chip away the exposed ..." with the following bullet:

- Chip away the exposed top surface where new mortar or concrete is to be placed, to a depth of 1 1/2 inches or until firm concrete is exposed.

00490.49 Finish Grade - Replace this subsection, except for the subsection number and title, with the following:

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Center a 12-foot straightedge, as nearly as practicable, over the center of the cover of manholes and boxes. The final grade of the Pavement surface and adjusted manholes and boxes is unacceptable if it varies more than 1/4 inch from the finish grade and Cross Section at any point along the straightedge.

00490.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00495 - TRENCH RESURFACING

Comply with Section 00495 of the Standard Specifications modified as follows:

00495.40(b) Emulsified Asphalt Concrete Paving - Replace this subsection, except for the subsection number and title, with the following:

When temporary Surfacing is required prior to placing permanent Surfacing, place EAC paving a minimum of 1 inch thick. Place temporary paving that is smooth with surface variations not greater than 1/2 inch from the Existing Surfacing. Ensure the joint between the temporary patch and existing surfaces is not greater than 1/4 inch high. Maintain the temporary Surfacing until the permanent Surfacing is placed. ACP mix may be used if approved.

00495.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00501 - BRIDGE REMOVAL

Comply with Section 00501 of the Standard Specifications modified as follows:

00501.00 Scope - Add the following paragraph(s) to the end of this subsection:

Remove portions of the existing bridge BR00576 as shown.

Add the following subsection:

00501.02 Plans - Plans of the existing Structure are available from the Engineer. Prints of these plans are available upon request.

Add the following subsection:

00501.03 Submittals - Submit stamped bridge removal plans according to 00150.35 40 Calendar Days before beginning removal work.

Include the following information in the submittal:

- Removal sequence, including contractor staging and traffic staging.
- Detailed schedule of bridge removal work.
- Type of Equipment, including size and capacity.
- Equipment location during removal operations.

Do not begin bridge removal work until the bridge removal plans have been approved.

Add the following subsection:

00501.45 Salvage - Salvage and protect, for reinstallation, the following item:

- Existing bridge plaque (located at the southeast end of the bridge)
-

00501.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00510 - STRUCTURE EXCAVATION AND BACKFILL

Comply with Section 00510 of the Standard Specifications modified as follows:

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00510.00 Scope - Replace the paragraph that begins “This Work does not include any ...” with the following paragraph:

This Work does not include any earthwork covered under any sections of Parts 00300 or 00400, or any earthwork that may be specifically included and provided for as Incidental Work for particular items or parts of the Work. The construction, measurement, and payment of embankment at bridge ends and engineered fills is according to Section 00330.

00510.04(a) Defined Shoring Systems - Replace the sentence that begins “Select Shoring systems...” with the following sentence:

Select Shoring systems for construction from the list of defined Shoring systems provided in Section 16.3.26 of the ODOT GDM.

00510.04(b) Atypical Shoring Systems - Replace the paragraph that begins “Shoring systems that are not on the list...” with the following paragraph:

Shoring systems that are not on the list of Shoring types published in Section 16.2.4.2 of the ODOT GDM are considered atypical Shoring systems. If proposing an atypical Shoring system, submit stamped Working Drawings according to 00150.35. The review and response time allowed for the Agency to return the Working Drawings will be 120 Calendar Days. Submit calculations and other data satisfying the requirements of the Specifications and include sufficient detail and explanation of the design for the Agency to process and comment on the Working Drawings. If the Engineer requests additional information or explanation related to the review of the atypical Shoring system the Engineer may restart the 120-Calendar Day review period.

Replace the bullet that begins "A list of supervisory personnel ..." with the following bullet:

- A list of supervisory personnel who are on-site during construction of the atypical Shoring system and documentation of their experience and qualifications to perform the Work.

Replace the paragraph that begins “Geotechnical and structural analysis ...” with the following paragraph:

Geotechnical and structural analysis and design for the Shoring include, but are not limited to the items listed in the Shoring Design Checklist. Submit a completed Shoring Design Checklist and a written Shoring Design Summary, prepared by the shoring design engineer, to accompany the Working Drawings and calculations. Include the following in the Design Summary:

Replace the bullet that begins "Performance requirements (actual threshold ...” with the following bullet:

- Performance requirements (actual threshold limits of tolerable differential foundation settlement and lateral movement). Indicate how the performance requirements are monitored during construction.

00510.13(1) Material Passing No. 200 Sieve - Replace the paragraph that begins “The amount of Materials passing ...” with the following paragraph:

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Ensure the amount of Materials passing the No. 200 sieve does not exceed 15 percent by weight. Test according to AASHTO T 11.

00510.13(2) Plasticity Index - Replace the paragraph that begins “The plasticity index of the ...” with the following paragraph:

Ensure the plasticity index of the Material passing the No. 40 sieve does not exceed 6. Test according to AASHTO T 90.

00510.40 Clearing, Grubbing, and Removal Work - Replace this subsection, except for the subsection number and title, with the following:

Perform clearing, grubbing and removal work according to Section 00310 and Section 00320.

Perform clearing, grubbing, and removal at least 10 feet outside of the entire Structure, including the ends of the Structure but within the Right-of-Way.

00510.41 Structure Excavation - Replace the paragraph that begins “Concrete placed against steel ...” with the following paragraph:

Concrete placed against steel sheet piles in cofferdams or cribs are considered placed against undisturbed material, whether or not the steel sheets are later removed.

00510.44(a) Cofferdams and Cribs - Replace the paragraph that begins “Do not begin cofferdam or crib ...” with the following paragraph:

Do not begin cofferdam or crib construction Work until all submittals have been approved. Upon completion of the cofferdam construction, and immediately after dewatering, field inspect the cofferdam with the cofferdam design engineer of record and accompanied by the Engineer. Do not continue construction until the cofferdam design engineer provides the Engineer a written statement that the cofferdam conforms to the design and will serve the intended purpose.

00510.44(b) Shoring - Replace the paragraph that begins “Upon completion of the Shoring construction ...” with the following paragraph:

Upon completion of the Shoring construction, field inspect the Shoring with the shoring design engineer of record, accompanied by the Engineer. Do not continue construction until the shoring design engineer provides the Engineer a written statement that the Shoring conforms to the design and will serve the intended purpose.

00510.45 Pumping - Replace the paragraph that begins “No pumping of water from the ...” with the following paragraph:

No pumping of water from the interior of any foundation enclosure is allowed during the placing of concrete or for a period of at least 24 hours thereafter unless an effective means of eliminating moving water through fresh concrete is employed. Water may then be pumped, if approved.

00510.48(b)(3)(a) Test Pad Method - Replace the paragraph that begins “Before placing the wall backfill ...” with the following paragraph:

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Before placing the wall backfill, determine the number of Passes necessary to achieve the specified density by constructing a test pad that is at least 5 feet wide, 15 feet long, and 3 feet in final depth. Construct test pad fill in layers no more than 8 inches thick using the same Equipment and methods that are used to compact the wall backfill. Perform at least one density test according to AASHTO T 310 on each test pad layer. Construct and test a new test pad when changes in Material occur or different Equipment is used during the construction of the wall backfill.

00510.48(d) Reinforced Concrete Box Culverts, Structural Plate Structures and Pipe Culverts Over 72 Inches in Diameter - Replace the paragraph that begins "Provide bedding, if required ..." with the following paragraph:

Provide bedding, if required, according to 00405.12. Use backfill Materials meeting the requirements of 00510.12 or 00510.13 unless otherwise specified. Place and compact as shown and according to 00405.46. Place backfill up to the surrounding ground surface, to the top of trench, or the upper backfill pay limits shown or as directed.

00510.80(b)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of Structure excavation is:

Location	Structure Excavation (Cubic Yard)
Wingwall "A"	13
Wingwall "B"	13
Wingwall "C"	9
Wingwall "D"	12

00510.80(d)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantities of granular wall backfill are:

Location	Granular Wall Backfill (Cubic Yard)
Wingwall "A"	17
Wingwall "B"	17
Wingwall "C"	18
Wingwall "D"	23

00510.90(d) Granular Wall/Structure Backfill - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00530 - STEEL REINFORCEMENT FOR CONCRETE

Comply with Section 00530 of the Standard Specifications modified as follows:

00530.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Concrete Inserts	02513.35
Deformed Bar Reinforcement	02510.10
Deformed Bar Reinforcement (Stainless Steel)	02513.10
Dowels	02510.50
Dowels (Stainless Steel).....	02513.50
Epoxy Coated Reinforcement.....	02510.11
Galvanized Coating	02510.30
Headed Bar Reinforcement	02510.25
Mechanical Splices.....	02510.20
Mechanical Splices (Stainless Steel)	02513.20
Ties and Supports	02510.60
Ties and Supports (Stainless Steel).....	02513.60
Welded Wire Reinforcement.....	02510.40

00530.13 Miscellaneous Metal - Replace this subsection, except for the subsection number and title, with the following:

Minor metal parts such as drains, bolts, concrete anchors, spacer blocks, expansion and bearing devices, access hole covers and frames, anchor bolts, inserts and similar miscellaneous metal, unless otherwise provided, are classified as reinforcement.

Pipe attached to or used in conjunction with bridge deck drains or catch basins are classified as reinforcement.

00530.14 Concrete Inserts - Replace the paragraph that begins "Furnish hot-dip galvanized ..." with the following paragraph:

Furnish hot-dip galvanized expanded coil concrete inserts with closed back ferrule threaded to receive UNC threaded bolts or rods of the size shown. Furnish concrete inserts with the following minimum lengths and capacities:

00530.30 Mechanical Splice Installers - Replace the bullet that begins "Make splice samples ..." with the following bullet:

- Make splice samples in the presence of the Engineer using the same Materials, Equipment, and procedures that are used on the Project.

00530.35 Headed Bar Reinforcement Installers - Replace the bullet that begins "Make samples in the ..." with the following bullet:

- Make samples in the presence of the Engineer using the same Materials, Equipment, and procedures that are used on the Project.

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00530.40 Protection of Material - Replace the paragraph that begins "In addition to the requirements ..." with the following paragraph:

In addition to the requirements above, store epoxy coated bars with supports close enough to prevent sagging in the bundles. Provide protective padding when bundles are stacked or when supported on metal. Store bars as close as practicable to where they are placed in the Structure. Cover bars with an opaque material during storage to protect them from exposure to sunlight and saline mist. Move bars to or from storage according to 02510.11(b) to minimize damage to the coating. Do not allow the total exposure time from bar delivery to concrete placement, while in storage or in place, to exceed 2 months.

00530.41(a) Fabric - Replace this subsection with the following subsection:

00530.41(a) Welded Wire Reinforcement - If welded wire reinforcement is shipped in rolls, straighten it into flat sheets before placing.

00530.41(b) Ties and Supports - Replace the bullet that begins "When precast concrete bar ..." with the following bullet:

- When precast concrete bar supports are used, furnish Wired Blocks. Furnish tie wires meeting the requirements of 02510.60. Combination Blocks may be used in horizontal applications. Furnish tie wires meeting the requirements of 02513.60 for blocks supporting stainless steel reinforcement.

Replace the bullet that begins "Where at least one of the ..." with the following bullet:

- Where at least one of the bars to be tied or supported is epoxy coated, furnish tie wires that are either plastic or epoxy coated.

Replace the bullet that begins "When stainless steel rebar is specified..." with the following bullet:

- When stainless steel reinforcing is specified, use stainless steel ties and supports meeting the requirements of 02513.60.

Replace the bullet that begins "Use plastic tipped feet or ..." with the following bullet:

- Use plastic tipped feet or Class 2, Type A stainless steel tips if the feet of the support are on an exposed surface.

Delete the bullet that begins "Tie stainless steel reinforcement ...".

Delete the bullet that begins "Support stainless steel reinforcement...".

Replace the bullet that begins "Do not allow direct contact between stainless ..." with the following bullet:

- Do not allow stainless steel reinforcement to directly contact ASTM A1035 CS reinforcement. Do not allow stainless steel reinforcement or ASTM A1035 CS reinforcement in direct contact with other reinforcement with a different type of metal.

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When stainless steel or ASTM A1035 CS reinforcing or dowels are located near other reinforcing with a different type of metal, use nylon or polyethylene spacers to maintain a minimum 1 inch clearance between the two metals and bind them with nylon cable ties. Where insufficient space exists to maintain this minimum, either bar may be sleeved with a continuous polyethylene or nylon tube extending at least 1 inch in each direction past the point of closest contact between the two dissimilar bars.

Add the following bullets to the end of the bullet list:

- When ASTM A1035 CS reinforcing is specified, use epoxy coated ties and supports meeting the requirements of 02510.60(a).

00530.42(c)(2)(a) General - Replace this subsection with the following subsection:

Provide labor, Material and Equipment for fabricating sample mechanical splices at no additional cost to the Agency. All sample splices are tested by the Agency at the Agency's expense.

00530.42(c)(2)(d) Project Site Quality Control - Replace the bullet that begins "Submit one quality control ..." with the following bullet:

- Submit one quality control sample for each 100 splices performed up to 500 splices and then submit one sample for each 500 splices. Successful installer qualification according to 00530.30 satisfies quality control for the first 100 splices being installed. This sequence of testing is required for each heat treatment lot used.

Replace the bullet that begins "Quality control samples ..." with the following bullet:

- Quality control samples are tested according to this Section. If any sample fails to meet the test criteria, the lot that it represents is rejected until the cause of failure has been determined. Materials from a rejected lot may be accepted if they are shown to be free of the condition that caused the failure.

00530.42(c)(3) Installation - Replace the paragraph that begins "Install splices in the ..." with the following paragraph:

Install splices in the presence of the Engineer. Splices made without the Engineer present are rejected.

00530.43 Splicing Welded Wire Fabric - Replace this subsection with the following subsection:

00530.43 Splicing Welded Wire Reinforcement - Overlap sheets of welded wire reinforcement as shown or provide edge and end laps not less than one mesh in width. Securely fasten sheets at the ends and edges according to 00530.41.

00530.47(b)(1) General - Replace this subsection with the following subsection:

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Provide labor, Material and Equipment for fabricating sample headed bar reinforcement at no additional cost to the Agency. All sample headed bar reinforcement are tested by the Agency at the Agency's expense.

00530.47(b)(4) Project Site Quality Control - Replace this subsection with the following subsection:

During the installation of headed bar reinforcement:

- Submit one quality control sample for each 100 headed bars installed up to 500 headed bars and then submit one sample for each 500 headed bars. Successful installer qualification according to 00530.35 satisfies quality control for the first 100 headed bars being installed. This sequence of testing is required for each heat treatment lot used.
- Complete the headed bar reinforcement according to the manufacturer's recommendations.
- Quality control samples are tested according to this Section. If any sample fails to meet the test criteria, the lot that it represents is rejected until the cause of failure has been determined.

00530.47(c) Installation - Replace the paragraph that begins "Install headed bar reinforcement ..." with the following paragraph:

Install headed bar reinforcement in the presence of the Engineer. Headed bar reinforcement installed without the Engineer present is rejected.

00530.80(a) Lump Sum - Add the following to the end of this subsection:

The estimated quantity for uncoated reinforcement in pounds is:

Structure Number	Grade 60	Grade 80	Grade 100 ASTM A615	Grade 100 ASTM A706	Grade 100 ASTM A1035 ()
00576	7,300				

The estimated quantity for coated reinforcement in pounds is:

Structure Number	Grade 60	Grade 80	Grade 100 ASTM A615	Grade 100 ASTM A706	Grade 100 ASTM A1035 ()
00576		106,600			

00530.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

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The accepted quantities of reinforcement will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Reinforcement, Grade _____	Lump Sum or Pound
(b) Reinforcement, ASTM A1035 _____	Lump Sum or Pound
(c) Coated Reinforcement, Grade _____	Lump Sum or Pound
(d) Coated Reinforcement, ASTM A1035 _____	Lump Sum or Pound
(e) Stainless Steel Reinforcement, Grade _____	Lump Sum or Pound
(f) Welded Wire Reinforcement, Grade _____	Lump Sum or Pound

In items (a), (c), (e), and (f) the grade of reinforcement is inserted in the blank.

In items (b) and (d) the ASTM chromium content, "CS", "CM", or "CL" is inserted in the blank.

Item (a) and (b) include fabricating and placing uncoated reinforcement as specified.

Item (c) and (d) include placing epoxy coated reinforcement as specified.

Item (e) includes fabricating and placing stainless steel reinforcement as specified.

Item (f) includes fabricating and placing welded wire reinforcement as specified.

Payment for reinforcement will be made when the reinforcement is incorporated into the concrete.

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for clips, wire, separators, wire chairs, or other Material used in fastening the reinforcement in place.

SECTION 00535 - POST-INSTALLED ANCHOR SYSTEMS

Comply with Section 00535 of the Standard Specifications modified as follows:

00535.01 Required Submittals - Replace the title of this subsection with "**Submittals**"

Add the following to the end of the subsection:

Submit the anchor system manufacturer's installation instructions at least 21 Calendar Days before installation.

00535.10(a) Resin Bonded Anchor System - Replace the paragraph that begins "Furnish a polyester ..." with the following paragraph:

OR99: Rogue River Bridge, Gold Hill Spur Project

Furnish a polyester, vinyl ester, or epoxy resin bonding system from the QPL that sustains the minimum pullout force shown. Furnish resin used for installation of the anchor system as shown from the same lot used for testing according to 00535.45(a)(1).

Replace the paragraph that begins “Unless shown otherwise, galvanize all ...” with the following paragraph:

Unless shown otherwise, galvanize all anchors that have any portion of the anchor exposed. Galvanize according to AASHTO M 232 (ASTM A153) or AASHTO M 298 (ASTM B695), Class 50. When within 25 aerial miles of the Pacific Ocean, galvanize according to AASHTO M 232 (ASTM A153) only. Anchors that become completely encased in concrete will not require galvanizing.

00535.10(b) Mechanical Anchor System - Replace this subsection, except for the subsection number and title, with the following:

Furnish a mechanical anchor system from the QPL that sustains the minimum pullout force and is not longer than the embedment depth shown. Furnish anchors used for installation from the same lot used for testing according to 00535.45(a)(2). Unless shown otherwise, furnish galvanized mechanical anchors according to AASHTO M 232 (ASTM A153).

00535.40 Construction - Replace the paragraph that begins “Install the anchor system according ...” with the following paragraph:

Install the anchor system according to the manufacturer's installation instructions and to the embedment depths shown.

00535.40(a) General - Replace the paragraph that begins “Clean holes with a nonmetallic...” with the following paragraph:

Drill and clean holes according to the manufacturer’s installation instructions. Protect drilled and cleaned holes from contamination. If a drilled hole becomes contaminated, as determined by the Engineer, re-clean the hole.

Replace the paragraph that begins “Provide components connected ...” with the following paragraph:

Furnish components connected to the installed anchors with the same metal type or provide electrical isolation when metal type of the components is dissimilar or unknown.

Add the following subsection:

00535.45(c) Anchor Test Summary - Test the installed anchors according to Table 00535-2 and Section 00165.

Table 00535-2

Str. #	Sheet #	Anchor System (Mech/Resin)	Anchor Type (bolt/rebar)	Anchor Size	Anchor Grade	Anchor Sustained Tension (yes/no)	Demo. Test (yes/no)	Prod. Test (yes/no)
00576	J10	Resin	Rebar	#4	60ksi	no	yes	no
00576	J11	Resin	Rebar	#4	60ksi	no	no	no
00576	J14	Resin	Rebar	#4	60ksi	no	yes	no
00576	J19	Resin	Rebar	#4	60ksi	no	no	no
00576	J19	Resin	Rebar	#6	60ksi	no	yes	no
00576	J20	Resin	Rebar	#4	60ksi	no	no	no
00576	J22	Resin	Rebar	#4	60ksi	no	yes	yes
00576	J22	Resin	Rebar	#6	60ksi	no	no	yes
00576	J23	Resin	Rebar	#6	60ksi	no	no	yes
00576	J27	Resin	bolt	1/2"	55ksi	no	no	no
00576	J37	Resin	bolt	3/4"	55ksi	no	yes	yes

Replace anchors that fail at no additional cost to the Agency.

00535.45 Testing - Replace the paragraph that begins "Do not incorporate demonstration ..." with the following paragraph:

Do not incorporate demonstration test anchors into the Work. Do not begin installing the anchor system until the installation process is approved. Test results with the average load meeting or exceeding the minimum pullout force are acceptable. If any test anchor has a capacity less than 95 percent of the minimum pullout force, the anchor lot is rejected.

00535.45(a) Demonstration Tests - Replace the paragraph that begins "Install three test anchors ..." with the following paragraph:

Install three test anchors using the same Materials and methods that is used for installing the anchor system. One demonstration test includes 3 test anchors.

00535.45(b) Production Tests - Replace the paragraph that begins "Use anchors from the same ..." with the following paragraph:

Use anchors from the same lot used for the demonstration tests. Perform production tests during installation of the anchor system, after the installation is finished, and for the resin

bonded anchor system the resin has cured according to the manufacturer's recommendations. One production test includes 1 test anchor. Maintain the test load at the required load level for a minimum of 10 seconds. Measurable displacement is a failure. If the Engineer suspects improper installations, more testing may be required.

SECTION 00538 - CRACK INJECTING EXISTING BRIDGES

Comply with Section 00538 of the Standard Specifications modified as follows:

00538.01 Submittals - Replace the bullet that begins "Describe the Materials ..." with the following bullet:

- Describe the Materials to be used including the properties of each Material and the Specifications that the Materials comply with. Published manufacturer data is acceptable.

00538.30 Personnel Qualifications - Replace the paragraph that begins "Provide personnel skilled in ..." with the following paragraph:

Provide personnel skilled in the application of epoxy crack injection. Show experience relevant to anticipated conditions, Materials, and construction techniques for epoxy crack injection. Provide an on-site epoxy crack injection supervisor that has successfully completed at least three projects within the past 5 years.

00538.42 Acceptance - Replace the paragraph that begins "Crack injection Work ..." with the following paragraph:

Crack injection Work is accepted visually by determining that the epoxy resin has set and cured and that all cracks are sealed. If visual inspection reveals suspected failures, the Engineer will require cores samples. When required, provide 2-inch minimum diameter by 6-inch minimum depth core samples. The Engineer will determine the number of core samples and the locations to take the core samples. Take core samples at least 24 hours after the crack injection Work. When the crack injection Work is performed on only one side of the girder, take the core sample from the opposite side of the girder. When obtaining core samples, do not cut or damage existing steel reinforcement. Fill core holes with a PCC repair material.

Replace the paragraph that begins "If core samples show fully ..." with the following paragraph:

If core samples show fully hardened epoxy resin and at least 90 percent of the crack is filled, the crack injection Work for that crack is accepted. If core samples show inadequately hardened or inadequately filled cracks, stop all crack injection Work. Submit a revised crack injection procedure to the Engineer. Do not resume crack injection Work until the revised crack injection procedure has been approved by the Engineer.

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00538.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00540 - STRUCTURAL CONCRETE

Comply with Section 00540 of the Standard Specifications modified as follows:

00540.03 Required Submittals for Deck Sidewalk and Curb Ramps - Replace the title of this subsection with "**Submittals for Deck Sidewalk and Curb Ramps**"

Replace the paragraph that begins "Material ordered or Work ..." with the following paragraph:

Material ordered or Work done before the Engineer reviews and returns the documents are at the Contractor's risk.

00540.15 Form Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish wood, minimum nominal 5/8-inch-thick APA exterior grade plywood, minimum nominal 5/8-inch-thick APA plyform, metal, or other suitable form material. For round concrete columns, furnish either metal or other approved form material that produces a smooth and true surface free from fins, joints and other irregularities. Use APA plyform for all decks and slabs.

00540.17 Acceptance of Concrete - Replace the paragraph that begins "Acceptance of concrete ..." with the following paragraph:

Acceptance of concrete is according to Section 00165 and the following:

00540.17(a) Aggregate - Replace the paragraph that begins "Acceptance of Aggregate ..." with the following paragraph:

Acceptance of Aggregate is according to 02690.12.

00540.17(b) Plastic Concrete - Replace the paragraph that begins "Acceptance of plastic concrete ..." with the following paragraph:

Acceptance of plastic concrete is based on tests performed by the Contractor's QCT, according to the Tolerances and limits of 02001.20.

00540.17(c) Hardened Concrete - Replace the paragraph that begins "Cast and cure..." with the following paragraph:

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Cast and cure test specimens according to AASHTO R 100 in 6-inch x 12-inch or 4-inch x 8-inch, single-use plastic molds and test at 28 Days according to AASHTO T 22.

00540.17(c)(1) General - Replace the paragraph that begins “For all classes of concrete ...” with the following paragraph:

For all classes of concrete, acceptance of hardened concrete is based on an analysis of compressive strength tests of cylinders cast by the QCT. Test cylinders at an ODOT certified laboratory.

00540.17(c)(2) Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Hardened concrete with an ASTV meeting or exceeding the specified design strength, f'_c is accepted for strength. If the ASTV is less than f'_c but at least 85 percent of f'_c , the Engineer may review the results to determine if the concrete represented by the cylinders is suitable for the intended purpose. Remove concrete that has an ASTV less than 85 percent of f'_c unless otherwise authorized, in writing, by the Engineer. If the concrete is removed, the cost of removal, replacement and all related Work is the Contractor's responsibility. If the Engineer determines that the concrete is suitable for the intended purpose, the concrete may be allowed to remain in place, subject to a price adjustment according to 00150.25.

If an ASTV falls below f'_c , the Contractor may submit a written plan outlining a proposed alternate method of evaluating compressive strength. Submit the plan for review by the Engineer within 3 Days of the test. Provide evidence that a reasonable f'_{cr} (over-design) was maintained and that there is credible evidence (besides low strength) that warrants consideration of this option. The Engineer may allow an alternate method of acceptance if the compressive strength test results are determined to be suspect from definable external factors.

00540.24(a) Deck Finishing Machine Support System - Replace this subsection, except for the subsection number and title, with the following:

Provide calculations and detailed drawings of the proposed deck finishing machine support system according to 00540.41.

00540.25 Straightedge - Replace this subsection, except for the subsection number and title, with the following:

Provide a 12-foot metal straightedge for checking bridge deck roadway and sidewalk surface Tolerances.

00540.40(b)(3)(c) - Replace this subsection, except for the subsection number and title, with the following:

On ramps, sidewalks and intersections the gap below a 12-foot unlevelled straightedge resting on high spots does not exceed 1/4 inch in any direction.

00540.40(b)(3)(d) - Replace this subsection, except for the subsection number and title, with the following:

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On bridge decks, the gap below a 12-foot unlevelled straightedge does not vary from the testing edge by more than 1/8 inch in any direction.

00540.41(b) General Design Loads - Replace the paragraph that begins "Ensure design loads ..." with the following paragraph:

Ensure design loads used are the maximum loadings. Ensure deflections used on manufactured devices and assemblies do not exceed the manufacturer's recommendations. Provide catalog data that lists the manufacturer's recommendations.

00540.41(c)(2) On Piles - Replace the paragraph that begins "For Falsework supported ..." with the following paragraph:

For Falsework supported on piles, show on the Working Drawings the pile type, size and spacing. Accompany these drawings with calculations that show the assumptions and methods used to design the piles and the bearing values that the piles need to be driven to support the calculated loads.

00540.41(d) Requirements at Highway and Railroad Traffic Openings - Replace the bullet that begins "Increase the vertical post ..." with the following bullet:

- Increase the vertical post load 150 percent. If the load on the Falsework is increased by load transfer due to prestressing, increase the vertical post load by the additional load due to prestressing or by 150 percent, whichever is greater.

00540.42 Falsework Construction - Replace the paragraph that begins "Construct Falsework according ..." with the following paragraph:

Construct Falsework according to the current edition of AASHTO *Construction Handbook for Bridge Temporary Works*, except where in conflict with the Specifications. Assure that Falsework is constructed according to the Falsework design and on Soils equal to or exceeding design assumptions. Within 2 Days of notice of the falsework design engineer's pending inspection, the Engineer will provide a list of construction concerns. Do not place concrete until the falsework design engineer of record, accompanied by the Engineer, field inspects that portion of the Falsework proposed for use. Do not place concrete until all construction concerns have been addressed, the falsework design engineer provides the Engineer a written statement that the Falsework conforms to the design and will serve the intended use, and the Engineer agrees in writing that the Falsework will serve the intended use.

00540.43(a) Construction Joints - Replace the paragraph that begins "Apply a concrete surface ..." with the following paragraph:

Apply a concrete surface retarder according to the manufacturer's recommendations. Remove surface mortar within the time period recommended by the manufacturer and clean the joint surface and reinforcing steel by removing loosened particles of Aggregate, damaged concrete, unconsolidated concrete and surface laitance with a high pressure washer according to 00540.28 to the extent that clean Aggregate (free of surface mortar) is exposed on 50 percent of the surface. Clean the joint surface again immediately prior to the concrete placement to remove any subsequent deposits of dirt, debris or other foreign materials.

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Saturate the joint surface with potable water immediately before resuming concrete placement. Remove standing water in depressions or hollows of the joint surface.

00540.43(e) Construction Joints Between Existing and New Concrete - Replace the paragraph that begins "Sand-blast or water-blast existing ..." with the following paragraph:

Sand-blast or water-blast existing concrete surfaces where shown or directed. Roughen surface to a uniformly distributed 1/4-inch minimum amplitude surface profile. If approved, bush hammers or scabbler may be used for roughening existing concrete surfaces. Use pneumatic hammers, chipping guns, manual picks and chisels for area with limited access. Do not use pneumatic hammers heavier than a nominal 15-pound class. Remove loosened particles of Aggregate and damaged concrete with a high-pressure washer according to 00540.28.

00540.45 Construction of Forms - Replace the bullet that begins "Are retightened before ..." with the following bullet:

- Are retightened before depositing new concrete on or against concrete that has hardened.

00540.48(a) General - Replace the bullet that begins "Through pumps, chutes ..." with the following bullet:

- Through pumps, chutes or trunks according to 00540.22, when placement requires dropping concrete more than 5 feet. Place the bottom of pump hose, chutes, pipes or trunks as close to final placement position as practicable.

Replace the bullet that begins "In layers not more ..." with the following bullet:

- In layers not more than 18 inches thick, except for seal concrete placement, unless shown otherwise. Place and consolidate each layer before the preceding layer has taken initial set to avoid surfaces of separation between the layers.

00540.48(b) Pumping Concrete - Replace this subsection, except for the subsection number and title, with the following:

Pump concrete with pumping Equipment according to 00540.22. Pump a cement-water slurry through the lines before starting the mix through the pump. Operate the pump in a manner that produces a continuous stream of concrete without air pockets or segregation. When a placement nears completion, if concrete remaining in the pipeline is to be used, remove it in a manner that will not cause contamination of the concrete already in place.

There is no extra payment for additional cement or additives required to ensure a mix is pumpable.

00540.48(c) Vibrating Concrete - Replace the paragraph that begins "Apply vibration at the point ..." with the following paragraph:

Apply vibration at the point of freshly deposited concrete. Apply vertically at points uniformly spaced not farther apart than 1 1/2 the radius over where the vibration is visibly effective. Penetrate into previously placed plastic layers.

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Replace the paragraph that begins "Do not use vibrators to ..." with the following paragraph:

Do not use vibrators to make concrete flow or to move concrete from one point to another in the Forms. Do not apply directly on or through the reinforcement to sections or layers of concrete that have hardened to the degree that the concrete ceases to be plastic under vibration.

00540.48(g) Bridge Decks - Replace the paragraph that begins "Use deck finishing machines ..." with the following paragraph:

Use deck finishing machines according to 00540.24 and set to run parallel to the skew of the bent lines. Place screed rails outside the finishing area. Extend screed rails beyond both ends of the scheduled placement length for a distance that allows the finishing machine to reach all of the concrete.

Replace the paragraph that begins "Before placing concrete, operate ..." with the following paragraph:

Before placing concrete, operate the finishing machine the length of the proposed placement, and check the deck thickness and clearance from the screed to the reinforcing steel in the presence of the Engineer, by an approved method. The permissible variation from the clearance indicated is plus or minus 1/4 inch. Make necessary corrections before beginning the placement.

Replace the bullet that begins "Provides wind breaks, fog ..." with the following bullet:

- Provides wind breaks, fog spray, or other approved methods when the concrete surface is exposed to conditions that may cause premature drying during placement operations.

00540.49(a)(2)(a) General - Replace the paragraph that begins "To place concrete when the ..." with the following paragraph:

To place concrete when the temperature is below 40 °F, submit a Cold Weather Plan that identifies the methods that are used to prevent the concrete temperature from falling below 50 °F. Methods include heated enclosures and insulated Forms. Also include in the plan measures that are taken if the concrete temperature falls below 50 °F. Provide a 24-hour continuous recording thermometer to verify the concrete temperature.

00540.49(a)(2)(b) Enclosures - Replace the bullet that begins "Furnish and use, within ..." with the following bullet:

- Provide and use, within the enclosure, a 24-hour continuous temperature/humidity recorder to record the air temperature and relative humidity every hour during the cure period.

00540.50(b) Deck Roadway Finish - Replace the paragraph that begins "After the deck roadway concrete ..." with the following paragraph:

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After the deck roadway concrete has been screeded with a finishing machine according to 00540.24, float, if necessary, to produce a uniform surface, according to 00540.55. If the Work does not conform to the prescribed limits, stop the operation until revised methods, changes in Equipment, or correction of procedures are approved for trial. Also stop the revised operation if it does not produce a specified surface.

00540.50(d) Deck Sidewalk and Curb Ramp Finish - Replace this subsection, except for the subsection number and title, with the following:

Finish concrete surfaces on pedestrian facilities including but not limited to sidewalks, curb ramps and pedestrian structures that contain a Pedestrian Accessible Route according to 00759.50.

00540.51(a) General Requirements - Replace the paragraph that begins “If the ambient temperature falls ...” with the following paragraph:

If the ambient temperature falls below 50 °F, or is forecasted to be below 50 °F, provide a 24-hour continuous recording thermometer and place it directly on the surface of the concrete. Once placed, leave the thermometer in place for the duration of the cure period. Use methods approved by the Engineer to maintain a concrete temperature of at least 50 °F during the cure period.

00540.51(b) Curing Concrete Bridge Decks - Replace the bullet that begins “Provide wind breaks or ...” with the following bullet:

- Provide wind breaks or other approved methods when exposed to conditions that may cause premature drying during placement operations. Premature drying is defined as an evaporation rate equal to or greater than 0.10 pounds per square foot per hour, as determined from Figure 00540-1, or as the loss of surface sheen when the evaporation rate at the surface exceeds the bleed rate.

Replace the bullet that begins “Maintain a continuous water...” with the following bullet:

- Except for HPC(IC), maintain a continuous water cure of the concrete surface for 14 Days. For HPC(IC), maintain a continuous water cure of the concrete surface for 7 Days.

00540.52 Removal of Forms and Falsework, and Subsequent Loading – Replace the paragraph that begins “In determining when to remove ...” with the following paragraph:

In determining when to remove Forms and Falsework, and when to place subsequent loads, the Engineer will consider the Contractor's proposed schedule, the location and character of the Structure, the weather, and other conditions influencing the setting of the concrete. If appropriate, these operations are controlled by compressive strength tests of cylinders cast by the Contractor and witnessed by the Engineer. Test the cylinders at a recognized testing laboratory at no additional cost to the Agency. Cast and cure cylinders according to AASHTO R 100 (field cured) that is equivalent to the most unfavorable field conditions for the portions of the concrete that the cylinders represent.

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Replace the paragraph that begins “² Where continuous spans ...” with the following paragraph:

² Where continuous spans are involved, the time for all spans is determined by the last concrete placed affecting any span.

00540.53(b) Class 1 Surface Finish (Ground, Sacked, and Coated) - Replace the paragraph that begins “After completion of the general ...” with the following paragraph:

After completion of the general surface finish, grind the surface with a power grinder or an equivalent method to remove laitance and surface film. Sack the surface to fill all holes using a paste of fine mortar sand, cement, water, and bonding agent. The ratio of bonding agent to water is one part bonding agent to two parts water, or as recommended by the manufacturer. Apply coating according to 00540.53(d).

00540.53(d) Concrete Coating - Replace the paragraph that begins “Apply either a concrete paint...” with the following paragraph:

Coat new concrete surfaces according to 00544.

00540.54 Crack Inspection and Deck Sealing - Replace the paragraph that begins “Perform crack sealing Work ...” with the following paragraph:

Perform crack sealing Work at no additional cost to the Agency. Complete all crack sealing Work before opening to traffic. If the Bridge is opened to traffic at the Contractor's request before completing crack sealing, all additional traffic control to complete crack sealing is at no additional cost to the Agency.

00540.55 Final Acceptance of Bridge Deck Surface - Replace the paragraph that begins “Ensure the finished ...” with the following paragraph:

Ensure the finished bridge deck roadway surface meets the Tolerance specified in 00540.40(b)(3)(d) at every point. Provide a 12-foot straightedge and use it under the Engineer's direction.

00540.80(a)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of concrete is:

Bridge No. 00576

Type and Class	Quantity (Cu. Yd.)
Deck Concrete, Class HPC(IC) 4500	432
General Structural Concrete, Class 3300	59

00540.80(b) Sawcut Texturing - Replace this subsection with the following subsection:

00540.80(b) Surface Texturing - The quantities of surface texturing will be measured on the area basis and is the area of each bridge deck or approach slab as shown, less 16 inches

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along each curb and 6 inches from joint blockouts and bridge ends. Field measurement of surface texturing will not be made.

00540.90 Payment – Replace the Pay Item Sawcut Texturing with the following Pay Item:

Pay Item	Unit of Measurement
(d) Surface Texturing	Square Yard

Replace the paragraph that begins “In items (a), (b) ...” with the following paragraph:

In items (a), (b), and (c), the class of concrete is inserted in the blank.

Replace the paragraph that begins “Payment will be payment ...” with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

In the paragraph that begins, “No separate or additional payment...” Add the following bullet to the end of the bullet list:

- fogging, curing, joint filler, admixtures and other similar items, and for all other items required to complete the concrete Work

FALSEWORK DESIGN CHECKLIST

Instructions - This checklist was developed to facilitate the design, review, and erection of falsework to be used for Oregon Department of Transportation bridge construction projects. This checklist is intended to act as a reminder to design or check for specific important aspects of this construction. It is not a substitute for plan and/or design criteria or specification requirements.

The Checklist is to be completed and signed by the Falsework Design Engineer. Answer every question. Attach to the Checklist an explanation of any negative responses.

Submit the Checklist according to 00540.41(a).

A. Contract Plans, Specifications, Permits, Etc.	YES	NO	N/A
1. Are the falsework plans prepared, stamped and signed by an engineer registered to practice in Oregon?	_____	_____	_____
2. Have three complete sets (five if railroad approval is required) of the design calculations been included with the falsework drawings submittal?	_____	_____	_____
3. Are falsework plans in compliance with the requirements of the construction plans general notes?	_____	_____	_____
4. Are falsework plans in compliance with contract plan structural details?	_____	_____	_____
5. Are falsework plans in compliance with the requirements of the Oregon Standard Specifications for Construction, subsection 00150.35?	_____	_____	_____
6. Are all existing, adjusted or new utilities in proximity with the proposed falsework shown on the falsework plans and is protection of these utilities addressed?	_____	_____	_____
7. Are clearance requirements satisfied and shown on the falsework plans?	_____	_____	_____
8. For construction in or over navigable waters have all requirements for construction of falsework that are called for in the Coast Guard Permit been incorporated in the falsework design?	_____	_____	_____
9. Has possible damage from traffic been considered in the falsework design?	_____	_____	_____
10. Has damage from stream drift been considered in the falsework design?	_____	_____	_____

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11. Is the concrete placing sequence shown and is it consistent with the contract plans?

B. Foundation Requirements

YES

NO

N/A

1. Are driven falsework piling provided as called for on the contract plans?

- a. Is a minimum pile tip elevation or penetration indicated on the drawings?

- b. If timber falsework piles are specified, are the recommended order lengths sufficient to virtually eliminate the possibility of pile splices?

- c. Is a detailed static pile capacity analysis included in the calculations?

- d. If lateral loads are applied to the piling by equipment, dead loads, flowing water, or drift, is a detailed lateral load analysis included in the calculations?

- e. When piling are in an active waterway, have the potential effects of scour on axial and lateral pile support been addressed in the calculations?

- f. Does the proposed falsework pile hammer meet the minimum field energy requirements as listed in 00520.20(d)(2)?

- g. Will a driving criteria graph [FHWA Gates Equation, in 00520.42(b)] plotting blow count versus stroke for an acceptable pile hammer be provided for the project inspector?

2. Is falsework supported on spread footings or mud sills?

- a. Are the spread footing elevations shown on the drawings?

- b. Has a rational method for determining the ultimate bearing capacity of the foundation materials been presented and described in the calculations?

- c. Have the soil parameters used in calculating the ultimate bearing capacity been listed and confirmed by the designer?

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d. Has an appropriate Factor of Safety been used for calculating the allowable bearing capacity of the foundation materials?	_____	_____	_____
e. Are spread footing settlement estimates included in the calculations?	_____	_____	_____
f. Have effective stresses been used in the calculations, when applicable?	_____	_____	_____
g. When spread footings are founded near the top of a slope or in a slope, have the ultimate bearing capacity calculations been modified accordingly?	_____	_____	_____
h. When spread footings may be subjected to flowing water, have the potential effects of scour on ultimate bearing capacity been addressed in the calculations?	_____	_____	_____
C. Loads	YES	NO	N/A
1. Are the magnitude and location of all loads, equipment and personnel that will be supported by the falsework shown and noted on the falsework plans?	_____	_____	_____
2. Has the mass of specific equipment units to be supported by the falsework been included in the calculations or on the falsework plans?	_____	_____	_____
3. Is the deck finishing machine supported in a manner that will not impose load on concrete forms except deck overhang brackets?	_____	_____	_____
4. Are design loads and material properties used to determine design stresses for each different falsework member shown on the falsework plans?	_____	_____	_____
5. Is the worst loading and member property condition, rather than the average condition, used to obtain design loads?	_____	_____	_____
6. Are deck forms for concrete box girders supported from the girder stem and not from the bottom slab?	_____	_____	_____
7. Are diaphragm loads or other concentrated loads included in the analysis of supporting beams?	_____	_____	_____
8. If sloping structural members exert horizontal forces on the falsework, is bracing or ties used to resist these loads?	_____	_____	_____
D. Allowable Stresses	YES	NO	N/A

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1. Has the method used for falsework design of all members except for manufactured assemblies been noted in the design calculations?

2. Are manufactured assemblies identified as to manufacturer, model, rated working capacity and ultimate capacity?

3. Is the allowable stress and the calculated stress listed in the summary for each different falsework member, except for manufactured assemblies?

E. Timber Falsework Construction

YES

NO

N/A

1. Are timber grades consistent with material to be delivered to the construction site, and noted on falsework drawings, and in accompanying calculations for all timber falsework material?

2. If "rough" lumber is specified for falsework by the falsework designer are the actual lumber dimensions used in calculations shown?

3. If plywood spans are governed by the strength of the plywood, are the allowable stress and the calculated stress shown on the submitted calculations?

4. If plywood spans are governed by the allowable spacing of supporting joists, are the allowable and the proposed spacing shown on the falsework plans?

5. Have timber stringers been checked for bending, shear, bearing stresses, and 1/240 of the span length deflection?

6. Are joists identified as being continuous over 3 or more spans when they are not analyzed as simple spans?

7. Have stringers and cap beams been checked for bearing stresses perpendicular to the grain as well as for bending and shear stresses?

8. Have posts been checked as columns as well as for compression parallel to the grain?

F. Steel Falsework Construction

YES

NO

N/A

1. Are steel structural shapes and plates identified by ASTM number on the falsework plans and in the calculations?

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2. Have steel beams been checked for bending, shear, web crippling and buckling of the compression flange?	_____	_____	_____
3. Has horizontal plane bracing been shown where required to limit compression flange buckling?	_____	_____	_____
G. Deflections and Settlement	YES	NO	N/A
1. Is falsework deflection for concrete dead load shown on the plans for all falsework spans?	_____	_____	_____
2. Is falsework deflection from concrete dead load limited to 1/240 of the span length for all falsework spans?	_____	_____	_____
3. Do stringers supporting cast-in-place concrete compensate for estimated camber?	_____	_____	_____
4. For beam spans with cantilevers, has the upward deflection of the cantilevers due to load placed on the main spans been investigated?	_____	_____	_____
5. Are provisions shown for taking up falsework settlement?	_____	_____	_____
H. Compression Members, Connections and Bracing	YES	NO	N/A
1. Has general buckling been evaluated for all compression members?	_____	_____	_____
2. Has bracing been provided at all points of assumed support for compression members?	_____	_____	_____
3. Was bracing in each direction considered in establishing the effective length used to check post capacity?	_____	_____	_____
4. Is bracing strength and stiffness sufficient for the intended purpose?	_____	_____	_____
5. If temporary bracing is required during intermediate stages of falsework erection, is it shown on the falsework plans?	_____	_____	_____
6. Have all connections been designed and detailed?	_____	_____	_____
7. Are web stiffeners required on steel cap beams to resist eccentric loads?	_____	_____	_____
8. Are wedges required between longitudinal beams and cap beams to accommodate longitudinal slope or to reduce eccentric loading?	_____	_____	_____
9. Has the width to height ratio of wedge packs been verified to fall within the limits given in the special provisions?	_____	_____	_____

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10. If overhang brackets are attached to girder webs, has the need for temporary bracing to prevent longitudinal girder distortion been investigated?	_____	_____	_____
11. Have beams and stringers with height/width ratios greater than 2.5:1 been checked for stability?	_____	_____	_____
12. Have sloping falsework members that exert horizontal forces on the falsework been braced or tied to resist these loads?	_____	_____	_____
13. If beams supporting cast-in-place concrete have cantilever spans, have the falsework plans been noted to require the main spans be loaded before loading the cantilever spans?	_____	_____	_____
14. Have timber headers set on shoring towers been checked for eccentric loads, and for shear and bending stresses produced by the eccentricity?	_____	_____	_____
I. Highway and Railroad Traffic Openings (For falsework over or adjacent to highway or railroad traffic openings.)	YES	NO	N/A
1. Do falsework plans satisfy construction clearances shown on the contract plans?	_____	_____	_____
2. Are posts designed for 150% of the calculated vertical loading and increased or readjusted for loads caused by prestressing forces?	_____	_____	_____
3. Are mechanical connections 2,000 pounds minimum capacity shown at the bottom of posts to footing connections?	_____	_____	_____
4. Are mechanical connections 1,000 pounds minimum capacity shown at the top of the post to cap connections?	_____	_____	_____
5. Are beam tie downs 500 pounds minimum capacity shown for all beams?	_____	_____	_____
6. Are 5/8 inch or larger diameter bolts used at connections for timber bracing?	_____	_____	_____
7. Are temporary erection and removal bracing shown?	_____	_____	_____
J. Additional Requirements for Railroad Traffic Openings	YES	NO	N/A
1. Do falsework plans show collision posts as shown on the contract plans?	_____	_____	_____

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2. Do posts adjacent to the openings have a minimum section modulus of?

a. steel - 9.5 cubic inches

b. timber - 250 cubic inches
3. Are soffit and deck overhang forming details shown?
4. Are falsework bents within 20 feet of centerline of the track sheathed solid between 3 feet and 17 feet above top of rail with 5/8 inch thick minimum plywood and properly blocked at the edges?
5. Is bracing on the bents within 20 feet of the centerline of the track adequate to resist the required assumed horizontal load or minimum 5,000 pounds, whichever is greater?

Designer's Signature

Date

SECTION 00542 - CONCRETE REPAIR

Section 00542 is not in the Standard Specifications and is included in this Project by Special Provision.

Description

00542.00 Scope - This Work consists of locating and repairing damaged concrete and reinforcement in Structures, and providing mortar or resin buildup over shallow reinforcement.

00542.01 Definitions:

Damaged Concrete - Concrete that is spalled or delaminated due to corroded reinforcement or metal appurtenances such as bearing devices, drains, and conduits; concrete that is debonded from corroded reinforcing bars; concrete with near-surface rock pockets; unsound or delaminated existing patches; and concrete that has been drilled, excavated, or removed during prior maintenance work or during the Work of this Contract.

Hand Patch - Installing hand-troweled repair mortar in concrete cavities up to 0.50 square foot surface area.

Metal Detector - A device to measure any type of metal, whether on the surface or buried in concrete.

Pumped Repair - Installing Pumped Repair mortar in concrete cavities greater than 0.50 square foot surface area.

Reinforcing Bar Locator - A device specifically designed to find reinforcing in concrete.

Saturated Surface Dry Condition - Surface condition where hardened concrete is thoroughly saturated with water, but any free water has been removed from the surface.

Shallow Reinforcing Bar - Steel reinforcement with 1/2 inch or less of concrete cover.

00542.02 Submittals - Submit the following at least 21 Calendar Days before beginning concrete repair Work according to 00150.37. Within 21 Calendar Days after receipt of submittals, the Engineer will review the submittals and designate them in writing as "approved", "approved as noted", or "returned for correction".

(a) Concrete Repair Mortar - Submit the following:

- A description of all relevant constituents and properties of the Material. Data published by manufacturer is acceptable unless certifications of the Material characteristics are required by the Specifications.
- For prepackaged products, the manufacturer's certification that the contents include cement and Aggregate and do not include silica fume, fly ash, or any other porosity-reducing admixture. Furnish the proportion (by weight) of portland cement to Sand according to the provisions of 00165.35.

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- The Specifications subsection that each repair mortar complies.
- If proposing alternative repair mortar to those specified in 00542.10, test data demonstrating compliance with 00542.10.

For alternate repair mortar submit three 4 by 8-inch cylinders of repair mortar cast in the presence of the Engineer using the proposed mix proportions, admixtures, and mixing and application Equipment, at least 10 Calendar Days before starting concrete repair Work. Cast and cure the cylinders according to AASHTO R 100 or R 39.

Submit records of mix proportions and indicate the mix design that was used in each repair location. Maintain and provide records that are complete enough to be able to match repaired areas with the mix records.

(b) Concrete Repair Procedure - Submit a concrete repair procedure that includes the following:

- Manufacturer's specifications and operating instructions for all Equipment.
- Details of each step to accomplish the Work.
- Steps to regularly maintain quality control of all newly applied mortar.
- Plan to maintain records of verification of proportion (by weight) of Sand to portland cement and quantity of any additives for all mortar mixed on-site.
- Plan to maintain records identifying the mix design for each repaired area.

(c) Repair Damaged Reinforcing Bars - Submit a plan for accomplishing reinforcing bar repair that includes the following:

- Welder certifications according to AWS D1.4
- Pre-approved welding procedure specification (WPS) or procedure qualification record / welding procedure specification (PQR/WPS)
- Detailed procedure for electrode control measures
- Detailed procedure for achieving, maintaining, and monitoring pre-heat and inter-pass temperatures.

00542.03 Pre-welding Conference - Before beginning concrete repair Work, meet with the Contractor's supervisory personnel, concrete repair Subcontractor's supervisory personnel, the Contractor's certified welding inspector (CWI), and the Engineer at a mutually agreed upon time. The pre-welding conference includes discussion of the Contractor's quality control responsibilities, documentation requirements, welding procedures and Equipment, and demonstration of welder skills.

Materials

00542.10 Patch Material:

(a) Pumped Repair Mortar - Furnish one of the following micro-concrete (MC) or mortars with the required admixture as specified in 00542.15 for pump application.

- Pumped SikaEmaco 440MC (formerly BASF MasterEmaco S 440MC).

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Alternative repair mortar meeting the following requirements:

- Non-polymer flowable micro-concrete
- Suitable for pumping
- At least 4,000 psi 28-Day compressive strength
- “Low” potential for cracking and no cracking in 28 Calendar Days when tested according to ASTM C1581, including Appendix
- Electrical resistivity in the range of 2,000 to 20,000 ohm-cm

Submit proposed alternative Materials for approval according to 00542.02.

(b) Hand Patch Material - Furnish Hand Patching Materials according to 02015.20 or 02015.30. Observe QPL remarks and follow the manufacturer's recommendation for application.

00542.11 Non-conductive Resin - Non-conductive resin is acceptable for filling cavities of 0.05 square feet or less and for resin buildup over Shallow Reinforcing Bar in sound concrete. Furnish a non-conductive resin from the category “Resin Bonded Anchor System” of the QPL, mixed at a 1:1 ratio with clean abrasive blasting Material.

00542.12 Abrasive Material - Furnish clean, dry, non-metallic grit abrasive Material with no mineral constituents that break down and remain on the surface in visible quantity. Furnish hard angular shaped abrasives from 16 - 30 mesh.

00542.13 Water - Furnish water according to Section 02020.

00542.14 Reinforcement and Added Steel - Furnish ASTM A706 Grade 60 uncoated reinforcing bars meeting the requirements of 02510.10. Furnish uncoated, ungalvanized welded wire reinforcement meeting the requirements of 02510.40. Furnish uncoated and ungalvanized metal embedded in the repair material to facilitate concrete replacement.

00542.15 Admixtures - Use only admixtures approved by the Engineer.

If using admixtures to reduce the water-cement ratio, or to retard or accelerate the development of strength, use only admixtures compatible with the mortar and at the rate specified by the manufacturer.

00542.17 Mechanical Anchors - Furnish the following mechanical screw anchors:

- Dewalt Ultracon + (Hex washer head)
- Hilti Kwik Con II + (Hex washer head)
- ITW Red Head Tapcon (Hex washer head)

Labor

00542.30 Welders - Provide certified welders and welding inspectors according to AWS D1.4.

Construction

00542.40 Work Access, Containment, and Disposal - Provide Work access and debris containment according to Section 00253.

Dispose of waste according to 00290.20.

00542.41 Locating and Marking - Locate and mark the following:

- Concrete having visible spalling or delamination due to corrosion of reinforcement or metal appurtenances such as bearing devices, drains, and conduits. Include within the repair boundaries all Damaged Concrete at the edges of spalls.
- Visible unsound patches of Material.
- Concrete that is visibly loose, or that becomes dislodged or loosened when struck with a 16-ounce masonry hammer or by other approved technique.

Verify the presence of steel with a metal detector.

The Contractor is advised that concrete containing Aggregate larger than 2 inches can cause false readings. If no steel is present, readings in such areas should be disregarded.

Investigate all spots of rust visually and with a metal detector to determine if a metallic object is present. If a metal object is present mark the location.

In areas where spalling or delamination is not visually detectable, but is indicated by sounding, use a Reinforcing Bar Locator and mark reinforcing bars and their minimum concrete cover. If rust scale or pitting is found on the exposed reinforcing bar, or if the remaining concrete is separated from the bar, mark the Damaged Concrete area for removal.

Do not use internal angles less than 45 degrees in defining the repair boundaries. Make all repairs at least 2 inches wide in each direction. Within these restrictions, mark boundaries such that repair areas can be efficiently sawed and excavated.

Determine and mark the location and extent of each repair excavation. Do not begin concrete removal until location and extent have been verified by the Engineer.

The Engineer will perform verification surveys of selected sections of the Work and determine the final quantity of repairs. Do not begin excavation until the Engineer has completed the verification surveys.

00542.42 Concrete Removal - Sawcut the boundaries of concrete to be removed, to a depth just missing the reinforcing bars with less than 1/2-inch concrete cover or to a minimum of 1/2 inch, whichever is less. Do not overrun sawcuts at the corners of the marked boundaries. Sawcutting is not required if the Contractor can consistently provide, by another technique, a minimum 1/2-inch-deep excavation surface that is uniformly perpendicular to the original concrete surface along the marked boundary.

Remove concrete within the marked boundaries with high-pressure waterjet blasting Equipment, pneumatic hammers, chipping guns, manual picks and chisels, or other Equipment approved by the Engineer. Do not use pneumatic hammers heavier than a

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nominal 15-pound class. Remove concrete in such a way that removal of sound concrete beyond established boundaries is kept to a minimum. When working around reinforcing bars, avoid loosening the reinforcement or fracturing the concrete around it within or beyond the repair area.

Remove all Damaged Concrete within the marked boundaries to the depth of sound concrete. In areas where the reinforcing bar lacks bond with the existing concrete, continue to excavate to 1/2 inch beyond the depth of the reinforcing bar. Do not excavate beyond the depth of the reinforcing bar if area shows the reinforcing bar to be free of rust scale or pitting and the reinforcing bar is not separated from the remaining concrete.

The depth of concrete damage, due to corrosion, in any member is not expected to be substantially greater than 1/2 inch beyond the depth of the reinforcing bar.

Do not remove sound concrete over Shallow Reinforcing Bar.

00542.43 Damaged Reinforcing Bar Repair - Repair reinforcing bar showing 50 percent or greater section loss according to the following:

- Remove all Damaged Concrete
- Remove sound concrete as necessary so that there is a minimum of 3/4 inch clearance between the concrete and splice bars over entire length of repair
- Blast-clean all exposed reinforcing steel and concrete
- If feasible, place splice bars so as to allow 1/2 inch of concrete cover without raising the concrete surface
- Perform all weld splicing according to ANSI/AWS D1.4, "Structural Welding Code - Reinforcing Steel". Since the carbon content of existing reinforcement is unknown, assume that preheating is required under ANSI/AWS D1.4. Limit the temperature of reinforcing bar at concrete interface to 500 °F or less, verified using an infrared thermometer.
- Remove any additional concrete that cracks or spalls during welding
- Keep the existing spliced bars in place and avoid gouging and loosening reinforcing bar or damaging sound concrete outside of splice areas
- Keep the splice bar in the proper position during placement of concrete cover

Repair round bars with new splice bars the same size as the original bars. Repair square bars with new round splice bars with a diameter equal to the thickness of the square bars.

00542.44 Shallow Reinforcing Bar in Sound Concrete - If Shallow Reinforcing Bar exists in sound concrete and passes the sounding test, no concrete repair is necessary.

00542.45 Shallow Reinforcing Bar in Damaged Concrete - Where directed, treat prefabricated mesh and other closely spaced shallow metals in the same manner as Shallow Reinforcing Bar in Damaged Concrete. Place additional cover Material over Shallow Reinforcing Bar in Damaged Concrete according to the following:

- (a) **Mortar Buildup over Shallow Rebar** - Place additional mortar as needed to achieve at least 1/2 inch of cover over Shallow Reinforcing Bar repairs.

(b) Resin Buildup over Shallow Reinforcing Bar - In areas where additional buildup is not feasible, or where buildup would detract from the aesthetic appearance of the Structure, furnish additional cover using non-conductive resin according to 00542.11. Apply the resin in 2-inch-wide strips over the Shallow Reinforcing Bar.

00542.46 Surface Preparation - Abrasive-blast or water-blast all concrete surfaces that are to receive additional mortar cover or patches, to remove all debris, loose concrete, concrete pulverized during removal, scale, and loose rust. Blast exposed reinforcing bars according to SSPC Standard SP6 "Commercial Blast Cleaning" or equivalent procedure. Do not allow prepared surfaces to remain exposed more than 36 hours before placing repair mortar.

Prepare surfaces that are to receive additional mortar or resin cover with a surface profile according to International Concrete Repair Institute (ICRI) Guideline 310.2R-2013 surface profile CSP 6 (1/8-inch surface profile).

Furnish mechanical anchors for concrete surfaces that are to receive more than 1 inch of repair mortar and have reinforcing bar spacing greater than 9 inches. Install anchors by drilling hole diameter per manufacturer's specification with 1-inch-deep embedment on a 9-inch maximum grid in the concrete substrate.

00542.48 Patch Installation:

(a) Forms - Furnish smooth-surfaced form Materials. Provide adequate support and bracing of forms to prevent deflection under the weight and pressure of new mortar, and to prevent vibration damage to mortar during setting and curing. Leave forms in place for a minimum of 3 Days after mortar placement.

Furnish watertight form Materials and a watertight form system to prevent loss of water during presoaking and repair mortar placement. Incorporate enough pumping ports to ensure consistent placement and enough vent holes or vent tubes to allow air to escape extreme surface irregularities and remote cavities. Limit port spacing to prevent mortar segregation.

Furnish forms that can readily be removed and reinstalled for presoaking, flushing, blowdown, and for verification of Surface Saturated Dry Condition.

(b) Pre-soak - Saturate the substrate concrete for at least 24 hours before application of repair mortar. Use either a watertight form kept full of water; saturated burlap or foam Material packed inside the forms, in contact with the entire existing concrete surface, and soaked frequently; or any other method demonstrated to produce Saturated Surface Dry Condition.

After the substrate has been saturated, temporarily remove the form and, immediately before placing mortar, remove all dust, dirt, and other debris by flushing the surface with water pressurized to at least 60 psi, followed by blasting with clean compressed air to remove excess water. Provide a damp surface free of standing water and free of contaminants when applying repair mortar. Light surface rust that appears during the pre-soak stage does not need to be removed. When the concrete surface is in Saturated Surface Dry Condition and free of contaminants, and reinforcement is clean or has only light surface rust, immediately reinstall the forms and place mortar.

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(c) Mixing - When a package of prepackaged repair mortar is opened, mix the entire contents of the package.

Mix repair mortar according to the manufacturer's instructions including.

(d) Placing Repair Mortar - Pump repair mortar and achieve thorough and uniform hydration without the use of excess water.

Do not place mortar before acceptance of Saturated Surface Dry Condition by the Engineer.

Do not place mortar during freezing weather or if temperatures are likely to drop below freezing during the cure period for the mortar. Do not apply mortar to frosted surfaces. Follow the manufacturer's recommendations regarding temperature and weather conditions during mortar placement.

Provide adequate pumping pressure into each port to ensure mortar completely fills the cavity and mortar is observed at all vents. Vibrate only if approved by the Engineer in advance.

(e) Adjacent Surface Protection - Protect surfaces outside the repair area from mortar overshoot and drip. Remove the excess Material from these areas after the application has been completed.

(f) Mix Records - Record proportion (by weight) of Sand to portland cement and the quantity of any additives for all mortar mixed on-site at the start of each mortar placement operation and every time proportions or additives are changed. Keep a record of the mix used for each repair area.

00542.49 Curing - Take care to avoid cracks in the new mortar due to excessive surface evaporation. Continuously cure all newly applied mortar according to the manufacturer's recommended curing schedule.

00542.50 Finish - Finish all exposed surfaces and surface defects to straight and true lines as shown. Provide a Class 2 surface finish according to 00540.53 on all exposed surfaces and a general surface finish according to 00540.53 on all other surfaces, with no coating on any surface unless otherwise directed.

00542.51 Delamination Survey - After mortar repair Work has cured, conduct a delamination survey of all repaired areas with the Engineer according to the following:

- Sound all repaired areas with a 1-pound masonry hammer or by other approved technique.
- Mark boundaries of all delaminations in the repaired areas.
- Identify the marked delamination that needs Patching.

Make repairs when delamination repair areas do not meet the acceptance criteria of 00542.52.

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Upon completion of the survey, prepare and sign a survey report that identifies all areas to be patched. Submit the survey report for review and acceptance by the Engineer. Repair the identified areas in a manner satisfactory to the Engineer.

After Patching the identified areas, repeat the delamination survey. Repeat the delamination survey and repair procedure until all areas of unsound concrete have been repaired and accepted.

Following the bond strength test of cores according to 00542.52(b), the Engineer will visually inspect the cores for sand pockets and voids. If sand pockets or voids are found, the area from where the core was taken will be marked by the Engineer to aid in the Contractor's delamination survey.

00542.52 Production Quality Control Testing - Acceptance of Work performed under this Section is according to the following tests:

(a) Compressive Test - For each 200 square feet of mortar placed on the Bridge, but not less than once per production Work shift, cast at the same time and under the same conditions three 4 by 8 inch cylinders for testing. Cast the cylinders in single-use plastic molds. Cast and cure strength specimens according to AASHTO R 100 or AASHTO R 39. Test the cylinders for compressive strength according to AASHTO T 22 following a 28-Day cure.

The minimum acceptable 28-Day compressive strength of cylinders is 3000 psi.

(b) Pull-off Test - Following a 7-Day cure of the mortar patch, core one test specimen from each 200 square feet of newly applied mortar placed on the Bridge surface, at locations designated by the Engineer. Locate cores to avoid damaging reinforcing bar. Core approximately 1/2 inch into the original concrete. Do not break cores free before testing. Perform pull-off tests of the cores in the presence of the Engineer.

Measure the core bond strength according to ASTM C1583. Use pull-test dollies with the same diameter as the cores. Conduct the test until failure.

The minimum acceptable bond strength between the new and original concrete is 175 psi.

If the test shows failure at less than 100 psi, retest after checking Equipment and verifying core angle is perpendicular to the surface. If the patch area is too small for another test, use alternate patch location. If the retest shows failure at less than 100 psi, then a pull-off test may be performed on in situ concrete substrate in the vicinity of the patch area to determine the existing concrete substrate tensile strength. If in situ concrete substrate fails at 100 psi or less, the Engineer will re-evaluate the original concrete substrate.

Individually seal the cores taken from the Bridge in plastic bags and tag them for identification.

If any quality control test fails to meet the minimum requirements, any or all repair mortar represented by that test may be rejected by the Engineer.

00542.53 Deficient Repair Mortar - Repair, at no additional cost to the Agency, all mortar patches that show an alligator cracking in the surface or uncontrolled cracks visible without

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magnification. Perform additional testing as directed to determine the extent of deficient mortar in the production test area represented. If additional patches are found to be deficient, repair the production test area represented according to the Specifications at no additional cost to the Agency. Repairs include removal and replacement of patches found to be substandard.

Repair small crevices a maximum of 0.4 inch deep and 0.1 inch wide at the edge of a patch with non-conductive resin mixed with abrasive blasting Material or other approved patch Material, at no additional cost to the Agency. Cut out pockets or other defects and replace with new repair mortar according to this Section.

Measurement

00542.80 Measurement - The quantities of Work performed under this Section will be measured according to the following:

(a) **Locate Concrete Repair** - No measurement of quantities will be made for locating concrete repairs. The estimated quantity of locating concrete repairs is 18,000 square feet.

(b) **Reinforcing Bar Repair** - Repair of damaged reinforcing bar will be measured on the unit basis, per each.

(c) **Concrete Repair** - Concrete repair will be measured on the area basis. Measurement will be the outside measurement of the area of Work marked for concrete repair, not including areas marked for mortar buildup over Shallow Rebar, after locating concrete repair and before concrete removal Work. The area of Work marked for concrete repair does not include initially sound concrete that is damaged or micro-fractured by the Contractor's operations.

(d) **Mortar Buildup over Shallow Rebar** - Mortar buildup over Shallow Rebar will be measured on the area basis. Measurement will be the outside measurement of the area of Work marked for mortar buildup after locating concrete repair and before concrete removal Work. The area of Work marked for mortar buildup does not include initially sound concrete that is damaged or micro-fractured by the Contractor's operations.

Payment

00542.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price per unit of measurement for the following item(s):

Pay Item	Unit of Measurement
(a) Locate Concrete Repair.....	Lump Sum
(b) Reinforcing Bar Repair	Each
(c) Concrete Repair	Square Foot
(d) Mortar Buildup over Shallow Rebar	Square Foot

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

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No separate or additional payment will be made for providing mix proportion or mix design records.

No payment will be made for repair of initially sound concrete that is micro-fractured or otherwise damaged by the Contractor's operations.

SECTION 00544 - PREPARING AND COATING CONCRETE STRUCTURES

Section 00544, which is not a Standard Specification and is included in this project by special provision.

Description

00544.00 Scope - This Work consists of preparing and coating new and existing exterior concrete surfaces on Gold Hill Bridge, No. 00576, with Silpro Skimwall and Silpro California Stucco as shown.

00544.01 Abbreviations, Definitions and References:

(a) Abbreviations:

FTMS - Federal Test Method Standard

(b) Definitions:

Cleaning - Removing detrimental material in preparation for coating.

Coat - Apply protective material to a substrate to form a single, uniform layer. A coat is comprised of as many applications as necessary to achieve the specified coat thickness.

Coating - Protective material after it is applied to a Structure.

Coating Material - Protective material before it is applied to a Structure.

Coating System - All specified coats applied separately in a predetermined order.

Field Coating - The onsite coating of new or existing Structures before or after erection.

Hold Point - A time at which the Contractor must cease a particular activity until a phase of work is inspected or tested. If the Engineer finds this phase conforms to the specifications, the subsequent phase of work may proceed.

Maintenance Coating - The coating of existing Structures that have been previously coated and need recoating.

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Manufacturer's Recommendation - The written specifications and instructions provided by a manufacturer of a coating material concerning the handling, mixing and application of the coating material.

Phase - An activity or step of the preparation and coating procedures to be inspected or tested. The transition from one phase to another represents a hold point.

Preparation - Measures taken to provide a suitable surface ready to coat.

Skimming - The process in which a film forms over a liquid coating, either during storage or after application.

Solvent - Liquid used to solvate or put materials into solution.

Substrate - Any surface to which a coating is to be applied. This may be the prepared surface of the Structure or a previous coating.

Surface Profile - Roughness of a cleaned surface. The height of the profile is measured from the bottom of the valleys to the top of the peaks in mils.

Thinner - Volatile liquids used to thin compatible coating materials. Thinners may be a blend of solvents.

(c) References - In this Section, references SSPC-PA 1 refer to Volume 2, "Systems and Specifications", of SSPC's "Painting Manual".

In this Section, references such as applicable portions of SSPC-SP 13/NACE No. 6, "Surface Preparation of Concrete".

In this Section, references such as CSP 2 or CSP 6 refer to International Concrete Repair Institute (ICRI) Guideline 310.2R-2013 surface profile.

In these Specifications, references are made to FTMS 141, "Paint, Varnish, Lacquers, and Related Materials: Methods of Inspection, Sampling and Testing", which is distributed by the U.S. General Services Administration.

00544.02 Precoating Conference - Before beginning Work, meet with the Engineer together with any Subcontractors who are to be involved in the preparation and coating Work, and a representative from the coating manufacturer in a precoating conference. Submit a plan for accomplishing all phases of the preparation and coating Work including but not limited to ventilation, containment, surface prep, coating materials, and quality control plan ten business Days prior to the precoating conference.

00544.03 Notice - Notify the Engineer, in writing, seven Days in advance of the date that preparation and coating operations are to begin.

00544.04 Submittals - Submit the following to the Engineer according to 00150.37 prior to the precoating conference :

(a) Surface Preparation and Coating Plan

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- Provide written procedures for conducting the Work of this Section including, but not limited to, the preparation of surfaces; coating mixing, application method, and repair; recoat times and cleaning between coats in those areas specified.
- Provide a comprehensive listing of the Equipment to be used for surface preparation.
- If temporary heating or lighting units are used, submit evidence of heating and lighting unit test acceptance by UL, FM or other recognized association and information related to the type of fuel used by the heating units in such tests and to be used in Work of this Section. In addition, all heating and lighting must meet all State fire codes.
- Identify the name and chemical composition of any detergents or solutions to be used if it is necessary to clean the surface of one coat prior to the application of the next. Only detergents which are environmentally safe and which will have no adverse effect on aquatic life are acceptable. Submit the MSDS sheets for the chemicals and detergents.
- Product data sheets and MSDS for abrasives and additives.

(b) Coating Materials

1. Identify the coating materials to be applied to all substrate types as specified in 00544.11 "Coating Materials".
 - a. Provide the manufacturer's name, product names, product numbers, material product data sheets, VOC levels, and MSDS sheets.
2. Provide product data sheets, written application instructions, and MSDS from the manufacturer:
3. Provide the following coating material certifications:
 - a. Coating materials meet the specifications on the manufacturer's data sheets.
 - b. The coating materials in the coating system are compatible.
 - c. Coatings to be used do not contain lead or other hazardous heavy metals.

(c) Quality Control Inspection Plan - Submit a quality control inspection plan to be followed to confirm that all Work complies with the requirements of this Section.

The plan must include the following at a minimum:

1. Inspection organization chart including lines of authority and the experience, training, and qualifications of all quality control personnel.
2. Written inspection procedures for all phases of the Work, including the frequency of inspections to be performed, and the procedures for correcting non-conforming work.

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3. Written description of equipment to be used for surface preparation and coating application inspection, calibration procedures, frequency of calibration, and the methods for handling equipment that is found to be out of calibration.
4. Maintain a daily log of all quality control inspections and test results in compliance with the approved Quality Control Inspection Plan. Submit a copy of the daily logs each week.
5. Sample daily log form.

Materials

00544.10 General - Use materials meeting the requirements of this Section, and the applicable portions of SSPC-PA 1, "Shop, Field and Maintenance Painting", when not in conflict with this Section.

00544.11 Coating Materials - Provide Silpro Skimwall in "Palouse" gray. Apply minimum thickness of 1/16" depth. Follow the manufacturer's recommendations for all products.

Provide Silpro California Stucco in gray. Apply minimum thickness of 1/4" depth. Follow the manufacturer's recommendations for all products.

Construction

00544.41 Preparation of Surfaces:

Prepare concrete surfaces according to SSPC-SP13 to achieve CSP 3-5.

00544.42 Coating:

(a) Description - When not in conflict with this Section, perform coating application conforming to:

- The recommendations of the coating manufacturer
- The applicable portions of the SSPC-PA 1
- The applicable portions of the SSPC-PA2
- ICRI Technical Guideline No 310.2R
- The best practices of the trade

(b) Application Site Mixing, Thinning, and Storage of Coating Materials:

(1) Rejection – Do not use the contents of any container if:

- The material arrives at the application site in other than original, unopened containers.
- The container has a break in the lid seal or a puncture.
- The coating materials have begun to polymerize, solidify, gel or deteriorate in any other manner.
- The date of manufacture is more than 12 months past.

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- A skin forms on the surface of the material or on the sides of the container and the volume of the skin exceeds 2% of the material. If there is not more than 2% skin, remove and discard only the skin.
- Discard any coating material removed from its original container at the end of that shift.
- The recommended shelf life, as stated in the manufacturer's product data sheets, has expired.

(2) Mixing - Thoroughly mix coating materials by mechanical means to insure a uniform composition. Do not mix coating materials by means of air stream bubbling or boxing. Mix in the original container and continue until all pigment or metallic powder is in suspension. Take care to ensure that any solid coating material that may have settled to the bottom of the container is thoroughly dispersed. After mixing, inspect the coating materials for uniformity and to insure that no unmixed pigment or lumps are present.

(3) Storage – Store coating material and solvents in original containers. Store coating materials in a weather-tight space where the temperature is maintained between 40° F and 100° F or per manufacturer recommendations, whichever is more restrictive.

(c) Application of Coating:

(1) Surface Condition - Ensure that the surface to be coated is free of moisture, dust, grease, or other substance which would prevent the bond of succeeding applications. Protect freshly coated surfaces from contamination by abrasives, dust or foreign materials from any source. Prepare contaminated surfaces to the Engineer's satisfaction before applying succeeding coats.

(2) Application Methods - Apply coating as recommended by the coating material manufacturer unless otherwise specified.

Silpro Skimwall application: Apply minimum thickness of 1/16" depth, with a steel trowel or rubber float to provide a class 2 surface finish that is smooth and has a non translucent appearance.

Silpro California Stucco application: Apply minimum thickness of 1/4" depth. Finish with bush-hammered appearance to replicate existing historic appearance.

00544.43 Inspection - The Engineer will inspect Materials and each phase of preparation and coating. Do not proceed with succeeding phases until approved. Provide the Inspector with timely, safe access to areas where work is being performed. Allow adequate time for inspection at each hold point. Provide hold points at the following times:

- Before cleaning operations begin.
- After cleaning operations are completed and before application of any coating Materials.
- After each full coat.
- After cleaning in conjunction with coating repairs.
- After application of each coat in coating repairs.
- After application of last coat.

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Repair coating system damages resulting from Agency inspection and testing at no cost to the Agency.

Aspects of the preparation and coating process to be inspected and tested include, but are not limited to:

Test Description	Test Method
Measuring Humidity with a Psychrometer	ASTM E 337
Cleanliness of Abrasive Material	ODOT TM 616
Indicating Oil or Water in Compressed Air.....	ASTM D 4285

00544.44 Protection against Damage:

(a) Contaminated Surfaces - If the prepared surface becomes contaminated by any material, at any time, clean the surface in a manner satisfactory to the Engineer before making the succeeding application. Clean, re-prepare and recoat at no cost to the Agency.

(b) Surfaces Not to Be Coated - Protect surfaces that are not identified to receive coatings under the Contract from abrasive blasting, power tool cleaning, water cleaning, overspray and drippings. Remove or repair unintended coatings or other damage on these surfaces to the Engineer's satisfaction at no cost to the Agency.

(c) Surface Damage - Prevent, at no cost to the Agency, damage resulting from preparation and coating work, including:

- Damage to marine or vehicular traffic or harm to pedestrians in the vicinity of the work
- Abrasive material or debris falling into an area which would create a traffic hazard
- Damage to the Structure or motorized equipment
- Damage to other property as a result of the Contractor's operations
- Escape of dust and waste materials from containment structures, during cleaning and coating operations, during containment structure erection, relocation, and removal, and during high winds when containment structures may be uncovered

00544.60 Repair of Damaged and Unacceptable Coatings - Repair surfaces damaged by the Contractor's operations, and surfaces coated by the Contractor that do not comply with requirements of 00544.42 as follows:

(a) Surface Preparation - Repair localized damage and unacceptable coatings. Remove all loose, delaminating, non-intact, non-sound coating, or otherwise defective coating down to sound, still performing coating in areas exhibiting coating defects. Extend the prepared areas at least 2 inches into adjacent coating.

(b) Feathering of Repair Areas - Feather the existing coating system surrounding each repair location, for a distance of 1 inch to 2 inches to provide a smooth, tapered transition into the existing intact coating.

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(c) Coating Application in Repair Areas - Use the procedure in this subsection for all repairs. When the bare substrate is exposed in the repair area, apply all coats of the system to the specified thicknesses.

Measurement

00544.80 General - No measurement of quantities will be made for Work performed under this section.

Coating	Location	Estimated Quantity (Square Yard)
Silpro California Stucco	As shown	500
Silpro Skimwall	As shown	1,402

Payment

00544.90 General - The accepted quantities of prepare and coat concrete Structures will be paid for at the Contract lump sum amount for the item "Prepare and Coat Concrete Structures".

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00567 - TITANIUM ALLOY REINFORCEMENT SYSTEM

Section 00567 is not a Standard Specification and is included in this Project by Special Provision.

Description

00567.00 Scope - This Work consists of furnishing and installing a complete, near surface mounted, titanium alloy reinforcement system as shown or specified. The system is comprised of titanium alloy reinforcement ("bars") embedded in sawcut grooves and anchor holes with epoxy.

00567.01 Submittals - Submit the following to the Agency at least 21 Calendar Days before starting Work. Do not begin Work before receiving written approval of submittals from the Engineer.

(a) Materials Certifications - Submit the manufacturer's Material certifications and mill test certificates for the titanium alloy reinforcement system according to 00150.37. Include the supplier's name, ranges of the properties listed below, and test methods used for titanium alloy reinforcement and epoxy resin.

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Material	Properties to be Furnished
Titanium Alloy	Tensile Strength Elongation Tensile Modulus Cross-Sectional Area Chemical Composition
Epoxy Resin	Tensile Strength Elongation Tensile Modulus Mix Ratio Pot Life Shelf Life UV Resistance

(b) Titanium Alloy Reinforcement Installation Plan - Before beginning girder preparation submit the following according to 00150.37:

- The sequence of anchor hole and groove preparation as it relates to the overall construction Plan.
- Methods for locating and protecting existing steel reinforcement. Details regarding the Equipment and structural attachments required for installation of the titanium alloy reinforcement. Include rail mount locations and dimensions required for accurate groove placement in bridge elements.
- Details of the proposed method, if different than specified, for ensuring the titanium alloy reinforcement is installed as shown.
- Details regarding construction tolerances for preparation, including groove depth, width and anchor hole dimensions.

(c) Order Lists and Bending Diagrams - Before ordering Material, submit all order lists according to 00150.37 and unstamped bending diagrams according to 00150.35 for approval. Do not order Material until such lists and bending diagrams are approved.

The review of order lists and bending diagrams by the Engineer will in no way relieve the Contractor of responsibility for the correctness of such lists and diagrams. Revise lists and diagrams as required to make them comply with the Plans at no additional cost to the Agency.

Material

00567.10 Titanium Alloy Reinforcement - Furnish deformed titanium alloy reinforcement conforming to the requirements of ASTM B1009. Unless otherwise shown or specified, furnish all titanium alloy bars that conform to the following mechanical properties:

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Yield Strength	Ultimate Strength	Elastic Modulus	Elongation
130,000 psi	140,000 psi	15,000,000 psi	10%

Calculate elastic modulus using slope of the stress-strain curve between a stress range of 20,000 psi and 60,000 psi. Use 0.2 percent offset of the calculated elastic modulus line to obtain a yield strength of titanium alloy bars.

Furnish uniform deformations equally spaced along the titanium alloy bars with a minimum deformation height of 0.01 inch and a maximum spacing of 0.06 inch. Sharp stress risers are not allowed. Furnish the final cross-sectional area of the bars including the deformations that are not less than 96 percent of the nominal area of undeformed bars.

An approved source for titanium alloy reinforcement is Perryman Company, 213 Vandale Drive Houston, PA 15342. Contact the Infrastructure Development Manager, at 724-746-9390.

00567.11 Fabrication - Hot bend reinforcing bars to the shapes shown. Shop bending or field bending is allowed, unless otherwise shown or directed. Heat reinforcing bars a minimum of three inches on each side beyond the bend section. At 400 °F, the bars will turn yellow or straw color. Continue heating until the bars turn blue approximately equal to 800 °F, that is the desired color and temperature for bar bending. Do not heat reinforcing bars more than 1300 °F or until the bars turn red hot. Discard the red hot (overheated) bars. After the bending is complete, grind surface of the inside bend radius to remove the deformations. Make bends, tag, mark and ship reinforcing bars according to the current edition of the CRSI *Manual of Standard Practice*. Re-bending of reinforcing bars is not permitted..

00567.12 Material Sampling - Furnish sufficient material for the Engineer to select three samples from each lot of titanium alloy reinforcement delivered to the site, for testing by the Agency. Furnish samples that are a minimum of 4 feet in length.

00567.13 Epoxy Resin - Furnish epoxy resin from one of the following list of pre-approved epoxy resins.

Manufacturer	Material
Hilti, Inc. 7250 Dallas Parkway, Suite 1000 Plano, Texas, 75024 Contact: Pete Anderson Phone: (972) 403-5948	HIT-RE 500 V3
Adhesive Technology Corp 450 East Copans Road Pompano Beach, Florida, 33064 Contact: Mike Gaffigan Phone: (954) 541-7091	Ultrabond HS-1CC

Construction

00567.40 Protection of Material - Protect reinforcement at all times from damage. Ensure reinforcement is free of dirt, detrimental scale, paint, oil and other foreign substances when placed in the Work.

00567.41 Existing Reinforcement Location and Concrete Cover - Use rebar detectors or other approved devices, capable of locating existing reinforcement within 0.1 inch, to locate existing reinforcement and to determine the thickness of concrete cover. Before constructing anchor holes and grooves, provide the Engineer with a summary of cover thickness and clear distance measurements between existing reinforcement and the titanium alloy reinforcement system.

00567.42 Drilling Anchor Holes and Sawcutting Grooves - Drill holes for hook embedment depth and size as shown using a rotary hammer drill with a carbide tipped drill bit. If existing reinforcement is encountered, stop drilling and adjust the hole location. Adjust the location of the holes for the end anchorage up to 3 inches longitudinally and laterally to avoid conflicts. Maintain the titanium bar lengths.

Cut grooves as shown to the designed width and depth $\pm 1/8$ inch. Make grooves deep enough to allow the titanium bar to be installed at least $1/8$ inch below the surface in all locations along the length of bars. Do not cut into existing rebar during construction of sawcut grooves. Visually inspect all existing rebar locations after sawcutting grooves. When existing reinforcement is cut, notify the Engineer before installation of titanium alloy reinforcement.

Groove spacing may be adjusted in the field as necessary to avoid existing reinforcement or other unforeseen conflicts; however, the average spacing of all grooves over any 2-foot-long section may not be more than the spacing as shown. Maintain a minimum clear spacing greater than three times the diameter of the bar and a minimum clear edge distance of six times the diameter of the bar.

00567.43 Anchor Hole and Groove Preparation - Prepare sawcut grooves and anchor holes for titanium reinforcement installation as follows:

(a) **Surface Cleaning** - Clean the groove and anchor holes thoroughly with high-pressure water and a nonmetallic brush. Before the groove and anchor holes dry out, blow it free of water and debris with compressed air. Ensure that all dust, sand, laitance, grease, curing compounds, and any other bond-inhibiting matter is removed from the groove and anchor holes. Ensure the concrete surface of groove and anchor holes is clean and structurally sound prior to installing titanium alloy bars.

(b) **Moisture on Groove and Hole Surfaces** - Before installation of titanium alloy bars, dry groove and anchor hole surfaces using a drying method approved by the Engineer and according to the epoxy manufacturer's recommendations. Do not directly apply a flame to the groove and anchor holes surfaces.

00567.44 Compressed Air - When using high-pressure air for cleaning, use adequate separators and traps to ensure that the air is free of water, oil, or any other Material detrimental to the titanium alloy reinforcement system. Compressed air cleanliness may be tested by the Engineer according to ASTM D4285.

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00567.45 Titanium Alloy Bar Installation - Begin installation only after groove and anchor hole preparation Work is complete.

Install the titanium alloy bars to the embedment depths and in the anchor holes as shown.

Do not install the titanium alloy bars and epoxy resin when the concrete temperature is below 50 °F, unless otherwise advised by the resin manufacturer's recommendations.

Mask the concrete adjacent to the groove to prevent excess epoxy from adhering to the concrete outside the groove.

Place nylon or polyethylene spacer material between the titanium alloy bars and exposed, existing steel reinforcement.

Fill two-thirds of the anchor hole and one-half of the groove with epoxy resin. Press the titanium alloy bar in the anchor holes and in the center of groove using approved centering devices at one-third points along the titanium alloy bar. Install centering devices with a minimum of 1/8-inch resin cover.

Ensure epoxy resin is well consolidated around the bars without air pockets. Level epoxy resin flush with the surface of the adjacent concrete.

00567.46 Surface Cleanup - Remove excess epoxy resin outside the groove.

Measurement

00567.80 Measurement - No measurement of quantities will be made for Work performed under this Section. The estimated quantity of titanium alloy reinforcement system is shown below.

Structure	Quantity (Feet)
Bridge No. 00576 - 0.625 Inch Diameter	462
Bridge No. 00576 - 0.750 Inch Diameter	560

Payment

00567.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(c) Titanium System, 0.625 Inch Diameter.	Lump Sum
(d) Titanium System, 0.750 Inch Diameter.	Lump Sum

Payment will be payment in full for furnishing, fabricating and placing all Materials and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00585 - EXPANSION JOINTS

Comply with Section 00585 of the Standard Specifications modified as follows:

00585.01 Definitions - Replace the paragraph that begins “**Filled Joint...**” with the following paragraph:

Filled Joint - A joint using a preformed joint filler placed prior to concrete pour. Hot applied joint sealant or poured joint seal may be placed on top of the joint filler.

Add the following paragraph after the paragraph that begins “**Filled Joint...**”

Hot Applied Joint Seal - A joint filled with hot applied, single component sealant.

Replace the paragraph that begins “**Poured Joint Seal ...**” with the following paragraph:

Poured Joint Seal - A seal made of Materials that remain flexible that is poured into the gap of a joint and adheres to the sides of the gap.

00585.02(b) Personnel Qualifications - Replace this subsection, except for the subsection number and title, with the following:

At the pre-construction conference, submit the following:

- Joint installer personnel certifications(s) from the manufacturer affirming that the installers have been trained in application methods of Materials and health and safety to install Closed Joints as detailed.
- A letter from the manufacturer affirming that the technical representative is qualified to provide technical assistance regarding expansion joint installation.

00585.10 Materials - Add the following Material to the Material list:

Portland Cement Concrete Repair Material..... 02015

00585.11 Concrete for Blockout Opening - Replace this subsection with the following subsection:

00585.11 Material for Blockout Opening - Fill blockout openings with the same class and type of concrete used in the deck, unless otherwise shown.

For joint surface reconstruction, fill openings with Material as shown or specified. If not shown, fill openings with one of the following Materials:

- Structural polymer concrete with a minimum compressive strength of 10 ksi, a minimum tensile strength of 1 ksi, and a minimum modulus of elasticity of 2,500 ksi.
- High early strength concrete (HESC), Class HESC4000 – 3/4 inch, designed according to Section 02001. Incorporate the following:

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- Rapid hardening hydraulic cement meeting the requirements of Section 02011.
- Aggregate meeting the requirements of Section 02690.
- Macro fibers meeting the requirements of 02045.20.
- Portland cement concrete repair materials meeting the requirements of Section 02015.

00585.30(b) Expansion Joint Seal Manufacturer's Representative - Replace this subsection with the following subsection:

00585.30(b) Expansion Joint Seal Manufacturer's Technical Representative - Provide a manufacturer's technical representative during the Work. Prior to beginning the Work, discuss with the representative regarding the Work to be done, methods of installation, installation procedures, and required Equipment to assure correct expansion joint installation. Ensure the manufacturer's technical representative remains available for consultation until the completion and acceptance of the Work. For strip seals, the manufacturer's technical representative is required to be on-site during the Work.

00585.42(c) Joint Preparation - Replace the paragraph that begins "For joint replacement, remove..." with the following paragraph:

For joint replacement, remove joint material from existing joints and clean the existing joints full depth and full width as directed by the Engineer. If existing joint surfaces have spalled, cracked, or deteriorated concrete, repair as shown or directed to provide a uniform and smooth surface. Unless otherwise shown or directed, epoxy inject cracks according to Section 00538 and repair surfaces using an approved PCC repair material.

00585.43 Armored Corners – Replace the title of this subsection with “**Armored Corners and Edgebeam**”

Replace the paragraph that begins "Provide joint corner armoring ..." with the following paragraph:

Furnish joint corner armoring or Edgebeam with anchors as shown or specified, and according to the following:

00585.43(a) Tolerance - Replace the paragraph that begins "Install armored corners that are straight..." with the following paragraph:

Install Armored Corners or Edgebeams that are straight and do not deviate from a true line by more than 1/4 inch horizontal and 1/8 inch vertical over the length of the joint, nor more than 1/16 inch in either direction from a 12-foot straightedge.

00585.43(b) Installation - Replace the paragraph that begins "Furnish armored corners in the longest ..." with the following paragraph:

Furnish Armored Corners or Edgebeams in the longest practical length as controlled by transportation and installation.

Replace the paragraph that begins "For new construction, install armored ..." with the following paragraph:

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For new construction, install Armored Corners or Edgebeams with anchors in preformed blockouts at least 14 Days after the deck is cast with the joint opening as shown. Support the Armored Corners or Edgebeams securely in position before placing concrete in the joint blockout. Install the preformed seal at least 7 Days after the concrete blockouts have been cast and after the deck concrete reaches 3,000 psi.

00585.44 Asphaltic Plug Joint Seal - Replace the bullet that begins "Provide a clean, intact ..." with the following bullet:

- Provide a clean, intact, and plane surface to place the steel bridging plate on.

00585.47 Strip Seal - Replace the bullet that begins "Use steel retainers acting ..." with the following bullet:

- Use steel retainers acting as the Edgebeams according to 00585.43.

00585.49 Hot-Dip Galvanizing - Replace the paragraph that begins "The contact surfaces at all ..." with the following paragraph:

Furnish contact surfaces at all galvanized slip critical structural bolted connections meeting Class C (slip coefficient 0.33) surface preparation requirements.

00585.50 Control Joint - Replace this subsection, except for the subsection number and title, with the following:

Construct Control Joints as shown. If details of the Control Joint are not shown, sawcut the surface 1 1/2 inches deep and 1/2 inch wide. Flush the sawcut thoroughly with a high-pressure water stream after the cut has been made. Before the cut dries out, blow it free of water and debris with compressed air. Fill the sawcut joint with a hot applied joint sealant from the QPL.

Add the following subsection:

00585.51 Hot Applied Joint Seal Replacement - Remove existing hot applied joint sealant from joint. Clean and repair joint surfaces and edges. Install hot applied joint sealant from the QPL and according to the manufacturer's recommendations.

Add the following subsection:

00585.52 Joint for Sidewalk, Multi-Use Path, or Other Facility Intended for Pedestrian Travel - Furnish an expansion joint seal having a firm, stable, and slip resistant top surface, not more than 3/8 inch below finished surface.

For joint seals installed greater than 1/4 inch below finished surface, bevel the joint surface corners with a Slope not steeper than 1V:2H.

For Precompressed Foam Silicone Joint Seals, furnish a joint seal having at least double width of the seal designed for the joint size. Install the joint seal according to the manufacturer's recommendations.

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For joint openings 3 inches or wider, design and detail a steel cover plate for facilities with a Pedestrian Accessible Route, Temporary Pedestrian Accessible Route, Multi -Use Path, or other structures intended for pedestrian travel. Hot-dip galvanize the steel plate and provide a slip-resistant surface or coating. Limit the elevation change between the steel plate and deck surface with a vertical face to 1/4 inch not to exceed 1/2 inch. When the elevation change is greater than 1/4 inch, bevel the steel plate corners to a Slope not steeper than 1V:2H.

00585.80 Measurement - Replace the paragraph that begins "No measurement of ..." with the following paragraph:

No measurement of quantities will be made for joints, gland replacement for strip seals, or joint surface reconstruction. Estimated quantities of joints, gland replacement, and joint surface reconstruction are listed below. The listed quantities are based on the theoretical horizontal length from gutter line to gutter line.

Add the following to the end of the subsection:

The estimated quantities of joints are:

Structure	Joint Type	Quantity (Foot)
Bridge No. 00576	Poured Joint Seal	251

00585.90 Payment - Replace the paragraph that begins "In item (d) ..." with the following paragraph:

In item (d), the type of compression joint seal is inserted in the blank.

Add the following (four) paragraphs after the paragraph that begins "In item (d), the....":

Item (g) includes sawcutting and hot applied joint sealant.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Add the following four paragraphs after the paragraph that begins "Payment will be payment....":

Elastomeric concrete nosing incorporated in the Work will be paid for according to 00584.90.

Payment for steel reinforcing will be paid for according to 00530.90.

Payment for concrete will be paid for according to 00540.90.

Modification to existing gland retainer Edgebeam or expansion joint type change will be paid for according to 00195.20.

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In the paragraph that begins "No separate or additional payment...", replace the bullet beginning with "elastomeric concrete ..." with the following bullet:

- structural patching material used to provide a smooth contact surface with joint seals, to provide a plane surface on which to place the steel bridging plate, or to make level surfaces between joint.

In the paragraph that begins "No separate or additional payment...", add the following bullet to the end of the bullet list:

- Furnishing and installing hot-dip galvanized steel cover plate with slip-resistant surface or coating for facilities with a Pedestrian Access Route.

SECTION 00587 - BRIDGE RAILS

Comply with Section 00587 of the Standard Specifications modified as follows:

00587.00 Scope - Replace the paragraph that begins "Bridge rails will be ..." with the following paragraph:

Bridge rails are classified as concrete or steel according to the predominant Material used in the rail.

00587.10 Materials - Add the following to the end of this subsection:

Fasteners.....	02560
Fencing Materials.....	03010
Resin Bonded Anchor System	00535.10
Structural Steel	02530

00587.42(a) General - Replace the bullet that begins "Construct expansion joints ..." with the following bullet:

- Construct expansion joints that permit freedom of movement. After all other Work is completed, use a sharp chisel to remove all loose or thin shells of concrete likely to spall under movement at expansion joints.

00587.42(b) Fixed Forms - Replace this subsection, except for the subsection number and title, with the following:

Provide forms that are smooth and tight fitting, rigidly held in line and grade, and removed without damage to the concrete. Make form joints in vertical planes. Construct all moldings, panel Work, and bevel strips as shown. Make corners in the finished Work true, sharp and free from cracks, spalls or other defects.

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00587.42(c) Slipformed - Replace the paragraph that begins "Concrete rails may be ..." with the following paragraph:

Concrete rails may be slipformed if the Plans contain details for slipforming. Before slipforming any permanent rail, meet one or both of the following requirements (1) and (2) as directed:

00587.42(c)(2) Replace the bullet that begins "Provide concrete with ..." with the following bullet:

- Furnish concrete with a slump of 1 inch $\pm$ 1/2 inch.

00587.43(a) Construction - Replace this subsection, except for the subsection number and title, with the following:

Furnish structural steel tubing, tube or metal thrie beam rail as shown or specified. Fabricate and erect metal rails according to Section 00560. Adjust metal rails before fixing in place to ensure proper matching at abutting joints and correct alignment and Camber throughout their length.

(f) Coatings - For Structure (00576) powder coat the pedestrian rail Materials according to 00593. Apply coatings from the QPL with identical top coat color to fasteners, exposed portions of resin bonded anchors and other uncoated or galvanized components and repair damage due to handling and erection according to 00593.60 after installation. Follow all coating manufacturer recommendations.

Add the following subsection:

00587.45 Pedestrian Rail –

(a) General - Complete a check assembly for each panel of pedestrian rail. Include all members except for welded wire mesh panels. Check assemblies based on the specified geometry, alignment and splice locations, proposed order of erection, and similar considerations that affect field erection of pedestrian rail, as directed. If the check assembly fails to demonstrate that the required accuracy is being obtained, additional check assemblies may be required at no additional cost to the Agency. Acceptance of the check assembly does not relieve the Contractor of the responsibility for assuring accurate fit-up during erection.

The sequence of assembly may start from any location in the Structure and proceed in one or both directions, so long as the preceding requirements are satisfied.

Do not exceed 0.01 foot / foot difference in slope between the longitudinal channels or plates and the bridge rail for any given pedestrian rail panel. Maintain the vertical alignment of wire mesh and square tubing.

Match-mark connecting parts assembled in the shop for the purpose of reaming holes in field connections, and provide a diagram showing such marks to the Engineer. Before fabrication, field verify required dimensions.

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Erect pedestrian rail to the lines and grades shown. The overall height of the rail when erected is the height above the grade as shown.

Place posts and fully cure all resin bonded anchors before installation of the pedestrian rail panels. Install anchors in new concrete according to 00535.40.

(b) Woven Wire Fabric - Assemble and install woven wire fabric according to 01050.44.

(c) Welding - Weld according to AWS D1.1 Structural Welding Code.

(d) Coatings - Hot dip galvanize all steel frames, panels and hardware according to 02530.70 and 02560.40.

When shown, powder coat pedestrian rail according to Section 00593. Apply coatings from the QPL with identical top coat color to fasteners, exposed portions of resin bonded anchors and other uncoated or galvanized components and repair damage due to handling and erection according to 00593.60 after installation. Follow all coating manufacturer recommendations.

00587.80 Measurement - Replace the paragraph that begins "No measurement of quantities ..." with the following paragraph:

No measurement of quantities will be made for bridge rails performed under this Section.

Add the following to the end of this subsection:

The estimated quantity of bridge rail is:

Structure	Rail Type	Quantity (Foot)
Bridge No. 00576	Pedestrian Rail	451
Bridge No. 00576	Vertical Concrete Parapet, 42 Inch with Moment Slab	121

Bridge pedestrian rail will be measured on the length basis. Measurement will be between beginning and ending locations as shown.

00587.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Add the following paragraph after the paragraph that begins "No separate or additional...":

Payment for the rail to curb transition will be included in payment for the Pay Item Vertical Concrete Parapet, 42 Inch with Moment Slab.

SECTION 00588 - PRECAST HISTORIC ORNAMENTAL BRIDGE RAILS

Section 00588 is not a Standard Specification and is included in this Project by Special Provision.

Description

00588.00 Scope - This Work consists of constructing precast historic ornamental Bridge rails of the Material or combination of Materials shown and specified.

Precast Work includes:

- Field measurement of all existing rail segment lengths, curves, miter angles, superelevations, and Slopes
- Providing forms for cast-in-place posts
- Providing templates to locate concrete anchors to fasten precast rails to the Bridge

Cast-in-place Work includes:

- Providing and placing concrete according to Section 00530 and Section 00540 for the cast-in-place rail components

00588.03 Working Drawings - Essential elements of design and section dimensions for rail are as shown.

Submit unstamped Working Drawings for approval according to 00150.35. Include lifting details, storage details, erection plan and bracing plan on the Working Drawings for all Members.

00588.04 Member Tolerances - Fabricate members to the dimensional tolerances in the *PCI Manual for Quality Control for Plants and Production of Structural Precast Concrete Products*. Acceptance or rejection of members outside these tolerances will depend on how the Structure's strength, serviceability and appearance are affected.

Materials

00588.10 Materials - Furnish Materials meeting the following requirements:

Concrete Coating	02210
Concrete	02001
Curing Materials.....	02050
Deformed Bar Reinforcement.....	02510.10
Epoxy Coated Reinforcement	02510.11
Mechanical Splices	02510.20
Portland Cement Concrete Repair Material.....	02015

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00588.12 Acceptance of Concrete - Acceptance of concrete is according to Section 00165 and the following:

(a) **Aggregate** - Acceptance of Aggregate is based on the Contractor's quality control testing, if verified, according to Section 00165.

(b) **Plastic Concrete** - Acceptance of plastic concrete is based on tests performed by the QCT, according to Section 02001.

(c) **Hardened Concrete:**

(1) **General** - Acceptance of hardened concrete is based on analysis of compressive strength test results of cylinders cast and cured by the Contractor and tested according to AASHTO T 22 by a CSTT at an ODOT-certified laboratory and verified according to Section 00165.

(2) **Sampling and Testing** - Obtain a sample from a delivery vehicle, selected at random, during each Day's production for each mix design used. Test the sample for temperature, slump, density, and air content and cast at least three cylinders for testing at 28 Days. Cure the cylinders in a manner similar to the members they represent. Alternately, the cylinders may be cured in a curing chamber correlated in temperature with the concrete in the forms. Leave the cylinders in the form with the member or in the curing chamber until the member is stripped. After the member is stripped, place the acceptance cylinders in storage in a moist condition according to AASHTO R 100.

(3) **Acceptance** - Concrete members with an Actual Strength Test Value (ASTV) meeting or exceeding the specified design strength, f'_c , is acceptable for strength.

If the ASTV is less than f'_c but at least 85 percent of f'_c , the Engineer may review the results to determine if the member is suitable for the intended purpose. If suitable, the concrete represented by an ASTV less than f'_c may be accepted subject to a price adjustment according to 00150.25.

Concrete that has an ASTV less than 85 percent of f'_c will not be accepted. All costs of removal, replacement, and all related work are the Contractor's responsibility.

Equipment

00588.25 Vibrators - Provide either internal or external vibrators in working condition meeting the manufacturer's rating.

When epoxy coated reinforcement is used, use internal vibrators fitted with a manufactured rubber head to minimize damage to the epoxy coating.

Construction

00588.40 General - Construct Bridge rails:

- True to line, grade and dimensions shown or established, with a smooth and even top rail that does not follow any unevenness in the Superstructure.

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- Vertical, rather than normal to the deck, whether the deck is superelevated or not, unless shown otherwise. Constructing rail or baluster normal to the deck requires the Engineer's approval.
- After falsework has been removed, so that the span is self-supporting.

00588.41 Forms:

(a) General - Construct forms for precast and cast-in-place components from metal or polymer Material. Furnish forms that are smooth and tight fitting, rigidly held in line and grade, and removable without damage to the concrete. Make form joints in vertical planes. Construct all moldings, panel work, and bevel strips as shown. Make corners in the finished work true, sharp, and free of cracks, spalls, and other defects.

Forms for cast-in-place base may be constructed from high density overlay (HDO) plywood.

Allowable construction tolerance for forms is 1/16 inch.

Construct rail post or transitions with fixed forms as shown.

Remove and replace any unsatisfactory Work at no additional cost to the Agency.

(b) Test Section - Construct a test section of precast historic ornamental Bridge rail at least 5 feet in length to demonstrate accuracy and quality of formwork and finish. With the Engineer's approval, a section of rail of similar design constructed for a previous project may be designated as the test section. Production casting will not be allowed until the test section has been approved by the Engineer.

A test section may be permanently installed in the Work if approved.

00588.42 Placing Reinforcement - Place reinforcement as shown and according to Section 00530.

00588.43 Placing Concrete:

(a) General - Place concrete so that the finished members are uniform and monolithic, free of cold joints.

Do not deposit concrete in the forms until the Engineer has inspected and approved the placement of reinforcement, conduit, and other embedded items.

Prepare forms according to 00588.41. Remove temporary struts, stays, and braces when the concrete has reached an elevation rendering them unnecessary. Remove these temporary members entirely from the forms and do not bury them in the concrete.

Place concrete close to its final position, without segregation of Materials or displacement of the reinforcement.

(b) Consolidation - Consolidate concrete, during and immediately after placing, by mechanical vibration as follows:

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- Operate internal vibrators at frequencies that produce consolidated placements.
- Do not use vibration for shifting concrete to the extent of causing segregation.
- Vibrate at points uniformly spaced and not further than twice the radius over where vibration is visibly effective.
- Continue vibration until the concrete is thoroughly consolidated, but not until segregation occurs or localized areas of grout form.
- Use external vibration through a mechanical means other than internal vibrator to consolidate locations not accessible to internal vibrators.

00588.44 Curing - Cure precast members with low-pressure steam or radiant heat inside a suitable enclosure to contain the steam or heat and minimize moisture and heat loss.

(a) Curing Temperature - Measure cure temperature by one of the following methods:

(1) Measuring Enclosure Temperature - Equip the enclosure with 24-hour recording thermometers at each end of each casting bed. Record the temperature for each thermometer on a single chart for each 24-hour period.

Do not allow the curing temperature within the enclosure to exceed 160 °F. During the initial application of live steam or radiant heat, do not allow the temperature within the enclosure to increase at a rate exceeding 40 °F per hour.

(2) Measuring Concrete Temperature - Embed a thermocouple 6 to 8 inches from the top or bottom of the member on its centerline and near its midpoint.

Record the concrete temperature with a calibrated recorder that provides a continuous record of time and temperature throughout the curing cycle.

Do not allow the concrete temperature to exceed 190 °F. During the initial application of steam or radiant heat, do not allow the concrete temperature to increase at a rate exceeding 80 °F per hour.

(b) Curing with Low-Pressure Steam - Make the initial application of steam after initial set of concrete as determined by AASHTO T 197 (ASTM C403).

Provide a steam supply line to the enclosure equipped with a motor-operated modulating steam control valve operated by a temperature-sensing element located in the enclosure.

Provide steam at 100 percent relative humidity.

Do not apply steam directly on the concrete, form surfaces, or test cylinders.

Distribute the steam within the enclosure through suitable ports located on each side of the units within the enclosure at not more than 30-foot centers, to keep the units being cured completely and uniformly surrounded with steam.

(c) Curing with Radiant Heat - Radiant heat may be applied to beds by means of pipes circulating steam, hot oil, or hot water; by electric blankets or heating elements adjacent

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to forms; or by circulating warm air under and around forms. Do not allow pipes, blankets, or heating elements to be in contact with concrete, form surfaces, or test cylinders.

(d) General Wet Cure Requirements - Cure precast or cast-in-place Work with water. Begin curing as soon after placement as possible without damaging the freshly placed concrete. Continue curing for 7 Calendar Days after placement.

Keep surfaces not covered by waterproof forms damp by applying water with a fog nozzle until the surface has set sufficiently to allow sprinkling with water or covering with wet burlap and plastic or an approved wet or dry Material.

Do not interrupt curing for more than one hour during the cure period.

If, during the cure time, the surrounding temperature falls below 45 °F, extend the cure for the number of hours the temperature is below 45 °F.

00588.45 Surface Finish - Provide all exposed concrete surfaces with a Class 2 surface finish ground, floated, and coated according to 00540.53(c). Completely fill holes and depressions at least 1/8 inch or more in depth or diameter by sacking with an approved Patching Material. Hand-scrape the patched surface with a carbide blade to the original plane surface. Color the Patching Material to match the Bridge rail. For concrete surfaces that are not exposed, provide a Class 1 surface finish according to 00540.53(c).

00588.46 Lifting, Storing, Transporting, Erecting, and Bracing - Be responsible for the safety of precast members during all stages of construction. Lifting, storage, transporting, erecting, and bracing details will not be reviewed by the Engineer. Lifting, storage, transporting, erecting, and bracing of members are the sole responsibility of the Contractor.

Lift members at the support points specified by the manufacturer and in a manner that does not cause damage, bending, or torsional forces. Members are rejected if not handled as specified.

(a) Lifting:

- Lift members so as to prevent damage.
- Lift members at the support points specified by the manufacturer.
- Lift members in a manner that does not cause damaging bending or torsional forces.
- members will be rejected if not handled as specified.

(b) Storing - Store members with support points that are level transversely.

(c) Transporting - Transport members from the casting yard not less than 7 Calendar Days after casting, not less than 7 Calendar Days after all concrete patching and repairing is complete and after 28-Day compressive strengths have been achieved.

Damaged Members will be rejected. Replace damaged members, or if allowed by the Engineer, repair damaged members to the Engineer's satisfaction at no additional cost to the Agency.

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(d) **Erecting and Bracing** - After a Member has been erected and until it is secured to the Structure, provide temporary bracing as necessary to resist wind or other loads.

00588.47 Precast Member Connections - Provide connections between Members as shown and specified.

(a) **Closure Pour** - Provide exposed Aggregate finish up to a 1/4" amplitude at Member interfaces that are in contact with the closure pour Material by using surface retarders from the QPL or other methods approved by the Engineer. Visually verify the surface profile of all prepared surfaces according to *International Concrete Repair Institute (ICRI) Guideline 310.2R-2013 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair - surface profile CSP 7*.

Provide necessary forms and seal the closure pour space. Wet member interfaces for a minimum of 8 hours and to a saturated surface dry condition immediately before placing the closure pour Material. Ensure that the surfaces are free of contaminants. Blow out with compressed air any standing water in depressions, holes or low area.

00588.48 Bridge Plaque – Attach bridge plaque removed according to Section 00501, as shown.

Measurement

00588.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

The estimated quantity of precast historic ornamental concrete Bridge rail is:

Structure No.	Quantity (Feet)
Bridge No. 00576	902

Payment

00588.90 Payment - The accepted quantities of precast historic ornamental concrete rails will be paid for at the Contract lump sum amount for the Pay Item "Precast Historic Ornamental Concrete Rail".

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Payment includes payment for electrical system components permanently encased within the Bridge rail.

No separate or additional payment will be made for anchor bolts and anchorage devices, except those cast in precast concrete members.

Payment for anchor bolt and anchorage devices in cast-in-place concrete members, and for reinforcement extending from a precast unit, cast-in-place deck, wall, or Bridge approach

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slab into the rail will be included in payment made for the precast unit, cast-in-place deck, wall, or Bridge approach slab, as appropriate.

Payment for guardrail terminal connectors, connection plates, spacer blocks, and other connection hardware will be included in payment for the guardrail transition item according to 00810.90.

No separate or additional payment will be made for:

- Reinforcement, anchorages, corrugated metal pipe, plates, nuts, mechanical splices, and all other material contained within and extending from the precast member
- Furnishing, transporting, and placing precast members
- Furnishing and placing anchor bolts, dowels, and threaded rods where applicable
- Furnishing and grouting bolt blockouts, voids, and socket connections
- Providing surface finish on precast members
- Plant assembly, fit-up and corrective work
- Attaching existing bridge plaque
- anchor bolts and anchorage devices, except those cast in precast concrete precast members.

SECTION 00589 - UTILITIES ON STRUCTURES

Section 00589 is not a Standard Specification and is included in this Project by Special Provision.

Description

00589.00 Scope - This Work consists of furnishing and installing support hardware for placement of Utilities on new and existing Structures as shown or directed.

The following Structures are designated "Special Structures":

- Bridge No. 00576

Furnish Utility installations on Special Structures that do not alter the appearance of the Structure as shown. Position Utilities only inside the girder line, as close as possible to the soffit, or as required to make the installation as inconspicuous as practicable.

00589.01 Definitions:

Carrier Pipe - A pipe specifically designed to carry liquids or gases.

Conduit - An enclosure that is specifically designed and approved to carry and protect electrical or communications wiring.

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Protective Casing - A protective sleeve located at strategic locations to shield and isolate the Carrier Pipe or Conduit from external loads, environmental exposure, or damage, or to shield adjacent Structures or Soils.

Materials

00589.10 General - Furnish Utility installations (other than for electrical Conduits) using Materials from the QPL and meeting the following requirements:

Structural Steel	02530
Forgings, Shafting, Castings, and Nonferrous Materials	02540
Fasteners	02560
Reflective Sheeting	02910.20(a)
Resin Bonded Anchor System	00535.10

Furnish brackets constructed of stainless steel or hot-dip galvanized structural steel.

Furnish Materials for communication Conduits as shown.

Construction

00589.40 General - Provide sufficient space around utilities for maintenance activities.

Avoid drilling through reinforcing steel. If reinforcing steel is hit, move the anchor location and patch the hole with an approved patching material from the QPL.

Attach conduits or brackets to concrete Structures with resin bonded concrete anchors, unless otherwise shown or approved.

00589.41 Natural Gas Lines - Conform to the portions of CFR 49 Part 192 that are applicable to the Work. Furnish isolation valves 200 feet from each end of the Bridge as shown.

00589.42 Protective Casing –

(a) Natural Gas Casing - Install steel pipe casing for natural gas lines below bridge deck as shown. Natural gas line is installed within casing by others.

(c) Water Casing - Install water casings for water lines below the bridge deck as shown. Install water pipe in casing as shown and specified.

(d) Sanitary Sewer Casing - Install sanitary sewer casings for sanitary sewer lines below the bridge deck as shown. Install sanitary sewer pipe in casing as shown and specified.

00589.43 Water Line - Install ductile iron pipe and fittings with restrained joints according to 01140.00 through 01140.52 below the bridge deck as shown and specified.

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00589.44 Sanitary Sewer Line Attachment - Install sanitary sewer pipe and fittings according to Section 00445 below the bridge deck as shown and specified.

00589.48 Labeling - Clearly label all piping or conduit systems according to the following APWA color code:

Table 00589-1

Type of Utility	Marker Background Color
Electrical Power Lines, Cables, Conduits, Lighting Cables	Red
Gas, Oil, Steam, Petroleum, Gaseous Materials	Yellow
Communications, Alarm, Signal Lines, Cables, or Conduits	Orange
Potable Water	Blue
Reclaimed Water, Irrigation, Slurry Lines	Purple
Sewers, and Drain Lines	Green

Generate purple by placing purple transparent film over white reflective sheeting. Furnish transparent film with a purple tint that matches Federal Standard Color 595B No. 37100.

Furnish labels with a minimum size as shown in Table 00589-2.

Table 00589-2

Pipe O.D. Min.	Pipe O.D. Max.	Length of Label	Width of Label
3/4"	1 1/4"	8"	3/4"
1 1/2"	2"	8"	1"
2 1/2"	6"	12"	2"
8"	10"	12"	2"
10"	—	12"	2"

Place labels on each Carrier Pipe, Conduit, or Protective Casing, visible on each side of every bent, and at each entrance to a box girder.

Where piping is above or below normal line of sight, place pipe labels so that label may be seen from normal eye height.

Measurement

00589.80 Measurement - The quantities of Work performed under this Section will be measured according to the following:

No measurement of quantities will be made for Utility attachments on Structures.

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The quantities of Carrier Pipe, Conduit and Protective Casing will be measured on the length basis.

Payment

00589.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Utility Attachment on Structure, _____	Lump Sum
(b) _____ Carrier Pipe, _____	Foot
(c) _____ Conduit, _____	Foot
(d) Protective Casing, _____	Foot

In item (a) the type of Utility is inserted in the blank

In items (b) and (c) the type of Utility is inserted in the first blank, the size and type of the Carrier Pipe or Conduit is inserted in the second blank.

In item (d) the size and type of the Protective Casing is inserted in the blank.

Payment will payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as shown and specified.

Electrical Conduit installed on Structures will be paid for according to 00583.90.

Sanitary sewer force main installed on Structures will be paid for according to 00445.90.

Restrained joint water pipe installed on Structures will be paid for according to 01140.90.

SECTION 00593 - POWDER COATING METAL STRUCTURES

Comply with Section 00593 of the Standard Specifications modified as follows:

00593.01(b) Definitions - Replace the paragraph that begins "Substrate ..." with the following paragraph:

Substrate - A surface where a Coating is to be applied. This may be the prepared surface of the metal Structure or a previous Coating.

00593.03 Required Submittals - Replace the title of this subsection with "Submittals"

00593.03(a) Powder Coating Plan - Replace the bullet that begins "A letter from the firm ..." with the following bullet:

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- A letter from the firm performing galvanizing, if other than the Contractor, certifying that neither water quenching nor a chromate conversion coating is used on the surfaces that are to be powder coated.

00593.10(a)(1) Steel Substrates - Replace the paragraph that begins "Provide a two-coat system ..." with the following paragraph:

Provide a two-coat system for steel substrates consisting of a zinc-rich epoxy primer and a polyester topcoat, according to the following:

00593.10(a)(2) Galvanized and Other Non-Steel Metallic Substrates - Replace the paragraph that begins "Provide a two-coat system ..." with the following paragraph:

Provide a two-coat system for galvanized and non-steel metallic substrates consisting of an epoxy primer and polyester topcoat, according to the following:

00593.10(b) Color - Replace the paragraph that begins "Unless otherwise specified ..." with the following paragraph:

Unless otherwise specified, furnish top-coat color according to the following:

Add the following to the end of this subsection:

For pedestrian rail and appurtenances, provide a topcoat color of black that matches SAE AMS-STD-595 color # 27038.

00593.10(c) Slip-Critical Connections - Replace this subsection, except for the subsection number and title, with the following:

Furnish a primer coat on steel-to-steel contact surfaces at all slip-critical bolted joints using high strength bolts that conforms to Class B (slip coefficient of 0.5) Coating requirements in *Test Method to Determine the Slip Coefficient for Coatings Used in Bolted Joints*, as adopted by the Research Council on Structural Connections.

00593.11 Blasting Abrasives - Replace this subsection, except for the subsection number and title, with the following:

Furnish abrasives that have no corrosion products, water, oil, or any other material detrimental to the application and adherence of the Coatings. Furnish abrasives that conform to SSPC-AB 1. When directed, test cleanliness according to ASTM D7393 and ASTM D4940. Do not exceed 100 microsiemens per centimeter conductivity results from ASTM D4940.

00593.12 Caulking - Replace the paragraph that begins "Furnish structural steel ..." with the following paragraph:

Furnish structural steel caulking from the QPL and approved for use by the Coating manufacturer. Unless the caulking is to be over coated, furnish a clear caulking color or the approximate the color of the top Coating.

00593.42(a) Steel Structures - Replace this subsection, except for the subsection number and title, with the following:

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Clean new steel Structure surfaces to be coated according to SSPC-SP 10 / NACE No. 2 *Near White Metal Blast Cleaning*, except as modified by the Specifications. Closely approximate the appearance of the final blast-cleaned surface to Pictorial Standard SP 10 of SSPC-Vis 1 and have a 1.0 to 2.5 mil profile finish.

00593.42(b)(2) Aluminum, Stainless Steels, and Non-Ferrous Metals - Replace the bullet that begins "Solvent clean surfaces ..." with the following bullet:

- Solvent clean surfaces to be coated according to SSPC-SP 1, followed by a light brush blast according to SSPC-SP 16 *Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals* with a maximum nozzle pressure of 75 psi. Ensure the prepared surface has a 1.0 to 2.5 mil profile finish.

00593.42(c)(1) Cleaning Methods - Replace the paragraph that begins "Surfaces shall be ..." with the following paragraph:

Dry surfaces before Cleaning. Use methods specified in SSPC-SP 1, *Solvent Cleaning*, SSPC-SP 2, *Hand Tool Cleaning*, SSPC-SP 3, *Power Tool Cleaning*, and SSPC-SP 15 *Commercial Grade Power Tool Clean*, as necessary to augment blast-cleaning.

00593.42(c)(2) Abrasives - Replace the paragraph that begins "Perform blast-cleaning ..." with the following paragraph:

Perform blast-cleaning using an abrasive of a size that will continually produce an angular Surface Profile of at least 1 mil, but not more than 4 mils, as measured according to ASTM D4417 using replica tape on the prepared surface. Perform blast-cleaning that results in a roughened steel surface comparable to a Keane-Tator Surface Profile Comparator for sand or grit using ASTM D4417.

Replace the paragraph that begins "Use abrasives conforming..." with the following paragraph:

Use abrasives meeting 00593.11. Wet abrasives are allowed if wet sandblasting methods are used.

00593.43(c)(2) Coating Thickness and Coverage Requirements - Replace this subsection, except for the subsection number and title, with the following:

Each Coat consists of as many applications as necessary to cover the Work and achieve the minimum thickness specified. Apply each Coat in sufficient thickness to achieve uniform and complete coverage and appearance. If all thickness measurements are not within the specified minimum dry film thickness, or if the visual inspection does not satisfy the Engineer, make additional applications, as necessary, to meet the thickness and coverage required. Film thickness is measured above the peaks of the profile of the anchor pattern in the substrate.

The dry film thickness is measured for acceptance using a Type 2 gauge according to SSPC-PA 2. If a question arises about an individual Coat thickness or coverage, it will be verified using a Tooke gauge, according to ASTM D4138. If the Tooke gauge shows a prime

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Coat to be less than the specified minimum thickness the total Coating System is rejected even if the thickness of the total system equals or exceeds the total specified thickness.

00593.44 Inspecting - Replace the paragraph that begins "Provide documentation of the QA/QC ..." with the following paragraph:

Provide documentation of the QA/QC testing to the Engineer. Assemblies failing these tests are rejected. Repair and recoat the rejected assemblies as directed.

00593.45(c) Handling, Shipping, or Surface Damage - Replace the paragraph that begins "After erection, repair ..." with the following paragraph:

After erection, repair marred and damaged coated surfaces due to the Contractor's shipping, storage, handling, and erection operations according to 00593.60 at no additional cost to the Agency.

00593.90(b) Existing Metal Structures - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00596E – GROUND ANCHORS

Section 00596E is not a Standard Specification and is included in this Project by Special Provision.

Description

00596E.00 Scope - This Work consists of designing, furnishing, installing, testing, stressing and locking-off prestress load in permanent Ground Anchors at locations shown and as specified. The Work also includes installation and testing of sacrificial Ground Anchors for design verification, and furnishing, installing and removing assemblies necessary to perform the Work.

The Work also includes containment, collection, and disposal of all drill cuttings, flush water, drilling fluid returns, grout spills or returns, and grout-contaminated water generated by Ground Anchor drilling, grouting, and stressing operations.

Select the Ground Anchor type, drill hole diameter, Bond Length, drilling method, installation method and grouting method to provide the specified load-carrying capacity and satisfy the acceptance criteria.

00596E.01 Definitions:

Alignment Load (AL) - A nominal load of less than 10% of the Factored Design Load (FDL) that is applied to each anchor to maintain correct position of testing equipment.

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Anchor Head - The Anchor Head includes wedges and a wedge plate for strand tendons or an anchor nut for bar tendons. The Anchor Head transfers the prestressing force from the prestressing steel to the Bearing Plate.

Anchorage - The combined system of Anchor Head, Bearing Plate, Trumpet, and corrosion protection that transfers prestressing force from the prestressing steel to the surrounding ground or the supported structure.

Bearing Plate - A steel plate under the Anchor Head that distributes the prestressing force to the anchored structure.

Bond Length - The grouted length of the Ground Anchor that is bonded to surrounding Soil or Rock and transfers applied tensile load to the surrounding Soil or Rock.

Class I Corrosion Protection System - A Class I Corrosion Protection System encases the prestressing reinforcement inside a plastic sheath filled with either grout or corrosion-inhibiting compound. A Class I protected tendon is also referred to as an encapsulated tendon or a double-corrosion-protected tendon.

Creep Test - A test to determine the movement of the Ground Anchor at a constant load. Ground Anchor movement is recorded at specified intervals in the Creep Test.

Factored Design Load (FDL) - The value shown or specified for the Ground Anchor design controlling limit state combination of factored loads determined by AASHTO LRFD methodology. Test schedules presented herein present incremental load and the maximum test load in terms of Factored Design Load (FDL).

Free Stressing Length - The designed length of the tendon that is not bonded to the surrounding ground or grout during stressing. Free Stressing Length is also referred to as unbonded length.

Ground Anchor - A structural system consisting of a tendon installed in a drilled and grouted hole in the ground (Soil or Rock) that is stressed after installation and used to transmit the applied tensile load to the ground. Anchorage, Free Stressing Length, and Bond Length are the basic components of a Ground Anchor.

Lock-Off Load - The load transferred to the Anchorage after the load testing is complete and the anchor has been accepted.

Performance Test - Cyclic incremental test loading and unloading of a production anchor and recording the total movement of the Anchor Head at each increment. A Creep Test is performed at the maximum test load in a cycle as indicated in the Performance Test schedule.

Preproduction Verification Test - Cyclic incremental test loading and unloading of a sacrificial anchor and recording the total movement of the Anchor Head at each increment. A Creep Test is performed at the maximum test load in a cycle as indicated in the Preproduction Verification Test schedule. Preproduction Verification Test is used to verify Contractor's Ground Anchor design and installation procedure.

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Proof Test - Incremental loading and unloading of a production anchor and recording the total movement of the Anchor Head at each increment. A Creep Test is performed at the maximum test load as indicated in the Proof Test schedule. Proof Test is used to verify grout/ground bond strength.

Tendon Bond Length - The length of tendon bonded to the anchor grout.

Transition Tube - A common sheath that is inserted into the top of the fluid grout and extended into the Trumpet.

Trumpet - Device to provide corrosion protection in the transition length from the Bearing Plate to the Free Stressing Length.

00596E.04 Preconstruction Working Drawings, Design Calculations, and Submittals - Submit preconstruction Working Drawings, design calculations and submittals according to 00150.35 except as modified by this Subsection.

(a) Ground Anchor Design - Design Ground Anchors with Class 1 corrosion protection using LRFD design method according to the current edition of the following:

- *AASHTO LRFD Bridge Design Specifications,*
- *Geotechnical Engineering Circular No. 4 Ground Anchors and Anchor Systems (FHWA-IF-99-015),*
- *Post Tensioning Institute Recommendations for Prestressed Rock and Soil Anchors.*

Select the type of tendon and size the tendon to ensure the Factored Design Load and maximum test load do not exceed 80 percent of the minimum ultimate tensile strength of the prestressing steel.

Determine the Bond Length necessary to develop the given Factored Design Load. The minimum Bond Length for strand is 15 feet. The minimum Bond Length is 10 feet for bars 1.75-inch diameter and smaller, and 15 feet for bars larger than 1.75-inch diameter.

The minimum Free Stressing Length (unbonded length) is 15 feet for strand and 10 feet for bar, unless a greater minimum length is shown or specified.

(b) Stamped Working Drawings - Before beginning construction of permanent Ground Anchors, submit the following stamped Working Drawings and calculations according to 00150.35. Include all stamped design calculations, details, dimensions, quantities, ground profiles, and cross-sections necessary to construct Ground Anchor tiebacks, and for members and connections for any portion of the anchor not shown. Include the following:

(1) Ground Anchor schedule including:

- Ground Anchor number,
- Type, size and specification of Ground Anchor tendon,
- Size and specification of Permanent Casing
- LRFD Factored Design Load and maximum test load,

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- Lock-off Load,
- Minimum Bond Length,
- Minimum unbonded length,
- Minimum total anchor length.
- Minimum permanent casing length,

(2) Shop drawings of the Ground Anchor and the corrosion protection system including the following details:

- The relationship of the Ground Anchors to Right-of-Way and easement lines, utilities, structures and other construction,
- Tendon bar size or number of strands,
- Spacers and their location,
- Centralizers and their location, including the permanent rubber seal between the Trumpet and the tendon unbonded length corrosion protection and the transition between the Tendon Bond Length and the unbonded tendon length,
- Bar tendon coupler locations, if used,
- Unbonded length corrosion protection system,
- Bond breaker in the unbonded length,
- Bond Length corrosion protection system,
- Anchorage and Trumpet,
- Anchorage corrosion protection system,
- Grout tubes,
- Drilling and casing advancement methods including drill hole diameter, Equipment, and access space requirements,
- Pre-packaged grout from the QPL and manufacturer's mix design indicating exact brand and batch quantities of pre-packaged grout and water including dosages proposed, test procedure, placement Equipment and procedure, minimum cure time,
- Jacking frame and bracing assembly, method and Equipment for testing and measuring movement during testing.

(3) Design calculations including:

- The Ground Anchor system and Bond Length,
- Testing and stressing frame assembly,
- Verification test reaction pad.

(4) Construction procedure, installation plan, and testing procedure

(c) Unstamped Submittals - Submit the following before beginning construction of permanent Ground Anchors:

- Materials certificates of compliance and quality compliance documents for:

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- Prestressing reinforcement,
- Portland cement,
- Prestressing hardware,
- Bearing Plates,
- Corrosion protection system.
- Permanent casing
- Personnel qualifications according to 00596E.30.
- Equipment list according to 00596E.20.
- Calibration data for each test jack, load cell, primary pressure gauge and reference pressure gauge to be used.
- Containment plan for drilling and grouting waste according to 00596E.41(e), including the drilling method and flush medium with estimated return volume per anchor, collar containment device details and position at the wall face, conveyance and storage methods with sizing, grout return handling during grouting and stressing, treatment and disposal methods according to 00290.20, and spill response procedures. The containment plan may be submitted as part of the Pollution Control Plan required by 00290.30(b).

00596E.05 Ground Anchor Construction and Test Data Report Submittals - Submit a summary report to the Engineer before the end of the work day that each anchor is installed and tested unless otherwise noted. Include the following information:

- Project and date,
- Names of personnel responsible for design, fabrication, installation and testing of the anchor and Agency's Inspector,
- List of testing Equipment used,
- Drawing showing the Ground Anchor's location, orientation, anchor type, anchor capacity, tendon type, total anchor length, Bond Length, unbonded length, and Permanent Casing type and length including rock embedment,
- Drill hole diameter, drilling method, elevation groundwater encountered, subsurface conditions encountered,
- Grouting pressure and quantity,
- Results of the load test, including completed testing field data records for load increments and time periods in 00596E.42(b), 00596E.42(d), and 00596E.42(e) and appropriate presentation figures, charts and graphs,
- Summary statement of test results, including whether the load test met or failed to meet the criteria.

Submit test data reports as Stamped Working Drawings according to 00150.35.

Materials

00596E.10 General - Furnish Materials meeting the requirements of this Section. Do not deliver Materials to the site until the Engineer has approved the Materials submittals outlined in 00596E.04. Store and handle prestressing steel strands and bars according to the

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manufacturer's recommendations and in such a manner that no damage to the component parts occurs. Protect all steel components from the elements at all times. Store cement and additives for grout under cover and protect against moisture.

00596E.11 Materials - Furnish Materials meeting the following requirements:

(a) Ground Anchor - Furnish the complete anchor system according to the *Post Tensioning Institute (PTI) Recommendations for Prestressed Rock and Soil Anchors*, including prestressing reinforcement, Anchorage, Class I corrosion protection, sheathings, spacers, centralizers and grout. Corrosion protection is not required for sacrificial verification test anchors.

(b) Prestressing Reinforcement - Fabricate tieback tendons from single or multiple elements of the following:

- Seven-wire low-relaxation strand according to 02515.10,
- Continuously Threaded High Strength Steel Bars according to 02515.30,
- "Compact" seven-wire, low-relaxation strands according to ASTM A779,
- Epoxy coated steel bars according to ASTM A775.

Hollow-core, self-drilling bar tendons are not acceptable.

Use prestressing steel bar couplers capable of developing 100 percent of the minimum ultimate tensile strength of the prestressing steel bar.

Use continuous prestressing strand reinforcement without splices or couplers.

(c) Tendon Bond Length Encapsulations - Fabricate the Tendon Bond Length encapsulation from one of the following:

- High density corrugated polyethylene tubing meeting the requirements of AASHTO M 252 and having a minimum wall thickness of 0.16 inch except pregouted tendons may have a minimum wall thickness of 0.04 inch.
- Deformed steel tubing or pipes meeting the requirements of ASTM A53 Grade B or ASTM A500 Grade B ($F_y = 46$ ksi for square sections, and $F_y = 42$ ksi for round sections) with a minimum wall thickness of 0.04 inch.
- Corrugated, polyvinyl chloride tubes manufactured from rigid PVC compounds meeting the requirements of ASTM D1784, Class 13464-B.
- Fusion-bonded epoxy meeting the requirements of AASHTO M 284.

Furnish end caps from the same material as the encapsulation tubing.

Provide Tendon Bond Length encapsulation that meets all of the following performance requirements:

- Capable of transferring stresses from the grout surrounding the tendon to the Bond Length grout,
- Able to accommodate movements during testing and after lock-off,

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- Resistant to chemical attack from aggressive environments, grout or grease,
- Resistant to aging by ultra-violet light,
- Fabricated from materials nondetrimental to the tendon,
- Capable of withstanding abrasion, impact and bending during handling and installation,
- Capable of resisting internal grouting pressures developed during grouting.

(d) Anchorage Devices - Furnish a combination of either a steel Bearing Plate with wedge plate and wedges, or a steel Bearing Plate with a threaded anchor nut. The steel bearing and wedge plate may also be combined into a single element. Ensure Anchorage devices are capable of developing 95 percent of the minimum ultimate tensile strength of the prestressing steel tendon. Ensure Anchorage devices meet the static strength requirements of Section 3.1.6(1) and 3.1.8(1) and (2) of the *PTI Post-Tensioning Manual*.

(1) Bearing Plate - Fabricate the Bearing Plate from steel meeting the requirements of AASHTO M 270, Grade 36, or a ductile iron casting meeting the requirements of ASTM A536.

(2) Wedges and Wedge Plates - Use wedges designed to preclude premature failure of the prestressing steel due to notch or pinching effects under static and dynamic strength requirements of Section 3.1.6(1) and Sections 3.1.8(1) and (2) of the *PTI Post-Tensioning Manual*. Do not reuse wedges.

(3) Anchor Nuts - Size anchor nuts and other threaded hardware for epoxy coated bars to thread over the epoxy-coated bar and still comply with the requirements for carrying capacity.

(4) Trumpet - Furnish Trumpets fabricated from steel pipe or tube meeting the requirements of ASTM A53 for pipe or ASTM A500 for tubing. Furnish steel Trumpets having a minimum wall thickness of 1/8 inch for diameters up to 4 inches and 3/16 inch for larger diameters.

(5) Anchorage Cover - Furnish Anchorage covers fabricated from steel or plastic with a minimum thickness of 1/8 inch. Ensure the joint between the cover and the Bearing Plate is watertight.

(e) Bondbreaker - Fabricate the bondbreaker sleeve for the anchor Free Stressing Length from a smooth plastic tube or pipe having the following properties:

- Resistant to chemical attack from aggressive environments, grout, or corrosion inhibiting compound,
- Resistant to aging by ultraviolet light,
- Fabricated from material non-detrimental to the tendon,
- Capable of withstanding abrasion, impact, and bending during handling and installation,
- Enables the tendon to elongate during testing and stressing,
- Allows the tendon to remain unbonded after lock-off.

(f) Corrosion Inhibiting Compound - Furnish corrosion inhibiting compound for placement in the Free Stressing Length or the Trumpet area. Furnish grease, gel or wax corrosion inhibiting compound meeting the requirements of Section 4.6 of *PTI Recommendations for Prestressed Rock and Soil Anchors*.

(g) Sheathings - Use a sheath as part of the corrosion protection system for the unbonded length portion of the tendon.

Furnish sheathing fabricated from one of the following:

- A polyethylene tube pulled or pushed over the prestressing steel. Use Type II, III, or IV polyethylene as defined by ASTM D1248 (or approved equal). Use tubing with a minimum wall thickness of 0.06 inch.
- A hot-melt extruded polypropylene tube. Use polypropylene of cell classification B55542-11 as defined by ASTM D4101 (or approved equal). Use tubing with a minimum wall thickness of 0.06 inch.
- A hot-melt extruded polyethylene tube. Use high density Type III polyethylene as defined by ASTM D1248 (or approved equal). Use tubing with a minimum wall thickness of 0.06 inch.
- Steel tubing meeting the requirements of ASTM A500, Grade B ($F_y = 46$ ksi for square sections, and $F_y = 42$ ksi for round sections). Use tubing with a minimum wall thickness of 0.25 inch.
- Steel pipe meeting the requirements of ASTM A53, Grade B. Use pipe with a minimum wall thickness of 0.25 inch.
- Plastic pipe or tube of PVC meeting the requirements of ASTM D1784 Class 13464-B. Use Schedule 40 pipe or tube at a minimum.
- Heat shrink sleeves according to 00596E.11(h) with a minimum wall thickness of 0.04 inch

Furnish sheathing that meets all of the following performance requirements:

- Resistant to chemical attack from aggressive environments, grout or corrosion inhibiting compound,
- Resistant to aging by ultraviolet light,
- Fabricated from material nondetrimental to the tendon,
- Capable of withstanding abrasion, impact and bending during handling and installation,
- Enables the tendon to elongate during testing and stressing,
- Allows the tendon to remain unbonded after lock off.

(h) Bar Tendon Coupler Protection - On encapsulated bar tendons, cover the coupler and any adjacent exposed bar section with a corrosion-proof compound or wax-impregnated cloth tape. Cover the coupler area with a smooth plastic tube complying with 00596E.11(g), overlapping the adjacent sheathed tendon by at least 1 inch. Seal the two joints with a coated heat-shrink sleeve of at least 6 inches in length, or approved equal. Completely fill the space inside the cover tube with the corrosion-proof compound.

Furnish heat shrinkable sleeves fabricated from a radiation cross-linked polyolefin tube with a nominal thickness of 0.24 inches and internally coated with an adhesive sealant with a nominal thickness of 0.2 inches.

(i) Spacers and Centralizers:

(1) Spacers - Use spacers to separate the elements of a multi element tendon and permit grout to freely flow around the tendon and up the drill hole. Fabricate spacers from plastic, steel, or material that is non-detrimental to the prestressing steel. Do not use wood. A combination centralizer-spacer may be used. Use spacers to separate individual steel strands at intervals of no more than 10 feet.

(2) Centralizers - Fabricate centralizers from plastic, steel or material that is non-detrimental to the prestressing steel. Do not use wood. Use centralizers capable of supporting the tendon in the drill hole and position the tendon so a minimum of 1/2 inch of grout cover is provided and permits grout to freely flow around the tendon and up the drill hole.

Furnish centralizers at intervals that will align and fully support the tendon along its entire length within the bond and unbonded zone.

Within the bond zone, furnish centralizers at intervals of no more than 10 feet with the deepest centralizer located 1 foot from the end of the anchor and the upper centralizer to be located no more than 5 feet from the top of the Tendon Bond Length.

(j) Grout and Grout Tubes - Furnish a commercial, pre-packaged, thixotropic grout meeting the requirements of 02080.80. Use grout that is a pumpable neat mixture of cement and water that is stable (bleed less than 2 percent), fluid, and provides a compressive strength of at least 3,000 psi at time of stressing. Furnish water for mixing grout according to Section 02020.

Admixtures that control bleed, improve flowability, reduce water content and retard set may be used in the grout subject to the approval of the Engineer. Furnish admixtures, if used, compatible with prestressing reinforcement and mixed according to the manufacturer's recommendations. Expansive admixtures may only be used for filling sealed encapsulations, Trumpet, and Anchorage covers. Do not use accelerators.

Submit a detailed written mix design of the exact brand and batch quantities of pre-packaged grout and water including dosages proposed. Prior to installing the first Ground Anchor, mix a trial batch of grout using the Equipment, Materials, proportions, and grouting crew proposed for use on the Project. Perform the following tests:

- **Bleeding** - Determine bleed resistance according to ASTM C940. The maximum allowable bleeding is 2 percent.
- **Compressive Strength** - Determine compressive strengths according to ASTM C109. Sample 2 sets of 3 cubes at least once for each trial batch. Demonstrate the grout achieves at least 3,000 psi compressive strength at the end of the wait time before stressing.

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If the proposed grout mix design does not produce acceptable trial batch results, revise the mix design and perform another trial batch. Results from previous projects will not be considered acceptable documentation. Grouting may proceed after approval of the trial batch.

Furnish grout tubes with an adequate inside diameter to enable the grout to be pumped to the bottom of the drill hole and capable of withstanding a minimum grouting pressure of 150 psi or the Contractor's maximum anticipated grout pressure.

(k) Permanent Casing – Furnish ASTM A53, Grade B pipe casing for the unbonded length of the anchor.

Equipment

00596E.20 General - Provide an Equipment list and a review of all Equipment suitability based on the Contractor's understanding of the site subsurface conditions, the associated installation plan, and Ground Anchor testing procedures. Before drilling, obtain approval in writing of drilling, grouting, stressing and testing Equipment.

00596E.21 Drilling Equipment - Provide drilling Equipment appropriate for the subsurface conditions shown. Drilling Equipment includes all Equipment necessary to make holes of the diameter and depth required, maintain an open hole, install permanent casing, and place anchors.

00596E.22 Mixing and Grouting Equipment - Provide mixers, storage tanks, pumps, and necessary Equipment that satisfy the following:

- Mixer that produces a neat cement grout that is free of lumps and undispersed cement and continuously agitated during grouting operations,
- Pump and pressure gauge capable to monitor grout pressures at least 150 psi or twice the actual grout pressures used, whichever is greater,
- Grouting Equipment sized to enable the grout to be pumped in one continuous operation.

00596E.23 Anchor Stressing and Testing Equipment - Provide Equipment to demonstrate the anchor acceptance criteria through testing and to stress and lock off the tendon at the load specified. Furnish Equipment with rated capacity adequate for stressing the tendon to the maximum specified test load.

(a) Hydraulic Jack and Pump - Provide the following:

- Stressing Equipment capable of stressing the whole tendon in one stroke to the specified test load within 75 percent of the rated capacity. Provide a pump capable of applying each load increment in less than 60 seconds.
- Stressing Equipment capable of stressing the anchor in increments so that the anchor load can be raised or lowered according to the test specifications and allow the anchor to be lift-off tested to confirm the Lock-off Load and properly selected for the type and number of stressing elements.

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(b) Stressing Anchorage - Furnish stressing Anchorage according to 00596E.11(d) to grip the prestressing reinforcement during loading.

(c) Pressure Gauges and Load Cells - Provide the following:

- A primary pressure gauge consisting of a dial gauge or vernier scale capable of measuring to 0.001 inch to measure the Ground Anchor movement. Use a movement-measuring device that has a minimum travel equal to the theoretical elastic elongation of the total anchor length at the maximum test load plus two inches and adequate travel so the Ground Anchor movement can be measured without resetting the device at an interim point.
- A reference calibrated pressure gauge for checking the primary pressure gauge.
- An electrical resistance load cell and readout for use in combination with a pressure gauge for extended Creep Test.

Adjustment or repair of jacks, gauges, or load cell after certification requires recalibration at no additional cost to the Agency.

Provide stressing Equipment calibrated by an independent firm traceable to the National Institute of Standards and Technology (NIST). Perform certified calibration of stressing system within 55 Calendar Days of the date of calibration submittal to the Engineer. Provide calibration accuracy of plus or minus 2 percent prior to use. Keep the calibration certificate and graph available on-site during testing and stressing.

Labor

00596E.30 Personnel Qualifications - Perform the Work using personnel with the required minimum experience in Ground Anchor installation, stressing, and testing. Submit for review a list identifying the Subcontractor (if not performed by the Contractor), Project Site supervisors and drill rig operators assigned and the experience relevant to the Project. Submit the following:

- Project reference list of at least three Ground Anchor projects successfully completed in the last 5 years. Include a brief description of each project and the owner's contact person's name and current phone number for each project listed.
- Experience documentation of the supervising engineer for the On-Site Work with at least 3 years' experience in Ground Anchor design and construction. Provide experience information including the direct supervisory responsibility for the installation, stressing and testing operations.
- Provide experience information for drill operators with at least 1 year experience in the construction of permanent Ground Anchors.

Construction

00596E.40 Ground Anchor Storage and Handling - Store and handle anchors so as to avoid mechanical damage, corrosion and contamination with dirt or deleterious substances. Use padding under banding for prefabricated anchors to avoid damage to the anchor corrosion protection. Store Materials delivered prior to time required in a dry, clean ventilated place, heated, if necessary, to prevent accumulation of moisture on the Materials or in the

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wrapping. Do not store on the ground or expose to weather. Rusting sufficient to cause excessive surface roughness, pitting visible to the naked eye, or unevenness, is cause for rejection. Bent anchors that have surface damage or have been subject to excessive rusting are rejected.

The storage method is subject to review and approval prior to delivery of Materials to the Project Site. Do not weld anchor components. Protect anchors from any nearby welding operations to avoid touching the anchor with the electrode and to avoid electrical circuits that may cause resistance heating from passing through the anchors. Lift pre-grouted anchors so as to avoid excessive bending, that can debond the prestressing steel from the surrounding grout. Do not expose prestressing steel to excessive heat.

00596E.41 Ground Anchor Installation:

(a) Drilling Anchor Holes - Drill anchor holes to the length and diameter shown on the approved shop drawings and within 1 degree of the inclination shown. Utilize a drilling method to establish a stable hole of adequate dimensions within the tolerances specified. Drilling methods may involve, amongst others, rotary, percussion, rotary/percussive or auger drilling; or percussive- or vibratory-driven casing. Jetting is not allowed. Case the drilled anchor holes to prevent sloughing or caving of material into the hole throughout drilling, anchor installation, and grouting. Permanent casing is required for the unbonded length of the anchor.

Thoroughly clean the holes of loose debris and re-drill any anchor hole that caves, sloughs, or otherwise does not provide suitable Anchorage as required.

(b) Anchor Insertion - Place anchors according to the Plans, details and recommendations of the anchor manufacturer. Insert the anchor into the drill hole to the desired depth without damaging the sheathing, coating, and grout tubes. Align the center of the anchor with the center of the drill hole. If the anchor cannot be completely inserted, remove the anchor from the drill hole and clean or re-drill the hole to permit insertion. Do not drive or force partially inserted anchors into the hole.

Prior to inserting an anchor in the drilled hole, allow the Engineer to examine the entire anchor for damage. Repair damaged anchors according to the manufacturer's recommendations, as approved by the Engineer, and replace anchors as required, at no additional cost to the Agency.

(c) Anchor Grouting - After the anchor is inserted, grout the drill hole in one continuous grouting operation. Inject grout from the lowest point of the drill hole.

Record the quantity of the grout and grout pressures.

Provide separation between grout and the back of the Structure or the bottom of the Trumpet at the top of the drill hole. The grout tube may remain in the hole on completion of grouting if the tube is filled with grout.

After grouting, do not load the anchor for a minimum of 3 Calendar Days and the time demonstrated in the trial batch testing.

(d) Anchorage Installation - Install the anchor Bearing Plate and the Anchor Head or nut perpendicular to the anchor, within ± 3 degrees and centered on the Bearing Plate, without bending or kinking of the prestressing elements. Ensure that wedge holes and wedges are free of rust, grout, and dirt. Clean and protect the stressing tail and protect from damage until final testing and lock-off. After the anchor has been accepted, cut the stress tail to its final length according to the anchor manufacturer's recommendations.

Extend the corrosion protection surrounding the unbonded length up beyond the bottom seal of the Trumpet or 4 inches into the Trumpet if no Trumpet seal is furnished. If the protection does not extend beyond the seal or sufficiently far enough into the Trumpet, extend the corrosion protection or lengthen the Trumpet.

Do not contact the corrosion protection surrounding the unbonded length with the Bearing Plate or the Anchor Head during testing and stressing. If the protection is too long, trim the corrosion protection to prevent contact.

00596E.42 Ground Anchor Testing - Test Ground Anchors according to the following:

(a) General - Test each Ground Anchor. Apply the Alignment Load and set dial gauges. Do not stress anchors beyond the Alignment Load prior to testing. Do not exceed 80 percent of the anchor's minimum ultimate tensile strength during testing.

Measure and record anchor movement to the nearest 0.001 inch with respect to an independent fixed reference point. Monitor load with the primary pressure gauge. Place reference pressure gauge in series with the primary pressure gauge during each test.

For Performance and Proof Tests, at loads other than the maximum test load, hold load just long enough to obtain the movement reading. Hold the maximum test load for a minimum of 10 minutes. Continually adjust jack pressure to maintain a constant load. Start load-hold period as soon as the maximum test load is applied. Record anchor movement at 1 minute, 2, 3, 4, 5, 6 and 10 minutes. If anchor movement between 1 minute and 10 minutes exceeds 0.04 inches, hold the maximum test load for an additional 50 minutes, and record anchor movement at 15 minutes, 20, 30, 40, 50 and 60 minutes.

For all verification, Performance, and Proof tests, submit an anchor test data report, according to 00596E.05. The Engineer will respond within 5 Calendar Days after receipt of the report with either acceptance or rejection of the tested anchor.

(b) Preproduction Verification Tests - Prior to installation of permanent Ground Anchors, construct two sacrificial verification test anchors and verification test reaction pads according to the approved Working Drawings and in the locations shown.

Perform verification tests to verify that the Contractor installed anchors meet the anchor acceptance criteria, verify that the length of the anchor bond zone is adequate, and verify the Contractor's design and installation methods. For each verification test, provide the anchor Test Data Report to the Engineer within 5 Calendar Days of completing the testing. Do not begin installation of permanent ground anchors until verification test reports have been reviewed and accepted by the Engineer.

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Verification test anchor locations may be adjusted by the Engineer depending on actual site conditions and other factors. If additional verification test anchors are needed, the location is determined by the Engineer.

For verification test anchors, use the drilling and grouting methods, casing and reinforcement details, depth of embedment (bond zone), and all other installation Materials and methods specified for the production anchors, unless otherwise approved by the Engineer. Perform verification test after the wingwall addition is constructed. At the completion of verification testing, remove or cut the test anchors to a minimum 2-inch depth or as directed and grout the anchor hole.

Conduct verification tests according to the Performance Test schedule in 00596E.42(c).

Do not proceed with further Ground Anchor testing or construction without verification test approval.

(1) Verification Test Anchor Acceptance Criteria - The acceptance criteria for anchor verification load tests are:

- Total elastic movement at the maximum test load exceeds 90 percent of the theoretical elastic elongation of the unbonded length.
- At the end of the 1.0 FDL Creep Test load increment, creep rate does not exceed 0.04 inch/log cycle time (1 to 10 minutes) or 0.08 inch/log cycle time (6 to 60 minutes or the last log cycle if held longer) and the creep rate is linear or decreasing throughout the creep load hold period.
- Failure does not occur at the 1.0 FDL maximum test load. Failure is defined as the load where the slope of the load versus head deflection curve (at the end of increment) first exceeds 0.025 inch/kip.

(2) Verification Test Anchor Rejection - If a verification-tested Ground Anchor fails to meet the acceptance criteria, modify the design, the construction procedure, or both. These modifications may include modifying the installation methods, increasing the Bond Length, or changing the Ground Anchor type. Submit to the Engineer any modifications that necessitate changes to the Structure.

(c) Performance Test - Performance Test the first production anchors installed for each row and as directed by the Engineer. If changes are made to the Equipment, means, or methods, conduct an additional Performance Test at no additional cost to the Agency. Conduct Performance Test according to the following schedule:

Performance Test Schedule

Step	Loading	Applied Load
1		AL
2	Cycle 1	0.20FDL*
		AL
3	Cycle 2	0.20FDL
		0.40FDL*
		AL

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4	Cycle 3	0.20FDL
		0.40FDL
		0.60FDL*
		AL
5	Cycle 4	0.20FDL
		0.40FDL
		0.60FDL
		0.80FDL*
		AL
6	Cycle 5	0.20FDL
		0.40FDL
		0.60FDL
		0.80FDL
		0.90FDL*
		AL
7	Cycle 6	0.20FDL
		0.40FDL
		0.60FDL
		0.80FDL
		0.90FDL
		1.00FDL*
8	Maximum load 1.00FDL hold period per 00596E.42(a)	
9	Cycle 6 continued	Reduce to Lock-off Load
10	Lift off test	
11	Adjust Lock-off Load	

AL=Alignment Load

FDL=Factored Design Load

Plot the prestressed soil anchor movement versus load for each load increment marked with an asterisk (*) in the Performance Test schedule, and plot the residual movement of the tendon at each Alignment Load versus the highest previously applied load.

(d) Proof Test - Proof Test each production anchor not performance tested. Perform Proof Test by incrementally loading the Ground Anchor according to the following schedule:

Proof Test Schedule

Applied Load

(LRFD Design)

AL

0.20FDL

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0.40FDL

0.60FDL

0.80FDL

1.00FDL

Hold test load 10 minutes
minimum.¹

Reduce to
Lock-off Load

Lift-off test

AL = Alignment Load

FDL = Factored Design Load

¹Perform Creep Test measurements on the maximum load in the test. Start the load-hold period as soon as the maximum test load is applied. Measure and record the Ground Anchor movement at 1 minute, 2, 3, 4, 5, 6, and 10 minutes. If the Ground Anchor movement between 1 minute and 10 minutes exceeds 0.04 in., hold the maximum test load for an additional 50 minutes. If the load hold is extended, record the Ground Anchor movement at 15 minutes, 20, 30, 40, 50, and 60 minutes. If the Creep Test is extended, the creep movement between the 6-and 60-minute readings is required to be less than 0.08 inches for acceptance. Construct a graph showing a plot of Ground Anchor movement versus load for each load increment in the Proof Test. Obtain Engineer's approval of graph format prior to use.

(e) Ground Anchor Acceptance Criteria - The Engineer will analyze the permanent Ground Anchor test results. Ground Anchor acceptance is based on satisfying each of the following criteria: creep, movement, and Lock-off Load:

- A performance or proof tested anchor with a 10-minute load hold is acceptable if the anchor resists the maximum test load with less than 0.04 inches of movement between 1 minute and 10 minutes and the total elastic movement at the maximum test load exceeds 90 percent of the theoretical elastic elongation of the unbonded length.
- A performance or proof tested anchor with a 60-minute load hold is acceptable if the anchor resists the maximum test load with a creep rate that does not exceed 0.08 inches in the last log cycle of time and the total elastic movement at the maximum test load exceeds 90 percent of the theoretical elastic elongation of the unbonded length.
- A verification, performance, or proof tested anchor subjected to extended Creep Testing is acceptable if the anchor resists the maximum test load with a creep rate that does not exceed 0.08 inches in the last log cycle of time and the total elastic movement at the maximum test load exceeds 90 percent of the theoretical elastic elongation of the unbonded length.
- Initial lift-off reading is within ± 5 percent of the designed Lock-off Load. Perform liftoff test according to 00596E.42(h).

(f) Procedures for Anchors Failing Acceptance Criteria - Anchors that fail the acceptance criteria are handled as follows:

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- Anchors that do not satisfy the minimum apparent free length criteria are rejected and replaced at no additional cost to the Agency.
- Re-groutable anchors satisfying the minimum apparent free-length criteria but failing to satisfy creep criteria may be post-grouted and retested. Anchors that cannot be post-grouted or re-grouted anchors that do not pass the acceptance criterion are rejected.

In the event that an anchor fails, modify the design or construction procedures. These modifications may include installing additional anchors, modifying the installation methods, increasing the Bond Length, reducing the anchor design load by increasing the number of anchors, increasing the total anchor length, or changing the anchor type. Complete design or construction modification at no additional cost to the Agency. Submit a description of any proposed modifications to the Engineer in writing. Do not implement proposed modifications until receiving written approval from the Engineer.

(g) Anchor Lock-Off - Apply Lock-off Loads to permanent Ground Anchors as follows:

- After testing has been completed and anchors have been accepted by the Engineer, set the Anchorage to achieve the design Lock-off Load considering seating losses.
- Limit the Lock-off Load to a maximum 70 percent of the anchor minimum ultimate tensile strength.
- Seat the wedges at a minimum load of 50 percent of the anchor minimum ultimate tensile strength. If the Lock-off Load is less than 50 percent of the anchor minimum ultimate tensile strength, use shims under the wedge plate and seat the wedges at 50 percent of the anchor minimum ultimate tensile strength. Remove shims after seating to reduce the load in the anchor to the design Lock-off Load.
- Adjust Lock-off Load using shims. Do not regrip strand anchors where regripping would result in overlapping wedge bites below the Anchorage wedge plate.

(h) Anchor Liftoff Test - After transferring the Lock-off Load to the Anchorage, and prior to removing the jack, conduct a liftoff test to confirm the magnitude of the load in the anchor. This load is determined by reapplying load to the anchor to lift off the wedge plate (or anchor nut) without unseating the wedges (or turning the anchor nut). This moment represents zero time for any long term monitoring. In the event that the load is removed from the anchor for any reason, repeat the anchor liftoff test procedure.

If the initial liftoff reading for any anchor is not within 5 percent of the designated Lock-off Load, adjust the anchor load accordingly and repeat the liftoff test. Repeat the liftoff until the liftoff reading is within 5 percent of the designated Lock-off Load.

Measurement

00596E.80 Measurement - The quantities of Work performed under this Section will be measured on the unit basis.

Payment

00596E.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

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Pay Item	Unit of Measurement
(a) Permanent Ground Anchor	Each
(b) Performance Test	Each
(c) Verification Test.....	Each

Item (a) includes Contractor design of bonded length and for designing, furnishing, installing, and proof testing permanent Ground Anchors. Furnishing and installing permanent casing is Incidental to this Pay Item.

Item (c) includes design and construction of verification test reactions pads, and for designing, furnishing, installing, and testing of sacrificial anchors.

No separate or additional payment will be made for containment activities or providing a containment plan.

Payment will be payment in full for furnishing and installing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00620 - COLD PLANE PAVEMENT REMOVAL

Comply with Section 00620 of the Standard Specifications modified as follows:

00620.40(b) Depth 1 inch to 2 inches - Replace this subsection, except for the subsection number and title, with the following:

If the depth of the existing Pavement to be removed is 2 inches or less, but more than 1 inch and the section is under traffic, schedule the Work so the full width and length of travel lanes Pavement can be removed during the same shift. Remove the Shoulder area within 24 hours.

00620.40(c) Depth over 2 inches - Replace this subsection, except for the subsection number and title, with the following:

If the depth of the existing Pavement to be removed is over 2 inches and the section is under traffic, schedule the Work so the full width and length of the travel lanes and Shoulders can be removed, leaving no longitudinal or transverse drop-offs, during the same shift.

00620.41 Surface Tolerance - Replace this subsection, except for the subsection number and title, with the following:

Test with a 12-foot straightedge furnished and operated by the Contractor, as directed. The maximum variation of the top of the ridges from the testing edge of the straightedge, between any two ridge contact points, is 1/4 inch.

00620.43 Maintenance Under Traffic - Replace this subsection, except for the subsection number and title, with the following:

If the cold planed Pavement surface is exposed to traffic, sweep and clean prior to allowing traffic to use the Roadway.

Traffic is not allowed on the cold planed surface. Before opening the area to traffic, pave the surface according to 00744.51.

SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS

Comply with Section 00641 of the Standard Specifications modified as follows:

00641.10(a) Base and Shoulder Aggregate - Replace the paragraph that begins "Aggregate for Bases ..." with the following paragraph:

Furnish Aggregate for Bases and Shoulders meeting sizes as specified. Furnish dense-graded Base Aggregate unless otherwise specified. For Shoulder Aggregates use either 1" - 0 or 3/4" - 0 size as the Contractor elects.

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In the paragraph that begins "Aggregate for bases...", add the following sentence after the first sentence:

Furnish Base Aggregate sized either 3/4"-0" or 1"-0".

00641.10(b) Subbase Aggregate - Replace this subsection, except for the subsection number and title, with the following:

Furnish crushed or uncrushed Aggregate, including Sands, reasonably well graded from coarse to fine for Subbases.

The maximum size Aggregate is not to exceed 75 percent of the compacted thickness of the layer that it is incorporated in. Furnish Aggregates passing the 1/4-inch sieve not less than 10 percent nor more than 50 percent of the whole, by weight. Furnish Aggregate with not more than 10 percent of the Aggregate passing the No. 100 sieve. Within these limits, furnish Subbase Aggregate with a gradation adequate to produce a dense, firm Base when placed and compacted.

(1) **Grading** - All of the grading requirements are given as percentages by weight. The gradation is determined by sieve analysis according to AASHTO T 27.

(2) **Abrasion** - Do not exceed 45 percent wear when tested according to AASHTO T 96 for the source materials for Aggregate Subbase unless otherwise approved.

(3) **Sand Equivalent** - Aggregate Subbase is tested according to AASHTO T 176, with a Sand equivalent of not less than 25.

00641.12 Limits of Mixture - Replace the paragraph that begins "Furnish a mixture ..." with the following paragraph:

Furnish a mixture of Aggregate and water having a uniform moisture content sufficient to obtain the required compaction. Proportions are in percentages by weight and is known as the Mix Design. Determine the proportion of Aggregate and water according to Section 00165. The amount of water for the Mix Design is based on the dry weight of the Aggregate.

00641.15(b) Preproduced Aggregate - Replace the paragraph that begins "Compliance of Aggregates ..." with the following paragraph:

Compliance of Aggregates produced and stockpiled before issuance of Notice to Proceed is determined according to (1) or (2) below.

00641.16 Acceptance of Aggregates - Replace the paragraph that begins "Acceptance will be ..." with the following paragraph:

Acceptance is according to Section 00165.

00641.16(a) Stockpiled Aggregate for Aggregate Base and Shoulders - Replace the paragraph that begins "Acceptance will be ..." with the following paragraph:

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Acceptance is based on the Contractor's quality control testing, if verified, as required in Section 00165.

00641.16(a)(2) Non-specification Aggregate Gradation - Replace this subsection, except for the subsection number and title, with the following:

Stockpiled Aggregates having non-specification Aggregate gradation are rejected unless the non-specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non-specification material has been removed so that the QL for each sieve size is equal to or greater than the QL in Table 00165-2 for a 1.00 PF.

No payment is made for non-specification materials.

00641.16(b) Aggregate Base and Shoulder Mixture - Replace this subsection, except for the subsection number and title, with the following:

Acceptance testing is performed on random samples obtained immediately following mixing with water according to Section 00165. For non-specification mixture the Engineer will determine the appropriate price reduction or order its removal from the Work according to 00150.25.

00641.16(c) Aggregate Subbase - Replace this subsection, except for the subsection number and title, with the following:

Aggregate Subbase is accepted based on the Engineer's visual inspection. Samples are obtained and tested for compliance with 00641.10 by the Engineer if it is suspected that the material does not meet Specifications.

00641.20(a) Mixing Plant - Replace the bullet that begins "Discharges water into ..." with the following bullet:

- Discharges water into the mixer by weighing or metering. Provide an adjustable device and assure uniform water content in the mixture.

00641.24 Compacting Equipment - Replace this subsection, except for the subsection number and title, with the following:

Provide self-propelled rollers and compactors capable of reversing without backlash. Use rollers and compactors with a gross static weight of at least 8 Tons, and capable of compacting to specified density while the mix is still moist.

00641.40 Preparation of Foundation - Replace this subsection, except for the subsection number and title, with the following:

Provide a firm surface or material, where Aggregates are to be placed, according to Sections 00320, 00330, or 00610 as applicable.

00641.41 Mixing, Hauling, and Placing - Replace the sentence that begins "Add water to the Aggregate..." with the following sentence:

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Add water to the Aggregate while mixing to provide a moisture content meeting the requirements of 00641.12.

00641.43(a) Aggregate Base Courses - Replace the paragraph that begins "If the required ..." with the following paragraph:

If the required compacted depth of the Base Course exceeds 6 inches, construct it in two or more layers of nearly equal thickness. The maximum compacted thickness of any one layer is 6 inches unless approved.

00641.43(b) Aggregate Subbase Courses - Replace this subsection, except for the subsection number and title, with the following:

The maximum compacted thickness of any one layer is 9 inches unless approved.

00641.43(c) Shoulder Courses - Replace this subsection, except for the subsection number and title, with the following:

Place Aggregates in Shoulder areas, other than as part of the Base Course, in one layer, or in two or more layers of nearly equal thickness. The maximum compacted thickness of any one layer is 9 inches.

00641.44(a)(2) Open-graded Aggregates - Replace the paragraph that begins "Compact the surface ..." with the following paragraph:

Compact the surface of each layer of open-graded Aggregates using rollers according to 00641.24. Roll until there is no appreciable reaction or yielding under the compactor.

00641.45 Surface Tolerance - Replace this subsection, except for the subsection number and title, with the following:

Parallel the finished surface of the Aggregate and the surface of each underlying layer with the established grade and Cross Section for the finished surface within 0.04 foot.

Do not vary the finished surface of the compacted Aggregate, when tested with a 12-foot straightedge, from the testing edge by more than 1/2 inch at any point. Provide and operate the straightedge as directed.

Add the following subsection:

00641.46 Small, Irregular Areas – Haul, place, shape and compact small irregular areas according to 00640.41 through 00640.43. A small or irregular area is outside of the Traveled Way and requires no more than 5 Tons of Aggregate Base or as otherwise approved by the Engineer.

In areas not accessible to the Equipment specified in 00641.24, use a weighted roller, vibratory plate compactor, tamping rammer compactor, or other approved Equipment suitable for the area as approved by the Engineer.

00641.90 Payment - Replace the paragraph that begins "In items (c) and (e) ..." with the following paragraph:

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In items (c) and (e), the designated size of Aggregate to be used is inserted in the blank.

Replace the paragraph that begins "In item (g) ..." with the following paragraph:

In item (g), the depth of Aggregate Base is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00730 - EMULSIFIED ASPHALT TACK COAT

Comply with Section 00730 of the Standard Specifications modified as follows:

00730.11 Emulsified Asphalt - Replace the paragraph that begins “Excessive delay in the ...” with the following paragraph:

Excessive delay in the use of the Emulsified Asphalt or excessive pumping of the Emulsified Asphalt may significantly reduce the viscosity and may make the material unsuitable for tack coat use. For this reason limit pumping between the bulk storage tank, hauling transportation, field storage tanks and distributor to an absolute minimum to maintain proper viscosity. Final acceptance of Emulsified Asphalt is at the point of application.

Replace the paragraph that begins “Obtain samples according to ...” with the following paragraph:

Obtain samples according to AASHTO R 66 prior to dilution with water, if allowed, according to Section 00165. Samples are tested at the ODOT Materials Laboratory, or other laboratory as designated by the Agency. Emulsified Asphalt is tested within 30 Calendar Days from the date it is sampled.

Replace the sentence that begins “Furnish CSS-1, CSS-1h...” with the following sentence:

Furnish CSS-1, CSS-1h, CMS-2, CMS-2S, CMS-2h, CRS-1, CRS-2, HFRS-2, HFMS-2 or HPTC as selected by the Contractor.

Replace the paragraph that begins “Dilution of the tack coat ...” with the following paragraph:

Except for HPTC, dilution of the tack coat material may be allowed to a maximum 1:1 ratio. Determine the proportion of water to be added to the Emulsified Asphalt. Do not dilute the Emulsified Asphalt until the Engineer approves the dilution ratio. Add the water to the Emulsified Asphalt and mix according to the asphalt Supplier. For HPTC, dilution of the tack coat material is allowed only by the asphalt Supplier at a ratio meeting the requirements of ODOT's publication *Standard Specifications for Asphalt Materials*.

00730.22 Asphalt Distributor - Replace this subsection, except for the subsection number and title, with the following:

Provide an asphalt distributor designed, equipped, maintained and operated so the Emulsified Asphalt Material may be applied uniformly at even heat. Provide a distributor capable of applying the asphalt on variable surface widths up to 16 feet, at readily determined and controlled rates from 0.05 to 2.0 gallons per square yard, and with uniform pressure. Do not vary any specified rate by more than 0.02 gallons per square yard. Provide distributor Equipment that includes a tachometer, pressure gauges, accurate volume measuring devices and a thermometer for measuring temperature of tank contents. Provide distributors equipped with a positive power unit for the asphalt pump, and full circulation spray bars adjustable both laterally and vertically. Set the bar height for triple lap coverage.

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00730.41 Traffic Control - Replace this subsection, except for the subsection number and title, with the following:

Do not apply the tack to more than one-half the width of the travel way at one time. Allow the remaining width to remain open to traffic. Do not close the open lane until traffic controlled by pilot car is operating on the new surface.

00730.42 Preparation of Underlying Surfaces - Replace this subsection, except for the subsection number and title, with the following:

Immediately before applying the tack coat, provide a clean and dry surface to be tacked. Clean all loose material by brooming, flushing with water or other approved methods.

00730.44 Applying Tack Coat - Replace the paragraph that begins "Apply the Emulsified Asphalt ..." with the following paragraph:

Apply the Emulsified Asphalt with a pressure distributor according to 00730.22, unless otherwise allowed. Apply the Emulsified Asphalt to the prepared surface at a rate between 0.05 and 0.20 gallons per square yard as directed and with the Emulsified Asphalt temperature between 140 °F and 185 °F as recommended by the manufacturer. Application rates for tack coat diluted according to 00730.11 are increased as necessary to provide the same amount of residual asphalt as the application rates specified above.

00730.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing, mixing with water, and placing the Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Replace this subsection, except for the subsection number and title, with the following:

No separate or additional payment will be made for Emulsified Asphalt tack coat. Approximately one Tons of Emulsified Asphalt in tack coat is required on this Project.

SECTION 00744 - ASPHALT CONCRETE PAVEMENT

Comply with Section 00744 of the Standard Specifications modified as follows:

00744.10(a) New Coarse and Fine Aggregates - Replace the paragraph that begins "Testing of Aggregates ..." with the following paragraph:

Testing of Aggregates for soundness, durability, and harmful substances is at the discretion and expense of the Agency.

00744.10(a)(1) Soundness - Replace the paragraph that begins "Provide Coarse ..." with the following paragraph:

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Furnish Coarse and Fine Aggregate with a weighted loss not exceeding 12 percent when subjected to five cycles of the soundness test using sodium sulfate solution according to AASHTO T 104.

00744.10(a)(2) Durability - Replace the paragraph that begins "Provide Aggregate ..." with the following paragraph:

Furnish Aggregate not exceeding the following maximum values:

00744.10(a)(3) Fractured Faces - Replace the paragraph that begins "Provide crushed Aggregate ..." with the following paragraph:

Furnish crushed Aggregate with not less than the minimum number of fractured faces as determined by AASHTO T 335 as follows:

00744.10(b) Reclaimed Asphalt Pavement - Replace this subsection, except for the subsection number and title, with the following:

RAP Material used in the production of new ACP is optional. No more than 30 percent RAP Material is allowed in the new ACP Pavement. Use RAP Aggregates in the ACP that are no larger than the specified maximum allowable Aggregate size before entering the cold feed. Blend the RAP Material with new Aggregate to provide a mixture according to the JMF within the tolerances specified.

00744.10(c)(5) Establishing Mix Design Inputs - Replace the paragraph that begins "Blend the RAS ..." with the following paragraph:

Blend the RAS or RAM with new Aggregate to provide a mixture according to the JMF within the tolerances specified.

00744.11(a) Asphalt Cement - Replace this subsection, except for the subsection number and title, with the following:

Furnish asphalt cement according to ODOT's publication *Standard Specifications for Asphalt Materials*. The applicable Specifications are those contained in the current publication on the date the Project is advertised. Use the grade of asphalt that is specified in the Special Provisions.

Provide PG 64-22 grade asphalt cement for this Project.

00744.13 Job Mix Formula Requirements - Replace the paragraph that begins "Develop the JMF ..." with the following paragraph:

Develop the JMF according to the ODOT *Contractor Mix Design Guidelines for Asphalt Concrete*; or verify according to the ODOT mix design verification process. Submit the proposed JMF and supporting data to the Engineer for review and approval at least 10 Calendar Days before anticipated use. Perform a new TSR if the source of the asphalt cement changes.

00744.14 Tolerances and Limits - Replace the paragraph that begins "Develop the JMF ..." with the following paragraph:

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When a JMF tolerance applies to a constituent, full tolerance is given even if it exceeds the control points established in 00744.12(b). Full tolerance is given for RAP, RAS, or RAM content even if it exceeds the limits established in 00744.10.

00744.16 Sampling and Testing - Replace this subsection, except for the subsection number and title, with the following:

For each 1,000 Tons of placement, have a CAT I perform a minimum of one of each of the following test methods as modified in the MFTP:

- Asphalt Content - AASHTO T 308 with ODOT TM 323 determined Calibration Factor
- Gradation - AASHTO T 30
- Mix Moisture - AASHTO T 329
- Maximum Specific Gravity - AASHTO T 209
- Field Compacted Gyratory Specimens - ODOT TM 326

When less than 1,000 Tons of mix is placed in a Day, perform a minimum of one series of tests per Day. Provide test results to the Engineer by the middle of the following work shift. The Engineer may waive the requirement for any of AASHTO T 308, AASHTO T 30, AASHTO T 329, and ODOT TM 326 on a daily basis. The Engineer may waive the requirement for AASHTO T 209 when less than 500 Tons of ACP is placed in a single work shift.

Provide samples or split samples to the Engineer when requested.

00744.17 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

If the test result for each mix gradation constituent, asphalt content, and density measurement is within the Specification limits, the Material is accepted. If the asphalt content, one or more gradation constituents, or the density measurement are not within the specification limits, the Material that is not within the Specification limits is accepted according to 00150.25.

00744.41 Mixing Temperature - Replace the table with the following:

Type	Temperature, °F	
	Maximum at Mixer	Minimum Behind Paver
HMAC	350	240
WMAC	350	215

00744.23 Pavers - Replace the bullet that begins "Self-contained, self-propelled ..." with the following bullet:

- Self-contained, self-propelled, supported on tracks or wheels, that does not contact the mixture being placed.

Replace the bullet that begins "Equipped with augers ..." with the following bullet:

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- Equipped with augers and a screed or strike-off assembly, heated if necessary, that:

Replace the bullet that begins "Equipped with a paver ..." with the following bullet:

- Equipped with a paver control system that:

00744.41 Mixing Temperatures- Replace the paragraph that begins "Establish the allowable ..." with the following paragraph:

Establish the allowable mixing and placement temperature ranges by the JMF. Measure the mixture temperature at the discharge of the mixer. Measure the placement temperature behind the paver. The allowable production temperatures may be adjusted based on the asphalt cement Supplier's recommendation if approved by the Engineer. The maximum mixture temperature and the minimum placement temperature is as follows:

00744.42 Tack Coat - Replace the paragraph that begins "Treat all paved surfaces ..." with the following paragraph:

Treat all paved surfaces on and against where ACP is to be placed with an asphalt tack coat according to Section 00730. Before applying the tack coat, clean and dry the surface to be tacked.

Replace the paragraph that begins "Treat all waterproofing membranes ..." with the following paragraph:

Treat all waterproofing membranes on and against where ACP is to be placed with an asphalt tack coat meeting the requirements of 00744.11(a) or as recommended by the membrane manufacturer.

00744.43(a) Hauling - Replace the paragraph that begins "ACP will be ..." with the following paragraph:

ACP is rejected before placing if one or more of the following occurs:

00744.44 Longitudinal Joints - Replace the paragraph that begins "At longitudinal joints ..." with the following paragraph:

At longitudinal joints, bond, compact and finish the new ACP equal to the ACP against where it is placed.

00744.44(a) Location - Replace the paragraph that begins "Place the ACP ..." with the following paragraph:

Place the ACP in Panel widths that hold the number of longitudinal joints to a minimum. Offset the longitudinal joints in one Panel by at least 6 inches from the longitudinal joints in the Panel immediately below.

00744.44(b) Drop-Offs - Replace the bullet that begins "Construct, maintain, remove ..." with the following bullet:

- Construct, maintain, remove, and dispose of the temporary wedge at no additional cost to the Agency. ACP for the temporary wedge is paid for at the Contract unit price.

00744.45(a)(1) Temporary End Panel - Replace the bullet that begins "For wedges that will be under traffic for less ..." with the following bullet:

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- For wedges that are under traffic for less than 24 hours, construct an 8-foot-long wedge (1V:50H taper rate).

Replace the bullet that begins "For wedges that will be under traffic for 24 ..." with the following bullet:

- For wedges that are under traffic for 24 hours or longer, construct a 25-foot-long wedge (1V:160H taper rate).

Replace the bullet that begins "Construct, maintain, remove ..." with the following bullet:

- Construct, maintain, remove, and dispose of the temporary wedge at no additional cost to the Agency. ACP for the temporary wedge is paid for at the Contract unit price.

00744.45(a)(3) Excess Asphalt Concrete Pavement - Replace this subsection, except for the subsection number and title, with the following:

After completing a temporary end Panel as specified, dispose of unused, remaining ACP as directed. Payment is made for the entire load of ACP, but is limited to only one load for each joint of each Panel.

00744.45(a)(5) Joint Requirements - Replace this subsection, except for the subsection number and title, with the following:

Compact both sides of the joint to the specified density. Test the joint surface according to 00744.70 with a straightedge placed across the joint.

00744.49 Compaction - Replace the paragraph that begins "Determine compliance with..." with the following paragraph:

Determine compliance with density Specifications by random testing of the compacted surface with calibrated nuclear gauges. Determine the density by averaging QC tests performed by a CDT with the nuclear gauge operated in the backscatter mode according to AASHTO T 335 at one random location for each 100 Tons of asphalt concrete placed, but take no less than three tests each shift. Do not locate the center of a density test less than 1 foot from the Panel edge. Calculate MAMD according to ODOT TM 305. The Engineer may waive compaction testing requirements when less than 500 Tons of ACP is placed in a single work shift.

Replace the bullet that begins "**Thin Pavements** - Leveling ..." with the following bullet:

- **Thin Pavements** - Leveling, patches, or where the nominal compacted thickness of a Course of ACP is less than 2 inches.

00744.51 Opening Sections to Traffic - Schedule work so that, during the same shift, the surfaces being paved are paved full width and length through the wearing Course before opening to traffic.

00744.70 Pavement Smoothness - Replace this subsection, except for the subsection number and title, with the following:

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Provide a 12-foot straightedge. Test with a 12-foot straightedge parallel to and perpendicular to the centerline, as directed. Do not vary the Pavement surface by more than 1/4 inch. Mark areas not meeting the surface tolerance.

00744.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

The accepted quantities of ACP incorporated into the Project, whether or not recycled Materials are used, will be paid for at the Contract unit price, per Ton, for the item "Level ____, ____ ACP Mixture ____".

The following is inserted in the blanks:

- The level of ACP "1", "2", "3" is inserted in the first blank.
- The type of ACP "3/4 inch", "1/2 inch", "3/8 inch", is inserted in the second blank.
- The words "in Leveling", "in Temporary", or "in Leveling and Temporary" is inserted in the third blank when applicable.

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

No separate or additional payment will be made for:

- Asphalt cement, mineral filler, lime, and anti-stripping or other additives
- Sawing, cleaning, and filling joints on bridge deck overlays

SECTION 00759 - MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES

Comply with Section 00759 of the Standard Specifications modified as follows:

00759.02 Definitions - Delete this subsection.

00759.03 Required Submittals - Replace the title of this subsection with **"Submittals"**

Replace the paragraph that begins "Material ordered or Work ..." with the following paragraph:

Material ordered or Work performed before the Engineer reviews and returns the documents is at the Contractor's risk.

00759.03(d) Corrective Action Plan - Replace the paragraph that begins "At least 21 Calendar Days ..." with the following paragraph:

At least 21 Calendar Days before concrete Structures Work is scheduled to begin, submit a corrective action plan. Address procedures to correct deficient Structures through minor

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corrective action or replacement according to 00759.55(a) in the corrective action plan, and include:

Replace the bullet that begins "List of minor ..." with the following bullet:

- List of minor corrective actions that are used to correct deficiencies, according to 00759.50 and 00759.55.

00759.11 Aggregate Base - Replace this subsection, except for the subsection number and title, with the following:

Furnish Aggregate Base Materials for Base, foundation courses, Leveling courses, or bedding meeting the requirements of 00640.10 or dense graded Base Aggregate in 00641.10 as appropriate and included in the Special Provisions.

00759.12 Curb Ramp Treatment - Delete this subsection.

00759.21 Concrete Extruding Machine - Replace this subsection, except for the subsection number and title, with the following:

Provide concrete extruding machines that operate under sufficient restraint to forward motion to produce a well consolidated mass of concrete.

00759.22(a) Qualified Smart Levels - Replace this subsection, except for the subsection number and title, with the following:

Measure Slopes with the use of a 24-inch SmartTool level model 92379 or model 92500, and a 6-inch SmartTool level model 92346 or 92510.

00759.23 Concrete Resurfacing Equipment - Replace this subsection, except for the subsection number and title, with the following:

Provide power-operated scarifying Equipment capable of uniformly removing and preparing the existing surface to depths required. For concrete grinding operations, provide 12 segment grinders, fine-toothed scarifying Equipment, or other approved grinding Equipment.

00759.42 Foundations - Replace this subsection with the following subsection:

00759.42 Aggregate Base - Before placing concrete, prepare underlying Aggregate Base surfaces according to Section 00641.

00759.43 Foundation Preparation - Replace the paragraph that begins "Bring areas ..." with the following paragraph:

Bring areas where Structures are to be constructed to established line, and make firm, dry and free of all Unsuitable Material before placing concrete. Provide clean and moist existing concrete surfaces at the time of placing new concrete.

00759.45 Reinforcement, Dowels, and Tie Bars - Replace the paragraph that begins "Provide dowels ..." with the following paragraph:

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Furnish dowels with "slip sleeves" and place as load transfer devices where shown. Place dowels without "slip sleeves" as fastenings or ties between new and existing underlying concrete when shown.

00759.48 Expansion Joints - Replace the bullet that begins "Not less than ..." with the following bullet:

- Not less than 1/2 inch wide, except where abutting or underlying concrete joints are larger, then match those joints' width.

Replace the bullet that begins "Which completely ..." with the following bullet:

- That completely separate the concrete segments.

00759.48(a) Curbs, Islands, and Traffic Separators - Replace the paragraph that begins "Provide expansion ..." with the following paragraph:

Construct expansion joints:

00759.48(b) Driveways, Walks, Monolithic Curbs and Sidewalks, and Surfacing - Replace this subsection, except for the subsection number and title, with the following:

Do not construct expansion joints within the curb ramp, and between separate concrete pours on the same Project.

Construct expansion joints:

- Between driveways and concrete Pavement.
- Transversely in walks opposite expansion joints in adjoining curbs and elsewhere so the distance between joints does not exceed 45 feet.
- Transversely in walks at a distance of 16 feet to 8 feet from ends of walks that abut curbs.
- Around poles, posts, boxes, and other fixtures that protrude through or against the Structures.

00759.48(c) Stairs - Replace this subsection, except for the subsection number and title, with the following:

Construct expansion joints for stairs at the top and bottom landings as shown.

00759.49(c) Requirements - Replace this subsection, except for the subsection number and title, with the following:

Construct contraction joints that:

- Are not less than 1/8 inch or more than 1/4 inch wide.
- Have a depth of one-third the thickness of the concrete.
- Have clean, unfilled grooves (if preformed expansion joint filler is not used).

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00759.50(a) General - Replace the paragraph that begins “The top and face...” with the following paragraph:

Construct the top and face of Structures true and straight, free from humps, sags, or other irregularities. Do not vary the surface by more than 1/4 inch from the edge of 12-foot-long straightedge laid on the top or face of the Structure, except in curves. Provide and operate the straightedge as directed. Unless otherwise shown or directed, tool edges to 1/4-inch radius.

Replace the paragraph that begins “Install truncated domes...” with the following paragraph:

Construct tactile surface indicators according to Section 00765 to the slopes, lines, grades, and dimensions as shown or established.

00759.50(c) Driveways, Walks, and Surfacing - Replace the paragraph that begins “The 24-inch smart ...” with the following paragraph:

The 24-inch smart level is used to measure driveway and sidewalk cross slopes on the pedestrian access route.

00759.50(d) Curb Ramps - Replace the paragraph that begins “The 6-inch smart ...” with the following paragraph:

Use the 6-inch smart level to measure the curb running Slope. Use the 6-inch smart level to measure Slopes on portions of the curb ramp, gutter pan, or adjacent surfaces that cannot accommodate a 24-inch smart level. All other curb ramp locations will use a 24-inch smart level to measure Slopes.

00759.51 Curing - Add the following paragraph to the end of this subsection:

Concrete Structures may be opened to Public Traffic before 7 Calendar Days if the concrete has reached a minimum compressive strength of 2,000 psi as verified by the rebound number determined according to ASTM C805. Test at locations as directed.

00759.53 Welding - Replace this subsection, except for the subsection number and title, with the following:

Conform welding, welder qualifications, prequalification of weld details and inspection of welds to AWS D1.1. Submit all welding procedure specifications to the Engineer for approval.

00759.54(b) Accuracy of Punched Holes - Replace this subsection, except for the subsection number and title, with the following:

Locate all holes punched full size so accurately that when multiple anchor plates are stacked with the edges even, a cylindrical pin 1/8 inch smaller in diameter than the nominal size of the punched hole may be entered perpendicular to the face of the plate without drifting in each of the connecting holes in the same plane. Non-conforming pieces are rejected.

00759.55(a)(2)a. Keyway - Replace this subsection, except for the subsection number and title, with the following:

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Sawcut a keyway at the boundaries of repair areas that are not already defined by panel control joints. Sawcut the keyway 1/8 inch wide and 1/4 inch deeper than the edge of the repair area. Bevel inside edge of keyway at a 45-degree angle.

00759.55(a)(2)d. Resurface - Replace this subsection, except for the subsection number and title, with the following:

Furnish concrete resurfacer from the QPL according to 02015.60; refer to QPL remarks to select an appropriate material based on allowable installation depths. Furnish resurfacer in a color that closely matches the color of surrounding concrete surfaces. Mask boundaries of the repair area. Use hand tools to work resurfacer into keyways and match existing grade at boundaries. Apply a light broom-finish to achieve non-slip surface.

00759.55(b) Acceptance of Structures - Replace this subsection, except for the subsection number and title, with the following:

Once the corrective work or replacement has been completed, acceptance is based on the Engineer's inspection and approval of the Structure.

00759.80 Measurement - Replace the bullet that begins "**Each Basis...**" with the following bullet:

- **Each Basis** - Measurement will be by actual count.

00759.90 Payment - Delete Pay Items (k), (l) and (m) from the Pay Item list.

Replace the paragraph that begins "In item (a) the type ..." with the following paragraph:

In item (a) the type of curb is inserted in the blank, if appropriate. Item (a) includes the curb runs constructed adjacent to the curb ramps.

Replace the paragraph that begins "In item (g)..." with the following paragraph:

In item (g), the specified thickness, or type, of concrete Surfacing is inserted in the blank, if appropriate.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Delete the paragraph that begins "Item (k) includes..."

Delete the paragraph that begins "Item (l) includes..."

Delete the paragraph that begins "Item (m) includes..."

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Add the following paragraph before the paragraph that begins "No separate or additional payment...":

Tactile surface indicators will be paid for according to Section 00765.

In the paragraph that begins "No separate or additional payment...", add the following bullet to the end of the bullet list:

- The additional Work required to construct a curb ramp or replace an existing curb ramp, including any corrective action.

SECTION 00810 - METAL GUARDRAIL

Comply with Section 00810 of the Standard Specifications modified as follows:

00810.00 Scope - Replace the paragraph that begins "Metal guardrail and metal ..." with the following paragraph:

Metal guardrail and metal Median barrier is referred to in this Section as "guardrail". The types of guardrail are shown.

00810.12 Median Barrier on Bridges - Replace this subsection, except for the subsection number and title, with the following:

Furnish metal Median barrier on bridge decks comprised of metal beam rail, metal posts, and hardware meeting the requirements of 00810.10.

At expansion joints on bridge decks, construct special dimension slots in the rail member for post bolt and rail joint bolts as shown.

00810.14 Condition of Materials - Replace this subsection, except for the subsection number and title, with the following:

All Materials are subject to inspection of condition at the latest practical time available before or during incorporation of Materials in the Work.

00810.15(b) Metal Beam Rail Members - Replace this subsection, except for the subsection number and title, with the following:

Furnish metal beam rail members unpainted, straight and free of breaks, kinks, dents, damage to galvanized coating, or any other damage that would affect the integrity of the member. If paint is removed from metal beam rail members salvaged from the Project, remove the paint at a location outside of the Highway Right-of-Way, and in a manner that will not damage the galvanizing. Repair minor damage to galvanizing according to 00810.43.

00810.40 Timing and Coordination of Work - Replace the paragraph that begins "Do not leave posts ..." with the following paragraph:

Do not leave posts installed for guardrail and Median barrier exposed to traffic for more than 24 hours before installing the rail members, rail end pieces and anchors and tightening all bolts. Install replacement rail according to 00310.40(a).

00810.43 Erection of Rails and Other Components - Replace the paragraph that begins "Normally, all fabrication ..." with the following paragraph:

Fabricate metal beam rail members and other components in the shop or by the manufacturer. Limit field cutting, drilling and other field fabrication to the minimum and perform in a manner that will not impair the appearance or structural quality of the material. Burning new holes in metal beam rail members is not allowed.

Replace the paragraph that begins "Draw tight all ..." with the following paragraph:

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Draw tight all bolts. Furnish bolts of sufficient length to extend slightly beyond the nuts.

00810.90 Payment - Replace the paragraph that begins "In item (a), the ..." with the following paragraph:

In item (a), the type of guardrail is inserted in the blank. Item (a) includes all posts including steel, base plates, and base plate concrete anchors.

Replace the paragraph that begins "Items (a), (b), and (k) include ..." with the following paragraph:

Items (a), (b), and (k) include constructing the respective items except for:

- End pieces
- Anchors
- Transitions
- Extra costs involved in constructing guardrail connections to existing Bridges
- Terminals
- Guardrail height conversions

Replace the paragraph that begins "In item (c), the ..." with the following paragraph:

In item (c), the type of anchor is inserted in the blank.

Replace the paragraph that begins "In item (d), the ..." with the following paragraph:

In item (d), the type of guardrail end piece is inserted in the blank.

Replace the paragraph that begins "In item (g) the ..." with the following paragraph:

In item (g), the type of terminal is inserted in the blank. Item (g) includes guardrail terminals, posts, anchors, rails, guards, end pieces, struts, Soil tubes, and all necessary appurtenances and hardware.

Replace the paragraph that begins "In item (h) the ..." with the following paragraph:

In item (h), the length of post is inserted in the blank. Item (h) includes installing 8 foot long or longer posts instead of standard 6-foot-long posts. The extra costs for the longer posts are costs that are not covered and included in the unit price for one or more of the other listed Pay Items.

Replace the paragraph that begins "In item (k), the ..." with the following paragraph:

In item (k), the type of guardrail is inserted in the blank. Item (k) includes all posts including steel, base plates, and base plate concrete anchors.

Replace the paragraph that begins "In item (l), the ..." with the following paragraph:

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In Item (I), the type of guardrail is inserted in the blank. Item (I) includes posts, rails, and all necessary appurtenances and hardware to construct the guardrail height conversion.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and providing all Equipment, labor and Incidentals necessary to complete the Work, as specified.

SECTION 00840 - DELINEATORS AND MILEPOST MARKER POSTS

Comply with Section 00840 of the Standard Specifications modified as follows:

00840.11(a) General - Replace the paragraph that begins "* As defined in U.S...." with the following paragraph:

* As defined in U.S. Department of Commerce Commercial Standard 1CS 150-48, furnish rail steel products rolled from standard tee-section steel rails. Do not substitute other materials, such as those known by the terms "rerolled", "rail steel equivalent", and "rail steel quality".

00840.11(b) Multiple Punching - Replace this subsection, except for the subsection number and title, with the following:

Milepost marker posts with holes in addition to those called for on the Plans are acceptable provided that the critical net width of the section measured on the frontal plane projection of the post is not less than 2 1/2 inches.

00840.11(d) Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of milepost marker posts is according to 00165.35. Accompany each shipment of support posts with a quality compliance certificate.

00840.90 Payment - Replace the paragraph that begins "In item (a) the...." with the following paragraph:

In item (a), the type of delineator is inserted in the blank regardless of the color or number of reflectors and targets.

Replace the paragraph that begins "Payment will be payment...." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00842 - FACILITY IDENTIFICATION MARKERS

Comply with Section 00842 of the Standard Specifications modified as follows:

00842.10(a)(2) Type S2 Markers - Replace the paragraph that begins "Furnish white markers ..." with the following paragraph:

Furnish white markers made of aluminum alloy meeting the requirements of ASTM B209 approximately half-hard temper, suitable for enameling by continuous roller or other acceptable method. Fabricate from aluminum sheet having a nominal thickness of 0.050 inch, subject to standard manufacturer's tolerances and free of burrs, irregularities, and turned edges. When resting on a plane surface, ensure the markers do not show warp, twist, or variation from the surface in excess of 1/4 inch. Finish the markers as follows:

00842.10(b)(2) Type 2 Drainage Markers - Replace the paragraph that begins "Furnish white markers ..." with the following paragraph:

Furnish white markers made of aluminum alloy meeting the requirements of ASTM B209 approximately half-hard temper, suitable for enameling by continuous roller or other acceptable method. Fabricate the aluminum sheet having a nominal thickness of 0.050 inch, subject to standard manufacturer's tolerances and free of burrs, irregularities, and turned edges. When resting on a plane surface, ensure the markers do not show warp, twist, or variation from the surface in excess of 1/4 inch. Finish the markers as follows:

00842.40(a) Stormwater Control Field Facility Markers - Add the following to the end of this subsection:

Install field markers as indicated in Table 00842-1.

Table 00842-1

Facility Station	HWY/MP	DFI Number	Type S1 Marker Red (Beginning of Facility)	Type S1 Marker Green (End of Facility)	Type S2 Marker Begin	Type S2 Marker End	Type S3 Marker
Sta. "S" 1+13 RT	I-5/40.544	D00749			X	X	

00842.90 Payment - Replace the paragraph that begins "In item (a), ..." with the following paragraph:

In item (a), the type of facility field marker is inserted in the blank.

Replace the paragraph that begins "In item (b), ..." with the following paragraph:

In item (b), the type of culvert drainage marker is inserted in the blank.

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Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

Comply with Section 00850 of the Standard Specifications modified as follows:

00850.11 Flexible Bituminous Adhesive - Replace this subsection, except for the subsection number and title, with the following:

At least 2 weeks before using, submit for Agency testing and approval a 15-pound brick sample of flexible bituminous adhesive for each manufacturer lot number, including previously tested and approved lot numbers that are over 1 year old, that are used on the Project. All previously rejected lot number samples will not be retested. Agency testing and approval is only for acceptance of use of the adhesive.

00850.44 Alignment Layout – Replace the paragraph that begins "Place control points for lines every ..." with the following paragraph:

Place control points for lines every 40 feet on tangent and every 25 feet on a curve. Place layout transition details at the start of pavement markings, where pavement markings transition into a different pavement marking, and at the end of pavement markings. Using these control points and layout transition details, layout a continuous narrow guideline for each line, along one edge of, or uniformly offset from the intended permanent line location. Do not proceed with installation until the guidelines are approved by the Engineer.

00850.45 Installation - Replace the sentence that begins "Apply pavement marking ..." with the following sentence:

Apply pavement marking Materials to clean dry Pavement surfaces and according to the following:

Replace the bullet that begins "The Pavement surface ..." with the following bullet:

- Ensure the Pavement surface is not visible through the pavement marking.

Replace the bullet that begins "The top of pavement ..." with the following bullet:

- Provide a smooth and uniform top of pavement marking.

Replace the bullet that begins "Skip line ends ..." with the following bullet:

- Provide square and clean skip line ends.

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00850.46 Placement Tolerance - Replace the bullet that begins "**Skip Cycle** ..." with the following bullet:

- **Skip Cycle:** A tolerance of 1/10 of the skip line length on the first skip line of a run, but on cycle within one skip

00850.47(c) Retroreflectivity - Replace the paragraph that begins "Except for paint applications ..." with the following paragraph:

Except for paint applications, evaluate longitudinal and transverse marking retroreflectivity according to ODOT TM 777. Acceptance is according to the following:

In the bullet that begins "**Longitudinal Markings**", replace the paragraph that begins "Each longitudinal marking ..." with the following paragraph:

- Each longitudinal marking subplot is accepted if the average of the measurements and at least 90 percent of the individual measurements within the subplot meet or exceed the required minimum initial retroreflectivity.

In the bullet that begins "**Transverse Markings**", replace the paragraph that begins "Each transverse marking ..." with the following paragraph:

- Each transverse marking subplot is accepted if the average of the measurements and at least 90 percent of the individual measurements within the subplot meet or exceed the required minimum initial retroreflectivity.

SECTION 00855 - PAVEMENT MARKERS

Comply with Section 00855 of the Standard Specifications modified as follows:

00855.40(b) Surface Preparation - Replace the paragraph that begins "Remove contaminants from ..." with the following paragraph:

Remove contaminants from the wearing Course surface that would adversely affect the bond of the adhesive.

00855.41(a) Surface Preparation - Replace this subsection, except for the subsection number and title, with the following:

Construct grooves in the Pavement to Neat Lines according to width, length and depth shown, and prepare the surface according to 00855.40(b).

00855.90 Payment – Replace this subsection, except for the subsection number and title, with the following:

The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

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Pay Item	Unit of Measurement
(a) Mono-Directional _____ Type I Markers	Each
(b) Mono-Directional _____ Type IAR Markers	Each
(c) Bi-Directional _____ Type I Markers	Each
(d) Bi-Directional _____ Type IAR Markers	Each
(e) _____ Type II Markers	Each
(f) Mono-Directional _____ Type IAR Markers, Recessed	Each
(g) Bi-Directional _____ Type IAR Markers, Recessed	Each

In items (a), (b), (c), (d), (e), (f) and (g) the color of marker is inserted in the blank.

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work.

No separate or additional payment will be made for constructing Pavement grooves, Pavement preparation, adhesive, or clean-up.

SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE

Comply with Section 00865 of the Standard Specifications modified as follows:

00865.45 Installation - Replace the bullet that begins "For grooved markings, grind ..." with the following bullet:

- For grooved markings, grind the slot depth as shown. Apply the specified marking Material centered in the slot as shown. Ensure the top of the marking is flat or slightly convex.

00865.75 Manufacturer Warranty - Replace the paragraph that begins "Furnish a manufacturer ..." with the following paragraph:

Provide a manufacturer warranty that unconditionally warrants to the Agency the product(s) and installation under this Section against failure, according to this Subsection and 00170.85(c)(1). Use Agency-supplied warranty forms, available from the Engineer.

00865.90 Payment - Replace the paragraph that begins "In items (a) and (b), ..." with the following paragraph:

In items (a) and (b), the word "Surface" or "Grooved" is inserted in the first blank and the word "Profiled" or "Non-Profiled" is inserted in the second blank.

Replace the paragraph that begins "In items (e) and (f), ..." with the following paragraph:

In items (e) and (f), "Rolled-In" or "Grooved" is inserted in the first blank and "Patterned" or "Non-Patterned" is inserted in the second blank.

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Replace the paragraph that begins "In items (g) and (h), ..." with the following paragraph:

In items (g) and (h), the word "Surface" or "Grooved" is inserted in the first blank and the word "Profiled" or "Non-Profiled" is inserted in the second blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS

Comply with Section 00905 of the Standard Specifications modified as follows:

00905.40 General - Replace the paragraph that begins "Do not remove signs ..." with the following paragraph:

Do not remove signs from existing supports until new supports are in place, ready to receive the signs. Install the signs on the new supports immediately after removing from existing supports. Furnish temporary supports as required. Furnish permanent supports according to Sections 00910, 00920, and 00930 as required.

Replace the paragraph that begins "Protect specific service signs ..." with the following paragraph:

Protect specific service signs (business logos) and TODS from damage, whether the signs are to remain in place or are placed on temporary supports, until reinstalled on permanent supports. Repair or replace damaged signs at no additional cost to the Agency. Liquidated damages are assessed against the Contractor in the amount of \$200 per Day for each sign out of service for more than 5 Calendar Days.

00905.90 Payment - Replace the paragraph that begins "Payment will be ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00910 - WOOD SIGN POSTS

Comply with Section 00910 of the Standard Specifications modified as follows:

00910.90 Payment - Replace the paragraph that begins "Secure temporary concrete barrier to bridge ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00920 - SIGN SUPPORT FOOTINGS

Comply with Section 00920 of the Standard Specifications modified as follows:

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00920.10 Materials - Replace this subsection, except subsection number and title, with the following:

Furnish Materials for constructing sign support footings meeting the following requirements:

Anchor Bolts	02560.30
Backfill, unless otherwise directed....	00510.10 or 00510.11
Commercial Grade Concrete.....	00440
Reinforcement.....	02510
Structural Concrete	00540

Furnish Commercial Grade Concrete for minor sign support foundations. Furnish structural concrete for major sign support foundations.

00920.41 Concrete - Replace the paragraph beginning "Construct concrete sign foundations..." with the following:

Construct concrete minor sign support foundations according to Section 00440 and the applicable portions of 00540.48(a). Construct major sign support footings according to Section 00540.

00920.80 Measurement - Add the following to the end of this subsection:

The estimated quantities of concrete for minor sign supports are:

Support Type	Quantity
Perforated Steel Square Tube Anchor Sign Supports	0.2 cu. yd.

00920.90 Payment - Replace the paragraph that begins "Secure temporary concrete barrier to bridge ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00930 - METAL SIGN SUPPORTS

Comply with Section 00930 of the Standard Specifications modified as follows:

00930.01 Definitions - Add the following definition at the end of this subsection:

Street Name Sign Mount - This group includes plates, brackets, and fasteners necessary to install a street name sign on a sign support.

00930.02 Working Drawings - Replace the paragraph that begins "Submit six copies..." with the following paragraph:

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Submit six copies of unstamped Working Drawings according to 00150.35 for all structural metal Work. Submit six copies of stamped designs, details, Plans, and calculations according to 00150.35 for all engineered details and drawings that are not prepared by the Agency but are required by the Contract Documents and Specifications for the Project prior to fabrication. Include the Field Verification of Post Lengths form, available from the Engineer. Material ordered or Work performed before the Engineer finishes and returns the documents is at the Contractor's risk.

Replace the paragraph that begins "Working Drawings for these supports..." with the following paragraph:

Working Drawings for these supports are provided by the Engineer. Use the Field Verification of Post Lengths form, available from the Engineer, to provide the necessary site data for the engineer of record to use in producing Working Drawings. Work performed, or Materials ordered, before receiving Working Drawings from the Engineer is at the Contractor's risk.

Replace the paragraph that begins "Include the completed Field Verification..." with the following paragraph:

Include the completed Field Verification of Post Lengths forms that are available from the Engineer for these intelligent transportation systems supports. Material ordered or work performed before receiving approved Working Drawings from the Engineer is at the Contractor's risk.

00930.09 Identifying Tags - Replace this subsection, except for the subsection number and title, with the following:

Furnish stainless steel or brass identifying tags for overhead and butterfly sign support Structures, except structure mounts. Attach tags to all posts, arms, and truss sections. Furnish tags that are at least 1/16 inch thick with lettering at least 1/4 inch in height, and stamped into the tag. Attach the tags with stainless steel pop rivets of at least 3/16-inch nominal body diameter. Do not locate pop rivet holes within 6 inches of welds. Locate post tags approximately 5 feet above the baseplate. Drill holes for pop rivets prior to hot-dip galvanizing. Remove excess hot-dip galvanizing from holes and repair according to ASTM A780.

Include the following information on the tags:

- Structure number
- Manufacturer
- Month and year of manufacture
- Highway number and mile point

00930.10 Materials - Replace the paragraph that begins "Except for Perforated Steel Square ..." with the following paragraph:

Except for Perforated Steel Square Tube Slip Base Sign Supports and for Perforated Steel Square Tube Anchor Sign Supports, galvanize according to the requirements of Section 02530. Galvanize Perforated Steel Square Tube Slip Base Sign Supports and Perforated Steel Square Tube Anchor Sign Supports according to ASTM A653 G90, zinc

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coat corner seam weld after scarfing, apply a conversion coating, and apply a final clear polymer coating.

00930.30 Fabricators - Replace this subsection, except for the subsection number and title, with the following:

Fabricators of metal sign supports are required to have either a current AISC Simple Steel Bridge Structures (Sbr) certification or a current AISC Major Steel Bridges (Cbr) certification.

00930.40(a) General - Replace the paragraph that begins “Except for Perforated Steel Square ...” with the following paragraph:

Where two or more posts are required to support a sign, orient and position both posts so that no twist or warp is imparted to the sign panels.

00930.40(b) Assembly of Metal - Replace this subsection, except for the subsection number and title, with the following:

Accurately assemble the parts as shown and follow any match marks. Handle the material carefully so that no parts are bent, broken or otherwise damaged. Clean bearing surfaces and surfaces to be in permanent contact before the members are assembled. Roughen faying surfaces of slip-critical structural connections utilizing high strength bolts by means of hand wire brushing after galvanizing. Power wire brushing is not allowed.

Furnish faying surfaces of plates flat to within a tolerance of 1/32 inch in 12 inches and a tolerance of 1/16 inch overall. Furnish base plates with leveling nuts that are flat to within a tolerance of 1/8 inch in 12 inches and a tolerance of 3/16 inch overall.

00930.40(c) Welding - Replace the paragraph that begins “The fabricator shall ...” with the following paragraph:

Complete the welding inspection by the fabricator according to the details and requirements called out on the Contract Documents. This requirement overrides all appropriate weld inspection requirements called out in Section 5.15 WELDED CONNECTIONS in AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. Submit all Procedure Qualification Records, Welding Procedure Specifications, and testing procedures for Engineer's review prior to starting manufacturing. Submit certified copies of inspection reports to the Engineer for review.

Replace the paragraph that begins “If requested by the Engineer ...” with the following paragraph:

If requested by the Engineer, additional weld inspection may be required upon arrival of the material at the Project Site. If defects are found by this additional inspection, the Contractor is responsible for the additional testing and repair costs. If no defects are found, the Engineer is responsible for the additional inspection costs.

00930.40(d) Bolt Installation - Replace the paragraph that begins “Provide all high ...” with the following paragraph:

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Furnish all high strength bolts with hardened washers under the element (nut or bolt head) turned in tightening. If a high strength bolt is installed in an oversized or short slotted hole in an outer ply, use a hardened washer. If a high strength bolt is installed in a long slotted hole in an outer ply, use a plate washer or a continuous bar made of structural grade steel at least 5/16 inch thick with standard holes. Make the washer or bar sufficiently large to completely cover the slot after installation.

00930.40(d)(1) Bolt Installation for Slip Bases (Breakaway) - Replace the paragraph that begins "Furnish, at no additional ..." with the following paragraph:

Provide, at no additional cost to the Agency, a calibrated torque wrench of a capacity appropriate to the size of the high-strength bolts installed and tightened. Confirm the accuracy of the calibrated torque wrench through calibration by an approved testing agency at least once a year.

00930.40(e)(1) General - Replace this subsection, except for the subsection number and title, with the following:

Notify the Engineer in writing at least 24 hours before starting installation. The Engineer will observe the installation and tightening of bolts to determine that the selected tightening procedure is properly used and that all bolts are tightened, and in the case of direct tension indicators that the correct indication of tension has been achieved. Bolts may reach tensions substantially above the value given in Table 00560-1, but this will not be cause for rejection. The installation is rejected if the geometry does not satisfy the requirements of 02560.05.

00930.40(e)(2) Direct Tension Indicator Method - Replace this subsection, except for the subsection number and title, with the following:

Upon completion of a bolted joint, the Engineer will determine that all bolts have been tightened. A minimum of 10 percent, but not less than two bolts in each joint, are inspected. The joint is accepted as properly tightened when one open space allows entry of a 0.005-inch feeler gauge. If there is more than one space between the direct tension indicator protrusions that allow entry of a 0.005-inch feeler gauge, re-inspect all bolts, retighten bolts in the joint as required, and resubmit the joint for inspection. If no spaces exist between the direct tension indicator protrusions that allow entry of a 0.005-inch feeler gauge, replace bolt assembly, tighten bolts in the joint as required, and resubmit the joint for inspection. For connections with all bolts fully tightened, one bolt at a time may be replaced without providing crane support of the mast arm.

00930.40(e)(3) Turn-of-Nut Method - Replace the bullet that begins "In the presence ..." with the following bullet:

- In the presence of the Engineer, use an inspection wrench, that may be a calibrated torque wrench.

Replace the bullet that begins "Tighten each bolt specified ..." with the following bullet:

- Tighten each bolt specified in the paragraph above in the calibration device by any convenient means to an initial condition equal to 20 percent of the required tension, and then to a tension not less than 5 percent greater than specified for its size in Table 00560-1 in Section 00560. Do not produce greater nut rotation than 1.5 times

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that allowed in Table 00560-3 in Section 00560 when tightening beyond the initial condition. Then apply the inspecting wrench to the tightened bolt and determine the torque necessary to turn the nut or head 5 degrees, approximately 1 inch at 12 inches radius, in the tightening direction. Take the average torque measured in the tests of three bolts as the job inspecting torque to be used in the manner specified in the next paragraph.

Replace the bullet that begins "Test bolts that have been ..." with the following bullet:

Test bolts that have been tightened in the Structure and are represented by the sample prescribed above with the inspecting wrench. Apply the job inspecting torque to 10 percent of the bolts, but not less than two bolts selected at random. If no nut or bolt head is turned by this application of the job inspecting torque, the connection is accepted as properly tightened. If any nut or bolt head is turned by the application of the job inspecting torque, test all bolts in the connections. Retighten all bolts whose nut or head is turned by the job inspecting torque, and re-inspect. Retighten all of the bolts in the connection and then resubmit the connection for the specified inspection.

00930.40(f) Tube Bending - Replace this subsection, except for the subsection number and title, with the following:

For Major sign supports, bend tube using induction heating methods according to TPA-IBS-98 *Recommended Standards for Induction Bending of Pipe and Tube*. Provide written bend qualifications that include bending procedures, essential variables, material group, and destructive testing results. Destructive testing results includes yield strength, tensile strength, and elongation at locations indicated in Table 2-1 of the TPA-IBS-98.

00930.41 Adjustable Sign Mounts - Replace this subsection, except for the subsection number and title, with the following:

Furnish adjustable sign mounts that allow vertical adjustment for positioning the sign and allow rotation to plumb the sign. Use galvanized or stainless steel nuts, bolts and washers for fasteners.

00930.80 Measurement - Add the following to the end of this subsection:

The estimated quantities of structural steel are as follows:

Item	Quantity (Pound)
Minor Sign Supports	
Perforated Steel Square Tube Anchor Sign Supports	95.2

00930.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

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Replace the paragraph that begins "No separate or additional payment will..." with the following paragraph:

No separate or additional payment will be made for:

- Coating steel sign supports
- Route marker frames
- Wind bracing
- Pole clamps
- Stainless steel clamps
- Mast Arm Street Name Sign Mounts
- Street Name Sign Mounts
- Special sign brackets.

SECTION 00940 - SIGNS

Comply with Section 00940 of the Standard Specifications modified as follows:

00940.03 Drawings - Replace this subsection, except for the subsection number and title, with the following:

Copies of Working Drawings for non-standard signs are made available to the Contractor by the Engineer. Construct standard signs called for in the Contract Documents using drawings available in FHWA's *Standard Highway Signs* (FHWA English Version) or ODOT's *Sign Policy and Guidelines for the State Highway System*. The ODOT sign policy is available on the ODOT Traffic Roadway Section website.

00940.10 Materials - Replace the paragraph that begins "Use sign sheeting colors..." with the following paragraph:

Use sign sheeting colors according to the Federal Highway Administration *Color Specifications for Retroreflective Sign and Pavement Marking Materials*. The Engineer will visually determine if all panels in any one sign match the specified color(s).

00940.40 General - Replace the paragraph that begins "Finished signs shall..." with the following paragraph:

Construct finished signs to the designs shown or specified.

00940.41(a) General - Replace this subsection, except for the subsection number and title, with the following:

Fabricate aluminum panel signs as shown or specified. Do not round corners of panels outside the border. Reinforced sheet aluminum signs are not allowed. Furnish new Material for all aluminum used for sign panels.

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00940.41(b) Extruded Aluminum - Replace this subsection, except for the subsection number and title, with the following:

Furnish a continuous section for each panel of extruded aluminum panel signs. Apply the sign sheeting to the extrusion a sufficient distance around the edge to ensure that no aluminum surface is visible on the face of the sign.

00940.41(c) Sheeting - Replace this subsection, except for the subsection number and title, with the following:

Apply the sign sheeting background color of the sign to the extrusions.

00940.42(a) General - Replace the paragraph that begins "Cut the sheet..." with the following paragraph:

Cut the sheet aluminum sign to size and shape as shown or specified. Furnish signs free of buckles, warps, dents, cockles, burrs and defects resulting from fabrication.

00940.42(b)(1) On Posts - Replace this subsection, except for the subsection number and title, with the following:

Signs having a vertical dimension of less than 48 inches and mounted on wood or metal posts are required to have at least two mounting holes. Signs having a vertical dimension of 48 inches or greater are required to have three mounting holes. Place the third mounting hole near the center of the sign. Locate mounting holes so the mounting hardware will not cover any portion of the legend unless otherwise shown.

00940.44 Retroreflective, Reflective, or Nonreflective Sheeting Application - Replace this subsection, except for the subsection number and title, with the following:

Apply the sheeting according to the sheeting manufacturer's recommendations on extruded aluminum panel signs. Up to 25 percent of the extruded aluminum panel signs required in the Plans are allowed one manufacturer's splice for each sign. One patch is allowed for each 50 square feet of sign to a maximum of three patches for each sign. Furnish patches that are between 3/4 inches and 3 3/8 inches in diameter. Contractor splices are not allowed.

On all other signs, manufacturer's splices are not allowed except as noted on approved shop drawings, or when sign dimensions exceed the sheeting manufacturer's capabilities. Make these splices horizontal with the upper section of sheeting overlapping the lower by a minimum of 3/8 inch on encapsulated lens sheeting, and butt splice prismatic lens sheeting with no appreciable substrate visible. The use of overlaid transparent paste or electronic cuttable film is not allowed on overlapped splices. Contractor splices are not allowed.

00940.45(a) General - Replace the paragraph that begins "Spacing between letters or ..." with the following paragraph:

Ensure spacing between letters or numbers meet the requirements of the FHWA *Standard Alphabets for Highway Signs manual*.

Replace the paragraph that begins "Spacing between words for Series..." with the following paragraph:

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Spacing between words for Series "E" (modified) legend are 1.5 times the upper case letter height. Spacing between words for other fonts is as tabulated below unless otherwise shown:

Replace the paragraph that begins "Spacing between symbols ..." with the following paragraph:

Follow the FHWA *Standard Highway Signs* for spacing between symbols, unless otherwise shown.

00940.45(b) Attachment - Replace this subsection, except for the subsection number and title, with the following:

Attach removable legend to aluminum panels using aluminum, domed head, 1/8-inch diameter, self-plugging blind rivets. Remove aluminum shavings from the sign face before attaching the legend. The entire sign is rejected if any shavings are left beneath the legend. Drill 0.128-inch diameter holes in the removable legend and sign panel as shown on the *Mounting Details for Removable Legend* Standard Drawings.

Apply screened legend according to the sheeting manufacturer's recommendations. Apply cut-out legend according to 00940.44.

Attach 1-inch retroreflective removable border sections by placing two rivets 1/2 inch from the end of each border section with additional rivets spaced at a maximum of 6 inches apart, centered in the section. Attach corner border sections with a minimum of five rivets, two rivets 1/2 inch from each end, and the remaining rivet centered in the middle of the section.

Attach 2-inch retroreflective removable border sections by placing two rivets 1/2 inch from the end of each border section with additional rivets spaced at a maximum of 6 inch apart, along the top and bottom edge of the section. Attach corner border sections with a minimum of five rivets, two rivets 1/2 inch from each end, and the remaining rivet centered in the section.

00940.46 Inspection - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will inspect signs at the fabrication shop or at the Project Site or both. Inspection is for conformance to the Plans and Specifications, for conformance to nighttime visibility, and for rejectable defects. Rejectable defects include scratches, scuffs, tears, or any defect that impacts reflectiveness, readability, or performance. Signs not meeting inspection criteria are to be replaced at no additional cost to the Agency. The Contractor's expense for sign inspection is according to 00165.91.

00940.47 Sign Erecting - Replace the paragraph that begins "The closest edge of any..." with the following paragraph:

The closest edge of any column or overhead sign Structures is as shown.

Add the following paragraph to the end of this subsection:

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Trim and remove branches, vegetation, or other materials obstructing the visibility of signs by Public Traffic, as directed.

00940.90 Payment - Add the following paragraph(s) to the end of this subsection:

Trimming and removal of branches, vegetation, or other materials will be paid for according to 00320.90.

Replace the paragraph that begins "Payment will be payment in full..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

**SECTION 01012 - STORMWATER CONTROL, WATER QUALITY BIOFILTRATION
SWALE**

Section 01012 is not a Standard Specification and is included for this Project by Special Provision.

Description

01012.00 Scope - This Work consists of furnishing and installing a water quality biofiltration swale as shown.

Materials

01012.10 Materials - Furnish Material meeting the following requirements:

Facility Field Markers	00842.10
Granular Drain Backfill Material.....	00430.11

01012.11 Porous Pavers - Furnish medium porous pavers from the QPL.

01012.12 Water Quality Mixture - Furnish medium compost meeting the requirements of Section 03020. Furnish soil meeting the following gradation requirements:

Sieve Size	Percent Passing (by Weight)
No. 4	100
No 10	95 - 100
No. 40	40 - 60
No. 100	10 - 25
No. 200	5 - 10

Sample soil according to AASHTO R 90. Determine sieve analysis according to AASHTO T 27 and AASHTO T 11.

Blend the medium compost and soil so that the mixture:

- Is composed of between 20 percent and 25 percent medium compost material and between 75 percent and 80 percent soil material.
- Has a pH between 5.5 and 8.0.
- Does not have clumps greater than 3 inches in any direction.

01012.13 Plastic Board - Furnish plastic board meeting the following requirements:

- Is HDPE or LDPE consisting of recycled plastic.
- Does not contain wood.
- Smooth and free of splinters.

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- Includes an ultra-violet inhibitor.

01012.14 Stone Embankment Material - Furnish stone embankment material meeting the requirements of 00330.16 except:

- Furnish a maximum size between 9 inches and 3 inches.
- No large rock fragments are allowed.

01012.15 Slope and Channel Liner Matting - Furnish channel liner matting meeting the requirements of 00280.14(e) for resistance to shear stresses calculated for a 10-year storm event.

Construction

01012.40 General - Construct water quality biofiltration swale facility as shown. Perform excavation, fine grading, and placement work only when the facility area is dry and only from the top of the swale area. Do not stockpile excavated material in the facility area. Perform work in sequence as follows:

(a) Scarify - Scarify the subsoil area a minimum 12 inches deep.

(b) Placement of Water Quality Mixture - Place the water quality mixture in maximum 12-inch Lifts. Compact each Lift with a water filled landscape roller.

(c) Pervious Pavers - Install pervious pavers for full length of swale and full width of channel bottom. Fasten adjoining paver panels together.

(d) Seeding - Seed according to 01030.13.

(e) Slope and Channel Liner Matting - After seeding install slope and channel liner matting as shown or directed.

(g) Stone Embankment - Key and embed permanent check dams and rock basin flow Spreaders constructed with stone embankment horizontally into side slopes of swale to a depth not less than 12 inches. Where rock basin flow spreaders embed into side slopes, extend stone embankment 6 inches higher on side slope.

(h) Plastic Boards - Install plastic boards plumb, level and perpendicular to swale flow line. Key and embed plastic boards horizontally into side slopes of swale to a depth not less than 12 inches. Where plastic board embeds into side slope, extend stone embankment 6 inches higher than plastic boards on both sides of boards on side slope.

01012.41 Facility Field Markers - Install field markers as shown and according to Section 00842.

Maintenance

01012.70 Cleaning - If a stormwater control facility is used for erosion and sediment control, remove all accumulated sediment and debris before completing the facility.

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01012.71 Removal - Remove temporary erosion and sediment control features according to 00280.70 only after water quality vegetation has met the establishment requirements of 01030.60.

Measurement

01012.80 Measurement - No measurement of quantities will be made for Work performed under this Section. The estimated quantities of Materials are:

Water Quality Swale D00749 Quantities:

Item	Quantity
Excavation	70 Cu. Yd.
Granular Drain Backfill	2.5 Cu. Yd.
Water Quality Mixture	39 Cu. Yd.
Plastic Board Flow Spreader.....	30 Foot
Matting, Type ____	167 Sq. Yd.
Porous Pavers	900 Sq. Ft.

Field facility markers will be measured according to 00842.80.

Payment

01012.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the item "Water Quality Swale, _____".

The drainage facility identification number is inserted in the blank.

Field facility markers will be paid for according to 00842.90.

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 01030 - SEEDING

Comply with Section 01030 of the Standard Specifications modified as follows:

01030.02 Definitions - Replace the paragraph that begins "**Noxious Weed** - All Weed ..." with the following paragraph:

Noxious Weed - All Weed designated by the Oregon State Weed Board as injurious to public health, agriculture, recreation, wildlife, or all public or private property. The Oregon Department of Agriculture (ODA) is the authority in determination of Noxious Weed species.

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01030.13(d) Inspection - Replace this subsection, except for the subsection number and title, with the following:

Each lot of seed is subject to inspection upon delivery to the Project. Seed that is not labeled or that does not conform to the Specifications is rejected. Replace rejected seed at no additional cost to the Agency.

01030.13(f) Types of Seed Mixes - Replace the paragraph that begins "Seed mixes, quantities ..." with the following paragraph:

Seed mixes, quantities, standards, seeding rates, and other information is included in the Special Provisions for each type of seed mix.

Replace the bullet that begins "**Plant Seeding** ..." with the following bullet:

- **Plant Seeding** - Seeding that typically includes more than just grass species, such as seeds of woody or herbaceous plants.

Add the following to the end of this subsection:

Provide the following seed mix formulas:

- **Permanent Seeding:**

Botanical Name (Common Name)	PLS Specified Rate (lb/acre)
Slender Wheatgrass (<i>Elymus trachycaulus</i>)	17.41
Perennial Ryegrass (<i>Lolium perenne</i>)	17.41
Orchardgrass (<i>Dactylis glomerata</i>)	43.53
Creeping Red Fescue (<i>Festuca rubra</i>)	34.82
Sheep Fescue (<i>Festua ovina</i>)	26.12
White Clover (<i>Trifolium repens</i>)	34.82
Blue-Eyed Mary, Giant (<i>Collinsia grandiflora</i>)	15.25

- **Wetland Seeding:**

Botanical Name (Common Name)	PLS Specified Rate (lbs/acre)
Meadow Barley (<i>Hordeum brachyantherum</i>)	15.25
Northwestern Mannagrass (<i>Glyceria x occidentalis</i>)	8.72
Native Red Fescue (<i>Festuca rubra rubra</i>)	8.72

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Water Foxtail (<i>Alopecurus geniculatus</i>)	5.67
Common Spikerush (<i>Eleocharis palustris</i>)	2.18
American Sloughgrass (<i>Beckmannia syzigachne</i>)	1.74
Tufted Hairgrass (<i>Deschampsia cespitosa</i>)	1.09
Spike Bentgrass (<i>Agrostis exarata</i>)	8.72
Blue-Eyed Mary, Giant (<i>Collinsia grandiflora</i>)	15.25

- **Water Quality Seeding:**

Botanical Name (Common Name)	PLS Specified Rate (lb/acre)
Blue Wildrye (<i>Elymus glaucus</i>)	21.85
Native Red Fescue (<i>Festuca rubra rubra</i>)	13.24
California Brome (<i>Bromus carinatus</i>)	4.37
Spike Bentgrass (<i>Agrostis exarata</i>)	4.37
Blue-Eyed Mary, Giant (<i>Collinsia grandiflora</i>)	15.25

01030.13(g) Availability - Replace this subsection, except for the subsection number and title, with the following:

Provide a list of seed sources for all specified seeds within 60 Calendar Days after execution of the Contract. Verify that all specified seed has been located and is available for use on the Project. Submit the seed and seed mixes to be used on the project according to 00150.37.

01030.14(b) Type of Fertilizer - Replace the paragraph that begins "Provide the following ..." with the following paragraph:

Furnish the following fertilizer:

01030.14(b)(3) Statewide, Near Water - Replace this subsection, except for the subsection number and title, with the following:

For application within 50 feet of open water, furnish 22-2-11 low-phosphorus fertilizer analyzing 22 percent nitrogen, 2 percent phosphorus, and 11 percent potassium that releases slowly over an eight-to-nine-month period. Furnish fertilizer containing a minimum of 60 percent available water-insoluble, controlled-release nitrogen derived from one of the three sources stated for west of the Cascades above. Furnish phosphorus and potassium that is coated to allow a minimum of 95 percent controlled-release.

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01030.15 Mulch - Replace the paragraph that begins "Furnish mulch Materials ..." with the following paragraph:

Furnish mulch Materials free of all Weed or plant seeds and containing no substances detrimental to plant life. The kind of mulch materials acceptable for use is shown, listed in the Special Provisions, or as approved. Furnish mulch meeting the following requirements:

Add the following paragraphs and bullets to the end of this subsection:

Furnish straw mulch for all temporary roadside erosion control seeding, except hydromulch may be used under the following conditions:

- Spring planting west of the Cascades between March 1 and May 15.
- Slopes are steeper than 1V to 1.5H and longer than 16 feet.
- Residential or commercial sites with low erosion potential such as sidewalk, Median, or parking lot planter strips.

Projects that have variable slopes may include straw mulch and hydromulch when approved.

01030.15(b) Straw - Replace the paragraph that begins "Straw mulch for ..." with the following paragraph:

Straw mulch for non-hydroseeding applications from bentgrass, bluegrass, fescue or ryegrass singly or in combination. Cereal grain straw from barley, oat or wheat may be allowed upon approval of the Agency. Furnish straw that is not moldy, caked, decayed or of otherwise low quality. Submit certification from the Supplier that the straw is free of Noxious Weed seeds or plant parts. Acceptable documentation is any one of the following:

01030.16(a) Liquid Stabilizer Emulsion - Replace this subsection, except for the subsection number and title, with the following:

Tackifier with a base material of liquid, polyvinyl acetate polymers, using emulsion resins and containing not less than 55 percent total solids by weight. Furnish tackifier containing no polyacrylates or polyvinyl acrylics. Furnish an emulsion that, when diluted with water and upon drying, allow exchange of air and moisture to the seeds and have an effective life of 1 year or more.

01030.16(b) Dry Powder Tackifier - Replace the paragraph that begins "Tackifier base consisting ..." with the following paragraph:

Tackifier base consisting of one or more active hydrocolloids from natural plant sources, that hydrates in water and blends with other slurry materials, and upon application and drying tacks the slurry particles to the Soil surface, and exhibits no growth or germination inhibiting factors. Furnish stabilizing emulsion in a dry powder form that may be re-emulsifiable, and consisting of a processed organic adhesive derivative of one of the following:

01030.40 General - Replace the paragraph that begins "Remove all non-approved ..." with the following paragraph:

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Remove all non-approved plants resulting from the seed mixes furnished for the Project at no additional cost to the Agency, including erosion protection required during reseeding.

01030.42(b) Weed Control Inspections - Replace the paragraph that begins "Inspect the Project for new growth..." with the following paragraph:

Inspect the Project for new growth of specified weeds at least monthly and apply weed control measures as appropriate. This requirement may be waived by the Engineer during the period that weeds are fully dormant. To ensure satisfactory Weed removal, the last WMA inspection will occur at least 30 Days after growing has begun or as directed.

01030.42(c)(2) Sensitive Areas - Replace the bullet that begins "Inside Sensitive Areas ..." with the following bullet:

- Inside Sensitive Areas, obtain approval before using wheeled or tracked construction Equipment. Requests are approved only when all vegetation in the area is cleared, such as under new Roadways or slopes.

Replace the bullet that begins "The Engineer..." with the following bullet:

- The Engineer is the authority in the determination of Sensitive Areas.

01030.43(a) Temporary Seeding - Replace this subsection, except for the subsection number and title, with the following:

Temporarily seed disturbed Soils and slopes that are not at finished grade and are exposed for 2 months or longer before being disturbed again. Provide fertilizer, mulch, water, and other amendments necessary to ensure establishment. Ensure that temporary seeding Work achieves the coverage of live plants required by 01030.60 by the end of the next permanent seeding date stated in 01030.43(b). If this coverage is not achieved, or if the Agency determines that it is not effective in stabilizing the Soil from erosion, stabilize the area with other temporary stabilization methods as described in 00280.42 at no additional cost to the Agency.

01030.48(a)(1)b.2. Step 2 - Replace this subsection, except for the subsection number and title, with the following:

Apply mulch and tackifier. Hydromulch, if used as a tracer in Step 1, is included as part of the specified hydromulch rate specified in 01030.48(a)(3).

01030.48(b)(2)a Straw Mulch - Replace the paragraph that begins "Place straw mulch approximately ..." with the following paragraph:

Place straw mulch approximately 2 inches deep, in loose condition, that requires approximately 2 1/2 Tons per acre of dry mulch, depending on moisture content. Do not use straw mulch on Slopes of 1V:1.5H or steeper.

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01030.61(b) All Other Seeding - Replace the bullet that begins "The seeding Establishment Period..." with the following bullet:

- The seeding Establishment Period will end 45 Days after the beginning of the Establishment Period, if the area was seeded within the seeding dates according to 01030.43, and all establishment responsibilities have been met.

Replace the bullet that begins "If the original seeding construction..." with the following bullet:

- If the original seeding construction is completed and accepted outside the permanent seeding dates, the Establishment Period will end 45 Calendar Days after all necessary reseeded is completed and accepted during the following seeding dates according to 01030.43.

01030.62(b)(3) Weed Control - Replace this subsection, except for the subsection number and title, with the following:

Kill and remove Specified Weeds as directed, prior to the Weeds going to seed. Keep WMAs and seeded areas, Weed Free throughout the Establishment Period.

01030.90 Payment - Delete Pay Items (l) and (m) from the Pay Item list.

Replace the paragraph that begins "In items (c) through (i), ..." with the following paragraph:

In items (c) through (i), the type of seed mix, such as Mix No. 1, if applicable, is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Replace the paragraph and bullets that begins "No separate or additional ..." with the following paragraph and bullets:

No separate or additional payment will be made for:

- Mobilization for application by blowers, mechanical spreaders, or hand spreading
- Inspections or maintenance
- Seeding mobilization if it is not included in the Contract Schedule of Items

SECTION 01040 - PLANTING

Comply with Section 01040 of the Standard Specifications modified as follows:

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01040.02 Definitions: Add the following definitions to the end of this subsection:

Fall - The period beginning on the equinox in September through solstice in December.

Summer - The period beginning on the solstice in June through the equinox in September.

Replace the paragraph that begins "**Permanent Wilting Point** ..." with the following paragraph:

Permanent Wilting Point - The level of Soil wetness at the point a plant wilts and can no longer recover its sustainable turgidity when placed in a saturated atmosphere for 12 hours.

Replace the paragraph that begins "**Root Protection Zone** ..." with the following paragraph:

Root Protection Zone - A generally circular area around an existing plant to be protected from disturbance or compaction by the use of temporary fencing or other means. The zone as actually staked may exceed the current root area to allow for future growth of the plant. Root Protection Zones are shown or staked before construction activities begin.

01040.03(b) Pesticide Applicators License and Chemical Registration - Replace this subsection, except for the subsection number and title, with the following:

Provide evidence to the Agency that each applicator is licensed for the specific class of chemical being applied. Also, provide evidence that any chemical is registered for the proposed use by the Oregon Department of Agriculture according to ORS Chapters 452, 561, 570, and 634.

01040.04(a) Planting Work Plan – Replace the bullet that begins "Plant installation and..." with the following bullet:

- Plant installation

Add the following bullet to the end of the bullet list:

- Plant establishment plan according to 01040.70

Add the following subsection:

01040.05 Submittals – Submit the following for review and approval:

- Contract Growing Plan according to 01040.19(g).
- Planting work plan according 01040.04(a).
- Plant establishment plan according to 01040.70.
- Weed Control Work Plan according to 01030.42(a).
- Photo log 10 Days after each plant establishment visit and periodic inspection. Provide date stamped photographs in photo log of each plant establishment site visit with photos of multiple individual plants, seeded areas and weed control areas that are sufficiently close to display plant condition and that are representative of the health, vigor and growth of the site plantings.

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01040.10 General - Replace this subsection, except for the subsection number and title, with the following:

Submit a list of Project Materials for approval according to 01040.04(a) before arranging for procurement of any Materials. For materials not approved, submit a list of alternate Materials for approval. Materials installed without approval are subject to removal and replacement with acceptable Material at no additional cost to the Agency.

Substitute Materials may be allowed if proof of equivalent quality, suitable product specifications, manufacturer's literature and other detailed information is provided to the Agency according to 00140.70.

01040.13(a) Soil Fertility Test and Soil Amendment Report - Replace the paragraph that begins "Prior to planting ..." with the following paragraph:

Prior to planting, provide a Soil fertility analysis of existing Soils performed by a certified testing lab. Prior to planting, adjust Soil amendment and fertilizer applications as recommended by the Soil amendment report and as approved by the Agency.

01040.13(a)(1) Sampling - Replace this subsection, except for the subsection number and title, with the following:

Take five samples per acre of each Soil type. Mix the five samples into one test sample for each Soil type. Provide Soil fertility test results that provide information on available nutrient content and fertility status of the Soil. Conduct sampling procedures according to the Oregon State University Extension Service handout EC 628, *How to Take a Soil Sample... and Why*.

01040.13(a)(3) Soil Amendment Report - Replace this subsection, except for the subsection number and title, with the following:

Provide a report from the testing laboratory summarizing sampling locations and procedures with printed results, and that makes recommendations for fertilizers and Soil amendments to effectively develop productive Soil.

01040.14 Topsoil - Replace the bullet that begins "Provide one 20..." with the following bullet:

- Furnish one 20-pound representative Soil sample of each Topsoil type for testing of particle size range and organic matter by the Agency, unless otherwise specified.

01040.14(a) Selected Topsoil - Replace the paragraph that begins "Furnish native Topsoil ..." with the following paragraph:

Furnish native Topsoil from the required excavations meeting the requirements of 00330.10 or from other Agency-Controlled Lands. The general limits of Topsoil Materials are indicated on the Plans. The Agency will make the final determination of the areas where the most suitable materials exist. Furnish Topsoil that is the fertile part of a Soil profile commonly referred to as the "A" horizon, typically ranging in depth from 3 inches to 12 inches. Do not take material for Topsoil from a depth greater than 12 inches below existing ground, unless approved.

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01040.14(c) Wetland Topsoil - Replace the paragraph that begins "Furnish a native..." with the following paragraph:

Furnish a native, naturally hydric Wetland Topsoil consisting of Silts, Clays, and organic matter in combination that is free from substances detrimental to plant growth, such as Noxious Weeds, undesirable plant roots, refuse, sticks, or lumps. Furnish Wetland Topsoil that is from a Wetland with an existing, well established, healthy growth of the desired Wetland plants. Obtain approval of the source before excavation of Wetland Topsoil begins.

01040.15 Soil Conditioners - Replace the paragraph that begins "Soil conditioners..." with the following paragraph:

Soil conditioners are for modifying Soil structure and improving Soil aeration characteristics, as distinguished from plant foods, mulch, and Soil organism amendments. Furnish Soil conditioners free of Noxious Weeds, living plants and rhizomes, and substances detrimental to plant life. For mushroom compost and Peat moss only, submit a 15-pound sample for approval by the Agency prior to construction. Furnish Soil conditioners that are free of weed seeds, excessive salts, chemicals detrimental to plant growth, and pest organisms. Soil conditioners proposed for use are subject to testing at any time or place the Agency deems appropriate.

01040.16 Soil Amendments - Replace the paragraph that begins "Soil amendments..." with the following paragraph:

Soil amendments are intended to improve Soil nutrition. Furnish Soil amendments that are free of materials detrimental to plant life. Provide manufacturer or Supplier quality compliance certification according to 00165.35. Ensure that material testing methods meet the requirements of the Oregon Department of Agriculture appropriate to that material. Obtain approval for use before beginning Work. Soil amendments may include the following:

01040.17 Soil Bio-Amendments - Replace the paragraph that begins "Soil bio-amendments..." with the following paragraph:

Soil bio-amendments are intended to increase beneficial Soil organism numbers or Soil organic nutrient content. Furnish bio-amendment products or materials that are free of substances or life forms detrimental to plant life and receive approval prior to use on the Project. Provide manufacturer or Supplier quality compliance certification according to 00165.35. Ensure that material testing methods meet the requirements of the Oregon Department of Agriculture appropriate to that material. The following are typical Soil bio-amendments that may be identified in the Soil bio-amendment report:

01040.18(b) Plant Bags and Tablets - Replace the paragraph that begins "Furnish plant bags..." with the following paragraph:

Furnish plant bags or tablets that are controlled-release with a minimum one-year release period. Chemical formulation, rates and are approved by the Agency.

01040.19(a) Nomenclature - Replace this subsection, except for the subsection number and title, with the following:

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Use the most current edition of *Hortus Third*, by Bailey for botanical identification and nomenclature of plant materials. The Agency may authorize use of other references such as the *Sunset Western Garden Book*, the *Flora of the Pacific Northwest*, by Hitchcock, or the *Manual of California Plants*, by Jepson.

Furnish plants according to the applicable requirements of the current issue of the *American Standard for Nursery Stock*, published by the American Association of Nurserymen. When a conflict exists between this publication and the Specifications, the Specifications will prevail.

01040.19(b) Quality - Replace the paragraph that begins "Provide plants that are healthy..." with the following paragraph:

Furnish plants that are healthy, first-class representatives of their species or variety, free from disease and insect pests, with top growth that is well developed and free of disfiguring knots, sun scalds, bark abrasions, wind or frost injury or any other objectionable features.

Replace the paragraph that begins "Furnish plants that are acclimated..." with the following paragraph:

Furnish plants that are acclimated to the specific Project environmental site conditions prior to planting. Store all container-grown and balled and burlapped plant materials acquired for planting a minimum of 3 months before planting, as specified in 01040.41 or 01040.42, at a location north of the Oregon - California border.

Replace the paragraph that begins "Furnish plants that possess..." with the following paragraph:

Furnish plants that possess top growth and root systems typical to their variety. Furnish trees with central leaders that have a symmetrical, well-branched, straight trunk. Trees with a damaged or missing leader, multiple leaders or Y-crotches, or sheared conifer trees are rejected.

01040.19(c) Certification - Replace the paragraph that begins "Furnish a State..." with the following paragraph:

Provide a State inspection certificate and shipping certificate for each load or lot of plant material that includes the following information:

01040.19(d) Inspection - Replace this subsection, except for the subsection number and title, with the following:

Plants are subject to inspection by the Agency, at any time and place. The Agency will make no plant material inspection at the source, except as it may elect. Notify the Agency of each delivery of plants to the Project site no less than 24 hours ahead of delivery. Do no planting until the plants have been inspected and approved for use. Any planting done without prior approval of the plants is considered in violation of the Specifications.

The presence of Noxious Weeds in the Soil accompanying plants or at the nursery source is cause for rejection of any or all plants from that source.

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01040.19(e) Availability - Replace this subsection, except for the subsection number and title, with the following:

Provide a list of nursery sources for all specified plants within 90 Calendar Days after execution of the Contract. Verify, by this list, that all specified plant material has been located and is available for use on the Project. If applicable, see 01040.19(g) for alternate requirements.

01040.19(f) Plant Substitution - Replace this subsection, except for the subsection number and title, with the following:

No substitution of plant materials is allowed unless written evidence is submitted that a specified plant or material cannot be obtained and has been unobtainable since the execution of the Contract. If substitution is allowed, it is by written approval from the Agency for the nearest acceptable variety, size and grade. Make any request for substitution in writing to the Agency with ample time for approval without delaying the Work.

01040.19(h)(2) Deciduous Trees - Replace the paragraph that begins "Trees with leaves that are..." with the following paragraph:

Trees which shed their leaves annually.

01040.19(h)(3) Transplanted Specimen Plants - Replace this subsection, except for the subsection number and title, with the following:

Unique or large plants typically used in low numbers on projects. See the Plans for specimen type, size, and location. Deliver trees to the site that are dormant and with buds that have not yet swelled. Furnish plants that have an unbroken root ball sufficient to sustain continued growth. Ensure that the root ball size conforms to the current edition of the American Standard for Nursery Stock. Furnish plants with no broken limbs or bark abrasions, and cleanly cut off any frayed roots or damaged limbs. Deliver trees that are balled and burlapped, boxed or moved by commercial tree spade.

01040.19(h)(4) Balled and Burlapped (B&B) Plants - Replace the paragraph that begins "Furnish plants with ..." with the following paragraph:

Furnish plants with root balls securely wrapped in burlap or similar mesh fabrics not harmful to plants, and bound with removable twine or wire. Furnish root balls that are firm, intact and held solidly together by a fibrous root system consisting of only the earth where the plant was growing. "Made" balls are rejected.

01040.19(h)(6) Container Grown Plants - Replace this subsection, except for the subsection number and title, with the following:

Plants that are grown and delivered in containers that possess well-formed top growth and whose root growth is typical to the variety.

Furnish plants that are resident in their delivery containers long enough to have established new fibrous roots, have a root mass that will retain its shape, and hold 90 percent (visual estimate) of the root ball material when removed from their containers. Some root growth

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should be visible along the outer edges of the container. Root-bound container grown plants and "made" container plants are rejected.

01040.19(h)(7) Seedling Trees - Replace the paragraph that begins "Plants that are grown from seed..." with the following paragraph:

Plants that are grown from seed in a nursery and brought to the site in a bare root condition. Furnish seedlings labeled with age and certification (class number) that shows the length of time grown in a nursery seedbed, followed by the length of time grown in a transplant bed. Furnish seedling trees that are a minimum of 2 years old.

01040.19(h)(9) Plant Cuttings - Replace this subsection, except for the subsection number and title, with the following:

Living, freshly cut branches from certain woody shrub or tree species that readily propagate when embedded in damp Soil. Furnish plant cuttings of regionally native species and dimensions as shown. Obtain written approval of the cutting stock sources before taking any cuttings and provide a brief, written description of the cutting sites and the date and time the cuttings were taken to the Agency. Take cuttings in such a manner so as to leave no long-term damage to the source population. If willow species are called for, select the local native shrub variety.

01040.19(h)(15) Wetland Plants - Replace this subsection, except for the subsection number and title, with the following:

Plants that meet the definition of hydrophyte, that is any macrophyte that grows in water, or on a substrate, that is at least periodically deficient in oxygen as a result of excessive water content.

01040.19(h)(16) Bulbs - Replace this subsection, except for the subsection number and title, with the following:

For the purposes of this section, these will typically include the forms known as bulbs, corms, culms, plantlets, rhizomes, runners, small offsets, stolons and tubers. These plants are collectively referred to as "Bulbs". The appropriate propagule (plant part that can be separated and used to grow another plant) will vary depending on the plant species.

01040.19(h)(17) Sod Lawn - Replace this subsection, except for the subsection number and title, with the following:

Grass sod grown on agricultural land that is commercially cultivated specifically for turf sod. Furnish sod that is free of Weeds, diseases, harmful nematodes and insects. Furnish sod that is mature, not less than 10 months old, and machine cut to a uniform thickness of 5/8 inch or more, excluding top growth and thatch. Broken pieces and torn or uneven ends will not be accepted. Plant sod within 36 hours of harvest.

01040.20 Mulch - Replace this subsection, except for the subsection number and title, with the following:

Furnish plant bed mulch Materials free of Noxious Weed seeds or plants and that contain no substance detrimental to plant life. Mulches are subject to inspection at any time and place

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at the discretion of the Agency. The following are some types of Materials that fall under the category of "mulch", and may be used on projects:

(a) **Bark Mulch** - Ground, shredded or broken particles from the bark of fir, pine or hemlock trees that are free of non-bark debris, harmful bacteria, disease spores, pests and substances toxic to plant growth. Furnish mulch that is the standard trade size known as "medium fine mulch".

(b) **Cinder Mulch** - Crushed lava cinders, screened to an approximate size between 3/16 inch to 5/8 inch. Furnish cinders free of fines and other non-cinder material.

(c) **Straw Mulch** - Furnish straw mulch according to 01030.15.

(d) **Rock Mulch** - Round 3/8" - No. 4 pea gravel or round 2" - 3/8" Rock. Furnish Material that is free of fines and other non-gravel material. Rock colors may vary.

(e) **Wood Chip Mulch** - Mulch that is chipped from cleared site vegetation. Ensure that chipped material is free of any Noxious Weeds or invasive vegetation.

(f) **Compost Mulch** - Commercially manufactured medium compost material meeting the requirements of Section 03020, unless otherwise approved.

01040.21 Herbicides - Replace the paragraph that begins "The use of herbicide ..." with the following paragraph:

The use of herbicide chemicals is allowed only upon approval of the Agency. Select and apply chemical herbicides according to all applicable Federal, State and local laws, as well as the WCWP requirements of the PWP. The following are standard herbicide functional categories:

01040.22(b) Moisture Retention Chemicals - Replace this subsection, except for the subsection number and title, with the following:

Granular chemical that are typically cross-linked potassium based polyacrylate or polyacrylamide copolymers. Furnish commercial quality product from the QPL.

01040.23 Miscellaneous Items - Replace the paragraph that begins "Furnish miscellaneous items ..." with the following paragraph:

Furnish miscellaneous items meeting the following requirements or furnish commercial-quality products from the QPL. Obtain approval from the Agency prior to use.

01040.23(g) Tree Stakes and Ties - Replace this subsection, except for the subsection number and title, with the following:

Rough sawn tree stakes of 1 1/2 inches x 1 1/2 inches Douglas fir or pine, construction grade or better. Use stakes 6 feet long for trees less than 8 feet tall, and stakes 8 feet long for trees 8 feet or taller. Stain all tree stakes with an approved, dark green penetrating oil stain. Furnish tree trunk protection of guying material of either a commercially available tree tie or a section of garden hose. Furnish tree guying material of a commercial product manufactured for this

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use, such as plastic chain, or stainless steel woven-wire with clamp fasteners. Size the guying material appropriate to the size of the tree and the wind factors of the area.

01040.41 Planting Season (West of the Cascades) - Replace the title of this subsection with "**Planting (West of the Cascades)**".

01040.42 Planting Season (East of the Cascades) - Replace the title of this subsection with "**Planting (East of the Cascades)**".

01040.44(c) Hauling and Spreading - Replace this subsection, except for the subsection number and title, with the following:

Transport select Wetland Topsoil to the site by any means that meets all applicable regulations related to hauling potentially wet or moist materials. Spread the Topsoil to a depth of 6 inches minimum to 24 inches maximum, or to meet the finished elevations as specified on the Plans. Make as smooth as practicable without excessive Soil compaction. After spreading, have the area inspected and approved by the Agency prior to planting.

01040.45 Soil Amendments - Replace this subsection, except for the subsection number and title, with the following:

Incorporate Soil amendments into the Topsoil when required by the Soil fertility test and Soil amendment report. The application rate is verified by checking settings on the spreading or application Equipment.

01040.46 Bio-Amendments - Replace the bullet that begins "Mycorrhizal Inoculation (Injection) ..." with the following bullet:

- Mycorrhizal Inoculation (Injection) - Furnish pre-measured packets containing live endomycorrhizal and ectomycorrhizal fungi.

Replace the paragraph that begins "The application rate ..." with the following paragraph:

The application rate is verified by visual inspection of application rates. A one-time application should be adequate, as long as pesticides, fertilizers or other toxic materials are not used at the same time. If it becomes necessary to apply pesticides that have non-target organism effects, or to apply fertilizer at rates greater than 13 pounds per acre, re-inoculate the organisms about 1 month after the pesticide or fertilizer was applied.

01040.47 Fertilizers - Replace the paragraph that begins "The application rate ..." with the following paragraph:

The application rate is verified by visual inspection. Provide manufacturer or Supplier quality compliance certification according to 00165.35. Ensure that material testing methods meet the requirements of the Oregon Department of Agriculture appropriate to that material.

01040.48 Planting Area Preparation - Replace the paragraph that begins "All planting areas ..." with the following paragraph:

Provide Weed Free planting areas before planting or seeding operations begin. Identify, kill, and remove Weeds according to 01030.62(b)(3).

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01040.48(b) Method "B" (Non-Cultivated Planting Areas) - Replace the paragraph that begins "Finish Wetland mitigation planting ..." with the following paragraph:

Finish Wetland mitigation planting areas to specified finish elevations, blending to existing ground smoothly, as required and directed. Except for projects that are less than 1 year in duration and unless otherwise approved, review the hydrology of the area to be planted for the period November 15 to February 28 prior to planting any Wetland plants. Adjust plant types and planting locations as required or directed, based on the review of site hydrology.

01040.48(c) Method "C" (Sod Lawn and Seeded Lawn Areas) - Replace the paragraph that begins "Furnish the Agency ..." with the following paragraph:

Provide the Agency with sod mixture information and a quality compliance certificate from the sod grower, certifying sod compliance with mixture requirements, according to 01040.10.

01040.49 General Planting - Replace the bullet that begins "Apply bark or wood chip ..." with the following bullet:

- Apply bark or wood chip mulch of the type and depth as shown. Correct contamination of new mulch due to the Contractor's operations at no additional cost to the Agency. Feather mulch into plant material trunks, stems, canes or root collars, and leave 1 inch below the top of junction and valve boxes, curbs and Pavement edges. Any mulch placed to a thickness greater than specified is at no additional cost to the Agency.

01040.50(a)(1) Mechanical Digging - Replace this subsection, except for the subsection number and title, with the following:

Use a tree spade unless otherwise directed. Move only while the tree is dormant. Treat deciduous plants with anti-transpirant prior to excavation. Confirm with the Agency that the size of the spade is appropriate to the size and type of tree prior to beginning Work. Dig the receiving hole prior to digging the tree to be transplanted. Take care not to damage the tree bark. Refill the original hole after transplanting. Do not move Oregon White Oak (*Quercus garryana*) by this method.

01040.50(c) Seedling Trees - Replace the paragraph that begins "No pre-staking of planting ..." with the following paragraph:

No pre-staking of planting locations is required. The Agency will be present as planting begins and will approve the spacing, planting method, and areas to be planted before Work can begin. Vary plant spacing in order to allow seedlings to be planted in suitable Soil. During the planting process, remove one tree at a time from the planting bag or other container to prevent drying of roots.

01040.50(g) Plant Cuttings - Replace this subsection, except for the subsection number and title, with the following:

Collect and plant the cuttings while the plant is dormant, generally between October and March. Notify the Agency if conflicts exist with permit requirements. Store all cut material in ventilated plastic containers that allow free flow of water. Protect root systems from excessive drying at all times. Do not store plants in airtight containers.

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Plant stock within 4 hours of harvest. If plants are a willow species, plant in the riparian zone on that portion of the slope where the plant stem ends are in contact with year-round moist Soil as determined by the Agency. Make planting holes by forcing a steel bar or similar tool into the ground about 12 inches deep. Place the cuttings into the holes and tamp Soil firmly around the stems, leaving a minimum of 6 inches showing. Vary these dimensions as required for larger plant cuttings.

01040.53(a) Ornamental Plant Bed Areas - Replace the paragraph that begins "Submit a 15-pound ..." with the following paragraph:

Submit a 15-pound sample of bark mulch to the Agency for visual inspection and approval. The approved sample is the standard of acceptability for all mulch used on the Project.

01040.53(b)(3) Compost Blanket - Replace this subsection with the following subsection:

01040.53(b)(3) Compost Mulch - Spread compost on top of the Soil to a nominal depth of 3 inches. Where a compost erosion blanket is in place according to 00280.44(f) apply and spread additional compost to achieve a depth of 3 inches.

01040.54(a) Pressure Moisture Stress Sensor - Replace the paragraph that begins "When a pressure moisture ..." with the following paragraph:

When a pressure moisture stress sensor is specified, the Agency will test a 1 to 5 percent representative sample to ensure that the moisture stress level is below 20 bars of pressure and inform the Contractor if any material exceeds this limit. Any plant material found to have greater than 25 bars of pressure is considered to be under extreme moisture stress. Provide sufficient water within 24 hours to bring the plant into normal range. The Agency will retest to determine the new representative pressure. Plant material that have 30 bars or greater is considered to have reached its Permanent Wilting Point. Replace all such material during the next planting period. Testing will occur mid-day at the following times until the end of the Establishment Periods:

Replace the bullet that begins "At 1-month intervals..." with the following bullet:

- At 1-month intervals throughout the Summer, up to the first Fall rain or snow.

01040.70 Plant Establishment - Replace this subsection, except for the subsection number and title, with the following:

The Contractor is responsible for the survival of all plant material until the end of a Plant Establishment Period of 1 calendar year. The Plant Establishment Period begins when all the original planting is complete. The original planting is considered complete when all the plant material has been planted to the satisfaction of the Agency.

At a minimum of 15 Days prior to landscape Work, submit the plant establishment plan as part of the planting work plan according to 01040.05. Should the plan become unworkable at any time during Plant Establishment Period, submit a revised plan prior to proceeding with further Work. Include the following in the plant establishment plan:

- Activity descriptions necessary to ensure continued health and vigor of planted and seeded areas according to 01030.60 and 01040.71.

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- Proposed scheduling of joint inspection meetings, weeding, and watering/irrigation schedule.
- Materials including herbicides and fertilizers, and Equipment to be utilized for the plant establishment.
- Proposed adaptive management activities for successful establishment of seeded, sodded, and planted areas, during changing environmental conditions or unanticipated weather.

Establishment Period Work includes removing all plants that have reached their Permanent Wilting Point, are dead, dying, or do not meet Specifications, and replacing them with healthy plants. All plants in place after this replacement are recognized as the original planting and are subject to the establishment Specifications. Repair, restore, and replace all plantings that have been damaged by vehicles, vandalized, and stolen according to 00170.80.

01040.71 Plant Care and Success Criteria - Replace the paragraph that begins "The determination of a successful ..." with the following paragraph:

The determination of a successful Plant Establishment Period is made at periodic plant establishment inspections. A successful planting establishment for each inspection is defined as follows:

Replace the paragraph that begins "At the discretion of the Agency, ..." with the following paragraph:

At the discretion of the Agency, certain types of regularly spaced plantings such as groundcovers may be measured using an area sampling method. To determine the rate of survival, set out (delineate) representative plots measuring 100 square feet at the completion of the original planting at random locations in each general planting area. The representative plots are mutually agreed upon between the Contractor and the Agency. Mark the plot corners with permanent markers such as re-bar, including date and identification. Delineate a minimum of three plots per acre of new planting area.

01040.72 Periodic Inspections - Replace the bullet that begins "Spring..." with the following bullet:

- Early May

Replace the bullet that begins "Summer..." with the following bullet:

- Mid-July

Replace the bullet that begins "Fall..." with the following bullet:

- Late September

Replace the paragraph that begins "Depending on when the Establishment ..." with the following paragraph:

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Depending on when the Establishment Period begins, one of the above inspections is the final inspection.

01040.73 Corrective Work - Replace the paragraph that begins "The Contractor will be allowed..." with the following paragraph:

The Contractor is allowed to replace plants outside the planting times described in 01040.41 or 01040.42 as applicable to perform corrective work after each periodic inspection.

Replace the paragraph that begins "Furnish plant replacements ..." with the following paragraph:

Furnish plant replacements of the same variety, size, and quality as specified for the original plants, unless otherwise approved.

01040.77(b) Trimming and Pruning - Replace the paragraph that begins "Prune during the dormant..." with the following paragraph:

Prune during dormancy unless otherwise specified. Remove and dispose of all dead and critically damaged plant material to maintain the overall appearance of the Project.

01040.77(d) Sod Lawn - Replace the paragraph that begins "Mow, cut and fertilize ..." with the following paragraph:

Mow, cut and fertilize sod lawns as required to maintain a healthy and vigorous condition. A schedule of feeding, mowing, and general treatment, including thatching and aeration is listed in the Special Provisions. Final acceptance of sod lawn areas will depend on its health and condition. Keep sod lawns mowed to a height between 1 1/2 inches to 2 inches.

01040.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Replace the paragraph and bullets that begin "No separate ..." with the following paragraph and bullets:

No separate or additional payment will be made for:

- Soil amendments
- Lime, gypsum, or trace minerals
- Soil bio-amendments
- Fertilizer
- Herbicides
- Anti-transpirants
- Game repellant
- Browsing protectors

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- Pesticides
- Trunk wraps
- Tree stakes and ties
- Water
- Pressure moisture stress sensors
- Mulch materials required as part of replacement planting
- Corrective work during the Plant Establishment Period

SECTION 01140 - POTABLE WATER PIPE AND FITTINGS

Comply with Section 01140 of the Standard Specifications modified as follows:

01140.10 Materials - Delete the paragraph that begins "High Density Polyethylene (HDPE) pipe shall..."

Add the following paragraph to the end of this subsection:

Furnish all additional Materials as shown.

01140.11 Handling Pipe and Fittings - Replace the paragraph that begins "Handle pipe and fittings ..." with the following paragraph:

Handle pipe and fittings to prevent damage to or contamination of the pipe, fitting, lining, or coating. Load and unload pipe and fittings using hoists and slings so as to avoid shock or damage, and under no circumstances allow them to be dropped, skidded, or rolled against other pipe or fittings. If any part of the coating or lining is damaged, repair in a manner satisfactory to the Engineer. Damaged or contaminated pipe and fittings are rejected. Immediately separate all damaged or contaminated pipe and fittings and remove from the Project Site.

01140.41(b)(1) Curves - Replace this subsection, except for the subsection number and title, with the following:

Lay horizontal and vertical long radius curves with standard pipe by deflecting the joints. Use standard fittings and standard pipe lengths, unless otherwise shown. If shorter pipe lengths are required, the maximum allowable pipe lengths are shown. Do not exceed 80 percent of the manufacturer's recommendations for the amount of deflection at each pipe joint when pipe is laid on a horizontal or vertical curve. Where field conditions require deflection or curves not shown, the Engineer will determine the methods to be used.

01140.41(d) Polyvinyl Chloride (PVC) Pipe - Replace the paragraph that begins "Lay horizontal and vertical ..." with the following paragraph:

Lay horizontal and vertical curves in pipe, as shown, with standard pipe by deflecting the joints. Use standard fittings and standard pipe lengths unless otherwise shown. If shorter lengths of pipe are required, the maximum allowable pipe lengths are shown. Do not exceed 80 percent of the manufacturer's recommendations for the amount of deflection at each pipe joint when pipe is laid on a horizontal or vertical curve. Where field conditions require deflection or curves not shown, the Engineer will determine the methods to be used. Do not bend PVC pipe segments.

01140.41(e) Water and Sanitary Sewer Separation - Replace this subsection, except for the subsection number and title, with the following:

Comply with OAR 333-061 0050 governing horizontal and vertical separation between water and sanitary sewer facilities for installation of new water lines and appurtenances. Submit all proposals for variance in writing. Include in the proposal the reason for the variance, type of

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material and condition of the sewer line, and location of the water and sewer facilities, including horizontal and vertical skin-to-skin clearances. Proposals are reviewed by the Engineer and approved, approved as noted, or returned for correction. Each variance is addressed on a case-by-case basis.

01140.42(b)(1) Joints and Fittings - Replace this subsection, except for the subsection number and title, with the following:

Join pipes and fittings using the thermal butt fusion method according to ASTM D3261. Use HDPE fittings of the same class as the HDPE piping.

Add the following subsection:

01140.42(c) Pipe on Structure – Restrain all joints on Structure as shown and specified.

01140.45(a) Installation - Replace this subsection, except for the subsection number and title, with the following:

Install marking tape and wire over all nonmetallic water lines, including service connections. Place a continuous solid copper wire along the top of all water pipe, including service lines. Use cable ties to secure the copper wire to the top of the pipe at a maximum spacing of 10 feet. Tie all splices and make them electrically continuous and waterproof. Provide access to terminal ends of the wire at all valve boxes, meter boxes, hydrants, and vaults. Ensure a continuous wire circuit electrically isolated from ground. Place the marking tape approximately 1 foot above the top of the pipe for its full length.

01140.45(c) Testing - Replace this subsection, except for the subsection number and title, with the following:

Test for continuity and isolation from ground in the wire after all Work has been completed on the test section. Perform intermediate testing after backfilling operations and prior to surface restoration Work. Test continuity between access locations by use of a temporary wire connecting test points in-line with an ohmmeter. Measure resistance with an approved ohmmeter that has been properly calibrated. The continuity of a test section is accepted if the resistance of the test section does not exceed 5 ohms for each 500 feet of location wire being tested. Measure isolation from ground with an approved 1000-volt Megger, applied for 1 minute. The isolation of a test section is accepted if the isolation resistance of the test section is at least 10 megohms. Locate and repair all breaks or defects in the wire and re-test until specified results are obtained.

01140.48 Maintaining Service - Replace this subsection, except for the subsection number and title, with the following:

(a) Service Transfer - Where existing services are to be transferred from old to new mains, plan and coordinate the Work with that of the Utility so that service is resumed with the least possible inconvenience to the public.

(b) Connections by Utility - Allow the Utility to make connections into the new pipe at such locations as the Utility may elect to supply customers with water, after the affected section of pipe has passed hydrostatic and bacteriological tests. Do not construe the

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installation of any such connections by the Utility as an acceptance by the Agency of any part of the Work required under the Contract.

01140.50(a) Flush and Disinfect - Replace this subsection, except for the subsection number and title, with the following:

Flush sections of pipe to be tested and disinfect to remove any solids or contaminated material that may have become lodged in the pipe. The minimum flushing velocity is 3 feet per second. If no hydrant is installed at the end of the main, provide a tap large enough to develop a velocity of at least 3 feet per second in the main. Perform flushing and disinfection according to AWWA C651-14.

01140.51(a) General - Replace the paragraph that begins "Test all water mains and ..." with the following paragraph:

Test all water mains and appurtenances in sections of convenient length under a hydrostatic pressure equal to one and one-half times the working pressure, but at least 150 psi, measured at the highest point of the test section. Provide and operate all pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring Equipment necessary for performing the test. Provide certifications of accuracy for gauges used in the test from an approved laboratory.

01140.51(a)(5) Loss Formula - Replace the paragraph that begins "The quantity of water ..." with the following paragraph:

Do not exceed the number of gallons per hour determined by the formula for the allowable quantity of water lost from the main:

01140.51(a)(6) Pressure Loss - Replace this subsection, except for the subsection number and title, with the following:

No appreciable or abrupt loss in pressure during the test period is allowable.

01140.51(a)(8) Use of Hydrant Valves - Replace this subsection, except for the subsection number and title, with the following:

Make all tests with the hydrant auxiliary gate valves open and pressure against the hydrant valve. After the pipe test has been completed, test each gate valve in turn by closing it and relieving the pressure beyond. This test of the gate valve is acceptable if there is no immediate loss of pressure on the gauge when the pressure beyond the valve is relieved. Verify that the pressure differential across the valve does not exceed the rated working pressure of the valve.

01140.51(b)(1) Exceptions - Replace this subsection, except for the subsection number and title, with the following:

When an existing water main is extended with new pipe to a new valve, and the distance from the existing pipe to the new valve is 18 feet or less, no hydrostatic test is required if the section of new pipe between the new valve and the end of the existing main is installed with pretested, prechlorinated pipe. When the required hydrostatic tests are conducted in the new

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main section beyond the installed new valve in the closed position, the normal pressure of the existing main may be present against the other side of the new valve.

01140.51(c) Testing Sections with Hydrants Installed - Replace the paragraph that begins "¹ Test each hydrant ..." with the following paragraph:

¹ Test each hydrant to the required test pressure. When testing a hydrant singly, pressure in the supply main beyond the hydrant auxiliary gate valve is 25 psi.

01140.52(a) General - Replace the paragraph that begins "The initial chlorine ..." with the following paragraph:

Ensure the initial chlorine content of the water is not less than 25 ppm. Ensure a chlorine residual of not less than 10 ppm remain in the water after standing 24 hours in the pipe.

01140.52(d) Rate of Application - Replace this subsection, except for the subsection number and title, with the following:

Control water from the existing distribution system, or other source of supply, to flow very slowly into the newly laid pipeline during application of the chlorine. Provide a chlorine application rate in such proportion to the rate of water entering the newly laid pipe that the initial chlorine content of the water is at least 25 ppm.

01140.52(f) Retention Period - Replace this subsection, except for the subsection number and title, with the following:

Retain chlorinated water in the pipe at least 24 hours. After this period, ensure the residual chlorine at pipe extremities and at other representative points is at least 10 ppm

01140.52(h)(3) Service Resumption - Replace this subsection, except for the subsection number and title, with the following:

Do not place the lines into service before a satisfactory report is received from the local or State health department on samples collected from representative points in the new system. Samples are collected and bacteriological tests obtained by the Engineer.

Add the following subsection:

01140.41(g) Additional Materials Installation – Install all additional Materials as shown.

Add the following subsection:

01140.80(e) Potable Pipe with Restrained Joints, Installed on Bridge – The quantity of ductile iron water pipe installed on the bridge will be measured on the length basis and will be the horizontal measurement along the top of the pipe, with no deduction for fittings, valves, couplings, or outlet tees.

01140.90 Payment – Add the following Pay Items to the Pay Item list:

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item (o) _____ Inch Potable Water Pipe, Fittings and Couplings with
Restrained Joints.....Foot
(p) _____ Inch Force Balanced Expansion Joint.....Each

Replace the paragraph that begins "In items (a) and (b) ..." with the following paragraph:

In items (a) and (b), the nominal diameter of pipe, fittings and couplings is inserted in the first blank. The class of backfill is inserted in the second blank. The quantities include the pipe plus the allowance for the fittings and couplings.

Replace the paragraph that begins "In item (c) ..." with the following paragraph:

In item (c), the class of backfill is inserted in the blank.

Replace the paragraph that begins "In item (d) ..." with the following paragraph:

In item (d), the nominal diameter of assembly is inserted in the blank.

Replace the paragraph that begins "In item (e)..." with the following paragraph:

In item (e) the nominal diameter of pipe is inserted in the first blank and the nominal diameter of the main line is inserted in the second blank.

Replace the paragraph that begins "In item(s) (f) and (g) ..." with the following paragraph:

In item(s) (f) and (g), the nominal diameter of pipe is inserted in the first blank. The class of backfill is inserted in the second blank.

Replace the paragraph that begins "In item(s) (h), (i), (j), (k), (l), ..." with the following paragraph:

In item(s) (h), (i), (j), (k), (l), (m), and (n), the nominal diameter of the fittings or couplings is inserted in the blank.

In item (o), the size of the pipe is inserted in the blank. The quantity includes the pipe plus the fittings or couplings.

In item (p), the size of the expansion joint is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as shown and specified.

Replace the paragraph and bullets that begins "No separate ..." with the following paragraph and bullets:

No separate or additional payment will be made for:

- Trench excavation

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- Bedding
- Pipe zone material
- Backfill Work
- Polyethylene encasement
- Concrete thrust blocks
- Detectable marking tape and wire
- Flushing, hydrostatic testing and disinfection, and water for testing
- Exposing and cleaning existing mains, cutting and removing existing pipe, draining existing mains, disinfecting existing mains, and refilling existing mains
- PVC fittings under 4 inch
- HDPE fittings
- Pipe reconnections

SECTION 01150 - POTABLE WATER VALVES

Comply with Section 01150 of the Standard Specifications modified as follows:

01150.11 Handling - Replace this subsection, except for the subsection number and title, with the following:

Handle valves so as to prevent damage to the valve, lining or coating. Load and unload valves using hoists and slings so as to avoid shock or damage, and under no circumstances allow them to be dropped or skidded. Damaged valves are rejected. If damage is confined to the coating or lining, it may be repaired in a manner satisfactory to the Engineer. Immediately place all damaged valves apart from the undamaged and remove the damaged valves from the site as soon as possible

Add the following subsections:

01150.13 Additional Materials - Furnish all additional Materials as shown.

01150.42 Additional Materials Installation – Install all additional Materials as shown.

01150.90 Payment – Add the following Pay Items to the Pay Item list:

(h) _____ Inch Air Release Assembly.....Each

Replace the paragraph that begins "In items (a) through (f) ..." with the following paragraph:

In items (a) through (f), the size of the valve or assembly is inserted in the first blank.

Replace the paragraph that begins "In items (a) through (d) ..." with the following paragraph:

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In items (a) through (d), the type of valve, check valve, or assembly is inserted in the second blank.

Replace the paragraph that begins "In item (b) ..." with the following paragraph:

In item (b), the type of actuator is inserted in the third blank.

Replace the paragraph that begins "In item (g)..." with the following paragraph:

In item (g), the size of tapping sleeve is inserted in the first blank. The size of valve assembly is inserted in the second blank.

In item (h), the size of the valve assembly is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as shown and specified.

Replace the paragraph and bullets that begins "No separate..." with the following paragraph and bullets:

No separate or additional payment will be made for:

- Earthwork not covered under other Pay Items
- Jointing
- Blocking of valves
- Protective coatings
- Valve boxes
- Valve box extensions
- Valve operator extensions
- Valve reconnections
- Hydrostatic testing

SECTION 02001 - CONCRETE

Comply with Section 02001 of the Standard Specifications modified as follows:

02001.15 Concrete Mix Design - Replace the paragraph that begins "Submit current or new mix ..." with the following paragraph:

Submit current or new mix designs, prepared by a CCT, with the information listed in 02001.15(c), for each required class of concrete to the Engineer for review. Allow 21 Calendar Days for the review. Design mixes by the volumetric method in ACI 211.1 to achieve the properties of 02001.20 and 02001.30 when tested according to 02001.15(b). Provide a design that is workable, placeable and finishable given the specific conditions for the Project and Structure. Do not proceed with concrete placement until the Engineer has determined that the mix design complies with the Specifications. Review of concrete mix designs does not relieve the Contractor of the responsibility to provide concrete meeting the Specification and Project Site requirements.

02001.15(a) Current Mix Design - Replace this subsection, except for the subsection number and title, with the following:

Mix designs that meet the requirements for the specified class of concrete and are currently being used or have been used within the past 24 months on any project, public or private may be submitted for review. Provide individual tests results that comprise the average if more than one data point exists. Provide flexural strength testing for paving designs from within the last two years. Provide length change and permeability tests for HPC designs from within the last two years.

02001.15(b) New Mix Designs - Replace this subsection, except for the subsection number and title, with the following:

Make at least one trial batch for each concrete mix design. Notify the Engineer at least 48 hours before making each trial batch. The Engineer may witness preparation and testing. Prepare and test trial batches using the same Materials, at the same proportions, and having the same plastic properties of concrete that are used in the Project. Simulate haul time, batching sequence and mixing conditions to ensure the trial batch is representative of the mixture that is delivered to the Project. Furnish all Materials, Equipment, testing and Work required for designing the mixes at no additional cost to the Agency.

02001.15(b)(1) Trial Batch Plastic Properties - Replace the test method that begins "AASHTO T 23..." with the following test method:

AASHTO R 100 or R 39 ³

02001.15(b)(2)(a) Compressive Strength Tests - Replace this subsection, except for the subsection number and title, with the following:

For each trial batch, cast and cure at least three test cylinders according to AASHTO R 100 or AASHTO R 39, in 6-inch by 12-inch or 4-inch by 8-inch single use plastic molds. The use

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of unbonded caps according to ASTM C1231 is permitted. Test at 28 Days according to AASHTO T 22.

02001.15(b)(2)(b) Flexural Strength Tests - Replace this subsection, except for the subsection number and title, with the following:

For each paving concrete trial batch, cast and cure at least three flexural beams according to AASHTO R 100 or AASHTO R 39. Test flexural beams at 28 Days according to AASHTO T 97.

02001.15(b)(2)(c) Length Change Tests - Replace this subsection, except for the subsection number and title, with the following:

For all HPC mix designs, except for precast or prestressed elements, make at least three specimens from the trial batch for length change testing. Provide sample prisms having a square, 4-inch by 4-inch Cross Section. Wet cure the samples until they have reached an age of 28 Days, including the period in the molds. Following the wet cure, air store and measure samples according to AASHTO T 160, Section 11.1.2 for 28 Days. Report length change results at total specimen age of 56 Days.

02001.15(b)(2)(d) Permeability Tests - Replace this subsection, except for the subsection number and title, with the following:

For alternate HPC mix designs, select from the following options:

- Make at least three specimens from the trial batch for permeability testing. Prepare, cure, dry and test according to AASHTO T 277. Report permeability in coulombs at 90 Days.
- Make at least two specimens from the trial batch for resistivity testing. Prepare, cure and test according to AASHTO T358 using the sealed conditioning method. Report resistivity in $k\Omega \cdot cm$ at 56 Days.

02001.15(c) Required Submittals for Mix Designs - Replace the title of this subsection with "**Submittals for Mix Designs**"

02001.20 Concrete properties, Tolerances, and Limits - Replace the paragraph that begins "Provide concrete that is..." with the following paragraph:

Furnish concrete that is workable, placeable, uniform in composition and consistency, and having the following properties:

02001.20(a) Strength - Replace the paragraph that begins "Provide concrete meeting ..." with the following paragraph:

Furnish concrete meeting the required classes shown in the Contract Documents. The class of concrete designates the minimum required compressive strength, f'_c at 28 Days.

02001.20(b) Air Entrainment - Replace the paragraph that begins "Provide all concrete..." with the following paragraph:

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Furnish all concrete, except PPCM with cast-in-place decks, seal concrete, and drilled shaft concrete with entrained air in the amounts shown in Table 02001-2. Provide field measured entrained air content within ± 1.5 percent of target air entrainment values.

02001.20(c) Slump - Replace the paragraph that begins "Provide concrete..." with the following paragraph:

Furnish concrete at the appropriate slump shown in Table 02001-3. Take corrective action to maintain a consistent slump at the point of discharge from the delivery vehicle.

02001.20(d) Temperature - Replace the paragraph that begins "Provide concrete..." with the following paragraph:

Provide concrete, at time of placement, at a temperature between a minimum of 50 °F and a maximum of 90 °F, except the maximum bridge deck concrete temperature is 80 °F.

02001.20(e) Durability - Replace this subsection, except for the subsection number and title, with the following:

For HPC designs the following additional requirements apply:

Test	Test Method	Acceptance Value
Length Change	AASHTO T 160	-0.045% ¹
Permeability	AASHTO T 277	1,000 Coulombs (max.) at 90 Days ²

¹ Not required for precast or prestressed elements.

² Only required for alternate HPC designs. See 02001.30(b)(2). A minimum resistivity of 37.0 k Ω ·cm at 56 Days for 4x8 inch cylinders and 29 k Ω ·cm at 56 Days for 6x12 inch cylinders are accepted as equal when tested according to AASHTO T 358 using the sealed conditioning method.

Add the following subsection:

02001.20(f) Internal Curing - For HPC(IC) concrete, internally cure the mixture according to the following:

- Substitute 350 lbs (SSD) LWFA for standard Fine Aggregate.

02001.30(a) Portland Cement - Replace this subsection, except for the subsection number and title, with the following:

For structural or paving concrete applications use cement according to 02010.10 or 02010.20, excluding Type III. Use Type III cement for precast prestressed concrete.

02001.30(b)(1) General Limits - Replace the paragraph that begins "*Fly ash + other..." with the following paragraph:

*Furnish fly ash + other Pozzolans at a rate no more than 25% and silica fume at a rate no more than 5% of the total weight of Cementitious Materials.

02001.30(b)(2) HPC Cementitious Composition - Replace this subsection, except for the subsection number and title, with the following:

Cement with SCM proportioned according to 02001.30(b)(1) and with trial batches performed to demonstrate that the proposed alternate mix design provides a maximum of 1,000 coulombs at 90 Days when tested according to AASHTO T 277 or a minimum resistivity of 37.0 k Ω ·cm at 56 Days for 4x8 inch cylinders and 29 k Ω ·cm at 56 Days for 6x12 inch cylinders are accepted as equal when tested according to AASHTO T358 using the sealed conditioning method.

02001.30(f) Synthetic Fiber Reinforcing for Concrete - Replace this subsection, except for the subsection number and title, with the following:

Except for precast or prestressed elements, use synthetic fiber reinforcing from the QPL and according to Section 02045 in all HPC. Use synthetic fiber reinforcing according to the manufacturer's recommendations at the rate designated on the QPL. Fiber packaging is not allowed in the mixed concrete.

02001.40 Concrete Production - Replace the paragraph that begins "¹ When haul time or ..." with the following paragraph:

¹ When haul time or placement conditions warrant exceeding the time of discharge, submit a detailed breakdown of the estimated time needed from batching to discharge of a load along with the measures that are taken to ensure slump, temperature and uniformity is maintained. Submit this request in advance and may establish a new time limit at the Engineer's discretion.

02001.40(a) Delivery Tickets - Replace the paragraph that begins "Send a concrete delivery ..." with the following paragraph:

Send a concrete delivery ticket with each load of concrete supplied to the Project. Include the following information on each delivery ticket:

02001.40(b) Adjusting Concrete Proportions - Replace the bullet that begins "Large admixture dosage changes..." with the following bullet:

- Large admixture dosage changes, excluding adjustments for air entraining agents and Type A or D water reducers ($\pm$ 25 oz/cubic yard).

02001.50 Quality Control - Replace the bullet that begins "The Contractor shall..." with the following bullet:

- Designate a person responsible for accepting and rejecting concrete on-site.

02001.50(c) Concrete Control Technician (CCT) - Replace the bullet that begins "Make adjustments to loads ..." with the following bullet:

- Make adjustments to loads that fail to meet the air content or slump criteria of the Specifications prior to the 90-minute time limit. Make adjustments complying with the provisions of ASTM C94.

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02001.60 Acceptance of Concrete - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of concrete is according to Section 00165 and the following:

(a) Aggregate - Acceptance of Aggregate is according to 02690.12.

(b) Plastic Concrete - Acceptance of plastic concrete is based on tests performed by the Contractor's QCT, according to the tolerances and limits of 02001.20, when discharged within the time allotted in 02001.40.

(c) Hardened Concrete - Cast and cure test specimens according to AASHTO R 100 in 6-inch x 12-inch or 4-inch x 8-inch, single-use plastic molds and test at 28 Days according to AASHTO T 22.

(1) General - For all classes of concrete, acceptance of hardened concrete is based on an analysis of compressive strength tests of cylinders cast by the QCT. Test cylinders at an Agency certified laboratory.

(2) Acceptance - Hardened concrete with an ASTV meeting or exceeding the specified design strength, f'_c is accepted for strength. If the ASTV is less than f'_c but at least 85 percent of f'_c , the Engineer may review the results to determine if the concrete represented by the cylinders is suitable for the intended purpose. Remove concrete that has an ASTV less than 85 percent of f'_c unless otherwise authorized, in writing, by the Engineer. If the concrete is removed, the cost of removal, replacement and all related Work is the Contractor's responsibility. If the Engineer determines that the concrete is suitable for the intended purpose, the concrete may be allowed to remain in place, subject to a price adjustment according to 00150.25. If an ASTV falls below f'_c , the Contractor may submit a written plan outlining a proposed alternate method of evaluating compressive strength. Submit the plan for review by the Engineer within 3 Days of the test. Provide evidence that a reasonable f'_{cr} (over-design) was maintained and that there is credible evidence (besides low strength) that warrants consideration of this option. The Engineer may allow an alternate method of acceptance if the compressive strength test results are determined to be suspect from definable external factors.

SECTION 02010 – PORTLAND CEMENT

Comply with Section 02010 of the Standard Specifications modified as follows:

02010.10(b) Specifications - Replace this subsection except for the subsection number and title with the following:

Furnish portland cement according to AASHTO M 85 or ASTM C150 for low alkali cement except as follows:

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- Cement having a total alkali content (sodium and potassium oxide calculated as $\text{Na}_2\text{O} + 0.658 \text{ K}_2\text{O}$) not exceeding 0.60 percent.
- All cement types contain a maximum of 8 percent tricalcium aluminate (C_3A).
- The time-of-setting tests are by either the Gillmore test or the Vicat test.
- Types I and II maximum fineness (specific surface) as determined by AASHTO T 153 air permeability test is 430 m^2/kg . If $\text{C}_3\text{S} + 4.75 \text{ C}_3\text{A}$ is less than or equal to 90, the fineness criteria does not apply.

02010.10(c) Acceptance - Replace this subsection except for the subsection number and title with the following:

Furnish portland cement from the QPL.

02010.20 Blended Hydraulic Cement - Replace this subsection except for the subsection number and title with the following:

Furnish blended hydraulic cement that is either Type IS-portland blast-furnace slag cement, Type IP-portland-pozzolan cement, Type IL-portland-limestone cement, or Type IT-ternary blended cement according to AASHTO M 240.

Furnish blended hydraulic cement from the QPL.

SECTION 02020 – WATER

Comply with Section 02020 of the Standard Specifications modified as follows:

02020.10(a) General - Replace this subsection except for the subsection number and title with the following:

Use water in mixing or curing concrete, mortar, grout, and in mixing cement-treated Base that is reasonably clean, and free of oil, sugar, organic matter, or other substances injurious to the finished product.

02010.20(c) Non-Potable, Unknown Quality, or Suspected Quality - Replace this subsection except for the subsection number and title with the following:

Test non-potable, unknown quality, or suspected quality water at no additional cost to the Agency. Test according to ASTM C114 and ASTM C1603. Water from concrete production operations is considered unknown quality. Provide test results that comply with the limits and ranges of ASTM C1602. Make test results available for review upon request.

SECTION 02050 – CURING MATERIALS

Comply with Section 02050 of the Standard Specifications modified as follows:

02050.10 Liquid Compounds - Replace this subsection, except for the subsection number and title, with the following:

Furnish liquid membrane-forming curing compounds from the QPL and meeting the requirements of ASTM C309. Before use, submit two, one-quart samples from each lot for testing. Samples are tested according to ODOT TM 721. Samples are not required for curing compounds used on Commercial Grade Concrete.

Furnish Type 1-D, Type 2, Class A or B compounds.

Only Type 2, Class B resins are allowed for the following concrete Pavement applications:

- Plain concrete Pavement.
- Continuously reinforced concrete Pavement.
- Plain concrete Pavement repair.
- Reinforced concrete Pavement repair.

SECTION 02080 – GROUT

Comply with Section 02080 of the Standard Specifications modified as follows:

02080.40 Portland Cement Grout - Replace this subsection, except for the subsection number and title, with the following:

Furnish portland cement grout consisting of one-part portland cement and three parts Sand by weight, thoroughly mixed with a minimum amount of water to produce a thick, creamy consistency. Furnish Sand meeting the requirements of 02690.30. Furnish cement meeting the requirements of Section 02010.

Add the following subsection:

02080.80 Rock and Ground Anchor Grout - Furnish rock and ground anchor grout from the QPL.

SECTION 02110 – POSTS, BLOCKS, AND BRACES

Comply with Section 02110 of the Standard Specifications modified as follows:

02110.10(a) General - Replace this subsection, except for the subsection number and title, with the following:

Furnish posts for guardrail and median barrier of the size shown, manufactured from Douglas fir, Hem-fir, or Southern Yellow Pine. A minimum extreme fiber bending stress (F_b) of 1,200 psi is required for wood posts. Only treated posts from approved Suppliers that are listed in the *Nonfield-Tested Materials Acceptance Guide* are allowed.

02110.10(b) Grading - Replace the paragraph that begins "Grading of posts shall..." with the following paragraph:

Furnish posts with grading meeting the following:

02110.10(c) Certificates - Replace this subsection, except for the subsection number and title, with the following:

Provide certificates of lumber inspection by a recognized inspection agency.

02110.10(f) Seasoning and Checking - Replace this subsection, except for the subsection number and title, with the following:

Furnish preservative treated post that show evidence of reasonable amount of seasoning or conditioning having occurred prior to treatment, so that further shrinkage of treated posts will not create checking that would expose untreated wood.

At the time of inspection at the plant and at the time of installation each treated post is subject to inspection for evidence of seasoning having occurred. The presence of checking on the surface of the post will not be cause for rejection unless the width of the widest check, shake, or split exceeds 1/2 inch (surface measurement).

If an otherwise acceptable treated post has a through check, shake, or end split in the same slope of grain or plane as the bolt hole and extending from the top of the post to within 3 inches of the bolt hole, the post is rejected unless it is provided with a tight fastening across the separation, centered on the post, and 2 inches below the top. Fasten with a 1/2-inch diameter galvanized bolt and nut with a galvanized washer under the bolt head and under the nut after final curing of post is achieved. Treat holes for fastenings according to 00570.40.

02110.10(g) Inspection, Rejection and Marking at Plant - Replace this subsection, except for the subsection number and title, with the following:

Posts are subject to inspection at the treating plant at any time before, during or after treatment. Normally, inspection of treated posts is made by the Agency's Inspector not later than 10 Calendar Days after treatment, provided the Inspector is notified of the time that treating is to be done.

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Inspection of treated posts for compliance with the requirements of 02110.10(e) is according to applicable AWPA standards, except as follows:

- The Inspector will choose the number of treated posts from any one charge of the treating cylinder for determining penetration of treatment.
- Each post selected for testing is representative as a basis of acceptance or rejection of a pro rata number of posts in the charge.
- If 20 percent of the posts randomly selected for testing fail to conform to requirements, all of the posts in the entire charge from where they are selected may be classed as unacceptable.

At the Inspector's discretion, each treated post or a representative random selection of treated posts may be inspected for compliance with the requirements of 02110.10(f) "Seasoning and Checking".

Posts that fail to conform to requirements of this Subsection are subject to rejection at the treating plant singly, by partial lots, or by whole lots. (A "lot" comprises the posts in any charge of the treating cylinder.)

Apply a permanent mark or metal tag to each treated post that identifies the Supplier and year of treatment, placed by the Supplier either:

- On the top of the post, or
- On the back of the post, 8 inches to 10 inches below the bolt hole.

02110.10(h) Field Inspection, Acceptance and Rejection - Replace the paragraph that begins "Posts that show a check ..." with the following paragraph:

Posts that show a check, shake, or split exceeding 1/2 inch in width (surface measurement) on any surface are rejected.

Replace the paragraph that begins "Acceptance of Material..." with the following paragraph:

Acceptance of Material is according to 00165.35, 02110.10(g), and the Specifications.

02110.20 Guardrail Blocks - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Furnish wood guardrail blocks of the dimensions shown. Furnish blocks either Douglas fir or Hem-fir meeting the requirements of 02110.10, or pine or Southern Yellow Pine meeting the requirements of 02110.20(b) and 02110.10 except for 02110.10(b). The requirements of marking and branding the treated blocks, according to the last paragraph of 02110.10(g), is waived provided that the Supplier of the treated blocks provides certification with each shipment stating that the blocks conform to Specifications and that the preservative treating was done under the inspection and with the approval of the Engineer.

(b) Grading - Furnish pine guardrail blocks according to the requirements of paragraph 80.11 of the current WWPA Grading Rules. Furnish Southern Yellow Pine guardrail blocks

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according to the requirements for No. 1 timber as specified in section 402 of the current SPIB Grading Rules.

(c) **Recycled Plastic** - Recycled plastic guardrail blocks from the QPL may be used.

(d) **Acceptance** - Acceptance of Material is according to 00165.35 and this Section.

02110.30 Fence Posts and Braces - Replace this subsection, except for the subsection number and title, with the following:

Furnish fence posts and brace rails of the sizes and dimensions shown and of sound Douglas fir, western hemlock, or western pine free from decay, end splits, and multiple crooks. Seasoning checks of not more than 5/16-inch width (surface measurement) is allowed. Allowable crooks may be in one plane only. Do not allow a line drawn between the centers of the butt and tip of each post and brace rail to fall outside of the actual longitudinal centerline of the post or rail by more than 1.67 percent of its length, with an allowable maximum of 2 inches.

Posts and brace rails may be square, rough, or dressed lumber, or may be peeled round posts, as the Contractor elects. Furnish round members free from bark, protruding knots and irregularities detrimental to a pleasing appearance.

Fabricate posts and brace rails before pressure treatment. Where field boring or field cutting of a treated member is required, field-treat the exposed untreated surface of the member according to 00570.40. Do not allow the size of holes after treatment to exceed the size of the dowels or bolts to be inserted by more than 1/16 inch.

Posts intended to be driven may be machine-pointed on either the small end or the large end, before pressure treatment.

Pressure treat the posts and brace rails according to Section 02190.

Acceptance of Material is according to 00165.35 and the Specifications.

02110.40(a) Grading - Replace the paragraph that begins "Grading requirements..." with the following paragraph:

Furnish wood signposts with grading according to the applicable paragraphs of either the current WCLIB Grading Rules or the current WWPA Grading Rules, as follows:

02110.40(b)(1) Length - Replace the paragraph that begins "The length of the posts..." with the following paragraph:

Furnish posts of the length as shown or, where not shown, a sufficient length to provide proper sign mounting, a proper mounting height and the required foundation depth.

02110.40(b)(4) Cuts and Abrasions - Replace this subsection, except for the subsection number and title, with the following:

Treat cuts, abrasions and bolt-holes, prior to shipping, with the same preservative as originally used to treat the post, except that if the post was originally treated with

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pentachlorophenol - volatile petroleum solvent (LPG) solution, treat cuts, abrasions and bolt-holes with pentachlorophenol - mineral spirits solvent solution according to AWWA Standard M4.

02110.40(c) Cuts and Abrasions - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of Material is according to 00165.35 and this Section.

SECTION 02190 – PRESERVATIVE TREATMENT OF TIMBER

Comply with Section 02190 of the Standard Specifications modified as follows:

02190.10 General - Replace the paragraph that begins "All preservative treatment..." with the following paragraph:

Provide all preservative treatment according to AASHTO M 133 and its referenced AWWA Standards, except use the following according to the AWWA Standard:

02190.20 Drying After Treatment - Replace the paragraph that begins " The maximum moisture..." with the following paragraph:

The maximum moisture content is 19 percent prior to installation.

SECTION 02210 – COATING MATERIALS FOR TIMBER AND CONCRETE

Comply with Section 02210 of the Standard Specifications modified as follows:

02210.10(a) Manufacturing - Replace the bullet that begins "All coats in..." with the following bullet:

- Use the same manufacturer for all coats in the coating system.

Replace the bullet that begins "Multi-component coating Materials..." with the following bullet:

- Furnish manufacturer proportioned multi-component coating Materials with each component in its correct proportion and furnished in separate containers ready for field mixing.

SECTION 02320 - GEOSYNTHETICS

Comply with Section 02320 of the Standard Specifications modified as follows:

02320.10(a)(1) Geotextiles - Replace the bullet that begins "Fibers used in manufacture of..." with the following bullet:

- Use fibers and threads consisting of long-chain synthetic polymers, composed of at least 95 percent by weight of polyolefins or polyesters in the manufacture and joining of geotextiles. Form geotextiles into a stable network such that the filaments or yarns retain their dimensional stability to each other, including selvages.

02320.10(b) Identification - Replace the paragraph that begins "Allow the Engineer to..." with the following paragraph:

Allow the Engineer to visually verify geosynthetic products before installation. Open packaged geosynthetics before use in the presence of the Engineer to confirm the correct product. Geotextile rolls without the product name printed on the geotextile or the product label affixed to the geotextile or roll core by the Manufacturer are rejected. Any other geosynthetics that are unwrapped, missing original packaging or previously opened may not be used unless approved by the Engineer.

02320.10(c) Manufacturer's Test Certification - Replace the paragraph that begins "Furnish test result..." with the following paragraph:

Provide test result certificates according to 00165.35 from the geosynthetic manufacturer, and the following:

02320.10(c)(1) Geotextiles - Replace the bullet that begins "Product name printed..." with the following bullet:

- Product name printed directly on the geotextile by the Manufacturer. For geotextiles that are not marked with a product name, furnish geotextile with product label attached to the geotextile or original packaging by the Manufacturer.

02320.10(d) Manufacturer's Sampling/Testing - Replace this subsection, except for the subsection number and title, with the following:

Provide manufacturer's reported property values based on the following sampling and testing requirements:

(1) Sampling - Sample all geosynthetics according to ASTM D4354. Use a roll or sheet for the production unit used for sampling.

(2) Geotextile Testing - Perform the specified tests to determine geotextile properties for the intended applications. Test the tensile strength requirements in both machine and cross-machine directions.

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(3) Geogrid Testing - For mechanically stabilized earth retaining wall geogrid, provide laboratory test results that demonstrate the average roll value for each geogrid product is greater than or equal to the geogrid ultimate wide width tensile strength reported for the initial geogrid product evaluation and approval on the QPL. Determine the ultimate wide width tensile strength (T_{ult}) according to ASTM D6637. If the average roll value for each geogrid reinforcement product is less than the geogrid ultimate wide width tensile strength identified on the QPL, the entire production run is rejected.

02320.20 Geotextile Property Values – Replace Table 02320-3 with the following table:

Table 02320-3 Geotextile Property Values for Sediment Fence ¹

Geotextile Property	ASTM Test Method	Unit	Geotextile Property Requirements Woven and Nonwoven
Grab Tensile Strength (minimum) Machine and Cross Machine Directions	D 4632	lb	120 100
Apparent Opening Size (AOS) (maximum) U.S. Standard Sieve	D 4751	—	30
Permittivity (minimum)	D 4491	sec ⁻¹	0.05
Ultraviolet Stability Retained Strength (minimum)	D 4355 (at 500 hours)	%	70

¹ All geotextile properties are Minimum Average Roll Values (MARV). The test results for any sampled roll in a lot shall meet or exceed the values shown in the table.

SECTION 02410 - CONCRETE PIPE

Comply with Section 02410 of the Standard Specifications modified as follows:

02410.10(e) Concrete Pipe Plant Air Test - Replace this subsection, except for the subsection number and title, with the following:

The Engineer may require that each length of concrete pipe 12 inches in diameter and smaller be given an individual air test at the point of manufacture. Use test Equipment approved by the Engineer and a test pressure of at least of 10 psi. Ensure each length shows no appreciable loss of air after 5 seconds.

When individual air testing is performed, no field or shop permeability tests are required.

02410.10(f) Nonreinforced Concrete Pipe - Replace this subsection, except for the subsection number and title, with the following:

Furnish nonreinforced or plain circular concrete pipe and special sections according to the requirements of AASHTO M 86 (ASTM C14) or ASTM C985 and this Section.

02410.10(g) Reinforced Concrete Pipe - Replace this subsection, except for the subsection number and title, with the following:

Furnish reinforced concrete pipe and special sections according to the requirements of AASHTO M 170 (ASTM C76) and this Section, except as follows.

(1) Special Sections - Furnish special sections such as elbows, wyes, tees, crosses, bends and reducers as shown, specified or directed. In the absence of any design or Specifications, furnish special sections of the design recommended by the manufacturer for the intended use and according to the requirements specified for the pipe where it is used.

Fabricate special sections with components from tested and approved lots. Maintain production dates of components.

(2) Load Strength - Reinforced concrete pipe having the same D-load strengths as those specified to be furnished under AASHTO M 170 (ASTM C76) may be furnished according to AASHTO M 242 (ASTM C655).

(3) Acceptance - The basis of acceptance for reinforced concrete pipe manufactured according to AASHTO M 170 (ASTM C76), and AASHTO M 242 (ASTM C655) is Paragraph 5.1.1 of AASHTO M 170.

02410.10(h) Concrete Drain Pipe - Replace this subsection, except for the subsection number and title, with the following:

Use circular, nonreinforced perforated concrete pipe and special sections for subsurface drainage according to the requirements of AASHTO M 175 (ASTM C444), Type 1, all applicable requirements of AASHTO M 86 (ASTM C14), except indent the markings required by AASHTO M 86 (ASTM C14) in the outside surface of each section of pipe.

02410.10(i) Concrete Drain Tile - Replace this subsection, except for the subsection number and title, with the following:

Furnish concrete drain tile according to the requirements of AASHTO M 178 (ASTM C412).

02410.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Except as provided in 02410.10(g)(3), acceptance of nonreinforced concrete pipe, reinforced concrete pipe, concrete drain pipe, concrete drain tile, and hardware is according to 00165.35 and this Section.

SECTION 02415 - PLASTIC PIPE

Comply with Section 02415 of the Standard Specifications modified as follows:

02415.20 Solid-Wall Polyethylene Pipe – Replace the bullet that begins "Production code from which ..." with the following bullet:

- Production code where the date and place of manufacture can be determined

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02415.30 Steel Reinforced Polyethylene Pipe – Replace the paragraph that begins "For Steel Reinforced Polyethylene..." with the following paragraph:

For Steel Reinforced Polyethylene Pipe, furnish either factory installed gaskets on the couplings or manufacturer installed gaskets on the pipes. Furnish at least silt tight joints for culvert pipe and water tight joints for storm sewer pipe. Furnish watertight joints from the QPL and meeting the requirements of ASTM D3212.

02415.40 Polypropylene Pipe - Replace this subsection, except for the subsection number and title, with the following:

Furnish polypropylene pipe and fittings as follows:

(a) Non-Pressure Storm Sewers and Culverts - Furnish polypropylene pipe and fittings for non-pressure storm sewers and culverts from the QPL and meeting the following requirements:

Dual Wall Pipe	ASTM F2764, ASTM F2881, or AASHTO M 330 Type S
Triple Wall Pipe.....	ASTM F2764 or AASHTO M 330 Type D
Watertight Joints	ASTM D3212

(b) Non-Pressure Sanitary Sewers - Furnish polypropylene pipe and fittings for non-pressure sanitary sewers from the QPL and meeting the following requirements:

Dual Wall Pipe	ASTM F2764
Triple Wall Pipe.....	ASTM F2764
Watertight Joints	ASTM D3212

02415.50 Polyvinyl Chloride Pipe - Replace the paragraph that begins "Furnish PVC sanitary, storm..." with the following paragraph:

Furnish PVC sanitary, storm, culvert, siphon, and irrigation pipe and fittings with 2 feet or more cover that have a minimum pipe stiffness of 46 psi or a minimum SDR of 35 and meet the requirements of sewer pipe ASTM D3034 or ASTM F794.

02415.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of Polyethylene Pipe, polypropylene pipe, polyvinyl chloride pipe and hardware is according to 00165.35 and this Section.

SECTION 02420 - METAL PIPE

Comply with Section 02420 of the Standard Specifications modified as follows:

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02420.10(a) Shapes - Replace the paragraph that begins "Provide either full-circle..." with the following paragraph:

Furnish either full-circle or elliptical pipe, as the Contractor may elect, unless otherwise shown or specified. The shapes of pipe fabricated and furnished may include any of the following:

Replace the bullet that begins "**Nestable Pipe** - Fabricate ..." with the following bullet:

- **Nestable Pipe** - Fabricate in two separate half sections designed to fit and fasten together to form a full-circle Cross Section of specified diameter. Fasten the two half sections together by approved means, providing at least 90 percent of the strength of a standard riveted longitudinal seam.

02420.10(b) Connecting Bands - Replace this subsection, except for the subsection number and title, with the following:

Use connecting bands according to the details as shown to make field joints for pipes and pipe arches not requiring watertight joints.

02420.10(c) Special Sections - Replace the paragraph that begins "Generally, special sections shall..." with the following paragraph:

Generally, furnish special sections according to the requirements specified for the pipe where they are used. Connect special sections to the pipe or to each other with connecting bands specified for use with the pipe where they are connected.

02420.10(d) Repair of Damaged Coating - Replace the paragraph that begins "In addition to the methods ..." with the following paragraph:

In addition to the methods given in AASHTO M 36 (ASTM A760) the Contractor may repair damaged zinc or aluminum coating by removing all loose or cracked coating, removing all welding flux, wire brushing the damaged area, and applying two coats (minimum 2 mils total thickness) of a high zinc dust content paint according to the general requirements of ASTM A780.

02420.10(e) Irrigation Pipe - Replace the paragraph that begins "In irrigation pipe installations..." with the following paragraph:

In irrigation pipe installations, where Type D coating (AASHTO M 190) is not specified, the Contractor is allowed to furnish pipe with Type D coating.

02420.10(e)(2) Field Joints - Replace this subsection, except for the subsection number and title, with the following:

Use connecting bands according to the details shown and make the field joints watertight.

02420.10(f) Siphon Pipe - Replace the paragraph that begins "Field joints shall provide..." with the following paragraph:

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Furnish circumferential and longitudinal strength field joints to preserve the pipe alignment, prevent separation of pipe sections and provide a watertight joint. Attach the connecting bands so they lap a nearly equal portion of each pipe section to be connected.

02420.11 Ductile Iron - Replace this subsection, except for the subsection number and title, with the following:

Furnish ductile iron pipe according to the requirements of AWWA C151. Use Pressure Class 150 - 350 or Special Thickness Class 50 - 56, as directed.

02420.20(a) Bituminous Protective Coatings - Replace this subsection, except for the subsection number and title, with the following:

Furnish corrugated metal pipe and connecting bands with bituminous coatings according to the requirements of AASHTO M 190 and the following:

- Before immersion, ensure the metal is free of grease, dirt, dust, moisture or other contaminants.
- Apply the initial bituminous coating by one of the processes under 02420.20(a)(1) or 02420.20(a)(2).
- If a second dip is required to meet the coating thickness requirements of AASHTO M 190, the time and temperature requirements of 02420.20(a)(1) or 02420.20(a)(2) need not be followed for the second dip.
- Fill the corrugations for at least 40 percent of the circumference of the pipe to form the paved invert for both Type B and Type C coatings on either circular or arch type pipe.

02420.20(a)(1) Pipe Not Preheated - Replace the paragraph that begins "The temperature of the asphalt..." with the following paragraph:

Furnish asphalt at the time of pipe immersion at a temperature of $400^{\circ}\text{F} \pm 5^{\circ}\text{F}$. Provide an immersion duration meeting the following schedule:

02420.20(2) Pipe Preheated - Replace this subsection, except for the subsection number and title, with the following:

Furnish asphalt at the time of pipe immersion at a temperature of $380^{\circ}\text{F} \pm 5^{\circ}\text{F}$ and the pipe preheated to a temperature 300°F to 350°F .

02420.20(b) Type D, Fully-Bituminous Coated, Fully-Lined - Replace this subsection, except for the subsection number and title, with the following:

Furnish a fully-bituminous coated, fully-lined interior lining that is smooth, uniform and free from sags and runs. Slight residual corrugations due to cooling and shrinkage of the lining will not be cause for rejection. At the three-sheet lap an interior nonuniformity equal to the thickness of the sheet is allowed. Maintain the thickness of the lining to the ends of the pipe.

02420.20(c) Optional Paved Invert - Replace this subsection, except for the subsection number and title, with the following:

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If an asphalt coated pipe with a paved invert (Type C coating) is shown or specified, a centrifugally-applied interior lining according to Type D coating may be furnished as an alternate, providing the minimum thickness of bituminous coating over the crests of the corrugations is not less than 1/4 inch.

02420.30 Corrugated Steel Pipe for Underdrains - Replace this subsection, except for the subsection number and title, with the following:

Furnish corrugated steel pipe for underdrains according to the requirements of AASHTO M 36 (ASTM A760) Type III - Underdrain Pipes, except as modified in 02420.10(c) and 02420.10(d), and as follows:

(a) **Class IV** - Semicircular pipe may be used only as an alternate with the 6-inch size of perforated full-circle drain pipe.

(b) **Connecting Bands** - Furnish connecting bands for underdrain pipe field joints meeting the designs shown.

02420.40 Corrugated Aluminum Alloy Pipe - Replace this subsection, except for the subsection number and title, with the following:

Furnish corrugated aluminum alloy pipe, helical rib pipe, pipe arches and special sections according to the requirements of AASHTO M 196 (ASTM B745), Types I, II and III, except as follows:

(a) **Shapes** - The shapes of the pipes to be furnished may include any of the shapes described in 02420.10(a).

(b) **Connecting Bands** - Use connecting bands according to the requirements of AASHTO M 196 (ASTM B745) and the details shown to make field joints for pipes and pipe arches not requiring watertight joints.

(c) **Special Sections** - Furnish special sections such as elbows, wyes, tees, crosses, bends, reducers and flared inlets as shown or as directed.

Generally, furnish special sections according to the requirements specified for the pipe where they are used. Connect special sections to the pipe or to each other with connecting bands specified for use with the pipe where they are connected.

For elbows of 30 degrees or greater total angle, use a three-piece section of approximately equal length and equal-angle segments or pieces.

(d) **Irrigation Pipe** - In irrigation pipe installations where Type D coating is not shown or specified, the Contractor is allowed to furnish pipe with Type D coating.

If pipes are not furnished with Type D coating, ensure all riveted seams meet the applicable provisions of 02420.10(e)(1).

Use connecting bands according to AASHTO M 196 (ASTM B745) and the details shown, and make the field joints watertight for pipe installations used in irrigation.

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(e) Siphon Pipe - Fabricate corrugated aluminum alloy pipe used in siphons with watertight seams.

Provide field joints with circumferential and longitudinal strength to preserve the pipe alignment, prevent separation of pipe sections and provide a watertight joint. Fabricate the connecting bands from aluminum alloy according to AASHTO M 196 (ASTM B745). Attach the connecting bands so they lap a nearly equal portion of each pipe section to be connected.

(f) Sloped or Skewed Ends - If the ends of pipe culverts require sloped ends, skewed ends or both, fabricate the ends in a manner that provides good workmanship and a smooth finish. Repair bituminous protective coatings and linings when specified.

02420.50 Corrugated Aluminum Alloy Pipe for Underdrains - Replace this subsection, except for the subsection number and title, with the following:

Furnish corrugated aluminum alloy pipe for underdrains according to the requirements of AASHTO M 196 (ASTM B745) Type III, except as follows:

(a) Special Sections - The provisions of 02420.40(c) apply.

(b) Connecting Bands - Furnish connecting bands for field joints meeting the requirements of AASHTO M 196 (ASTM B745) and the details shown.

02420.60 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of pipes, underdrains, and protective coatings is according to 00165.35 and this Section.

SECTION 02440 – JOINT MATERIALS

Comply with Section 02440 of the Standard Specifications modified as follows:

02440.10 Preformed Joint Fillers for Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish preformed joint fillers for concrete from the QPL according to the requirements of AASHTO M 153 or AASHTO M 213.

02440.15 Lubricant/Adhesive - Replace this subsection, except for the subsection number and title, with the following:

Furnish a lubricant/adhesive according to ASTM D4070 and according to the recommendations of the seal manufacturer.

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02440.20 Strip Seals - Replace this subsection, except for the subsection number and title, with the following:

Furnish strip seals from the QPL and according to ASTM D5973.

02440.22 Preformed Compression Joint Seal - Replace this subsection, except for the subsection number and title, with the following:

Furnish preformed compression joint seals from the QPL and according to the requirements of AASHTO M 297.

02440.40(a) Preformed Flexible Joint Sealant - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials for tongue and groove or key lock manhole joints according to the requirements of ASTM C990.

02440.40(b) Rubber Gaskets - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials for O-ring manhole and concrete pipe joints according to ASTM C443.

02440.50 Joint Materials for Concrete Precast Manhole Section Joints - Replace this subsection, except for the subsection number and title, with the following:

(a) Mortar - Furnish mortar according to the requirements of ASTM C387, or proportioned one part Type II portland cement to two parts clean, well-graded Sand passing a No. 6 screen. Admixtures may be used not exceeding the following percentages by weight of cement:

Hydrated lime	10%
Diatomaceous earth or other inert materials	5%

Furnish mortar with the consistency such that it will readily adhere to the precast concrete if using the standard tongue-and-groove type joint.

(b) Non-Epoxy (Non-Shrink) Grout - Furnish a non-epoxy (non-shrink) grout according to 02080.20. Place or pack non-epoxy (non-shrink) grouts only with the use of a non-epoxy bonding agent according to 02070.20, applied to all cured concrete surfaces being grouted. Use a bonding agent compatible with the grout used.

02440.60 Plastic Compound for Precast Manhole Section Joints - Replace the bullet that begins "Is pliable at temperatures ..." with the following bullet:

- Is pliable at temperatures between 32 °F and 135 °F. Ensure a specimen at 77 °F and 1/2-inch square in Cross Section stretches at least 1 1/2 inches before rupture when tested with the apparatus described in ASTM D113.

02440.70(a) Plastic - Replace the paragraph that begins "Polyvinyl chloride water stop ..." with the following paragraph:

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Manufacture polyvinyl chloride water stop from virgin polyvinyl chloride (PVC) compound. Reclaimed PVC is not allowed. Furnish the water stop having the following properties:

02440.70(b) Rubber - Replace this subsection, except for the subsection number and title, with the following:

Furnish rubber water stops to the dimension shown and according to the requirements of ASTM C923, ASTM C1478, or ASTM F2510 as appropriate for the specific Structure and pipe types.

02440.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of joint Materials is according to 00165.35 and this Section.

SECTION 02450 – MANHOLE AND INLET MATERIALS

Replace Section 02450 of the Standard Specifications except for the Section number and title with the following:

Descriptions

02450.00 Scope - This Section includes the requirements for precast manhole sump sections, metal frames, covers, grates, and manhole steps.

Materials

02450.10 Precast Concrete Manhole Sections - Furnish precast risers, cones, and cover slabs for precast concrete manholes according to the requirements of AASHTO M 199 (ASTM C478).

02450.15 Precast Concrete Catch Basins and Inlets - Furnish precast concrete catch basins and inlet according to the requirements of ASTM C913.

02450.20 Precast Concrete Sump Sections - Furnish precast rings and lids for precast concrete sumps of portland cement concrete according to AASHTO M 199 (ASTM C478).

02450.30 Metal Frames, Covers, Grates, and Steps - Comply with the following:

Item	Projects on State Highways	
	AASHTO (ASTM) Designation	Grade
Manhole frames and covers	M 306	Class 35 B
Inlet frames and grates	M 306	Class 35 B
	M 227 (A663)	65
	M 270 (A709) (A36)	36

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M 103 (A27)

65 - 35

All Other Projects

Item	AASHTO (ASTM) Designation	Grade
Manhole frames and covers	M 105	Class 30 B
Inlet frames and grates	M 227 (A663)	65
	M 270 (A709) (A36)	36
	M 103 (A27)	65 - 35

Furnish steps for manholes that are steel-reinforced plastic according to AASHTO M 199 (ASTM C478) and AASHTO T 280 (ASTM C497). Use deformed reinforcing bar according to AASHTO M 31 (ASTM A615) Grade 60, No. 4 minimum. Use plastic material that is injection molded, with a textured, non-slip surface and a minimum thickness over the steel of 1/16 inch. Voids in the plastic are cause for rejection of the step.

Provide welding according to AWS D1.1. Furnish frames, covers and grates for use one with another with even and uniform bearings. Furnish miscellaneous metal items and hardware according to the appropriate requirements of Section 00560.

Galvanize inlet frames and grates that are fabricated out of steel according to the appropriate requirements of Section 02530.

02450.40 Damaged Zinc or Aluminum Coating - Repair damaged zinc or aluminum coating according to 02420.10(d).

02450.50 Acceptance - Acceptance of manholes and inlets is according to 00165.35 and this Section.

SECTION 02470 – POTABLE WATER PIPE MATERIALS

Replace Section 02470 of the Standard Specifications except for the Section number and title with the following:

Description

02470.00 Scope - This Section includes the requirements for ductile iron, steel, and polyvinyl chloride (PVC) pipe 16 inches in diameter and smaller, for potable water systems.

Materials

02470.10 General - Clearly mark all pipe with the type, class, thickness, and manufacturer's name, as applicable. Use lettering that is legible and permanent under normal conditions of handling and storage. Ensure all Materials in contact with potable water conform to ANSI/NSF Standard 61, Drinking Water System Components - Health Effects, or equivalent, and ANSI/NSF Standard 372, Drinking Water System Components - Lead Content.

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02470.20 Ductile Iron Pipe:

(a) General - Use centrifugally cast ductile iron pipe meeting the requirements of AWWA C151. Furnish ductile iron pipe having a cement-mortar lining and seal coating meeting the requirements of AWWA C104. Furnish Special Thickness Class 53 ductile iron pipe where joined using bolted flanged joints. Furnish Special Thickness Class 50 for all other ductile iron pipe, unless otherwise shown or specified.

(b) Nonrestrained Joints - Furnish nonrestrained joints that are rubber gasket, push-on type, or mechanical type meeting the requirements of AWWA C111.

(c) Restrained Joints - Furnish restrained joints according to 02475.50.

02470.31 High Density Polyethylene (HDPE) Pipe - Use HDPE pipe meeting the requirements of NSF/ANSI 61 and ANSI/AWWA C906, Standard Code Designation of PE4701, minimum cell classification PE 345464 C, D or E, and oxidative resistance classification CC3 according to ASTM D3350. Furnish all pipe with a minimum dimension ratio (DR) of 9 unless otherwise shown or specified. Furnish pipe that is iron pipe size (IPS) outside diameter or ductile iron pipe size (DIPS) outside diameter. Furnish pipe with color coding according to the APWA Uniform Color Code. Join pipe using thermal butt fusion method that meets the requirements of ASTM D3261.

02470.40 Polyvinyl Chloride (PVC) Pipe 4 Inches and Larger:

(a) PVC Pipe Smaller than 14-inch Diameter - Furnish PVC pipe 4 inches in diameter up to but not including 14 inches in diameter meeting the requirements of AWWA C900, have the same outside dimensions as ductile iron pipe, and having a minimum dimension ratio (DR) of 18 or as specified or indicated.

(b) Large Diameter PVC Pipe - Furnish PVC pipe 14 inches in diameter to 16 inches in diameter meeting the requirements of AWWA C905, having the same outside dimensions as ductile iron pipe, and having a minimum dimension ratio (DR) of 18 or as specified or indicated.

(c) Joints - Furnish joints meeting the requirements of ASTM D3139 using a restrained rubber gasket according to ASTM F477. Solvent-welded pipe joints are not allowed.

02470.45 Polyvinyl Chloride (PVC) Pipe Under 4 Inches - Furnish polyvinyl chloride (PVC) under 4 inches in diameter meeting the requirements of ASTM D2241. Furnish pipe Material that is PVC 1120, PVC 1220, or PVC 2120, and having a minimum wall thickness equal to or greater than a standard dimension ratio (SDR) of 21, or as specified or indicated. Furnish joints meeting the requirements of ASTM D3139 using a restrained rubber gasket meeting the requirements of ASTM F477. Solvent welded pipe joints will only be allowed when specified or indicated.

02470.50 Polyethylene Encasement - Ensure polyethylene encasement conforms to AWWA C105.

02470.60 Marking Tape and Wire:

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(a) Marking Tape - Furnish marking tape consisting of inert polyethylene plastic impervious to all known alkalis, acids, chemical reagents and solvents likely to be encountered in the Soil. Furnish tape width as recommended by the manufacturer for the depth of installation. Furnish blue tape that is imprinted continuously over its entire length in permanent black ink with the words "Caution - Water".

(b) Detectable Marking Wire - Furnish detectable marking wire with blue colored insulation and according to 00445.11. Furnish splice kits according to 00445.48.

02470.70 Acceptance - Ductile iron, HDPE, and PVC pipe is accepted according to 00165.35 and this Section.

SECTION 02475 – POTABLE WATER FITTING MATERIALS

Replace Section 02475 of the Standard Specifications except for the Section number and title with the following:

Description

02475.00 Scope - This Section includes the requirements for fittings, restrained joints, and couplings for ductile iron pipe, high density polyethylene (HDPE) pipe, and polyvinyl chloride (PVC) pipe for potable water systems.

Materials

02475.10 General - Furnish bolts, nuts and washers used for securing fittings that are of similar Materials. For steel bolts meet the requirements of ASTM A307 for carbon steel, or ASTM F593 for stainless steel. For nuts meet the requirements of ASTM A563 for carbon steel and ASTM F594 for stainless steel. For iron bolts and nuts meet the requirements of ASTM A536, grade 65-45-12. Galvanize carbon steel bolts, nuts and washers according to 02560.40.

For all Materials in contact with potable water, meet the requirements of ANSI/NSF Standard 61, Drinking Water System Components - Health Effects or equivalent, and ANSI/NSF Standard 372, Drinking Water System Components - Lead Content.

02475.20 Ductile Iron Pipe Fittings - Furnish ductile iron pipe fittings meeting the requirements of AWWA C110 or AWWA C153, and having a minimum working pressure rating of 250 psi. Meet the requirements of AWWA C111 for joints. Furnish cement mortar lined and seal coated fittings, meeting the requirements of AWWA C104. Furnish gaskets for ductile iron flanged joints that are composed of synthetic rubber, full faced, 1/8-inch thick, and conform to ANSI/AWWA C111/A21.11. Ring gaskets are permitted only where specified or shown. Furnish bolts and nuts with an identification mark indicating the manufacturer, type and material.

02475.31 High Density Polyethylene (HDPE) Pipe Fittings - Use HDPE pipe fittings meeting the requirements of ANSI/AWWA C906, Standard Code Designation of PE3408.

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Furnish all pipe fittings with a minimum dimension ratio (DR) of 17. Join pipe and fittings using a thermal butt fusion method that meets the requirements of ASTM D3261. Furnish fittings that are of the same class as the HDPE pipe.

02475.40 Fittings for Polyvinyl Chloride Pipe 4 Inches and Larger - Furnish fittings for PVC pipe 4 inches in diameter and larger that are the same as specified for ductile iron pipe.

02475.45 Fittings for Polyvinyl Chloride Pipe Under 4 Inches - Meet the requirements of ASTM D2466 for PVC pipe fittings under 4 inches in diameter.

02475.50 Restrained Joints - Restrain pipe, fittings, and valves by using an approved bolted or boltless system. Design the restraint system to operate at a working pressure that is greater than the hydrostatic test pressure identified in 01140.51(a), unless otherwise shown. No device utilizing round point set screws is allowed. Furnish restraint systems for pipe bells certified for use by the pipe manufacturer.

02475.60 Bolted, Sleeve-Type Couplings for Plain-End Pipe - Meet the requirements of AWWA C219 for bolted, sleeve type couplings, reducing or transition couplings, and flanged coupling adapters used to join plain end pipe. Furnish ductile iron buried couplings for connecting ductile iron, gray cast iron, or PVC pipe.

02475.70 Acceptance - Acceptance of fittings, restrained joints and couplings are according to 00165.35 and this Section.

SECTION 02480 – POTABLE WATER VALVE MATERIALS

Replace Section 02480 of the Standard Specifications except for the Section number and title with the following:

Description

02480.00 Scope - This Section includes the requirements for gate valves, butterfly valves, valve boxes, valve stem extensions, tapping sleeve and valve assemblies, check valves, combination air release/air vacuum valves, and backflow prevention devices for potable water systems.

Materials

02480.10 General - Furnish valves with operating nuts or hand wheels as specified or shown. Furnish a standard 2-inch operating nut. Ensure all Materials in contact with potable water conform to ANSI/NSF Standard 61, Drinking Water System Components - Health Effects, or equivalent. When indicated, coat all interior and exterior ferrous surfaces of valves with a protective epoxy coating meeting the requirements of AWWA C550.

02480.20 Gate Valves:

(a) Minimum Pressure - Furnish gate valves that meet the requirements of AWWA C500, AWWA C509, or AWWA C515. The minimum design working pressure is

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200 psi for pipe 2 inches to 12 inches in diameter, and 150 psi for pipe 14 inches to 16 inches in diameter.

(b) Arrangement - For 16-inch diameter pipe, arrange gate valves for operation with gear case in the horizontal position. Equip valves with bypasses and gate valves of the sizes adopted in the AWWA Standards. Equip bypass gate valves with standard 2-inch operating nuts.

(c) Valves - Furnish gate valves that are resilient seat, non-rising stem type, open counterclockwise, and are equipped with an O-ring stuffing box.

02480.22 Butterfly Valves:

(a) Seats and Seals - Furnish butterfly valves that are rubber seated and meet the requirements of AWWA C504, Class 150B. Furnish shaft seals that are standard O-ring seals, designed for replacement under line pressure.

(b) Valve Operators - Furnish valve operators of the traveling nut or worm gear type and that are sealed, gasketed, and permanently lubricated for buried service. Construct valve operators to the standard of the valve manufacturer to withstand all anticipated operating torques, and design to resist submergence in groundwater.

(c) Valves - Furnish butterfly valves that are resilient seat, open counterclockwise, and are equipped with an O ring stuffing box.

02480.25 Valve Boxes - Install valve boxes on all buried valves. Furnish boxes that are cast iron, two-piece, slip type standard design, with a base corresponding to the size of the valve. Cast the word "WATER" in the cover.

02480.26 Valve Stem Extensions - Furnish a valve stem extension on valves with an operating nut more than 3 feet below grade to raise the operating nut to within 3 feet of the ground surface. Ensure valve stem extensions have a 2-inch square operating nut and self-centering rockplate support.

02480.30 Tapping Sleeve and Valve Assemblies:

(a) Valve Assemblies - Furnish tapping valves with flanged inlet end connections with the outlet ends conforming to dimensions in the AWWA Standards for mechanical joint connections or flange connections, except that the outside of the end connection has a large flange for attaching a drilling machine. Ensure the seat opening of the valve permits a diameter cut no less than 1/2 inch smaller than the valve size. Valves specifically designed for tapping meeting the requirements of AWWA C500, and valves meeting the requirements of AWWA C509, are allowed. Furnish tapping valves of the same type as other valves on the Project.

(b) Sleeves - Furnish tapping sleeves that are cast iron, ductile iron, stainless steel, epoxy coated steel or other approved Material.

02480.40 Check Valves - Furnish check valves meeting the following:

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(a) Swing Check Valve - Furnish swing check valves meeting the requirements of AWWA C508, with rubber seat materials mating with metal seating surfaces. Furnish valves with a design working pressure of 175 psi for check valves with diameters of 12 inches and smaller, and 150 psi for check valves with diameters of 14 inches and 16 inches. Furnish non-assisted check valves unless otherwise indicated.

(b) Spring-Loaded Plug or Disc Check Valves - Furnish spring-loaded plug or disc check valves that are bronze mounted with bronze, cast or ductile iron body, bronze plug or disc, stainless steel spring, and resilient seating suitable for potable water service. Furnish drop-tight sealing valves and plugs or discs that are easily replaceable. The minimum design working pressure of the valves is 150 psi.

02480.60 Combination Air Release/Air Vacuum Valves - Furnish combination air release/air vacuum valves that meet the requirements of AWWA C512. The minimum design working pressure of the valve body is 300 psi. Furnish a cast iron body and cover according to ASTM A48, Class 30. Furnish stainless steel floats according to ASTM A240 and designed to withstand 1,000 psi. Furnish Buna-N rubber seats. Furnish internal parts that are stainless steel or bronze.

02480.70 Backflow Prevention Devices - Furnish backflow prevention devices that are capable of withstanding a minimum design working pressure of 150 psi, and meet the following:

(a) Reduced Pressure Backflow Prevention Assembly - Furnish reduced pressure backflow prevention assemblies consisting of a mechanical, independently operating, hydraulically dependent relief valve located between two independently operating, spring loaded check valves that are located between two tightly closing resilient seated shutoff valves, with four resilient seated test cocks, all meeting the requirements of AWWA C511 and the Oregon State Health Division.

(b) Double Detector Check Valve Backflow Prevention Assembly - Furnish double detector check valve backflow prevention assemblies consisting of two spring loaded, independently operating check valves, located between two tightly closing resilient seated shutoff valves, with four resilient seated test cocks, all meeting the requirements of AWWA C510 and the Oregon State Health Division.

02480.80 Acceptance - Valves and appurtenances are accepted according to 00165.35 and this Section.

SECTION 02510 - REINFORCEMENT

Replace Section 02510 of the Standard Specifications except for the Section number and title with the following:

Description

02510.00 Scope - This Section includes the requirements for bars, dowels, and strand reinforcement and tendon ducts.

Materials

02510.10 Deformed Bar Reinforcement - Furnish deformed bar reinforcement from the QPL and according to the requirements of ASTM A706, AASHTO M 31 (ASTM A615), AASHTO M 334, or ASTM A1035. Unless otherwise specified or shown, furnish Grade 60 reinforcing bars.

02510.11 Epoxy Coated Reinforcement:

(a) Plant Certification - Apply epoxy coating in a coating plant certified by the Concrete Reinforcing Steel Institute (CRSI).

(b) Handling - Provide systems for handling coated bars having padded contact areas for the bars wherever feasible. Pad all bundling bands. Lift all bundles with strong-backs, multiple supports, or platform bridges so as to prevent bar-to-bar abrasion from sags in the bar bundle.

02510.20 Mechanical Splices - Furnish mechanical splices from the QPL. Where bars of different sizes or strengths are connected, the strength of the smaller or weaker bar governs. Measure the total slip displacement after loading in tension to 30.0 ksi and relaxing to 3.0 ksi. The maximum allowed displacement for bars up to No. 14 is 0.01 inches. and is 0.03 inches for No. 18 bar.

- **Type 1 Mechanical Splices** - Furnish Type 1 Mechanical Splices that develop at least 125 percent of the specified minimum yield strength of the reinforcing bars. Type 1 Mechanical Splices are not allowed for column bars.
- **Type 2 Mechanical Splices** - Furnish Type 2 Mechanical Splices that develop at least 125 percent of the specified minimum yield strength of the reinforcing bars and 100 percent of the specified tensile strength of the reinforcing bars.

02510.25 Headed Bar Reinforcement - Furnish Class HA headed steel bar from the QPL for concrete reinforcement. Ensure the headed steel bar develops the specified minimum tensile strength of the reinforcing bars, according to ASTM A970. Ferrous-filler coupling sleeves and welded headed steel bars are not allowed for concrete reinforcement.

02510.30 Galvanized Reinforcement:

(a) General - Furnish galvanized reinforcement meeting the requirements of ASTM A767, Class II, including Supplementary Requirement S3, and ASTM A143.

(b) Fabrication - The bars may be fabricated before or after galvanizing. If the bars are fabricated after galvanizing, Supplementary Requirements S1 and S2 of ASTM A767 apply.

(c) Handling - Handle galvanized bars according to 02510.11(c).

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02510.40 Welded Wire Reinforcement - Furnish welded wire reinforcement and deformed welded wire reinforcement meeting the requirements of ASTM A1064.

02510.50 Dowels - Furnish dowels meeting to the requirements of AASHTO M 31 (ASTM A615), for Grades 40 and 60, or AASHTO M 227 (ASTM A663) for Grades 70, 75, and 80.

02510.60 Ties and Supports - Furnish tie wire and supports according to CRSI Manual of Standard Practice.

(a) Coated Reinforcement Ties and Supports - Furnish nonmetallic coated ties and supports for coated reinforcement, including ties for coated-to-uncoated reinforcement connections.

(b) Uncoated Reinforcement Ties and Supports - Tie all mats of galvanized steel bars with galvanized ties. Furnish precast concrete blocks with galvanized ties that support galvanized reinforcement.

02510.70 Acceptance - Acceptance of reinforcement is according to 00165.35 and this Section.

SECTION 02515 – PRESTRESSING REINFORCEMENT

Replace Section 02515 of the Standard Specifications except for the Section number and title with the following:

Description

02515.00 Scope - This Section includes the requirements for seven-wire strand, high tensile strength wire, high tensile strength steel alloy bars, tendon duct and couplings.

Materials

02515.10 Seven-Wire Strand - Furnish seven-wire strand (bright wire) meeting the requirements of AASHTO M 203 (ASTM A416), Grade 270, supplement 1 (low relaxation strand), minimum ultimate strength, 270,000 psi.

02515.20 Wire, High Tensile Strength - Furnish high tensile strength wire meeting the requirements of AASHTO M 204 (ASTM A421).

02515.30 Bars, High Tensile Strength - Furnish high strength steel bars meeting the requirements of AASHTO M 275 (ASTM A722).

02515.40 Seven-Wire Strand Epoxy Coated Reinforcement - Furnish epoxy coated reinforcement meeting the requirements of ASTM A882.

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02515.50 Tendon Duct - Furnish rigid galvanized steel ducts meeting the requirements of ASTM A653 with a coating weight of G90 for post-tensioned Structures. Transition couplings connecting rigid ducts in anchoring devices need not be galvanized.

Rigid ducts may be fabricated with either welded or interlocking seams. Galvanizing of the welded seam is not required. Furnish ducts with sufficient strength to maintain their correct alignment during placing of concrete and resist denting during construction.

The minimum wall thickness of ducts is 26 gauge for 2 5/8-inch diameter and smaller ducts, and 24 gauge for ducts that are larger than 2 5/8-inch diameter.

02515.60 Couplings - Furnish couplings that develop at least 95 percent of the minimum specified ultimate strength of the prestressing steel without exceeding anticipated set. Ensure the coupling of tendons does not reduce the elongation at rupture below the requirements of the tendon itself.

02515.70 Shipping Protection - Package prestressing steel to protect the steel against physical damage and corrosion. Place a corrosion inhibitor that prevents rust or other results of corrosion in the package, or use a corrosion inhibitor type packaging material, or when allowed, apply directly to the steel. Provide a corrosion inhibitor that has no deleterious effect on the steel or concrete or bond strength of steel to concrete. Immediately replace or restore damaged packaging.

Mark the shipping package with the type of corrosion inhibitor used, and the date packaged.

02515.80 Acceptance - Acceptance of pre-stressing reinforcement is according to 00165.35 and this Section.

SECTION 02530 – STRUCTURAL STEEL

Comply with Section 02530 of the Standard Specifications modified as follows:

02530.10 Structural Steel for Bridges - Replace the paragraph that begins “Structural steel for Bridges...” with the following:

Furnish structural steel for Bridges meeting the following, as shown or specified:

02530.20 Structural Steel for Non-Bridge Structures - Replace the paragraph that begins “Structural steel for metal...” with the following:

Structural steel for metal sign Structures and other non-Bridge Structures meeting the following, or as shown or specified:

Replace the paragraph that begins “Notch toughness...” with the following:

Ensure notch toughness of all structural steel members and plates greater than 1/2 inch thick in load carrying members of sign Bridges and cantilever sign supports meets Zone 2 requirements of AASHTO M 270.

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02530.50 Universal Mill Plate - Replace the paragraph that begins "Universal mill plate..." with the following:

Universal mill plate is not allowed.

02530.70 Galvanizing - Replace this subsection, except for the subsection number and title, with the following:

Hot-dip galvanize according to the following, as applicable:

- AASHTO M 111 (ASTM A123)
- AASHTO M 232 (ASTM A153)

Furnish steel that is finished by hot-dip galvanizing for use as sign bridges, illumination poles, traffic signal poles, sign supports, bridge rail and items designated on the Plans as "Galvanize - Control Silicon" having controlled silicon content of either 0 - 0.06 percent or 0.13 percent - 0.25 percent. Before galvanizing, submit mill test certificates verifying silicon content to the Engineer and the galvanizer.

02530.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of structural steel is according to 00165.35 and this Section.

SECTION 02540 – FORGINGS, SHAFTING, CASTINGS, and NONFERROUS MATERIALS

Replace Section 02540 of the Standard Specifications except for the Section number and title with the following:

Description

02540.00 Scope - This Section includes the requirements for forgings, shafting, castings, and nonferrous materials except those used in potable water systems. For potable water system requirements, see Sections 02470, 02475, 02480, and 02490.

Materials

02540.10 Steel Forgings - Furnish steel forgings meeting the following:

Carbon steel forgings AASHTO M 102 (ASTM A668), Class C
Alloy steel forgings AASHTO M 102 (ASTM A668), Class G

02540.20 Steel Shafting - Furnish cold-finished steel shafting meeting the requirements of AASHTO M 169 (ASTM A108), Grades 1016 - 1030, inclusive.

02540.30 Steel Castings - Furnish steel castings meeting the following:

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Carbon steel castings..... AASHTO M 103 (ASTM A27), Grade 70-36
Alloy steel castings.....AASHTO M 163 (ASTM A743), Grade CA-15

Furnish castings true to pattern in form and dimensions, free from pouring faults, sponginess, cracks, blow holes and other defects in positions affecting their strength and value for the service intended. Allowance is made in dimensions for reasonable pattern draft.

Furnish castings boldly filleted at angles and the arises are sharp and perfect.

Sandblast castings or otherwise effectively clean of scale and sand to present a smooth, clean and uniform surface.

02540.40 Iron Castings - Furnish iron castings meeting the following:

- **Gray Iron Castings** - AASHTO M 306.
- **Ductile Iron Castings** - AASHTO M 306. In addition to the specified test coupons, for castings weighing over 1,000 pounds, test specimens from parts integral with the castings, such as risers.
- **Malleable Iron Castings** - ASTM A47, Grade 32510.

Finish iron castings according to 02540.30.

Clean iron castings according to 02540.30.

02540.50 Nonferrous Materials - Furnish nonferrous Materials meeting the following:

Bronze castings.....AASHTO M 107 (ASTM B22) Copper Alloy UNS No. C91100
Copper alloy plates.....AASHTO M 108 (ASTM B100) Copper Alloy UNS No. C51000

02540.60 Acceptance - Acceptance of forgings, shafting, castings, and nonferrous Materials is according to 00165.35 and this Section.

SECTION 02560 - FASTENERS

Comply with Section 02560 of the Standard Specifications modified as follows:

02560.05 Geometry - Replace this subsection, except for the subsection number and title, with the following:

Use a bolt or rod length such that the end of the bolt or rod extends beyond or is at least flush with the outer face of the nut when properly installed.

02560.10(a) Bolts - Replace this subsection, except for the subsection number and title, with the following:

Furnish carbon steel bolts meeting the requirements of ASTM A307, Grade A or B.

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02560.10(b) Nuts - Replace the paragraph that begins “Nuts for carbon steel bolts...” with the following:

Furnish nuts for carbon steel bolts meeting the requirements of the following, or equivalent:

02560.20(a) Bolts - Replace the paragraph that begins “High-strength bolts used in...” with the following:

Use Type 3 high-strength bolts in noncoated weathering steel connections. Furnish high-strength bolts meeting the requirements of the following:

02560.20(b) Nuts - Replace the paragraph that begins “Nuts for high-strength bolts...” with the following:

Furnish nuts for high-strength bolts meeting the following requirements, or equivalent:

02560.20(c) Washers - Replace this subsection, except for the subsection number and title, with the following:

Furnish washers for high-strength bolts meeting the requirements of ASTM F436. Use Type 3 washers with Type 3 bolts.

02560.20(d) Direct Tension Indicators - Replace this subsection, except for the subsection number and title, with the following:

Furnish direct tension indicators that are the compressible-washer type, mechanically galvanized, according to ASTM F959. Adjust bolt lengths to accommodate both direct tension indicators and hardened washers.

02560.20(e) Markings - Replace this subsection, except for the subsection number and title, with the following:

Mark all bolts, nuts, washers and direct tension indicators according to the appropriate AASHTO/ASTM specifications and with a symbol identifying the manufacturer.

02560.30(a) Steel Tie Rods, Anchor Bolts, and Anchor Rods - Replace this subsection, except for the subsection number and title, with the following:

Furnish steel tie rods, anchor bolts, and anchor rods meeting the requirements of AASHTO M 314, Grade 36 or 55; ASTM F1554, Grade 36 or 55.

02560.30(b) High-Strength Tie Rods, Anchor Bolts, and Anchor Rods - Replace this subsection, except for the subsection number and title, with the following:

Furnish high-strength tie rods, anchor bolts, and anchor rods meeting the requirements of AASHTO M 314, Grade 105; ASTM F1554, Grade 105; or ASTM A449, Type 1.

End stamp all ASTM F1554, Grade 105 according to ASTM F1554 Supplementary Requirements S2 and S3. If the end of the bolt is to be embedded in concrete, mark the projecting end from the concrete.

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02560.30(c) Nuts - Replace the paragraph that begins “Nuts for tie rods...” with the following:

Furnish nuts for tie rods, anchor bolts, and anchor rods meeting the following requirements, or equivalent:

02560.30(d) Washers - Replace this subsection, except for the subsection number and title, with the following:

Furnish washers for anchor bolts meeting the requirements of ASTM F436, Type 1.

02560.60(a) Rotational Capacity Test - Replace the paragraph that begins “Test each combination of bolt...” with the following:

Test each combination of bolt production lot, nut lot and washer lot as an assembly. Assign a rotational capacity lot number to each combination of lots tested. The minimum frequency of testing is two assemblies per rotational capacity lot. Test according to one of the following requirements:

02560.60(a)(1) Method 1 - Replace the paragraph that begins “the above measured torque...” with the following:

Do not allow the above measured torque to exceed the torque value calculated by the following equation:

Replace the paragraph that begins “Continue to tighten the nut until...” with the following:

Continue to tighten the nut until the nut has turned twice the rotation shown in Table 00560-3 of Section 00560 from its snug-tight position mark for bolt lengths up to 8D (for greater than 8D up to 12D bolt lengths tighten to 1 1/6 turn from snug-tight).

02560.60(a)(2) Method 2 - Replace this subsection, except for the subsection number and title, with the following:

Test bolts that are too short to be tested in a direct bolt tension indicating device in a steel joint.

Place the lubricated fastener including a washer in one or more flat structural steel plates. The total thickness including the washer is such that three to five full threads of the bolt are located between the bearing surfaces of the bolt head and the nut. Provide the hole in the joint at the same nominal diameter as the hole in the washer. Using a calibrated torque wrench, tighten the nut to a snug-tight condition to produce an initial torque in the bolt equal to approximately 10 percent of the torque calculated using the equation given in Method 1 above where P is the minimum tension in the bolt according to Table 00560-1 of Section 00560. Mark the nut's position relative to the fixed bolt for this snug tight position.

Using the calibrated torque wrench, further tighten the nut until the nut has turned the rotation shown in Table 00560-3 of Section 00560 from its snug-tight position mark. Prevent the bolt head from turning during the tightening process. Record the measured torque with the nut in motion. The measured torque is not to exceed 1.15 times the torque value calculated in the

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preceding step of Method 2. Reject assemblies with torque values exceeding the calculated value.

Tighten the nut further until the nut has turned twice the rotation shown in Table 00560-3 from its snug-tight position mark. Reject assemblies that fail this rotation either by stripping or fracture.

Loosen and remove the nut. Examine the threads on the nut and bolt. Reject assemblies showing evidence of thread shear failure, stripping or torsional failure of the bolt.

02560.60(b) Other Test Requirements - Replace the paragraph that begins "Provide three high-strength bolt ..." with the following:

Furnish three high-strength bolt assemblies per size per lot for check testing.

Replace the paragraph that begins "Provide one high-strength tie rod..." with the following:

Furnish one high-strength tie rod, one high-strength anchor bolt, and one high-strength anchor rod assembly per size per lot for check testing.

02560.70 Lubricating Fasteners - Replace the paragraph that begins "Furnish all galvanized and coated..." with the following:

Furnish all galvanized and coated fasteners with a factory applied commercial water-soluble wax that contains a visible dye of a color that contrasts with the color of galvanizing or coating. Furnish black fasteners that are "oily" to the touch when installed.

02560.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of fasteners are according to 00165.35 and this Section.

SECTION 02630 – BASE AGGREGATE

Comply with Section 02630 of the Standard Specifications modified as follows:

02630.10(a) Grading - Replace the paragraph that begins "Dense-graded base Aggregate..." with the following paragraph:

Furnish dense-graded base Aggregate consisting of crushed Rock, including Sand. Uniformly grade the Aggregates from coarse to fine. Perform sieve analysis according to AASHTO T 27. Furnish Aggregates according to one of the grading requirements of Table 02630-1 as identified in the Special Provisions or indicated by the Pay Items in the Contract Schedule of Items.

Replace the paragraph that begins "² Of the fraction passing the..." with the following paragraph:

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² Of the fraction passing the 1/4-inch sieve, 40 percent to 60 percent is required to pass the No. 10 sieve

02630.10(b) Fracture of Rounded Rock - Replace the paragraph that begins "Fracture of rounded Rock..." with the following paragraph:

Determine fracture of rounded Rock according to AASHTO T 335. Provide at least one fractured face based on the following percentage of particles retained on the 1/4-inch sieve for the designated size:

02630.10(c) Durability - Replace the paragraph that begins "Dense-graded Aggregate ..." with the following paragraph:

Furnish dense-graded Aggregate meeting the following durability requirements:

02630.10(d) Sand Equivalent - Replace the paragraph that begins "Dense-graded Aggregate ..." with the following paragraph:

Test dense-graded Aggregate according to AASHTO T 176 and ensure a Sand equivalent of not less than 30.

02630.11(a) Grading – Replace this subsection, except for the subsection number and title, with the following:

Furnish open-graded Aggregate meeting the following grading requirements:

Table 02630-2
Aggregate Gradation for Open-Graded Aggregate

Sieve Size	Percent Passing (by Weight)
1"	100
3/4"	80 - 98
1/2"	60 - 85
3/8"	30 - 45
No. 100	0 - 6 (Dry Sieve)

02630.11(b) Fracture of Rounded Rock - Replace this subsection, except for the subsection number and title, with the following:

Determine fracture of rounded Rock according to AASHTO T 335. Provide Open-graded Aggregate meeting the following fracture requirements:

Percentage of Fracture (by Weight)

Material Retained on 3/4", 1/2", and 1/4" Sieves (two fractured faces) 90

SECTION 02690 – PCC AGGREGATES

Comply with Section 02690 of the Standard Specifications modified as follows:

02690.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish PCC Aggregates consisting of natural or crushed Rock that is hard, strong, durable and free from adherent Coatings or other Detrimental Materials.

Produce, handle and store the Aggregates in a way that will maintain passing material properties and avoid introducing deleterious materials or segregation prior to its use in portland cement concrete.

02690.11 Alternate Grading - Replace this subsection, except for the subsection number and title, with the following:

The Contractor may request approval to produce Coarse and Fine Aggregates in sizes other than those stated in 02690.20 and 02690.30. Submit the request in writing and state the proposed target value and specified tolerances for each of the individual sieve sizes of the materials the Contractor proposes to produce.

02690.12 Acceptance of Aggregate - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of Aggregate is according to Section 00165 and based on the Contractor's quality control testing, if verified, according to Section 00165.

(a) Aggregate Gradation - A stockpile contains specification Aggregate gradation when the quality level for each sieve size calculated according to 00165.40 is equal to or greater than the quality level in Table 00165-2 for a PF of 1.00. Each required sample represents a subplot. When the quality level in Table 00165-2 yields a PF of less than 1.00 for any constituent, the material is non-specification.

(b) Non-specification Aggregate Gradation - Stockpiled Aggregates that contain non specification Aggregate gradation is rejected by the Engineer unless non specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non specification material is removed so that the quality level for each constituent is equal to or greater than the quality level in Table 00165-2 for a 1.00 PF.

Reprocessing of non-conforming material and the testing required for acceptance is at no additional cost to the Agency. Acceptance of reprocessed material is based on passing test results or accepted visually by the Engineer.

02690.20 Coarse Aggregate - Replace this subsection, except for the subsection number and title, with the following:

(a) Harmful Substances - Do not exceed the following harmful substances limits:

OR99: Rogue River Bridge, Gold Hill Spur Project

Test	Test Method		Percent (by Weight)
	ODOT	AASHTO	
Lightweight Pieces	–	T 113	1.0
Material passing No. 200 sieve	–	T 27 / T 11	1.0
Wood Particles	TM 225	–	0.05

(b) Soundness - Test Coarse Aggregates for concrete for soundness using sodium sulfate salt, according to AASHTO T 104. Do not exceed the weighted percentage loss of 12 percent by weight.

(c) Durability - Furnish Coarse Aggregates meeting the following durability requirements:

Test	Test Method		Requirements
	ODOT	AASHTO	
Abrasion	–	T 96	30.0% Max.
Oregon Air Aggregate Degradation:			
Passing No. 20 sieve	TM 208	–	30.0% Max.
Sediment Height	TM 208	–	3.0" Max.

(d) PCC Paving Aggregate - In addition to requirements above, comply with the following:

(1) Fracture - Furnish Aggregate with at least two fractured faces on at least 50 percent of the particles retained on the 3/8-inch, 1/2-inch, 3/4-inch, 1-inch, and 1 1/2-inch sieves, as determined by AASHTO T 335.

(2) Elongated Pieces - Furnish Aggregate with elongated pieces not exceeding 10 percent by weight of the material retained on the No. 4 sieve when tested according to ODOT TM 229 with the proportional caliper device set at a ratio of 5:1.

(e) Grading and Separation by Sizes - Sample according to AASHTO R 90. Perform sieve analysis according to AASHTO T 27 and AASHTO T 11. Furnish Aggregates meeting the gradation requirements of Table 02690-1 for structural concrete. Provide a CAgT to perform sampling and testing when required.

SECTION 02810 – BRIDGE RAIL

Replace Section 02810 of the Standard Specifications except for the Section number and title with the following:

Description

02810.00 Scope - This Section includes the requirements for the steel in railings for Bridges.

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Materials

02810.10 Shapes, Plates, and Bars - Furnish shapes, plates and bars meeting the following, or as shown or specified:

- ASTM A36
- ASTM A572 Grade 50
- ASTM F1554 Grade 105

Provide the silicon content of all exposed shapes, plates and bars that are called out on drawings as "Galvanize - Control Silicon", according to 02530.70.

02810.15 Anchor Adhesive - Use one of the following epoxy adhesives from the QPL:

- Hilti HIT-HY200-A
- Hilti HIT-RE 500v3, Red Head C6+
- Ultrabond HS-1CC

02810.20 Structural Steel Tubing - Furnish structural steel rail members complying with ASTM A500, Grade B, or ASTM A501. Steel meeting the requirements of ASTM A513 or ASTM A618 may be substituted for ASTM A500 tubing subject to the following limitations:

- Provide chemical and tensile properties test results.
- Provide silicon content according to 02530.70.
- Strength and elongation requirements of ASTM A513 tubing meets the requirements of ASTM A500 tubing.

02810.30 Steel Pipe - Furnish metal parapet rail members that are standard steel pipe complying with ASTM A53, Grade B or ASTM A500, Grade B.

02810.40 Cast Steel Posts - Furnish cast steel posts that are carbon steel castings complying with AASHTO M 103 (ASTM A27), Grade 65-35.

02810.50 Metal Thrie Beam Rail - Galvanize steel thrie beam rail according to AASHTO M 180, Class A rail, Type II coating after fabrication and subject to the single spot test. Backup plates are accepted with ungalvanized edges and bolt holes, provided these areas are field-coated with an approved galvanizing substitute according to 02530.71. Provide metal posts and hardware meeting the requirements of 02820.20 and 02820.30.

02810.60 Incidentals - Furnish plates, caps and miscellaneous pieces necessary to complete the rail as shown or specified.

02810.70 Acceptance - Bridge rail Materials are accepted according to 00165.35 and this Section.

SECTION 02820 – METAL GUARDRAIL

Replace this Section except for the Section number and title with the following:

Description

02820.00 Scope - This Section includes the requirements for forming galvanized steel sheets into metal beam rail, and the manufacture of guardrail hardware.

Materials

02820.10 Metal Beam Rail - Form metal beam rail from galvanized steel. Furnish galvanized steel beam rail meeting the requirements of AASHTO M 180, Class A. Furnish zinc coating meeting the requirements of AASHTO M 180, Type II, applied after fabrication and subject to the single spot test. Backup plates are accepted with ungalvanized edges and bolt holes, provided these areas are field coated with an approved galvanizing substitute.

02820.20 Metal Guardrail and Median Barrier Posts - Furnish metal posts that are structural steel meeting the requirements of ASTM A36 and galvanized according to AASHTO M 111 (ASTM A123).

02820.30 Guardrail Hardware - Furnish all bolts, nuts, washers and other fittings for beam type guardrail that are galvanized steel meeting the requirements of AASHTO M 180.

Furnish all bolts, nuts, and washers as detailed, with nuts tapped oversize not to exceed 1/32 inch.

02820.40 Guardrail Anchor Hardware - Furnish cable and fittings for guardrail anchors according to the requirements of AASHTO M 30, Class A, for Type II cable. Galvanize all fittings according to AASHTO M 111 (ASTM A123).

For steel anchors, furnish steel tubing meeting the requirements of ASTM A500, Grade B, ASTM A501 or ASTM A618. Furnish a Soil plate meeting the requirements of ASTM A36. After fabrication galvanize tubing and plate according to AASHTO M 111 (ASTM A123).

02820.50 Acceptance of Materials - Acceptance of metal guardrail Materials is according to Section 00165.35.

SECTION 02910 - SIGN MATERIALS

Comply with Section 02910 of the Standard Specifications modified as follows:

02910.10 Aluminum - Replace the paragraph that begins "The aluminum Materials shall..." with the following paragraph:

Furnish new aluminum Materials meeting the following requirements:

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Replace the paragraph that begins "Aluminum to be color coated shall..." with the following paragraph:

Furnish aluminum to be color coated consisting of an alloy that is compatible with the coating and the application process. Furnish color-coated aluminum having a temper that, after coating and aging, provides an ultimate strength of 30,000 psi and a yield strength of 25,000 psi.

Replace the paragraph that begins "Fabricate sheet aluminum signs ..." with the following paragraph:

Fabricate sheet aluminum signs from aluminum alloy 6061-T6, 5052-H38, 5154-H38, or approved equal. Give a chromate treatment according to ASTM B449, Class 2 or a titanium-based coating according to ASTM B921. Provide certified test reports for all heats of aluminum products furnished to the Agency. Furnish signs with a thickness shown in Table 02910-1 unless otherwise indicated.

02910.11 Plywood - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Construct all plywood signs for permanent signing from 3/4-inch high-density overlay plywood. Construct plywood signs for temporary signs from either 3/4-inch high-density overlay plywood or 3/4-inch medium-density overlay plywood. Furnish Douglas fir plywood, Grade B-B exterior or better, according to *Product Standard PS-1 for Douglas Fir Plywood* published by the U. S. Department of Commerce.

(b) Overlay - Furnish black or buff high-density and medium-density overlay unless otherwise shown or specified. Furnish high-density and medium-density overlays that meet the *Product Standard PS-1 for Douglas Fir Plywood*.

(c) Plywood Sealer - Fill all voids in top or sides of panel with caulking compound after cutting plywood to size. Apply an approved plywood edge sealer tinted to match the color of the panel overlay material. Use a medium oil alkyd primer sealer.

02910.20 Retroreflective Sheeting - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Use retroreflective sheeting from the QPL and the following:

(1) Perforation - If required for application, the sheeting may be pre-perforated with holes not greater than 0.02 inch in diameter. Perforate the holes approximately 0.4 inch apart in rows approximately 1.5 inches apart.

(2) Surface - Furnish sheeting and adhesive compatible with non-reflective permanent cut-out legend.

(b) Acceptance - Provide a quality compliance certification according to 00165.35, certifying that the reflective sheeting furnished meets the above requirements.

02910.21 Nonreflective Sheeting for Sign Background: Replace this subsection, except for the subsection number and title, with the following:

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(a) General - Furnish nonreflective sheeting that is durable, weather resistant, gloss plastic film, and has a protected, precoated adhesive backing.

(b) Color - Use color for the nonreflective sheeting according to 00940.10. Submit for testing a 4-inch by 4-inch sample of the background color for each color of nonreflective sheeting shown.

(c) Adhesive - Adhere the nonreflective sheeting by a mildew and vandal resistant precoated adhesive that has no staining effect on the sheeting.

(d) Film:

(1) General - Furnish nonreflective sheeting that is flexible and easily cut to shape. The minimum tensile strength of the sheeting is 5 pounds per inch width.

(2) Surface - Clean according to the manufacturer's recommendations. Furnish a smooth and flat sheeting surface that:

- Facilitates cleaning and wet performance.
- Is readily processed.
- Is compatible with recommended transparent and opaque process inks.
- Permits cutting and color processing at minimum temperatures of 60 °F.
- Is heat resistant and permits force curing of applied sheeting at temperatures up to 150 °F.
- Is solvent resistant.

(e) Durability - For non-reflective sheeting for a sign background, process and apply according to the manufacturer's recommendations. Furnish weather resistant Material that shows no discoloration, cracking, crazing, blistering or dimensional change following cleaning.

Furnish a sheeting surface capable of being readily refurbished when cleaned and clear over-coated according to the manufacturer's recommendations.

(f) Acceptance - Provide a quality compliance certificate according to 00165.35, certifying that the nonreflective sheeting furnished meets all the above requirements.

Add the following subsection:

02910.23 Digital Printing -

(a) Digitally Printed Ink Systems - Provide digitally printed ink systems from the QPL that meet the following requirements:

- Produce traffic signs using components, and processes that comply with the retroreflective sheeting manufacturer's recommendations.
- Meet and comply with daytime and nighttime chromaticity (color standards) as recognized in ASTM D4956 *Standard Specification for Retroreflective Sheeting for Traffic Control*.

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- Meet 70% for type XI standards of the initial retroreflectivity specifications of each respective reflective film color as found in ASTM D4956.

(b) Retroreflective Sheeting - Furnish retroreflective sheeting that:

- Consists of white or colored sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.
- Conform to all requirements of the current version of ASTM D4956. Designate the retroreflective sheeting as type XI ASTM D4956 classification.
- Has a Class 1 pressure-sensitive adhesive, as defined by ASTM D4956, protected by an easily removable liner. Fabricate finished traffic signs and traffic sign faces using retroreflective sheeting of Type XI ASTM D4956 classification.

(c) Protective Overlay Film – Fabricate permanent traffic signs printed with digital ink systems with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. Comply with the retroreflective sheeting manufacturer's recommendations for the overlamine to ensure proper adhesion and transparency. Meet the reflective film durability as identified in the warranty requirements.

02910.32 Retroreflective Removable Legend - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Furnish letters and numerals for all removable legend according to the design of the FHWA *Standard Rounded Capital Letter Alphabets*. Furnish letters and numerals for removable legend for all freeway and expressway signs according to the design of Series "E" modified from the FHWA *Standard Rounded Capital Letter Alphabets*.

Provide mounting holes within the frames to permit the use of the mounting hardware specified in the Specifications. Provide a sufficient number of mounting holes to ensure a firm attachment of the frames to the sign and meet the requirements of 00940.45(b). This requires a minimum of four mounting holes at each joint in the border.

(b) Retroreflective Sheeting Legend - Fabricate removable legend with sheeting according to 02910.20 that is permanently adhered to a flat aluminum frame.

Furnish letters, numerals, symbols and borders a minimum of 0.032-inch-thick aluminum according to ASTM B209, alloy 3003-H14. Degrease and etch the aluminum, or treat with a light, tight amorphous chromate type coating.

Apply the reflective sheeting to the prepared aluminum according to the sheeting manufacturer's recommendations.

Furnish letters, numerals, symbols and borders that are clean-cut and sharp, and have a nearly plane surface.

(c) Acceptance - Acceptance of retroreflective removable legend is based on a mill test certificate from the aluminum manufacturer attesting to the correct alloy, temper, and material thickness of the metal supplied. The Engineer may reject damaged or non-specification materials regardless of the test certification provided.

02910.33 Permanent Legends - Replace this subsection, except for the subsection number and title, with the following:

(a) General – Permanent legends consist of white retroreflective screened, red retroreflective screened, black screened or cut-out white retroreflective sheeting. Meet the design of the FHWA Standard Rounded Capital Letter Alphabets for the letters and numerals of all permanent legends.

(b) Retroreflective White Screened Legend - Use transparent paste materials for the reverse screening of retroreflective white legends and for the screening of retroreflective red legends according to the recommendations of the manufacturer of the reflective sheeting.

(c) Retroreflective Cut-out Legend - Use Material for retroreflective cut-out legend according to the requirements of 02910.20.

(d) Nonreflective Black Screened Legend - Furnish Material for nonreflective black screened legends that is compatible with the sign sheeting, as recommended by the sign sheeting manufacturer.

(e) Nonreflective Black Cut-out Legend - Use Material for nonreflective cut-out legend according to 02910.21.

(f) Digitally Printed Sign - Use processes and Materials for digitally printed signs according to the requirements of 02910.23.

02910.40 Hardware - Replace this subsection, except for the subsection number and title, with the following:

Furnish aluminum alloy, stainless steel, or hot-dip galvanized steel bolts, nuts, and washers to fabricate and erect signs. Furnish aluminum for bolts and nuts according to ASTM B211, alloys 2024-T4 or 6061-T6 as the Contractor elects. Furnish aluminum washers according to ASTM B209, alloy Alclad 2024-T4. Furnish stainless steel for bolts, nuts, and washers that are Type 304 or Type 316. Furnish galvanized steel bolts, nuts, and washers that are medium carbon steel. Galvanize steel hardware according to AASHTO M 232 (ASTM A153).

Use nylon washers supplied by the sheeting manufacturer as shown or directed.

Furnish mounting hardware of the design and type shown, or if not shown of such sizes and kinds as approved by the Engineer.

Furnish 1/8-inch diameter, 1/4-inch head diameter, domed head, aluminum alloy according to ASTM B316. Aluminum alloys 5052 and 5056 are acceptable alloys. Furnish anodized blind rivets that are the same color as the sign background that are used to attach sign panels to closure strips or wind beams.

02910.60(a) General - Replace this subsection, except for the subsection number and title, with the following:

Furnish electronically cuttable films consisting of durable, transparent, colored films coated with a transparent pressure sensitive adhesive protected by a removable liner. Furnish films

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designed to be cut on knife-over-roll (sprocket fed or friction fed) and flat bed electronic cutting machines. Furnish films available in standard traffic colors, be dimensionally stable, and be designed to optimally cut, weed, lift and transfer. Use electronically cuttable films from the QPL.

02910.75 Manufacturer Warranty - Replace the paragraph that begins "Furnish a manufacturer warranty ..." with the following paragraph:

Provide a manufacturer warranty that unconditionally warrants to the Agency the retroreflective sheeting products, sheeting with applied electronic cuttable film products, and installation under this Section against failure, according to this Subsection and 00170.85(c)(1). Use Agency-supplied warranty forms, available from the Engineer.

SECTION 03010 - FENCING MATERIALS

Replace Section 03010 of the Standard Specifications except for the Section number and title with the following:

Description

03010.00 Scope - This Section includes the requirements for barbed wire, woven wire fabric, chain link fabric, wildlife wire fabric, metal posts, braces, hardware, and gates.

Materials

03010.10 Barbed Wire - Furnish two-strand and either 12 1/2 gauge or 15 1/2 gauge barbed wire with four-point barbs spaced at 5-inch intervals according to the requirements of AASHTOM 280 (ASTM A121) with Class 3 galvanizing.

Install new or like new barbed wire on the Project and use the same diameter unless otherwise approved.

03010.20 Woven Wire Fabric - Furnish 12 1/2-gauge galvanized steel woven wire fabric according to the requirements of AASHTO M 279 (ASTM A116), Class 3 coating or 11 gauge or 12 1/2-gauge aluminum coated steel wire according to the applicable requirements of ASTM A116. Furnish 12 1/2-gauge aluminum coated steel wire having the same coating thickness required for 11-gauge steel wire in Table 2 of ASTM A116.

03010.21 Wildlife Wire Fabric - Furnish 12 1/2-gauge galvanized steel wire for wildlife wire fabric according to the requirements of ASTM A116, Design Number 2096-6-12 1/2.

03010.30 Chain Link Fabric, Ties, and Tension Wire - Furnish chain link fabric, ties, and tension wire according to the requirements of AASHTO M 181 supplemented and modified as follows:

- Fabric may be zinc-coated steel meeting Type I, Class D coating requirement, aluminum-coated steel, or aluminum alloy. Use only one type on the Project.
- Wire fabric ties, wire ties, and hog rings may be zinc-coated steel wire, aluminum-coated steel, or aluminum alloy as elected, regardless of the type of wire fabric used.
- Use ductile, zinc-coated steel meeting the coating requirements of ASTM A641, Class 1 for wire fabric ties, wire ties, and hog rings. Coat aluminum-coated steel wire fabric ties, wire ties and hog rings with at least 0.30 ounce per square foot.
- Furnish tension wire with a Class 2 coating.
- Furnish 9-gauge wire woven in 3 1/2-inch by 5 1/2-inch diamond mesh for the fence to be installed with pickets. Knuckled finish top and bottom selvage.

03010.31 Pickets - Furnish pickets that are either standard Grade A redwood or cedar pickets, 3/8-inch x 2 1/2-inch x 6 feet, or industry standard metal, or plastic pickets as shown or approved.

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03010.40 Vinyl Clad Fabric - Furnish vinyl clad chain link fabric according to AASHTO M 181, Type IV. The color of the PVC coating is either medium or dark green.

03010.50 Metal Fence Posts, Braces, and Appurtenances - Furnish metal fence posts, braces and appurtenances according to the requirements indicated on the Plans and the following:

(a) **Painted Metal Posts** - Furnish the same kind and color of all painted metal posts.

(b) **Posts, Braces, and Appurtenances for Chain Link Fence** - Furnish posts, braces, and appurtenances for chain link fence according to the requirements of AASHTO M 181.

Furnish posts, braces, and appurtenances for bridge protective fence according to the requirements of AASHTO M 181, Grade 1, ASTM F1083 and ASTM F1043, Group IA-2.

(c) **Posts, Braces, and Appurtenances for Barbed Wire and Woven Wire Fence:**

(1) **Tubular Steel Posts** - Furnish tubular steel posts, braces and appurtenances according to the requirements of AASHTO M 181. Fit tubular posts with a snug-fitting, galvanized metal cap.

(2) **Other Shapes** - Furnish metal posts and braces, other than tubular shape, for barbed wire and woven wire fences, according to AASHTO M 281 (ASTM A702), except that galvanizing may conform to the requirements of AASHTO M 111 (ASTM A123). The posts and braces may be either galvanized or painted, as elected. Furnish wire fasteners meeting the coating requirements of ASTM A641, Class 1.

(3) **Fence Stays, Brace Guys, and Wire Loops** - Furnish metal fence stays, brace guy wires, wire loops for gateways and other miscellaneous wire used in barbed and woven wire fences with Class 1 coating as required by ASTM A641. Either 9 1/2-gauge or 10-gauge wire is acceptable for fence stays.

(d) **Concrete In Footings** - Furnish concrete for footings according to Section 00440.

(e) **Grounding Rod** - 5/8 inch by 8 feet, nonrusting, copper covered steel rod with a bronze grounding wire clamp.

(f) **Grounding Wire** - AWG 4/0 Solid Copper or No. 6 bare aluminum wire with clamps.

(g) **Posts, Braces, and Appurtenances for Wildlife Fence** - Furnish posts, braces, and appurtenances for wildlife fence according to the requirements of AASHTO M 181.

03010.60 Fence Gates:

(a) **General** - Furnish tubular steel gate frames according to AASHTO M 181. For fabric in gates used with chain link fence, use chain link of the same gauge and according to applicable requirements of 03010.30. For fabric in gates used with woven wire fence, furnish woven wire fabric according to 03010.20 or chain link fabric according to the applicable requirements of 03010.30, except that the zinc coating may be either Class C or Class D. Use wildlife fence fabric according to 03010.21 for fabric in gates used with wildlife fence.

(b) Hardware - Furnish all fence and gate hardware according to the requirements of AASHTO M 181, except that the thickness of galvanizing is according to AASHTO M 232 (ASTM A153).

03010.75 Protective Fence Materials, On and Off Structures - Provide certification according to 00165.35 that the anchor system selected conforms to requirements as shown.

- **Resin Bonded Anchor System** - Furnish the resin bonded anchor system used to install the fence post anchor rods in the concrete bridge rail from the QPL and install according to the manufacturer's recommendations.
- **Posts** - Modify posts to attach to the Structure as shown.
- **Steel Plates, Angles, and Bolts** - Furnish steel plates, angles, and bolts meeting the applicable requirements of Section 02530 and galvanized according to 02530.70.
- **Chain Link Fabric, Ties, and Tension Wire** - Furnish chain link fabric, ties, and tension wire according to the requirements of 03010.30.
- **Pickets** - Furnish pickets meeting the requirements of 03010.31.

03010.80 Acceptance - Acceptance of fencing Materials is according to 00165.35 and this Section.

SECTION 03020 - EROSION MATERIALS

Comply with Section 03020 of the Standard Specifications modified as follows:

03020.90 Acceptance - Replace the paragraph that begins "Acceptance of commercially manufactured..." with the following paragraph:

Acceptance of commercially manufactured compost Material is the following:

BID SCHEDULE

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**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15687 **PROJECT:** OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR
PROJECT KEY: 22630 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
SECTION: 0001 TEMPORARY FEATURES AND APPURTENANCES				
0010	0210-0100000A MOBILIZATION	ALL LUMP SUM		
0020	0221-0100000A TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	ALL LUMP SUM		
0030	0222-0102000J TEMPORARY SIGNS	670.00 SQFT		
0040	0222-0164000E PORTABLE CHANGEABLE MESSAGE SIGNS	3.00 EACH		
0050	0223-0174000T PEDESTRIAN TRANSPORT VEHICLE	4,700.00 HOUR		
0060	0224-0104000E TEMPORARY BARRICADES, TYPE II	8.00 EACH		
0070	0224-0105000E TEMPORARY BARRICADES, TYPE III	11.00 EACH		
0080	0224-0145000E TEMPORARY PLASTIC DRUMS	48.00 EACH		
0090	0228-0141600F PEDESTRIAN CHANNELIZING DEVICES	565.00 FOOT		
0100	0280-0100000A EROSION CONTROL	ALL LUMP SUM		
0110	0280-0105020J MATTING, TYPE B	65.00 SQYD		
0120	0280-0106060E CHECK DAM, TYPE 6	6.00 EACH		
0130	0280-0110000A EROSION AND SEDIMENT CONTROL MANAGER	ALL LUMP SUM		

**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15687

PROJECT: OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR

PROJECT KEY: 22630

ADDENDUM NO.: 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0140	0280-0110010E CONSTRUCTION ENTRANCE, TYPE 1	2.00 EACH		
0150	0280-0113000F SEDIMENT FENCE	1,045.00 FOOT		
0160	0280-0114030E INLET PROTECTION, TYPE 3	3.00 EACH		
0170	0280-0115080F SEDIMENT BARRIER, TYPE 8	770.00 FOOT		
0180	0280-0117000E TEMPORARY ENERGY DISSIPATER	1.00 EACH		
0190	0290-0100000A POLLUTION CONTROL PLAN	ALL LUMP SUM		
0200	0290-0102000A WORK CONTAINMENT PLAN	ALL LUMP SUM		
0210	0294-0200010M CONTAMINATED SOIL DISPOSAL	54.00 TON		
0220	0294-0500000A LEAD COMPLIANCE PLAN	ALL LUMP SUM		
0230	0294-0600000A SEGREGATE AND STOCKPILE CONTAMINATED SOIL	ALL LUMP SUM		

SECTION: 0002 ROADWORK

0240	0305-0100000A CONSTRUCTION SURVEY WORK	ALL LUMP SUM		
0250	0310-0106000A REMOVAL OF STRUCTURES AND OBSTRUCTIONS	ALL LUMP SUM		
0260	0310-0119120F ASPHALT PAVEMENT SAWCUTTING, 6 TO 14 INCHES DEEP	996.00 FOOT		

**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15687

PROJECT: OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR

PROJECT KEY: 22630

ADDENDUM NO.: 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0270	0320-0100000A CLEARING AND GRUBBING	ALL LUMP SUM		
0280	0330-0123000K EMBANKMENT IN PLACE	950.00 CUYD		
0290	0330-0126000K STONE EMBANKMENT	60.00 CUYD		
0300	0331-0109000J 18 INCH SUBGRADE STABILIZATION	56.00 SQYD		
0310	0350-0103000J RIPRAP GEOTEXTILE, TYPE 1	500.00 SQYD		
0320	0350-0105000J SUBGRADE GEOTEXTILE	1,181.00 SQYD		
0330	0390-0119000K GROUTED RIPRAP, CLASS 100	125.00 CUYD		
0340	0390-0139000E RIPRAP BASINS	1.00 EACH		

SECTION: 0003 DRAINAGE AND SEWERS

0350	0415-0100000F MAINLINE VIDEO INSPECTION	20.00 FOOT		
0360	0445-010024BF 24 INCH CULVERT PIPE, 10 FT DEPTH	20.00 FOOT		
0370	0445-030006AF 6 INCH SANITARY SEWER WITH RESRAINED JOINTS PIPE, 5 FT DEPTH	620.00 FOOT		
0380	0445-060004AF 4 INCH RIGID METALLIC PIPE, 5 FT DEPTH	325.00 FOOT		
0390	0470-0311000E CONCRETE INLETS, TYPE D	1.00 EACH		

**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15687

PROJECT: OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR

PROJECT KEY: 22630

ADDENDUM NO.: 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0400	0480-0100000F DRAINAGE CURBS	54.00 FOOT		
0410	0490-0104000E CONNECTION TO EXISTING STRUCTURES	1.00 EACH		
0420	0490-0105000E ADJUSTING INLETS	3.00 EACH		
0430	0495-0100000J TRENCH RESURFACING	40.00 SQYD		

SECTION: 0004 BRIDGE NO 00576

0440	0253-0106000A TEMPORARY WORK ACCESS, CONTAINMENT AND BRIDGE SUPPORT	ALL LUMP SUM		
0450	0445-030006AF 6 INCH SANITARY SEWER WITH RESTRAINED JOINTS PIPE	896.00 FOOT		
0460	0501-0100000A BRIDGE REMOVAL WORK	ALL LUMP SUM		
0470	0510-0101000A STRUCTURE EXCAVATION	ALL LUMP SUM		
0480	0510-0106000A GRANULAR WALL BACKFILL	ALL LUMP SUM		
0490	0530-0104000A REINFORCEMENT, GRADE 60	ALL LUMP SUM		
0500	0530-0104100A COATED REINFORCEMENT, GRADE 80	ALL LUMP SUM		
0510	0538-0100000F INJECT AND SEAL CRACKS	87.00 FOOT		
0520	0540-0203100A DECK CONCRETE, CLASS HPC(IC)4500	ALL LUMP SUM		

**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15687

PROJECT: OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR

PROJECT KEY: 22630

ADDENDUM NO.: 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0530	0540-0301000A GENERAL STRUCTURAL CONCRETE, CLASS 3300	ALL LUMP SUM		
0540	0540-0401000J SURFACE TEXTURING	1,055.00 SQYD		
0550	0542-0100000A LOCATE CONCRETE REPAIR	ALL LUMP SUM		
0560	0542-0101000E REINFORCING BAR REPAIR	8.00 EACH		
0570	0542-0102001J CONCRETE REPAIR	40.00 SQFT		
0580	0542-0103001J MORTAR BUILDUP OVER SHALLOW REBAR	4.00 SQFT		
0590	0567-0103000A TITANIUM SYSTEM, 0.625 INCH DIAMETER	ALL LUMP SUM		
0600	0567-0103000A TITANIUM SYSTEM, 0.750 INCH DIAMETER	ALL LUMP SUM		
0610	0585-0206100A POURED JOINT SEAL	ALL LUMP SUM		
0620	0587-0115000A VERTICAL CONCRETE PARAPET, 42 INCH WITH MOMENT SLAB	ALL LUMP SUM		
0630	0587-0127000A PEDESTRIAN RAIL	ALL LUMP SUM		
0640	0588-0100000A PRECAST HISTORIC ORNAMENTAL CONCRETE RAIL	ALL LUMP SUM		
0650	0589-0101100A UTILITY ATTACHMENT ON STRUCTURE, COMMUNICATION	1.00 LS		
0660	0589-0101100A UTILITY ATTACHMENT ON STRUCTURE, GAS	1.00 LS		

**OREGON DEPARTMENT OF TRANSPORTATION
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ADDENDUM NO.: 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0670	0589-0101100A UTILITY ATTACHMENT ON STRUCTURE, SANITARY SEWER NO.1	1.00 LS		
0680	0589-0101100A UTILITY ATTACHMENT ON STRUCTURE, SANITARY SEWER NO.2	1.00 LS		
0690	0589-0101100A UTILITY ATTACHMENT ON STRUCTURE, WATER	1.00 LS		
0700	0589-0103000F COMMUNICATIONS CONDUIT, 4 INCH STEEL	451.00 FOOT		
0710	0589-0104000F PROTECTIVE CASING, 12 3/4 INCH (SANITARY SEWER)	306.00 FOOT		
0720	0589-0104000F PROTECTIVE CASING, 14 INCH STEEL (GAS)	400.00 FOOT		
0730	0589-0104000F PROTECTIVE CASING, 14 INCH STEEL (WATER)	150.00 FOOT		
0740	0596-E001000K PERMANENT GROUND ANCHOR	4.00 EACH		
0750	0596-E002000K PERFORMANCE TEST	4.00 EACH		
0760	0596-E003000K VERIFICATION TEST	2.00 EACH		
0770	1140-0145000F 8 INCH POTABLE WATER PIPE, FITTINGS & COUPLINGS WITH RESTRAINED JOINTS	450.00 FOOT		
0780	1140-0630000E 8 INCH FORCE BALANCED EXPANSION JOINT	2.00 EACH		
0790	1150-0600000E 1 INCH AIR RELEASE VALVE ASSEMBLY	1.00 EACH		

**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15687 **PROJECT:** OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR
PROJECT KEY: 22630 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0800	1999-9Z90000A PREPARE AND COAT CONCRETE STRUCTURES	ALL LUMP SUM		

SECTION: 0005 BASES

0810	0620-0108000J COLD PLANE PAVEMENT REMOVAL, 0 - 5 INCHES DEEP	333.00 SQYD		
0820	0620-0120000J COLD PLANE PAVEMENT REMOVAL, 2 INCHES DEEP	856.00 SQYD		
0830	0641-0102000M AGGREGATE BASE	1,110.00 TON		

SECTION: 0006 WEARING SURFACES

0840	0744-0302000M LEVEL 3, 1/2 INCH ACP MIXTURE	600.00 TON		
0850	0744-0331000M LEVEL 3, 1/2 INCH ACP MIXTURE IN LEVELING	5.00 TON		
0860	0759-0128000J CONCRETE WALKS	66.00 SQFT		

SECTION: 0007 PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES

0870	0810-0126000E GUARDRAIL TRANSITION	3.00 EACH		
0880	0810-0131000E GUARDRAIL TERMINALS, NON- FLARED, TEST LEVEL 2	3.00 EACH		
0890	0810-0146100F MIDWEST GUARDRAIL SYSTEM, TYPE 2A	400.00 FOOT		

**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15687 **PROJECT:** OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR
PROJECT KEY: 22630 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0900	0810-0146100F MIDWEST GUARDRAIL SYSTEM, TYPE 3	37.50 FOOT		
0910	0840-0102000E DELINEATORS, TYPE 2	14.00 EACH		
0920	0840-0105000E DELINEATORS, TYPE 5	28.00 EACH		
0930	0842-0103001E FACILITY FIELD MARKERS, TYPE S2	2.00 EACH		
0940	0842-0202000E CULVERT DRAINAGE MARKERS, TYPE 2	1.00 EACH		
0950	0842-0401000E BRIDGE IDENTIFICATION MARKERS	2.00 EACH		
0960	0855-0101100E MONO-DIRECTIONAL WHITE TYPE IAR MARKERS	46.00 EACH		
0970	0865-0119600F THERMOPLASTIC, SPRAYED, SURFACE, NON-PROFIED	4,360.00 FOOT		

SECTION: 0008 PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS

0980	0905-0100000A REMOVE EXISTING SIGNS	ALL LUMP SUM		
0990	0910-0100000K WOOD SIGN POSTS	96.00 FBM		
1000	0920-0100000A SIGN SUPPORT FOOTINGS	ALL LUMP SUM		
1010	0930-0117000A PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS	ALL LUMP SUM		
1020	0940-0202000J SIGNS, STANDARD SHEETING, SHEET ALUMINUM	24.00 SQFT		

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CONTRACT NO.: 15687 **PROJECT:** OR99: ROGUE RIVER BRIDGE, GOLD HILL SPUR
PROJECT KEY: 22630 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
1030	0940-0203000J SIGNS, STANDARD SHEETING, PLYWOOD	12.00 SQFT		

SECTION: 0009 RIGHT-OF-WAY DEVELOPMENT AND CONTROL

1040	1012-0100000A WATER QUALITY SWALE, D00749	ALL LUMP SUM		
1050	1030-0108000R PERMANENT SEEDING	0.70 ACRE		
1060	1030-0113000R WETLAND SEEDING	0.10 ACRE		
1070	1030-0118000R WATER QUALITY SEEDING	0.03 ACRE		
1080	1040-0183000E WETLAND PLANTS, PLUGS	1,200.00 EACH		

SECTION: 0010 WATER SUPPLY SYSTEMS

1090	1140-0100000F 12 INCH POTABLE WATER PIPE, FITTINGS AND COUPLINGS WITH CLASS B BACKFILL	570.00 FOOT		
1100	1140-0650000E DUCTILE IRON PIPE BEND, 12 INCH	8.00 EACH		
1110	1140-0670000E DUCTILE IRON PIPE REDUCER, 12 - 8 INCH	2.00 EACH		
1120	1150-0100000E 12 INCH GATE VALVE	2.00 EACH		

TOTAL BID: _____

